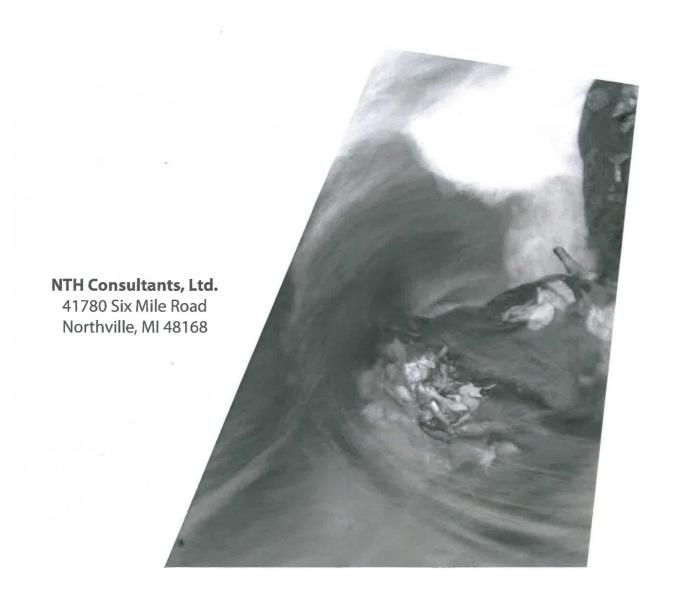
Volume IV - WDI Operating License Application Master Cells VI F & G

Hydrogeologic Investigation Report Wayne Disposal, Inc. - Site No. 2

> NTH Project No. 13-060921-03 February 2011 Revised September 2011





Hydrogeologic Investigation Report (Rule 299.9504(1)(d)) Wayne Disposal, Inc., Site No. 2 Master Cell VI – F & G (Woodlot) NTH Project No. 62-080376-04

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Hydrogeologic Investigation Report (Rule 299.9504(1)(d))

Wayne Disposal, Inc., Site No. 2

Master Cell VI – F & G (Woodlot)

NTH Project No. 62-080376-04

1.0 INTRODUCTION

This Hydrogeologic Investigation Report was prepared in support of the Construction Permit Application for the proposed Master Cell (MC) VI-F & G at Wayne Disposal, Inc. (WDI) Site No. 2 located in Van Buren Township, Wayne County, Michigan. The specific area that was investigated is colloquially referred to as the "Woodlot," based on the stands of small trees within this part of the Site No. 2 property.

This report was prepared to meet the requirements of 40 CFR 264, Subpart F and Part 111, Hazardous Waste Management, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Specifically, Administrative Rule 299.9504(1)(d) requires that a construction permit application shall include a hydrogeologic report containing the information listed in Rule 299.9506.

As a basis for ensuring inclusion of each of the required elements, this Hydrogeologic Investigation Report follows the guidance document developed by the Michigan Department of Natural Resources and Environment (MDNRE) titled "Form EQP 5111 Attachment Template B3 Hydrogeologic Report", a copy of which ins included in Appendix A, MDNRE Form EQP 5111 Attachment Template B3. This template has also been transformed into a checklist and is included at the front of this document.

1.1 SCOPE OF WORK

As outlined in the current Part 111 regulations, the purpose of the hydrogeologic investigation is to:



- Describe the subsurface characteristics of the site.
- Develop information necessary to establish site suitability and as a basis for design for the proposed MC VI-F & G development in accordance with the requirements of Part 111, Administrative Rule 299.9504.
- Develop an appropriate groundwater monitoring strategy for the proposed MC VI F & G development.

To accomplish these objectives, NTH completed the following scope of work for this investigation:

- Compiled and reviewed existing information from previous subsurface investigations and environmental monitoring programs at the WDI Site No. 2 site.
- Conducted a visual inspection of site conditions prior to field exploration.
- Drilled and sampled test borings at fourteen locations.
- Installed six groundwater observation wells.
- Collected soil samples representing each major soil layer encountered at the test boring locations and performed laboratory testing to determine physical and hydraulic parameters of the soil samples.
- Measured groundwater levels at the site on several occasions.
- Collected groundwater samples from the observation wells installed during this investigation and submitted the samples for water quality analysis.
- Evaluated the geologic, hydrogeologic and geochemical conditions within the proposed landfill modification area.



 Developed a conceptual hydrogeologic model for use in the design of the hazardous waste disposal facility and an appropriate groundwater monitoring strategy.

This work was performed in accordance with the prevailing standard of practice for hydrogeologic investigations in this area as well as guidelines established by the Michigan Department of Environmental Quality (MDEQ) for the collection and analysis of geologic data at proposed Part 111 landfill sites. This report refers to current rules under Part 111 adopted as of the date of the investigation.

1.2 SITE LOCATION

Figure 1, Site Location Map, depicts the location of WDI Site No. 2 referenced to major roads and topographic features. The approximate limits of the MC VI-F & G area within WDI Site No. 2 are also highlighted. WDI Site No. 2 is located at 49350 I-94 Service Drive, in Belleville, Michigan. As shown on Figure 1, the facility is situated between the I-94 expressway and Willow Run Airport. Belleville Lake, which is a man-made impoundment of the Huron River, is located south of I-94, more than 1,000 feet from the WDI property boundary.

Figure 2, WDI Facility Plan, depicts the location of MC VI-F & G area within the overall WDI Site No. 2 property boundary in relation to existing master cells, access roads, and other site features. The proposed MC VI-F & G includes extending the permitted MC VI hazardous waste boundary west over the existing MC I and MC IV areas, as well as into the undeveloped "Woodlot" parcel between MC I and MC IV. The proposed MC VI-F & G hazardous waste boundary is presented on Figure 2 and will increase the permitted MC VI hazardous waste boundary by 75.3 acres. The Woodlot parcel consists of 20.5 acres and was the focus of the field work portion of the hydrogeologic investigation. Previously attained hydrogeologic information for areas underlying MC I, MC IV, and MC VI has been incorporated in this report, where relevant and applicable.



1.3 SITE DESCRIPTION & PROPOSED DESIGN

WDI Site No. 2 consist of eight Master Cells, designated as MC I, IV, V, VI, VII, IX, X, and XI. MC I and IV were operated before the promulgation of RCRA regulations. Both cells were filled with industrial and domestic waste. MC V, VI, and VII are RCRA-regulated hazardous waste management units (HWMU's). MC V and VII were previously filled and have been closed, in accordance with approved closure plans, for more than 20 years.

MC VI is a fully licensed, operating landfill unit. It consists of six sub-units, designated as MC VI A-South, A-North, and B through E. MC VI-E, which is an overlay above the closed MC V, consists of four phases. The first three phases, designated as Phase 1, Phase 2 Southeast, and Phase 2 West, have been constructed and are currently being filled. The last phase, designated as Phase 2 Northeast, has not yet been constructed. The remaining three closed cells at the site, designated as MC IX, X and XI, are designated solid waste management units (SWMU's) that have been filled and closed in accordance with approved closure plans.

The liner systems of MC I and IV (which will underlie MC VI-F & G) consist of native clay beneath the cell bottom and compacted clay sidewall dikes extending from the top of the native clay to the ground surface. Both cells were closed with a cover consisting of various thicknesses of compacted clay soil overlain by topsoil. The gas extraction systems in both MC I and IV consist of vertical extraction wells with associated vacuum headers. The headers are fully buried below the cover surface. The existing leachate extraction systems for MC I and MC IV consist of a series of extraction wells and a force main system that pumps leachate to the on-site wastewater treatment plant for processing and disposal.

The proposed liner system MC VI-F & G has been designed to meet the Federal requirements of 40 CFR 264.301, as well as State of Michigan Administrative Rules 299.9603(5), 299.604(1)(c), and 299.620. The components of the proposed double-



composite liner system for MC VI-F & G are the same as those included in the previously approved design modification for MC VI-E and consist of the following, from the top down:

- [1] 80-mil textured high-density polyethylene (HDPE) primary geomembrane;
- [2] 5-foot primary compacted clay liner with a maximum hydraulic conductivity of 1 x 10⁻⁷ centimeters per second (cm/sec);
- [3] Leak detection system consisting of a double-sided geocomposite, which is comprised of a geonet sandwiched between and heat bonded to non-woven needle-punched geotextiles, and a grid work of additional collectors consisting of additional layers of geonet;
- [4] 80-mil textured HDPE secondary geomembrane;
- [5] 3-foot secondary compacted clay liner with a maximum hydraulic conductivity of 1 x 10⁻⁷ cm/sec.

Where the proposed liner system extends over existing closed cells MC I and MC IV, the double liner system will be placed on a subgrade consisting of a geogrid layer overlying either a minimum 2 feet of structure fill (in areas where waste regrading is necessary) or the existing clay cover soil (in areas where waste regrading is not necessary). Where the proposed liner system extends over native ground (i.e., within the Woodlot), the double-composite liner system will be placed on native soil after excavation to the predetermined grade. Within the Woodlot, the bottom grades of the composite liner at the cell floor (including the sump area) have been designed such that at least 10 feet of native clay will remain in place below the cell.

The proposed leachate collection system for MC VI-F & G has been designed to meet the requirements of Rule 299.9619(4), and consist of a 12-inch drainage sand layer overlying a geocomposite drainage layer. In addition, perforated HDPE pipe will also be incorporated



into the sand layer to convey leachate to sumps in the cell floor. From the sumps, leachate will be pumped through a riser and a force main system to the existing on-site treatment facility.

Additional details regarding the proposed landfill design, including the liner, leachate collection, and final cover systems, are presented in the accompanying *Basis of Design Report*, which is included as part of the Construction Permit Application for MC VI-F & G.

1.4 WASTE MANAGEMENT UNITS

Table 1.1, Identification of Existing Waste Management Units, presents each of the waste management units (WMUs) at the WDI Site No. 2 facility. The location of each of these units is provided on Figure 2 in accordance with Rule 299.9506(1)(e)(i).

TABLE 1.1: Identification of Existing Waste Management Units

WMU Designation	Status	Type of Unit / Wastes Managed	Operation Period	
MCI	Closed	CMU	Fall 1976 – Winter 1978	
MCIV	Closed	CMU	January 1979 – Winter 1981	
MC V	Closed	HWMU	Winter 1981 – Fall 1983	
MC VI	Active	HWMU	Fall 1986 – Present	
MC VII	Closed	HWMU	Fall 1983 – Fall 1986	
MCIX	Closed	SWMU	Spring 1985 – Spring 1990	
MC X	Closed	SWMU	Spring 1988 – Spring 1993	
MC XI	Closed	SWMU	Fall 1982 – Spring 1985	
Waste Energy Recovery (Gas)	Active	SWMU	1986 - Present	
Wheel Wash	Active	SWMU	1992 - Present	

Notes:

- [1] CMU = Comingled Waste Management Unit
- [2] HWMU = Hazardous Waste Management Unit
- [3] SWMU = Solid Waste Management Unit



The available closure certification documents previously submitted to MDEQ under separate cover, and the RCRA Corrective Action Plan RFI Phase I Environmental Monitoring Report for Wayne Disposal Site No. 1 Landfill and Wayne Disposal Site No. 2 Landfill, dated July 17, 1990, along with the results of detection and post-closure monitoring conducted since closure of the WMUs have found no indications of the release of hazardous constituents to groundwater from any of the WMUs. As of the date of this report, none of the WMUs require any corrective action based on the findings of the groundwater monitoring, owner/operator inspections, and MDEQ inspections.



2.0 PREVIOUS HYDROGEOLOGIC STUDIES

Several hydrogeologic studies have been completed at WDI Site No. 2 in the course of developing the various existing landfill units at the facility. These previous studies provide information on regional geologic and hydrogeologic conditions, as well as site-specific subsurface conditions at the site. The extensive soil sampling and testing conducted during these previous studies, along with the data developed from the continuing groundwater monitoring programs at the site, provide a thorough understanding of the subsurface soil and groundwater conditions at the existing areas of WDI Site No. 2. This includes areas immediately adjacent to the proposed MC VI-F & G development area. Note that some of the previous studies included exploration within the areas of existing landfill cells MC I and MC VI, which will underlie portions of the proposed MC VI-F & G development.

Among the previous studies that provided geologic and/or hydrogeologic information, which was specifically considered in developing the current report are the following:

- [1] Storm Water Management System Evaluation, WDI Site No. 2, NTH Consultants, Ltd., April 20, 2009.
- [2] RCRA Corrective Action Plan, RFI Phase I, Environmental Monitoring Report for Wayne
 Disposal Site #1 Landfill and Wayne Disposal Site #2 Landfill, NTH Consultants, Ltd., July
 17, 1990.
- [3] Report on Hydrogeologic Investigation, Master Cell VI, Site No. 2, NTH Consultants, Ltd., March 18, 1986.
- [4] Exposure Information Report, NTH Consultants, Ltd., August, 1985



- [5] Item IV Groundwater Protection (Subpart F) Hazardous Waste Management Area, 40 CFR 270.14 and 40 CFR 264.90 through 100, Wayne Disposal Landfill Site No. 2, NTH Consultants, Ltd., September 7, 1983.
- [6] Final Report of Hydrogeologic Investigation, NTH Consultants, Ltd., July 1981.
- [7] Report on Preliminary Hydrogeologic Investigation, Rawsonville Landfill Expansion, NTH Consultants, Ltd., November 5, 1980.

Note that each of these previous reports was submitted to the MDEQ and accepted in support of WDI Construction Permits or Operating License applications.



3.0 INVESTIGATION METHODS

The hydrogeologic study completed by NTH at the proposed MC VI-F & G Woodlot area involved a detailed subsurface study completed during the period of June 24 through September 18, 2008. The subsurface study was performed to define the stratigraphy of the subsurface, identify and characterize the groundwater bearing units, and to further define groundwater flow conditions. A detailed analysis of the stratigraphic, geochemical, and physical soil test data was performed as it relates to the development of the site as a hazardous waste landfill.

3.1 VISUAL SITE INSPECTION

A site visit was conducted prior to commencing the detailed subsurface exploration activities. The purpose of this visit was to document existing conditions and to identify borehole locations and observation well locations in the field prior to drilling.

3.2 SUBSURFACE INVESTIGATION

Part 111, Rule 299.9506(1)(a) presents requirements and objectives for a subsurface exploration program. The subsurface exploration program was completed to meet the objectives set forth in this rule.

3.2.1 Test Borings

The subsurface investigation was designed by NTH to provide sufficient subsurface data to adequately define the hydrogeologic conditions within the Woodlot area. According to the procedures outlined in Rule 299.9506(2)(a)(i), an exploration program to define soil and groundwater conditions shall include borings at a frequency of five borings for the first 5 acres and three borings for each additional 5 acres of the site. To meet this frequency, fourteen (14) test borings, designated TB-W-1 through TB-W-14 were completed from June through September 2008 by Mateco Drilling Company (Mateco) of Rockford, Michigan at



the 20.5-acre Woodlot parcel. The drilling operations were completed under the full-time observation of an NTH field geologist. Figure 3, MC VI-F & G Test Boring & Observation Well Location Plan, presents the locations of the test borings and observation wells completed during the hydrogeologic investigation of the proposed MC VI-F & G Woodlot area.

As shown on Figure 3, three of the test borings (TB-W-1, TB-W-5, and TB-W-10) were located immediately outside the perimeter of the proposed landfill footprint, and eleven test borings were located within the proposed limits of the landfill. Each of the borings extended a minimum of 30 feet below the anticipated bottom elevation of the proposed landfill liner, in accordance with Rule 299.9506(2)(a)(i). To develop information on the depth and type of bedrock beneath the Woodlot, test boring TB-W-10 was extended into the underlying rock formation. The data from this test boring, coupled with information from historic borings located adjacent to MC VI-F & G, was used to adequately define bedrock conditions at the site, in accordance with Rule 299.9506(6)(c).

Mateco completed each boring with a rotary drill rig using hollow-stem augers and wash rotary methods. Specifically, borings TB-W-1, TB-W-2, TB-W-5 through TB-W-9, and TB-W-11 through TB-W-14 were completed to final depth using hollow-stem augers. Borings TB-W-3, TB-W-4, and TB-W-10 were drilled to depths of 45 feet, 46 feet, and 76 feet, respectively, using hollow stem augers before switching to wash rotary techniques. The drilling method was changed to improve sample recovery and to ease sample collection. Only water was used during wash rotary drilling operations; no drilling mud was introduced into the borehole. Water used during drilling was obtained from the WDI Site No. 2 on-site water distribution system.

NTH field personnel maintained a log of each test boring in the field, which included a description of each soil sample, information on groundwater conditions, and other



pertinent data. In general, soil samples were collected during drilling at 5-foot intervals in each of the test borings, with the exception of TB-W-1, TB-W-4, TB-W-7, TB-W-10, and TB-W-14 where samples were collected continuously in accordance with Rule 299.9506(1)(a)(ii).

During drilling, Mateco collected soil samples using one of three methods, depending on the stratigraphy and the intended purpose of the samples. Throughout most of the granular soil intervals, soil samples were collected using a 2-inch outside diameter split-barrel sampler using the Standard Penetration Test Method (ASTM D-1586). The Standard Penetration Resistance value (N) presented on the logs of test boring is used to assign a consistency to the soil materials.

In some cases, the split-barrel sampler contained 1-3/8-inch inside diameter, 3-inch long brass liner inserts. Soil samples recovered in this manner are designated as "LS-" on the respective logs of test boring. Soil samples recovered directly from the split-barrel sampler, without liner inserts, are designated "S-" on the logs of test boring. The NTH field geologist selected a representative portion of each sample that was recovered from the sampler, split it lengthwise, and described the sample on a field log. Soil samples recovered from 2-inch split-barrel samplers were sealed in glass jars and delivered to the NTH laboratory for further classification and testing.

A number of relatively undisturbed samples of cohesive soils were collected using Shelby tubes (ASTM D 1587). This type of sample is collected by pushing a 3-inch inside-diameter, thin-walled metal tube into the soil and withdrawing the tube with a cylinder of soil enclosed. After collection, the field geologist cleaned both ends of the tube and sealed them with wax or putty in the field. The Shelby tubes were then capped and stored in an upright position until delivery to the NTH laboratory. Shelby tube samples obtained in this



manner are designated "ST-" on the boring logs. Such samples are considered undisturbed and were used in laboratory soil hydraulic conductivity tests.

Upon completion, those boreholes that were not used for installation of observation wells were backfilled to ground surface with a bentonite grout. To accomplish grouting, the thickened bentonite slurry was tremie-grouted from the bottom of the borehole to the surface inside the augers. The augers were then slowly retracted from the borehole.

The subsurface conditions encountered at the drilling locations have been evaluated and are presented as individual Logs of Test Boring, Figure Nos. B-1 through B-14, in Appendix B. We note that the stratification lines shown on the logs of test boring represent the subsurface conditions at the actual boring locations. Variations may occur between the borings. Additionally, the stratigraphic lines represent the approximate boundary between soil types; however, the transition may be more gradual than what is shown. The descriptions of the soils presented on the individual logs of test boring are based on both visual identification of the soils encountered in the field and on laboratory test data. Where soil laboratory data is available from individual samples, the Unified Soil Classification System (USCS) designation of the sampled layer is also presented on the log.

The boring logs also present information regarding sample data, standard penetration results, groundwater conditions observed in the borings, personnel involved, and other pertinent data. General Notes defining the nomenclature used in the soil descriptions on the boring logs and elsewhere in this report are presented as Exhibit A in Appendix B.

3.2.2 Observation Wells

Six observation wells (W-1, W-7, W-10S, W-10D, W-12, and W-14) were installed by Mateco, under the full-time observation of an NTH geologist, as part of the hydrogeologic investigation. The purpose of these observation wells was to determine the groundwater



elevations and to provide preliminary water quality data. Water level data were used to define the direction of groundwater flow, establish horizontal and vertical gradients, and to develop recommendations concerning design of the landfill cell floor.

Five of the observation wells (W-1, W-7, W-10D, W-12, and W-14) were installed within the completed test boring at the respective location. In accordance with Rule 299.9506(2)(f), each borehole was continuously sampled from a minimum of 10 feet above the screen elevation to the bottom of the borehole. Observation well W-10S was installed immediately adjacent to observation well W-10D with the screen set at a higher elevation to establish a nested well pair. Because of the very close proximity of test boring TB-W-10, observation well was installed in a "profile" boring drilled with no sampling.

At each well location, following completion of the borehole, a steam-cleaned well assembly, consisting of 2-inch diameter, Schedule 40 PVC with a 2-inch diameter, Schedule 40 PVC, 0.010-inch slotted screen, was placed into the borehole. Silica sand was added as a filter pack from the bottom depth of the well to approximately 4 to 5 feet above the top of the well screen. Bentonite slurry was used as a seal and was placed on top of the filter pack. The remaining annular space around the well was then backfilled to ground surface with a cement bentonite grout placed using tremie methods.

The observation wells were developed using a submersible pump. During development, the observation wells were repeatedly surged, and field parameters (pH, temperature, and conductivity) and flow volume were recorded. Well development was considered complete when field parameters had stabilized (three consecutive conductivity and temperature readings within 10%, and pH within 0.1 Standard Units) and the amount of fine granular material brought to the surface as the result of surging the well was minimal, based on visual observation. The observation wells were capped and fitted with locking



protective casings, cemented in place, labeled and surveyed by WDI for location coordinates, ground surface elevation, and top of casing elevation.

Pertinent well construction information is summarized on Table 3.1, Well Construction Details. Information regarding the installation of the groundwater observation wells is presented on individual Logs of Observation Well, included as Figure Nos. B-15 through B-20 in Appendix B.

The six observation wells, in conjunction with the existing observation wells installed for the adjacent landfill cells, provide sufficient water level information to characterize groundwater flow direction and hydraulic gradients within the uppermost aquifer across the Woodlot parcel as well as the entire Site No. 2 facility.



Table 3.1
Well Construction Details
WDI Site No. 2 MC VI-F & G
NTH Proj. No. 62-080376-01

Boring No.	Northing	Easting	Ground Surface Elevation	Top of Casing Elevation	Well Depth	Screen Tip Elevation	Well Construction Materials	Date of Installation
W-1	7660.02	3690.00	706.2	708.70	92.0	614.2	2" PVC	7/16/2008
W-7	7346.7	4328.2	704.3	707.32	78.0	626.3	2" PVC	9/4/2008
W-10S	7052.42	3704.07	704.6	707.01	103.8	600.8	2" PVC	7/12/2008
W-10D	7052.58	3697.49	704.6	707.02	110.0	594.6	2" PVC	7/10/2008
W-12	7041.95	4326.99	705.1	707.86	99.0	606.1	2" PVC	7/2/2008
W-14	7046.44	4926.98	704.8	707.32	80.0	624.8	2" PVC	6/25/2008



3.3 LABORATORY SOIL TESTING

In accordance with Rule 299.9506(2), soil sampling was conducted to adequately define the soil and groundwater conditions at the site. More specifically, a total of 14 borings were completed for the 20.5-acre Woodlot parcel. Five of the 14 borings were sampled continuously in accordance with 299.9506(2)(ii). Soil samples were collected from each boring for physical soils testing in NTH's geotechnical laboratory. NTH used the most recent edition of each individual ASTM method to conduct the soil laboratory tests. The tests that were performed and the respective test methods are summarized below:

- Particle size distribution by both sieve and hydrometer (ASTM D422);
- Atterberg limits (ASTM D4318);
- Classification pursuant to the unified soil classification system (ASTM D2487);
- Moisture Content (ASTM D2216);
- Dry Density (ASTM D2937);
- Unconfined Compressive Strength (ASTM D2166); and
- Hydraulic Conductivity (ASTM D5084)

Results of the physical soils testing are summarized on the Tabulation of Laboratory Test Data, included in Appendix C, Soil Laboratory Results. Appendix C also includes laboratory data sheets, including grain-size curves and information regarding test methods.

3.4 GROUNDWATER SAMPLING & ANALYSIS

Following completion of test borings and installation of observation wells we collected groundwater samples from observation wells W-1, W-7, W-10S, W-12 and W-14 to evaluate existing groundwater quality for the Woodlot parcel. Samples were collected on December 17, 2008.



Prior to sampling, the observation wells were purged a minimum of three well volumes with a submersible pump. During purging our field staff measured pH, temperature, and specific conductance of the purged groundwater using calibrated field instruments to ensure that these measurements were stable prior to sampling. The groundwater samples were then collected from the submersible pump discharge.

The groundwater samples collected during our investigation were placed in the designated size and type of containers as supplied by the laboratory and preserved accordingly. Following collection, the samples were stored in coolers with ice and transported to Tri Matrix Laboratories, of Grand Rapids, Michigan, within appropriate holding times and in accordance with NTH's standard chain-of-custody procedures.

The parameter list for the groundwater analyses was developed based on the parameters included in the existing groundwater monitoring program for the WDI Site No. 2 hazardous waste landfill. In addition to the field parameters, groundwater samples from the observation wells installed during this investigation were submitted for laboratory analysis of the following parameters:

PCBs	Iron	Sodium	Cyanide, total
VOCs	Lead	Zinc	Fluoride
Arsenic	Magnesium	Bicarbonate, Alkalinity	Nitrogen, Nitrate + Nitrite
Cadmium	Manganese	Carbonate, Alkalinity	рН
Calcium	Molybdenum	Total, Alkalinity	Phenolics
Chromium	Nickel	Chloride	Sulfate
Copper	Potassium	Conductivity @ 25 C	Total Organic Carbon

Results of groundwater chemical testing have been tabulated and are presented on the Summary of Chemical Analysis, in Appendix D, Groundwater Quality Analytical Data. The laboratory analytical reports from Tri Matrix Laboratories, including the results of the



chemical analyses and the laboratory quality assurance and quality control (QA/QC) data sheets, are included in Appendix D. A discussion of the results is presented in Section 5.2.4.

The selected subset of monitoring wells within the Woodlot development area were sampled to provide baseline groundwater quality data in the area. Additional groundwater monitoring wells will be installed and sampled to supplement the "background" groundwater quality database prior to landfilling within the Woodlot development area.



4.0 REGIONAL HYDROGEOLOGIC SETTING

This section presents the regional geographic and hydrogeologic conditions for the area surrounding the WDI Site No. 2 facility. The description of regional hydrogeologic conditions is based on information from published sources, including:

- Summary of Hydrogeologic Conditions by County for the State of Michigan, USGS Open
 File Report 2007-1236, 2007.
- 1987 Bedrock Geology of Michigan, map by Michigan Department of Natural Resources, Land and Minerals Services Division.
- Hydrogeologic Atlas of Michigan, Department of Geology, College of Arts and Sciences,
 Western Michigan University, 1981.
- Water Well Records from the Michigan Department of Environmental Quality, Water Division.

WDI Site No. 2 is located in southwestern Wayne County. According to information provided in the above references, the regional geologic setting in this portion of Wayne County is generally characterized by glacial deposits overlying bedrock. The glacial deposits average approximately 100 to 200 feet thick and are generally lacustrine in origin. The surficial glacial deposits in western Wayne County are composed primarily of sand and gravel, but are underlain by glacial till that is primarily cohesive.

Bedrock underlies the glacial deposits. The bedrock surface occurs between approximately 550 and 600 feet msl (mean sea level). The bedrock directly underlying the



glacial deposits in this portion of western Wayne County is composed primarily of the Antrim Shale formation. Just to the south, the bedrock underlying the glacial deposits is the Traverse Group formation, which includes shale and limestone.

Aquifers in the glacial deposits of Wayne County consist largely of alluvium, which includes clay, silt, sand, and gravel. As a reference, the majority of water supply wells in Wayne County (approximately 67 percent) are installed in the glacial deposits, with approximately 27 percent installed in bedrock. The records for the remaining 6 percent of wells are indeterminate. The bedrock typically yields low quantities of groundwater compared to the glacial deposits, and the groundwater in the bedrock is moderately to highly mineralized.

As part of the interpretation of subsurface conditions, we also obtained and reviewed a previously published regional cross-section, which is included as Figure 4, Regional Geologic Profile, that presents a north-south profile along Bridge Road, located southwest of the WDI Site No. 2 facility in the area of the Ypsilanti Township well field. This figure was originally presented in the preliminary hydrogeologic report referenced in Section 2.0 (NTH, 1980).

Review of the available regional geologic information indicates that the general geology of the region consists of Devonian age bedrock overlain by glacial deposits. Glacial deposits are composed of surficial/deltaic sands overlying a massive glacial clay deposit. A sand and gravel unit is situated below the glacial clay deposit and above the regional shale and limestone bedrock.

The uppermost bedrock stratum in the region consists of the Antrim formation, a late Devonian shale deposit. The Antrim shale is underlain by the Traverse Group formation consisting primarily of carbonate rocks. North of the Huron River, the shale unit is situated



between elevations 525 feet and 590 feet msl. Figure 5, Bedrock Surface Contour Map, presents the bedrock surface elevation contours in the region. As shown, the bedrock surface generally slopes down to the south beneath WDI Site No. 2, and a bedrock valley roughly follows the natural course of the Huron River and underlies Belleville Lake. A branch of this valley also appears to extend northwestward below Willow Run Creek, west of WDI Site No. 2. Generally, as shown on Figure 5, the bedrock surface occurs at an elevation of approximately 575 feet msl below the MC VI F & G woodlot development.

Groundwater occurs regionally within both the granular glacial soils and the bedrock units. Groundwater occurs under unconfined conditions in the surficial deltaic sand and is hydraulically separated from the lower strata by the relatively impermeable glacial clay. Groundwater generally occurs under confined conditions in the lower sand and gravel unit above the bedrock. Based on historic groundwater availability and use in the region, this lower granular unit is considered the uppermost aquifer. As shown on Figure 4, within the area of the bedrock valley below the Huron River, the lower sand and gravel aquifer is apparently separated into two layers by approximately 20 to 30 feet of clay. Groundwater also occurs under confined conditions in the carbonate rock of the Traverse Group formation, which is considered the uppermost bedrock aquifer in the region. The nonwater bearing Antrim Shale is generally classified as an aquiclude.

Groundwater in the glacial aquifer is expected to flow generally toward the Huron River, which represents the major regional groundwater and surface water discharge feature in the area. Groundwater in the uppermost bedrock aquifer in the region (i.e., Traverse Group) may also flow toward the bedrock valley underlying the Huron River, although on a large-scale regional basis, groundwater in the bedrock most likely flows southeastward to Lake Erie.



To gather additional information on subsurface conditions and groundwater use in the area, we obtained water well records currently on file with the MDEQ for the area within approximately 1 mile of the MC VI-F & G area boundary. These include logs for Type I, Type II, Type III, or domestic wells. The estimated locations of the identified wells are plotted on Figure 6, Regional Water Supply Well Location Map. Copies of the well records are included in Appendix E, Regional Water Supply Well Records.

Figure 6 also depicts the isolation distances from MC VI-F & G as required under Rule 299.9506(1)(c)&(f). As shown, based on the descriptions provided on the logs, none of the water supply wells, for which records are available, are located within 2,000 feet of the proposed WDI MC VI-F & G area, with the exception of the on-site WDI water supply well. We understand that use of this well was discontinued and the well was properly abandoned. The nearest documented Type I or Type IIa water supply wells were located at the former Ypsilanti Township Well Field, just over 1 mile (approximately 5,500 feet) southwest of MC VI-F & G. These include the wells designated as Nos. 7475 through 7484 in Appendix E.

Review of the water well records indicates that no wells have been installed in the area since approximately 1986. Both Van Buren Township and Ypsilanti Township are currently served by municipal water supply from the Detroit Water and Sewerage Department (DWSD), so none of the water supply wells of record are believed to be active. According to the Ypsilanti Communities Utility Authority, the Ypsilanti Township well field located in Section 24, Township 3 South, Range 7 East was abandoned in approximately the mid-1990s, and the wells were plugged. Also note that many of the wells for which records are available are reported to be relatively shallow (less than 15 feet deep) and were apparently installed as "monitoring" or "test" wells at the GM manufacturing plant or Willow Run Airport, both of which are located northwest of WDI Site No. 2. Of the records that apparently represent actual former water supply wells, each was completed within the



lower glacial sand and gravel unit at depths ranging from approximately 66 to 138 feet below ground surface (bgs). Only two of the records indicate exploratory borings that were drilled into the bedrock, but both borings were plugged and abandoned with no well installed. Both of these borings were located in Section 13 of Ypsilanti Township, and the well records are designated as "13-7" and "13-8" in Appendix E.



5.0 ON-SITE HYDROGEOLOGIC CONDITIONS

The following presents a description of the site hydrogeology. Section 5.1 provides a summary of the hydrogeologic conditions for the entire WDI Site No. 2, based on the historic subsurface investigations previously cited. Section 5.2 focuses on the hydrogeologic conditions within the MC VI-F & G area, based on the recent field activities within the Woodlot parcel. The following descriptions of the site topography and hydrogeology represent interpretation of the conditions present at the time of the respective investigations.

5.1 WDI SITE NO. 2 HYDROGEOLOGIC CONDITIONS

Relevant elements of the site hydrogeologic conditions, including surface topography, subsurface geology, groundwater occurrence and flow characteristics, groundwater quality, and surface water drainage, are discussed in the following subsections.

5.1.1 Site Topography

The WDI landfill site is situated on a glacial lake plain characterized by relatively flat topography. The undeveloped land surrounding WDI Site No. 2 slopes down to the south toward Belleville Lake. The approximate general slope is 1 foot vertically for every 200 to 300 feet horizontally. The topography ranges from approximately elevation 710 feet msl on the north and west sides of the property to approximately 695 feet msl on the south and east sides of the property.

A detailed topographic survey for the west and east portions of the WDI Site No. 2 facility are presented as Figure 7, WDI Topographic Map (West), and Figure 8, WDI Topographic Map (East), respectively. Figures 7 and 8 were developed from an aerial survey flown in 2001 and provided by WDI. The active area of MC VI was surveyed in October 2008 and provided by Midwestern Consulting, LLC. Additional topographic information for the



surrounding parcels is based on the USGS 7.5 Minute "Ypsilanti East Quadrangle" topographic map. Within WDI Site No. 2, the individual closed landfill cells extend to maximum elevations ranging from approximately 720 feet msl to 740 feet msl. Portions of the active MC VI currently extend as high as approximately 780 feet msl. Note that MC VI is currently permitted for a maximum final grade of 851 feet msl.

In accordance with 40 CFR 270.14(b)(19) and Part 111 Rule 299.9508(3), Figures 7 and 8 provide additional information besides the topography, including the hazardous waste management boundary; property boundaries; groundwater monitoring wells; locations of soil borings for which logs are available; surrounding land use; the locations of storm, sanitary, and process sewerage systems; a windrose; and drainage barriers for flood control. Note that the 100-year flood plain is depicted on the accompanying Engineering Drawings, which are included as part of the Construction Permit Application. The required items presented on Figures 7 and 8 are also depicted on individual maps to allow for greater detail. These individual maps are referenced and discussed in the relevant sections of the report.

On-site runoff control systems, including stormwater watershed areas, are presented on Figure 9, WDI Watershed Drainage Map.

5.1.2 Site Geology

The information presented in this section of the report is based primarily on published references and data developed during previous hydrogeologic studies at WDI Site No. 2. The geologic description refers to the natural subsurface conditions at the site prior to landfill development. The uppermost subsoil deposit at the site consists of deposit of brown and gray, fine to medium sand containing varying amounts of silt. This shallow sand represents a deltaic deposit according to Mozola (1969). In some areas, the shallow sand is underlain by sandy silt that is likely lacustrine in origin. The deltaic and lacustrine



materials are underlain by a silty clay glacial till over the entire site. The till contains varying amounts of sand and gravel incorporated within a silt and clay matrix. At its base, the till generally grades to primarily granular material, progressing from gray clayey silt, to silt, and eventually becoming a relatively extensive deposit of gray silty sand. This lower sand contains zones of both finer and coarser material, and it is sufficiently extensive to be considered a usable aquifer. Underlying these unconsolidated deposits is a dark brown or black shale, identified as the Antrim Formation (Mozola, 1969).

For descriptive purposes, the subsoils underlying WDI Site No. 2 have been subdivided into five major strata: (1) surficial/deltaic sands, (2) gray silty clay till, (3) transition silts, (4) aquifer sands, and (5) bedrock. Each stratum is described in more detail below.

5.1.2.1 Surficial/Deltaic Sands – The granular surface stratum consists of brown and gray fine to medium sands with varying amounts of silt. The thickness of this stratum is somewhat variable and has been found as thick as 23 feet within WDI Site No. 2. In most cases, it is 17 feet or less in thickness.

5.1.2.2 Silty Clay Till – An extensive deposit of cohesive glacial till forms the second major subsoil at the site. This till consists of gray silty clay that contains varying minor amounts of sand and gravel. Seams of silt and sand are occasionally encountered. The top surface of this till stratum is readily identifiable due to the textural difference between the surficial/deltaic sands and the till. However, the base of the till generally grades to clayey silt, silt and finally to silty fine sand. The laterally continuous massive silty clay till stratum varies considerably in thickness throughout the site, ranging from 19 to 77 feet.

Extensive laboratory testing has been conducted on samples of the silty clay till during previous investigations at WDI Site No. 2. These tests have demonstrated that the material classifies as CL according to the Unified Soil Classification (USC) System. Analysis of



moisture content and dry density indicates saturation or near-saturation on most samples. Hydraulic conductivity tests indicate that the coefficient of hydraulic conductivity of the silty clay till averages approximately 3×10^{-8} centimeters per second (cm/sec).

5.1.2.3 Transition Silts – The silty clay till generally grades downward into clayey silts, silts and finally into silty fine sands. In some cases, the strata contact is sharp, abruptly changing from silty clay to sand. However, across most of the site, the transition is gradual, through a range of silty materials. These transition silts are found to contain either appreciable amounts of clay and classify as (CL-ML), or to contain relatively minor amounts of clay and classify as (ML). In previous hydrogeologic reports for WDI Site No. 2, the CL-ML material has generally been described as a clayey silt. The ML material has been described as either silt or sandy silt.

5.1.2.4 Aquifer Sands – Underlying the transition silts is a stratum of granular soils ranging from gray silty fine sand to coarse sands and gravels. This stratum generally coarsens with depth to a medium to coarse sand and gravel. Where intervening silt or clay layers are absent, the maximum thickness of the aquifer sands is approximately 80 feet. Soil borings along the northern boundary of the site indicate that these aquifer sands "pinch out" or grade into finer material in this direction. Along the northern site boundary, the silt and sand, where present, is separated from the underlying bedrock by cohesive gray silty clay.

5.1.2.5 Bedrock – Beneath the aquifer sands is the shale of the Antrim Formation. The surface of this formation generally slopes downward from north to south across the site. Core samples, collected during previous investigations while drilling into the rock, indicate that the shale surface is highly weathered at some locations. At least the top 10 feet of the rock is fractured and forms the base of the sand aquifer in areas where the sand lies directly on top of the rock surface.



5.1.3 Site Groundwater Conditions

Similar to regional occurrence, groundwater at WDI Site No. 2 occurs in both the upper surficial/deltaic sands and in the lower aquifer sands underlying the thick glacial till. For ease of reference, we discuss the characteristics of these two water-bearing units separately below.

5.1.3.1 Surficial/Deltaic Sands – Prior to landfill development, groundwater at WDI Site No. 2 occurred under unconfined (water table) within the surface veneer of surficial/deltaic sands. Historically, the saturated thickness was generally less than 12 feet and subject to large seasonal fluctuations. The flow direction in this unit was generally southward. Because of these conditions, and the fact that the water is shallow and unprotected, this sand is not used as an aguifer in the area near the landfill, as verified by water well records.

In those portions of the landfill already constructed, the surficial/deltaic sands have been removed. Cutoff dikes, composed of compacted silty clay that is keyed into the native clay deposit, have been constructed around each Master Cell within the landfill. To prevent groundwater in the surficial sand of the surrounding area from entering the site, WDI has installed subsurface perimeter drains on the north, east and west sides of the site. The locations of the subsurface drains are shown on Figure 9.

As shown, the drains collect and transport shallow groundwater around the site for discharge into Quirk Drain, near the southeast corner of the site, or Willow Run Drain on the west side of the site. The subsurface perimeter drains are located near the surficial sand/clay interface, along the outside edge of the landfill dikes. The east and west subsurface perimeter drains originate at the northwest corner of MC IV. The east drain runs east from this point to the northeast corner of WDI Site No. 2, then south for final discharge into Quirk Drain. The west drain runs south from the point of origin to the north



edge of MC I, then west for final discharge into Willow Run Drain. Both Quirk Drain and Willow Run Drain discharge into Belleville Lake, an impoundment of the Huron River.

Beneath the surficial/deltaic sands, the cohesive glacial till is at or very near saturation. This material, which exhibits a mean coefficient of vertical hydraulic conductivity of approximately 3×10^{-8} cm/sec, constitutes an aquiclude.

5.1.3.2 Aquifer Sands – Groundwater also occurs within the lower gray silty fine sand, which constitutes the uppermost usable aquifer at the site, and is the principal zone for groundwater monitoring. Over most of the site, the piezometric surface of this zone is above the contact between the lower sand and the overlying silty clay till. As such, groundwater in these areas is confined. In a few areas, where the transition silts are relatively thick above the silty sand, the piezometric surface occurs within these fine-grained granular soils, and groundwater is locally unconfined. Thus, some previous reports have described the lower silty sand aquifer as "semi-confined" or "partially confined".

Groundwater flow within this unit is generally to the south across the site, toward the principal discharge feature, the Huron River Valley. Figure 10, WDI Piezometric Surface Elevation Contour Map – Sand Aquifer (As Recorded February 9, 2009), presents a relatively recent contour map based on groundwater level measurements at the on-site monitoring wells. This contour map incorporates water level measurements from the observation wells installed at the Woodlot, with the exception of W-7. This well is screened in the transition silt, and does not represent the piezometric level in the lower sand aquifer. As shown on Figure 10, groundwater flow within the lower sand aquifer across WDI Site No. 2 is generally toward the south, tending more toward the southwest in the southern portion of the site. This flow direction is consistent with the regional and historic groundwater flow direction.



As described previously, except along the northern site boundary, the lower silty sand directly overlies the bedrock. Therefore, groundwater in the upper, weathered bedrock is hydraulically connected with the sand aquifer. Figure 11, WDI Piezometric Surface Elevation Contour Map – Bedrock Aquifer (As Recorded February 9, 2009), presents a contour map based on groundwater level measurements at the on-site monitoring wells that are completed in the bedrock aquifer. As shown, this contour map shows a similar pattern to that of the sand aquifer, although the horizontal gradient is somewhat flatter. Groundwater flow within the upper portion of the bedrock across WDI Site No. 2 is also toward the south, becoming southwesterly in the southwest portion of the site, as expected based on historic data and regional conditions.

5.1.3.3 Vertical Gradients – Five existing sets of nested monitoring wells are located at various points around the WDI Site No. 2 facility. For the most part, these nests include a well screened in the lower sand aquifer and a deeper well screened in the bedrock. Thus, groundwater elevations from these pairs provide information on the vertical hydraulic gradient between the two units. The existing nested monitoring wells are listed on Table 5.1, Vertical Gradients, which also provides groundwater elevation measurements from four occasions in 2008 and 2009.

Vertical gradients were calculated by dividing the difference in piezometric head in the well pair (feet) by the vertical distance between the mid-points of the respective well screens (feet). As shown on Table 5.1, at most locations the vertical hydraulic gradient between the sand and bedrock aquifers is nearly neutral, varying with time and location from slightly downward to slightly upward. As described previously, at most locations the sand aquifer is directly connected to the upper bedrock. An exception to this pattern appears to occur at monitoring wells OB-7 (sand) and OB-32 (rock), where a relatively strong downward vertical gradient has been measured. This well pair is located along the northern side of the site, where a layer of cohesive soil occurs between the lower sand



aquifer and the bedrock formation. This separation evidently accentuates the apparent downward flow through the silty clay till, which recharges the underlying aquifers.

One existing well pair at WDI Site No. 2 represents the vertical hydraulic gradient within the lower silty sand aquifer. Monitoring wells OB-31AR and OB-7 are both screened in the lower silty sand, at different elevations. The water level elevation measurements included on Table 5.1 indicate a very slight downward vertical gradient at these two wells.

Table 5.1 Vertical Gradients

Well ID	Unit Screene d	Screen Elevatio n	4/10/08	7/14/08	10/10/08	2/9/2009	Gradient (2-9-09)
W-10S	Sand	600.8	na	na	na	652.77	0.002
W-10D	Sand	594.6	na	na	na	652.76	Downward
OB-21	Sand	600.9	652.57	652.84	652.62	652.55	0.000
OB-36	Rock	572.1	652.58	652.85	652.54	652.55	Neutral
OB-24	Sand	614.4	653.35	653.64	653.20	653.24	0.004
OB-22	Rock	568.3	653.27	653.66	653.17	653.20	Downward
OB-25	Sand	620.0	653.45	653.85	653.35	653.36	0.002
OB-37	Rock	572.7	653.48	653.90	653.39	653.44	Upward
OB-34A	Sand	617.8	654.02	654.41	653.90	653.98	0.001
OB-35A	Rock	577.5	653.99	654.38	653.88	653.94	Downward
OB-31AR	Sand	628.1	655.60	655.94	655.46	655.55	0.03
OB-7	Sand/Silt	627.0	655.32	655.86	655.40	655.45	Downward
OB-32	Rock	565.3	653.38	654.11	653.58	653.58	(Sand/Rock)



5.1.4 Existing Groundwater Quality

Groundwater quality at WDI Site No. 2 has been monitored since 1981 and is routinely submitted to the MDEQ as a requirement of the site's groundwater Sampling and Analysis Plan (SAP). Groundwater monitoring data collected pursuant to Part 111 of Act 451 and 40 CFR, Part 265, Subpart F is discussed in the site's routine monitoring reports submitted to the MDEQ. To meet the requirements of Rule 299.9506(1)(a), we reference the most recent groundwater monitoring report, *Groundwater Monitoring Results, Third Quarter 2009, WDI Site No. 2*, October 2, 2009, which provides a summary of groundwater monitoring data obtained to date.

Based on available historical and current groundwater quality data from on-site monitoring wells, groundwater quality can generally be characterized as alkaline and relatively hard. The major observed cations include calcium, magnesium, and to a lesser degree, sodium. The major observed anions include bicarbonate, chloride, and sulfate. Dissolved metals are generally non-detect or very low in concentration, except for iron. As is typical for the region, dissolved iron occurs naturally in groundwater at WDI Site No. 2 at concentrations as high as approximately 1 to 2 milligrams per liter (mg/L).

Graphical figures representing the general groundwater quality at WDI Site No. 2 are presented in Appendix D. These figures include Stiff and Trilinear diagrams constructed using groundwater quality data from the on-site (lower sand) monitoring wells from samples collected in May 2009. These figures confirm that the samples from the different wells generally exhibit similar geochemistry, particularly with respect to major anions. Bicarbonate is the dominant anion in each of samples. For most of the samples, the dominant cation appears to be calcium, although a few of the samples are enriched in sodium or magnesium.



Review of groundwater quality trends over time indicates that the concentrations of most parameters have been relatively stable in groundwater at WDI Site No. 2. Groundwater samples from some of the bedrock monitoring wells have exhibited an apparent increase in major ion concentrations (particularly chloride). These increases have been observed at both upgradient and downgradient locations, and possibly are related to reduced recharge to the bedrock aquifer or other factors.

The results of detection groundwater monitoring programs conducted during operation and post-closure at WDI Site No. 2 have found no indications of the release of hazardous constituents or other impacts to groundwater attributable to any of the WMUs.

5.1.5 Surface Water Hydrology & Quality

Surface water features near the facility are depicted on the topographic maps (Figures 7 and 8). As shown, Quirk Drain is located south of WDI Site No. 2. Willow Run Drain is located on the west side of the site. Both Quirk Drain and Willow Run Drain discharge into Belleville Lake, an impoundment of the Huron River. A 48-inch storm sewer is located along the outside perimeter of the northeast corner of WDI Site No. 2. This sewer is not connected to the WDI drainage system.

Surface drainage from most portions of the site is routed through a series of surface drains (ditches) to one of two sedimentation basins. The South Sedimentation Basin is located at the southern edge of the site, at the southeast corner of MC XI. The North Sedimentation Basin is located on the eastern property boundary, adjacent to MC X. The sedimentation basins discharge to the West Branch of Quirk Drain after treatment consisting of settling, filtration and activated carbon adsorption.



Surface drainage from the west side of MC I flows into Willow Run Drain or into ditches running along the north edge of the Interstate-94 Service Drive and eventually into Belleville Lake.

The paved curbed and guttered sections of the haul/access roadway leading into MC VI and Michigan Disposal Waste Treatment Plant currently drain to the lined pond adjacent to the leachate pretreatment plant in the southern portion of WDI Site No. 2. The runoff water is then routed through the pretreatment plant system.

Figure 9 identifies the on-site watershed boundaries and depicts the surface water flow direction and discharge features. Sampling and analysis of the surface waters at the site is completed routinely in accordance with the *Surface Water Sampling and Analysis Plan*, *Wayne Disposal*, *Inc.*, *Site No. 2*, Revision 3.6, December 2008.

5.2 WDI WOODLOT PARCEL HYDROGEOLOGIC CONDITIONS

Relevant elements of the hydrogeologic conditions within the Woodlot parcel, as determined during the current investigation, are discussed in the following subsections.

5.2.1 Physical Conditions & Topography

The topography of the 20.5 acre Woodlot parcel is relatively flat with surface elevations of approximately 704 to 706 feet msl with a gentle slope downward toward the southeast. As the moniker suggests, the parcel is mostly vegetated with trees or brush, except for the northeast corner, which is partially clear and vegetated with native grasses. The surface soils are generally slow draining, and approximately 14.9 acres within the interior of the Woodlot parcel are regulated wetlands. Mitigation of the wetlands is a component of the overall site development plan. WDI is in the process of securing a wetland mitigation permit from the MDEQ.



5.2.2 Site Geology

To evaluate the general site stratigraphy of the Woodlot, we developed a series of subsurface cross-sections, identified as Generalized Geologic Profiles A-A' through G-G'. Figure 12, Subsurface Profile Orientation Map, depicts the location of each of the subsurface profiles. Profiles were prepared to meet the requirements of Rule 299.9506(6)(e) and include the existing topography, soil borings, soil classification, stratigraphy, bedrock, wells, stabilized groundwater elevations, and proposed site grades. The geologic profiles, which are presented on Figures 13 through 18, Generalized Geologic Profiles A-A' through H-H', provide a basis for interpreting subsurface conditions.

5.2.2.1 Surficial/Deltaic Sands – For the Woodlot area, the surficial/deltaic sands range from 6 to 17 feet thick and in most cases is found to be 12 feet or less. The presence of this surface sand is consistent with what has been identified across the site, prior to landfill development. In most cases, this sand will be removed within the proposed waste footprint as part of landfill construction.

One test boring (TB-W-4) encountered gray silty clay from the ground surface to a depth of approximately 10 feet, underlain by silt to a depth of approximately 16 feet bgs. The silty clay at this location is believed to be the subsurface dike constructed along the south side of MC IV.

At several test boring locations (TB-W-1, TB-W-6, TB-W-7, TB-W-8, and TB-W-10) the surface sand was underlain by silt. The thickness of the silt deposit at these locations ranged from approximately 1 to 9 feet in thickness.

5.2.2.2 Silty Clay – As shown on the subsurface profiles for the proposed MC VI-F & G, the silty clay is found at a maximum elevation of 695 feet msl and extends to 657 feet msl at its deepest elevation. The silty clay stratum underlying the Woodlot varies in thickness,



ranging from 30 to 69 feet thick, which is consistent with the findings underlying the remainder of the WDI Site No. 2 facility. As shown on the geologic profiles, across the Woodlot parcel the clay generally appears to become thicker toward the west and south. In addition, the top of the transition silt occurs at comparatively higher elevation at some of the test borings (e.g., TB-W-2, TB-W-3, TB-W-8, and TB-W-9), resulting in comparatively less thickness of silty clay.

Numerous samples of the silty clay till collected during the Woodlot investigation were tested to determine physical characteristics and properties. The tests indicate that the material classifies as a CL material according to the Unified Soil Classification System (USCS) (ASTM D-2487). Moisture contents and dry densities reported in Appendix C ranged from 12 to 33 percent and 86 to 127 pounds per cubic foot, respectively. Over 70 hydraulic conductivity tests on representative clay samples were completed. Tests performed on clay samples yielded hydraulic conductivity values ranging from 1.05 x 10⁻⁸ to 2.56 x 10⁻⁸ centimeters per second (cm/sec).

Hydraulic conductivity test results from four samples (i.e., W-10-ST-1; W-14-ST-1, W-11-ST-7, and W-12-ST-5) were excluded from this range. The samples from W-10 and W-14 were collected very near the contact between the glacial clay and the upper deltaic sand unit. Therefore, the samples are not representative of the glacial clay material. Further, these samples were collected from an elevation above the proposed bottom grades of the landfill, and therefore represent material proposed for excavation. Sample W-11(ST-7) and W-12(ST-5) were collected from the transition silt layer. These samples are non-plastic and classify as ML and MH material, respectively. These samples were collected from a depth that is not intended for inclusion in the natural clay soil liner isolation zone.

5.2.2.3 Transition Silts – Specific to the Woodlot, the transition silt unit is prevalent and generally grades downward from clayey silt to silty fine sands. This unit underlying the



Woodlot ranges in thickness from 4 to 32 feet and is present at elevations ranging from 658 to 610 feet msl. Samples of the transition silt layer collected during the Woodlot investigation were laboratory tested to determine physical properties. Tests indicate the material has USC classifications of ML, MH, or CL-ML. Moisture contents and dry densities range from 2 to 23 percent and 98 to 136 pounds per cubic foot, respectively. Hydraulic conductivity tests performed on the transition silt materials indicate the hydraulic conductivity ranges from 1.1×10^{-5} to 3.6×10^{-8} cm/sec. The broad range of hydraulic conductivity in the transition silts is attributed to lesser amounts of clay and greater silt and sand content as the transition into the silty sand aquifer progresses.

5.2.2.4 Aquifer Sands – Based on the test borings performed within the Woodlot parcel, the upper limit of the aquifer sands is situated at elevations ranging from 635 to 650 feet msl and the lower limit extends down to the top of bedrock at elevation 580 feet msl. Samples collected during the Woodlot investigation were laboratory tested to determine physical properties. Tests indicate the aquifer sand has a USC classification of SM. Silt content ranges from 9 to 43 percent. Based on correlations that rely on the grain size distribution, the hydraulic conductivity the aquifer sands range from 8.0 x 10^{-4} to 2.5×10^{-3} cm/sec (2.3 to 7.0 ft/day), using the Hazen Method of determination. Table 5.2, Aquifer Sand Hydraulic Conductivity (Based on Grain Size Distribution), presents the available aquifer data used to estimate the hydraulic conductivity of the sand.

5.2.2.5 Bedrock – As part of the site-specific field investigation of the Woodlot parcel, one test boring (TB-W-10) was extended to the top of bedrock to develop information on the depth and type of bedrock beneath the Woodlot. At this location, the top of the bedrock formation was encountered at approximately elevation 580 feet msl. Using information obtained from boring TB-W-10 and data collected during previous investigations, the bedrock surface apparently slopes downward toward the south across the Woodlot.



The rock type was identified as shale at TB-W-10, confirming the occurrence of the Antrim Shale below the site.

5.2.3 Site Groundwater Conditions

Consistent with conditions at the existing WDI Site No. 2, groundwater at the Woodlot parcel occurs in both the upper surficial/deltaic sands and in the lower aquifer sands below the thick glacial till. The groundwater conditions encountered in each of these two water-bearing units are discussed separately below.

5.2.3.1 Surficial/Deltaic Sands – Groundwater was encountered within the surficial deltaic sand at each of the fourteen test borings drilled during the hydrogeologic investigation at the Woodlot parcel. Groundwater was encountered in the surficial sand at depths ranging from approximately 0.5 to 10.0 feet bgs (Elevations 705.5 to 695.9 feet msl).

As described previously, test boring TB-W-4 apparently intercepted the subsurface clay dike for the adjacent landfill cell (MC IV). Groundwater was encountered at TB-W-4 in the silt/sand deposit immediately below the clay dike at a depth of approximately 10 feet bgs (Elevation 695.9 feet msl).



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	TABLE 5.2: Aquifer Sand Hydraulic Conductivity (Based on Grain Size Distribution)																		
						Partic	al Size (%		ution		Atterberg Limits (%)			centimeters)					
Geologic Unit	Boring Designation	Sample ID	Depth of Sample Tip (ft)	Elevation of Sample Tip (ft)	Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay & Colloids	Liquid Limit	Plastic Limit	Plasticity Index	D _{io} (Effective grain size in centii	C (coefficient)		K = Permeshilfy (cm/sec)		Unified Soil Classification
Aquifer Sands	TB-W-1	LS-37	88.0	618.2	0	0	0	80	14	6		Non-Plasti	С	0.0015	40	120	9E-05	0.0003	SM
Aquifer Sands	TB-W-1	LS-39	92.0	614.2	0	0	0	67	29	4		Non-Plasti	c	0.003	40	120	0.0004	0.0011	SM
Aquifer Sands	TB-W-2	ST-5	58.0	648.2	0	0	0	75	23	2		Non-Plasti	ic	0.005	40	120	0.001	0.003	SM
Aquifer Sands	TB-W-2	LS-15	70.0	636.2	0	0	0	67	30	3		Non-Plasti	ic	0.0034	40	120	0.0005	0.0014	SM
Aquifer Sands	TB-W-2	LS-17	80.0	626.2	0	0	1	87	10	2		Non-Plast	ic	0.01	40	120	0.004	0.012	SM
Aquifer Sands	TB-W-3	LS-12	65.0	641.2	0	0	0	54	42	4		Non-Plast	ic	0.0022	40	120	0.0002	0.0006	SM
Aquifer Sands	TB-W-3	LS-14	75.0	631.2	0	0	0	78	16	6		Non-Plast	ic	0.002	40	120	0.0002	0.0005	SM
Aquifer Sands	TB-W-3	LS-15	80.0	626.2	0	0	0	80	15	5		Non-Plast	ic	0.0025	40	120	0.0003	0.0008	SM
Aquifer Sands	TB-W-5	LS-18	80.0	626.2	0	0	0	77	19	4		Non-Plast	ic	0.004	40	120	0.0006	0.0019	SM
Aquifer Sands	TB-W-7	LS-28	68.0	638.2	0	0	0	87	9	4		Non-Plast	ic	0.01	40	120	0.004	0.012	SM
Aquifer Sands	TB-W-8	LS-13	65.0	641.2	0	0	0	53	41	6		Non-Plast	ic	0.0015	40	120	9E-05	0.0003	SM
Aquifer Sands	TB-W-8	LS-14	70.0	636.2	0	0	0	84	13	3		Non-Plast	ic	0.006	40	120	0.0014	0.0043	SM
Aquifer Sands	TB-W-8	LS-15	75.0	631.2	0	0	0	78	17	5		Non-Plast	ic	0.0016	40	120	0.0001	0.0003	SM
Aquifer Sands	TB-W-9	LS-15	75.0	631.2	0	0	0	84	12	4		Non-Plast	lic	0.004	40	120	0.0006	0.0019	SM
Aquifer Sands	TB-W-9	LS-16	80.0	626.2	0	0	0	83	12	5		Non-Plas	lic	0.002	40	120	0.0002	0.0005	SM
Aquifer Sands	TB-W-10	LS-40	98.0	608.2	12	20	26	15	←:	27 →		Non-Plas	tic	NA ^[1]	40	120			SM
Aquifer Sands	TB-W-10	LS-42	105.0	601.2	29	19	22	12		18 →		Non-Plas	tic	NA ^[1]	40	120		-	SM



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	TABLE 5.2: Aquifer Sand Hydraulic Conductivity (Based on Grain Size Distribution)																		
						Partic	al Size (%		ution		Atterberg Limits (%)			centimeters)	***************************************		A 44 7		
Geologic Unit	Boring Designation	Sample ID	Depth of Sample Tip (ft)	Elevation of Sample Tip (ft)	Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay & Colloids	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀ (Effective grain size in centi	C (coappliction)	612041200)	K = Demoshility (rm(car)		Unified Soil Classification
Aquifer Sands	TB-W-10	LS-43	110.0	596.2	11	13	45	16	←1	5 →	١	lon-Plasti	С	NA ^[1]	40	120	-	_	SM
Aquifer Sands	TB-W-10	LS-45	120.0	586.5	28	11	13	14	18	16	1	Non-Plasti	С	2E-05	40	80		_	SM
Aquifer Sands	TB-W-10	LS-46	125.0	581.5	23	14	21	13	←2	9 →	-	_		NA ^[1]	40	120		-	SM
Aquifer Sands	TB-W-12	LS-20	95.0	611.5	26	17	26	14	12	5	-			0.0013	40	120	7E-05	0.0002	SM
Aquifer Sands	TB-W-12	LS-21	100.0	606.5	32	16	23	13	←1	6 →			_	NA ^[1]	40	120		-	SM
Aquifer Sands	TB-W-13	LS-18	80.0	626.5	0	0	0	58	39	3				0.0036	40	120	0.0005	0.0016	SM
Aquifer Sands	TB-W-14	LS-30	78.0	628.5	0	0	0	77	20	3	1	Non-Plast	ic	0.004	40	120	0.0006	0.0019	SM

Average: 0.0008 to 0.0025 cm/sec 2.3341 to 7.0023 ft/day

Notes:

Hydraulic Conductivity of sandy sediments estimated from the grain-size distribution curve by the Hazen Method. Hazen approximation is K = C(D₁₀)² (Fetter, C.W., *Applied Hydrogeology* Second Edition, Macmillian Publishing Company, Copyright 1988).

K is hydraulic conductivity in cm/sec

D10 is the effective grain size in cm

C is a coefficient based on:

 Very fine sand, poorly sorted
 40
 80

 Fine sand with appreciable fines
 40
 80

 Medium sand, well sorted
 80
 120

 Coarse sand, poorly sorted
 80
 120

 Coarse sand, well sorted, clean
 120
 150

[1] Where D₁₀ is not available. A hydrometer was not performed and therefore, information below 75um is not available.

Prepared by NTH Consultants, Ltd. 2/1/2011



5.2.3.2 Aquifer Sands – Groundwater was encountered in each test boring within the gray silty sand deposit below the glacial till. Groundwater elevation measurements at the observation wells within the Woodlot parcel indicate groundwater occurs under confined conditions in this area. Figure 19, Piezometric Surface Contour Map – December 17, 2008, presents the piezometric surface contours for the Woodlot area, based on groundwater elevation measurements in the observation wells. Review of this figure confirms groundwater flow across the Woodlot is toward the south, consistent with the rest of WDI Site No. 2 and in accordance with the general regional groundwater flow direction.

Groundwater flow velocity at the site can be calculated using the equation $V = K i/n_e$, where:

V = Groundwater flow velocity in feet/day

K = Hydraulic conductivity of the aquifer in feet/day

i = Horizontal hydraulic gradient in foot per foot

n_e = Effective porosity

As described previously, estimated hydraulic conductivity values for the lower sand aquifer underlying the Woodlot range from 8.0×10^{-4} to 2.3×10^{-3} cm/sec, based on grain size distribution correlations. Although no direct measurements have been made, the porosity of the aquifer sands can be conservatively estimated as approximately 10 percent, based on the grain size distributions and physical descriptions.

A range of groundwater flow velocities have been calculated for the MC VI-F & G Woodlot area along three flow paths indicated as "A", "B" on Figure 10, and "C" on Figure 19. The results are presented below on Table 5.3, Groundwater Flow Velocities – Lower Sand Aquifer. Using the hydraulic gradients along each flow path, a conservative effective



porosity of 0.10, and an average hydraulic conductivity of 1.6×10^{-3} cm/sec (4.4 feet/day), a range of groundwater flow velocities have been calculated for the Woodlot. The estimated horizontal groundwater flow velocity within the lower sand aquifer ranges from approximately 0.11 to 0.17 foot/day.

Table 5.3 Groundwater Flow Velocities

Lower Sand Aquifer

Flow Path	⊠h	M	Hydraulic Gradient (図h/図l)	Average Hydraulic Conductivity, K (ft/day)	Assumed Effective Porosity, n	Average Calculated Groundwater Velocity (ft/day)
A (Figure 10)	1	320	0.0031	4.4	0.10	0.14
B (Figure 10)	1	400	0.0025	4.4	0.10	0.11
C (Figure 19)	2	530	0.0038	4.4	0.10	0.17

Notes:

5.2.3.4 Vertical Gradient – As shown on Figure 3, one nested well pair, W-10S/W-10D, was installed within the Woodlot. Both wells are screened in the lower sand aquifer, at slightly different elevations. Groundwater elevation measurements and the calculated vertical hydraulic gradient at this location are included on Table 5.1. As shown, the nested well pair at the Woodlot parcel indicates a very slight downward vertical hydraulic gradient within the lower aquifer sand. This result is consistent with the vertical hydraulic gradient calculated for the one existing nested well pair within the aquifer sand at WDI Site No. 2 (i.e., OB-31AR and OB-7), which also indicated a very slight downward gradient.

^[1] \boxtimes h = Change in groundwater elevation.

^[2] \square = Distance along flow paths.

^[3] $Velocity = K(\boxtimes h / \boxtimes l) / n$.



One of the existing nested well pairs at WDI Site No. 2 representing the vertical hydraulic gradient between the lower sand and the bedrock aquifers (OB-34A/OB-35A) is located near the northeast corner of the Woodlot parcel. As shown on Table 5.3, each of the available measurements in 2008 and 2009 indicated a slight downward gradient between the sand and bedrock aquifers at this location.

5.2.4 Existing Groundwater Quality

To evaluate groundwater quality at the Woodlot parcel, groundwater samples were collected on December 17, 2008, from the five observation wells (W-1, W-7, W-10S, W-12, and W-14) installed in the lower sand aquifer during our site investigation for the proposed MC VI-F & G area. The samples were analyzed for those parameters included in the site's approved *Part 111 Groundwater Sampling and Analysis Plan*. Specific conductance, temperature, and pH were determined in the field. A summary of the groundwater monitoring results for the MC VI-F & G observation wells as well as the laboratory analytical report are included in Appendix D. Review of this data shows the following:

- No phenolics, volatile organic compounds (VOCs) or PCBs were detected in any of the observation wells installed for the MC VI-F & G development.
- Dissolved iron concentrations at each of the observation wells exceeded the MDEQ
 Generic Residential Cleanup Criterion (GRCC) for iron (aesthetic-based criterion 0.3
 mg/L). As described previously in Section 5.1.4, elevated concentrations of dissolved
 iron occur on a regional basis and are considered representative of site background
 conditions.

To illustrate the general groundwater geochemistry for the Woodlot, the samples from the observation wells are included on the Stiff and Trilinear diagrams presented in Appendix D.



As shown on the Stiff diagrams, the samples from the Woodlot observation wells generally show very similar patterns as the samples from the existing WDI Site No. 2 monitoring wells. In addition, the samples plot in the same general area of the Trilinear diagram. These observations confirm that the groundwater quality within the Woodlot parcel exhibits similar geochemistry as has been observed (and continues to be observed) at WDI Site No. 2. Accordingly, the MC VI-F & G development can be effectively monitored using the same groundwater quality monitoring approach as is already employed at the existing site, in accordance with the groundwater monitoring SAP.

5.2.5 Surface Water

Under current conditions, surface water periodically tends to accumulate within the eastern portion of the Woodlot parcel due to the relatively flat topography and slow draining surficial soils. An overflow structure allows periodic discharge into the storm water ditch along the former Denton Road, which runs north-to-south along the east side of the Woodlot. From there, storm water is eventually directed through the WDI Site No. 2 storm water management system to the South Sedimentation Basin.

When landfill development is completed for the proposed MC VI-F & G area, storm water runoff will be controlled through a system of diversion berms and downslope channels. The storm water runoff diverted to the northwest downslope channel will discharge to the new Northwest Sedimentation Basin (NWSB). The NWSB will be created by constructing a berm up to Elevation 717 feet msl along the west side of MC IV and north side of MC IV and V. The basin was sized to contain the runoff generated by the 100-year, 24-hour storm event and has a capacity of approximately 8.22 million gallons. The runoff generated by the design storm is approximately 7.33 million gallons, which is less than the available capacity of the NWSB. Storm water collected in the NWSB will be pumped to the South Sedimentation Basin through storm water diversion berms on the cover of MC VI-E and existing ditches. Details of the proposed storm water management system for the MC VI-F



& G area are included as part of the Engineering Plans that accompany the Construction Permit Application.

5.2.6 Water Budget Evaluation

Rule 299.9506(6)(f) calls for a water budget calculation as part of the hydrogeologic investigation. A water budget is an accounting of all the water that flows into and out of a project area. Depending on the hydrogeologic conditions of a particular site, as well as the landfill liner and liquids collection system design, landfill development can alter the existing hydrology or hydrogeology of a site. In some cases, the changes in hydrogeologic conditions can affect the site monitoring strategy, especially if groundwater mounding or other conditions are expected to occur that would appreciably alter the groundwater flow direction or gradient. A water budget analysis is a tool to evaluate the potential likelihood that hydrogeologic conditions may vary to the extent that the monitoring strategy is affected. Accordingly, the water budget should include evaluation of present site conditions, future active operations, and long-term conditions during post-closure.

With respect to groundwater monitoring at WDI Site No. 2, the uppermost aquifer (i.e., the lower sand) is confined below a relatively thick layer of low permeability clay. Recharge to this unit is from two major sources: (1) vertical seepage on a local and regional basis through the overlying clay and (2) hydraulic connection with remote areas where the glacial granular soils outcrop or are connected to surface water features. These off-site recharge zones are located primarily in the areas of glacial moraine deposits that trend southwest-to-northeast through Washtenaw County and the northwest corner of Wayne County (i.e., several miles west of WDI).

Construction of the MC VI-F & G landfill will involve removing the surficial sand from the Woodlot parcel. In addition, the landfill unit will be constructed with a double-composite liner and liquids collection system. These measures will virtually eliminate vertical seepage



through the native clay to the lower aquifer within the Woodlot area. Thus, landfill construction will not result in a potential for groundwater mounding within the monitored zone. Rather, if there is any effect, the landfill construction may result in a decrease in recharge to the lower aquifer. On a qualitative basis, the potential decrease in recharge is expected to be relatively small in comparison to the other sources of regional recharge to the lower aquifer sand.

To quantify the estimated change in recharge compared to the overall groundwater flow rate in the lower aquifer sand, we developed a "water budget" for the area within the Woodlot parcel, based on representative average parameters for the subsoils and groundwater zones. The vertical seepage rate through the confining clay was estimated using the following form of Darcy's Equation:

$$Q_v = k_{clay} i_v A_W$$

Where, $Q_v = Vertical seepage rate (ft^3/day)$

 $k_{clay} = Vertical hydraulic conductivity of the clay layer (ft/day)$

 $i_v = Vertical hydraulic gradient (ft/ft)$

 A_W = Area of Woodlot parcel proposed for landfill construction (ft²)

As described in Section 5.2.2.2, hydraulic conductivity tests were conducted on numerous samples of the clay layer collected from the test borings conducted during the hydrogeologic investigation for the Woodlot parcel. The results of these tests indicated an average hydraulic conductivity (k_{clay}) of approximately 3 x 10-8 cm/sec (8.5 x 10⁻⁵ ft/day).

The vertical hydraulic gradient (i) is taken as the difference in piezometric elevation between the upper unconfined sand unit and the lower confined sand aquifer divided by the thickness of the clay. On average, based on observations of groundwater encountered



in the test borings during the field investigation, the groundwater elevation in the upper zone is approximately Elevation 702 feet msl. The piezometric elevation in the lower sand aquifer within the Woodlot averages approximately 654 feet msl. The clay layer varies in thickness within the Woodlot from approximately 30 to 69 feet. Based on these parameters, the vertical gradient is estimated to range from approximately 0.7 to 1.6 foot/foot.

Finally, the area within the Woodlot parcel slated for landfill construction is 20.5 acres, or about 900,000 square feet.

Based on these parameters, under current conditions, the vertical seepage through the clay layer to the lower sand aquifer is estimated to be approximately 53 to 122 cubic feet per day (ft³/day).

For comparison, the lateral groundwater flow rate through the lower confined sand aquifer can also be calculated using the same basic equation:

$$Q_h = k_{sand}i_hA_{sand}$$

Where, $Q_h = Horizontal groundwater flow rate (ft³/day)$

 k_{sand} = Hydraulic conductivity of the aquifer sand (ft/day)

 $i_h = Horizontal hydraulic gradient (ft/ft)$

 A_{sand} = Area of aquifer sand layer perpendicular to flow (ft²)

As described in Section 5.2.2.4, the hydraulic conductivity of the aquifer sand can be estimated based on empirical correlations with the grain size distribution of individual samples. The results of this evaluation indicated an average hydraulic conductivity (k) of approximately 1.6×10^{-3} cm/sec (4.4 ft/day). Note that in several locations at the existing



WDI Site No. 2, the aquifer sand coarsens considerably with depth, becoming predominantly gravel near the interface with the bedrock. Therefore, the hydraulic conductivity of portions of the sand may be appreciably higher than this average value.

As presented in Section 5.2.3.2, the groundwater contour map indicates horizontal hydraulic gradients across the Woodlot ranging from approximately 0.0025 to 0.0038 foot/foot. Groundwater flow within the lower sand aquifer is roughly toward the south; therefore, the area of the aquifer perpendicular to flow can be approximated as the width of the Woodlot (east-west) times the thickness of the lower sand. The Woodlot is about 1,200 feet wide. The thickness of the lower sand ranges from approximately 55 to 70 feet.

Based on the above range of parameters, the horizontal groundwater flow rate across the Woodlot is estimated at approximately 740 to 1,440 (ft³/day). As noted above, the groundwater flow rate may be somewhat higher if the sand coarsens with depth. Also, this flow rate does not include the contribution of the upper weathered portion of the underlying bedrock, which is likely hydraulically connected with the sand.

Comparison of the estimated vertical seepage rate with the range of estimated horizontal groundwater flow rates indicates that vertical seepage is a relatively small fraction of the total flow (i.e., 4 to 16 percent). Through this simplified comparison, the reduction or elimination of vertical seepage, which is expected to result from the proposed alteration of site conditions due to development of the MC VI-F & G landfill within the Woodlot, likely will not have a substantial effect on groundwater levels or flow patterns in the underlying confined aquifer. Therefore, the groundwater conditions encountered at the site during the current hydrogeologic investigation are considered to be generally representative of conditions expected to be present during landfill operation and post-closure. This is consistent with past experience with the existing units. Natural variations may occur due to fluctuations climatic conditions, regional development patterns, and groundwater use.



However, these variations, if they occur, will be gradual and likely will not substantially limit the effectiveness of the landfill monitoring program that has been developed based on the current conditions.



6.0 MONITORING SYSTEMS

The primary purpose of this hydrogeologic investigation and analysis was to provide specific geologic and hydrogeologic information pertinent to two aspects of the development of a hazardous waste disposal facility; landfill design and environmental monitoring. Details pertaining to site monitoring are presented in the site's *Sampling and Analysis Plans* (SAPs) for the site.

Information pertaining to the location, presence, and current and historic elevation of the piezometric surface in the design area and adjacent site was provided to the landfill design team, so that the landfill floor grade elevation evaluations could be made. Additionally, the design team was provided other necessary hydrogeologic characteristics relevant to the site design. Specifics related to the actual design of the landfill are included in the *Basis of Design Report*, which is included as part of the Construction Permit Application.

The second aspect, environmental monitoring, includes discussion of the identification of the target monitoring zone, as well as justification for the placement of groundwater monitoring wells. Leachate collection system monitoring, surface water monitoring, and other site monitoring systems are discussed in detail in the site's respective SAPs. Included in the following sections is a summary of the site's SAPs and our proposed conceptual modifications to incorporate monitoring of MC VI-F & G.

6.1 GROUNDWATER MONITORING SYSTEM

WDI has developed a *Groundwater Sampling and Analysis Plan* (SAP), *Wayne Disposal, Inc., Site No. 2* [02/2011], which identifies the Part 111 groundwater monitoring program for the facility. Presently, the SAP incorporates monitoring wells OB-18 through OB-40R and OB-47, which monitor both the lower sand aquifer and the bedrock aquifer for the Part 111 regulated units at the WDI Site No. 2 facility. Additional monitoring is completed under a



Part 115 hydrogeologic monitoring plan (HMP). Wells OB-1A through OB-17 are monitored under the Part 115 plan. Wells OB-41 through OB-46 are monitored per a consent order for MC IX. Table 6.1, Unit Specific Groundwater Monitoring Program, highlights each of the landfill units at WDI Site No. 2 and what type of monitoring program is necessary for each unit.

Selection of groundwater monitoring wells for the proposed MC VI-F & G area is based on the point of compliance and will incorporate a sequenced series of monitoring wells. Preliminary proposed locations of the future monitoring wells are shown on Figure 20, Part 111 Groundwater Monitoring Location Plan. Table 6.2, Groundwater Monitoring Program, identifies each of the groundwater monitoring wells, the particular program that the well belongs to, its hydraulic designation, and the groundwater unit monitored. This table includes proposed new (or re-designated) monitoring wells.

For Cell VI-F&G, a two-phase monitoring system will be implemented to supplement the current monitoring program. Construction of the MC VI-F&G area is expected to begin with the Woodlot (MC VI-G Phase 1 and Phase 2) and then proceed into the northernmost cells (MC VI-F, Phase I and Phase 2). During this initial monitoring phase, a line of wells will be established south of the Woodlot (MC VI-G, Phase I and Phase 2, to monitor these cells. As shown on Figure 20, Proposed Part 111 Groundwater Monitoring Location Plan of the Sampling Analysis Plan, this initial set of wells has been designated as OB-48 through OB-52. Observation well W-1, which was installed as part of the hydrogeologic investigation, will be re-designated as OB-48. This initial set of wells will also include four new wells (OB-49, and OB-50 through OB-52). Three wells (OB-50, OB-51 and OB-52) will be installed to monitor the lower sand aquifer and one (OB-49) will be installed to monitor the bedrock. Note that existing wells OB-34A and OB-35A will also serve to monitor the MC VI-F area.



When the next phase of construction begins on the next cell further south (MC VI-G, Phase 3 through 6), the initial wells will be abandoned, and additional wells will be installed (or re-designated) at the downgradient (i.e., south) side of MC 1, which will be incorporated into the Part 111 groundwater monitoring program for MC VI-F&G. This second set of wells will include existing observation well W-10S (to be re-designated as OB-53), existing wells OB-6, OB-8, OB-12R, and OB-13 (to be re-designated as dual Part 111/115 monitoring wells), and four new monitoring wells (OB-54, OB-55, OB-58 and OB-59).

Proposed monitoring wells installed for the initial Phase I monitoring sequencing (OB-50, OB-51, and OB-52) are contingent upon identifying a suitable location along the MC 1 dike which does not go through the MC VI-G liner. Additionally, because the area in which these wells can be installed will be in the way during construction, installation will be completed following construction of the south slope of MC VI-G Phase I.

With the exception of wells OB-50, OB-51 and OB-52, well installation for each of the phase will be completed at least one year (two years if possible) prior to the placement of waste so that "background sample collection" can be implemented. For wells OB-50, OB-51, and OB-52, the background sample collection will begin as soon as the wells are installed. Assuming there is no evidence of impact, background will consist of two years of quarterly sampling.

Copies of the well logs for all of WDI's wells are included in Attachment B of the appropriate Sampling and Analysis Plan. As new wells are added or abandoned, Attachment A and Attachment B of the Sampling & Analysis Plan will be updated and the updates submitted to the Department.



Table 6.1 Unit Specific Groundwater Monitoring Program Wayne Disposal Site No. 2 Master Cell VI-F&G (Woodlot) NTH Proj. No. 62-080376-04

Unit	Land Disposal Unit (Yes) ¹	Land Disposal Unit (No) ²	Type of Unit	Waiver ³	Detection Monitoring ⁴	Compliance Monitoring ⁵	Corrective Action ⁶
MCI	Х	-	CMU	-	Х	-	
MCIV	X		CMU		X	-	
MCV	X	_	HWMU		X	-	-
MC VI	х	_	HWMU	-	Х		-
MCVII	. x	_	HWMU	-	X	_	-
MCIX	· x	-	SWMU	-	Х		_
MCX	X	_	SWMU		Х		_
MC XI	Х	_	SWMU	-	Х	_	_
Gas Recovery	-	X	SWMU	_	Х		_
Wheel Wash	N/III	X	SWMU	_	Х	_	-

NOTES:

In summary, if no hazardous constituents have been detected at the time of this application, the unit is subject to detection monitoring program requirements. If hazardous constituents have been detected at the point of compliance at the time of this application, the unit is subject to compliance monitoring requirements. If hazardous constituents have been detected at levels that exceed concentration limits, or if groundwater monitoring conducted at the time of this application indicate the presence of hazardous constituents from the unit above background concentrations, the unit is subject to corrective action.

¹ Surface impoundments, waste piles, and land treatment units or landfills (land disposal units) that receive hazardous waste after July 26, 1982, are considered regulated units and must comply with the requirements specified in 40 CFR \$264.91 through \$264.99 except 40 CFR \$5264.94(a)(2) and (3), and 264.94(b) and (c), and R 299.9629 for purposes of detecting, characterizing, and responding to releases to the uppermost aquifer. If the unit is a land disposal unit, check the "yes" column and indicate in the table whether a woiver for a groundwater monitoring program is being requested or if the facility is proposing a detection monitoring, compliance monitoring, or corrective action program.

² if the unit is not a land disposal unit, check the "no" column. The applicant should indicate in the table that a waiver is being requested.

³ The unit is a land disposal unit and the applicant is requesting a waiver for a groundwater monitoring program.

⁴ If an applicant is not required to implement a compliance monitoring program or a corrective action program, in all other cases, the applicant must institute a detection monitoring program under 40 CFR \$264.98.

Whenever hazardous constituents under 40 CFR \$264.93 are detected at a compliance point, the applicant must institute a compliance monitoring program under 40 CFR \$264.99. Detected is defined as statistically significant evidence of contamination as described in 40 CFR \$264.98(F).

⁶ If an unit is undergoing corrective action in accordance with R299.9629 and 40 CFR, Part 264, Subpart F, except 40 CFR \$264.100 and \$264.101, the applicant should refer to Template B2, Corrective Action, which discusses the groundwater monitoring associated with corrective action.



Table 6.2 Groundwater Monitoring Program Wayne Disposal Site No. 2 -- Master Cell VI-F&G (Woodlot) NTH Proj. No. 62-080376-04

Well I.D.	· Program(s)	TOC Elevation	Screen Tip Elevation	Well Depth	Hydraulic Designation	Stratum Screened	Well Pair
OB-1A	Part 115	705.99	579.9	126	Upgradient	SILT/ROCK	
OB-2A	Part 115 / MC IX	701.30	587.8	114	Downgradient	SAND	OB-44
OB-3	Part 115	708.99	577.9	131	Downgradient	SAND	_
OB-4	Part 115	712.59	638.9	74	Upgradient	SAND	-
OB-5	Part 115	705.20	603.8	101	Downgradient	SAND	
OB-6 / OB-56	Part 115 / Part 111	704.75	627.1	78	Downgradient	SAND	
OB-7	Part 115 / MC IX	703.58	627	. 77	Upgradient	SILT/SAND	OB-32
OB-8 / OB-60	Part 115 / Part 111	707.58	629	79	Downgradient	SAND	
OB-9	Part 115	701.20	614.1	87	Downgradient	SAND	
OB-10	Part 115	· 707.80	621	87	Downgradient	SAND	
OB-11A	Part 115 / MC IX	698.99	611.4	88	Downgradient	SAND	
OB-12R	Part 115	707.84	620.6	87	Downgradient	SAND	OB-55
OB-13 / OB-57	Part 115 / Part 111	703.27	619.9	83	Downgradient	SAND	
OB-14	Part 115	702.10	600.1	102	Downgradient	SAND	
OB-15	Part 115	707.63	617.3	90	Downgradient	SAND	
OB-16	Part 115	700.83	596.5	104	Downgradient	SAND	
OB-17	Part 115	708.28	626.2	82	Downgradient	SAND	
OB-18	Part 111 (MDWTP)	703.11	589.2	114	Upgradient	CLAY/ROCK	
OB-19R	Part 111 (MDWTP)	709.17	585.6	124	Upgradient	ROCK	
OB-20	Part 111 / TSCA	706.28	609.9	96	Downgradient	SAND	
OB-21	Part 111 (MDWTP) / TSCA	705.00	600.9	104	Downgradient	SAND	OB-36
OB-22	Part 111	704.00	568.3	136	Downgradient	SAND/ROCK	OB-24
OB-23A	Part 111 (MDWTP) / TSCA	702.67	577.5	125	Downgradient	SAND	
OB-24	Part 111 (MDWTP) / TSCA	704.59	614.4	90-	Downgradient	SAND	OB-22
OB-25	Part 111 / TSCA	711.00	620	91	Downgradient	SAND	OB-37
OB-26A	Part 111 / TSCA	714.15	628.5	86	Downgradient	SAND	OB-38
OB-27A	Part 111	708.27	636.5	72	Downgradient	SAND	OB-28
OB-28	Part 111	709.00	583.9	125	Downgradient	SAND	OB-27A
OB-29	Part 111	705.53	609.4	96	Downgradient	SAND	OB-39
OB-30	Part 111	703.92	607.4	97	Downgradient	SAND	
OB-31AR	Part 111 / MC IX	700.65	628.1	73	Upgradient	SAND	OB-32
OB-32	Part 111 / MC IX	701.49	565.3	136	Upgradient	ROCK	OB-31
OB-34A	Part 111 / TSCA	712.04	617.8	94	Downgradient	SAND	
OB-35A	Part 111	711.36	577.5	134	Downgradient	ROCK	
OB-36	Part 111 (MDWTP)	702.13	572.1	130	Downgradient	ROCK	OB-21
OB-37	Part 111	711.30	572.7	139	Downgradient	ROCK	OB-25
OB-38	Part 111	714.10	573.4	141	Downgradient	ROCK	OB-26A
OB-39	Part 111	707.55	561.9	146	Downgradient	ROCK	OB-29
OB-40R	Part 111 / TSCA	708.84	610.2	99	Upgradient	SILT/SAND	
OB-41	MCIX	701.89	562	140	Downgradient	ROCK	
OB-42	MCIX	717.25	624.4	93	Downgradient	SAND	OB-43
OB-43	MCIX	717.46	595.1	122 62	Downgradient	SAND	OB-42
OB-44	MC IX Part 115 / MC IX	701.27 701.31	639.5 628	73	Downgradient	SAND SAND	OB-2 OB-46
OB-45					Downgradient Downgradient	SAND	
OB-46 OB-47	MC IX Part 111 (MDWTP)	701.19 702.70	600 594.3	101 108	Downgradient Downgradient		OB-45
OB-47 OB-48		702.70	614.2	94.5	Downgradient	SAND SAND	OB-49
OB-48 OB-49	Part 111 Part 111	/00./0			Downgradient	ROCK	OB-49 OB-48
		TO BE INSTALLED TO BE INSTALLED				SAND	
OB-50	Part 111		TO BE INS				
OB-51	Part 111				SAND		
OB-52	Part 111	707.04	TO BE INS	Dawners-Sast	SAND		
OB-53	Part 111	707.01	600.8	106.21	Downgradient	SAND	-
OB-54	Part 111		TO BE INS		SAND	OD 400	
OB-55	Part 111		TO BE INS	ROCK	OB-12R		
OB-58	Part 111		TO BEINS	SAND	OB-59		



The point of compliance, as defined by 40 CFR 264.95, is designated as the southern perimeter of the HWMU. Based on the flow directions and gradients in the uppermost aquifer, the locations and depths of the monitoring wells during each phase of the development are considered adequate to detect hazardous constituents from the MC VI-F & G area. The point of compliance represents a vertical plane extending from the ground surface downward to the top of the Antrim Shale. This passes through the uppermost aquifer, as previously defined.

In accordance with the groundwater monitoring approach for the existing hazardous waste management area at WDI Site No. 2, an "intra-well" monitoring system will provide an effective means of detecting temporal groundwater quality changes in the lower sand and bedrock aquifers at the point of compliance. An intra-well monitoring system eliminates natural spatial variability between upgradient and downgradient locations. The spatial component of natural variability typically comprises an appreciable portion of the total variability that must be accounted for by the statistical methodology.

Most intra-well statistical methodologies require a minimum number of historical independent samples (i.e., background data) to provide a reliable estimate of the mean and standard deviation of each constituent in each well. Once background data are obtained from each monitoring well, subsequent sample results are statistically compared to the established statistical limit. To allow enough time to collect a suitable number of background samples, new monitoring wells should be installed well in advance of anticipated waste filling activities. In addition, the sampling program for existing monitoring wells that are anticipated to be re-designated for use in the Part 111 groundwater monitoring program may have to be supplemented to ensure that a sufficient number of background samples are available for each of the proposed monitoring parameters for which background may not already exist.



In addition to the requirements of 40 CFR 264, Rule 299.9612 of Part 111 specifies that the owner/operator shall install wells at appropriate locations and depths to yield groundwater from any saturated zone other than the uppermost aquifer when such sampling will provide earlier warning of failure from a regulated unit. As described previously, the surficial sand will be removed from the Woodlot area during landfill construction, and will no longer exist as a groundwater unit. Also, the predominantly silty clay till overlying the uppermost aquifer at the site, although saturated, does not yield sufficient quantities of water to allow for sampling and analysis. For this reason, attempting to monitor the silty clay above the uppermost aquifer would not be an effective means of evaluating groundwater quality changes.

6.2 LEACHATE & LEAK DETECTION MONITORING SYSTEM

Leachate quality is monitored as part of the existing Part 111 license by periodically collecting samples from designated primary leachate collection sumps. The leachate SAP identifies the specific sampling locations and procedures to be used for monitoring leachate quality. Each additional primary leachate sampling location will be incorporated into the leachate SAP to monitor leachate quality from the MC VI-F & G area. Each sump will be added to the program as site development proceeds.

The Sampling and Analysis Plan for Leak Detection Collection and Removal Systems – Master Cell VI, Wayne Disposal, Inc., Site No. 2, Revision 4.7, October 2009 identifies the procedures for monitoring liquids from collected in the leak detection, collection and removal system (LDCRS) underlying each cell within the hazardous waste boundary of WDI Site No. 2. The monitoring program includes measuring and recording the volume of liquids collected in each LDCRS sump and comparing these volumes to established action levels. The leak detection SAP also includes provisions for sampling and analyzing the quality of liquids collected in the LDCRS.



Each new LDCRS sump will be incorporated into the leak detection SAP to monitor liquids volume and quality from the LDCRS within the MC VI-F & G area. For each LDCRS monitoring location, an appropriate liquid volume action level will be established based on the methods described in the leak detection SAP.

Consistent with existing rules, WDI will notify the Chief of the Waste and Hazardous Materials Division of the Michigan Department of Environmental Quality (WHMD/MDEQ) when a new sampling location is added to the program.

6.3 SURFACE WATER MONITORING SYSTEM

Surface water features in the vicinity of the WDI Site No. 2 facility are depicted on the topographic map, (Figure 7 & 8). Surface waters are subject to monitoring as a requirement of the site's operating license. Surface water at the WDI facility is monitored in accordance with the *Surface Water Sampling and Analysis Plan, Wayne Disposal, Inc., Site No. 2*, Revision 3.7, February 2011 (SW SAP). The SW SAP identifies the sampling locations and procedures to be used for monitoring on-site surface water (storm water) samples from the perimeter ditches that convey on-site surface water runoff at WDI Site No. 2 to the north and south sedimentation basins.

As described previously in Section 5.2.5, when landfill development is completed for the proposed MC VI-F & G area, storm water runoff from this area will be directed to the new Northwest Sedimentation Basin (NWSB). As shown on Figure 21, one sampling point (SS-8) will be removed and four new surface water sampling locations (SS-9 through SS-12) are proposed for inclusion in the SW SAP to monitor storm water runoff from the MC VI-F & G area following construction. Additional, interim sampling points may be added, as appropriate, to monitor specific areas as site development proceeds.



Consistent with existing rules, WDI will notify the Chief of the Waste and Hazardous Materials Division of the Michigan Department of Environmental Quality (WHMD/MDEQ) when sampling locations require relocation. A revised SW SAP will be submitted for review and approval prior to implementation.

6.4 SOIL MONITORING SYSTEM

The Soil Monitoring Sampling and Analysis Plan, Wayne Disposal, Inc., Site No. 2, Revision 1.2, September 2011, (SM SAP) identifies the procedures for monitoring on-site soil and ditch sediment samples at WDI Site No. 2 during the active life of the hazardous waste disposal facility. The soil monitoring program described in the SM SAP is designed to test on-site soil and ditch sediments for the presence of polychlorinated biphenyls (PCBs). PCBs detected in the soils or sediments could potentially be transported by storm water into the sedimentation basins at the site. The storm water in the sedimentation basins is treated for PCBs prior to discharge to Quirk Drain in accordance with a National Pollution Discharge Elimination System (NPDES) Permit. This monitoring program is one of the checks on the engineered control and operational procedures employed by WDI to detect an on-site release of hazardous waste or hazardous waste constituents as early as possible and allow WDI to initiate efforts to locate and control the source and prevent the off-site release of hazardous waste or hazardous waste constituents.

There are currently twenty-five (25) sampling locations for the soil monitoring program. There are twenty (20) soil sampling locations and five (5) sediment sampling locations, identified as SM-1 through SM-25. Construction of MC VI-F & G will require relocation of several soil sampling locations. It is anticipated that soil and sediment sampling locations SM-12, SM-21, SM-22, and SM 25 will be eliminated as development progresses. Figure 22, lists those soil monitoring locations that will be eliminated due to construction and includes four (4) proposed soil monitoring locations (SM-26 through SM-29) which are post closure monitoring locations and five (5) additional perimeter ditch sampling locations (SM-30 through SM-34) which will be included following construction of MC V – F & G.



Again, WDI will notify the Chief of the WHMD/MDEQ when sampling locations require relocation. A revised SM SAP will be submitted for review and approval prior to implementation.

6.5 SEDIMENTATION BASIN MONITORING SYSTEM

The Sedimentation Basin Sampling and Analysis Plan, Wayne Disposal, Inc., Site No. 2, Revision 3.6, September 2011 (SB SAP), identifies the sampling locations and procedures to be used for monitoring sediment samples from the North Sedimentation Basin (NSB) and the South Sedimentation Basin (SSB) at WDI Site No. 2. The NSB and SSB receive on-site surface water (storm water) runoff primarily from unpaved areas and final cover systems of the facility via a network of open ditches and subsurface pipes. The NSB and SSB do not receive runoff from active hazardous waste disposal cells. Surface water collected in the two sedimentation basins is treated by settling, filtration, and activated carbon adsorption prior to discharge to Quirk Drain. The effluent from this treatment process is discharged into Quirk Drain in accordance with an NPDES permit.

This monitoring program is one of the checks on the engineered controls and operational procedures employed by WDI to detect an on-site release of hazardous waste or hazardous waste constituents as early as possible and allow WDI to initiate efforts to locate and control the source and prevent the off-site release of hazardous waste or waste constituents. The monitoring program as described in the SB SAP is designed to monitor the chemical quality of the sediments that have accumulated in the bottom of each basin over time.

As shown on Figure 23, North Sedimentation Basin Monitoring Sample Sectors and Figure 24, South Sedimentation Basin Monitoring Sample Sectors, each sedimentation basin is divided into six sections. One grab sample is collected at random locations within each



section of each basin during each sampling event. The locations for each sampling point are recorded using a GPS or equivalent during the sampling event. Specific details of the sampling and analysis are described in the site's SB SAP.

Construction of MC VI-F & G will require modification of the SB SAP to incorporate a similar sampling strategy for the NWSB. Appropriate proposed sampling areas will be designated for the NWSB. Figure 25, Northwest Sedimentation Basin Monitoring Sample Sectors, presents the proposed sampling locations for the NWSB. However, the sampling, analytical, data evaluation, and reporting measures to be employed are not expected to require modification. A revised SB SAP will be submitted for review and approval prior to implementation.



7.0 CONCLUSIONS & RECOMMENDATIONS

Based on the hydrogeologic requirements for a Construction Permit Application, as set forth in Part 111 of P.A. 451, as amended, the site is suitable and has been adequately characterized for construction of a hazardous waste landfill unit under the promulgated rules.

- The stratigraphy, engineering soil properties and groundwater conditions at the Woodlot are essentially the same as those described in previous hydrogeologic and geotechnical investigations performed at the WDI Site No. 2 facility.
- There are five basic hydrogeologic units underlying MC IV-F & G:
 - [1] **Surficial/Deltaic Sands** The granular surface stratum consists of brown and gray fine to medium sands with varying amounts of silt. This sand will be removed as part of landfill construction.
 - [2] **Silty Clay** An extensive deposit of cohesive glacial till forms the second major subsoil layer at the subject site. Based on its continuous occurrence, thickness, classification, and low permeability, as well as long-term monitoring in the underlying confined aquifer, the silty clay till functions effectively as a vertical barrier to prevent potential migration of constituents from the WDI Site No. 2 landfills.
 - [3] **Transition Silts** The silty clay till generally grades downward into clayey silts, silts and finally into silty fine sands.

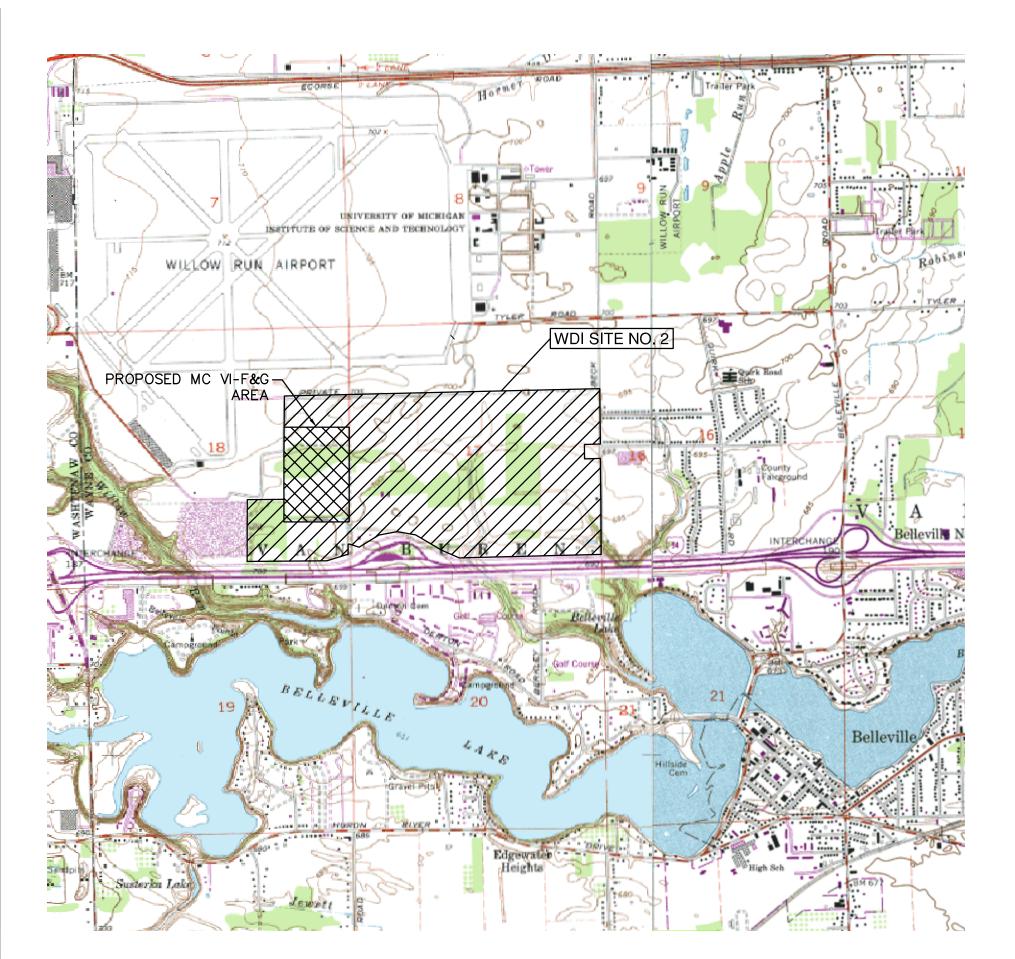


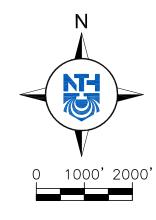
- [4] **Aquifer Sands** Underlying the transition silts is a stratum of cohesionless soils ranging from gray silty fine sand to coarse sands and gravels.
- [5] **Bedrock** Beneath the aquifer sands is the shale of the Antrim Formation.
- Groundwater occurs under unconfined conditions across the Woodlot area in the surficial sand. Groundwater occurs under confined conditions in the lower silty sand zone. This zone represents the uppermost usable aquifer in the region.
- Groundwater flow within the confined lower silty sand unit at the site is essentially horizontal and exhibits very little vertical flow.
- Existing monitoring programs will need to be appended to adapt to the changes to the configuration of WMU's proposed by this construction permit application.



LIST OF FIGURES

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And the second	FIG. 4:	REGIONAL GEOLOGIC CONTOUR MAP
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A	FIG. 8:	WDI TOPOGRAPHIC MAP (EAST)
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A	Fig. 10:	WDI PIEZOMETRIC SURFACE ELEVATION CONTOUR MAP (SAND AQUIFER AS RECORDED FEBRUARY 9, 2009)
×	Fig. 11:	WDI PIEZOMETRIC SURFACE ELEVATION CONTOUR MAP (BEDROCK AQUIFER AS RECORDED FEBRUARY 9, 2009)
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	Fig. 16:	GENERALIZED GEOLOGIC CROSS SECTION E-E'
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	FIG. 21:	SURFACE WATER SAMPLING LOCATIONS
	FIG. 22:	SOIL MONITORING LOCATION PLAN
No.	FIG. 23:	NORTH SEDIMENTATION BASIN MONITORING SAMPLING SECTORS
×	Fig. 24:	South Sedimentation Basin Monitoring Sampling Sectors
1	Fig. 25:	NORTHWEST SEDIMENTATION BASIN MONITORING SAMPLING SECTORS

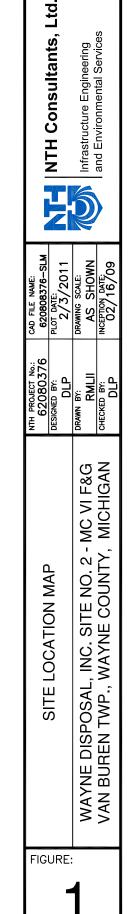






NOTE:

- 1. BASE MAP TAKEN FROM U.S.G.S YPSILANTI EAST AND BELLEVILLE MICHIGAN QUADRANGLES (1983).
- 2. ORIGINAL FIGURE INCLUDES COLOR GRAPHICS WHICH SHOULD NOT BE OMITTED IN REPRODUCTION



WILLOW RUN AIRPORT -SHOOTING RANGE (CLOSED) VAN BUREN TOWNSHIP PARK MC VI-E-PHASE MC VI-F PHASE 1 MC VI-F PHASE 2 PROPOSED HAZARDOUS WASTE BOUNDARY 2 WEST (ACTIVE) MC VII (CLOSED) MC VI-E-PHASE 2 SE MC VI-G PHASE 2 **WILLOW RUN AIRPORT** MCVI-E-PHASE 1 710 MC VI-G MC VI—G PHASE 1 MC XI (CLOSED) MC VI-G PHASE 3 MC VI-G PHASE 5 MC VI-A THRU D MC X MC VI-G PHASE 4 (CLOSED) PHASE 6 MC I (CLOSED) WHEEL WASTE ENERGY RECOVERY SOUTH SEDIMENTATION

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Philadelphia, PA	215.854.6359
Lehigh Valley, PA	484.893.1440
Cleveland, OH	216.334.4040
Indianapolis, IN	317.735.7649

REV	REVISIONS DESCRIPTION	DATE	BY
		6/10/11	KRO
Α	PHASING DESIGNATIONS	0/10/11	KKU

PROJECT LOCATION: VAN BUREN TWP., WAYNE COUNTY, MICHIGAN

SITE NO. 2 - MC VI F&G

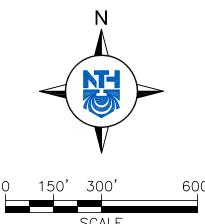
(WOODLOT) DEVELOPMENT

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DLP	02/16/09
DRAWN BY:	DRAWING SCALE:
KRO	AS SHOWN
CHECKED BY:	SUBMITTED DATE:
DLP	09/17/09
SHEET TITLE:	

WDI FACILITY MAP

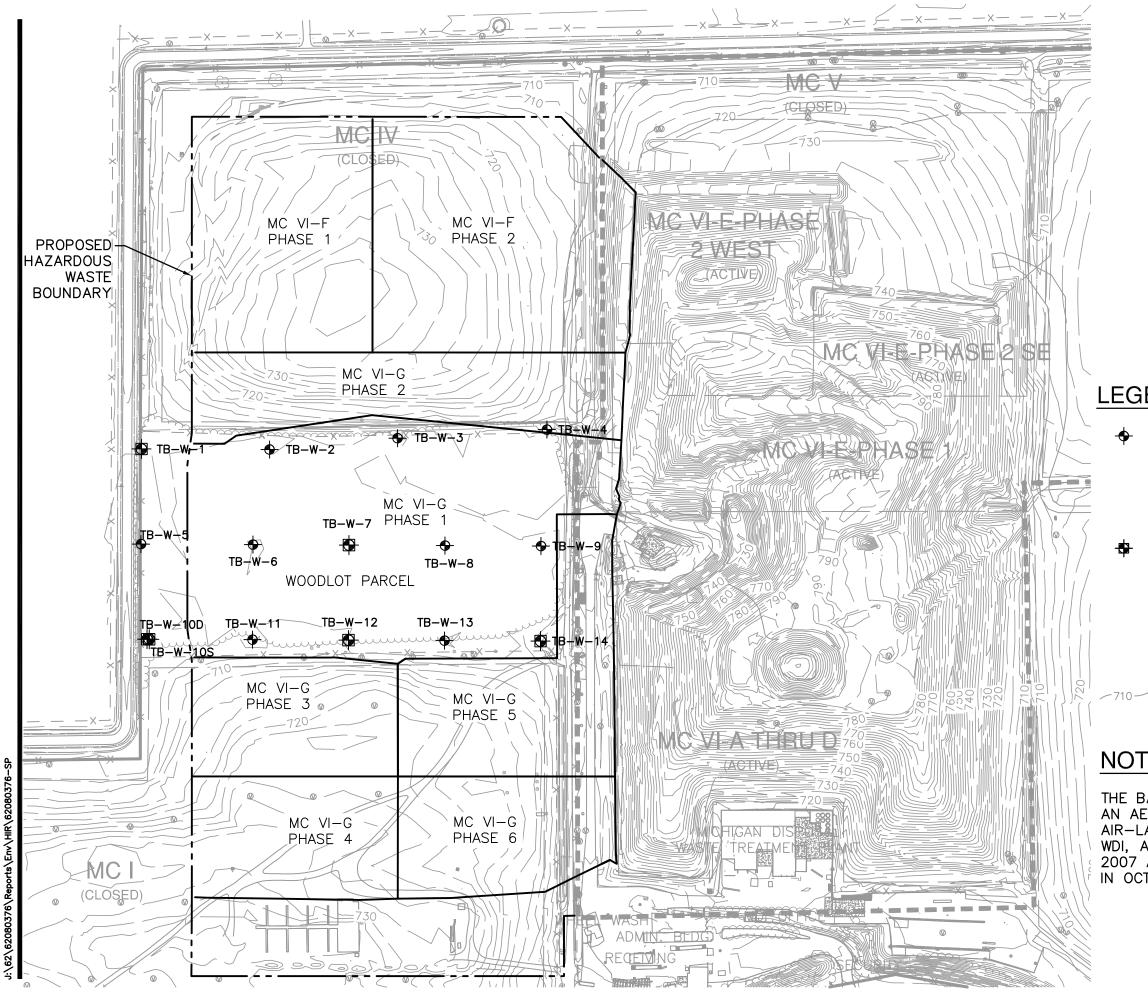
NOTE:

THE BASE MAP WAS CREATED USING AN AERIAL SURVEY TAKEN IN 2001 BY AIR-LAND SURVEY, AND PROVIDED BY WDI, A SURVEY BY MCLLC IN OCTOBER 2007 AND A GROUND SURVEY BY WDI IN OCTOBER 2008.



	LEGEND	
	710	EXISTING CONTOUR (2 FT INTERVAL)
		EXISTING SITE ROAD
V		PROPERTY BOUNDARY
' 300' 600'		PHASE BOUNDARY
SCALE		PROPOSED HAZARDOUS WASTE BOUNDARY

EXISTING HAZARDOUS WASTE BOUNDARY





LEGEND:

- TEST BORING DRILLED BY MATECO DRILLING CO. UNDER THE OBSERVATION OF NTH CONSULTANTS, LTD. JUNE-SEPT 2009
- TEST BORING WITH OBSERVATION WELL INSTALLED BY MATECO DRILLING CO. UNDER THE OBSERVATION OF NTH CONSULTANTS, LTD. JUNE-SEPT 2009

EXISTING TOPOGRAPHIC CONTOUR

NOTE:

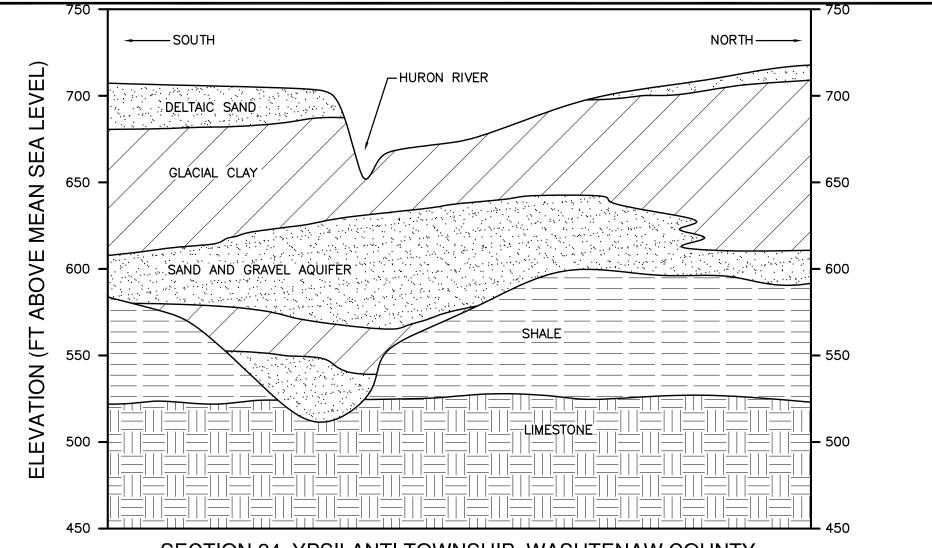
THE BASE MAP WAS CREATED USING AN AERIAL SURVEY TAKEN IN 2001 BY AIR-LAND SURVEY, AND PROVIDED BY WDI, A SURVEY BY MCLLC IN OCTOBER 2007 AND A GROUND SURVEY BY WDI IN OCTOBER 2008.

| NTH Consultants, Ltd.

|--|

MC VI-F & G TEST BORING & OBSERVATION	NTH PROJECT No.: 62080376	CAD FILE NAME: 62080376-SP
WELL LOCATION PLAN	DESIGNED BY:	PLOT DATE: 6/6/2011
	DRAWN BY:	DRAWING SCALE:
WAYNE DIOPOSAL, INC. SILE NO. 2 - INC VI FAG	RMLI	AS SHOWN
VAN BLIBEN TWP WAYNE COLINTY MICHIGAN	CHECKED BY:	INCEPTION DATE:
	2	02/16/09

FIGURE:



SECTION 24, YPSILANTI TOWNSHIP, WASHTENAW COUNTY



NOTE:

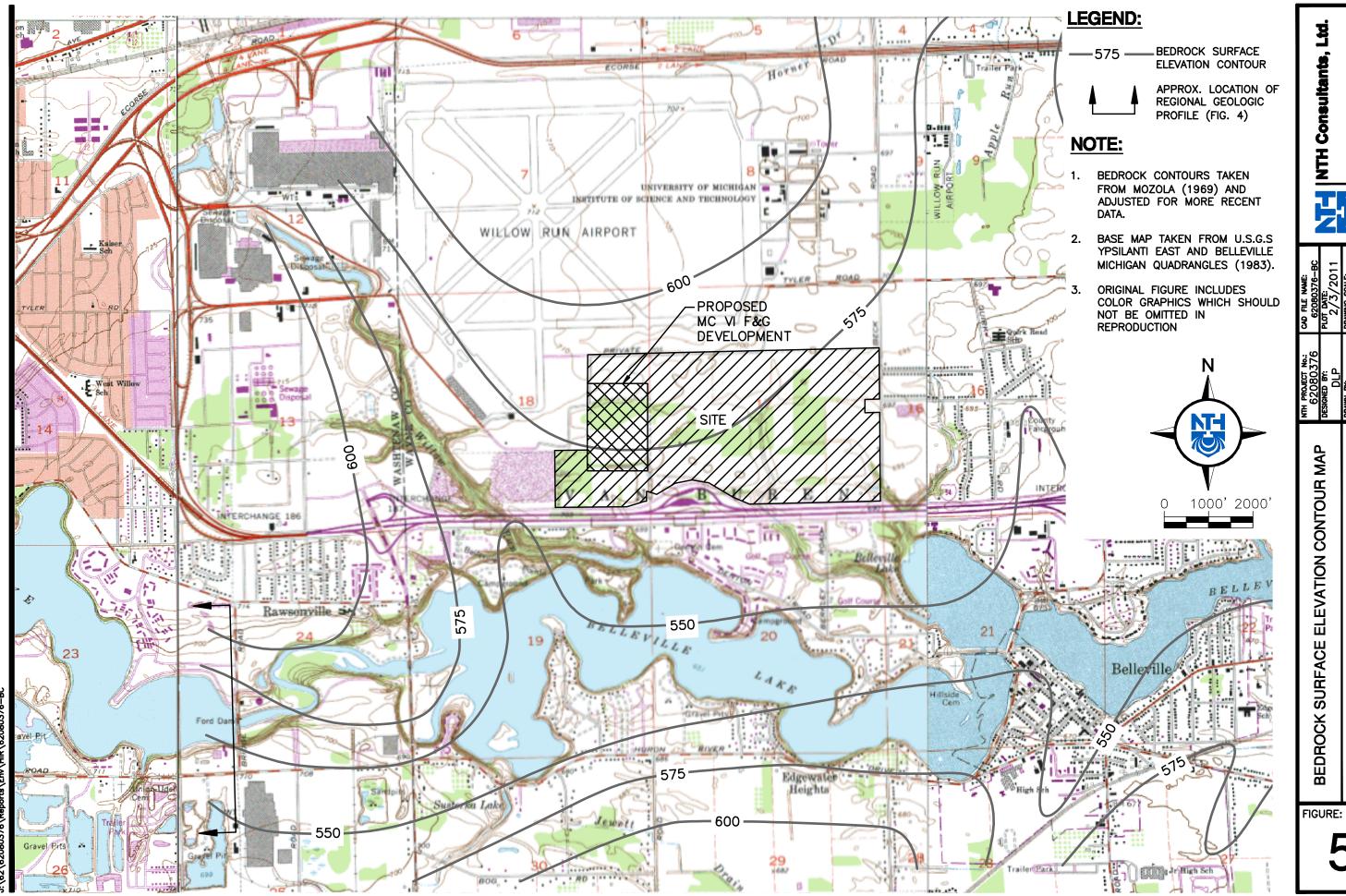
- GEOLOGIC PROFILE IS NORTH SOUTH PROFILE ALONG BRIDGE ROAD IN THE VICINITY OF THE FORMER YPSILANTI
 TOWNSHIP WELL FIELD.
- PROFILE TAKEN FROM REPORT ON PRELIMINARY HYDROGEOLOGIC INVESTIGATION BY NTH CONSULTANTS, LTD. DATED NOVEMBER 5, 1980.
- 3. PROFILE ORIENTATION DEPICTED ON FIGURE 6.

NTH PROJECT No.: 62080376	DESIGNED BY:	CHECKED BY:	DRAWING SCALE: AS SHOWN
CAD FILE NAME: 62080376—GP	DRAWN BY: KRO	INCEPTION DATE: 02/16/09	PLOT DATE: 2/3/2011



WAYNE DISPOSAL, INC. SITE NO. 2 - MC VI F&G VAN BUREN TWP., WAYNE COUNTY, MICHIGAN

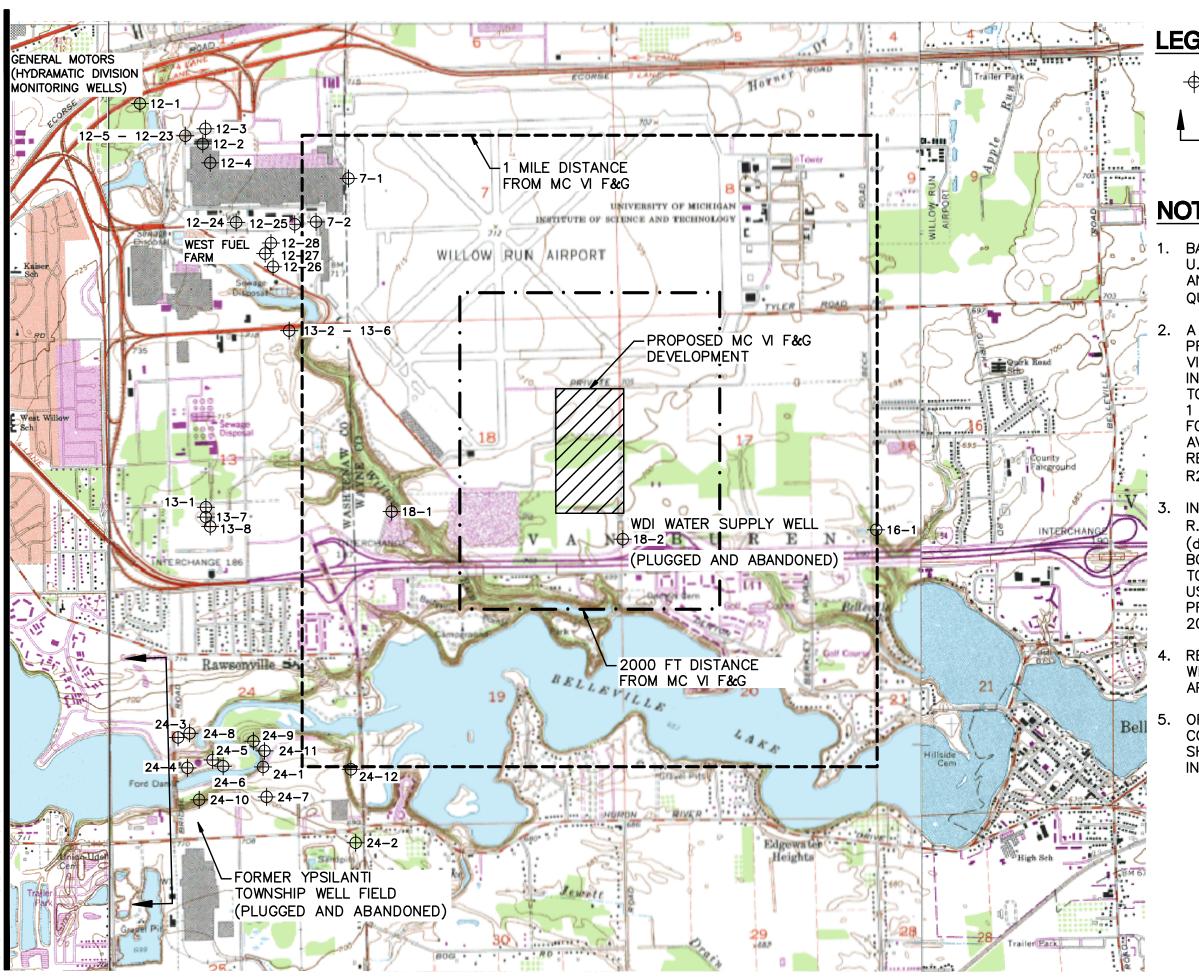
REGIONAL GEOLOGIC PROFILE



Infrastructure Engineering and Environmental Service



WAYNE DISPOSAL, INC. SITE NO. 2 - MC VI F&G VAN BUREN TWP., WAYNE COUNTY, MICHIGAN



LEGEND:

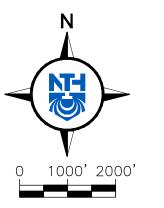
WELL LOCATION



APPROX. LOCATION OF REGIONAL GEOLOGIC PROFILE (FIG. 4)

NOTE:

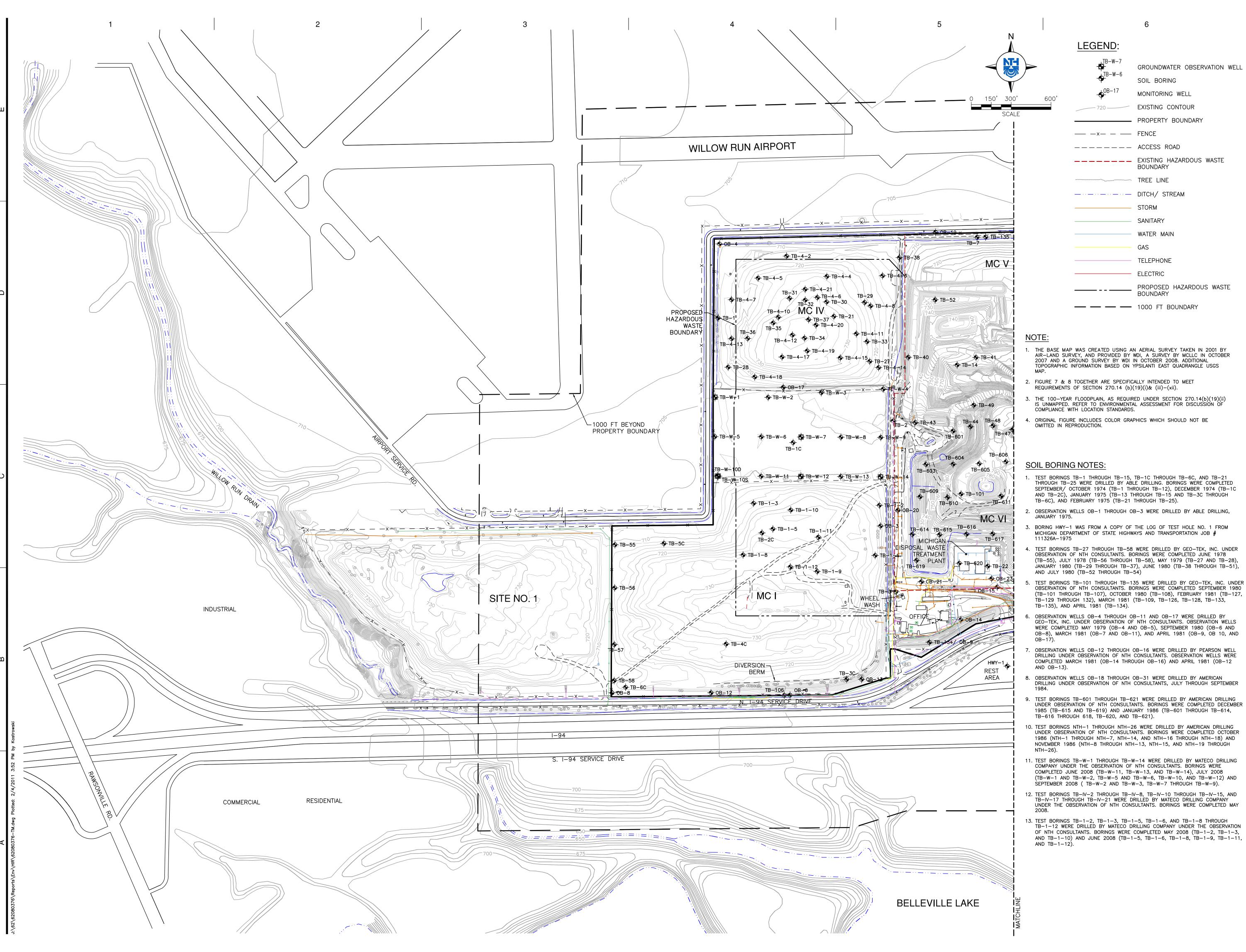
- BASE MAP TAKEN FROM U.S.G.S YPSILANTI EAST AND BELLEVILLE MICHIGAN QUADRANGLES (1983).
- A 1 MILE RADIUS BEYOND PROPOSED MASTER CELLS VI F&G HAS BEEN INCLUDED ON THIS MAP TO IDENTIFY WELLS WITHIN 1 MILE OF THE FACILITY FOR WHICH LOGS ARE AVAILABLE TO MEET REQUIREMENT IN R299.9506(1)(f).
- IN ACCORDANCE WITH R.299.9506(1)(b), (c) and (d), A 2000 FT RADIUS BOUNDARY IS INCLUDED TO IDENTIFY ALL AQUIFERS USED BY PUBLIC AND PRIVATE WELLS WITHIN 2000 FT OF THE SITE.
- REGIONAL WATER SUPPLY WELL LOGS PRESENTED IN APPENDIX D.
- ORIGINAL FIGURE INCLUDES COLOR GRAPHICS WHICH SHOULD NOT BE OMITTED IN REPRODUCTION



NTH Consultants,



F&G SUPPLY WELL ∾≻ ", INC. SITE NO. ? WAYNE COUNT OCATION REGIONAL WATER WAYNE DISPOSAL, VAN BUREN TWP., V FIGURE:





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Infrastructure Engineering and

Environmental Services Farmington Hills, MI 248.553.6300 313.237.3900 Detroit, MI 517.484.6900 Lansing, MI Grand Rapids, MI 616.957.3690 610.524.2300 Exton, PA Philadelphia, PA 215.854.6359 484.893.1440 Lehigh Valley, PA 216.334.4040 Cleveland, OH Indianapolis, IN 317.735.7649

	REVISIONS		
REV	DESCRIPTION	DATE	B١

WAYNE DISPOSAL, INC.

SITE NO. 2 - MC VI F&G

(WOODLOT)

DEVELOPMENT

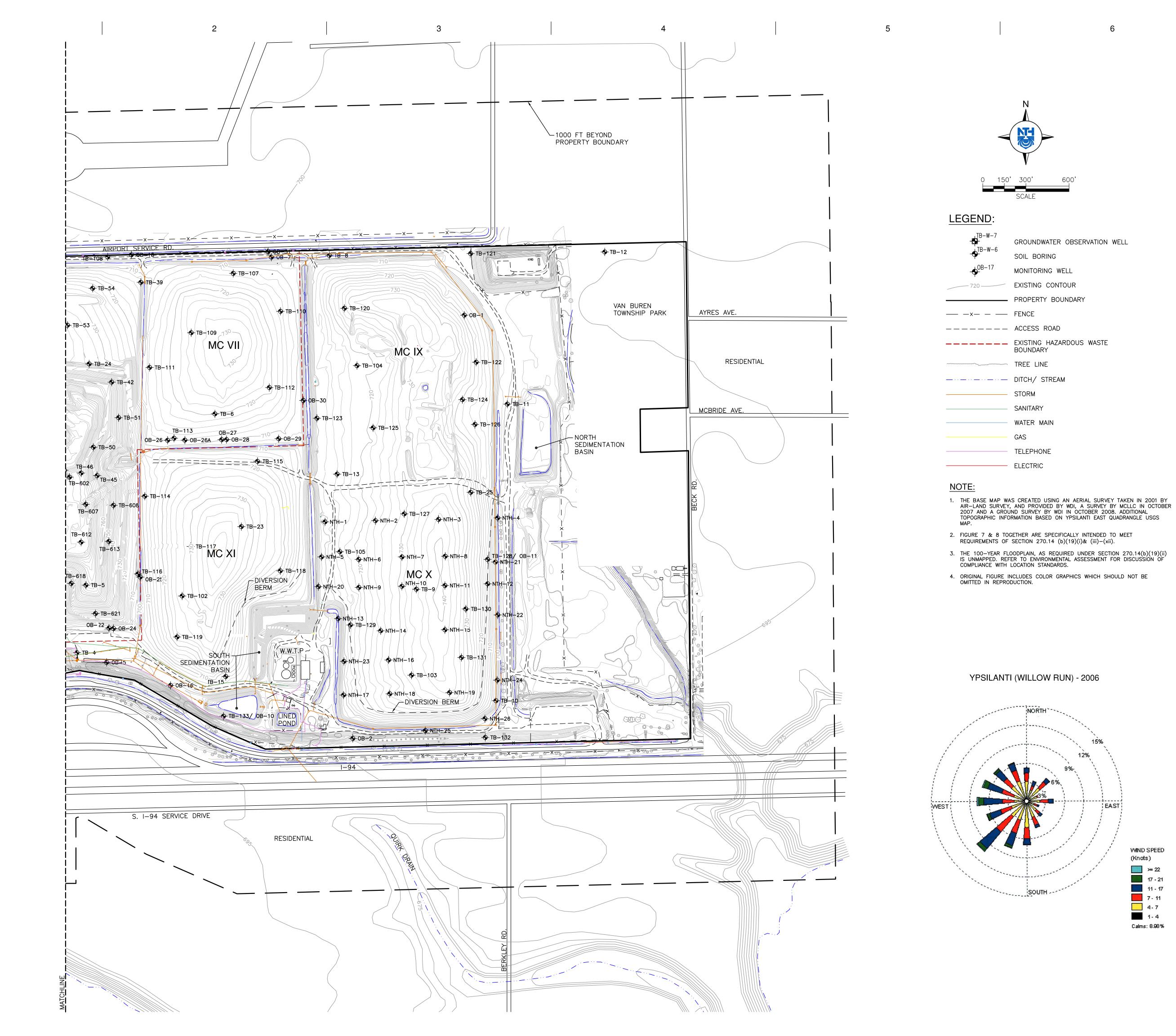
PROJECT LOCATION:

VAN BUREN TWP., WAYNE COUNTY, MICHIGAN

NTH PROJECT NO.:	CAD FILE NAME:
62080376	62080376-TM
DESIGNED BY:	INCEP DATE:
DLP	02/16/09
DRAWN BY:	DRAWING SCALE:
KRO	AS SHOWN
CHECKED BY:	SUBMITTED DATE:
DLP	09/17/09
SHEET TITLE:	
WDLTODOCE	

WDI TOPOGRAPHIC MAP (WEST)

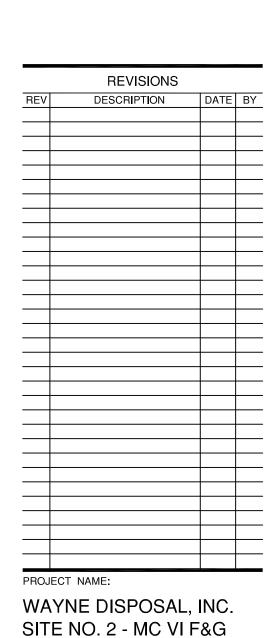
FIGURE





NTH Consultants, Ltd. Infrastructure Engineering and Environmental Services

Environmen	tai Services
Farmington Hills, MI	248.553.6300
Detroit, MI	313.237.3900
Lansing, MI	517.484.6900
Grand Rapids, MI	616.957.3690
Exton, PA	610.524.2300
Philadelphia, PA	215.854.6359
Lehigh Valley, PA	484.893.1440
Cleveland, OH	216.334.4040
Indianapolis, IN	317.735.7649



PROJECT LOCATION:

VAN BUREN TWP., WAYNE

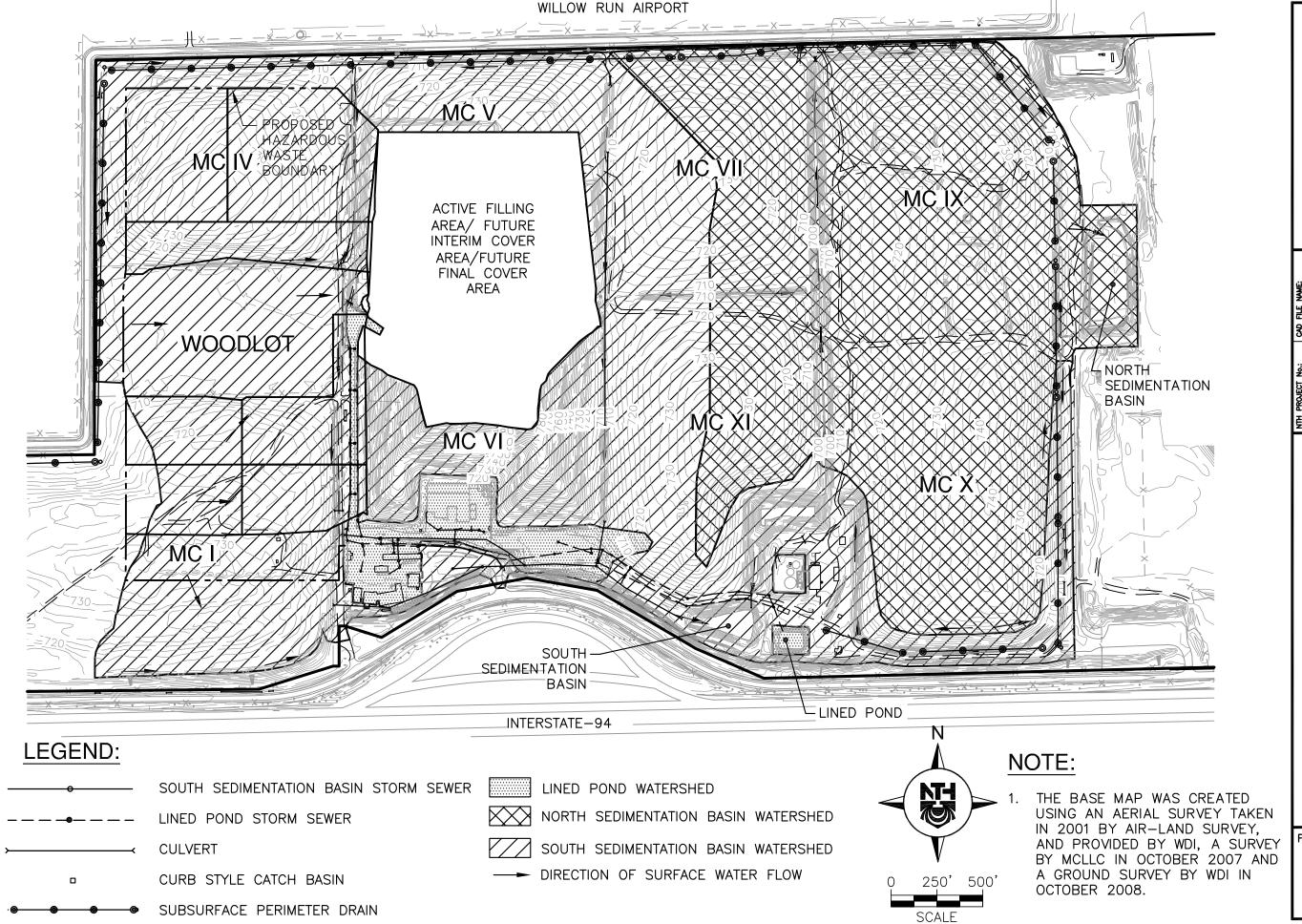
COUNTY, MICHIGAN

(WOODLOT)
DEVELOPMENT

NTH PROJECT NO.: 62080376	CAD FILE NAME: 62080376-TM
DESIGNED BY:	INCEP DATE: 02/16/09
DRAWN BY: KRO	DRAWING SCALE: AS SHOWN
CHECKED BY: DLP	SUBMITTED DATE: 09/17/09
SHEET TITLE:	

WDI TOPOGRAPHIC MAP (EAST)

FIGURE

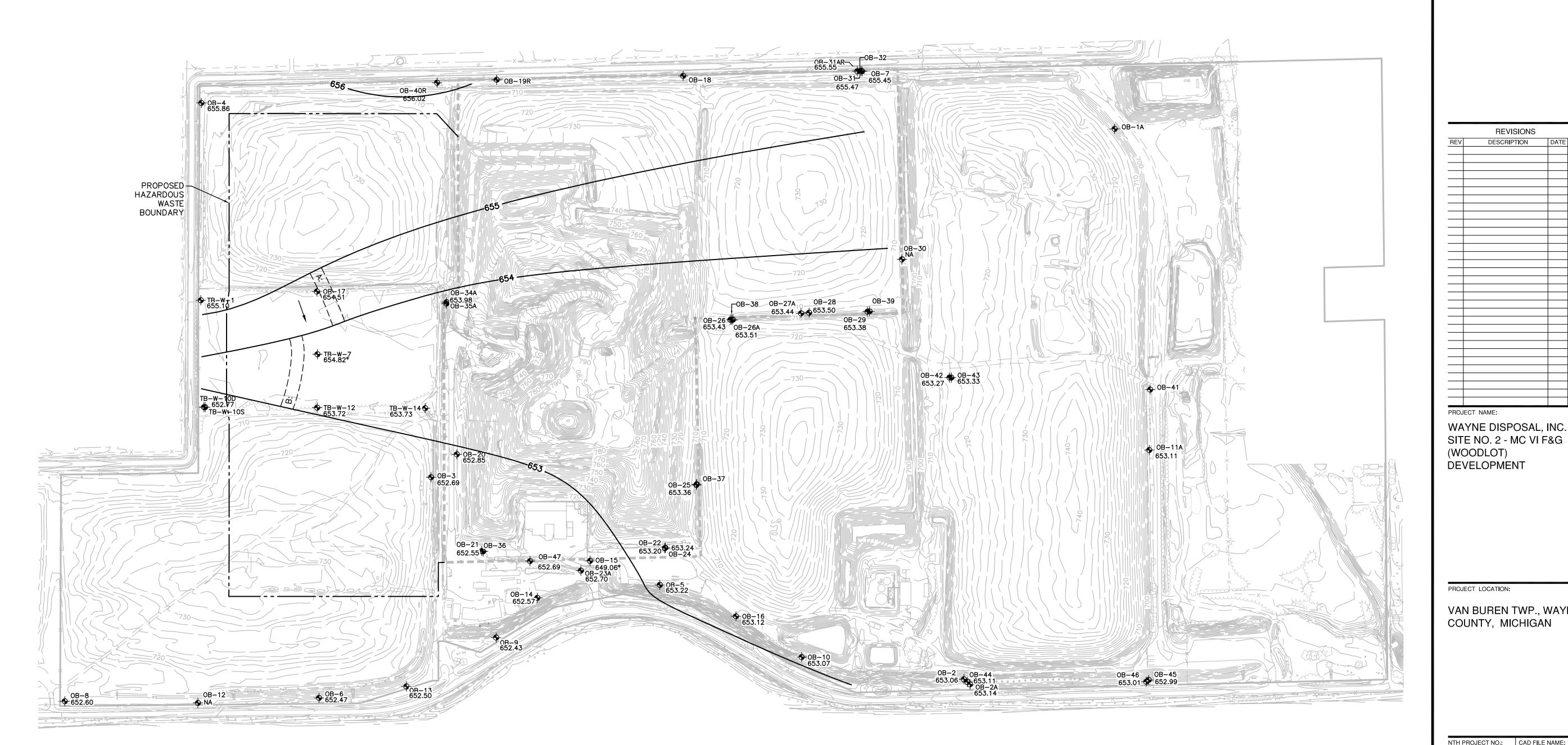


MO_872080378\ BeccHe\ Fav\ HIP\ 62080376_

EXISTING WDI WATERSHED DRAINAGE MAP WAYNE DISPOSAL, INC. SITE NO. 2 - MC VI F&G VAN BUREN TWP., WAYNE COUNTY, MICHIGAN

NTH Consultants, Ltd.

FIGURE:



NOTE:

- 1. THE BASE MAP WAS CREATED USING AN AERIAL SURVEY TAKEN IN 2001 BY AIR—LAND SURVEY, AND PROVIDED BY WDI, A SURVEY BY MCLLC IN OCTOBER 2007 AND A GROUND SURVEY BY WDI IN OCTOBER 2008.
- THE PIEZOMETRIC SURFACE CONTOUR LINES PRESENTED ON THIS FIGURE ARE GENERALIZED, BASED ON INDIVIDUAL MONITORING WELL LOCATIONS. THE ACTUAL GROUNDWATER ELEVATION AT LOCATIONS AWAY FROM THE WELLS MAY BE DIFFERENCE.
- 3. *ANOMALOUS GROUNDWATER ELEVATION NOT USED FOR CONTOURING.

LEGEND:

♦ OBSERVATION/MONITORING WELL LOCATION

652.55 GROUNDWATER ELEVATION (FEET MSL)

EXISTING TOPOGRAPHIC CONTOUR

-655- PIEZOMETRIC SURFACE CONTOUR

── DIRECTION OF GROUNDWATER FLOW

GROUNDWATER FLOW PATH USED TO CALCULATE ESTIMATED GROUNDWATER VELOCITY



NTH Consultants, Ltd. Infrastructure Engineering and Environmental Services

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Farmington Hills, MI	248.553.6300
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Grand Rapids, MI	616.957.3690
Exton, PA	610.524.2300
Philadelphia, PA	215.854.6359
Lehigh Valley, PA	484.893.1440
Cleveland, OH	216.334.4040
Indianapolis, IN	317.735.7649

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REV	DESCRIPTION	DATE	BY
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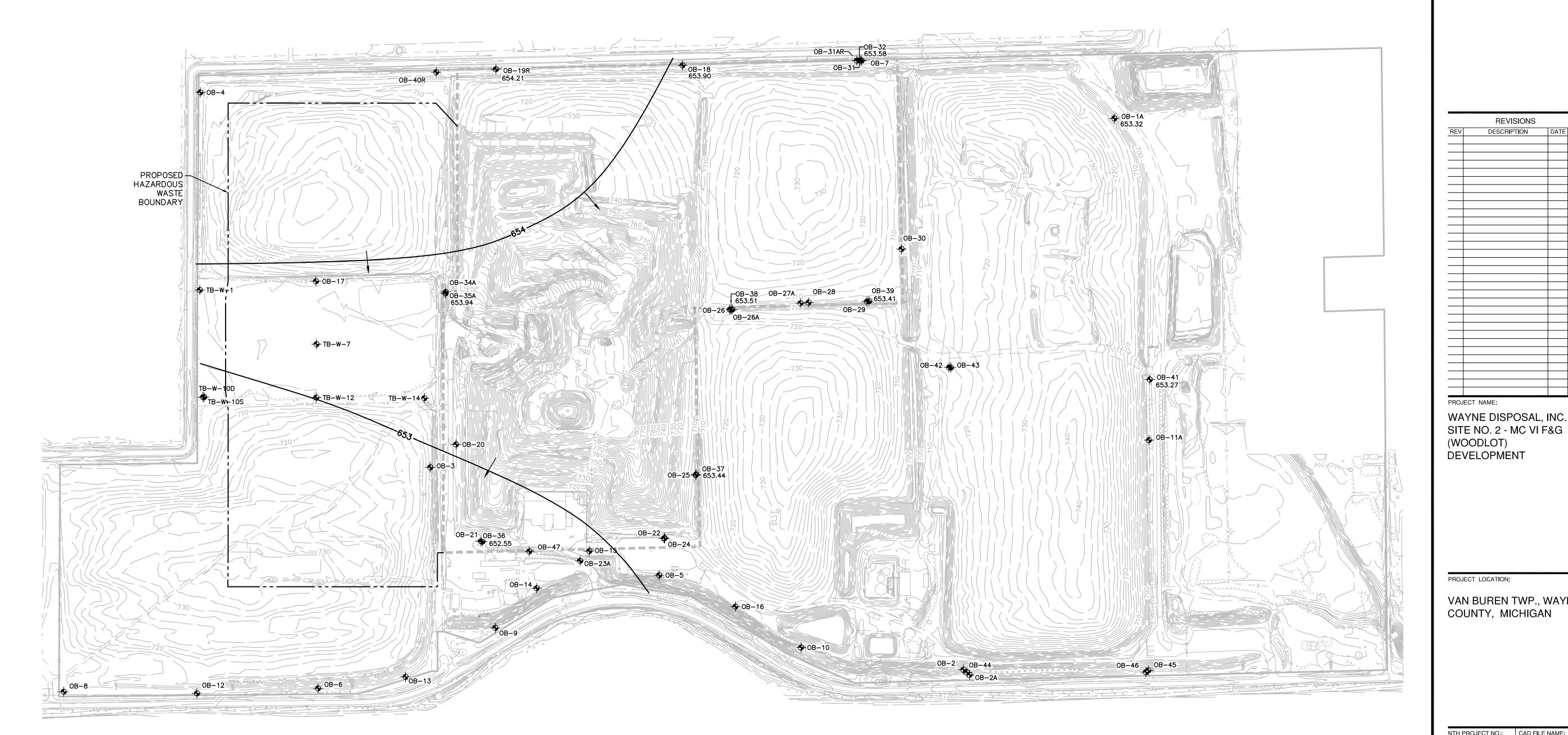
PROJECT LOCATION:

VAN BUREN TWP., WAYNE COUNTY, MICHIGAN

NTH PROJECT NO.:	CAD FILE NAME:
62080376	62080376 GWEC-0
DESIGNED BY:	INCEP DATE:
DLP	02/16/09
DRAWN BY:	DRAWING SCALE:
RMLII	1" = 300'
CHECKED BY:	SUBMITTED DATE:
DLP	09/17/09
SHEET TITLE:	
LOWER SAND)

LOWER SAND AQUIFER PIEZOMETRIC SURFACE CONTOUR MAP (AS RECORDED FEBRUARY 9, 2009)

FIGURE



NOTE:

- 1. THE BASE MAP WAS CREATED USING AN AERIAL SURVEY TAKEN IN 2001 BY AIR-LAND SURVEY, AND PROVIDED BY WDI, A SURVEY BY MCLLC IN OCTOBER 2007 AND A GROUND SURVEY BY WDI IN OCTOBER 2008.
- 2. THE PIEZOMETRIC SURFACE CONTOUR LINES PRESENTED ON THIS FIGURE ARE GENERALIZED, BASED ON INDIVIDUAL MONITORING WELL LOCATIONS. THE ACTUAL GROUNDWATER ELEVATION AT LOCATIONS AWAY FROM THE WELLS MAY BE DIFFERENCE.

LEGEND:

◆_{OB-9} OBSERVATION/MONITORING WELL LOCATION

652.55 GROUNDWATER ELEVATION (FEET MSL)

_______ EXISTING TOPOGRAPHIC CONTOUR

-653- PIEZOMETRIC SURFACE CONTOUR

DIRECTION OF GROUNDWATER FLOW

NTH Consultants, Ltd.

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216.334.4040 317.735.7649

Cleveland, OH

Indianapolis, IN

REVISIONS PROJECT NAME: WAYNE DISPOSAL, INC.

PROJECT LOCATION:

(WOODLOT)

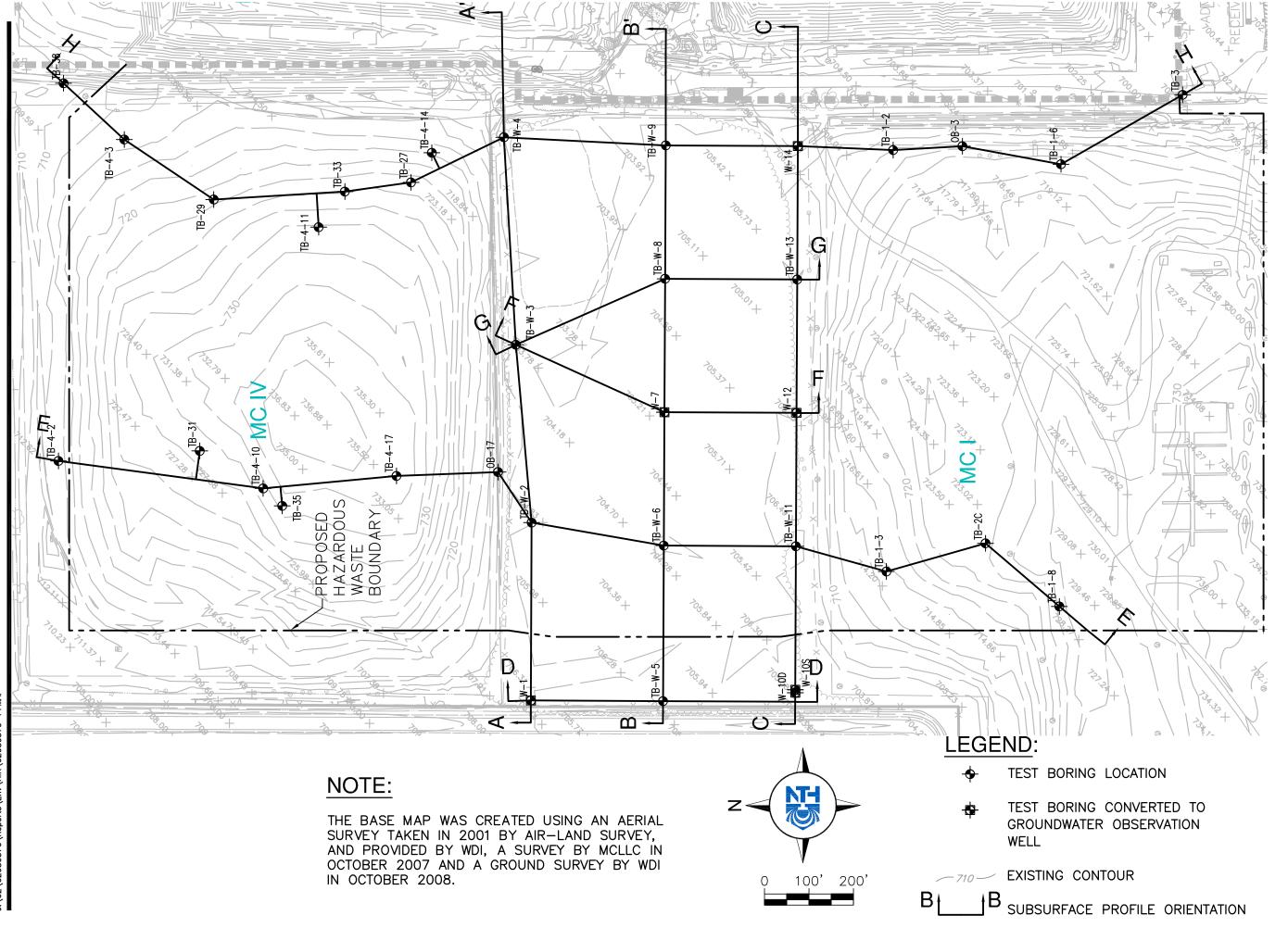
VAN BUREN TWP., WAYNE COUNTY, MICHIGAN

NTH PROJECT NO.:	CAD FILE NAME:
62080376	62080376 GWEC-03
DESIGNED BY:	INCEP DATE:
DLP	02/16/09
DRAWN BY:	DRAWING SCALE:
CWS	1" = 300'
CHECKED BY:	SUBMITTED DATE:
DLP	09/17/09
SHEET TITLE:	
BEDROCK AC	UIFFR

BEDROCK AQUIFER PIEZOMETRIC SURFACE CONTOUR MAP (AS

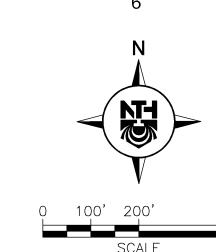
RECORDED FEBRUARY 9, 2009)

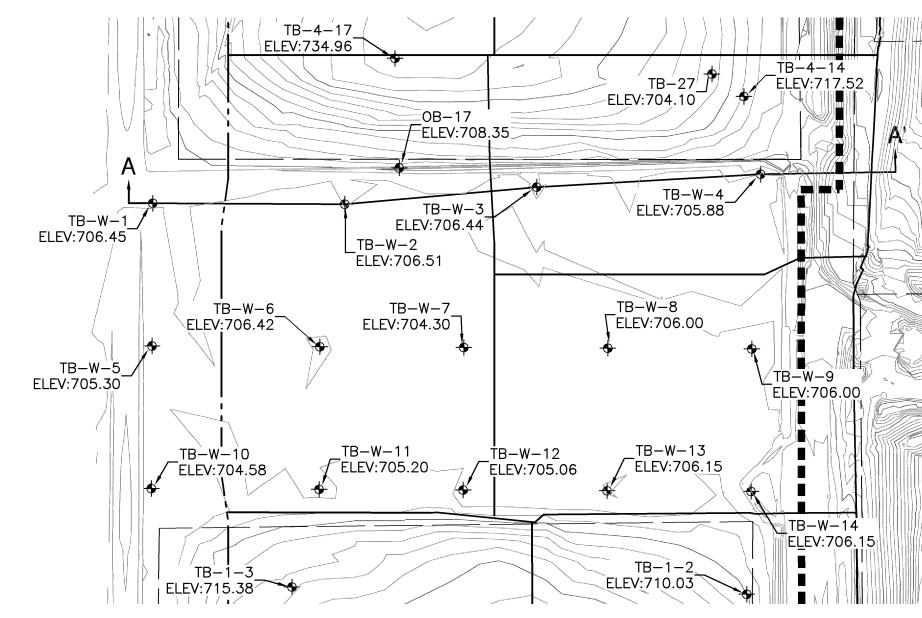
FIGURE



NTH Consultants, Ltd. WAYNE DISPOSAL, INC. SITE NO. 2 - MC VI F&G VAN BUREN TWP., WAYNE COUNTY, MICHIGAN SUBSURFACE PROFILE ORIENTATION MAP

FIGURE:





WOODLOT PLAN VIEW

LEGEND

CELL VI G — PHASE 2 BOUNDARY

675

635

630

625

620

615

610

605

600

595

590

585

575

∕ĆL, K=2.74É−8∕

CL, K=1.85E-8

CL, K=3.19E-8/

CL-ML, K=5.84E-8

∕CL, K=3.71E−8∕

- DELTAIC SANDS TO

BE REMOVED

CL-ML, K=2.73E-8

CL, K=1.42E-8/

CL, K=1.05E-8

√CL, K=1.60É-8

CL, K=1.38E-8

EXISTING GROUND SURFACE

PROPOSED-SUBGRADE

CL, K=1.93E-8

∤CL, K=1.39E-7

TEST BORING

SOIL SAMPLE INTERVALS

GROUNDWATER ELEVATION (SEE NOTE 3)

GROUNDWATER ELEVATION ENCOUNTERED DURING

WELL SCREEN INTERVAL

CLAY (CL)

SILT (MH, ML)

SAND (SM, SC)

BEDROCK

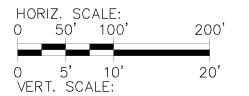
UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) FOR SOIL SAMPLE AT INDICATED INTERVAL

K=3.3E-8 LABORATORY HYDRAULIC CONDUCTIVITY TEST RESULT FOR SOIL SAMPLE AT INDICATED INTERVAL (CENTIMETERS/SECOND)

NOTES:

- 1. PROFILE IS GENERALIZED. SOIL CONTACTS BETWEEN BORINGS ARE INFERRED. FOR ACTUAL CONTACTS REFER TO ORIGINAL TEST BORING LOGS.
- 2. ELEVATIONS ARE REFERENCED TO MEAN SEA LEVEL.
- 3. GROUNDWATER ELEVATIONS WERE RECORDED FROM MONITORING WELLS ON FEBRUARY 9, 2009.
- 4. USCS CLASSIFICATIONS BASED ON RESULTS OF LABORATORY SOIL TEST DATA.
- 5. BEDROCK SURFACE WAS INFERRED FROM TB-W-10 AND INFORMATION FROM PREVIOUS INVESTIGATIONS AT WDI SITE NO. 2.
- 6. REFER TO FIGURE 7 FOR HISTORIC BORING COMPLETION DATES.

PROFILE SCALE:





215.854.6359

484.893.1440

216.334.4040

317.735.7649

Philadelphia, PA

Cleveland, OH

Indianapolis, IN

Lehigh Valley, PA

	REVISIONS		
REV	DESCRIPTION	DATE	B,
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PROJECT LOCATION: VAN BUREN TWP., WAYNE

COUNTY, MICHIGAN

SITE NO. 2 - MC VI F&G

(WOODLOT)

DEVELOPMENT

NTH PROJECT NO.: CAD FILE NAME: 62080376 62080376-PR DESIGNED BY: INCEP DATE: DLP 02/16/09 DRAWN BY: DRAWING SCALE: AS SHOWN KRO CHECKED BY: SUBMITTED DATE: 09/17/09 SHEET TITLE:

GENERALIZED GEOLOGIC

PROFILE A-A'

FIGURE

CROSS-SECTION A-A'

-HAZARDOUS

WASTE BOUNDARY

575 570

590 585 580

BEDROCK SURFACE (SEE NOTE 5)

715

710

705

700

695

690

685

680

675

670

665

660

655

645

635

630

625

620

615

610

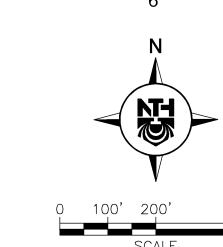
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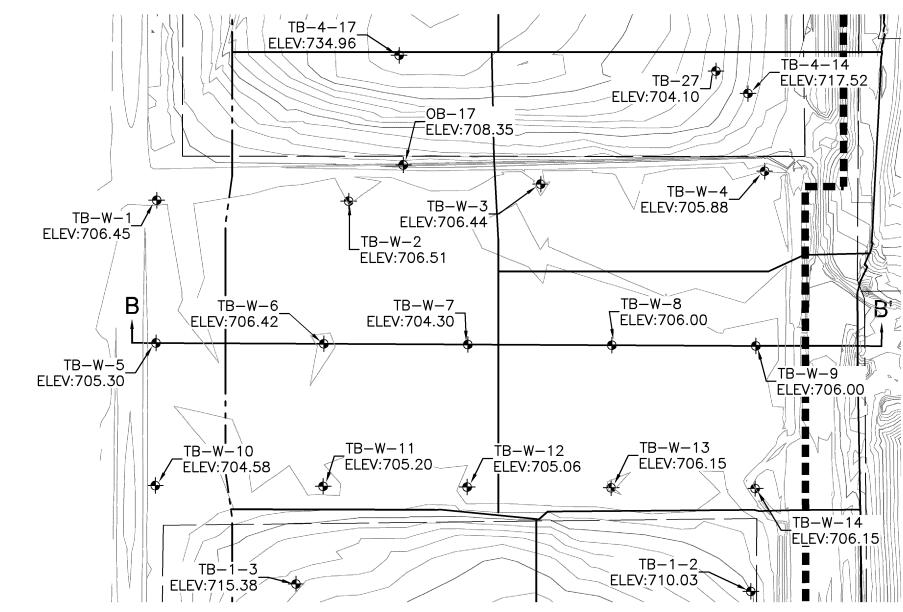
600

595

CL, K=1.40E-8

CL, K=1.14E-8





WOODLOT PLAN VIEW

LEGEND

CELL VI G— PHASE 3

BOUNDARY

|/CL, K=2.16E-8

√CL, K=6.25É−8

| CL, K=1.40E-8

635

625

620

615

610

605

600

595

590

585

575

→ TEST BORING

SOIL SAMPLE INTERVALS

GROUNDWATER ELEVATION (SEE NOTE 3)

GROUNDWATER ELEVATION ENCOUNTERED DURING

WELL SCREEN INTERVAL

SILT (MH, ML)

SAND (SM, SC)

BEDROCK

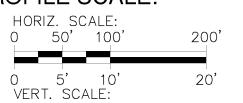
CL UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) FOR SOIL SAMPLE AT INDICATED INTERVAL

K=3.3E-8 LABORATORY HYDRAULIC CONDUCTIVITY TEST RESULT FOR SOIL SAMPLE AT INDICATED INTERVAL (CENTIMETERS/SECOND)

NOTES:

- PROFILE IS GENERALIZED. SOIL CONTACTS BETWEEN BORINGS ARE INFERRED. FOR ACTUAL CONTACTS REFER TO ORIGINAL TEST BORING LOGS.
- 2. ELEVATIONS ARE REFERENCED TO MEAN SEA LEVEL.
- GROUNDWATER ELEVATIONS WERE RECORDED FROM MONITORING WELLS ON FEBRUARY 9, 2009.
- 4. USCS CLASSIFICATIONS BASED ON RESULTS OF LABORATORY SOIL TEST DATA.
- 5. BEDROCK SURFACE WAS INFERRED FROM TB-W-10 AND INFORMATION FROM PREVIOUS INVESTIGATIONS AT WDI SITE NO. 2.
- REFER TO FIGURE 7 FOR HISTORIC BORING COMPLETION DATES.

PROFILE SCALE:





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PROJECT	NAMF.		

DEVELOPMENT

SITE NO. 2 - MC VI F&G

(WOODLOT)

PROJECT LOCATION:

VAN BUREN TWP., WAYNE
COUNTY, MICHIGAN

NTH PROJECT NO.: CAD FILE NAME: 62080376 62080376-PR INCEP DATE: DESIGNED BY: DLP 02/16/09 DRAWN BY: DRAWING SCALE: AS SHOWN KRO CHECKED BY: SUBMITTED DATE: 09/17/09 SHEET TITLE:

GENERALIZED GEOLOGIC

FIGURE

PROFILE B-B'

14

A

-HAZARDOUS

BEDROCK SURFACE (SEE NOTE 5)

L, K=2.99E-8/

CL, K=1.06E-8

CL, K=1.36E-8

EXISTING GROUND SURFACE

CL, K=2.09E-8

CL, K=1.80E-8

.CL, K=3.35E-8.

| CL−ML, K=8.46E−8/

CROSS-SECTION B-B'

CĹ, K=3.29E-8/

CL, K=3.22E-8

CL-ML, K=3.60E-8

PROPÓSED — SUBGRADE

\ WASTE BOUNDARY

710

705

700

695

690

685

680

675

670

665

645

640

635

630

625

620

615

610

605

600

595

590

585

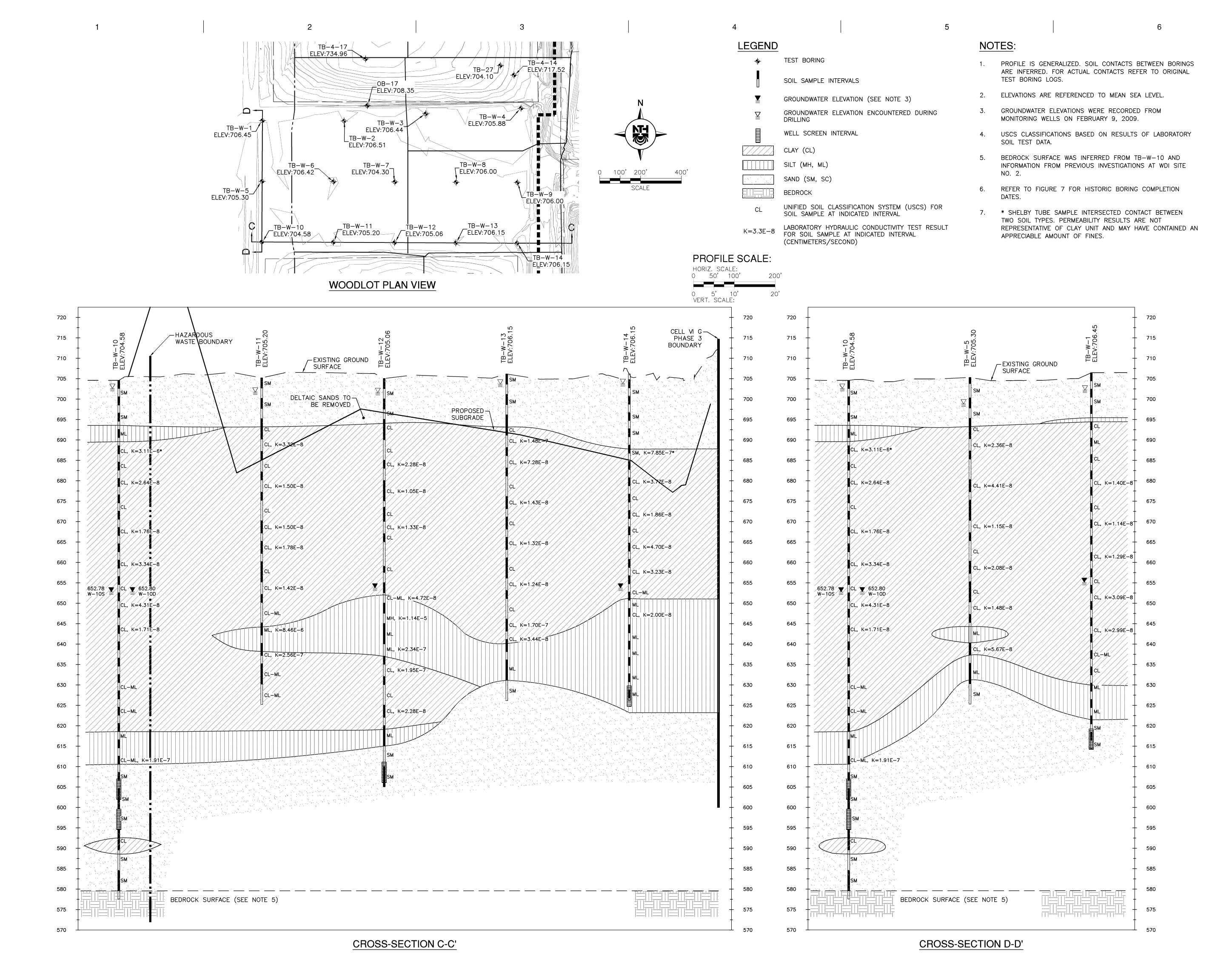
575

CL, K=4.41E-8

CL, K=2.08E-8

// CĹ, K=1.48E-8 /

CL, K=5.67E-8



NT-I

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Infrastructure Engineering and
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Farmington Hills, MI 248.553.6300 Detroit, MI 313.237.3900 Lansing, MI 517.484.6900 Grand Rapids, MI 616.957.3690 Exton, PA 610.524.2300 Philadelphia, PA 215.854.6359 Lehigh Valley, PA 484.893.1440 Cleveland, OH 216.334.4040 Indianapolis, IN 317.735.7649

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SITE NO. 2 - MC VI F&G

(WOODLOT)

DEVELOPMENT

PROJECT LOCATION:

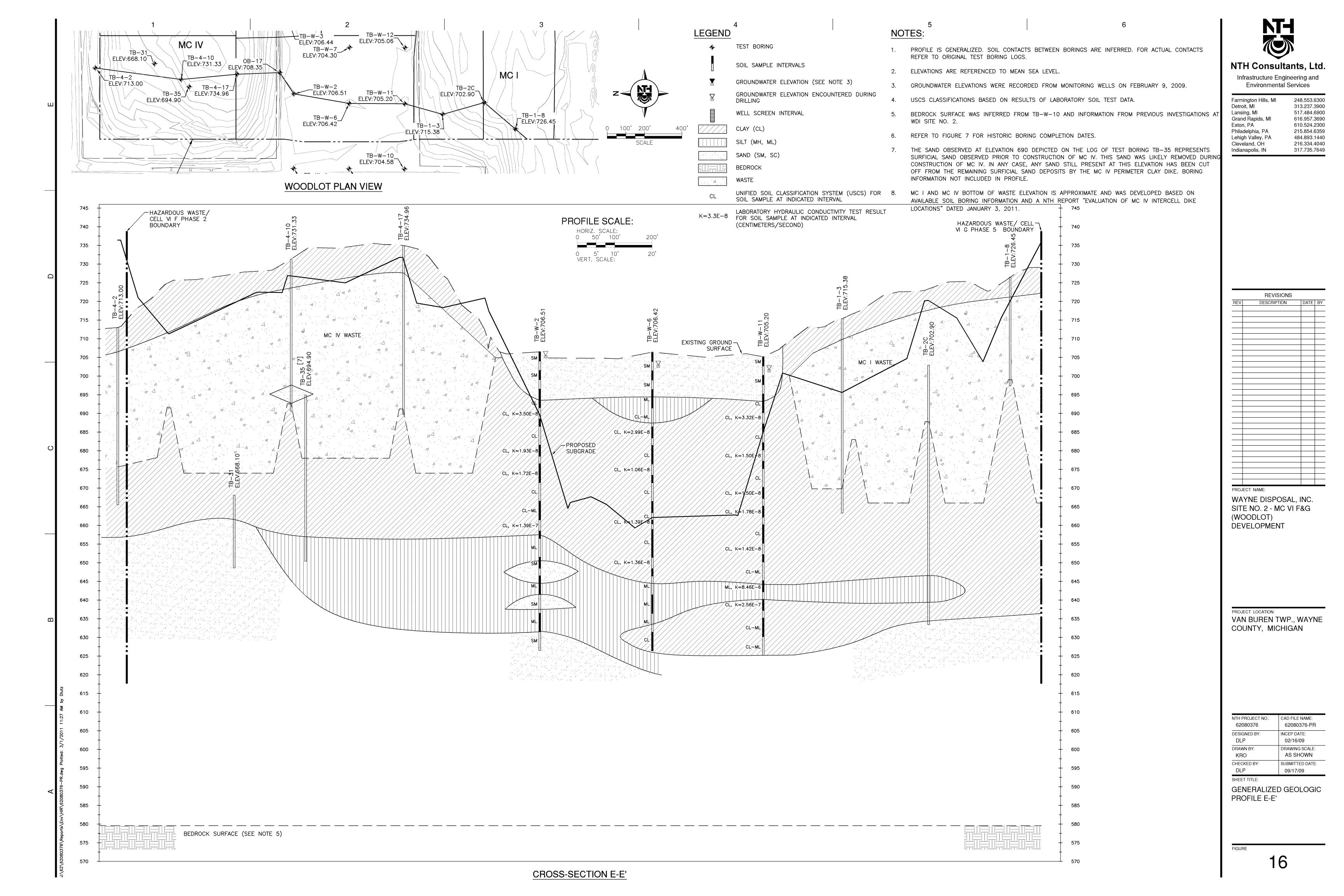
VAN BUREN TWP., WAYNE

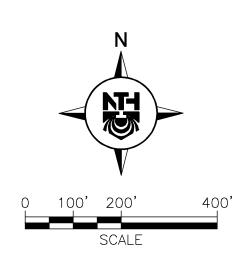
COUNTY, MICHIGAN

NTH PROJECT NO.:	CAD FILE NAME:		
62080376	62080376-PR		
DESIGNED BY:	INCEP DATE:		
DLP	02/16/09		
DRAWN BY:	DRAWING SCALE:		
KRO	AS SHOWN		
CHECKED BY:	SUBMITTED DATE:		
DLP	09/17/09		
SHEET TITLE:			
OFNEDALIZED OFOLOGIO			

GENERALIZED GEOLOGIC
PROFILES C-C' & D-D'

TOURE





LEGEND

570

TEST BORING

DRILLING

CLAY (CL)

SILT (MH, ML)

SAND (SM, SC)

SOIL SAMPLE INTERVALS

WELL SCREEN INTERVAL

(CENTIMETERS/SECOND)

GROUNDWATER ELEVATION (SEE NOTE 3)

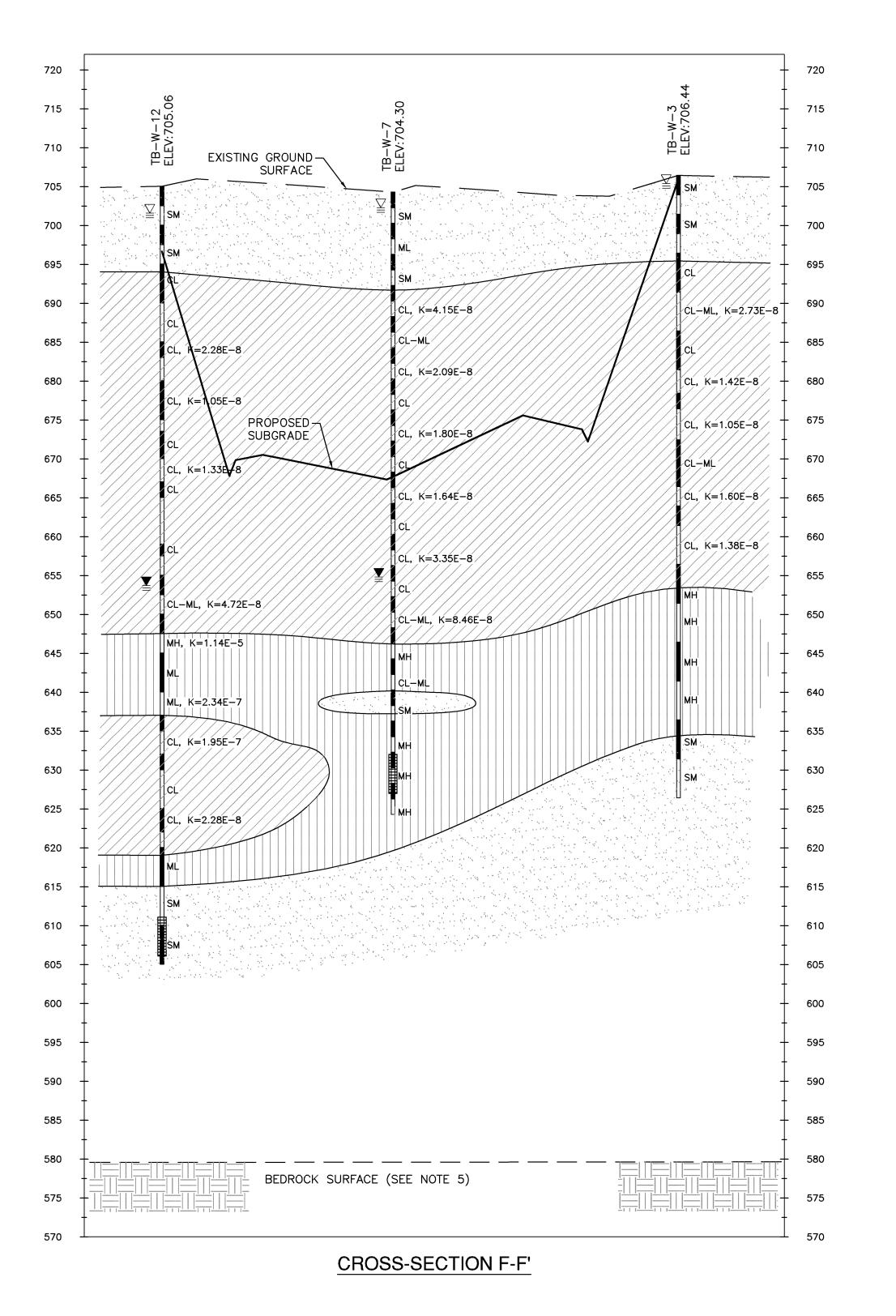
GROUNDWATER ELEVATION ENCOUNTERED DURING

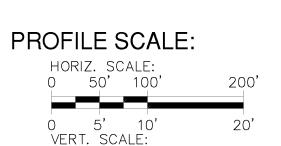
UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) FOR

SOIL SAMPLE AT INDICATED INTERVAL

K=3.3E-8 LABORATORY HYDRAULIC CONDUCTIVITY TEST RESULT FOR SOIL SAMPLE AT INDICATED INTERVAL

WOODLOT PLAN VIEW





NOTES:

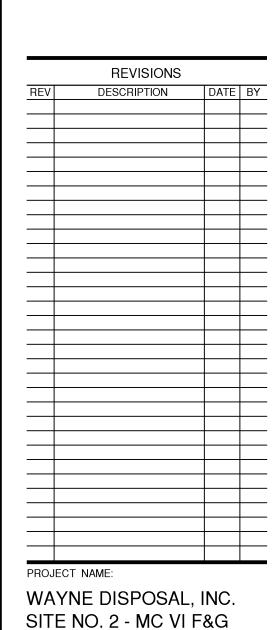
- 1. PROFILE IS GENERALIZED. SOIL CONTACTS BETWEEN BORINGS ARE INFERRED. FOR ACTUAL CONTACTS REFER TO ORIGINAL TEST BORING LOGS.
- 2. ELEVATIONS ARE REFERENCED TO MEAN SEA LEVEL.
- GROUNDWATER ELEVATIONS WERE RECORDED FROM MONITORING WELLS ON FEBRUARY 9, 2009.
- 4. USCS CLASSIFICATIONS BASED ON RESULTS OF LABORATORY SOIL TEST DATA.
- 5. BEDROCK SURFACE WAS INFERRED FROM TB-W-10 AND INFORMATION FROM PREVIOUS INVESTIGATIONS AT WDI SITE NO. 2.
- 6. REFER TO FIGURE 7 FOR HISTORIC BORING COMPLETION DATES.

CROSS-SECTION G-G'

NT-

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PROJECT LOCATION:

VAN BUREN TWP., WAYNE

COUNTY, MICHIGAN

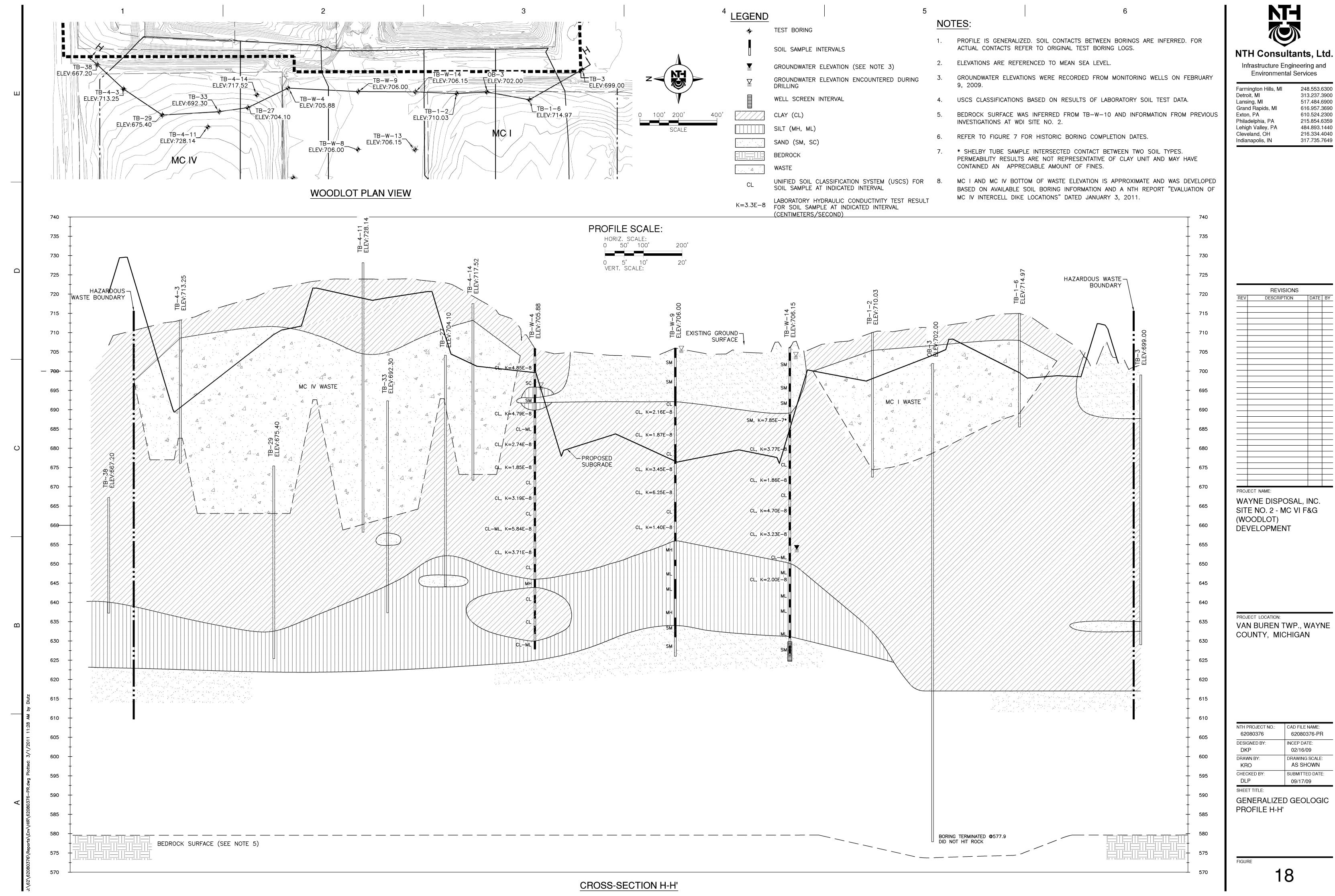
(WOODLOT)

DEVELOPMENT

NTH PROJECT NO.:
62080376
CAD FILE NAME:
62080376-PR
DESIGNED BY:
DLP
02/16/09
DRAWN BY:
KRO
AS SHOWN
CHECKED BY:
DLP
09/17/09
SHEET TITLE:

GENERALIZED GEOLOGIC

PROFILES F-F' & G-G'

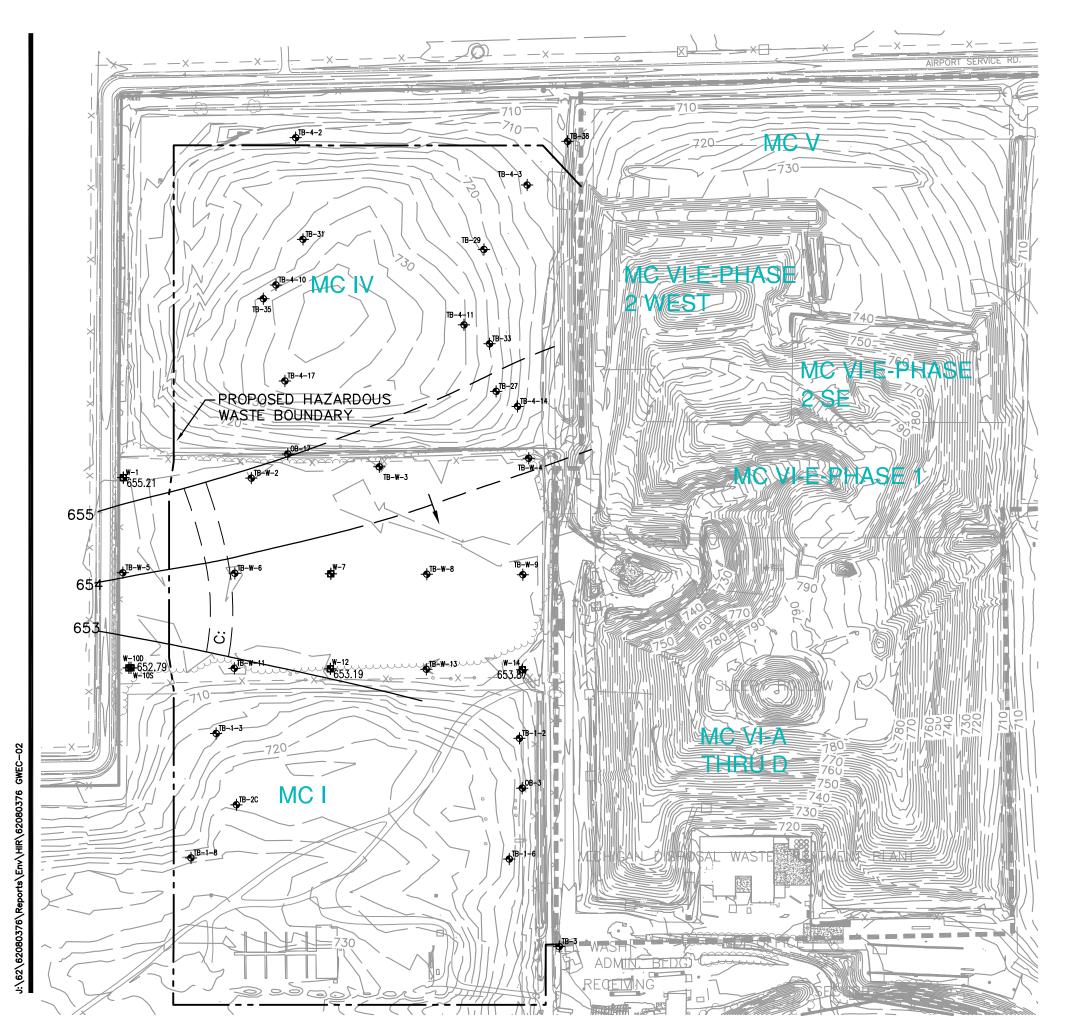


Infrastructure Engineering and

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PROJECT NO.: 080376	CAD FILE NAME: 62080376-PR			
GNED BY: (P	INCEP DATE: 02/16/09			
WN BY: RO	DRAWING SCALE: AS SHOWN			
CKED BY: .P	SUBMITTED DATE: 09/17/09			
ET TITLE:				





LEGEND:

- TEST BORING LOCATION
- TEST BORING CONVERTED TO GROUNDWATER OBSERVATION WELL
- GROUNDWATER ELEVATION CONTOUR
- EXISTING TOPOGRAPHIC CONTOUR
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER FLOW PATH USED TO CALCULATE ESTIMATED GROUNDWATER VELOCITY

NOTE:

- 1. THE BASE MAP WAS CREATED USING AN AERIAL SURVEY TAKEN IN 2001 BY AIR-LAND SURVEY, AND PROVIDED BY WDI, A SURVEY BY MCLLC IN OCTOBER 2007 AND A GROUND SURVEY BY WDI IN OCTOBER 2008.
- 2. THE PIEZOMETRIC SURFACE CONTOUR LINES PRESENTED ON THIS FIGURE ARE GENERALIZED AND SHOULD NOT BE USED TO DETERMINE SPECIFIC PIEZOMETRIC ELEVATIONS EXCEPT AT OBSERVATION WELL LOCATIONS

NTH Consultants, Ltd.



-

DRAWN BY: RMLII CHECKED BY:	WAYNE DISPOSAL, INC. SITE NO. 2 - MC VI F&G VAN BUREN TWP WAYNE COUNTY. MICHIGAN
DRAWN BY:	Cally One of Circles Circles In Control of Tiny Annual Circles
DC	
DESIGNED BY:	SHREACE CONTOHR MAP, DECEMBER 17 2008
620803	

FIGURE:

LEGEND:

→_{OB-18} OBSERVATION WELL LOCATION

________ EXISTING TOPOGRAPHIC CONTOUR

FOR MC VI-F&G (ROCK)

MC VI-F&G (ROCK)

⊕^{OB-56} PROPOSED PHASE 1 OBSERVATION WELL

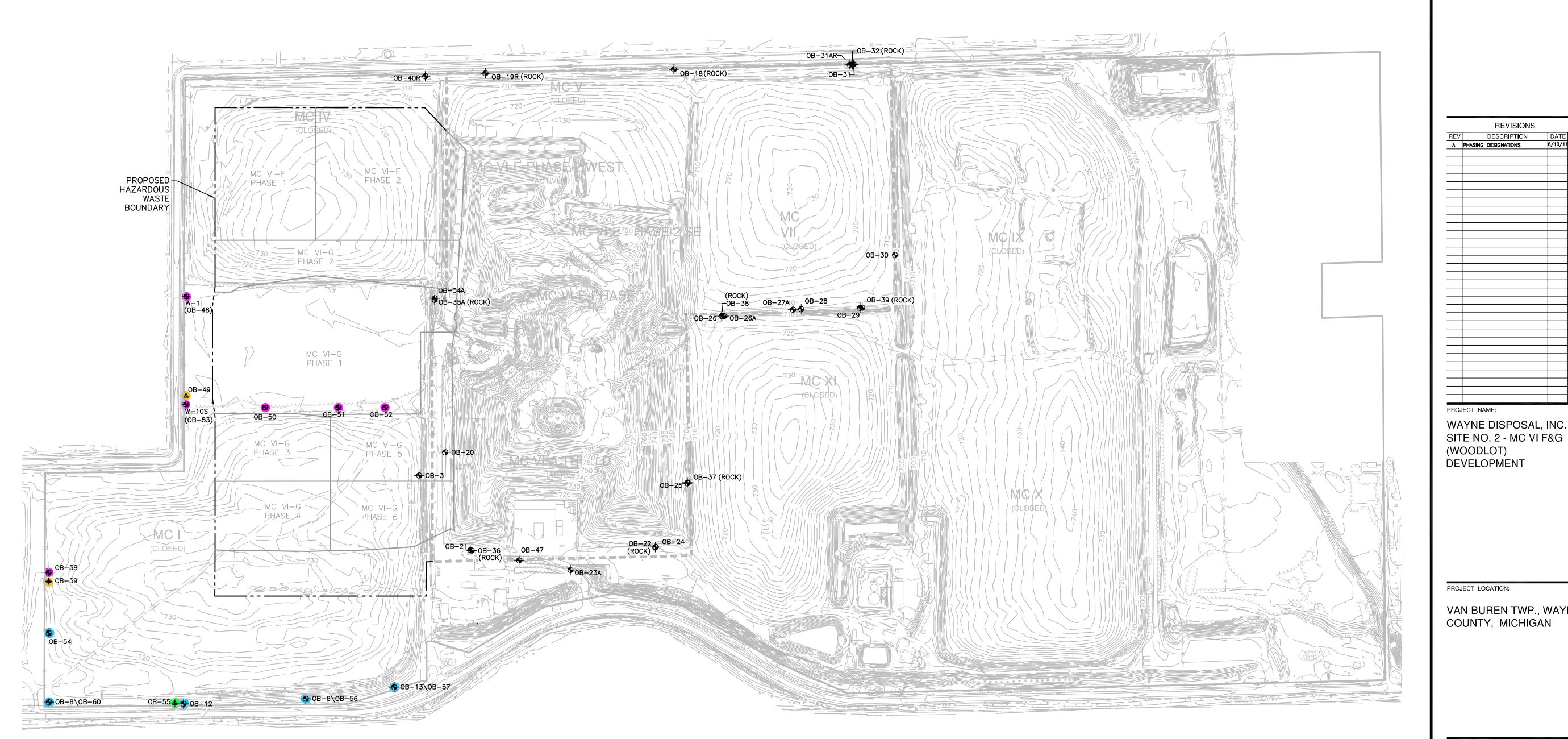
OB−50 PROPOSED PHASE 1 OBSERVATION WELL

PROPOSED OBSERVATION WELL FOR

MC VI-F&G (LOWER SAND AQUIFER)

PROPOSED OBSERVATION WELL FOR

FOR MC VI-F&G (LOWER SAND AQUIFER)



NOTE:

- 1. THE BASE MAP WAS CREATED USING AN AERIAL SURVEY TAKEN IN 2001 BY AIR-LAND SURVEY, AND PROVIDED BY WDI, A SURVEY BY MCLLC IN OCTOBER 2007 AND A GROUND SURVEY BY WDI IN OCTOBER 2008.
- ORIGINAL FIGURE INCLUDES COLOR GRAPHICS WHICH SHOULD NOT BE OMITTED IN REPRODUCTION.

NTH Consultants, Ltd. Infrastructure Engineering and Environmental Services

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Lansing, MI	517.484.6900
Grand Rapids, MI	616.957.3690
Exton, PA	610.524.2300
Philadelphia, PA	215.854.6359
Lehigh Valley, PA	484.893.1440
Cleveland, OH	216.334.4040
Indianapolis, IN	317.735.7649

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PROJECT LOCATION:

VAN BUREN TWP., WAYNE COUNTY, MICHIGAN

NTH PROJECT NO.:	CAD FILE NAME:
62080376	62080376 GWEC-04
DESIGNED BY:	INCEP DATE:
DLP	02/16/09
DRAWN BY:	DRAWING SCALE:
KRO	1:300
CHECKED BY:	SUBMITTED DATE:
DLP	09/17/09
SHEET TITLE:	

PROPOSED PART 111 GROUNDWATER MONITORING LOCATION PLAN

FIGURE

NTH Consultants, Ltd. Infrastructure Engineering and

Environmental Services

Farmington Hills, MI 248.553.6300
Detroit, MI 313.237.3900
Lansing, MI 517.484.6900
Grand Rapids, MI 616.957.3690
Exton, PA 610.524.2300
Philadelphia, PA 215.854.6359
Lehigh Valley, PA 484.893.1440
Cleveland, OH 216.334.4040
Indianapolis, IN 317.735.7649

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PROJECT LOCATION:

SITE NO. 2 - MC VI F&G

(WOODLOT)
DEVELOPMENT

VAN BUREN TWP., WAYNE COUNTY, MICHIGAN

62080376	62080376-SWS
DESIGNED BY:	INCEP DATE: 02/16/09
DRAWN BY: KRO	DRAWING SCALE: AS SHOWN
CHECKED BY: DLP	SUBMITTED DATE: 09/17/09
SHEET TITLE:	

SURFACE WATER
SAMPLING LOCATIONS

FIGURE

▲ + SS 9 L

-PROPOSED . HAZARDOUS

WASTE + +

BOUNDARY

WOODLOT

300' 600'

SCALE

1200'

SM-31

SS-11

SM-26

-SM−25

-SM-21

NOTES:

WILLOW RUN AIRPORT

SM-

 $^{1}SM-6$

SM-16

1. ROADWAYS ARE SHOWN FOR REFERENCE ONLY AND MAY NOT REPRESENT THE ACTUAL ROADWAY DIMENSIONS.

INTERSTATE-94

- LINED POND

MC IX

MC X

SEDIMENTATION

BASIN EXPANSION

SM-20 ☎

SM-18

SM-19

NORTH

BASIN

SEDIMENTATION

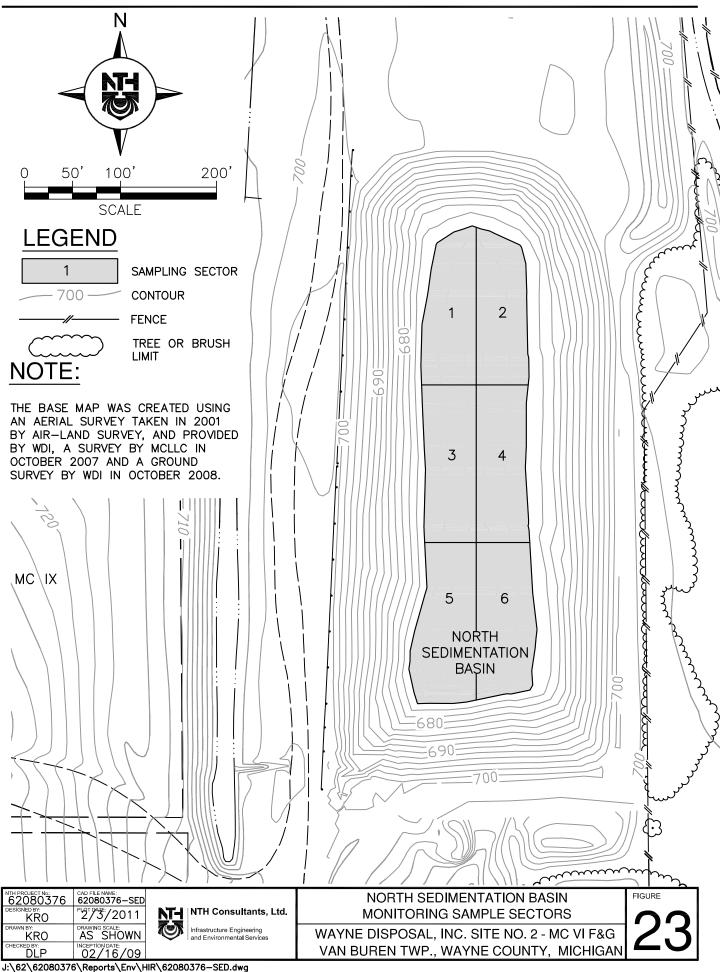
- 2. IN THE MC VI ACTIVE FILLING AREA, AS INTERIM OR FINAL COVER ARE ADDED IN ACCORDANCE WITH THE EFFECTIVE PART 111 OPERATING LICENSE, WDI WILL DIRECT NON-CONTACT STORM WATER TO AREA A. THE STORM WATER STRUCTURES ASSOCIATED WITH REDIRECTING THE STORM WATER WILL BE INSPECTED AND MAINTAINED BY WDI IN ACCORDANCE WITH THE LICENSE INSPECTION SCHEDULE APPROVED UNDER THE LICENSE.
- 3. ANY REVISIONS TO THIS DRAWING REQUIRE THE APPROVAL OF THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY WASTE AND HAZARDOUS MATERIALS DIVISION. APPROVED REVISIONS MUST BE ATTACHED TO THE FOLLOWING DOCUMENTS: SOIL MONITORING SAP SURFACE WATER MONITORING SAP, TRACKOUT MANAGEMENT SOP, FUGITIVE DUST MANAGEMENT SOP.
- 4. THE NSB, SSB AND LINED POND THEMSELVES ARE NOT PART OF AREA A OR AREA B.
- 5. SS-4 WAS PREVIOUSLY REMOVED FOR CONSTRUCTION. SM-9 THROUGH SM-15, SM-21, SM-22, SM-25, AND SS-8 WILL BE REMOVED. SM-26 THROUGH SM-31 AND SS-9 AND

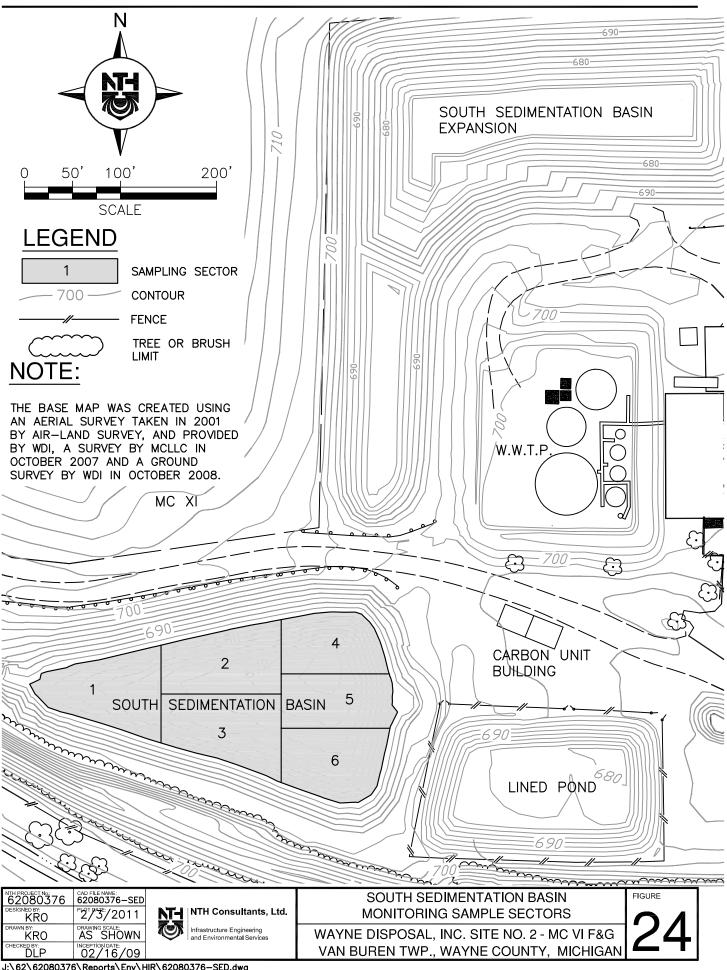
NTH Consultants, Ltd.

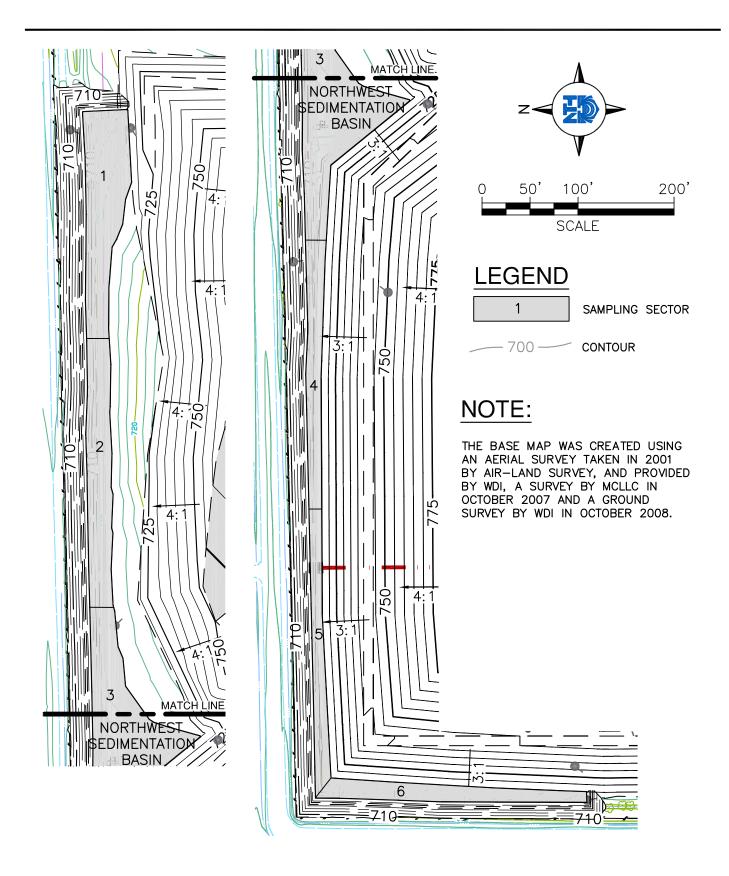


SURFACE WATER AND SOIL	NTH PROJECT NO. 62080376	CAD FILE NAME: 62080376—SLP
MONITORING LOCATION PLAN	DESIGNED BY: KRO	1/8/2012
WAYNE DISPOSAL, INC. SITE NO. 2 - MC VI F&G	DRAWN BY: KRO	DRAWING SCALE: AS SHOWN
VAN BUREN TWP., WAYNE COUNTY, MICHIGAN	снескер ву: DLP	1857/18/509

FIGURE







NTH PROJECT No.: 62080376	CAD FILE NAME: 62080376—SED		NORTHWEST SEDIMENTATION BASIN	FIGURE:
DESIGNED BY:	PLOT DATE: 2/3/2011	NTH Consultants, Ltd.	MONITORING SAMPLE SECTORS	
DRAWN BY:	DRAWING SCALE: AS SHOWN	Infrastructure Engineering and Environmental Services	WAYNE DISPOSAL, INC. SITE NO. 2 - MC VI F&G	25
CHECKED BY:	02/16/09		VAN BUREN TWP., WAYNE COUNTY, MICHIGAN	



APPENDIX A

MDNRE FORM EQP 5111
ATTACHMENT TEMPLATE B3

Hydrogeologic	Re	port,	Revision	_
Site	ID	No.		

FORM EQP 5111 ATTACHMENT TEMPLATE B3 HYDROGEOLOGIC REPORT

This document is an attachment to the Michigan Department of Environmental Quality's Instructions for Completing Form EQP 5111, Construction Permit and Operating License Applications, Hazardous Waste Treatment Storage and Disposal Facilities. See Form EQP 5111 for details on how to use this attachment.

The administrative rules promulgated pursuant to Part 111, Hazardous Waste Management, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), R 299.9506, R 299.9508, and R 299.9612 and Title 40 of the Code of Federal Regulations (CFR) §§264.94, 264.95, 264.97, 264.98, 270.13(10)(I), and 270.14(b)(19) establish requirements for hydrogeologic reports for hazardous waste management facilities. All references to 40 CFR citations specified herein are adopted by reference in R 299.11003.

This license application template addresses requirements for a hydrogeologic report for the hazardous waste management units and the hazardous waste management facility for the [Facility Namel facility in [City], Michigan. This template includes hydrogeologic report requirements. waiver demonstrations, and alternative information requests for construction permit and operating license applications. This hydrogeologic report supplies information to support the groundwater monitoring program, or groundwater monitoring waiver request, proposed and included in Template B5, Environmental Monitoring Programs.

(Check as appropriate) Operating License applicant: R 299.9506 hydrogeologic report П A waiver for the hydrogeologic report is requested for one or more units \Box Alternative information is proposed for information required in the hydrogeologic report for one or more units A waiver is requested for groundwater monitoring requirements for one or more units, and is included in Template B5 More than one box may be checked, if waivers or alternative information apply to some of the units at the facility. Construction Permit applicant: П R 299.9506 hydrogeologic report A waiver is requested for groundwater monitoring requirements for one or more units, and is included in Template B5 (F

Both boxes may be checked, if appropriate

This template is organized as follows:

B3.A B3.B	HYDROGEO SITE HYDRO B3.B.1 B3.B.2 B3.B.3	Summary of Existing Information Identification of Aquifers and Their Uses Topographic Map B3.B.3(a) Waste Management Areas B3.B.3(b) Property Boundaries B3.B.3(c) Point of Compliance B3.B.3(d) Groundwater Monitoring Wells B3.B.3(e) Aquifer Information B3.B.3(f) Extent of Contaminant Plume
	B3.B.4	Wells and Borings within One Mile
	B3.B.5	Contaminant Plume Description
B3.C		IG REPORT FOR PROPOSED GROUNDWATER MONITORING PROGRAM
	B3.C.1	Waiver or Alternate Information
	B3.C.2	Soil Borings, Sampling, and Testing
		B3.C.2(a) Number and Location of Soil Borings
		B3.C.2(b) Soil Sampling and Testing
		B3.C.2(c) Soil Layer Evaluations
		B3.C.2(d) Boring Log Information
		B3.C.2(e) Borehole Completion
	B3.C.3	Observation Wells and Well Clusters
		B3.C.3(a) Static Water Levels and Construction Details
		B3.C.3(b) Groundwater Maps
		B3.C.3(c) Justification for Observation Well Locations
		B3.C.3(d) Logs for Borings Completed as Observation Wells
B3.D		TER MONITORING PROGRAM
		Unit-Specific Groundwater Monitoring Program
B3.E		INFORMATION REQUIREMENTS
	B3.E.1	Additional Soil Boring Tests
	B3.E.2	Soil Borings to Define Bedrock
	B3.E.3	Additional Geotechnical Characteristics
	B3.E.4	Geologic Cross Sections
	B3.E.5	Water Budget Calculations

EPA 1992. RCRA Groundwater Monitoring Draft Technical Guidance Document. Document Number 530-R-93-001. November.

B3.A HYDROGEOLOGIC REPORT WAIVER REQUEST

[R 299.9508(2)]

Operating License Applicants: if there are units at the facility that are not landfills, surface impoundments, waste piles, or land treatment units, and these units meet the criteria below, you may seek a waiver from the hydrogeologic report. If you opt for the waiver provision for any unit, you must include, for each unit, a description of the structure, and how it provides protection from precipitation and runon/runoff. Also make a reference to the template and section that describes the design and operating standards required by R 299.9604.

\Box T	he <i>[hazardo<u>us waste unit]</u> is not a landfill, surface impoundment, waste pile, or land treatment</i>
	nit, all hazardous waste management activities take place inside or under a structure that
	rovides protection from precipitation and runon/runoff, and the unit is in compliance with the
	icility design and operating standards found in R 299.9604.

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Site ID No.

Note that the hydrogeologic report must include enough information to support the groundwater monitoring program proposed in Template B5, Environmental Monitoring Programs. If a waiver has been requested for a groundwater monitoring program, the hydrogeologic report must include enough information to support the waiver request. A waiver request for groundwater monitoring is not justification for a waiver request from the hydrogeologic report.

B3.B SITE HYDROGEOLOGY

[R 299.9506 (1)(a) through (g) and 40 CFR, Part 265, Subpart F, and §§270.13(l), 270.14(b)(19), and 264.97]

This section presents a summary of the <u>[Facility Name]</u> facility's unit-specific preapplication groundwater monitoring data, an identification of all aquifers, hydrogeologic information on topographic maps, and identification of any plumes of contamination.

For operating facilities, the summary of existing information must include all preapplication data collected pursuant to Part 111 of Act 451 and 40 CFR, Part 265, Subpart F, monitoring information, and any other available monitoring data.

For construction permit facilities, the summary must include any available preapplication monitoring information.

Both types of facilities should specify the requirements for which all of the monitoring information has been collected

B3.B.2 Identification of Aquifers and Their Uses [R 299.9506(1)(b), (c), and (d)]

This section must include the following information:

- 1. Identification of the uppermost saturated zone (including any perched zones), the uppermost aquifer, and any aquifers hydraulically interconnected with the uppermost aquifer.
- 2. Identification of the flow direction and rate for the uppermost aquifer, and interconnected aquifers, along with the basis for this information.
- 3. Identification of all aguifers used by public and private wells within 2,000 feet of the site.
- 4. Identification of all other aguifers evidenced by available boring or well logs.

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Site	ID No.	

B3.B.3 Topographic Map [R 299.9506(1)(e)(i) through (v)]

A topographic map, in accordance with 40 CFR §270.14(b)(19), is included in Template A13. This topographic map is at a scale of one inch equal to no more than 200 feet, showing a distance of 1000 feet around the facility perimeter.

To meet the requirements of R 299.9506(1)(e) and R 299.9504(1)(c) topographic maps at this scale and distance must also be included with information in Sections B3.B.3(a) through (f). More than one map may be used, but all must be at the proper scale.

B3.B.3(a) Waste Management Area [R 299.9506(1)(e)(i)]

The topographic map must include the waste management area and any other treatment or storage areas at the facility.

B3.B.3(b) Property Boundaries [R 299.9506(1)(e)(ii)]

The topographic map must include the property boundaries for the facility.

B3.B.3(c) Point of Compliance [R 299.9506(1)(e)(iii)]

The topographic map must include the proposed Point of Compliance, which has been defined in accordance with 40 CFR §264.95. The Point of Compliance is included in Template B5, Environmental Monitoring, and Template B2, Corrective Action.

B3.B.3(d) Groundwater Monitoring Wells [R 299.9506(1)(e)(iv)]

The topographic map must include the proposed locations of groundwater monitoring wells, which have been selected in accordance with 40 CFR §264.97, and proposed in Template B5, Environmental Monitoring, and Template B2, Corrective Action.

B3.B.3(e) Aquifer Information [R 299.9506(1)(e)(v)]

The topographic map must include, to the extent possible, the uppermost aquifer, aquifers which are hydraulically interconnected to the uppermost aquifer, and groundwater flow directions and rates for these aquifers.

	Hydrogeologic Report, Revision Site ID No
B3.B.3(f) Extent of Contaminant Plume [R 299.9506(1)(g)(i)]
entered	The topographic map must include a delineation of any plumes of contamination that have the groundwater from any hazardous waste management unit and plumes of ination that have entered the groundwater from other regulated activities at the facility.
B3.B.4	Wells and Borings Within One Mile [R 299.9506(1)(f)]
R 299.9 applicat	In addition to the topographic map described in Section B3.B.3 required by 506(1)(e), R 299.9506 requires that the topographic map, included as part of Item X of the ion form, showing an area extending at least one mile beyond the property boundaries, at the following information:
Operation	raphic map has been included as Item X of the Michigan Construction Permit and ng License Application Form for Hazardous Waste Treatment, Storage, and Disposal s (EQP 5111). It also includes the following information.
	ocations for all domestic, municipal, oil and gas, industrial, and agricultural wells within one mile of the facility, for which logs are available, and
2. 1	ocations of soil borings within one mile of the facility, for which logs are available
B3.B.5	Contaminant Plume Description [R 299.9506(1)(g)]
applicate the facili piles, or constitue	Describe any plume of contamination that has entered the groundwater, at the time of the ion, from any hazardous waste management unit and from any other regulated activity at ity. If the hazardous waste management units are landfills, surface impoundments, waste waste treatment units, the plume description must also include the concentrations of each in 40 CFR, Part 261, Appendix VIII, or identifies the maximum rations of each Appendix VIII constituent in the plume.
	ENGINEERING REPORT FOR PROPOSED GROUNDWATER MONITORING PROGRAM R 299.9506(2) and (7)]
groundw	ineering information included in the hydrogeologic report supports the proposed vater monitoring programs or waiver requests included in this application as Template B5, mental Monitoring Programs, and Template B2, Corrective Action.
B3.C.1	Waiver or Alternate Information Request [R 299.9506(7)]
	f you wish to request a waiver for information requirements in R 299.9506(2), or substitute

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If you wish to request a waiver for information information for that required by R 299.9506(2), you may check the boxes below. However, you must include justification for waivers or substitutions, based on site-specific information, technologic information, and references to the appropriate template for each uni.

	Waiver	is	requested	for	R	299	9506(2
--	--------	----	-----------	-----	---	-----	--------

Alterna	te information is substituted for information requirements in R 299.9506(2)
B3.C.2	Soil Borings, Sampling, and Testing [R 299.9506(2)(a)(i) through (vi)]
	of soil borings conducted, their locations, logs, and results from soil sampling and cluded in the sections below. This information thoroughly defines soil conditions at the
B3.C.2(a)	Number and Location of Soil Borings [R 299.9506(2)(a)(i)]
number and	applicant must provide information in this section that describes the following minimum location of soil borings, to demonstrate that an adequate definition of soil as and variations has been achieved:
ac ac	ive borings for the first five acres of the site and three borings for each additional five cres of the site. Fewer borings may be included for areas of the site that are not ctive. Borings may also be reduced in number if supported by geophysical testing formation.
2. O	ne boring for each geomorphic feature of the site, such as a ridge, or lowland area.
3. All bo	rings must extend a minimum of 30 feet below the proposed grade or liner depth.
B3.C.2(b)	Soil Sampling and Testing [R 299.9506(2)(a)(ii) and R 299.9506(6)(a)}
Check the bo	xes below, as applicable:
treatme	nzardous Waste Unit] unit is not a surface impoundment, landfill waste pile, or land nt area. Soil sampling and testing information to meet requirements of 1506(2)(a)(ii) is included in this section.
	have checked the box above, you must provide completed soil sampling and testing following requirements:
	soil sample must be collected at each change in soil layers or lithology within each pring.

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must be logged using continuous sampling methods.

2. Two of the required five borings must be logged using continuous sampling methods. For sites larger than five acres, one of each of the three additional required borings

particle size distribution (using both a sieve and a hydrometer), and Atterberg limits.

3. Samples that are collected from changes in layers or lithology must be tested for

Samples must also be classified using the Unified Soil Classification System.

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The applicant should also include a description of soil sampling methods used, and results of Standard Penetration Testing (using ASTM D1586-67).
The [Hazardous Waste Unit] unit is a landfill, surface impoundment, waste pile, or land treatment area. Soil sampling and testing to meet the requirements of R 299.9506(2)(a)(ii) and R 299.9506(6)(a) is included in this section.
If the unit is a landfill, surface impoundment, waste pile, or land treatment area, in addition to the requirements of R 299.9506(2)(a)(ii), the sampling and testing must meet the requirements of R 299.9506(6)(a): particle size distribution, Atterburg limits, and Unified Soil Classifications, completed at minimum five-foot intervals or change in geologic formation. Standard Penetration Testing should also be included at the same minimum interval.
B3.C.2(c) Soil Layer Evaluations [R 299.9506(2)(a)(iii) and R 299.9506(6)(b)]
Check the boxes below, as applicable:
The [Hazardous Waste Unit] unit is not a landfill, surface impoundment, waste pile, or land treatment area. Soil layer evaluations are included to meet the requirements of R 299.9506(2)(a)(iii).
If you have checked the box above, you must describe the results of the evaluations done on each soil layer, for the following:
1. Moisture content, using ASTM D422-63
2. Permeability with water, using one of the methods defined in R 299.9506(2)(a)(iii)(b).
The [Hazardous Waste Unil) unit is a landfill, surface impoundment, waste pile, or land treatment area. Soil layer evaluations have been included to meet the requirements of R 299.9506(2)(a)(iii) and R 299.9506(6)(b).
If you have checked the second box, in addition to the requirements for R 299.9506(2)(a)(iii), you must conduct these soil evaluations at a minimum 10-foot interval.
B3.C.2(d) Boring Log Information [R 299.9506(2)(a)(iv) and (vi)]
The boring logs must include soil and rock descriptions, sampling methods used, depth, the date and location of the boring, soil test data, water levels, and standard penetration numbers (using ASTM D1586-67). Elevations must be corrected to the United States Geological Survey datum.

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B3.C.2(e) Borehole Completion [R 299.9506(a)(2)(v)]

Identify all boring locations that have not been completed as observation wells, and include a description of how these boring locations have been backfilled, plugged, and recorded, in accordance with either Part 625 or Act 368, Michigan's Public Health Code.

B3.C.3 Observation Wells, and Well Clusters [R 299.9506(2)(b) through (f)]

B3.C.3(a) Static Water Levels, and Construction Details [R 299.9506(2)(b)]

The applicant must include static water level measurements from at least three observation wells and one well cluster, for the first 5 acres, and one well for each additional 10 acres. For land-based units, a minimum of three wells and one well cluster must be included for every 20 acres. For well construction, include reference to the appropriate sections of Templates B5, Environmental Monitoring, and Template B2, Corrective Action. These sections must show that the requirements of R 299.9612 have been met.

B3.C.3(b) Groundwater Maps [R 299.9506(2)(c) and (d)]

Include a water level contour map for measurements taken in observation wells and well clusters. The contour interval must be no greater than one foot. Also include groundwater flow net diagrams, if more than two well clusters have been constructed.

B3.C.3(c) Justification for Observation Well Locations [R 299.9506(2)(e)]

Include a map that identifies locations for all observation wells and well clusters. If all observation wells have been included in the topographic map described in Section B3.B.3(d) of this application, a reference to this map may be included here. Also include depths for each observation well and well cluster.

Include a description of how observation wells are capable of effectively detecting hazardous constituents from the facility, based upon all of the following:

- 1. Groundwater flow direction, velocity, gradients, and thickness of the saturated zone
- 2. Dispersion properties of the hazardous waste constituents

B3.C.3(d) Logs for Borings Completed as Observation Wells [R 299.9506(2)(f)]

For each boring completed as an observation well, the applicant must include a description and discussion of continuous lithologic sampling, logging, and classifications, at a minimum of 10 feet above the screen elevation to the bottom of the borehole.

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B3.D GROUNDWATER MONITORING PROGRAM

[R 299.9506(3) through (5), R 299.9611(2)(b) and (3), R 299.9612, R 299.9629, and 40 CFR, Part 264, Subpart F, except 40 CFR §§264.94(a)(2) and (3), 264.94(b) and (c), 264.100, and 264.101}

The summary of preapplication monitoring information and information included in the engineering report establish the basis for determining the appropriate groundwater monitoring program for each unit at the *[Name of Facility]* facility. The proposed detection monitoring and compliance monitoring programs for applicable units are included in Template B5, Environmental Monitoring Programs. The proposed corrective action groundwater monitoring program for applicable units is included in Template B5, Environmental Monitoring Programs, and Template B2, Corrective Action. The table below identifies unit-specific determinations for groundwater monitoring programs and is identical to the table included in Section B5.A of Template B5.

Table B3.D.1 Unit-Specific Groundwater Monitoring Program

Unit	Land Disposal Unit (Yes) ¹	Land Disposal Unit (No) ²	Waiver ³	Detection Monitoring ⁴	Compliance Monitoring ⁵	Corrective Action ⁶

- Different units can be in different programs. The following instructions should be considered and addressed as appropriate for each unit at the facility.
- ¹ Surface impoundments, waste piles, and land treatment units or landfills (land disposal units) that receive hazardous waste after July 26, 1982, are considered regulated units and must comply with the requirements specified in 40 CFR §§264.91 through 264.99 except 40 CFR §§264.94(a)(2) and (3), and 264.94(b) and (c), and R 299.9629 for purposes of detecting, characterizing, and responding to releases to the uppermost aquifer. If the unit is a land disposal unit, check the "yes" column and indicate in the table whether a waiver for a groundwater monitoring program is being requested or if the facility is proposing a detection monitoring, compliance monitoring, or corrective action program.
- ² If the unit is not a land disposal unit, check the "no" column. The applicant should indicate in the table that a waiver is being requested.
- ³ The unit is a land disposal unit and the applicant is requesting a waiver for a groundwater monitoring program.
- ⁴ If an applicant is not required to implement a compliance monitoring program or a corrective action program, in all other cases, the applicant must institute a detection monitoring program under 40 CFR §264.98.
- ⁵ Whenever hazardous constituents under 40 CFR §264.93 are detected at a compliance point, the applicant must institute a compliance monitoring program under 40 CFR §264.99. Detected is defined as statistically significant evidence of contamination as described in 40 CF §264.98(F).
- ⁶ If an unit is undergoing corrective action in accordance with R 299.9629 and 40 CFR, Part 264, Subpart F, except 40 CFR §§264.100 and 264.101, the application should refer to Template B2,

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Site ID No)

Corrective Action, which discusses the groundwater monitoring associated with corrective action.

In summary, if no hazardous constituents have been detected at the time of this application, the unit is subject to detection monitoring program requirements. If hazardous constituents have been detected at the point of compliance at the time of this application, the unit is subject to compliance monitoring requirements. If hazardous constituents have been detected at levels that exceed concentration limits, or if groundwater monitoring conducted at the time of this application indicate the presence of hazardous constituents from the unit above background concentrations, the unit is subject to corrective action.

B3.E ADDITIONAL INFORMATION REQUIREMENTS [R 299.9506(6)]

Check as appropriate:

The [<u>Hazardous Waste Unit]</u> unit is not a landfill, surface impoundment, waste pile, or land treatment unit. The requirements of R 299.9506(6) do not apply.
The [Hazardous Waste Unit] unit is a landfill, surface impoundment, waste pile, or land treatment unit. Additional information has been included to address requirements necessary to determine site suitability and facility design.

B3.E.1 Additional Soil Boring Tests [R 299.9506(6)(a) and (b)]

Soil boring tests in accordance with R 299.9506(6)(a) and (b) are included in Sections B3.C.2(b) and B3.C.2(c), respectively.

B3.E.2 Soil Borings to Define Bedrock (R 299.9506(6)(c)]

Include soil borings and soil sample results to define bedrock conditions. Examples of types of information that should be included are:

- 1. Depth of rock
- 2. Type of rock
- 3. Water-bearing properties
- 4. Definition of whether the formation is used as an aquifer and groundwater flow direction
- 5. Any trends in fracture patterns
- 6. Presence of voids or other factors which might affect permeability

B3.E.3 Additional Geotechnical Characteristics [R 299.9506(6)(d)]

Include additional information that characterizes each soil layer, such as shear strength, in-situ density, specific gravity, stress deformation, shrinkage limit, clay mineralogy, and the presence of cracks, fissures, or other voids that might increase the effective permeability of the soil.

Hydrogeologic Repor	t, Revision
Site ID No	

B3.E.4 Geologic Cross Sections [R 299.9506(6)(e)]

- Include a series of geologic cross sections or fence diagrams, referenced to a site map illustrating all of the following:
 - 1. Existing topography
 - 2. Soil borings
 - 3. Soil classifications
 - 4. Stratigraphy
 - 5. Bedrock
 - 6. Locations of wells
 - 7. Stabilized water level readings
 - 8. Proposed site grade

Note: References to previously included topographic maps may be included to address some of these requirements.

B3.E.5 Water Budget Calculations [R 299.9506(6)(f)]

The applicant must include water budget calculations for present site conditions, future active site conditions, and, for disposal facilities, site conditions during the postclosure period. All water budget calculations must be based upon all of the following:

- 1. Precipitation
- 2. Evaporation
- 3. Runoff
- 4. Infiltration
- 5. Evapotranspiration
- 6. Groundwater flow velocities and volume
- 7. Soil moisture holding capacity

For disposal facilities, also include the capacity of proposed wastes to hold moisture.



APPENDIX B

TEST BORINGS & WELL CONSTRUCTION LOGS

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location:

BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: dip

						SC	IL SAN	IPLE I	ATAC		
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 706.	2	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	uscs
705		SANDY TOPSOIL	0.5		LS-1	2 2 3	5		-	-	
		Loose SAND with Trace of Clay, Silt & Gravel (SM)			LS-2	4 3 3	6				SM
700			5.5	5	LS-3	3 4 5	9			nt-	
		Loose to Medium Compact Gray SILTY FINE SAND with Trace of			LS-4	6 9	15				SM
		Clay & Medium Sand [SM]		10	LS-5	7 9	16				
695		Medium Compact Gray SILT	11.0		LS-6	11	21				
-		Stiff to Very Stiff Gray SILTY CLAY			LS-7	2 3 5	8		-	6500*	CL
690		with Trace to Little Sand & Trace of Gravel [CL]		15	LS-8	3 4 5	9			3000*	
		Medium Compact Gray SILT withTrace of Fine Sand [ML]	17.0		ST-1	pushed 24"		21.0	106.5		ML
-				20	LS-9	3 5 7	12			5000*	
685		Stiff to Very Stiff Gray SILTY CLAY with Trace to Little Sand & Trace of Gravel [CL]			LS-10	4 5 4	9			3000*- 5000*	CL
_			24.0		LS-11	3 5 6	11			7000*	
680				25	LS-12	6 8	14			6500*	
-					ST-2	pushed 24"		17.4	115.1	3607	CL
-		Stiff to Very Stiff Gray SILTY CLAY with Little Sand, Trace of Gravel & Occasional Sand Seams (CL)		30	LS-13	8 12	20			6500*	
675					LS-14	7 8 12	20			5500*	
			34.0		LS-15	3 5 7	12			4500*	CL
670		Very Stiff Gray SILTY CLAY with Little Sand & Trace of Gravel		35	LS-16	5 7 10	17			7000*	
	L Denth	CL]	37.2		Level Ohs						

Total Depth:

Drilling Date: Inspector: Contractor:

07/15/08 & 07/16/08 M. McNamara

Mateco Drilling Co.

Driller: J. Pitsch

Drilling Method: CME-750 ATV drill rig with 4-1/4" inside-diameter,

hollow-stem augers to end of boring.
Plugging Procedure:
Observation Well W-1 installed in borehole with screen

tip set at 92.0 ft bgs.

Water Level Observation:

Groundwater at 53.5 ft bgs upon completion.

Notes:

* - Pocket Penetrometer Value

Location Coordinates: E 3690.00 N 7660.62

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: dlp

		SUBSURFACE PROFILE			SC	IL SAN	/IPLE	DATA	\	
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 706.2	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	uscs
	1311		-	ST-3	pushed		18.8	111.1		CL
		Very Stiff Gray SILTY CLAY with Trace of Gravel	40	LS-17	24" 7 10	25			7000*	
665				LS-18	15 6 7	16			7500*	
	K44K41			LS-19	9 7 10	23	_		6500*- 7000*	
660			45	ST-4	13 pushed 24"		16.2	118.5	8015	CL
				LS-20	10 20 25	45			6500*	
		Very Stiff to Hard Gray SILTY CLAY with Little to Some Sand & Trace of Gravel	50	LS-21	8 13 15	28			7000*	
655		[CL]		LS-22	11 15 20	35			5000*	CL
				LS-23	9 15	24			6000*	
650			55	ST-5	pushed 24"	1) na	13.9	124.1		CL
				LS-24	7 9	16	***		5000*- 7000*	
		60.0	60	LS-25	6 9	15			5000*	
645				LS-26	8	18			3000*	
				ST-6	pushed 24" 5		18.2	113.7	1829	CL
640		Medium to Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL or CL-ML]	65	L\$-27	6 7 3	13		_	1000*- 2000*	
				LS-28	5 6 3	11			1500*- 2500*	
			70	LS-29	5 6	11			1500*- 2500*	CL-ML
635		71.0 Stiff Gray SILTY CLAY	† -	LS-30	6 9	15			2500*	
		with Some Sand & Trace of Gravel [CL]	75	ST-7	pushed 24" 3		22.4	107.8		CL
630		75.0 Loose CLAYEY SILT 76.5		LS-31	4 4 6	8				
		Medium Compart to Commant Comment		LS-32	7 19	26				ML
		Medium Compact to Compact Gray SILT with Trace of Clay & Sand [ML]	80	LS-33	15 19 14	34			**	
625		82.3		LS-34	17 21	38				

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: AIP

ļ		SUBSURFACE PROFILE			SC	IL SAN	/IPLE I	DATA		
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 706.2	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
		Compact Gray SILT	.0 85	LS-35	9 12 23 6 16	35			**	ML
620		Compact to Very Compact Gray SILTY FINE SAND with Trace of Clay		LS-36 LS-37	25 15 27 44	41 71				SM
615		SILTY FINE SAND with Trace of Clay [SM]	90	LS-38	15 27 13 24	42				
	20030	End of Boring	.0	LS-39	35	59			dh	SM
610			95							
605			100							
600			105							
595			110							
590			115							
585			120			n				
580			125							

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: 41P

	SUBSURFACE PROFILE PRO-FILE GROUND SURFACE ELEVATION: 706.5±					SC	IL SAN				
ELEV.		GROUND SURFACE ELEVATION: 706.5±		PTH ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	uscs
705	- 74	TOPSOIL 0 Very Loose to Loose Brown FINE SANDwith Trace of Clay & Silt [SM]	.7		LS-1	1 1 1	2				SM
700			.0	5	LS-2	6 9 14 8	23	***			
		[SM]	.0		LS-3	11 16 10 15	26				SM
695		Compact Gray SILTY FINE TO MEDIUM SAND	.0	10	LS-4	19	. 34	-			
690		Stiff to Very Stiff Gray SILTY CLAY with Trace of Sand & Gravel	1	15	LS-5	6	10			4500*	CL
		[Cr]	.0 2	20	ST-1	pushed 24" 4 6 9	 15	18.8	109.8	3773	CL
685				25	LS-7	3 5 9	14		n d	6000*	CL
680		Very Stiff to Hard Gray SILTY CLAY		-	ST-2	pushed 24"	e p	18.3	111.8		CL
		with Trace of Sand & Gravel [CL]	_ 3	30	LS-8	6 9 12	21			6000*- 7000*	
675	**********	*	3	35	ST-3	pushed 24"		18.2	112.3	8870	CL
	I Depth	: 80 FT			Level Obs			ladia.			

Drilling Date: Inspector:

07/17/08 M. McNamara

Contractor: Mateco Drilling Co. J. Pitsch

Driller:

* - Pocket Penetrometer Value

Groundwater at 51.5 ft bgs upon completion.

Drilling Method: CME-750 ATV drill rig with 4-1/4" inside-diameter,

hollow-stem augers to end of boring.
Plugging Procedure:
Borehole backfilled with cement-bentonite grout.

Location Coordinates: E 4080.0 N 7 N 7645.3

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: AIP

								ecked t			
	, , ,	SUBSURFACE PROFILE	- 1		CALID	SO	IL SAN	IPLE I	DRY	UNCONF.	
ELEV. (ft)	FILE	GROUND SURFACE ELEVATION: 706.5±	0	(ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	RESIST.	CONT.	DENS. (pcf)	COMP.ST. (psf)	uscs
		Very Stiff to Hard Gray SILTY CLAY with Trace of Sand & Gravel [CL] 40	0.0	40	LS-9	7 15 22	37			9000*	CL
665		Very Stiff to Hard Gray SILTY CLAY with Trace of Sand [CL-ML or CL]	-	45	LS-10	7 14 18	32			8500*- 9000*	CL-ML
660		(CL-ML or CL)			ST-4	pushed 24"		13.2	125.3		CL
		9 49	.0	50	LS-11	15 22 22	44		~=	8500*	
655		Medium Compact to Compact Gray CLAYEY SILT with Trace of Sand [ML]		55	LS-12	5 9 14	23			-	ML
650		56	.0		ST-5	pushed 24"					SM
		Compact Gray SILTY FINE SAND with Trace of Clay [SM]	-	60	LS-13	7 14 20	34	**			
645		62 Medium Compact Gray CLAYEY SILT with Trace of Sand				5					
-		(ML)		65	LS-14	8 16	24	**			ML
640		Medium Compact Gray SILTY FINE SAND with Trace of Clay [SM]	.0	-		8 10	200				SM
635		Medium Compact to Very Compact SAND & SILT with Trace of Clay [ML]	-	70	LS-15	7	26				SIVI
		75	.0	75	LS-16	17 35	52				ML
630		Medium Compact SILTY FINE SAND with Trace of Clay [SM]		80	LS-17	5 9 17	26				SM
625	10 To 10	End of Boring									

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



MTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: AIP

SUBSURFACE PROFILE SOLIL SAMPLE DATA			CLIBCLIBEACE BROEILE						ADIE I		IIP.	
ELEY PRO- GROUND SURFACE ELEVATION: 706.4± (nt)			SUBSURFACE PROFILE			CAMP	1					1
Loose to medium Compact Lis-1 5 8 SM		FILE	GROUND SURFACE ELEVATION: 706.	4±		TYPE/		RESIST.	CONT.	DENS.	COMP.ST.	uscs
Loses to medium Compact Brown & Gray FINE TO MEDIUM SAND with Trace of Clay, Sit & Gravel [SM] Compact Gray FINE TO MEDIUM SAND with Trace of Clay & Sit Gravel [SM] Compact Gray FINE TO MEDIUM SAND with Trace of Clay & Sit Gravel [SM] Compact Gray FINE SAND with Trace of Clay & Sit Gravel [SM] Compact Gray FINE SAND with Trace of Clay & Sit Gravel [SM] 10	705		Sandy Topsoil	0.7			3					
Locate to medium Compact Brown & Grey FINET To Medium SAND With Trace of Clay, Silt & Gravel [SM] S LS-2 112 22 -	708				$[\]$	101						SM.
Brown & Gray Fink E To MEDIUM SAND with Trace of Clary, Sit & Gravel (SM) 5	-		Loose to medium Compact		[]	L5-1						JIVI
SM SM SAND	-		Brown & Gray FINE TO MEDIUM SAND									
7.0	-				5	LS-2		22			**	
Compact Gray FINE SAND with Trace of Clay & Silt (SM)	700											
Compact Gray FINE SAND with Trace of Clay & Silt [SM]				7.0	↓ ↓	18-3		16		_		SM
### Stiff Cray CLAY & SILT with Trace of Clay & Silt [SM]	-						1					
SM 11.0 LS-4 22 36 -	-	1267	Compact Gray FINE SAND with Trace of Clay & Silt				14					
Stiff Gray CLAY & SILT with Trace of Sand (CLI 14.0 15.5 6 10 7000* CL Very Stiff CLAY & SILT with Some Sand & Trace of Gravel (CI-MLI 20.0 20 ST-1 24" - 14.5 123.0 7000* CL-ML 888 Vary Stiff to Hard Gray CLAY & SILT with Trace of Sand & Gravel (CLI 24" - 16.7 113.8 8120 CL 675 12 12 12 12 12 12 12 12 12 12 12 12 12	-	2222	[SM]		10	LS-4	22	36				-
### With Trace of Sand [CL] 14.0 15	695			11.0	1							
[CL] 14.0 15 LS-5 6 10 7000° CL		ruu			- 1							
15							2					
Very Stiff CLAY & SILT with Some Sand & Trace of Gravel (CL-ML)		44		14.0		105		10		:::::::::::::::::::::::::::::::::::::	7000*	
Very Stiff to Hard Grey CLAY & SILT with Trace of Sand & Gravel (CL) ST-2 24* - 14.5 123.0 7000* CL-ML		runi			15	L5-5	-	10			7000	"
with Some Sand & Trace of Gravel [CL-ML] 20.0 20 ST-1 Pushed - 14.5 123.0 7000* CL-ML 20.0 20 ST-1 Pushed - 14.5 123.0 7000* CL-ML 25 LS-6 11 19 6500* CL 25 LS-6 11 19 6500* CL 27 ST-2 Pushed - 16.7 113.8 8120 CL 28 ST-2 12 ST-2 12 ST-2 ST-2 ST-2 ST-2 ST-2 ST-2 ST-2 ST-	690	M	Very Stiff CLAY & SILT		- 1							
20.0 20 ST-1 Pushed 24" - 14.5 123.0 7000 CL-ML 20.0 20 ST-1 Pushed 24" - 14.5 123.0 7000 CL-ML 25 LS-6 11 19 - 6500 CL 25 LS-6 11 19 - 6500 CL 27 Pushed 24" - 16.7 113.8 8120 CL 30 LS-7 14 26 - 7500 CL 43 Pushed 12		HH.	with Some Sand & Trace of Gravel		t 1							
20.0 20 ST-1 24" - 14.5 123.0 7000° CL-ML ST-2 24" - 14.5 123.0 7000° CL-ML Very Stiff to Hard Gray CLAY & SILT with Trace of Sand & Gravel [CL] ST-2 24" - 16.7 113.8 8120 CL ST-2 24" - 16.7 113.8 8120 CL ST-2 14.6 121.3 10920 CL Hard Gray SILTY CLAY with Trace of Sand & Gravel [CL] ST-3 12" - 14.6 121.3 10920 CL		\mathcal{L}	[OF-ME]		1							
886 Very Stiff to Hard Gray CLAY & SILT with Trace of Sand & Gravel [CL] 887-2 24" - 16.7 113.8 8120 CL 888 25 LS-6 11 19 - - 6500° CL 889 ST-2 24" - 16.7 113.8 8120 CL 880 ST-2 24" - 16.7 113.8 8120 CL 880 ST-2 24" - 16.7 113.8 8120 CL 881 ST-2 24" - 16.7 113.8 8120 CL 881 ST-2 24" - 16.7 113.8 8120 CL 881 ST-2 ST-3 ST-3	-			20.0	20	ST-1		-	14.5	123.0	7000*	CL-ML
25 LS-6 11 19 6500* CL Very Stiff to Hard Gray CLAY & SILT with Trace of Sand & Gravel (CL) ST-2 24" 16.7 113.8 8120 CL ST-2 14 26 7500* Hard Gray SILTY CLAY with Trace of Sand & Gravel (CL) 33.0 ST-3 pushed 12" 14.6 121.3 10920 CL Hard Gray SILTY CLAY with Trace of Sand & Gravel (CL) 37.2		A A										
Very Stiff to Hard Gray CLAY & SILT with Trace of Sand & Gravel [CL] ST-2 24" 16.7 113.8 8120 CL	685	\mathcal{L}			1							
Very Stiff to Hard Gray CLAY & SILT with Trace of Sand & Gravel [CL] ST-2 24" 16.7 113.8 8120 CL	-				1							
Very Stiff to Hard Gray CLAY & SILT with Trace of Sand & Gravel (CL) ST-2 24" 16.7 113.8 8120 CL	-				1							
with Trace of Sand & Gravel [CL] ST-2	-	M			25	LS-6		19			6500*	CL
with Trace of Sand & Gravel [CL] ST-2		N	Very Stiff to Hard Gray CLAY & SILT									
ST-2 24" 16.7 113.8 8120 CL ST-2 6 12 30 LS-7 14 26 7500* Hard Gray SILTY CLAY with Trace of Sand & Gravel [CL] 37.2 37.2	680	11	with Trace of Sand & Gravel		[]		nushed					
30 LS-7 12 26 7500* 33.0 ST-3 12 26 7500* Hard Gray SILTY CLAY with Trace of Sand & Gravel [CL] 37.2 37.2	_	\mathcal{H}	[CL]			ST-2	24"		16.7	113.8	8120	CL
30 LS-7 14 26 7500* 33.0 ST-3 Pushed 12" 14.6 121.3 10920 CL Hard Gray SILTY CLAY with Trace of Sand & Gravel [CL] 37.2	-											
33.0 pushed 12" 14.6 121.3 10920 CL Hard Gray SILTY CLAY 35 with Trace of Sand & Gravel [CL] 37.2	1				30	LS-7		26			7500*	<u> </u>
33.0 pushed 12" 14.6 121.3 10920 CL Hard Gray SILTY CLAY 35 with Trace of Sand & Gravel [CL] 37.2	675											
ST-3 12" 14.6 121.3 10920 CL Hard Gray SILTY CLAY with Trace of Sand & Gravel [CL] 37.2	0.0	N										
Hard Gray SILTY CLAY with Trace of Sand & Gravel (CL) 37.2	-			33.0								
with Trace of Sand & Gravel [CL] 37.2	-				}	ST-3	12"		14.6	121.3	10920	CL
670 [CL]	-				35							1
	670											
				37.2	<u> </u>							

Total Depth:

80 FT

Drilling Date:

09/15/08 - 09/16/08

Contractor:

M. McNamara Mateco Drilling Co.

Driller:

R. Crosby

Drilling Method:

CME-750 ATV drill rig with 4-1/4" inside-diameter, hollowstem augers to 45.0 ft; wash rotary to end of boring.

Plugging Procedure:

Borehole backfilled with cement-bentonite grout.

Water Level Observation:

No meaningful water level data obtained below 45.0 ft

due to use of drilling fluids.

* - Pocket Penetrometer Value

Location Coordinates: E 4480.0 N 7680.8

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: dP

		SUBSURFACE PROFILE				SC	IL SAN	IPLE I	DATA	1	
ELEV (ft)	PRO- FILE	GROUND SURFACE ELEVATION:	706.4±	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	uscs
		Hard Gray CLAY & SILT with Some Fine Sand & Trace of Gravel [CL-ML]	40.0	40	LS-8	8 15 20	35			>9000*	CL-ML
665					ST-4	pushed 24"		16.1	118.1	9780	CL
		Hard Gray CLAY & SILT with Some Sand & Trace of Gravel [CL]		45	LS-9	8 18 20	38			9000*	
660			48.0								
-		Hard Gray SILTY CLAY		- 50	ST-5	pushed 24"		29.1	94.3		CL
655		(CL)	53.0								
				55	LS-10	16 27 31	58				мн
650											
				60	LS-11	9 12 15	27				мн
645		Medium Compact to Very Compact Gray SAND & SILT with Trace of Clay [MH]				8					
640				65	LS-12	9	24		ah.	N. 10 10 10 10 10 10 10 10 10 10 10 10 10	SM
625				70	LS-13	24	43				мн
635			72.0			15 25					
630		Very Compact Gray SILTY FINE SAND with Trace of Clay [SM]	-	75	LS-14	23	58			-	SM
		End of Boring	80.0	80	LS-15	25 34 25	59	-			SM
625		•	-								

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: 4P

		SUBSURFACE PROFILE			SO	IL SAN	APLE [
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION:	705.9±	DEPTH	SAMP. TYPE/	BLOWS/	STD.PEN. RESIST.		DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	uscs
	2 2 7 2 7	SURFACE VEGETATION	0.2		NO.	2	(N)	(70)	(pci)	(þsi)	
705				-	LS-1	7	11			9000*	
					LS-2	8 10 12	22		••	9000*	
700		Very Stiff to Hard Gray SILTY CLAY & FINE SAND with Trace of Gravel		5	ST-1	pushed 24"		12.1	124.2	9000*	CL
		[CL]			LS-3	5 7 8	15			7500*- 9000*	sc
			10.0	10	LS-4	5 5 6	11			6000*- 7500*	
695		Loose Gray SILT		_	LS-5	2 3 7	10			per .	
		Medium Compact Gray SILT & SAND with Trace of Clay	13.0		LS-6	4 8 12	20				SM
690		Medium Compact Gray SILT	16.0	15	LS-7	9 10 8	18	-		5000*	
		Stiff to Very Stiff Gray			ST-2	pushed 24"		26.6	99.6	2120	CL
ŀ		CLAYEY SILT with Trace of Fine Sand [CL]	20.0	20	LS-8	3 5 7	12			6000*	
685		Stiff Gray CLAY & SILT			LS-9	2 3 3	6			3500*	CL-ML
		with Some Sand & Trace of Gravel [CL-ML]	24.0		LS-10	2 3 5	8			3000*- 5000*	
680				25	ST-3	pushed 24"		17.5	113.7	6280	CL
					LS-11	4 7 7	14			4500*- 5500*	
				30	LS-12	5 6 6	12			4500*- 5500*	
675		Very Stiff to Hard Gray SILTY CLAY with Trace of Sand & Gravel [CL]		_	ST-4	pushed 24"		19.3	112.0	5500*	CL
					LS-3	4 8 11	19			7500*	
670				35	LS-14	6 10 14	24			7500*	CL
		. 70 FT	37.2		Level Obs	Parvetice	1.				

Total Depth:

78 FT

Drilling Date: Inspector:

09/17/08 - 09/18/08 M. McNamara / K. Wise Mateco Drilling Co.

Contractor: Driller:

R. Crosby

Water Level Observation:

No meaningful water level data obtained below 46.0 ft due to use of drilling fluids.

Notes:

* - Pocket Penetrometer Value

Drilling Method:

CME-750 ATV drill rig with 4-1/4" inside-diameter, hollow-

stem augers to 46.0 ft; wash rotary to end of boring. Plugging Procedure:
Borehole backfilled with cement-bentonite grout.

Location Coordinates: E 4946.6 N 7707.6

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD. NTH Proj. No: 62-080376-01

Checked By: dlP

		SUBSURFACE PROFILE	,,,,,		SC	IL SAN	1PLE I		4	
ELEV.	PRO- FILE	GROUND SURFACE ELEVATION: 705.9±	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	uscs
	1111			LS-15	5	19		-	7500*- 8500*	
			40	ST-5	11 pushed		18.1	114.2	7300	CL
665				LS-16	24" 6 10	24			9000*	
	(1)			LS-17	14 8 16	29	18.0	116.1	3640	CL
660			45	LS-18	13 / 5 14 19 /	23	**		8500*	
	1/4/1/4	Stiff to Hard Gray		ST-6	pushed 24"		12.7	127.4	9000*	CL-ML
		SILTY CLAY with Some Sand & Trace of Gravel [CL]	50	LS-19	18 18	36			7000*	
655				LS-20	6 8 9	17			5500*- 6000*	
:				ST-7	pushed 24"		20.5	107.5	5500*	CL
650			55	LS-21	5 7	12	28.8	98.4	2720	
:				LS-22	6 8	14		-	5500*	CL
		60.0	60	LS-23	7 9	16			· 4000*	
645		Very Stiff Gray CLAYEY SILT withh Little Sand [MH] 62.0	-	ST-8	pushed 24"		21.9	108.1		МН
				LS-24	3 4 5	7			2000*	
			65	LS-25	7 7 6	14			3000*	CL
		Medium to Stiff Gray	- -	LS-28	6 5 3	11			3000*	
635		SILTY CLAY with Some Sand & Trace of Gravel [CL]	70	LS-29	5 5 2	10			2000*	
		ទ		LS-30	3 3 3	6			1500*	CL
				LS-31	3 3 · 3	6			1500*	
630		76.0	75	LS-32	7 13	. 20	**		1500*	
-		Very Stiff Gray CLAY & SILT with Trace of Fine Sand 78.0 End of Boring		LS-33	19 9	28			1000*	CL-ML
625		-	80							

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



MTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: 41P

							ecked l			
		SUBSURFACE PROFILE			SC	IL SAN				
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 705.3±	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	uscs
	. Z	TOPSOII 1.0		LS-1	2 2	5		_		
700				LS-2	6 5 7	12				SM
		Medium Compact Brown to Gray SILTY FINE SAND with Little Clay & Trace of Gravel [SM]		LS-3	4 6 7	13				
 			10	LS-4	10 12 14	26			wn.	SM
	21221	12.0								
690			15	LS-5	3 2 5	8				CL
			- 1	ST-1	pushed 24"		19.1	112.1	5595	CL
685			20	LS-6	4 5 8	13		-		
680		Stiff to Very Stiff Gray SILTY CLAY with Trace of Sand & Gravel [CL]	25	LS-7						CL
680			_	ST-2	pushed 24"		18.6	111.1	3648	CL
675			30	LS-8	6 9 11	20				
		32.0	.							
670		Very Stiff to Hard Gray SILTY CLAY with Some Sand & Trace of Gravel	35	LS-9	4 7 11	18	••		**	MH-CL
		37.2		Lovel Ober						
Tota	Donth	PA FT	Matar	Lavel Oher	an/ation:					

Total Depth:

Drilling Date: Inspector:

80 FT 07/11/08 & 07/14/08 M. McNamara

Contractor: Driller:

Mateco Drilling Co.

J. Pitsch

Drilling Method: CME-750 ATV drill rig with 4-1/4" inside-diameter,

hollow-stem augers to end of boring.
Plugging Procedure:
Borehole backfilled with cement-bentonite grout.

Water Level Observation:

Groundwater at 50.8 ft bgs upon completion.

Notes:

* - Pocket Penetrometer Value

Location Coordinates: E 3678.5 N 7349.9

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: AIP

		SUBSURFACE PROFILE			90	IL SAN	IPI F			
ELEV.	PRO-		DEPTH	SAMP.	BLOWS/	STD.PEN.	MOIST.	DRY	UNCONF.	
(ft)	FILE	GROUND SURFACE ELEVATION: 705.3±	(ft)	TYPE/ NO.	6"	RESIST.	CONT.	DENS. (pcf)	COMP,ST. (psf)	USCS
	111111			ST-3	pushed /		20.2	107.1		CL
					24"				8000*-	
665			40	LS-10	4 9 ,	23			8500*	
			-		14					
			-							
			1	•	8					
660			45	LS-11	7 17	24			9000*	CL
000		Very Stiff to Hard Gray SILTY CLAY								
•		with Trace to Little Sand & Trace of Gravel [CL]	-		pushed					
		[0-3		ST-4	24"		14.1	121.2	6052	CL
				10.10	12	0.0			9000*	
655			50	LS-12	14	26			9000	
-			† 1							
-			[1							
-					6 5					
650			55	LS-13	7	12			5500*	CL
		56.0 Very Soft Gray SILTY CLAY with								
		Trace to Little Sand & Trace of Gravel	}	07.5	pushed 24"		33.3	86.6	305	CL
		[CL] 58.0	+ +	ST-5	4	-	33.3	80.0	300	CL
		Stiff to Very Stiff Gray SILTY CLAY with Trace of Sand & Gravel	60	LS-14	5 6	11			4020	
645		With Trace of Sand & Graves								
-										
		Loose Gray SILT with								
		Trace of Clay & Fine Sand			3					
640	1111	65.0	65	LS-15	5	8				ML
.		Loose Gray SILTY CLAY	}		.					
		with Trace of Fine Sand 68.0		ST-6	pushed 24"	_	24.5	101.9		CL
<u> </u>	1		† †		3 4					
635			70	LS-16	5	9	••			
- 000		Loose to Medium Compact Gray								
		SILT with Trace of Clay & Fine Sand								
[]					6	ļ				
]	11164	74.0	7.	LS-17	9 21	30				ML
630			75	L3-1/	21	30				TIV
	27.7	Medium Compact to Very Compact	† 1							
ŀ ┤		SILTY FINE SAND with Trace of Gravel [SM]	[1							
	111.62		[]		7 17	Ì				
625	11111	80.0	80	LS-18	38	55				SM
		End of Boring								

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: dlp

							ecked t			
		SUBSURFACE PROFILE			SC	IL SAN				
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 706.4±	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	uscs
705	4	Topsoil 0.5 Loose Brown SILTY FINE SAND with Trace of Clay [SM]		LS-1	1 2 3	5				
		4.0	5	LS-2	8 10 14	24				SM
700		Medium Compact to Compact Gray		LS-3	6 8 9	17				
		SILTY FINE SAND with Trace of Clay [SM]	10	LS-4	9 15 19	34				SM
695		12.0								
-	//	And the Constant Constitute CANDY SILT	15	LS-5	6 12 17	29	**		8000*	ML
690		Medium Compact Gray FINE SANDY SILT with Some Very Stiff Clay			4					
		Very Stiff Gray CLAYEY SILT	20	LS-6	7 10	17			7500*	CL-ML
685		with Little Fine Sand [CL-ML] 20.0	23	ST-1	pushed 24"		18.2	113.7	**	
			25	LS-7	7 9 12	21	-		7000*- 8000*	
680		Very Stiff to Hard Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]	30	LS-8	4 8 14	22		_	9000*	CL
675				ST-2	pushed 24"		17.8	114.2	5682	CL
			35	LS-9	7 11	18		4-	7500*- 8000*	
670		37.2		Lavel Ot-	om soti a					
lota	I Depth	: 80 FT		Level Obs			ation			

Drilling Date: inspector:

80 FT 07/18/08 M. McNamara

Contractor: Driller:

Mateco Drilling Co. J. Pitsch

Notes:

* - Pocket Penetrometer Value

Drilling Method:
CME-750 ATV drill rig with 4-1/4" inside-diameter,
hollow-stem augers to end of boring.
Plugging Procedure:
Borehole backfilled with cement-bentonite grout.

Location Coordinates:

Groundwater at 52.0 ft bgs upon completion.

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: dlP

		SUBSURFACE PROFILE		SOIL SAMPLE DATA						
ELEV.	PRO-	GROUND SURFACE ELEVATION: 706.4±	DEPTH (ft)	SAMP. TYPE/	BLOWS/	STD.PEN. RESIST.	MOIST.	DRY DENS.	UNCONF. COMP.ST.	USCS
	******		40	NO. LS-10	8 12 16	(N) 28		(pcf)	(psf) 5000*- 7500*	CL
665				ST- no recovery	pushed				en .	
			45	LS-11	7 12 19	31			7500*	CL
660		Stiff to Very Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel	_	ST-3 LS-12	pushed 12" 22	20	17.8	114.7	6638	CL
		[CL]	50		9 11					
655										
			55	LS-13	4 5 6	11			6000*	CL
650		56.0			pushed					
		Very Soft to Medium Gray SILTY CLAY with Trace to Some		ST-4	24" 4 5		33.2	92.0	303	CL
645		Sand & Trace of Gravel	60	LS-14	5	10	18.5	114.4	2220	
		02.0	65	LS-15	6 7 8	15				ML
640					4					
		Medium Compact to Compact Gray FINE SANDY SILT	70	LS-16	9 12	21				ML
635		with Trace to Little Clay			4 10					
630			75	LS-17	34	44				ML
		79.0 Hard Gray SILTY CLAY with Some SAnd & Trace of Gravel 80.0	80	LS-18	7 13 23	36	_		9000*	CL
625	p d d d d	Some SAnd & Trace of Gravel 80.0 End of Boring								

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: AIP

		SUBSURFACE PROFILE				SC	IL SAN	IPLE [
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 70	4.3	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	uscs
-		SANDY TOPSOIL	1.0			3					
					LS-1	4	7				
700		Loose to Medium Compact FINE TO MEDIUM SAND			LS-2	5 6 5	11	416		**	SM
		with Trace of Clay & Silt	6.0	5	LS-3	6 10 12	22				
		Medium Compact to Compact			LS-4	6 9 6	15		-	949	ML
695		Gray FINE SANDY SILT (ML)	10.0	10	LS-5	8 12 16	28				
		Medium Compact Gray SILTY FINE SAND with Trace of Clay			LS-6	3 6 12	18				SM
		(SM)	13.5		LS-7	5 6 6	12			7000*	
690				15	ST-1	pushed 24"	_	28.2	96.8	7000*	CL
					LS-8	3 3 9	12			6000*- 8000*	
685				20	LS-9	3 4 6	10		-	6000*	CL-ML
		Stiff to Very Stiff Gray SILTY CLAY with Trace to Little Sand			LS-10	5 6 7	13			6000*	
		& Trace of Gravel [CL]			ST-2	pushed 24"		18.7	112.3	5960	CL
680				25	LS-11	6 8 11	19			6000*	
					LS-12	4 6 9	15			7000*- 8000*	CL
675			30.0	30	LS-13	6 10 11	21			7500*- 8000*	
					ST-3	pushed 24"		18.0	114.6	7320	CL
		Very Stiff to Hard Gray SILTY CLAY with Trace to Little Sand & Trace of Gravel			LS-14	9 12 18	30			7500*- 9000*	
670		[CL]		35	LS-15	5 10 14	24			8500*- 9000*	CL
Tota	l Depth	: 80 FT	37.2	Water	Level Obs						

Total Depth: Drilling Date: Inspector:

09/03/08 & 09/04/08 M. McNamara
Mateco Drilling Co.

Contractor: Driller:

R. Crosby

Notes:

* - Pocket Penetrometer Value

Groundwater at 49.3 ft bgs upon completion.

Drilling Method: CME-750 ATV drill rig with 4-1/4" inside-diameter,

hollow-stem augers to end of boring.
Plugging Procedure:
Observation Well W-7 installed in borehole with screen

tip set at 78.0 ft bgs.

Location Coordinates: E 4328.2 N 7346.7

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD. NTH Proj. No: 62-080376-01

NTH Proj. No: 62-080376-01

Checked By: 41P

ELEY PRO- RELE GROUND SURFACE ELEVATION: 704.3 DEPTH SAMP, RICHARD STOPEN, MOST, DAY COMP STOPEN, MOST, COMP STOPEN, COMP STOPEN, MOST, COMP STOPEN, COM		SUBSURFACE PROFILE					SC	IL SAN	/IPLE I	DATA		
B85		FILE	GROUND SURFACE ELEVATION: 704.	3		TYPE/	6"	RESIST.	CONT.	DENS.	COMP.ST. (psf)	USCS
Stiff to Hard Gray SILTY CLAY with Trace to Little Sand & True of Gravel (CL) 12 13 13 14 15 15 15 15 15 15 15	665				40		10 14				<u>8500*</u>	CL
Stiff to Very Stiff Gray Stiff To Very Compact Gray Stiff To Ve		11111			-	LS-17	24" 4 9	21				
Stiff to Very Stiff Gray Stiff To Very Compact Gray Stiff To Ve	660		Trace to Little Sand & Trace of Gravel		45	LS-18	6 10 12 /	22				CL
Stiff to Very Stiff Gray Stiff To Very Compact Gray Stiff To Ve						LS-19	11 13	24				
Stiff to Very Stiff Gray Stiff To Very Compact Gray Stiff To Ve				50.0	50		24" 4 8				5000*-	CL
Stiff to Very Stiff Gray Stiff Trace of Sand & Gravel (CL) Stiff Staff Staf							3 4 6		**			CL
Section Sect			SILTY CLAY with Trace of Sand & Gravel		- 55	LS-22	13 8	21			5000*	
Section Sect		 	(CL)				24" 3 4					CL-ML
CLAYEY SILT with Trace of Fine Sand [MH] 62.0 LS-25	645		Lagra to Madium Compact Gray	59.0	60		5 9					MH
Medium Compact Gray CLAYEY SILT with Trace of Fine Sand CL-ML			CLAYEY SILT with Trace of Fine Sand	62.0		LS-25	3 4	7			••	
66.0 LS-27 7 15 SM Loose Gray FINE SAND with Trace of Clay & Silt 68.0 LS-28 6 10 SM 635 70 LS-29 13 21 MH LS-30 8 14 MH 630 Medium Compact to Very Compact Gray FINE SANDY SILT with Trace of Clay 75 LS-32 26 43 MH 631 LS-33 37 68 MH	640		with Trace of Fine Sand		65	LS-26	6 6 4	12	-			CL-ML
635 70 LS-29 13 21 MH LS-30 8 14 MH 10 25							7 3 4					SM
LS-30 8 14 MH LS-30 8 14 MH	635			68.0	70		8 8 13					O.W.
Medium Compact to Very Compact Gray FINE SANDY SILT with Trace of Clay 75						LS-30	6 8 10	14				MH
LS-32 26 43 MH 18 31 LS-33 37 68 MH 625 80.0 80 LS-34 32 54 MH	630			æ	75	LS-31	29 7	54				
80.0 80 LS-34 32 54 MH					-		26 18 31					MH
End of Boring	625			80.0	80		9 22					МН
	-		End of Boring									

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: 41P

							ecked				
		SUBSURFACE PROFILE				SC	IL SAN	/IPLE	DATA	4	
ELEV. (ft)	FILE	GROUND SURFACE ELEVATION: 706.0	Ο±	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	uscs
705	37.0	SANDY TOPSOIL	0.5			4					
						6					
		Medium Compact Brown to Brown & Gray FINE TO MEDIUM SAND			LS-1	9	15			-	sc
	1	with Little Clay & Silt [SC]				3 6					
		[90]		5	LS-2	11	17		-	-	
700			6.0			7					
					LS-3	11	24			_	ML
						5					
						13					
695		Medium Compact to Compact Gray FINE SANDY SILT with Trace of Clay & Gravel		10	LS-4	19	32				
095	//	[ML]		<u> </u>							
· ·	//										
						5					
			15.0	15	LS-5	8	16				ML
690	363										
				$[\]$							
						5					
				20	LS-6	9	14			6000*	CL
685											
-		Very Stiff to Hard Gray SILTY CLAY with				pushed					ĺ
		Trace to Little Sand &Trace of Gravel		+	ST-1	24"		17.8	115.1	5100	CL
- 1		(CL)			107	7				7500*	
680				25	LS-7	9	16			7500*	
000										1	
•				1							
•				1		8				j	
				30	LS-8	10 12	22			6500*- 8000*	CL
675			31.0								
		Medium Gray SILTY CLAY with Trace to Little Sand &Trace of Gravel		[]		pushed					
.]		[CL]	33.0	. 1	ST-2	24"		17.8	114.0	1660	CL
						7				}	
		Very Stiff to Hard Gray SILTY CLAY with Trace to Little Sand &Trace of Gravel		35	LS-9	15	27			9000*	
670		[Cr]									
	11:11		37.2								
Tatal	Donth	90 FT		18/-4	Levial Ohe						

Total Depth:

80 FT

Drilling Date: Inspector:

09/09/08 & 09/10/08 M. McNamara

Contractor:

Mateco Drilling Co. R. Crosby

Driller:

Drilling Method: CME-750 ATV drill rig with 4-1/4" inside-diameter,

hollow-stem augers to end of boring.
Plugging Procedure:
Borehole backfilled with cement-bentonite grout.

Water Level Observation:

Groundwater at 51.0 ft bgs upon completion.

Notes:

* - Pocket Penetrometer Value

Location Coordinates: F 4628.3 N 7345.2

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD. NTH Proj. No: 62-080376-01

NTH Proj. No: 62-080376-01

Checked By: 41P

	SUBSURFACE PROFILE			SOIL SAMPLE DATA						
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 706.0±	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	uscs
			40	ST- no recovery	pushed 24"			***		
665		Very Stiff to Hard Gray SILTY CLAY with Trace to Little Sand &Trace of Gravel	}	ST-3	pushed 24"		13.8	121.1		CL
		[CL]	45	LS-10	6 11 25				9000*	CL
660			0							
			50	ST-4	pushed 24"	47	17.3	115.8		ML
655			-		4 5					
650		Stiff Gray CLAYEY SILT with Trace of Sand	55	LS-11	5 pushed	10			3500*	MH
				ST-5	24" 6 6		27.5	98.0		CL-ML
645		62.	0	LS-12	7	13				
			65	LS-13	15 27 32	59				SM
640		Compact to Very Compact Gray SILTY FINE SAND with Trace of Clay			14 22					
635			70	LS-14	22	44		**		SM
		75.	0 75	LS-15	21 24 24	48			••	SM
630		Compact FINE SANDY SILT with Trace of Clay [MH]			14 20					. •
625		End of Boring	0 80	LS-16	22	42			7.0	мн
					<u>l</u>					

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: AIP

		SUBSURFACE PROFILE		SOIL SAMPLE DATA							
ELEV.	BCC	OODOON ACE THORIE		T	SAMP.		STD.PEN.			UNCONF.	T
(ft)	PRO- FILE	GROUND SURFACE ELEVATION: 706		DEPTH (ft)	TYPE/ NO.	BLOWS/ 6"	RESIST.	CONT.			uscs
705		SANDY TOPSOIL	0.7			2					
]	160	Medium Compact Brown				4 8					
ļ		SILTY FINE TO MEDIUM SAND with Trace of Clay			LS-1		12		-		
ļ.,	14/39	[SM]				5 8					
			5.0	5	LS-2	7	15				SM
700	373	Medium Compact Gray FINE TO MEDIUM SAND				5					
		with Trace of Clay [SM]	7.5		LS-3	8	16				
	117.52		7.5				-10				
						6 9					
		Medium Compact Gray		10	LS-4	12	21				SM
695		SILTY FINE SAND with Trace of Clay [SM]	_		1						
-		Givil									
ŀ - †				-		3					
-	11111		14.0			5				5000*-	
				15	LS-5	8	13			6000*	CL
690		Very Stiff Gray SILTY CLAY with		-							
-		Trace to Some Sand & Trace of Gravel				pushed					
} -		[CL]		-	ST-1	24"		12.8	114.6	6580	CL
}						7					
685			20.0	20	LS-6	11	18			7000*	
000							i				
+											
						.					
				- 25	ST-2	pushed 24"		17.0	1121	9000*	_
680				- 20	31-2	24		17.3	113.1	9000*	CL
- 555				. 1						1	
			-	.			ı				1
		Very Stiff to Hard Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel	f	.		5					
·		[CL]		30	LS-7	8	19		_	7000*- 9000*	CL
675			}								
				.							ł
	1331			•	ST-3	pushed 24"		16.4	117.6	11680	CL
	1331		Ì	†		6					
1	1兆1			35	LS-8	8 12	20			9000*	
670	1#1		•								\neg
	1331		37.2								
Total	Denth	• 90 FT	-/	10/-4	Lavel Ohe						——

Total Depth:

80 FT

Drilling Date: inspector:

09/11/08 & 09/12/08 M. McNamara Mateco Drilling Co.

Contractor: Driller:

R. Crosby

Drilling Method: CME-750 ATV drill rig with 4-1/4" inside-diameter,

hollow-stem augers to end of boring.
Plugging Procedure:
Borehole backfilled with cement-bentonite grout.

Water Level Observation:

Groundwater at 51.8 ft bgs upon completion.

Notes:

* - Pocket Penetrometer Value

Location Coordinates: E 4928.3 N 7343.7

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: dlP

		SUBSURFACE PROFILE			SC	IL SAN	/IPLE	DATA	A	
ELEV (ft)		GROUND SURFACE ELEVATION: 706.0±	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS, (pcf)	UNCONF. COMP,ST. (psf)	USCS
665	· · · · · · · · · · · · · · · · · · ·	Very Stiff to Hard Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]	40	ST-4	pushed 24"	-	15.6	123.3	9000*	CL
660		99,	45	LS-9	12 15	27			9000*	CL
	*******	Very Stiff to Hard Gray SILTY CLAY with Trace to Some Sand, Trace of Gravel & Occasional Silt Seams	-	ST-5	pushed 24" 3 5		12.5	122.6	8360 5000*-	CL
655		(CL) 53.0	50	LS-10	6	11			6000*	
650		Medium Compact Gray CLAYEY SILT wit6h Trace of Fine Sand	55	ST-6	pushed 24"		21.9	104.2		мн
		[MH] 58.0		LS-11	10	18				
645			60	LS-12	13 18	31				ML
-		Compact Gray FINE SANDY SILT with Trace Clay	65	LS-13	13 20 22	42	_			ML
640		[ML]			8 19					
635		72.0	70	LS-14	20	39				MH
			75	LS-15	16 18 20	38				SM
630		Medium Compact to Compact Gray SILTY FINE SAND with Trace of Clay 80.0		LS-16	9 13 17	30			_	SM
625	Promise (St. 7)	End of Boring		10-10					_	Olai

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: 218

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		SUBSURFACE PROFILE				SC	IL SAN				· · · · · · · · · · · · · · · · · · ·
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 704.6		DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	uscs
		TOPSOIL	0.5		LS-1	2 3 5	8			••	
700		Loose to Medium Compact			LS-2	3 3 4	7			-	SM
		Brown & Gray SILTY FINE SAND		5	LS-3	4 5 3	8				
			8.0		LS-4	6 8	14		_	**	
695		Medium Compact Gray SILTY FINE SAND		10	LS-5	9 14 8	23				SM
			11.0		LS-6	10 12 5	22				
690	//	Medium Compact Gray FINE SANDY SILT with Trace of Clay			LS-7	11 11 3	22				ML
			15.0	15	LS-8	3 5	8			3500*- 4500*	
		Stiff to Very Stiff Gray SILTY CLAY with Some Sand & Trace of Gravel			ST-1	pushed 24" 5		26.3	101.3		CL
685			20.0	20	LS-9	7 8 4	15			6000*	
					LS-10	5 6 5	11			5000*	CL
680				25	LS-11	4 6	10			6000*	
					ST-2	pushed 24" 4		17.7	114.6		CL
_		Stiff to Very Stiff Gray SILTY CLAY with Trace to Some		.	LS-12	6 8 3	14			5000*- 7000*	
675		Sand & Trace of Gravel [CL]		30	LS-13	5 6 9	11			3500*	
				.	LS-14	11 12 3	23			5000*- 6500*	CL
670				35	LS-15	4 6 5	10			6000*- 7000*	
				30	LS-16	7	11			6500*- 7500*	
1	1:1:1	3	37.2		1 101						

Total Depth:

Drilling Date: Inspector:

07/02/08 & 07/10/08 M. McNamara Mateco Drilling Co.

Contractor: Driller:

J. Pitsch

Drilling Method:
CME-750 ATV drill rig with 4-1/4" inside-diameter,
hollow-stem augers to 76.0 ft; wash rotary to end of boring.
Plugging Procedure:
Observation well W-10D installed in borehole with screen

tip set at 110.0 ft bgs.

Water Level Observation:

Unable to obtain groundwater level information below

76.0 ft bgs due to use of drilling fluids.

Notes:

* - Pocket Penetrometer Value

Location Coordinates:

E 3697.49

N 7052.58

Project Name: WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: Alp

		SUBSURFACE PROFILE		SOIL SAMPLE DATA							
ELEV.	PRO- FILE	GROUND SURFACE ELEVATION:	704.6	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	uscs
665		Stiff to Very Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]			ST-3	pushed 24"		17.0	115.7	**	CL
•			40.0	40	LS-17	9 14 8 12	28			7000* 8500*	
660					LS-19	16 4 7 12	19			7000*- 9000*	
				45	ST-4	pushed 24"		17,2	118.7	3546	CL
655		Stiff to Hard Gray SILTY CLAY with Some Sand & Trace of Gravel [CL]			LS-20	16 19 6 10	35	***		6500*-	
000		,		50	LS-21	15 5 5	25 14			7500* 7500*	CL
					LS-22	4 6 7	13			5000*- 6500*	- CL
650	比比比			55	ST-5	pushed 24"	0.0	19.1	111.0		CL
		Stiff to Very Stiff Gray SILTY CLAY with Some Sand, Trace of Gravel & Occasional Silt Lenses	57.0		LS-24	32 34 5	66		***		
645		(CL)	60.0	60	LS-25	5 6	11			4500*	
-		Soft Gray SILTY CLAY with Some Sand, Trace of Gravel & Occasional Silt Lenses [CL]	62.0		ST-6	pushed 24"		21.5	107.0	851	CL
640		Stiff to Very Stiff Gray SILTY CLAY with Some Sand, Trace of Gravel & Occasional Silt Lenses		65	LS-26	3 5 4	8	**		3500*- 4500*	
-		(CL)	67.0		LS-27	5 6 4 6	11	17.7	115.7	5340	
635				70	LS-28 LS-29	6 8 8 28	12				
		Medium Compact Gray CLAYEY SILT with Little Sand & Trace of Gravel		73	ST- no recovery	pushed 20"	36				
630		-		-	L\$-30	12 9 12	21				
			76.0	75	ST-7	pushed 24" 21		18.7			CL-ML
		Hard Gray SILT & CLAY	-		LS-31	32 50/1" 32 50/2"	82/7"			>9000*	
625		with Some Sand & Trace of Gravel		80	LS-32	30 17	50/2"			>9000*	
-	ΛM		82.3		LS-33	23	40	-		>9000*	CL-ML

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: dlp

ELEV. PRO-			SUBSURFACE PROFILE		SOIL SAMPLE DATA							
### RILE GROUND SURFACE ELEVATION: 704-6 ### Ground SURFACE CLAY with Some Sand & Trace of Gravel ### Ground SURFACE ELEVATION: 705-0 ### Ground SURFACE ELE	E1 E1 /		30B30RFACE PROFILE		T	SAMP	7					1
### Hard Gay Sill Ta CLAY with Some Sand & Trace of Gravel ### 15.0 85 15.34 41 50 50 50 50 50 50 50 5			GROUND SURFACE ELEVATION: 70	04.6		TYPE/	6"	RESIST.	CONT.	DENS.	COMP.ST.	uscs
Second S	620					LS-34	41 50/5"	91/11"			>9000*	
Vary Compact Gray 1.5-38		14.61	Gray SILTY SAND			18-35	50/4"	50/4"			>9000*	
### SANUT SIL With Iradia of Listy ### 12- 50/6" .		//			† :		27	30/4			7 0000	
Solution	-		FINE SANDY SILT with Trace of Clay	88.0	-	LS-36		50/5"				ML
Hard Gray BLTY CLAY with Some Send & Trace of Gravel 19	615	11111			90	LS-37	40	74	-		>9000*	
ST-8 12" 12.2 12.7 - CL-ML		1 4 1 1 4 1 .				LS-38	19	45			>9000*	
100 104.0 10	610	1 4 7 1 7 4 1		94.0		ST-8	12"		12.2	127.7		CL-ML
Medium Compact to Very Compact MEDIUM TO COARSE SAND With Little Silt 100 LS-41 8 14 SM 100 LS-41 8 14 SM 100 LS-41 8 14 SM 100 LS-42 32 77 SM 101 LS-42 32 77 SM 102 LS-43 49 87 SM Very Compact CLAYEY SAND with Little Silt & Trace of Gravel 110 LS-43 49 87 SM Very Stiff to Hard SILTY CLAYEY with Some Sand, Gravel & Coccesional Silt Seams 110 LS-43 49 87 SM 111 LS-44 - 50/4* SM 112 LS-44 - 50/4* SM 113 LS-44 - 50/4* SM 114 LS-45 27 68 SM 115 LS-45 27 68 SM 116 LS-45 27 68 SM 117 LS-45 27 68 SM 118 LS-46 - 100/6* SM 119 LS-46 - 100/6* SM 110 LS-46 - 100/6* SM					95	18-39		50/5"	_			
Medium Compact Clayery Compact Medium Congract to Very Compact Medium Congract to Very Compact Medium Congract to Very Compact A Little Silt 104.0 105. LS-41 106. LS-42 107. To SM 107. LS-43 107. LS-43 108. LS-42 109. LS-41 109. LS-41 109. LS-42 109. LS-42 109. LS-42 109. LS-42 109. LS-43 109. LS-44 109. LS-45 109. LS-45 109. LS-45 109. LS-45 109. LS-46 109. LS-4					- 1		25 40					ew.
8 Little Silt 100 Ls-41 8 14	605		MEDIUM TO COARSE SAND			LS-40	5 6	65				SIVI
104.0 105	-				100	LS-41	8	14				
105 LS-42 32 77 SM Very Compact CLAYEY SAND with Little Sit & Trace of Gravel 110 LS-43 49 87 SM Very Stiff to Hard SiLTY CLAY with Some Sand, Gravel & Occasional Silt Seams 112.0 115 LS-44 - 50/4" 9000" CL 116.0 125.0 125 LS-46 - 100/6" SM BEDROCK: SHALE				104.0						,		
110	600				105	LS-42		77				SM
Very Stiff to Hard SILTY CLAY with Some Sand, Gravel &	595				110	LS-43	38	87				SM
120	590		with Some Sand, Gravel &	112.0	115	LS-44	50/4"	50/4"				CL
CLAYEY SAND with Some Gravel 100	585		Compact Grav	116.0	120	LS-45	41	68				SM
BEDROCK: SHALE - 100/3"	580		CLAYEY SAND with Some Gravel	125 0	125	15.46		100/6"				SM
			BEDROCK: SHALE		120		100/3"					OIVI

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: Alp

		SUBSURFACE PROFILE	·		SC	IL SAN	/IPLE I		\	
ELEV.	PRO- FILE	GROUND SURFACE ELEVATION: 705.2±	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/	STD.PEN. RESIST. (N)			UNCONF. COMP.ST. (psf)	USCS
		SANDY TOPSOIL 0.* Medium Compact Brown SILTY FINE TO MEDIUM SAND [SM] 3.0		LS-1	5 6 5	11	13.9			SM
700		Medium Compact Gray SILTY SAND	5	LS-2	3 6 10	16				
		6.0	-	LS-3	5 10 12	22	21.9			SM
695		Medium Compact Gray SILTY FINE SAND (SM)	10	LS-4	8 12 13	25			66 tats	
		12.0	-							
690			15	LS-5	5 4 5	9	24.6	-	3500*- 4000*	CL
				ST-1	pushed 24"		20.5	109.4	3361	CL
685			20	LS-6	5 7 10	17			4500*	
		Stiff to Very Stiff Gray		ST-2	pushed 24"					CL
680		SILTY CLAY with Little Sand & Trace of Gravel (CL)	25	LS-7	5 7 9	16	**		5000*- 6000*	
				ST-3	pushed 24"	••	17.6	115.4		CL
675			30	LS-8	10 10 13	23			5000*- 7000*	
					9				3000*-	
670		Very Stiff to Hard Gray	35	LS-9	16	27	19.8		5000*	CL
Total	13/1	SILTY CLAY with Trace of Gravel 37.2		Level Obs	anyation					
Drillin	Depth:	80 FT . 06/25/08 & 06/27/08		Level Obs			tion			

Total Depth: Drilling Date:

inspector:

06/26/08 & 06/27/08 M. McNamara

Contractor: Driller:

Mateco Drilling Co.

J. Pitsch

* - Pocket Penetrometer Value

Groundwater at 7.5 ft bgs upon completion.

Drilling Method:

CME-750 ATV drill rig with 4-1/4" inside-diameter, hollow-stem augers to end of boring.

Plugging Procedure:

Borehole backfilled with cement-bentonite grout.

Location Coordinates: E 4026.8 N 7051.2

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: 41P

-		SUBSURFACE PROFILE		SOIL SAMPLE DATA							
ELEV.	PRO- FILE	GROUND SURFACE ELEVATION: 705.2±		PTH ft)	SAMP. TYPE/	BLOWS/	STD.PEN. RESIST.	MOIST.	DRY DENS.	UNCONF. COMP.ST.	USCS
11.67	1				NO. ST-4		(N)	(%) 17.8	(pcf) 113.9	(psf) 8421	CL
665				10	LS-10	pushed 24" 5	23			8500*	
		Very Stiff to Hard Gray SILTY CLAY	-	-	ST-5	14 pushed 24"		15.9	118.9		CL
660		with Little Sand & Trace of Gravel		15	LS-11	9 12 18	30			8500*	
655		4:	9.0	50	LS-12	6 10 16	26	22.8		4500*- 7500*	CL
		Stiff to Very Stiff Gray SILTY CLAY with Occasional Slit Lenses			ST-6	pushed 24"	1	14.9	121.3	6721	CL
650		[CL]	- 5	55	LS-13	4 6 8	14			2500*- 4000*	
645		Stiff to Very Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel (CL-ML)	5.0		LS-14	4 4 6	10	14.9		3500*- 4500*	CL-ML
			-		ST-7	pushed 24"		22.8	105.5		ML
640		Medium Compact Gray CLAYEY SILT [ML]	- 6	55	LS-15	10 13	23				
		67	7.0		ST-8	pushed 24"		21.4	103.2	1134	CL
635		Medium Gray SILTY CLAY with	7	, _o .	LS-16	4 5 5	10				
		Some Sand & Trace of Gravel	0	-		8 15			:		
630		Hard Gray SILTY CLAY with Some Sand, Trace of Gravel & Occasional Sand Lenses	-	75	LS-17	19 50/3"	34	8.5	136.4	13936	CL-ML
625		End of Boring	0.0 8	10	LS-18		50/3"	11.7		9000*	CL-ML
				-							

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: dIP

	Checked by.									
	SUBSURFACE PROFILE SOIL SAMPLE DATA									
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 705.1	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	uscs
	- 74,	TOPSOIL 0.7			2					
		Loose to Medium Compact	-	LS-1	3 5	8	***			
		Brown & Gray SILTY FINE SAND			8 12					
700	13.77	5.0	5	LS-2	14	26	22.1			SM
			-	LS-3	8 11 17	28		**		
		Medium Compact Gray SILTY FINE SAND	-		8 14					214
695			10	LS-4	13	27	21.2			SM
690		11.0	15	LS-5	3 5 6	11	14.8		4000*- 6000*	CL
-		Very Stiff Gray SILTY CLAY with Trace to Some Sand &Trace of Gravel	20	LS-6	3 5 8	13	16.1	117.2	6000*- 8000*	CL
-				ST-1	pushed 24"		15.7	119.8	7000*	CL
680			25	LS-7	4 6 10	16			7500*	
675		Stiff to Hard Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel	30	ST-2	pushed 24"		17.7	114.1	3480	CL
				LS-8	8 11 15	26			6000*- 7500*	
-				16.0	5 10	20	10.0		9500*	
670			35	LS-9	16	26	16.2		8500*	CL
		37.2								
Total	Depth	: 100 FT		Level Obs			tion			

Total Depth: Drilling Date: Inspector:

100 FT 07/01/08 & 07/02/08 M. McNamara

Contractor: Driller:

Mateco Drilling Co. J. Pitsch

Notes:

* - Pocket Penetrometer Value

Groundwater at 51.8 ft bgs upon completion.

Drilling Method: CME-750 ATV drill rig with 4-1/4" inside-diameter,

hollow-stem augers to end of boring.
Plugging Procedure:
Observation well W-12 installed in borehole with screen

tip set at 99.0 ft bgs.

Location Coordinates: E 4326.99 N 7041.95

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: Alp

		SUBSURFACE PROFILE		SOIL SAMPLE DATA						
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 705.1	DEPTH (ft)	SAMP, TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	uscs
665			40	ST-3 LS-10	pushed 24" 7 12 17	29	13.3	121.9	3443 7000*- 8000*	CL
660		Stiff to Very Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel	45	ST- no recovery	pushed 24"					
655		50.	50	LS-11 ST- no recovery	15 21 pushed 24"	36	16.2		7500*	CL
		Very Stiff Gray SILTY CLAY with Frequent Sand Seams . 53.		LS-12 ST-4	6 9 17	26	 25.4	100.8	7500*	CL-ML
650			55		pushed 24" · · · · 4 · 5					
645		Medium Compact Gray CLAYEY SILT	60	LS-13 ST-5	7 pushed 24"		1.9	136.4		МН
640		with Little Sand & Trace of Gravel	65	LS-14	7 6 5	11	23.0	-		ML
		68.		ST-6	pushed 24"		21.2	108.4		ML
635		Stiff Gray SILTY CLAY	70	LS-15	5 5 6	11			2000*- 4000*	
		Medium Gray SILTY CLAY 73.0		ST-7	pushed 24"	-	19.1	114.3	1460	CL
630			75	LS-16	12 20 29	49		-	>9000*	
625		Very Stiff to Hard Gray SILTY CLAY with Some Sand & Trace of Gravel	80	LS-17	8 13 17	30	11.8		7000*- 9000*	CL
525		Medium Gray SILTY CLAY with Some Sand & Trace of Gravel 82	† 1							

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD. NTH Proj. No: 62-080376-01

NTH Proj. No: 62-080376-01

110	Project Location: BELLEVILLE, MICHIGAN Checked By: 4 P										
	, ,	SUBSURFACE PROFILE				SC	IL SAN				
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 705.	.1	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
		Medium Gray SILTY CLAY with Some Sand & Trace of Gravel	83.0		ST-8	pushed /		14.9	117.2	1751	CL
620		Very Stiff to Hard Gray SILTY CLAY with Some Sand & Trace of Gravel	-	85	LS-18	24" 11 19	50			9000*	
			86.0			31					
		Very Compact FINE SAND & SILT with Trace of Clay				18					
815	87.		90.0	90	LS-19	26 50/4"	76/10"	16.6	-		ML
	6 (B) 0 (B) 0 (B) 0 (B)										
	\$ 30 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$6	*			10.00	21 50/5"	50.51				
310	86 86	Very Compact SAND & GRAVEL with Little Silty Clay		95	LS-20		50/5"	7.0	-		SM
	2 65 /26 5 PO 0 0										
- 605			100.0	100	LS-21	23 38 50/5"	88/11"	6.9			SM
-		End of Boring	/	-					-		
-				-							
600				105				ı			
-											
-											
95				110							
-											
-			ļ								
90				115			İ				
185				120			Ì				
			-								
580				125							

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: 4P

	Officered by:											
		SUBSURFACE PROFILE			SC	OIL SAN						
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 706.2±	DEPT (ft)	TVPE/	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST, (psf)	uscs		
705	01200	SANDY TOPSOIL 0	. 5		3							
			1	1	6				1			
		Loose to Medium Compact Brown	f	LS-1	7	13	16.2	-		SM		
-		to Brown & Gray SILTY FINE TO MEDIUM SAND with Trace of Gravel		1	3							
-	1200	with frace of Gravei	5	LS-2	5 5	10						
700		6	. 0		7							
700	13.0			1	10							
-	26.55		ŀ	LS-3	12	22	20.6			SM		
-	4774		1	1	9							
-	200	Medium Compact Gray	10	LS-4	12 17	29	_					
	11.65	SILTY FINE SAND	10					<u> </u>				
695			ŀ	1								
-	233	13	1	1								
-	7771	13	•	1	3							
			15	LS-5	5 6	11	22.3		5500*- 7500*	CL		
			15	L3-0	-	1 1	22.3		7000			
690			-	1		:			ļ			
			-	-	pushed 24"			1040	2050	CL		
			-	ST-1	3	-	22.5	104.0	2658	CL		
				1	5				4500*			
-	E13E1		20	LS-6	8	13			4500			
685			-	1								
			-	-	pushed							
			}	ST-2	24"		23.2	106.6		CL		
		Call to Vory Salf Const Sil TV OLAV		1	8							
		Stiff to Very Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel	25	LS-7	10	18			5500*			
680		[CL]	-	-								
			-	-								
			}	-	5							
	[444]	¥	-	-	7				5000*-			
.]			30	LS-8	11	18	17.2	-	6000*	CL		
675			-	-								
			-	-	pushed							
			-	ST-3	24"	-	17.9	113.0	8000*	CL		
.]			-	1	12							
			35	LS-9	17	29			7500*			
670	E13E1		-	1								
		37	2	1								
	Depth:		Wat	er Level Ob	servation							
Drillin	na Data	06/25/08 & 06/26/08										

Total Depth: Drilling Date: Inspector:

06/25/08 & 06/26/08 M. McNamara

Contractor: Driller:

Mateco Drilling Co. J. Pitsch

Notes:

* - Pocket Penetrometer Value

Drilling Method:

CME-750 ATV drill rig with 4-1/4" inside-diameter, hollow-stem augers to end of boring.

Plugging Procedure:

Borehole backfilled with cement-bentonite grout.

Location Coordinates: E 4626.8 N 7048.2

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD. NTH Proj. No: 62-080376-01

Checked By: 41p

	SUBSURFACE PROFILE		SOIL SAMPLE DATA								
ELEV (ft)	. PRO- FILE	GROUND SURFACE ELEVATION: 706.2±		DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	uscs
			-	-	ST-4	pushed (-				CL
ŀ			-	40	LS-10	24" 5 9	22			9000*	
665		Very Stiff to Hard Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel	-	-	ST-5	13 pushed 24"		15.9	114.7	6118	CL
		(CL)	-	45	LS-11	7 10 16	26			8500*	
660			-	-							
		4	8.0	50	LS-12	5 8 12	20	12.8	132.7	5000*- 7500*	CL
655		Very Stiff Gray SILTY CLAY with Trace to Some Sand, Trace of Gravel & Occasional Silt Lenses		-	ST-6	pushed	_	16.7	115.4	5000*	CL
		Q Occasional Sitt Lenses [CL]	-	55	LS-13	6 8 9	17			6000*	
650		E-	7.0								
-				60	LS-14	3 5 5	10	19.0	114.7	1646	CL
645		Medium to Stiff Gray SILTY CLAY with Trace of Sand [CL]	-		ST-7	pushed 24"		21.2	108.4	1936	CL
-			-	65	LS-15	5 7 9	16			5000*	
640		66	6.0		ST-8	pushed 24"		27.9	96.3	øs.	CL
-		Medium Compact Gray SILT		70	LS-16	4 5 6	11				
635		with Trace of Sand & Clay [ML]	-								
			5.0	75	LS-17	5 10 17	27	21.1	_		ML
630		Compact Gray SILT & SAND with Trace of Clay [SM]	-			11 17		10.5			
625		End of Boring	-	80	LS-18	21	38	19.9	***		SM

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By:

dlp

	SUBSURFACE PROFILE SOIL SAMPLE DATA										
	T	SUBSURFACE PROFILE			CAMB	T				UNCONF.	
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 70	4.8	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DENS. (pcf)		uscs
		Loose Brown & Gray SILTY SAND with Trace of Clay	2.0		LS-1	3 3 7	10				
		Medium Compact Brown, Gray & Black SILTY SAND			LS-2	8 8 10 4	18	15.1			SM
700		[SM]	6.5	5	LS-3	6 9	15		-	**	
		Medium Compact Brown SILTY FINE SAND			LS-4	6 8	14			-	
695		[SM] Medium Compact Brown & Gray	9.0	10	LS-5	12 13	25	19.3	-		SM
		SILTY FINE TO MEDIUM SAND	12.0	<u> </u>	LS-6	5 5 9	14				
		Loose to Medium Compact			LS-7	5 5	10	21.2			SM
690		SILTY FINE SAND [SM]		15	LS-8	6 5	11			2000*	
-		Very Stiff Gray SILTY CLAY	17.0		ST-1	pushed 24"		23.4	103.6		SM
685		with Some Sand & Trace of Gravel	20.0	20	LS-9	5 5 6	11			4000*- 5000*	
-					ST- no recovery	pushed 24"					
-					LS-10	3 5 7	12		-	6500*	
680				25	ST-2	pushed 24"		17.7	116.0	6500*	CL
-		Very Stiff to Hard Gray SILTY CLAY			LS-11	6 9 15	24			8000*- 8500*	
675		with Trace to Some Sand & Trace of Gravel [CL]		30	ST-3	pushed 24"					CL
-					LS-12	7 11 15	26			8500*	
-					ST-4	pushed 24"	40	17.9	114.2	11202	CL
670				35	LS-13	7 11 14	25			8500*	
<u></u>		0.0 777	37.2	1	1						
ı otal	Depth:	80 FT		vvater	Level Obs	ervation:					

Total Depth: Drilling Date: Inspector:

06/24/08 & 06/25/08 M. McNamara Mateco Drilling Co.

Contractor: Driller:

J. Pitsch

Notes:

* - Pocket Penetrometer Value

Drilling Method: CME-750 ATV drill rig with 4-1/4" inside-diameter,

hollow-stem augers to end of boring.
Plugging Procedure:
Observation well W-14 installed in borehole with screen

tip set at 14.0 ft bgs.

Location Coordinates: E 4926.98 N 7046.44

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: 41P

		SUBSURFACE PROFILE	SOIL SAMPLE DATA								
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 7	04.8	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	uscs
	13:13	Very Stiff to Hard Gray SILTY CLAY			LS-14	9	27	15.0	-	9000*	CL
665		with Trace to Some Sand & Trace of Gravel	40.0	40	LS-15	10 17 3 7	20			9000*	
					ST-5	13 pushed		20.4	108.8		CL
660				. :	LS-16	24" 7 12 19 /	31			9000*	
-		Califf on bland Court Cli TV Cl AV with		45	LS-17	11 28 29	57			9000*	
]		Stiff to Hard Gray SILTY CLAY with Trace to Some Sand, Trace of Gravel & Occasional Silt Lenses (CL)		-	ST-6	pushed 24"		13.0	111.1	••	CL
655				50	LS-18	5 7 7	12			5000*- 7000*	
-				:	LS-19	6 8 3	14			5500*	
650			55.0	55	LS-20	5 6 5	11	19.8	111.0	2536	CL-ML
		Loose Gray SILT with Trace of Clay	55.0		LS-21	5 4 3	9			2000*	
-		[ML]	58.0		L\$-22	4	8	22.2	106.8		ML
645		Very Stiff Gray SILTY CLAY [CL]	60.0	60	ST-7	pushed 24"		27.1	96.8		CL
-		Loose Gray FINE SANDY SILT with Trace of Gravel		.	LS-23	4 4 5	9				
,		[ML]	64.0		LS-24	3 4 5	9	21.5			ML
640				65	LS-25	3 3 4	7				
					LS-26	4 4 7	11	21.2		**	ML
635		Loose to Medium Compact Gray CLAYEY SILT & FINE SAND [ML]		70	LS-27	2 2 3 3	5				
1		•••-			LS-28	3 4	7				
					ST-8	pushed 24"		8.8			ML
630		<u> </u>	75.0	75	LS-29	6 8 11	19				
-		Loose to Medium Compact Gray SILTY FINE SAND with Trace of Clay [ML]			LS-30	3 3 4	7	18.7			SM
625			80.0	80	LS-31	3 4 7	11				
		End of Boring						7			

	LOG OF SUBSURFACE PROFILE SOIL SAMPLE DATA							
			ASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD. ROUND SURFACE ELEVATION:	SAMPLE NUMBER	ELEV.	NATURAL MOISTURE CONTENT	DRY DENSITY	PENETRATION RESISTANCE *
)		704.1		(, ==,)	(PERCENT)	(PCF)	0 10 20 30 40 50
N	700.	11	Medium Compact Brown FINE SAND with Trace of Silt.	S-1	699.1	_	_	9-14-15
			Compact Gray FINE SAND.	S-2	694.1	-	-	14-23-28
ī.	690-	111	Stiff Gray SILTY CLAY.	LS-1	689.1	-	-	3-4-6
	÷		17.0	LS-2	584.1	· -	-	6-7-10
*	680-	.].	# e	LS-3	679.1	-		6-7-11
F		0	Very Stiff Gray SILTY CLAY with	S-3	674.1	-	-	8+9-15
V - FEET	670-		Traces of Sand and Gravel.	LS-4	669.1	-	. -	7-10-13
NOIL	÷	[/		LS-5	664.1		1	6+9-12
À	660_	0.		LS-6	659.1	-	***	14-14-15
		.//		LS-7	654.1	20.5	101.6	8-10-11
	650-		Medium Compact Gray SILT with Trace of Clay.	S-4	649.1	-	-	4-5-6
	<u>-</u>	//	Medium Compact Gray SILTY FINE SAND		644.1	-	-	12-13-11
	640		NOTES: 1. Boring advanced with 8-inch outside-diameter hollow-stem auger. 2. Groundwater noted 55.5 feet		·			
		BOR	below the surface upon completion 60.0' STARTED: 5/23/79	3. Bo	ring ba	ckfilled	with exp	andable grout.
		INSF	PECTOR: D. Harpstead LER: D. Klitz		co	NSULTING	ENGINE	×
			TRACTOR: Geo-Tek, Inc.	LC		EST BOR		
-		NUM	WATER LEVEL IN HOLE AT INDICATED BER OF HOURS AFTER COMPLETION OF BORING H	М.	ICHIGAN	AND GROUNI DISPOSAL	LANDFILL	. NO. 2
			PENETRATION RESISTANCE:		VAN BU	REN TOWNS	HIP, MICH	HIGAN
			. SOIL SAMPLER 12 INCHES, USING 140	APPROVE		DH	DATE:	6/21/79
		-	NE WEIGHT WITH 30 INCH EBEE FALL	PROJECT	No. 9	4306 l	FIGURE N	o. 1

POUND WEIGHT WITH 30 INCH FREE FALL.

94306

PROJECT NO.

FIGURE NO.

		LOG OF SUBSURFACE PROFILE		50	IL SAM	PIE DA	T A	×
		CLASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD.	SAMPLE		NATURAL MOISTURE	DRY	5	RATION
		GROUND SURFACE ELEVATION: 708.3	NUMBER	ELEV.	CONTENT (PERCENT)		RESIS	TANCE *
·)	FILL: Black and Brown SAND with Wood and Miscellaneous Rubble.					10 20	30 40 5
		4.4	S-1	705.8	-	_		
	705				ж			
	_		LS-1	702.8	13.6	-		
		FILL: Medium to Stiff Gray SILTY CLAY with Some Sand and Trace of Gravel and Wood.				·		
	700	- M	LS-2	699.8	12.8	118.8		
·			LS-3	696.8	15.3	122.1		
FEET		/2.0		050.0	13.3	16604		
EVATION - F	695	Very Stiff Gray SILTY CLAY with Trace of Sand and Gravel.	LS-4	693.8	13.4	122.9		
EVAT)		LS-5	600 0	17.0	116.0		
S	690-	NOTES:	F2-2	690.8	17.2	110.0	++++	
		 Boring advanced with 6-inch diameter hollow-stem auger. Boring dry upon completion. Boring backfilled with excavated soils. 				5		
E		a E	2					
		TOTAL DEPTH: 17.5'		L				1.1.1.1.1.1
		BORING STARTED: 6/6/78 BORING COMPLETED: 6/6/78	2 ×		÷	<i>3</i> 0		

INSPECTOR:

D. Harpstead

DRILLER:

F. Story

CONTRACTOR:

Geo-Tek, Inc.

WATER LEVEL IN HOLE AT INDICATED NUMBER OF HOURS AFTER COMPLETION OF BORING WITH __ 0 FEET OF CASING IN PLACE.

* PENETRATION RESISTANCE:

NUMBER OF BLOWS REQUIRED TO DRIVE 2 INCH O.D. SOIL SAMPLER 12 INCHES, USING 140 POUND WEIGHT WITH ___ 30 INCH FREE FALL.

N	EY	ER,	TISEC	9 원 년	IIN	DO,	LTD
---	----	-----	-------	-------	-----	-----	-----

CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER

SOIL STUDY

WAYNE DISPOSAL #2

VAN BUREN TOWNSHIP, MICHIGAN

6/12/78 APPROVED BY: DATE: A-81 FIGURE NO. PROJECT NO. 94309

		LOG OF SUBSURFACE PROFILE		so	IL SAM	PLE DA	TA
		CLASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD. GROUND SURFACE ELEVATION: 710.9	SAMPLE NUMBER	ELEV.	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *
	710	FILL: Medium Compact Brown FINE TO MEDIUM SAND with Trace of Gravel.	LS-1	707.9	7.1	. 106.7	
	705 -	A.5		704.9	ta.	117.9	
		FILL: Medium Gray SILTY SANDY CLAY.	_ , LS-,3	701.9	22.6	103.8	
FEET	700 -	Medium to Stiff Gray SILTY CLAY with Trace of Gravel.	LS-4	698.9	17.8	112.8	
VATION - FEET		NOTES 150	LS-5	695.9	21.2	107.6	
A Section of the sect	75-	NOTES: 1. Boring advanced with 6-inch diameter hollow-stem auger. 2. Boring dry upon completion. 3. Boring backfilled with excavated soils.	5			ν.	

BORING STARTED:

7/31/78

BORING COMPLETED: 7/31/78

INSPECTOR:

D. Harpstead

DRILLER:

S. Qualls

CONTRACTOR:

Geo-Tek, Inc.

WATER LEVEL IN HOLE AT INDICATED NUMBER OF HOURS AFTER COMPLETION OF BORING WITH ___ FEET OF CASING IN PLACE.

* PENETRATION RESISTANCE:

NUMBER OF BLOWS REQUIRED TO DRIVE 2 INCH O.D. SOIL SAMPLER 12 INCHES, USING 140 POUND WEIGHT WITH 30 INCH FREE FALL.

NEYER,	TISEO	& HINDO,	LTD.
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CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER 56

SOIL STUDY

WAYNE DISPOSAL #2

VAN BUREN TOWNSHIP, MICHIGAN

8/14/78 APPROVED BY: DATE: 94309 PROJECT NO. FIGURE No. A-82

		LOG OF SUBSURFACE PROFILE		so	IL SAM	PLE DA	TA
ĺ	7	CLASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD. GROUND SURFACE ELEVATION:	SAMPLE NUMBER	ÉLEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *
/	1.	704.8	<u>'</u>	1			0 10 20 30 40 50
	×		LS-1	701.8	20.1	108.9	
;	700-	FILL: Medium to Stiff Gray SILTY CLAY with Trace of Gravel.	LS-2	698.8	17.6	107.5	
	695-		LS-3	695.8	19.9	109.9	
		13.0	LS-4	692.8	20,3	107.5	
VATION - FEET	690-	Medium Gray SANDY SILTY CLAY	LS-5	689.8	18.0	113.7	
M);	with Trace of Gravel.	LS-6	686.8	18.7	112.9	
		NOTES: 1. Boring advanced with 6-inch diameter hollow-stem auger. 2. Boring dry upon completion. 3. Boring backfilled with excavated soils.		3 P			
		TOTAL DEPTH: 18.0' BORING STARTED: 7/31/78				,	
		BORING STARTED: 7/31/78 BORING COMPLETED: 7/31/78 INSPECTOR: D. Harpstead	NE	YER,	TISEO	E HINI	DO, LTD.

POUND WEIGHT WITH 30 INCH FREE FALL.

NEYER, TISEO & HINDO, LTD. CONSULTING ENGINEERS					
LOG OF TEST BORING NUMBER 57					
SOIL STUDY					
WAYNE DISPOSAL #2					
VAN BUREN TOWNS	HIP, MICHIGAN				
APPROVED BY: BT	DATE: 8/14/78				
PROJECT No. 94309	FIGURE No. A-83				

		LOG OF SUBSURFACE PROFI	I F		5.0	II CAM	D. F. 5.			-	
		CLASSIFICATIONS BY:			SOIL SAMPLE DATA						
		NEYER, TISEO & HINDO, LT GROUND SURFACE ELEVATION:	D.	SAMPLE	ELEV.	MOISTURE CONTENT	DRY DENSITY			RAT	ION CE *
		708.0			(FEET)	(PERCENT)	(PCF)	10	. 20	1 20	40
				F						TT	11 1
							·				
	700			LS-1	705.0	14.8	115.8				
	700	FILL: Stiff Gray SILTY CLAY			703.0	14.0	113.0	+	H	++-	+++
		with Some Sand.									
	•			LS-2	702.0	13.2	117.4	1/			
					702.0	10.2	127.1	#	$\dag \uparrow$	+	+++
	695-										
	090-	7/3/	•	LS-3	699.0	19.8	109.9				
			10.0		033.0	- 13.0		+	H		H +
		-	70				#				
_		Stiff to Very Stiff Gray SILTY CLAY with Trace of Gravel.		LS-4	696.0	20.6	102.2				
FE	690-					31		1			
1 - 7	050										
OIT.			15.0	LS-5	693.0	19.0	109.2				
VATION - FEET		NOTES:			1						
7	1	1. Boring advanced with 6-inch diameter hollow-stem auger.									
		2. Boring dry upon completion.									
		3. Boring backfilled with excavated soils.	2:								
		CAGUVUGEU 30113.									
			~ ×		*		-				
				16							
		**************************************					-				15
			=								
						-					
37.		-									
	1	TOTAL DEPTH: 15.0'	ı								<u> </u>
		BORING STARTED: 7/31/78				60 77					
		BORING COMPLETED: 7/31/78	•							<u> </u>	

INSPECTOR:

D. Harpstead

DRILLER:

S. Qualls

CONTRACTOR:

Geo-Tek, Inc.

WATER LEVEL IN HOLE AT INDICATED NUMBER OF HOURS AFTER COMPLETION OF BORING WITH ____ FEET OF CASING IN PLACE.

* PENETRATION RESISTANCE:

NUMBER OF BLOWS REQUIRED TO DRIVE 2 INCH O.D. SOIL SAMPLER 12 INCHES, USING 140 POUND WEIGHT WITH 30 INCH FREE FALL.

NEYER, TISEO	& HINDO, LTD.
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CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER

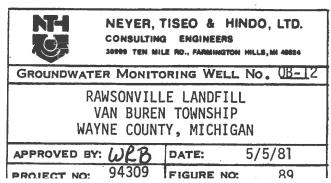
SOIL STUDY

WAYNE DISPOSAL #2

VAN BUREN TOWNSHIP, MICHIGAN

APPROVED BY: らて DATE: 8/14/78 94309 FIGURE No. A-84 PROJECT No.

18	LOG OF GROUNDWATER MONITORING WELL			GROUN	DWATER DATA
	CLASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD. GENERALIZED SUBSURFACE PROFILE WELL SCHEMATIC		DATE	GROUND- WATER ELEV. (FEET)	COMMENTS
FEET 700 - 690 - 680 - 670 - 660 - 650 - 620 - 6	GROUND SURFACE ELEVATION: 702.6 Brown GRAVELLY 5.0 Gray SILTY FINE SAND. Gray SILTY CLAY with Trace of Sand and Gravel, Occasional Sand Seams. Gray SILTY FINE SAND. FILTER SAND. TOP OF CASING ELEVATION: 704. EXPANSIVE GROUT FILTER SAND.	84	4/9/81 4/16/81 4/23/81 5/21/81 CASING SCREEN WELL ST WELL CO INSPECTO DRILLER: CONTRAC EQUIPME	- DIAMI - LENG - MATE - MESH - MATE CHECK - MATE - MESH - MATE - MESH -	RIAL: Galvanized Steel ETER: 2" TH: 3.5'



		LOG OF GROUNDWATER M	ONITORING WELL			GROUN	DWATER DATA
	Y	CLASSIFICATIONS BY:		1		GROUND-	
	***	NEYER, TISEO & HINDO, L	_TD.		DATE	WATER	COMMENTS
12.)		VELL SCHEMATIC			(FEET)	
ELEVATION	700- 690- 680- 670- 650- 40-	GROUND SURFACE ELEVATION: 700.9 Brown MEDIUM SAND AND GRAVEL. Gray SILTY CLAY with Trace of Sand and Gravel, Cobbles or Boulders at 50.0 to 53.0 feet.		5 V	4/9/81 4/16/81 4/23/81 5/21/81 CASING	GROUND-WATER ELEV. (FEET) 649.19 648.78 647.53 649.57 - DIAME - LENGT - MATER - MESH: - MATER - MATER - MATER	COMMENTS TER: 2" TH: 79.7' RIAL: Galvanized Steel TER: 2" TH: 3.5' No. 10 Slot RIAL: Stainless Steel 4/1/81
	610-		A g			MPLETED:	4/1/81
	010-	n n	3 3		Inspecto Driller:	R:	K. Ebere A. Pearson
					CONTRACT	ror:	Pearson Well Drilling
			î.		EQUIPMEN		Truck mounted Holemastedrilling rig utilizing 4.5-inch rotary bit with drilling fluid
		,					
							5
	- 1						
	1	1 1	۱,				



NEYER, TISEO & HINDO, LTD. CONSULTING ENGINEERS 30000 TEN MILE RD., FARMINGTON HILLS, MI 46624

GROUNDWATER MONITORING WELL No. 08-13

RAWSONVILLE LANDFILL VAN BUREN TOWNSHIP WAYNE COUNTY, MICHIGAN

APPROVED BY: URB DATE: 5/5/81
PROJECT NO: 0/300 FIGURE NO: 90

SOIL SAMPLING RECORD

Driller_	P.	Sir	le.	leto	m	
Ground	Wat	er:	0	hrs.	20%	•

Sampler Hammer Wt. 140 lbs. Drop 30 in. Sampler Size 2 in. C.D.

21 Surface 705.0 Sheet No. 1 of 2 sheets hayne /1000001 Country Ganitary bandfill live Location Belleville, ichigan
Started 2-14-70 Completed 2-17-75 Job No.

3ampier 312e In. C	Started 2=14=75 Complete	od - ciert (= ()	Job No. 625
ELEVATION DEPTH	Drillers Log Geologist Log G	SAMPLE	BLOWS ON SAMPLE
ELEVATION DEPTH	Consistency Color Basic Texture Moisture	DEPTH	INCREMENTS
1.0°	Boose dark brown Bandy loan-top soil		
	Medium compact brown (redich) fine to		
	medium cand, trace of coarse sand.		
3.2	Coist		an an han
	redium compact brown fine to medium sand, some coarse sand and few small	83 1 5.0°	3-6-7
	pebbles and fine gravel.		
- F3 (*)	Ket		
7.5	Talahan adapateria		
	The same and a same of the same and the same	33 2 10.0'	18-30-45
-	Very compact gray fine to medium	33 2 JU 0	
	Sot		
13.0			
	Fedium compact gray silty clayey		
	fire sand.	as 3 15.0°	7-9-9
16.0	Very Foist		
	tradition as dispenses addition of the first		
	Tedium to firm gray silty clay, few small seams (wafer type) of extremely		
	fine sand		e 9 0
	Moist	33 4 20.0°	5-7-8
57.90	n-independent		
	Firm to stiff gray silty clay, trace	33 5 25.0	5=10=15
-	of time sand, few small publies and		•
A	trace of fine to medium gravel.		
	foist .		,
	*		
		53 6 70.0°	7-12-16
		_	■ 15
	_		a
74.01			
34.0	Stiff gray silty clay, some fine	33 7 35.0	9-14-20
	sand, few small pebbles and trace		
	of fine gravel.		
·)	Woiet		
39.0			E
2.77	(Continued on Fage 2)	SS 8 40.0	14-21-30
S.S STANDARD SAMPLE			S screens
S.T SHELBY TUBE	EDOFCASINGS Signed	Figur	e A-40

Hole No ..

	_66	

Driller_	В.)	Sin	gleton	
Ground	Water:	0	hrs.	3.2	
		2	A hes		

24 hrs. ______Sampler Hammer Wt. 140 lbs. Drop 30 in. Sampler Size 2 in. O.D.

SOIL SAMPLING RECORD

Hole No	o. 21 Surface 705.0 Sheet No. 2	of Z sheet
	Conitary Landilli Sita	
Location	, Delleville, Michigan	
Started	2-14-75 Completed 3-17-75 Joh No	625

_			Started 11-43-4 (1) Comple	9180	100 No. 10.//1
	ELEVATION	DEPTH	Drillers Log Geologist Log Geologist Log Maisture	SAMPLE DEPTH	BLOWS ON SAMPL
			Consistency Color Basic Texture Maisture	DEFIN	INCREMENTS
			, "		·
			Hard gray silty clay, some fine		
			and, few small pebbles and fine		
			gravel.		
			*oist	00 9 45.0	18-27-35
					,
	_				
		47.5	- management of the second of	·	
	_		Stiff gray silty clay, fow small wafer type seems of extremely fine	33 10 50.0	9-12-15
			cond.		
			Foist		
		53.5	C 1 THE LOND LOND LOND LOND LOND LOND LOND LOND		
	- V		third common addition about the	86 11 55.0	
	J		Stiff gray silty clay, some fine sand, few small pubbles and fine	Rote: Jr	ving stone of
			to modium gravel.	11 65	accounting for
			Moist	*015 (10)	number of blo
		59.0	- The Application		
			omnact gray silty clayey extremely	12 60.0	e-16-33
			fine sand.		•
			Very Moiat		
		63.0	The facility was a series		
	-		iffe or war a manage and the set of		
			itiff gray clayey sandy silt. Very Moist	3 13 65.0	13-9-15
		CC 479	7433 - 1023 -		189
		55.5°	The reference of the second of	· -	,
			compact gray fine to medium sand		
		70.0	Moist		
		10.00	The Burgines	14 70.0	19-20-26
			BORING STOPPED		•
	*	,	en an an and to at to at the an		
			At completion water level was 3.3		
			Backfilled boring with sand and		
			bentonite slurry		
	7				
~	у.				
			•		
			· ·	·.	,
S.	S STANDARD SA		18* 3*	· ·	В
L.	T SHELBY TUB! S Liner Sampl	E US	SEDOFCASINGS Signed	Figure	2 A-41
	κ.		•		

		LO	G OF SUBSURFACE PROFILE		so	IL SAME	PLE DA	TA
		N	SSIFICATIONS BY: EYER: TISEO & HINDO, LTD.	SAMPLE	ELEV.	MATURAL MOISTURE CONTENT	DRY	PENETRATION *
		GRO	UND SURFACE ELEVATION: 708,4	NUMBER	(FEET)	(PERCENT)	1	10 20 30 40 50
		11	Loose Brown MEDIUM SAND with a Trace of Silt.	S-1	703.4	_		2-2-2
			Medium Compact Gray FINE SAND with					
	700	//	Little Silt.	S-2	698.4	-	-	11-12-13
		7,3	_	LS-1	693.4	-	-	4-6-3
	690	(C.	· * * * * * * * * * * * * * * * * * * *	LS-2	688.4	-	-	6-9-10
				S-3	683.4	-	-	7-10-13
•	680		Stiff to Very Stiff Gray SILTY CLAY	LS-3	678.4	-	-	6-9-12
		1	with Traces of Sand and Gravel.	LS-4	673.4	-		7-14-18
	670 <u>-</u>	c ·	•	LS-5	668.4	-	-	11-19-21
122		 		LS-6	663.4		-	11-15-19
ELEVATION-FEET	660-	- 0	**	LS-7	658.4	-	_	,10-12-15
ELEVA	0			LS-8	653.4	20.5	100.8	6-9-19
	650 650)	•	LS-9	648.4		_	g. 11-15
		}	Compact Gray SILT.	LS-10	643.4	-	_	8-15-19
	640.	//	Compact Gray FINE SAND with Some		627.4			
			NOTES:	S-4	637.4	-		JF 1 1
			 Boring advanced with 8-inch outside-diameter hollow-stem auger. 					
	630		 Piezometer set at this location; tip at Elevation 638.86, top of casing at Elevation 712.56. Groundwater noted 53.6 feet below surface at completion and 	NOTE	71:			asing Elevation due to resurvey
*			57.3 feet below surface 1.0 hour after completion.					
		9						
		BOF	71.0' RING STARTED: 5/23/79 5/23/79				. •	8 - 5
		INS	PECTOR: D. Harpstead D. Klitz			YER, TISEO		
		COL	Geo-Tek, Inc.			TEST BO		
		7	WATER LEVEL IN HOLE AT INDICATED MEET OF HOURS AFTER COMPLETION OF BORING			L AND GRO		1
	- 4040		MBER OF HOURS AFTER COMPLETION OF BUILTING			AN DISPOS		I
	14	#p	ENETRATION RESISTANCE:		VAN	BUREN TOH	NSHIP, M	ICHIGAN
		NUI	MBER OF BLOWS REQUIRED TO DRIVE 2 INCH.	APPRO	VED BY:	DH	DATE:	6/21/79
			JIND WEIGHT WITH 30 INCH FREE FALL.	PROJEC	T. No.	94309	FIGURE	No. F-12

		LOG OF SUBSURFACE PROFILE		so	IL SAMI	PLE DA	TA	
)	CLASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD. GROUND SURFACE ELEVATION: 704.1	SAMPLE NUMBER	ELEV.	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *	
ı	700 -	Medium Compact Brown FINE SAND with Trace of Silt.	S-1	699.1	_		9-14-15	
		Compact Gray FINE SAND.	S-2	694.1			14-23-28	
	690-	Stiff Gray SILTY CLAY.	LS-1	689.1		-	3-4-6	
		17.0	LS-2	584.1	. -	_	6-7-10	
	680-		LS-3	679.1	-	-	6-7-11	
1		Very Stiff Gray SILTY CLAY with	S-3	674.1	. -	-	8-9-15	
I - FEET	670-	Traces of Sand and Gravel.	LS-4	669.1	-	-	7-10-13	
- NOITA	- \		LS-5	664.1	.	-	6-9-12	
EI	660_		LS-6	659.1	~-	-	14-14-15	
				654.1	20.5	101.6	8-10-11	
	650-	Medium Compact Gray SILT with Trace of Clay.		649.1	-		4-5-6	
	0	Medium Compact Gray SILTY FINE SAND		644.1	-	-	12-13-11	
	640_	outside-diameter hollow-stem auger. 2 Groundwater noted 55 5 feet				^ .		
		below the surface upon completion TOTAL DEPTH: 60.0' BORING STARTED: 5/23/79	3. Bo	ring ba	ckfilled	with exp	andable grout.	
		BORING COMPLETED: 5/23/79 INSPECTOR: D. Harpstead DRILLER: D. Klitz		CC	NSULTING	ENGINE		
	j	CONTRACTOR: Geo-Tek, Inc. WATER LEVEL IN HOLE AT INDICATED NUMBER OF HOURS AFTER COMPLETION OF BORING WITHO FEET OF CASING IN PLACE.		SOIL AND GROUNDWATER STUDY MICHIGAN DISPOSAL LANDFILL NO. 2				
2		* PENETRATION RESISTANCE: NUMBER OF BLOWS REQUIRED TO DRIVE 2 INCH O.D. SOIL SAMPLER 12 INCHES, USING 140	Approve	o By:	REN TOWNS	HIP, MICH	6/21/79	
		PALLE WELL 30 INCH CASE FALL	PROJECT	No.	94309	FIGURE N	lo = A-53	

		OG OF SUBSURFACE PROFILE		so	IL SAMI	PLE DA	TA
		ASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD. ROUND SURFACE ELEVATION: 696.2	SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *
	11	Loose Gray FINE SAND with Trace of Silt.	LS-1	691.2			3-4-7
690	1	Stiff Gray SILTY CLAY.	LS-2	686.2	_	_	6-9-12
			LS-3	681.2	_	-	7+8-10
680		Very Stiff Gray SILTY CLAY with Traces of Sand and Gravel.	LS-4	676.2	-	-	7-10-1
	, , , ,	races of Sanu and Gravet.	LS-5	671.2	-		10-15-19
670	- / /		LS-6	666.2	13.4	118.2	9-14-18
FEET	11	×	LS-7	661.2	÷	•	10-16-18
ELEMATION - FEET		Very Compact Gray SILT with Trace	LS-8	656.2	-	-	21+25+31
ELS.	11	Very Compact Gray FINE SAND with Trace of Silt.	15.0	651.2	-	on .	21-34-37
650		NOTES: 1. Boring advanced with 8-inch outside-diameter hollow-stem auger. 2. Groundwater noted 37.0 feet below the surface upon completion. 3. Boring backfilled with expandable grout.					

TOTAL DEPTH:

45.0' 5/24/79

BORING STARTED:

BORING COMPLETED: 5/24/79

INSPECTOR:

D. Harpstead

DRILLER: CONTRACTOR:

D. Klitz Geo-Tek, Inc.

WATER LEVEL IN HOLE AT INDICATED NUMBER OF HOURS AFTER COMPLETION OF BORING WITH _ 0 FEET OF CASING IN PLACE.

* PENETRATION RESISTANCE:

NUMBER OF BLOWS REQUIRED TO DRIVE 2 INCH O.D. SOIL SAMPLER 12 INCHES, USING 140

NEYER, TISEO & HINDO, LTD.

CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER

SOIL AND GROUNDWATER STUDY MICHIGAN DISPOSAL LANDFILL NO. 2 VAN BUREN TOWNSHIP, MICHIGAN

₽Ħ APPROVED BY: DATE: 0/1200 FIGURE NA

		LC	OG OF SUBSURFACE PROFILE	,	so	IL SAMI	PLE DA	TA	
			ASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD.	SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)		TRATION STANCE *
)		675.4			(FEROCIT)		10 20	0 30 40 50
	670.	11 71	FILL: Stiff Gray SILTY CLAY.	LS-1	670.4	-	-		3-4-11
v) }}	Stiff to Very Stiff Gray SILTY CLAY with Trace of Fine Gravel.	S-1	665.4	-	-	7-12-1	5
	660	a		LS-2	660.4	~	-		5-8-12
*2	8	#	18.5	S-2	655.4	-	. -	9-11-1	4
	650	<i>YY</i>	Very Stiff Gray SILTY CLAY with Layers of Gray Sand. 235	LS-3	650.4	-	_		4-5-7
•	•	111		S-3	645.4	-			3-4-5
N - FEET	640	<i>X</i>	Medium to Stiff Gray SILTY CLAY with	S-4	640.4	· -	-		4-5-7
VATIO	640		Layers of Silt and Trace of Sand and Fine Gravel.	LS-4	635.4	-	-		4-6-8
	0	14	43.0	LS-5	630.5	-			7-4-4
	630 ⁼		Loose Gray SILT (Wet).	LS-6	625.4	-	-		4-3-5
	620 .		NOTES: 1. Boring advanced with 8-inch outside-diameter hollow-stem augers. 2. Groundwater encountered 43.5 feet below the ground surface. 3. Boring backfilled with expandable grout.						
		BOR	AL DEPTH: 50.0' ING STARTED: 01/17/80 ING COMPLETED: 01/17/80			TICCO	C. LUN	100	ITO
			PECTOR: K. Ebere S. Qualls		CC	TISEO	ENGINE	ERS	
			TRACTOR: Geo-Tek	LC	OG OF	TEST BOR	ING NUM	BER	29
1			WATER LEVEL IN HOLE AT INDICATED			MASTER C			
1			BER OF HOURS AFTER COMPLETION OF BORING H _ 0 _ FEET OF CASING IN PLACE.		WA	YNE DISPO	SAL, INC	•	
		* !	PENETRATION RESISTANCE:		-	LLEVILLE,	·		100
		0.0	. SOIL SAMPLER 12 INCHES, USING 140	APPROVI		DH 1300		02/06/	
		POU	ND WEIGHT WITH 30 INCH FREE FALL.	PROJECT	No. 9	4303	FIGURE	40	1 <u>-55</u>

		L	OG OF SUBSURFACE PROFILE	SOIL SAMPLE DATA								
(7		ASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD. OUND SURFACE ELEVATION:	SAMPLE NUMBER	ELEV.	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	RE	ESIS	TRAT STAN	ICE :	*
1	7	l	674.4			· · · · · · · · · · · · · · · · · · ·	(10	_20	30	40	50
	670 -	//		LS-1	669.4	-	_	5-1	0-1	4		
	1	81	Very Stiff to Hard Gray SILTY CLAY with Trace of Fine Gravel.	S-1	664.4	-	- .	7-1	4-1	6		
<i>j</i> *	660 -	16	Medium Compact Gray SILTY FINE SAND	S-2	659.4	-	-	7-1	2-1	2/		
		"; //	with Trace of Clay and Fine Gravel.		654.4	-	-			4-	6-8	3
	650 -			S-3	649.4	-	. =			5-	7-	<u> </u>
		<i> </i>	Very Stiff Gray SILTY CLAY.	LS-3	644.4	-	-			9-	7-9)
N - FEET	<u>으</u> 640 -	11	344	LS-4	639.4	_	-			4-	3-8	3
NOTTON	Y		Medium Gray SILT with Trace of Clay. Loose Gray SILTY FINE SAND (Wet). 49,	105	634.4	-	-			3-	4	
À.	630 -		NOTES: 1. Boring advanced with 8-inch outside-diameter hollow-stem augers. 2. Groundwater noted 30.9 feet below the ground surface upon completion. 3. Boring backfilled with expandable grout.				e k					
	14		2 2	Ξ	-							
		BOR	AL DEPTH: 40.0' HING STARTED: 01/17/80			9						
		INSPECTOR: K. Ebere DRILLER: S. Qualls			C	TISEO	ENGINE	ERS	5		D.	
		CON	ITRACTOR:	L		TEST BOR		ושבו	<u> </u>	νŪ		
1			WATER LEVEL IN HOLE AT INDICATED		l	MASTER CEL	L IV					-
()	NUN	MBER OF HOURS AFTER COMPLETION OF BORING		WAY	NE DISPOSA	L. INC.					
			H0 FEET OF CASING IN PLACE. PENETRATION RESISTANCE:			LEVILLE, N	_					
			THE STATE OF STREET TO PRIVE 2 INCH									

PROJECT No.94309

DATE: 02/06/80

FIGURE NO. A-56

NUMBER OF BLOWS REQUIRED TO DRIVE 2 INCH

O.D. SOIL SAMPLER 12 INCHES, USING 140

POUND WEIGHT WITH 30 INCH FREE FALL.

TOTAL DEPTH: 20.0'
BORING STARTED: 01/18/80
BORING COMPLETED: 01/18/80
INSPECTOR: K. Ebere
DRILLER: S. Qualls
Geo-Tek

WATER LEVEL IN HOLE AT INDICATED
NUMBER OF HOURS AFTER COMPLETION OF BORING
WITH 0 FEET OF CASING IN PLACE.

* PENETRATION RESISTANCE:
NUMBER OF BLOWS REQUIRED TO DRIVE 2 INCH
O.D. SOIL SAMPLER 12 INCHES, USING 140

POUND WEIGHT WITH 30 INCH FREE FALL.

APPROVED BY: DH DATE: 02/06/80
PROJECT NO. 94309 FIGURE NO. A-57

NEYER, TISEO & HINDO, LTD.

CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER 31

MASTER CELL IV

WAYNE DISPOSAL, INC.

BELLEVILLE, MICHIGAN

TOTAL DEPTH:

20.0'

LOG OF SUBSURFACE PROFILE

BORING STARTED:

01/18/80

BORING COMPLETED:

01/18/80

INSPECTOR:

K. Ebere

DRILLER:

S. Qualls

CONTRACTOR:

Geo-Tek

WATER LEVEL IN HOLE AT INDICATED NUMBER OF HOURS AFTER COMPLETION OF BORING WITH 0 FEET OF CASING IN PLACE.

* PENETRATION RESISTANCE:

NUMBER OF BLOWS REQUIRED TO DRIVE 2 INCH O.D. SOIL SAMPLER 12 INCHES, USING 140 POUND WEIGHT WITH 30 INCH FREE FALL.

NEYER, TISEO & HINDO, LTD. CONSULTING ENGINEERS

SOIL SAMPLE DATA

LOG OF TEST BORING NUMBER 32

> MASTER CELL IV WAYNE DISPOSAL, INC. BELLEVILLE, MICHIGAN

APPROVED BY:	DH	DATE:	02/06/80
PROJECT No. 943	809	FIGURE NO.	A-58

			CAMBLE DATA							
		LOG OF SUBSURFACE PROFILE	SOIL SAMPLE DATA							
		CLASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD. GROUND SURFACE ELEVATION:	SAMPLE NUMBER	ELEV.	NATURAL MOISTURE CONTENT	DRY	PENETRATION RESISTANCE *			
_)				(PERCENT)	(PCF)	10 20 20 40 5			
v	-	692.3 FILL: Gray SILTY FINE SAND with			T	U	10 20 30 40 50			
	690	Trace of Fine Gravel and Clay. 3.5' FILL: Medium Gray SILTY CLAY	S-1	687.3	-	-	2-2-6			
		with Trace of Fine Gravel. FILL: Loose Gray FINE SAND (Moist).	LS-1	682.3	-	-	3-4-6			
	680 .	(FIOTSC).	S-2	677.3			3-4-8			
		-					N			
	670_	Stiff to Vony Stiff Cony SILTY CLAY	S-3	672.3	-		1 1 1 4-7-11			
105		Stiff to Very Stiff Gray SILTY CLAY with Trace of Fine Gravel.	LS-2	667.3	-		5-9-11			
ATION - FEET			S-4	662.3	·	_	7-111-16			
	660_	34.8		657.3	- mad	-	10-16-24			
	_	Medium Compact Gray SILTY FINE SAND		652.3	-	-	5-8-9			
*	ь5 0 _	Stiff Gray SILTY CLAY.	S - 7	647.3	-	-	6-8-11			
	₹	Medium Gray SILTY CLAY with Little Sand and Trace of Fine Gravel. 48.0	LS-3	642.3	_	-	10-16-15			
	640_	Compact Gray SILT (Wet).		637.3	_	-	5-8-16			
		Medium Compact Gray SILT with Sand sso Seams and Trace of Clay. NOTES: 1. Boring advanced with 8-inch			4.					
	630	outside diameter hollow-stem augers.								
		2. Groundwater noted at 48.0 feet below the ground surface.3. Boring backfilled with expandable								
	•	TOTAL DEPTH: 55.0' grout. BORING STARTED: 01/23/80 BORING COMPLETED: 01/23/80								
		INSPECTOR: K. Ebere D. Klitz		CC	NSULTING	ENGINE				
		contractor: Geo-Tek	LC	G OF 1	EST BOR	ING NUM	BER <u>33</u>			
<u></u>) -	NUMBER OF HOURS AFTER COMPLETION OF BORING		148	MASTER C		a			
		WITH FEET OF CASING IN PLACE. * PENETRATION RESISTANCE:	Δ.		YNE DISPO LLEVILLE,	-				
		NUMBER OF BLOWS REQUIRED TO DRIVE 2 INCH. O.D. SOIL SAMPLER 12 INCHES, USING 140	APPROVE	D BY:	DH	DATE:	02/06/80			
		POUND WEIGHT WITH 30 INCH FREE FALL.	PROJECT		94309	FIGURE N				
		LAMINA AMICALI ANICA STATEMENT LIAMI LEPON LESSONS	t				•			

	LOG OF SUBSURFACE PROFILE	SOIL SAMPLE DATA						
)	CLASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD. GROUND SURFACE ELEVATION: 693.7	SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *		
690	Medium Compact Brown SILTY FINE	S-1	688.7	-	_	3-5-9		
mg =		S-2	683.7		_	4-8-9		
680		LS-1	678.7	· -	-	4-8-11		
		S-3	673.7	-	-	6+11+14		
670	Very Stiff to Hard Gray SILTY CLAY with Trace of Fine Gravel and	S-4	668.7	_	-	/6-10-13		
-	Occasional Silt Layers.	S-5	663.7	-	-	6-10-17		
FEET 660		LS-2	658.7	-	_	10-17-22		
- 660	37.0	LS-3	653.7	-	-	12-14-15		
650	Stiff Gray SILT with Trace of Clay (Wet).	LS-4	648.7	_	_	6-6-8		
640	NOTES: 1. Boring advanced with 8-inch outside-diameter hollow-stem augers.							
2	2. Boring dry upon completion. 3. Boring backfilled with expandable grout.							
)#2	TOTAL DEPTH: 45.0' BORING STARTED: 01/23/80	2						

POUND WEIGHT WITH 30 INCH FREE FALL.

K. Ebere

BORING COMPLETED: 01/23/80

INSPECTOR:

NEYER, TISEO & HINDO, LTD. CONSULTING ENGINEERS							
LOG OF TEST BORING NUMBER 34							
MASTER CELL IV							
WAYNE DISPOSAL, INC.							
BELLEVILLE,	MICHIGAN						
APPROVED BY:	DATE: 02/06/80						
PROJECT No. 94309	FIGURE NO. A-60						

	LOG OF SUBSURFACE PROFILE	SOIL SAMPLE DATA							
	CLASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD. GROUND SURFACE ELEVATION:	SAMPLE NUMBER	I SEEVA CONTENT DENC.			PENETRATION RESISTANCE *			
	694.9					b 10 20 30 40 50			
	Medium Compact Gray SILTY SAND.								
690 -	Medium Compact Gray SILTY FINE SAND.	S-1	689.9	-	-	7-7-7			
		S-2	684.9	_		4-7-10			
680		LS-1	679.9	-	-	6-9-12			
		S-3	674.9	-	_	9-13-15			
670	Very Stiff to Hard Gray SILTY CLAY with Trace of Fine Gravel and	S-4	669.9	-	-	8-14-18			
Ė	Occasional Silt Lenses.	LS-2	664.9	-	_	12-17-21			
2660 —		S-5	659.9	- -	-	12-15-20			
-090 —	33.0	S-6	654.9		-	15-17-16			
550 <u> </u>	Very Stiff Gray CLAYEY SILT. Medium Gray CLAYEY SILT with Layers 45.3	LS-3	649.9	· -	-	5-7-9			
540	of Clay. NOTE: 1. Boring advanced with 8-inch outside-diameter hollow-stem augers. 2. Boring dry upon completion. 3. Boring backfilled with expandable grout.				3				

TOTAL DEPTH:

45.01

BORING STARTED:

01/23/80

BORING COMPLETED: 01/24/80

INSPECTOR:

K. Ebere

DRILLER:

D. Klitz

CONTRACTOR:

Geo-Tek

WATER LEVEL IN HOLE AT INDICATED NUMBER OF HOURS AFTER COMPLETION OF BORING WITH ____ FEET OF CASING IN PLACE.

* PENETRATION RESISTANCE:

NUMBER OF BLOWS REQUIRED TO DRIVE 2 INCH O.D. SOIL SAMPLER 12 INCHES, USING 140 POUND WEIGHT WITH 30 INCH FREE FALL.

P	J	EY	ER,	TISE	8 0	HIND	O, LTD.
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CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER 35

MASTER CELL IV

WAYNE DISPOSAL, INC.

BELLEVILLE, MICHIGAN

DATE: APPROVED BY: 02/06/80 94309 A-61 FIGURE No. PROJECT NO.

	LOG OF SUBSURFACE PROFILE	SOIL SAMPLE DATA											
	CLASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD. GROUND SURFACE ELEVATION: 693.6		SAMPLE ELEV. NATURAL MOISTURE CONTENT DENSITY (PERCENT) (PCF)						PENETRATION RESISTANCE *				
690	Medium Compact Gray SAND. 2.0 Stiff Gray SILTY CLAY. 4.6	3-1	688.6	-				4-7-					
	Medium Compact Gray FINE SAND. 7.0	S-2	683.6	-	-			6- 8-	-10				
680	Stiff to Very Stiff Gray SILTY CLAY with Trace of Fine Gravel and	LS-1 S-3	678.6 673.6	-		4-8- 6-10							
670	Lenses of Silt. Hard Gray SILTY CLAY with Trace of	S-4	668.6	-		9-13							
990 TEET	Fine Gravel. 27.0 Very Compact Gray SANDY SILT with Trace of Fine Gravel. 32.0	LS-2	663.6	<u>-</u>	-	15-4	0-5	· q	<u>'</u>				
NOTA PPO _	Compact Gray SILTY SAND with Trace of Fine Gravel with Layer of Clay. 37.0 Stiff Gray CLAYEY SILT with Lenses		658.6	-		18-1 9-12			1				
650 _	of Clay and Trace of Fine Gra- vel. NOTES: 1. Boring advanced with 8-inch outside-diameter hollow-stem augers. 2. Boring dry upon completion. 3. Boring backfilled with expandable grout.	S-5	653.6	n	8	<i>3</i> - 1 C	724						

TOTAL DEPTH: 40.0'
BORING STARTED: 01/24/80
BORING COMPLETED: 01/24/80
INSPECTOR: K. Ebere
DRILLER: D. Klitz
CONTRACTOR: Geo-Tek

* PENETRATION RESISTANCE:

NUMBER OF BLOWS REQUIRED TO DRIVE 2 INCH

O.D. SOIL SAMPLER 12 INCHES, USING 140

POUND WEIGHT WITH 30 INCH FREE FALL.

NEYER,	TISEO	& HIND	O, LTD.

CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER 36

MASTER CELL IV WAYNE DISPOSAL, INC. BELLEVILLE, MICHIGAN

APPROVED BY: DH DATE: 02/06/80

PROJECT No. 94309 FIGURE No. A-62

	LOG OF SUBSURFACE PROFILE	SOIL SAMPLE DATA							
	CLASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD. GROUND SURFACE ELEVATION:		ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *			
	695.8 Medium Compact Brown SAND (Wet). 2.5	S-1	690.8			6-14-16			
690 —	Medium Compact Gray SILTY FINE SAND.								
	Stiff Gray SILTY CLAY with Trace of Fine Gravel and Trace of Sand.	S-2	685.8	- -		4-5-10			
680		3=3	680.8	-	-	N6-10-13			
	 	S-4	675.8	п		5+10+1 6 6+13+1 8			
670	Very Stiff to Hard Gray SILTY CLAY with Trace of Fine Gravel.	LS-1 S-5	670.8			8-13-20			
는 교 년. 1	34.		660.8	-		13-25-30 55			
6 60 –	Hard Gray SANDY CLAY with Trace of Fine Gravel and Little Silt. 38.0		655.8	_		32-49-61 1,00			
in the	Very Compact Gray SILTY FINE SAND.	LS-4	650.8	-		17-27-34 61			
650	NOTES: 1. Boring advanced with 8-inch outside-diameter hollow-stem augers. 2. Boring dry upon completion. 3. Boring backfilled with expandable grout.				A				

BORING STARTED: 01/24/80
BORING COMPLETED: 01/24/80
INSPECTOR: K. Ebere
DRILLER: D. Klitz

CONTRACTOR: U. KIIT.
Geo-Tek

WATER LEVEL IN HOLE AT INDICATED
NUMBER OF HOURS AFTER COMPLETION OF BORING
WITH 0 FEET OF CASING IN PLACE.

* PENETRATION RESISTANCE:

NUMBER OF BLOWS REQUIRED TO DRIVE 2 INCH

O.D. SOIL SAMPLER 12 INCHES, USING 140

POUND WEIGHT WITH 30 INCH FREE FALL.

P	1E)	ER,	TISEO	8	HIN	DO,	LTD
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CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER 37

MASTER CELL IV WAYNE DISPOSAL, INC. BELLEVILLE, MICHIGAN

APPROVED BY:	DH.	DATE:	02	/06/80	
PROJECT NO.	94309	FIGURE	No.	A-63	

				192			2
	<u> </u>	OG OF SUBSURFACE PROFILE		so	IL SAM	PLE DA	TA
9		LASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD. ROUND SURFACE ELEVATION:	SAMPLE NUMBER	I E LEV.	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY	PENETRATION RESISTANCE *
()		667.2			(PERCENT)	(PCF)	0 10 20 30 40 5
	î,		S-1	664.7	-		3-5-7
	111		LS-1	662.2	_	. =	6-8-10
660	-1//	Very Stiff Gray SILTY CLAY with	LS-2	659.7	_	-	9-17-12
		Trace of Sand and Gravel and Occasional Silty Fine Sand Seams.	S-2	657.2	-	_	V 6-8-11
	1	coods total syring with said scaling.					
	-		LS-3	652.2	-		6-8-10
650	144	17.0					
050	111	Stiff Gray CLAY with Trace of Silt.	LS-4	647.2	-	-	5-6-7
		22.0					
	1//	Medium Gray SILTY CLAY.	LS-5	622.2	24.8	98.8	4-5-7
640		27.0					
F	1/	Soft to Medium Gray CLAYEY SILT with Trace of Fine Sand.	LS-6	617.2	21.9	115.3	2-4-4
F 3 3 4			-	-			
8 630		NOTES: 1. Test boring drilled with a trailer					
630 F	-	mounted CME-55 rotary drilling		= =			
*		rig utilizing 8-inch hollow-stem auger.					
m		Groundwater seepage noted at					
		28.5 feet below the ground surface.					
		Boring backfilled with cement grout.					
		4 9					
			3:	İ			2
		9					
		- a					
						11	
				= 1.			
						(6)	
	TOT	AL DEPTH: 30.01	L				
		NG STARTED: 6/2/80					
		NG COMPLETED: 6/2/80 D. Kaniarz	3 / B 4 P=3	······································	TIOTO (

INSPECTOR:

D. Kaniarz

DRILLER:

G. Canfield

Geo-Tek, Inc.

CONTRACTOR:

WATER LEVEL IN HOLE AT INDICATED

NUMBER OF HOURS AFTER COMPLETION OF BORING WITH ______ FEET OF CASING IN PLACE.

* PENETRATION RESISTANCE:

NUMBER OF BLOWS REQUIRED TO DRIVE 2 INCH
O.D. SOIL SAMPLER 12 INCHES, USING 140
POUND WEIGHT WITH 30 INCH FREE FALL.

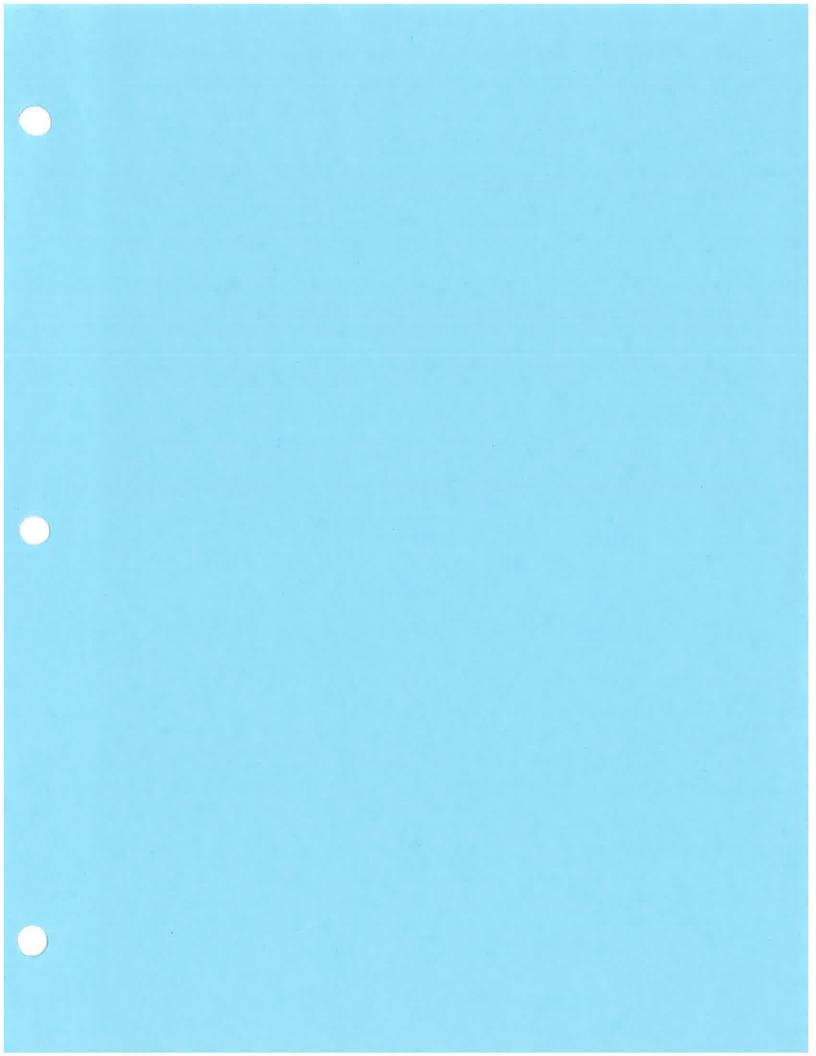
NEYER, TISEO & HINDO, LTD.

CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER 38

MASTER CELL V
WAYNE DISPOSAL, INC.
WAYNE COUNTY, MICHIGAN

APPROVED BY: DATE: 7/3/80
PROJECT NO. 94309 FIGURE NO. A-64



OBSERVATION WELL NO: W-1

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location:

BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: AIP

GROUNDWATER DATA

ELEV.

.) COMMENTS

12-07-08 655.21 02-09-09 655.10

DATE (ft.)

NOTES

- [1] For details of subsurface strata, see Log of Test Boring TB-W-1.
- [2] Location Coordinates: E 3690.00

N 7660.02

(enerali	zed Subsurface Prof	file		Installation Schematic	
ELEV.	PRO-	GROUND SURFA		WELL	TOP OF WELL CASING	
(ft)	FILE	ELEVATION: 706		DETAIL	ELEVATION: 708.70	
705			0.0	77		0.0
705		Sandy Topsoil	0.5			
		Sand	5.5		[]	
		Silty Sand		\otimes		
	777	Silt	11.0 12.0			
	-111111		12.0			
690		Silty Clay	17.0	16/1 K		
	1212	Silt	18.0		1	
660 645		Silty Clay	75.0		Non-Shrinking Cement Grout	
		Clayey Silt	76.5			
		Silt			Hydrated	81.0
			85.0			84.0
	4		85.0		Bentonite Grout	
		Silty Sand			Filter Sand	
615		Only Duna	92.0			92.0
	ed when	End of Boring	52.0		Tip Elev: 614.2	
	1				Tip Depth: 92.0	
,						

Started: Completed: Inspector:

Inspector: Contractor: Driller: Equipment: Well Type: 07-16-08 07-16-08 M. McNamara

Mateco Drilling Co. J. Pitsch CME-750 ATV Drill Rig Observation Casing Diameter: Casing Length: Casing Type: Screen Diameter:

Screen Length: Screen Mesh: Screen Type: 2.0 in 89.5 ft PVC 2.0 in 5.0 ft 0.010 in PVC

OBSERVATION WELL NO: W-7

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location:

BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: AIP

		LOG OF O	BSEF	RVATI	ON WELL	
G	Senera	lized Subsurface Profile	8		Installation Schematic	
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 704.3		WELL DETAIL	TOP OF WELL CASING ELEVATION: 707.32	
705	71 N	Sandy Topsoil	0.0	M		0.0
		Sand	6.0			
		Sandy Silt	10.0			
690		Silty Sand	13.5			
675		Silty Clay	59.0		Non-Shrinking Cement Grout	
		Clayey Silt	66.0			
		Sand	68.0			68.0
630					Hydrated Bentonite Chips	71.0
		Sandy Silt	80.0		Filter Sand	80.0
		End of Boring		- 5 AT	Tip Elev: 626.3	30.0
615					Tip Depth: 78.0	

GROUNDWATER DATA

DATE (ft.) COMMENTS

12-07-08 654.92 02-09-09 654.82

NOTES

[1] For details of subsurface strata, see Log of Test Boring TB-W-7.

[2] Location Coordinates: E 4328.2

N 7346.7

Started: Completed: Inspector:

Inspector: Contractor: Driller: Equipment: Well Type: 09-04-08 09-04-08 M. McNamara Mateco Drilling Co.

R. Crosby CME-750 ATV Drill Rig

Observation

Casing Diameter: Casing Length: Casing Type: Screen Diameter: Screen Length: Screen Mesh:

Screen Type:

2.0 in 74.3 ft PVC 2.0 in 5.0 ft 0.010 in PVC

OBSERVATION WELL NO: W-10D

Project Name:

PRO-

FILE

ELEV.

(ft)

700

680

660

640

WAYNE DISPOSAL, INC. - WOOD LOT

LOG OF OBSERVATION WELL

0.5

11.0

15.0

67.0

76.0

WELL

DETAIL

Installation Schematic

Non-Shrinking Cement Grout

TOP OF WELL CASING

ELEVATION: 707.02

Project Location:

Generalized Subsurface Profile

GROUND SURFACE

ELEVATION: 704.6

Topsoil

Silty Sand

Sandy Silt

Silty Clay

Clayey Silt

BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: 41P

GROUNDWATER DATA

ELEV.

DATE (ft.)

COMMENTS

12-17-08 652.80

NOTES

- [1] For details of subsurface strata, see Log of Test Boring TB-W-10.
- [2] Location Coordinates: E 3697.49

N 7052.58

620		Silt & Clay	85.0			
		Silty Sand	86.0			
-	77.77	Sandy Silt	88.0			
-		Silty Clay	94.0			
-		Sand			Hydrated	101.0 103.0
600			104.0	S 1806		100.0
-		Clayey Sand	112.0		Bentonite Grout	
-		Silty Clay	116.0		Filter Sand	
580		Clayey Sand	125.0			127.0
	XXXX	Bedrock: Shale	127.0		Tip Elev: 594.6	127.0
-		End of Boring			Tip Depth: 110.0	
_						

Started: Completed: Inspector: Contractor:

Well Type:

Driller:

07-10-08 07-10-08 M. McNamara Mateco Drilling Co. J. Pitsch CME-750 ATV Drill Rig

Equipment: Observation Casing Diameter: Casing Length: Casing Type: Screen Diameter: Screen Length: Screen Mesh:

Screen Type:

2.0 in 107.4 ft PVC 2.0 in 5.0 ft 0.010 in **PVC**

OBSERVATION WELL NO: W-10S

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location:

BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: 41P

GROUNDWATER DATA

DATE (ft.)

COMMENTS

12-07-08 652.79 02-09-09 652.77

NOTES

- [1] Generalized subsurface profile based on adjacent test boring TB-W-10.
- [2] Location Coordinates: E 3704.07

N 7052.42

				(VAII	ON WELL	
		lized Subsurface Prof			Installation Schematic	
ELEV.	PRO-	GROUND SURFA		WELL	TOP OF WELL CASING	
(ft)	FILE	ELEVATION: 704		DETAIL	ELEVATION: 707.01	0.0
	9 20 200	Topsoil	0.0		1	0.0
700						
	1969	Silty Sand			11	
			11.0		31	
-		Sandy Silt	15.0		1	
660		Silty Clay			Non-Shrinking Cement Grout	
620		Clayey Silt Silt & Clay	67.0 76.0 85.0			
	17	Silty Sand	86.0 88.0			
-		Sandy Silt Silty Clay			_	_
- - 600	11111	Sand	94.0		Hydrated 9 Bentonite Grout Filter Sand	3.8 6.8
		End of Boring			Tip Elev: 600.8 Tip Depth: 103.8	
580						

Started: Completed: Inspector:

Inspector: Contractor: Driller: Equipment: Well Type: 07-12-08 07-12-08 M. McNamara

Observation

Mateco Drilling Co. J. Pitsch CME-750 ATV Drill Rig Casing Diameter: Casing Length: Casing Type: Screen Diameter:

Screen Length: Screen Mesh: Screen Type: 2.0 in 101.2 ft PVC 2.0 in 5.0 ft 0.010 in PVC

OBSERVATION WELL NO: W-12

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

LOG OF OBSERVATION WELL

0.7

11.0

53.0

68.0

86.0

90.0

100.0

WELL

DETAIL

Installation Schematic

Non-Shrinking

Cement Grout

Hydrated

Bentonite Grout

Filter Sand

Tip Elev: 606.1

Tip Depth: 99.0

TOP OF WELL CASING

ELEVATION: 707.86

Project Location:

PRO-

FILE

ELEV.

(ft)

700

680

660

640

620

600

580

Generalized Subsurface Profile

GROUND SURFACE

ELEVATION: 705.1

Topsoil

Silty Sand

Silty Clay

Clayey Silt

Silty Clay

Sand & Silt

Sand & Gravel

End of Boring

BELLEVILLE, MICHIGAN



0.0

89.0

92.0

100.0

NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

dip Checked By:

GROUNDWATER DATA

ELEV. DATE

(ft.)

COMMENTS

653.19

12-07-08 02-09-09 653.72

NOTES

- [1] For details of subsurface strata, see Log of Test Boring TB-W-12.
- [2] Location Coordinates: E 4326.99

N 7041.95

Started:	07-02-08
Completed:	07 - 02-08
Inspector:	M. McNan
Contractor: Driller:	Mateco Dr J. Pitsch
Equipment:	CME-750.
Well Type:	Observatio

nara rilling Co. ATV Drill Rig Observation

Casing Diameter: Casing Length: Casing Type: Screen Diameter: Screen Length: Screen Mesh: Screen Type:

2.0 in 96.8 ft PVC 2.0 in 5.0 ft 0.010 in **PVC**

OBSERVATION WELL NO: W-14

Project Name:

WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: dlp

		100.05.0	DOFF)) / A	TIC	SAL VACEL I	
		LOG OF O		IVA	HIC		
G	enera	alized Subsurface Profi				Installation Schematic	
ELEV.	PRO-	GROUND SURFAC		WE		TOP OF WELL CASING	
(ft)	FILE	ELEVATION: 704.		DET	AIL	ELEVATION: 707.32	
705	202020		0.0		T.		0.0
690		Silty Sand	16.0		KUKKUKU		
675							
660		Silty Clay			NXVXXXXXX	Non-Shrinking Cement Grout	
645		Silt Silty Clay	55.0 58.0 60.0		XXXXXXXXX		
				K	$ \mathbf{K} $		
	12	Sandy Silt	64.0		M		
630		Clayey Silt & Sand	75.0			Hydrated Bentonite Grout	70.0 73.0
_		Silty Sand			334	Filter Sand	
	1	-	80.0			Ti- Flow 004.0	80.0
-		End of Boring	}			Tip Elev: 624.8 Tip Depth: 80.0	
-			ł			The pehrit ooto	
					- 1		

GROUNDWATER DATA

ELEV. DATE (ft.)

COMMENTS

12-07-08 02-09-09 653.87 653.72

NOTES

[1] For details of subsurface strata, see Log of Test Boring TB-W-14.

[2] Location Coordinates: E 4926.98

N 7046.44

Started: Completed: Inspector:

615

06-25-08 06-25-08 M. McNamara

Contractor: Driller: Equipment: Well Type: Mateco Drilling Co. J. Pitsch CME-750 ATV Drill Rig Observation

Casing Diameter: Casing Length: Casing Type: Screen Diameter: Screen Length:

Screen Mesh: Screen Type:

2.0 in 77.6 ft PVC 2.0 in 5.0 ft 0.010 in **PVC**



APPENDIX C

SOIL LABORATORY RESULTS

			Unified Soil Classification	SM SM	SM	SM	SM	ML	SM	ML	SM	သင	ML	M	SM	SM	SM	SM	ML	SM	SM	SM	SM							
Olleer I Ol IO	its		Plasticity Index		o	-	-	U	S	C	S	O	C	c	c		-		C	-	***	D-0-10	I	0	<u>0</u>	ပ	1	-	10.00	I
01166	Atterberg Limits	(%)	Plastic Limit	Non-Plastic	Non-Plastic	1	-	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic				Non-Plastic		I		-	Non-Plastic	Non-Plastic	Non-Plastic	-	1	1	ı
	Atte		Liquid Limit	Z	Z	ı	1	Z	Z	Z	Z	Z	Z	Z	Z			an in-su	2	-	april 10 miles		1	_	_	۷	1	-	-	1
			Spiollojas & Collojds	∞	က	6	4	12	က	4	15	3	5	3	17	3	26	2	11	9	20	2	4	1	1	4	1	1	1	1
	bution		HIS	9	15	∞	∞	တ	2	41	9	12	18	24	72	2	44	17	ω	52	29	∞	31	18	← 17	69	← 27	←21	← 29	←21
	e Distri	(%)	Fine Sand	26	9/	75	78	46	9	55	63	29	22	73	11	84	30	81	46	42	10	88	65	8	83	27	8	79	71	79
	Partical Size Distribution	-	Medium Sand	20	9		10	22	-	0	9	16	0	0	0	7	0	0	28		1	-		2			∞			0
Jeic UN	Pai	-	Coarse Sand	5	0	1	0	2	0	0	0		0 (0	0	1	0	0	3 4	0 0	0 0	0 0	0 0	0	0	0 0	0	0 0		0 0
OEOL OEOL			Gravel		0	0	0	တ	0	0	2	4	0	0	0	0	0	0		_						_				_
DATA (B)			Permeability (cm/sec)	1	1	1	1	1	1	****	1	1		D-00	40.00	-			!	an quali	-	-	1	1	t.	-	1	:	-	eliner
LABORATORY TEST DATA (BY GEOLOGIC UNIT)			ln-Place Dry Density (lbs/cu.ft)	8.00	1	1	-	ı	1	1	i	ı		****	-		9.8.8		200		ı			. 1	ı	***	9			
LABORAT			Natural Water Content (% of dry weight)	ŀ	1	i	1	ı	1	-	E 0 0	ı	****	-		-		-	40.00 (0)	-			1	ł	ı	gaments.	13.9	21.9	22.1	21.2
SUMMARY CF			Failure Strain (%)	1	1	1	ı	I	ı	i	ı	i					-	1	-	***	1	-	1	1	1	- Contract	-		-	
SUMM			Unconfined Compressive Strength (psf)		1	i	I				1	-	•			1	•	-	-		1	•	1	an en en	2 2 2	-		-	4 4 4	1
			(fi) qiT əlqms2 to noitsvəl∃	9.007	9.969	702.7	697.7	702.7	697.7	691.2	700.2	695.2	700.2	695.2	690.2	701.2	697.2	693.2	702.6	9.769	690.1	700.1	695.1	701.1	695.1	691.1	702.6	9.769	700.1	695.1
_		2	Depth of Sample Tip (ft)	4.0	8.0	2.5	7.5	2.5	7.5	14.0	5.0	10.0	5.0	10.0	15.0	4.0	8.0	12.0	2.5	7.5	15.0	2.0	10.0	4.0	10.0	14.0	2.5	2.5	5.0	10.0
0-0-000			Gl əlqms2	LS-2	LS-4	LS-1	LS-3	LS-1	LS-3	9-57	LS-2	LS-4	LS-2	LS-4	LS-5	LS-2	LS-4	LS-6	LS-1	LS-3	LS-5	LS-2	LS-4	LS-2	LS-5	LS-7	LS-1	LS-3	LS-2	LS-4
		 	Boring Designation	TB-W-1	TB-W-1	TB-W-2	TB-W-2	TB-W-3	TB-W-3	TB-W-4	TB-W-5	TB-W-5	TB-W-6	TB-W-6	TB-W-6	TB-W-7	TB-W-7	TB-W-7	TB-W-8	TB-W-8	TB-W-8	TB-W-9	TB-W-9	TB-W-10	TB-W-10	TB-W-10	TB-W-11	TB-W-11	TB-W-12	TB-W-12
200			Geologic Unit	Deltaic Sands	Deltaic Sands	Deltaic Sands	Deltaic Sands	Deltaic Sands	Deltaic Sands		\dashv			Deltaic Sands	Deltaic Sands	Deltaic Sands			Deltaic Sands		Deltaic Sands	Deltaic Sands	Deltaic Sands	Deltaic Sands	Deltaic Sands	Deltaic Sands	Deltaic Sands	Deltaic Sands	Deltaic Sands	Deltaic Sands

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	Atterberg Limits (%)	Plastic Limit	Non-Plastic	1	Non-Plastic	1	Non-Plastic	15	Non-Plastic	14	17	16	18	16	14	13	14	15	13	23	14	I	17	17	18	16	12	14	<u>∞</u>
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		Clay & Colloids	1	1	1		2	45	19	43	49	28	53	49	42	32	38	29	30	78	43	ı	51	51	56	49	31	43	45
	oution	માંડ	← 12	+ 30 →	<u>↑</u>	↑	99	45	79	34	32	23	30	36	88	33	32	09	ထ္ထ	9	36	1	29	30	59	38	49	41	25
	ze Distril (%)	Fine Sand	73	70	29	93	88	∞	2	15	11	12	10	10	13	51	16	7	20	က	13	40.00	12	11	တ	8	16	=	2
	Partical Size Distribution (%)	bns2 muib9M	12	0	19	0	0	2	0	2	2	4	4	က	က	∞	5	1	7	_	4	1	4	2	က	3	4	က	0
IN OIS	Part	Coarse Sand	7	0	က	0	0	0	0	2	2	2	2	-	2	က	3	0	2	0	2	-	3	2	2	1	0	-	0
0700		Gravel	-	0	0	0	0	0	0	1	1	-	1	-	2	လ	9	က	က	0	2		1	1	τ-	_	0	-	-
LABORATORY TEST DATA (BY GEOLOGIC UNIT)		Permeability (cm/sec)	***	1	-						1.40 E-8		1.14 E-8	1.29 E-8		3.09 E-8	2.99 E-8	1	1	ı	3.50 E-8		des das des	1.93 E-8	1.72 E-8	1	I	1.39 E-7	•
NORY TEST	<u></u>	In-Place Dry Density (fbs/cu.ft)		1	-	-	de divers	1	106.5	1	115.1		111.1	118.5	1	124.1	113.7	ı	107.8	-	109.8	113.5	***	111.8	112.3		-	125.3	1
LABORY		Natural Water Content (% of dry weight)	16.2	20.6	15.1	19.3	21.2		21.0	1	17.4	1	18.8	16.2	1	13.9	18.2		22.4	-	18.8	18.3	I	18.3	18.2	ı	•	13.2	1
SUMMARY OF		Failure Strain (%)		ı	-	***************************************	***		1	ı	15.0	I	1	6.3	I	1	14.3	an et en		-	PP CONTENTS	14.5	1	ı	14.1	-	1	i	in the state of
SUM	. "	Unconfined Compressive Strength (psf)		!	***	400			-	•	3607	•		8015	***		1829	I	ı		0 to 10	3773	ı	•	8870	1	1		I
		Elevation of Sample Tip (ff)	702.6	9.769	701.1	695.1	691.1	692.5	688.5	684.5	678.5	672.5	668.5	660.5	654.5	650.5	642.5	636.5	632.4	691.4	688.4	686.4	681.4	678.4	671.4	666.4	661.4	658.4	691.4
	21 10	(fi) diT əldms2 to diqəQ	2.5	7.5	4.0	10.0	14.0	14.0	18.0	22.0	28.0	34.0	38.0	46.0	52.0	26.0	64.0	70.0	74.0	15.0	18.0	20.0	25.0	28.0	35.0	40.0	45.0	48.0	15.0
		Sample iD	LS-1	LS-3	LS-2	LS-5	LS-7	<i>L</i> -S1	ST-1	LS-10	ST-2	LS-15	ST-3	ST-4	LS-22	ST-5	ST-6	LS-29	ST-7	LS-5	ST-1	P-S-I	LS-7	ST-2	ST-3	LS-9	LS-10	ST-4	LS-5
		Boring Designation	TB-W-13	TB-W-13	TB-W-14	TB-W-14	TB-W-14	TB-W-1	TB-W-2	TB-W-3																			
		Geologic Unit	Deltaic Sands	Deltaic Sands	Deltaic Sands	Deltaic Sands	Deltaic Sands	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay

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Sheet 3 of 10

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	its		Plasticity Index	_	13	12	14	7	10	15	6	∞	19	9	12	13	14	14	12	7	12	ı	22	13	=	7	16	12	1	13
	Atterberg Limits	(%)	timid oitseld	14	17	200	8	14	15	20	14	14	23	13	18	17	8	18	17	13	17	9100	22	18	21	18	17	15	-	17
	Atter		timid biupid	21	30	30	32	21	25	35	23	22	42	19	30	30	32	32	29	20	53		44	31	32	25	33	27	I	30
			Clay & Colloids	35	48	51	28	33	42	73	78	27	8	30	20	51	23	53	51	32	51	1	20	54	49	38	28	45	32	21
	ution		HIS	37	32	99	28	42	36	27	74	21	<u>~</u>	47	9	က္က	က္က	33	35	45	35	1	9	42	ဗ္တ	61	37	32	37	က
	Distrib	(%)	Fine Sand	100	12	7	တ	15	13	0	88	37	-	14	12	7	10	6	တ	16	00	ı		7	0	1	4	15	20	-
	Partical Size Distribution	0)	Medium Sand	_	2	2	4	2	4	0	7	11	0	ဖ	വ	ည	4	က	4	4	က	1	0	0	0	0	1	4	7	2
5	Parti		Coarse Sand	2	က	m	-	က	-	0	2	2	0	2	2	က	-	-	1	2	7	1	0	0	0	0	0	2	2	2
MATA (BY GEOLOGIC UNIT)			Gravel	_	0	0	0	2	4	0	τ	2	0	-	-	0	2	-	0	-	-	1	0	2	0	0	0	2	2	-
			Permeability (cm/sec)	2.73 E-8		1.42 E-8	1.05 E-8	an op pe	1.60 E-8	1.38 E-8	4.85 E-8		4.79 E-8		2.74 E-8	1.85 E-8	40.40	3.19 E-8	===	5.84 E-8	3.71 E-8		en open		****		-	2.36 E-8	B 60:00	4.41 E-8
ABORATORY TEST			In-Place Dry Density (lbs/cu.ft)	123.0	ı	113.8	121.3	400	118.1	94.3	124.2		96.6	***	113.7	112.0	-	114.2	116.1	127.4	107.5	98.4	•	:	1	1	ı	112.1	į	111.1
24 BO			Natural Water Content (% of dry weight)	14.5		16.7	14.6	-	16.1	29.1	12.1	1	26.6	1	17.5	19.3	1	18.1	18.0	12.7	20.5	28.8	‡	1	***	1	•	19.1	1	18.6
SUMMARY OF LABORA			Failure Strain (%)	1	:	15.0	12.4		14.8	ı	ı	ı	15.0	1	15.0	-		6.0	15.0		-	15.0	ı	ı	1	1	•	14.2	-	14.2
SUM		2	Unconfined Compressive Strength (psf)	1	-	8120	10920	ı	9780	-	•	****	2120		6280	1	1	7300	3640	1		2720	1	1	and a	-	1	5595	200	3648
			Elevation of Sample Tip (ff)	686.4	681.4	678.4	672.4	666.4	663.4	622.9	699.2	695.2	687.9	683.9	6.629	673.9	6.699	665.9	661.9	622.9	621.9	649.9	647.9	639.9	633.9	627.9	6.069	682.9	680.3	677.3
			(fi) diT əldms2 to dtqeU	20.0	25.0	28.0	34.0	40.0	42.5	20.0	0.9	10.0	18.0	22.0	26.0	32.0	36.0	40.0	44.0	48.0	54.0	56.0	58.0	0.99	72.0	78.0	15.0	18.0	25.0	28.0
			Gl əlqms2	ST-1	P-S-I	ST-2	ST-3	LS-8	ST-4	ST-5	ST-1	LS-4	ST-2	LS-9	ST-3	ST-4	LS-14	ST-5	LS-17	ST-6	ST-7	LS-21	LS-22	LS-25	LS-30	LS-33	LS-5	ST-1	LS-7	ST-2
			Boring Designation	TB-W-3	TB-W-4	18-W-4	TB-W-4	TB-W-5	TB-W-5	TB-W-5	TB-W-5																			
			Geologic Unit	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay

oject No: 62-080376-01	
ct No: 62-08	-01
ct No: 6	9229
oject N	0: 62-0
Pr	Project No

				Unified Soil Classification	MH-CL	ರ	占	ರ	ರ	占 C	and the	占	CL-ML	귕	ರ	占	겁	占	占		占	ರ	-	占	다 C	CL-ML	CL CL	딩	占	딩	را ا
Sheet 4 of 10		its		Plasticity Index	1	16	16	10	14	13		14	5	15	17	15	16	16	13	-	23	22		∞	18	7	14	13	14	17	12
Sheet		Atterberg Limits	(Q)	Plastic Limit	1	18	16	15	17	18	-	9	14	18	9	17	16	17	16	1	25	24		11	20	13	17	17	17	16	16
		Atter		Liquid Limit		34	32	25	31	31	-	32	19	33	35	32	32	33	53		48	46	Op op on	19	38	20	31	30	31	33	78
				Clay & Colloids	43	56	22	45	99	09	i	64	29	55	22	53	20	56	47	ı	91	87		31	73	33	51	52	22	26	49
		ution		His	33	28	34	36	32	36	1	33	51	30	28	28	29	31	31	1	∞	12	motors	36	56	39	59	29	27	78	36
		e Distrib	(0)	Fine Sand	13	တ	9	13	2	4	m. carte	2	9	တ	တ	10	10	∞	12	1	-	-	ı	24	-	14	11	12	9	6	တ
		Partical Size Distribution		Medium Sand	_	4	2	ഹ	0	0		-	2	4	4	2	9	က	စ	1	0	0	-	7	0	7	9	7	9	ည	4
	<u>ا</u>	Parti		Coarse Sand	6	2	-	-	0	0	1	0	0	-	-	2	က	-	7	1	0	0	I	7	0	2		0	2	2	-
	EOLOS			Gravel	2	-	0	0	0	0	-	0	0	-	က	2	7	-	7	l	0	0	-	0	0	5	2	0	0	0	-
NTS, LTD.	TEST DATA (BY GEOLOGIC UNIT)			Permeability (cm/sec)	****	1.15 E-8		2.08 E-8		1.48 E-8		5.67 E-8	0 mm 0	2.99 E-8	1	1.06 E-8	1		1.39 E-8		***	1.36 E-8	40.00 (10	era.co	4.15 E-8		2.09 E-8		1.80 E-8	ŀ	1.64 E-8
NTH CONSULTANTS, LTD.				in-Place Dry Density (lbs/cu.ft)		107.1	-	121.2		9.98		101.9	1	113.7	988	114.2	1		114.7	121.1	•	92.0	114.4	-	96.8	1	112.3		114.6	1	118.6
İ	LABORATORY			Natural Water Content (% of dry weight)		20.2	1	14.1	1	33.3	1	24.5	I	18.2		17.8	1	•	17.8	14.2		33.2	18.5	-	28.2		18.7	ı	18.0	i	15.6
	SUMMARY OF			Failure Strain (%)	1		*	9.2	I	14.4	8.0	1	1	1	ı	14.1	-	ı	1	14.4	-	13.1	15.0			I	13.5	1	15.0	3	
	SUM			Unconfined Compressive Strength (psf)			***	6052	i	305	4020	I	i	****	1	5682	en spren	1	1	6638	1	303	2220	1	-	****	2960	ı	7320		
				Elevation of Sample Tip (ff)	670.3	667.3	660.3	657.3	650.3	647.3	645.3	637.3	685.2	682.3	675.3	672.3	665.3	660.3	659.3	657.8	651.4	648.4	646.4	626.4	690.4	686.4	682.4	678.4	674.4	670.4	666.4
11				Depth of Sample Tip (ft)	35.0	38.0	45.0	48.0	55.0	58.0	0.09	68.0	20.0	23.0	30.0	33.0	40.0	45.0	46.0	47.5	55.0	58.0	0.09	80.0	16.0	20.0	24.0	28.0	32.0	36.0	40.0
) 80376- C				Sample ID	LS-9	ST-3	LS-11	ST-4	LS-13	ST-5	LS-14	ST-6	LS-6	ST-1	ကိုမှ	ST-2	LS-10	LS-11	ST-3	LS-12	LS-13	ST-4	LS-14	LS-18	ST-1	LS-9	ST-2	LS-12	ST-3	LS-15	ST-4
Project No: 62-080376-01				Boring Designation	TB-W-5	TB-W-6	TB-W-7																								
Proje				Geologic Unit	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay

																					-1					-	-	_
	lits		Plasticity Index	∞	17	တ	2	2	14	13	13	4 6	7 7	_ _ _	13	14	14	14	9	6	12	13	10	13	17	13	4 :	11
	Atterbera Limits	(%)	Plastic Limit	18	20	17	17	16	16	17	17	8 4	5 4	15	17	17	17	17	14	14	16	17	13	17	17	18	17	13
	After		Liquid Limit	26	35	56	22	21	30	30	စ္က	32	17	2 20	30	31	31	31	24	23	28	30	23	30	34	31	33	77
			Spiollog & KelD	45	99	47	22	34	20	46	21	52	3 4	5 14	51	52	52	53	40	33	48	54	36	52	20	55	33	41
	ution		His	9	26	48	73	61	တ္တ	31	တ္တ	30	3	8 9	30	59	30	29	38	37	35	34	32	29	30	32	98	38
	Partical Size Distribution	(%)	Fine Sand	9	က	4	4	2	12	9	7	- 5	5 6	3 5	12	=	11	11	14	13	7	တ	17	10	77	∞	<u>۱</u>	35
	cal Size	8	Medium Sand	6	3	-	-	0	ဖ	2	2	4 4	1 0	0 4	4	4	4	4	ည	2	က	2	∞	5	ഹ	က	6	4
2	Parti		Coarse Sand	2	0	0	0	0	~	2	က	7	7	- 2	2	က	3	2	က	9	2	0	4	3	2	-	← (2
			Gravel	0	0	0	0	0	~~	က	0		-	- 0	-	-	0	-	0	9		_	က	1	2	-	0	0
SCHEMAN OF LABORATORY TEST DATA (BY SECLOGIC UNIT)			Permeability (cm/sec)	1	3.35 E-8	ı	8.46 E-8	-	D-section (3.29 E-8	•	2.47 E-8	3.22 E-0		2.16 E-8	1.87 E-8		3.45 E-8	6.25 E-8	-	1.40 E-8	3.11 E-6 ^[1]	***************************************	2.64 E-8	1	1.76 E-8	3.34 E-8	1
			וח-Place Dry Density (ח.uɔ/sdl)	1	101.1	1	9.66	Ī	and an analysis of	115.1		114.0	1717		114.6	113.1	III der ele	117.6	123.3	1	122.6	101.3		114.6	1	115.7	118.7	
			Natural Water Content (% of dry weight)		25.2	-	25.6			17.8	ı	17.8	2.0	1	12.8	17.3	ļ	16.4	15.6	-	12.5	26.3	-	17.7	-	17.0	17.2	
			Failure Strain (%)	-	2.8			i	-	15.0	ı	15.0			11.8	-	ı	15.0	1	1	12.2	-	ı	1	I	ı	14.3	:
			Unconfined Compressive Strength (psf)	ŀ	3680	10 co co	8 mer	1	1	5100	1	1660			6580		9 11	11680	-	ı	8360	-	l	-	1	1	3546	**
			Elevation of Sample Tip (ft)	662.4	658.4	654.4	650.4	642.4	686.4	683.4	676.0	673.0	864.0	689.6	686.6	9.629	674.6	671.6	664.6	659.6	9.959	688.0	684.0	0.089	674.0	0.899	660.0	654.0
			Depth of Sample Tip (ft)	44.0	48.0	52.0	56.0	64.0	20.0	23.0	30.0	33.0	45.0 AF.0	15.0	18.0	25.0	30.0	33.0	40.0	45.0	48.0	18.0	22.0	26.0	32.0	38.0	46.0	27.0
			Gi əlqms2	LS-18	ST-5	LS-21	ST-6	LS-26	9-57	ST-1		ST-2	10.10	LS-5	ST-1	ST-2	LS-7	ST-3	ST-4	LS-9	ST-5	ST-1	LS-10	ST-2	LS-14	ST-3	ST4	T2-57
			Boring Designation	TB-W-7	TB-W-7	TB-W-7	TB-W-7	TB-W-7	TB-W-8	TB-W-8	TB-W-8	TB-W-8	A W A	TB-W-9	TB-W-10	TB-W-10	TB-W-10	TB-W-10	TB-W-10	TB-W-10	1B-W-10							
			Geologic Unit	Glacial Clay	Slacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay

CL-ML

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Unified Soil Classification

|5|5|5|5|5|5|5|5|5|5|5|5|5|5|5|5|5|5|5

62-080376-01	
Project No:	

Sheet 6 of 10

		Unified Soil Classification	ರ	200	CL-ML	CL-ML	占	ರ	겅	ರ	ರ	ರ	占	ರ	ر ال	ပ ပ	CL-ML	겁	CL-ML	CL-ML	겅	CL	CL	占	겁	占	占	겁	CL-ML
	ilts	Plasticity Index	15	ı	4	4	13	20	13	15	17	14	16	15	17	28	9	15	9	9	11	6	11	17	18	14	14	15	7
	Atterberg Limits (%)	Plastic Limit	18	ı	16	12	14	19	15	15	16	17	48	15	20	16	14	16	1	=	15	14	15	17	18	14	15	15	14
	Atter	Liquid Limit	33	-	20	16	27	33	28	30	33	31	34	30	37	44	20	31	17	17	56	23	26	34	36	28	29	30	21
		Clay & Colloids	62	1	27	22	31	89	47	20	20	51	26	48	77	80	တ္တ	48	24	23	40	34	40	20	61	41	47	48	29
	ution	His	27	1	28	34	20	30	37	78	30	28	30	37	23	19	37	47	32	33	20	48	40	30	23	34	88	37	53
	Distrib	Fine Sand	9	1	9	39	6	2	6	12	12	12	တ	10	0	-	20	က	က္က	22	တ	11	14	10	10	14	တ	9	13
	Partical Size Distribution (%)	Medium Sand	2	in the second	က	4	9	0	4	5	4	ည	က	2	0	0	2	-	~	တ	_	4	4	4	4	ည	က	က	က
D UNIT	Partic	Coarse Sand	-	-	-	-	2	0	2	2	က	-	-	2	0	0	က	-	က	4	0	2	2	က	7	7	2	2	
9070		Gravel	2	ı	_	0	53	0	-	က	-	က	-	-	0	0	22	0	4	9	0	-	0	က	0	4	-	0	-
DATA (BY GEOLOGIC UNIT)	el e	Permeability (cm/sec)	1.71 E-8			80 20 40	# W. W.		3.32 E-8	division.	1.50 E-8	****	1.50 E-8	1.78 E-8		1.42 E-8		2.56 E-7	1	-	800		2.28 E-8	1.05 E-8	1	1.33 E-8	1	ı	4.72 E-8
SUMMARY OF LABORATORY TEST		In-Place Dry Density (fbs/cu.ft)	107.0	115.7	1	1	-		109.4	-	115.4	1100	113.9	118.9	ı	121.3	de de la constante de la const	103.2	136.4	-	1	117.2	119.8	114.1	1	121.9		B 10 10 10	100.8
		Natural Water Content (% of dry weight)	21.5	17.7	18.7	1	•	24.6	20.5	1	17.6	19.8	17.8	15.9	22.8	14.9	14.9	21.4	3.5	11.7	14.8	16.1	15.7	17.7	16.2	13.3	13.9	16.2	25.4
SUMMARY OF I		Failure Strain (%)	14.2	10.8	1	8 9 9	-		4.2	1	1		15.0	1	ı	11.0	1	15.0	13.6	1		1	1	15.0	and the set	15.0	2 2	-	1
SUM		Unconfined Compressive Strength (psf)	851	5340	-		ı	1	3361	1	-	-	8421		ı	6721	1	1134	13936		ı		-	3480		3443		1	1
		Elevation of Sample Tip (ft)	644.0	640.0	630.0	624.0	591.0	691.0	688.0	683.0	678.0	671.0	0.899	663.0	656.0	653.0	646.0	638.0	631.0	0.020	691.0	0.989	684.0	0.929	671.0	0.899	0.999	658.5	651.0
		(ft) diT elqms2 to diqed	62.0	0.99	76.0	82.0	115.0	15.0	18.0	23.0	28.0	35.0	38.0	43.0	20.0	53.0	0.09	68.0	75.0	80.0	15.0	20.0	22.0	30.0	35.0	38.0	40.0	47.5	55.0
		Sample ID	ST-6	LS-27	ST-7	LS-33	LS-44	LS-5	ST-1	ST-2	ST-3	-S-9	ST-4	ST-5	LS-12	ST-6	LS-14	8-IS	LS-17	-7-18	LS-5	LS-6	ST-1	ST-2	LS-9	ST-3	LS-10	LS-11	ST-4
		Boring Designation	TB-W-10	TB-W-10	TB-W-10	TB-W-10	TB-W-10	TB-W-11	1B-W-11	TB-W-11	-M-11	TB-W-12																	
		Geologic Unit	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Glacial Clay	Giacial Ciay	Glacial Clay								

Affe		Jimid biupid	23	24	24	35	30	32	31	34	40	26	20	30	23	31	26	~	ı	30	33	31	59	56	38	21	_	34	_	
		Clay & Colloids	35	37	37	65	20	54	51	53	61	48	32	48	36	20	36	6	1	22	51	52	20	44	20	78	∞	71	7	
ution	ion I	His	88	37	88	30	48	41	28	28	23	36	40	37	20	46	64	34	-	53	29	30	33	38	29	29	92	25	62	
UNIT) Partical Size Distribution	(9)	Fine Sand	17	16	15	4	2	4	12	11	တ	တ	18	10	11	3	0	22	-	12	10	10	12	12	-	∞	0	1	-	
J al Size	(%)	Medium Sand	2	2	9	-	0	-	4	5	က	3	9	2	2	1	0	0	***	4	5	4	က	4	0	2	0	0	0	
Partic		Coarse Sand	2	3	2	0	0	0	က	2	2	1	4	2	1	0	0	0	-	2	2	2	2	-	0	0	0	2	0	
		Бгауе	3	2	2	0	0	0	2	1	2	က	0	-	0	0	0	0	I	က	3	7	0	-	0	က	0	-	0	
		Permeability (cm/sec)	1.95 E-7	1	2.28 E-8		1.48 E-7	7.28 E-8		1.43 E-8	40 60-00	1.32 E-8	and the state of	1.24 E-8	191	1.70 E-7	3.44 E-8	1	7.85 E-7 ^[2]	3.77 E-8	B-19-20	1.86 E-8		4.70 E-8	3.23 E-8		1	2.00 E-8	-	
		in-Place Dry Density (fi.us/sdl)	114.3		117.2	1	104.0	106.6		113.0	-	114.7	132.7	115.4	114.7	108.4	96.3		103.6	116.0		114.2		108.8	111.1	111.0	106.8	8.96	**	
		Natural Water Content (% of dry weight)	19.1	11.8	14.9	22.3	22.5	23.2	17.2	17.9	1	15.9	12.8	16.7	19.0	21.2	27.9	!	23.4	17.7	i	17.9	15.0	20.4	13.0	19.8	22.2	27.1	es de da	
Summer of Caburations (ES) while (S) declarate districtions		Failure Strain (%)	14.2	1	14.8		9.0	ı	1	I	1	14.3	1	I	14.9	15.0	1	-	ı		ı	11.9		i		14.5			-	
		Unconfined Compressive Strength (psf)	1460	ı	1751	1	2658	1	ı	-	and a	6118	1	ı	1646	1936		9 15 11	despera	ı	-	11202		-		2536	ı	-	1 3 3	
		Elevation of Sample Tip (ft)	633.0	626.0	623.0	691.0	688.0	683.0	676.0	673.0	668.0	663.0	656.0	653.0	646.0	641.6	636.6	9.289	9.789	678.6	674.6	9.079	9.999	662.6	656.6	9.059	646.6	644.6	627.1	
		(fi) qiT əlqms2 to riqəQ	73.0	80.0	83.0	15.0	18.0	23.0	30.0	33.0	38.0	43.0	20.0	53.0	0.09	63.0	68.0	17.0	17.0	26.0	30.0	34.0	38.0	42.0	48.0	54.0	58.0	0.09	78.0	
		Gl əlqms2	ST-7	LS-17	ST-8	LS-5	ST-1	ST-2	LS-8	ST-3	ST-4	ST-5	LS-12	ST-6	LS-14	ST-7	ST-8	ST-1	ST-1	ST-2	ST-3	ST-4	LS-14	ST-5	ST-6	LS-20	LS-22	ST-7	LS-32	
		Boring Designation	TB-W-12	TB-W-12	TB-W-12	TB-W-13	TB-W-13	TB-W-13	TB-W-13	TB-W-13	TB-W-13	TB-W-13	TB-W-13	TB-W-13	TB-W-13	TB-W-13	TB-W-13	TB-W-14	TB-W-14	TB-W-14	TB-W-14	TB-W-14	TB-W-14	TB-W-14	TB-W-14	TB-W-14	TB-W-14	TB-W-14	TB-W-1	
		Geologic Unit	Glacial Clay	Glacial Clay			Glacial Clay				Í									Glacial Clay	Glacial Clay				Slay				Transition Silts	

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1 6 6

Non-Plastic

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Unified Soil Classification

Plasticity Index

Plastic Limit

Sheet 7 of 10

Atterberg Limits (%)

물리물

7

Non-Plastic 20 Non-Plastic

2-080376-01	
62	
t No:	
Project No:	

			Unified Soil Classification	M	ML	MF	ML	MH	MH	MH	MH	ML	ML	MI	ML	ML	¥	MH	Ψ	MH	M	¥	CL-ML	¥	¥	¥	M	¥	¥	CL-ML
8 of 10		ts .	Plasticity Index											4						,	2		7	0	5	1	1	0		ဖ
Sheet 8 of 10		Atterberg Limits (%)	Plastic Limit	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	91	Non-Plastic	18	Non-Plastic	Non-Plastic	I	ı	Non-Plastic	Non-Plastic	12
		Atter	Jimid biupid	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	2	Z	~	_	4	18		25	_	_	I	1			8
			Clay & Colloids	10	17	12	4	2	2	4	24	10	10	4	18	4	10	ဝ	က	9	16	14	43	3	16	4	4	∞	∞	82
		ution	3115	98	79	63	29	46	51	29	63	88	89	72	80	71	8	98	82	28	8	82	29	09	29	93	8	7	\$	45
		Distrib	Fine Sand	4	4	22	37	49	42	53	9	-	21	24	2	22	_	2	15	98	က	4	-	37	4	_	16	21	37	7
		Partical Size Distribution (%)	Medium Sand	0	0	0	0	0	0	0	2	0	-	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	-	က
	CUMIT	Partic	Coarse Sand	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
	OLOG		Gravel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	က
VTS, LTD.	ABORATORY TEST DATA (BY GEOLOGIC UNIT)		Permeability (cm/sec)	1	1					-	-	-	9 9		-		-	4		ı			3.60 E-8	di esta	1	an na ma	-	9 6 8	I	1.91 E-7
NTH CONSULTANTS, LTD.	ORY TEST		In-Place Dry Density (fb:/cu.ft)	-	and and and and and and and and and and	1	1	1	ı		108.1	Mentered	•		8.01		ı		-	1	115.8	440	98.0		104.2		en men			127.7
HTN	(Deres 2002)		العثدادها Water Content (% of طبع weight)	!	ı		889	ı	***	-	21.9	-	-	-		ı	-			1	17.3		27.5	MARINE	21.9	1	m mate	-	1	12.2
	SUMMARY OF		Failure Strain (%)			1	1	1	i	-	-		-	100	***	ı		-		ar do the	1	1	-	9	1		600	1		-
	SUMM		Unconfined Compressive Strength (psf)	!	1	1	800	-4	44.00	-	-		8 9 6	dia ma tre	-		-	-	-	my sta un	***	an idean	900	-	-	-		ı		-
		4	(fi) qiT əlqms2 to noitsvəl3	621.1	650.1	641.2	631.2	651.2	646.2	636.2	644.2	641.2	631.2	641.2	636.2	631.2	646.2	634.2	630.2	626.2	656.2	649.8	646.8	624.8	649.8	644.8	639.8	634.8	616.8	610.8
			Depth of Sample Tip (ff)	84.0	55.0	65.0	75.0	55.0	0.09	70.0	62.0	65.0	75.0	65.0	70.0	75.0	0.09	72.0	0.92	80.0	50.0	55.0	58.0	80.0	25.0	0.09	65.0	70.0	88.0	94.0
380376-0			Gl elqms2	LS-35	LS-12	LS-14	LS-16	LS-10	LS-11	LS-13	ST-8	LS-15	LS-17	LS-15	LS-16	LS-17	LS-24	LS-30	LS-32	LS-34	ST-4	LS-11	ST-5	LS-16	ST-6	LS-12	LS-13	LS-14	LS-36	ST-8
Project No: 62-080376-01			Boring Designation	TB-W-1	TB-W-2	TB-W-2	TB-W-2	TB-W-3	TB-W-3	TB-W-3	TB-W-4	TB-W-5	TB-W-5	TB-W-6	TB-W-6	TB-W-6	TB-W-7	TB-W-7	TB-W-7	TB-W-7	TB-W-8	TB-W-8	TB-W-8	TB-W-8	TB-W-9	TB-W-9	TB-W-9	TB-W-9	TB-W-10	TB-W-10
Project			Geologic Unit	Fransition Silts	-	Transition Silts	Transition Silts	Transition Silts	Transition Silts	Transition Silts	Transition Silts	Transition Silts	Transition Silts	Transition Silts		-		_	_	Transition Silts	Transition Silts		Transition Silts	Transition Silts	Transition Silts	Transition Silts	Transition Silts	Transition Silts	Transition Silts	Transition Silts

			Unified Soil Classification	M	MH	M	ML	M	ML	M	ML	ML	SM	SM	SM	SM	SM	SM	SM	SM									
	nits		Plasticity Index	ů	O	0	O	ı	ı	ပ	ပ	၁	ပ္	ပ	ပ	ပ္	ပ	ic	ic	Ö	<u>.</u>	Ö	į.	j.	į.	ic	ic	<u>.c.</u>	<u>.</u> 2
	Atterberg Limits	(%)	Plastic Limit	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	1	ı	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic	Non-Plastic
	Atte		Liquid Limit					1	1																				
			Clay & Colloids	∞	9	18	14	10	2	ည	2	15	9	4	2	က	2	4	9	ည	4	4	ဖ	က	ည	4	ည	1	1
	bution		HIS	92	91	79	75	40	98	53	29	72	14	23	23	9	10	42	16	15	19	ဝ	41	13	17	12	12	← 27	+ 18
	e Distri	(%)	Fine Sand	0	2	က	7	49	တ	42	28	13	8	67	75	29	87	54	78	8	11	87	53	\$	28	84	83	15	12
1	Partical Size Distribution		Medium Sand	0	-	0	2	-	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	56	22
SIC DIN	Part		Coarse Sand	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	
EOLO			Gravel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	23
LABORATORY TEST DATA (BY GEOLOGIC UNIT)			Permeability (cm/sec)	8.46 E-6 [3]	1.14 E-5 [3]	1	2.34 E-7	-	•	8 9 9	***************************************	1	•	•		1	444	-	Ē	200	ł	a de la composition della comp	and in				999		1
CTORY TES			In-Place Dry Density (lbs/cu.ft)	105.5	136.4	1	108.4	Wag no	-	-		•	1			1		1	1	1	i	-	1		•			an de de	•
			Natural Water Content (% of dry weight)	22.8	1.9	23.0	21.2	16.6	21.1	21.5	21.2	8.8		-	-		-	1	i	1	-	1	-		-	-	1		***
SUMMARY OF			Failure Strain (%)	ı	1	1	-	-	-	***		******	-	meson				1	ı		ap sal-up		Para de la constanta de la con				-	-	1
NIOS			Unconfined Compressive Strength (psf)	-	***	-	-			1	1			ı	-	m.p.=	I		-	1	-		:	-	and a	1	ŀ	11	
			(fl) qiT əlqms2 to noitsvəl3	641.8	644.8	639.8	636.8	614.8	629.8	640.8	636.8	630.8	618.2	614.2	648.2	636.2	626.2	641.2	631.2	626.2	626.2	638.2	641.2	636.2	631.2	631.2	626.2	608.2	601.2
			Depth of Sample Tip (ft)	63.0	0.09	65.0	0.89	90.0	75.0	64.0	68.0	74.0	88.0	92.0	58.0	70.0	80.0	65.0	75.0	80.0	80.0	68.0	65.0	70.0	75.0	75.0	80.0	98.0	105.0
			Gi əlqms2	ST-7	ST-5	LS-14	9-LS	LS-19	LS-17	LS-24	LS-26	ST-8	LS-37	LS-39	ST-5	LS-15	LS-17	LS-12	LS-14	LS-15	LS-18	LS-28	LS-13	LS-14	LS-15	LS-15	LS-16	LS-40	LS-42
			Boring Designation	TB-W-11	TB-W-12	TB-W-12	TB-W-12	TB-W-12	TB-W-13	TB-W-14	TB-W-14	TB-W-14	TB-W-1	TB-W-1	TB-W-2	TB-W-2	TB-W-2	TB-W-3	TB-W-3	TB-W-3	TB-W-5	TB-W-7	TB-W-8	TB-W-8	TB-W-8	TB-W-9	TB-W-9	TB-W-10	TB-W-10
			Geologic Unit	Transition Silts	Transition Silts	Transition Silts	Transition Silts	Transition Silts	Transition Silts	Transition Silts	Transition Silts	Transition Silts	Aquifer Sands	Aquifer Sands	Aquifer Sands	Aquifer Sands	Aquifer Sands	Aquifer Sands	Aquifer Sands	Aquifer Sands	Aquifer Sands	Aquifer Sands	Aquifer Sands	Aquifer Sands	Aquifer Sands	Aquifer Sands	Aquifer Sands	Aquifer Sands	Aquifer Sands

Special Special			_		T	T	ī		
		Unified Soil Classification	SM	SM	SM	SM	SM	SM	SM
	nits	Plasticity Index	ပ	ပ္	ı	-	1	ı	<u>.</u>
	Atterberg Limits (%)	Plastic Limit	Non-Plastic	Non-Plastic	1	B-0-6	1	-	Non-Plastic
	Atte	Jimid biupid		2	I	41404	1	ı	
		Clay & Colloids	1	16	1	2	1	က	က
	oution	માંડ	← 15	20	← 29	12	1 0	33	70
	ze Distrik (%)	Fine Sand	16	14	13	14	13	28	11
6	Partical Size Distribution (%)	bns2 mulb9M	45	13	21	56	23	0	0
	Parti	Coarse Sand	13	=	14	17	16	0	0
EOLOG		Gravel	7	78	23	56	32	0	0
TEST DATA (BY GEOLOGIC UNIT)	1	Permeability (cm/sec)	1			ŀ	-	-	
NORY TEST		In-Place Dry Density (lbs/cu.ft)	-	B-\$-40		9	-		
LABORA		Natural Water Content (% of dry weight)	-	-	-	7.0	6.9	19.9	18.7
SUMMARY OF		Failure Strain (%)		1	-	1	-		
Wns .		Unconfined Compressive Strength (psf)	9.04.0	l	1	1	-		
		(fi) giT elgms2 to noissel	596.2	586.5	581.5	611.5	606.5	626.5	628.5
		Depth of Sample Tip (ft)	110.0	120.0	125.0	95.0	100.0	80.0	78.0
		Sample ID	LS-43	LS-45	LS-46	LS-20	LS-21	LS-18	LS-30
		Boring Designation	TB-W-10	TB-W-10	TB-W-10	TB-W-12	TB-W-12	TB-W-13	TB-W-14
		Geologic Unit	Aquifer Sands	Aquifer Sands	Aquifer Sands	Aquifer Sands	Aquifer Sands	Aquifer Sands	Aquifer Sands

ofes.

- [1] Sample was collected at the contact between the deltaic sands and the glacial clay. Sample is not representative of the Glacial Clay. Sample collected from above the proposed bottom grade and will be removed for landfill development. Permeability not representative of natural clay liner material and therefore, not calculated in average.
- permeability test. Sample is not representative of the Glacial Clay. Sample collected from above the proposed bottom grade and will be removed for landfill development. Permeability not representative of [2] Sample was collected at the contact between the deltaic sands and the glacial clay. Upper portion of sample was analyzed for grain size distribution. Bottom portion of sample was suitable for natural clay liner material and therefore, not calculated in average.
 - [3] Sample was collected in the transition silt unit. Sample is not representative of the Glacial Clay, natural liner material. Sample classified as non-plastic and is representative of the transition silt zone. Therefore, permeability results were not calculated in average.



NTH Consultants, Ltd. Southeast Michigan Laboratory

Telephone: 248, 553,6300 Fax: 248,324,5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S069

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

AR?

Method:

Sieve Size

0.001 mm Chart This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: Field Sample No:

TB-W-14

Field Sample No Sample Depth:

LS-30 78

Sample Depth: Date Sampled:

78

Sampled By:

LWO No:

000322

Sample Location:

Drying by: Oven

01010 0120	70 1 doon 18
1in (25.0mm)	100
¾în (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	93
No.100 (150µm)	60
No.200 (75µm)	23
0.049 mm	13
0. 036 m m	7
0.023 mm	6
0.016 mm	5
0.013 mm	4
0.009 mm	3
0.007 mm	3
0.005 mm	3
0.003 mm	2

Particle Size Distribution

ASTM D 422

% Passing

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	18.7	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

% Paistog																				
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Comments

N/O = Not Obtainable

NO = Not Obtainable

NP = Non Plastic



Telephone: 248, 553,6300 Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S068

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Method:

Drying by:

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

Particle Size Distribution

Oven

ASTM D 422

Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-14

Field Sample No:

ST-8 74

Sample Depth: Date Sampled:

Sampled By:

000322

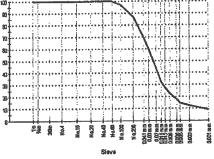
LWO No: Sample Location:

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
	400	

Other Test Results

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	N/O	
Cell Pressure (lb/in²)		N/O	
Top Pressure (lb/in²)		N/O	
Bottom Pressure (lb/in²)		N/O	
Effective Pressure (lb/in²)		N/O	
Pressure Differential (lb/in²)		N/O	
Permeant		N/O	
Sample Height (In)		N/O	
Sample Diameter (in)		N/O	
Sample Cross-Section Area (in²)	ž.	N/O	
Sample Volume (in³)		N/O	
Dry Density (lb/ft³)		N/O	
Initial Moisture Content (%)		N/O	
Final Moisture Content (%)		N/O	
Average Permeabilty (cm/s)		N/O	

%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	97
No.200 (75µm)	87
0.041 mm	70
0.030 mm	60
0.020 mm	44
0.015 mm	32
0.012 mm	27
0.009 mm	23
0.006 mm	18
0.005 mm	15
0.003 mm	13
0.001 mm	9
Chart	



Comments

N/O = Not Obtainable

NO = Not Obtainable

NP = Non Plastic



Telephone: 248, 553,6300 Fax: 248,324,5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S068

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

ANDROVE

Method:

Drying by:

Date of Issue: 9/2/2008

Particle Size Distribution

Oven

ASTM D 422

Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-14

Field Sample No:

ST-8

Sample Depth:

74

Date Sampled: Sampled By:

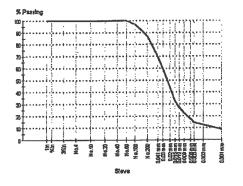
LWO No:

000322

Sample Location:

1322			
	Sieve Size	% Passing	Limits
	1in (25.0mm)	100	

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape	jt .		
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History	M.	N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	8.8	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	ML	



Comments

Group Name

N/O = Not Obtainable

NO = Not Obtainable

NP = Non Plastic

Silt



Telephone: 248. 553.6300 Fax: 246.324.5179

Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S067

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

Date of Issue: 9/2/2008

Particle Size Distribution

Oven

ASTM D 422

Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

Field Sample No:

LS-26 68

TB-W-14

Sample Depth: Date Sampled:

Sampled By: LWO No:

0003

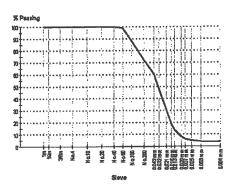
Sample Location:

322		
	Sieve Size	% Passing

Other Test Results				No.10 (2.0mm) No.20 (850µm) No.40 (425µm)
Description	Method	Result	Limits	No.60 (250µm)
Sand Gravel Description	ASTM D 422			No.100 (150µn
Shape				No.200 (75µm)
Hardness				0.043 mm
Dispersion Device				0.032 mm
Dispersion Period		1		0.021 mm
Liquid Limit (%)	AASHTO T 89/T 90	N/O		0.016 mm
Method		N/O		0.013 mm
Plastic Limit (%)		N/O		0.009 mm
Plasticity Index (%)		N/O		0.007 mm
Sample History		N/O		0.005 mm
Preparation		N/O		0.003 mm
Moisture Content (%)	ASTM D 2216	21.2		0.001 mm
Wet Density (lb/ft³)				Chart
Dry Density (lb/ft³)				ASSESSMENT OF STREET
	AOTH O DAGT	3.44		

ASTM D 24B7

lin (25.0mm)	100
¼in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	99
No.100 (150µm)	88
No.200 (75µm)	72
0.043 mm	61
0.032 mm	48
0.021 mm	30
0.016 mm	19
0.013 mm	14
0.009 mm	8
0.007 mm	6
0.005 mm	5
0.003 mm	4
0.001 mm	4
Chart	
evaluation (strategy of strategy)	



Comments N/O = Not Obtainable NO = Not Obtainable NP = Non Plastic

ML

Silt with sand

Group Symbol

Group Name



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S066

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-14

Field Sample No:

LS-24

Sample Depth:

64

Date Sampled: Sampled By:

LWO No:

000322

Sample Location:

Limits Sieve Size % Passing 1in (25.0mm) 100

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422	51	
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1_	
Liquid Limit (%)	AASHTO T 89/T		
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	21.5	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	ML	

¾in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	99
No.200 (75µm)	58
0.044 mm	28
0.033 mm	20
0.022 mm	13
0.016 mm	10
0.013 mm	8
0.009 mm	6
0.007 mm	6
0.005 mm	5
0.003 mm	5
0.001 mm	3
Chart	

Particle Size Distribution

Oven

ASTM D 422

Comments N/O = Not Obtainable

Group Name

NO = Not Obtainable NP = Non Plastic

Sandy silt



Telephone: 248, 553,6300 Fax: 248,324,5179

Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT 62-080376-01-S065

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

AR

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

% Passing

Sample Details

Boring No:

TB-W-14 ST-7

Field Sample No: Sample Depth:

60

Date Sampled: Sampled By:

LWO No:

000322

Sample Location:

Part	icle S	ize Distri	bution

Method:

Sieve Size

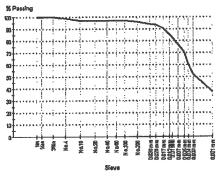
ASTM D 422

Drying by:

Oven

				1140' IO (Y.
Other Test Results				No.20 (85
Other rest Results				No.40 (42
Description	Method	Result	Limits	No.60 (25
Temperture (°C)	[ASTM D 5084]	23.6		No.100 (1
Cell Pressure (lb/in²)		40.0		No.200 (7
Top Pressure (lb/in²)		32.0		0.036 mm
Bottom Pressure (lb/in²)		35.0		0.026 mm
Effective Pressure (lb/in²)		5.0		0.017 mm
Pressure Differential (lb/in²)		3.0		0.012 mm
Permeant	0.0	1 N CaS04		0.010 mm
Sample Height (in)		2.855		0.007 mm
Sample Diameter (in)		2,829		0.005 mm
Sample Cross-Section Area (in²)		6.29		0.004 mm
Sample Volume (in²)		17.95		0.003 mm
Dry Density (lb/ft³)		96.8		0.001 mm
Initial Moisture Content (%)		27.1		Chart
Final Moisture Content (%)		27.5		altered filler
Average Permeabilty (cm/s)		2.00 E-8		

100 1in (25.0mm) ¾în (19.0mm) 100 100 3/8in (9.5mm) No.4 (4.75mm) No.10 (2.0mm) 99 97 50µm) 97 25µm) 97 97 50µm) 97 150µm) 75µm) 96 94 n 93 n 90 n 86 83 n 77 n 71 60 m 52 m 38



Comments



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S065

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-14

Field Sample No:

ST-7 60

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000322

Sample Location:

Particle Size Distribution	ution
----------------------------	-------

Method:

ASTM D 422

% Passing

100

Drying by:

Sieve Size

1in (25.0mm)

Oven

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	34	
Method	1	Method A	
Plastic Limit (%)		20	
Plasticity Index (%)		14	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	27.1	
Wet Density (lb/ft³)		123.1	
Dry Density (ib/ft³)		96.8	
Group Symbol	ASTM D 2487	CL	
Group Name	(Lean clay	
-			

	%in (19.0mm)	100
	3/8in (9.5mm)	100
	No.4 (4.75mm)	99
	No.10 (2.0mm)	97
	No.20 (850µm)	97
	No.40 (425µm)	97
-	No.60 (250µm)	97
-	No.100 (150µm)	97
-	No.200 (75µm)	96
	0.036 mm	94
	0.026 mm	93
	0.017 mm	90
	0.012 mm	86
	0.010 mm	83
ĺ	0.007 mm	77
	0.005 mm	71
	0.004 mm	60
	0.003 mm	52
ı	0.001 mm	38

Comments :



Telephone: 248, 553,6300 Fax: 248,324,5179

Method:

Drying by:

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S064

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

Sample Details

Other Test Results

Sand Gravel Description

Dispersion Device

Dispersion Period

Boring No:

TB-W-14 LS-22

Field Sample No: Sample Depth:

58

Date Sampled: Sampled By:

LWO No:

Sample Location:

Description

Shape

Hardness

000322

Method

AASHTO T 89/T 90

Sieve Size	% Passing
(in (25.0mm)	100
¼in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100

Particle Size Distribution

Oven

ASTM D 422

No.10 (2.0mm) 100 No.20 (850µm) 100 No.40 (425µm) 100 No.60 (250µm) 100 No.100 (150µm) 100 100 No.200 (75µm) 0.040 mm 81 0.030 mm 67

0.020 mm 47 0.015 mm 31 0.013 mm 24 0.009 mm 15 0.007 mm 11 0.005 mm 8

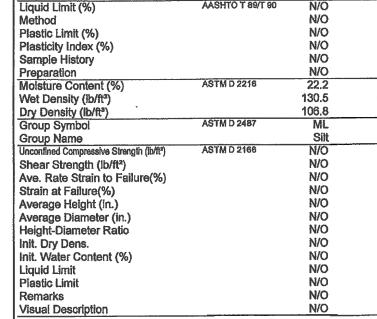
0.003 mm

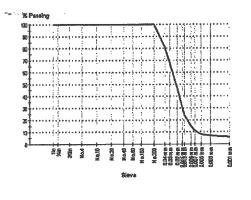
0.001 mm Chart

Limits

Result

N/O





7

6

Comments

sample was disturbed ,not enough for Limit test.

N/O = Not Obtainable

NO = Not Obtainable



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S063

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been perform

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

100

Sample Details

Boring No:

TB-W-14

Field Sample No:

LS-20

Sample Depth:

Date Sampled:

Sampled By:

000322
~~~~

LWO No:	000322
Sample Location:	

Particle S	Size Distribution
Method:	ASTM D 422
Drying by:	Oven

%in (19.0mm)

rying by: O
iyilig by. 🗢

1322		
	Sieve Size	% Passing
	1in (25.0mm)	100

				3/8in (9.5mm)	97
				No.4 (4.75mm)	97
				No.10 (2.0mm)	97
SAMPOORESCENDER AND AND	NEST PREDMERSE PROPERTY	HOMEN BELLEVAR	KENKA, KIRANTEN	No.20 (850µm)	96
Other Test Results				No.40 (425µm)	95
Description	Method	Result	Limits	No.60 (250µm)	94
Sand Gravel Description	ASTM D 422			No.100 (150µm)	92
Shape				No.200 (75µm)	87
Hardness				0.039 mm	84
Dispersion Device				0.028 mm	78
Dispersion Period		1		0.018 mm	71
Liquid Limit (%)	AASHTO T 89/T 9	0 21		0.014 mm	60
Method		Method A		0.011 mm	52
Plastic Limit (%)		15		0.008 mm	40
Plasticity Index (%)		6		0.006 mm	32
Sample History		Unkown		0.004 mm	24
Preparation		Dry		0.003 mm	18
Moisture Content (%)	ASTM D 2218	19.8		0.001 mm	13
Wet Density (lb/ft³)		133.0		Chart	
Dry Density (lb/ft³)		111.0		Barrens (1997)	
Group Symbol	ASTM D 2487	CL-ML			

Silty clay

2536 1268

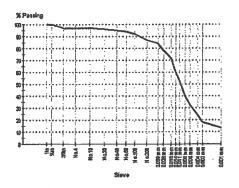
0.9

14.5

2.0

2.759 1.368

**ASTM D 2166** 



Comments

**Group Name** 

Unconfined Compressive Strength (lb/ft²)

Shear Strength (lb/ft²) Ave. Rate Strain to Failure(%)

Strain at Failure(%)

Average Height (in.)

Init. Dry Dens. Init. Water Content (%)

Liquid Limit Plastic Limit Remarks Visual Description

Average Diameter (in.) Height-Diameter Ratio



Telephone; 248. 553.6300 Fax: 248,324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S062

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Other Test Results

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

TB-W-14

Field Sample No: Sample Depth:

ST-6 48

Date Sampled: Sampled By:

LWO No:

Description

Permeant

Temperture (°C)

Cell Pressure (lb/in²)

Top Pressure (lb/in²)

Sample Height (in)

Sample Diameter (in)

Sample Volume (in3)

Dry Density (lb/ft³)

Bottom Pressure (lb/in²)

Effective Pressure (lb/in²)

Pressure Differential (lb/in²)

Initial Moisture Content (%)

Final Moisture Content (%)

Average Permeabilty (cm/s)

Sample Cross-Section Area (in²)

000322

Method

Sample Location:

% Passing
100
100
100
100

Particle Size Distribution

Oven

**ASTM D 422** 

3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	99
No.200 (75µm)	99

[ASTM D 5084] 23.8 40.0 32.0 35.0 5.0 3.0 0.01 N CaS04 2.610 2.843 6.35 16.57 111.2 12.9

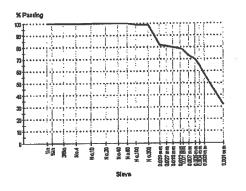
26.1

3.23 E-8

Limits

Result

82 0.039 mm 81 0.027 mm 80 0.018 mm 79 0.012 mm 0.010 mm 78 73 0.007 mm 70 0.005 mm 65 0.004 mm 0.003 mm 57 32 0.001 mm Chart





Telephone: 248, 553,6300 Fax: 248,324,5179

Method:

Drying by:

Sieve Size

## Aggregate/Soil Test Report

Client: Wayne Disposal, Inc.

Project: Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S062 issue No: 1

> This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been perfor

> > Limits

Particle Size Distribution **ASTM D 422** 

Oven

9/2/2008 Date of Issue: Approved Signatory: Zeerak Paydawy

Sam	ple	De	tai	Is

Boring No:

TB-W-14

Field Sample No:

ST-6

Sample Depth: Date Sampled: 48

Sampled By:

LWO No:

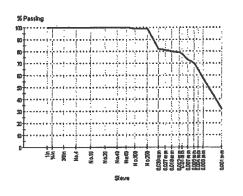
000322

Sample Location:

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	38	
Method		Method A	
Plastic Limit (%)		20	
Plasticity Index (%)		18	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	13.0	
Wet Density (lb/ft³)		125.6	
Dry Density (lb/ft³)		111.1	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

100
100
100
100
100
100
100
100
99
99
82
81
80
79
78
73
70
65
57
.32

% Passing





Telephone: 248, 553,6300 Fax: 248,324.5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S061

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

% Passing

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

TB-W-14

Field Sample No:

ST-5

Sample Depth:

42

Date Sampled: Sampled By:

LWO No:

000322

Sample Location:

a Control Maria Maria			
Othon		AATIH	-
Other	lesi n	esun	3

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.7	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.0	N CaS04	
Sample Height (in)		2.858	
Sample Diameter (in)		2.854	
Sample Cross-Section Area (in²)		6.40	
Sample Volume (in³)		18.28	
Dry Density (lb/ft³)		108.8	
Initial Moisture Content (%)		20.4	
Final Moisture Content (%)		19.4	
Average Permeabilty (cm/s)		4.70 E-8	

#### Particle Size Distribution

Method:

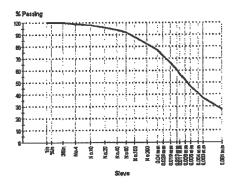
**ASTM D 422** 

Drying by:

Sieve Size

Oven

lin (25.0mm)	100	
/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	98	
No.20 (850µm)	96	
No.40 (425µm)	94	
No.60 (250µm)	92	
No.100 (150µm)	88	
No.200 (75µm)	82	
).040 mm	77	
0.029 mm	72	
).019 mm	66	
0.013 mm	61	
).011 mm	57	
).008 mm	52	
0.006 mm	46	
).004 mm	41	
).003 mm	37	
0.001 mm	28	٠
Chart		





Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S061

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

TB-W-14

Field Sample No:

ST-5

Sample Depth:

42

Date Sampled: Sampled By:

LWO No:

000322

Sample Location:

Parti	icle S	ize L	ustrib	oution
H - 58	A.	AOTES	D 400	

Method:

Sieve Size

**ASTM D 422** 

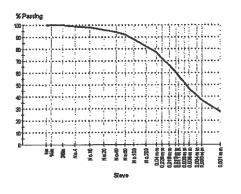
% Passing

Drying by:

Oven

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period	R	1	
Liquid Limit (%)	AASHTO T 89/T 90	26	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		12	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	20.4	
Wet Density (lb/ft³)		131.1	
Dry Density (lb/ft³)		108.8	
Group Symbol	ASTM D 2487	CL	
Group Name	Lean clay	with sand	

1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	99
No.10 (2.0mm)	98
No.20 (850µm)	96
No.40 (425µm)	94
No.60 (250µm)	92
No.100 (150µm)	88
No.200 (75µm)	82
0.040 mm	77
0.029 mm	72
0.019 mm	66
0.013 mm	61
0.011 mm	57
0.008 mm	52
0.006 mm	46
0.004 mm	41
0.003 mm	37
0.001 mm	28
Philippine and the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of t	





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# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S060

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** 

Field Sample No:

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000322

TB-W-14

LS-14

38

Sample Location:

Particle	Size Distribution
Method:	ASTM D 422

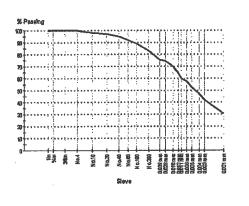
Drying by:

Oven

E .		
Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	98	
No.20 (850µm)	97	
No.40 (425µm)	95	
N - 00 (050 )	00	

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		11	
Liquid Limit (%)	AASHTO T 89/T 90	29	
Method	7	viethod A	
Plastic Limit (%)		15	
Plasticity Index (%)		14	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	15.0	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	
Group Name	Lean clay v	with sand	

No.60 (250µm) 92 89 No.100 (150µm) 83 No.200 (75µm) 0.039 mm 76 75 0.028 mm 70 0.018 mm 0.013 mm 64 0.011 mm 60 0.008 mm 57 0.006 mm 53 47 0.004 mm 0.003 mm 42 31 0.001 mm Chart



Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S059

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

% Passing

Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

TB-W-14

Field Sample No:

ST-4 34

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000322

Sample Location:

Particle	Size Distribution	1
Method:	ASTM D 422	

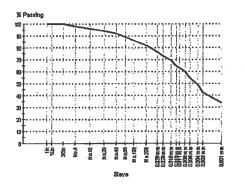
Sieve Size

Drying by:

Oven

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.01	N CaS04	
Sample Height (in)		2.868	
Sample Diameter (in)		2.850	
Sample Cross-Section Area (in²)		6.38	
Sample Volume (in³)		18.30	
Dry Density (lb/ft ^s )		114.2	
Initial Moisture Content (%)		17.9	(4)
Final Moisture Content (%)		18.9	
Average Permeabilty (cm/s)		1.86 E-8	

1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	86	
No.200 (75µm)	82	
0.039 mm	77	
0.028 mm	73	
0.018 mm	69	
0.013 mm	65	
0.011 mm	63	
0.008 mm	60	
0.006 mm	55	
0.004 mm	49	
0.003 mm	43	
0.001 mm	34	
Chart		





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# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S059

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

to R15

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

Field Sample No: Sample Depth:

Date Sampled:

Sampled By: LWO No:

000322

ST-4

34

**TB-W-14** 

Sample Location:

e Size	

Method:

**ASTM D 422** 

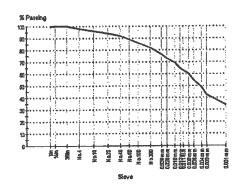
Drying by:

Oven

•

Limits % Passing Sieve Size 1in (25.0mm) 100 %in (19.0mm) 100 3/8in (9.5mm) No.4 (4.75mm) 100 98 No.10 (2.0mm) 96 94 No.20 (850µm) 92 No.40 (425µm) 89 No.60 (250µm) No.100 (150µm) 86 82 No.200 (75µm) 0.039 mm 77 0.028 mm 73 0.018 mm 69 65 0.013 mm 63 0.011 mm 0.008 mm 60 55 0.006 mm 49 0.004 mm 0.003 mm 43 0.001 mm 34

Chart



Comments

Visual Description



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# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S058

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

100

Method:

Drying by:

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

TB-W-14

Field Sample No:

ST-3 30

Sample Depth: Date Sampled:

Sampled By: LWO No:

Description

Shape

000322

Sample Location:

Other Test Results

Sand Gravel Description

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	

Particle Size Distribution

Oven

**ASTM D 422** 

3/8in (9.5mm)	99
No.4 (4.75mm)	97
No.10 (2.0mm)	95
No.20 (850µm)	93
No.40 (425µm)	90
No.60 (250µm)	88
No.100 (150µm)	84

No.200 (75µm) 80 0.039 mm 76 0.028 mm 74 0.018 mm 69

0.013 mm 65 0.011 mm 63 0.008 mm 58 0.006 mm 53 0.004 mm 48

0.004 mm 48 0.003 mm 43 0.001 mm 31 Chart

Hardness
Dispersion Device
Dispersion Period
Liquid Limit (%)
Method
Plastic Limit (%)
Sample History
AASHTO T 89/T 80
33
Method A
Plastic Limit (%)
16
Unkown

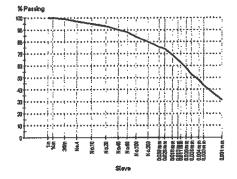
Method

ASTM D 422

Result

Limits

Preparation Dry
Group Symbol ASTM D 2487 CL
Group Name Lean clay with sand





Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S057

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This taboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

TB-W-14

Field Sample No: Sample Depth:

ST-2 26

Date Sampled:

Sampled By:

LWO No:

000322

Sample Location:

<b>Particle</b>	Size Distribution
Method:	ASTM D 422

Sieve Size

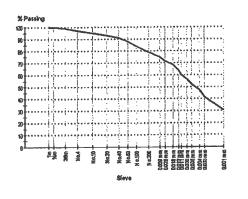
% Passing

Drying by:

Oven

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.3	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.0	I N CaS04	
Sample Height (in)		2.860	
Sample Diameter (in)		2.792	
Sample Cross-Section Area (in²)		6.12	
Sample Volume (in³)		17.51	
Dry Density (lb/ft³)		116.0	
Initial Moisture Content (%)		17.7	
Final Moisture Content (%)		18.5	
Average Permeabilty (cm/s)		3.77 E-8	

	1in (25.0mm)	100	
	¾in (19.0mm)	100	
Ì	3/8in (9.5mm)	99	
	No.4 (4.75mm)	97	
	No.10 (2.0mm)	95	
3	No.20 (850µm)	93	
	No.40 (425µm)	91	
	No.60 (250µm)	88	
-	No.100 (150µm)	84	
	No.200 (75µm)	79	
	0.039 mm	75	
-	0.028 mm	71	
	0.018 mm	69	
	0.013 mm	64	
	0.011 mm	60	
	0.008 mm	57	
	0.006 mm	52	
	0.004 mm	47	
	0.003 mm	42	
	0.001 mm	31	٠.
	Chart		े





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## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S057

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue: 9/2/2008

% Passing

Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

**TB-W-14** 

Field Sample No:

ST-2

Sample Depth: Date Sampled:

26

Sampled By: LWO No:

Sample Location:

000322
--------

Description	Method	Result	Limits		
Sand Gravel Description	ASTM D 422				
Shape					
Hardness					
Dispersion Device					
Dispersion Period		1			
Liquid Limit (%)	AASHTO T 89/T 90	-			
Viethod		Method A			
Plastic Limit (%)		16			
Plasticity Index (%)		14			
Sample History		Unkown			
Preparation		Dry			
Vioisture Content (%)	ASTM D 2216	17.7			
Net Density (lb/ft³)		136.5			
Ory Density (lb/ft³)		116.0			
Group Symbol	ASTM D 2487	CL			
Group Name	Lean clay with sand				

Partick	Size Distribution
	A ATT / D. /AA

Method:

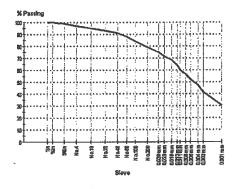
**ASTM D 422** 

Drying by:

Sieve Size

Oven

	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	. 99
No.4 (4.75mm)	97
No.10 (2.0mm)	95
No.20 (850µm)	93
No.40 (425µm)	91
No.60 (250µm)	88
No.100 (150µm)	84
No.200 (75µm)	79
0.039 mm	75
0.028 mm	71
0.018 mm	69
0.013 mm	64
0,011 mm a	60
0.008 mm	57
0.006 mm	52
0.004 mm	47
0.003 mm	42
0.001 mm	31
Chart	





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# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S056

ssue No:

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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AR OTHER

Date of Issue: 9/2/2008

% Passing

100

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-14 ST-1

Field Sample No: Sample Depth:

18

Date Sampled:

Sampled By:

LWO No:

000322

Sample Location:

Particle	Size Distribution	
Anthony.	ACTM D 422	

Method:

**ASTM D 422** 

Drying by:

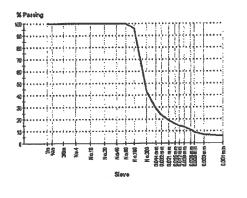
Sieve Size

1in (25.0mm)

Oven

Other Test Results			
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.3	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.01	N CaS04	
Sample Height (in)		2.861	
Sample Diameter (in)		2.872	
Sample Cross-Section Area (in²)		6.48	
Sample Volume (in³)		18.53	
Dry Density (lb/ft³)		103.6	
initial Moisture Content (%)		23.4	

	¾in (19.0mm)	100	
	3/8in (9.5mm)	100	
	No.4 (4.75mm)	100	
	No.10 (2.0mm)	1 <b>0</b> 0	
94	No.20 (850µm)	100	
ii.	No.20 (850µm) No.40 (425µm) No.60 (250µm)	100	
	No.60 (250µm)	100	
_	No.100 (150µm)	96	
	No.200 (75µm)	43	
	0.044 mm	29	
	0.032 mm	23	
	0.021 mm	19	
	0.015 mm	16	
	0.012 mm	15	
	0.009 mm	14	
	0.006 mm	11	
	0.005 mm	9	
	0.003 mm	7	
	0.001 mm	6	er makkanta on taka basa arawa
	Chart		
- 1	BOX Section 1		era e a VII e de Vilonda (en con-



Comments
N/O = Not Obtainable
NO = Not Obtainable
NP = Non Plastic

Final Moisture Content (%)

Average Permeabilty (cm/s)

20.3

7.85 E-7



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### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S056

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Method:

Drying by:

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Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Sam			

**Boring No:** 

TB-W-14

Field Sample No:

ST-1

Sample Depth:

18

Date Sampled: Sampled By:

LWO No:

Description

Liquid Limit (%)

Sample History Preparation

**Group Symbol** 

Group Name

Plasticity Index (%)

Moisture Content (%)

Shear Strength (lb/ft²) Ave. Rate Strain to Failure(%)

Strain at Failure(%)

Average Height (in.) Average Diameter (in.)

Init. Dry Dens. Init. Water Content (%)

Liquid Limit

Plastic Limit

Remarks

Height-Diameter Ratio

Unconfined Compressive Strength (lb/ft²)

Wet Density (lb/ft³) Dry Density (lb/ft^s)

Shape Hardness **Dispersion Device Dispersion Period** 

Method Plastic Limit (%) 000322

Method

ASTM D 422

**AASHTO T 89/T 90** 

ASTM D 2216

**ASTM D 2487** 

ASTM D 2166

Result

N/O

N/O

N/O

N/O N/O

N/O

23.4 127.8

103.6

Silty sand

SM

N/O N/O

N/O N/O

N/O

N/O

N/O N/O

N/O N/O

N/O

N/O

N/O

Limits

Sample Location:

Other Test Results

Sand Gravel Description

Sieve Size 1in (25.0mm) %in (19.0mm) 3/8in (9.5mm)	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	

Particle Size Distribution

Oven

**ASTM D 422** 

Stori (S.Sitini)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	96
No.200 (75µm)	43
0.044 mm	29
0.032 mm	23
0.021 mm	19
0.015 mm	16
0.012 mm	15
0.009 mm	14
0.006 mm	11
0.005 mm	9
0.003 mm	7
0.001 mm	6
Chart	
Stationers and Francisco	Salaria da da Maria da

% Passing

10	••••		300a	No.4	D C		Marin I	No.for		n nadama		185	- Hung	HERMA .	and States
20		Ï.		.,		****		•••			X		μ.	ļļ	
45†***	• • • •	*	• • • •			****	•	:		٧	Ï	Ü	ľ.	11.	
53		٠;			••••	• • • •	• •	•••	٠†		Ť	Ħ	Ħ	11"	i
10 ···	•••	14.		• • • • •	!	•		**	ľ	!	†	Ħ	ľ	11"	} :
70	• • • •	17	٠٠!٠٠	· · · · ·		• • • •	•••	•••	1	**	1	Ħ	i i	11.	
art		П		1	: :		**	**:	1		1	П	П	17	

Comments

N/O = Not Obtainable

Visual Description

NO = Not Obtainable

NP = Non Plastic



Telephone: 248, 553,6300 Fax: 248,324,5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S055

Issue No: 1

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Method:

Drying by:

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Particle Size Distribution

**ASTM D 422** 

Sample Details

Boring No:

Field Sample No:

LS-7

Sample Depth: Date Sampled:

Sampled By: LWO No:

000322

TB-W-14

Sample Location:

Oven

Annomina a minario		A PERFECTIVA NEC	ristinationaliose
Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	21.2	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	SM	

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	99	
No.100 (150µm)	91	
No.200 (75µm)	32	
0.048 mm	17	
0.035 mm	10	
0.022 mm	9	
0.016 mm	4	
0.013 mm	3	
0.010 mm	2	
0.007 mm	2	
0,005 mm	2	
0.003 mm	2	
0.001 mm		naga na nanaga sa a
Chart		
Assessment and and are	The second of the second of the second	

% Passing

Comments N/O = Not Obtainable NO = Not Obtainable

**Group Name** 

Silty sand



Telephone: 248. 553.6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S054

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Method:

Drying by:

Sieve Size

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9/2/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

TB-W-14

Field Sample No:

LS-5 10

Sample Depth: Date Sampled:

Sampled By: LWO No:

**Group Name** 

Sample Location:

000322

U	vu	J2	-4	

HII (20.0(IIII)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	77
No.100 (150µm)	19
No.200 (75µm)	7
Finer No.200 (75µm)	7

Particle Size Distribution

Oven

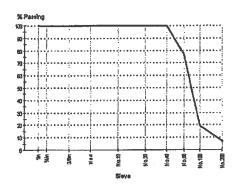
**ASTM D 422** 

% Passing

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Maintena Combont (0/1)	ASTAI D 2216	10.3	

. 10. 0.1000		
Dispersion Device		
Dispersion Period		
Moisture Content (%)	ASTM D 2216	19.3
Wet Density (lb/ft³)		
Dry Density (lb/ft³)		
Group Symbol	ASTM D 2487	SM





Comments

Silty sand



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## Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S053

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Particle Size Distribution

Oven

**ASTM D 422** 

Sample Details

Boring No: Field Sample No: TB-W-14 LS-2

Sample Depth:

Date Sampled: Sampled By:

LWO No:

Sample Location:

000322

Sieve Size % Passing 100 1in (25.0mm) %in (19.0mm) 100

100 3/8in (9.5mm) No.4 (4.75mm) 100 No.10 (2.0mm) No.20 (850µm) 97 92

No.40 (425µm) 78 No.60 (250µm) 38

16 No.100 (150µm) 11 No.200 (75µm) Finer No.200 (75µm) 12

Other Test Results

Limits Description Method Result Sand Gravel Description ASTM D 422 Shape

Hardness Dispersion Device Dispersion Period

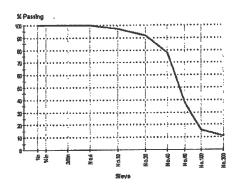
**AASHTO T 89/T 90** Liquid Limit (%) N/O N/O Method N/O Plastic Limit (%) Plasticity Index (%) N/O N/O Sample History N/O Preparation **ASTM D 2216** 15.1

Moisture Content (%) Wet Density (lb/ft³) Dry Density (lb/ft³)

**Group Symbol** Group Name

**ASTM D 2487** 

SM Silty sand Chart



Comments

N/O = Not Obtainable

NO = Not Obtainable NP = Non Plastic



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## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S036

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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AR

Method:

Drying by:

%in (19.0mm) 3/8in (9.5mm) Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

100

100

Particle Size Distribution

Oven

**ASTM D 422** 

### Sample Details

Boring No:

TB-W-13

Field Sample No: Sample Depth: LS-18 80

Date Sampled:

Sampled By:

LWO No:

000322

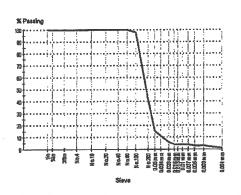
Sample Location:

0322			
	Sieve Size	% Passing	Limits
	1in (25.0mm)	100	

Other Test Results					
Description	Method	Result	Limits		
Sand Gravel Description	ASTM D 422				
Shape					
Hardness					
Dispersion Device					
Dispersion Period		1			
Moisture Content (%)	ASTM D 2216	19.9			
Wet Density (lb/ft³)					
Dry Density (lb/ft³)					
Group Symbol	ASTM D 2487	SM			
Group Name		Silty sand			

No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	98
No.200 (75µm)	42
0.050 mm	16
0.036 mm	11
0.023 mm	6
0.016 mm	4
0.013 mm	4
0.010 mm	4
0.007 mm	4
0.005 mm	3
0.003 mm	3
0.001 mm	1
BALLS REPORT INTO THE A SUCK NO.	17.5 - 17.5 - 27.5 - 27.5 [開展] [2]

Chart



Comments

WA



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Woodlot & MC1&4 Waste Investigation

Wayne Disposal, Inc.

Soil Boring Program

Report No. MAT:62-080376-01-S035

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Job No:

Project:

Client:

62-080376-01

Sample Details

**Boring No:** 

Field Sample No: Sample Depth:

Date Sampled:

Sampled By:

LWO No:

Sample Location:

LS-17 75

TB-W-13

000322
--------

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Moisture Content (%)	ASTM D 2216	21.1	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	ML.	
Group Name		Silt	

Par	ticle	Size Distribution

Method:

**ASTM D 422** 

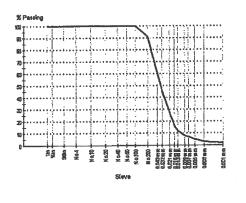
Drying by:

Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	91	
0.043 mm	61	
0.032 mm	45	
0.021 mm	. 28	
0.016 mm	16	
0.013 mm	12	
0.009 mm	8	
0.007 mm	7	
0.005 mm	5	

0.001 mm Chart

0.003 mm



Comments



Telephone: 248, 553,6300 Fax: 248.324.6179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S034

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been perform accordance with the terms of the accordance.

Date of Issue: 9/2/2008

% Passing

100 100

100

Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

**TB-W-13** 

Field Sample No:

ST-8 68

Sample Depth: Date Sampled:

Sampled By: LWO No:

000322

Sample Location:

Particle	Size Distribution
Method:	ASTM D 422

Drying by:

Sieve Size

1in (25.0mm)

%in (19.0mm) 3/8in (9.5mm)

Oven

				No.4 (4.75mm)	100
				No.10 (2.0mm)	100
AND WEST DESCRIPTION OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PAR	wa bwa wa wa waka ka ka		ABBANKE STANSFAR	No.20 (850µm)	100
Other Test Results				No.40 (425µm)	100
Description	Method	Result	Limits	No.60 (250µm)	100
Temperture (°C)	[ASTM D 5084]	23.2		No.100 (150µm)	100
Cell Pressure (lb/in²)		40.0		No.200 (75µm)	100
Top Pressure (lb/in²)		32.0		0.036 mm	100
Bottom Pressure (lb/in²)		35.0		0.026 mm	95
Effective Pressure (lb/in²)		5.0		0.017 mm	82
Pressure Differential (lb/in²)		3.0		0.013 mm	68
Permeant	0.0	1 N CaS04		0.011 mm	<b>63</b>
Sample Height (in)		2.834		0.008 mm	50
Sample Diameter (in)		2.839		0.006 mm	39
Sample Cross-Section Area (in²)		6.33		0.004 mm	32
Sample Volume (in³)		17.94		0.003 mm	27
Dry Density (lb/ft³)		96.3		0.001 mm	18
Initial Moisture Content (%)		27.9		Chart	
Final Moisture Content (%)		28.4			
Average Permeability (cm/s)		3.44 E-8			
				% Patring	
				<u>ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا </u>	
Ī				■	and the same of the state of the state of the same



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S034

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

Field Sample No:

**ST-8** 68

TB-W-13

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000322

Sample Location:

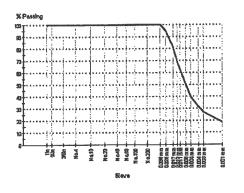
Particle	Size Distribution
Method:	ASTM D 422

Drying by:

Oven

Other Test Results  Description Method Result Limits  Sand Gravel Description ASTM D 422  Shape
Description Method Result Limits Sand Gravel Description ASTM D 422
Sand Gravel Description ASTM D 422
Galid Glavel Description
Shape
Hardness
Dispersion Device
Dispersion Period 1
Liquid Limit (%) AASHTO T 89/T 90 26
Method Method A
Plastic Limit (%)
Plasticity Index (%) 9
Sample History Unkown
Preparation Dry
Moisture Content (%) ASTM D 2216 27.9
Wet Density (lb/ft³) 123.2
Dry Density (lb/ft³) 96.3
Group Symbol ASTM D 2487 CL

Sieve Size % Passing Limits 1in (25.0mm) %in (19.0mm) 100 3/8in (9.5mm) 100 100 4.75mm) (2.0mm)100 100 (850µm) (425µm) 100 (250µm) 100 0 (150µm) 100 100 0 (75µm) 100 mm 95 mm 82 mm 68 mm 63 mm 50 mm 39 mm 32 mm 27 mm 18 mm



**Group Name** 

N/A

Lean clay



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S033

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

% Passing

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

**TB-W-13** 

Field Sample No:

**ST-7** 

Sample Depth: Date Sampled:

63

Sampled By:

LWO No:

000322

Sample Location:

Particle	Size Distributi	on
Anthods	ACTM D 422	

Method:

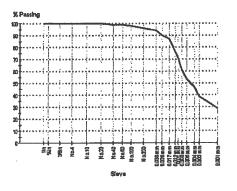
Drying by:

Sieve Size

Oven

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	21.9	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.0	i N CaS04	
Sample Height (in)		2.859	
Sample Diameter (in)		2.876	
Sample Cross-Section Area (in²)		6.50	
Sample Volume (in³)		18.57	
Dry Density (lb/ft³)		105.6	
Initial Moisture Content (%)		23.0	
Final Moisture Content (%)		18.6	
Average Permeabilty (cm/s)		1.70 E-7	

	101010 0120	70 1 0001118	
	1in (25.0mm)	100	
	%in (19.0mm)	100	
	3/8in (9.5mm)	100	
	No.4 (4.75mm)	100	
	No.10 (2.0mm)	100	
	No.20 (850µm)	100	
	No.40 (425µm)	99	
	No.60 (250µm)	99	
	No.100 (150µm)	98	
	No.200 (75µm)	96	
	0.036 mm	94	
	0.026 mm	90	
	0.017 mm	87	
	0.012 mm	76	
	0.010 mm	72	
	0.008 mm	61	
i	0.006 mm	53	
	0.004 mm	46	
	0.003 mm	39	
	0.001 mm	29	
	Chart		





Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S033

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

Field Sample No: Sample Depth:

**ST-7** 63

TB-W-13

Date Sampled:

Sampled By:

LWO No:

000322

**ASTM D 2487** 

**ASTM D 2166** 

Particl	e Size D	)istri	buti	on
f - 41c1c	ACTA	D 422	<b>)</b>	

Method:

**ASTM D 422** 

Drying by:

Oven

LAAO NO: 0009	322					
Sample Location:				Sieve Size	% Passing	Limits
				1in (25.0mm)	100	
				%in (19.0mm)	100	
i				3/8in (9.5mm)	100	
				No.4 (4.75mm)	100	
				No.10 (2.0mm)	100	
SAMPLES AND A THE SOUTH A DEAD.	50.000.000388948494840004185	earganaerter i	NEW (SEE SEE)	No.20 (850µm)	100	
Other Test Results				No.40 (425µm)	99	
Description	Method	Result	Limits	No.60 (250µm)	99	
Sand Gravel Description	ASTM D 422			No.100 (150µm)	98	
Shape				No.200 (75µm)	96	
Hardness				0.036 mm	94	
Dispersion Device				0.026 mm	90	
Dispersion Period		1		0.017 mm	87	
Liquid Limit (%)	AASHTO T 89/T 90	31		0.012 mm	76	
Method		Method A		0.010 mm	72	
Plastic Limit (%)		17		0.008 mm	61	
Plasticity Index (%)		14		0.006 mm	53	
Sample History		Unkown		0.004 mm	46	
Preparation		Dry		0.003 mm	39	
Moisture Content (%)	ASTM D 2216	21.2		0.001 mm	29	
Wet Density (lb/ft³)		131.4		Chart		
Dry Density (lb/ft³)		108.4	_	Harrist Control	an en en agrication	elyapitaning pyg
	4071100407			1		

CL Lean clay

1936

968

1.0 15.0

5.958

2.823 2.1

108.4

21.2

31 17

Comments

**Group Symbol** 

Unconfined Compressive Strength (lb/ft²)

Ave. Rate Strain to Failure(%)

Shear Strength (lb/ft²)

Strain at Failure(%)

Average Height (in.) Average Diameter (in.)

Init. Dry Dens. Init. Water Content (%)

Liquid Limit

**Plastic Limit** Remarks Visual Description

Height-Diameter Ratio

**Group Name** 



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S032

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

% Passing

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

TB-W-13

Field Sample No:

LS-14

Sample Depth:

60

Date Sampled: Sampled By:

LWO No:

000322

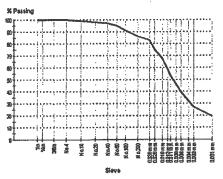
Particle	Size Dist	ribution
Method:	ASTM D 43	)) .

Drying by:

Oven

Sample Location:  Other Test Results				Sieve Size 1in (25.0mm) %in (19.0mm) 3/8in (9.5mm) No.4 (4.75mm) No.10 (2.0mm) No.20 (850µm) No.40 (425µm)
Description	Method	Result	Limits	No.60 (250µm
Sand Gravel Description	ASTM D 422	rtobait	21111110	No.100 (150µr
Shape				No.200 (75µm
Hardness				0.038 mm
Dispersion Device				0.028 mm
Dispersion Period		1		0.018 mm
Liquid Limit (%)	AASHTO T 89/T 9	200		0.013 mm
Method		Method A		0.011 mm
Plastic Limit (%)		15		0.008 mm
Plasticity Index (%)		8		0.006 mm
Sample History				0.004 mm
Preparation	ASTM D 2216	Dry		0.003 mm 0.001 mm
Moisture Content (%)	A21M D 2210	19.0 136.6		
Wet Density (lb/ft³)		114.7		Chart
Dry Density (lb/ft³) Group Symbol	ASTM D 2487	CL		
Group Name	7101111011101	Lean clay		X Passing
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	1646		M. Letterid
Shear Strength (ib/ft²)		823		20
Ave. Rate Strain to Failure(%)		0.9		<b>80</b>
Strain at Failure(%)		14.9		79
Average Height (in.)		2.677		53
Average Diameter (in.)		1.328		8
Height-Diameter Ratio		2.0		30
Init. Dry Dens.				25
Init. Water Content (%)				10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To
Liquid Limit				8-5 1
Plastic Limit				
Remarks				1
Visual Description				

11(1 (20.011111)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	99
No.20 (850µm)	98
No.40 (425µm)	97
No.60 (250µm)	95
No.100 (150µm)	91
No.200 (75µm)	86
0.038 mm	83
0.028 mm	75
0.018 mm	67
D.013 mm	59
0.011 mm	53
0.008 mm	46
0.006 mm	40
0.004 mm	32
0.003 mm	27
0.001 mm	19
Chart	
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Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S031

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

% Passing

100 100

Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

Field Sample No:

ST-6 53

TB-W-13

Sample Depth: Date Sampled: Sampled By:

LWO No:

000322

Sample Location:

Particle Size Distribution

Method:

Sieve Size

1in (25.0mm)

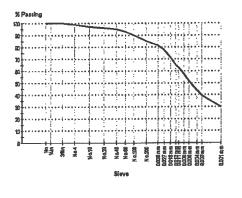
%in (19.0mm)

**ASTM D 422** 

Drying by:

Oven

				(MMC.8) 116/6	100
				No.4 (4.75mm)	99
				No.10 (2.0mm)	97
WALES THE AM CHAILD WAS A	escapa paga paga	4103863346335	Research Williams Ball	No.20 (850µm)	96
Other Test Results				No.40 (425µm)	95
Description	Method	Result	Limits	No.60 (250µm)	93
Temperture (°C)	[ASTM D 5084]	23.2		No.100 (150µm)	90
Cell Pressure (lb/in²)		40.0		No.200 (75µm)	85
Top Pressure (lb/in²)		32.0		0.038 mm	82
Bottom Pressure (lb/in²)		35.0		0.027 mm	78
Effective Pressure (lb/in²)		5.0		0.018 mm	71
Pressure Differential (lb/in²)		3.0		0.013 mm	65
Permeant	0.0	1 N CaS04		0.011 mm	63
Sample Height (in)		2.850		0.008 mm	57
Sample Diameter (in)		2.861		0.006 mm	52
Sample Cross-Section Area (in²)		6.43		0.004 mm	44
Sample Voiume (in³)		18.32		0.003 mm	39
Dry Density (lb/ft³)		115.4		0.001 mm	30
initial Moisture Content (%)		16.7		Chart	
Final Moisture Content (%)		16.7			
Average Permeability (cm/s)		1.24 E-8			





Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S031

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation. at payday

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

TB-W-13

Field Sample No:

ST-6

Sample Depth:

53

Date Sampled: Sampled By:

LWO No:

Description

Liquid Limit (%) Method

Plastic Limit (%)

Sample History

Preparation

Plasticity Index (%)

Moisture Content (%)

Specific Gravity (at 20 deg C)

Wet Density (lb/ft³) Dry Density (lb/ft³)

**Group Symbol** 

**Group Name** 

Shape Hardness **Dispersion Device** Dispersion Period

000322

Method

ASTM D 422

AASHTO T 89/T 90

**ASTM D 2216** 

ASTM D 2487

ASTM D 854

Sample Location:

Other Test Results

Sand Gravel Description

******	Method:	ASTM D 422	
	Em and an an decision	0	

**Particle Size Distribution** 

Drying by:

Sieve Size 1in (25.0mm)	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	

3/8in (9.5mm)		100
No.4 (4.75mm)		99
No.10 (2.0mm)		97
No.20 (850µm)		96
No.40 (425µm)		95
No.60 (250µm)		93
No.100 (150µm)		90
No.200 (75µm)		85
0.038 mm		82
0.027 mm		78
0.018 mm		71
0.013 mm		65
0.011 mm		63
0.008 mm		57
0.006 mm	*	52
0.004 mm		44

0.	.00	1	n	nn	n
P	Ch		11	4	
	UI.	ıc	11	Ł	
::			٠.	٠.	٠.,

0.003 mm

Limits

Result

Method A

Unkown

16

14

Dry

16.7

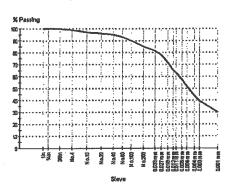
134.7

115.4

Lean clay with sand

CL

2.73



39



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S030

Issue No: 1

This leboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-13 LS-12

Field Sample No: Sample Depth:

50

Date Sampled:

Sampled By:

LWO No:

Sample Location:

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1_	
Liquid Limit (%)	ASTM D 4318	20	
Method		Method A	
Plastic Limit (%)		11	
Plasticity Index (%)		9	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	12.8	
Wet Density (lb/ft³)		149.6	
Dry Density (lb/ft³)		132.7	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Group Symbol	ASTM D 2487	CL	
Group Name	Lean cla	ay with sand	

#### Particle Size Distribution

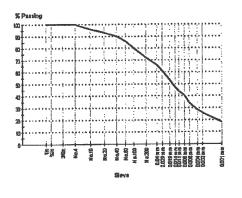
Method:

**ASTM D 422** 

Drying by:

Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	96	
No.20 (850µm)	93	
No.40 (425µm)	90	
No.60 (250µm)	86	
No.100 (150µm)	80	
No.200 (75µm)	72	
0.040 mm	66	
0.029 mm	61	
0.019 mm	54	
0.014 mm	47	
0.011 mm	44	
0.008 mm	40	
0.006 mm	34	
0.004 mm	29	
0.003 mm	26	
0.001 mm	18	A A
Chart		



Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT: 62-080376-01-S029

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

29

### Sample Details

**Boring No:** 

**TB-W-13** 

Field Sample No:

ST-5

Sample Depth:

43

Date Sampled: Sampled By:

LWO No:

000322

Sample Location:

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	97	
3/8in (9.5mm)		

Particle Size Distribution

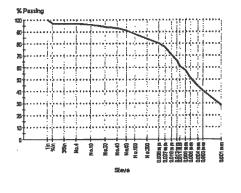
Oven

**ASTM D 422** 

Į.				OTORE (S.OHRII)	91
				No.4 (4.75mm)	97
				No.10 (2.0mm)	96
	ONAMERICA (SANCE)	SVEGUNALGN <b>A</b> TEN	verenaman veri	No.20 (850µm)	94
Other Test Results				No.40 (425µm)	93
Description	Method	Result	Limits	No.60 (250µm)	91
Temperture (°C)	[ASTM D 5084]	23.2		No.100 (150µm)	88
Cell Pressure (lb/in²)		40.0		No.200 (75µm)	84
Top Pressure (lb/in²)		32.0		0.038 mm	81
Bottom Pressure (lb/in²)		35.0		0.027 mm	77
Effective Pressure (lb/in²)		5.0		0.018 mm	70
Pressure Differential (lb/in²)		3.0		0.013 mm	66
Permeant	0.0	1 N CaS04		0.011 mm	61
Sample Height (in)		2.861		0.008 mm	57
Sample Diameter (in)		2,843		0.006 mm	51
Sample Cross-Section Area (in²)		6.35		0.004 mm	44
Sample Volume (in³)		18.16		0.003 mm	41

0.001 mm Chart

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.2	
Cell Pressure (lb/ln²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.0	1 N CaS04	
Sample Height (in)		2.861	
Sample Diameter (in)		2,843	
Sample Cross-Section Area (in²)		6.35	
Sample Volume (in³)		18.16	
Dry Density (lb/ft³)		117.4	
Initial Moisture Content (%)		15.2	
Final Moisture Content (%)		16.1	
Average Permeabilty (cm/s)		1.32 E-8	





Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S029

Issue No: 1

Client: Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accordance.

Method:

Drying by:

Particle Size Distribution

Oven

**ASTM D 422** 

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

Field Sample No: Sample Depth:

ST-5 43

**TB-W-13** 

Date Sampled: Sampled By:

LWO No:

000322

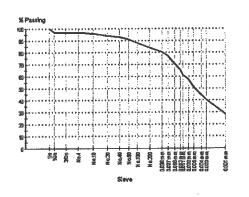
Sample Location:

Sieve Size 1in (25.0mm)	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm) 3/8in (9.5mm)	97	
3/8in (9.5mm)	97	

4	
3/8in (9.5mm)	97
No.4 (4.75mm)	97
Vo.10 (2.0mm)	96
No.20 (850µm)	94
No.40 (425µm)	93
Vo.60 (250µm)	91
lo.100 (150µm)	88
lo.200 (75µm)	84
).038 mm	81
).027 mm	77
),018 mm	70
).013 mm	66
).011 mm	61
0.008 mm	57
).006 mm	: 51
).004 mm	44
).003 mm	41
).001 mm	29

Chart

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 9	26	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		11	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	15.9	
Wet Density (lb/ft³)		132.9	
Dry Density (lb/fts)		114.7	
Group Symbol	ASTM D 2487	CL	
Group Name		y with sand	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	6118	
Shear Strength (lb/ft²)		3059	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		14.3	
Average Height (in.)		5.886	
Average Diameter (in.)		2.837	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		114.7	
Init. Water Content (%)		15.9	
Liquid Limit		26	
The 42 2 2 24		4 2-	



Comments

Plastic Limit Remarks Visual Description

N/A

15



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S028

lssue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

% Passing

Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

**TB-W-13** 

Field Sample No:

ST-4

Sample Depth:

38

Date Sampled:

Sampled By: LWO No:

Sample Location:

000322

-	ther 1	200 Apple	-		a ****! A
<i>t</i> : 3	tharil	oct.	: Wa	CIII	te :
~			1 16	ous	LO .

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422	-	
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	40	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		23	32
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name	Lean clay	y with sand	

### Particle Size Distribution

Method:

**ASTM D 422** 

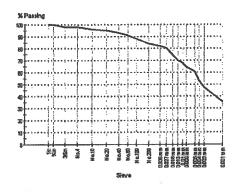
Drying by:

Sieve Size

1in (25.0mm)

Oven

HH (23.0HHII)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	98	
No.4 (4.75mm)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	95	
No.40 (425µm)	93	
No.60 (250µm)	91	
No.100 (150µm)	88	
No.200 (75µm)	84	
0.038 mm	82	
0.027 mm	80	
0.018 mm	75	
0.013 mm	70	
0.010 mm	68	
0.008 mm	64	
0.005 mm	61	
0.004 mm	53	
0.003 mm	48	
0.001 mm	36	
BANKAUST CLASSICANNI CA	LE MUSICE PARTIE À MANGE	1000





NTH Consultants, Ltd.

Telephone: 248, 553,6300 Fax: 248,324,5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S027

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

### Sample Details

Boring No:

TB-W-13 ST-3

Field Sample No:

33

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000322

Sample Location:

Average Permeabilty (cm/s)

Particle	Size Distribution
N 42 Y	AOTHED JOO

Method:

**ASTM D 422** 

% Passing

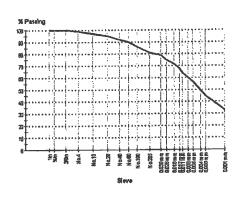
Drying by:

Sieve Size

Oven

Other Test Results			
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.2	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/ln²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.01	N CaS04	
Sample Height (in)		2.856	
Sample Diameter (in)		2.843	
Sample Cross-Section Area (in²)		6.35	
Sample Volume (in³)		18.13	
Dry Density (lb/ft³)		113.0	
Initial Moisture Content (%)		17.9	
Final Moisture Content (%)		18.4	

1in (25.0mm) 100 %in (19.0mm) 100 3/8in (9.5mm) 100 No.4 (4.75mm) 99 97 No.10 (2.0mm) 95 No.20 (850µm) No.40 (425µm) 92 No.60 (250µm) 90 86 No.100 (150µm) 81 No.200 (75µm) 79 0.039 mm 0.028 mm 75 71 0.018 mm 68 0.013 mm 64 0.011 mm 0.008 mm 60 56 0.006 mm 50 0.004 mm 0.003 mm 45 33 0.001 mm Chart



Comments

1.43 E-8



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S027

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The tast(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

% Passing

Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

TB-W-13

Field Sample No:

**ST-3** 

Sample Depth: Date Sampled:

33

Sampled By:

LWO No:

000322

Sample Location:

<b>Particle</b>	Size Distribution
Mothod:	ASTM D 422

**ASTM D 422** 

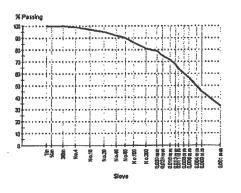
Drying by:

Sieve Size

Oven

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	0-7	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		16	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	17.9	
Wet Density (lb/ft³)		133.2	
Dry Density (lb/ft³)		113.0	
Group Symbol	ASTM D 2487	CL	
Group Name	Lean clay	with sand	

1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	99
No.10 (2.0mm)	97
No.20 (850µm)	95
No.40 (425µm)	92
No.60 (250µm)	90
No.100 (150µm)	86
No.200 (75µm)	81
0.039 mm	<del>79</del>
0.028 mm	75
0.018 mm	71
0.013 mm	68
0.011 mm	64
0.008 mm	60
0.006 mm	56
0.004 mm	50
0.003 mm	45
0.001 mm	33
Chart	





Telephone: 248, 553,6300 Fax: 248,324,5179

Method:

Drying by:

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S026

ssue No:

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

3 gerat Physicary

Particle Size Distribution

Oven

**ASTM D 422** 

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No: Field Sample No: TB-W-13 LS-8

Sample Depth:

30

Date Sampled:

Sampled By: LWO No:

000322

Sample Location:

Sieve Size 1in (25.0mm) %in (19.0mm)	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
2/9in (0.5mm)	90	

3/8in (9.5mm)	99
No.4 (4.75mm)	98
No.10 (2.0mm)	<b>9</b> 5
No.20 (850µm)	93
No.40 (425µm)	91
No.60 (250µm)	88
No.100 (150µm)	85
No.200 (75µm)	79
0.039 mm	76
0.028 mm	72
0.018 mm	68
0.013 mm	65
0.011 mm	62
0.008 mm	59
0.006 mm	54
0.004 mm	48

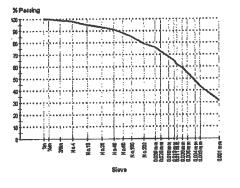
0.001 mm Chart

0.003 mm

1	
1	
1	
1	
1_	
٠.	
Method A	
17	
14	
Dry	
17.2	
	14

**ASTM D 2487** 

Lean clay with sand



43

Comments

Group Symbol

**Group Name** 



Telephone: 248, 553,6300 Fax: 248,324,5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S025

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Trensportation Officials (AASHTO). The test(6) reported have been performed in accordance with the terms of the accreditation.

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Date of Issue: 9/2/2008

% Passing

100

100

100

100

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-13

Field Sample No:

ST-2

Sample Depth: Date Sampled:

23

Sampled By:

LWO No:

000322

Sample Location:

<b>Particle</b>	Size Distribu	ition
	10711 - 100	

Method:

**ASTM D 422** 

Drying by:

Sieve Size

1in (25.0mm)

%in (19.0mm)

3/8in (9.5mm)

No.4 (4.75mm)

Oven

			No.10 (2.		100	
Other Test Results			No.20 (85		100	
Other restricesums	1996 (Section Control		No.40 (42		99	
Description	Method	Result	No.60 (25		99	
Temperture (°C)	[ASTM D 5084]	23.2	No.100 (1		98	
Cell Pressure (lb/in²)		40.0	No.200 (7		95	
Top Pressure (lb/in²)		32.0	0.037 mm	1	92	
Bottom Pressure (lb/ln²)		35.0	0.027 mm	1	89	
Effective Pressure (lb/in²)		5.0	0.017 mm	-	83	
Pressure Differential (lb/in²)		3.0	0.013 mm	1	76	
Permeant	0.0	1 N CaS04	0.010 mm	ז	73	
Sample Height (in)		2.845	0.008 mm	1	66	
Sample Diameter (in)		2.837	0.006 mm		58	
Sample Cross-Section Area (in²)		6.32	0.004 mm	1	50	
Sample Volume (in³)		17.98	0.003 mm	1	45	
Dry Density (lb/ft³)		106.6	0.001 mm		32	
Initial Moisture Content (%)		23.2	Chart			
Final Moisture Content (%)		21.7	BANGSELS			WHI WING
Average Permeabilty (cm/s)		7.28 E-8				
			% Pask	ng		
I			400			*******

Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S025

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

% Passing

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** Field Sample No:

TB-W-13 ST-2 23

Sample Depth: Date Sampled:

Sampled By:

LWO No:

Sample Location:

000322

Other Test Results	

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1_	
Liquid Limit (%)	AASHTO T 89/T 90	32	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		15	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	23.2	
Wet Density (ib/ft³)		131.3	
Dry Density (lb/ft³)		106.6	

**ASTM D 2467** 

Particle Size Distribution

Method:

**ASTM D 422** 

Drying by:

Sieve Size

1in (25.0mm)

%in (19.0mm)

Oven

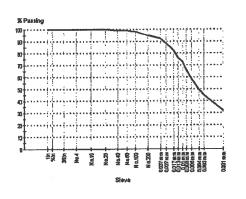
100

100

Limits

3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2,0mm)	100
No.20 (850µm)	100
No.40 (425µm)	99
No.60 (250µm)	99
No.100 (150µm)	98
No.200 (75μm)	95
0.037 mm	92
0.027 mm	89
0.017 mm	83
0.013 mm	76
0.010 mm	73
0,008 mm	66
0.006 mm	58
0.004 mm	50
0.003 mm	45
0.001 mm	32

Chart



Comments

**Group Symbol** 

**Group Name** 

N/A

CL Lean clay



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S024 issue No:

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

9/2/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

**TB-W-13** 

Field Sample No:

ST-1

Sample Depth:

18

Date Sampled: Sampled By:

LWO No:

Description

Permeant

Temperture (°C)

Cell Pressure (lb/in²)

Top Pressure (lb/in²)

Sample Height (in)

Sample Diameter (in)

Sample Volume (in³)

Dry Density (lb/ft3)

Bottom Pressure (lb/in²)

Effective Pressure (lb/in²)

Pressure Differential (lb/in²)

Initial Moisture Content (%)

Final Moisture Content (%)

Average Permeability (cm/s)

Sample Cross-Section Area (in²)

000322
--------

Method

(ASTM D 5084)

Other Test Results

lieve Size	% Passing	Limits
in (25.0mm)	100	
(in (19.0mm)	100	
101 (0.7	400	

74III ( 18.0HHII)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150um)	99

Particle Size Distribution

Oven

**ASTM D 422** 

No.200 (75µm) 98 0.036 mm 97 0.026 mm 93 0.017 mm 83 **75** 0.013 mm 71 0.010 mm

0.008 mm 64 0.006 mm 54 46 0.004 mm 0.003 mm 0.001 mm

### Chart

Limits

Result

23.1

40.0

32.0

35.0

5.0

3.0

2.861

2.873

6.48

18.55

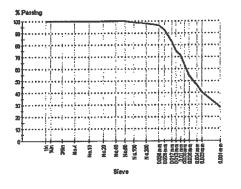
104.0

22.5

22.2

1.48 E-7

0.01 N CaS04



41

28



Telephone: 248. 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No. MAT 62-080376-01-S024

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

% Passing

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

Field Sample No: Sample Depth:

Date Sampled:

Sampled By: LWO No:

Sample Location:

000322

**TB-W-13** 

**ST-1** 

18

Particle	Size Distribution
Method:	ASTM D 422

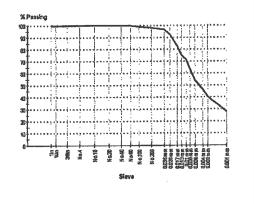
Drying by:

Sieve Size

Oven

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90		
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		14	
Sample History		Unkown	
Preparation	40714 D 0040	Dry	
Moisture Content (%)	ASTM D 2216	22.5	
Wet Density (lb/ft³)		127.4	
Dry Density (lb/ft³)	ASTM D 2487	104.0 CL	
Group Symbol	A51M U 240/		
Group Name	ASTM D 2166	Lean clay 2658	
Unconfined Compressive Strength (lb/ft²)	A31M D 2100	2000 1329	
Shear Strength (lb/ft²)		1.0	
Ave. Rate Strain to Failure(%)		9.0	
Strain at Failure(%)		6.024	
Average Height (in.)		2.818	
Average Diameter (in.)		2.010	
Height-Diameter Ratio		104.0	
Init. Dry Dens.		22.5	
Init. Water Content (%)		22.5 30	
Liquid Limit		16	
Plastic Limit		10	

1in (25.0mm) 100 100 %in (19.0mm) 100 3/8in (9.5mm) No.4 (4.75mm) 100 No.10 (2.0mm) 100 No.20 (850µm) 100 No.40 (425µm) 100 No.60 (250µm) 100 99 No.100 (150µm) No.200 (75µm) 98 97 0.036 mm 93 0.026 mm 83 0.017 mm 0.013 mm 75 0.010 mm 71 0.008 mm 64 54 0.006 mm 46 0.004 mm 0.003 mm 41 28 0.001 mm Chart



Comments

Remarks Visual Description



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### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S023

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

Date of Issue: 9/2/2008

Particle Size Distribution

Oven

**ASTM D 422** 

Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

**TB-W-13** 

Field Sample No:

LS-5

Sample Depth: Date Sampled:

15

Sampled By:

LWO No:

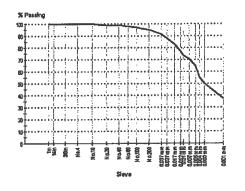
000322

Sample Location:

1322			
	Sieve Size	% Passing	Limits
	1in (25.0mm)	100	

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape		•	
Hardness			
Dispersion Device			
Dispersion Period		11	
Liquid Limit (%)	ASTM D 4318	35	
Method		Method A	
Plastic Limit (%)		19	
Plasticity Index (%)		16	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	22.3	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	

TIM (25.UHIHI)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	99	
No.40 (425µm)	99	
No.60 (250µm)	98	
No.100 (150µm)	97	
No.200 (75µm)	95	
0.037 mm	92	
0.027 mm	88	
0.017 mm	83	
0.012 mm	77	
0.010 mm	73	
0.007 mm	71	
0.005 mm	65	
0.004 mm	55	
0.003 mm	50	
0.001 mm	38	
Chart		



Comments

**Group Symbol** 

Group Name

Lean clay



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## Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S022

Issue No: 1

Limits

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Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** Field Sample No:

**TB-W-13** LS-3

000322

Sample Depth:

7.5

Date Sampled:

Sampled By:

LWO No:

Sample Location:

Other Test Results Description

Sand Gravel Description

Shape Hardness

Dispersion Device **Dispersion Period** 

Moisture Content (%)

Wet Density (lb/ft3) Dry Density (lb/ft3)

Group Symbol **Group Name** 

**ASTM D 2216** 

Method

**ASTM D 422** 

20.6

Result

SM

**ASTM D 2487** 

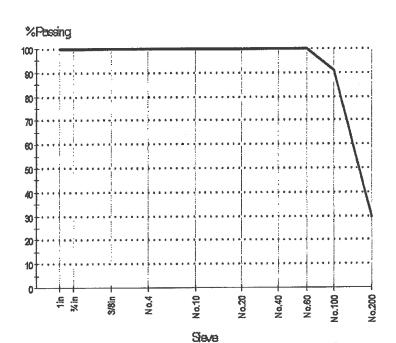
Silty sand

#### Particle Size Distribution

Method:

**ASTM D 422** 

Drying by: Oven



Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	e
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	91	
No.200 (75µm)	30	
Finer No.200 (75µ	m) 30	



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Method:

Drying by:

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S021

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Particle Size Distribution

Oven

**ASTM D 422** 

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Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

12

12

	_		555 mm	
,	Sampl	e Det	ail	2
	VALUE	<b></b>	<b>MILL</b>	Υ.

Boring No:

**TB-W-13** 

Field Sample No:

LS-1

Sample Depth:

2.5

Date Sampled: Sampled By:

LWO No:

Sample Location:

000322

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	

1	3/8in (9.5mm)	100
1	No.4 (4.75mm)	99
1	No.10 (2.0mm)	97
ş	No.20 (850µm)	93
š	No.40 (425µm)	85
	No.60 (250µm)	52
1	No.100 (150um)	19

Other Test Results Limits Description Method Result **ASTM D 422** Sand Gravel Description No.200 (75µm) Shape Finer No.200 (75µm)

Hardness Dispersion Device Dispersion Period **ASTM D 4318** N/O Liquid Limit (%) Method N/O N/O Plastic Limit (%) N/O Plasticity Index (%) N/O Sample History

Preparation Moisture Content (%) Wet Density (lb/ft3) Dry Density (lb/ft³)

**Group Symbol** Group Name

ASTM D 2216

ASTM D 2487

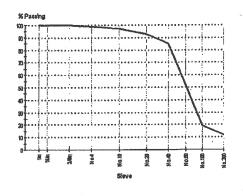
N/O

16.2

SM

Silty sand

Chart



Comments

N/O = Not Obtainable NO = Not Obtainable

NP = Non Plastic



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### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S020

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

9/2/2008 Date of Issue: Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-12 LS-21

Field Sample No: Sample Depth:

100

000322

Date Sampled:

Sampled By:

LWO No:

Sample Location:

Other Test Results

Description

Sand Gravel Description

Shape

Hardness Dispersion Device

Dispersion Period

Moisture Content (%) Wet Density (lb/fts)

Dry Density (lb/ff³)

**Group Symbol Group Name** 

**ASTM D 2216** 

**ASTM D 2487** 

Method

**ASTM D 422** 

6.9

Result

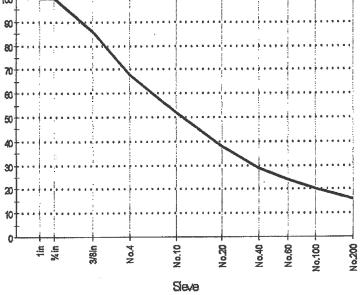
SM Silty sand with gravel

### Particle Size Distribution

Method: Drying by: **ASTM D 422** 

Oven

%Passing



Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	86	
No.4 (4.75mm)	68	
No.10 (2.0mm)	52	
No.20 (850µm)	38	
No.40 (425µm)	29	
No.60 (250µm)	24	
No.100 (150µm)	20	
No.200 (75µm)	16	
Finer No.200 (75)	ım) 16	
	-	

NA



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### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S019

Issue No: 1

Limits

Linalia

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

(AASHTO). In accordance

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Seeman Dropping

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: Field Sample No: TB-W-12 LS-20

Sample Depth: Date Sampled: 95

Sampled By:

LWO No:

000322

Sample Location:

Other Test Results

Description

Sand Gravel Description

Sand Gravel Description Shape

Hardness

**Dispersion Device** 

Dispersion Period

Moisture Content (%)

Wet Density (lb/ft³)
Dry Density (lb/ft³)

Group Symbol Group Name ASTM D 2487

**ASTM D 2216** 

Method

SM

7.0

Result

Silty sand with gravel

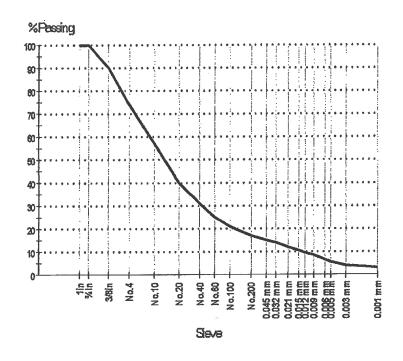
### Particle Size Distribution

Method:

**ASTM D 422** 

Drying by:

Oven



Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	, 100	
3/8in (9.5mm)	90	
No.4 (4.75mm)	74	
No.10 (2.0mm)	57	
No.20 (850µm)	40	
No.40 (425µm)	31	
No.60 (250µm)	25	
No.100 (150µm)	21	
No.200 (75µm)	17	
0.045 mm	15	
0.032 mm	14	
0.021 mm	12	
0.015 mm	10	
0.012 mm ·	9	
0.009 mm	9	
0.006 mm	7	
0.005 mm	5	
0.003 mm	4	
0.001 mm	3	

Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S018

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The lost(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-12 LS-19

Field Sample No: Sample Depth:

90

Date Sampled:

Sampled By:

LWO No:

000322

Other Test Results

Description

Sand Gravel Description

Shape Hardness

Dispersion Device

**Dispersion Period** Moisture Content (%)

Wet Density (lb/ft3)

Dry Density (lb/ft³)

**ASTM D 2487** 

**ASTM D 2216** 

Method

**ASTM D 422** 

ML

16.6

Result

Sample Location:

**Group Symbol Group Name** 

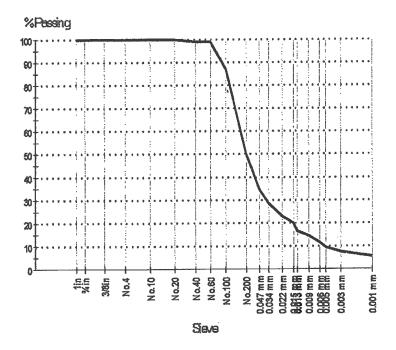
Sandy silt

#### Particle Size Distribution

Method:

**ASTM D 422** 

Oven Drying by:



Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	99	
No.60 (250µm)	99	
No.100 (150µm)	87	
No.200 (75µm)	50	
0.047 mm	35	
0.034 mm	29	
0.022 mm	23	
0.015 mm	20	
0.013 mm	16	
0.009 mm	14	
0.006 mm	12	
0.005 mm	10	
0.003 mm	8	
0.001 mm	6	

Form No: 18909.V1.00



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S017

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed

Date of Issue: 9/2/2008

% Passing

100

Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

TB-W-12

Field Sample No:

ST-8

Sample Depth:

83

Date Sampled: Sampled By:

LWO No:

000322

Sample Location:

Average Permeability (cm/s)

Particle	Size Distribution
4. ** 1	AOTHED 400

Method:

Sieve Size

1in (25.0mm)

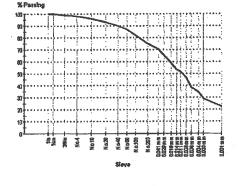
**ASTM D 422** 

Drying by:

Oven

1				FIRE (Z.O.OHILLI)	100
				%in (19.0mm)	100
				3/8in (9.5mm)	99
				No.4 (4.75mm)	98
				No.10 (2.0mm)	96
A Reference on the Lotter LVS Co.	PEREKANAN MANAN	SAMESSE SERVICES	O HOLVANDOANISCI	No.20 (850µm)	93
Other Test Results				No.40 (425µm)	90
Description	Method	Result	Limits	No.60 (250µm)	87
Temperture (°C)	[ASTM D 5084]	23.3		No.100 (150µm)	82
Cell Pressure (lb/in²)		40.0		No.200 (75µm)	75
Top Pressure (lb/in²)		32.0		0.041 mm	70
Bottom Pressure (lb/in²)		35.0		0.029 mm	6 <b>6</b>
Effective Pressure (lb/in²)		5.0		0.019 mm	59
Pressure Differential (lb/in²)		3.0		0.014 mm	54
Permeant	0.0	1 N CaS04		0.011 mm	52
Sample Height (in)		2.887		0.008 mm	47
Sample Diameter (in)		2.856		0.006 mm	39
Sample Cross-Section Area (in²)		6.41		0.004 mm	35
Sample Volume (in³)		18.50		0.003 mm	29
Dry Density (lb/ft³)		128.4		0.001 mm	23
Initial Moisture Content (%)		11.2		Chart	
Final Moisture Content (%)		11.6		Back and Mark to the	

2.28 E-8





Telephone: 248. 553.6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Woodlot & MC1&4 Waste Investigation

Wayne Disposal, Inc.

Soil Boring Program

Report No: MAT:62-080376-01-S017

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Job No: 62-080376-01

Sample Details

**Boring No:** 

Field Sample No: Sample Depth:

Date Sampled:

Sampled By:

Client:

Project:

LWO No: Sample Location: 000322

TB-W-12

ST-8

83

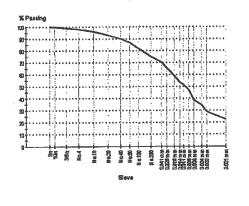
Other Test Results	Method	Result	Limits
Description Sand Gravel Description	ASTM D 422	Result	Lilling
Shape	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90		
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		10	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	14.9	
Wet Density (lb/ft³)		134.7	
Dry Density (lb/ft³)		117.2	
Group Symbol	ASTM D 2487	CL	
Group Name	Lean cla	y with sand	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	1751	
Shear Strength (lb/ft²)		876	
Ave. Rate Strain to Failure(%)		1.1	
Strain at Failure(%)		14.8	
Average Height (in.)		5.657	
Average Diameter (in.)		2.838	
Height-Diameter Ratio		2.0	
Init. Dry Dens.		117.2 14.9	
Init. Water Content (%)		14.9 24	
Liquid Limit		14	
Plastic Limit		14	
Remarks			

Particle		

Method: Drying by: **ASTM D 422** 

Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	93	
No.40 (425µm)	90	
No.60 (250µm)	87	
No.100 (150µm)	82	
No.200 (75µm)	75	
0.041 mm	70	
0.029 mm	66	
0.019 mm	59	
0.014 mm	54	
0.011 mm	52	
0.008 mm	47	
0.006 mm	39	
0.004 mm	35	
0.003 mm	29	
0.001 mm	23	
Chart		



Comments

Visual Description



Telephone: 248, 553,6300 Fax: 248,324,5179

## Aggregate/Soil Test Report

Report No: MAT: 62-080376-01-S016

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This leboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

% Passing

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-12

Field Sample No:

LS-17

Sample Depth:

80

Date Sampled: Sampled By:

LWO No:

000322

Sample Location:

Particle	Size Distribution
والمصطاعمالة	ACTAL IN 100

Method:

**ASTM D 422** 

Drying by:

Sieve Size

Oven

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	24	
Method	l	Method A	
Plastic Limit (%)		13	
Plasticity index (%)		11	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	11.8	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	
Group Name	Lean clay	with sand	

1in (25.0mm)	100
¾in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	98
No.10 (2.0mm)	<b>9</b> 5
No.20 (850µm)	94
No.40 (425µm)	90
No.60 (250µm)	87
No.100 (150µm)	81
No.200 (75µm)	74
0.040 mm	67
0.029 mm	64
0.019 mm	58
0.014 mm	53
0.011 mm	50
0.008 mm	44
0.006 mm	40
0.004 mm	34
0.003 mm	31
0.001 mm	23
Chart	



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S250

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 12/13/2008 Approved Signatory: Zeerak Paydawy

Comments

N/A

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S250

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Page 2 of 2



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S250

Issue No: 1

**Client:** 

Wayne Disposal, Inc.

**Project:** 

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is eccredited by American Association of State Highway and Transportation Officials ((AS)HTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 12/13/2008 Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** 

TB-W-12

Field Sample No:

**ST-7** 

Sample Depth:

73

Date Sampled:

Sampled By:

Michael McNamara

LWO No:

000380

Sample Location:

WDI - Woodlot

Particle Size Distribution

Method:

Drying by: Date Tested:

Sieve Size

% Passing

Limits

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216	- 05 19.3	•
Wet Density (lb/ff³)		133.0	
Dry Density (lb/ft³)		111.5	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	- 06 1460	
Shear Strength (lb/ft²)		740	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		14.2	
Average Height (in.)		5.790	
Average Diameter (in.)		2.800	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		111.5	
Init. Water Content (%)		19.3	
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Comments



Telephone; 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S015

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: Field Sample No: TB-W-12 ST-7

Sample Depth:

73

Date Sampled: Sampled By:

LWO No:

000322

Sample Location:

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
240.0	400	

Particle Size Distribution

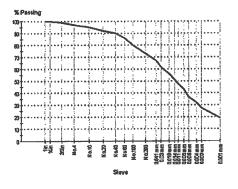
Oven

**ASTM D 422** 

¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	97	
No.10 (2.0mm)	95	
No.20 (850µm)	92	
No.40 (425µm)	90	
No.60 (250µm)	86	
No.100 (150µm)	80	
No.200 (75µm)	73	
0.041 mm	67	
0.030 mm	61	
0.019 mm	56	
0.014 mm	51	
0.011 mm	48	
0.008 mm	43	
0.006 mm	37	
0.004 mm	32	
0.003 mm	27	
0.001 mm	19	
Chart		÷

Chart

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/ln²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/ln²)		3.0	
Permeant	0.0	1 N CaS04	
Sample Height (in)		2.862	
Sample Diameter (in)		2.875	
Sample Cross-Section Area (in²)		6.49	
Sample Volume (in³)		18.58	
Dry Density (lb/ft³)		114.3	
Initial Moisture Content (%)		19.1	
Final Moisture Content (%)		20.9	
Average Permeabilty (cm/s)		1.95 E-7	





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### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S015

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

TB-W-12

Field Sample No:

**ST-7** 73

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000322

Sample Location:

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	97	

Particle Size Distribution

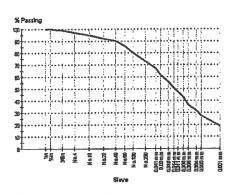
Oven

**ASTM D 422** 

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	23	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		9	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	19.1	
Wet Density (lb/ft³)		136.1	
Dry Density (lb/ft³)		114.3	
Group Symbol	ASTM D 2487	CL	

Lean clay with sand

3/8in (9.5mm)	99
No.4 (4.75mm)	97
No.10 (2.0mm)	95
No.20 (850µm)	92
No.40 (425µm)	90
No.60 (250µm)	86
No.100 (150µm)	80
No.200 (75µm)	73
0.041 mm	67
0.030 mm	61
0.019 mm	56
0.014 mm	51
0.011 mm	48
0.008 mm	43
0.006 mm	37
0.004 mm	32
0.003 mm	27
0.001 mm	19
Chart	



Comments

**Group Name** 



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## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S014

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Fighway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

20

14

12

8

#### Sample Details

**Boring No:** 

TB-W-12

Field Sample No: Sample Depth:

ST-6 68

Date Sampled:

Sampled By:

LWO No:

Description

Permeant

Temperture (°C)

Cell Pressure (lb/in²)

Top Pressure (lb/in²)

Sample Height (in)

Sample Diameter (in)

Sample Volume (in³)

Final Moisture Content (%)

Average Permeability (cm/s)

Dry Density (lb/ft³) Initial Moisture Content (%)

Bottom Pressure (lb/in²)

Effective Pressure (lb/in²)

Pressure Differential (lb/in²)

Sample Cross-Section Area (in²)

000322

Method

[ASTM D 5084]

Sample Location:

Other Test Results

Particle	Size Distribution
Method:	<b>ASTM D 422</b>
	O

Drying by:

Oven

Sieve Size	% Passing
1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	98
No.20 (850µm)	97
No.40 (425µm)	96
No.60 (250µm)	94
No.100 (150µm)	91
No.200 (75µm)	89

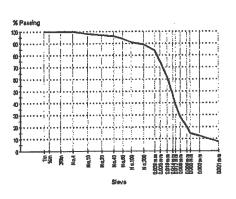
94 91 89 0.039 mm 84 75 0.028 mm 62 0.019 mm 0.014 mm 48 0.012 mm 39 29

0.005 mm 0.003 mm 0.001 mm

0.009 mm

0.006 mm

Chart



Comments

Result

22.9

40.0

32.0

35.0

5.0

3.0

2.862

2.875

6.49

18.58

108.5

21.2

17.5

2.34 E-7

0.01 N CaS04

Limits



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### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S014

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

AR AND

Date of Issue: 9/2/2008

% Passing

Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

TB-W-12

Field Sample No:

ST-6

Sample Depth:

68

Date Sampled: Sampled By:

LWO No:

Sample Location:

000322

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		11	
Liquid Limit (%)	AASHTO T 89/T 90	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	21.2	
Wet Density (lb/ft³)		131.4	
Dry Density (lb/ft³)		108.4	
Group Symbol	ASTM D 2487	ML	
Group Name		Silt	

Tends 1,117 Tax 8 1111 I	1.11				
Dortin	o Cino	Main	bari le		O PA
Partic		1715		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	described the second	10000			

Method:

**ASTM D 422** 

Drying by:

Sieve Size

Oven

71n (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	98
No.20 (850µm)	97
No.40 (425µm)	96
No.60 (250µm)	94
No.100 (150µm)	91
No.200 (75µm)	89
0.039 mm	84
0.028 mm	75
0.019 mm	62
0.014 mm	48
0.012 mm	39
0.009 mm	29
0.006 mm	20
0.005 mm	14
0.003 mm	12
0.001 mm	8
Chart	

Comments
sample was silt
N/O = Not Obtainable
NO = Not Obtainable



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## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S013

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

AR

Method:

Drying by:

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Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-12 LS-14

Field Sample No: Sample Depth:

65

Date Sampled:

Sampled By:

LWO No:

000322

Other Test Results

Sample Location:

Sieve Size	% Passing	Limits
lin (25.0mm)	100	
¼in (19.0mm)	100	
3/8in (9.5mm)	100	
No 4 (4 75mm)	100	

Particle Size Distribution

Oven

**ASTM D 422** 

No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	100
No.200 (75µm)	97
0.041 mm	75
0.030 mm	62
0.020 mm	48
0.015 mm	39
0.012 mm	33
0.009 mm	27
0.006 mm	21
0.005 mm	18
0.003 mm	13

0.001 mm Chart

	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
	Description	Method	Result	Limits
	Sand Gravel Description	ASTM D 422		
	Shape			
	Hardness			
	Dispersion Device			
-	Dispersion Period		1	
	Liquid Limit (%)	AASHTO T 89/T 90	N/O	,
	Method		N/O	
	Plastic Limit (%)		N/O	
-	Plasticity index (%)		N/O	
-	Sample History		N/O	
	Preparation		N/O_	
-	Moisture Content (%)	ASTM D 2216	23.0	
-	Wet Density (lb/ft³)			
-	Dry Density (lb/ft³)			
	Group Symbol	ASTM D 2487	ML	
			O:14	

10

Comments
sample was silt
N/O = Not Obtainable
NO = Not Obtainable

**Group Name** 

Silt



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### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S012

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

W.D.

Method:

Drying by:

This taboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-12

Field Sample No:

ST-5 60

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000322

Sample Location:

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	

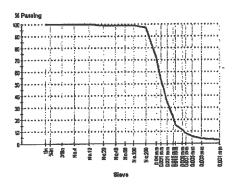
Particle Size Distribution

Oven

**ASTM D 422** 

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.2	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.0	1 N CaS04	
Sample Height (in)		2.952	
Sample Diameter (in)		2.758	
Sample Cross-Section Area (in²)		5.97	
Sample Volume (in³)		17.64	
Dry Density (lb/ft ^s )		115.8	
Initial Moisture Content (%)		20.0	

74111 ( 10.0111111)	
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	99
No.40 (425µm)	99
No.60 (250µm)	99
No.100 (150µm)	99
No.200 (75µm)	97
0.040 mm	72
0.031 mm	54
0.021 mm	35
0.015 mm	22
0.013 mm	15
0.009 mm	12
0.007 mm	9
0.005 mm	6
0.003 mm	4
0.001 mm	· 3
Chart	
SHERMSHAME DAY FAMILY	The Antonia Million (1994) and Antonia



Comments

SAMPLE IS SILT, NO UNCONFINED

Final Moisture Content (%)

Average Permeabilty (cm/s)

17.7

1.14 E-5



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## Aggregate/Soil Test Report

Woodlot & MC1&4 Waste Investigation

Wayne Disposal, Inc.

Soil Boring Program

62-080376-01

Report No: MAT:62-080376-01-S012

Issue No: 1

Limits

This faboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

% Passing

100

Sample Details

**Boring No:** 

Field Sample No:

Sample Depth: Date Sampled:

Sampled By: LWO No:

Client:

Project:

Job No:

Sample Location:

TB-W-12

ST-5

60

000322

Particle Size Distribution Method: **ASTM D 422** 

Drying

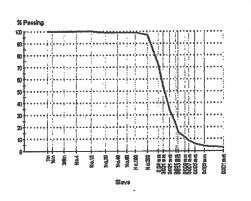
Sieve Size

ŀ	by:	Oven

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O_	
Moisture Content (%)	ASTM D 2216	1.9	
Wet Density (lb/ft³)		139.0	
Dry Density (lb/ft³)		136.4	
Group Symbol	ASTM D 2487	ML	
Group Name		Silt	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	N/O	
Shear Strength (lb/ft²)		N/O	
Ave. Rate Strain to Failure(%)		N/O	
Strain at Failure(%)		N/O	
Average Height (in.)		N/O	
Average Diameter (in.)		N/O	
Height-Diameter Ratio		N/O	
		8110	

1in (25.0mm) %in (19.0mm) 100 3/8in (9.5mm) 100 No.4 (4.75mm) 100 No.10 (2.0mm) 100 No.20 (850µm) 99 No.40 (425µm) 99 99 No.60 (250µm) 99 No.100 (150µm) No.200 (75µm) 97 72 0.040 mm 0.031 mm 54 35 0.021 mm 22 0.015 mm 15 0.013 mm 12 0.009 mm 0.007 mm 9 0.005 mm 6 0.003 mm 0.001 mm

Chart



Comments SAMPLE IS SILT, NO UNCONFINED N/O = Not Obtainable NO = Not Obtainable

N/O N/O

N/O

N/O N/O

N/O

Init. Dry Dens.

Liquid Limit

Plastic Limit

Remarks

Init. Water Content (%)

Visual Description



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## Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S011

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(e) reported have been performed in accordance with the terms of the accreditation.

% Passing

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-12

Field Sample No:

ST-4

Sample Depth:

55

Date Sampled: Sampled By:

LWO No:

000322

Sample Location:

Partic			

Method:

**ASTM D 422** 

Drying by:

Sieve Size

Oven

		No.20 (850µm)
TO SERVICE THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVIC		No.40 (425µm)
	Limits	No.60 (250µm)
23.1		No.100 (150µm
40.0		No.200 (75µm)
32.0		0.039 mm
35.0		0.028 mm
5.0		0.018 mm
3.0		0.013 mm
N CaS04		0.011 mm
2.860		0.008 mm
2.844		0.006 mm
6.35		0.004 mm
18.17		0.003 mm
100.8		0.001 mm
25.4		Chart
24.0		
4.72 E-8		
	32.0 35.0 5.0 3.0 N CaS04 2.860 2.844 6.35 18.17 100.8 25.4 24.0	Result Limits  23.1  40.0 32.0 35.0 5.0 5.0 3.0 N CaS04 2.860 2.844 6.35 18.17 100.8 25.4 24.0

1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	99
No.10 (2.0mm)	98
No.20 (850µm)	97
No.40 (425µm)	95
No.60 (250µm)	92
No.100 (150µm)	88
No.200 (75µm)	82
0.039 mm	76
0.028 mm	73
0.018 mm	63
0.013 mm	55
0.011 mm	49
0.008 mm	40
0.006 mm	33
0.004 mm	25
0.003 mm	19
0.001 mm	14
The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	AND SECURISH AND AND AND AND AND AND AND AND AND AND

Comments



Telephone: 248, 653,6300 Fex: 248,324,5179

5.5 5 12

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S011

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Method:

Drying by:

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-12

Field Sample No: Sample Depth:

ST-4 55

Date Sampled:

Sampled By:

LWO No:

000322

Sample Location:

Sieve Size	% Passing	Limits
lin (25.0mm)	100	
¼in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	

Particle Size Distribution

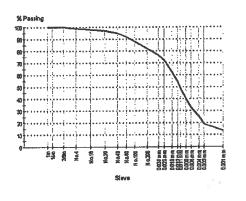
**ASTM D 422** 

Oven

Method	Result	Limits
ASTM D 422		
	1	
AASHTO T 89/T 90		
	Method A	
	14	
	7	
ASTM D 2216		
	126. <b>4</b>	
ASTM D 2487	CL-ML	
	Method	ASTM D 422  AASHTO T 89/T 90 ASTM D 2216  Dry  ASTM D 2216  25.4 126.4 100.8

Silty clay with sand

No.4 (4.75mm)	99
No.10 (2.0mm)	98
No.20 (850µm)	97
No.40 (425µm)	95
No.60 (250µm)	92
No.100 (150µm)	88
No.200 (75µm)	82
0.039 mm	76
0.028 mm	73
0.018 mm	63
0.013 mm	55
0.011 mm	49
0.008 mm	40
0.006 mm	33
0.004 mm	25
0.003 mm	19
0.001 mm	14
Chart	



Comments

**Group Name** 



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## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S010

issue No: 1

This laboratory is accredited by American Association of State Fightway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

#### Client: Wayne Disposal, Inc.

Woodlot & MC1&4 Waste Investigation

Project:

Job No:

62-080376-01

Soil Boring Program

Sample Details

Boring No: Field Sample No:

Sample Depth:

Date Sampled:

Sampled By:

LWO No:

000322

TB-W-12

LS-11

47.5

Sample Location:

	(1	
Other Test	Results	

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1_	
Liquid Limit (%)	AASHTO T 89/T 90	30	
Method	l	Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		15	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	16.2	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)	·-···		
Group Symbol	ASTM D 2487	CL	
Group Name	Lean clay	with sand	

### Particle Size Distribution

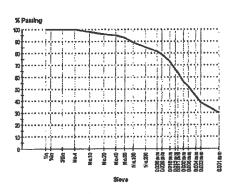
Method:

**ASTM D 422** 

Drying by:

Oven

0:	Of December	Lindle
Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	98	
No.20 (850µm)	96	
No.40 (425µm)	95	
No.60 (250µm)	93	
No.100 (150µm)	89	
No.200 (75µm)	85	
0.038 mm	82	
0.028 mm	79	
0.018 mm	73	
0.013 mm	66	
0.011 mm	64	
0.008 mm	56	
0.006 mm	52	
0.004 mm	44	
0.003 mm	39	
0.001 mm	30	
Chart		





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Method:

Drying by:

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S009

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

TB-W-12 LS-10

Field Sample No: Sample Depth:

Date Sampled:

Sampled By: LWO No:

000322

Sample Location:

ieve Size	% Passing
in (25.0mm)	100
(in (19.0mm)	100
/8in (9.5mm)	99
lo.4 (4.75mm)	99
lo.10 (2.0mm)	97
lo.20 (850µm)	95
lo.40 (425µm)	94
lo.60 (250µm)	92

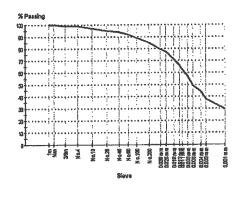
Particle Size Distribution

Oven

**ASTM D 422** 

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422	-	
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	29	
Method	Method A		
Plastic Limit (%)		15	
Plasticity Index (%)		14	
Sample History			
Preparation		Dry_	
Moisture Content (%)	ASTM D 2216	13.9	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	
Group Name	Lean clay	with sand	

%in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	94	
No.60 (250µm)	92	
No.100 (150µm)	89	
No.200 (75µm)	85	
0.039 mm	80	
0.028 mm	78	
0.018 mm	71	
0.013 mm	66	
0.011 mm	63	
0.008 mm	57	
0.006 mm	49	
0.004 mm	45	
0.003 mm	38	
0.001 mm	29	
Chart		
Service of Administration of the con-		





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### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S008

Issue No:

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

% Passing

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-12

Field Sample No:

ST-3

Sample Depth:

38

Date Sampled:

Sampled By: LWO No:

000322

Sample Location:

Particle	Size Dis	tribution
والمحالة المالة	ACTUA	199

Method:

Sieve Size

**ASTM D 422** 

Drying by:

Oven

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	22.9	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.0	I N CaS04	
Sample Height (in)		2.881	
Sample Diameter (in)		2.842	
Sample Cross-Section Area (in²)		6.34	
Sample Volume (in³)	¥5	18.28	
Dry Density (lb/ft ³ )		121.9	
Initial Moisture Content (%)		13.3	
Final Moisture Content (%)		13.9	
Average Permeabilty (cm/s)		1.33 E-8	

1in (25.0mm) %in (19.0mm) 100 98 3/8in (9.5mm) No.4 (4.75mm) 96 No.10 (2.0mm) 94 91 No.20 (850µm) 89 No.40 (425µm) No.60 (250µm) 86 82 No.100 (150µm) 75 No.200 (75µm) 0.039 mm 71 0.028 mm 66 62 0.018 mm 56 0.013 mm 0.011 mm 52 0.008 mm 48 43 0.006 mm 39 0.004 mm 0.003 mm 34 25 0.001 mm Chart

% Passing



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## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-5008

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue:

Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** Field Sample No: TB-W-12 **ST-3** 

38

Sample Depth: Date Sampled:

Sampled By:

LWO No:

Description

Liquid Limit (%)

Plastic Limit (%)

Sample History

Preparation

Plasticity index (%)

Moisture Content (%) Wet Density (lb/ft³)

Dry Density (lb/ft³)

Shape Hardness Dispersion Device Dispersion Period

Method

000322

Method

ASTM D 422

AASHTO T 89/T 90

**ASTM D 2216** 

Sample Location:

Other Test Results

Sand Gravel Description

<b>Particle</b>	Size Distribut	ion
Method:	ASTM D 422	
	<b>A</b>	

Drying by:

Oven

Sieve Size	% Passing	Limit
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	98	
No.4 (4.75mm)	96	
No.10 (2.0mm)	94	
No.20 (850µm)	91	
No.40 (425µm)	89	
No.60 (250µm)	86	
No.100 (150µm)	82	
No.200 (75µm)	75	
0.039 mm	71	
0.028 mm	66	
0.018 mm	62	

56

52

48

43

39

34

25

28 Method A 14 14 Drv 13.3 138.2 121.9 CL

Limits

Result

0.001 mm Chart

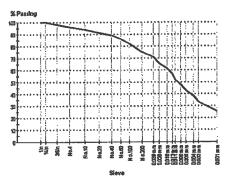
0.013 mm 0.011 mm

0.008 mm

0.006 mm

0.004 mm

0.003 mm



**ASTM D 2487 Group Symbol** Group Name Lean clay with sand Unconfined Compressive Strength (lb/ft²) **ASTM D 2166** 3443 1722 Shear Strength (lb/ft²) Ave. Rate Strain to Failure(%) 1.0 Strain at Failure(%) 15.0 6.021 Average Height (in.) 2.848 Average Diameter (in.) 2.1 Height-Diameter Ratio Init. Dry Dens. 121.9 Init. Water Content (%) 13.3 28 Liquid Limit Plastic Limit Remarks

Visual Description



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## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S007

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

% Passing

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-12

Field Sample No:

LS-9

Sample Depth:

35

Date Sampled: Sampled By:

LWO No:

000322

Sample Location:

Partici	e Size Distribution
	AOTHED 100

Method:

**ASTM D 422** 

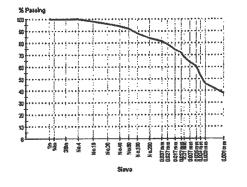
Drying by:

Sieve Size

Oven

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	36	
Method	1	Nethod A	
Plastic Limit (%)		18	
Plasticity index (%)		18	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	16.2	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	
Group Name	Lean clay v	vith sand	

1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	98	
No.20 (850µm)	96	
No.40 (425µm)	94	
No.60 (250µm)	92	
No.100 (150µm)	88	
No.200 (75µm)	84	
0.037 mm	82	
0.027 mm	79	
0.017 mm	75	
0.012 mm	72	
0.010 mm	69	
0.007 mm	64	
0.005 mm	61	
0.004 mm	53	
0.003 mm	46	
0.001 mm	38	
Chart		





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## Aggregate/Soil Test Report

Client:

Wayne Disposal, inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S246

Issue No: 1

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A STITLE FIRE

Date of Issue: 11/24/2008

Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** 

TB-W-12

Field Sample No:

ST-2 30

Sample Depth: Date Sampled:

Sampled By:

d By: Michael McNamara

LWO No:

000374

Sample Location:

WDI - Woodlot

Particle Size Distribution

Method:

Drying by: Date Tested:

Sieve Size

% Passing

Limits

Other Test Results			
Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216 - 0	5 17.2	
Wet Density (lb/ft³)		133.1	
Dry Density (lb/ft³)		113.5	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 0	6 3480	
Shear Strength (lb/ft²)		1740	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	,
Average Height (in.)		5.910	
Average Diameter (in.)		2.840	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		113.5	
Init. Water Content (%)		17.2	
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Chart

_	•••					•	٠.
C	^	994	194	4	9.94	٠.	m
v	u	91	ш	ш	38.	н.	3
	• 7				75		٠.,

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S246

N/A

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Page 1 of 1



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### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT 62-080376-01-S006

Issue No:

Limits

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Zeenk &

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

TB-W-12

Field Sample No:

ST-2

Sample Depth:

30

Date Sampled: Sampled By:

LWO No:

000322

Sample Location:

ı	₁ar	tic	le S	ize.	UIS	trid	uti	on	

Method:

**ASTM D 422** 

% Passing

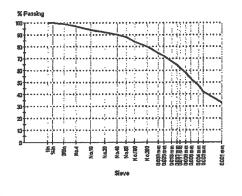
Drying by:

Sieve Size

Oven

1in (25.0mm)	100
3/4in (19.0mm)	100
3/8in (9.5mm)	99
No.4 (4.75mm)	97
No.10 (2.0mm)	94
No.20 (850µm)	92
No.40 (425µm)	90
No.60 (250µm)	88
No.100 (150µm)	84
No.200 (75µm)	80
0.039 mm	75
0.028 mm	72
0.018 mm	67
0.013 mm	65
0.011 mm	62
0.008 mm	58
0.006 mm	53
0.004 mm	47
0.003 mm	42
0.001 mm	33
Chart	

#### Other Test Results Description Temperture (°C) Method Result Limits [ASTM D 5084] 23.2 Cell Pressure (lb/in²) 40.0 Top Pressure (lb/in²) 32.0 Bottom Pressure (lb/in²) 35.0 5.0 Effective Pressure (lb/in²) Pressure Differential (lb/in²) 3.0 Permeant 0.01 N CaS04 Sample Height (in) 2.868 Sample Diameter (in) 2.845 6.36 Sample Cross-Section Area (in²) Sample Volume (in³) 18.23 Dry Density (lb/ft³) 114.1 Initial Moisture Content (%) 17.7 Final Moisture Content (%) 18.1 Average Permeabilty (cm/s) 1.05 E-8



Comments



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## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S006

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue: 9/2/2008

% Passing

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-12

Field Sample No:

ST-2

Sample Depth:

30

Date Sampled: Sampled By:

LWO No:

000322

Sample Location:

	-	
Particle	e Size Distr	ibution
وأم مجاله محار	ACTM D 42	

Method:

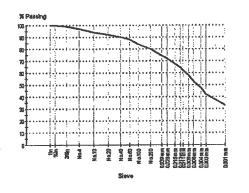
Drying by:

Sieve Size

Oven

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	34	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		17	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	17.7	
Wet Density (lb/ft³)		134.3	
Dry Density (lb/ft³)		114.1	
Group Symbol	ASTM D 2487	CL	
Group Name	Lean clay with sand		

OIOTO OIEO	70 t dooning	
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	97	
No.10 (2.0mm)	94	
No.20 (850µm)	92	
No.40 (425µm)	90	
No.60 (250µm)	88	
No.100 (150µm)	84	
No.200 (75µm)	80	
0.039 mm	75	
0.028 mm	72	
0.018 mm	67	
0.013 mm	65	
0.011 mm	62	
0.008 mm	58	
0.006 mm	<b>5</b> 3	
0.004 mm	47	
0.003 mm	42	
0.001 mm	33	
Chart		





Telephone: 248. 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S005

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Method:

Drying by:

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

TB-W-12

Field Sample No:

ST-1

Sample Depth: Date Sampled:

Sampled By:

LWO No:

Description

Permeant

Temperture (°C)

Cell Pressure (lb/in²)

Top Pressure (lb/in²)

Sample Height (in)

Sample Diameter (în)

Bottom Pressure (lb/in²)

Effective Pressure (ib/in²)

Pressure Differential (lb/in²)

Average Permeabilty (cm/s)

000322

Sample Location:

Other Test Results

Sieve Size % Passing Limits 100 1in (25.0mm)

Particle Size Distribution

Oven

**ASTM D 422** 

100 %in (19.0mm) 100 3/8in (9.5mm) No.4 (4.75mm) 100 98 No.10 (2.0mm) 96 No.20 (850µm) No.40 (425µm)

94 92 No.60 (250µm) 88 No.100 (150µm) 80 No.200 (75µm) 0.039 mm 73 68

0.028 mm 62 0.018 mm 0.013 mm 59 0.011 mm 54 48 0.008 mm 43 0.006 mm 37 0.004 mm

0.000 mm Chart

0.003 mm

2.870 2.849 6.38

Result

23.1

40.0

32.0

35.0

5.0

3.0

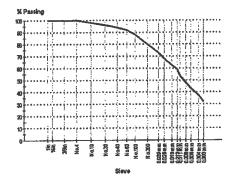
0.01 N CaS04

Limits

Sample Cross-Section Area (in²) 18.30 Sample Volume (in³) 119.8 Dry Density (lb/ft³) Initial Moisture Content (%) 15.7 15.1 Final Moisture Content (%) 2.28 E-8

Method

[ASTM D 5084]



32

25



Telephone: 248, 553,6300 Fax: 248,324,5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S005

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

100

Sieve Size

1in (25.0mm)

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

% Passing

100

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No: Field Sample No:

.

ST-1 22

TB-W-12

Sample Depth: Date Sampled:

Sampled By:

Description

Shape

Method

Hardness

Dispersion Device

Dispersion Period

Liquid Limit (%)

Plastic Limit (%)

Sample History

Preparation

Plasticity Index (%)

Moisture Content (%)

Wet Density (lb/ft3)

Dry Density (lb/ft³)

Group Symbol

**Group Name** 

LWO No:

000322

Method

**ASTM D 422** 

**AASHTO T 89/T 90** 

**ASTM D 2216** 

**ASTM D 2487** 

Result

Method A

15

11

Dry

15.7

138.6

119.8

Lean clay with sand

CL

Sample Location:

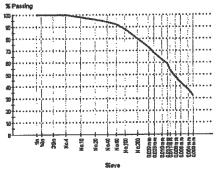
Other Test Results

Sand Gravel Description

Particle S	ize Distribution
	ASTM D 422
Drying by:	Oven

	SOUL
	No.4
	No.10
BARRARANAN	No.20
	No.40
Limits	No.60
	No.10
	No.20
	0.039
	0.028
	0.018
	0.013
	0.011
	0.008
	0.006
	0.004
	0.003
	0.000
	Ch

%in (19.0mm) 100 3/8in (9.5mm) 100 100 (4.75mm) 98 0 (2.0mm) 0 (850um) 96 94 0 (425µm) 92 0 (250µm) 00 (150µm) 88 80 00 (75µm) 73 9 mm 68 8 mm 62 8 mm 3 mm 59 54 i mm 48 8 mm 43 6 mm 37 4 mm 32 3 mm 25 mm 0 art



*****

Comments

NA



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S004

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

3 cent Dry July

% Passing

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-12

Field Sample No:

LS-6 20

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000322

Sample Location:

Method:	ASTM D 422	

Particle Size Distribution

Drying by:

Sieve Size

Oven

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		11	
Liquid Limit (%)	AASHTO T 89/T 90	N/O	
Method.		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	16.1	
Wet Density (lb/ft³)		136.1	
Dry Density (lb/ft³)		117.2	
Group Symbol	ASTM D 2487	CL	
Group Name	Lean clay v	vith sand	

1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	93	
No.60 (250µm)	91	
No.100 (150µm)	88	
No.200 (75µm)	82	
0.039 mm	75	
0.029 mm	67	
0.019 mm	55	
0.014 mm	50	
0.011 mm	45	
0.008 mm	40	
0.006 mm	36	
0.004 mm	32	
0.003 mm	27	
0.000 mm	21	
Chart		

Comments

N/O = Not Obtainable



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# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S003

issue No: 1

Limits

This (aboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(a) reported have been performed in accordance with the terms of the accreditation.

Particle Size Distribution

**ASTM D 422** 

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

Field Sample No: Sample Depth:

LS-5 15

Date Sampled:

Sampled By:

LWO No:

000322

**TB-W-12** 

Sample Location:

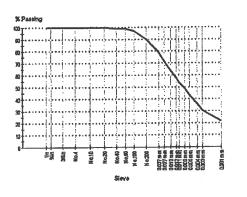
Drying by:	Oven
1	

Method:

Sieve Size	% Passing
1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425um)	99

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		11	
Liquid Limit (%)	AASHTO T 89/T 90		
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		11	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	14.8	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

(		
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	99	
No.60 (250µm)	99	
No.100 (150µm)	97	
No.200 (75µm)	90	
0.037 mm	79	
0.027 mm	71	
0.018 mm	64	
0.013 mm	58	
0.011 mm	54	
0.008 mm	49	
0.006 mm	43	
0.004 mm	36	
0.003 mm	30	
0.001 mm	22	11.5.5.5.
Chart		
##WEIRERERERERERE	produce a professional deligibilità del	्र प्रतिक्रिय



Comments

NA



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### Aggregate/Soil Test Report

Report No: MAT: 62-080376-01-S002

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association This laboratory is accreained by American Associate of State Highway and Transportation Officials (AASHTO). The test(s) reported have been perform in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

**TB-W-12** 

Field Sample No:

LS-4 10

Sample Depth: Date Sampled:

Sampled By:

LWO No: Sample Location:

000322

**Dispersion Period** Moisture Content (%) Wet Density (lb/ft³)

Dispersion Device

Description

Shape

Hardness

Dry Density (lb/ft³)

Other Test Results

Sand Gravel Description

**Group Symbol** 

**Group Name** 

**ASTM D 2487** 

**ASTM D 2216** 

Method

SM

21.2

Result

Silty sand

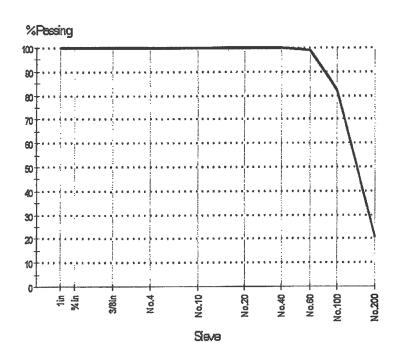
#### Particle Size Distribution

Method:

**ASTM D 422** 

Drying by:

Oven



Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	99	
No.100 (150µm)	82	
No.200 (75µm)	21	
Finer No.200 (75)	ım) 21	

Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S001

Issue No: 1

Limits

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Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

**TB-W-12** LS-2

Field Sample No: Sample Depth:

Date Sampled: Sampled By:

LWO No:

Sample Location:

000322

Other Test Results

Method Result Description **ASTM D 422** Sand Gravel Description

Shape Hardness

Dispersion Device Dispersion Period

Moisture Content (%)

Wet Density (lb/ft3) Dry Density (lb/ft³)

**Group Symbol Group Name** 

22.1

SM Silty sand

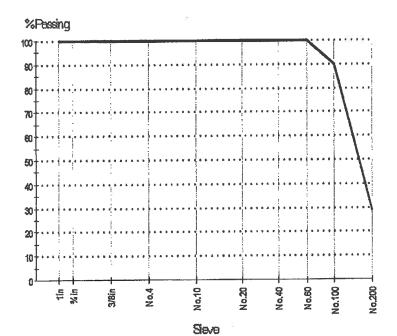
#### Particle Size Distribution

Method: Drying by: **ASTM D 422** 

Oven

**ASTM D 2216** 

**ASTM D 2487** 



Sleve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	90	
No.200 (75µm)	29	
Finer No.200 (75)	ım) 29	

Comments



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# Aggregate/Soil Test Report

Report No: MAT: 62-080376-01-S052

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performer in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-11

Field Sample No:

LS-18 80

Sample Depth: Date Sampled:

Sampled By:

LWO No:

Sample Location:

Wet Density (lb/ft³) Dry Density (lb/fts)

Group Symbol Group Name

000322	
UUUULL	

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1_	
Liquid Limit (%)	AASHTO T 89/T 9		
Method		Method A	
Plastic Limit (%)		11	
Plasticity Index (%)		6	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216		

**ASTM D 2487** 

CL-ML

Sandy silty clay

#### Particle Size Distribution

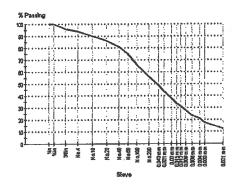
Method:

**ASTM D 422** 

Drying by:

Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	Lilling
%in (19.0mm)	100	
3/8in (9.5mm)	96	
No.4 (4.75mm)	94	
No.10 (2.0mm)	90	
No.20 (850µm)	8 <del>6</del>	
No.40 (425µm)	81	
No.60 (250µm)	75	
No.100 (150µm)	66	
No.200 (75µm)	56	
0.043 mm	49	
0.031 mm	44	
0.020 mm	38	
0.015 mm	33	
0.012 mm	32	
0.009 mm	28	
0.006 mm	24	
0.004 mm	21	
0.003 mm	18	
0.001 mm	12	
PART TRATES TO SHOW SHOW		



Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S051

issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-11 LS-17

Field Sample No: Sample Depth:

75

Date Sampled:

Sampled By:

Description

Liquid Limit (%)

Plastic Limit (%)

Sample History Preparation

Plasticity Index (%)

Moisture Content (%)

Shear Strength (lb/ft²)

Strain at Fallure(%)

Average Height (in.)

Average Diameter (in.)

Height-Diameter Ratio Init. Dry Dens. Init. Water Content (%)

Unconfined Compressive Strength (lb/ft²)

Ave. Rate Strain to Failure(%)

Wet Density (lb/ft³)

Dry Density (lb/ft3)

**Group Symbol Group Name** 

Shape Hardness **Dispersion Device** Dispersion Period

Method

LWO No:

000322

Method **ASTM D 422** 

**AASHTO T 89/T 90** 

ASTM D 2216

ASTM D 2487

**ASTM D 2166** 

Sample Location:

Other Test Results

Sand Gravel Description

D	Orying by:	Oven
---	------------	------

Limits

Result

Method A

11

6 Unkown

Dry

8.5 148.0

136.4

CL-ML

13936 6968

1.0

13.6

2.582

1.351

1.9

Sandy silty clay

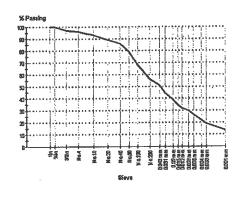
Method:

Particle Size Distribution

**ASTM D 422** 

Limits

%in (19.0mm)	100	
3/8in (9.5mm)	97	
No.4 (4.75mm)	96	
No.10 (2.0mm)	93	
No.20 (850µm)	89	
No.40 (425µm)	86	
No.60 (250µm)	79	
No.100 (150µm)	68	
No.200 (75µm)	56	
0.043 mm	51	
0.031 mm	45	
0.020 mm	39	
0.015 mm	35	
0.012 mm	32	
0.008 mm	30	
0.006 mm	26	
0.004 mm	22	
0.003 mm	19	
0.001 mm	14	
Chart		
Fragmenting graph, by 4 mile		g spark to a comp



Liquid Limit **Plastic Limit** 

Remarks Visual Description

Comments N/A



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S050

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

% Passing

#### Sample Details

**Boring No:** 

TB-W-11

Field Sample No:

**ST-8** 

Sample Depth: Date Sampled:

68

Sampled By:

LWO No:

000322

Sample Location:

	ize Distribution

Method:

**ASTM D 422** 

Drying by:

Sieve Size

Oven

{				140. 10 (2.011111)	00
e interpressional popular sense a consequence (CV) consider	nata a karawa ka ka ka ka ka ka ka ka ka ka ka ka ka	johnya kara kalaba	edenamana Palabaha	No.20 (850µm)	99
Other Test Results			orangenessa.	No.40 (425µm)	98
Description	Method	Result	Limits	No.60 (250µm)	98
Temperture (°C)	[ASTM D 5084]	24.1		No.100 (150µm)	96
Cell Pressure (lb/in²)		40.0		No.200 (75µm)	95
Top Pressure (lb/in²)		32.0		0.037 mm	92
Bottom Pressure (lb/in²)		35.0		0.027 mm	87
Effective Pressure (lb/in²)		5.0		0.018 mm	80
Pressure Differential (lb/in²)		3.0		0.013 mm	73
Permeant	0.0	1 N CaS04		0.011 mm	68
Sample Height (in)		2.861		0.008 mm	60
Sample Diameter (in)		2.872		0.006 mm	51
Sample Cross-Section Area (in²)		6.48		0.004 mm	45
Sample Volume (in³)		18.53		0.003 mm	41
Dry Density (lb/ft³)		103.2		0.001 mm	<b>2</b> 9
Initial Moisture Content (%)		21.4		Chart	
Final Moisture Content (%)		20.9			
Average Permeability (cm/s)		2.56 E-7			
Average remieability (cm/s)					

1in (25.0mm) 100 100 %in (19.0mm) 100 3/8in (9.5mm) No.4 (4.75mm) 100 No.10 (2.0mm) 99

Comments.



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Woodlot & MC1&4 Waste Investigation

TB-W-11

**ST-8** 

Report No: MAT:62-080376-01-S050

issue No: 1

Limits

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Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Client:

Wayne Disposal, Inc.

Project:

Job No:

62-080376-01

Soil Boring Program

Sample Details

Boring No:

Field Sample No: Sample Depth:

Date Sampled:

Sampled By:

000322

LWO No:

Sample Location:

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	31	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		15	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	21.4	

Wet Density (lb/ft³) 103.2 Dry Density (lb/ft³) **ASTM D 2487** CL **Group Symbol** Lean clay **Group Name** Unconfined Compressive Strength (lb/ft²) **ASTM D 2166** 1134 567 Shear Strength (lb/ft²) 1.0 Ave. Rate Strain to Failure(%) Strain at Failure(%) 15.0

Average Height (in.) Average Diameter (in.) Height-Diameter Ratio Init. Dry Dens.

init. Water Content (%)

Liquid Limit **Plastic Limit** Remarks

Visual Description

Particle Size Distribution

Method: Drying by:

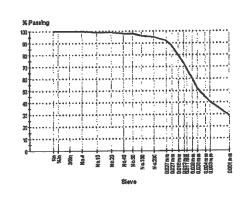
Sieve Size

**ASTM D 422** 

Oven

% Passing

01040 0150	70 1 0001119	
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	99	
No.20 (850µm)	99	
No.40 (425µm)	98	
No.60 (250µm)	98	
No.100 (150µm)	96	
No.200 (75µm)	95	
0.037 mm	92	
0.027 mm	87	
0.018 mm	80	
0.013 mm	73	
0.011 mm	68	
0.008 mm	60	
0.006 mm	51	
0.004 mm	45	
0.003 mm	41	
0.001 mm	29	
Chart		



Comments

N/A

125.3

5.945 2.845

2.1



Telephone: 248, 553,6300 Fax: 248,324,5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S049

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

AR

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-11

Field Sample No: Sample Depth: ST-7 63

Date Sampled:

Sampled By:

LWO No:

Description

000322

Other Test Results

Sample Location:

Particle Size Distribution

Method:

Limits

Result

ASTM D 422

Drying by:

Oven

	Sieve Size	% Passing	Limits
	1in (25.0mm)	100	
	¾in (19.0mm)	100	
	3/8in (9.5mm)	100	
	No.4 (4.75mm)	100	
	No.10 (2.0mm)	100	
300	No.20 (850µm)	100	
WW.	No.40 (425µm)	100	
	No.60 (250µm)	100	
	No.100 (150µm)	100	
	No.200 (75µm)	100	
	0.038 mm	84	
	0.029 mm	68	
	0.020 mm	42	
	0.015 mm	27	
	0.012 mm	22	
	0.009 mm	15	
	0.006 mm	10	
	0.005 mm	8	
	0.003 mm	6 5	
	0.001 mm	. O COO O DO DO DO DESTA DE LOS DE COMESTA DE LOS DE LOS DE COMESTA DE LOS DE COMESTA DE LOS DE COMESTA DE LOS DE COMESTA DE LOS DE COMESTA DE LOS DE COMESTA DE LOS DE COMESTA DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DELOS DE LOS DE LOS DE LOS DE LOS DE LOS DE LOS DELOS DE LOS DE LOS DELOS	A INDUSTRIBLI
	Chart		

Temperture (°C) [ASTM D 5084] 23.2 40.0 Cell Pressure (lb/in²) 32.0 Top Pressure (lb/in²) 35.0 Bottom Pressure (lb/in²) Effective Pressure (lb/in²) 5.0 3.0 Pressure Differential (lb/in²) 0.01 N CaS04 Permeant 2.861 Sample Height (in) Sample Diameter (in) 2.872 Sample Cross-Section Area (in²) 6.48 18.53 Sample Volume (in³) Dry Density (lb/ft³) 105.5 22.8 initial Moisture Content (%) 19.0 Final Moisture Content (%) 8.46 E-6 Average Permeabilty (cm/s)

Method

Comments

N/O = Not Obtainable

NO = Not Obtainable

NP = Non Plastic



Telephone: 248. 553.6300 Fax; 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S049

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

100

#### Sample Details

Boring No:

Field Sample No:

Sample Depth: Date Sampled:

Sampled By:

Description

Liquid Limit (%) Method

Plastic Limit (%)

Sample History

Preparation Moisture Content (%)

Plasticity index (%)

Wet Density (lb/ft³)

Dry Density (lb/ft³)

**Group Symbol** 

**Group Name** 

Shape Hardness **Dispersion Device** Dispersion Period

Sand Gravel Description

LWO No:

000322

Method

**ASTM D 422** 

AASHTO T 89/T 90

ASTM D 2216

**ASTM D 2487** 

TB-W-11

**\$T-7** 

63

Other Test Results

Sample Location:

Particle S	ize Distribution
Method:	ASTM D 422
Drying by:	Oven

1in (25.0mm)

Limits

Result

N/O

N/O N/O

N/O

N/O

N/O

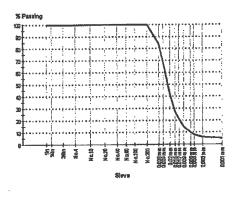
22.8 129.6

105.5

ML Silt

Sieve Size	% Passing	Limits

181 (20.0000)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	100
No.200 (75µm)	100
0.038 mm	84
0.029 mm	68
0.020 mm	42
0.015 mm	27
0.012 mm	22
0.009 mm	15
0.006 mm	10
0.005 mm	8
0,003 mm	6
0.001 mm	5
A SECTION OF STREET	



Comments

NP = Non Plastic



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S048

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

**TB-W-11** 

Field Sample No:

LS-14

Sample Depth:

60

Date Sampled: Sampled By:

LWO No:

000322

Sample Location:

Particle	Size	Distri	bution
Method:		TM D 422	

Drying by:

Sieve Size

Oven

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1_	
Liquid Limit (%)	AASHTO T 89/T 90	20	
Method		Method A	
Plastic Limit (%)		14	
Plasticity index (%)		6	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	14.9	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL-ML	
Group Name	Sandy	silty clay	

1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	95
No.10 (2.0mm)	92
No.20 (850µm)	90
No.40 (425µm)	87
No.60 (250µm)	83
No.100 (150µm)	77
No.200 (75µm)	67
0.041 mm	63
0.030 mm	57
0.019 mm	52
0.014 mm	48
0.011 mm	44
0.008 mm	38
0.006 mm	32
0.004 mm	28
0.003 mm	22
0.001 mm	16
Chart	
FERREZERE EN FRESERVE	

% Passing

Comments



Telephone; 248, 553,6300 Fax; 248,324,5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S047

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highwey and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-11

Field Sample No:

ST-6 53

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000322

Sample Location:

Particle	Size Distribution
Method:	ASTM D 422

Sieve Size

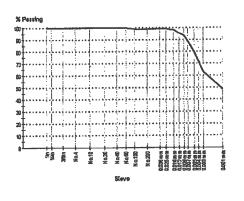
% Passing

Drying by:

Oven

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	22.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.0	1 N CaS04	
Sample Height (in)		2.861	
Sample Diameter (in)		2,848	
Sample Cross-Section Area (in²)		6.37	
Sample Volume (in³)		18.23	
Dry Density (lb/ft³)		121.3	
Initial Moisture Content (%)		14.9	
Final Moisture Content (%)		15.0	
Average Permeabilty (cm/s)		1.42 E-8	

DIGIG OIEG	70 1 000011.3	
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	. 100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	99	
No.200 (75µm)	99	
0.036 mm	99	
0.025 mm	99	
0.016 mm	98	
0.012 mm	95	
0.009 mm	93	
0.007 mm	89	
0.005 mm	80	
0.004 mm	72	
0.003 mm	63	
0.001 mm	49	
Chart		
The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon		-



Comments



Telephone: 248, 553.6300 Fax: 248,324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S047

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This leboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(e) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

% Passing

Approved Signatory: Zeerak Paydawy

# Sample Details

Boring No:

TB-W-11

Field Sample No:

ST-6

Sample Depth:

53

Date Sampled: Sampled By:

LWO No:

000322

Sample Location:

Particle	Size Distribution	
Method:	ASTM D 422	

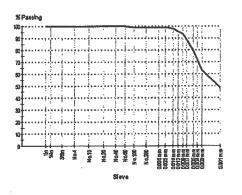
Drying by:

Sieve Size

Oven

Other Test Results  Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 9	• • •	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		28 Unkown	
Sample History		Dry	
Preparation Moisture Content (%)	ASTM D 2216	14.9	
Wet Density (lb/ft³)	7.07111 5 22.10	139.4	
Dry Density (lb/ft³)		121.3	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	6721	
Shear Strength (lb/ft²)		3361	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		11.0	
Average Height (in.)		5.973	
Average Diameter (in.)		2.815	
Height-Diameter Ratio		2.1	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit			
Plastic Limit			
Remarks			

1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	99
No.200 (75µm)	99
0.036 mm	99
0.025 mm	99
0.016 mm	98
0.012 mm	95
0.009 mm	93
0.007 mm	89
0.005 mm	80
0.004 mm	72
0.003 mm	63
0.001 mm	49
Chart	



Comments

Visual Description



Telephone: 248. 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Woodlot & MC1&4 Waste Investigation

Wayne Disposal, Inc.

Report No: MAT:62-080376-01-S046

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

% Passing

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Soil Boring Program Job No:

Client:

Project:

62-080376-01

Sample Details

**Boring No:** Field Sample No:

TB-W-11 LS-12

Sample Depth: Date Sampled:

Sampled By: LWO No:

Sample Location:

000322
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valorina internacia della pera errolli in resentati a in recordi. Della	es cultavas dadas vidas dadas	GEOGRAFIA (TEKNIA)	
Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 9	0.	
Method		Method A	
Plastic Limit (%)		20	
Plasticity Index (%)		17	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	22.8	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	

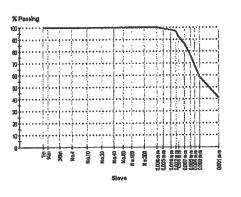
Particle	Size Di	stribution
Method:	ASTM D	422

Drying by:

Sieve Size

Oven

1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	100
No.200 (75µm)	100
0.036 mm	100
0.025 mm	99
0.016 mm	98
0.012 mm	97
0.010 mm	92
0.007 mm	86
0.005 mm	77
0.004 mm	68
0.003 mm	58
0.001 mm	41
FOR THE SALES AND AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND ADDRESS OF THE SALES AND	ON SAME



Comments

**Group Name** 

N/A

Lean clay



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No. MAT:62-080376-01-S045

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.



Method:

Drying by:

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Particle Size Distribution

**ASTM D 422** 

Oven

Sample Details

Boring No:

TB-W-11

Field Sample No:

ST-5 43

Sample Depth: Date Sampled:

Sampled By:

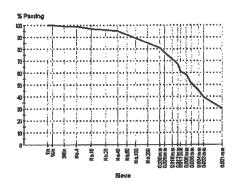
LWO No: Sample Location: 000322

Sieve Size	% Passing	Limits
lin (25.0mm)	100	
(in /40 0mm)	100	

	3/8in (9.5mm)	99
	No.4 (4.75mm)	99
	No.10 (2.0mm)	97
	No.20 (850µm)	96
	No.40 (425µm)	95
	No.60 (250µm)	92
-	No.100 (150µm)	89
	No.200 (75µm)	85
	0.038 mm	81
	0.028 mm	77
	0.018 mm	72
	0. <b>013</b> mm	67
	0.011 mm	61
	0.008 mm	58
	0.006 mm	51
	0.004 mm	45
	0.003 mm	40

0.001 mm Chart

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.4	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.0	1 N CaS04	
Sample Height (in)		2.863	
Sample Diameter (in)		2.838	
Sample Cross-Section Area (in²)		6.33	
Sample Volume (in³)		18.11	
Dry Density (lb/ft³)		118.9	
Initial Moisture Content (%)		15.9	
Final Moisture Content (%)		16.3	
Average Permeabilty (cm/s)		1.78 E-8	



30

Comments



Telephone: 248, 553,6300 Fax: 248,324,5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S045

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportetion Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

% Passing

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

Field Sample No:

ST-5 43

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000322

TB-W-11

Sample	Location:	

to a company to the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the c	and the section which is firm	anakana wakasi sa sa	engaga en angagang dak
Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	30	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		15	
Sample History	N	atural state	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	15.9	
Wet Density (lb/ft ^s )		137.8	
Dry Density (lb/ft³)		118.9	
Group Symbol	ASTM D 2487	CL	
Group Name	Lean cla	y with sand	

Particle Size Distribution

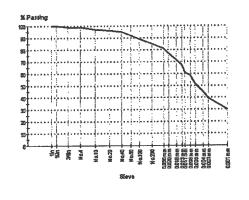
Method: Drying by:

Sieve Size

**ASTM D 422** 

Oven

Sieve Size	70 Passing	Filling
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	96	
No.40 (425µm)	95	
No.60 (250µm)	92	
No.100 (150µm)	89	
No.200 (75µm)	85	
0.038 mm	81	
0.028 mm	77	
0.018 mm	72	
0.013 mm	67	
0.011 mm	61	
0.008 mm	58	
0.006 mm	51	
0.004 mm	45	
0.003 mm	40	
0.001 mm	30	* . * * . ** . *** **** ***
Chart		



Comments



Telephone; 248, 553,6300 Fax: 248,324,5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S044

ssue No

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Other Test Results

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The lest(6) reported have been performe in accordance with the terms of the accreditation.

ASSESSION PH

Method:

Drying by:

%in (19 ()mm)

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

100

#### Sample Details

**Boring No:** 

TB-W-11

Field Sample No:

ST-4 38

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000322

Sample Location:

Sieve Size	% Passing	Limits
1in (25.0mm)	100	

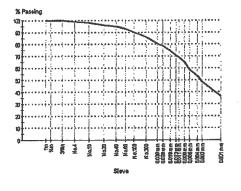
Particle Size Distribution

Oven

**ASTM D 422** 

	74H (19.0HHII)	100	
	3/8in (9.5mm)	100	
	No.4 (4.75mm)	99	
	No.10 (2.0mm)	98	
:	No.20 (850µm)	96	
	No.40 (425µm)	95	
	No.60 (250µm)	93	
Ì	No.100 (150µm)	90	
	No.200 (75µm)	86	
	0.039 mm	80	
	0.028 mm	78	
	0.018 mm	75	
	0.013 mm	71	
	0.011 mm	69	
- 1	0.008 mm	65	
	0.006 mm	58	
	0.004 mm	54	
1	0.003 mm	49	
	0.001 mm	36	
	Chart		

Method Result Limits Description Temperture (°C) [ASTM D 5084] 23.2 Cell Pressure (lb/ln²) 40.0 32.0 Top Pressure (lb/in²) 35.0 Bottom Pressure (lb/ln²) Effective Pressure (lb/in²) 5.0 Pressure Differential (lb/in²) 3.0 0.01 N CaS04 Permeant 2.861 Sample Height (in) Sample Diameter (in) 2.848 Sample Cross-Section Area (in²) 6.37 18.23 Sample Volume (in3) Dry Density (lb/ft³) 113.5 Initial Moisture Content (%) 18.5 19.5 Final Moisture Content (%) Average Permeabilty (cm/s) 1.50 E-8



Comments



Telephone: 248, 553.6300 Fax: 248,324,5179

Method:

Drying by:

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S044

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

Particle Size Distribution

Oven

**ASTM D 422** 

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-11

Field Sample No: Sample Depth:

ST-4

Date Sampled:

38

Sampled By:

Description

Shape

Method

Hardness

LWO No:

000322

Method

**ASTM D 422** 

AASHTO T 89/T 90

**ASTM D 2216** 

**ASTM D 2487** 

**ASTM D 2166** 

Sample Location:

Other Test Results

Sand Gravel Description

Dispersion Device

**Dispersion Period** 

Liquid Limit (%)

Plastic Limit (%)

Sample History

Preparation

Plasticity Index (%)

Moisture Content (%) Wet Density (lb/ft³)

Shear Strength (lb/ft²)

Strain at Failure(%)

Average Height (in.) Average Diameter (in.)

Init. Dry Dens.

Liquid Limit Plastic Limit Remarks Visual Description

Height-Diameter Ratio

Init. Water Content (%)

Unconfined Compressive Strength (fb/ft²)

Ave. Rate Strain to Failure(%)

Dry Density (lb/ft³)

Group Symbol

**Group Name** 

ieve Size	% Passing
In (25.0mm)	100
(in (19.0mm)	100
/8in (9.5mm)	100

00 No.4 (4.75mm) 99 98 No.10 (2.0mm) 96 No.20 (850µm)

No.40 (425µm) 95 No.60 (250µm) 93 90 No.100 (150µm)

No.200 (75µm) 86 80 0.039 mm 0.028 mm 78

75 0.018 mm 71 0.013 mm 0.011 mm 69

65 0.008 mm 58 0.008 mm 0.004 mm 54 0.003 mm 49

Chart

0.001 mm

,		

Limits

Result

34

18

16

Dry

17.8

134.1

113.9

8421

4211 1.0

15.0

5.944

2.843 2.1

113.9

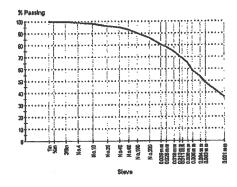
17.8

Lean clay

CL

Method A

Unkown



36

Comments



Telephone: 248, 553,6300 Fax: 248,324,5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S043

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

AR?

Method:

Drying by:

3/in (19.0mm)

0.001 mm

Chart

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The tast(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

Particle Size Distribution

Oven

**ASTM D 422** 

Approved Signatory: Zeerak Paydawy

100

#### Sample Details

**Boring No:** 

TB-W-11

Field Sample No: Sample Depth: LS-9 35

Date Sampled:

Sampled By: LWO No:

000322

Sample Location:

322				
		Sieve Size	% Passing	Limits
		1in (25.0mm)	100	

1	[7401 ( 104001111)	100
İ	3/8in (9.5mm)	100
	No.4 (4.75mm)	97
	No.10 (2.0mm)	96
	No.20 (850µm)	93
	No.40 (425µm)	91
	No.60 (250µm)	88
'	No.100 (150µm)	84
	No.200 (75µm)	79
	0.040 mm	76
1	0.029 mm	72
1	0.018 mm	69
1	0.013 mm	65
ı	0.011 mm	63
	0.008 mm	59
ı	0.006 mm	55
	0.004 mm	47
ı	0.003 mm	42

Other Test Results Limits Description Method Result ASTM D 422 Sand Gravel Description Shape Hardness **Dispersion Device Dispersion Period AASHTO T 89/T 90** 31 Liquid Limit (%) Method A Method 17 Plastic Limit (%) Plasticity Index (%) 14 Sample History Preparation Dry **ASTM D 2218** Moisture Content (%) 19.8 Wet Density (lb/ft³)
Dry Density (lb/ft³)
Group Symbol **ASTM D 2487** CL

Lean clay with sand

32

Comments

**Group Name** 



Telephone: 248, 553,6300 Fax: 248,324,5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S042

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

AR

0.003 mm

0.001 mm Chart This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

John 9-12

**Particle Size Distribution** 

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No: Field Sample No: TB-W-11 ST-3

Sample Depth:

28

Date Sampled:

20

Sampled By: LWO No:

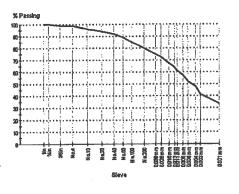
000322

Sample Location:

]	IMELITOG.	MOTH D TEE
	Drying by:	Oven
	., ,	

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	99	
No.10 (2.0mm)	96	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	85	
No.200 (75µm)	80	
0.039 mm	75	
0.028 mm	72	
0.018 mm	67	
0.013 mm	64	
0.011 mm	61	
0.008 mm	58	
0.006 mm	52	
0.004 mm	48	

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/ln²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.0	1 N CaS04	
Sample Height (in)		2.865	
Sample Diameter (in)		2.839	
Sample Cross-Section Area (in²)		6.33	
Sample Volume (in³)		18.14	
Dry Density (lb/ft³)		115.4	
Initial Moisture Content (%)		17.8	
Final Moisture Content (%)		18.1	
Average Permeabilty (cm/s)		1.50 E-8	



42

33

Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S042

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Method:

Drying by:

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Date of Issue: 9/2/2008

Particle Size Distribution

Oven

**ASTM D 422** 

Approved Signatory: Zeerak Paydawy

#### Sample Details

TB-W-11

Boring No: Field Sample No:

ST-3 28

Sample Depth: Date Sampled:

Sampled By:

LWO No:

0003

Sample Location:

Dry Density (lb/ft³)

**Group Symbol Group Name** 

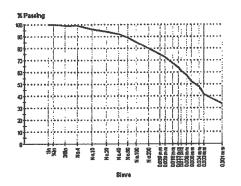
322		
	Sieve Size	% Passing

Description	Method	Result	Limits	No
Sand Gravel Description	ASTM D 422			No
Shape				No
Hardness				0.0
Dispersion Device				0.0
Dispersion Period		1		0.0
Liquid Limit (%)	AASHTO T 89/T 90	33		0.0
Method		Method A		0.0
Plastic Limit (%)		16		0.0
Plasticity Index (%)		17		0.0
Sample History	•	Unkown		0.0
Preparation		Dry	0.65	0.0
Moisture Content (%)	ASTM D 2216	17.6		0.0
Wet Density (lb/ft³)		135.7		I C
Dry Density (lb/ft³)		115.4		

**ASTM D 2487** 

Lean clay with sand

1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	99	
No.10 (2.0mm)	96	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	85	
No.200 (75µm)	80	
0.039 mm	75	
0.028 mm	72	
0.018 mm	67	
0.013 mm	64	
0.011 mm	61	
0.008 mm	58	
0.006 mm	52	
0.004 mm	48	
0.003 mm	42	
0.001 mm	33	
Chart		•



Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

Method:

Drying by:

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S041

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue: 9/2/2008

Particle Size Distribution

Oven

**ASTM D 422** 

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

Field Sample No: Sample Depth:

ST-2 23

Date Sampled:

Sampled By:

LWO No:

Description

Shape

Hardness

Method

**Dispersion Device** 

**Dispersion Period** 

Liquid Limit (%)

Plastic Limit (%)

Sample History

Group Symbol **Group Name** 

Preparation

Plasticity Index (%)

000322

Method

**ASTM D 422** 

**AASHTO T 89/T 90** 

**ASTM D 2487** 

Result

30

15

15

Drv

CL

Method A

Unkown

Lean clay with sand

Limits

TB-W-11

Sample Location:

Other Test Results

Sand Gravel Description

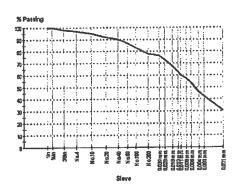
Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/in (40 0mm)	100	

74H (19.0HHI)	100
3/8in (9.5mm)	98
No.4 (4.75mm)	97
No.10 (2.0mm)	95
No.20 (850µm)	92
No.40 (425µm)	90
No.60 (250µm)	87
No.100 (150µm)	83
Ma 200 (75um)	79

No.200 (75µm) 0.039 mm 77 73 0.028 mm 68 0.018 mm 63 0.013 mm 0.011 mm 60

57 0,008 mm 54 0.006 mm 0.004 mm 46 43 0.003 mm 31 0.001 mm

Chart



Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S040

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue: 9/2/2008

enal dan selata da esperança serv

% Passing

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-11

Field Sample No:

ST-1

Sample Depth:

18

Date Sampled: Sampled By:

LWO No:

000322

Sample Location:

000000

Particle	Size Distribution
A-th-a-T-	AOTHED 400

Method:

**ASTM D 422** 

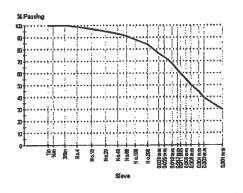
Drying by:

Sieve Size

Oven

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.0	I N CaS04	
Sample Height (in)		2.860	
Sample Diameter (in)		2.838	
Sample Cross-Section Area (în²)		6.33	
Sample Volume (in³)		18.09	
Dry Density (lb/ft³)		105.8	
Initial Moisture Content (%)		22.6	
Final Moisture Content (%)		23.0	
Average Permeabilty (cm/s)		3.32 E-8	

1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	93	
No.60 (250µm)	91	
No.100 (150µm)	88	
No.200 (75µm)	84	
0.039 mm	77	
0.028 mm	74	
0.018 mm	68	
0.013 mm	62	
0.011 mm	60	
0.008 mm	55	
0.006 mm	50	
0.004 mm	44	
0.003 mm	40	
0.001 mm	29	
I OLILIA III		



Comments



Telephone: 248, 553,6300 Fax: 248,324,5179

Method:

Drying by:

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S040

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Particle Size Distribution

Oven

**ASTM D 422** 

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-11 ST-1

Field Sample No: Sample Depth:

18

Date Sampled:

Sampled By:

LWO No:

000322

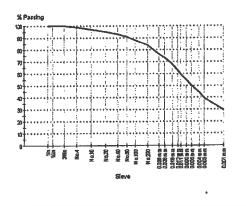
Other Test Results

Sample Location:

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425um)	93	
No.60 (250µm)	91	
No.100 (150µm)	88	

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 9		
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		13	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	20.5	
Wet Density (lb/ft³)		131.9	
Dry Density (lb/ft³)		109.4	
Group Symbol	ASTM D 2487	CL	
Group Name		y with sand	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	3361	
Shear Strength (lb/ft²)		1681	
Ave. Rate Strain to Failure(%)		1.1	

No.60 (250µm)	91
No.100 (150µm)	88
No.200 (75µm)	84
0.039 mm	77
0.028 mm	74
0.018 mm	68
0.013 mm	62
0.011 mm	60
0.008 mm	55
0,006 mm	50
0.004 mm	44
0.003 mm	40
0.001 mm	29
Chart	



Comments

Liquid Limit
Plastic Limit
Remarks
Visual Description

Strain at Failure(%)

Average Height (in.)

Average Diameter (in.)

Height-Diameter Ratio Init. Dry Dens.

Init. Water Content (%)

N/A

4.2

5.940

2.833

109.4

20.5

2.1



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S039

Issue No: 2

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

-		m				
C	am	no.	→ 11	1-4	- 1	-
-		ENI	← 1.		248	
~	CHILL	wı	U. L		CLE:	10.

**Boring No:** 

TB-W-11

Field Sample No: Sample Depth:

LS-5 15

Date Sampled:

Sampled By: LWO No:

Sample Location:

000322
--------

,÷			
Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	39	
Method		Method A	
Plastic Limit (%)		19	
Plasticity Index (%)		20	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	24.6	
Wet Density (lb/ft³)			

**ASTM D 2487** 

P	arti	cle Si	Z	e Di	S	tril	outi	on

Method:

**ASTM D 422** 

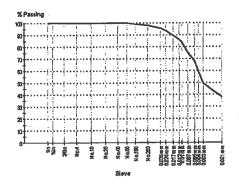
% Passing

Drying by:

Sieve Size

Oven

4	01010 0120	,	
***************************************	1in (25.0mm)	100	
-	%in (19.0mm)	100	
	3/8in (9.5mm)	100	
	No.4 (4.75mm)	100	
	No.10 (2.0mm)	100	
1	No.20 (850µm)	100	
	No.40 (425µm)	100	
	No.60 (250µm)	100	
1	No.100 (150µm)	99	
	No.200 (75µm)	98	
	0.036 mm	96	
	0.026 mm	94	
	0.017 mm	90	
'	0.012 mm	86	
	0.010 mm	84	
	0.007 mm	75	
İ	0.005 mm	68	
	0.004 mm	e <b>59</b>	
	0.003 mm	50	
	0.001 mm	38	. Na sussein
	Chart		
		4.1. 1. 1. 4. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	



Comments

Dry Density (lb/ft³)

**Group Symbol** 

Group Name

N/A

CL

Lean clay



Telephone: 248, 553,6300 Fex: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S038

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No: Field Sample No: TB-W-11

Sample Depth:

LS-3 7.5

Date Sampled:

Sampled By: LWO No:

000322

Sample Location:

Other Test Results

Method Description ASTM D 422 Sand Gravel Description Shape

Hardness Dispersion Device **Dispersion Period** 

Moisture Content (%)

Wet Density (lb/ft³) Dry Density (lb/ft³)

**Group Symbol** Group Name

**ASTM D 2487** 

Result Limits

**ASTM D 2216** 21.9

> SM Silty sand

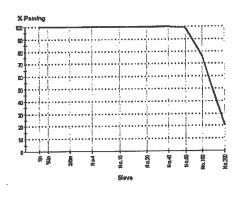
Particle Size Distribution

Method:

**ASTM D 422** Oven

Drying by:

Sieve Size	% Passing
1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	99
No.100 (150µm)	76
No.200 (75µm)	21
Finer No.200 (75µn	n) 21



Comments



Telephone: 248, 653,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S037

Limits

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Wayne Disposal, Inc.

Job No:

Project:

Client:

62-080376-01

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Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

% Paggina

#### Sample Details

**Boring No:** 

TB-W-11

Field Sample No:

LS-1

Sample Depth: Date Sampled:

2.5

Sampled By:

**Group Name** 

LWO No: -

000322

Sample Location:

	Particle	Size Distribution
ı	Method:	ASTM D 422

Cieva Ciza

Drying by:

Oven

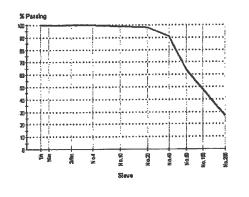
	OTAA OITA	70 Fassing
	1in (25.0mm)	100
	%in (19.0mm)	100
-	3/8in (9.5mm)	100
	No.4 (4.75mm)	100
	No.10 (2.0mm)	99
3	No.20 (850µm) No.40 (425um)	98
		91
	No.60 (250µm)	64
	No.100 (150µm)	48
	No.200 (75µm)	27
	Finer No.200 (75µm	) 27
I		

#### Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Moisture Content (%)	ASTM D 2216	13.9	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	SM	

Silty sand

#### Chart





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Method:

Drying by:

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S092

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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3 agent Day Jury

Date of Issue: 9/2/2008

Particle Size Distribution

**ASTM D 422** 

Approved Signatory: Zeerak Paydawy

33

#### Sample Details

Boring No:

Field Sample No: Sample Depth: LS-46 125

TB-W-10

Date Sampled:

Sampled By:

LWO No:

Sample Location:

000332

% Passing Sieve Size 100 1in (25.0mm) 100 3/4in (19.0mm) 3/8in (9.5mm) 90 No.4 (4.75mm) 77 63 No.10 (2.0mm) 51 No.20 (850µm) No.40 (425µm) 42 37 No.60 (250µm)

#### Other Test Results

Description Method Result Limits
Sand Gravel Description ASTM D 422

Sand Gravel Description Shape

Snape Hardness Dispersion

Dispersion Device Dispersion Period

ASTM D 2487

SM

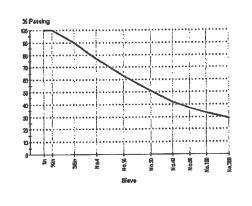
Group Symbol Group Name

Silty sand with gravel

Chart

No.100 (150µm)

No.200 (75µm)



Comments ...



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S091

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** 

TB-W-10

Field Sample No: Sample Depth:

LS-45 120

Date Sampled: Sampled By:

LWO No:

000332

Sample Location:

Particle	Size Distribution
lethod:	ASTM D 422
rvina by:	Oven

Drying by:

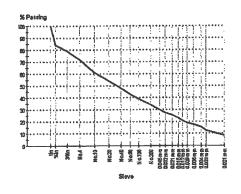
Sieve Size

1in (25.0mm)

% Passing

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group Name	Silty sand	with gravel	

- 1		
	%in (19.0mm)	84
-	3/8in (9.5mm)	79
-	No.4 (4.75mm)	72
	No.10 (2.0mm)	61
	No.20 (850µm)	54
	No.40 (425µm)	48
	No.60 (250µm)	43
1	No.100 (150µm)	39
	No.200 (75µm)	34
1	0.045 mm	30
	0.032 mm	28
İ	0.021 mm	25
1	0.015 mm	23
	0.012 mm	21
	0.009 mm	19
	0.006 mm	17
i	0.004 mm	16
	0.003 mm	13
	0.001 mm	8
1	Chart	



Comments N/O = Not Obtainable

NO = Not Obtainable NP = Non Plastic



Telephone: 248, 553.6300 Fax: 248,324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S090

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

AR

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-10

Field Sample No: Sample Depth: LS-44 115

Date Sampled:

Sampled By: LWO No:

000

Sample Location:

000332

Sieve Size
1in (25.0mm)
¾in (19.0mm)
3/8in (9.5mm)
No.4 (4.75mm
No.10 (2.0mm

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	27	
Method		Method B	
Plastic Limit (%)		14	
Plasticity Index (%)		13	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name	Sandy lean clay	with gravel	

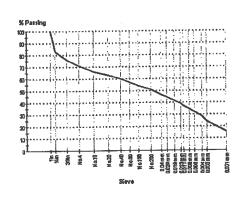
Particle S	Size Distribution
Mothod:	ASTM D 422

Method: Drying by: ASTM D 422 Oven

% Passing	Limits

100

4in (19.0mm) 83 4/8in (9.5mm) 76 4/0.4 (4.75mm) 71 4/0.10 (2.0mm) 66 4/0.20 (850μm) 63 4/0.40 (425μm) 60 4/0.60 (250μm) 57 4/0.100 (150μm) 54 4/0.200 (75μm) 51 0.040 mm 47 0.029 mm 45	
No.4 (4.75mm) 71 No.10 (2.0mm) 66 No.20 (850µm) 63 No.40 (425µm) 60 No.60 (250µm) 57 No.100 (150µm) 54 No.200 (75µm) 51 D.040 mm 47	
No.10 (2.0mm) 66 No.20 (850µm) 63 No.40 (425µm) 60 No.60 (250µm) 57 No.100 (150µm) 54 No.200 (75µm) 51 D.040 mm 47	
No.20 (850µm) 63 No.40 (425µm) 60 No.60 (250µm) 57 No.100 (150µm) 54 No.200 (75µm) 51 D.040 mm 47	
No.40 (425μm) 60 No.60 (250μm) 57 No.100 (150μm) 54 No.200 (75μm) 51 D.040 mm 47	
No.60 (250μm) 57 No.100 (150μm) 54 No.200 (75μm) 51 0.040 mm 47	
No.100 (150µm) 54 No.200 (75µm) 51 0.040 mm 47	
No.200 (75µm) 51 0.040 mm 47	
0.040 mm 47	
).029 mm 45	
).019 mm 42	
0.013 mm 39	
).011 mm 37	
).008 mm 35	
).006 mm 32	
).004 mm 29	
0.003 mm 24	
0.001 mm 15	٠.
Chart	ð,



Comments



Telephone: 248, 553,6300 Fax; 248,324,5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S089

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

ADDITION PAR

Method:

Drying by:

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-10

Field Sample No: Sample Depth: LS-43 110

Date Sampled:

Sampled By:

LWO No:

000332

Sample Location:

Sieve Size	% Passing	Limits
Sieve Size 1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	96	
No.4 (4.75mm)	89	

Particle Size Distribution

**ASTM D 422** 

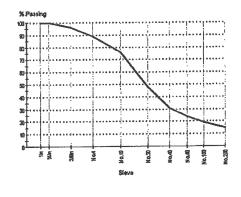
Oven

3/8in (9.5mm)	90
No.4 (4.75mm)	89
No.10 (2.0mm)	76
No.20 (850μm)	48
No.40 (425μm)	31
No.60 (250μm)	24
No.100 (150μm)	19
No.200 (75μm)	15

#### Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

#### Chart



Comments

N/O = Not Obtainable NO = Not Obtainable NP = Non Plastic



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S088

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Sample Details

**Boring No:** 

Field Sample No:

Sample Depth: Date Sampled:

Sampled By:

LWO No:

Sample Location:

000332

TB-W-10

LS-42

105

Other Test Results

Limits Result Method Description Sand Gravel Description **ASTM D 422** 

**ASTM D 4318** 

N/O

N/O

N/O

N/O

N/O

N/O

Shape Hardness

Dispersion Device

**Dispersion Period** Liquid Limit (%)

Method Plastic Limit (%) Plasticity Index (%) Sample History Preparation **ASTM D 2487** 

**Group Symbol** Silty sand with gravel Group Name

Particle Size Distribution

Method:

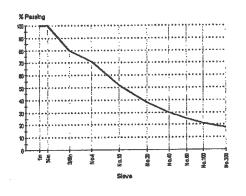
**ASTM D 422** 

Drying by:

Oven

Sieve Size	% Passing
1in (25.0mm)	100
3/4in (19.0mm)	100
3/8in (9.5mm)	80
No.4 (4.75mm)	71
No.10 (2.0mm)	52
No.20 (850µm)	38
No.40 (425µm)	30
No.60 (250µm)	25
No.100 (150µm)	21
No.200 (75µm)	18
Finer No 200 (75um	18

Chart



Comments N/O = Not Obtainable NO = Not Obtainable

NP = Non Plastic



Telephone: 248, 553,6300 Fax: 248,324,5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S087

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This leberatory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

AR I

Method:

Drying by:

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Samp	<b>Intoi</b>	
OMILIE		11.5
- was a select	 	

**Boring No:** 

TB-W-10

Field Sample No:

LS-40 98

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000332

Sample Location:

Sieve Size 1in (25.0mm)	% Passing	Limits
1in (25.0mm)	100	
lan irra a ir	400	

Particle Size Distribution

Oven

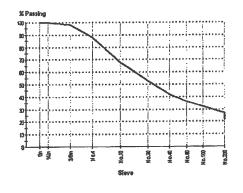
**ASTM D 422** 

	%in (19.0mm)	1	00
	3/8in (9.5mm)		98
Ì	No.4 (4.75mm)		88
	No.10 (2.0mm)		68
			53
Ÿ	No.20 (850µm) No.40 (425µm)		42
	No.60 (250µm)		36
	No.100 (150µm)		32
	No.200 (75µm)	8	27

#### Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

#### Chart



Comments
N/O = Not Obtainable
NO = Not Obtainable
NP = Non Plastic



NTH Consultants, Ltd.

Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S086

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

#### Sample Details

Boring No:

Field Sample No:

Sample Depth: Date Sampled:

Sampled By:

LWO No:

Description

**Permeant** Sample Height (in)

Temperture (°C)

Cell Pressure (lb/in²)

Top Pressure (lb/in²)

Bottom Pressure (lb/in²)

Sample Diameter (in)

Sample Volume (in³) Dry Density (lb/ft³)

Effective Pressure (lb/in²)

Pressure Differential (lb/in²)

Initial Moisture Content (%)

Final Moisture Content (%)

Average Permeabilty (cm/s)

Sample Cross-Section Area (in²)

000332

Other Test Results

Method

[ASTM D 5084]

TB-W-10

ST-8

Sample Location:

Particle	Size I	JISTITIK	ution
Ulathad.	ACTA	4 D 422	

Viethod: Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	

%in (19.0mm)	100
3/8in (9.5mm)	97
No.4 (4.75mm)	97
No.10 (2.0mm)	95
No.20 (850µm)	94
No.40 (425µm)	92
No.60 (250µm)	90
No.100 (150µm)	85
No.200 (75µm)	71
0.043 mm	57
0.031 mm	52
0.020 mm	46
0.014 mm	40
0.012 mm	38
0.008 mm	35
0.006 mm	31
0.004 mm	26
0.003 mm	21
0.001 mm	16
	化加强电流转换器 海底的

Limits

Result

23.1

40.0

32.0

35.0

5.0

3.0

2.863 2.854

6.40

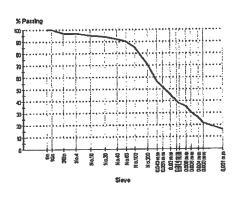
18.32

127.7 12.2

12.1

1.91 E-7

0.01 N CaS04



Comments

N/O = Not Obtainable



Telephone: 248, 553,6300 Fax: 248,324,5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S086

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

ARP.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

% Passing

Samp		

Boring No:

TB-W-10

Field Sample No: Sample Depth: ST-8

Date Sampled: Sampled By:

LWO No:

000332

Sample Location:

e Size Distr	

Method:

**ASTM D 422** 

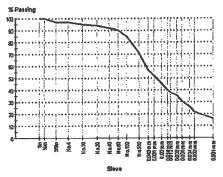
Drying by:

Sieve Size

Oven

er junker kum here <u>er i herest i tr</u>	v voestistoretii et 1977	entroperational and ACC	NAMENTALIS S
Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device		_	
Dispersion Period	10-11-1	1_	
Liquid Limit (%)	ASTM D 4318	18	
Method		Method A	
Plastic Limit (%)		12	
Plasticity Index (%)		6	
Sample History		Unkown	
Preparation	ASTM D 2216	Dry 12.2	
Moisture Content (%)	AS 1W D 2210	143.3	
Wet Density (lb/ft³)		143.3	
Dry Density (lb/ft³)	ASTM D 2487	CL-ML	
Group Symbol		ay with sand	
Group Name	ASTM D 2166	N/O	······································
Unconfined Compressive Strength (fb/ft²)	701111 0 2100	N/O	
Shear Strength (lb/ft²)		N/O	
Ave. Rate Strain to Failure(%) Strain at Failure(%)		N/O	
		N/O	
Average Height (in.)		N/O	
Average Diameter (in.) Height-Diameter Ratio		N/O	
neignt-blameter Kato Init. Dry Dens.		N/O	
init, Dry Dens. Init, Water Content (%)		N/O	
Liquid Limit		N/O	
Liquid Littill		NIO	

1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	97	
No.4 (4.75mm)	97	
No.10 (2.0mm)	95	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	90	
No.100 (150µm)	85	
No.200 (75µm)	71	
0.043 mm	57	
0.031 mm	52	
0.020 mm	46	
0.014 mm	40	
0.012 mm	38	
0.008 mm	35	
0.006 mm	31	
0.004 mm	26	
0.003 mm	21	
0.001 mm	16	



Comments (1997)

Plastic Limit

Remarks
Visual Description

N/O = Not Obtainable

N/O

N/O

N/O



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S085

Issue No: 1

Limits

This laboratory is accredited by American Association of State Fighway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

% Passing

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Sample Details

Boring No:

Field Sample No: Sample Depth:

LS-36 88

TB-W-10

Date Sampled:

Sampled By:

LWO No:

000332

Sample Location:

Particle	Size Distribution	
Method:	ASTM D 422	

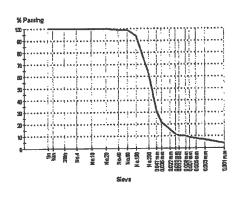
Sieve Size

Drying by:

Oven

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group Name		Sandy silt _	

4in /25 0mm)	100		
1in (25.0mm)			
%in (19.0mm)	100		
3/8in (9.5mm)	100		
No.4 (4.75mm)	100		
No.10 (2.0mm)	100		
No.20 (850µm)	100		
No.40 (425µm)	99		
No.60 (250µm)	99		
No.100 (150µm)	94		
No.200 (75µm)	62		
0.047 mm	31		
0.035 mm	22		
0.022 mm	16		
0.016 mm	12		
0.013 mm	11		
0.009 mm	10		
0.007 mm	9		
0.005 mm	8		
0.003 mm	7		
0.001 mm	4	, . , . ,	
Chart			. : :



Comments

N/O = Not Obtainable NO = Not Obtainable

Form No: 18909.V1.00



Telephone: 248. 553.6300 Fax: 248.324.5179

Method:

Drying by:

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S084 Issue No: 1

Client: Wayne Disposal, Inc.

Woodlot & MC1&4 Waste Investigation Project:

Soil Boring Program

62-080376-01 Job No:

This laboratory is accredited by American Association of State Hightway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** 

TB-W-10

Field Sample No: Sample Depth:

LS-33 82

Date Sampled:

Sampled By:

LWO No:

000332

Sample Location:

Sieve Size 1in (25.0mm) 3/in (19.0mm) 3/8in (9.5mm)	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	

Particle Size Distribution

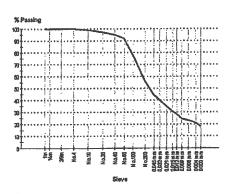
Oven

**ASTM D 422** 

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	16	
Method		Method A	
Plastic Limit (%)		12	
Plasticity Index (%)		4	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL-ML	

Sandy silty clay

3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	99
No.20 (850µm)	97
No.40 (425µm)	95
No.60 (250µm)	92
No.100 (150µm)	78
No.200 (75µm)	56
0.045 mm	45
0.032 mm	40
0.021 mm	35
0.015 mm	30
0.012 mm	29
0.009 mm	25
0.006 mm	23
0.004 mm	21
0.003 mm	18
0.000 mm	12
Chart	



Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Comments 1997 Co

**Group Name** 



Telephone: 248, 553,6300 Fax: 248,324,5178

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S083

Issue No: 2

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No: Field Sample No: TB-W-10 ST-7

Sample Depth:

Date Sampled:

Sampled By: LWO No:

Sample Location:

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	20	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		. 4	
Sample History		Oven-dried	

**ASTM D 2216** 

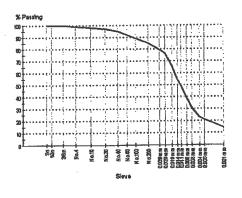
**ASTM D 2487** 

### Particle Size Distribution

Method: Drying by: **ASTM D 422** 

Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	98	
No.20 (850µm)	97	
No.40 (425µm)	95	
No.60 (250µm)	92	
No.100 (150µm)	89	
No.200 (75µm)	85	
0.039 mm	79	
0.028 mm	77	
0.019 mm	66	
0.014 mm	55	
0.011 mm	49	
0.008 mm	39	
0.006 mm	31	
0.004 mm	23	
0.003 mm	21	
0.001 mm	14	** ** ***
Chart		



Comments.

Preparation

**Group Symbol** Group Name

Moisture Content (%)

Dry

18.7

CL-ML

Silty clay with sand



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S249

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

11/24/2008 Date of Issue:

Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** 

TB-W-10

Field Sample No:

LS-27

Sample Depth:

Date Sampled:

Sampled By:

Michael McNamara

LWO No: Sample Location:

000374 WDI - Woodlot Particle Size Distribution

Method: Drying by: Date Tested:

Sieve Size

% Passing

Limits

Other Test Results Result Limits Method Description ASTM D 2216 - 05 Moisture Content (%) 17.7 Wet Density (lb/ft³) 136.2 Dry Density (lb/ft³) 115.7 ASTM D 2166 - 06 5340

Unconfined Compressive Strength (lb/ft²) 2680 Shear Strength (lb/ft²) Ave. Rate Strain to Failure(%) 0.9 Strain at Failure(%) 10.8 Average Height (in.) 2.770 Average Diameter (in.) 1.350 Height-Diameter Ratio 2.1 Init. Dry Dens. 115.7

Init. Water Content (%) Liquid Limit Plastic Limit Remarks

Visual Description

Comments

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S249

N/A

17.7



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S248

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 11/24/2008 Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** 

TB-W-10

Field Sample No:

LS-26 64

Sample Depth: Date Sampled:

Sampled By:

Michael McNamara

LWO No: Sample Location: 000374

WDI - Woodlot

Particle Size Distribution

Method:

Drying by: **Date Tested:** 

Sieve Size

% Passing

Limits

Other Test Results

Method	Result	Limits
ASTM D 2166 - 06	N/O	
	N/O	
	N/O	
	N/O	
	N/O	
	N/O	
	N/O	
	N/O	
	N/O	
	N/O	
	N/O	
	N/O	
	N/O	
		ASTM D 2166 - 06 N/O N/O N/O N/O N/O N/O N/O N/O N/O N/O

N/O = Not Obtainable

Sample disturbed because it was too short. PP = 4.25 tons/square foot



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S081

Issue No: 1

Limits

Client:

Wayne Disposal, inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

% Passing

100

## Sample Details

Boring No:

**TB-W-10** 

Field Sample No: Sample Depth:

ST-6 62

Date Sampled:

Sampled By:

LWO No:

000332

Sample Location:

Particle S	Size Distribution
Method:	ASTM D 422

Drying by:

Sieve Size

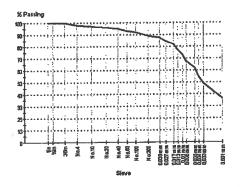
1in (25.0mm)

%in (19.0mm)

Oven

Other Test Results			
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.6	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)	,	32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.0	1 N CaS04	
Sample Height (in)		2.848	
Sample Diameter (in)		2.851	Į.
Sample Cross-Section Area (in²)		6.38	l
Sample Volume (in³)		18.18	
Dry Density (lb/ft³)		107.0	
Initial Moisture Content (%)		21.5	
Final Moisture Content (%)		20.7	
Average Permeability (cm/s)		1.71 E-8	

	5-2010 ( 1 4 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m	
	3/8in (9.5mm)	100
	No.4 (4.75mm)	98
	No.10 (2.0mm)	97
-31	No.20 (850µm)	96
1	No.40 (425µm)	95
	No.60 (250µm)	93
_	No.100 (150µm)	92
	No.200 (75µm)	89
Ì	0.038 mm	87
	0.027 mm	85
	0.017 mm	82
	0.013 mm	77
- 1	0.010 mm	73
	0.008 mm	68
	0.005 mm	62
	0.004 mm	55
- 1	0.003 mm	49
	0.001 mm	37



Comments



NTH Consultants, Ltd.

Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Woodlot & MC1&4 Waste Investigation

Wayne Disposal, Inc.

Soil Boring Program

62-080376-01

Report No: MAT:62-080376-01-S081

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accordination.

Date of Issue: 9/2/2008

Approved Signatory: Zeerak Paydawy

100

## Sample Details

**Boring No:** 

TB-W-10

Field Sample No: Sample Depth:

ST-6 62

Date Sampled:

Sampled By: LWO No:

Description

Shape Hardness Dispersion Device Dispersion Period

Method

Sand Gravel Description

Liquid Limit (%) .

Plasticity Index (%)

Wet Density (lb/ft³)

Dry Density (lb/ft³)

Strain at Failure(%)

Average Height (in.)

Average Diameter (in.)

Height-Diameter Ratio Init. Dry Dens. Init. Water Content (%)

Unconfined Compressive Strength (lb/ft²) Shear Strength (lb/ft²)

Ave. Rate Strain to Failure(%)

**Group Symbol** 

**Group Name** 

Plastic Limit (%)

Sample History

Preparation Moisture Content (%)

Client:

Project:

Job No:

000332

Other Test Results

Method

**ASTM D 422** 

**ASTM D 4318** 

**ASTM D 2218** 

**ASTM D 2487** 

**ASTM D 2166** 

Sample Location:

Particl	e Size Distribution
lethod:	ASTM D 422

Drying by:

1in (25.0mm)

Limits

Result

33

15

Dry

21.5 130.0

107.0

CL Lean clay

851

426 1.0

14.2

5.926

2.763

2.1

33 18

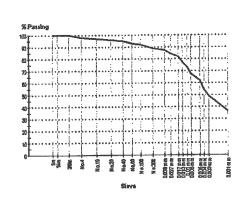
Method A 18

Oven-dried

Oven

Sieve Size	% Passing	Limits

1111 (	
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	98
No.10 (2.0mm)	97
No.20 (850µm)	96
No.40 (425µm)	95
No.60 (250µm)	93
No.100 (150µm)	92
No.200 (75µm)	89
0.038 mm	87
0.027 mm	85
0.017 mm	82
0.013 mm	77
0.010 mm	73
0.008 mm	68
0.005 mm	62
0.004 mm	55
0.003 mm	49
0.001 mm	37
la 🚉 🕶 mining (to a a a bha e a 10 a bh	



Comments

Liquid Limit

Plastic Limit Remarks Visual Description



Telephone: 248, 553,6300 Fax: 248,324,5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S080

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste investigation

Soil Boring Program

Job No:

62-080376-01

400

This laboratory is accredited by American Association of State Fighway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-10

Field Sample No: Sample Depth: ST-5 56

Date Sampled:

Sampled By: LWO No:

000332

Sample Location:

Final Moisture Content (%)

Average Permeability (cm/s)

Particle Size Distribution

Method:

Sieve Size

1in (25.0mm)

**ASTM D 422** 

% Passing

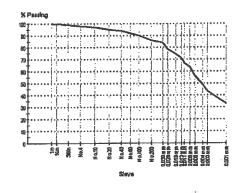
100

Drying by: Oven

Other Test Results  Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	22.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.0	1 N CaS04	
Sample Height (in)		2.848	
Sample Diameter (in)		2.838	
Sample Cross-Section Area (in²)		6.33	
Sample Volume (in³)		18.02	
Dry Density (lb/ft³)		111.0	
Initial Moisture Content (%)		19.1	

	i¾in (19.0mm)	100
	3/8in (9.5mm)	99
	No.4 (4.75mm)	98
	No.10 (2.0mm)	97
	No.20 (850µm)	95
	No.40 (425µm)	94
	No.60 (250µm)	92
_	No.100 (150µm)	90
	No.200 (75µm)	86
	0.038 mm	84
	0.028 mm	78
	0.018 mm	75
8	0.013 mm	71
	0.011 mm	67
	0.008 mm	63
	0.006 mm	56
	0.004 mm	49
	0.003 mm	44
	0.001 mm	33
- 1	Liberary in the state of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the c	

Chart



Comments

NA

20.0

4.31 E-8



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# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S080

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

% Passing

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

## Sample Details

**Boring No:** 

TB-W-10

Field Sample No:

ST-5 56

Sample Depth: Date Sampled:

Sampled By:

LWO No:

Sample Location:

000332

Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape	267		
Hardness			
Dispersion Device			
Dispersion Period		11	
Liquid Limit (%)	ASTM D 4318	31	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		14	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	19.1	
Wet Density (lb/ft³)		132.2	
Dry Density (lb/ft³)		111.0	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

## Particle Size Distribution

Method:

**ASTM D 422** 

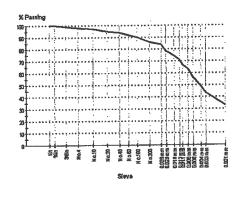
Drying by:

Sieve Size

Oven

21010 01-0	
lin (25.0mm)	100
¼in (19.0mm)	100
3/8in (9.5mm)	99
No.4 (4.75mm)	98
No.10 (2.0mm)	97
No.20 (850µm)	95
No.40 (425µm)	94
No.60 (250µm)	92
No.100 (150µm)	90
No.200 (75µm)	86
0.038 mm	84
0.028 mm	78
0.018 mm	75
0.013 mm	71
0.011 mm	67
0.008 mm	63
0.006 mm	56
0.004 mm	49
0.003 mm	44
0.001 mm	33

#### Chart



Comments

**Group Name** 



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S079

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

% Passing

100

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

**TB-W-10** 

Field Sample No:

LS-22

Sample Depth: Date Sampled:

Sampled By: LWO No:

000332

Sample Location:

Particle	Size Dis	tribution
Mothod:	ASTM D	

Drying by:

Sieve Size

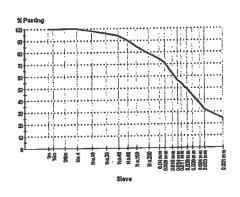
1in (25.0mm)

Oven

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	24	
Method		Method A	
Plastic Limit (%)		13	
Plasticity Index (%)		11	
Sample History		Unkown	
Preparation		Dry	
	ACTU D 2487	Cl	

Lean clay with sand

%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	98
No.20 (850µm)	96
No.40 (425µm)	94
No.60 (250µm)	90
No.100 (150µm)	85
No.200 (75µm)	79
0.040 mm	75
0.029 mm	71
0.019 mm	62
0.014 mm	57
0.011 mm	54
0.008 mm	49
0.006 mm	44
0.004 mm	37
0.003 mm	32
0.001 mm	25
Chart	



Comments :

**Group Symbol** 

**Group Name** 



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S078 Issue No: 1

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Limits

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

% Passing

100

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Sample Details

**Boring No:** Field Sample No: **TB-W-10** ST-4

46

Sample Depth: Date Sampled:

Sampled By:

LWO No:

Sample Location:

000332

Particle Size Distribution Method:

Drying by:

Sieve Size

1in (25.0mm)

**ASTM D 422** 

Oven

				No.10 (2.0mm)	99
The second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of th	vae vieta a vade a VECVIV a	3.000; A. VEC 46.00		le an inna i	97
Other Test Results			AMEN'S STATES	No.40 (425µm)	96
Description	Method	Result	Limits	No.60 (250µm)	95
Temperture (°C)	[ASTM D 5084]	23.1		No.100 (150µm)	92
Cell Pressure (lb/in²)		40.0		No.200 (75µm)	89
Top Pressure (lb/in²)		32.0		0.038 mm	86
Bottom Pressure (lb/in²)		35.0		0.027 mm	82
Effective Pressure (lb/in²)		5.0		0.018 mm	78
Pressure Differential (lb/in²)		3.0		0.013 mm	71
Permeant	0.0	1 N CaS04		0.011 mm	69
Sample Height (in)		2.853		0.008 mm	63
Sample Diameter (in)		2.752		0.006 mm	57
Sample Cross-Section Area (in²)		5.95		0.004 mm	49
Sample Volume (in³)		16.97		0.003 mm	44
Dry Density (lb/ft³)		118.7		0.001 mm	34
Initial Moisture Content (%)		17.2		Chart	
Final Moisture Content (%)		18.2			
Average Permeabilty (cm/s)		3.34 E-8			
				W Bessley	

100 ¾in (19.0mm) 100 3/8in (9.5mm) No.4 (4.75mm) 100

Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S078

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

TB-W-10

Field Sample No: Sample Depth:

ST-4 46

Date Sampled:

Sampled By:

LWO No:

000332

Par	tici	e Size Distribution

Method:

**ASTM D 422** 

Drying by:

Oven

LWO No:	000332			0.		0/ 5
Sample Location	n:				Sieve Size	% Passing
					1in (25.0mm)	100
					%in (19.0mm)	100
1					3/8in (9.5mm)	100
					No.4 (4.75mm)	100
					No.10 (2.0mm)	99
Other Test	Results				No.20 (850µm)	97
Other Test	Vesuits			en fine combine in the Well	No.40 (425µm)	96
Description		Method	Result	Limits	No.60 (250µm)	95
Sand Gravel De	scription	ASTM D 422			No.100 (150µm)	92
Shape					No.200 (75µm)	89
Hardness					0.038 mm	86
Dispersion Device	æ				0.027 mm	82
Dispersion Perio	d		1		0.018 mm	78
Liquid Limit (%)		ASTM D 4318	31		0.013 mm	71
Method			Method A		0.011 mm	69
Plastic Limit (%)			17		0.008 mm	63
Plasticity Index (	%)		14		0.006 mm	57
Sample History			Oven-dried		0.004 mm	49
Preparation			Dry		0.003 mm	44
Moisture Conter	t (%)	ASTM D 2216	17.2		0.001 mm	34
Wet Density (lb/	ft³)		139.1		Chart	
Dry Density (lb/f	(3)		118.7		material and the second	e 11 to the feets shake ended for
Group Symbol		ASTM D 2487	CL			
Group Name			Lean clay		% Passing	
Unconfined Compress		ASTM D 2166	3546		100	
Shear Strength			1773		<b>*</b>	
Ave. Rate Strain	to Failure(%)		1.0		20	
Strain at Failure	(%)		14.3		60	
Average Height			5.865		<b>5</b>	
Average Diamet			2.847		40	
Height-Diameter	Ratio		2.1		30	
Init. Dry Dens.					20	
init. Water Conte	ent (%)				<b>5</b>	
Liquid Limit			31		8 SE SE	No.10 No.20 No.50 No.50 No.50 No.50 No.50
Plastic Limit			17			No.75 No.25 No.45 No.450 No.450 No.250 Mo.250 Mo.250 Mo.27 mm
Remarks						Sieva

Visual Description

N/A



NTH Consultants, Ltd.

Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Woodlot & MC1&4 Waste investigation

Wayne Disposal, Inc.

Soil Boring Program

Report No: MAT:62-080376-01-S077

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The lest(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Job No:

Client:

Project:

62-080376-01

## Sample Details

**Boring No:** 

TB-W-10 ST-3

Field Sample No: Sample Depth:

38

Date Sampled:

Sampled By: LWO No:

Description

Permeant

Temperture (°C)

Cell Pressure (lb/in²)

Top Pressure (lb/in²)

Sample Height (in)

Sample Diameter (in)

Sample Volume (in³)

Dry Density (lb/ft³)

Bottom Pressure (lb/in²)

Effective Pressure (lb/in²)

Pressure Differential (lb/in²)

Initial Moisture Content (%)

Final Moisture Content (%) Average Permeabilty (cm/s)

Sample Cross-Section Area (in²)

000332

Other Test Results

Method [ASTM D 5084]

Sample Location:

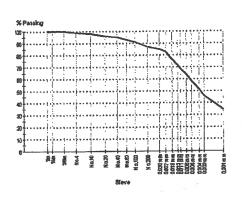
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2000 11 4 5 5 B A	O:	D:-	4	4: -	
Dartinia	~176	7 I HG.	TINI	ITIN	п
T ALLIGIC	VILLE	סוע. ד	11 11 W W	1114	98
<b>Particle</b>			7.5	,	٠

Method: Drying by: **ASTM D 422** 

Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/in /10 ()mm)	100	

%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	99
No.10 (2.0mm)	98
No.20 (850µm)	96
No.40 (425µm)	95
No.60 (250µm)	93
No.100 (150µm)	91
No.200 (75µm)	87
0.038 mm	85
0.027 mm	83
0.018 mm	76
0.013 mm	72
0.011 mm	69
0.008 mm	64
0.006 mm	58
0.004 mm	52
0.003 mm	46
0.001 mm	34
DESCRIPTION OF A STATE OF	二月 医生物 医生物 经发现的 医电流电影 医克洛



Comments

N/A

Result

23.4 40.0

32.0

35.0

5.0

3.0

2.832

6.30

17.97 115.8

17.0

18.3

1.76 E-8

0.01 N CaS04 2.852 Limits



Telephone: 248, 553,6300 Fax: 248,324,5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S077

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This leboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

% Passing

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

**TB-W-10** 

Field Sample No:

ST-3

Sample Depth:

38

Date Sampled:

Sampled By: LWO No:

000332

Sample Location:

Dortiolo	Cira Diatribution
rai licie	Size Distribution
dathari-	ACTAI D 400

Method:

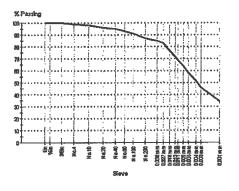
Drying by:

Sieve Size

Oven

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			9
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	31	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		13	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	17.0	
Wet Density (lb/ft³)		135.4	
Dry Density (ib/ft³)		115.7	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	98	
No.20 (850µm)	96	
No.40 (425µm)	95	
No.60 (250µm)	93	
No.100 (150µm)	91	
No.200 (75µm)	87	
0.038 mm	85	
0.027 mm	83	
0.018 mm	76	
0.013 mm	72	
0.011 mm	69	
0.008 mm	64	
0.006 mm	58	
0.004 mm	52	
0.003 mm	46	
0.001 mm	34	٠.
Chart		÷



Comments



Telephone: 248, 553,6300 Fax: 248,324,5179

## Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S076

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

A NOTIONAL

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

% Passing

Sample Details

Boring No:

Field Sample No: Sample Depth:

Date Sampled: Sampled By:

LWO No:

Sample Location:

000332

**TB-W-10** 

LS-14

32

Other Test Results Result Limits Description Method **ASTM D 422** Sand Gravel Description Shape Hardness Dispersion Device **Dispersion Period ASTM D 4318** 34 Liquid Limit (%) Method A Method 17 Plastic Limit (%) 17 Plasticity Index (%) Unkown Sample History Wet Preparation

**ASTM D 2487** 

Lean clay with sand

Particle Size Distribution

Method:

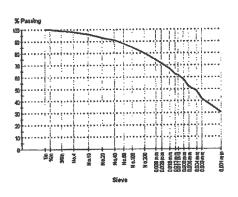
**ASTM D 422** 

Drying by:

Sieve Size

Oven

1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	93	
No.40 (425µm)	91	
No.60 (250µm)	88	
No.100 (150µm)	85	
No.200 (75µm)	80	
0.039 mm	75	
0.028 mm	72	
0.018 mm	67	
0.013 mm	62	
0.011 mm	62	
0.008 mm	58	
0.006 mm	52	
0.004 mm	48	
0.003 mm	42	
0.001 mm	31	
Chart		



Comments The Article Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments of the Comments

Group Symbol Group Name



Telephone: 248, 553,6300 Fax: 248,324,5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S075

Issue No: 1

Limits

Client:

Wayne Disposal, inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

in acco

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008

% Passing

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

**TB-W-10** 

Field Sample No:

ST-2

Sample Depth:

26

Date Sampled:

Sampled By: LWO No:

C

Sample Location:

000332

Other Test	Regulte	NO SERVE SERVE	AMMERICAN	

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.3	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.0	1 N CaS04	
Sample Height (in)		2.840	
Sample Diameter (in)	**	2.813	
Sample Cross-Section Area (In²)		6.22	
Sample Volume (in³)		17.65	
Dry Density (lb/ft³)		114.6	
Initial Moisture Content (%)		17.7	
Final Moisture Content (%)		18.3	
Average Permeabilty (cm/s)		2.64 E-8	

#### Particle Size Distribution

Method:

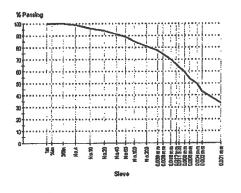
**ASTM D 422** 

Drying by:

Sieve Size

Oven

	1in (25.0mm)	100	
	%in (19.0mm)	100	
	3/8in (9.5mm)	100	
	No.4 (4.75mm)	99	
	No.10 (2.0mm)	96	
	No.20 (850µm)	94	
	No.40 (425µm)	91	
	No.60 (250µm)	89	
	No.100 (150µm)	85	
	No.200 (75µm)	81	
	0.039 mm	77	
	0.028 mm	75	
	0.018 mm	70	
	0.013 mm	66	
Ì	0.011 mm	63	
ı	0.008 mm	60	
	0.006 mm	54	
	0.004 mm	49	
-	0.003 mm	43	
	0.001 mm	34	
1	Chart		



Comments



Telephone: 248, 553,6300 Fax: 248,324,5179

## Aggregate/Soil Test Report

Wayne Disposal, Inc.

Soil Boring Program

62-080376-01

Report No: MAT:62-080376-01-S075

Limits

Issue No: 1

This laboratory is accredited by American Association This isocration is accretioned by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been perform in accordance with the terms of the accreditation.

% Passing

100

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

## Sample Details

**Boring No:** Field Sample No:

TB-W-10 ST-2

Woodlot & MC1&4 Waste Investigation

Sample Depth: Date Sampled:

Sampled By: LWO No:

Description

Liquid Limit (%)

Plastic Limit (%) Plasticity Index (%)

Sample History

Moisture Content (%) Wet Density (lb/ft³)

Dry Density (lb/ft³)

**Group Symbol** Group Name

Preparation

Shape Hardness Dispersion Device Dispersion Period

Method

Sand Gravel Description

Client:

Project:

Job No:

000332

Other Test Results

Method

ASTM D 422

**ASTM D 4318** 

**ASTM D 2216** 

**ASTM D 2487** 

Result

30

17

13 Oven-dried

Dry

17.7

134.9

114.6

Lean clay with sand

CL

Method A

Limits

Sample Location:

D O:	Di-4			١,
Particle St	ze Dist	HUULIU	n	'n
्राभ्यास्त्राच्याः स्वरूपात्राम् ।	and the second	4,1,1,1,1,1,1,1,1,1,1		•

Method:

Sieve Size

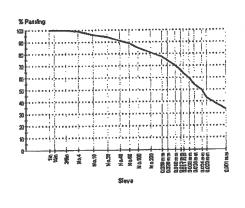
1in (25.0mm)

**ASTM D 422** 

Drying by: Oven

	THE (COLUMN)	100
	¾in (19.0mm)	100
	3/8in (9.5mm)	100
	No.4 (4.75mm)	99
	No.10 (2.0mm)	96
	No.20 (850µm)	94
	No.40 (425µm)	91
	No.60 (250µm)	89
	No.100 (150µm)	85
	No.200 (75µm)	81
	0.039 mm	77
	0.028 mm	75
	0.018 mm	70
_	0.013 mm	66
	0.011 mm	63
	0.008 mm	60
	0.006 mm	54
	0.004 mm	49
	0.003 mm	43
	0.001 mm	34

Chart



Comments

N/A



Telephone: 248, 553,6300 Fax: 248,324,5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S074

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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___

Oven

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

Particle Size Distribution

**ASTM D 422** 

## Sample Details

Boring No:

TB-W-10

Field Sample No:

LS-10 22

Sample Depth: Date Sampled:

Sampled By:

000332

LWO No: Sample Location: 332

Sandy lean clay

Sieve Size
1in (25.0mm)
%in (19.0mm)
3/8in (9.5mm)
No.4 (4.75mm

Method:

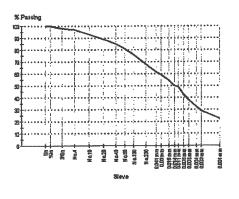
Drying by:

% Passing Limits 100 100

98

Other Test Results					
Description	Method	Result	Limits		
Sand Gravel Description	ASTM D 422				
Shape					
Hardness					
Dispersion Device					
Dispersion Period		1			
Liquid Limit (%)	ASTM D 4318	23			
Method		Method A			
Plastic Limit (%)		13			
Plasticity Index (%)		10			
Sample History		Unkown			
Preparation		Wet			
Group Symbol	ASTM D 2487	ÇL			

-	No.4 (4.75mm)		91
	No.10 (2.0mm)		93
1	No.20 (850µm)		89
7000	No.40 (425µm)	•	85
1	No.60 (250µm)		81
-	No.100 (150µm)		76
	No.200 (75µm)		68
	0.041 mm		62
	0.030 mm		59
	0.019 mm		54
1	0.014 mm		50
1	0.011 mm		49
-	0.008 mm		43
	0.006 mm		38
	0.004 mm		33
	0.003 mm		29
1	0.001 mm		23
_	Chart		



Comments

**Group Name** 



Telephone: 248, 553,6300 Fax; 248,324,5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S073

Issue No: 1

Limits

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9/2/2008 Approved Signatory: Zeerak Paydawy

% Passing

100

Sample Details

**Boring No:** 

Field Sample No: Sample Depth:

ST-1 18

**TB-W-10** 

Date Sampled:

Sampled By:

LWO No:

000332

Sample Location:

Particle Size Distribution

Method:

**ASTM D 422** 

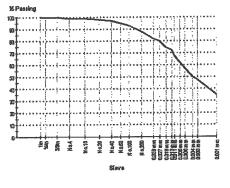
Drying by:

Sieve Size

1in (25.0mm)

Oven

				INO. IO (2.0HBII)
Other Test Results	averesa esta		Mark Market	No.20 (850µm)
Other rest Results A A.	n Andreas (Carlos de Carlos de	er fattera elektrik st		
Description	Method	Result	Limits	No.60 (250µm)
Temperture (°C)	[ASTM D 5084]	23.4		No.100 (150µm)
Cell Pressure (lb/in²)		40.0		No.200 (75µm)
Top Pressure (lb/in²)		32.0		0.038 mm
Bottom Pressure (lb/in²)		35.0		0.027 mm
Effective Pressure (lb/in²)		5.0		0.018 mm
Pressure Differential (lb/in²)		3.0		0.013 mm
Permeant	0.0	1 N CaS04		0.011 mm
Sample Height (in)		2.853		0.008 mm
Sample Diameter (in)		2.834		0.006 mm
Sample Cross-Section Area (in²)		6.31		0.004 mm
Sample Volume (in³)		18.00		0.003 mm
Dry Density (lb/ft³)		101.3		0.001 mm
Initial Moisture Content (%)		26.3		Chart
Final Moisture Content (%)		24.6		MARKET STATE OF THE
Average Permeabilty (cm/s)		3.11 E-6		



Comments

N/O = Not Obtainable



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S073

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The tast(e) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

1in (25.0mm)

Particle Size Distribution

**ASTM D 422** 

Oven

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

100

#### Sample Details

**Boring No:** 

TB-W-10

Field Sample No:

ST-1

Sample Depth:

18

Date Sampled: Sampled By:

LWO No:

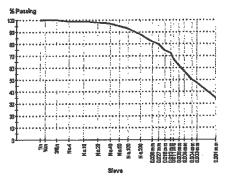
000332

Sample Location:

2			
	Sieve Size	% Passing	Limits

				NO.4 (4.7
				No.10 (2
Other Test Results		NY SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SER		No.20 (8
Official est ivesuits				No.40 (4
Description	Method	Result	Limits	No.60 (2
Sand Gravel Description	ASTM D 422			No.100 (
Shape				No.200 (
Hardness				0.038 mr
Dispersion Device				0.027 mr
Dispersion Period		1		0.018 mr
Liquid Limit (%)	ASTM D 4318	30		0.013 mr
Method		Method A		0.011 mr
Plastic Limit (%)		17		0.008 mr
Plasticity Index (%)		13		0.006 mr
Sample History		Oven-dried		0.004 mr
Preparation		Dry		0.003 mr
Moisture Content (%)	ASTM D 2216	26.3		0.001 mr
Wet Density (lb/ft³)		128.0		Chart
Dry Density (lb/ft³)		101.3		1796 N
Group Symbol	ASTM D 2487	CL		
Group Name		Lean clay		% Pass
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	N/O		
Shear Strength (lb/ft²)		N/O		80

III (-91011111)	
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	<b>99</b>
No.10 (2.0mm)	99
No.20 (850µm)	98
No.40 (425µm)	97
No.60 (250µm)	95
No.100 (150µm)	93
No.200 (75µm)	88
0.038 mm	82
0.027 mm	80
0.018 mm	74
0.013 mm	72
0.011 mm	68
0.008 mm	62
0.006 mm	57
0.004 mm	50
0.003 mm	47
0.001 mm	35
Chart	



Comments:

Init. Dry Dens.

Liquid Limit

Plastic Limit

Remarks Visual Description

N/O = Not Obtainable

Shear Strength (lb/ft²) Ave. Rate Strain to Failure(%)

Strain at Failure(%)

Average Height (in.)

Average Diameter (in.)

Height-Diameter Ratio

Init. Water Content (%)

N/O N/O

N/O

N/O

N/O

N/O

N/O

N/O

N/O N/O



Telephone: 248, 553,6300 Fax: 248,324,5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S072

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The tast(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

% Passing

Sample Details

**Boring No:** 

Field Sample No:

Sample Depth: Date Sampled:

Sampled By:

LWO No:

**Group Name** 

000332

**TB-W-10** 

LS-7

14

Sample Location:

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	

Silt with sand

Particle Size Distribution

Method:

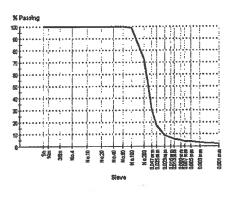
**ASTM D 422** 

Drying by:

Sieve Size

Oven

01010 01-0	, , , , , , , , ,	
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	99	
No.200 (75µm)	73	
0.047 mm	31	
0.035 mm	17	
0.023 mm	9	
0.016 mm	7	
0.013 mm	6	
0.009 mm	5	
0.007 mm	4	
0.005 mm	4	
0.003 mm	3	
0.001 mm	2	
Chart		
AND MORNING TO THE PARTY OF THE	The refer to the place of	an en en en en en en en en en en en en en



Comments N/O = Not Obtainable NO = Not Obtainable NP = Non Plastic



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S071

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

3 Depark Payloury

Date of Issue: 9/2/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

TB-W-10

Field Sample No:

LS-5

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000332

Sample Location:

Particle	Size Distribution
Method:	ASTM D 422

Drying by:

Sieve Size

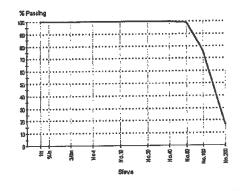
Oven

% Passing

	1in (25.0mm)	100
	%in (19.0mm)	100
-	3/8in (9.5mm)	100
1	No.4 (4.75mm)	100
	No.10 (2.0mm)	100
	No.20 (850µm)	100
٠	No.40 (425µm)	100
	No.60 (250µm)	99
-	No.100 (150µm)	76
	No.200 (75µm)	17
	Finer No.200 (75µm)	17
	'''	
1		
-		

## Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Liquid Limit (%)	ASTM D 4318	N/O	
Method	•	N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	



Comments AVAILABLE TO THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROP N/O = Not Obtainable NO = Not Obtainable NP = Non Plastic



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## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S070

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

	*
2.05	HTO SEE

Method:

Drying by:

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Date of Issue: 9/2/2008

Particle Size Distribution

**ASTM D 422** 

Approved Signatory: Zeerak Paydawy

## Sample Details

**Boring No:** 

TB-W-10

Field Sample No: Sample Depth:

LS-2

Date Sampled:

Sampled By:

LWO No:

000332

Sample Location:

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
NI- 4 (4 75	400	

No.4 (4.75mm) 100 No.10 (2.0mm) 100 No.20 (850µm) 99

No.40 (425µm) 98 No.60 (250µm) 95 77 No.100 (150µm) No.200 (75µm) 18 Finer No.200 (75µm)

Other Test Results Result Limits Method Description

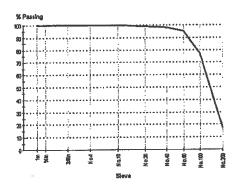
ASTM D 422 Sand Gravel Description Shape

Hardness Dispersion Device **Dispersion Period** 

ASTM D 4318 Liquid Limit (%) N/O N/O Method N/O Plastic Limit (%) N/O Plasticity Index (%) N/O Sample History N/O Preparation **ASTM D 2487** SM **Group Symbol** 

Group Name

Chart



Comments

N/O = Not Obtainable

NO = Not Obtainable NP = Non Plastic

Silty sand



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# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S212

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue: 10/21/2008

Approved Signatory: Zeerak Paydawy

% Passing

#### Sample Details

**Boring No:** 

Field Sample No:

Sample Depth:

80.0 Date Sampled:

9/12/2009 Michael McNamara

Sampled By: LWO No:

000355

TB-W-9

LS-16

Sample Location:

WDI - Woodlot

Part	icle S	ize D	istrib	ution
	•	AOTIA	D 400	A**

Method:

Sieve Size

ASTM D 422 - 07

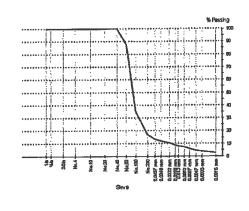
Drying by: Oven

	1in (25.0mm)	100
1	%in (19.0mm)	100
1	3/8in (9.5mm)	100
1	No.4 (4.75mm)	100
1	No.10 (2.0mm)	100
	No.20 (850µm)	100
3	No.40 (425µm)	100
1	No.60 (250µm)	88
٦	No.100 (150µm)	35
1	No.200 (75µm)	17
	0.049 mm	14
1	0.035 mm	12
1	0.022 mm	11
	0.016 mm	9
1	0.013 mm	8
	0.009 mm	8
1	0.007 mm	6
	0.005 mm	5
-	0.003 mm	4

## Other Test Results

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 0	5 N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 0		
Group Name		N/O_	

0.002 mm



Comments

N/O = Not Obtainable



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# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S211

ssue No:

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Beenk pay

Date of Issue: 10/22/2008 Approved Signatory: Zeerak Paydawy

## Sample Details

Boring No: Field Sample No:

TB-W-9

Field Sample No: Sample Depth:

LS-15 75.0

Date Sampled:

9/12/2009 Michael McNamara

Sampled By: LWO No:

000355

Sample Location:

WDI - Woodlot

Parti	cle Size	Distribu	iti	on	
Method	: ASTI	M D 422 - (	)7		

Method: Drying by: Oven

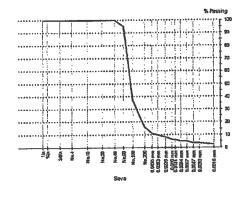
1			
I	Sieve Size	% Passing	Limits
ı	1in (25.0mm)	100	
ı	3/4in (19.0mm)	100	
ı	3/8in (9.5mm)	100	
ı	No.4 (4.75mm)	100	
ı	No.10 (2.0mm)	100	
	No.20 (850µm)	100	
١	No.40 (425µm)	100	
	No.60 (250µm)	95	
1	No.100 (150µm)	37	
ı	No.200 (75µm)	16	
	0.050 mm	11	
i	0.035 mm	10	
l	0.023 mm	8	
	0.016 mm	7	
ı	0.013 mm	6	
1	0.009 mm	5	
İ	0.007 mm	5	
ı	0.005 mm	4	

## Other Test Results

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	-
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	SM	-

## 0.002 mm Chart

0.003 mm



Comments

Group Name

N/O = Not Obtainable

Silty sand



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Method:

Drying by:

# Aggregate/Soil Test Report

Wayne Disposal, Inc.

Project:

Client:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S210 Issue No: 1

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Limits

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

Particle Size Distribution

Oven

ASTM D 422 - 07

## Sample Details

**Boring No:** 

**TB-W-9** 

Field Sample No: Sample Depth:

LS-14 70.0

Date Sampled: Sampled By:

9/12/2009 Michael McNamara

LWO No:

000355

Other Test Results

Sample Location:

WDI - Woodlot

Sieve Size	% Passing
1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	98
No.100 (150µm)	90
No.200 (75µm)	79
0.045 mm	49
0.033 mm	38
0.022 mm	28
0.016 mm	20

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		NO	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shane			

Shape Hardness Dispersion Device Sand Gravel Description

Group Symbol **Group Name** 

MH ASTM D 2487 - 06 Elastic silt with sand 0.002 mm Chart

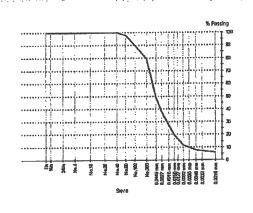
0.013 mm

0.009 mm

0.007 mm

0.005 mm

0.003 mm



17

12

10

8

6

Comments

N/O = Not Obtainable



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# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S209

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

This leboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008

Job No: 62-080376-01	Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy
Sample Details  Boring No: TB-W-9 Field Sample No: LS-13 Sample Depth: 65.0 Date Sampled: 9/12/2009 Sampled By: Michael McNamara	Particle Size Distribution  Method: ASTM D 422 - 07  Drying by: Oven
LWO No: 000355 Sample Location: WDI - Woodlot  Other Test Results	Sieve Size % Passing Limits 1in (25.0mm) 100 %in (19.0mm) 100 3/8in (9.5mm) 100 No.4 (4.75mm) 100 No.10 (2.0mm) 100 No.20 (850µm) 100 No.40 (425µm) 100
Description Method Result Limits  Dispersion Period (mins) ASTM D 422 - 07  Shape Hardness Dispersion Device Sand Gravel Description  Group Symbol ASTM D 2487 - 06 ML Group Name Silt with sand	No.40 (425µm) 100 No.60 (250µm) 99 No.100 (150µm) 99 No.200 (75µm) 84 0.045 mm 45 0.034 mm 30 0.022 mm 19 0.016 mm 12 0.013 mm 10 0.009 mm 8 0.007 mm 7 0.005 mm 4 0.003 mm 4 0.002 mm 3 Chart
	5, Pessing 500 50 50 50 50 50 50 50 50 50 50 50 50





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# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S208

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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A Regional

Date of Issue; 10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

Field Sample No: Sample Depth: LS-12 60.0

TB-W-9

Date Sampled:

9/11/2008

Sampled By: LWO No: Michael McNamara 000355

Sample Location:

WDI - Woodlot

Į	Part	İC	le Siz	e Dis	tri	buti	on

Method:

ASTM D 422 - 07

% Passing

Drying by:

Sieve Size

1in (25.0mm)

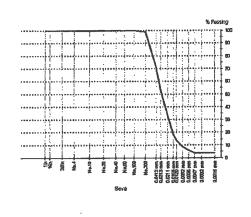
Oven

11								
	M.L		T-		:10	~~		-140
æ	ш	161	.: I C	:51	:17	65	Ł	ılts

Children and the Children			****************
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 0	-	
Group Name		Silt	

11(1 (20-011111)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	100
No.200 (75µm)	99
0.041 mm	71
0.031 mm	53
0.021 mm	34
0.016 mm	19
0.013 mm	14
0.009 mm	9
0.007 mm	6
0.005 mm	4
0.003 mm	4
0.002 mm	4

#### Chart



Comments

N/A

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Page 1 of 1



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# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S207

Issue No: 1

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

## Sample Details

**Boring No:** 

**TB-W-9** 

Field Sample No:

ST-6 55.0

Sample Depth: Date Sampled:

9/11/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

#### Particle Size Distribution ASTM D 422 - 07 Method:

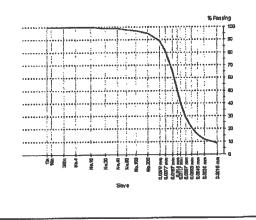
Drying by:

Oven

Other Test Results	<b>s</b>		
Description		Result	Limits
Group Symbol	ASTM D 2487 - 06	MH	
Group Name	Ela	astic silt	

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	99	
No.40 (425µm)	99	
No.60 (250µm)	98	
No.100 (150µm)	97	
No.200 (75µm)	<b>9</b> 5	
0.038 mm	89	•
0.028 mm	81	
0.019 mm	66	
0.014 mm	50	
0.012 mm	41	
0.009 mm	29	
0.006 mm	21	
0.005 mm	16	
0.003 mm	12	
0.002 mm	9	

#### Chart



Comments

N/O = Not Obtainable



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## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S207

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

## Sample Details

**Boring No:** 

**TB-W-9** 

Field Sample No: Sample Depth:

ST-6 55.0

Date Sampled:

9/11/2008

Sampled By:

Michael McNamara

LWO No: Sample Location: 000355

WDI - Woodlot

rai licie	SIZE DISHIDULION
lathad.	ACTM D 422 07

% Passing

Drying by:

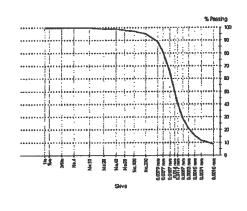
Sieve Size

1in (25.0mm)

Oven

7			
П			
Other Test Results			
Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216 - 05		
Wet Density (lb/ft³)		127.0	
Dry Density (lb/ft³)		104.2	
Liquid Limit (%)	ASTM D 4318 - 05		
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Temperture (°C)	ASTM D 5084 - 03		
Cell Pressure (lb/in²)		N/O	
Top Pressure (lb/in²)		N/O	
Bottom Pressure (lb/in²)		N/O	
Effective Pressure (lb/in²)		N/O	
Pressure Differential (lb/in²)		N/O	
Permeant		N/O	
Sample Height (in)		N/O	
Sample Diameter (in)		N/O	
Sample Cross-Section Area (in²)		N/O	
Sample Volume (in³)		N/O	
Dry Density (lb/ft³)		N/O	
Initial Moisture Content (%)		N/O	
Final Moisture Content (%)		N/O	
Average Permeabilty (cm/s)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	, 1	
Shape		~	
Hardness			

%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	99
No.40 (425µm)	99
No.60 (250µm)	98
No.100 (150µm)	97
No.200 (75µm)	95
0.038 mm	89
0.028 mm	81
0.019 mm	66
0.014 mm	50
0.012 mm	41
0.009 mm	29
0.006 mm	21
0.005 mm	16
0.003 mm	12
0.002 mm	9



Comments

N/O = Not Obtainable

Dispersion Device Sand Gravel Description



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## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S206

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

AR

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Zeenk Partitury

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

## Sample Details

Boring No: Field Sample No: TB-W-9

Sample Depth:

ST-5 48.0

Date Sampled: Sampled By: 9/11/2008 Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Particle	Size Dis	tribution
Method:	ASTM D	

Method: Drying by:

Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	94	
No.60 (250µm)	91	
No.100 (150µm)	88	
No.200 (75µm)	83	
0.039 mm	79	
0.028 mm	76	
0.018 mm	71	
0.013 mm	65	

## Other Test Results

Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	8360	
Shear Strength (lb/ft²)		4180	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		12.2	
Average Height (in.)		6.010	
Average Diameter (in.)		2.830	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		122.6	
Init. Water Content (%)		12.5	
Liquid Limit		28	
Plastic Limit		16	
Remarks			
Visual Description			
Group Symbol	ASTM D 2487 - 06		
Group Name	Lean clay w	ith sand	

## 0.001 mm Chart

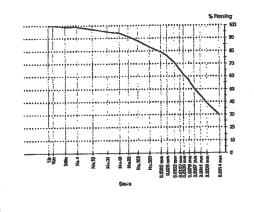
0.011 mm

0.008 mm

0.006 mm

0.004 mm

0.003 mm



62

57 50

45

39

30

Comments

N/A

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Page 2 of 2

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S206



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# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S206

Limits

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

**TB-W-9** 

Field Sample No: Sample Depth:

ST-5 48.0

Date Sampled:

9/11/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Pari	lici	e Size D	listrib	ution
		40716	D 400	07

Method:

Sieve Size

Limite

**ASTM D 422 - 07** 

% Passing

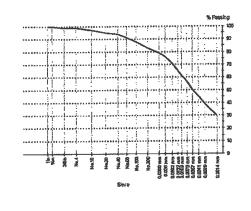
Drying by: Oven

ı	1in (25.0mm)	100
١	%in (19.0mm)	100
1	3/8in (9.5mm)	99
1	No.4 (4.75mm)	99
1	No.10 (2.0mm)	97
ं	No.20 (850µm)	95
i	No.40 (425µm)	94
ı	No.60 (250µm)	91
1	No.100 (150µm)	88
j	No.200 (75µm)	83
ı	0.039 mm	79
ı	0.028 mm	76
	0.018 mm	71
1	0.013 mm	65
1	0.011 mm	62
٦	0.008 mm	57
1	0.006 mm	50
1	0.004 mm	45
	0.003 mm	39
1	0.001 mm	30

## Other Test Results

Description	Method Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05 28	
Method	Method A	
Plastic Limit (%)	16	
Plasticity Index (%)	12	
Sample History	Oven-dried	
Preparation	Dry	
Retained 0.425mm (No. 40) (%)	0.0	
Temperture (°C)	ASTM D 5084 - 03 23.4	
Cell Pressure (lb/in²)	40.0	
Top Pressure (lb/in²)	32.0	
Bottom Pressure (lb/in²)	35.0	
Effective Pressure (lb/in²)	5.0	
Pressure Differential (lb/in²)	3.0	
Permeant	0.01 N CaS04	
Sample Height (in)	2.850	
Sample Diameter (in)	2.816	
Sample Cross-Section Area (in²)	6.23	
Sample Volume (in³)	17.75	
Dry Density (lb/ft³)	118.8	
Initial Moisture Content (%)	16.1	
Final Moisture Content (%)	16.4	
Average Permeabilty (cm/s)	1.40 E-8	
Moisture Content (%)	ASTM D 2216 - 05 12.5	
Wet Density (lb/ft³)	137.9	
Dry Density (lb/ft³)	122.6	
Dispersion Period (mins)	ASTM D 422 - 07 1	

Residend



Shape Hardness Dispersion Device Sand Gravel Description



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S205

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

## Sample Details

Boring No:

Field Sample No:

Sample Depth: Date Sampled:

Sampled By:

9/11/2008 Michael McNamara

Sand Gravel Description

Hardness

**Dispersion Device** 

Group Symbol

**Group Name** 

ASTM D 2487 - 06

CL

Sandy lean clay

**TB-W-9** 

LS-9

45.0

Particle Size Distribution

Method:

ASTM D 422 - 07

Drying by:

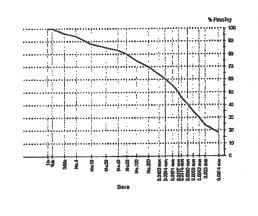
Oven

LWO No:	000355				
	WDI - Woodlot		Sieve Size	% Passing	Limits
			1in (25.0mm)	100	
i			%in (19.0mm)	100	
			3/8in (9.5mm)	96	
			No.4 (4.75mm)	94	
			No.10 (2.0mm)	88	
lance with position.		Ta Basa da entrada da Africa.	No.20 (850µm)	85	
Otner lest Result	3		No.40 (425µm)	83	
Description	Method Result	Limits	No.60 (250µm)	80	
Liquid Limit (%)	ASTM D 4318 - 05 23		No.100 (150µm)	75	
Method	Method A		No.200 (75µm)	70	
Plastic Limit (%)	14		0.041 mm	64	
Plasticity Index (%)	9		0.029 mm	61	
Sample History	Air-dried		0.019 mm	55	
Preparation	Dry		0.014 mm	50	
Retained 0.425mm (No. 4	(0) (%)		0.011 mm	46	
Dispersion Period (mins)	ASTM D 422 - 07 1		0.008 mm	41	
Shape			0.006 mm	36	

0.001 mm Chart

0.004 mm

0.003 mm



30

24

18

Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S204

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation. eent paydowy

Date of Issue: 10/21/2008

Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

Field Sample No: Sample Depth:

ST-4 40.0

Date Sampled:

9/11/2008

**TB-W-9** 

Sampled By: LWO No:

Michael McNamara

000355

Sample Location:

WDI - Woodlot

Particle S	Size Distribution
Method:	ASTM D 422 - 07
Drving by:	Oven

% Passing

Drying by:

Sieve Size

1in (25.0mm)

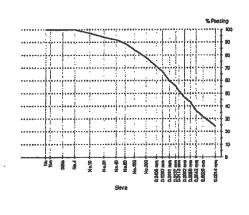
## Other Test Results

Sand Gravel Description

AND MANAGES IN NO. OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF			
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			

,,,,,	
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	97
No.20 (850µm)	94
No.40 (425µm)	92
No.60 (250µm)	89
No.100 (150µm)	84
No.200 (75µm)	78
0.041 mm	71
0.029 mm	67
0.019 mm	60
0.014 mm	56
0.011 mm	52
0.008 mm	47
0.006 mm	43
0.004 mm	36
0.003 mm	32
0.001 mm	24

#### Chart



**N/A** 

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Page 2 of 2

Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S204

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zesrak Paydawy

Sample Details

**Boring No:** 

**TB-W-9** 

Field Sample No: Sample Depth:

40.0 9/11/2008

Date Sampled: Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

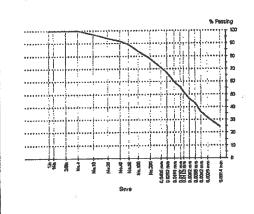
Particle Size Distribution ASTM D 422 - 07

Method: Drying by:

Oven

Sieve Size	% Passing
1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	97
No.20 (850µm)	94
No.40 (425µm)	92
No.60 (250µm)	89
No.100 (150µm)	84
No.200 (75µm)	78

71 0.041 mm 67 0.029 mm 0.019 mm 60 56 0.014 mm 52 0.011 mm 0.008 mm 47 0.006 mm 43 36 0.004 mm 0,003 mm 32 0.001 mm



## Other Test Results Description

н	Doddiption		
Į	Temperture (°C)	ASTM D 5084 - 03 22.8	
I	Cell Pressure (lb/in²)	40.0	la:
I	Top Pressure (lb/in²)	32.0	
ļ	Bottom Pressure (lb/in²)	35.0	
I	Effective Pressure (lb/in²)	5.0	
İ	Pressure Differential (lb/in²)	3.0	
	Permeant	0.01 N CaS04	
	Sample Height (in)	2.871	
	Sample Diameter (in)	2.853	
	Sample Cross-Section Area (in²)	6,39	
	Sample Volume (in³)	18.35	
ı	Dry Density (lb/ft³)	123.3	
i	Initial Moisture Content (%)	15.6	
	Final Moisture Content (%)	15.7	
	Average Permeabilty (cm/s)	6.25 E-8	
	Liquid Limit (%)	ASTM D 4318 - 05 24	
1	Method	Method A	
	Plastic Limit (%)	14	
	Plasticity Index (%)	10	
	Sample History	Oven-dried	
	Preparation	Dry	
	Retained 0.425mm (No. 40) (%)	0.0	
	Moisture Content (%)	ASTM D 2216 - 05 15.6	
	Wet Density (lb/ft³)	142.5	
1	Dry Density (lb/ft³)	123.3	
	Group Symbol	ASTM D 2487 - 06 CL	
	Group Name	Lean clay with sand	

Method

Result

Limits

Comments

N/A

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Page 1 of 2

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S204



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S203

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

## Sample Details

Boring No:

TB-W-9

Field Sample No:

ST-3 33.0

Sample Depth: Date Sampled:

9/11/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Particle	Size	Distri	bution
g ugganganan m mumbu udu		TM ID 400	

Method:

ASTM D 422 - 07

% Passing

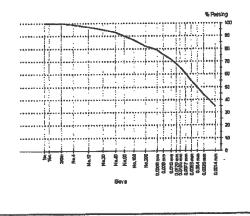
Drying by:

Sieve Size

Oven

			A NOTE OF STREET
Other Test Results			
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	. 1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description		7 (1000	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 0		
Shear Strength (lb/ft²)		5840	
Ave. Rate Strain to Failure(%)		1.0 15.0	
Strain at Failure(%)			
Average Height (in.)		6.044 2.851	
Average Diameter (in.)		2.001	
Height-Diameter Ratio		117.6	
Init. Dry Dens.		16.4	
Init. Water Content (%)			
Liquid Limit		31	
Plastic Limit		17	
Remarks			
Visual Description			

1in (25.0mm)	100
3/4in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	99
No.10 (2.0mm)	97
No.20 (850µm)	95
No.40 (425µm)	93
No.60 (250µm)	90
No.100 (150µm)	87
No.200 (75µm)	82
0.039 mm	79
0.028 mm	76
0.018 mm	72
0.013 mm	68
0.011 mm	65
0.008 mm	61
0.006 mm	55
0.004 mm	50
0.003 mm	44
0.001 mm	35



Comments



Telephone: 248, 553,6300 Fax: 248,324.5179

### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S203

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No: Field Sample No: **TB-W-9** 

Sample Depth:

ST-3 33.0

Date Sampled:

9/11/2008 Michael McNamara

Sampled By: LWO No:

000355

Sample Location:

WDI - Woodlot

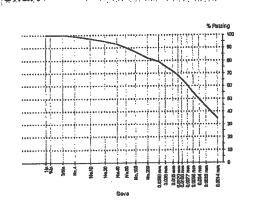
Particle	Size Distribution
Method:	ASTM D 422 - 07

Drying by:

Oven

	Sieve Size	% Passing	Limits
	1in (25.0mm)	100	
	%in (19.0mm)	100	
	3/8in (9.5mm)	100	
	No.4 (4.75mm)	99	
	No.10 (2,0mm)	97	
	No.20 (850µm)	95	
3	No.40 (425µm)	93	
	No.60 (250µm)	90	
	No.100 (150µm)	87	
	No.200 (75µm)	82	
-	0.039 mm	79	
	0.028 mm	76	
	0.018 mm	72	
	0.013 mm	68	
	0.011 mm	65	
	0.008 mm	61	
	0.006 mm	55	
	0.004 mm	50	
	0.003 mm	44	
	li0.001 mm	35	

#### Other Test Results Limits Method Result Description ASTM D 2487 - 06 **Group Symbol** Lean clay with sand Group Name ASTM D 4318 - 05 Liquid Limit (%) Method Method A Plastic Limit (%) 17 14 Plasticity Index (%) Oven-dried Sample History Dry Preparation Retained 0.425mm (No. 40) (%) 0.0 ASTM D 5084 - 03 22.7 Temperture (°C) 40.0 Cell Pressure (lb/in²) 32.0 Top Pressure (lb/in²) 35.0 Bottom Pressure (lb/in²) 5.0 Effective Pressure (lb/in²) Pressure Differential (lb/in²) 3.0 0.01 N CaS04 Permeant 2.878 Sample Height (in) 2.827 Sample Diameter (in) Sample Cross-Section Area (in²) 6.28 18.06 Sample Volume (in³) 116.1 Dry Density (lb/ft³) 17.1 Initial Moisture Content (%) Final Moisture Content (%) 17.7 3.45 E-8 Average Permeabilty (cm/s) ASTM D 2216 - 05 16.4 Moisture Content (%) 136.8 Wet Density (lb/ft³)



Comments

Dry Density (lb/ft3)

N/A

117.6



Telephone: 248, 553,6300 Fax: 248,324,5179

# Aggregate/Soil Test Report

Wayne Disposal, Inc.

Project: Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No: 62-080376-01

Report No: MAT:62-080376-01-S202

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

Particle Size Distribution

Oven

ASTM D 422 - 07

AR

Method:

Drying by:

Caman	le Detail	À
	IP   IP 711)	2
- VILLED	I C. P. CLUII	н

Boring No:

Client:

TB-W-9

Field Sample No: Sample Depth: LS-7 30.0 9/11/2008

Date Sampled: Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlo

- Woodlot	Sieve Size	% Passing	Limits
	1in (25.0mm)	100	

Other Test Results				ic lo
Description	Method	Result	Limits N	
Liquid Limit (%)	ASTM D 4318	3 - 05 31	N	lc
Method		Method A	l N	lc
Plastic Limit (%)		17	∥0	.(
Plasticity Index (%)		14	llo	.(
Comple History		Oven dried	llo.	

Sample History Oven-dried
Preparation Dry
Retained 0.425mm (No. 40) (%)
Dispersion Period (mins) ASTM D 422 - 07 1

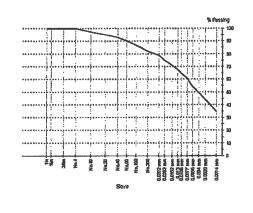
Shape Hardness

Dispersion Device Sand Gravel Description

Group Symbol ASTM D 2487 - 06 CL
Group Name Lean clay with sand

%in (19.0mm)		100
3/8in (9.5mm)		100
No.4 (4.75mm)		100
No.10 (2.0mm)		97
No.20 (850µm)		95
No.40 (425µm)		93
No.60 (250µm)		90
No.100 (150µm)		<del>-</del> 87
No.200 (75µm)		82
0.039 mm		79
0.028 mm		75
0.018 mm		71
0.013 mm		67
0.011 mm		65
0.008 mm	15	61
0.006 mm		54
0.004 mm		50
0.003 mm		44
0.001 mm		35

#### Chart



Comments

N/A

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S202

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Page 1 of 1



Telephone: 248, 553,6300 Fax: 248,324,5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S201

issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/22/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** Field Sample No: TB-W-9

Sample Depth:

ST-2 25.0

Date Sampled:

9/11/2008 Michael McNamara

Sampled By: LWO No:

000355

Sample Location:

WDI - Woodlot

Particle	Size Distribution
Method:	ASTM D 422 - 07

% Passing

Drying by:

Sieve Size

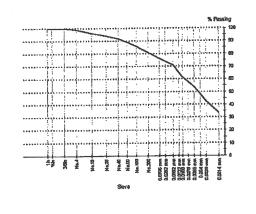
Oven

Description	Method	Result	Limits
Other Test Results			

Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 0	6 CL	
Group Name	Lean clay w	ith sand	

100 1in (25.0mm) 100 3/4in (19.0mm) 3/8in (9.5mm) 100 No.4 (4.75mm) 99 96 No.10 (2.0mm) 94 No.20 (850µm) 92 No.40 (425µm) 89 No.60 (250µm) No.100 (150µm) 86 No.200 (75µm) 81 77 0.040 mm 0.028 mm 74 71 0.018 mm 0.013 mm 65 62 0.011 mm 58 0.008 mm 0.006 mm 54 0.004 mm 49 43 0.003 mm 34 0.001 mm

#### Chart





Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S201

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/22/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

TB-W-9

Field Sample No:

ST-2

Sample Depth: Date Sampled: 25.0 9/11/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Particle	Size D	istribution
Mothod	ACTM	D 422 07

% Passing

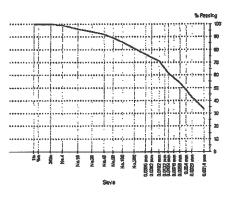
Drying by:

Sieve Size

Oven

71			
Other Test Results			
		Result	Limits
Description	Method ASTM D 4318 - 05	31	THIIIIS
Liquid Limit (%) Method		thod A	
	MIC	17	
Plastic Limit (%)		14	
Plasticity Index (%)	Ovor	14 1-dried	
Sample History	Over		
Preparation		Dry 0.0	
Retained 0.425mm (No. 40) (%)	ASTM D 5084 - 03	22.7	
Temperture (°C)	MO I MI D DU04 - U3	40.0	
Cell Pressure (ib/in²)		32.0	
Top Pressure (lb/in²)		35.0	
Bottom Pressure (lb/in²)		5.0	
Effective Pressure (lb/in²)		3.0	
Pressure Differential (lb/in²)	0.01 N (		
Permeant	U.U1 N (	2.864	
Sample Height (in)		2.834	
Sample Diameter (in)		6.31	
Sample Cross-Section Area (in²)		18.07	
Sample Volume (in³)			
Dry Density (lb/ft³)		113.1 17.3	
Initial Moisture Content (%)			
Final Moisture Content (%)	4.0	18.0	
Average Permeabilty (cm/s)		37 E-8	
Moisture Content (%)	ASTM D 2216 - 05	17.3	
Wet Density (lb/ft³)		132.7	
Dry Density (lb/ft³)	407115 400 47	113.1	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			

1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	99
No.10 (2.0mm)	96
No.20 (850µm)	94
No.40 (425µm)	92
No.60 (250µm)	89
No.100 (150µm)	86
No.200 (75µm)	81
0.040 mm	77
0.028 mm	74
0.018 mm	71
0.013 mm	65
0.011 mm	62
0.008 mm	58
0.006 mm	54
0.004 mm	49
0.003 mm	43
0.001 mm	34



Comments

Hardness Dispersion Device Sand Gravel Description



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S200

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No: Field Sample No:

**TB-W-9** 

ST-1

### Particle Size Distribution

Method:

ASTM D 422 - 07

Drying by:

Oven

l	Sample Depth: 18.0						
l	Date Sampled: 9/11/	2008		×			
l	Sampled By: Micha	ael McNamara					
Į	LWO No: 0003					Of Decelor	Limita
l	Sample Location: WDI	- Woodlot			Sieve Size	% Passing	Limits
l	•				1in (25.0mm)	100	
l					%in (19.0mm)	100	
ı					3/8in (9.5mm)	100	
ł					No.4 (4.75mm)	99	
١					No.10 (2.0mm)	97 95	
l	Other Test Results				No.20 (850µm)	93	
Ì	Office restriveships			10 7 Mars 12 Mars 12 Mars	No.40 (425µm)	90	
I	Description	Method	Result	Limits	No.60 (250µm)	90 86	
İ	Temperture (°C)	ASTM D 50			No.100 (150µm)	81	
l	Cell Pressure (lb/in²)		40.0		No.200 (75µm) 0.040 mm	77	
۱	Top Pressure (lb/in²)		32.0		0.040 mm	74	
l	Bottom Pressure (lb/in²)		35.0		0.028 mm	69	
l	Effective Pressure (lb/in²)		5.0		0.013 mm	65	
١	Pressure Differential (lb/in²)		3.0		0.013 mm	63	
I	Permeant		0.01 N CaS04		0.008 mm	59	
I	Sample Height (in)		2.872		0.006 mm	53	
ł	Sample Diameter (in)	-	2.851		0.004 mm	49	
١	Sample Cross-Section Area (in	12)	6.38 18.33		0.004 mm	43	
l	Sample Volume (in³)		110.6		0.003 mm	34	W.
I	Dry Density (lb/ft³)		18.7			an rusumummatina	sisten a ta aliana
Ì	Initial Moisture Content (%)		18.9		Chart		
ļ	Final Moisture Content (%)		2.16 E-8				
Ì	Average Permeability (cm/s)	ASTM D 22					% Passing
l	Moisture Content (%)	ASTIVI D 22	129.2				TI 120
ı	Wet Density (lb/ft³)		114.6				T
1	Dry Density (lb/fts)	ASTM D 42			<b>  </b>		
	Dispersion Ferror (mins)	ASTRI D 42	<u>.a Ui 1</u>				XIIIII.
	Shape				13 1 7		
	Hardness						111 1 1 1
	Dispersion Device Sand Gravel Description						11 1 1 1 1 1
ı	Salid Glasel Describitoli						



Form No: 18909.V1.00, Report No: MAT:62-080376-01-S200



Telephone: 248, 553,6300 Fax: 248,324,5179

## Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S200

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008

Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-9

Field Sample No: Sample Depth: ST-1 18.0

Date Sampled: Sampled By: 9/11/2008 Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Particle Size Distribution

Method:

ASTM D 422 - 07

% Passing

Drying by:

Sieve Size

Oven

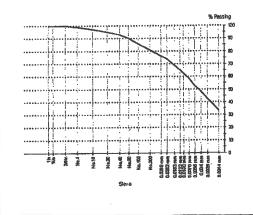
- 1	DIDAC CITO	70 1 0000119	
١	1in (25.0mm)	100	
- [	3/4in (19.0mm)	100	
	3/8in (9.5mm)	100	
	No.4 (4.75mm)	99	
	No.10 (2.0mm)	97	
::	No.20 (850µm)	95	
	No.20 (850µm) No.40 (425µm)	93	
-	No.60 (250µm)	90	
_	No.100 (150µm)	86	
	No.200 (75µm)	81	
-	0.040 mm	77	
	0.028 mm	74	
	0.018 mm	69	
	0.013 mm	65	
	0.011 mm	63	
	0.008 mm	59	
	0.006 mm	53	
	0.004 mm	49	

Other Test Results

Description	Method Result	Limits
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06 6580	
Shear Strength (lb/ft²)	3300	
Ave. Rate Strain to Failure(%)	1.0	
Strain at Failure(%)	11.8	
Average Height (in.)	5.930	
Average Diameter (in.)	2.850	
Height-Diameter Ratio	2.1	
Init. Dry Dens.	114.6	
Init. Water Content (%)	12.8	
Liquid Limit	30	
Plastic Limit	17	
Remarks		
Visual Description		
Group Symbol	ASTM D 2487 - 06 CL	
Group Name	Lean clay with sand	
Liquid Limit (%)	ASTM D 4318 - 05 30	
Method	Method A	
Plastic Limit (%)	17	
Plasticity Index (%)	13	
Sample History	Oven-dried	
Preparation	Dry	
Retained 0.425mm (No. 40) (%)	0.0	
1		

0.001 mm Chart

0.003 mm



43 34

Comments

N/A

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Page 1 of 2



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# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S199

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: Field Sample No: TB-W-9 LS-5

Sample Depth: Date Sampled:

15.0 9/11/2008

Sampled By:

Michael McNamara

LWO No:

000355

Particle Size Distribution ASTM D 422 - 07 Method:

Drying by:

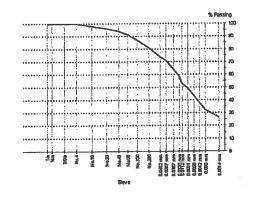
Sieve Size

Oven

Sample Location:	WDI - Woodlat		
Other Test Result	S		
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318		
Method	4	Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		8	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 4	40) (%)	0.0	
Dispersion Period (mins)	ASTM D 422 -	07 1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487		
Group Name	Lean cla	y with sand	

1in (25.0mm) 100 3/in (19.0mm) 100 3/8in (9.5mm) 100 No.4 (4.75mm) 100 No.10 (2.0mm) 98 96 No.20 (850µm) No.40 (425µm) 94 No.60 (250µm) 91 No.100 (150µm) 87 No.200 (75µm) 81 74 0.040 mm 0.029 mm 71 0.019 mm 64 59 0.014 mm 0.011 mm 53 0.008 mm 49 44 0.006 mm 0.004 mm 38 0.003 mm 32 0.001 mm 27

% Passing



N/A

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Page 1 of 1



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# Aggregate/Soil Test Report

Wayne Disposal, Inc. Client:

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S198

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Limits

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** 

**TB-W-9** 

Field Sample No: Sample Depth:

LS-4 10.0

Date Sampled:

9/11/2008 Michael McNamara

Sampled By: LWO No:

000355

Sample Location:

WDI - Woodlot

ASTM D 422 - 07 Oven Drying by:

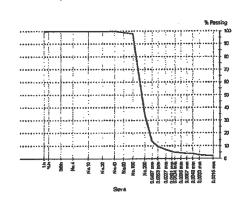
Particle Size Distribution

Method:

Other Test Results				
Description	Method	Result	Limits	
Dispersion Period (mins)	ASTM D 422	- 07 1		
Shape				
Hardness				
Dispersion Device				
Sand Gravel Description				
Group Symbol	ASTM D 248	7 - 06 SM		
Group Name		Silty sand		

Sieve Size	% Passing
1in (25.0mm)	100
3/in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	99
No.100 (150µm)	98
No.200 (75µm)	35
0.049 mm	14
0.035 mm	9
0.023 mm	7
0.016 mm	6
0.013 mm	5
0.010 mm	5
0.007 mm	4
0.005 mm	4
0.003 mm	3

### 0.002 mm Chart



2

Comments:



Telephone: 248, 553,6300 Fax: 248,324,5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S197

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

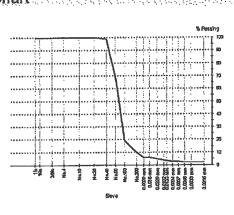
**Boring No:** Field Sample No: **TB-W-9** LS-2

Particle :	Size Distr	ibution	
Method:	ASTM D 42		

Drying by:

Oven

Sample Depth: Date Sampled: Sampled By: LWO No:	5.0 9/11/2008 Michael McNamara 000355				
Sample Location:	WDI - Woodlot		Sieve Size	% Passing	Limits
			1in (25.0mm)	100	
			¾in (19.0mm)	100	
			3/8in (9.5mm)	100	
			No.4 (4.75mm)	100	
			No.10 (2.0mm)	100	
Other Toot Beaut	lts XIII Page And And And And And And And And And And		No.20 (850µm)	100	
Other lest Resul	112 19 90 00 00 00 00 00 00 00 00 00 00 00 00		No.40 (425µm)	99	
Description		Result Limits	No.60 (250µm)	69	
Dispersion Period (mins	s) ASTM D 422 - 07	1	No.100 (150μm)	19	
Shape			No.200 (75μm)	10	
Hardness			0.051 mm	6 6	
Dispersion Device			0.036 mm	5	
Sand Gravel Description	1	014	0.023 mm	4	
Group Symbol	ASTM D 2487 - 06	SM	0.016 mm 0.013 mm	4	
Group Name	5110	y sand	0.009 mm	3	
Ì			0.003 mm	3	
			0.005 mm	2	
			0.003 mm	2	
1			0.002 mm	2	
				ระจอ ครั้งสะ	
			Chart		
					% Pessi





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# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S196

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

% Passing

100

### Sample Details

Boring No:

**TB-W-8** 

Field Sample No:

LS-16 80.0

Sample Depth: Date Sampled:

9/10/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Particle S	ize Distribution
Method:	ASTM D 422 - 07

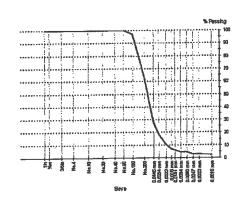
Drying by:

Sieve Size

1in (25.0mm)

			No.4 (4.75mm)
			No.10 (2.0mm)
en de arraga parte de la compaña de la compaña de la compaña de la compaña de la compaña de la compaña de la c	avareas a c	HWAREFERS	No.20 (850μm)
	Market and		No.40 (425µm)
Method	Result	Limits	No.60 (250µm)
ASTM D 4318 - 0	05 N/O		No.100 (150µm)
	N/O		No.200 (75µm)
	N/O		0.045 mm
	N/O		0.033 mm
	N/O		0.022 mm
	N/O		0.016 mm
	N/O		0.013 mm
ASTM D 422 - 0	7 1		0.009 mm
			0.007 mm
			0.005 mm
			0.003 mm
			0.002 mm
			Chart
Sandy	elastic silt		
	Method ASTM D 4318 - 0 ASTM D 422 - 0	Method Result  ASTM D 4318 - 05 N/O N/O N/O N/O N/O N/O N/O N/O N/O N/O	Method Result Limits  ASTM D 4318 - 05 N/O N/O N/O N/O N/O N/O N/O N/O N/O N/O

ı	%in (19.0mm)	100
1	3/8in (9.5mm)	100
ı	No.4 (4.75mm)	100
1	No.10 (2.0mm)	100
	No.20 (850µm)	100
	No.40 (425µm)	100
ı	No.60 (250µm)	100
7	No.100 (150µm)	97
ı	No.200 (75µm)	63
1	0.045 mm	28
1	0.033 mm	18
Į	0.022 mm	11
1	0.016 mm	7
1	0.013 mm	6
	0.009 mm	5
ı	0.007 mm	5
1	0.005 mm	3
1	0.003 mm	3
	0.002 mm	3



Comments

**Group Name** 



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## Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S195

Issue No: 1

Limits

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10/21/2008 Date of Issue: Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

Field Sample No:

TB-W-8 LS-15 75.0

Sample Depth: Date Sampled:

9/10/2008

Sampled By:

Michael McNamara

LWO No:

Sample Location:

000355 WDI - Woodlot

Particle Size Distribution ASTM D 422 - 07 Method:

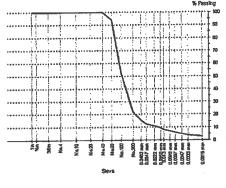
% Passing

Drying by:

Sieve Size

Oven

				1in (25.0mm)	100
				%in (19.0mm)	100
				3/8in (9.5mm)	100
				No.4 (4.75mm)	100
			*	No.10 (2.0mm)	100
		narang melaka kecamatan	recensions and analysis seems	No.20 (850µm)	100
Other Test Results				No.40 (425µm)	100
		Result	Limits	No.60 (250µm)	94
Description	Method		Little	No.100 (150μm)	53
Liquid Limit (%)	ASTM D 4318 - (			No.200 (75µm)	22
Method		N/O			16
Plastic Limit (%)		N/O		0.048 mm	13
Plasticity Index (%)		N/O		0.035 mm	
Sample History		N/O		0.022 mm	11
Preparation		N/O		0.016 mm	10
Retained 0.425mm (No. 40) (%)		N/O		0.013 mm	8
Dispersion Period (mins)	ASTM D 422 - 0	7 1		0.009 mm	7
Shape				0.007 mm	6
Hardness				0.005 mm	5
Dispersion Device				0.003 mm	. 4
Sand Gravel Description				0.002 mm	3
Group Symbol	ASTM D 2487 - 0	06 SM		Chart	
Group Name		Silty sand		Chair	
Oloop Hallo					
				DE	



Comments



Telephone: 248, 553,6300 Fax: 248,324.5179

# Aggregate/Soil Test Report

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Wayne Disposal, Inc.

Job No:

Client:

62-080376-01

Report No: MAT:62-080376-01-S194

Limits

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

TB-W-8

Boring No: Field Sample No: Sample Depth:

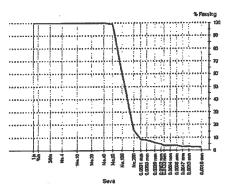
LS-14 70.0

Parti	cle S	ize Di	strib	ution
Method		ASTM [		

Drying by:

Oven

Date Sampled: Sampled By: LWO No:	9/10/2008 Michael McNamara 000355				
Sample Location:	WDI - Woodlot			Sieve Size	% Passing
				1in (25.0mm)	100
				%in (19.0mm)	100
				3/8in (9.5mm)	100
				No.4 (4.75mm)	100
				No.10 (2.0mm)	100
Other Test Result		PREMIERS	NAMES AND STREET	No.20 (850µm)	100
Omer reşund	👂 province profit (1996) (1996) (1996)		e partition de partition de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la const	No.40 (425µm)	100
Description	Method	Result	Limits	No.60 (250µm)	99
Liquid Limit (%)	ASTM D 4318 - 0			No.100 (150µm)	61
Method		N/O		No.200 (75µm)	16
Plastic Limit (%)		N/O		0.050 mm	9
Plasticity Index (%)		N/O		0.036 mm	8
Sample History		N/O		0.023 mm	8 6 5
Preparation		N/O		0.016 mm	
Retained 0.425mm (No.		N/O		0.013 mm	4
Dispersion Period (mins)	ASTM D 422 - 0	7 1		0.009 mm	4
Shape				0.007 mm	4
Hardness				0.005 mm	4 3 3 3
Dispersion Device				0.003 mm	ა 2
Sand Gravel Description	10711 0 0407	20 014		0.002 mm	• • • • • • • • • • • • • • • • • • •
Group Symbol	ASTM D 2487 - (			Chart	
Group Name		Silty sand			,



Comments



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### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S193

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway end Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

**TB-W-8** 

Field Sample No: Sample Depth:

LS-13 65.0

Date Sampled:

9/10/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Particle	Size Distribution
Mothod:	ASTM D 422 - 07

% Passing

Drying by:

Sieve Size

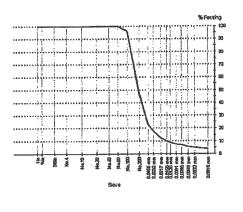
Oven

				1in (25.0mm)	100	
				3/4in (19.0mm)	100	
				3/8in (9.5mm)	100	
				No.4 (4.75mm)	100	
				No.10 (2.0mm)	100	
<u> </u>	era kontra e e diliman ili Albina	eko korenderen	erik iku kalendari	H	100	
Other Test Results	(2) (1) (1) (2) (2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4			No.40 (425um)	100	
Description	Method	Result	Limits	No.60 (250um)	100	

				YO.ZO (000µ(II)
Other Test Results				No.40 (425µm)
Description	Method	Result	Limits	No.60 (250µm)
Liquid Limit (%)	ASTM D 4318 - 05	N/O		No.100 (150µm)
Method		N/O		No.200 (75µm)
Plastic Limit (%)		N/O		0.046 mm
Plasticity Index (%)		N/O		0.033 mm
Sample History		N/O		0.022 mm
Preparation		N/O		0.016 mm
Retained 0.425mm (No. 40) (%)		N/O		0.013 mm
Dispersion Period (mins)	ASTM D 422 - 07	1		0.009 mm
Shape				0.007 mm
Hardness				0.005 mm
Dispersion Device				0.003 mm
Sand Gravel Description				0.002 mm

Sand Gravel Description ASTM D 2487 - 06 SM Group Symbol Silty sand **Group Name** 

Chart



Comments



Telephone: 248, 553,6300 Fax: 248,324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S192

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

**TB-W-8** 

Field Sample No:

ST-5 58.0

Sample Depth: Date Sampled:

9/10/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Other Test Results			
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 -	06 CĻ-ML	-
Group Name		Silty clay	

Particle Size Distribution

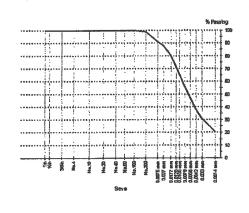
Method:

ASTM D 422 - 07

Drying by:

Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.038 mm	91	
0.027 mm	88	
0.018 mm	80	
0.013 mm	71	
0.011 mm	66	
0.008 mm	56	
0.006 mm	47	
0.004 mm	38	
0.003 mm	30	
0.001 mm	21	





Telephone: 248, 553,6300 Fax: 248,324,5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S192

issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

Field Sample No:

**ST-5** 58.0

Sample Depth: Date Sampled: Sampled By:

9/10/2008 Michael McNamara

LWO No:

000355

**TB-W-8** 

Sample Location:

WDI - Woodlot

Particle Size Distribution

Method:

ASTM D 422 - 07

% Passing

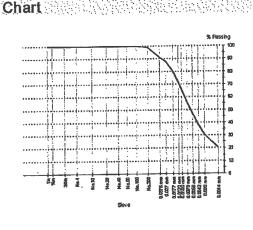
Drying by:

Sieve Size

Oven

	a, Sarana parte e testo	NO 18 NA WOLLD A TRIC NO DO	
Other Test Results			
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318		
Method		Method A	
Plastic Limit (%)		18 7	
Plasticity Index (%)		Oven-dried	
Sample History			
Preparation		Dry 0.0	
Retained 0.425mm (No. 40) (%)	ASTM D 5084		
Temperture (°C)	ASTM D 5064	40.0	
Cell Pressure (lb/in²)		32.0	
Top Pressure (lb/in²)		35.0	
Bottom Pressure (lb/in²)		5.0	
Effective Pressure (lb/in²)		3.0	
Pressure Differential (ib/in²)	0.0	01 N CaS04	
Permeant	0.1	2.846	
Sample Height (in)		2.858	
Sample Diameter (In)		6.42	
Sample Cross-Section Area (in²)		18.26	
Sample Volume (in³)		98.0	
Dry Density (lb/ft³)		27.5	
Initial Moisture Content (%)		27.2	
Final Moisture Content (%)		3.60 E-8	
Average Permeability (cm/s)	ASTM D 2216	4177	
Moisture Content (%) Wet Density (lb/ft³)	, 10 1111 D ZE 10	124.9	
Dry Density (lb/ft³)		98.0	
Dispersion Period (mins)	ASTM D 422		
Shape	, to this had	•	
Hardness			
Dispersion Device			
Disheraigh Device			

DIEVE DIZE	70 1 dooning	
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.038 mm	91	
0.027 mm	88	
0.018 mm	80	
0.013 mm	71	
0.011 mm	66	
0.008 mm	56	
0.006 mm	47	
0.004 mm	38	
0.003 mm	30	
0.001 mm	21	,
A DESCRIPTION OF THE	A TENANCE SERVICE	



Sand Gravel Description

N/A

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Page 1 of 2

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S192



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S191

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Fighway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

10/21/2008 Date of Issue:

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

**TB-W-8** 

Field Sample No:

LS-11

Sample Depth: Date Sampled: 55.0 9/10/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Parti	cle S	ize l	<b>Dis</b>	trib	ution

Method:

ASTM D 422 - 07

% Passing

Drying by:

Sieve Size

Limits

Oven

Other Test Results		
Description	Method	Resul
Liquid Limit (%)	ASTM D 4318 - 05	
Maihad		N/C

Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	

Shape Hardness

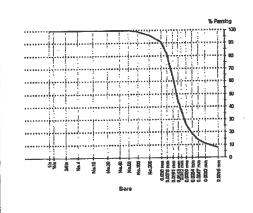
Dispersion Device Sand Gravel Description

Group Symbol Group Name

МН ASTM D 2487 - 06 Elastic silt

1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	99
No.200 (75µm)	96
0.038 mm	91
0.028 mm	82
0.019 mm	63
0.014 mm	45
0.012 mm	38
0.009 mm	26
0.006 mm	19
0.005 mm	14
0.003 mm	11
0.002 mm	8

#### Chart -



Comments



Telephone: 248, 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S190

Issue No: 1

This laboratory is accredited by American Association of Siste Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-8

Field Sample No:

ST-4 50.0

Sample Depth:

0.0

Date Sampled: Sampled By:

9/10/2008 Michael McNamara

LWO No:

000355

Sample Location:

Visual Description

Group Symbol

Group Name

WDI - Woodlot

Particle Size Distribution

Method:

ASTM D 422 - 07

Drying by:

Oven

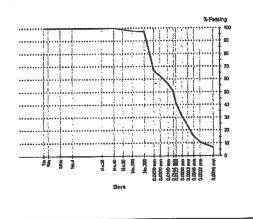
Other Test Results			
Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	3 N/O	
Shear Strength (lb/ft²)		N/O	
Ave. Rate Strain to Failure(%)		N/O	
Strain at Failure(%)		N/O	
Average Height (in.)		N/O	
Average Diameter (in.)		N/O	
Height-Diameter Ratio		N/O	
Init. Dry Dens.		N/O	
Init. Water Content (%)		N/O	
Liquid Limit		N/O	
Plastic Limit		N/O	
Remarks		N/O	

ASTM D 2487 - 06

Sieve Size	% Passing	Limits
in (25.0mm)	100	
4in (19.0mm)	100	
(m) (m =)	400	

Ani ( i Olomini)	
3/8in (9.5mm)	100
No.4 (4.75mm)	100
Vo.20 (850µm)	100
No.40 (425µm)	100
Vo.60 (250µm)	99
No.100 (150µm)	98
No.200 (75µm)	97
0.043 mm	66
0.031 mm	62
0.020 mm	57
0.014 mm	51
0.012 mm	41
0,009 mm	31
0.006 mm	23
0.005 mm	16
0.003 mm	11
0.002 mm	7

Chart



Comments

N/O = Not Obtainable

N/O = Not Obtainable

N/O

ML

SIIt



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S190

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

10/21/2008 Approved Signatory: Zeerak Paydawy

Sa	ımp	le L	)eta	IIS

Boring No:

**TB-W-8** 

Field Sample No:

ST-4 50.0

Sample Depth: Date Sampled:

9/10/2008

Sampled By:

Michael McNamara

Particle	Size Distribution
A . A P Tu	4 OTH ED 400 OT

Method:

ASTM D 422 - 07

Drying by:

Oven

Į	LWO No:	000355				
Į	Sample Location:	WDI - Woodlot			Sieve Size	% Passing
I					1in (25.0mm)	100
					%in (19.0mm)	100
١					3/8in (9.5mm)	100
					No.4 (4.75mm)	100
					No.20 (850µm)	100
	Other Test Result	a se la regione rayer 🚉		MAGRAPH NEWS	No.40 (425µm)	100
I	Other rest Result	Statistical property and the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the st	Charles and the seasons of	EMPERE E COMPANY	No.60 (250µm)	99
ı	Description	Method	Result	Limits	No.100 (150µm)	98
ı	Liquid Limit (%)	ASTM D 43			No.200 (75µm)	97
l	Method		Method A		0.043 mm	66
l	Plastic Limit (%)		16		0.031 mm	62
	Plasticity Index (%)		2	1	0.020 mm	57
I	Sample History		Oven-dried		0.014 mm	51
	Preparation		Dry		0.012 mm	41
	Retained 0.425mm (No.		0.0		0.009 mm	31
I	Temperture (°C)	ASTM D 50			0.006 mm	23
I	Cell Pressure (lb/in²)		N/O		0.005 mm	16
ı	Top Pressure (lb/in²)		N/O		0.003 mm	11
ı	Bottom Pressure (lb/in²)		N/O		0.002 mm	7
I	Effective Pressure (lb/in²)		N/O			
l	Pressure Differential (lb/i	n²)	N/O		Chart	
ı	Permeant		N/O			
	Sample Height (in)		N/O			
1	Sample Diameter (in)		N/O			***************************************
ı	Sample Cross-Section A	rea (in²)	N/O			
ı	Sample Volume (in³)		N/O	ŀ		\ i\
I	Dry Density (lb/ft³)		N/O			
Į	Initial Moisture Content (		N/O			
I	Final Moisture Content (9		N/O			
l	Average Permeabilty (cm	1/s)	N/O			,
l	Moisture Content (%)	ASTM D 22				
l	Wet Density (lb/ft³)	4.	135.9	1		
	Dry Density (lb/ft³)	107145	115.8			
	Dispersion Period (mins)	ASTM D 42	2 - 07 1		- 45 g g	02.00 02.00 02.00 02.00 02.00
	Shape					Ne.200 Ne.200 Ne.200 Ne.200 Ne.200
I	Hardness					Sera
ı	Dispersion Device					



N/O = Not Obtainable

Sand Gravel Description



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soll Boring Program

Job No:

62-080376-01

### Report No: MAT:62-080376-01-S189

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No: Field Sample No:

TB-W-8 LS-10

Sample Depth:

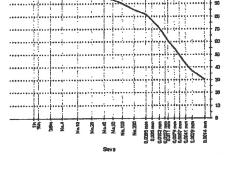
45.0

Particl	e Size Distribution	
Method:	ASTM D 422 - 07	

Drying by:

Oven

	Date Sampled: Sampled By:	9/10/2008 Michael McNamara				
	LWO No:	000355				
1	Sample Location:	WDI - Woodlot		Sieve Size	% Passing	Limits
				1in (25.0mm)	100	
				3/4in (19.0mm)	100	
				3/8in (9.5mm)	100	
1				No.4 (4.75mm)	99	
1				No.10 (2.0mm)	98	
1	lagrenea esta comp	. The state of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the second control of the sec	to detro contraction	No.20 (850µm)	96	
1	Other lest Result	is ·		No.40 (425µm)	95	
1	Description	Method Result	Limits	No.60 (250µm)	93	
1	Liquid Limit (%)	ASTM D 4318 - 05 26		No.100 (150µm)	90	
ĺ	Method	Method A		No.200 (75µm)	85	•
ı	Plastic Limit (%)	15		0.039 mm	82	
	Plasticity Index (%)	11		0.028 mm	77	
	Sample History	Oven-dried		0.018 mm	71	
	Preparation	Dry		0.013 mm	65	
	Retained 0.425mm (No.	40) (%) 0.0		0.011 mm	61	
	Dispersion Period (mins)			0.008 mm	55	
ı	Shape			0.006 mm	49	
	Hardness			0.004 mm	43	
	Dispersion Device			0.003 mm	37	
	Sand Gravel Description			0.001 mm	30	
	Group Symbol	ASTM D 2487 - 06 CL		Chart		
	Group Name	Lean clay with sand		Onal Chicken	Same and the second section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the s	1984 1984 1844
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1						
						<b>\</b>



Comments

N/A

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Page 1 of 1

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S189



Telephone: 248, 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S188

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Method:

Drying by:

1in (25.0mm)

3/4in (19.0mm) 3/8in (9.5mm) This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

100

100

100

29

### Sample Details

Boring No:

TB-W-8

Field Sample No:

ST-3

Sample Depth: Date Sampled:

42.0 9/10/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

01	0/ Deceins	Limits
Sieve Size	% Passing	LIIIIKS

ASTM D 422 - 07

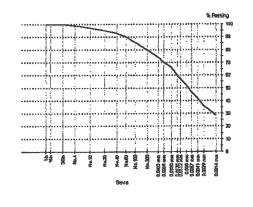
Particle Size Distribution

Oven

	No.4 (4.75mm)	99
	No.10 (2.0mm)	97
334	No.20 (850µm)	95
4V.	No.40 (425µm)	93
	No.60 (250µm)	90
	No.100 (150µm)	86
	No.200 (75µm)	80
	0.040 mm	74
	0.029 mm	70
	0.019 mm	67
	0.014 mm	60
	0.011 mm	57
	0.008 mm	52
	0.006 mm	47
	0.004 mm	42
	0.003 mm	36

				NO.4 (4.75MM)
				No.10 (2.0mm)
CANADAN AND AND SHAPE STORY	verseaanaa eremeeree	andresser	enereacusesi	No.20 (850µm)
Other Test Results				No.40 (425µm)
Description	Method	Result	Limits	No.60 (250µm)
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	3 N/O		No.100 (150µm)
Shear Strength (lb/ft²)		N/O		No.200 (75μm)
Ave. Rate Strain to Failure(%)		N/O		0.040 mm
Strain at Failure(%)		N/O		0.029 mm
Average Height (in.)		N/O		0.019 mm
Average Diameter (in.)		N/O		0.014 mm
Height-Diameter Ratio		N/O		0.011 mm
Init. Dry Dens.		N/O		0.008 mm
Init. Water Content (%)		N/O		0.006 mm
Liquid Limit		N/O		0.004 mm
Plastic Limit		N/O		0.003 mm
Remarks		N/O		0.001 mm
Visual Description		N/O		Chart
Group Symbol	ASTM D 2487 - 06	3 CL		Oligit
1				I1

Lean clay with sand



Group Name

ΝA



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S188

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

**TB-W-8** 

Field Sample No:

ST-3 42.0

Sample Depth: Date Sampled:

9/10/2008

Sampled By:

Michael McNamara

LWO No: Sample Location: 000355 WDI - Woodlot

Dartiala	Circ D	istribution
rallicie	OIZE D	ISHIDUHUUH
And Londs		D 422 - 07

Method:

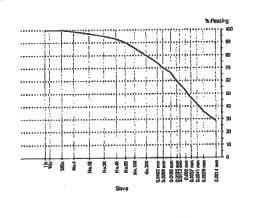
Drying by:

Oven

I				
I				
I	=			andrew in a triblet
	Other Test Results			
	Description	Method F	Result	Limits
Ì	Liquid Limit (%)	ASTM D 4318 - 05	27	
1	Method	Mel	hod A	
	Plastic Limit (%)		15	
I	Plasticity Index (%)		12	
İ	Sample History	Natura		
l	Preparation		Dry	
I	Retained 0.425mm (No. 40) (%)		0.0	
ı	Temperture (°C)	ASTM D 5084 - 03	22.4	
	Cell Pressure (lb/in²)		40.0	
	Top Pressure (lb/in²)		32.0	
	Bottom Pressure (lb/in²)		35.0	
1	Effective Pressure (lb/in²)		5.0	
	Pressure Differential (lb/in²)		3.0	
	Permeant	0.01 N (		
	Sample Height (in)		2.852	
	Sample Diameter (in)		2.868	
	Sample Cross-Section Area (in²)		6.46	
	Sample Volume (in³)		18.42	
	Dry Density (lb/ft³)		121.1	
	Initial Moisture Content (%)		13.8	
	Final Moisture Content (%)		14.3	
	Average Permeabilty (cm/s)		22 E-8	
	Moisture Content (%)	ASTM D 2216 - 05	13.8	
	Wet Density (lb/ft³)		137.8	
	Dry Density (lb/ft³)	10711 D 100 AT	121.1	
	Dispersion Period (mins)	ASTM D 422 - 07	1	
	Shape			
	Hardness	4		

1		
Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	93	
No.60 (250µm)	90	
No.100 (150µm)	86	
No.200 (75µm)	80	
0.040 mm	74	
0.029 mm	70	
0.019 mm	67	
0.014 mm	60	
0.011 mm	57	
0.008 mm	52	
0.006 mm	47	
0.004 mm	42	
0.003 mm	36	
0.001 mm	29	
K		er erree e

Chart



Comments

N/A

N/O = Not Obtainable

Dispersion Device Sand Gravel Description



Telephone: 248. 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S253

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(e) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 12/13/2008 Approved Signatory: Zeerak Paydawy

Comments

N/A

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Page 2 of 2



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Cllent:

Wayne Dîsposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S253

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 12/13/2008 Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** 

Field Sample No: Sample Depth:

ST-2 33

**TB-W-8** 

Date Sampled:

Sampled By:

Michael McNamara

LWO No:

000380

Sample Location:

WDI - Woodlot

**Particle Size Distribution** 

Method: Drying by:

Date Tested:

Sieve Size

% Passing

Limits

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216 -	05 18.0	
Wet Density (lb/ft³)		135.7	
Dry Density (lb/ft³)		115.0	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 -	06 1660	
Shear Strength (lb/ft²)		840	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (in.)		5.980	
Average Diameter (in.)		2.840	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		115.0	
Init. Water Content (%)		18.0	
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description	_		

Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S187

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

AR

Method:

Drying by:

Sieve Size

Limits

Result

1in (25.0mm)

This leboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(e) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signafory: Zeerak Paydawy

### Sample Details

Boring No:

TB-W-8

Field Sample No:

ST-2

Sample Depth: Date Sampled: 33.0 9/9/2008

Sampled By:

Michael McNamara

Method

ASTM D 422 - 07

LWO No:

Description

Shape Hardness Dispersion Device Sand Gravel Description 000355

Sample Location:

Other Test Results

Dispersion Period (mins)

WDI - Woodlot

Particle Size Distribution

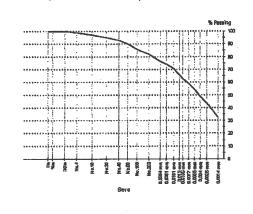
Oven

ASTM D 422 - 07

% Passing

	¾in (19.0mm)	100
	3/8in (9.5mm)	100
	No.4 (4.75mm)	99
	No.10 (2.0mm)	97
	No.20 (850µm)	95
1	No.40 (425µm)	93
	No.60 (250µm)	90
1	No.100 (150µm)	86
Į	No.200 (75µm)	82
i	0.039 mm	76
	0.028 mm	74
	0.018 mm	71
٦	0.013 mm	66
١	0.011 mm	63
ŀ	0.008 mm	59
	0.006 mm	54
ı	0.004 mm	49
ı	0.003 mm	44

### 0.001 mm Chart



32

Comments

N/A



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S187

Issue No: 1

This laboratory is eccredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

3cenh Dry Jany

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

Field Sample No:

Sample Depth:

Date Sampled: Sampled By:

LWO No:

9/9/2008 Michael McNamara

**TB-W-8** 

ST-2 33.0

000355

Particle Size Distribution

Method:

ASTM D 422 - 07

Drying by:

Oven

Sample Location: 000365  Other Test Results			Sieve Size 1in (25.0mm) 3/sin (19.0mm) 3/sin (9.5mm) No.4 (4.75mm) No.10 (2.0mm) No.20 (850µm) No.40 (425µm)	% Passing 100 100 100 99 97 95 93	Limits
Description	Method Result	Limits	No.60 (250µm)	90	
Temperture (°C)	ASTM D 5084 - 03 22.6	Lilito	No.100 (150µm)	86	
Cell Pressure (lb/in²)	40.0		No.200 (75µm)	82	
Top Pressure (lb/in²)	32.0		0.039 mm	76	
Bottom Pressure (lb/in²)	35.0		0.028 mm	74	
Effective Pressure (lb/in²)	5.0		0.018 mm	71	
Pressure Differential (lb/in²)	3.0		0.013 mm	66	
Permeant	0.01 N CaS04		0.011 mm	63	
Sample Height (in)	2.869		0.008 mm	59	
Sample Diameter (in)	2.861		0.006 mm	54	
Sample Cross-Section Area (in²)	6.43		0.004 mm	49	
Sample Volume (in³)	18.44		0.003 mm	44	
Dry Density (lb/ft³)	114.0		0.001 mm	32	
Initial Moisture Content (%)	17.8		Chart		
Final Moisture Content (%)	18.4		.Onart	A Charles Agreement	and the first transfer of
Average Permeabilty (cm/s)	2.47 E-8				
Moisture Content (%)	ASTM D 2216 - 05 17.8		**************		% Passi Transcription
Wet Density (lb/ft³)	134.3				-44-
Dry Density (lb/ft³)	114.0	<del></del>			
Group Symbol	ASTM D 2487 - 06 CL				
Group Name	Lean clay with sand				
Liquid Limit (%)	ASTM D 4318 - 05 32			.,	
Method	Method A				
Plastic Limit (%)	18				
Plasticity Index (%)	14		l	1	
Sample History	Oven-dried			1	
Preparation	Dry		45 8 3	2 2 2 2 3 3 5 1	
Retained 0.425mm (No. 40) (%)	0.0			7 7 7 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	



Form No: 18909.V1.00, Report No: MAT:62-080376-01-S187



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S186

Issue No: 1

Limits

Client:

Wayne Disposal, inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

% Passing

#### Sample Details

Boring No:

TB-W-8

Field Sample No: Sample Depth:

LS-8 30.0

Date Sampled:

9/9/2008

Sampled By:

Michael McNamara

Particle	Size Distribution	
Method:	ASTM D 422 - 07	

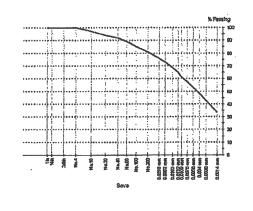
Drying by:

Sieve Size

Oven

	000355 WDI - Woodlot		
Other Test Results			
Description		Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05		
Method -	Met	hod A	
Plastic Limit (%)		17	
Plasticity Index (%)		13	
Sample History	Oven	-dried	
Preparation		Dry	
Retained 0.425mm (No. 4		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	CL	
Group Name	Lean clay with	sand	

ı	1in (25.0mm)	100	
I	3/4in (19.0mm)	100	
١	3/8in (9.5mm)	100	
١	No.4 (4.75mm)	100	
Į	No.10 (2.0mm)	97	
ı	No.20 (850µm)	94	
ı	No.40 (425µm)	92	
ı	No.60 (250µm)	89	
Ì	No.100 (150µm)	85	
l	No.200 (75µm)	81	
I	0.040 mm	76	
l	0.028 mm	73	
Į	0.018 mm	69	
İ	0.013 mm	65	
l	0.011 mm	61	
1	0.008 mm	58	
I	0.006 mm	53	
	0.004 mm	48	
	0.003 mm	43	
Į	0.001 mm	33	





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# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S185

Issue No: 1

Limits

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No: Field Sample No:

Sample Depth:

Date Sampled:

Sampled By:

LWO No: Sample Location: ST-1 23.0 9/9/2008

TB-W-8

Michael McNamara 000355

WDI - Woodlot

Particle Size Distribution

Method:

ASTM D 422 - 07

% Passing

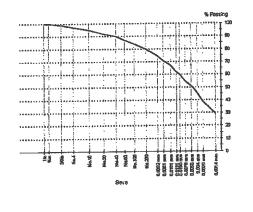
Drying by:

Sieve Size

Oven

Other Test Results			
Description	Method	Result	Limits
Temperture (°C)	ASTM D 5084		
Ceil Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	j
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)	185	3.0	
Permeant	0.0	1 N CaS04	
Sample Height (in)		2.855	
Sample Diameter (in)		2.834	
Sample Cross-Section Area (in²)		6.31	
Sample Volume (in³)		18.01	
Dry Density (lb/ft³)		115.1	
Initial Moisture Content (%)		17.8	
Final Moisture Content (%)		18.0	
Average Permeabilty (cm/s)		3.29 E-8	
Moisture Content (%)	ASTM D 2216	- 05 17.8	

4.4	• •
1in (25.0mm)	100
¾in (19.0mm)	100
3/8in (9.5mm)	99
No.4 (4.75mm)	97
No.10 (2.0mm)	95
No.20 (850µm)	92
No.40 (425µm)	90
No.60 (250µm)	87
No.100 (150µm)	84
No.200 (75µm)	80
0.039 mm	74
0.028 mm	71
0.018 mm	67
0.013 mm	62
0.011 mm	60
0.008 mm	55
0.006 mm	51
0.004 mm	46
0.003 mm	39
0.001 mm	30



Comments

Wet Density (lb/ft3)

Dry Density (lb/ft³)

N/A

135.6

115.1



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## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S185

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

**TB-W-8** 

Field Sample No:

ST-1 23.0

Sample Depth: Date Sampled:

9/9/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Particle	Size Dis	tribution
وام مراكب لا ا	ACTM D	

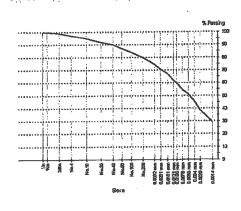
Method:

Drying by:

Oven

	•		
	•		
Other Test Results			
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06		
Shear Strength (lb/ft²)		2560	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (in.)		5.950	
Average Diameter (in.)		2.850	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		115.1	
Init. Water Content (%)		17.8	
Liquid Limit		30	
Plastic Limit		17	
Remarks			
Visual Description			
Group Symbol	ASTM D 2487 - 06		
Group Name	Lean clay wi		
Liquid Limit (%)	ASTM D 4318 - 05		
Method	M	ethod A	
Plastic Limit (%)		17	
Plasticity Index (%)		13	
Sample History	(	Jnkown	
Preparation		Dry -	
Retained 0.425mm (No. 40) (%)		0.0	

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	97	
No.10 (2.0mm)	95	
No.20 (850µm)	92	
No.40 (425µm)	90	
No.60 (250µm)	87	
No.100 (150µm)	84	
No.200 (75µm)	80	
0.039 mm	74	
0.028 mm	71	
0.018 mm	67	
0.013 mm	62	
0.011 mm	60	
0.008 mm	55	
0.006 mm	51	
0.004 mm	46	
0.003 mm	39	
0.001 mm	30	



Comments



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# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S184

Limits

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

Field Sample No:

Sample Depth: Date Sampled:

Sampled By:

LWO No: Sample Location:

**Dispersion Device** 

Sand Gravel Description

20.0 9/9/2008

TB-W-8

LS-6

Michael McNamara

000355

WDI - Woodlot

Particle	Size Distribution
lethod:	ASTM D 422 - 07

% Passing

Drying by:

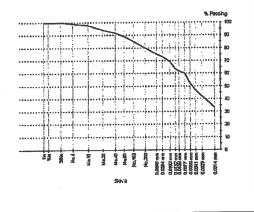
Sieve Size

Oven

Other Test Results				
Description	Method R	lesuit	Limits	
Group Symbol	ASTM D 2487 - 06	CL		
Group Name	Lean clay with	sand		
Liquid Limit (%)	ASTM D 4318 - 05	30		
Method	Met	hod A		
Plastic Limit (%)		16		
Plasticity Index (%)		14		
Sample History	Oven	-dried		
Preparation		Dry		
Retained 0.425mm (No. 40) (%)		0.0		
Dispersion Period (mins)	ASTM D 422 - 07	1		
Shape				
Hardness				

0.010 0.04	
1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	99
No.10 (2.0mm)	98
No.20 (850µm)	94
No.40 (425µm)	92
No.60 (250µm)	89
No.100 (150µm)	85
No.200 (75µm)	80
0.040 mm	75
0.028 mm	73
0.018 mm	69
0.013 mm	64
0.011 mm	62
0.008 mm	60
0.006 mm	52
0.004 mm	47
0.003 mm	42
0.001 mm	33
	and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s

Chart :



Comments

N/A

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Page 1 of 1

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S184



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## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S183

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This leboratory is accredited by American Associ of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed the secretification.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

**TB-W-8** 

Field Sample No: Sample Depth:

LS-5 15.0

Date Sampled:

9/9/2008

Sampled By: LWO No:

Group Symbol

**Group Name** 

Michael McNamara

000355

Sample Location:

WDI - Woodlot

Other Test	Results		

Silt

Compare a series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series of the series			
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 0	6 ML	

Particle Size Distribution

Method:

ASTM D 422 - 07

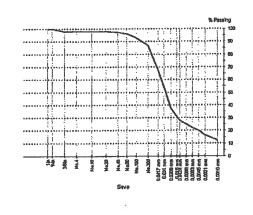
% Passing

Drying by:

Sieve Size

Oven

11n (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	98
No.4 (4.75mm)	98
No.10 (2.0mm)	98
No.20 (850µm)	98
No.40 (425µm)	97
No.60 (250µm)	96
No.100 (150µm)	93
No.200 (75µm)	87
0.042 mm	68
0.031 mm	55
0.021 mm	38
0.015 mm	31
0.012 mm	28
0.009 mm	25
0.006 mm	22
0.005 mm	20
0.003 mm	16
0.002 mm	12





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## Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S182

Issue No: 1

Limits

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

Field Sample No:

LS-3 7.5

Sample Depth: Date Sampled:

9/9/2008

TB-W-8

Michael McNamara

### Particle Size Distribution

Method:

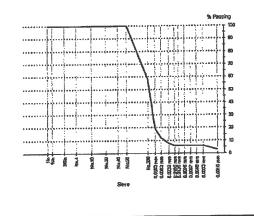
ASTM D 422 - 07

Drying by:

Oven

LWO No:	000355		
Sample Location:	WDI - Woodlot		
*			
Other Test Resu	ılts		
Description	Method	Result	Limits
Dispersion Period (mir	ns) ASTM D 422 -	07 1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Descripti	on		
Group Symbol	ASTM D 2487		
Group Name		Sandy silt	

Sieve Size	% Passing
	100
1in (25.0mm)	
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.200 (75µm)	58
0.050 mm	20
0.036 mm	12
0.023 mm	8
0.017 mm	6
0.014 mm	6
0.010 mm	6
0.007 mm	∞ 6
0.005 mm	6
0.003 mm	6
0.002 mm	3



Comments

ΝA



Telephone; 248, 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S181

Limits

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(a) reported have been performed in accordance with the terms of the accreditation.

Date of Issue:

10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**TB-W-8** 

Boring No: Field Sample No:

LS-1 2.5

Sample Depth: Date Sampled:

9/9/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

			٠.,							٠.				٠,		٠.	
1	٦.	ŧ	h	۵	r	Ā	$\Gamma_{\triangle}$	c	4	.D	AC	ı	8	14	0	÷	

Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			2
Group Symbol	ASTM D 2487 - 08	SC	
Group Name	Claye	ey sand	
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)	76	N/O	
Plasticity index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	

#### Particle Size Distribution

Method:

ASTM D 422 - 07

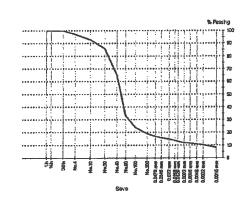
% Passing

Drying by:

Sieve Size

Oven

	, , , , , , , , ,
1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	97
No.10 (2.0mm)	93
No.20 (850µm)	86
No.40 (425µm)	65
No.60 (250µm)	33
No.100 (150µm)	24
No.200 (75µm)	19
0.048 mm	17
0.035 mm	16
0.022 mm	15
0.016 mm	14
0.013 mm	13
0.009 mm	12
0.007 mm	12
0.005 mm	11
0.003 mm	10
0.002 mm	8



Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S180

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation. Zeenk paychung

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

Field Sample No:

Sample Depth: Date Sampled:

Sampled By:

LWO No: Sample Location: **TB-W-7** LS-34 80.0

9/4/2008 Michael McNamara

000355

WDI - Woodlot

Partic	e Size Distribution
tothod:	ASTM D 422 - 07

% Passing

100

100

400

Drying by:

Sieve Size

Chart

1in (25.0mm)

%in (19.0mm)

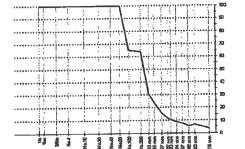
Oven

1				3/8 n (9.5mm)	100	
				No.4 (4.75mm)	100	
				No.10 (2.0mm)	100	
Control of Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of Santana and Control of	r manangang salah	katharan padesa.	aresare unasa	No.20 (850µm)	100	
Other Test Results			CHANGE STATE	No.40 (425µm)	100	
Description	Method	Result	Limits	No.60 (250µm)	100	
Liquid Limit (%)	ASTM D 4318 -			No.100 (150µm)	65	
Method	710111112 1010	N/O		No.200 (75µm)	64	
Plastic Limit (%)		N/O		0.049 mm	31	
Plasticity Index (%)		N/O		0.035 mm	24	
Sample History		N/O		0.023 mm	16	
Preparation		N/O		0.016 mm	12	
Retained 0.425mm (No. 40) (%)		N/O		0.013 mm	11	
Dispersion Period (mins)	ASTM D 422 -			0.009 mm	9	
	AOTH D 122	•		0.007 mm	8	
Shape Hardness				0.005 mm	6	
				0.003 mm	7	_
Dispersion Device		2		0.002 mm	4	
Sand Gravel Description		00 1411			graphy and the second second sections of the	1.11.1

MH

Sandy elastic silt

ASTM D 2487 - 06



Comments

**Group Symbol** 

Group Name



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S179

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Particle Size Distribution

Oven

ASTM D 422 - 07

The reportatory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(e) reported have been performed in accordance with the terms of the accordance with the terms of the

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Psydawy

#### Sample Details

**Boring No:** 

**TB-W-7** 

Field Sample No: Sample Depth:

LS-32 76.0

Date Sampled:

9/4/2008

Sampled By: LWO No:

Description

Method Plastic Limit (%)

Shape

Hardness

Liquid Limit (%)

Sample History

Preparation

Plasticity Index (%)

Dispersion Device

Group Symbol

**Group Name** 

Michael McNamara

Method

ASTM D 4318 - 05

ASTM D 422 - 07

ASTM D 2487 - 06

Elastic silt with sand

000355

Sample Location:

Other Test Results

Retained 0.425mm (No. 40) (%)

Dispersion Period (mins)

Sand Gravel Description

WDI -

- Woodlot	Sieve Size	% Passing	Limits
	1in (25.0mm)	100	

Limits

Result

N/O N/O

N/O

N/O

N/O

N/O

N/O

Method:

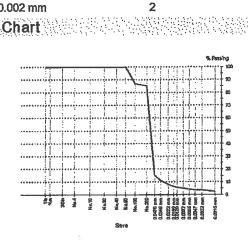
Drying by:

%in (19.0mm) 100 3/8in (9.5mm) 100 No.4 (4.75mm) 100 No.10 (2.0mm) 100 No.20 (850µm) 100 No.40 (425µm) 100

No.60 (250µm) 100 No.100 (150µm) 87 No.200 (75µm) 85 0.048 mm 15 0.035 mm 11

0.022 mm 8 6 0.016 mm 6 0.013 mm 5 0.009 mm 0.007 mm 4 3

0.005 mm 0.003 mm 0.002 mm



3

Comments :



Telephone: 248, 553,6300 Fax: 248.324,5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

### Report No: MAT:62-080376-01-S178

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

**TB-W-7** 

Field Sample No:

LS-30 72.0

Sample Depth: Date Sampled:

9/4/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

P	ar	tic	le S	ize	Di	strik	outi	on
				4 4		100	470.000	

Method:

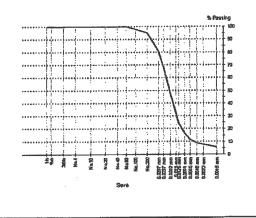
ASTM D 422 - 07

Drying by:

Oven

Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	MH	
Group Name	Ela	astic silt	
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	98	
No.200 (75µm)	95	
0.040 mm	81	
0.030 mm	68	
0.020 mm	47	
0.015 mm	33	
0.013 mm	25	
0.009 mm	17	
0.007 mm	12	
0.005 mm	9	
0.003 mm	8	
0.002 mm	6	
Windle Street	D. CHARLES	



Comments

N/O = Not Obtainable

Sand Gravel Description



Telephone; 248, 553.6300 Fax: 248.324.5179

Method:

Drying by:

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S177

This laboratory is accredited by American Association

Issue No:

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

of State Highway and Transportation Officials (AASHTO). The test(s) reported have been perform in accordance with the terms of the accreditation.

Particle Size Distribution

Oven

ASTM D 422 - 07

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-7

Field Sample No:

LS-28 68.0

Sample Depth: Date Sampled:

9/4/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/Rin /0 5mm)	100	

#### Other Test Results Limits Description Liquid Limit (%) Method Result ASTM D 4318 - 05 N/O Method N/O N/O Plastic Limit (%) N/O Plasticity Index (%) Sample History N/O N/O Preparation Retained 0.425mm (No. 40) (%) N/O ASTM D 422 - 07 Dispersion Period (mins)

Shape

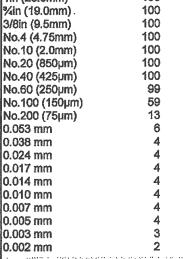
Hardness

Dispersion Device

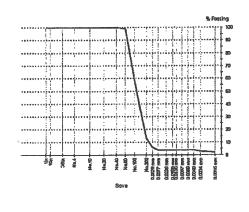
Sand Gravel Description

Group Symbol Group Name

ASTM D 2487 - 06 SM Silty sand









Telephone: 248. 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S176 Issue No: 1

Limits

Client: Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The tast(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** Field Sample No: **TB-W-7** 

Sample Depth:

LS-26 64.0

Date Sampled: Sampled By:

9/4/2008 Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Particle	Size Distribution
8 4 - 42 - J.	ACTALD 499 07

Method:

ASTM D 422 - 01

% Passing

Drying by:

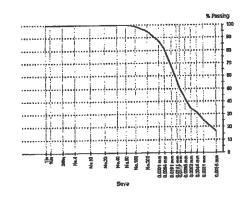
Sieve Size

Oven

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318	- 05 21	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		5	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 -	07 1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487		
Group Name		Silty clay	

1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	99
No.200 (75µm)	95
0.039 mm	88
0.028 mm	82
0.019 mm	68
0.014 mm	57
0.012 mm	50
0.009 mm	42
0.006 mm	35
0.004 mm	32
0.003 mm	26
0.002 mm	17







Telephone: 248, 553,6300 Fax: 248,324,5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S175

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-7

Field Sample No: Sample Depth:

LS-24 60.0

Date Sampled:

9/4/2008

Pari	IICI	e Size L	IIS	Tric	utic	)[
	-	A 45-1-14 B	-		All and	

Method:

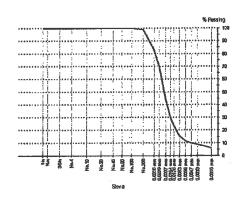
ASTM D 422 - 07

Drying by:

Oven

LWO No:	Michael McNamara 000355 WDI - Woodlot		ė.
Other Test Results	S. Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05		Linno
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation	(4) (0)	N/O	
Retained 0.425mm (No. 4	0) (%) ASTM D 422 - 07	N/O 1	
Dispersion Period (mins)	AS I M D 422 - U/	1	
Shape   Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	МН	
Group Name	Ela	stic silt	
Group Name	Ela	SUC SIIT	

% Passing	- Limits
100	
100	
100	
100	
100	
100	
100	
100	
100	
99	
83	
70	
45	
30	
24	
16	
12	
10	
9	
6	
	100 100 100 100 100 100 100 100 99 83 70 45 30 24 16 12



Comments

N/O = Not Obtainable



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S174

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

Field Sample No:

Sample Depth:

Date Sampled: Sampled By:

56.0 9/4/2008 Michael McNamara

LWO No:

000355

**TB-W-7** 

ST-6

Sample Location:

WDI - Woodlot

Particle Size Distribution

Method:

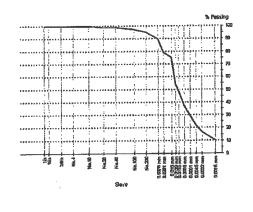
ASTM D 422 - 07

Drying by:

Oven

Method	Result	Limits
ASTM D 422 - 07	1	
,	-	
M		
	17	
	5	
Ov	en-dried	
	Dry	
	0.0	
ASTM D 2216 - 0	5 25.6	
	Method ASTM D 422 - 07  ASTM D 4318 - 06  OV  ASTM D 2487 - 06	ASTM D 4318 - 05 22  Method A  17  5  Oven-dried  Dry  0.0  ASTM D 2487 - 06 CL-ML  Silty clay

Sieve Size	% Passing
1in (25.0mm)	100
¾in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	99
No.40 (425µm)	99
No.100 (150µm)	97
No.200 (75µm)	95
0.038 mm	90
0.028 mm	79
0.018 mm	75
0.014 mm	54
0.012 mm	49
0.009 mm	37
0.006 mm	29
0.005 mm	22
0.003 mm	17
0.002 mm	10



Comments

N/O = Not Obtainable

Wet Density (lb/ft³)

Dry Density (lb/ft³)

125.1 99.6



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S174

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

Field Sample No:

Sample Depth:

Date Sampled:

Sample Location:

Sampled By:

LWO No:

ST-6 56.0 9/4/2008

TB-W-7

Michael McNamara

000355 WDI - Woodlot Particle Size Distribution

Method:

Sieve Size

1in (25.0mm)

%in (19.0mm)

ASTM D 422 - 07

% Passing

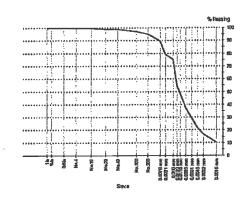
100 100

Drying by: Oven

Ot	he	r T	es	t F	₹e	su	Its	`
Des	cri	ptic	n					
1.1	- 64	1.00			·	A.	41	_

Photos and Track to the con-	Martin and	Decuit	Limits
Description	Method	Result	LIIIIIIS
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06		
Shear Strength (lb/ft²)		N/O	
Ave. Rate Strain to Failure(%)		N/O	
Strain at Failure(%)		N/O	
Average Height (in.)		N/O	
Average Diameter (in.)		N/O	
Height-Diameter Ratio		N/O	
Init. Dry Dens.		N/O	
Init. Water Content (%)		N/O	
Liquid Limit		N/O	
Plastic Limit		N/O	
Remarks		N/O	
Visual Description		N/O	
Temperture (°C)	ASTM D 5084 - 03	3 23.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.01 N	CaS04	
Sample Height (in)		2.852	
Sample Diameter (in)		2.832	
Sample Cross-Section Area (in²)		6.30	
Sample Volume (in³)		17.96	
Dry Density (lb/ft³)		99.6	
Initial Moisture Content (%)		25.6	
Final Moisture Content (%)		27.2	
	\$	3.46 E-8	
Average Permeability (cm/s)	•	7.70 L-0	

	3/8in (9.5mm)	100
	No.4 (4.75mm)	100
	No.10 (2.0mm)	100
10	No.20 (850µm)	99
	No.40 (425µm)	99
- [	No.100 (150µm)	97
	No.200 (75µm)	95
	0.038 mm	90
	0.028 mm	79
	0.018 mm	75
-	0.014 mm	54
	0.012 mm	49
1	0.009 mm	37
- 1	0.006 mm	29
- 1	0.005 mm	22
	0.003 mm	17
-	0.002 mm	10
- 1	1	



Comments

N/O = Not Obtainable



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S173

Issue No: 1

Wayne Disposal, Inc. Client:

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** 

**TB-W-7** 

Field Sample No:

LS-21 52.0

Sample Depth: Date Sampled:

9/4/2008

Sampled By: LWO No:

Michael McNamara

Sample Location:

000355

WDI - Woodlot

Other Test Results

Description	Method	Result	Limits
Liquid Limît (%)	ASTM D 4318 - 05	26	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		9	
Sample History		. Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	· ·	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

CON	n	ш	Æ	11	ΙŢ	S
17.55	•	•		•	:	
N//A						



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S173

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

Field Sample No:

Sample Depth: Date Sampled:

Sampled By:

LWO No: Sample Location: **TB-W-7** 

LS-21 52.0 9/4/2008

Michael McNamara

000355

WDI - Woodlot

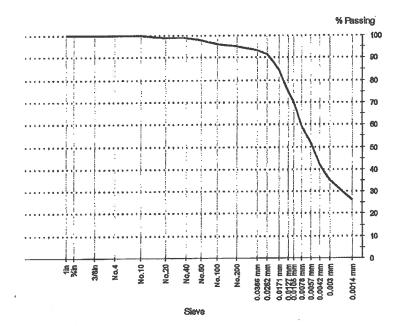
Atterberg Limit:

Liquid Limit (%): 26 Plastic Limit (%): 17 Plasticity Index (%): 9

Linear Shrinkage (%):

Sample Description:

Particle Size Distribution



COBBLES	GRA	VEL		SAND		FIN	ES
(0.0%)	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
	(0.0%)	(0.0%)	(0.0%)	(1.0%)	(4.0%)	(48.0%)	(47.0%)

Grading: (ASTM D 422 - 07)

Drying by: Oven

	Sieve Size	% Passing	Limits
	1in (25.0mm)	100	
	%in (19.0mm)	100	
	3/8in (9.5mm)	100	
	No.4 (4.75mm)	100	
	No.10 (2.0mm)	100	
	No.20 (850µm)	99	
ļ	No.40 (425µm)	99	
	No.60 (250µm)	98	
	No.100 (150µm)	96	
	No.200 (75µm)	95	
	0.037 mm	93	
	0.026 mm	91	
	0.017 mm	85	
	0.013 mm	75	
	0.011 mm	70	
	0.008 mm	59	
	0.006 mm	52	
	0.004 mm	42	
	0.003 mm	35	
i	0.001 mm	26	

	D85:	0.0176	D60:	0.0080	D50:	0.0055
-	D30:	0.0021	D15:	N/A	D10:	N/A
	Cu:			N/A		



Telephone: 248, 553,6300 Fax: 248,324,5179

## Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S172

Issue No: 1

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3. Beach PayJoun

ALE NO

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-7

Field Sample No: Sample Depth: ST-5 48.0

Date Sampled:

9/4/2008

Sampled By:

Michael McNamara

Particle Size Distribution

Method:

ASTM D 422 - 07

Drying by:

Oven

LWO No: 000355					
	Voodlot		Sieve Size	% Passing	Limits
			1in (25.0mm)	100	
17 11			%in (19.0mm)	100	
			3/8in (9.5mm)	100	
<u> </u>			No.4 (4,75mm)	100	
			No.10 (2.0mm)	100	
SECURIOR SERVICE DESCRIPTION OF THE PROPERTY.	er de <b>am</b> erikasi karangan kalangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan berangan ber	na maka mwa na	No.20 (850µm)	98	
Other Test Results		VERTER BOOK	No.40 (425µm)	97	
Description	Method Result	Limits	No.60 (250µm)	96	
Temperture (°C)	ASTM D 5084 - 03 22.7		No.100 (150µm)	94	
Cell Pressure (lb/in²)	40.0		No.200 (75µm)	92	
Top Pressure (lb/in²)	32.0		0.038 mm	90	
Bottom Pressure (lb/in²)	35.0		0.027 mm	88	
Effective Pressure (lb/in²)	5.0		0.017 mm	84	
Pressure Differential (lb/in²)	3.0		0.012 mm	78	
Permeant	0.01 N CaS04		0.010 mm	76	
Sample Height (in)	2.831		0.007 mm	70	
Sample Diameter (in)	2.850		0.005 mm	66	
Sample Cross-Section Area (in²)	6.38		0.004 mm	61	-
Sample Volume (in³)	18.06		0.003 mm	54	
Dry Density (lb/ft³)	101.1		0.001 mm	43	
Initial Moisture Content (%)	25.2		Chart		
Final Moisture Content (%)	26.2		SANGE VIEW		at a station expenses
Average Permeabilty (cm/s)	3.35 E-8				
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06 3680				% Pass
Shear Strength (lb/ft²)	1840				
Ave. Rate Strain to Failure(%)	1.0				
Strain at Failure(%)	2.8				
Average Height (in.)	5.621				
Average Diameter (in.)	2.855				
Height-Diameter Ratio	2.0				
Init. Dry Dens.	101.1				
Init. Water Content (%)	25.2				···
Liquid Limit	35		·····		·····
Plastic Limit	18			9 9 9 9 9 ts	
Remarks	_		-	Ne.30 Ne.300 Ne.300 Ne.300	68003mm 60002mm 600000mm 600000mm 600000mm
Visual Description				Ser#	2 665555
Specific Gravity (at 20°C)	ASTM D 854 - 06 2.76				
Avg Specific Gravity (at 20°C)					





Telephone: 248. 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S172

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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His onesy

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

Field Sample No: Sample Depth: ST-5 48.0

**TB-W-7** 

Date Sampled:

9/4/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Particle	Size Dist	ributio
Madle male	AOTH D	

Method:

ASTM D 422 - 07

% Passing

Drying by:

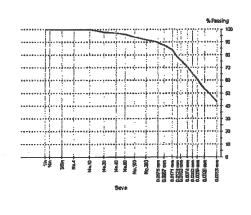
Sieve Size

Oven

Method Result	Limits
ASTM D 4318 - 05 35	
Method A	
18	
17	
Oven-dried	
Dry	
0.0	
ASTM D 422 - 07 1	
ASTM D 2487 - 06 CL	
Lean clay	
ASTM D 2216 - 05 25.2	
126.5	
101.1	
	ASTM D 4318 - 05 35 Method A 18 17 Oven-dried Dry 0.0 ASTM D 422 - 07 1  ASTM D 2487 - 06 CL Lean clay ASTM D 2216 - 05 25.2 126.5

1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	98	
No.40 (425µm)	97	
No.60 (250µm)	[*] 96	
No.100 (150µm)	94	
No.200 (75µm)	92	
0.038 mm	90	
0.027 mm	88	
0.017 mm	84	
0.012 mm	78	
0.010 mm	76	
0.007 mm	70	
0.005 mm	<b>6</b> 6	
0.004 mm	61	
0.003 mm	54	
0.001 mm	43	

Chart



Comments

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S172



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S171

Issue No: 1

Limits

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Date of Issue: 10/22/2008 Approved Signatory: Zeerak Paydawy

Client:

Wayne Disposal, Inc.

Woodlot & MC1&4 Waste Investigation

Project:

Soil Boring Program

Job No:

62-080376-01

Sample Details

Boring No:

Field Sample No: Sample Depth:

Date Sampled:

Sampled By:

Description

**Group Symbol** Group Name Liquid Limit (%)

Plasticity Index (%)

Retained 0.425mm (No. 40) (%)

Sample History

Preparation

Shape Hardness Dispersion Device Sand Gravel Description

Method Plastic Limit (%)

9/4/2008 Michael McNamara

Other Test Results

Dispersion Period (mins)

LWO No: Sample Location:

000355 WDI - Woodlot

Method

ASTM D 422 - 07

ASTM D 2487 - 06

ASTM D 4318 - 05

Lean clay with sand

Result

26 Method A

18

8

Dry

0.0

Oven-dried

Limits

TB-W-7

LS-18

44.0

Particle Size Distribution ASTM D 422 - 07 Method:

Drying by:

Sieve Size

1in (25.0mm)

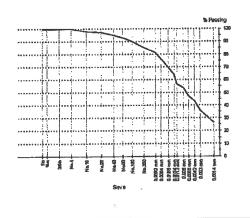
Oven

% Passing

100

%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	98
No.20 (850µm)	97
No.40 (425µm)	95
No.60 (250µm)	93
No.100 (150µm)	90
No.200 (75µm)	85
0.039 mm	81
0.028 mm	76
0.019 mm	70
0.013 mm	64
0.011 mm	57
0.008 mm	54
0.006 mm	47
0.004 mm	43
0.003 mm	36
0.001 mm	26

Chart



Comments N/A



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S170

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-7

Field Sample No:

ST-4

Sample Depth: Date Sampled:

40.0 9/3/2008

#### Particle Size Distribution

Method:

ASTM D 422 - 07

Drying by:

Oven

Date Sampled.	8/3/2000					
Sampled By:	Michael McNamara					
LWO No:	000355			0'	O/ Dessine	Limits
Sample Location:	WDI - Woodlot			Sieve Size	% Passing	Limits
				1in (25.0mm)	100	
				%in (19.0mm)	100	
				3/8in (9.5mm)	99	
				No.4 (4.75mm)	. 99	
				No.10 (2.0mm)	98	
Other Test Resul				No.20 (850µm)	96	
		delinikasi terimasi		No.40 (425µm)	94	
Description	Method	Result	Limits	No.60 (250µm)	92	
Dispersion Period (mins)	ASTM D 422 - 07	1		No.100 (150µm)	89	
Shape				No.200 (75µm)	85	
Hardness				0.039 mm	81	
Dispersion Device				0.028 mm	77	
Sand Gravel Description				0.018 mm	70	
				0.013 mm	66	
				0.011 mm	62	
				0.008 mm	56	
				0.006 mm	50	
				0.004 mm	47	
				0.003 mm	40	
				0.001 mm	31	
			W.	Chart		
					en tre di anno an Mandidad al Ladianos a	
						% Passing
						nid-indirinining 18
				<b> </b>		
				<b> </b>		
				<b> </b>		d
						· · · · · · · · · · · · · · · · · · ·



WA



Telephone: 248, 553,6300 Fax: 248,324,5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S170

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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111

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-7

Field Sample No: Sample Depth: ST-4 40.0

Date Sampled: Sampled By: 9/3/2008 Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Particle Size Distribution

Method:

ASTM D 422 - 07

% Passing

Drying by:

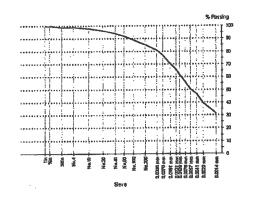
Sieve Size

Oven

Other Test Results			
Description	Method	Result	Limits
Temperture (°C)	ASTM D 5084	- 03 22.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/ln²)		3.0	
Permeant	0.0	1 N CaS04	
Sample Height (in)		2.862	
Sample Diameter (in)		2.823	
Sample Cross-Section Area (in²)		6.26	
Sample Volume (in³)		17.91	
Dry Density (lb/ft³)		118.7	
nitial Moisture Content (%)		15.5	
Final Moisture Content (%)		15.7	
Average Permeabilty (cm/s)		1.64 E-8	
Group Symbol	ASTM D 2487		
Broup Name	Lean clay	y with sand	
iquid Limit (%)	ASTM D 4318		
/lethod		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		12	
Sample History	1	Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)	40714 0 0010	0.0	
Moisture Content (%)	ASTM D 2216		
Net Density (lb/ft³)		137.1	
Dry Density (lb/ft³)		118.6	

1in (25.0mm)	100
3/4in (19.0mm)	100
3/8in (9.5mm)	99
No.4 (4.75mm)	99
No.10 (2.0mm)	98
No.20 (850µm)	96
No.40 (425µm)	94
No.60 (250µm)	92
No.100 (150µm)	89
No.200 (75µm)	85
0.039 mm	81
0.028 mm	77
0.018 mm	70
0.013 mm	66
0.011 mm	62
0.008 mm	56
0.006 mm	50
0.004 mm	47
0.003 mm	40
0.001 mm	31

Chart



Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S169

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** 

TB-W-7

Field Sample No: Sample Depth:

LS-15 36.0

Date Sampled:

9/3/2008 Michael McNamara

Sampled By: LWO No:

000355

Sample Location:

WDI - Woodlot

Particle	Size Distribution
fethod:	ASTM D 422 - 07
rving by:	Oven

Method:

% Passing

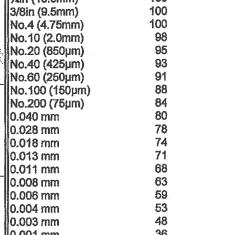
100

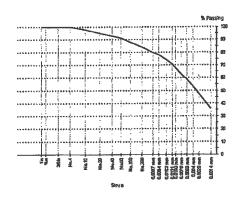
Drying by:

Sieve Size

1in (25.0mm)

ı					¾in (19.0mm)	100
I					3/8in (9.5mm)	100
I					No.4 (4.75mm)	100
I					No.10 (2.0mm)	98
ı	August Educational Village		HILAN BYANKA	an Calabanini	No.20 (850µm)	95
	Other Test Results			Satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisfaction of the satisf	No.40 (425µm)	93
1	Description	Method	Result	Limits	No.60 (250µm)	91
ł	Liquid Limit (%)	ASTM D 431	8 - 05 33		No.100 (150µm)	88
I	Method		Method A		No.200 (75µm)	84
I	Plastic Limit (%)		16		0.040 mm	80
ı	Plasticity Index (%)		17		0.028 mm	78
į	Sample History		Oven-dried		0.018 mm	74
İ	Preparation		Dry		0.013 mm	71
	Retained 0.425mm (No. 40) (%)		0.0		0.011 mm	68
I	Dispersion Period (mins)	ASTM D 422	- 07 1		0.008 mm	63
Į	Shape				0.006 mm	59
i	Hardness				0.004 mm	53
	Dispersion Device				0.003 mm	48
l	Sand Gravel Description				0.001 mm	36
I	Group Symbol	ASTM D 248			Chart	
I	Group Name	Lean c	lay with sand		O 1 20 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	





Comments



Telephone: 248, 553,6300 Fax: 248,324.5179

### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S168

Issue No: 1

Limits

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

**TB-W-7** 

Field Sample No: Sample Depth:

**ST-3** 32.0

Date Sampled:

9/3/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Particle	Size Distribution	
Method:	ASTM D 422 - 07	

% Passing

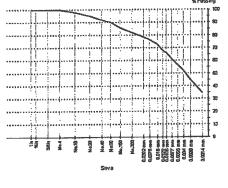
Drying by:

Sieve Size

Oven

Other Test Results				3/8in (9.5 No.4 (4.7 No.10 (2. No.20 (88 No.40 (42
Description	Method	Result	Limits	No.60 (28
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 -			No.100 (1
Shear Strength (lb/ft²)		3660		No.200 (7
Ave. Rate Strain to Fallure(%)		1.0		0.039 mn
Strain at Failure(%)		15.0		0.028 mn
Average Height (in.)		5.882		0.018 mn
Average Diameter (in.)		2.858		0.013 mn
Height-Diameter Ratio		2.1		0.011 mn
Init. Dry Dens.		114.6		0.008 mn
Init. Water Content (%)		18.0		0.006 mn
Liquid Limit		31		0.004 mn
Plastic Limit		17		0.003 mn
Remarks				0.001 mn
Visual Description				Chart
Group Symbol	ASTM D 2487 -			Tour C
Group Name	Lean clay	with sand		
				II

1in (25.0mm) 100 %in (19.0mm) 100 100 ōmm) 100 75mm) 98 (mm0. 95 50µm) 92 25µm) 50µm) 90 86 150µm) 82 75µm) 78 77 m 73 m 68 66 61 57 52 45 35



Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S168

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-7

Field Sample No: Sample Depth:

**ST-3** 32.0

Date Sampled:

9/3/2008

Sampled By:

Michael McNamara

LWO No: Sample Location:

WDI - Woodlot

000355

Particle	e Size D	istributi	on
Method:	ASTM	D 422 - 07	

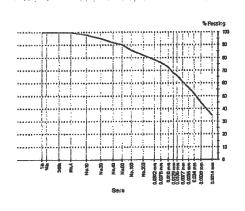
Sieve Size

% Passing

Drying by: Oven

Campio Location.		
]		
Other Test Results		
Description	Method Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05 31	
Method	Method A	
Plastic Limit (%)	17	
Plasticity Index (%)	. 14	
Sample History	Oven-dried	
Preparation	Dry	
Retained 0.425mm (No. 40) (%)	0.0	
Temperture (°C)	ASTM D 5084 - 03 22.6	
Cell Pressure (lb/in²)	40.0	
Top Pressure (lb/in²)	32.0	
Bottom Pressure (lb/in²)	35.0	
Effective Pressure (lb/in²)	5.0 3.0	
Pressure Differential (lb/in²)	0.01 N CaS04	
Permeant	2.834	
Sample Height (in)	2.848	
Sample Cross Section Area (in2)	6.37	
Sample Cross-Section Area (in²) Sample Volume (in³)	18.05	
Dry Density (lb/ft³)	114.6	
Initial Moisture Content (%)	18.0	
Final Moisture Content (%)	18.6	
Average Permeability (cm/s)	1.80 E-8	
Moisture Content (%)	ASTM D 2216 - 05 18.0	
Wet Density (lb/ft³)	135.3	
Dry Density (lb/ft³)	114.6	
Dispersion Period (mins)	ASTM D 422 - 07 1	
Shape		
Hardness		
Dispersion Device		
Sand Gravel Description		
		············

1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	98
No.20 (850µm)	95
No.40 (425µm)	92
No.60 (250µm)	90
No.100 (150µm)	86
No.200 (75µm)	82
0.039 mm	78
0.028 mm	77
0.018 mm	73
0.013 mm	68
0.011 mm	66
0.008 mm	61
0.006 mm	57
0.004 mm	52
0.003 mm	45
0.001 mm	35





Telephone: 248. 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

#### Report No: MAT:62-080376-01-S167

Issue No: 1

Limits

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

Field Sample No:

**TB-W-7** LS-12 28.0

Sample Depth: Date Sampled:

9/3/2008

Sampled By: LWO No:

Michael McNamara 000355

**Group Name** 

Sample Location:

WDI - Woodlot

#### Particle Size Distribution ASTM D 422 - 07

Method:

% Passing

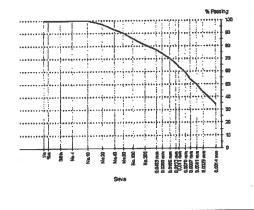
Drying by:

Sieve Size

Oven

				1in (25.0mm)	100	
				%in (19.0mm)	100	
				3/8in (9.5mm)	100	
				No.4 (4.75mm)	100	
				No.10 (2.0mm)	100	
ALCUNATION OF COLUMN TWO PARTS OF CONTRACT	en en er arrenne hillen ken kenk	NECKS DENSITY OF SAME	oreas nobalvobak	Na on (oroum)	97	
Other Test Results				No.40 (425µm)	93	
Description	Method	Result	Limits	No.60 (250µm)	90	
Liquid Limit (%)	ASTM D 4318	8 - 05 30		No.100 (150µm)	86	
Method		Method A		No.200 (75µm)	81	
Plastic Limit (%)		17		0.040 mm	77	
Plasticity Index (%)		13		0.029 mm	74	
Sample History		Oven-dried		0.019 mm	70	
Preparation		Dry		0.013 mm	66	
Retained 0.425mm (No. 40) (%)		0.0		0.011 mm	64	
Dispersion Period (mins)	ASTM D 422	- 07 1		0.008 mm	60	
Shape				0.006 mm	54	
Hardness				0.004 mm	50	
Dispersion Device				0.003 mm	44	
Sand Gravel Description				0.001 mm	34	
Group Symbol	ASTM D 248	7 - 06 CL		Chart		

Lean clay with sand



Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

Method:

Drying by:

0.011 mm

0.008 mm

0.006 mm

0.004 mm

0.003 mm

0.001 mm

Chart

### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Other Test Results

Report No: MAT:62-080376-01-S166

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Particle Size Distribution ASTM D 422 - 07

Oven

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

Campala Datai	10	
Sample Detail	13	

**Boring No:** 

Field Sample No:

Sample Depth: 24.0 Date Sampled: 9/3/2008

Sampled By: LWO No:

Sample Location:

Michael McNamara

**TB-W-7** 

ST-2

0000	00	,	
WDI	- 1	<b>Noodiot</b>	t

Sieve Size	% Passing
1in (25.0mm)	100
¾in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	98
No.10 (2.0mm)	97
No.20 (850µm)	93
No.40 (425µm)	91
No.60 (250µm)	88
No.100 (150µm)	85
No.200 (75µm)	80
0.039 mm	76
0.028 mm	73
0.018 mm	68
0.013 mm	64

Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 08	5960	
Shear Strength (lb/ft²)		2980	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		13.5	
Average Height (in.)		5.760	
Average Diameter (in.)		2.846	
Height-Diameter Ratio		2.0	
init. Dry Dens.		112.3	
Init. Water Content (%)		18.7	
Liquid Limit		31	
Plastic Limit		17	
Remarks			
Visual Departation			

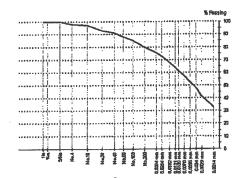
Visual Description Dispersion Period (mins) ASTM D 422 - 07 Shape

Hardness Dispersion Device Sand Gravel Description

Group Symbol **Group Name** 

ASTM D 2487 - 06

Lean clay with sand



61

58

53

48

41

33

Comments

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S168

N/A

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Page 2 of 2



Telephone: 248, 553,6300 Fax: 248,324,5179

#### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S166

Issue No: 1

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A PARTY PILL

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

.

Field Sample No:

TB-W-7 ST-2 24.0

Sample Depth: Date Sampled:

9/3/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

	P	ar	tic	e Size Distribution	
-				4 OTHER 400 07	

Method:

ASTM D 422 - 07

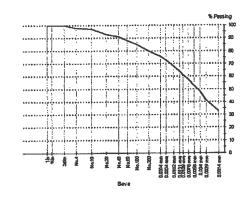
Drying by:

Oven

l		
Sieve Size	% Passing	Limits
1in (25.0mm)	100	

%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	98
No.10 (2.0mm)	97
No.20 (850µm)	93
No.40 (425µm)	91
No.60 (250µm)	88
No.100 (150µm)	85
No.200 (75µm)	80
0.039 mm	76
0.028 mm	73
0.018 mm	68
0.013 mm	64
0.011 mm	61
0.008 mm	58
0.006 mm	53
0.004 mm	48
0.003 mm	41
0.001 mm	33

Chart



# Other Test Results Description

Liquid Limit (%)	ASTM D 4318 - 05 31	
Method	Method A	
Plastic Limit (%)	17	
Plasticity Index (%)	14	
Sample History	Oven-dried	
Preparation	Dry	
Retained 0.425mm (No. 40) (%)	0.0	
Temperture (°C)	ASTM D 5084 - 03 22.8	
Cell Pressure (lb/in²)	40.0	
Top Pressure (lb/in²)	32.0	
Bottom Pressure (lb/in²)	35.0	
Effective Pressure (lb/in²)	5.0	
Pressure Differential (lb/in²)	3.0	
Permeant	0.01 N CaS04	

Method

Permeant
Sample Height (in)
Sample Diameter (in)
Sample Cross-Section Area (in²)
Sample Volume (in³)

Dry Density (lb/ft^s) Initial Moisture Content (%) Final Moisture Content (%) Average Permeabilty (cm/s)

Moisture Content (%) Wet Density (lb/ft³) Dry Density (lb/ft³) 2.09 E-8 ASTM D 2216 - 05 18.7 133.3

18.7 133.3 112.3

2.834

2.855

6.40

18.14 112.3

18.7

18.8

Result

Limits

Comments



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### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S165

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(a) reported have been performed the seconditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-7

Field Sample No: Sample Depth:

LS-9 20.0

Date Sampled:

9/3/2008

Sampled By: LWO No:

Michael McNamara

000355

Sample Location:

WDI - Woodlot

- with a real	No. of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of	-112 Car 1	
<b>Particle</b>	Size Ni	etrih	utioi
I allivic	OIZE DI	SHIN	ULIVI
A - Ale I -	A COTA F		

Method:

ASTM D 422 - 07

% Passing

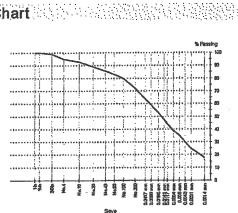
100

Drying by:

Sieve Size 1in (25.0mm)

Oven

			%in (19.0mm)	100
			3/8in (9.5mm)	99
			No.4 (4.75mm)	95
			No.10 (2.0mm)	93
e en desperante de la		ananaaaa	No.20 (850µm)	89
			No.40 (425µm)	86
Method	Result	Limits	No.60 (250µm)	83
ASTM D 431	3 - 05 20		No.100 (150µm)	80
	Method A		No.200 (75µm)	72
	13		0.042 mm	64
	7		0.030 mm	59
	Oven-dried		0.020 mm	53
	Dry		0.014 mm	48
	0.0		0.012 mm	44
ASTM D 422	- 07 1		0.008 mm	39
			0.006 mm	35
			0.004 mm	30
			0.003 mm	25
			0.001 mm	18
ASTM D 248	7 - 06 CL-ML		Chart	
Silty cl	ay with sand		Ondi L	4, 5, 5, 5, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6,
	ASTM D 422  ASTM D 248	Method Result  ASTM D 4318 - 05 20  Method A  13  7  Oven-dried Dry	Method Result Limits  ASTM D 4318 - 05	3/8in (9.5mm) No.4 (4.75mm) No.10 (2.0mm) No.20 (850µm) No.40 (425µm) No.60 (250µm) No.60 (250µm) No.100 (150µm) No.200 (75µm) 0.042 mm 0.030 mm 0.020 mm 0.014 mm 0.012 mm 0.012 mm 0.012 mm 0.006 mm 0.006 mm 0.003 mm 0.001 mm 0.003 mm 0.001 mm





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### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S164

Issue No: 1

Limits

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** Field Sample No:

**TB-W-7** ST-1

Sample Depth: Date Sampled:

16.0 9/3/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Particle	Size Distribution
Mothod:	ASTM D 422 - 07

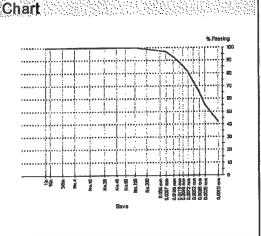
% Passing

Drying by:

Sieve Size

Oven

Gaitthia Foration:	AADI - AAOOGIOE					
				1in (25.0mm)	100	
				3/4in (19.0mm)	100	
				3/8in (9.5mm)	100	
				No.4 (4.75mm)	100	
ł				No.10 (2.0mm)	100	
BALL A GRADIAL VICTORIAL TRANSPORT		MARMO		No.20 (850µm)	100	
Other Test Result	S			No.40 (425µm)	100	
Description	Method Re	esult	Limits	No.60 (250µm)	100	
Group Symbol	ASTM D 2487 - 06	CL		No.100 (150µm)	100	
Group Name	Lean	clay		No.200 (75µm)	99	
				0.036 mm	98	
				0.026 mm	97	
				0.017 mm	93	
				0.012 mm	89	
				0.010 mm	86	
				0.007 mm	81	
				0.005 mm	73	
				0.004 mm	65	
				0.003 mm	55	
				0.001 mm	42	



Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S164

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: Approved Signatory: Zeerak Paydawy

% Passing

#### Sample Details

Boring No:

TB-W-7

Field Sample No:

ST-1 16.0

Sample Depth: Date Sampled:

9/3/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Particle	Size Distribution	•
Method:	ASTM D 422 - 07	

Drying by:

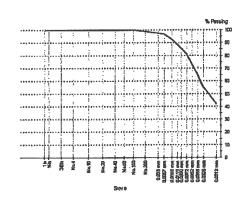
Sieve Size

Oven

Other Test Results		
Description	Method Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05 38	
Method	Method A	
Plastic Limit (%)	20	
Plasticity Index (%)	18	
Sample History	Oven-dried	
Preparation	Dry	
Retained 0.425mm (No. 40) (%)	0.0	
Temperture (°C)	ASTM D 5084 - 03 22.6	
Cell Pressure (lb/in²)	40.0	
Top Pressure (lb/in²)	32.0	
Bottom Pressure (lb/in²)	35.0	
Effective Pressure (lb/in²)	5.0	
Pressure Differential (lb/in²)	3.0	
Permeant	0.01 N CaS04	
Sample Height (in)	2.831	
Sample Diameter (in)	2.855	
Sample Cross-Section Area (in²)	6.40	
Sample Volume (in³)	18.12	
Dry Density (lb/ft³)	97.1	
Initial Moisture Content (%)	28.1	
Final Moisture Content (%)	28.3	
Average Permeabilty (cm/s)	4.15 E-8	
Moisture Content (%)	ASTM D 2216 - 05 28.2	
Wet Density (lb/ft³)	124.1	
Dry Density (lb/ft³)	96.8	
Dispersion Period (mins)	ASTM D 422 - 07 1	
Shape		w
Hardness		
Dispersion Device		

1in (25.0mm) 100 100 3/4in (19.0mm) 3/8in (9.5mm) 100 No.4 (4.75mm) 100 100 No.10 (2.0mm) No.20 (850µm) 100 No.40 (425µm) 100 No.60 (250µm) 100 100 No.100 (150µm) 99 No.200 (75µm) 0.036 mm 98 97 0.026 mm 0.017 mm 93 0.012 mm 89 86 0.010 mm 0.007 mm 81 73 0.005 mm 0.004 mm 65 55 0.003 mm 0.001 mm 42

Chart



Sand Gravel Description



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### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S163

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Method:

Drying by:

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Date of Issue: 10/21/2008 Approved Signatory: Zeerek Paydawy

#### Sample Details Boring No: Field Sample No:

**TB-W-7** 

Sample Depth:

LS-6 12.0

Date Sampled: Sampled By:

9/3/2008 Michael McNamara

LWO No:

Group Name

000355

Sample Location:

WDI - Woodlot

!		
Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
1in (25.0mm) ¾in (19.0mm) 3/8in (9.5mm)	100	

Particle Size Distribution

Oven

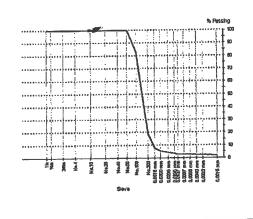
ASTM D 422 - 07

#### Other Test Results Limits Method Result Description ASTM D 422 - 07 Dispersion Period (mins) Shape Hardness Dispersion Device Sand Gravel Description ASTM D 2487 - 06 SM **Group Symbol**

Silty sand

No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	83
No.200 (75μm)	19
0.052 mm	8
0.037 mm	5
0.024 mm	4
0.017 mm	3
0.014 mm	3
0.010 mm	3
0.007 mm	3
0.005 mm	2
0.003 mm	2
0.002 mm	2





N/A



Telephone: 248, 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S162

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

Field Sample No:

Sample Depth:

Date Sampled:

Sampled By:

LWO No: Sample Location: TB-W-7 LS-4 8.0

9/3/2008

Michael McNamara 000355

WDI - Woodlot

Other Test Result	S	

Other Test Results			
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 -	07 1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487		
Group Name		Sandy silt	

#### Particle Size Distribution

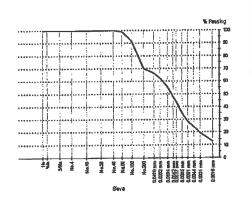
Method:

ASTM D 422 - 07 Oven

Drying by:

Sieve Size	% Passing
1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	99
No.100 (150µm)	92
No.200 (75µm)	70
0.042 mm	66
0.030 mm	62
0.019 mm	56
0.014 mm	48
0.012 mm	44
0.009 mm	35
0.006 mm	28
0.004 mm	24
0.003 mm	20
0 002 mm	13

#### Chart



Comments

N/A

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Page 1 of 1



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### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S161

Issue No: 1

Limits

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

**TB-W-7** 

Field Sample No:

LS-2

Sample Depth:

4.0

Date Sampled:

9/3/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Particle Size Distribution ASTM D 422 - 07

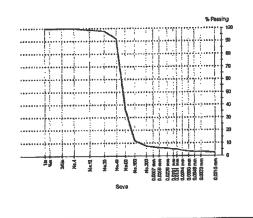
Method:

Drying by:

Oven

Secure 1983 Security Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security 1980 Security			
Other Test Results			
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 -	- 07 1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487		
Group Name		Silty sand	

% Passing
100
100
100
100
99
98
92
36
12
8
7
6
6
5
5
4
4
3
3
3



Comments



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#### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S142

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of Stele Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-6 LS-18

Field Sample No: Sample Depth:

80

Date Sampled:

Sampled By: LWO No:

000334

Sample Location:

Par	tic	e Size Distribution
		AOTHED 400

Method:

Sieve Size

ASTM D 422

% Passing

Oven Drying by:

				[3/6f) (8.5mm)	100
				No.4 (4.75mm)	100
				No.10 (2.0mm)	98
	ORDERA CONTROLA MARKA	ALMERO EL ANTONIO	Marana ar break	No.20 (850µm)	95
Other Test Results				No.40 (425µm)	91
Description	Method	Result	Limits	No.60 (250µm)	86
Sand Gravel Description	ASTM D 422			No.100 (150µm)	77
Shape				No.200 (75µm)	67
Hardness				0.043 mm	59
Dispersion Device				0.031 mm	55
Dispersion Period		1		0.020 mm	48
Liquid Limit (%)	ASTM D 4318	19		0.014 mm	44
Method		Method A		0.012 mm	41
Plastic Limit (%)		11		0.008 mm	37
Plasticity Index (%)		8		0.006 mm	33
Sample History		Unkown		0.004 mm	28
Preparation		Dry		0.003 mm	25
Group Symbol	ASTM D 2487	CL		0.001 mm	17
Group Name	San	dy lean clay		Chart	
				appropriate operators and section	4.41 J. 42 J. 7 J. 5 D. 44 S. 7.71

1in (25.0mm) 100 ¾in (19.0mm) 100 3/8in (9.5mm) 100

% Passing

Comments.



Telephone: 248, 553,6300 Fax: 246.324.5179

Method:

Drying by:

3/8in (9.5mm)

Limits

Result

N/O

N/O N/O

N/O

N/O

N/O

ML

Silt with sand

#### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S141

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Particle Size Distribution **ASTM D 422** 

Oven

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

100

5

4

3

2

### Sample Details

**Boring No:** 

Field Sample No: Sample Depth:

LS-17 75

Date Sampled:

Sampled By:

Description

Shape Hardness **Dispersion Device Dispersion Period** Liquid Limit (%)

Method

Plastic Limit (%)

Sample History

**Group Symbol Group Name** 

Preparation

Plasticity Index (%)

Method

**ASTM D 422** 

**ASTM D 4318** 

**ASTM D 2487** 

TB-W-6

LWO No:

Other Test Results

Sand Gravel Description

000334

Sample Location:

Sieve Size	% Passing	Limite
1in (25.0mm)	100	
%in (19.0mm)	100	

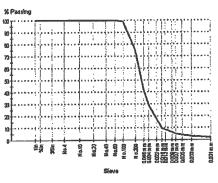
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	99
No.200 (75µm)	75
0.046 mm	41
0.034 mm	29
0.022 mm	17
0.016 mm	10
0.013 mm	9
0.009 mm	7



0.007 mm

0.005 mm

0.003 mm



Comments N/O = Not Obtainable NO = Not Obtainable

NP = Non Plastic



Telephone: 248, 553,6300 Fax: 248,324,5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S140

ssue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

۲ __

Particle Size Distribution

Oven

**ASTM D 422** 

Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-6

Field Sample No:

LS-16 70

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000334

Sample Location:

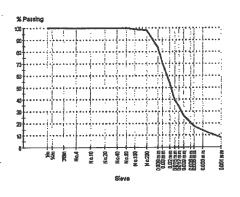
Sieve Size % Passing Limits
1in (25.0mm) 100

Method:

Drying by:

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group Name		Silt	

%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	99
No.200 (75µm)	98
0.039 mm	84
0.030 mm	· 71
0.020 mm	54
0.015 mm	39
0.012 mm	34
0.009 mm	27
0.006 mm	21
0.005 mm	18
0.003 mm	14
0.001 mm	
Chart	



Comments

N/O = Not Obtainable

NO = Not Obtainable

NP = Non Plastic



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### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S139

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

100

76

35

22

12

8

6

5

5

3

2

Client: Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Sample Details

**Boring No:** Field Sample No: TB-W-6 LS-15 65

Other Test Results

Sample Depth: **Date Sampled:** 

Sampled By:

Description

Shape

Hardness

Method

Sand Gravel Description

**Dispersion Device** 

Dispersion Period

Liquid Limit (%)

Plastic Limit (%)

Sample History

**Group Symbol** 

Group Name

Preparation

Plasticity Index (%)

LWO No:

000334

Method

**ASTM D 422** 

**ASTM D 4318** 

**ASTM D 2487** 

Result

N/O

N/O

N/O

N/O

N/O

N/O

Silt with sand

Limits

Sample Location:

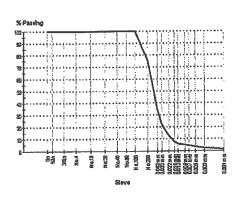
<b>Particle</b>	Size Dis	tribution
A A a Sha a da	A CTALEY	A99

Drying by: Oven

Sieve Size	% Passing
lin (25.0mm)	100
¼in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
Vo.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250um)	100

No.60 (250µm) No.100 (150µm) No.200 (75µm) 0.043 mm 0.033 mm 0.022 mm 0.016 mm 0.013 mm 0.009 mm 0.007 mm 0.005 mm 0.003 mm

0.001 mm Chart



Comments

N/O = Not Obtainable

NO = Not Obtainable

NP = Non Plastic



Telephone: 248, 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S252

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

3 week Pay but 1

Seemk 3

Date of Issue: 12/13/2008 Approved Signatory: Zeerak Paydawy

Comments

NA

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Page 2 of 2



Telephone: 248. 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S252

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

3 BEENK DAYLLAY

Date of Issue: 12/13/2008 Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** 

Field Sample No: Sample Depth:

Date Sampled:

Sampled By:

LWO No: Sample Location: Michael McNamara

000380

TB-W-6

LS-14

WDI - Woodlot

**Particle Size Distribution** 

Method:

Drying by: Date Tested:

Sieve Size

% Passing

Limits

Other Test Results				
Description	Method	Result	Limits	
Moisture Content (%)	ASTM D 2216 - 05		i i	
Wet Density (lb/ft³)		135.5		
Dry Density (lb/ft³)		114.4		
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	2220		
Shear Strength (lb/ft²)		1120		
Ave. Rate Strain to Failure(%)		1.0		
Strain at Failure(%)		15.0		
Average Height (in.)		2.520	-	
Average Diameter (in.)		1.360		
Height-Diameter Ratio		1.9		
Init. Dry Dens.		114.4		
Init. Water Content (%)		18.5		
Liquid Limit			J	
Plastic Limit			ł	
Remarks				
Visual Description				

Chart

Comments

N/A

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Page 1 of 2



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#### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S138

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Method:

Drying by:

Sieve Size

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

% Passing

99

99

87

80

73

55

#### Sample Details

Boring No:

**TB-W-6** 

Field Sample No:

ST-4

Sample Depth:

58

Date Sampled: Sampled By:

LWO No:

Description

Permeant

Temperture (°C)

Cell Pressure (lb/in²)

Top Pressure (lb/in²)

Sample Height (in)

Sample Diameter (in)

Sample Volume (in³)

Dry Density (lb/ft3)

Bottom Pressure (lb/in²)

Effective Pressure (lb/in²)

Pressure Differential (lb/in²)

Initial Moisture Content (%)

Final Moisture Content (%) Average Permeability (cm/s)

Sample Cross-Section Area (in²)

000334

Method

[ASTM D 5084]

Sample Location:

Other Test Results

Oven

Particle Size Distribution

**ASTM D 422** 

1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	99

Limits

Result

21.7

40.0

32.0

35.0

5.0

3.0

2.835

2.848

6.37

18.06

87.5

33.1

30.9

1.36 E-8

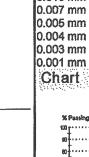
0.01 N CaS04

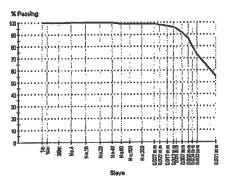
No.60 (250µm) No.100 (150µm) No.200 (75µm)

0.037 mm 99 0.027 mm 98 97 0.017 mm 0.012 mm 96 0.010 mm 95 92

0.005 mm 0.004 mm 0.003 mm 0.001 mm

Chart





Comments



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## Aggregate/Soil Test Report

Wayne Disposal, Inc.

Project:

Client:

Woodlot & MC1&4 Waste Investigation

Soll Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S138

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** Field Sample No: TB-W-6 **ST-4** 

Sample Depth:

Date Sampled:

Sampled By: LWO No:

000334

#### Particle Size Distribution

Method:

**ASTM D 422** 

Drying by:

Oven

LWO No: 000334 Sample Location:				Sieve Size	% Passing
Campio Location				1in (25.0mm)	100
				¾in (19.0mm)	100
1				3/8in (9.5mm)	100
				No.4 (4.75mm)	100
				No.10 (2.0mm)	100
ALCOHOLOGICAN COLL THEORY AND AND A	ocanomica de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición della composición della composición della composición della composición della composición della composición della composición della composición della composición della composición della composición della composición della composición della composición della composición della composición della composición della composición della composición de		uversame ett	No.20 (850µm)	100
Other Test Results				No.40 (425µm)	100
Description	Method	Result	Limits	No.60 (250µm)	99 99
Sand Gravel Description	ASTM D 422			No.100 (150µm)	99
Shape				No.200 (75µm)	99
Hardness				0.037 mm	98
Dispersion Device				0.027 mm	96 97
Dispersion Period		1		0.017 mm	96
Liquid Limit (%)	ASTM D 4318	46		0.012 mm 0.010 mm	95
Method		Method A		0.010 mm	92
Plastic Limit (%)		24		0.007 mm	87
Plasticity Index (%)		22		0.005 mm	80
Sample History				0.004 mm	73
Preparation	107110 0010	00.0		0.003 mm	5 <b>5</b>
Moisture Content (%)	ASTM D 2216	33.2		The second of the second of the second	Made Carried
Wet Density (lb/ft³)		122.5		Chart	
Dry Density (lb/ft³)	ASTM D 2487	92.0 CL			
Group Symbol	AS IM D 2401				
Group Name	ASTM D 2166	Lean clay 303		% Passing	
Unconfined Compressive Strength (lb/ft²)	WOLLAND S100	303 152		10	
Shear Strength (lb/ft²)		1.0		00	
Ave. Rate Strain to Failure(%)		13.1		70	
Strain at Failure(%)		5.941		80	
Average Height (in.)		2.763		80	
Average Diameter (in.)		2.703			
Height-Diameter Ratio		2.2		30	
Init. Dry Dens.				20	
Init. Water Content (%)					
Liquid Limit				25 E	6.10 6.00 6.00 6.00 6.00 6.00 6.00 6.00

Comments

Plastic Limit Remarks Visual Description



Telephone: 248, 553,6300 Fax: 248,324,5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S137

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-6

Field Sample No: Sample Depth:

LS-13 55

Date Sampled: Sampled By:

LWO No:

000334

Sample Location:

Particle	Size Di	stribution
	a charge at a	

Method:

**ASTM D 422** 

Drying by:

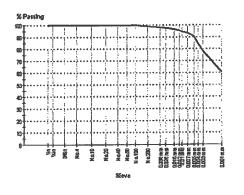
Sieve Size

Oven

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1_	
Liquid Limit (%)	ASTM D 4318	48	
Method		Method A	
Plastic Limit (%)		25	
Plasticity Index (%)		23	
Sample History		Oven-dried	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

OICYG OIZG	/0   dooiiig	Little
1in (25.0mm)	10	0
%in (19.0mm)	10	0
3/8in (9.5mm)	10	0
No.4 (4.75mm)	10	0
No.10 (2.0mm)	10	0
No.20 (850µm)	10	0
No.40 (425µm)	· 10	0
No.60 (250µm)	10	0
No.100 (150µm)	10	0
No.200 (75µm)	9:	_
0.036 mm	9	8
0.026 mm	9	7
 0.016 mm	9	8
0.012 mm	9:	5
0.010 mm	9	4
0.007 mm	9:	3
0.005 mm	9	-
0.004 mm	8	5
0.003 mm	7	8
0.001 mm	6	0
Chart		

% Passing



Comments



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### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S160

Issue No: 1

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Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Sample Details

**Boring No:** Field Sample No:

LS-12 47.5

**TB-W-6** 

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000334

Sample Location:

Drying by: Date Tested:

Particle Size Distribution

Sieve Size

Method:

% Passing

Limits

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216	14.2	
Wet Density (lb/ft³)		138.4	
Dry Density (lb/ft³)		121.1	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	6638	
Shear Strength (lb/ft²)		3319	
Ave. Rate Strain to Failure(%)		0.9	
Strain at Failure(%)		14.4	
Average Height (in.)		2.772	
Average Diameter (in.)		1.374	
Height-Diameter Ratio		2.0	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S136

issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-6

Field Sample No: Sample Depth:

ST-3 46

Date Sampled:

Sampled By: LWO No:

000334

Sample Location:

Particle	Size Distribution	1
A strain	A DTA4 ID 400	

Method: Drying by:

Sieve Size

1in (25.0mm)

¾in (19.0mm)

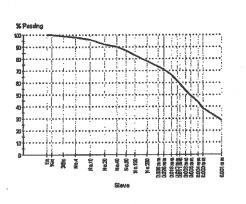
% Passing

100 100

Oven

					3/8in (9.5mm)	99
					No.4 (4.75mm)	98
					No.10 (2.0mm)	96
	SALVEST PERMITTAL SWEET	n san kan Alah Kalabi	ARKEERSKAR OK		No.20 (850µm)	92
i	Other Test Results				No.20 (850µm) No.40 (425µm)	90
	Description	Method	Result	Limits	No.60 (250µm)	87
	Temperture (°C)	[ASTM D 5084]	23.7		No.100 (150µm)	83
	Cell Pressure (lb/in²)		40.0		No.200 (75µm)	78
	Top Pressure (lb/in²)	Til.	32.0		0.039 mm	74
	Bottom Pressure (lb/in²)		35.0		0.028 mm	71
i	Effective Pressure (lb/in²)		5.0		0.018 mm	66
	Pressure Differential (lb/in²)		3.0		0.013 mm	62
ļ	Permeant	0.0	N CaS04		0.011 mm	59
	Sample Height (in)		2.853		0.008 mm	53
	Sample Diameter (in)		2.851		0.006 mm	49
-	Sample Cross-Section Area (in²)		6.38		0.004 mm	44
-	Sample Volume (in³)		18.21		0.003 mm	39
	Dry Density (lb/ft³)		114.7		0.001 mm	29
-	Initial Moisture Content (%)		17.8		Chart	
	Final Moisture Content (%)		17.0		AMARINE STATE	Refriction participation

1.39 E-8



Comments

Average Permeabilty (cm/s)

N/O = Not Obtainable



Telephone: 248. 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Wayne Disposal, Inc.

Report No: MAT:62-080376-01-S136

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Limits

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

% Passing

Woodlot & MC1&4 Waste Investigation Soil Boring Program

Job No:

Client:

Project:

62-080376-01

Sample Details

**Boring No:** Field Sample No:

ST-3 Sample Depth: 46

000334

Date Sampled:

Sampled By: LWO No:

Sample Location:

Particle Size Distribution **ASTM D 422** Method: TB-W-6

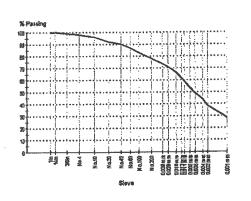
Drying by:

Sieve Size

Oven

		on the same attracts and the same	us is uncontration of the
Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1_	
Liquid Limit (%)	ASTM D 4318	29	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		13	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	17.8	
Wet Density (lb/ft³)		135.1	
Dry Density (lb/ft³)	107115015	114.7	<del></del>
Group Symbol	ASTM D 2487	CL	
Group Name		lay with sand	
Unconfined Compressive Strength (fb/ft²)	ASTM D 2166	N/O	
Shear Strength (lb/ft²)		N/O	
Ave. Rate Strain to Failure(%)		N/O	
Strain at Failure(%)		N/O	
Average Height (in.)		N/O	
Average Diameter (in.)		N/O	
Height-Diameter Ratio		N/O	
Init. Dry Dens.		N/O	
Init. Water Content (%)		N/O	
Liquid Limit		N/O	
Plastic Limit		N/O	
Remarks		N/O	

(1in (25.0mm)	100
¾in (19.0mm)	100
3/8in (9.5mm)	99
No.4 (4.75mm)	98
No.10 (2.0mm)	96
No.20 (850µm)	92
No.40 (425µm)	90
No.60 (250µm)	87
No.100 (150µm)	83
No.200 (75µm)	78
0.039 mm	74
0.028 mm	71
0.018 mm	66
0.013 mm	62
0.011 mm	59
0.008 mm	53
0.006 mm	49
0.004 mm	44
0.003 mm	39
0.001 mm	29
Chart	



Comments

N/O = Not Obtainable

Visual Description

N/O



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S135

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Fighway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

% Passing

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-6

Field Sample No: Sample Depth:

LS-11 45

Date Sampled:

Sampled By: LWO No:

000334

Sample Location:

Other Test Results				
Description	Method	Result	Limits	
Sand Gravel Description	ASTM D 422			
Shape				
Hardness				
mt to most on				

**Dispersion Device Dispersion Period** Liquid Limit (%) **ASTM D 4318** 33 Method Method A Plastic Limit (%) 17 16 Plasticity Index (%) Sample History Unkown Preparation Dry

**ASTM D 2487** 

Lean clay

Particle Size Distribution

Method:

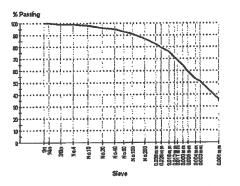
**ASTM D 422** 

Drying by:

Sieve Size

Oven

1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	99
No.4 (4.75mm)	99
No.10 (2.0mm)	98
No.20 (850µm)	96
No.40 (425µm)	95
No.60 (250µm)	93
No.100 (150µm)	91
No.200 (75µm)	87
0.039 mm	83
0.028 mm	80
0.018 mm	76
0.013 mm	71
0.011 mm	69
0.008 mm	65
0.006 mm	59
0.004 mm	53
0.003 mm	51
0.001 mm	36
\$20 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM 10 PM	



Comments

**Group Symbol** 

**Group Name** 



NTH Consultants, Ltd.

Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S134 Issue No: 1

Limits

Client: Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008

% Passing

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** Field Sample No:

LS-10 40

TB-W-6

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000334

Sample Location:

<b>Particle</b>	Size Distribution	
Method:	ASTM D 422	
	O	

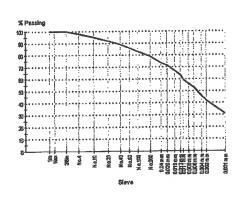
Drying by:

Sieve Size

Oven

	100		
Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1_	
Liquid Limit (%)	ASTM D 4318	32	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		16	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name	Lean cla	ay with sand	

100 1in (25.0mm) 100 %in (19.0mm) 3/8in (9.5mm) 100 98 No.4 (4.75mm) No.10 (2.0mm) 95 No.20 (850µm) No.40 (425µm) 92 89 No.60 (250µm) 86 83 No.100 (150µm) 79 No.200 (75µm) 73 0.040 mm 0.028 mm 72 0.018 mm 67 0.013 mm 63 60 0.011 mm 0.008 mm 56 53 0.006 mm 46 0.004 mm 0.003 mm 42 0.001 mm 31 Chart



Comments



Telephone: 248, 553,6300 Fax: 248,324,5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-\$133

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

3 Been & Pay July

_

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

TB-W-6

Field Sample No: Sample Depth:

ST-2 33

Date Sampled:

Sampled By: LWO No:

000334

Sample Location:

Particle Size Distribution

Method:

Sieve Size

1in (25.0mm)

**ASTM D 422** 

Drying by: Oven

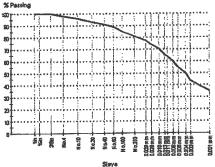
% Passing

100

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	22.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.0	1 N CaS04	
Sample Height (in)		2.871	
Sample Diameter (in)		2.832	
Sample Cross-Section Area (in²)		6.30	
Sample Volume (in³)		18.09	
Dry Density (lb/ft³)		114.2	
initial Moisture Content (%)		17.8	
Final Moisture Content (%)		18.0	
Average Permeabilty (cm/s)		1.06 E-8	

	1 /	
	¾in (19.0mm)	100
	3/8in (9.5mm)	100
	No.4 (4.75mm)	98
	No.10 (2.0mm)	96
	No.20 (850µm)	93
	No.40 (425µm)	91
	No.60 (250µm)	89
	No.100 (150µm)	85
	No.200 (75µm)	81
1	0.039 mm	78
	0.028 mm	74
	0.018 mm	70
	0.013 mm	66
i	0.011 mm	64
	0.008 mm	60
	0.006 mm	55
	0.004 mm	50
	0.003 mm	44
	0.001 mm	<b>35</b>
	<ul> <li>RESET TO SERVICE SERVICES</li> </ul>	NY STATE OF THE NEW YORK AND ADDRESS.

Chart



Comments



Telephone: 248, 553,6300 Fax: 248,324,5179

# Aggregate/Soil Test Report

Wayne Disposal, Inc.

Report No: MAT:62-080376-01-S133

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

accordance with the terms of the accreditation

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

Project: Woodlot & MC1&4 Waste Investigation Soil Boring Program

Job No:

Client:

62-080376-01

Sample Details

Boring No:

Field Sample No: Sample Depth:

Date Sampled:

Sampled By:

Description

Shape Hardness

Sand Gravel Description

LWO No:

000334

Other Test Results

Method

**ASTM D 422** 

Result

Limits

TB-W-6

ST-2

33

Sample Location:

P	a	rtic	le S	ize C	)is	tri	but	ion
				4074	-	400		

Method:

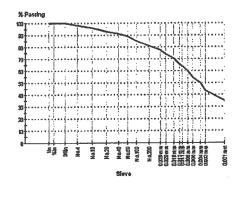
**ASTM D 422** 

Drying by:

Oven

	Sieve Size	% Passing	Limits
	1in (25.0mm)	100	
	%in (19.0mm)	100	
	3/8in (9.5mm)	100	
	No.4 (4.75mm)	98	
	No.10 (2.0mm)	96	
	No.20 (850µm)	93	
	No.40 (425µm)	91	
	No.60 (250µm)	89	
_	No.100 (150µm)	85	
	No.200 (75µm)	81	
	0.039 mm	78	
	0.028 mm	74	
	0.018 mm	70	
_	0.013 mm	66	
	0.011 mm	64	
	0.008 mm	60	
	0.006 mm	55	
	0.004 mm	50	
	0.003 mm	44	
_	0.001 mm	35	
	Chart		
	Beropage may payer.	and the rest of the expension of the section	

	1_	
ASTM D 4318	32	
	Method A	
	17	
	15	
	Oven-dried	
	Dry	
ASTM D 2216	17.8	
	134.5	
	114.2	
ASTM D 2487	CL	
Lean c	lay with sand	
ASTM D 2166	5682	
	2841	
	1.0	
	14.1	
	5,937	
	2.833	
	2.1	
	32	
	17	
	ASTM D 2487 Lean c	ASTM D 4318 32 Method A 17 15 Oven-dried Dry ASTM D 2216 17.8 134.5 114.2 ASTM D 2487 CL Lean clay with sand ASTM D 2166 5682 2841 1.0 14.1 5.937 2.833 2.1



Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S132

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

% Passing

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

**TB-W-6** LS-8

Field Sample No: Sample Depth:

30

Date Sampled: Sampled By:

LWO No:

000334

Sample Location:

Particle	Size Distribution
8 - 41c1c	ACTALD 400

Method:

Sieve Size

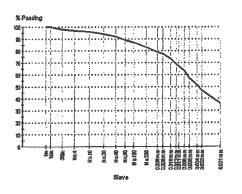
**ASTM D 422** 

Drying by:

Oven

Other Test Results		ı	
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	35	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		17	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name	Lean cla	y with sand	

1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	98	
No.4 (4.75mm)	97	
No.10 (2.0mm)	96	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	87	
No.200 (75µm)	83	
0.039 mm	79	
0.028 mm	77	
0.018 mm	74	
0.013 mm	69	
0.011 mm	67	
0.008 mm	64	
0.006 mm	57	
0.004 mm	52	
0.003 mm	47	
0.001 mm	36	
ALLEY AND THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STAT		A -1 1-1



Comments



NTH Consultants, Ltd.

Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S131

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008

% Passing

100 100

100

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

Field Sample No: Sample Depth:

ST-1 23

TB-W-6

Date Sampled:

Sampled By:

LWO No:

000334

Sample Location:

Particle Size Distribution

Method:

**ASTM D 422** 

Drying by:

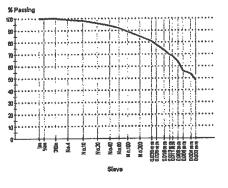
Sieve Size

1in (25.0mm)

%in (19.0mm) 3/8in (9.5mm)

Oven

				Total (ottoming)	122
				No.4 (4.75mm)	99
				No.10 (2.0mm)	98
HE SETTLE FOR THE STATE OF A SHEET AND A STATE OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHEET OF A SHE	na na na magalaga mili magalaga m	erene Markette	ACCES SECURIOS	No.20 (850µm)	96
Other Test Results				No.40 (425µm)	94
Description	Method	Result	Limits	No.60 (250µm)	92
Temperture (°C)	[ASTM D 5084]	21.9		No.100 (150µm)	89
Cell Pressure (lb/in²)		40.0		No.200 (75µm)	<b>8</b> 5
Top Pressure (lb/in²)		32.0		0.038 mm	81
Bottom Pressure (lb/in²)		35.0		0.028 mm	78
Effective Pressure (lb/in²)		5.0		0.018 mm	73
Pressure Differential (lb/in²)		3.0		0.013 mm	70
Permeant	0.0	1 N CaS04		0.011 mm	69
Sample Height (in)		2.848		0.008 mm	64
Sample Diameter (in)		2.824		0.006 mm	56
Sample Cross-Section Area (in²)		6.26		0.004 mm	53
Sample Volume (in³)		17.84		0.003 mm	49
Dry Density (lb/ft³)		113.7		0.000 mm	38
Initial Moisture Content (%)		18.2		Chart	
Final Moisture Content (%)		18.9		ing the factor of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property	
Average Permeabilty (cm/s)		2.99 E-8			



Comments



Telephone; 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S131

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

Date of Issue: 9/8/2008

Particle Size Distribution

Oven

ASTM D 422

Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

Field Sample No: Sample Depth:

Date Sampled: Sampled By:

LWO No:

000334

TB-W-6

**ST-1** 

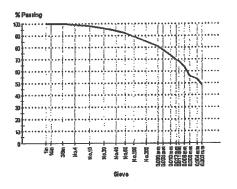
23

Sample Location:

J334			
	Sieve Size	% Passing	Limits
	1in (25 0mm)	100	

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	33	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		15	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	18.2	
Wet Density (lb/ft³)		134.4	
Dry Density (lb/ft³)		113.7	
Group Symbol	ASTM D 2487	CL	
Group Name	Lean cla	ay with sand	

HII (20.0HIIII)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	98	
No.20 (850µm)	96	
No.40 (425µm)	94	
No.60 (250µm)	92	
No.100 (150µm)	89	
No.200 (75µm)	85	
0.038 mm	81	
0.028 mm	78	
0.018 mm	73	
0.013 mm	70	
0.011 mm	69	
0.008 mm	64	
0.006 mm	56	
0.004 mm	53	
0.003 mm	49	
0.000 mm	38	
Chart		



Comments



Telephone: 248, 553,6300 Fax: 248,324,5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S130

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

(AASHTO). In accordar

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008

Particle Size Distribution

Oven

**ASTM D 422** 

Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

TB-W-6

Field Sample No: Sample Depth:

LS-6 20

Date Sampled:

Sampled By:

Description

Shape

Hardness

Method

LWO No:

000334

Method

**ASTM D 4318** 

**ASTM D 2487** 

Sample Location:

Other Test Results

Sand Gravel Description

Dispersion Device

**Dispersion Period** 

Liquid Limit (%)

Plastic Limit (%)

Sample History

Group Symbol

**Group Name** 

Preparation

Plasticity Index (%)

Sieve Size
1in (25.0mm)
¾in (19.0mm)

3/8in (9.5mm)

No.4 (4.75mm)

No.10 (2.0mm)

Method:

Drying by:

70	Passing
	100
	100
	100

98

97

94

80

55

26

23

19

No.20 (850µm) No.40 (425µm) No.60 (250µm)

No.100 (150µm) No.200 (75µm) 0.043 mm 0.031 mm

0.031 mm 47 0.020 mm 42 0.014 mm 39 0.012 mm 37 0.008 mm 34 0.006 mm 31

0.004 mm 0.003 mm 0.001 mm

Chart

Sieve

Comments

N/A

Result

19

14

5

Dry

CL-ML

Method A

Oven-dried

Silty clay with sand

Limits



Telephone; 248, 553,6300 Fax: 248,324,5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S129

Issue No: 1

Limits

T.B.

This leboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

TB-W-6

Field Sample No: Sample Depth:

LS-5 15

Date Sampled:

Sampled By:

LWO No:

Description

Dispersion Device

Dispersion Period

Liquid Limit (%)

Plastic Limit (%)

Sample History

**Group Symbol** 

Group Name

Preparation

Plasticity Index (%)

Shape

Method

Hardness

000334

Method

**ASTM D 422** 

**ASTM D 4318** 

**ASTM D 2487** 

Result

N/O

N/O

N/O

N/O

N/O

N/O

ML

Silt

Limits

Sample Location:

Other Test Results

Sand Gravel Description

Method:	ASTM D 422	
Drying by:	Oven	

Particle Size Distribution

% Passing

100

100

100

100

100

100 100

100

99

89

44

30

26

25

24

21

18

17

15

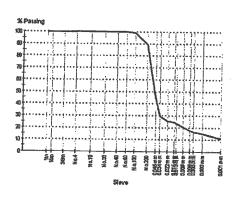
11

3/4in (19.0mm) 3/8in (9.5mm) No.4 (4.75mm) No.10 (2.0mm) No.20 (850µm) No.40 (425µm) No.60 (250µm) No.100 (150µm) No.200 (75µm) 0.045 mm 0.034 mm 0.022 mm 0.015 mm 0.013 mm 0.009 mm 0.006 mm 0.005 mm 0.003 mm 0.001 mm

Sieve Size

1in (25.0mm)

Chart



Comments

N/O = Not Obtainable

NO = Not Obtainable

NP = Non Plastic



Tetephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S128

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

3 January Day July

Date of Issue: 9/8/2008

% Passing

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

Field Sample No: Sample Depth:

LS-4 10

Date Sampled: Sampled By:

LWO No:

000334

TB-W-6

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	NO	
Method		NO	
Plastic Limit (%)		NO	
Plasticity Index (%)		NP	
Sample History			
Preparation			
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

### Particle Size Distribution

Method:

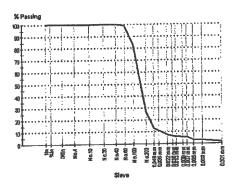
**ASTM D 422** 

Drying by:

Sieve Size

Oven

1in (25.0mm)	100
¾in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	99
No.100 (150µm)	83
No.200 (75µm)	27
0.048 mm	13
0.035 mm	11
0.022 mm	8
0.016 mm	7
0.013 mm	6
0.009 mm	6
0.007 mm	8
0.005 mm	3
0.003 mm	3
0.001 mm	2
<ul> <li>Part of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of</li></ul>	



Comments NO = Not Obtainable

NP = Non Plastic



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S127

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of Stata Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation. eerak payday

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

**TB-W-6** 

Field Sample No: Sample Depth:

LS-2

Date Sampled:

Sampled By: LWO No:

Sample Location:

000334

Silty sand

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
		Cillerand	

Particle !	Size Dis	tribution
aluvici		fill marion

Method:

**ASTM D 422** 

% Passing 100

Drying by:

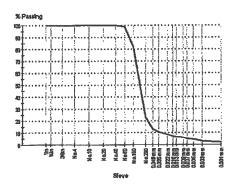
Sieve Size

1in (25.0mm)

Oven

The (20.0thin)	
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	99
No.100 (150µm)	82
No.200 (75µm)	23
0.049 mm	13
0.035 mm	10
0.022 mm	9
0.016 mm	7
0.013 mm	7
0.009 mm	6
0.007 mm	5
0.005 mm	5
0.003 mm	3
0.001 mm	2

Chart



Comments N/O = Not Obtainable

**Group Name** 

NO = Not Obtainable NP = Non Plastic



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S158

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Particle Size Distribution

Oven

**ASTM D 422** 

Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** Field Sample No: **TB-W-5** LS-18

Sample Depth:

80

Date Sampled: Sampled By:

LWO No:

Description

000334

Other Test Results

Sample Location:

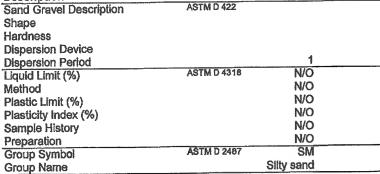
Sieve Size 1in (25.0mm) %in (19.0mm) 3/8in (9.5mm)	% Passing	Limits
1in (25.0mm)	100	
³⁄4in (19.0mm)	100	
3/8in (9.5mm)	100	

		10,00,(0.00,00)	
		No.4 (4.75mm)	100
		No.10 (2.0mm)	100
yayayayaya <del>a</del> a		No.20 (850µm)	100
		No.40 (425µm)	100
Result	Limits	No.60 (250µm)	100
		No.100 (150µm)	77
		No.200 (75µm)	23
		0.049 mm	12
		0.035 mm	10
1		0.023 mm	7
N/O		0.016 mm	6
N/O		0.013 mm	6
N/O		0.009 mm	5
N/O		0.007 mm	4
N/O		0.005 mm	4
N/O		0.003 mm	3
SM		0.001 mm	2

Method:

Drying by:

Chart



Method

% Passing		
100 I		
80	· · · · · · · · · · · · · · · · · · ·	
ap	·····	frirfffff::::::
70		·····
60	•••••••••••••••••••••••••••••••••••••••	h+i++(t+++++++++++++++++++++++++++++++++
<b>30</b>		
40		
30		P4 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P
20		<b>N</b>
10 F		
oT , i		
=꽃 筹	10.40 10.40 10.40 10.40 10.40 10.40	Acana Dassmen Dassmen Dassmen Dassmen Dassmen Dassmen Dassmen Dassmen
		- 52 2 2 2 2 3 3
	Sieve	

Comments

N/O = Not Obtainable NO = Not Obtainable

NP = Non Plastic



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S157

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is eccredited by American Association of State Highway and Transportation Officials (AASHTO). The test(a) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

**TB-W-5** 

Field Sample No: Sample Depth:

LS-17 75

Date Sampled:

Sampled By:

LWO No:

000334

Sample Location:

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
2/0:- 10 5	400	

Particle Size Distribution

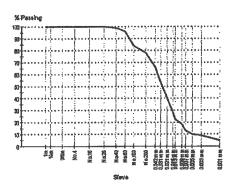
Oven

**ASTM D 422** 

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	

Silt with sand

3/om (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	99
No.60 (250µm)	96
No.100 (150µm)	84
No.200 (75µm)	78
0.042 mm	66
0.031 mm	54
0.021 mm	40
0.015 mm	29
0.013 mm	23
0.009 mm	19
0.007 mm	13
0.005 mm	10
0.003 mm	9
0.001 mm	_ 5
Chart	



Comments

**Group Name** 

N/O = Not Obtainable

NO = Not Obtainable

Form No: 18909.V1.00



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S156

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008

% Passing

100

Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** Field Sample No: **TB-W-5** ST-6

68

Sample Depth: Date Sampled:

Sampled By: LWO No:

000334

Sample Location:

Particle Size Distribution

Method:

**ASTM D 422** 

Drying by:

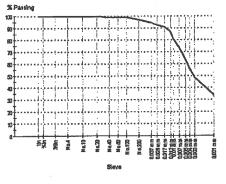
Sieve Size

1in (25.0mm)

Oven

				No.10 (2.0mm)	100
SAME TANK PARKAT SAME	a dervetan bendenbelikov	à ausquadance	astasta ilia	No.20 (850µm)	100
Other Test Results				No.40 (425µm)	99
Description	Method	Result	Limits	No.60 (250µm)	99
Temperture (°C)	[ASTM D 5084]	23.5		No.100 (150µm)	99
Cell Pressure (lb/ln²)		40.0		No.200 (75µm)	97
Top Pressure (lb/in²)		32.0		0.037 mm	95
Bottom Pressure (lb/in²)		35.0		0.026 mm	93
Effective Pressure (lb/in²)		5.0		0.017 mm	91
Pressure Differential (lb/in²)		3.0		0.012 mm	87
Permeant	0.0	N CaS04		0.010 mm	81
Sample Height (in)	11	2.862		0.007 mm	73
Sample Diameter (in)		2.871		0.005 mm	64
Sample Cross-Section Area (in²)		6.47		0.004 mm	56
Sample Volume (in³)		18.53		0.003 mm	48
Dry Density (lb/ft³)		101.9		0.001 mm	34
Initial Moisture Content (%)		24.5		Chart	
Final Moisture Content (%)		21.6			
Average Permeability (cm/s)		5.67 E-8			
				St Danibas	

100 3/4in (19.0mm) 3/8in (9.5mm) 100 No.4 (4.75mm) 100



Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S156

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed

Date of Issue: 9/8/2008 Approved Signatory; Zeerak Paydawy

Particle Size Distribution

Oven

**ASTM D 422** 

**Boring No:** Field Sample No: **TB-W-5** ST-6

Sample Depth:

Sample Details

Date Sampled: Sampled By:

LWO No:

000334

Sample Location:

Other Test Results

Sieve Size % Passing Limits 1in (25.0mm) 100

Method:

Drying by:

100 %in (19.0mm) 100 3/8in (9.5mm) 100 No.4 (4.75mm) No.10 (2.0mm) 100 100 No.20 (850µm) No.40 (425µm) 99 No.60 (250µm) 99 99

No.100 (150µm) No.200 (75µm) 97 95 0.037 mm 0.026 mm 93

0.017 mm 91 0.012 mm 87 0.010 mm 81 0.007 mm 73 0.005 mm 64 56 0.004 mm

0.003 mm 48 0.001 mm 34 Chart

Limits Description Method Result Sand Gravel Description ASTM D 422 Shape Hardness Dispersion Device Dispersion Period **ASTM D 4318** Liquid Limit (%) 32 Method A Method 18 Plastic Limit (%) Plasticity Index (%) 14 Sample History Oven-dried Preparation Dry **ASTM D 2216** 24.5 Moisture Content (%) 126.9 Wet Density (lb/ft³) Dry Density (lb/ff³) 101.9 **ASTM D 2487** Group Symbol CL **Group Name** Lean clay

% Passing

Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S155

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(e) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

% Passing

100

#### Sample Details

**Boring No:** 

Field Sample No: Sample Depth:

LS-15 65

Date Sampled: Sampled By:

LWO No:

Sample Location:

000334
--------

TB-W-5

000334	

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		111	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group Name		Silt	

<b>Particle</b>	Size Distribution
Method:	ASTM D 422

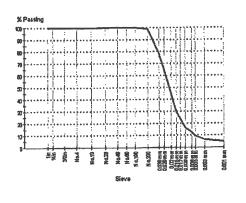
Drying by:

Sieve Size

1in (25.0mm)

Oven

%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	100
No.200 (75µm)	99
0.039 mm	78
0.029 mm	64
0.020 mm	` <b>45</b>
0.015 mm	30
0.012 mm	24
0.009 mm	16
0.008 mm	13
0.005 mm	10
0.003 mm	7
0.001 mm	5
Chart	



Comments N/O = Not Obtainable NO = Not Obtainable NP = Non Plastic



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Cilent:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S254

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(e) reported have been performed in accordance with the terms of the accreditation.

Particle Size Distribution

Date of Issue: 1/16/2009

Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** Field Sample No: **TB-W5** LS-14

Sample Depth:

60

Date Sampled:

Sampled By:

Michael McNamara

LWO No: 000394 Sample Location:

WDI - Woodlot

Sieve Size

Method:

Drying by:

Date Tested:

% Passing

Limits

Other Test Results

Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	4020	
Shear Strength (lb/ft²)		2020	
Ave. Rate Strain to Failure(%)		1.1	
Strain at Failure(%)		8.0	
Average Height (in.)		2.640	
Average Diameter (in.)		1.350	
Height-Diameter Ratio		2.0	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			
Moisture Content (%)	ASTM D 2216 - 05		
Wet Density (lb/ft³)		135.4	
Dry Density (lb/ft³)			

omments



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S154

Issue No: 1

Limits

Client: Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is excredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

Sieve Size

Particle Size Distribution

Oven

**ASTM D 422** 

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

% Passing

### Sample Details

**Boring No:** 

**TB-W-5** 

Field Sample No: Sample Depth:

ST-5 58

**Date Sampled:** Sampled By:

LWO No:

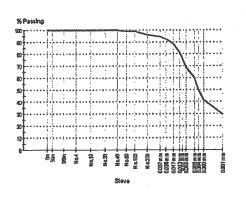
Sample Location:

000334

1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
NI- 40 (405)	400

Other Test Results Description Method Limits [ASTM D 5084] Temperture (°C) 23.5 Cell Pressure (lb/in²) 40.0 Top Pressure (lb/in²) 32.0 35.0 Bottom Pressure (lb/in²) 5.0 Effective Pressure (lb/in²) Pressure Differential (lb/in²) 3.0 Permeant 0.01 N CaS04 Sample Height (in) 2.853 Sample Diameter (in) 2.838 6.33 Sample Cross-Section Area (in²) Sample Volume (in³) 18.05 101.5 Dry Density (lb/ft3) Initial Moisture Content (%) 25.8 Final Moisture Content (%) 24.8 Average Permeabilty (cm/s) 1.48 E-8

1	3/8in (9.5mm)	100
	No.4 (4.75mm)	100
Ì	No.10 (2.0mm)	100
١	No.20 (850µm)	100
1	No.40 (425µm)	100
	No.60 (250µm)	99
1	No.100 (150µm)	99
	No.200 (75µm)	96
	0.037 mm	94
	0.026 mm	92
	0.017 mm	88
	0.012 mm	82
	0.010 mm	77
	0.008 mm	69
	0.005 mm	60
	0.004 mm	50
	0.003 mm	41
	0.001 mm	30
	Chart	
ı		



Comments N/A

Form No: 18909,V1.00



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S154

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

9/8/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

**TB-W-5** 

Field Sample No:

ST-5

Sample Depth:

58

Date Sampled:

Sampled By: LWO No:

000334

Sample Location:

Particle	Size Dis	stribution
Method:	ASTM D	

Sieve Size

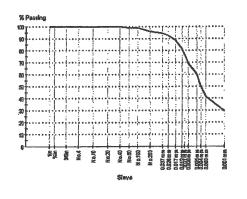
Chart

% Passing

Drying by: Oven

SATE OF PROPERTY OF THE STATE OF STATE OF	Capita Hoos Parkitons	A TANKSHADERNIA DA	namuskana
Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	31	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		13	
Sample History			
Preparation			
Moisture Content (%)	ASTM D 2216	33.3	
Wet Density (lb/ft³)		115.5	
Dry Density (lb/ft³)		86.6	
Group Symbol	ASTM D 2487	ÇL	
Group Name		Lean clay	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	305	
Shear Strength (lb/ft²)		153	
Ave. Rate Strain to Failure(%)		0.9	
Strain at Failure(%)		14.4	
Average Height (in.)		2.782	
Average Diameter (in.)	9.	1.381	
Height-Diameter Ratio		2.0	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

(11n (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	99
No.100 (150µm)	99
No.200 (75µm)	96
0.037 mm	94
0.026 mm	92
0.017 mm	88
0.012 mm	82
0.010 mm	77
0.008 mm	69
0.005 mm	60
0.004 mm	50
0.003 mm	41
0.001 mm	30





Telephone: 248. 553.6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Woodlot & MC1&4 Waste Investigation

Wayne Disposal, Inc.

Soil Boring Program

62-080376-01

Report No: MAT:62-080376-01-S153

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

Client:

Project:

Job No:

TB-W-5 LS-13

Field Sample No:

Sample Depth: Date Sampled:

Description

Shape Hardness Dispersion Device **Dispersion Period** Liquid Limit (%)

Method

Plastic Limit (%) Plasticity Index (%)

Sample History

**Group Symbol** 

**Group Name** 

Preparation

Sampled By:

000334

Method

**ASTM D 422** 

**ASTM D 4318** 

**ASTM D 2487** 

LWO No: Sample Location:

Other Test Results

Sand Gravel Description

/lethod:	ASTM D 422
Orying by:	Oven

Particle Size Distribution

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	

	3/8in (9.5mm)	100
	No.4 (4.75mm)	100
	No.10 (2.0mm)	100
	No.20 (850µm)	100
	No.40 (425µm)	100
	No.60 (250µm)	99
'	No.100 (150µm)	99
-	No.200 (75µm)	98
1	0.038 mm	88
1	0.027 mm	87
1	0.017 mm	84
'	0.012 mm	81
	0.010 mm	78
	0.007 mm	72
	0.005 mm	66
	0.004 mm	55
	0.003 mm	49
•	0.001 mm	33
	Chart	

Limits

Result

31

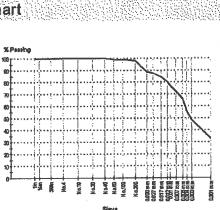
14

CL

Method A 17

> Unkown Dry

Lean clay



Comments

NA



Telephone; 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S152

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

% Passing

100

100 100

100

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-5

Field Sample No:

**ST-4** 47.5

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000334

Sample Location:

Particle	Size Dis	tribution
Mothod:	D MTSA	422

Drying by:

Sieve Size

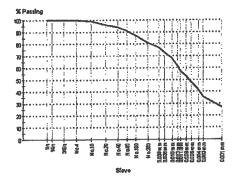
1in (25.0mm) ¾in (19.0mm)

3/8in (9.5mm)

No.4 (4.75mm)

Oven

AT .				No.10 (2.0mm)	99	
enter Lavi entreposarior intercologia (1918/1939)	vacanina penadani s	CONTANTALARIANE	estremakeasta		96	
Other Test Results				No.40 (425µm)	94	
Description	Method	Result	Limits	No.60 (250µm)	91	
Temperture (°C)	[ASTM D 5084]	23.5		No.100 (150µm)	87	
Cell Pressure (lb/ln²)		40.0		No.200 (75µm)	81	
Top Pressure (lb/in²)		32.0		0.039 mm	77	
Bottom Pressure (lb/in²)		35.0		0.028 mm	73	
Effective Pressure (lb/ln²)		5.0		0.018 mm	68	
Pressure Differential (lb/in²)		3.0		0.013 mm	61	
Permeant	0.0	1 N CaS04		0.011 mm	58	
Sample Height (in)		2.851		0.008 mm	53	
Sample Diameter (in)		2.838		0.006 mm	48	75
Sample Cross-Section Area (in²)		6.33		0.004 mm	41	
Sample Volume (in³)		18.04		0.003 mm	36	
Dry Density (lb/ft ³ )		121.2		0.001 mm	27	A CONTRACTOR
Initial Moisture Content (%)		14.1		Chart		
Final Moisture Content (%)		14.5		Mandaladil Districts on		algisteta (herek) i
Average Permeabilty (cm/s)		2.08 E-8				



Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S152 Issue No: 1

Limits

Wayne Disposal, Inc.

Project:

Client:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** Field Sample No: TB-W-5 **ST-4** 

Sample Depth: Date Sampled:

47.5

Sampled By:

LWO No:

000334

Sample Location:

Pa	ırti	cle S	ize D	ist	rib	uti	on
Met			<b>ASTM</b>				
			_				

Drying by:

Sieve Size

Oven

100

% Passing

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	25	1
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		10	
Sample History			
Preparation	ASTM D 2216	14.1	
Moisture Content (%)	ASTM D 2210	138.4	
Wet Density (lb/ft³)		121.2	
Dry Density (lb/ft³)	ASTM D 2487	CL	
Group Symbol		y with sand	
Group Name Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	6052	
Shear Strength (lb/ft²)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	3026	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		9.2	
Average Height (in.)		5.897	
Average Diameter (in.)		2.841	
Height-Diameter Ratio		2.1	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit			

1in (25.0mm) %in (19.0mm) 100 100 3/8in (9.5mm) 100 No.4 (4.75mm) 99 No.10 (2.0mm) No.20 (850μm) No.40 (425μm) 96 94 No.60 (250µm) 91 No.100 (150µm) 87 81 No.200 (75µm) 77 0.039 mm 73 0.028 mm 0.018 mm 68 0.013 mm 61 58 0.011 mm 53 0.008 mm 48 0.006 mm 41 0.004 mm 36 0.003 mm 27 0.001 mm Chart

Comments

**Plastic Limit** Remarks Visual Description



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## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S151

Client: Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed

Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

TB-W-5

Field Sample No:

LS-11

Sample Depth:

45

Date Sampled: Sampled By:

LWO No:

000334

Sample Location:

Partic	e Size D	istri	bution
Method:	ASTM		

Drying by:

Oven

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	32	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		16	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	99	
No.20 (850µm)	98	
No.40 (425µm)	97	
No.60 (250µm)	95	
No.100 (150µm)	93	
No.200 (75µm)	91	
0.038 mm	86	
0.027 mm	85	
0.017 mm	81	
0.013 mm	77	
0.010 mm	74	
0.008 mm	67	
0.006 mm	61	
0.004 mm	53	
0.003 mm	47	
0.001 mm	34	
The second second second		

Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S150

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** Field Sample No: **TB-W-5** ST-3

Sample Depth:

38

Date Sampled: Sampled By:

LWO No:

000334

Sample Location:

Average Permeabilty (cm/s)

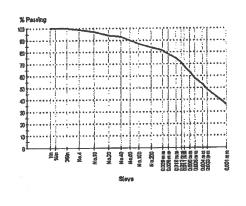
Particle Size Distribution **ASTM D 422** 

Method: Drying by:

Oven

Method	Result	Limits
[ASTM D 5084]	23.5	
	40.0	
	32.0	
	35.0	
	5.0	
	3.0	
0.01		
	2.858	
	2.830	
	6.29	
	17.98	
	107.1	
	20.2	
	19.9	
	Method [ASTM D 5084]	Method Result  [ASTM D 5084] 23.5 40.0 32.0 35.0 5.0 3.0 0.01 N CaS04 2.858 2.830 6.29 17.98 107.1 20.2

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	94	
No.40 (425µm)	93	
No.60 (250µm)	90	
No.100 (150µm)	87	
No.200 (75µm)	84	
0.039 mm	82	
0.028 mm	79	
0.018 mm	75	
0.013 mm	71	
0.011 mm	68	
0.008 mm	64	
0.006 mm	58	
0.004 mm	53	
0.003 mm	48	
0.001 mm	36	el il allententente i eta eta eta eta eta eta eta eta eta eta
Chart		



Comments

N/A

1.15 E-8



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S150

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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% Passing

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No: Field Sample No: **TB-W-5** 

Sample Depth:

ST-3 38

Date Sampled: Sampled By:

LWO No:

000334

Sample Location:

۲	а	rt	ľ	;le	S	IZe	U	IS	tr	D	uţ	10	n

Method:

**ASTM D 422** 

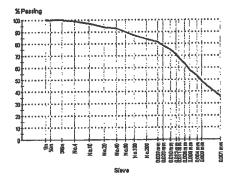
Drying by:

Sieve Size

Oven

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	34	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		16	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	20.2	
Wet Density (lb/ft³)		128.8	
Dry Density (lb/ft³)		107.1	
Group Symbol	ASTM D 2487	CL	
Group Name	Lean clay with sand		

01010 0100	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	94	
No.40 (425µm)	93	
No.60 (250µm)	90	
No.100 (150µm)	87	
No.200 (75µm)	84	
0.039 mm	82	
0.028 mm	79	
0.018 mm	75	
0.013 mm	71	41
0.011 mm	68	
0.008 mm	64	
0.006 mm	58	
0.004 mm	53	
0.003 mm	48	
0.001 mm	36	
Ohani		



Comments



Telephone: 248, 553,6300 Fax: 248,324,5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S149

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

400

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Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No: Field Sample No: TB-W-5 LS-9

Sample Depth:

35

Date Sampled:

Sampled By: LWO No:

Sample Location:

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1-	
Group Symbol	ASTM D 2488	MH/CL	
Group Name	Elastic sil	t with sand	

Particle Size Distribution

Method: Drying by:

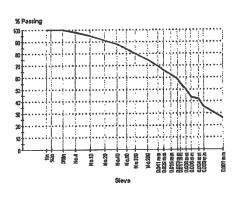
Sinva Siza

**ASTM D 422** 

: Oven

% Deceing

Sieve Size	% Passing
1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	98
No.10 (2.0mm)	95
No.20 (850µm)	91
No.40 (425µm)	88
No.60 (250µm)	84
No.100 (150µm)	80
No.200 (75µm)	75
0.041 mm	70
0.029 mm	66
0.019 mm	62
0.013 mm	59
0.011 mm	55
0.008 mm	50
0.006 mm	44
0.004 mm	42
0.003 mm	35
0.001 mm	26
Chart	



Comments
not enough for limit test



Telephone; 248, 553,6300 Fax: 248,324,5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S148

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Approved Signatory: Zeerak Paydawy

Date of Issue; 9/8/2008

Sample Details

Boring No:

TB-W-5

Field Sample No: Sample Depth: ST-2 28

Date Sampled:

Sampled By:

LWO No:

Average Permeabilty (cm/s)

000334

Sample Location:

Particle Size Distribution

Method:

**ASTM D 422** 

% Passing

100

Drying by:

Sieve Size

1in (25.0mm)

Oven

			[No.10 (2.0mm)
	WYWEE ANALYS		No.20 (850µm)
	STREET, STREET	on a supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the supplication of the s	No.40 (425µm)
Method	Result	Limits	No.60 (250µm)
[ASTM D 5084]	23.4		No.100 (150µm
	40.0		No.200 (75µm)
	32.0		0.039 mm
	35.0		0.028 mm
	5.0		0.018 mm
	3.0		0.013 mm
0.01			0.011 mm
	2.859		0.008 mm
			0.006 mm
			0.004 mm
			0.003 mm
			0.001 mm
			Chart
	18.7		4284 8792 24 4 4 4 5 FE 4
	Method [ASTM D 5084]	[ASTM D 5084] 23.4 40.0 32.0 35.0 5.0 3.0 0.01 N CaSO4	Method Result Limits  [ASTM D 5084] 23.4  40.0  32.0  35.0  5.0  3.0  0.01 N CaS04  2.859  2.853  6.39  18.28  111.1  18.6

4.41 E-8

Comments N/A



Telephone: 248. 553.6300 Fax: 248,324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S148

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Method:

Drying by:

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Date of Issue: 9/8/2008

Particle Size Distribution

Oven

**ASTM D 422** 

Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** Field Sample No: **TB-W-5** ST-2

Sample Depth:

28

Date Sampled:

Sampled By: LWO No:

000334	

Sieve Size	% Passing
1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	99
No.4 (4.75mm)	98
No.10 (2.0mm)	97
No.20 (850µm)	94

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	30	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		13	
Sample History		Oven-dried	
Preparation		Dry	

Preparation		Dry
Moisture Content (%)	ASTM D 2216	18.6
Wet Density (lb/ft³)		131.8
Dry Density (lb/ft³)		111.1
Group Symbol	ASTM D 2487	CL
Group Name	Lean clay	with sand
Specific Gravity (at 20 deg C)	ASTM D 854	2.74
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	3648
Shear Strength (lb/ft²)		1824
Ave. Rate Strain to Failure(%)		1.0

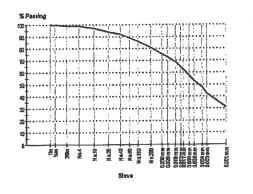
Strain at Failure(%) Average Height (in.) Average Diameter (in.) Height-Diameter Ratio init. Dry Dens.

Init. Water Content (%) Liquid Limit **Plastic Limit** 

Remarks Visual Description

Comments N/A

1in (25.0mm)	100
¼in (19.0mm)	100
3/8in (9.5mm)	99
No.4 (4.75mm)	99
No.10 (2.0mm)	97
No.20 (850µm)	94
No.40 (425µm)	92
No.60 (250µm)	89
No.100 (150µm)	86
No.200 (75µm)	81
0.039 mm	76
0,028 mm	73
0.018 mm	69
0.013 mm	64
0.011 mm	62
0.008 mm	58
0.006 mm	53
0.004 mm	48
0.003 mm	43
0.001 mm	31
Chart	
· 报告中国的国际公司 (1994年)	사내는 살 때 아내는 아내는 아내는 아내는 것 같아 사람들이 얼마나 없는 것 같아 아니는 아내는 아내는 아내는 것 같아.



14.2

2.1

30

17

5.932 2.796



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S147

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of Stete Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accordance with the terms of the

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

**TB-W-5** LS-7

Field Sample No:

25

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000334

Sample Location:

### Other Test Results

Description

Method ASTM D 422

Limits Result

Sand Gravel Description Shape

Hardness

Dispersion Device Dispersion Period

ASTM D 2488

CL

**Group Symbol Group Name** 

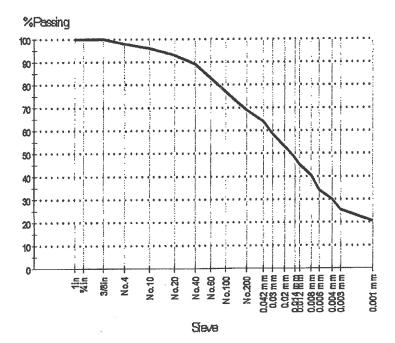
Sandy lean clay

### Particle Size Distribution

Method:

**ASTM D 422** 

Drying by: Oven



Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	93	
No.40 (425µm)	89	
No.60 (250µm)	83	
No.100 (150µm)	77	
No.200 (75µm)	69	
0.042 mm	64	
0.030 mm	58	
0.020 mm	53	
0.014 mm	48	
0.012 mm	45	
0.008 mm	41	
0.006 mm	34	
0.004 mm	30	
0.003 mm	25	
0.001 mm	21	

Comments

NOt enough for limit test



Telephone: 248. 553.6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S146

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Method:

Drying by:

Sieve Size

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** 

TB-W-5

Field Sample No: Sample Depth:

ST-1

Date Sampled:

Sampled By:

LWO No:

Description

Permeant

Temperture (°C)

Cell Pressure (lb/in²) Top Pressure (lb/in²)

Sample Height (in)

Sample Diameter (in)

Sample Volume (in3)

Final Moisture Content (%)

Average Permeabilty (cm/s)

Dry Density (lb/ft³) Initial Moisture Content (%)

Sample Cross-Section Area (in²)

Bottom Pressure (lb/in²)

Effective Pressure (lb/in²) Pressure Differential (lb/in²)

Sample Location:

Other Test Results

000554	

Method

[ASTM D 5084]

	NO.4
	No.1
	No.2
	No.4
Limits	No.6
	No.1
	No.2
	0.04
	0.029
	0.01
	0.01
	0.01
	0.00
	0.00
	0.00
	0.00
	0.00
	4.00

Result

23.7

40.0

32.0 35.0

5.0

3.0

2.851

2.825

6.27 17.87

112.1

19.1

18.9 2.36 E-8

0.01 N CaS04

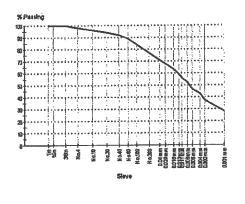
% Passing

Particle Size Distribution **ASTM D 422** 

Oven

Limits

SIEVE SIZE	70 rassing	FILLIG
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	84	
No.200 (75µm)	77	
0.040 mm	71	
0.029 mm	68	
0.018 mm	64	
0.013 mm	59	
0.011 mm	56	
0.008 mm	52	
0.006 mm	47	
0.004 mm	43	
0.003 mm	37	
0.001 mm	28	er ar syrre a space, a car
Chart		



Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S146

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

% Passing

Commo	m La T	lotoi	
Sam	$\mathbf{o} = 1$	/EI //II	
	~ . ~		-

Boring No:

**TB-W-5** 

Field Sample No: Sample Depth:

ST-1 18

Date Sampled:

Sampled By: LWO No:

000334

Sample Location:

Particle	Size Di	stribution	
Method:	ASTM	3 422	

Sieve Size

Chart

Drying by: Oven

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	27	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		12	
Sample History		Oven-dried	
Preparation	ASTM D 2216	Dry 19.1	
Moisture Content (%)	AS IM D 22 10	133.4	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)	ASTM D 2487	112.1 CL	
Group Symbol			
Group Name	ASTM D 2166	ay with sand 5595	
Unconfined Compressive Strength (lb/ft²)	AO IN D E 100	2798	
Shear Strength (lb/ft²)		1.0	
Ave. Rate Strain to Failure(%) Strain at Failure(%)		14.2	
Average Height (in.)		5.914	
Average Diameter (in.)		2.817	
Height-Diameter Ratio		2.1	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit		27	
Plastic Limit		15	
Remarks		. •	
Visual Description			

1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	98
No.10 (2.0mm)	96
No.20 (850µm)	94
No.40 (425µm)	92
No.60 (250µm)	89
No.100 (150µm)	84
 No.200 (75µm)	77
0.040 mm	71
0.029 mm	68
0.018 mm	64
0.013 mm	59
0.011 mm	56
0.008 mm	52
0.006 mm	47
0.004 mm	43
0.003 mm	37
0.001 mm	28

% Passing



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### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S145

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Method:

Drying by:

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The tosi(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** Field Sample No: TB-W-5 LS-5

Sample Depth:

Date Sampled: Sampled By:

LWO No:

000334

Sample Location:

lieve Size	% Passing
in (25.0mm)	100
in (19.0mm)	100
/8in (9.5mm)	100
lo.4 (4.75mm)	100
lo.10 (2.0mm)	100
lo.20 (850µm)	99
lo.40 (425µm)	99
lo.60 (250µm)	98
lo.100 (150µm)	97
lo 200 (75mm)	95

Particle Size Distribution

Oven

**ASTM D 422** 

Other Test Results Method Result Limits Description Sand Gravel Description **ASTM D 422** Shape Hardness **Dispersion Device** Dispersion Period ASTM D 4318 33 Liquid Limit (%) Method A Method 17 Plastic Limit (%) 16 Plasticity Index (%) Unkown Sample History Dry Preparation **ASTM D 2487** CL Group Symbol Group Name Lean clay

No.200 (75µm) 90 0.038 mm 87 0.027 mm 82 0.017 mm 77 0.013 mm 0.010 mm 74 69 0.008 mm 61 0.006 mm 0.004 mm 54 0.003 mm 48 32 0.001 mm Chart

% Passing

Comments



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# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S144

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

1in (25.0mm)

3/4in (19.0mm)

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

100

100

#### Sample Details

**Boring No:** 

**TB-W-5** 

Field Sample No: Sample Depth:

LS-4 10

Date Sampled:

Sampled By: LWO No:

000334

Sample Location:

Sieve Size	% Passing	Limits

Particle Size Distribution

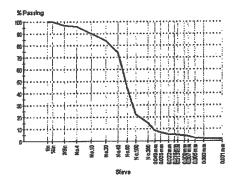
Oven

**ASTM D 422** 

	3/8in (9.5mm)	97
	No.4 (4.75mm)	96
1	No.10 (2.0mm)	90
, the se	No.20 (850µm)	84
	No.40 (425µm)	74
	No.60 (250µm)	45
_	No.100 (150µm)	22
	No.200 (75µm)	15
	0.049 mm	8
	0.035 mm	7
. 1	0.022 mm	6
-	0.016 mm	5
	0.013 mm	5
	0.009 mm	4
	0.007 mm	4
	0.005 mm	3
	0.003 mm	2
-	0.001 mm	1

Chart

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	



Comments

**Group Symbol** 

**Group Name** 

N/O = Not Obtainable

NO = Not Obtainable

Silty sand



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S143

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Sieve Size

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Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** Field Sample No:

LS-2 5

Sample Depth: Date Sampled:

Sampled By:

LWO No:

Sample Location:

000334

**TB-W-5** 

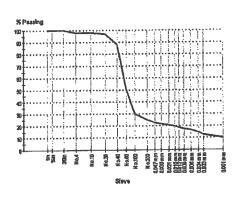
ation.			
+			

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

Particle S	ize Distribution
	ASTM D 422
Drying by:	Oven

1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	98	
No.10 (2.0mm)	98	
No.20 (850µm)	97	
No.40 (425µm)	88	
No.60 (250µm)	51	
No.100 (150µm)	30	
No.200 (75µm)	25	
0.047 mm	22	
0.033 mm	21	
0.021 mm	20	
0.015 mm	19	
0.012 mm	18	
0.009 mm	17	
0.006 mm	16	
0.004 mm	14	
0.003 mm	12	
0.001 mm	10	
Chart		

% Passing



Comments

N/O = Not Obtainable NO = Not Obtainable

NP = Non Plastic



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## Aggregate/Soil Test Report

Cilent:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S245 Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed to accordance with the terms of the accreditation.

Limits

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

Field Sample No: Sample Depth:

LS-33 78

**Date Sampled:** 

9/18/2008

**TB-W-4** 

Sampled By:

Michael McNamera

LWO No:

**Group Symbol** 

**Group Name** 

000363

Sample Location:

WDI - Woodlot

### **Particle Size Distribution**

Method:

Sieve Size

ASTM D 422 - 07

% Passing

Drying by:

Oven

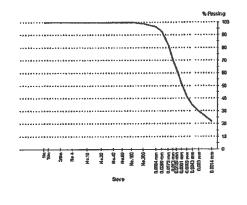
Other Test Results			dania dani
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	25	
Method	M	ethod B	
Plastic Limit (%)		18	
Plasticity Index (%)		7	
Sample History	Ove	en-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

ASTM D 2487 - 06 CL-ML

Silty clay

- 1			
	1in (25.0mm)	100	
ı	%in (19.0mm)	100	
ı	3/8in (9.5mm)	100	
	No.4 (4.75mm)	100	
ı	No.10 (2.0mm)	100	
I	No.20 (850µm)	100	
ı	No.40 (425µm)	100	
ı	No.60 (250µm)	100	
1	No.100 (150µm)	100	
ı	No.200 (75µm)	99	
ı	0.036 mm	97	
ı	0.026 mm	93	
ı	0.017 mm	82	
ı	0.013 mm	69	
	0.011 mm	64	
1	0.008 mm	52	
	0.006 mm	41	
	0.004 mm	35	
1	0,003 mm	30	
ı	0.001 mm	22	

#### Chart



Comments

Form No: 18909.V1.00, Report No: MAT:62-080376-01-\$245



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S244

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** 

TB-W-4 LS-30

Field Sample No:

72

Sample Depth: **Date Sampled:** 

9/18/2008

Sampled By:

Michael McNamera

LWO No:

000363

Sample Location:

WDI - Woodlot

**Other Test Results** 

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 -		
Method		Method A	
Plastić Limit (%)		21	
Plasticity Index (%)		11	
Sample History	(	Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 0	07 1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 -		
Group Name		Lean clay	

Particle Size Distribution

Method:

Sieve Size

ASTM D 422 - 07

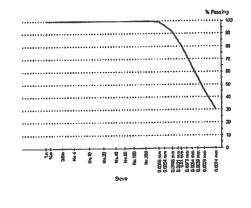
% Passing

Drying by:

Oven

1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	100	
0.036 mm	99	
0.025 mm	96	
0.017 mm	92	
0.012 mm	85	
0.010 mm	81	
0.007 mm	73	
0.005 mm	64	
0.004 mm	56	
0.003 mm	46	
0.001 mm	30	
Chart	*3	

Chart



Comments

N/A

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Page 1 of 1



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## **Aggregate/Soil Test Report**

Report No: MAT:62-080376-01-S243

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Associal of State Highway and Transportation Officials (AASHTO). The test(s) reported have been perfor in accordance with the terms of the accreditation. pay hur,

Method:

Drying by:

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

### **Sample Details**

**Boring No:** 

**TB-W-4** 

Field Sample No:

LS-25

Sample Depth:

66

Date Sampled: Sampled By:

9/18/2008 Michael McNamera

LWO No:

000363

Sample Location:

WDi - Woodlot

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	98	
No.4 (4.75mm)	98	
No.10 (2.0mm)	98	

**Particle Size Distribution** 

Oven

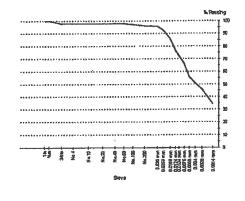
ASTM D 422 - 07

#### Other Test Results

Description	171-011-0	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	31	
Method	Me	thod A	
Plastic Limit (%)		18	
Plasticity Index (%)		13	
Sample History	Ove	n-dried	
Preparation		Wet	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	CL	
Group Name	Le	an clay	
1			

	[74]]] ( [3.0]]]][]]	100
	3/8in (9.5mm)	98
	No.4 (4.75mm)	98
	No.10 (2.0mm)	98
	No.20 (850µm)	98
	No.40 (425µm)	98
ı	No.60 (250µm)	98
٦	No.100 (150µm)	97
	No.200 (75µm)	96
1	0.036 mm	96
	0.026 mm	93
ı	0.017 mm	86
	0.012 mm	76
	0.010 mm	73
1	0.008 mm	66
	0.006 mm	56
	0.004 mm	51
	0.003 mm	46
	0.001 mm	34
1	1	

#### Chart



Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S242

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

#### **Sample Details**

### **Particle Size Distribution**

Boring No: Field Sample No: Sample Depth: Date Sampled: Sampled By: LWO No:	TB-W-4 ST-8 62 9/18/2008 Michael McNamera 000363			Method: AS Drying by: Ov	TM D 422 - 07 en	
Sample Location:	WDI - Woodlot			Sieve Size	% Passing	Limits
-				1in (25.0mm)	100	
				%in (19.0mm)	100	
				3/8in (9.5mm)	100 100	
				No.4 (4.75mm)	99	
				No.10 (2.0mm) No.20 (850µm)	98	
Other Test Resul	lts			No.40 (425µm)	97	
	Method	Result	Limits	No.60 (250µm)	95	
Description Liquid Limit (%)	ASTM D 4318 - 0		Lillito	No.100 (150µm)	91	
Method	A01111 D 4010 " 01	N/O		No.200 (75µm)	87	
Plastic Limit (%)		N/O		0.039 mm	85	
Plasticity Index (%)		N/O		0.028 mm	83	
Sample History		N/O		0.018 mm	76	
Preparation		N/O		0.013 mm	65	
Retained 0.425mm (No.		N/O		0.011 mm	58	
Moisture Content (%)	ASTM D 2216 - 0			0.008 mm	45	
Wet Density (lb/ft³)		131.8		0.006 mm	31	
Dry Density (lb/ft³)		108.1		0.005 mm	24	
Dispersion Period (mins	a) ASTM D 422 - 07	1		0.003 mm	18 13	
Shape				0.002 mm	2 13	
Hardness				Chart		
Dispersion Device	_					
Sand Gravel Description	ASTM D 2487 - 00	3 MH		-		% Passing
Group Symbol Group Name		astic silt			***************************************	T 100
Unconfined Compressive Street			***************************************			
Shear Strength (lb/ft²)		N/O				\
Ave. Rate Strain to Failt	ure(%)	N/O			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	\
Strain at Failure(%)		N/O		31		١ ١
Average Height (In.)		N/O				
Average Diameter (In.)		N/O				

N/O = Not Obtainable

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S242

Visual Description

Height-Diameter Ratio

Init. Dry Dens. Init. Water Content (%)

**Liquid Limit** 

Plastic Limit

Remarks

Comments

N/O

N/O

N/O N/O

N/O

N/O

N/O



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S241

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Method:

Drying by:

Sieve Size

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

#### **Sample Details**

**TB-W-4** 

Boring No: Field Sample No:

LS-22 58

Sample Depth: Date Sampled:

9/17/2008

Sampled By:

Michael McNamera

LWO No:

000363

Sample Location:

WDI - Woodlot

% Passing

ASTM D 422 - 07

Particle Size Distribution

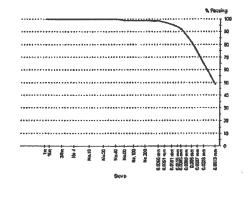
Oven

1	1in (25.0mm)	100
	%in (19.0mm)	100
	3/8in (9.5mm)	100
	No.4 (4.75mm)	· 100
	No.10 (2.0mm)	100
	No.20 (850µm)	100
	No.40 (425µm)	100
	No.60 (250µm)	99
	No.100 (150µm)	99
ı	No.200 (75µm)	99
ı	0.036 mm	99
ı	0.025 mm	98
ı	0.016 mm	96
ı	0.012 mm	94
	0.010 mm	92
1	0.007 mm	87
1	0.005 mm	81
1	0.004 mm	73
1	0.003 mm	65

#### Other Test Results

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - (	05 44	
Method	1	Viethod A	
Plastic Limit (%)		22	
Plasticity Index (%)		22	
Sample History	O ₁	ven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	7 1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 0	6 CL	
Group Name	L	ean clay	

### 0.001 mm Chart



48

Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S251

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

3 cent Portugal.

Date of Issue: 12/13/2008

Approved Signatory: Zeerak Paydawy

Comments

N/A

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Page 2 of 2



Telephone: 248, 553,6300 Fax: 248,324,5179

### **Aggregate/Soil Test Report**

Report No: MAT:62-080376-01-S251

issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 12/13/2008 Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** 

TB-W-4

Field Sample No: Sample Depth:

LS-21 56

Date Sampled:

Sampled By:

Michael McNamara

LWO No: 0

Sample Location:

000380 WDI - Woodlot Particle Size Distribution

Method: Drving by

Drying by: Date Tested:

Sieve Size

% Passing

Limits

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216 - 05	28.8	
Wet Density (lb/ft³)		126.7	
Dry Density (lb/ft³)		98.4	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	2720	
Shear Strength (lb/ft²)		1360	
Ave. Rate Strain to Failure(%)		0.9	
Strain at Failure(%)		15.0	
Average Height (in.)		2.780	
Average Diameter (in.)		1.300	
Height-Dlameter Ratio		2.1	
Init. Dry Dens.		98.4	
Init. Water Content (%)		28.8	
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Chart

Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S240

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

**TB-W-4** 

Field Sample No:

**ST-7** 

Sample Depth:

54

**Date Sampled:** Sampled By:

9/17/2008 Michael McNamera

LWO No:

Sample Location:

WDI - Woodlot

		 ~,
0003	63	

Drying by:

Sieve Size

Method:

**Particle Size Distribution** ASTM D 422 - 07

% Passing

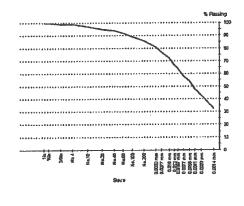
Oven

Other	Test	Results

Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		an clay	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	N/O	
Shear Strength (lb/ft²)		N/O	
Ave. Rate Strain to Failure(%)		N/O	
Strain at Failure(%)		N/O	
Average Height (in.)		N/O	
Average Diameter (in.)		N/O	
Height-Diameter Ratio		N/O	
Init. Dry Dens.		N/O	
Init, Water Content (%)		N/O	
Liquid Limit		N/O	
Plastic Limit		N/O	
Remarks		N/O	
Visual Description		N/O	

lin (25.0mm)	100
4in (19.0mm)	100
3/8in (9.5mm)	99
No.4 (4.75mm)	99
No.10 (2.0mm)	97
lo.20 (850µm)	95
vo.40 (425µm)	94
ło.60 (250µm)	92
No.100 (150µm)	89
io.200 (75µm)	86
0.038 mm	81
).028 mm	77
).018 mm	72
).013 mm	67
).011 mm	64
).008 mm	58
).006 mm	54
).004 mm	48
).003 mm	43
).001 mm	32

#### Chart



Comments

N/A



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S240

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The tast(s) reported have been performed in accordance with the terms of the accreditation. ank payday

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

### **Sample Details**

**Boring No:** 

**TB-W-4** 

Field Sample No:

**ST-7** 

Sample Depth: **Date Sampled:** 

9/17/2008

Sampled By:

Description

Michael McNamera

LWO No:

000363

Sample Location:

WDI - Woodlot

<b>Particle</b>	Size	Distribution
lethod:	AST	M D 422 - 07
rving by:	Ove	n

Method:

Sieve Size

% Passing

Drying by:

### Other Test Results

	Liquid Limit (%)	ASTM D 4318 - 05 29	,
	Method	Method A	
	Plastic Limit (%)	17	
I	Plasticity Index (%)	12	
ı	Sample History	Oven-dried	
١	Preparation	Dry	
ı	Retained 0.425mm (No. 40) (%)	0.0	
ı	Moisture Content (%)	ASTM D 2216 - 05 20.5	
ı	Wet Density (lb/ft³)	129.5	
ı	Dry Density (ib/ft³)	107.5	
ı	Dispersion Period (mins)	ASTM D 422 - 07 1	
Į	Shape "		
	Hardness		
l	Dispersion Device		
I	Sand Gravel Description		
I	Temperture (°C)	ASTM D 5084 - 03 22.8	
l	Cell Pressure (lb/in²)	40.0	
l	Top Pressure (lb/in²)	32.0	
	Bottom Pressure (lb/in²)	35.0	
Ì	Effective Pressure (lb/in²)	5.0	
ĺ	Pressure Differential (lb/in²)	3.0	
l	Permeant	0.01 N CaS04	
	Sample Height (in)	2.868	
l	Sample Diameter (in)	2.836	
Ì	Sample Cross-Section Area (in²)	6.32	
	Sample Volume (in³)	18.12	
١	Dry Density (lb/ft³)	107.5	
ĺ	initial Moisture Content (%)	20.5	
ĺ	Final Moisture Content (%)	20.9	
١	Average Permeabilty (cm/s)	3.71 E-8	

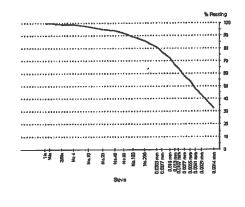
Method

Result

Limits

- 1	GIGAC GITC	An e grading
ı	1in (25.0mm)	100
ı	%in (19.0mm)	100
ı	3/8in (9.5mm)	99
ı	No.4 (4.75mm)	99
ı	No.10 (2.0mm)	97
ı	No.20 (850µm)	95
1	No.40 (425µm)	94
	No.60 (250µm)	92
1	No.100 (150µm)	89
l	No.200 (75µm)	86
	0.038 mm	81
1	0.028 mm	77
	0.018 mm	72
	0.013 mm	67
	0.011 mm	64
1	0.008 mm	58
	0.006 mm	54
	0.004 mm	48
1	0.003 mm	43
ı	0.001 mm	32
1	I	1/2

#### Chart



Comments



Telephone: 248, 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodiot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S239

Issue No: 1

Limits

This leboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(e) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

### **Sample Details**

**Boring No:** 

TB-W-4

Field Sample No:

ST-6

Sample Depth: Date Sampled: 48 9/17/2008

Sampled By:

Michael McNamera

LWO No:

000363

Sample Location:

WDI - Woodlot

#### **Particle Size Distribution**

Method:

ASTM D 422 - 07

% Passing

Drying by:

Sieve Size

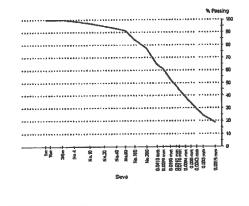
Oven

Other	Test	Results
D	48	

Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06		
Group Name	Slity clay wi		
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06		
Shear Strength (lb/ft²)		NO	
Ave. Rate Strain to Fallure(%)		N/O	
Strain at Failure(%)		N/O	
Average Height (in.)		N/O	
Average Diameter (in.)		N/O	
Height-Diameter Ratio		N/O	
Init. Dry Dens.		N/O	
Init. Water Content (%)		N/O	
Liquid Limit		N/O	
Plastic Limit		N/O	
Remarks		N/O	
Visual Description		N/O	

1in (25.0mm)	100
3/in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	99
No.10 (2.0mm)	97
No.20 (850µm)	95
No.40 (425µm)	93
No.60 (250µm)	91
No.100 (150µm)	84
No.200 (75µm)	77
0.042 mm	64
0.030 mm	61
0.020 mm	53
0.014 mm	47
0.012 mm	44
0.008 mm	39
0.006 mm	34
0.004 mm	29
0.003 mm	25
0.002 mm	19
II .	

#### Chart



Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

## **Aggregate/Soil Test Report**

Report No: MAT:62-080376-01-S239

Issue No: 1

Limits

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This teboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation. cont paychery

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

#### **Sample Details**

**Boring No:** 

**TB-W-4** 

Field Sample No: Sample Depth:

ST-6 48

**Date Sampled:** 

9/17/2008

Sampled By:

Michael McNamera

LWO No:

000363

Sample Location:

WDI - Woodlot

#### **Particle Size Distribution**

Method:

ASTM D 422 - 07

% Passing

Drying by:

Sleve Size

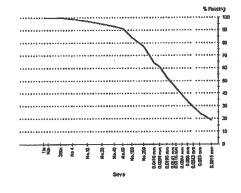
Oven

Other	Toet	Does	alter
	1 14251	PK 94351	111111

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	20	
Method	Me	lhod A	
Plastic Limit (%)		13	
Plasticity Index (%)		7	
Sample History	Over	-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03	22.9	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.01 N (	CaS04	
Sample Height (in)		2.853	
Sample Diameter (in)		2.848	
Sample Cross-Section Area (in²)		6.37	
Sample Volume (in³)		18.17	
Dry Density (lb/ft ³ )		127.4	
Initial Moisture Content (%)		12.7	
Final Moisture Content (%)		12.9	
Average Permeabilty (cm/s)	5.8	34 E-8	
Moisture Content (%)	ASTM D 2216 - 05	12.7	
Wet Density (lb/ft³)		143.5	
Dry Density (lb/ft³)		127.4	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			

	1in (25.0mm)	100
	3/4ln (19.0mm)	100
	3/8in (9.5mm)	100
.	No.4 (4.75mm)	99
	No.10 (2.0mm)	97
	No.20 (850µm)	95
1	No.40 (425µm)	93
1	No.60 (250µm)	91
7	No.100 (150µm)	84
1	No.200 (75µm)	77
1	0.042 mm	64
1	0.030 mm	61
1	0.020 mm	53
	0.014 mm	47
. 1	0.012 mm	44
٦	0.008 mm	39
1	0.006 mm	34
1	0.004 mm	29
	0.003 mm	25
	0.002 mm	19

#### Chart



Comments

Hardness **Dispersion Device** Sand Gravel Description



Telephone: 248, 553,6300 Fax: 248.324.5179

## **Aggregate/Soil Test Report**

Report No: MAT:62-080376-01-S238

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The tas(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

Sample Details		* Sec. 25. 5 (2)	Particle S	ize Distribution	1
1	TB-W-4		110000	ASTM D 422 - 07	
Boring No: Field Sample No:	LS-17		Drying by:	Oven	
Sample Depth:	44		_		
	9/17/2008				
Date Sampled:	Michael McNamera				
Sampled By: LWO No:	000363				
Sample Location:	WDI - Woodlot		Sieve Size	% Passing	Limits
Sample Location.	44D1 - 4400010f		1in (25.0mm)	100	
			¾in (19.0mm)	100	
			3/8in (9.5mm)	100	
	(A)(		No.4 (4.75mm)	100	
-			No.10 (2.0mm)		
1	Maria Carlos Carlos Villa Carlos	a 2 104 ⁷²⁷ tev v	No.20 (850µm)		
Other Test Resul	lts 1999	* 5 m 8 M	No.40 (425µm)		
Description	Method Result	Limits	No.60 (250µm)	,	
Liquid Limit (%)	ASTM D 4318 - 05 29		No.100 (150µn		
Method	Method A		No.200 (75µm)		
Plastic Limit (%)	17		0.038 mm	82	
Plasticity Index (%)	12		0.028 mm	78	
Sample History	Oven-dried		0.018 mm	72	
Preparation	Dry		0.013 mm	67	
Retained 0.425mm (No.	. 40) (%) 0.0		0.011 mm	63	
Moisture Content (%)	ASTM D 2216 - 05 18.0		0.008 mm	59	
Wet Density (lb/ft³)	137.0		0.006 mm	53	
Dry Density (lb/ft³)	116.1		0.004 mm	48	
Dispersion Period (mins	s) ASTM D 422 - 07 1		0.003 mm	42	
Shape			0.001 mm	33	
Hardness			Chart	880 (5	. 25 65
Dispersion Device					
Sand Gravel Description			.]]		% Decina
Unconfined Compressive Stren	ngth (lb/ft²) ASTM D 2166 - 06 3640				120
Shear Strength (lb/ft²)	1820				
Ave. Rate Strain to Failu			H		1
Strain at Failure(%)	15.0 2.810		H		1
Average Height (in.)	1.310		11		1
Average Diameter (in.)	2.1				
Height-Diameter Ratio	116.1		,	*************************	
Init. Dry Dens.	18.0				30
Init. Water Content (%) Liquid Limit	29		***************************************	1012230 2077 - 20122	2
Plastic Limit	17				
Remarks			22 g	# # # # # # # # # # # # # # # # # # #	E6 4 E E E
Visual Description	5/			2 2 2 3 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5	100000000000000000000000000000000000000
Vioual Doscription	ACTUD 2497 OF CL		1	Seve	•



Group Symbol

**Group Name** 

N/A

CL

Lean clay

ASTM D 2487 - 06



Telephone: 248, 553,6300 Fax: 248,324,5179

### **Aggregate/Soil Test Report**

Report No: MAT:62-080376-01-S247

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

NIO NE

**Particle Size Distribution** 

Date of Issue: 11/24/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

TB-W-4

Field Sample No:

ST-5

Sample Depth: Date Sampled: 40

Sampled By:

Michael McNamara 000374

LWO No: Sample Location:

WDI - Woodlot

Sieve Size

Method:

Drying by:

**Date Tested:** 

% Passing

Limits

## Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216 - 0	5 18.4	
Wet Density (lb/ft³)		133.0	
Dry Density (lb/ft³)		112.4	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 0	6 7300	
Shear Strength (lb/ft²)		3660	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		9.9	
Average Height (in.)		5.850	
Average Diameter (in.)		2.840	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		112.4	
Init. Water Content (%)		18.4	
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Chart

Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S237

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

### **Sample Details**

**Boring No:** 

TB-W-4

Field Sample No:

**ST-5** 

Sample Depth:

40

Date Sampled:

9/17/2008

Sampled By:

Michael McNamera

LWO No:

000363

Sample Location:

WDI - Woodlot

### **Particle Size Distribution**

ASTM D 422 - 07

Method: Drying by:

Oven

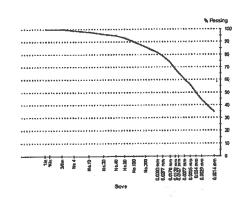
Other	Toef	Dogs	ılte

Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name	Le	an clay-	

rajaja rapaasalii er baasiijalii

Sieve Size	% Passing
1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	99
No.10 (2.0mm)	98
No.20 (850µm)	96
No.40 (425µm)	95
No.60 (250µm)	93
No.100 (150µm)	90
No.200 (75µm)	86
0.038 mm	82
0.028 mm	79
0.018 mm	74
0.013 mm	68
0.011 mm	65
0.008 mm	61
0.006 mm	56
0.004 mm	50
0.003 mm	44
0.001 mm	35

#### Chart



Comments



Telephone: 248, 553,6300 Fax: 248,324,5179

### **Aggregate/Soil Test Report**

Wayne Disposal, Inc.

**Project:** 

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S237

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The tast(s) reported have been performed in accordance with the terms of the accreditation.

sent pay hery

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**TB-W-4** 

Boring No: Field Sample No:

ST-5

P	'ar	ticle	Size Distributio	ľ
			407140 400 07	

Method:

ASTM D 422 - 07

Drying by:

Oven

Sample Depth: 40			' ' '		
Sample Depth: 40 Date Sampled: 9/17/20	108				
	i McNamera				
Sampled By: Michael LWO No: 000363					
	Woodlot		Sieve Size	% Passing	Limits
Sample Location: WDI - \	/voodiot		1in (25.0mm)	100	
			¾in (19.0mm)	100	
			3/8in (9.5mm)	100	
			No.4 (4.75mm)	99	
			No.10 (2.0mm)	98	
	1 V	8 94	No.20 (850µm)	96	
Other Test Results		,	No.40 (425µm)	95	
Description	Method Result	Limits	No.60 (250µm)	93	
Liquid Limit (%)	ASTM D 4318 - 05 32		No.100 (150µm)	90	٠.
Method	Method A		No.200 (75µm)	86	
Plastic Limit (%)	18		0.038 mm	82	
Plasticity Index (%)	14		0.028 mm	79	
Sample History	Oven-dried		0.018 mm	74	
Preparation	Dry		0.013 mm	68	
Retained 0.425mm (No. 40) (%)	0.0		0.011 mm	65	
Temperture (°C)	ASTM D 5084 - 03 22.8		0.008 mm	61	
Cell Pressure (lb/in²)	40.0		0.006 mm	56	
Top Pressure (lb/in²)	32.0		0.004 mm	50	
Bottom Pressure (lb/in²)	35.0		0.003 mm	44	
Effective Pressure (lb/in²)	5.0		0.001 mm	35	
Pressure Differential (lb/ln²)	3.0		Chart	e e Beg	
Permeant	0.01 N CaS04		J. Idil		
Sample Height (in)	2.863				12
Sample Diameter (in)	2.823		10000111000000000000000000000000000000		% Passing
Sample Cross-Section Area (in²)	6.26				m
Sample Volume (in³)	17.92				
Dry Density (lb/ft³)	114.2		,.,.,.	************	· · · · · · · · · · · · · · · · · · ·
Initial Moisture Content (%)	18.1				1
Final Moisture Content (%)	18.4			* > 4 3 , 1 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1
Average Permeability (cm/s)	3.19 E-8			,,	
Moisture Content (%)	ASTM D 2216 - 05 18.1		***************************************	**************************	30
Wet Density (lb/ft³)	134.9			*************	,., as
Dry Density (lb/ft³)	114.2	· · · · · · · · · · · · · · · · · · ·		************	19
Dispersion Period (mins)	ASTM D 422 - 07 1		55 8 3	Na.10 Na.20 Na.10 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.100 No.10	<del>                                      </del>
Shape	•			NA NA NA NA NA NA NA NA NA NA NA NA NA N	1000
Hardness			II .		



Hardness **Dispersion Device** Sand Gravel Description



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S236

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(e) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

#### **Sample Details**

**Boring No:** 

**TB-W-4** 

Field Sample No:

LS-14

Sample Depth:

**Date Sampled:** 

9/17/2008

Sampled By:

Michael McNamera

LWO No:

000363

Sample Location:

WDI - Woodlot

### **Particle Size Distribution**

Method:

ASTM D 422 - 07

% Passing

Drying by:

Sieve Size

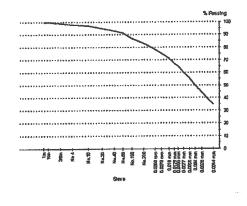
Oven

Other	<b>Test</b>	Results

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 431	8 - 05 32	, , , , , , , , , , , , , , , , , , , ,
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422	- 07 1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 248		
Group Name	Lean c	lay with sand	

1in (25.0mm)	100
¼in (19.0mm)	100
3/8in (9.5mm)	99
No.4 (4.75mm)	98
No.10 (2.0mm)	97
No.20 (850µm)	95
No.40 (425µm)	93
No.60 (250µm)	91
No.100 (150µm)	87
No.200 (75µm)	83
0.039 mm	78
0.028 mm	75
).018 mm	72
0.013 mm	67
0.011 mm	65
0.008 mm	60
0.006 mm	56
0.004 mm	50
0.003 mm	44
0.001 mm	35

#### Chart



Comments

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S236

N/A

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Page 1 of 1



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## Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S235

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation. ank paychary

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

### **Sample Details**

**Boring No:** 

Field Sample No: Sample Depth:

**Date Sampled:** 

Sampled By:

9/17/2008 Michael McNamera

LWO No:

000363

**TB-W-4** 

ST-4

32

Sample Location:

WDI - Woodlot

#### **Particle Size Distribution**

Method:

ASTM D 422 - 07

% Passing

Drying by:

Sleve Size

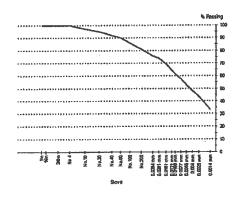
1in (25.0mm)

Oven

Other Test Results	® g		8
Description	Method	Result	Limits
Group Symbol	ASTM D 2487	-06 CL	
Group Name	Lean cla	y with sand	

1 1111 / 2010 1111111	
3/4in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	97
No.20 (850µm)	95
No.40 (425µm)	92
No.60 (250µm)	90
No.100 (150µm)	86
No.200 (75µm)	81
0.039 mm	76
0.028 mm	74
0.018 mm	69
0.013 mm	64
0.011 mm	62
0.008 mm	. <b>58</b>
0.006 mm	53
0.004 mm	48
0.003 mm	44
0.001 mm	33

#### Chart



Comments



Telephone: 248, 553,6300 Fax: 248,324,5179

### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S235

Issue No: 1

Limits

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AR

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-4

Field Sample No:

ST-4

Sample Depth:

32

Date Sampled:

9/17/2008 Michael McNamera

Sampled By: LWO No:

000363

Sample Location:

WDI - Woodlot

Particle Size Distribution

Method:

ASTM D 422 - 07

% Passing

Drying by:

Sieve Size

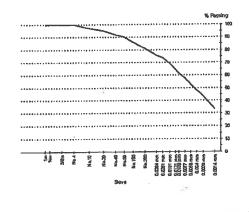
Oven

Other	Toet	Dog	ulte

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05		
Method	Me	ethod A	
Plastic Limit (%)		17	
Plasticity Index (%)		13	
Sample History	Ove	n-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03		
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/ln²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/ln²)		3.0	
Permeant	0.01 N	CaS04	
Sample Height (In)		2.854	
Sample Diameter (in)		2.830	
Sample Cross-Section Area (in²)		6.29	
Sample Volume (in³)		17.95	
Dry Density (lb/ft³)		112.0	
Initial Moisture Content (%)		19.3	
Final Moisture Content (%)		19.2	-
Average Permeability (cm/s)		.85 E-8	
Moisture Content (%)	ASTM D 2216 - 05		
Wet Density (lb/ft³)		133.6	
Dry Density (lb/ft³)		112.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			

lin (25.0mm)	100
Kin (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	97
No.20 (850µm)	95
No.40 (425µm)	92
No.60 (250µm)	90
No.100 (150µm)	86
No.200 (75µm)	81
0.039 mm	76
0.028 mm	74
0.018 mm	69
).013 mm	64
0.011 mm	62
0.008 mm	58
).006 mm	53
).004 mm	48
0.003 mm	44
).001 mm	33
20	WERE WAY TO

### Chart



Comments

Dispersion Device Sand Gravel Description



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### **Aggregate/Soil Test Report**

Report No: MAT:62-080376-01-S234

Limits

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Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

**Client:** 

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Sample Details

**Boring No:** 

**TB-W-4** 

Field Sample No:

ST-3 26

Sample Depth: Date Sampled:

9/17/2008

Sampled By:

Michael McNamera

LWO No:

000363

Sample Location:

WDI - Woodlot

<b>Particle</b>	Size Distribution
Viethod:	ASTM D 422 - 07
Drving by:	Oven

Method:

Sieve Size

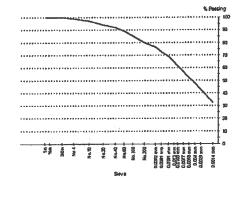
% Passing

Drying by:

Other Test Results	# # #		5X (iv
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 0	7 1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 0		
Shear Strength (lb/ft²)		3140	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (In.)		5.750	
Average Diameter (in.)		2.840	
Height-Diameter Ratio		2.0	
Init. Dry Dens.		113.7	
Init. Water Content (%)		17.5	
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Ì	1in (25.0mm)	100
ı	¾in (19.0mm)	100
ı	3/8in (9.5mm)	100
I	No.4 (4.75mm)	99
l	No.10 (2.0mm)	97
ı	No.20 (850µm)	94
ı	No.40 (425µm)	92
ı	No.60 (250µm)	89
1	No.100 (150µm)	85
I	No.200 (75µm)	80
ı	0.039 mm	77
ı	0.028 mm	73
ĺ	0.018 mm	69
1	0.013 mm	64
l	0.011 mm	62
l	0.008 mm	57
I	0.006 mm	52
I	0.004 mm	48
ı	0.003 mm	43
ı	0.001 mm	33

Chart



Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

## **Aggregate/Soil Test Report**

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

### Report No: MAT:62-080376-01-S234

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The last(s) reported have been performed according with the terms of the according to the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the c



Jessen po / E.

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-4

Field Sample No:

ST-3 26

Sample Depth: Date Sampled:

9/17/2008

Sampled By:

Preparation

Permeant

Temperture (°C)
Cell Pressure (lb/in²)

Top Pressure (lb/ln²) Bottom Pressure (lb/ln²)

Sample Height (in)

Sample Diameter (in)

Sample Volume (in³)

Effective Pressure (lb/in²)

Pressure Differential (lb/in²)

Sample Cross-Section Area (in²)

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S234

Retained 0.425mm (No. 40) (%)

Michael McNamera

LWO No:

000363

Sample Location:

WDI - Woodlot

### Particle Size Distribution

Method:

Sieve Size

ASTM D 422 - 07

% Passing

Drying by:

Oven

	ila mocationi asi	DI - ALCOGICE			
1				1in (25.0mm)	100
				%in (19.0mm)	100
				3/8in (9.5mm)	100
				No.4 (4.75mm)	99
				No.10 (2.0mm)	97
		12 80E 174 - 81			94
Othe	er Test Results	a see 27 to b	managa a 14	No.40 (425µm)	92
Desci	ription	Method	Resuit	No.60 (250µm)	89
	Symbol	ASTM D 248	7-06 CL	 No.100 (150µm)	85
	Name		lay with sand	No.200 (75µm)	80
	Limit (%)	ASTM D 431		0.039 mm	77
Metho		• • • • • • • • • • • • • • • • • • • •	Method A	0.028 mm	73
	c Limit (%)		18	0.018 mm	69
	city Index (%)		12	0.013 mm	64
	le History		Oven-dried	0.011 mm	62
1 220116	10.1101013				pr-77

ASTM D 5084 - 03

Dry

0.0

22.8

40.0

32.0

35.0

5.0

3.0

2.853

2.842

6.34 18.10

0.01 N CaS04

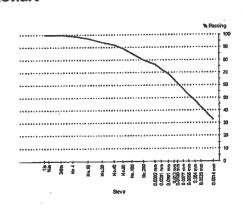
0.001 mm

0.008 mm

0.006 mm

0.004 mm

0.003 mm



57

52

48

43

33

 Dry Density (lb/ft³)
 112.7

 Initial Moisture Content (%)
 18.8

 Final Moisture Content (%)
 18.6

 Average Permeability (cm/s)
 2.74 E-8

 Moisture Content (%)
 ASTM D 2216 - 05
 17.5

 Wet Density (lb/ft³)
 133.6

 Dry Density (lb/ft³)
 113.7

Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S233

Issue No: 1

Limits

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

### **Sample Details**

**Boring No:** 

**TB-W-4** 

Field Sample No:

LS-9 22

Sample Depth: Date Sampled:

9/17/2008

Sampled By:

Michael McNamera

LWO No:

000363

Sample Location:

WDI - Woodlot

<b>Particle</b>	Size	Distribution

Method:

ASTM D 422 - 07

% Passing

Drying by:

Sieve Size

1in (25.0mm)

Oven

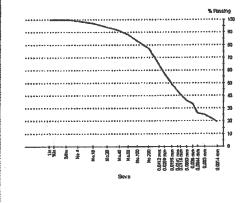
Othe	Y T	net	Do	611	He

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	5 19	
Method	M	ethod A	
Plastic Limit (%)		13	
Plasticity Index (%)		6	
Sample History	Ove	en-dried	10
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06		
Group Name	Silty clay wi	th sand	

🎎 North Har 🔭 Gearly (High Griff) (1988) (19

	3/4in (19.0mm)	100
į	3/8in (9.5mm)	100
	No.4 (4.75mm)	99
	No.10 (2.0mm)	97
	No.20 (850µm)	94
1	No.40 (425µm)	91
	No.60 (250µm)	88
	No.100 (150µm)	83
	No.200 (75µm)	77
	0.041 mm	64
	0.030 mm	57
	0.020 mm	49
	0.014 mm	44
	0.012 mm	41
	0.008 mm	36
	0.006 mm	33
1	0.004 mm	26
1	0.003 mm	25
1	0.001 mm	20

### Chart



Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-\$232

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The tast(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

### **Particle Size Distribution**

10 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar 4 Mar

ASTM D 422 - 07

Boring No: Field Sample No: Sample Depth: Date Sampled: Sampled By:	TB-W-4 ST-2 18 9/17/2008 Michael M	cNamera			Method: Drying by:	ASTM D 422 - 07 Oven	
LWO No: Sample Location:	000363 WDI - Woo	adlet			Sieve Size	% Passing	Limits
Sample Location:	AA131 AA00	odiot			1in (25.0mm)	100	
					%in (19.0mm)	100	
1					3/8in (9.5mm)		
					No.4 (4.75mm	100	
					No.10 (2.0mm		
Other Took Board	8 00	William Commence			No.20 (850µm		
Other Test Resul	ts			٠.	No.40 (425µm		
Description		Method	Result	Limits	No.60 (250µm		
Group Symbol		<b>ASTM D 2487</b>			Νο.100 (150μι		
Group Name			Lean clay		No.200 (75µm		
Unconfined Compressive Stren	igth (lb/ft²)	ASTM D 2166			0.036 mm	98	
Shear Strength (lb/ft²)			1060		0.025 mm	98 97	
Ave. Rate Strain to Failu	ıre(%)		1.0		0.016 mm 0.012 mm	94	#1
Strain at Failure(%)			15.0 5.840		0.012 mm	92	
Average Height (in.)			2.840		0.007 mm	88	
Average Diameter (in.)			2.040		0.005 mm	81	
Height-Diameter Ratio			99,6		0.004 mm	74	
Init. Water Content (%)			26.6		0.003 mm	64	
Liquid Limit			42		0.001 mm	49	
Plastic Limit			23			$= \frac{\pi}{2} \frac{\pi}{2} (a_1 \cdot a_2) (a_2 \cdot a_3) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4) (a_4 \cdot a_4$	K890 B R
Remarks					Chart	5 M 18 M 17 2 M 1	8 (68
Visual Description							
							% Passing
İ					*14*********	********	
					e) 4441 + 1 1841 + 1 1 1	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
					.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	*************************	
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				•	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	***************************************	
					(127,	######################################	30
					***************************************	*****************************	
					*********		

Comments

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S232

N/A

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Page 2 of 2



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S232

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(e) reported have been performed in accordance with the terms of the accreditation. mak pay July

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

### **Sample Details**

**Boring No:** 

**TB-W-4** 

Field Sample No:

ST-2 18

Sample Depth: **Date Sampled:** 

9/17/2008

Particle	Size	Dist	rib	utior

Method:

ASTM D 422 - 07

Drying by:

Oven

Sampled By: Michael LWO No: 000363	McNamera	*			
Sample Location: WDI - W	/oodlot		Sieve Size	% Passing	Limits
Cumple Education.			1in (25.0mm)	100	
			%in (19.0mm)	100	
Ì			3/8in (9.5mm)	100	
			No.4 (4.75mm)	100	
			No.10 (2.0mm)	100	
	a a a a a a a a a a a a a a a a a a a		No.20 (850µm)	100	
Other Test Results	e		No.40 (425µm)	. 100	
Description	Method Result	Limits	No.60 (250µm)	100	
Liquid Limit (%)	ASTM D 4318 - 05 42		No.100 (150µm)	100	
Method	Method A		No.200 (75µm)	99	
Plastic Limit (%)	23	ű	0.036 mm	98	
Plasticity Index (%)	1 <del>9</del>		0.025 mm	98	
Sample History	Oven-dried		0.016 mm	97	
Preparation	Dry		0.012 mm	94	
Retained 0.425mm (No. 40) (%)	0.0		0.010 mm	92	
Temperture (°C)	ASTM D 5084 - 03 22.8		0.007 mm	88	
Cell Pressure (lb/in²)	40.0		0.005 mm	81	
Top Pressure (lb/in²)	32.0		0.004 mm	74	
Bottom Pressure (lb/in²)	35.0		0.003 mm	64	
Effective Pressure (lb/in²)	5.0		0.001 mm	49	
Pressure Differential (lb/in²)	3.0		Chart	359 S _B 3 ² 300	38
Permeant	0.01 N CaS04				
Sample Height (in)	2.856				
Sample Diameter (in)	2.867				% Pessing
Sample Cross-Section Area (in²)	6.46			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Sample Volume (in³)	18.44		***************************************		
Dry Density (lb/ft³)	95.9				
Initial Moisture Content (%)	27.9				
Final Moisture Content (%)	27.3		***************************************		
Average Permeability (cm/s)	4.79 E-8		***************************************	*********************	
Moisture Content (%)	ASTM D 2216 - 05 26.6		***************************************		30.
Wet Density (lb/ft³)	126.0		***************************************	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	20
Dry Density (lb/ft³)	99.6		14-111111111111111111111111111111111111	****************************	10
Dispersion Period (mins)	ASTM D 422 - 07 1		2 8 8 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	F R 9 8 8 8 8	£56 £ £ £ £
Shape			- 8 Z		LODGE CODE
Hardness				ಧನ Save	g en 6" 6 g
Dispersion Device					
Sand Gravel Description					





Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S231

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

**TB-W-4** 

Field Sample No:

LS-6 14

Sample Depth: **Date Sampled:** 

9/17/2008

Sampled By:

Michael McNamera

LWO No:

Description

Liquid Limit (%)

000363

Sample Location:

WDI - Woodlot

### **Particle Size Distribution**

Method:

ASTM D 422 - 07

% Passing

Drying by:

Sieve Size

Limits

N/O

Oven

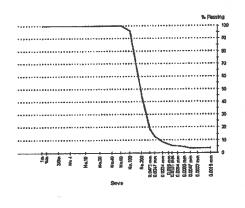
Other Test Results	

	i Method		14/0	
	Plastic Limit (%)		N/O	
	Plasticity Index (%)		N/O	
i	Sample History		N/O	
	Preparation		N/O	
	Retained 0.425mm (No. 40) (%)		N/O	
	Dispersion Period (mins)	ASTM D 422 - 07	1	
	Shape			
	Hardness			
	Dispersion Device			
	Sand Gravel Description			
	Group Symbol	ASTM D 2487 - 06	SM	
	Group Name	Silty s	sand	
			-	

ASTM D 4318 - 05

1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	96
No.200 (75µm)	45
0.047 mm	19
0.035 mm	13
0.022 mm	9
0.016 mm	7
0.013 mm	6
0.009 mm	5
0.007 mm	5
0.005 mm	4
0.003 mm	4
0.002 mm	4

#### Chart



Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

**Client:** 

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S230

This laboratory is accredited by American Association of State Highway end Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

**TB-W-4** 

Field Sample No:

LS-4 10

Sample Depth: **Date Sampled:** 

9/17/2008

Sampled By:

**Group Name** 

Michael McNamera

LWO No:

000363

Sample Location:

WDI - Woodlot

Par	ticle	Size	Distri	bution

Oven

Method:

ASTM D 422 - 07

% Passing

100

100 100

Drying by:

Sleve Size

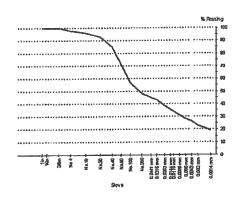
1in (25.0mm) %in (19.0mm)

3/8in (9.5mm)

Limits

				No.4 (4.75mm)	98
				No.10 (2.0mm)	96
	galait er ege er		en a Year	No.20 (850µm)	93
Other Test Results				No.40 (425µm)	85
Description	Method	Result	Limits	No.60 (250µm)	71
Liquid Limit (%)	ASTM D 4318 -	05 22		No.100 (150µm)	57
Method		Method A		No.200 (75µm)	48
Plastic Limit (%)		14		0.044 mm	45
Plasticity Index (%)		8		0.032 mm	43
Sample History	C	ven-dried		0.020 mm	39
Preparation		Dry		0.014 mm	36
Retained 0.425mm (No. 40) (%)		0.0		0.012 mm	34
Dispersion Period (mins)	ASTM D 422 - 0	7 1		0.009 mm	31
Shape				0.006 mm	28
Hardness				0.004 mm	27
Dispersion Device				0.003 mm	23
Sand Gravel Description				0.001 mm	19
Group Symbol	ASTM D 2487 -	06 SC		Chart	3 j _a
Group Name	Cl	avev sand		Consider of the same of	

Clayey sand



Comments

N/A

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医多比氏试验检疗 医线温度线

Page 1 of 1



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### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S229

Issue No: 1

Limits

This taboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

**TB-W-4** 

Field Sample No:

ST-1

Sample Depth:

**Date Sampled:** 

9/17/2008

Sampled By: LWO No:

Michael McNamera

Sample Location:

000363

WDI - Woodlot

#### **Particle Size Distribution**

Method:

ASTM D 422 - 07

Drying by:

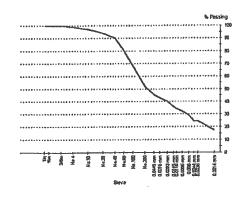
Oven

Othor	Toef	Doe	ulfe

Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name	Sandy lea	in clay	

Sleve Size	% Passing
1in (25.0mm)	100
¾in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	99
No.10 (2.0mm)	97
No.20 (850µm)	94
No.40 (425µm)	90
No.60 (250µm)	08
No.100 (150µm)	68
No.200 (75µm)	52
0.045 mm	45
0.032 mm	43
0.020 mm	40
0.015 mm	36
0.012 mm	34
0.009 mm	32
0.006 mm	30
0.004 mm	25
0.004 mm	25
0.001 mm	17

#### Chart



Comments

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S229

N/A

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Page 2 of 2



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### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S229

Issue No: 1

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Date of Issue: 10/27/2008 Approved Signatory: Zeerak Paydawy

#### **Sample Details**

Boring No:

**TB-W-4** 

Field Sample No: Sample Depth:

ST-1

**Date Sampled:** 

9/17/2008

Sampled By:

Michael McNamera

LWO No:

000363

#### Particle Size Distribution

Method:

ASTM D 422 - 07

Drying by:

Oven

LVVQ NO; UUU303				1		
Sample Location: WDI - W	/oodlot			Sieve Size	% Passing	Limits
				1in (25.0mm)	100	
				¾in (19.0mm)	100	
				3/8in (9.5mm)	100	
				No.4 (4.75mm)	99	
				No.10 (2.0mm)	97	
Other Test Results	6 - 44 - 44 - 44 S			No.20 (850µm)	94	
Other lest Results	F. F	1		No.40 (425µm)	90	
Description	Method	Result	Limits	No.60 (250µm)	80	
Liquid Limit (%)	ASTM D 431	8 - 05 23		No.100 (150µm)	68	
Method		Method A		No.200 (75µm)	52	
Plastic Limit (%)		14		0.045 mm	45	
Plasticity Index (%)		9		0.032 mm	43	
Sample History		Oven-dried		0.020 mm	40	
Preparation		Dry		0.015 mm	36	
Retained 0.425mm (No. 40) (%)		0.0		0.012 mm	34	
Temperture (°C)	ASTM D 508			0.009 mm	32	
Cell Pressure (lb/in²)		40.0		0.00 <del>6</del> mm	30	
Top Pressure (lb/in²)		32.0		0.004 mm	25	
Bottom Pressure (lb/in²)		35.0		0.004 mm	25	
Effective Pressure (lb/in²)		5.0		0.001 mm	17	
Pressure Differential (lb/in²)		3.0		Chart	· · · · · · · · · · · · · · · · · · ·	e Eig
Permeant	0.	.01 N CaS04		O I I C		
Sample Height (in)		2.891		İ		
Sample Diameter (in)		2.846		******************	*****	% Peasin
Sample Cross-Section Area (in²)		6.36				
Sample Volume (in³)		18.39		***************************************		
Dry Density (lb/ft³)		124.2		***************************************		
initial Moisture Content (%)		12.1			,	

13.2 4.85 E-8

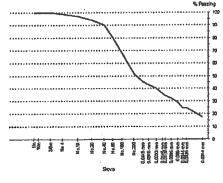
12.1

139.2

124.2

ASTM D 2216 - 05

ASTM D 422 - 07



Comments

Shape Hardness Dispersion Device Sand Gravel Description

N/A

Final Moisture Content (%)

Average Permeability (cm/s)

Moisture Content (%) Wet Density (lb/ft³)

Dispersion Period (mins)

Dry Density (lb/ft³)



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### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S228

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Fighway and Transportetion Officials (AASHTO). The test(e) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No: Field Sample No: **TB-W-3** 

Sample Depth:

LS-15 80.0

Date Sampled: Sampled By:

9/16/2008 Michael McNamara

LWO No:

000355

Sample Location:

**Dispersion Device** 

Group Symbol

Group Name

Sand Gravel Description

WDI - Woodlot

Particle	Size Distrib	ution		
Method:	ASTM D 422			

% Passing

100

3

Drying by:

Sieve Size

1in (25.0mm)

Oven

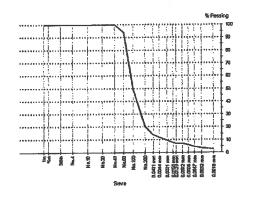
1				H tut (motorium)	
				%in (19.0mm)	100
				3/8in (9.5mm)	100
				No.4 (4.75mm)	100
				No.10 (2.0mm)	100
SERVICE CONTRACTOR OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROP	enggaggaggagg Nyiping	00000000000000000000000000000000000000		No.20 (850µm)	100
Other Test Results				No.40 (425µm)	100
Description	Method	Result	Limits	No.60 (250µm)	94
Liquid Limit (%)	ASTM D 4318 - 05	N/O		No.100 (150µm)	50
Method		N/O		No.200 (75µm)	20
Plastic Limit (%)		N/O		0.048 mm	14
Plasticity Index (%)		N/O		0.034 mm	12
Sample History		N/O		0.022 mm	9
Preparation		N/O		0.016 mm	8
Retained 0.425mm (No. 40) (%)		N/O		0.013 mm	7
Dispersion Period (mins)	ASTM D 422 - 07	1		0.009 mm	7
Shape				0.007 mm	6
Hardness				0.005 mm	5
Dispersion Device				0.003 mm	4

SM

Silty sand

ASTM D 2487 - 06

0.002 mm Chart



Comments

N/O = Not Obtainable



Telephone: 248, 553,6300 Fax: 248,324,5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S227

ssue No:

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

AR

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

TB-W-3

Field Sample No: Sample Depth: LS-14 75.0 9/16/2008

Date Sampled: Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Ì	-ar	tic	le S	12	е	Ų	IS	u	Ц	ou	u	O.	J
				-	-		enter.	40	-	40.1	-		

Method:

ASTM D 422 - 07

% Passing

Drying by:

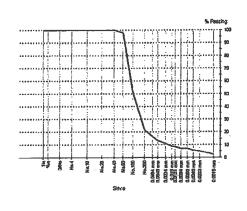
Sieve Size

Oven

Other Test Results			
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 -	05 N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 0	07 1	
Shape '			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 -		
Group Name		Silty sand	

BOILD OFF	,, , , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
%in (19.0mm) 3/8in (9.5mm) No.4 (4.75mm) No.10 (2.0mm) No.20 (850µm) No.40 (425µm)	100	
No.60 (250µm)	98	
No.100 (150µm)	52	
No.60 (250µm) No.100 (150µm) No.200 (75µm) 0.048 mm	22	
0.048 mm	17	
0.035 mm	14	
0.022 mm	11	
0.016 mm	9	
0.013 mm	9	
0.009 mm	7	
0.007 mm	7	
0.005 mm	6	
0.003 mm	5	
0.002 mm	3	

Chart



Comments



Telephone: 248, 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S226

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

**TB-W-3** LS-13

Field Sample No:

70.0

Sample Depth: Date Sampled:

9/16/2008

Sampled By:

Michael McNamara

Method

ASTM D 4318 - 05

ASTM D 422 - 07

ASTM D 2487 - 06

Elastic silt with sand

LWO No:

Description

Method

Shape Hardness Dispersion Device Sand Gravel Description

Liquid Limit (%)

Plastic Limit (%)

Sample History

Group Symbol

**Group Name** 

Preparation

Plasticity Index (%)

000355

Sample Location:

Other Test Results

Retained 0.425mm (No. 40) (%)

Dispersion Period (mins)

WDI - Woodlot

Parti	ele Size Distribution	1
Method	: ASTM D 422 - 07	

Limits

Result

Method A N/A

Oven-dried

N/A

NP

Dry

0.0

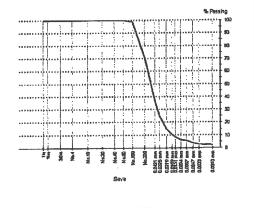
Drying by:

Oven

Sleve Size 1in (25.0mm) %in (19.0mm) 3/8in (9.5mm)	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.4 (4.75mm) No.10 (2.0mm) No.20 (850µm) No.40 (425µm) No.60 (250µm) No.100 (150µm) No.200 (75µm)	99	
No 200 (75um)	71	

Chart

Wolli (arottutt)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	99
No.200 (75µm)	71
0.042 mm	37
0.033 mm	25
0.022 mm	15
0.016 mm	11
0.013 mm	9
0.009 mm	7
0.007 mm	6
0.005 mm	4
0.003 mm	3
0.002 mm	3
A CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTO	1.00



N/A

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S226

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Page 1 of 1



Telephone: 248, 553,6300 Fax: 248,324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S225

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This leboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

**TB-W-3** 

Field Sample No: Sample Depth:

LS-12 65.0

Date Sampled:

9/16/2008

Sampled By: LWO No:

Michael McNamara

Sample Location:

000355

WDI - Woodlot

Me	thod	<b>!</b> :	ASTM	D	422	-	07	
			-					

Particle Size Distribution

% Passing

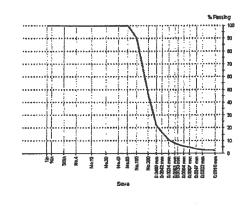
Drying by:

Sieve Size

Oven

Other Test Results		Decult	l imite
Description Crown Symbol	Method ASTM D 2487 - 06	Result SM	Limits
Group Symbol Group Name		by sand	
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method	1.072 .0.0 33	N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

- 3	OIOTO OILO	70 1 0001119	
	1in (25.0mm)	100	
	¾in (19.0mm)	100	
	3/8in (9.5mm)	100	
i	No.4 (4.75mm)	100	
	No.10 (2.0mm)	100	
3	No.20 (850µm)	100	
	No.40 (425µm)	100	
Ì	No.60 (250µm)	100	
1	No.100 (150µm)	90	
	No.200 (75µm)	46	
	0.047 mm	22	
	0.034 mm	17	
-	0.022 mm	11	
	0.016 mm	8	
	0.013 mm	7	
	0.009 mm	6	
ļ	0.007 mm	5	
1	0.005 mm	4	
	0.003 mm	3	
	0.002 mm	3	
- 1	j .		



Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S224

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(a) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** 

Field Sample No:

Sample Depth:

Date Sampled:

9/16/2008 Sampled By:

LWO No: Sample Location: Michael McNamara 000355

TB-W-3

LS-11

60.0

WDI - Woodlot

Other Test Results

Particle Size Distribution ASTM D 422 - 07 Method:

Drying by:

Oven

	Sieve Size	% Passing	Limits
- 1	1in (25.0mm)	100	
	%in (19.0mm)	100	
	3/8in (9.5mm)	100	
- 1	No.4 (4.75mm)	100	
	No.10 (2.0mm)	100	
V-13.54	No.20 (850µm)	100	
	No.40 (425µm)	100	
ı	No.60 (250µm)	100	
	No.100 (150µm)	95	
	No.200 (75µm)	58	
	0.043 mm	34	
	0.032 mm	28	
	0.021 mm	21	
	0.015 mm	16	
	0.013 mm	14	
	0.009 mm	11	
	0.007 mm	8	
	0.005 mm	7	
	0.003 mm	6	
	0,002 mm	5	
	Chart		
		garang dipangan	per resident.

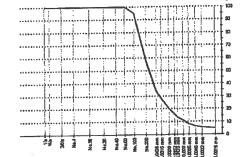
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	5 N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	

Shape Hardness

Dispersion Device Sand Gravel Description

**Group Symbol** Group Name

ASTM D 2487 - 06 MH Sandy elastic silt



Comments



Telephone: 248, 553,6300 Fax: 248,324,5179

Method:

Drying by:

Sieve Size

### Aggregate/Soil Test Report

Report No. MAT:62-080376-01-S223

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The tast(s) reported have been performed in accordance with the terms of the accreditation.

10/21/2008

Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

**TB-W-3** 

Field Sample No: Sample Depth:

LS-10 55.0

Date Sampled:

9/16/2008

Sampled By: LWO No:

Michael McNamara 000355

Sample Location:

WDI - Woodlot

Limits

% Passing

ASTM D 422 - 07

Particle Size Distribution

Oven

100 1in (25.0mm) %in (19.0mm) 100 3/8in (9.5mm) 100 No.4 (4.75mm) 100 No.10 (2.0mm) 100 No.20 (850µm) 100 No.40 (425µm) 100 No.60 (250µm) 100 No.100 (150µm) 91 No.200 (75µm) 51 0.045 mm 26 19 0.033 mm 0.022 mm 14 0.016 mm 10 0.013 mm 8 0.009 mm 7 6 0.007 mm 0.005 mm 5

Description ASTM D 4318 - 05 Liquid Limit (%) N/O N/O Method N/O Plastic Limit (%) N/O Plasticity Index (%) N/O

Sample History Preparation Retained 0.425mm (No. 40) (%) ASTM D 422 - 07

Dispersion Period (mins)

Other Test Results

Shape Hardness

Dispersion Device

Group Name

Sand Gravel Description Group Symbol

ASTM D 2487 - 06 МН Sandy elastic silt

Method

Result

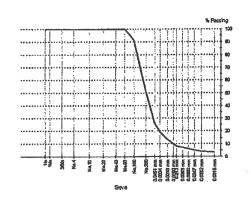
N/O

N/O

Limits

0.002 mm Chart

0.003 mm



4

Comments



NTH Consultants, Ltd.

Telephone: 248. 553.6300 Fax: 248.324.5179

## Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

### Report No: MAT:62-080376-01-S222

Issue No: 1

Limits

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**TB-W-3** 

Boring No: Field Sample No:

ST-5 50.0

Sample Depth: Date Sampled:

9/16/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Description	Method	Result	Limits
Other Test Results			

Description Group Symbol Method Result ASTM D 2487 - 06 CL Group Name Lean clay Particle Size Distribution

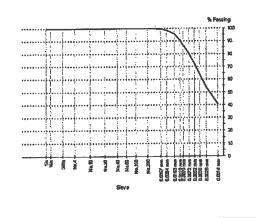
Method:

ASTM D 422 - 07

Drying by:

Oven

Sieve Size	% Passing
1in (25.0mm)	100
3/4in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	100
No.200 (75µm)	100
0.036 mm	100
0.025 mm	99
0.016 mm	96
0.012 mm	91
0.010 mm	87
0.007 mm	80
0.005 mm	73
0.004 mm	64
0.003 mm	54
0.001 mm	41



Comments



Telephone: 248, 553,6300 Fax: 248,324,5179

## Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S222

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

(AAS in acc

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-3

Field Sample No: Sample Depth: ST-5 50.0

Date Sampled: Sampled By: 9/16/2008 Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Particle Size Distribution

Method:

ASTM D 422 - 07

% Passing

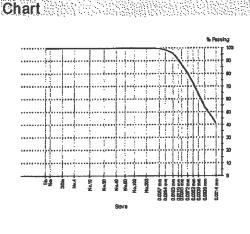
Drying by:

Sieve Size

Oven

		agentation and the state of the state of
Other Test Results		10
Description	Method Resu	ilt Limits
Liquid Limit (%)	ASTM D 4318 - 05	35
Method	Method	Α
Plastic Limit (%)		20
Plasticity Index (%)		15
Sample History	Oven-drie	ed
Preparation		ry
Retained 0.425mm (No. 40) (%)		.0
Temperture (°C)	ASTM D 5084 - 03 22	**
Cell Pressure (lb/ln²)	40	
Top Pressure (lb/in²)	32	
Bottom Pressure (lb/in²)	35	
Effective Pressure (lb/in²)	•	.0
Pressure Differential (lb/in²)	-	.0
Permeant	0.01 N CaSt	
Sample Height (in)	2.88	
Sample Diameter (in)	2.8	54
Sample Cross-Section Area (in²)	6.4	
Sample Volume (in³)	18.2	25
Dry Density (lb/ft³)	94	.3
Initial Moisture Content (%)	29	.1
Final Moisture Content (%)	29	.8
Average Permeabilty (cm/s)	1.38 E	-8
Moisture Content (%)	ASTM D 2216 - 05 29	
Wet Density (lb/ft³)	121	.7
Dry Density (lb/ft³)	94	.3
Dispersion Period (mins)	ASTM D 422 - 07	1

1in (25.0mm) 100 100 %in (19.0mm) 3/8in (9.5mm) 100 No.4 (4.75mm) 100 No.10 (2.0mm) 100 No.20 (850µm) 100 No.40 (425µm) 100 No.60 (250µm) 100 No.100 (150µm) 100 No.200 (75µm) 100 0.036 mm 100 0.025 mm 99 0.016 mm 96 91 0.012 mm 0.010 mm 87 80 0.007 mm 0.005 mm 73 0.004 mm 64 0.003 mm 54 0.001 mm 41



Comments

Shape Hardness Dispersion Device Sand Gravel Description



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# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S221

Issue No: 1

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

Field Sample No:

TB-W-3 ST-4 42.0

Sample Depth: Date Sampled:

9/16/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

article	Size Distribution
othod:	ASTM D 422 - 07

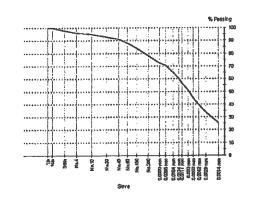
Drying by:

Oven

Other Test Results	die Steige ein History Miller	Gilder (Statement Statement State)	6440040047047040
Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166		
Shear Strength (lb/ft²)		4900	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		14.8	
Average Height (in.)		5.928	
Average Diameter (in.)		2.855	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		118.1	
Init. Water Content (%)		16.1	
Liquid Limit		25	
Plastic Limit		15	
Remarks			
Visual Description			
Group Symbol	ASTM D 2487	•	
Group Name		ay with sand	
Liquid Limit (%)	ASTM D 4318		
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		10	
Sample History		Oven-dried	
Preparation		Đry	
Retained 0.425mm (No. 40) (%)		0.0	

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	98	
No.4 (4.75mm)	96	
No.10 (2.0mm)	95	
No.20 (850µm)	93	
No.40 (425µm)	91	
No.60 (250µm)	88	
No.100 (150µm)	84	
No.200 (75µm)	78	
0.040 mm	72	
0.029 mm	71	
0.018 mm	65	
0.013 mm	60	
0.011 mm	57	
0.008 mm	51	
0.006 mm	45	
0.004 mm	39	
0.003 mm	34	
0.001 mm	26	

#### Chart



Comments

N/A

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S221

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Page 2 of 2



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S221

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The tast(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

**TB-W-3** 

Field Sample No: Sample Depth:

**ST-4** 42.0

Date Sampled:

9/16/2008 Michael McNamara

Sampled By: LWO No:

000355

Sample Location:

WDI - Woodlot

Partic			

Method:

ASTM D 422 - 07

% Passing

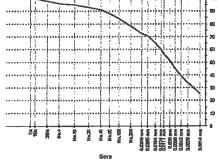
Drying by:

Sieve Size

Oven

Other Test Results			
Description	Method	Result	Limits
Temperture (°C)	ASTM D 5084		
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.0	1 N CaS04	
Sample Height (in)		2.860	
Sample Diameter (in)		2.811	
Sample Cross-Section Area (in²)		6.21	
Sample Volume (in³)		17.75	
Dry Density (lb/ft³)		120.5	
Initial Moisture Content (%)		14.6	
Final Moisture Content (%)		15.3	
Average Permeabilty (cm/s)	4 CTLL D 0040	1.60 E-8	
Moisture Content (%)	ASTM D 2216		
Wet Density (lb/ft³)		137.0	
Dry Density (lb/ft³)	407145 400	118.1	
Dispersion Period (mins)	ASTM D 422 -	07 1	
Shape			
Hardness Parts			
Dispersion Device			
Sand Gravel Description			

1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	98
No.4 (4.75mm)	96
No.10 (2.0mm)	95
No.20 (850µm)	93
No.40 (425µm)	91
No.60 (250µm)	88
No.100 (150µm)	84
No.200 (75µm)	78
0.040 mm	72
0.029 mm	71
0.018 mm	65
0.013 mm	60
0.011 mm	57
0.008 mm	51
0.006 mm	45
0.004 mm	39
0.003 mm	34
0.001 mm	26



Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S220

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The tast(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

**TB-W-3** 

Field Sample No:

LS-8 40.0

Sample Depth: Date Sampled:

9/15/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Method: Oven

Drying by:

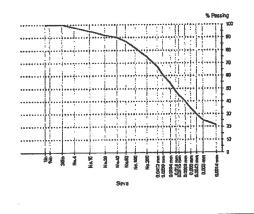
ASTM D 422 - 07

Particle Size Distribution

_,	Į	4.0	פי	~,	

Other Test Results  Description Method Result Limits  Liquid Limit (%) ASTM D 4318 - 05 21
Boodipuon
Liquid Limit (%) ASTM D 4318 - 05 21
minimum minimum (14)
Method Method A
Plastic Limit (%)
Plasticity Index (%) 7
Sample History Oven-dried
Preparation Dry
Retained 0,425mm (No. 40) (%) 0.0
Dispersion Period (mins) ASTM D 422 - 07 1
Shape
Hardness
Dispersion Device
Sand Gravel Description
Group Symbol ASTM D 2487 - 06 CL-ML
Group Name Silty clay with sand

Sieve Size	% Passing
1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	98
No.10 (2.0mm)	95
No.20 (850µm)	92
No.40 (425µm)	90
No.60 (250µm)	87
No.100 (150µm)	82
No.200 (75µm)	75
0.041 mm	67
0.030 mm	61
0.019 mm	54
0.014 mm	48
0.012 mm	45
0.008 mm	40
0.006 mm	35
0.004 mm	30
0.003 mm	25
0.001 mm	22
(	



N/A



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S219

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed to the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitution of the constitu

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

**TB-W-3** 

Field Sample No: Sample Depth:

ST-3 35.0

Date Sampled:

9/15/2008 Michael McNamara

Sampled By: LWO No:

Sample Location:

Method: Drying by:

Sieve Size

1in (25.0mm)

%in (19.0mm)

Oven

Particle Size Distribution

ASTM D 422 - 07

% Passing

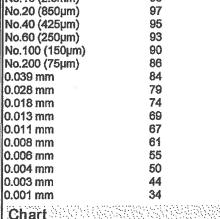
100

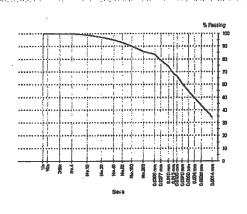
100

000355	
WDI - Woodlot	

					(0.5	400
					3/8in (9.5mm)	100
i					No.4 (4.75mm)	100
					No.10 (2.0mm)	99
	Other Test Results	VIERSTERVERSKERV	nedevske <mark>s</mark> te		No.20 (850µm)	97
	Other rest Results				No.40 (425µm)	95
	Description	Method	Result	Limits	No.60 (250µm)	93
Ì	Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	5 - 06 10920		No.100 (150μm)	90
١	Shear Strength (lb/ft²)		5460		No.200 (75μm)	86
	Ave. Rate Strain to Failure(%)		0.9		0.039 mm	84
I	Strain at Failure(%)		12.4		0.028 mm	79
Ì	Average Height (in.)		5.977		0.018 mm	74
l	Average Diameter (in.)		2.830		0.013 mm	69
I	Height-Diameter Ratio		2.1		0.011 mm	67
I	Init. Dry Dens.		121.3		0.008 mm	61
l	Init. Water Content (%)		14.6		0.006 mm	55
i	Liquid Limit		32		0.004 mm	50
I	Plastic Limit		18		0.003 mm	44
I	Remarks				0.001 mm	34
1					II .	

Visual Description **Group Symbol** ASTM D 2487 - 06 CL Group Name Lean clay







Telephone: 248, 563,6300 Fax: 248,324,5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soll Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S219

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

3 person paydown

AR ...

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

.

Field Sample No:

Sample Depth:

Date Sampled:

Sampled By: LWO No: Michael McNamara 000355

**TB-W-3** 

9/15/2008

**ST-3** 

35.0

Sample Location: WDI - Woodlot

Particle Size Distribution

Method:

ASTM D 422 - 07

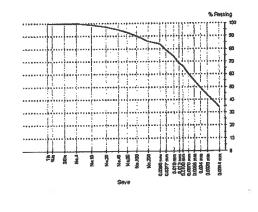
Drying by:

Oven

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 431		
Viethod		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 508		
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.	.01 N CaS04	
Sample Height (in)		2.879	
Sample Diameter (in)		2.861	
Sample Cross-Section Area (in²)		6.43	•
Sample Volume (in³)		18.51	
Dry Density (lb/ft³)		117.0	
nitial Moisture Content (%)		16.1	
Final Moisture Content (%)		16.6	
Average Permeabilty (cm/s)	ASTM D 221	1.05 E-8	
Moisture Content (%)	A51M U 221	6 - 05 14.6 139.0	
Net Density (lb/ft³)			
Dry Density (lb/ft³)	ASTM D 422	121.3	
Dispersion Period (mins)	AS IM D 422	-0/ 1	
Shape			
Hardness			
Dispersion Device			

	0/ 50 /	1 : :
Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	-
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	99	
No.20 (850µm)	97	
No.40 (425µm)	95	
No.60 (250µm)	93	
No.100 (150µm)	90	
No.200 (75µm)	86	
0.039 mm	84	
0.028 mm	79	
0.018 mm	74	*
0.013 mm	69	
0.011 mm	67	
0.008 mm	61	
0.006 mm	55	
0.004 mm	50	
0.003 mm	44	
0.001 mm	34	
10.00 1 111111	٠.	

Chart



Comments

Sand Gravel Description

NΑ



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S218

Limits

Issue No:

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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10/21/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-3

Field Sample No:

ST-2 28.0

Sample Depth: Date Sampled:

9/15/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Particle S	Size Distribution
Method:	ASTM D 422 - 07
Drying by:	Oven

Sieve Size

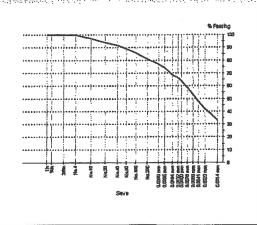
1in (25.0mm)

% Passing

1				%in (19.0mm)	100
				3/8in (9.5mm)	100
				No.4 (4.75mm)	100
				No.10 (2.0mm)	97
ALEMENT PROPERTY OF THE CORNER		SON SOMA MISS		No.20 (850µm)	94
Other Test Results				No.40 (425µm)	92
Description	Method	Result	Limits	No.60 (250µm)	89
Unconfined Compressive Strength (lb/ft²)	ASTM D 216	6 - 06 8120		No.100 (150µm)	86
Shear Strength (lb/ft²)		4060		No.200 (75µm)	81
Ave. Rate Strain to Failure(%)		1.0		0.040 mm	77
Strain at Failure(%)		15.0		0.029 mm	74
Average Height (in.)		5.960		0.018 mm	69
Average Diameter (in.)		2.830		0.013 mm	67
Height-Diameter Ratio		2.1		0.011 mm	64
Init. Dry Dens.		113.8		0.008 mm	59
Init. Water Content (%)		16.7		0.006 mm	53
Liquid Limit		30		0.004 mm	48
Plastic Limit		18		0.003 mm	42
Remarks				0.001 mm	33
Visual Description				Chart	

ASTM D 2487 - 06

Lean clay with sand



**Group Symbol** 

Group Name



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S218

Issue No: 1

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

**TB-W-3** ST-2

Field Sample No:

28.0

Sample Depth:

Date Sampled:

9/15/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

H	'al	tici	e Siz	ze L	ist	ribu	ition
	4.0			~~~	Ph 41	~~ ~	

Method:

ASTM D 422 - 07

Drying by:

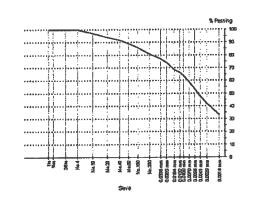
Oven

			l
Other Test Results			
Description	Method	Result	Limits
Liquid Limit (%)	<b>ASTM D 431</b>		
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		12	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 508		
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	1
Bottom Pressure (lb/in²)		35.0	1
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	C	0.01 N CaS04	
Sample Height (in)		2,865	
Sample Diameter (in)		2.832	
Sample Cross-Section Area (in²)		6.30	
Sample Volume (in³)		18.05	
Dry Density (lb/ft³)		114.7	
Initial Moisture Content (%)		17.3	
Final Moisture Content (%)		17.4	
Average Permeabilty (cm/s)		1.42 E-8	
Moisture Content (%)	ASTM D 221		
Wet Density (lb/ft³)		132.8	
Dry Density (lb/ft³)		113.8	
Dispersion Deviced (mine)	ACTM D 422	07 1	

ASTM D 422 - 07

Sieve Size % Passing Limits 100 1in (25.0mm) %in (19.0mm) 100 100 3/8in (9.5mm) No.4 (4.75mm) 100 No.10 (2.0mm) 97 No.20 (850µm) 94 No.40 (425µm) 92 No.60 (250µm) 89 86 No.100 (150µm) No.200 (75µm) 81 0.040 mm 77 0.029 mm 74 0.018 mm 69 67 0.013 mm 0.011 mm 64 0.008 mm 59 53 0.006 mm 48 0.004 mm 0.003 mm 42 33 0.001 mm

Chart



Comments

Shape Hardness Dispersion Device Sand Gravel Description

Dispersion Period (mins)

N/A

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Page 1 of 2

Form No: 18909.V1.00, Report No: MAT:62-080376-01-S218



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S217

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials ((ASSHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008

Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

**TB-W-3** 

Field Sample No: Sample Depth:

LS-6 25.0

Date Sampled: Sampled By:

9/15/2008 Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

**Particle Size Distribution** 

Method:

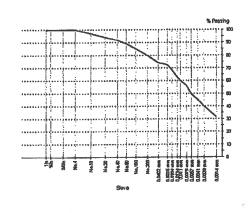
ASTM D 422 - 07

Drying by:

Oven

Description	Method		sult	Limits
Liquid Limit (%)	ASTM D 4318	3 - 05	30	
Method		Meth	od A	
Plastic Limit (%)			17	
Plasticity Index (%)			13	
Sample History		Oven-c	dried	
Preparation			Dry	•
Retained 0.425mm (No. 40) (%)			0.0	
Dispersion Period (mins)	ASTM D 422	- 07		
Shape				
Hardness				
Dispersion Device				
Sand Gravel Description				
Group Symbol	ASTM D 2487		CL	
Group Name	Lean cl	ay with s	sand	

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	97	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	85	
No.200 (75µm)	80	
0.040 mm	· 74	
0.024 mm	72	
0.018 mm	69	
0.013 mm	63	
0.011 mm	60	
0.008 mm	56	
0.006 mm	50	
0.004 mm	45	
0.003 mm	40	
0.001 mm	31	



N/A

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Page 1 of 1



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# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S216

Issue No: 1

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** Field Sample No: **TB-W-3** 

Sample Depth:

ST-1 20.0

Date Sampled:

9/15/2008 Michael McNamara

Sampled By: LWO No:

Description

Group Name

Group Symbol

000355

Sample Location:

Other Test Results

WDi - Woodlot

Method

ASTM D 2487 - 06 CL-ML

Silty clay with sand

Part	ICLE	Size Distribution
	4	AOTRA D 400 07

Oven Drying by:

Sieve Size	% Passing	Limits
Sieve Size 1in (25.0mm) 1/4in (19.0mm) 3/8in (9.5mm) No.4 (4.75mm)	100	
3/in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	

3/ No.10 (2.0mm) 97 No.20 (850µm) 93 No.40 (425µm) 90 86 No.60 (250µm) 80 No.100 (150µm) No.200 (75µm) 72 66 0.042 mm 62 0.030 mm 56 0.020 mm 51 0.014 mm 0.012 mm 48 42 0.008 mm 38

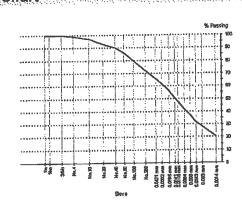
0.001 mm

0.006 mm

0.004 mm 0.003 mm

Limits

Result



32

28 21

Comments

N/A

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Page 2 of 2



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### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S216

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Method:

Drying by:

3/4in (19.0mm)

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

100

#### Sample Details

Boring No:

TB-W-3

Field Sample No:

ST-1

Sample Depth: Date Sampled:

20.0 9/15/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Sieve Size	% Passing	Limits
1in (25.0mm)	100	

ASTM D 422 - 07

Particle Size Distribution

Oven

2				112401 (141411111)	
				3/8in (9.5mm)	100
				No.4 (4.75mm)	99
				No.10 (2.0mm)	97
ATTENTION OF THE PROPERTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF TH		SECRETARIA DE LA COMPONIO		No.20 (850µm)	93
Other Test Results				No.40 (425µm)	90
Description	Method	Result	Limits	No.60 (250µm)	86
Liquid Limit (%)	ASTM D 431	8 - 05 21		No.100 (150µm)	80
Method		Method A		No.200 (75µm)	72
Plastic Limit (%)	Ti.	14		0.042 mm	66
Plasticity Index (%)		. 7		0.030 mm	62
Sample History		Oven-dried		0.020 mm	56
Preparation		Dry		0.014 mm	51
Retained 0.425mm (No. 40) (%)		0.0		0.012 mm	48
Temperture (°C)	ASTM D 5084	4 - 03 22.7		0.008 mm	42
Cell Pressure (lb/in²)		40.0		0.006 mm	38
Top Pressure (lb/in²)		32.0		0.004 mm	32
Bottom Pressure (lb/ln²)		35.0		0.003 mm	28
Effective Pressure (lb/in²)		5.0		0.001 mm	21
Pressure Differential (lb/in²)		3.0		Chart	
Permeant	0.	01 N CaS04		Citation and the same	ti est per automité la finale

Sample Height (in) 2.870 Sample Diameter (in) 2.833 Sample Cross-Section Area (in²) 6.30 Sample Volume (in³) 18.09 Dry Density (lb/ft3) 123.0 Initial Moisture Content (%) 14.5 Final Moisture Content (%) 14.4 Average Permeabilty (cm/s) 2.73 E-8 ASTM D 2216 - 05 Moisture Content (%) 14.5 Wet Density (lb/ft³) 140.8 Dry Density (lb/ft³) ASTM D 422 - 07 Dispersion Period (mins) Shape

Hardness Dispersion Device Sand Gravel Description



Telephone; 248, 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S215

Limits

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Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-3

Field Sample No:

LS-5 15.0

Sample Depth: Date Sampled:

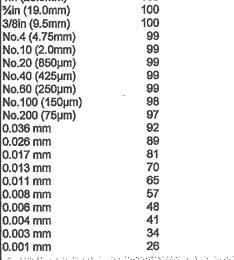
9/15/2008

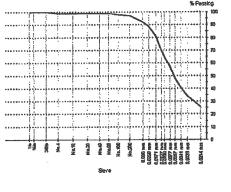
Particle	e Size Di	stributi	on	
Method:		422 - 07		

Drying by:

Oven

Sampled By: LWO No:	Michael McNamara 000355			
Sample Location:	WDI - Woodlot		Sieve Size	% Passing
Sample Location.	AADI - AAOOGIOC		1in (25,0mm)	100
			3/4in (19.0mm)	100
			3/8in (9.5mm)	100
			No.4 (4.75mm)	99
			No.10 (2.0mm)	99
italin en antonal, na agrazio i sanza.	zu innervas arche es signeticos es signeticos es es es es es es es es es es es es es	and endine ender the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the	No.20 (850µm)	99
Other Test Resu	ts		No.40 (425µm)	99
Description	Method Resu	t Limits	No.60 (250µm)	99
Liquid Limit (%)	ASTM D 4318 - 05 2	8	No.100 (150µm)	98
Method	Method	Ä	No.200 (75µm)	97
Plastic Limit (%)	1	В	0.036 mm	92
Plasticity Index (%)	1	0	0.026 mm	89
Sample History	Oven-drie	d	0.017 mm	81
Preparation	Dr	٧	0.013 mm	70
Retained 0.425mm (No.	. 40) (%) 0.	Ó	0.011 mm	<b>6</b> 5
Dispersion Period (mins		1	0.008 mm	57
Shape	•		0.006 mm	48
Hardness			0.004 mm	41
Dispersion Device			0.003 mm	34
Sand Gravel Description	า		0.001 mm	26
Group Symbol	ASTM D 2487 - 06 C	L.	Chart	
Group Name	Lean cla	у	Unart	
				*************************





Comments

ΝA



Telephone: 248. 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S214

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This taboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/21/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

**TB-W-3** 

Field Sample No:

LS-3 7.5

Sample Depth: Date Sampled:

9/15/2008

Sampled By:

Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

55			

Other Test Results			
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Diagtic Limit (%)		N/O	

Plastic Limit (%) Plasticity Index (%) N/O N/O Sample History N/O Preparation Retained 0.425mm (No. 40) (%) N/O

ASTM D 422 - 07 Dispersion Period (mins)

Shape Hardness

Dispersion Device

Sand Gravel Description Group Symbol

ASTM D 2487 - 06 SM **Group Name** Silty sand Particle Size Distribution ASTM D 422 - 07

Method:

Oven

% Passing

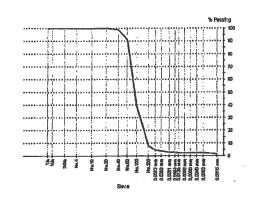
Drying by:

Sieve Size

1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	99	
No.60 (250µm)	91	
No.100 (150µm)	40	
No.200 (75µm)	8	
0.051 mm	5	
0.036 mm	4	
0.023 mm	3	
0.016 mm	3	
0.014 mm	3	
0.010 mm	3	
0.007 mm	3	
0.005 mm	3	

0.002 mm Chart

0.003 mm



2

Comments

N/O = Not Obtainable

Form No: 18909.V1.00, Report No: MAT:62-080378-01-S214



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S213.

Issue No: 1

This laboratory is accredited by American Association of Stale Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

10/21/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

**TB-W-3** 

Field Sample No:

LS-1 2.5

Sample Depth:

Date Sampled: Sampled By:

9/15/2008 Michael McNamara

LWO No:

000355

Sample Location:

WDI - Woodlot

Particle	Size Distribution	1
Method:	ASTM D 422 - 07	

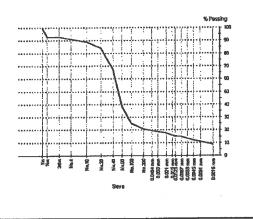
Drying by:

Oven

Other Test Results			
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 431		
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422	- 07 1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 248	7 - 06 SM	

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	93	
3/8in (9.5mm)	93	
No.4 (4.75mm)	91	
No.10 (2.0mm)	89	
No.20 (850µm)	84	
No.40 (425µm)	67	141
No.60 (250µm)	38	
No.100 (150µm)	25	
No.200 (75µm)	21	
0.046 mm	20	
0.033 mm	19	
0.021 mm	18	
0.015 mm	16	
0,012 mm	15	
0.009 mm	15	
0.006 mm	13	
0.005 mm	12	
0.003 mm	11	
0.002 mm	9	

### Chart



Comments

Group Name

N/O = Not Obtainable

Silty sand



Telephone; 248, 553,6300 Fax: 248,324,5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S108

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

(AASI-In acco

Method:

Drying by:

3/8in (9.5mm)

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The (ast(s) reported have been performed in accordance with the terms of the accreditation.

late of leave: 9/8/2008

Date of Issue: 9/8/2006 Approved Signatory: Zeerak Paydawy

100

100 100

100

99

75 30

12

9

5

4

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3

2

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Come	~	oi.	l٥
Samo		211	
A mer to y land	 _	-	

Boring No:

TB-W-2

Field Sample No:

LS-17

Sample Depth:

80

Date Sampled:

Sampled By: LWO No:

000334

Sample Location:

Sieve Size 1in (25.0mm)	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	

Particle Size Distribution

Oven

**ASTM D 422** 

No.4 (4.75mm)
No.10 (2.0mm)
No.20 (850µm)
No.40 (425µm)
No.60 (250µm)
No.100 (150µm)
No.200 (75µm)
0.050 mm
0.036 mm
0.023 mm
0.016 mm
0.013 mm
0.009 mm
0.007 mm
0.005 mm

0.001 mm Chart

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

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Comments
N/O = Not Obtainable

NO = Not Obtainable NP = Non Plastic



Telephone: 248, 553,6300 Fax: 248,324,5179

### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S107

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

9/8/2008 Approved Signatory: Zeerak Paydawy

% Passing

100

Sample Details

Boring No:

Field Sample No:

Sample Depth:

Date Sampled:

Sampled By:

Description

Shape

Hardness

Method

LWO No:

000334

Method

**ASTM D 422** 

ASTM D 4318

**ASTM D 2487** 

**TB-W-2** 

LS-16

75

Sample Location:

Other Test Results

Sand Gravel Description

Dispersion Device

Dispersion Period

Liquid Limit (%)

Plastic Limit (%)

Sample History

**Group Symbol** 

Group Name

Preparation

Plasticity Index (%)

Particl	e Size D	istribut	ion
Method:	ASTM		

Drying by:

Sieve Size

1in (25.0mm)

Oven

	%in (19.0mm)
	3/8in (9.5mm)
	No.4 (4.75mm)
	No.10 (2.0mm)
504	No.20 (850µm)
유학	No.40 (425µm)
	No.60 (250µm)
	No.100 (150µm)
	No.200 (75µm)
	0.042 mm
	0.032 mm
	0.021 mm
_	0.016 mm
	0.013 mm
	0.009 mm
	0.006 mm
	0.005 mm
	0.003 mm
	0.001 mm
	■ Sear to distribute the service of the first of the service

% Pausing

Comments N/O = Not Obtainable

NO = Not Obtainable

NP = Non Plastic

Result

N/O

N/O

N/O

N/O

N/O

N/O

ML

Sandy silt

Limits



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No. MAT:62-080376-01-S106

Issue No:

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

100

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

Particle Size Distribution

Oven

**ASTM D 422** 

#### Sample Details

**Boring No:** 

TB-W-2

Field Sample No:

LS-15

Sample Depth:

Date Sampled: Sampled By:

LWO No:

000334

Sample Location:

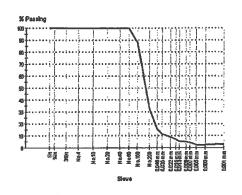
Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	

Method:

Drying by:

3/8in (9.5mm)

				No.4 (4.75mm)	100	
				No.10 (2.0mm)	100	
Other Test Results		MWHENSWERN		No.20 (850µm)	100	
Other lest Kesuits		Participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participation of the participa	anne sand	No.40 (425µm)	100	
Description	Method	Result	Limits	No.60 (250µm)	100	
Sand Gravel Description	ASTM D 422			No.100 (150µm)	88	
Shape				No.200 (75µm)	33	
Hardness				0.048 mm	15	
Dispersion Device				0.035 mm	11	
Dispersion Period		1		0.022 mm	9	
Liquid Limit (%)	ASTM D 4318	N/O		0.016 mm	7	
Method		N/O		0.013 mm	6	
Plastic Limit (%)		N/O		0.009 mm	5	
Plasticity Index (%)		N/O		0.007 mm	5	
Sample History		N/O		0.005 mm	3	
Preparation		N/O		0.003 mm	3	
Group Symbol	ASTM D 2487	SM		0.001 mm		
Group Name		Silty sand		Chart		



Comments

N/O = Not Obtainable

NO = Not Obtainable

NP = Non Plastic



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S105

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Particle Size Distribution

Oven

**ASTM D 422** 

Method:

Drying by:

Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

### Sample Details

**Boring No:** Field Sample No: TB-W-2 LS-14

Sample Depth:

65

Date Sampled: Sampled By:

LWO No:

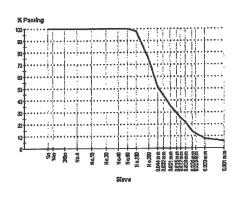
000334

Sample Location:

Limits % Passing Sieve Size 1in (25.0mm) 100 %in (19.0mm) 100

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		-
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group Name	Si	It with sand	

Mili / Larottititi)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	100
No.10 (2.0mm)	100
No.20 (850µm)	100
No.40 (425µm)	100
No.60 (250µm)	100
No.100 (150µm)	98
No.200 (75µm)	75
0.044 mm	52
0.032 mm	45
0.021 mm	36
0.015 mm	30
0.012 mm	26
0.009 mm	22
0.006 mm	14
0.005 mm	12
0.003 mm	8
0.001 mm	6
Chart	



Comments

N/O = Not Obtainable

NO = Not Obtainable

NP = Non Plastic



Telephone: 248. 553.6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S104

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

¾in (19.0mm)

Date of Issue: 9/8/2008

Particle Size Distribution

Oven

**ASTM D 422** 

Approved Signatory: Zeerak Paydawy

100

### Sample Details

**Boring No:** 

**TB-W-2** 

Field Sample No:

ST-5 58

Sample Depth: Date Sampled:

Sampled By:

LWO No:

Description

Shape Hardness Dispersion Device Dispersion Period

0003

Sample Location:

Other Test Results

Sand Gravel Description

334			
	Sieve Size	% Passing	Limits
	1in (25.0mm)	100	

Limits

	3/8in (9.5mm)	100	- 2
	No.4 (4.75mm)	100	
	No.10 (2.0mm)	100	
	No.20 (850µm)	100	
:::	No.40 (425µm)	100	
	No.60 (250µm)	100	
	No.100 (150µm)	92	
	No.200 (75µm)	25	
	0.050 mm	11	
	0.036 mm	7	
	0.023 mm	4	
	0.017 mm	3	
	0.014 mm	3	
	0.010 mm	3 3	
	0.007 mm	3	
	0.005 mm	. 2	
	0.003 mm	2	
_		_	

Liquid Limit (%) N/O N/O Method Plastic Limit (%) N/O Plasticity Index (%) N/O N/O Sample History Preparation N/O **ASTM D 2487 Group Symbol** SM 0.001 mm **Group Name** Silty sand

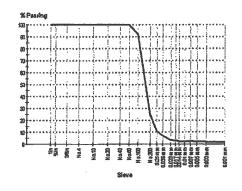
**ASTM D 4318** 

Method

ASTM D 422

Result

Chart



Comments

N/O = Not Obtainable

NO = Not Obtainable NP = Non Plastic



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S103

Issue No: 1

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Limits

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

% Passing

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

### Sample Details

Boring No: Field Sample No: 55

Sample Depth:

Date Sampled:

Sampled By:

LWO No: Sample Location:

TB-W-2 LS-12

000334

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group Name		Silt	

_ :			The same of the same of the grant of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the s	******
D.√	~ r t	iol	a Ciza I notribuiti	nn .
	31:1	11.	= OIZE DIBLIDULI	J 1 1 .:
			e Size Distributi	T. 3 4 4 4

Method: Drying by:

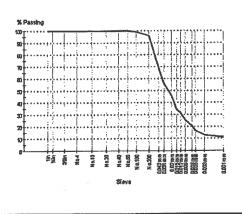
Sieve Size

(In /25 0mm)

**ASTM D 422** 

Oven

1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	99	
No.200 (75µm)	96	
0.042 mm	69	
0.031 mm	56	
0.020 mm	46	
0.015 mm	34	
0.012 mm	32	
0.009 mm	26	
0.006 mm	21	
0.005 mm	17	
0.003 mm	13	
0.001 mm	11	٠
Chart		
	e o nene annament fan er zijf fan f	



Comments

N/O = Not Obtainable

NO = Not Obtainable

NP = Non Plastic



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S102

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(e) reported have been performed in accordance with the terms of the accreditation.

9/8/2008 Approved Signatory: Zeerak Paydawy

% Passing

#### Sample Details

Boring No:

**TB-W-2** 

Field Sample No:

ST-4

Sample Depth:

48

Date Sampled:

Sampled By: LWO No:

000334

Sample Location:

<b>Particle</b>	Size Distribution	
Method:	ASTM D 422	

Drying by:

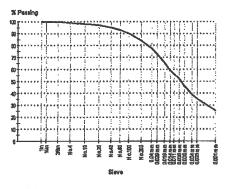
Sieve Size

1in (25 0mm)

Oven

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.01	I N CaS04	
Sample Height (in)		2.856	
Sample Diameter (in)		2.863	
Sample Cross-Section Area (in²)		6.44	
Sample Volume (in³)		18.39	
Dry Density (lb/ft³)		125.3	
Initial Moisture Content (%)		13.2	
Final Moisture Content (%)		13.1	
Average Permeabilty (cm/s)		1.39 E- <b>7</b>	

Firi (20.0hill)	100
¾in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	99
No.10 (2.0mm)	98
No.20 (850µm)	97
No.40 (425µm)	95
No.60 (250µm)	93
No.100 (150µm)	90
No.200 (75µm)	84
0.040 mm	77
0.029 mm	73
0.019 mm	66
0.014 mm	59
0.011 mm	56
0.008 mm	52
0.006 mm	46
0.004 mm	39
0.003 mm	35
0.001 mm	26
Chart	





Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Woodlot & MC1&4 Waste Investigation

Wayne Disposal, Inc.

Soil Boring Program

62-080376-01

Report No: MAT:62-080376-01-S102

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

### Sample Details

Boring No:

Client:

Project:

Job No:

**TB-W-2** 

Field Sample No: Sample Depth:

ST-4 48

Date Sampled:

Sampled By: LWO No:

Sample Location:

000334

Other Test Results	
Other rest Results	And and and a

Limits Method Result Description Sand Gravel Description **ASTM D 422** Shape Hardness **Dispersion Device Dispersion Period ASTM D 4318** Liquid Limit (%) 23 Method A Method 14 Plastic Limit (%) Plasticity Index (%) 9 Oven-dried Sample History Dry Preparation **ASTM D 2216** Moisture Content (%) 13.2 141.8 Wet Density (lb/ft³) 125.3 Dry Density (lb/ft³) **ASTM D 2487** CL **Group Symbol** 

Lean clay with sand

Particle Size Distribution

Method: Drying by:

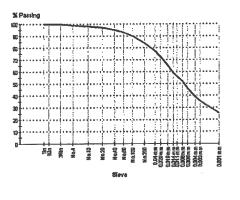
Sieve Size

ASTM D 422

Oven

% Passing

1in (25.0mm)	100	=
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	98	
No.20 (850µm)	97	
No.40 (425µm)	95	
No.60 (250µm)	93	
No.100 (150µm)	90	
No.200 (75µm)	84	
0.040 mm	77	
0.029 mm	73	
0.019 mm	66	
0.014 mm	59	
0.011 mm	56	
0.008 mm	52	
0.006 mm	46	
0.004 mm	39	
0.003 mm	35	
0.001 mm	26	
Chart		
ENGRAPHER OF THE STATE OF THE	医毛皮氏试验检尿病 化氯化甲酰胺甲烷基甲基甲酰	A A STATE OF THE STATE OF



Comments

**Group Name** 



Telephone: 248, 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S101

Issue No:

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

**TB-W-2** 

Field Sample No:

LS-10

Sample Depth:

Date Sampled:

Sampled By: LWO No:

000334

Sample Location:

	Particle	Size Distribution
ä	Hadle and	A OTHER D. 400

Method:

Sieve Size

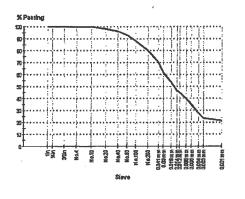
**ASTM D 422** 

% Passing

Drying by: Oven

Cample Location.			
era no anti-managa na del nambalare a companyo	ernes in tenevelos ercestres tenes tenes en este tenes.	an an an an an an an an an an an an an a	. s tores to entirents the
Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		11	
Liquid Limit (%)	ASTM D 4318	19	
Method		Method A	
Plastic Limit (%)		12	
Plasticity Index (%)		7	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL-ML	
Group Name	Silty cla	y with sand	

	O.O.O.O.	74 . 00001119	
	1in (25.0mm)	100	
	%in (19.0mm)	100	
	3/8in (9.5mm)	100	
	No.4 (4.75mm)	100	
	No.10 (2.0mm)	100	
	No.20 (850µm)	98	
	No.40 (425µm)	96	
	No.60 (250µm)	93	
1	No.100 (150µm)	88	
	No.200 (75µm)	80	
ı	0.041 mm	70	
	0.030 mm	61	
	0.019 mm	54	
	0.014 mm	47	
	0.012 mm	45	
	0.008 mm	40	
	0.006 mm	35	
-1	0.004 mm	27	
	0.003 mm	23	
1	0.001 mm	21	
- 4	I the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of	A CONTRACTOR OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF TH	





Telephone: 248, 553,6300 Fax: 248,324,5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S100

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

400

Method:

Drying by:

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Sesses States

Particle Size Distribution

Oven

**ASTM D 422** 

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-2 LS-9

Field Sample No: Sample Depth:

40

Date Sampled:

Sampled By: LWO No:

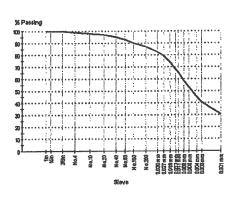
000334

Sample Location:

334				
		Sieve Size	% Passing	Limits
	•	4in (25 0mm)	100	

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	29	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		13	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

100 3/4in (19.0mm) 100 3/8in (9.5mm) No.4 (4.75mm) 99 No.10 (2.0mm) 98 No.20 (850µm) No.40 (425µm) 97 95 No.60 (250µm) 93 No.100 (150µm) 90 No.200 (75µm) 87 83 0.038 mm 80 0.027 mm 0.018 mm 74 0.013 mm 68 65 0.011 mm 0.008 mm 59 0.006 mm 53 0.004 mm 45 0.003 mm 40 0.001 mm 31 Chart



Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S099

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(e) reported have been performed.

Date of Issue: 9/8/2008

% Passing

100

100

100

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

**TB-W-2** 

Field Sample No:

ST-3 35

Sample Depth: Date Sampled:

Sampled By: LWO No:

000334

Sample Location:

۲	ar	tic	ie Size Distribution	

Method:

**ASTM D 422** 

Drying by:

Sieve Size 1in (25.0mm)

%in (19.0mm)

3/8in (9.5mm)

Oven

1					
				No.4 (4.75mm)	99
1				No.10 (2.0mm)	97
Other Test Results	CHARLES CONTROL	Parks dynas	BROWER PROPER	No.20 (850µm)	96
Other rest Kesuits				No.40 (425µm)	94
Description	Method	Result	Limits	No.60 (250µm)	92
Temperture (°C)	[ASTM D 5084]	23.1		No.100 (150µm)	89
Cell Pressure (lb/in²)	•	40.0		No.200 (75µm)	85
Top Pressure (lb/in²)		32.0		0.039 mm	83
Bottom Pressure (lb/in²)		35.0		0.028 mm	80
Effective Pressure (lb/in²)		5.0	ļ	0.018 mm	75
Pressure Differential (lb/in²)		3.0		0.013 mm	71
Permeant	0.0	1 N CaS04	ļ	0.011 mm	69
Sample Height (in)		2.854	ŀ	0.008 mm	65
Sample Diameter (in)		2.844	ļ	0.006 mm	59
Sample Cross-Section Area (in²)		6.35		0.004 mm	52
Sample Volume (in³)		18.13		0.003 mm	49
Dry Density (lb/ft³)		112.3	ļ	0.001 mm	37
Initial Moisture Content (%)		18.2		Chart	
Final Moisture Content (%)		18.9			(1) 1996 (1) 1996 (1) 1996 (1) 1996 (1) 1996 (1) 1996 (1) 1996 (1) 1996 (1) 1996 (1) 1996 (1) 1996 (1) 1996 (1
Average Permeabilty (cm/s)		1.72 E-8			



Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S099

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

3 Jean K. Pay Juny

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** Field Sample No: **TB-W-2** ST-3 35

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000334

Sample Location:

Particle Size Distribution

Method:

**ASTM D 422** 

% Passing

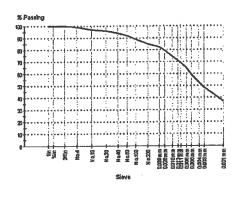
Drying by:

Sieve Size

Oven

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422	*	
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	33	
Method		Method A	
Plastic Limit (%)		18 15	
Plasticity Index (%)		Oven-dried	
Sample History			
Preparation	ASTM D 2216	Dry 18.2	
Moisture Content (%) Wet Density (lb/ft³)	, will be the	132.7	
Dry Density (lb/ft³)		112.3	
Group Symbol	ASTM D 2487	CL	
Group Name	Lean cl	ay with sand_	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	8870	
Shear Strength (lb/ft²)		4435	
Ave. Rate Strain to Fallure(%)		1.0	
Strain at Failure(%)		14.1	
Average Height (in.)		5.948	
Average Diameter (in.)		2.832	
Height-Diameter Ratio		2.1	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit		33	
Plastic Limit		18	
Remarks			

100 1in (25.0mm) %in (19.0mm) 100 100 3/8in (9.5mm) 99 No.4 (4.75mm) No.10 (2.0mm) 97 No.20 (850µm) 96 No.40 (425µm) 94 92 No.60 (250µm) 89 No.100 (150µm) No.200 (75µm) 85 83 0.039 mm 0.028 mm 80 75 0.018 mm 0.013 mm 71 69 0.011 mm 65 0.008 mm 59 0.006 mm 0.004 mm 52 49 0.003 mm 37 0.001 mm Chart



Comments

Visual Description



Telephone: 248. 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S098

Limits

Issue No:

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008

% Passing

100

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-2

Field Sample No:

ST-2

Sample Depth:

28

Date Sampled: Sampled By:

LWO No:

000334

Sample Location:

Particle	Size Dist	ribution
the state of the same	Designation of Arrest	er er engagenen met er

Method:

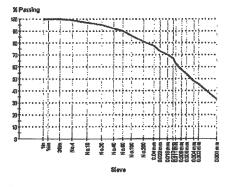
**ASTM D 422** 

Drying by:

Sieve Size

Oven

				[NO. 10 (2.0mm)
Other Test Results	SEERING SEE	NEED-WARE	2028265E155686EE	No.20 (850µm)
Official carries miles and the	<del>Managan dagan sa m</del>		annumum (en	No.40 (425µm)
Description	Method	Result	Limits	No.60 (250µm)
Temperture (°C)	[ASTM D 5084]	22.9		No.100 (150µm
Cell Pressure (lb/in²)		40.0		No.200 (75µm)
Top Pressure (lb/in²)		32.0		0.040 mm
Bottom Pressure (lb/in²)		35.0		0.028 mm
Effective Pressure (lb/in²)		5.0		0.018 mm
Pressure Differential (lb/in²)		3.0		0.013 mm
Permeant	0.0	I N CaS04		0.011 mm
Sample Height (in)		2.853		0.008 mm
Sample Diameter (in)		2.836		0.006 mm
Sample Cross-Section Area (în²)		6.32		0.004 mm
Sample Volume (in³)		18.02		0.003 mm
Dry Density (lb/ft³)		111.8		0.001 mm
Initial Moisture Content (%)		18.3		Chart
Final Moisture Content (%)		19.0		Section of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Contro
Average Permeabilty (cm/s)		1.93 E-8		





Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Woodlot & MC1&4 Waste Investigation

Wayne Disposal, Inc.

Soil Boring Program

62-080376-01

Report No: MAT:62-080376-01-S098

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The tast(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No: Field Sample No: TB-W-2 ST-2

Sample Depth: Date Sampled:

Sampled By: LWO No:

Description

**Dispersion Period** 

Liquid Limit (%)

Plastic Limit (%)

Sample History

Preparation

Plasticity Index (%)

Moisture Content (%)

Wet Density (lb/ft³)

Dry Density (lb/ft³)

Group Symbol

Group Name

Shape Hardness **Dispersion Device** 

Method

Sand Gravel Description

Client:

Project:

Job No:

000334

Method

**ASTM D 422** 

**ASTM D 4318** 

**ASTM D 2216** 

**ASTM D 2487** 

Other Test Results

Sample Location:

Particle <b></b>	Size D	stri	but	ion
Anthods	ACTAL	n 422		

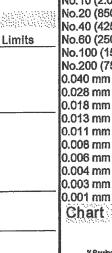
Method: Drying by:

Oven

Sieve Size	% Passing
1in (25.0mm)	100
%in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	99
No.10 (2.0mm)	97
No.20 (850µm)	95
No.40 (425µm)	92
No.60 (250µm)	90
No.100 (150µm)	86
No.200 (75µm)	81
0.040 mm	78
0.039 mm	73

0.028 mm 70 0.018 mm 67 0.013 mm 0.011 mm 0.008 mm 58 54 0.006 mm 48 0.004 mm 0.003 mm 45

Chart



Result

Method A

Oven-dried

Lean clay with sand

17

14

Dry

18.3

132.2

111.8

CL

% Passing

33



Telephone: 248. 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S097

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-2

Field Sample No:

LS-7 25

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000334

Sample Location:

<b>Particle</b>	Size Distribution
Method:	ASTM D 422

Sieve Size

1in (25.0mm)

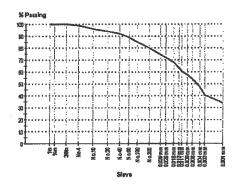
% Passing

100

Drying by: Oven

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	30	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		13	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name	Lean clay with sand		

	%in (19.0mm)	100	
	3/8in (9.5mm)	100	
	No.4 (4.75mm)	99	
	No.10 (2.0mm)	96	
1	No.20 (850µm)	94	
	No.40 (425µm)	92	
	No.60 (250µm)	89	
_	No.100 (150µm)	85	
	No.200 (75µm)	80	
	0.039 mm	75	
	0.028 mm	72	
	0.018 mm	68	
_	0.013 mm	63	
	0.011 mm	61	
	0.008 mm	58	
ì	0.006 mm	54	
	0.004 mm	47	
	0.003 mm	41	
-	0.001 mm	34	
	San San San San San San San San San San		1





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# Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S159

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

3 accept Pay Jan

Date of Issue: 9/8/2008

Particle Size Distribution

Approved Signatory: Zeerak Paydawy

Sample Details

**Boring No:** 

Field Sample No:

Sample Depth:

Date Sampled:

Sampled By:

LWO No:

000334

TB-w-2

LS-6

20

Sample Location:

Sieve Size

Method:

Drying by:

Date Tested:

% Passing

Limits

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216	18.3	
Wet Density (lb/ft³)		134.3	
Dry Density (lb/ft³)		113.5	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	3773	
Shear Strength (lb/ft²)		1887	
Ave. Rate Strain to Failure(%)		0.9	
Strain at Failure(%)		14.5	
Average Height (in.)		2.750	
Average Diameter (in.)		1.366	
Height-Diameter Ratio		2.0	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Chart

Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S096

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been perform

Date of Issue: 9/8/2008

% Passing

100

Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-2

Field Sample No:

ST-1 18

Sample Depth:

Date Sampled: Sampled By:

LWO No:

Description

Permeant

Temperture (°C)

Cell Pressure (lb/in²)

Top Pressure (lb/in²)

Sample Height (in)

Sample Volume (in²)

Dry Density (lb/ft³)

Bottom Pressure (lb/in²) Effective Pressure (lb/in²)

Pressure Differential (lb/in²)

Initial Moisture Content (%)

Final Moisture Content (%)

Average Permeabilty (cm/s)

Sample Diameter (in) Sample Cross-Section Area (in²)

000334

Method

[ASTM D 5084]

Sample Location:

Other Test Results

•	P	arl	iC	e Si	ze	D	S	tril	out	(OI	

Method:

**ASTM D 422** 

Drying by:

Sieve Size

Limits

Result

22.1

40.0

32.0 35.0

5.0

3.0

2.859

2.861 6.43

18.38

109.8

18.8

19.0

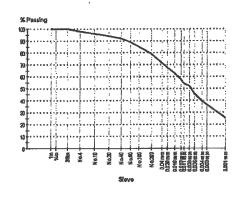
3.50 E-8

0.01 N CaS04

1in (25.0mm)

Oven

	1111 (201011111)	
	%in (19.0mm)	100
	3/8in (9.5mm)	100
	No.4 (4.75mm)	98
	No.10 (2.0mm)	96
233	No.20 (850µm)	94
	No.40 (425µm)	92
	No.60 (250µm)	89
	No.100 (150µm)	85
	No.200 (75µm)	79
	0.040 mm	71
	0.029 mm	68
	0.019 mm	63
	0.013 mm	58
	0.011 mm	54
	0.008 mm	52
	0.006 mm	46
	0.004 mm	39
	0.003 mm	37
	0.001 mm	26
	Chart	



Comments

N/O = Not Obtainable



Telephone: 248, 553,6300 Fax: 248,324,5179

# Aggregate/Soil Test Report

Woodlot & MC1&4 Waste Investigation

Wayne Disposal, Inc.

Soil Boring Program

Report No: MAT:62-080376-01-S096

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

62-080376-01 Job No:

Sample Details

Boring No:

Client:

Project:

Field Sample No: Sample Depth:

Date Sampled:

Sampled By:

LWO No: Sample Location: TB-W-2 ST-1 18

000334

Other Test Re	esults	

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	23	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		9	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	18.8	
Wet Density (lb/ft³)		130.4	
Dry Density (lb/ft³)		109.8	
Group Symbol	ASTM D 2487	CL	
Group Name	Lean cla	y with sand	
Unconfined Compressive Strength (lh/fl²)	ASTM D 2166	N/O	

N/O Shear Strength (lb/ft²) N/O Ave. Rate Strain to Failure(%) N/O Strain at Failure(%) Average Height (in.) N/O N/O Average Diameter (in.) N/O Height-Diameter Ratio N/O Init. Dry Dens. N/O Init. Water Content (%) N/O Liquid Limit

Comments N/O = Not Obtainable

Visual Description

Particle 8	Size Distribution	
fathani.	ACTAI D 422	

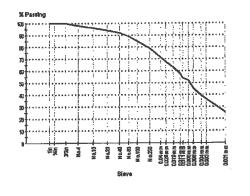
Method:

Drying by:

Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	85	
No.200 (75µm)	79	
0.040 mm	71	
0.029 mm	68	
0.019 mm	63	
0.013 mm	58	
0.011 mm	54	
0.008 mm	52	
0.006 mm	46	
0.004 mm	39	
0.003 mm	37	

0.001 mm Chart



26

N/O

N/O

N/O

Plastic Limit

Remarks



Telephone: 248. 553.6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S095

issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

% Passing

#### Sample Details

**Boring No:** 

TB-W-2

Field Sample No:

LS-5 15

Sample Depth: Date Sampled:

Sampled By: LWO No:

Sample Location:

00334	
-------	--

	(4)		
Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description Shape Hardness	ASTM D 422		

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	46	
Method		Method A	
Plastic Limit (%)		23	<i>t</i> ))
Plasticity Index (%)		23	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

#### Particle Size Distribution

Method:

**ASTM D 422** 

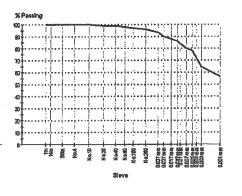
Drying by:

Sieve Size

Chart

Oven

1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	99	
No.40 (425µm)	99	
No.60 (250µm)	98	
No.100 (150µm)	97	
No.200 (75µm)	96	
0.037 mm	94	
0.027 mm	90	
0.017 mm	88	
0.012 mm	86	
0.010 mm	84	
0.007 mm	80	
0.005 mm	78	
0.004 mm	72	
0.003 mm	64	
0.001 mm	57	





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# Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S094

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

3 acres & Day Jacque.

Method

**ASTM D 422** 

Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

TB-W-2

Field Sample No: Sample Depth:

LS-3

Date Sampled:

Sampled By:

LWO No:

000334

Sample Location:

Other Test Results

Description

Sand Gravel Description

Shape

Hardness **Dispersion Device** 

**Dispersion Period** 

Group Symbol **Group Name** 

**ASTM D 2487** 

SM Silty sand

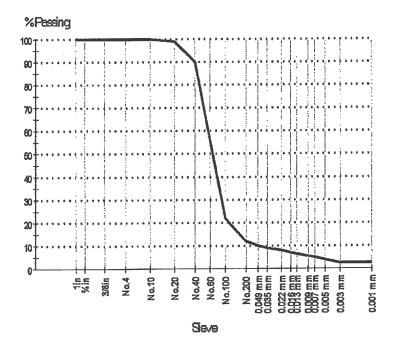
Result

### Particle Size Distribution

Method:

**ASTM D 422** 

Oven Drying by:



Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	99	
No.40 (425µm)	90	
No.60 (250µm)	56	
No.100 (150µm)	22	
No.200 (75µm)	12	
0.049 mm	10	
0.035 mm	9	
0.022 mm	8	
0.016 mm	7	
0.013 mm	7	
0.009 mm	6	
0.007 mm	5	
0.005 mm	4	
0.003 mm	3	
0.001 mm	3	

Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S093

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

Boring No:

TB-W-2

Field Sample No:

LS-1

Sample Depth:

2.5

Date Sampled: Sampled By:

LWO No: Sample Location:

000334

Other Test Results

Description

Method Sand Gravel Description

ASTM D 422

Result Limits

Shape

Hardness

Dispersion Device

**Dispersion Period** 

**ASTM D 2487 Group Symbol** 

SM

**Group Name** 

Silty sand

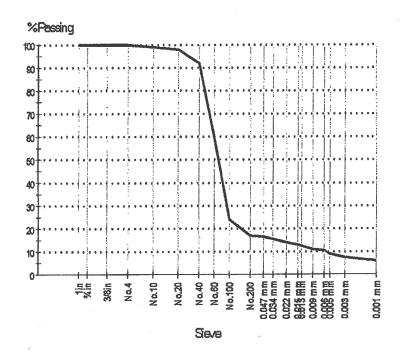
#### Particle Size Distribution

Method:

**ASTM D 422** 

Drying by:

Oven



Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	99	
No.20 (850µm)	98	
No.40 (425µm)	92	
No.60 (250µm)	60	
No.100 (150µm)	24	
No.200 (75µm)	17	
0.047 mm	16	
0.034 mm	15	
0.022 mm	14	
0.015 mm	13	
0.013 mm	12	
0.009 mm	11	
0.006 mm	10	
0.005 mm	9	
0.003 mm	7	
0.001 mm	6	

Comments



Telephone: 248, 553,6300 Fax: 248.324.5179

### Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S126

Issue No: 1

Limits

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Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

#### Sample Details

**Boring No:** 

Other Test Results

Sand Gravel Description

Dispersion Device

Dispersion Period

Liquid Limit (%)

Plastic Limit (%)

Sample History

Group Symbol

Group Name

Preparation

Plasticity Index (%)

Field Sample No: Sample Depth:

LS-39 92

**TB-W-1** 

Date Sampled:

Sampled By:

Description

Shape

Method

Hardness

LWO No:

000334

Method

ASTM D 422

ASTM D 4318

**ASTM D 2487** 

Result

N/O

N/O

N/O

N/O

N/O

N/O

SM

Silty sand

Sample Location:

Particle	Size Distribution
Method:	ASTM D 422

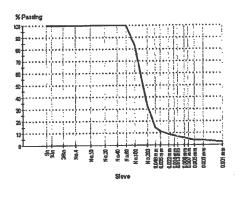
Drying by:

Oven

	~~~
	No
	No
	No
	No
Limits	No
	No
	No
	0.0
	0.0
	0.0
	0.0
	0.0
	0.0
	0.0
	0.0
	0.0
	0.0
	C
	۱,۷

% Passing Sieve Size 100 1in (25.0mm) %in (19.0mm) 100 100 3/8in (9.5mm) 100 o.4 (4.75mm) 100 o.10 (2.0mm) o.20 (850µm) 100 o.40 (425µm) 100 100 o.60 (250µm) o.100 (150µm) 83 33 o.200 (75µm) 14 048 mm 11 035 mm 9 022 mm 8 016 mm 7 013 mm 6 009 mm 5 007 mm 005 mm 4 4 003 mm 3 001 mm

Chart



Comments

N/O = Not Obtainable

NO = Not Obtainable

NP = Non Plastic



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S125

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-1

Field Sample No:

LS-37 88

Sample Depth: Date Sampled:

Sampled By: LWO No:

Sample Location:

000334	1
	•

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	15
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

Particle	Size Distribution	į
Method:	ASTM D 422	

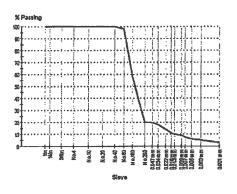
Drying by:

Sieve Size

Oven

1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	98	
No.100 (150µm)	58	
No.200 (75µm)	20	
0.047 mm	19	
0.034 mm	18	
0.022 mm	14	
0.016 mm	11	
0.013 mm	10	
0.009 mm	9	
0.007 mm	7	
0.005 mm	6	
0.003 mm	5	
0.001 mm	3	
Chart		

% Passing



Comments N/O = Not Obtainable

NO = Not Obtainable

NP = Non Plastic Form No: 18909.V1.00



Telephone: 248, 553,6300 Fax: 248.324.5179

Aggregate/Soil Test Report

Woodlot & MC1&4 Waste Investigation

Wayne Disposal, Inc.

Soil Boring Program

62-080376-01

Report No: MAT:62-080376-01-S124

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

Sieve Size

Particle Size Distribution

ASTM D 422

Oven

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

% Passing

Sample Details

Boring No: Field Sample No:

TB-W-1 LS-35 84

Sample Depth: Date Sampled:

Sampled By: LWO No:

Client:

Project:

Job No:

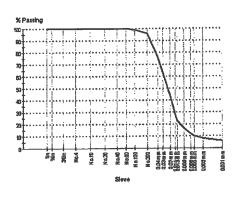
Sample Location:

000334

-			

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group Name		Silt	

1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	99	
No.200 (75µm)	96	
0.040 mm	77	
0.030 mm	63	
0.020 mm	44	
0.015 mm	28	
0.013 mm	23	
0.009 mm	17	
0.006 mm	12	
0.005 mm	10	
0.003 mm	8	
0.001 mm	6	
F 122 2000 00 200 A A CONTRA E 1 A E A A	Martin Balleria (1988) (Sarata) (S	



Comments N/O = Not Obtainable NO = Not Obtainable

NP = Non Plastic



Telephone: 248, 553,6300 Fax: 248,324,5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S123

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

AR

Method:

Drying by:

%in (19.0mm)

3/8in (9.5mm)

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Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

100

100

6

5

Sample Details

Boring No:

TB-W-1

Field Sample No:

LS-32

Sample Depth: Date Sampled:

70

Sampled By:

LWO No:

000334

Sample Location:

Sieve Size 1in (25.0mm)	% Passing 100	Limits

Particle Size Distribution

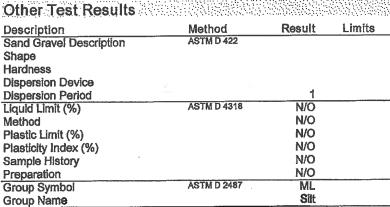
Oven

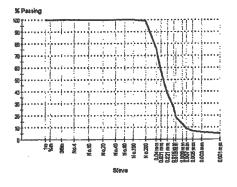
ASTM D 422

	Oroni (o.omini)	100
	No.4 (4.75mm)	100
	No.10 (2.0mm)	100
ः	No.20 (850µm)	100
)\}	No.40 (425µm)	100
	No.60 (250µm)	100
_	No.100 (150µm)	100
	No.200 (75µm)	99
	0.040 mm	76
	0.031 mm	58
	0.021 mm	38
	0.015 mm	27
	0.013 mm	19
	0.009 mm	13
	0.007 mm	9
	0.005 mm	7

0.001 mm Chart

0.003 mm





Comments
N/O = Not Obtainable

N/O = Not Obtainable NO = Not Obtainable

NP = Non Plastic

Telephone: 248, 553,6300 Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S122

Issue No: 1

Limits

Client:

Wayne Disposal, inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-1 ST-7

Field Sample No: Sample Depth:

74

Date Sampled:

Sampled By: LWO No:

000334

Sample Location:

article	Size Di	strib	ution
othodi	ACTAL	ロ <i>ለ??</i>	

Method:

Drying by:

Sieve Size

Oven

Other Test Results				No.10 (2.0mm) No.20 (850µm) No.40 (425µm)
Description	Method	Result	Limits	No.60 (250µm)
Temperture (°C)	[ASTM D 5084]	N/O		No.100 (150µm)
Cell Pressure (lb/in²)		N/O		No.200 (75µm)
Top Pressure (lb/in²)		N/O		0.042 mm
Bottom Pressure (lb/in²)		N/O		0.030 mm
Effective Pressure (lb/in²)		N/O		0.020 mm
Pressure Differential (lb/in²)		N/O		0.014 mm
Permeant		N/O		0.012 mm
Sample Height (in)		N/O		0.008 mm
Sample Diameter (in)		N/O		[0.006 mm
Sample Cross-Section Area (in²)		N/O		0.004 mm
Sample Volume (in³)		N/O		0.003 mm
Dry Density (lb/ft³)		N/O		0.001 mm
Initial Moisture Content (%)		N/O		Chart
Final Moisture Content (%)		N/O		The second state of the second
Average Permeabilty (cm/s)		N/O		

% Passing

Comments

N/O = Not Obtainable

N/O = Not Obtainable



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S122

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

110

Method:

Drying by:

Sieve Size

Chart

% Pasitr

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Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-1

Field Sample No:

ST-7

Sample Depth: Date Sampled: 74

Sampled By:

LWO No:

000334

Sample Location:

% Passing

Particle Size Distribution

Oven

ASTM D 422

i

Other Test Results Description
Sand Gravel Description Method Limits Result **ASTM D 422** Shape Hardness Dispersion Device Dispersion Period **ASTM D 4318** Liquid Limit (%) Method A Method 13 Plastic Limit (%) 8 Plasticity Index (%) Sample History Preparation Moisture Content (%) ASTM D 2216 22.4 Wet Density (lb/ft³) 131.9 Dry Density (lb/ft³) 107.8 ASTM D 2487 Group Symbol CL Sandy lean clay Group Name ASTM D 854 Specific Gravity (at 20 deg C) 2.71

Comments

N/O = Not Obtainable



Telephone: 248, 553,6300 Fax: 248.324.5179

Method:

Drying by:

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S121

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This leboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Particle Size Distribution

Oven

ASTM D 422

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-1 LS-29 70

Field Sample No: Sample Depth:

Date Sampled: Sampled By:

LWO No:

Sample Location:

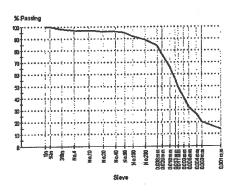
000334

Sieve Size	% Passing
1in (25.0mm)	100
¾in (19.0mm)	100
3/8in (9.5mm)	98
No.4 (4.75mm)	97
No.10 (2.0mm)	97
No.20 (850µm)	96
No 40 (425 um)	Qf

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	20	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		5	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL-ML	
Group Name		Silty clay	

00 98 97 97 96 96 No.40 (425µm) No.60 (250µm) 95 92 No.100 (150µm) 89 No.200 (75µm) 84 0.038 mm 0.028 mm 77 66 0.018 mm 56 0.013 mm 0.011 mm 49 0.008 mm 41 32 0.006 mm 26 0.004 mm 20 0.003 mm 0.001 mm

Chart



N/A



Telephone: 248, 653,6300 Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S120

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

% Passing

100

Sample Details

Boring No:

TB-W-1

Field Sample No:

ST-6

Sample Depth:

64

Date Sampled: Sampled By:

LWO No:

Description

Permeant Sample Height (in)

Temperture (°C)

Cell Pressure (lb/in²)

Top Pressure (lb/in²)

Sample Diameter (in)

Sample Volume (in³) Dry Density (lb/ft3)

Bottom Pressure (lb/in²) Effective Pressure (lb/in²)

Pressure Differential (lb/in²)

Initial Moisture Content (%)

Final Moisture Content (%)

Average Permeabilty (cm/s)

Sample Cross-Section Area (in²)

000334

Method

[ASTM D 5084]

Result

21.9

40.0 32.0

35.0

5.0

3.0

2.848

2.824

113.7

18.2

18.9 2.99 E-8

6.26 17.84

0.01 N CaS04

Limits

Sample Location:

Other Test Results

	Parti	cle S	Size Di	stribution
ì	Mothod		ASTMI	1 422

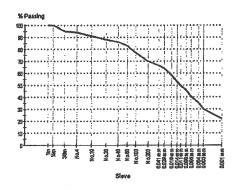
Drying by:

Sieve Size

1in (25.0mm)

Oven

	(
	%in (19.0mm)	100
	3/8in (9.5mm)	95
ĺ	No.4 (4.75mm)	94
	No.10 (2.0mm)	91
	No.20 (850µm)	88
	No.40 (425µm)	86
	No.60 (250µm)	83
1	No.100 (150µm)	77
	No.200 (75µm)	70
	0.041 mm	66
1	0.029 mm	64
ı	0.019 mm	59
	0.014 mm	53
	0.011 mm	50
	0.008 mm	46
	0.006 mm	41
	0.004 mm	35
	0.003 mm	30
	0.001 mm	22
-1	December 1981 Annual Control of the	



Comments



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Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S120

Issue No: 1

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Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

Field Sample No:

Sample Depth: Date Sampled:

Sampled By:

LWO No:

TB-W-1

ST-6

Sample Location:

0	0	0	3	3	4

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			

ASTM D 2216

Dispersion Device Dispersion Period ASTM D 4318 24 Liquid Limit (%) Method A Method Plastic Limit (%) 14 10 Plasticity Index (%) Natural state Sample History Preparation

18.2 Moisture Content (%) 134.4 Wet Density (lb/ft3) 113.7 Dry Density (lb/ft^s) **ASTM D 2487** CL **Group Symbol** Sandy lean clay **Group Name ASTM D 2166** 1829 Unconfined Compressive Strength (lb/ft²)

915 Shear Strength (lb/ft²) Ave. Rate Strain to Failure(%) 0.9 14.3 Strain at Failure(%) 2.795 Average Height (in.) 1.370 Average Diameter (in.) 2.0

Height-Diameter Ratio Init. Dry Dens.

Init. Water Content (%) Liquid Limit

Plastic Limit Remarks Visual Description

Comments N/A

	Contract the Contract of the C	4 8 7
Dartial	a Ciza Diat	ribution
Parinci	e Size Dist	HUUUUU
		4.5,500,000,700,000,000

Method:

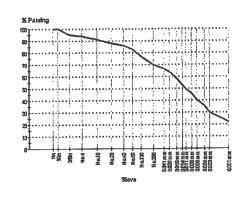
ASTM D 422

Drying by:

Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	95	
No.4 (4.75mm)	94	
No.10 (2.0mm)	91	
No.20 (850µm)	88	
No.40 (425µm)	86	
No.60 (250µm)	83	
No.100 (150µm)	77	
No.200 (75µm)	70	
0.041 mm	66	
0.029 mm	64	
0.019 mm	59	
0.014 mm	53	
0.011 mm	50	
0.008 mm	46	
0.006 mm	41	
0.004 mm	35	
0.003 mm	30	
0.001 mm	22	ABAR SATURAT

Chart





Telephone: 248, 553.6300 Fax: 248.324.5179

Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Issue No: 1 This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed

Limits

Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

Report No: MAT:62-080376-01-S119

Sample Details

Boring No:

TB-W-1

Field Sample No:

ST-5

Sample Depth:

56

Date Sampled:

Sampled By: LWO No:

000334

Sample Location:

Particle	Size Distribution
Mothadi	A STALED A 22

Method:

% Passing

Drying by:

Sieve Size

Oven

Other Test Results			
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	22.9	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.01	N CaS04	
Sample Height (in)		2.829	
Sample Diameter (in)		2.852	
Sample Cross-Section Area (in²)		6.39	
Sample Volume (in³)		18.07	
Dry Density (lb/ft ^s)		124.1	
Initial Moisture Content (%)		13.9	
Final Moisture Content (%)		13.9	
Average Permeability (cm/s)		3.09 E-8	

1in (25.0mm) %in (19.0mm) 100 100 3/8in (9.5mm) No.4 (4.75mm) 97 No.10 (2.0mm) 94 90 No.20 (850µm) No.40 (425µm) 86 No.60 (250µm) 81 No.100 (150µm) 74 No.200 (75µm) 65 0.041 mm 60 0.030 mm 55 50 0.019 mm 46 0.014 mm 0.011 mm 43 0.008 mm 40 0.006 mm 34 30 0.004 mm 0.003 mm 26 19 0.001 mm Chart

Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S119

Issue No: 1

Limite

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Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

Field Sample No: Sample Depth:

ST-5

Date Sampled:

Sampled By:

LWO No:

000334

TB-W-1

Sample Location:

Particle	Size Di	stribut	ion	
Madhaada	ACTME			

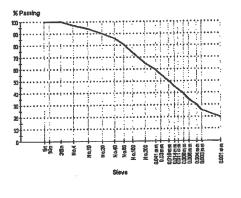
Method:

Drying by:

Oven

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		11	
Liquid Limit (%)	ASTM D 4318	21	
Method		Method A	
Plastic Limit (%)		13	
Plasticity Index (%)		8	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	13.9	
Wet Density (lb/ft³)		141.4	
Dry Density (lb/ft³)		124.1	
Group Symbol	ASTM D 2487	CL	
Group Name	Sand	iy lean clay	

Sieve Size	% Passing	Limits
iin (25.0mm)	100	
¼in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	97	
Vo.10 (2.0mm)	94	
No.20 (850µm)	90	
No.40 (425µm)	86	
No.60 (250µm)	81	
Vo.100 (150μm)	74	
Vo.200 (75μm)	65	
0.041 mm	60	
0.030 mm	55	
),019 mm	50	
0.014 mm	46	
0.011 mm	43	
0.008 mm	40	
0.006 mm	34	
0.004 mm	30	
0.003 mm	26	
0.001 mm	19	e see es a actività de
Chart		



N/A



Telephone: 248, 553.6300 Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S118

issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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% Passing

100

Date of Issue; 9/8/2008 Approved Signatory: Zeerak Paydawy

Sample Details

TB-W-1

Boring No: Field Sample No:

LS-22

Sample Depth:

52

Date Sampled: Sampled By:

LWO No:

000334

Sample Location:

Particle	Size Distribution
Mathod:	ASTM D 422

Drying by:

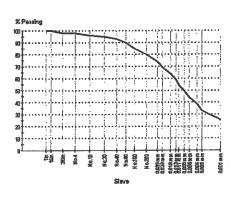
Sieve Size 1in (25 0mm)

Chart

Oven

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	24	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		10	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name	Lean da	y with sand	

IRI (20.0HRH)	100
%in (19.0mm)	100
3/8in (9.5mm)	98
No.4 (4.75mm)	98
No.10 (2.0mm)	96
No.20 (850µm)	95
No.40 (425µm)	93
No.60 (250µm)	90
No.100 (150µm)	85
No.200 (75µm)	80
0.039 mm	74
0.029 mm	69
0.018 mm	64
0.013 mm	59
0.011 mm	54
0.008 mm	50
0.006 mm	44
0.004 mm	39
0.003 mm	33
0.001 mm	25



Comments

N/A



Telephone: 248, 553,6300 Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S117

issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

Field Sample No:

Sample Depth: Date Sampled:

Sampled By:

LWO No:

Description

Permeant

Temperture (°C)

Cell Pressure (lb/in²)

Top Pressure (lb/in²)

Sample Height (in)

Sample Diameter (in)

Sample Volume (in²)

Dry Density (lb/ft3)

Bottom Pressure (lb/in²)

Effective Pressure (lb/in²)

Pressure Differential (lb/in²)

Initial Moisture Content (%)

Final Moisture Content (%) Average Permeability (cm/s)

Sample Cross-Section Area (in²)

000334

Method

[ASTM D 5084]

TB-W-1

ST-4

46

Other Test Results

Sample Location:

Particle Size Distribution Method: **ASTM D 422**

Drying by:

Oven

	Sieve Size	% Passing
	1in (25.0mm)	100
	%in (19.0mm)	100
	3/8in (9.5mm)	100
	No.4 (4.75mm)	99
	No.10 (2.0mm)	98
:	No.20 (850µm)	96
:	No.40 (425µm)	95
	No.60 (250µm)	93
•	No.100 (150µm)	90
	No.200 (75um)	85

78 0.039 mm 75 0.028 mm 70 0.018 mm 64 3 mm 61 11 mm 56 08 mm 51 06 mm 46 04 mm 03 mm 40 30 01 mm

hart

- 1	
	0.01
1	0.01
	0.00
	0.00
	0.00
	0.00
	0.00
	C
1	CI

Result

23.0

40.0

32.0

35.0

5.0

3.0

2.851

2.789

6.11

17.42

118.5

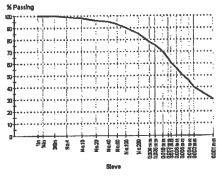
16.2

16.7

1.29 E-8

0.01 N CaS04

Limits



Comments



Telephone: 248, 553,6300 Fax: 248,324,5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S117

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008

% Passing

100

Approved Signatory: Zeerak Paydawy

C	1-	n		۱.
Samp	ie:	ue	lal	IS
		TT. TT.		

Boring No:

TB-W-1

Field Sample No:

ST-4

Sample Depth:

46

Date Sampled: Sampled By:

LWO No:

000334

Sample Location:

Particle	Size Distrik	oution
Method:	ASTM D 422	

Sieve Size

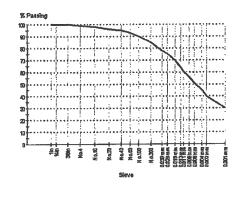
1in (25.0mm)

Drying by:

Oven

Other Test Results Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	28	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		. 12	
Sample History		Oven-dried	
Preparation	107110 0040	Dry	
Moisture Content (%)	ASTM D 2216	16.2	
Wet Density (lb/ft³)		137.7	
Dry Density (lb/ft³)	ASTM D 2487	118.5	
Group Symbol		CL	
Group Name	ASTM D 2166	lay with sand	
Unconfined Compressive Strength (lb/ft²)	M3 (M) D 2100	8015 4008	
Shear Strength (lb/ft²)		0.4	
Ave. Rate Strain to Failure(%)		6.3	
Strain at Fallure(%)		5.982	
Average Height (In.)		2.831	
Average Diameter (in.)		2.031	
Height-Diameter Ratio		۷. ۱	
Init. Dry Dens.			
Init. Water Content (%)		28	
Liquid Limit Plastic Limit		16	
Remarks		10	
Visual Description			

¼in (19.0mm)	100
3/8in (9.5mm)	100
No.4 (4.75mm)	99
No.10 (2.0mm)	98
No.20 (850µm)	96
No.40 (425µm)	95
No.60 (250µm)	93
No.100 (150µm)	90
No.200 (75µm)	85
0.039 mm	78
0.028 mm	75
0.018 mm	70
0.013 mm	64
0.011 mm	61
0.008 mm	56
0.006 mm	51
0.004 mm	46
0.003 mm	40
0.001 mm	30
Chart	



Comments



Telephone: 248. 553.6300 Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S116

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

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Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-1

Field Sample No:

ST-3 38

Sample Depth: Date Sampled: Sampled By:

LWO No:

000334

Sample Location:

Final Moisture Content (%)

Average Permeability (cm/s)

Particle Size Distribution

Method:

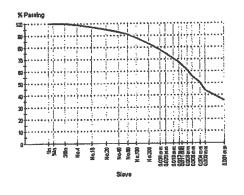
ASTM D 422

Dryi	ng	by:
------	----	-----

Oven

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant	0.0	1 N CaS04	
Sample Height (in)		2.857	
Sample Diameter (in)		2.820	
Sample Cross-Section Area (in²)		6.25	
Sample Volume (in³)		17.84	
Dry Density (lb/ft³)		111.1	
Initial Moisture Content (%)		18.8	
Final Moisture Content (%)		19.5	

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	93	
No.60 (250µm)	91	
No.100 (150µm)	88	
No.200 (75µm)	83	
0.039 mm	78	
0.028 mm	75	
0.018 mm	71	
0.013 mm	68	
0.011 mm	65	
0.008 mm	61	
0.006 mm	55	
0.004 mm	51	
0.003 mm	44	
0.001 mm	36	ere an avearen
Chart		
population (property)	enter de la Mandel de Martine de la Filipia	Service Service project



Comments

N/A

1.14 E-8



Telephone: 248, 553,6300 Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S116

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008

% Passing

100

Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-1

Field Sample No:

ST-3

Sample Depth:

38

Date Sampled: Sampled By:

LWO No:

000334

Sample Location:

Particle S	Size Distribution
Method:	ASTM D 422

Drying by:

Sieve Size

Chart

1in (25.0mm)

Oven

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	32	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	18.8	
Wet Density (lb/ft³)		132.0	
Dry Density (lb/ft³)		111.1	
Group Symbol	ASTM D 2487	CL	
Group Name	Lean cl	ay with sand	

%in (19.0mm) 100 3/8in (9.5mm) 100 No.4 (4.75mm) 99 No.10 (2.0mm) 97 No.20 (850µm) 95 No.40 (425µm) No.60 (250µm) 93 91 No.100 (150µm) 88 No.200 (75µm) 83 0.039 mm 78 0.028 mm 75 0.018 mm 71 0.013 mm 68 0.011 mm 65 0.008 mm 61 0.006 mm 55 0.004 mm 51 0.003 mm 44 36 0.001 mm

% Passino

Comments

N/A



Telephone: 248, 553,6300 Fax: 248.324.5179

Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S115

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the larms of the accreditation.

% Passing

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-1

Field Sample No:

LS-15

Sample Depth: Date Sampled:

34

Sampled By:

LWO No:

Sample Location:

000334

Other Test Results		
Description	Method	Result

Shape Hardness Dispersion Device Dispersion Period

Sand Gravel Description

Liquid Limit (%) Method

Sample History Preparation

Group Symbol Group Name

Limits

ASTM D 422 ASTM D 4318

31 Method A 16 Plastic Limit (%) 15 Plasticity Index (%) Unkown Dry

ASTM D 2487 CL Lean clay with sand Particle Size Distribution

Method:

ASTM D 422

Drying by:

Siava Siza

Oven

Sieve Size	70 rassilly	LIIIII
1in (25.0mm)	100	
¼in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	93	
No.60 (250µm)	90	
No.100 (150µm)	86	
No.200 (75µm)	81	
0.039 mm	78	
0.028 mm	75	
0.018 mm	71	
0.013 mm	66	

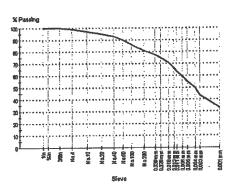
0.003 mm 0.001 mm Chart

0.011 mm

0.008 mm

0.006 mm

0.004 mm



64

60

55

50

44

33

Comments National Control of the Con

MA



Telephone: 248, 553,6300 Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S114

Issue No: 1

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been perform in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

% Passing

Sample Details

TB-W-1

Boring No: Field Sample No:

ST-2

Sample Depth:

28

Date Sampled: Sampled By:

LWO No:

000334

Sample Location:

Other Test Results

Method	Result	Limits
[ASTM D 5084]	23.1	
	40.0	
	32.0	
	35.0	
	5.0	
	3.0	
(0.01 N CaS04	
	2.849	
	2.843	
	6.35	
	18.09	
	115.1	
	17.4	
	17.9	
	1.40 E-8	
	[ASTM D 5084]	[ASTM D 5084] 23.1 40.0 32.0 35.0 5.0 3.0 0.01 N CaS04 2.849 2.843 6.35 18.09 115.1 17.4

Particle Size Distribution

Method:

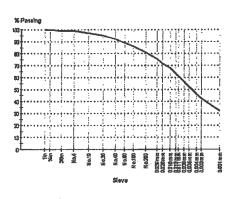
Sieve Size

1in (25.0mm)

ASTM D 422

Drying by: 1 Oven

	the (morotente)	100	
ĺ	3/4in (19.0mm)	100	
	3/8in (9.5mm)	99	
	No.4 (4.75mm)	99	
	No.10 (2.0mm)	97	
?	No.20 (850µm) No.40 (425µm)	95	
:	· · · · · · · · · · · · · · · · · · ·	92	
	No.60 (250µm)	89	
	No.100 (150µm)	86	
	No.200 (75µm)	81	
	0.039 mm	75	
	0.028 mm	72	
i	0.018 mm	68	
	0.013 mm	63	
	0.011 mm	61	
	0.008 mm	57	
ı	0.006 mm	52	
	0.004 mm	46	
- 1	0.003 mm	42	
ı	0.001 mm	32	
-1			



Comments

Telephone: 248, 553.6300 Fax: 248.324.5179

Aggregate/Soil Test Report

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Report No: MAT:62-080376-01-S114

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

Sieve Size

1in (25.0mm)

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

% Passing

100

99

99

97 95

92

89

86

81

75

72

68

63

61

Particle Size Distribution

Oven

ASTM D 422

Sample Details

Boring No: Field Sample No: **TB-W-1** ST-2 28

Sample Depth:

Date Sampled: Sampled By:

LWO No:

Description

Shape

Method

Hardness

Sample Location:

Other Test Results

Sand Gravel Description

Dispersion Device

Dispersion Period

Liquid Limit (%)

Plastic Limit (%)

Sample History

Group Symbol

Group Name

Init. Dry Dens. Init. Water Content (%)

Liquid Limit Plastic Limit

Remarks Visual Description

Preparation

Plasticity Index (%)

Moisture Content (%)

Shear Strength (lb/ft²) Ave. Rate Strain to Failure(%)

Strain at Failure(%)

Average Height (in.)

Average Diameter (in.) Height-Diameter Ratio

Unconfined Compressive Strength (lb/ft²)

Wet Density (lb/ft³) Dry Density (lb/ft³)

000334

Method

ASTM D 422

ASTM D 4318

ASTM D 2216

ASTM D 2487

ASTM D 2166

	3/4in (19.0mm)
	3/8in (9.5mm)
	No.4 (4.75mm
	No.10 (2.0mm
	No.20 (850µm
300000000000000000000000000000000000000	No.40 (425µm

Limits

Result

30

17

13

Dry

17.4

135.1

115.1

3607

1804

5,982

2.843

2.1

30

17

1.0 15.0

CL

Method A

Oven-dried

Lean clay with sand

8in (9.5mm) o.4 (4.75mm) o.10 (2.0mm) o.20 (850µm)

o.40 (425µm)

No.60 (250µm) No.100 (150µm)

No.200 (75µm) 0.039 mm 0.028 mm 0.018 mm

0.013 mm 0.011 mm 0.008 mm 0.006 mm 0.004 mm

57 52 46 42 0.003 mm 0.001 mm 32

Chart

14	 1	1 1 11 11	
‡			

Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S113

issue No:

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Method:

Drying by:

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed

Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-1

Field Sample No:

LS-10

Sample Depth:

22

Date Sampled: Sampled By:

LWO No:

000334

Sample Location:

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
%in (19.0mm)	100	
3/8in (9.5mm)	100	

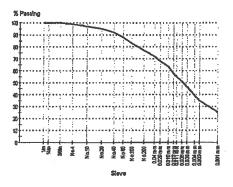
Particle Size Distribution **ASTM D 422**

Oven

3/8in (9.5mm) No.4 (4.75mm) 99 No.10 (2.0mm) 97 95 No.20 (850µm) No.40 (425µm) 92 No.60 (250µm) 88 No.100 (150µm) 83 No.200 (75µm) 77 0.040 mm 72 0.029 mm 68 0.018 mm 63 0.013 mm 58 0.011 mm 55 0.008 mm 51 0.006 mm 46 0.004 mm 40 0.003 mm 35

0.001 mm Chart

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	26	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		12	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name	Lean cla	y with sand	



26

Comments (1997) And the control of t

N/A

Telephone: 248, 553,6300 Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S112

Limits

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation. eent paydowy

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

% Passing

100

Sample Details

Boring No:

Field Sample No:

TB-W-1 ST-1 18

Sample Depth: Date Sampled:

Sampled By: LWO No:

000334

Sample Location:

Particle Size Distribution **ASTM D 422** Method:

Drying by:

Sieve Size

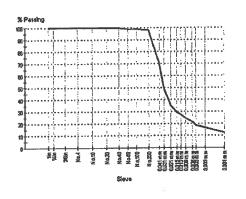
1in (25.0mm)

Oven

Other Test Results			
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	N/O	
Cell Pressure (lb/ln²)		N/O	
Top Pressure (lb/in²)		N/O	
Bottom Pressure (lb/in²)		N/O	
Effective Pressure (lb/in²)		N/O	
Pressure Differential (lb/in²)		N/O	
Permeant		N/O	
1 OIIIIOMIK		1111	

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	N/O	
Cell Pressure (lb/ln²)		N/O	
Top Pressure (lb/ln²)		N/O	
Bottom Pressure (lb/in²)		N/O	
Effective Pressure (lb/in²)		N/O	
Pressure Differential (lb/in²)		N/O	
Permeant		N/O	
Sample Height (in)		N/O	
Sample Diameter (in)		N/O	
Sample Cross-Section Area (in²)		N/O	
Sample Volume (in³)		N/O	
Dry Density (lb/ft³)		N/O	
Initial Moisture Content (%)		N/O	
Final Moisture Content (%)		N/O	
Average Permeabilty (cm/s)		N/O_	

	[181 (20.0)181)	100	
	3/4in (19.0mm)	100	
	3/8in (9.5mm)	100	
	No.4 (4.75mm)	100	
	No.10 (2.0mm)	100	
:	No.20 (850µm)	100	
	No.40 (425µm)	100	
	No.60 (250µm)	99	
-	No.100 (150µm)	99	
	No.200 (75µm)	98	
	0.041 mm	70	
	0.031 mm	50	
	0.021 mm	35	
	0.015 mm	29	
	0.012 mm	27	
	0.009 mm	24	
	0.006 mm	22	
	0.005 mm	19	
	0.003 mm	17	
	0.001 mm	13	ž.,
	Chart		
	BESTER STATE OF THE PARTY	inti in the annual and the second and the second and the second	



Comments N/O = Not Obtainable NO = Not Obtainable NP = Non Plastic



Telephone: 248, 553,6300 Fax: 248,324,5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S112

Issue No: 1

Client:

Wayne Disposal, inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

%in (19.0mm)

3/8in (9.5mm)

No.4 (4.75mm)

No.10 (2.0mm)

No.20 (850µm)

Chart

Date of Issue: 9/8/2008

Particle Size Distribution **ASTM D 422**

Oven

Approved Signatory: Zeerak Paydawy

100

100

100

100

100

100

99 99

98

70

50 35

29

27

24 22

19

17 13

Sample Details

Boring No:

TB-W-1

Field Sample No:

ST-1

Sample Depth:

18

Date Sampled: Sampled By:

LWO No:

000334

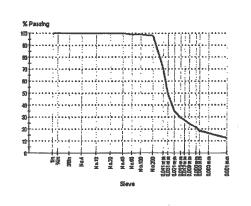
Sample Location:

% Passing Sieve Size Limits 1in (25.0mm)

Other Test Results				
Description	Method	Result	Limits	
Sand Gravel Description	ASTM D 422			_
Shape				

Other restricesuits	ent geget filter pelatigation.			No.40 (425µm)	
Description	Method	Result	Limits	No.60 (250µm)	
Sand Gravel Description	ASTM D 422			No.100 (150µm)	
Shape				No.200 (75µm)	
Hardness				0.041 mm	
Dispersion Device				0.031 mm	
Dispersion Period		1	Ü.	0.021 mm	
Liquid Limit (%)	ASTM D 4318	N/O		0.015 mm	
Method		N/O		0.012 mm	
Plastic Limit (%)		N/O		0.009 mm	
Plasticity Index (%)		N/O		0.006 mm	
Sample History		N/O		0.005 mm	
Preparation		N/O		0.003 mm	
Moisture Content (%)	ASTM D 2216	21.0		0 001 mm	

Preparation		N/O	
Moisture Content (%)	ASTM D 2216	21.0	
Wet Density (lb/ft³)		128.9	
Dry Density (lb/ft³)		106.5	
Group Symbol	ASTM D 2487	ML	-
Group Name		Silt	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	N/O	
Shear Strength (lb/ft²)		N/O	
Ave. Rate Strain to Failure(%)		N/O	
Strain at Failure(%)		N/O	
Average Height (in.)		N/O	
Average Diameter (in.)		N/O	
Height-Diameter Ratio		N/O	
Init. Dry Dens.		N/O	
Init. Water Content (%)		N/O	
Liquid Limit		N/O	
Plastic Limit		N/O	
Remarks		N/O	



Comments

N/O = Not Obtainable

NO = Not Obtainable

Visual Description

NP = Non Plastic Form No: 18909.V1.00

N/O



Telephone: 248, 553.6300 Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S111

Issue No: 1

Limits

This isboratory is accredited by American Association of State Highway and Trensportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

% Passing

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Sample Details

Boring No:

Field Sample No:

Sample Depth: Date Sampled:

Sampled By:

LWO No:

000334

TB-W-1

LS-7

Sample Location:

Particle Size Distribution

Method:

Sieve Size

ASTM D 422

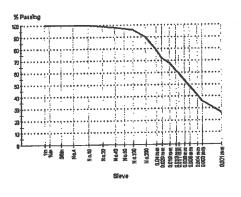
Drying by:

Oven

Other Test Results			
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	28	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		13	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

lin (25.0mm)	100	100
%in (19.0mm)		100
3/8in (9.5mm)		100
No.4 (4.75mm)		100
No.10 (2.0mm)		100
No.20 (850µm)		99
No.40 (425µm)		98
No.60 (250µm)		97
No.100 (150µm)		96
No.200 (75µm)		90
0.040 mm		79
0.029 mm		72
0.019 mm		68
0.013 mm		61
0.011 mm		59
0. 008 mm		54
0.006 mm		49
0.004 mm		41
0.003 mm		36
0.001 mm		26
121		988888

Chart



Comments

N/A



Telephone: 248, 553,6300 Fax: 248,324,5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S110

Issue No: 1

Client:

Wayne Disposal, Inc.

Project:

Woodlot & MC1&4 Waste Investigation

Soil Boring Program

Job No:

62-080376-01

Method:

Drying by:

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008

Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:

TB-W-1

Field Sample No:

LS-4

Sample Depth:

Other Test Results

Date Sampled: Sampled By:

LWO No:

Shape Hardness

Method

000334

Method

ASTM D 422

ASTM D 4318

ASTM D 2487

Result

N/O

N/O

N/O

N/O

N/O

N/O

SM

Silty sand

Limits

Sample Location:

Description
Sand Gravel Description

Dispersion Device

Dispersion Period Liquid Limit (%)

Plastic Limit (%)

Sample History

Group Symbol

Group Name

Preparation

Plasticity Index (%)

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	X C
3/8in (9.5mm)	100	

100 100

100

94

74

46

3

Particle Size Distribution

Oven

ASTM D 422

No.4 (4.75mm) No.10 (2.0mm) No.20 (850µm) No.40 (425µm) No.60 (250µm) No.100 (150µm) No.200 (75µm) 0.049 mm 0.035 mm 0.022 mm 0.016 mm

0.003 mm 0.001 mm

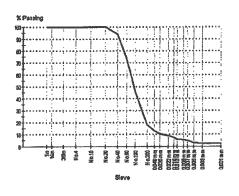
0.013 mm

0.009 mm

0.007 mm

0.005 mm

Chart



Comments:

N/O = Not Obtainable

NO = Not Obtainable

NP = Non Plastic



Telephone: 248, 553,6300 Fax: 248.324.5179

Aggregate/Soil Test Report

Woodlot & MC1&4 Waste Investigation

Wayne Disposal, Inc.

Soil Boring Program

Report No: MAT:62-080376-01-S109

Issue No: 1

Limits

This laboratory is accredited by American Association of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Method:

Drying by:

Sieve Size

Date of Issue: 9/8/2008 Approved Signatory: Zeerak Paydawy

% Passing

> 74 46

> 27

18

17

16

15

14

13

11

11

Particle Size Distribution

Oven

ASTM D 422

Job No: 62-080376-01

Sample Details

Boring No:

Field Sample No: Sample Depth:

Date Sampled:

Client:

Project:

Sampled By: LWO No:

Description

Shape

Method

Hardness

Sample Location:

Other Test Results

Sand Gravel Description

Dispersion Device

Dispersion Period

Liquid Limit (%)

Plastic Limit (%)

Sample History

Group Symbol

Group Name

Preparation

Plasticity Index (%)

TB-W-1 LS-2

000334

Method

ASTM D 422

ASTM D 4318

ASTM D 2487

Result

N/O

N/O

N/O

N/O

N/O

N/O

SM

Silty sand

Limits

	1in (25.0mm)
	3/4in (19.0mm)
	3/8in (9.5mm)
	No.4 (4.75mm)
1	No.10 (2.0mm)
٠.	No.20 (850µm)
::	No.40 (425µm)
	No.60 (250µm)

No.100 (150µm) No.200 (75µm) 0.047 mm 0.034 mm

0.022 mm 0.015 mm 0.013 mm

0.009 mm 0.006 mm 0.005 mm 0.003 mm

8 8 0.001 mm Chart

Comments

N/O = Not Obtainable NO = Not Obtainable



APPENDIX D

GROUNDWATER QUALITY ANALYTICAL DATA

SUMMARY OF CHEMICAL ANALYSES

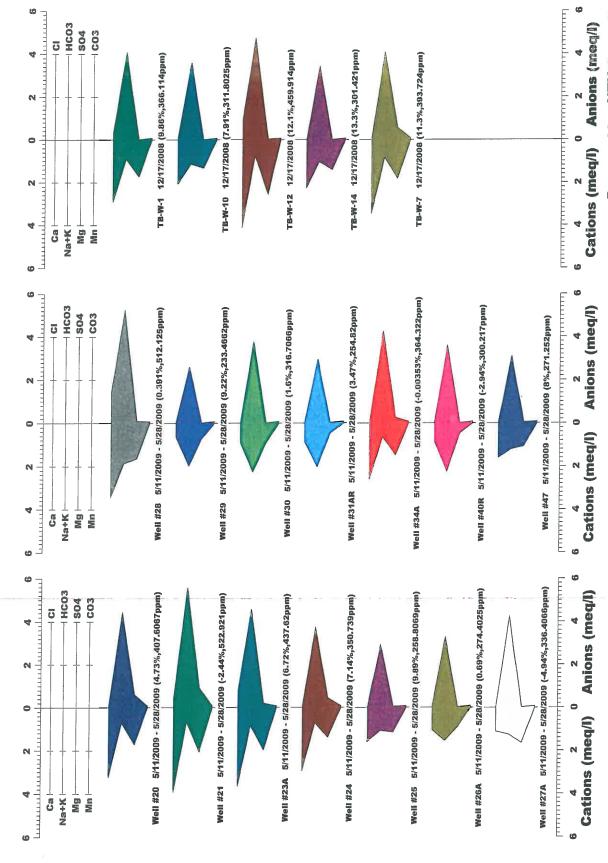
WAYNE DISPOSAL, INC. SITE No. 2 - MASTER CELL VI - F & G EXPANSION NTH PROJECT No. 62-080376-01

		DISSOLVED METALS [MG/L]												INORGANIC ANALYSIS [MG/L]						ORGANIC ANALYSIS [MG/L]		PCBs VOLATI	VOLATILE				
SAMPLE DESIGNATION	ARSENIC 7440382	CADMIUM 7440439	CALCIUM	CHROMIUM 7440473	COPPER 7440508	IRON 7438896	LEAD 7439921	MAGNESIUM 7439954	MANGANESE 7439965	MOLYBDENUM 7439987	NICKEL 7440020	POTASSIUM 7440097	SODIUM 7440235	ZINC 7440666	BICARBONATE ALKALINITY	CARBONATE ALKALINITY	CHLORIDE 16887006	FLUORIDE 16984488	NITROGEN, NITRATE + NITRITE 14797558 / 14797650	PH [81]	SPECIFIC CONDUCTANCE [µMHOS/CM @ 25°C]	SULFATE 14808798	TOTAL CYANIDE 57125	PHENOLICS, TOTAL 108952	TOTAL ORGANIC CARBON (TOC)	[MG/L]	ORGANICS [MG/L]
TB-W-1	ND	ND	58	ND	ND	1.3	ND	21	0.014	ND	ND	1.6	20	ND	250	ND	12	0.83	0.013	7.6	452	ND	ND	ND	1.2	NONE DETECTED	NONE DETECED
TB-W-7	ND	ND	69	ND	ND	1.2	ND	22	0.024	ND	ND	1.6	18	ND	250	ND	3.6	0.73	ND	7.5	492	27	ND	. ND	0.91	NONE DETECTED	NONE DETECED
TB-W-10S	ND	ND	41	ND	ND	0.76	ND	16	ND	ND	ND	1.8	25	0.021	220	ND	4.5	0.92	0.020	7.7	365	ND	ND	ND	0.90	NONE DETECTED	NONE DETECED
TB-W-12	ND	ND	82	ND	ND	2.0	ND	* 31	0.014	ND	ND	1.6	17	ND	290	ND	33	0.57	ND	7.3	600	2.8	ND	ND	1.2	NONE DETECTED	NONE DETECED
TB-W-14	ND	ND	45	ND	ND	0.71	ND	17	0.021	ND	ND	1.5	23	ND	210	ND	1.4	0.80	ND	7.7	363	ND	ND	ND	0.91	None Detected	None Deteced
REPORTING LIMIT	0.0010	0.00020	0.50	0.020	0.020	0.020	0.0010	0.50	0.0050	0.025	0.050	0.10	0.50	0.020	5.0	5.0	1.0	0.57	0.010	1.0	5	2.0	0.00500	0.00500	0.50	0.00010	VARIOUS
PA 451, PART 201 RESIDENTIAL DRINKING WATER CRITERIA	0.01	0.005		0.1	1.0*	0.3*	0.004	400	0.05*	0.073	0.10		120	2.4			250*		10 / 0.1	6.5 TO 8.5		250*	0.20	4.4		0.0005	VARIOUS

NOTES

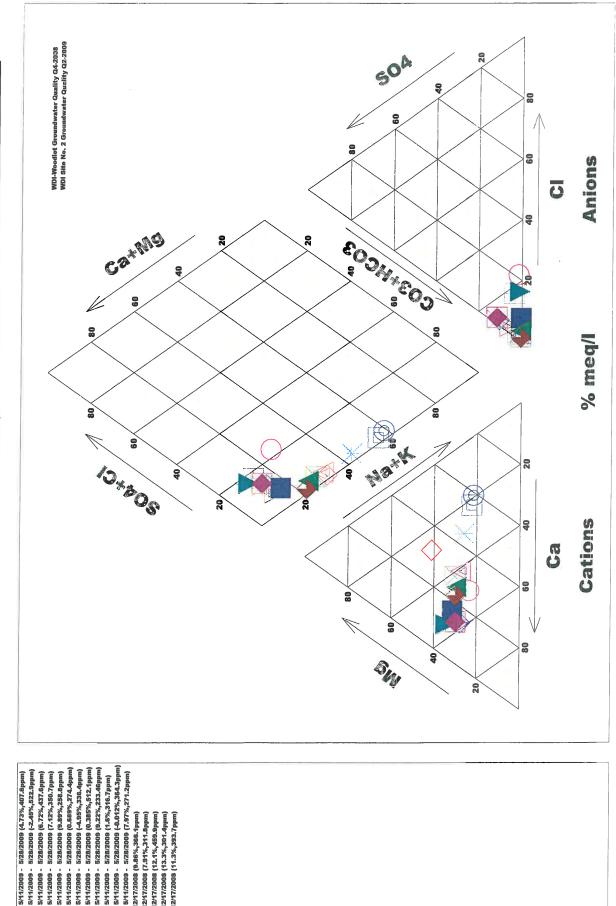
- [1] SAMPLES COLLECTED BY NTH CONSULTANTS PERSONNEL AND ANALYZED BY TRIMATRIX OF GRAND RAPIDS, MI.
- 2] MG/L MILLIGRAMS PER LITER (≈ PARTS PER MILLION).
- [3] ND NOT DETECTED AT OR ABOVE LABORATORY-REPORTED METHOD DETECTION LIMIT FOR INDICATED PARAMETER.
- [4] (ID) INSUFFICIENT DATA.
 - * AESTHETIC-BASED CRITERIA-USE OF THE MOST RESTRICTIVE CRITERIA IS REQUIRED, THEREFORE HEALTH-BASED CRITERIA IS NOT PRESENTED.
- DW CONCENTRATION IN GROUNDWATER, IF NOT EXCEEDED, IS CONSIDERED SAFE FOR EXPOSURE.
 - REPORTED CONCENTRATION EXCEEDS DRINKING WATER CRITERIA.

Wayne Disposal Site No. 2



ations (meq/i) Anions (meq/i)
Prepared by: NTM Consultants, L.td.

Prepared by: NTH Consultants, Ltd.



Downgradient Groundwater Quality Data & Woodlot Data Wayne Disposal Site No. 2 - Part 111

- 5/28/2009 (0.689%,274.4p 5/28/2009 (9.89%,258.8pp 5/28/2009 (-4.95%,336.4p) 5/28/2009 (9.22%,233.46p

5/11/2009

5/11/2009 -5/11/2009 5/11/2009

Well #20
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5/11/2009 5/11/2009 12/17/2008 (12.1%,459.9ppm) 12/17/2008 (13.3%,301.4ppm) 12/17/2008 (11.3%,393.7ppm)

5/11/2009 - 5/28/2009 (7.97° 12/17/2008 (9.86%,366.1ppm) 12/17/2008 (7.91%,311.8ppm)



January 06, 2009

NTH Consultants Attn: Mr. Dan Chandonais 47168 Six Mile Road Northville, MI 48168

Project: Woodlot/Wayne Disposal

Dear Mr. Dan Chandonais,

Enclosed is a copy of the laboratory report, comprised of the following work order(s), for test samples received by TriMatrix Laboratories:

Work Order

Received

Description

0812401

12/20/2008

Laboratory Services

This report relates only to the sample(s), as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC). Any qualifications of results, including sample acceptance requirements, are explained in the Statement of Data Qualifications.

Estimates of analytical uncertainties for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Jennifer L. Rice Project Chemist

Enclosures(s)



Client:

NTH Consultants

Project:

Woodlot/Wayne Disposal

Lab Sample ID:

Client Sample ID: TB-W-12

Matrix:

0812401-01Ground Water

Maux

Groun

Unit: Dilution Factor: mg/L

QC Batch:

1 0814683 Work Order:

0812401

Description:

Laboratory Services

Sampled:

12/17/08 14:30

Sampled By:

J. Cieslak

Received:

12/20/08 10:30

Prepared:

12/22/08 By: BJH

Analyzed:

12/26/08

By: JMK

Analytical Batch: 8122912

12/20/00 1

Polychlorinated Biphenyls (PCBs) by EPA Method 8082

Analytical Result RL **CAS Number Analyte** <0.00010 0.00010 PCB-1016 12674-11-2 0.00010 <0,00010 11104-28-2 PCB-1221 < 0.00010 0.00010 PCB-1232 11141-16-5

0.00010 < 0.00010 53469-21-9 PCB-1242 0.00010 < 0.00010 PCB-1248 12672-29-6 < 0.00010 0.00010 PCB-1254 11097-69-1 0.00010 < 0.00010 11096-82-5 PCB-1260

Surrogates:% RecoveryControl LimitsDecachlorobiphenyl10848-137Tetrachloro-m-xylene6525-119



Client:

NTH Consultants

Project:

Woodlot/Wayne Disposal

Lab Sample ID:

Client Sample ID: TB-W-12

Matrix:

0812401-01 **Ground Water**

Unit:

Dilution Factor:

QC Batch:

mg/L

0814805

Work Order:

0812401

Description:

Laboratory Services

Sampled:

12/17/08 14:30

Sampled By:

J. Cieslak

Received:

12/20/08 10:30

Prepared:

12/23/08

Analyzed:

12/24/08

By: JDM By: JDM

Analytical Batch: 8123029

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	
CAS INGINDE	Analyte			
71-43-2	Benzene	<0.0010	0.0010	
95-50-1	1,2-Dichlorobenzene	<0.0010	0.0010	
106-46-7	1,4-Dichlorobenzene	<0.0010	0.0010	
75-34-3	1,1-Dichloroethane	<0.0010	0.0010	
107-06-2	1,2-Dichloroethane	<0.0010	0.0010	
156-59-2	cis-1,2-Dichloroethene	<0.0010	0.0010	
156-60-5	trans-1,2-Dichloroethene	<0.0010	0.0010	18
100-41-4	Ethylbenzene	<0.0010	0.0010	
75-09-2	Methylene Chloride	<0.0050	0.0050	
108-88-3	Toluene	<0.0010	0.0010	
71-55-6	1,1,1-Trichloroethane	<0.0010	0.0010	
79-01-6	Trichloroethene	<0.0010	0.0010	
75-01-4	Vinyl Chloride	<0.0050	0.0050	
1330-20-7	Xylene (Total)	<0.0030	0.0030	

Surrogates:	% Recovery	Control Limits
Dibromofluoromethane	101	<i>88-115</i>
1,2-Dichloroethane-d4	106	81-116
Toluene-d8	98	<i>87-113</i>
4-Bromofluorobenzene	98	<i>78-116</i>



Client:

NTH Consultants

Project:

Woodlot/Wayne Disposal

Client Sample ID: TB-W-12 Lab Sample ID:

0812401-01

Matrix:

Ground Water

Work Order:

0812401

Description:

Laboratory Services

Sampled:

12/17/08 14:30

Sampled By:

J. Cieslak

Received:

12/20/08 10:30

*Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL		Unit	Dilution Factor	Method	Date Analyzed	Ву	QC Batch
Arsenic	<0.0010	0.0010		mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Cadmium	<0.00020	0.00020		mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Calcium	82	0.50		mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Chromium	<0.020	0.020		mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Copper	<0.020	0.020		mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Iron	2.0	0.020		mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Lead	<0.0010	0.0010		mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Magnesium	31	0.50		mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Manganese	0.014	0.0050	W	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
*Molybdenum	<0.025	0.025		mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Nickel	<0.050	0.050		mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
*Potassium	1.6	0.10		mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
ndium	17	0.50		mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
anc	<0.020	0.020		mg/L	1	USEPA-6010B	01/02/09	KLV	0814964



Client:

NTH Consultants

Project:

Woodlot/Wayne Disposal

Lab Sample ID:

Client Sample ID: TB-W-12 0812401-01

Matrix:

Ground Water

Work Order:

0812401

Description:

Laboratory Services

Sampled:

12/17/08 14:30

Sampled By:

J. Cieslak

Received:

12/20/08 10:30

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Analyzed	Ву	QC Batch
Alkalinity, Bicarbonate	290	5.0	mg/L	1	USEPA-310.1	12/23/08	CLD	0814862
Alkalinity, Carbonate	<5.0	5.0	mg/L	1	USEPA-310.1	12/23/08	CLD	0814863
Alkalinity, Total	290	10	mg/L	1	USEPA-310.1	12/23/08	CLD	0814861
Chloride	33	1.0	mg/L	1	USEPA-325.2	12/22/08	GEH	0814834
Conductivity @ 25° C	600	5	umhos/cm	1	USEPA-120.1	12/22/08	CLD	0814822
Cyanide, Total	< 0.00500	0.00500	mg/L	1	USEPA-9014	12/24/08	VAS	0814868
Fluoride	0.57	0.10	mg/L	1	SM 4500-F C 20th	12/29/08	CLB	0814967
Nitrogen, Nitrate+Nitrite	<0.010	0.010	mg/L	1	USEPA-353.2	12/30/08	CKD	0815002
*pH	7.3	1.0	pH Units	1	USEPA-150.1	12/22/08	CLD	0814821
Phenolics, Total	<0.00500	0.00500	mg/L	1	USEPA-420.1	12/26/08	INR	0814906
Sulfate	2.8	2.0	mg/L	1	USEPA-375.4	12/22/08	GEH	0814838
Carbon, Total Organic	1.2	0.50	mg/L	1	USEPA-415.1	12/23/08	LMA	0814942



Client: NTH Consultants

Project: Woodlot/Wayne Disposal

Client Sample ID: **TB-W-10**Lab Sample ID: **0812401-02**Matrix: Ground Water

Unit: mg/L
Dilution Factor: 1

QC Batch: 0814683

Work Order: **0812401**

Description: Laboratory Services

Sampled: 12/17/08 13:40

Sampled By: J. Cieslak

Received: 12/20/08 10:30 Prepared: 12/22/08 By: BJH

Analyzed: 12/26/08 By: JMK

Analytical Batch: 8122912

Polychlorinated Biphenyls (PCBs) by EPA Method 8082

CAC November	Aushin			Analytical Result	RL	
CAS Number	Analyte			Result	- NL	
12674-11-2	PCB-1016			<0.00010	0.00010	
11104-28-2	PCB-1221			<0.00010	0.00010	
11141-16-5	PCB-1232			<0.00010	0.00010	
53469-21-9	PCB-1242	of/		<0.00010	0.00010	
12672-29-6	PCB-1248			<0.00010	0.00010	
11097-69-1	PCB-1254			<0.00010	0.00010	
11096-82-5	PCB-1260			<0.00010	0.00010	
Surrogates:		% Recovery	Control Limits			
Decachlorobipheny	1	102	48-137			
Tetrachloro-m-xyle	ene	50	<i>25-119</i>			



Client: NTH Consultants

Project: Woodlot/Wayne Disposal

Client Sample ID: **TB-W-10**Lab Sample ID: **0812401-02**Matrix: Ground Water

Unit: mg/L
Dilution Factor: 1

QC Batch: 0814805

Work Order: **0812401**

Description: Laboratory Services

Sampled: 12/17/08 13:40

Sampled By: J. Cieslak

Received: 12/20/08 10:30
Prepared: 12/23/08 By: JDM

Analyzed: 12/24/08 By: JDM

Analytical Batch: 8123029

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	
71-43-2	Benzene	<0.0010	0.0010	
95-50-1	1,2-Dichlorobenzene	<0.0010	0.0010	
106-46-7	1,4-Dichlorobenzene	<0.0010	0.0010	
75-34-3	1,1-Dichloroethane	<0.0010	0.0010	
107-06-2	1,2-Dichloroethane	<0.0010	0.0010	
156-59-2	cis-1,2-Dichloroethene	<0.0010	0.0010	
156-60-5	trans-1,2-Dichloroethene	<0.0010	0.0010	
100-41-4	Ethylbenzene	<0.0010	0.0010	
75-09-2	Methylene Chloride	<0.0050	0.0050	
108-88-3	Toluene	<0.0010	0.0010	
71-55-6	1,1,1-Trichloroethane	<0.0010	0.0010	
79-01-6	Trichloroethene	<0.0010	0.0010	
75-01 -4	Vinyl Chloride	<0.0050	0.0050	
1330-20-7	Xylene (Total)	<0.0030	0.0030	

Surrogates:	% Recovery	Control Limits
Dibromofluoromethane	101	<i>88-115</i>
1,2-Dichloroethane-d4	107	<i>81-116</i>
Toluene-d8	99	<i>87-113</i>
4-Bromofluorobenzene	97	<i>78-116</i>



Client:

NTH Consultants

Project:

Woodlot/Wayne Disposal

Lab Sample ID:

Client Sample ID: **TB-W-10**

Matrix:

0812401-02 Ground Water

Work Order:

0812401

Description:

Laboratory Services

Sampled:

12/17/08 13:40

Sampled By:

J. Cieslak

Received:

12/20/08 10:30

*Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Analyzed	Ву	QC Batch
Arsenic	<0.0010	0.0010	.mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Cadmium	<0.00020	0.00020-	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Calcium	41	0.50	mg/L	. 1	USEPA-6010B	01/02/09	KLV	0814964
Chromium	<0.020	0.020	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Copper	<0.020	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Iron	0.76	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Lead	<0.0010	0.0010	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Magnesium	16	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Manganese	<0.0050	0.0050	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Molybdenum	< 0.025	0.025	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Nickel	< 0.050	0.050	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Potassium	1.8	0.10	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
dium	25	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
_inc	0.021	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964



Client:

NTH Consultants

Project:

Woodlot/Wayne Disposal

Client Sample ID: TB-W-10 Lab Sample ID:

Matrix:

0812401-02 **Ground Water** Work Order:

0812401

Description:

Laboratory Services

Sampled:

12/17/08 13:40

Sampled By:

J. Cieslak

Received:

12/20/08 10:30

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL		Unit	Dilution Factor	Method	Date Analyzed	Ву	QC Batch
Alkalinity, Bicarbonate	220	5.0		mg/L	1	USEPA-310.1	12/23/08	CLD	0814862
Alkalinity, Carbonate	<5.0	5.0		mg/L	1	USEPA-310.1	12/23/08	CLD	0814863
Alkalinity, Total	220	10		mg/L	1	USEPA-310.1	12/23/08	CLD	0814861
Chloride	4.5	1.0		mg/L	1	USEPA-325.2	12/22/08	GEH	0814834
Conductivity @ 25° C	365	5		umhos/cm	1	USEPA-120.1	12/22/08	CLD	0814822
Cyanide, Total	<0.00500	0.00500		mg/L	1	USEPA-9014	12/24/08	VAS	0814868
Fluoride	0.92	0.10		mg/L	1	SM 4500-F C 20th	12/29/08	CLB	0814967
Nitrogen, Nitrate+Nitrite	0.020	0.010		mg/L	1	USEPA-353.2	12/30/08	CKD	0815002
*pH	7.7	1.0		pH Units	1	USEPA-150.1	12/22/08	CLD	0814821
Phenolics, Total	<0.00500	0.00500		mg/L	1	USEPA-420.1	12/26/08	INR	0814906
Sulfate	<2.0	2.0		mg/L	1	USEPA-375.4	12/22/08	GEH	0814838
Carbon, Total Organic	0.90	0.50	20	mg/L	1	USEPA-415.1	12/23/08	LMA	0814942



Client:

NTH Consultants

Project:

Woodlot/Wayne Disposal

Client Sample ID: TB-W-7 Lab Sample ID:

0812401-03

Matrix:

Ground Water

Unit:

mg/L

Dilution Factor:

1

QC Batch:

0814683

Work Order:

0812401

Description:

Laboratory Services

Sampled:

12/17/08 12:30

Sampled By:

J. Cieslak

Received:

12/20/08 10:30

Prepared: Analyzed: 12/22/08

By: BJH

12/26/08

By: JMK

Analytical Batch: 8122912

Polychlorinated Biphenyls (PCBs) by EPA Method 8082

8					Analytical		
CAS Number	Analyl	:e			Result	RL	
12674-11-2	PCB-10)16			<0.00010	0.00010	
11104-28-2	PCB-12	21			<0.00010	0.00010	
11141-16-5	PCB-12	232			<0.00010	0.00010	
53469-21-9	PCB-12	42			<0.00010	0.00010	
12672-29-6	PCB-12	248			<0.00010	0.00010	
11097-69-1	PCB-12	254			<0.00010	0.00010	
11096-82-5	PCB-12	260			<0.00010	0.00010	
Surrogates:			% Recovery	Control Limits			



NTH Consultants Client:

Woodlot/Wayne Disposal Project:

Client Sample ID: TB-W-7 0812401-03 Lab Sample ID: **Ground Water** Matrix:

Unit: mg/L Dilution Factor: 1

0814805 QC Batch:

Work Order: 0812401

Description: **Laboratory Services**

12/17/08 12:30 Sampled:

Sampled By: J. Cieslak

Received: 12/20/08 10:30 Prepared: 12/23/08 By: JDM

By: JDM Analyzed: 12/24/08

Analytical Batch: 8123029

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	
71-43-2	Benzene	<0.0010	0.0010	
95-50-1	1,2-Dichlorobenzene	<0.0010	0.0010	
106-46-7	1,4-Dichlorobenzene	<0.0010	0.0010	
75-34-3	1,1-Dichloroethane	<0.0010	0.0010	
107-06-2	1,2-Dichloroethane	<0.0010	0.0010	
156-59-2	cis-1,2-Dichloroethene	<0.0010	0.0010	
156-60-5	trans-1,2-Dichloroethene	<0.0010	0.0010	
100-41-4	Ethylbenzene	<0.0010	0.0010	
75-09-2	Methylene Chloride	<0.0050	0.0050	
108-88-3	Toluene	<0.0010	0.0010	
71-55-6	1,1,1-Trichloroethane	<0.0010	0.0010	
79-01-6	Trichloroethene	<0.0010	0.0010	
75-01-4	Vinyl Chloride	<0.0050	0.0050	
1330-20-7	Xylene (Total)	<0.0030	0.0030	

Surrogates:	% Recovery	Control Limits
Dibromofluoromethane	100	<i>88-115</i>
1,2-Dichloroethane-d4	105	81-116
Toluene-d8	98	<i>87-113</i>
4-Bromofluorobenzene	98	<i>78-116</i>



Client:

NTH Consultants

Project:

Woodlot/Wayne Disposal

Client Sample ID: TB-W-7 Lab Sample ID:

0812401-03

Matrix:

Ground Water

Work Order:

0812401

Description:

Laboratory Services

Sampled:

12/17/08 12:30

Sampled By:

J. Cieslak

Received:

12/20/08 10:30

*Dissolved Metals by EPA 6000/7000 Series Methods

Analytical Result	RL.	Unit	Dilution Factor	Method	Date Analyzed	Ву	QC Batch
<0.0010	0.0010	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
<0.00020	0.00020	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
69	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
<0.020	0.020	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
<0.020	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
1.2	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
<0.0010	0.0010	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
22	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
0.024	0.0050	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
<0.025	0.025	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
<0.050	0.050	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
1.6	0.10	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
18	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
<0.020	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
	<pre></pre>	Result RL <0.0010	Result RL Unit <0.0010	Result RL Unit Factor <0.0010	Result RL Unit Factor Method <0.0010	Result RL Unit Factor Method Analyzed <0.0010	Result RL Unit Factor Method Analyzed By <0.0010



Client:

NTH Consultants

Project:

Woodlot/Wayne Disposal

Client Sample ID: TB-W-7

Lab Sample ID: Matrix:

0812401-03

Ground Water

Work Order:

0812401

Description:

Laboratory Services

Sampled:

12/17/08 12:30

Sampled By:

J. Cieslak

Received:

12/20/08 10:30

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Analyzed	Ву	QC Batch
Alkalinity, Bicarbonate	250	5.0	mg/L	1	USEPA-310.1	12/23/08	CLD	0814862
Alkalinity, Carbonate	<5.0	5.0	mg/L	1	USEPA-310.1	12/23/08	CLD	0814863
Alkalinity, Total	250	10	mg/L	1	USEPA-310.1	12/23/08	CLD	0814861
Chloride	3.6	1.0	mg/L	1	USEPA-325.2	12/22/08	GEH	0814834
Conductivity @ 25° C	492	5	umhos/cm	1	USEPA-120.1	12/22/08	CLD	0814822
Cyanide, Total	<0.00500	0.00500	mg/L	1	USEPA-9014	12/24/08	VAS	0814868
Fluoride	0.73	0.10	mg/L	1	SM 4500-F C 20th	12/29/08	CLB	0814967
Nitrogen, Nitrate+Nitrite	<0.010	0.010	mg/L	1	USEPA-353.2	12/30/08	CKD	0815002
*рН	7.5	1.0	pH Units	1	USEPA-150.1	12/22/08	CLD	0814821
Phenolics, Total	<0.00500	0.00500	mg/L	1	USEPA-420.1	12/26/08	INR	0814906
Sulfate	27	5.0	mg/L	1	USEPA-375.4	12/22/08	GEH	0814839
Carbon, Total Organic	0.91	0.50	mg/L	1	USEPA-415.1	12/23/08	LMA	0814942



Client:

NTH Consultants

Project:

Woodlot/Wayne Disposal

Client Sample ID: TB-W-1 Lab Sample ID:

0812401-04

Matrix:

Ground Water

Unit:

Dilution Factor:

QC Batch:

mg/L 1

0814683

Work Order:

0812401

Description:

Laboratory Services

Sampled:

12/17/08 11:10

Sampled By:

J. Cieslak

Received:

12/20/08 10:30

Prepared: Analyzed: 12/22/08

12/26/08

By: BJH By: JMK

Analytical Batch: 8122912

Polychlorinated Biphenyls (PCBs) by EPA Method 8082

CAS Number	Analyte			Analytical Result	RL.
12674-11-2	PCB-1016			<0.00010	0.00010
11104-28-2	PCB-1221			<0.00010	0.00010
11141-16-5	PCB-1232			<0.00010	0.00010
53469-21-9	PCB-1242			<0.00010	0.00010
12672-29-6	PCB-1248			<0.00010	0.00010
11097-69-1	PCB-1254			<0.00010	0.00010
11096-82-5	PCB-1260			<0.00010	0.00010
Surmastasi		% Recovery	Control Limits		

Surrogates:	% Recovery	Control Limits
Decachlorobiphenyl	112	<i>48-137</i>
Tetrachloro-m-xylene	46	<i>25-119</i>



Client:

NTH Consultants

Project:

Woodlot/Wayne Disposal

Client Sample ID: TB-W-1

Lab Sample ID:

0812401-04

Matrix:

Ground Water

Unit:

mg/L

Dilution Factor:

QC Batch:

0814805

Work Order:

0812401

Description:

Laboratory Services

Sampled:

12/17/08 11:10

Sampled By:

J. Cieslak

Received:

12/20/08 10:30

Prepared: Analyzed: 12/23/08

By: JDM 12/24/08

By: JDM

Analytical Batch: 8123029

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL.	
71-43-2	Benzene	<0.0010	0.0010	
95-50-1	1,2-Dichlorobenzene	<0.0010	0.0010	
106-46-7	1,4-Dichlorobenzene	<0.0010	0.0010	
75-34-3	1,1-Dichloroethane	<0.0010	0.0010	
107-06-2	1,2-Dichloroethane	<0.0010	0.0010	
156-59-2	cis-1,2-Dichloroethene	<0.0010	0.0010	
156-60-5	trans-1,2-Dichloroethene	<0.0010	0.0010	
100-41-4	Ethylbenzene	<0.0010	0.0010	
75-09-2	Methylene Chloride	<0.0050	0.0050	
108-88-3	Toluene	<0.0010	0.0010	
71-55-6	1,1,1-Trichloroethane	<0.0010	0.0010	
79-01-6	Trichloroethene	<0.0010	0.0010	
75-01-4	Vinyl Chloride	<0.0050	0.0050	
1330-20-7	Xylene (Total)	<0.0030	0.0030	

Surrogates:	% Recovery	Control Limits
Dibromofluoromethane	101	<i>88-115</i>
1,2-Dichloroethane-d4	107	<i>81-116</i>
Toluene-d8	100	<i>87-113</i>
4-Bromofluorobenzene	99	<i>78-116</i>



Client:

NTH Consultants

Project:

Woodlot/Wayne Disposal

Client Sample ID: TB-W-1

Lab Sample ID: Matrix:

0812401-04 **Ground Water** Work Order:

0812401

Description:

Laboratory Services

Sampled:

12/17/08 11:10

Sampled By:

J. Cieslak

Received:

12/20/08 10:30

*Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Analyzed	Ву	QC Batch
Arsenic	<0.0010	0.0010	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Cadmium	<0.00020	0.00020	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Calcium	58	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Chromium	<0.020	0.020	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Copper	<0.020	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Iron	1.3	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Lead	<0.0010	0.0010	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Magnesium	21 ^W	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Manganese	0.014	0.0050	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Molybdenum	<0.025	0.025	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Nickel	<0.050	0.050	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Potassium	1.6	0.10	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
dium	20	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
LINC	<0.020	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964



Client:

NTH Consultants

Project:

Woodlot/Wayne Disposal

Client Sample ID: TB-W-1 Lab Sample ID:

0812401-04

Matrix:

Ground Water

Work Order:

0812401

Description:

Laboratory Services

Sampled:

12/17/08 11:10

Sampled By:

J. Cieslak

Received:

12/20/08 10:30

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Analyzed	Ву	QC Batch
Alkalinity, Bicarbonate	250	5.0	mg/L	1	USEPA-310.1	12/23/08	CLD	0814862
Alkalinity, Carbonate	<5.0	5.0	mg/L	1	USEPA-310.1	12/23/08	CLD	0814863
Alkalinity, Total	250	10	mg/L	1	USEPA-310.1	12/23/08	CLD	0814861
Chloride	12	1.0	mg/L	1	USEPA-325.2	12/22/08	GEH	0814834
Conductivity @ 25° C	452	5 ,,	umhos/cm	1	USEPA-120.1	12/22/08	CLD	0814822
Cyanide, Total	< 0.00500	0.00500	mg/L	1	USEPA-9014	12/24/08	VAS	0814868
Fluoride	0.83	0.10	mg/L	1	SM 4500-F C 20th	12/29/08	CLB	0814967
Nitrogen, Nitrate+Nitrite	0.013	0.010	mg/L	1	USEPA-353.2	12/30/08	CKD	0815002
*pH	7.6	1.0	pH Units	1	USEPA-150.1	12/22/08	CLD	0814821
Phenolics, Total	<0.00500	0.00500	mg/L	1	USEPA-420.1	12/26/08	INR	0814906
Sulfate	<2.0	2.0	mg/L	1	USEPA-375.4	12/22/08	GEH	0814838
Carbon, Total Organic	1.2	0.50	mg/L	1	USEPA-415.1	12/23/08	LMA	0814942



Client:

NTH Consultants

Woodlot/Wayne Disposal

Client Sample ID: TB-W-14

0812401-05

Matrix:

Project:

Ground Water

Unit:

Dilution Factor:

Lab Sample ID:

QC Batch:

mg/L 1

0814683

Work Order:

0812401

Description:

Laboratory Services

Sampled:

12/17/08 15:10

Sampled By:

J. Cieslak

Received:

12/20/08 10:30

Prepared: Analyzed: 12/22/08 By: BJH

12/26/08

By: JMK

Analytical Batch: 8122912

Polychlorinated Biphenyls (PCBs) by EPA Method 8082

CAS Number	Analyte	Analytical Result	RL
12674-11-2	PCB-1016	<0.00010	0.00010
11104-28-2	PCB-1221	<0.00010	0.00010
11141-16-5	PCB-1232	<0.00010	0.00010
53469-21-9	PCB-1242	<0.00010	0.00010
12672-29-6	PCB-1248	<0.00010	0.00010
11097-69-1	PCB-1254	<0.00010	0.00010
11096-82-5	PCB-1260	<0.00010	0.00010

Surrogates:	% Recovery	Control Limits
Decachlorobiphenyl	117	<i>48-137</i>
Tetrachloro-m-xylene	68	<i>25-119</i>



NTH Consultants Client:

Woodlot/Wayne Disposal Project:

Client Sample ID: TB-W-14 Lab Sample ID: 0812401-05 Matrix: **Ground Water**

Unit: mg/L

1 Dilution Factor:

QC Batch: 0814805

0812401 Work Order:

Laboratory Services Description:

12/17/08 15:10 Sampled:

Sampled By: J. Cieslak

Received: 12/20/08 10:30

Prepared: 12/23/08 By: JDM By: JDM 12/24/08 Analyzed:

Analytical Batch: 8123029

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	
71-43-2	Benzene	<0.0010	0.0010	
95-50-1	1,2-Dichlorobenzene	<0.0010	0.0010	
106-46-7	1,4-Dichlorobenzene	<0.0010	0.0010	
75-34-3	1,1-Dichloroethane	<0.0010	0.0010	
107-06-2	1,2-Dichloroethane	<0.0010	0.0010	
156-59-2	cis-1,2-Dichloroethene	<0.0010	0.0010	
156-60-5	trans-1,2-Dichloroethene	<0.0010	0.0010	
100-41-4	Ethylbenzene	<0.0010	0.0010	
75-09-2	Methylene Chloride	<0.0050	0.0050	
108-88-3	Toluene	<0.0010	0.0010	
71-55-6	1,1,1-Trichloroethane	<0.0010	0.0010	
79-01-6	Trichloroethene	<0.0010	0.0010	
75-01-4	Vinyl Chloride	<0.0050	0.0050	
1330-20-7	Xylene (Total)	<0.0030	0.0030	

Surrogates:	% Recovery	Control Limit
Dibromofluoromethane	102	<i>88-115</i>
1,2-Dichloroethane-d4	105	81-116
Toluene-d8	99	<i>87-113</i>
4-Bromofluorobenzene	98	<i>78-116</i>



Client:

NTH Consultants

Project:

Woodlot/Wayne Disposal

Client Sample ID: TB-W-14 Lab Sample ID:

0812401-05

Matrix:

Ground Water

Work Order:

0812401

Description:

Laboratory Services

Sampled:

12/17/08 15:10

Sampled By:

J. Cieslak

Received:

12/20/08 10:30

*Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Analyzed	Ву	QC Batch
Arsenic	<0.0010	0.0010	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Cadmium	<0.00020	0.00020	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Calcium	45	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Chromium	<0.020	0.020	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Copper	<0.020	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Iron	0.71	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Lead	<0.0010	0.0010	mg/L	1 5	USEPA-6020A	12/31/08	MSM	0814965
Magnesium	17	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Manganese	0.021	0.0050	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Molybdenum	<0.025	0.025	mg/L	1	USEPA-6020A	12/31/08	MSM	0814965
Nickel	<0.050	0.050	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Potassium	1.5	0.10	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
dium	23	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
_nc	<0.020	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964



Client:

NTH Consultants

Project:

Woodlot/Wayne Disposal

Client Sample ID: TB-W-14 Lab Sample ID:

0812401-05

Matrix:

Ground Water

Work Order:

0812401

Description:

Laboratory Services

Sampled:

12/17/08 15:10

Sampled By:

J. Cieslak

Received:

12/20/08 10:30

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Analyzed	Ву	QC Batch
Alkalinity, Bicarbonate	210	5.0	mg/L	1	USEPA-310.1	12/23/08	CLD	0814862
Alkalinity, Carbonate	<5.0	5.0	mg/L	1	USEPA-310.1	12/23/08	CLD	0814863
Alkalinity, Total	210	10	mg/L	1	USEPA-310.1	12/23/08	CLD	0814861
Chloride	1.4	1.0	mg/L	1	USEPA-325.2	12/22/08	GEH	0814834
Conductivity @ 25° C	363	5	umhos/cm	1	USEPA-120.1	12/22/08	CLD	0814822
Cyanide, Total	<0.00500	0.00500	mg/L	1	USEPA-9014	12/24/08	VAS	0814868
Fluoride	0.80	0.10	mg/L	1	SM 4500-F C 20th	12/29/08	CLB	0814967
Nitrogen, Nitrate+Nitrite	< 0.010	0.010	mg/L	1	USEPA-353.2	12/30/08	CKD	0815002
*pH	7.7	1.0	pH Units	1	USEPA-150.1	12/22/08	CLD	0814821
Phenolics, Total	<0.00500	.0.00500	mg/L	1	USEPA-420.1	12/26/08	INR	0814906
Sulfate	<2.0	2.0	mg/L	1	USEPA-375.4	12/22/08	GEH	0814838
Carbon, Total Organic	0.91	0.50	mg/L	1	USEPA-415.1	12/23/08	LMA	0814942



Polychlorinated Biphenyls (PCBs) by EPA Method 8082

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits RPD	RPD Limits RL	
QC Batch: 0814683 3510C Lic	juid-Liquid Ex	traction/l	JSEPA-8082				
Method Blank					Analyzed:	12/26/2008	Ву: ЈМК
Unit: mg/L					Analytical Batch	8122912	
PCB-1016			<0.00010			0.00010	
PCB-1221			< 0.00010			0.00010	
PCB-1232			<0.00010			0.00010	
PCB-1242		9	<0.00010			0.00010	
PCB-1248			<0.00010			0.00010	
PCB-1254			<0.00010			0.00010	
PCB-1260			<0.00010			0.00010	
Surrogates:							
Decachlorobiphenyl				118	48-137		
Tetrachloro-m-xylene				<i>82</i>	25-119		
Laboratory Control Sample					Analyzed: Analytical Batch	12/26/2008 8122912	Ву: ЈМК
Unit: mg/L							
PCB-1254		0.0010	0.00102	102	66-126	0.00010	
Surrogates:							
Decachlorobiphenyl				122	48-137		
Tetrachloro-m-xylene				84	<i>25-119</i>		



Volatile Organic Compounds by EPA Method 8260B

A								
	Sample	Spike		Spike	Control		RPD	
J.	Jantple	Spine						·
Analyte	Conc.	Oty.	Result	% Rec.	Limits	RPD	Limits	KL }
Alialyte	COTIC	Ze).	1145411					

OC Batch: 0814805 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank				Analyzed:	12/24/2008	By: JDM
Jnit: mg/L				Analytical Batch:	8123029	
Benzene		<0.0010			0.0010	
1,2-Dichlorobenzene		< 0.0010			0.0010	
1,4-Dichlorobenzene		<0.0010			0.0010	
1,1-Dichloroethane		<0.0010			0.0010	
1,2-Dichloroethane		<0.0010			0.0010	
cis-1,2-Dichloroethene		< 0.0010		9	0.0010	
rans-1,2-Dichloroethene	*	<0.0010			0.0010	
Ethylbenzene		< 0.0010	•		0.0010	
Methylene Chloride		< 0.0010			0.0010	
Foluene		< 0.0010			0.0010	
1,1,1-Trichloroethane		<0.0010			0.0010	
Trichloroethene		< 0.0010			0.0010	
Vinyl Chloride		< 0.0010			0.0010	
Xylene (Total)		<0.0030			0.0030	
Method Blank				Analyzed:	12/24/2008	By: JDN
Jnit: ug/L				Analytical Batch:	8123029	
Surrogates:						
Dibromofluoromethane			102	88-115		
1,2-Dichloroethane-d4			106	81-116		
Toluene-d8			98	87-113		
4-Bromofluorobenzene			97	78-116		
aboratory Control Sample				Analyzed:	12/23/2008	By: JDN
Jnit: mg/L				Analytical Batch:	8123029	
Senzene	0.0400	0.0431	108	86-122	0.0010	
.,2-Dichlorobenzene	0.0400	0.0420	105	87-119	0.0010	
L,4-Dichlorobenzene	0.0400	0.0418	105	86-117	0.0010	
,1-Dichloroethane	0.0400	0.0409	102	80-122	0.0010	
1,2-Dichloroethane	0.0400	0.0433	108	78-121	0.0010	
ris-1,2-Dichloroethene	0.0400	0.0410	103	84-121	0.0010	
rans-1,2-Dichloroethene	0.0400	0.0396	99	85-121	0.0010	
thylbenzene	0.0400	0.0448	112	86-116	0.0010	
lethylene Chloride	0.0400	0.0392	98	74-135	0.0010	
Toluene	0.0400	0.0434	109	87-123	0.0010	
1,1,1-Trichloroethane	0.0400	0.0434	109	81-123	0.0010	
			103	80-122	0.0010	

Continued on next page



Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	
QC Batch: 0814805 (Continue	ed) 5030B Ad	queous Pu	rge & Trap/l	JSEPA-8260I	3				
Laboratory Control Sample (C	Continued)					yzed:		/23/2008	By: JDM
Unit: mg/L					Anal	ytical Batch:	81	23029	
Vinyl Chloride		0.0400	0.0411	103	73-130			0.0010	
Xylene (Total)		0.120	0.135	112	88-115			0.0030	
Laboratory Control Sample Unit: ug/L		· · · · · · · · · · · · · · · · · · ·			- 1	yzed: ytical Batch:		/23/2008 23029	By: JDM
Surrogates:									
Dibromofluoromethane				101	88-115				
1,2-Dichloroethane-d4				103	81-116				
Toluene-d8				102	<i>87-113</i>			200	
4-Bromofluorobenzene				102	<i>78-116</i>			(*)	
Laboratory Control Sample D	uplicate				Anal	yzed:	12	/24/2008	By: JDM
Unit: mg/L					Anal	ytical Batch:	81	23029	
Benzene		0.0400	0.0414	103	86-122	4	20	0.0010	
1,2-Dichlorobenzene		0.0400	0.0402	101	87-119	4	20	0.0010	
1,4-Dichlorobenzene		0.0400	0.0400	100	86-117	4	20	0.0010	
1,1-Dichloroethane		0.0400	0.0395	99	80-122	4	20	0.0010	
1,2-Dichloroethane		0.0400	0.0425	106	78-121	2	20	0.0010	
cis-1,2-Dichloroethene		0.0400	0.0394	99	84-121	4	20	0.0010	
trans-1,2-Dichloroethene		0.0400	0.0381	95	85-121	4	20	0.0010	
Ethylbenzene		0.0400	0.0430	108	86-116	4	20	0.0010	
Methylene Chloride		0.0400	0.0394	98	74-135	0.4	20	0.0010	
Toluene		0.0400	0.0415	104	87-123	5	20	0.0010	
1,1,1-Trichloroethane		0.0400	0.0408	102	81-123	6	20	0.0010	
Trichloroethene		0.0400	0.0391	98	80-122	5	20	0.0010	
Vinyl Chloride		0.0400	0.0390	98	73-130	5	20	0.0010	
Xylene (Total)		0.120	0.129	107	88-115	4	20	0.0030	
Laboratory Control Sample D	uplicate					yzed:		/24/2008	By: JDM
Unit: ug/L					Anal	ytical Batch:	81	23029	
Surrogates:									
Dibromofluoromethane				101	<i>88-115</i>				
1,2-Dichloroethane-d4				102	<i>81-116</i>				
Toluene-d8				101	<i>87-113</i>				
4-Bromofluorobenzene				101	<i>78-116</i>				



Dissolved Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	
Analyte: Arsenic/USE							Analyzed:	12/31/20	IOS BV:	MSM
QC Batch: 0814965 (General	Metals Prep)						Allalyzeu.	12/31/20		71011
Method Blank			<0.0010	mg/L					0.0010	
Laboratory Control Sample		0.0500	0.0456	mg/L	91	80-120			0.0010	
0812401-01 [TB-W-12]									0.0010	
Matrix Spike	<0.0010	0.0500	0.0462	mg/L	92	75-125			0.0010	
Matrix Spike Duplicate	<0.0010	0.0500	0.0465	mg/L	93	75-125	0.6	20	0.0010	
Analyte: Cadmium/US	SEPA-6020A									
QC Batch: 0814965 (General	Metals Prep)						Analyzed:	12/31/20	008 By:	MSM
Method Blank			<0.00020	mg/L					0.00020	
Laboratory Control Sample		0.0500	0.0458	mg/L	92	80-120			0.00020	
0812401-01 [TB-W-12]										
Matrix Spike	<0.00020	0.0500	0.0465	mg/L	93	75-125			0.00020	
Matrix Spike Duplicate	<0.00020	0.0500	0.0461	mg/L	92	75-125	0.7	20	0.00020	
Analyte: Calcium/USE	PA-6010B									
QC Batch: 0814964 (General	Metals Prep)						Analyzed:	01/02/20	009 By:	KLV
Method Blank			<0.50	mg/L					0.50	
Laboratory Control Sample		20.0	21.3	mg/L	106	80-120			0.50	
0812401-01 [TB-W-12]										
rix Spike	82.1	20.0	99.0	mg/L	84	75-125			0.50	
ı-ıatrix Spike Duplicate	82.1	20.0	98.4	mg/L	82	75-125	0.5	20	0.50	
Analyte: Chromium/L	JSEPA-6020A									
QC Batch: 0814965 (General	Metals Prep)						Analyzed:	12/31/20	008 By:	MSM
Method Blank			<0.020	mg/L					0.020	
Laboratory Control Sample		0.0500	0.0505	mg/L	101	80-120			0.020	
0812401-01 [TB-W-12]										
Matrix Spike	0.000365	0.0500	0.0498	mg/L	99	75-125			0.020	
Matrix Spike Duplicate	0.000365	0.0500	0.0506	mg/L	100	75-125	2	20	0.020	
Analyte: Copper/USEF	PA-6010B									
QC Batch: 0814964 (General	Metals Prep)						Analyzed:	01/02/20	009 By:	KLV
Method Blank			<0.010	mg/L					0.010	

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Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

1			-					205		
QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	
Inalyte: Coppe	/USEPA-6010B (Cor	ntinued)								
	ontinued) (General Me	tals Prep)					Analyzed:	01/02/20	09 By:	KLV
aboratory Control Sample	e	0.400	0.443	mg/L	111	80-120			0.010	
0812401-01 [TB-W-1	2]									
latrix Spike	<0.010	0.400	0.434	mg/L	108	75-125			0.010	
Matrix Spike Duplicate	<0.010	0.400	0.427	mg/L	107	75-125	1	20	0.010	
Analyte: Iron/U	SEPA-6010B									
QC Batch: 0814964 (G	enerai Metais Prep)						Analyzed:	01/02/20	009 By:	KLV
1ethod Blank			<0.010	mg/L					0.010	
aboratory Control Sampl	е	0.400	0.433	mg/L	108	80-120			0.010	
0812401-01 [TB-W-1	2]									
Matrix Spike	2.01	0.400	2.36	mg/L	88	75-125			0.010	
Matrix Spike Duplicate	2.01	0.400	2.34	mg/L	81	75-125	1	20	0.010	
Analyte: Lead/U	SEPA-6020A									
QC Batch: 0814965 (G	eneral Metals Prep)						Analyzed:	12/31/20	008 By:	MSM
Method Blank			<0.0010	mg/L					0.0010	
aboratory Control Sampl	e	0.0500	0.0482	mg/L	96	80-120			0.0010	
0812401-01 [TB-W-1	2]									
4atrix Spike	<0.0010	0.0500	0.0477	mg/L	95	75-125			0.0010	
trix Spike Duplicate	<0.0010	0.0500	0.0490	mg/L	98	75-125	3	20	0.0010	
Analyte: Magne	sium/USEPA-6010B	i								
QC Batch: 0814964 (G	eneral Metals Prep)						Analyzed:	01/02/20	009 By:	KLV
1ethod Blank			<0.50	mg/L					0.50	
aboratory Control Sample	e	20.0	21.1	mg/L	106	80-120			0.50	
0812401-01 [TB-W-1	2]									
latrix Spike	30.7	20.0	50.3	mg/L	98	75-125		32	0.50	
Natrix Spike Duplicate	30.7	20.0	49.7	mg/L	95	75-125	1	20	0.50	
Analyte: Manga	nese/USEPA-6020A				,	·				
QC Batch: 0814965 (G	eneral Metals Prep)						Analyzed:	12/31/20	008 By:	MSM
1ethod Blank			<0.0050	mg/L					0.0050	

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Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

7										
QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	
	USEDA COZOA	(Carabina	1/							
Analyte: Manganese/			1)				Analyzed:	12/31/20	nns By-	MSM
QC Batch: 0814965 (Continue	ed) (General Me							12/31/20		MON
Laboratory Control Sample		0.0500	0.0490	mg/L	98	80-120	ı		0.0050	
0812401-01 [TB-W-12]										
Matrix Spike	0.0140	0.0500	0.0611	mg/L	94	75-125			0.0050	
Matrix Spike Duplicate	0.0140	0.0500	0.0628	mg/L	98	75-125	3	20	0.0050	
Analyte: Molybdenun)A								ar.
QC Batch: 0814965 (General	Metals Prep)						Analyzed:	12/31/20	008 By:	MSM
Method Blank			<0.025	mg/L					0.025	
Laboratory Control Sample		0.0500	0.0472	mg/L	94	80-120			0.025	
0812401-01 [TB-W-12]										
Matrix Spike	0.00372	0.0500	0.0518	mg/L	96	75-125			0.025	
Matrix Spike Duplicate	0.00372	0.0500	0.0532	mg/L	99	75-125	3	20	0.025	
Analyte: Nickel/USEP/	A-6010B									
QC Batch: 0814964 (General	Metals Prep)						Analyzed:	01/02/20	009 By:	KLV
Method Blank			<0.010	mg/L					0.010	
Laboratory Control Sample		0.400	0.416	mg/L	104	80-120			0.010	
0812401-01 [TB-W-12]				•						
Matrix Spike	<0.010	0.400	0.402	mg/L	100	75-125			0.010	
trix Spike Duplicate	<0.010	0.400	0.396	mg/L	99	75-125	1	20	0.010	
Analyte: Potassium/U	SEPA-6010B									
QC Batch: 0814964 (General I	Metals Prep)						Analyzed:	01/02/20	009 By:	KLV
Method Blank			<0.10	mg/L					0.10	
Laboratory Control Sample		20.0	21.0	mg/L	105	80-120			0.10	
0812401-01 [TB-W-12]										
Matrix Spike	1.61	20.0	22.4	mg/L	104	75-125			0.10	
Matrix Spike Duplicate	1.61	20.0	22.1	mg/L	103	75-125	1	20	0.10	
Analyte: Sodium/USEF	PA-6010B									
QC Batch: 0814964 (General I	Metals Prep)						Analyzed:	01/02/20	009 By:	KLV
Method Blank			<0.50	mg/L		_			0.50	

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Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

\			•							
QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	
Analyte: Sodium/USE	PA-6010B (Co	ntinued)								
QC Batch: 0814964 (Continue	ed) (General Me	tals Prep)					Analyzed:	01/02/200	9 By: KLV	
Laboratory Control Sample		20.0	21.1	mg/L	106	80-120			0.50	
0812401-01 [TB-W-12]										
Matrix Spike	16.6	20.0	36.6	mg/L	100	75-125			0.50	
Matrix Spike Duplicate	16.6	20.0	36.3	mg/L	98	75-125	0.8	20	0.50	
Analyte: Zinc/USEPA-6	5010B									
QC Batch: 0814964 (General	Metals Prep)						Analyzed:	01/02/200	9 By: KLV	
Method Blank			<0.020	mg/L					0.020	
Laboratory Control Sample		0.400	0.428	mg/L	107	80-120			0.020	
0812401-01 [TB-W-12]										
Matrix Spike	<0.020	0.400	0.412	mg/L	103	75-125			0.020	
Matrix Spike Duplicate	<0.020	0.400	0.412	mg/L	103	75-125	0.1	20	0.020	



Physical/Chemical Parameters by EPA/APHA/ASTM Methods

QC Type		Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	
Analyte:	Alkalinity,	Bicarbonate/	USEPA-310	.1							
QC Batch: 08	314862 (Genera	al Inorganic Prep)					Analyzed:	12/23/20	08	By: CLD
Method Blank				<2.0	mg/L					2.0	
Laboratory Cor	ntrol Sample		238	252	mg/L	106	74-123			2.0	
0812401-05	[TB-W-14]				,						
Matrix Spike		214	238	468	mg/L	107	78-117			2.0	
Duplicate		214		219	mg/L			2	20	2.0	
Analyte:	Alkalinity,	Carbonate/Us	SEPA-310.1								
QC Batch: 08	314863 (Genera	al Inorganic Prep)					Analyzed:	12/23/20	08	By: CLD
Method Blank				<2.0	mg/L					2.0	
Laboratory Cor	ntroi Sample		378	407	mg/L	108	74-123			2.0	
0812401-05	[TB-W-14]										
Duplicate		<2.0		<2.0	mg/L				20	2.0	
Analyte:	Alkalinity,	Total/USEPA-3	310.1								
QC Batch: 08	314861 (Genera	al Inorganic Prep)					Analyzed:	12/23/20	08	By: CLD
Method Blank				<2.0	mg/L					2.0	
Laboratory Cor	ntrol Sample		238	252	mg/L	106	91-110			2.0	
0812401-05	[TB-W-14]										
Matrix Spike		214	238	468	mg/L	107	78-117			2.0	
olicate		214		219	mg/L			2	20	2.0	
Analyte:	Carbon, To	tal Organic /U	SEPA-415.1	L							
QC Batch: 08	14942 (Genera	al Inorganic Prep)					Analyzed:	12/23/20	08	By: LMA
Method Blank				<0.50	mg/L					0.50)
Laboratory Cor	ntrol Sample		2.00	1.92	mg/L	96	88-108			1.0	
0812401-01	[TB-W-12]										
Matrix Spike		1.25	2.00	3.39	mg/L	107	75-124			1.0	
Matrix Spike D	uplicate	1.25	2.00	3.33	mg/L	104	75-124	2	20	1.0	
Analyte:	Chloride/U	SEPA-325.2									
QC Batch: 08	14834 (Genera	al Inorganic Prep)					Analyzed:	12/22/20	08	By: GEH
Method Blank	<u> </u>			<1.0	mg/L					1.0	

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Physical/Chemical Parameters by EPA/APHA/ASTM Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	
Analyte: Chloride/USE	EPA-325.2 (Cor	ntinued)								
QC Batch: 0814834 (Continue	ed) (General Inor	ganic Prep)					Analyzed:	12/22/20	08 By:	GEH
Laboratory Control Sample		50.0	49.9	mg/L	100	92-109			1.0	
0812401-01 [TB-W-12]										
Matrix Spike	33.1	50.0	80.9	mg/L	96	72-125			1.0	
Matrix Spike Duplicate	33.1	50.0	80.9	mg/L	95	72-125	0.09	20	1.0	
Analyte: Conductivity	/ @ 25° C /USE	EPA-120.1								
QC Batch: 0814822 (General	Inorganic Prep)						Analyzed:	12/22/20	08 By:	CLD
Method Blank	1)		<5	umhos/cm					5	
Laboratory Control Sample		14100	13270	umhos/cm	94	90-109			5	
Laboratory Control Sample		1410	1408	umhos/cm	100	90-109			5	
0812401-04 [TB-W-1]										
Duplicate	452		454	umhos/cm			0.4	20	5	
Analyte: Cyanide, Tol	tal/USEPA-901	4								
QC Batch: 0814868 (9010B C	yanide Distillation	n)					Analyzed:	12/24/20	08 By:	VAS
Method Blank			<0.00500	mg/L					0.00500	
Laboratory Control Sample		0.100	0.0983	mg/L	98	90-110			0.00500	
Laboratory Control Sample		0.0400	0.0407	mg/L	102	90-110			0.00500	
0812401-01 [TB-W-12]										
trix Spike	<0.00500	0.100	0.101	mg/L	101	59-128			0.00500	
Matrix Spike Duplicate	<0.00500	0.100	0.0986	mg/L	99	59-128	3	20	0.00500	
Analyte: Fluoride/SM	4500-F C 20th									
QC Batch: 0814967 (General)	Inorganic Prep)						Analyzed:	12/29/20	08 By:	CLB
Method Blank			<0.10	mg/L					0.10	
Laboratory Control Sample		2.00	2.06	mg/L	103	89-116			0.10	
0812401-01 [TB-W-12]							2			
Matrix Spike	0.571	2.00	2.63	mg/L	103	75-135			0.10	
Duplicate	0.571		0.628	mg/L			10	20	0.10	
Analyte: Nitrogen, Ni	trate+Nitrite	/USEPA-3!	53.2	s						
QC Batch: 0815002 (Method-S	Specific Preparat	ion)					Analyzed:	12/30/20	08 By:	CKD
Method Blank			<0.010	mg/L					0.010	

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Physical/Chemical Parameters by EPA/APHA/ASTM Methods (Continued)

QC Type		Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	
Analyte:	Nitrogen, Nit	trate+Nitrite	/USEPA-3	53.2 (Continu	ed)		9				
QC Batch: 08	15002 (Continue	d) (Method-Spe	cific Prepara	ation)				Analyzed:	12/30/20	08	By: CKD
Laboratory Cor	itrol Sample		0.500	0.531	mg/L	106	90-110			0.050)
0812401-01	[TB-W-12]										
Matrix Spike		<0.050	0.500	0.496	mg/L	99	90-110			0.050	
Matrix Spike D	uplicate	<0.050	0.500	0.532	mg/L	106	90-110	7	20	0.050)
Analyte:	Phenolics, To	otal/USEPA-42	20.1								
QC Batch: 08	14906 (420.1 Pho	enolics)						Analyzed:	12/26/20	80	By: INR
Method Blank				<0.00500	mg/L					0.005	500
Laboratory Cor	itrol Sample		0.400	0.384	mg/L	96	90-110		50	0.050	00
0812401-01	[TB-W-12]										
Matrix Spike		0.00489	0.400	0.378	mg/L	93	90-110			0.050	
Matrix Spike D	uplicate	0.00489	0.400	0.373	mg/L	92	90-110	1	20	0.050	00
Analyte:	pH/USEPA-156	0.1									
QC Batch: 08	14821 (General I	norganic Prep)						Analyzed:	12/22/20	80	By: CLD
0812401-03	[TB-W-7]										
Duplicate		7.54		7.58	pH Units			0.5	20	1.0	
Analyte:	Sulfate/USEP	A-375.4									
Batch: 08	14838 (General I	norganic Prep)						Analyzed:	12/22/20	80	By: GEH
Method Blank				<1.0	mg/L					1.0	
Laboratory Cor	trol Sample		20.0	20.2	mg/L	101	88-116			2.0	
0812401-01	[TB-W-12]										
Matrix Spike		2.77	20.0	21.5	mg/L	94	55-151			2.0	
Matrix Spike D		2.77	20.0	21.6	mg/L	94	55-151	0.02	20	2.0	
QC Batch: 08	14839 (General I	norganic Prep)						Analyzed:	12/22/20	08	By: GEH
Method Blank				<5.0	mg/L					5.0	
Laboratory Cor	strol Sample		20.0	20.1	mg/L	101	88-116			5.0	



STATEMENT OF DATA QUALIFICATIONS

Dissolved Metals by EPA 6000/7000 Series Methods

Qualification: This analyte was not present in this sample at a concentration greater than 50 times the MDL,

therefore serial dilution is not required.

Analysis: USEPA-6010B

Sample/Analyte: 0812401-01 TB-W-12

Potassium

Qualification: This analyte was not present in this sample at a concentration greater than 100 times the MDL,

therefore serial dilution is not required.

Analysis: USEPA-6020A

Sample/Analyte: 0812401-01 TB-W-12

Molybdenum

Qualification: The sample was digested as a result of elevated turbidity, particulate matter, and/or odor levels.

Analysis: USEPA-6010B

Sample/Analyte: 0812401-01 TB-W-12

0812401-02 TB-W-10 0812401-03 TB-W-7 0812401-04 TB-W-1 0812401-05 TB-W-14

Analysis: USEPA-6020A

Sample/Analyte: 0812401-01 TB-W-12

0812401-02 TB-W-10 0812401-03 TB-W-7 0812401-04 TB-W-1 0812401-05 TB-W-14



STATEMENT OF DATA QUALIFICATIONS

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Qualification: The referenced method requires analysis occur immediately after sample collection. Since the

analysis was not performed in the field, the reported result is considered estimated. Analysis date,

time and temperature were: 12-22-2008 11:00AM 20.1 C.

Analysis: USEPA-150.1

Sample/Analyte: 0812401-05 TB-W-14

рΗ

Qualification: The referenced method requires analysis occur immediately after sample collection. Since the

analysis was not performed in the field, the reported result is considered estimated. Analysis date,

time and temperature were:

12-22-2008 11:00AM 20.4 C.

Analysis: USEPA-150.1

Sample/Analyte: 0812401-04 TB-W-1

pН

Qualification: The referenced method requires analysis occur immediately after sample collection. Since the

analysis was not performed in the field, the reported result is considered estimated. Analysis date,

time and temperature were: 12-22-2008 11:00AM 20.6 C.

Analysis: USEPA-150.1

Sample/Analyte: 0812401-01 TB-W-12

12401-01 ID-W-12

0812401-02 TB-W-10 0812401-03 TB-W-7

pH pH

pН

Analyses Requested Citatin of Custody Record Ġ, N O Willer would make Call Card **52** 44 Control (Latin . Para 2.8 9 7 6 9 2 900 10 to 5560 Corporate Decisions Count ST. Cread Papels, MI 4951; jż Interior No. Partie (616) 975-3800 The (616) 972 7843 Chapter ID Manager Total Control THE STATE OF THE S 7 Population and a second A Property Ī Traincates. Laboratories, Inc. 10 52 8 8 Mendo O E B のあ For Lab Use Only Company of the Company Test Matrix Comp Code

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APPENDIX E

REGIONAL WATER SUPPLY WELL RECORDS



Van Buren Twp. Section 7



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 82000001820		Failure to comply is a misdemeanor.							
Tax No:	Permit No:		County: \	Wayne	Townsl	nip: Van Buren			
		Fraction: SE¼ NW¼ U¼	Section:	Town/Range: 03S 08E	WSSN:	Source ID/Well No:			
Well ID: 8200000	1820	Distance and Directi RD, 4'2" N OF N 6" CH CORNER POSTS, 15	iain link fi	ENCE OF E TANK	STORAGE,	ENTER LINE TYLER 34' EAST OF NW			
		Well Owner: Wayne	Cty Airport D	iv.					
Latitude: 42.24143041		Well Address:		Owner	Address:				
Longilude: -83.54410837									

				Una nation blo	
Drilling Method: Auger/Bor		Pump installed: No	Pump installa	tion only: No	
Well Depth: 10.70 ft.	Well Use: Unknown Date Completed: 9/18/1986	Pump Installation date:	HP:		
Well Type: Unknown Casing Type: Unknown	Date Completed: 9/10/1980	Manufacturer:	Pump Type:		
Casing Type: Unknown Casing Joint: Threaded & c	coupled	Model Number:	Pump Capacit	у:	
	in, to 7.50 ft. depth	Length of Drop Pipe:	ld of Well:		
	·	Dlameter of Drop Pipe:			
B	- 200 & doub	Draw Down Seal Used: No			
Bore Diameter 1: 7.00 in. t Bore Diameter 2:	o 9.00 n. depin	Pressure Tank Installed: No		•	
Bore Diameter 3:		Pressure Tank Type: Manufacturer:			
Height: 0.33 fl. above grad	9	Model Number :	Tor	k Capacity :	Gallons
Casing Fitting: None		Pressure Rellef Valve Installed :		in outpromy :	Canonio
Static Water Level: 6.95 ft.	Below Grade(Not Flowing)			Thickness	Depth to
Yield Test Method: Unknow		Formation Descript	ЮП		Bottom
Measurement Taken Durin	**	Topsoil		1.00	1.00
	-	Yellow Gravel & Sand Fine To Coars	se Clayey	2.00	3.00
		Yellow Sand Silty Clayey		2.00	5.00
	:6	Tan & Gray Sand Fine Clayey		1.00	6.00
Abandoned Well Plugged:	No	White Sand Fine Clayey		1.00	7.00
Reason for not plugging W	/eil:	Black Sand Clayey Fine		1.00	8.00
Abandoned well ID:		Gray Sand Fine Clayey		1.50	9.50
Screen Installed: Yes	Well Intake:	Gray Sand & Clay Clayey Silty		1.50	11.00
Filter Packed: No	Andre Startiste.	Gray Sand & Clay Fine Silty		2.00	13.00
Screen Diameter: 2.00 in.	Length: 3.00 ft.				*
Screen Material Type: Stall					
Slot: 7.00 in. Set Between	7.90 ft. and 10.70 ft.				
Blank: Unknown					
Fittings: Unknown					
O MATION I					
Well Grouted: Yes Grout	ng Method: Unknowл	Geology Remarks:			
No. of Bags:	Additives: None				
Grouting Materials:					
Bentonite slurry	From 7.90 ft. to 10.70 ft.				
		Contractor Type: Water well drilling	contractor		
Well Head Completion:	Unknown	Registration Number: 666	a comment		
		Business Name: STRLING DRLG	CO		
Nearest source of possible	contamination:	Business Address:			
1387	istance Direction	WATER WELL CONT	RACTOR'S CERT	IFICATION:	a boot of
Fuel tank 5	.00 ft. South	This well was drilled under my super my knowledge and bellef.	vision and this rep	ort is itue to tr	ie nest oi
Drilling Machine Operator I	iame: GLENN MILLER				
Employment: Unknown		Signature of Registered Contracto	r Date		
General Remarks: SURFAC	E ELEVATION 718.19', TOP OF CA	ASING 717.86			
OTHER REMARKS					
					10000 00-50

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

9/4/2002 08:50



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor. Township: Van Buren County: Wayne Source ID/Well No: WSSN: Section: Town/Range: Fraction: NW1/4 SW1/4 U1/4 03S 08E Distance and Direction from Road Intersection: 36' NORTH OF 51/2 EAST OF N.W. CORNER HANGER #1, 2216' NORTH OF CENTER LINE TYLER RD, 1614' EAST OF CENTER LINE MCGREGOR RD. Well Owner: Wayne County Airport Div.

Well ID: 82000001819 Permit No: Tax No: Well ID: 82000001819 Elevation: Owner Address: Latitude: Well Address: Longitude: Pump Installation only: No Pump installed: No Drilling Method: Auger/Bored HP: Well Use: Unknown Pump Installation date: Well Depth: 10.50 ft. Date Completed: 9/16/1986 **Pump Type:** Well Type: Unknown Manufacturer:

Casing Type: Unknown
Casing Joint: Threaded & coupled **Pump Capacity:** Model Number: Id of Well: Length of Drop Pipe: 2.00 in. to 7.40 ft. depth Diameter: Diameter of Drop Pipe: Draw Down Seal Used: No Bore Diameter 1: 7.00 in. to 9.00 ft. depth Pressure Tank Installed: No Bore Diameter 2: Pressure Tank Type: **Bore Diameter 3:** Manufacturer: Height: 0.12 ft. above grade Tank Capacity: Gallons **Model Number:** Casing Fitting: None Pressure Relief Valve installed: No Depth to Static Water Level: 6.95 ft. Below Grade(Not Flowing) Thickness **Formation Description Bottom** Yield Test Method: Unknown 0.20 0.20 Sand & Gravel Measurement Taken During Pump Test: 0.10 0.30 Unidentified Consolidated Fm 0.90 0.60 Unidentified Consolidated Fm 4.00 3.10 Tan Clay & Gravel W/Silt 1.50 5.50 Tan Gravel & Sand W/Clay Silty Abandoned Well Plugged: No 6.00 0.50 Reason for not plugging Well: Tan Sand & Gravel Fine Silty 7.50 Gray Gravel & Sand Fine To Medium Coarse 1.50 Abandoned well ID: Tan & Gray Sand Fine To Medium Coarse 9.50 2.00 Screen Installed: Yes Well Intake: 0.50 10.00 Gray Sand Fine To Medium Coarse Filter Packed: No 1.00 11.00 Screen Diameter: 2.00 in. Length: 3.00 ft. Gray Sand & Clay Fine Silty Screen Material Type: Stainless steel-wire wrapped Slot: 10.00 in. Set Between 7.40 ft. and 10.40 ft. Blank: Unknown Fittings: Unknown **Geology Remarks:** Well Grouted: Yes Grouting Method: Unknown Additives: None No. of Bags: Grouting Materials: From 5.00 ft. to 7.00 ft. Bentonite slurry Contractor Type: Water well drilling contractor Well Head Completion: Unknown Registration Number: 666 Business Name: STERLING DRLG CO Business Address: Nearest source of possible contamination: WATER WELL CONTRACTOR'S CERTIFICATION: Distance Direction Type This well was drilled under my supervision and this report is true to the best of 160.00 ft. Northwest Fuel tank my knowledge and belief. **Drilling Machine Operator Name: GLENN MILLER** Signature of Registered Contractor Date Employment: Unknown General Remarks: SURFACE ELEVATION 717.87', TOP OF CASING 717.75' OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

9/4/2002 08:40



Van Buren Twp. Section 16

LOCATION OF WELL Townside them ACT 244 PA 1988 Section from Road Intersections Townside them PA 1988 Section from Road Intersections ACT 244 PA 1988 Section from Road Intersections Add Java Sale Section from Road Intersections Add Java Sale Section from Road Intersections Add Java Sale				1 1	n
WATER ATTOM FOR WELL TOUTH TOWNSHIP Name WATER ATTOM FOR THE ATTOM FOR	EOLOGICAL SURVEY SAMPLE NO.		2500	سلــــــــــــــــــــــــــــــــــــ	MICHIGAN DEPARTMENT
Township Home Township Hom	FEC DO 3/4	WATER W	PA 1965	JKU	PUBLIC HEALTH
SUNTE OF WELL DEATH SUNTEN	LOCATION OF WELL		Praction	. (.)	SHELLING PARTITION IN THE STATE OF THE STATE
Addees SZABO BECK Rb.	minty 16 R	REN	15447	3 OWNER OF	
Street addrines & City of Well Location Cocile Will Will Location Shatch Meet	uistance And Direction from Road Intersections				S' 0 0 '
Constitution Control				•	RELLEVILLE
Thickness Depth Driven Dug Depth Digital Depth Digital Depth Digital Depth Digital Depth Depth Digital Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Driven Depth Depth Depth Driven Driven Depth Driven Driven Depth Driven Driven Driven Depth Driven Dr	Street address & City of Well Location Locate with "X" in section below Sk	otch Mep:			
Business Public Supply Industry Indu					col Rotary Driven Dug
Infligation					rad Li Jotton
THICKNESS DEPTH 70 PARTON OF STATUM STATUM OF	W				Commercial Commercial
TRICKREES BEPTET TO STRATUM TRICKREES BEPTET TO STRATUM STRATUM STRATUM STRATUM Weight 17, lbs/ft.				7 CASING: T	broaded Welded Height: Above/Below
STRATUM STRATU				Diam.	SurfaceR.
SOREEN SOURCE STOLINESS Dia.1 6"	CONSATION	OF	BOTTOM OF		Dalue Cheek Ves No
SIGN GUERY HARD BLUF CIFIY 49 WELL PACKER FUNC FT. BLANK Soft SHAND GRAUF 25 STATIC WATER LEVEL SOFT SHAND GRAUF 25 STATIC WATER LEVEL SOFT SHAND GRAUF 25 STATIC WATER LEVEL SOFT SHAND GRAUF 25 STATIC WATER LEVEL SOFT SHAND GRAUF 25 STATIC WATER LEVEL SOFT SHAND GRAUF 25 STATIC WATER LEVEL SOFT SHAND GRAUF 25 STATIC WATER CALLET Ans. pumping 40 In the first		ath	<i>A</i>	8 SCREEN:	6"
HARD BLUE CLAY 19 WEALT PARKER PURE FT. BLOWN 9 STATIC WATER LEVEL 50 50 50 51 51 53 53	LIELIOW SAND			Slot/Gauze	10 Length 4 FT.
##RED BLUE CLELY SOFT SHITY SAND & CLAY 35	GRAU SAND	4	11_		
SOFT SITTY SAND & CLAY 35	1	49	60	HEMP	PACKER PLUG I FT. BLANK
SOFT SITTY SAND & CLARY 10 PUMPING LEVEL below land aurrace 90 ft, after ftrs. pumping 0 g.p.m.	HARD SLUE CLAY		25	9 STATIC W	ft. below land eurface
CORRSE SAND & GRRUEL 3 95" Tit, after hrs. pumping	SOFT SHTY SAND & CHAY			10 PUMPING	ft. after 4 hrs. pumping g.p.m.
Topic Coarse Co			/	71	
Iron (Fe)	CORRSE SAND & GRAVEL	3	95	11 WATER C	WALITY in Parts Per Million:
12 WELL HEAD COMPLETION: in Approved Pit Pitiess Adeptor 12" Above Grade 13 Well Grouted? Yes No Neat Cement Bentonite Depth; From ft, to ft. 14 Nearest Source of possible contamination MOD feet MC Direction DRAMFIELD Two Net Ideal Indicated upon completion Yes No Not Installed Manufacturer's Name GOULD Model Number JEM HP 3M Voits JSO Length of Drop Pipe Reciprocating Jet Reciprocating Reciprocating Jet Reciprocating Reciprocating This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.			1	(Fe)	Chlorides (CI)
Pitiess Adeptor 12" Above Grade			\	Hardnes	
13 Weil Grouted? Yes No Neat Cement Gentanite				1	
Depth: Fromft, toft. 14 Nesrest Source of possible contamination 12			-	13 Well Gr	outed? yes No
14 Nearest Source of positive Control of Department of D			-	n	ft. to ft.
Well disinfected upon completion Pres No 16 PUMP: Not installed Menufacturer's Name GOULD Menufacturer's Name Gould Menufacturer's Name Gould Menufacturer's Name Gould Menufacturer's Name Gould Menufacturer's Name Gould Menufacturer's Name Gould Menufacturer's Name Gould Menufacturer's Name Gould Menufacturer's Name Gould Menufacturer's Name Gould Menufacturer's Name Gould Menufacturer's Name Gould Menufacturer's Name Gould Menufacturer's Name Gould Menufacturer's Name Gould Menufacturer's Name Gould Menufacturer's Name Gould Menufactu			_		
Menufacturer's Name GOULD Model Number 13FM HP 3M Voits 330 Length of Drop Pipe 82 ft. capacity G.P.M. Type: Submersible Jet Reciprocating 17 WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.				Well dis	infected upon completion //es No
Model Number 13EM HP 36 Volts 230 Length of Drop Pipe 82 ft. capacityG.P.M. Type: Submersible					GOULD
Type: Submersible Jet Reciprocating Description: Reciprocating 17 WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.				Model !	Number 13FM HP 3/4 Volts 230
Der A 2ND SHEET IF NEEDED 17 WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.					Submersible
18 Remarks, elevation, source of data, etc. This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. Apple INFO by DRILLEN, ITEM-NO.				_	- Continue and the
18 Remarks, elevation, source of data, etc. This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. Apple INFO by DRILLEN, ITEM-NO.	AUT THE METERS				TO STATISTICS OF THE STATIST OF THE STATIST OF T
ADDED INFO BY DRILLER, ITEM-NO.	18 Remarks, elevation, source of data, etc.		This	well was drille	d augot wh latisation and two tables
** ADDITION BY SOLA Address 1901 W. MICHIGAN, YASILANTI			to the	SCER I	PRILLING CO. THE BEGISTRATION NO.
WWW. Market Company of the Company o	** ADDITION BY	50 H	Addra	ISS 1901	W. MICHIGAN, YESHANTI
DEPTH TO ROCK DEPTH TO ROCK Date 11-4-74	2 1 55AV1 WA		Addie	121	1 n. 16.000 Date 11-4-74
D67d 100M (Rev. 12-88)	12.50		Sign	AUTHORIZE	D REPRESENTATIVE



Van Buren Twp.
Section 18



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Import ID: 82737818001

Well ID: 82000001381 Township: Van Buren County: Wayne Permit No: Tax No: 82071990002004 Source ID/Well No: Fraction: SW% NW% SW% Section: 18 Town/Range: 03S 08E WSSN: Distance and Direction from Road Intersection: 1000 FT N I-94 SERVICE RD Well ID: 82000001381 Elevation: 705 ft Well Owner: Thompson And Mccally Well Address: 1785 RAWSONVILLE RD VAN BUREN MI 48111 Owner Address: Latilude; 42,2218449018 Longitude: -83.5408955186 MI.

Orilling Method: Rotary			lation only:	No		
Well Depth: 95:00 ft. Well Use: Household		IP:				
Well Type: Replacement Date Completed: 10/18/1967	Manufacturer: Goulds P	ump Type:	Submersible	9		
Casing Type: Unknown	Model Number: P	ump Capa	city: 0.00 G	PM		
Casing Joint: Threaded & coupled Diameter: 4.00 in to 91.00 it depth	Length of Drop Pipe: 74.00 ft.	d of Well:				
Diameter: 4.00 in to \$1.00 in depin	Diameter of Drop Pipe:					
	Draw Down Seal Used: No			<u> </u>		
Bore Diameter 1:	Pressure Tank Installed: No	5 .				
Bore Diameter 2:	Pressure Tank Type:					
Bore Diameter 3: Helght: 0.00 ft. above grade	Manufacturer:					
Casing Fitting: Drive shoe	Model Number :	Tani	k Capacity :	Gallons		
andrial's results.	Pressure Relief Valve Installed : No					
Static Water Level: 60.00 ft. Below Grade(Not Flowing) Yield Test Method: Unknown	Formation Description		Thickness	Depth to Bottom		
Measurement Taken During Pump Test:	Topsoll Sandy		1,00	1.00		
80.00 ft. after 2.00 hrs. pumping at 18.00 GPM	Yellow Sand		9.00	10.00		
	Gray Sand & Gravel Fine		6.00	16.00		
	Gray Clay Soft		37.00	53.00		
Abandoned Well Plugged: No	Clay Sand Gravel Soft Silty		14.00	67.00		
Reason for not plugging Well:	Sand W/Gravel W/Clav		9,00	76.00		
Abandoned well ID:	Clay W/Gravel		8.00	84.00		
Screen installed: Yes Well Intake:	Gravel Fine To Medium Water Bearing		11,00	95.00		
Filter Packed: No						
Screen Diameter: 3.00 in. Length: 4.00 ft.			u .			
Screen Material Type:						
Slot: 30.00 in. Set Between 91.00 ft. and 95.00 ft.						
Blank: 0.00 ft. Above						
Fiftings: Neoprene packer						
Well Grouted: Yes Grouting Method: Unknown	Geology Remarks: 1. [TOP SOIL SANDY]	1411412 (8	AND VELLO	AD [10] [9]		
No. of Bags: Additives: None	12 ICRAY SAND AND FINE GRAVELLING I	614. ICLAY	LIGHT GRA	YSOFT		
Grouting Materials:	AND PLASTICI (53) (37) 5, ICLAY SOFT SIL	TY SAND	SOME GRAV	'EL] [67]		
Bentonite siurry From 0.00 ft. to 0.00 ft.	ITALE ISAND SOME REDAVEL OF AVOI 1781	1917 ICLA	Y WITH EMB	EUDED		
	GRAVEL] [84] [8] 8. [GRAVEL FINE TO ME	DIUM W/S	AND WATER	BEAKING		
The state of the s	[95] [11]					
Well Head Completion: Pitiess adapter	Contractor Type: Unknown	· · · · · · · · · · · · · · · · · · ·				
	Registration Number: 388					
Nearest source of possible contamination:	Business Name:					
Type Distance Direction	Business Address:	4 7				
Septile tank 75.00 ft. North	WATER WELL CONTRACTO This well was drilled under my supervision a my knowledge and belief.	OR'S CERTI and this repo	FICATION: ort is true to the	ne best of		
Drilling Machine Operator Name:	my unitaienda ann saitair					
Employment: Unknown	Signature of Registered Contractor	Date				
General Remarks:						
OTHER REMARKS						

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 23:15

			2.5				1,100000000		A CARA - 800 PM ** A P
	W	ATER WE	LL RECOI	RD	<u>* </u>		GAN DEI OF UBLIC H	:	NT.
LOCATION OF WELL			***	(#)		ar a construction of the latest	W-5:#-	متناعض ليبون	
County	Twp.	ن	Fraction	科殊	Section No.	Town	A 40 A 41	Runge	wit
WAYNE	VAN BUREAR		SWINU		18	3	y/s.	8	E//1.
Platance And Direction from Rec	Service AV.			J OWNER	OF WELL	+ 11190	Cally	1	
pendend of			9. vis. 1	Address					
Street address & City of Well La	called 183 Nama	08/41/1	e Ad,	A				1 4*	
2 FORMA	TION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	7.	EPTH: (comp		ite of Cor	8-6	
Top 5011-5	prely	/	1	A Printer in the	low rod	GeKotary Latted	□ B ₀	iven red	
sand . ye	llow	9	10	E	Irrigation	D Public &		☐ Ind	ustry nmercial
GARY SAN	1 4 FINE			7 CASING	Test Well Threaded	G-Wolded L	Height	: Above/	Below
GARUE/		6	16	4/in.	to 94	ft. Depth	aurfac Weighi		H. Jbs/fr
Clay, Ligh	17 GARY			8 SCREE	(4)	lt. Dopth	J	Shoe? Yes	
SOFT + Pl	25/16 /	37	373	Type/S	ed Brus.		MG.; _enath	8 1115 4 Fe	e e T
C/Ay . 50	ET. 5/17	14	67	Set bety	sed D	h, and 7.	1	136 m	y K x
5ANd . SOR	TE GARDE			10%	WATER LEY	yeng	f'a	che	<u>n</u>
0/Avev		9	76	Lat		land surface	<u> </u>	9 	
Clay wen	bedded			10 PUMPII 87 4	O LEVEL be	low land sur	lace ping/	18.	20.m.
Bravel		52	84		ft, after_	hrs. pvm	plng		-q.p.m.
	the Transfer			1	QUALITY in				
GHAUPT -FL	Ne To Media	<i>8</i> 4	4.0)()	Chloride	s {CI}		
W/SOME SA	nd			Hordnes	EAD COMPL	ETION IT	In Aire	wad Dis	<u> </u>
water Bea	h 1 11 6	11	95		Y Pilless Ac		12" Abo	ve Grade	
				13 GROUT Well Gr	outed?	os 🗆 No	78A - 25	·	
washed s	Tengen w/	1000	601	Depthi	i Neot C				u TTI
	ten - Daus			14 SANITA Negrani 27.5	Source of po	ssible center _Direction.	ninoilon	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
with All 6	i for	,		Well di	infected upor				heis.
				15 PUMP		فأنعجن لإي	1. 1	10	· _

D67D 100M 8-86 1968

16 Remarks, elevation, source of data, etc.

ADDED INFO. BY DRILLER, ITEM 1184

*CORRECTED BY

Reciprocating

17 WATER WELL CONTRACTOR'S CERTIFICATION.

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

GEOLÓGICAL	SURVEY NO 3 1983 WATER			JWP RECORD PERMIT NUMBER
LOCATION C			ACT 368, P.A	
County	Township Name		Fraction	Section Number Town Number Range Number
\Wayne	. Van Burer	1	SE 14	14 18 3MRS 8 FMM
Distance And Direct	ion From Road Intersection			3 OWNER OF WELL:
1	Marine E. South Marine Sure Waster	_		Wayne Disposal, Inc.
49350	North 1-94 Service Drive	3	~	Addressp. 0. 80x 5187
Street Address & Cit	u of Malf Location		85 · 5	Dearborn; MI 48128 Address Same As Well Location?
Locate with "X" in S		ketch Map:		4 WELL DEPTH; (completed), Date of Completion
				116 1 12-6-82
	<u>. </u>	••••	*	5 Cable tool Rotary Driven Dug
			¥	☐ Hollow rod
*	laye and all financia			6 USE: Domestic . Type 1 Public Type III Public
	La la la la la la la la la la la la la la		3	☐ Imigation ☐ Type Ila Public ☐ Heat pump
			,	Test Well Type lib Public Test Sella
				7 CASING: Steel Threaded Height Above/Below
			4.6	Plastic Walded Surface 11.
2 FOR	MATION DESCRIPTION	THICKNESS	DEPTH TO BOTTOM OF	in to 108 ft. depth Weight 11 the /ft.
		STRATUM	STRATUM	Grouted Drift Hole Diameter
Yellow Sand		6	6	in to 11 depth Drive Snos (61 Yes
TATION SHIP			9	8 SCREEN: Not installed
Gray Sand		5	11	Type Stain GSS Diameter
				Slot/Garge 12 Length 81
Soft Blue C	lay	22	33	Set between 108 /t, and 116 /t.
	* **			FITTINGS: K-Packer Lend Packer Bromer Check
Hard Blue C	lay	33	66	Blank above screen it. Other Homo Packer
				9 STAJIC WATER LEVEL:
Fine Silty !	Sand	29	95	10 PUMPING LEVEL: below land surface How
A Class Court of	Outries at	20	(15)	1
Fine Sand &	uravei	20	(13)	100 ft. etter 2 tirs, pumping et 35 G.P.M.
Black Shale			116	1s. after hrs. pumpling at G.P.M.
				11 WELL HEAD Pittess adapter: 12' above grade:
3				COMPLETION: Strates adaptor 12 above grade Basement offset Approved pit
				12 WELL GROUTED? No Grow Trom to ft.
	(A)			Neat coment Bentonite Other
**************************************				No. of bags of cementAdditives
	التاسية من الأمام الأمام الأسام الأسام الأسام الأسام الأسام الأسام الأسام الأسام الأسام الأسام الأسام الأسام ا	***		
	- ALCEN			Type Distance A Olirection
	Mich. Ocal. of Post	ic Bunist		Well disinfacted upon completion? 📮 Yes 🔲 No
	<u>.</u>			14 PUMP: Not installed Pump installation Only
	1.414 6 67			Manufacturer's nameAermotor
		الد د		Model number 4ST30_HP 3 Valls 220
			<u> </u>	Length of Drop Pipe ft_ depactly G.P.M.
	Starture Adminis			TYPE: 🔀 Submersible 🔲 Jet
-				PRESSURE TANK: Manufacturer's pame
***	SE A 2NO SHEET IF NEEDED			Model number WX252 Capacity Gallons
	tion, source of data, etc.	***************************************	16. WATER	WELL CONTRACTOR'S CERTIFICATION:
- an examinate school	ADDED INFO BY DRILLER, ITEM	NO	This well	I was drilled under my jurisdiction and this report is true ast of my knowledge and belief.
Man-	*GORRECTED BY	5 m		Many Comments of the Comments
٧.	**AODITION BY	. 988	Sluss	REGISTERED BUSINESS NAME REGISTRATION NO.
4	ELEVATION	38		1701 W. Michigen Ave Ypsilanti, Mi
T-	DEPTH TO ROCK			T. I And
NAT 4	A COMMENTAL STATES		Signed _	AUTHORIZED REPRESENTATIVE Date 12-28-82



Ypsilanti Twp.
Section 12

Ford Tost Woll No. Wr

Woll No. Y-12-1

Drilling Contractor: Pee Company

Location: NW Section 12, T.35., R.75.,

By old barn and apur track at M corner of Soction 12,

of Ecorse Road or Ward Road.

Record by: Tostimony from driller.	Distance Down Fort
Yellow sand and a few stones	.5 10
Clay and a few stones	10
Clay, sand, low stones	1.5
Fine sand	. 20
Sand, clay	25
Blue clay, few miches	30, 35, 40, 45
Clay, few stores	50
Clay, stones	55
Clay, few fine stones	.60
Clay and a tores	65. 70. 75
Sand, gravel, clay	80
Clay, few atones	86
Clay and stones	90, 95, 100, 105,
	110, 115, 120, 125
	130
Fine Soud	135
Gravel	136
Fice sand	1/10

Date Drillod: 7-30-41 Pumping conditions: At 135' water came to 78' level. At 136' water came to 55' level.



Well ID: 81000007404

Tax No:

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Import IO: 81737712007 Township: Ypsilanii County: Washlenaw Permit No: WSSN: Source ID/Well No:

Fraction: NEX SEX NWX Section: 12 Town/Range: 035-07E Distance and Direction from Road Intersection: 3750' N OF SE CORNER SEC 12, 2850' W OF E SEC 12 LINE Well ID: 81000007404

Elevation: 722 ft

Latitude: 42.2423564587 Longitude: -83.5550884308 Well Owner: Hyrda Matic Div. Gm Well Address:

WILLOW RUN YPSILANTI MI 48197 Owner Address: WILLOW RUN YPSILANTI MI 48197

Drilling Method: Auger/Bored			Pump Installation only:			
Well Depth: 15.00 ft. Well Use: Household		Pump Installed: No	HP:			
	leted: 10/30/1985	Manufacturer:	Pump Type:			
Casing Type: PVC plastic		Model Number:	Pump Capacity:			
Casing Joint: Unknown		Length of Drop Pipe:	ld of Well:			
Diameter: 2,00 in to 5.00 ft depth		Diameter of Drop Pipe:	10 01 41511			
		Draw Down Seal Used:				
Bore Diameter 1:		Pressure Tank Installed: No.		<u> </u>		
Bore Diameter 2:		Pressure Tank Type:				
Bore Diameter 3:		Manufacturer:				
Height: 0.00 ft. above grade		Model Number	Tank Capacity:	Gallons		
Casing Fitting: None		Pressure Relief Valve Installed ; No				
Static Water Level: 7.50 ft. Below Grade	(Not Flowing)	Formation Description	Thickness	Depth to Boltom		
Yield Test Method: Unknown		Lithology Unknown Fill	2.00	2.00		
Measurement Taken During Pump Test	Ç.		3.00	5.00		
		Brown Sand Fine	2.00	7.00		
		Brown Sand Medium Fine	2774			
		Gray Sand Fine W/Slft	4.00	11.00		
Abandoned Well Plugged: No		Gray Sand Fine W/Silt	2.00	13.00		
Reason for not plugging Well:	9 0	Grey Silt	2,00	15.00		
Abandoned well ID:						
Screen Installed: Yes Well In	take:					
Filter Packed: No						
	: 10.00 ft.	e dia mak		trans-re-		
Screen Material Type:	Seno a					
Slot: 10.00 in. Set Between 5.00 ft. and Blank: 0.00 ft. Above	1.15.00 n.					
Fittings:						
None				**12		
		Geology Remarks: 1. [MISC FILL] [2] [2	12. IDK BROWN FINE SA	NDI [5] [3] 3.		
William Andrews Van Berner Haller	Untermore	IMED BROWN FINE SANDI [7] [2] 4. [FII	NE GRAY SAND W/IK SIL	1][11][4] 0.		
Well Grouted: Yes Grouting Method;		FINE GRAY SAND WISOME SILT] [13]	[2] 6. [STIFF GRAY SILT] [15] [2]		
No. of Bags: Additives:	None					
Grouting Materials:	r e a a a a a a a a a a a a a a a a a a					
Bentonite slurry From 0.00 f	t. to 0.00 ft.					
				·		
Well Head Completion: Unknown						
		PARTIES CONTRACTOR OF THE PARTIES CONTRACTOR				
Nearest source of possible contaminat	on:	Contractor Type: Unknown Registration Number: 1758				
Type Distance Dire	ection	Business Name:				
Unknown 0.00 ft.		Business Address:	Land the second	<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>		
Unknown		WATER WELL CONTRAC	TOR'S CERTIFICATION:			
Drilling Machine Operator Name:	7	This well was drilled under my supervisio my knowledge and belief.	n and this report is true to t	he best of		
Building and I between		age of the control of				
Employment: Unknown						
		Signature of Registered Contractor	Date	Ī		
General Remarks:	*			.,		
OTHER REMARKS				1		
A restriction and arthress of the						
		9				

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:17

GEOLOGICAL CLIENCY NO			IF PUBLIC HEALTH	
The second secon	WELL	AND P	UMP RECORD PE	RMIT NUMBER
County Township Name		Fraction	Section Number Town N	umber Renga Number
Washtenaw Yprilanti	who thereby have been a second and the second and t	NEVA	NW 1/4 1/4 12 3	NO TEN
Distance And Direction From Read Intersection			3 OWNER OF WELL: Hydra-Matic I	MORINI
			Address Ypsilanti, mich	
Street Address & City of Well Location Locate with 'K' in Section Below S	ketch Map:			Yes C No
				1-30-25
				☐ Driven ☐ Dug
*			A 1708	Jetted
MI		,	OSE: Domestic Type Public Irrigation Type lla Public	Type III Public
			☐ Test Well ☐ Type lib Public	P Monifor
I MILE.		summer determines and	Plastin Walded	ght Above/Below
2 FORMATION DESCRIPTION	THICKNESS	DEPTH TO BOTTOM OF	in. to _05_ (t. depth) We	laoa <u>U</u>
	STRATUM	STRATUM	Grouted Drill Hole Diameter	e Shoe C Yes
Mise fill	2	2	in to ft depth	₽No.
DK brown fine Sand	3	5	The state of the s	Not installed
Med Gram fine Squal	2.	-		3" 1.0. (0 Ff
	, A.a.	7	Set between It. and	
Fine gray Sand of to selt	4	- //		or Bremer Check Other
Fine gray Janul of some sitt	2.	13	9 STATIC WATER LEVEL:	
HEC CI			10 PUMPING LEVEL: below land surface	Flow
JITT THY SILE	2	15	It after has pumping a	
			ft affet hrs. pumping at	GPM.
			11 WELL HEAD Pilless adapter COMPLETION: Basement offset	12" ábove grade
			12 WELL GROUTED? No Yes Fr	
			4	Other
			No. of bags of cament Additives	
			13 Nearest source of possible contemination	
· · · · · · · · · · · · · · · · · · ·				fl. Direction
			Well disinfected upon completion? Ye	
	_		Manufacturer's name	ump Installation Only
			Model number HP	Volis
the second secon			Length of Drop Pipe	lyGP.M.
			PRESSURE TANK	
USE A 2ND SHEET IF NEEDED	.		Manufacturer's nameCapac	ityGallons
15. Remarks, elevation, source of data, etc.		16. WATER	WELL CONTRACTOR'S CERTIFICATION:	
Mw-7			was drilled under my jurisdiction and this report it of my knowledge and belief.	is true
	HARMAN ALIA	Earth	Sheries Jennes The	7578
		Address_		STRATION NO.
67d 2/84		Signed	metre 1. 6/20 00	6/25/85
67d 2/84			AUTHORISED REPRESENTATIVE	

GEOLOGICAL SURVEY COPY

Authority: Completion: Penalty:

Act 388 PA 1378
Required
Conviction of a violation
of any provision is a
misdemeanor.



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID	: 8100000	7406	Failure to comply is a misdemeanor.

Import ID: 81737712009

Tax No:	Permit No:		Gounty:	Vashtenaw	Towns	hip: Ypsilanti
	[F	raction: NEX SEX NWX	Section:	Town/Range: 03S 07E	WSSN:	Source ID/Well No:
Well ID: 81	ONDONATAGE D	istance and Direct 00' W OF SEC 12 E	on from Roi LINE	id Intersection: 4	000' N OF S	E CORNER SEC 12,
Elevation: 722 ft	<u> </u>					
Latitude: 42.2432633872		iell Owner: Hydra I	viauc UIV. Gn) Inuma	Address:	
A TARABASAN TO TARABASAN TO BE OF STREET	l vi	/ell Address: VILLOW RUN			OW RUN	
Longitude: -83.5546229047		PSILANTI MI 4819	7 .	YPSII	ANTI MI 48	197

Drilling Method: Auger/Bored	Pump Installed: No	Pump Installation only:	
Well Depth: 15.00 ft. Well Use: Household	Pump installation date:	HP:	
Well Type: Replacement Date Completed: 10/30/1984	Manufacturer:	Pump Type:	
Casing Type: PVC plastic	Model Number:	Pump Capacity:	
Casing Joint: Unknown	Length of Drop Pipe:	ld of Well:	
Diameter: 2.00 in to 5.00 ft depth	Diameter of Drop Pipe:		
	Draw Down Seal Used:		
Bore Diameter 1:	Pressure Tank Installed: No		
Bore Diameter 2:	Pressure Tank Type:		
Bore Diameter 3:	The contract of the contract o		
Height: 0.00 ft. above grade	Manufacturer:	Tank Capacity:	Collone
Casing Fitting: None	Model Number	talik Capacity.	Genous:
	Pressure Relief Valve Installed : No		New York Carlot Davids
Static Water Level: 8.00 ft. Below Grade(Not Flowing)	Formation Description	Thickness	Depth to Bottom
Yield Test Method: Unknown			
Measurement Taken During Pump Test:	Brown Clay Silty	2.00	2.00
AVENUE DE LA MEDICE DE LA PERSONA DE LA COMPANSIÓN DE LA	Brown Sand Medium Fine	3,00	5.00
	Gray Sand Fine	2.00	7.00
	Gray Sand & Silt Fine	6,00.	13.00
Abandoned Well Plugged: No	Gray Sift	2.00	15.00
Reason for not plugging Well:	Gray Sit		
Massout for the binding men.			
Abandoned well ID:			
Screen Installed: Yes Well Intake:			
Filter Packed: No			
Screen Diameter: 2,10 in. Length: 10,00 ft.			
Screen Material Type:			
Slot: 10.00 in. Set Between 5.00 ft. and 15.00 ft.		***	
Blank: 0.00 ft. Above			······································
Fittings:			
None			
	Geology Remarks: 1. [DK BROWN SIL]	FY CLAY] [2] [2] 2. [MED BI	ROWN
Well Grouted: Yes Grouting Method: Unknown	FINE SAND] [5] [3] 3. (GRAY FINE SAND)][7][2] 4. [GRAY FINE SA	ND WELK
	SILT] [13] [6] 5. [STIFF GRAY SILT] [15]	[2]	
No. of Bags: Additives: None			
Grouting Materials:			
Bentonite slurry From 0.00 ft. to 0.00 ft.			
Well Head Completion: Unknown			
7.			
	Contractor Type: Unknown		
Nearest source of possible contamination:	Registration Number: 1758		
Type Distance Direction	Business Name:		
Unknown 0.00 ft.	Business Address:		
Unknown	WATER WELL CONTRAC	TOR'S CERTIFICATION:	الأم فيسا ال
	This well was drilled under my supervision	n and this report is true to ti	is past or
Drilling Machine Operator Name:	my knowledge and belief.		
Employment: Unknown	<i>***</i>		
minika - Saransan maritan water.			
	Signature of Registered Contractor	Date	
General Rémarks:			The second second
OTHER REMARKS			

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:17

GEOLOGICAL EUROCCUNO I			UMP RECORD
1 LOCATION OF WELL			PERMIT NUMBER
County Washtenaw Township Name Y DSIlanti		Frection NE 1/4	NU 1/4 1/4 2 3 N/B 7 EW
Distance And Direction From Road Intersection		-in-restate	3 OWNER OF WELL: Hydra - Mathe United
1			Dengral Muters Corp Address Yestern Ki Michigan 48147
			Address Aprilank's mickigan 48147
Street Address & City of Wall Location			Address Same As Well Location? Yes No.
Locate with "X" in Section Below.	Sketch Map:		4 WELL DEPTH: [completed] Date of Completion
			15 in 0 1 10-30-84
			5 Cable tool Rotary Driven Dug
"			B USE: Domestic Type I Public Type III Public
			Domestic Type I Public Type III Public Irrigation Type III Public Heat pump
			Test Well Type lib Public Triffic
WILE -			7 CASING: Steal Threaded Height: Above/Below
	THICKNESS	DEPTH TO	2 In to St. depth Surface O ft.
2 FORMATION DESCRIPTION	STRATUM	BOTTOM OF STRATUM	in, toft, deathbs./tt,
St Ima off. Ch.	2	-	Grouted Drill Hole Diameter
DK brown silly Clay		2.	in, to 1t depth No
Mad brown fine Sand	3	5	Type PUC Dismeter 2 1-0.
brown fine Sand	2_	7	Slot/Gauze 010 Length 10 ff Set between 5 It and 15 It
brow fine Sand of tr. sitt	6	13	FITTINGS: K-Packer Lead Packer Bremer Check Blank above screen 11. Other
Stiff gray Sitt	2	15	9 STATIC WATER LEVEL:
			It. below land surface Plow 10 PUMPING LEVEL: below land surface
ar and a second			1t. after hire pumping at G.P.M.
			11 WELL HEAD COMPLETION: Pilless edapter 12" above grade Description: Approved pit
		***************************************	12 WELL GROUTED? No Pyst From 2 to 4 tt.
			Neat coment Bantonise Other
			No. of bags of cament Additives
· u			13 Nearest source of possible contamination
the state of the s	 		TypeDistance
Martin & L			Well disinfected upon completion? Yes IV No
			14 PUMP. N.A. I Not installed Pump installation Only
	4		Manufacturer's name
			Length of Drop Pipe ft. capacity G.P.M.
			TYPE: Submeralble Jet
			PRESSURE TANK:
USE A 2NO SHIEFT IF NEEDED		, i	Model number Gallons
16. Remarks, elevation, source of data, etc.		This well	WELL CONTRACTOR'S CERTIFICATION: was drilled under my lurisdiction and this report is true
			t of my knowledge and belief. Scunces Services, The 1758
		na na	GISTERED BUSINESS NAME REGISTRATION NO.
×		Address _	PO BOX 957 Manning 9H 43537
57d 2/84	<u> </u>	Signed	molec 1. 6/38 DATO 6/25/58 /
read the second			AUTHORIZED REPRESENTATIVE Authority: Act 368 PA 1976
GEO	LOGICAL	SURVEY C	Gomplation: Required

Act 368 PA 1978
Required
Conviction of a violation
of any provision is a
misdemeanor.



Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007410

Failure to comply is a misdemeanor.

Import ID: 81737712013

Tax No:	Permit No:		County: V	Vashtenaw.	Towns	hip: Ypsilanti			
1333.14.35		Fraction: NE% SE% NW%	Section:	Town/Range: 03S 07E	WSSN:	Source ID/Well No:			
57 .75	Well ID: 81000007410		Distance and Direction from Road Intersection: 3350' N OF SE CORNER OF SEC 122675' W SEC 12 E LINE						
			Well Owner: Hydra Matic Div Gm						
Latitude: 42.2414656653 Longitude: -83.55471914		Well Address: WILLOW RUN YPSILANTI MI 4819		Owner WILLO	Address: W RUN ANTI MI 48	197			

Drilling Method; Auger/Bored Well Depth: 15.00 ft. Well Use: Household	Pump Installed: No Pump Installation date:	Pump installation only: HP:	•
Well Type: Replacement Date Completed: 2/8/1985 Casing Type: PVC plastic Casing Joint: Threaded & coupled Diameter: 2.00 in. to 5.00 ft. depth	Manufacturer: Model Number: Length of Drop Pipe: Diameter of Drop Pipe: Draw Down Seal Used:	Pump Type: Pump Capacity: Id of Well:	
Bore Diameter 1: Bore Diameter 2: Bore Diameter 3: Height: 0.00 ft. above grade Casing Fitting: None	Pressure Tank Installed: No Pressure Tank Type: Manufacturer: Model Number; Pressure Relief Velve Installed: No	Tank Capacity :	Gallons
Static Water Level: 7.00 ft. Below Grade(Not Flowing) Yield Test Method: Unknown	Formation Description	Thickness	Depth to Bottom
Measurement Taken During Pump Test:	Lithology Unknown Fill	2,00	2.00
त्रके स्वयन करियों करियों के क्षेत्रक का स्थान क्षेत्रक कर कि वा कि क्षेत्रक करियों के क्षित्रक करियों के क्षि	Brown Sand Fine To Medium	3,00	5.00
	Brown Sand & Silt Medium	5.00	10.00
	Gray Sand Fine W/Silt	5.00	15.00
Abandoned Well Plugged: No			
Reason for not plugging Well:			1
Abandoned well ID:			
Screen Installed: Yes Well Intake:			
Filter Packed: No			
Screen Diameter: 2.10 in. Length: 10,00 ft.			
Slot: 10:00 in. Set Between 5:00 ft. and 15:00 ft.			· · · · · · · · · · · · · · · · · · ·
Blank: 0.00 ft. Above			
Fittings:			
None			C DANIOS IS
Well Grouted: Yes Grouting Method: Unknown No. of Bags: Additives: None Grouting Materials: Bentonite sturry From 0.00 ft. to 0.00 ft.	Geology Remarks: 1. [MISC FILL] [2] [3] 3. [MEDIUM BROWN/GRAY FINE SASAND, W/SOME SILT] [15] [5]	1) 2. [MELTION BROWN 1.11 NO, TR. SILT] [10] [5] 4. [G	RAY FINE
Well Hend Completion: Unknown			
Nearest source of possible contamination: Type Distance Direction Unknown 0.00 ft.	Contractor Type: Unknown Registration Number: 1758 Business Name: Business Address:	And the state of t	
Unknown	WATER WELL CONTRAC	TOR'S CERTIFICATION:	ha hant of
Drilling Machine Operator Name:	This well was drilled under my supervision my knowledge and belief.	in and this report is true to t	ne Dest Of
Employment: Unknown			
	Signature of Registered Contractor	Date	

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:17

AND THE COURT OF A STATE OF THE COURT OF THE			UMP RECORD
1 LOCATION OF WELL			FERMIT NUMBER
County Was Henry Township Name Vosclanti		Fraction NL VA	NH 14 12 3 N/6 7 EAV
Distance And Direction From Road Intersection		······································	3 OWNER OF WELL: Hydra - Matic Division
f			beneral motors forp Address Ypsilant, mishyak 49197
Street Address & City of Well Location			
	Sketch Map:	****	Address Same As Well Logation? Lyas I No 4 WELL DEPTH: (completed) Date of Completion
			15 n.O 10-30-84
			6 Cable tool Rotary Driven Dug
			6 USE: Domestic Type I Public Type III Public
1 Mt.			☐ Irrigation ☐ Type lie Public ☐ Heat oumg ☐ Test Well ☐ Type lio Public ☐ Mohr Tor
- Mic			7 CASING: Steel Threeded Height: Above/Below
2 FORMATION DESCRIPTION	THICKNESS	DEPTH TO SOTTOM OF	2 in to 1 depth Weight 155://s.
	STRATUM	STRATUM	Grouted Drill Hole Diameter
Mise fill	2	2	in. to II. depth
DK Grown fine Sand	3	5	S SCREEN: And Installed
med brown fine Sand	2	7	Stot/Gauze 010 Length 10 H
			Set between
Dray fine Jand	4	//	Blank above screen ft. Other 9 STATIC WATER LEVEL:
bray fine Sand who silk Stiff gray Silt	2.	13	11. below land surface
Stiff amu Silt	2.	15	10 PUMPING LEVEL: below land surface
			fi. alterhrs. pumping at G.P.M.
And the second s			11 WELL HEAD COMPLETION: Pitless adapter 12 above grade Basament offset Approved pit
		-	12 WELL GROUTED? No Pres From 2 to 4 ft.
			☐ Neat coment ☐ Bentonite ☐ Other
			No. of bags of coment Additives
			Type DistanceL Direction
			Well disintented upon completion? Yes No
			14 PUMP: DP 14
			Manufacturer's name
			Model number HP Volts G.P.M.
			TYPE: Submersible Jet
			PRESSURE TANK: Menufaqurer's name
use A 2HD SHEET IF HEEDED 15, Remarks, elevation, source of date, etc.		16 WATER	Model number Galloris
MU-8		This well	west dilled under my jurisdiction and this report is true if of my knowledge and belief:
		Earth	Sciences Services Coop 1758
	-	Address _	GISTERED BUSINESS NAME REGISTRATION NO. / P. B. BOX 5.77 Mg/mea. 104/ 435.3.7
7003 214		Signed	mushun 7.6/of soio 6/25/55
D678 2/84			AUTHORIZED REPRESENTATIVE ACT 368 PA 1878
GE	OLOGICA	L SURVEY	COPY COPY Completion: Required Convision of a vigilation of a

Act 368 PA 1978 Required Conviction of a violation of any provision is a misdemagner.

i in the second	HY WEI MIT	LIVILIN'I L	TODLIC MEALIN CONTRACTOR
GEOLOGICAL CHONCEV NO.			UMP RECORD
LOCATION OF WELL			
County Washtenaw Township Norma Ypsilanti		Fraction	Section Number Town Number Range Number 7 EAV
Distance And Direction From Road Intersection			3 OWNER OF WELL: Hydro-Martic Durson
4			beneral medica burg.
			Address Aprilanty me hogen young
Street Address & City of Well Location			and the second s
Locate with "X" in Section Below	Sketch Mep:		Address Same As Well Location? Yes No. 4 WELL DEPTH: (completed) Date of Completion
			15 n 2-6-85
			5 Cable tool Rotery Driven Drug
w			Hollow rod PAuger Jetted
			6 USE: Domestie Type Public Type III Public
1			Itagesion Type lie Public Heet pump Test Well Type lib Public Manfar
			7 CASING: Steel Threeded Height: Above/Below
3.7(M. I.			3 In to 3 th depth Surface 0 th
2 FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	
in the			Grouted Orill Hole Diameter in, to ft. depth Orive Shire Yes
Misc fill	1.5	1.5	in to ff. depth
Med form sand	3.5	سى	8 SCREEN:
		<u> </u>	Type Linking 2 cd Diameter 3" I.D. Stot/Gauze 0/0 Length /2
med Soundary fine Soul, tr. silt	5	10	Slot/Gauze 0/0 Length /2 Set between 3 It and /5 (t
Gray fine Sand of sitt	J	15	FITTINGS: K-Packer Leed Packer Bremer Check
	<u> </u>	1-	Blank above screen it. Other 9 STATIC WATER LEVEL:
			6.5 (f. below land surface Flow
			10 PUMPING LEVEL: below land surface
			11. after hrs. pumping at G.P.M.
			ft, after has sumping et d.e.m.
			11 WELL HEAD Pitless adapter 12' above grade
			12 WELL GROUTED? No LY Yes From
			☐ Neat coment ☑ Beatontie ☐ Other
			No. of bage of cement Additives
,			13 Nearest source of possible contemination
			Type Distance R. Direction
And the second s			Well disinfected upon completion? Yes You
			14 PUMP: W Not installed Pump Installation Only
the state of the s	 		Manufacturer's name
			Length of D/op Pipe
			TYPE: Submersible Jet
			PRESSURE TANK: Manufacturar's name
USE A 2NO SHEET IF NEEDED		1	Model number Capacity Gallons
15. Remarks, elevation, source of data, etc.		16. WATER	WELL CONTRACTOR'S CERTIFICATION:
Mind Rue 1		to the bea	was drilled under my jurisdiction and this report is true t of my knowledge and belief.
		Earth	Studies Services Inc. 1758
		R	GISTERED BUSINESS NAME REGISTRATION NO.
	AND THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO I	شيبه	2 1 12012 16010
167d 2/84		Signed	MITUANIZED SERBESENDATES DATE

Authority: Completion: Penalty: Act 368 PA 1978 Required Conviction of a violation of any provision is a misdemeasury.

CEDI OCICAL CHRUEVAIO	*		UNIP RECORD
1 LOCATION OF WELL			PERMIT NUMBER
County 1 Township Name		Fraction	Section Number Town Number Renge Number
Washtenaw Ypulanei		N1 1/4	NH 14 12 3 NO 7 6W
Distance And Direction From Road Intersection		Action of the second	3 OWNER OF WELL: Higher-Mathe Division
4			General Motors Carp.
			Address Aprilanti, michiga 48117
Street Address & City of Well Location			
	ketch Map:	-	Address Same As Well Location? Yes I No 4 WELL DEPTH: (completed) Date of Completion
			151.0 2-7-25
			6 Cable tool Rotary Driven Drive
W			Hallow rod PAuger Jetted
			6 USE: Domestic Type Public Type III Public
			☐ lingetion ☐ Type ils Public ☐ Hest pump
			Test Well Type IIb Public P Monifer
- I Wile -			7 GASING: Steel Threaded Height: Above/Below Playlic Welded Soules O
2 FORMATION DESCRIPTION	THICKNESS	DEPTH TO	3 to the 3 to desire
- TOTAL OF OCITY CLOSE	OF STRATUM	DEPTH TO BOTTOM OF STRATUM	Grouted Drill Hole Diameter Weight lbs./ft.
Mise fill	1.5	1.5	in to it dans Dave Snot La Yes
	(,)	1.13	in to 11 depth W No
Med brown fine Sand, tr. silt	3.5	5	8 SCREEN: Not installed Type Lalvaniana Diameter J. T.D.

Med boundary the Sand to self	5	10	Sel between 9 ft and 15 it
Gray fine Sand of silt		15	FITTINGS: K-Packer Lasd Packer Bramer Check
Oley the Squir of Stit	البد	12	Blank above screen /t. Other
			9 STATIC WATER LEVEL;
			ft. below land surface Plow 10 PUMPING LEVEL: below land surface
<u></u>			
			ft. afterhrs. pumping at G.P.Mtt. afterhrs. pumping at G.P.M.
	I.		11 WELL HEAD Pittess adapter 12' above grade
	<u> </u>		Besement offset Approved pit
			No Yes From to the
			Neal coment Bentonite Other
			No. of bags of coment Additives
			13 Naarest source of possible contamination
			Type Distance ft. Direction
			Well disinfected upon completion? Yes Yes No.
			14 PUMP: Pump Installation Only
			Manufacturer's name
· ·		-	Madel number HP Volts
			Length of Drop Pipe
			TYPE: Submersible Jet
			PRESSURE TANK:
USE A 2NO SHEET IF NEEDED			Model number Capacity Gallons
15. Remarks, elevation, source of data, etc.	1	6. WATER	WELL CONTRACTOR'S CERTIFICATION:
1444-Z		to the bes	was drilled under my jurisdiction and this report is true tof my knowledge and belief.
÷	and the second		Sciences Strikes, Inc. 1758
		RE	GISTERED BUSINESS NAME REGISTRATION NO.
)	**	Address _	20 DOKES 57 MAINTER OH 43537
67d 2/84		Signed	AUTHORIZED REPRESENTATION Date 6/25/85
#			Authority: Act 366 PA 1978

GEOLOGICAL SURVEY NO.				UMP RE		PERMIT N	LUMBER
1 LOCATION OF WELL County Townshi			Fraction		Section Number	Town Number	Renge Number
	psilanti	pull-ath up a di	NE VA	Not 14 1/	12.	3 NA	7 (B/V
Street Address & City of Well Location Locate with 'X' in Section Below		ketch Map:	and the second second second second second second second second second second second second second second seco	Address Address S	eme As Well Locatio	opkia Corp Michigas Hans M 1884 C	
MI.	5.	wetch map:		6 Cable to Hollow 6 USE: Don Diring Test 7 CASINS: E	od Auger nestic Type I étion Type II (Well Type III Steel Threed	Jetted Public Public Public Public Public Public Public Public Public Public Public Public Publi	Type (II Public Heat pump Morte for
2 FORMATION DESCRIPTION		THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	Grouted Dril	t. depth i. depth Hole Diameter	Weight	lbs./ft.
Mise fill		1.5	1.5	1	tt. depth		22 No
Med brown fine Sand Med brownforay fine Sand, tr. silt bray fine Sand al silt		3.5	5	e screen: Type 6610		Not Ins	
Med Sound gray fine Soul, tr. silt		5	10	Slot/Gauze _ Set between	<u>0/0</u> L	engih <u>12'</u> eng <u>15' n</u>	
Gray fine Stand of silt		5	15	FITTINGS: Blank ab 9 STATIC WAYS	ove screen1	ead Packer 🔲 Bri	emer Check
				6.5	n Level: fl. below land s VEL: below land surf	urfaçe	☐ Flow
				**************************************	i. after hrs. pi	imping at(
V				11 WELL HEAD COMPLETION 12 WELL GROUT	Basement o	fiset Approve	ed pit
·				Neat cem	∐ No <u>⊬</u>	Yes From	- 16 <u>3</u> 1.
				No. of bags of		ditives	
				13 Nearest sourc	e of possible contam	nation	
The state of the s				Туре	Distance	ft Directio	m m
				-	ipon-completion?	Yes WN	Ò
				14 PUMP: P N.A. P Manufacturer's	Not installed	☐ Pump Installa	niòn Only

USE & ZNO SHEET IF NEFOED.

16. Remarks, elevation, source of date, etc.

ranhat KW-3

2/84

D674

Model number Capacity .

18. WATER WELL CONTRACTOR'S CERTIFICATION:

Length of Drop Pipe _

PRESSURE TANK: Menufacturer's neme

TYPE:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Submersible

REGISTERED BUSINESS NAME

REGISTRATION NO

ft. capacity

☐ Jet

Address P. D. Bis of Manuer OF
Signed meline V. G/2

Authority: Completion: Penalty: Ani 308 PA 1978 Regulred Conviction of a violation of any provision is a misdemeanor.

Gallona

GEOLOGICAL SURVEY NO. 1 LOCATION OF WELL	WATER V	VELL PART 12:		PUMP RECORD PERMIT NUMBER
Washtenaw Townshi	i Name Silan ti		Fraction	The section of the section
Distance And Direction From Road Intersection	SHAN LI		NLY	14 NU 14 14 12 3 N/6 7 (
Street Address & City of Well Location ocate with "X," in Section Below	Sketc	sh Mapi.	Maryla 1771 do quae di Alemano Magal	S OWNER OF WELL: Hydra-Matic Utilitin ben eral Mo fats Address Same As Well Location? Wes No 4 WELL DEPTH; (completed) Date of Completion 15 it. O [[-2-84] 6 Cable tool Rotary Drivan Dug Hollow rod Mager Jetted
1 MILE		62 c	\$ GW S'	6 USE: Domestic Type I Public Type III Public I regation Type III Public Heat pump Test Well Type III Public Men for Type III Public I Men for Type III Public I Men for Type III Public I Men for Type III Public I Men for Type III Public I Surface III Please I Welded Surface III
FORMATION DESCRIPTION	1	HICKNESS. OF TRATUM	DEPTH TO BOTTOM OF STRATUM	F in to 1. depth Weight 15s.11t.
rise fil		3	7	in to 1 dapth Wo
k brown fine Sand		3	5	Type PVC Diameter 3 1.0. Slot/Gauzo 0/0 Length 10
k brown fine Sand ed brown/gray Sand we gray Sand of tr. silt helf gray Silt		2	_7	Set between 5 to, and 15 to HTTINGS: K-Packer Lead Packer Bremer Check:
on gray Sand of tr. silt		6		Blank above screen ft. Other 9 STATIC WATER LEVEL:
AFT Gay JUE		2	. 15	10 PUMPING LEVEL below land surface Flow
				it alterfirs. pumping at G.P.M.
*		4 4.		11 WELL HEAD Pittess adopter 12* above grade Basement offset Approved pit
4.				12 WELL GROUTED? No Wes from 2 to 4 1
all age of the state of the sta				No. of begs of cementAdditives
				13 Nearest source of possible contamination Typo Distanceft_Direction
			,	Well disinfected upon completion? Yes Who
	· · · · · · · · · · · · · · · · · · ·			Manufacturer's name Pump installation Only
				Model number HP Volts Langth of Drop Pipe II, capacity G.P.M TYPE: Submersible Jet PRESSURE TANK: Menufacturer's name
use a 2nd sheet if needed Remarks, elevation, source of data, etc.	·			Model number Capacity Gallon

⊌67d

(Rev. 10-80)

CEOLOGICAL CURVEY NO			T TUBLIC HEALTH
Experience of the control of the con	WELL	AND P	UMP RECORD PERMIT NUMBER
1 LOCATION OF WELL County Township Name	a si e e e e e e e e e e e e e e e e e e	Fraction	Section Number Town Number Range Number
Washtenaw Ypsilanti		NLVA	NN 4 12 3 N/O 7 EW
Distance And Direction From Road Intersection			3 OWNER OF WELL: Hydra-Matic Division
			Address Ypsilan to Muchigan 4847
Street Address & City of Well Location			
	šketch Map:		Address Same As Well Location? The Yes. No. 4 WELL DEPTH: (completed) Data of Completion
			15 n 0 : 10-30-84
			Cable tool Rotary Driven Dug
			8 USE: Domestic Type Public Type Public
			☐ Infigation ☐ Type IIa Public ☐ Heat pump ☐ Test Well ☐ Type IIb Public ☐ Multifet.
			7 CASING: Steel Threaded Height: Abeve/Below
MICE	THICKNESS	ОЕРТИ ТО	2 Plastic Welded Surface 0 to
2 FORMATION DESCRIPTION	OF STRATUM	BOTTOM OF STRATUM	in to it. depth
Misc fill	3	3	Grouted Drift Hole Dismeterin. toft. depthin. tnft. depthin. tnft. depth
			8 SCREEN:
DK Grown fina Stind	2	سی	Type PVC Diameter 2" T.O.
Med brown fine Sand	2	7	Slot/Gauze O/O Length 10 Pf Set between 5 It and 15 to
5my fine Sand	4	11	FITTINGS: K-Packer Lead Packer Bramer Check
			Blank above screenft; Other
long fine Simil of fr. silt	2.	13	8 It. below land surface ☐ Flow
Shiff gray Silt	of .	15	10 PUMPING LEVEL: below land surface:
			ft. afterhrs. pumping atG.P.M.
			11 WELL HEAD Pilless adapter 12 above grade
			Besement offset Approved pit
			12 WELL GROUTED? No Pres From 3 to 4 M.
		***************************************	Nest cement Bentonite Other
			No. of bags of coment Additives
			Type Distance Is Direction
	***************************************		Well disinfected upon completion? Yes W No
			14 PUMP. Not Installed Pump Installation Only
			Manufacturer's name
			Model number HP Volts Length of Orop Pips 11. capacity G.P.M.
			TYPE: Submetsible Jat
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			PRESSURE TANK: Menufacturer's name:
15. Remarks, elevation, source of data, etc.		10 WATER Y	Model number Capacity Gallons
MW-10	Militari	This well y	WELL CONTRACTOR'S CERTIFICATION: vies dillied under my jurisdiction and this report is true of my knowledge and belief.
	No.	Earth	Sciences Services Corp 1758
naai .	PRESIDENCE	Address	SISTERED BUBINESS NAME 10 Box 557/ Mammar 1011 43537
)	web passage of the control of the co	Signed	muhel V. Class abotec
167d 2/84	· · · · · · · · · · · · · · · · · · ·	A1483034	AUTHORIZED REPRESENTATIVE Date
GEC	OLOGICAL	SURVEY	Completion: Regulesia

Act 388 PA 1978
Required
Conviction of a violation
of any provision is a
misdemeanor.

	R WELL	AND P	UMP RECORD	PERMIT NUMBER
County Township Name		Fraction	Section Number	Town Number Range Number
Washtenaw Ypsilanti Distance And Direction From Road Intersection		NE14	NW4 1/2 12	3 NO 7 AN
a Segment Superior Liqui dose inferascrice.				a-Matic on of Beneral Motors and Michigan 40117
Principle & granter, as seen stated with				
Street Address & City of Wall Location Locate with "X" in Section Below	Skatch Meg:		Address Same As Well Loca	The state of the s
	diding impt		4 WELL DEPTH: (completed)	Date of Completion
			6 Cable tool Ret	
			Hollow rad WAug	
				Public Type III Public
1 101.				Ille Public Heat pump Ille Public F Monifor
			7 CASING: Steel Three	
FEET MILE		promote particular	Plastic Well	lad Surface O A.
2 FORMATION DESCRIPTION	THICKNESS	DEPTH TO BOTTOM OF	2 in to 5 ft depth	Weightibs.//t.
MA 4. Dar	STRATUM	STRATUM	Grouted Drill Hole Diameter	Drive Shoe
Mise. fill	2	2	un, to 1. depth	P7758
DK brown fine Sand	5	7	8 SCREEN:	☐ Not Installed
			Type PVC	Diameter 2" I.D.
bray time Sund	4	11	Slot/Gauze 010	Length 10 ff
home Lane Count at all	-,			It. andft. Lead Packer
May the June of SILE	2	13	Blenk above screen	II. Other
bray fine Sound bray fine Sound of silt Stiff gray Silt	2	15	9 STATIC WATER LEVEL:	· pung.
			10 PUMPING LEVEL: below land s	I surface
			ft. efter hrs.	
				pumping at G.P.M.
			11 WELL HEAD Pidess as	
			COMPLETION: Propss at	
			12 WELL GROUTED? No	P Yés From 2 to 4 11
and the second s	···		☐ Neat coment ☐ Bento	nile [] Ciher
			No. of bags of cement	1.
			13 Nearest source of possible conti	mination
			Typo Dister	cs <u>IL Direction</u>
		-	Well disintected upon completion	
			14 PUMP: Not installed	☐ Pump Instellation Only
	<u> </u>		Wavniactnes, a pame	
			Model number	HP Volus
	1			fr. gapaerty G.P.M.
			TYPE: Submersible PRESSURE TANK:	[] Jel
ring a line seems in			Manufacturer's name	
USE A 2ND SHEET IF NEEDED 15. Remarks, elevation, source of data, etc.	1	A MATER !	Model number	CapecityGallons
MW-5	1	This well w	vent CONTRACTOR'S CERTIFIC res drilled under my jurisdiction and of my knowledge and belief.	A INVICE This report is true
		En al	Suchles Services, The	1758
		REC	HSTERED BUSINESS NAME	REGISTRATION NO 4
••• }		Address 1	U. Bux 1511 Maure,	9H 435°37 /
97.6 2/84		Signed	AUTHORIZED REPRESENTANTE	Date 6 25 / 85
	DLOGICAL S	SURVEY C	Auti Com	iority: Aof 388 PA 1978 pletion: Required ity: Conviction of a victation

MINORINGAN DEFAULVIEW OF PUBLIC HEALTH

A CANADA DE LA CANADA DEL CANADA DE LA CANADA DEL CANADA DE LA CANADA DE LA CANADA DE LA CANADA DE LA CANADA DE LA CANADA DE LA CANADA DE LA CANADA DEL CANADA DEL CANADA DEL CANADA DE LA CANADA DE LA CANADA DE LA CANADA DE LA CANADA DE LA CANADA DE LA CANADA DE LA CANADA DE LA CANADA DE LA CANADA DE LA CANADA DE LA CANADA DE LA CANADA DE LA CANADA DE LA CANADA DEL CANADA DEL CANADA DEL CANADA DELA CANADA DEL CANADA DEL CANADA DEL CANADA DEL CANADA DEL CANADA DEL CANADA DELA CANADA			JMP RECORD
	W AAEPP	AND F	PERMIT NUMBER
1 LOCATION OF WELL County Township Name		Fraction	Section Number Town Number Range Number NV 1/4 1/4 1/2 3 N.S.) 7 (E/W)
Washtenaw Ypsilanti Distance And Direction From Road Intersection		NEVA	
Optimite with Different Linux (1995 areason)			3 OWNER OF WELL: Hydry-Matic Vivistry (28000) Motors Com.
			Address Ypselant, Michigan 4017
Street Address & City of Well Location			Address Same As Well Location? La Yes O No
Locate with "X" in Section Balow	Sketch Mep:		4 WELL DEPTH; (completed) Date of Completion
			15 1k 0 10-29-84
			Cable tool Rotary Oriven Dug Hollow rod Mager Jetted
W		•	6 USE: Domestic Type I Public Type III Public
			☐ Irrigation ☐ Type IIa Public ☐ Heat pump
		,	7 CASING: Steel Threeded Height: Above/Below
1 M(L) 2		***********	Pleating Welderd Suidana Q (t.
2 FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF	in to the depth Weight lbs://t.
The state of the s	MUTARTS	STRATUM	in, toft. depth Ground Drill Hole Diameter
Misc fill	5	5	in. toit. depth
mal lan E. C. I	2	7	8 SCREEN: Not installed Type PV4 Diameter 2"10
Medium brown fine Sand Dark brown/gray Sand Fine gray, silty Sand			Type PV4 Diameter 2"10 Slot/Gauze 010 Length 10'
Derk brown/gray Sand	4	11	Set between 5 (t. and 15 1t.
En and aller Gul	2	13	FITTINGS: K-Packer Lead Packer Semen Check
TELAR YINY, SITELY CHANGE			9 STATIO WATER LEVEL;
Hard gray Silk	2	15	8 to below land surface
			10 PUMPING LEVEL: below land surface
			ft, afterhrs. pumping at\$.E.M.
			COMPLETION: Basement offset Approved pit
			No Lar vas From1010
			Neat cement Pentonite Other
			No, of bags of cament Additives
	-	6	Type Distance It Direction
			Well disinfected upon completion? Yes Y No
The second secon			14 PUMP. Not installed Pump Installation Only
			Mariulaciurer's name
			Model number HP Volts
		<u> </u>	Langth of Drop Pipe 11. capacity 9.P.M. TYPE: Submersible Jet
			PRESSURE TANK: Magufacturer's name
gigin a inlant, antiferency of the firmula			Manufacturer's name
use A 2ND SHEET IF NEEDED 15. Remarks, elevation, source of data, etc.		16. WATER	WELL CONTRACTOR'S CERTIFICATION:
MN-1			It was drilled under my jurisdiction and this report is true est of my knowledge and belief.
		Ear	th Sciences Services, The 1758
		Address	REGISTERED BUSINESS NAME BEGISTRATION NO.
		Signed .	muchant V. Valore 6/25/85
D67d 2/84		niffitag.	AUTHORIZEO REPRESENTATIVE

Authoritys Completions Penalty:

Act 588 PA 1978
Regulied
Conviction of a violation
of any provision is a
misdemeanor.

	MIN PELMU	INCIAL C	IF PUBLIC HEALTH
GEOLOGICAL SURVEY NO. WAT	a Will	ANDP	UMP RECORD
1 LOCATION OF WELL	11 a 4 a 12 62454		PERMIT NUMBER
County Township Name,		Fraction	Section Number Town Number Range Number
Washtenaw Ypsilant	i		NU 14 12 3 N/B 7 EW
Distance And Direction From Road Intersection	- 1.5 - 1. Mary Maries Collection About	منتبت بسرخاند مبد	3 OWNER OF WELL Hydra-Mate Division
4			General Matins Corp.
			Address You hat, michely 1879)
Street Address & City of Well Location			
Toolate with X, in Section Below	Sketch Map:	-	Address Same As Well Location? Yes No WELL DEPTH; (completed) Date of Completion
	mire institute.		12. SA
			6 Cable tool Rotary Driven Dag
			Hollow rod Wauger Settled
		•	B USE: Domestic Type I Public Type III Public
hard and Mr.			☐ Irrigation ☐ Type IIa Public ☐ Heat pump
			Test Well Type lib Public W Monifor
			7 CASING: Steel Threaded Height: Above/Below Diemeter Weided Surface C tt.
2 FORMATION DESCRIPTION	THICKNESS	регти то	
2 FORMATION DESCRIPTION	OF STRATUM	STRATUM	in. totr. depthin. totr. depth Grouted Driff Hole Diameter
Man CII	3	~	in to the April Drive Since L. (88
Mise fill	22	2	in. toft. depth PNo
Med. Snown fine Sand	3	سی	8 SCREEN: Not installed
Frag. Shoop Trace Guite			Type PVC Diameter 2"ID.
med brown/gray Sand	2	フ	Slot/Gauge 0/6 Length 10 Pf
			Set between
bray fine Sand of tr. silt	6	13	Blank above screenft. Other
			9 STATIC WATER LEVEL:
Stiff gray Silt	2	15	15 ft. below land surface
, and the same of			10 PUMPING LEVEL: below land surface:
			fi. after hre, pumping at G.P.M.
			fi. afterhrs. pumping at G.P.M.
			1) WELL HEAD Pitless adapter 12 above grade
The state of the s			Basement offset Approved pit
			12 WELL GROUTED? No Yes From 2 to 4 ft.
			☐ Neat coment
	1		
			No. of bags of cement Additives
			Type Distance (L Direction
3			
			Well disinfected upon completion? Yes Who
W			14 PUMP: Pump Installation Only
			Manufacturer's name Model number HP Volts
			Length of Drop Pipe
		,	TYPE: Submersible Jet
			PRESSURE TANK:
· · · · · · · · · · · · · · · · · · ·			Manufeoturers name
15. Remarks, elevation, source of data, etc.		16. WATER	Model number Capacity Gallons WELL CONTRACTOR'S CERTIFICATION:
Wm-11		This well	was drilled under my jurisdiction and this report is true it of my knowledge and belief.
			₹ and a last the second of th
		n	GISTERED BUSINESS NAME REGISTRATION NO.)
wine.		Address	P.D. Box 554 Manyes JOH 43537
·		Signed	melod To Clas a chostor
067d 2/84	······································		AUTHORIZED REPRESENDATIVE

Authority: Completion: Penalty: Apt 308 PA 1978 Required Conviction of a violation of any provision is a misdameanor.

GEOLOGICAL SURVEY NO. WATER	WELL	AND P	JMP RECORD PERMIT NUMBER
1 LOCATION OF WELL			
Washtenaw Ypsilanti		Fraction NE 1/4	Section Number Town Number Range Number NW1/4 1/4 1/2 3 N/6 7 6M
Distance And Direction From Road Intersection			3 OWNER OF WELL: Hours . Ma tre Division
*			Vineral Mators turp.
			Addiess Ypeilantis Mickey 4147
Street Address & City of Well Location		and the second	Address Same As Well Location? Yes D No
Locate with "X" in Section Below	Sketch Map:		4 WELL DEPTH: (completed) Date of Completion
			15 11.0 2-8-95
are said cut. Then many state when the same			5 Cable tool Stotary Oriven Dug
W			☐ Hollow red ☐ Auger ☐ Jetted: ☐ ☐ 6 USE: ☐ Domestic ☐ Type Public ☐ Type III Public
			B USE: Domestic Type Public Type III Public
Mi-	il.		Test Well Type lib Public Y Manifor
			7 CASING: Steel W Threeded Height: Above/Balow
Limite H	8 · 0 · 0 · Elec		" Plastic Welded Surface D It.
2 FORMATION DESCRIPTION	THICKNESS OF	DEPTH TO BOTTOM OF	in toit depthibs./ft.
	STRATUM	STRATUM	Grouted Drill Hote Diameter
Misc fill	1.5	1.5	in, toft. depth
			8 SCREEN: Not installed
Medium brown, fine Sand	3.5	5.0	Type PV4 Diameter 2" 1.D.
Medium brown/gray fine Sand, fr. silt	5.0	10.0	Slot/Gauze .0/0 Length 10 ff
THATUM STOWNING THE JANK , TY, JITE	3.0	10.0	Set between J. J. It. and 15-0 It.
bray fire Sand, w/ some silt	5.0	15.0	FITTINGS: K-Packer Lead Packer Bremer Check
		= 1111	Blank above screen to Other
	·		10 PUMPING LEVEL: below land surface
And the second s		a in the second	ft. after hrs. pumping at G.P.M.
			fi, effor hrs. pumping at G.F.M.
			11 WELL HEAD Pittess edapter 12° above grade
		<u> </u>	COMPLETION: Basement offset Approved pit
•			12 WELL GROUTED? No Yes From 1 to 3 ft.
			Nest cement Bentonite Other
			No. of bags of gement Additives 13 Nearest source of possible contamination
	k		
			Type Distance (t. Direction
		1	Well disinfected upon completion? Yes PNo
			14 PUMP: IV Not Installed Pump installation Only
	<u> </u>		Menufacturer's name
			Model number HP. Volts
· · · · · · · · · · · · · · · · · · ·			Length of Drop Pipe ft. capacity G.P.M. TYPE: Submarsible Let
	<u> </u>		PRESSURE TANK:
and a short desirate to any dame.			Manufacturer's name
use a 2ND SHEET IF NEEDED , 15. Remarks, elevation, source of data, etc.	<u> </u>	16. WATER	Model number Capacity Gellons WELL CONTRACTOR'S CERTIFICATION:
Mu-13		This well	was drillad under my jurisdiction and this report is true st of my knowledge and paliet;
~ x × - 8 e		Eart	
		A	EGISTERED BUSINESS NAME REGISTRATION NO.
nater		Address _	P. U. BOX \$57 Manages Ohio 43537 1
אַלים אַלאַל		Signed	muland 1. 6/4 Dato 6/25/85

GEOLOGICAL SURVEY NO. WATER	R WELL	AND PI	UMP RECORD	PERMIT NUMBER
1 LOCATION OF WELL				
County Washtenaw Township Name Ypsilanti		Fraction NE 1/4	Section Number	Town Number Range Number 3 N/O 7 EW
Distance And Direction From Road Intersection			3 OWNER OF WELL! HYDEA-	Marie Divisin
4			Bentral	MOTORS CORP.
			Address Aprilan	h, michiga, 42197
Street Address & City of Well Location				
Lacate with 'X' in Section Below	Sketch Men:		Address Same As Well Location 4 WELL DEPTH: (completed)	7 Pyes No
	accompany in the first		15 n. 0	2-12-85
			5 Gebie tool Grotary	☐ Driven: ☐ Dug
			Hollow rod Pauger	☐ Jetted ☐
We have the product and the same to be the same to			8 USE: Domestic Type I F	
	363		☐ Imigation ☐ Type IIe	Public Heat pump,
			Test Well Type lib	Public P Monifor
			7 CASING: PSteel Pinreade	d Height: Above/Below
	THICKNESS	T DESTU TO	→ Presig Welded	Surface O It.
2 FORMATION DESCRIPTION	OF STRATUM	DEPTH TO BETTOM OF STRATUM	in to it. depth	Weightlbs./ft.
	7,1411011	O LINA I DINI	Grouted Drill Hole Clameter	Orive Shoe
Misc. All			in to IC dooth in to It depth	₩ No
Medium brown fine Sand	4	سی	8 SCREEN:	Not installed
I-	1		200	ameter 2." / D. ngth /0 C+
Medium bown/gray fine sand, fr. selt	5	10	Sal batween	not 15" to
bray fine Sand w/ some silt	سی	15-		eed Packer Bremer Check
OLA WIT DOUBT IN 2016 TILE		79	Blank above screen(t. 9 STATIC WATER LEVEL:	Other
5			القر استد	21 Paristo
the second secon		***************************************	10 PUMPING LEVEL: below land suffice.	nface Plow
				mplog at G.P.M.
				mping st G.P.M.
		į	TI WELL HEAD Pitters adaption:	The second secon
and the second s			12 WELL GROUTED?	
			No D	
		Arranood dinagge	No. of bags of cementAd	
			13 Nearest source of possible contami	
			Type Distance	ft. Direction
			Well disinfected upon completion?	1 Yes Prive
			14 PUMP. PNot Installed	Pump Installation Only
			Manufacturer's name	173 Comb managangu AlliA
				HP Volts
				It. capacityG.P.M.
			TYPE: Submersible [] Jet
	 		PRESSURE TANK: Manufacturer's name	
USE A IND SHEET IF NEEDED				CapacityGallons
15. Remarks, elevation, source of data, etc.		16. WATER V	WELL CONTRACTOR'S CERTIFICA	TION:
MW-14	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	This well v	vas drilled under my jurisdiction and the of my knowledge and belief.	is report is true
	1	Earti	Sciences Services, The	1758
		RE	GISTERED BUSINESS NAME	REGISTRATION NO
on F		Address _	RO. BOX 9511 MANARAY, O	4 43537
67d 2/84		Signed	AUTHORIJED HEPRESENTATION	Deta6/25/85

Authority: Completion: Penalty:

Act 368 PA 1978 Required Conviction of a violation of any provision is a misdemanny.

DOALDON OF WELL Township Name Washtonays Typical lands Typ	GEOLOGICAL SURVEY NO.	WATER	WELL	AND PI	JMP RECORD PERMIT NUMBER
West tender Value	1 LOCATION OF WELL				
Since Address & City of Wolf Location Address Stans Af Wolf Location Year				Fraction NE 1/4	NW4 12 12 3 NO 7 EW
Store Address City of Worl Location Store Address City of Worl Location Lasts with "In Section Solive Lasts with "In Section Solive Lasts with "In Section Solive Lasts with "In Section Solive Lasts with "In Section Solive Lasts Well Location Solive Lasts Well Control Solive Lasts W	Distance And Direction From Road In	tersection			3 OWNER OF WELL: General Motors Corporation
A WALL BETTY Consideration Constitution Con	*WINDOWS				
15 to 97AP/55	Street Address & City of Wall Location	n			Address Same As Well Location? 2 Yes 2 No
SAND - with trace gravel, medfine 6.5! 14.0' 19 19 19 19 19 19 19 1	Locate with "X" in Section Below		Sketch Map:		4 WELL DEPTH: (completed) Date of Completion
Subsection Description D	- X - -			*	5 Cable tool Rotary Driven Dug
Their Well Type III Policy					6 USE: Domestic Type I Public Type III Public
2 FORMATION DESCRIPTION PROPOSED PROPOSED OF STATUM PROPOSED OF S					Test Well Type lib Public 7 CASING: Sieel Thiesded Height: Above/Below
## CONCRETE ## CON		a			The state of the s
GRAVEL - with trace and 6.1' 7.0' Solve See 14.0' 1.0	2 FORMATION DESC	RIPTION	OF STRATUM	BOTTOM OF	11 Th. to 15 it. depth (Weight Transcent)
CONCRETE O.67' O.88' GRAVEL - with trace and 6.1' 7.0' Sabrewen 6 ft end 11 ft FITTINGS: Whether I leed Pecker Browner Chain Sand - with trace gravel, med.—fine 6.5' 14.0' 5 The form of the first shows scene 6 ft. on the first shows scene ft. on the first shows scene 6 ft. on the first shows scene 6 ft. on the first shows scene 6 ft. on the first shows scene 6 ft. on the first shows scene ft. on the first shows scene ft. on the first shows scene ft. on the first shows scene ft. on the first shows scene ft. on the first shows scene ft. on the first shows scene ft. on the first shows scene ft. on the first shows scene ft. on the first shows scene ft. on the first shows scene ft. on the first shows scene ft. on the first shows scene ft. On the first shows scene ft. on the first shows scene ft. on the first shows scene ft.	274.4				Grouped Drill Hole Diameter Drive Shoe Tes
CONCRETE O.67* O.88* Type Stainings Stde Discrete 32* Solutions and 310 Langon 55* Set between 6 r. cm 111 ft. FITTINGS: 7.5* Set between 6 r. cm 111 ft. FITTINGS: 7.5* Set between 6 r. cm 111 ft. FITTINGS: 7.5* Set between 6 r. cm 111 ft. FITTINGS: 7.5* Set between 6 r. cm 111 ft. FITTINGS: 7.5* Set between 6 r. cm 111 ft. FITTINGS: 7.5* Set between 6 r. cm 111 ft. FITTINGS: 7.5* Set between 6 r. cm 111 ft. FITTINGS: 7.5* Set between 6 r. cm 111 ft. FITTINGS: 7.5* Set between 6 r. cm 111 ft. FITTINGS: 7.5* Set between 6 r. cm 111 ft. FITTINGS: 7.5* Set between 6 r. cm 111 ft. FITTINGS: 7.5* Set between 6 r. cm 111 ft. FITTINGS: 7.5* Set between 6 r. cm 111 ft. FITTINGS: 7.5* Set between 6 r. cm 111 ft. FITTINGS: 7.5* Set between 7.5* Set bet	WOOD		0.2	0.2	in tofi. depth No
Sand - with trace gravel, medfine Gravel Sand - with trace gravely	CONCRETE	· · · · · · · · · · · · · · · · · · ·	0.67'	0.884	Type stainless steelement 31
ARANEL 0.5' 7.5' FITTINGS: K. Facker Lood Packer Brenner Cheek Blank above screen Rt. Other 4* hallow garder SAND - with trace gravel, med £ine 6.5' 14.0' STATIC WAREL LEVEL: Sink above screen Rt. Other 4* hallow garder CLAY - blue to gray 1.0' 15.0! 14.0' G. F. M. Itselow land surface How 1.0' 15.0! 10 PUMPING LEVEL: below land surface How 11.0' 15.0! Pilless adapter 12' above grade COMPLETION: Gasement officer Approved oil strail ve Doc 12 WELL GROUTED? No. Ed Yes From 1	GRAVEL - with trace s	and	6.1'	7.01	
SAND - with trace gravel, medfine 6.5' 14.0' 6' 6' It. below land surface Flow CLAY - blue to gray 1.0' 15.0! 10 PUMPING LEVEL: below land surface Tric. after tris. pumping at C.P.M.	GRAVEL		0.5	7.51	FITTINGS: K-Pecker Leed Pecker Bremer Check Blank above screen 6 ft. Other 4* bolow screen
1.01 15.0! 10 PUMPING LEVEL: below land surface 1.01 15.0! 16. after tirs, pumping at G.P.M. 16. after tirs, pumping at G.P.M. 16. after tirs, pumping at G.P.M. 17. after tirs, pumping at G.P.M. 18. after tirs, pumping at G.P.	SAND - with trace ore	wal mad affina	6 81	16.01	
To state Tite state Tite state Tite state Tite state Tite state Tite state Tite state Tite state Tite state Tite state Tite state Tite state Tite state Tite	1.000 02000 920	very mous tells	0,3	2.210	1 Doing tallo serious
13 WELL HEAD Pilless adapter 12 slowe grade 23 slowe grade 24 slower grade 25 slower grade 25 slower grade 25 slower grade 26 slower grade 26 slower grade 26 slower grade 27 slower grade 28 slower grade	CLAY - blue to gray		1.0	15.0	fi. after birs. pumping at G.P.M.
COMPLETION: Beasement offeet El Approved pit sealure box 12 WELL GROUTED? No Yes From 11 to 31 th.					fit after first pumping at G.P.M.
12 WELL GROUTED? No No Yes From 1					COMPLETION: Livings and his Live spore hade
Neat owners Bantonite Other					The same a second secon
No. of bags of gement Additives 1 bag benseal 13 Nearest source of possible contemination Type gasoline Distance It Direction. Well disinfected upon completion? Yes No 14 PUMP: Not Installed Pump: Installation Only. Menufacture's name. Madel number HP Volle Length of Drop Pipe: 14. It. capacity G.P.M. Type: Submerable Jet PRESSURE TANK: Manufacturer's name. Model number Capacity Gallons 16. Remarks, elevation, source of data, etc. 3.W-45 Blevation 721-16 16. WATER WELL CONTRACTOR'S CERTIFICATION: This wall was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. Address Signed Manufacturer Additives 1 bag benseal 15. Remarks. PANCES FANCES 1758 Registers sugnites Name Registration No. Address Signed Manufacturer Additives 1 bag benseal 15. WATER WELL CONTRACTOR'S CERTIFICATION: This wall was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. Address Signed Manufacturer Additives 1 bag benseal The Address Date II 15 1857	A CONTRACTOR OF THE CONTRACTOR	· · · · · · · · · · · · · · · · · · ·	<u> </u>		party party
13 Nearest source of passible contemination Type GREGITID Distance It Direction Well disinfected upon completion? Yes No 14 PUMP: Not instelled Pump installation Only. Menufacturer's name Model number HP Volls Length of Drop Pipe 14 In capacity G,P.M. Type: Submersible Jet PRESSURE TANK. Manufacturer's name Model number Capacity Gallons 16. Remarks, elevation, source of data, etc. 8.W. 15 Elevation 721.16 16 WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my jurisdiction and this report is true to the best of my knowledge and bejief; EARTH SERVICES FAVICES REGISTRED BUSINESS NAME REGISTRATION NO. Address Signed MUMANCE Date 11 13 855					* The state of the
Well disinfected upon completion? Yes No 14 PUMP: Not Installed Pump Installation Only. Menufacturer's name Model number HP Volts Length of Drop Pipe In. capacity G.P.M. TYPE: Submersible Jet PRESSURE TANK: Manufacturer's name Model number Capacity Gallons 15. Remarks, elevation, source of data, etc. 8.W. 15 Blevation 721.16 16. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my jurisdiction and this report is true to the best of my knowledge and bellef: AATH FINES FANCES 1758 REGISTERED BUGNIESS NAME REGISTRATION NO. Address Signed Manufacturer's Date 11 15 1857	***************************************				13 Nearest source of possible contemination
14 PUMP: Not Installation Only.					Type gasoline Distance It Direction
Manufacturer's name Model number HP Yolls Length of Drop Pipe 14 n. capacity G.P.M. TYPE: Submersible Jet PRESSURE TANK: Manufacturer's name USE A sind SHEET IN NECOED Model number Capacity Gallons 16. Remarks, elevation, source of data, etc. 8.W.15 Elevation 721.16 16. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief: ANTIFICATION NO. Address CAPACES STAVICES 1758 REGISTERED BUSINESS NAME REGISTRATION NO. Address CAPACES STAVICES TANGES NAME REGISTRATION NO. Address CAPACES STAVICES TANGES NAME NEGOSTRATION NO. Address CAPACES STAVICES TANGES NAME NEGOSTRATION NO. Signed Manufacturer's name Date 11 15 8557				.,	Well disinfected upon completion? Yes No
Model number HP Yolls Length of Drop Pipe 14					T tage the same T Lead to present out.
TYPE: Submersible Jet PRESSURE TANK: Manufacturer's name Use A sno sheer if needed Model number Capacity Gallons 16. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief: ### ATT SERVICES ###################################					Model number HP Volls
PRESSURE TANK: Manufacturer's riame Model number					Langin of Drop Pipe it capacity u.P.w.
USE A 2ND SHEET IF NEEDED Model number Capacity Gallons 16. Remarks, elevation, source of data, etc. S.W. 15 Rievation 721.16 16. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief: Address CANTA STENCES SCAVICES REGISTERED BUSINESS NAME REGISTRATION NO. Address OPX STAMPSEF, OMK 13537 Signed Machine 17 STENCES Date 11 STENCES					PRESSURE TANK:
16. WATER WELL CONTRACTOR'S CERTIFICATION: S.W. 15 Elevation 721.16 16. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. AATH STANCES STANCES REGISTRATION NO. Address Signed TWANGE, ONK 43327 Signed TWANGE TO Date 11 15 85	ine a sun nieser is a	EEOFD		·	
EARTH STENCES JERVICES 758 REGISTERED BUSINESS NAME REGISTRATION NO. Address DOX 557 MAUNIEE, OHK 43527 Signed Muchical V. 6/9 Date 11/5/857	16. Remarks, elevation, source of	data, etc.	1	16. WATER	WELL CONTRACTOR'S CERTIFICATION:
Address Number 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	S.W. \$5 Elevation 72	1.16		This well	I was grilled under my junsuotion and this report is true
Address 7.0. 89x 133/ MAUMEE, OHB 4553/ Signed Michael 7.6/32 Date 11/5/85/					. S. T
Signed - Muchael X 6/-9 Date 11/5/85				EAL	RTH SEFENCES SERVICES 1730
	PA				REGISTERED BUSINESS NAME REGISTRATION NO.

REDI OCICAL CHOMEV NO.			OF PUBLIC HEALIN
WATER	WELL	AND P	UMP RECORD PERMIT NUMBER
LOCATION OF WELL			PERMIT NUMBER
County Township Name		Fraction	Section Number Town Number Range Number
Washtenaw Ypsilanti		NFW	NW4 4 12 3 NO 7 OW
Distance And Direction From Road Intersection		11 1 1 1 7 7	3 OWNER OF WELL: General Motors Corporation
4			Bydra-Matic Division
			Address Vpsilanti, MI 48197
			Addises apartments at 4013
Street Address & City of Well Location			Address Same As Well Location? Yes No
	Sketch Map:	·	4 WELL DEPTH: (completed) Cate of Completion
	, transcription		15 ft. 9/17/85
			English of the second of the s
*			Alies
			The second of th
The same same takes the same takes the same and the same same and same same and same same same same same same same same			Inigation Type ils Public Heat pump
2 1 MILC			7 CASING: PK Steel Threaded Height: Above/Below
	THICKNESS	DESTU YO	3 Plastic Welder Surface Elueh
2 FORMATION DESCRIPTION	OF STRATUM	DEPTH TO BOTTOM OF STRATUM	3 in to 15 ft depth Surface E118 ft. 11 th, to 15 ft depth Weight 7.58 ibs./ft.
	0.2	Simini	Grouted Drill Hote Diameter 8 in. to 15 ft. depth Onve Shoe Yes
WOOD	V. K.	0.2	
CONCRETE	0.67*	0.88*	beliated for the property of t
		U+00	Type stainless steelemeter 3! Slot/Geure - 010 Length 5!
CLAY - gravel and backfill	2.1'	3.0*	
			Set between 6 to and 11 to FITTINGS: K-Packer Lead Packer Bremer Check
SAND - medfine brn., med. to dark	1.0*	4-0	Blank above acreen 6 to Other 4* below scree
			8 STATIC WATER LEVEL.
SAND - and gravel, trace silt	4.0'	8.0';	5 94 1. Selow lend surface Row
			10 PUMPING LEVEL: below land eurlace
JAND - trace gravel, medfine	1.0'	9.01	
			t. after hrs. pumping at G.P.M.
SAND - trace clay and gravel	3.0	12.0'	ing polaring at mineral gr.F.M.
	3.0*		11 WELL HEAD Pittess adapter 12° above grade
CLAY - gray to blue	3.0	15.0	Basement offset X Approved pit valve hox
¥			12 WELL GROUTED? No Yes From 1 to 3 ft.
			No. of bags of coment Additives 1 bag benseal 13 Nearest source of possible contemination
			Type _gasoline _Distance _0 _ft_ Direction
	1.		Well disinfected upon completion? Yes No
	1		14 PUMP: IX Not installed Pump Installation Only
			Menufacturer's name
			Model number HP Volte
			Length of Otop Pipe 14 to especity G.P.M.
			TYPE: Submersible Jei
			PRESSURE TANK
		***************************************	Manufacturer's name
15. Remarks, elevation, source of date, etc.			Model number Capacity Gallons
	The state of the s	This wall	WELL CONTRACTOR'S CERTIFICATION: was drilled under my jurisdiction and this report is true
S.W.#2 Elevation 721.09		to the best	t of my knowledge and belief,
		EAR	TH SCHOLES SERVICES 1758
•			
	1	Address	P.O. BOX 557 MHUNIES ONIO 43537
		Signed	muchael V. 6 last Mara 11/5-185
67d 2/84			A DESCRIPTION OF THE PROPERTY

THORIZED REPRESENTATIVE Authority: Completion: Ponalty:

Aut 368 PA 1978
Regulated
Conviction of a violation
of any provision is a
misdemession.

GEOLOGICAL SURVEY NO.	WATE	R WELL	AND P	ump recor	9	PERMIT A	
1 LOCATION OF WELL County To	Waship Name		Frection	I Saaliv	n Number	awn Number	Range Number
n 5 I	Ypsilanti		NE4		12	3 NO	
Distance And Olrection From Road Inters			131-2 7	3 OWNER OF WELL:			
•	<u>8</u>			Address	Hydra-M	stie Divi Ei, MI 48	ilon.
Street Address & City of Well Location	*			Address Same As	Well Location	Yes C	J No
Locate with 'X' in Section Below		Sketch Map:		4 WELL DEPTH: (con		Date of Complet	ion
<u> </u>				5 Cable tool	Rotary	9/18/85	□ Dug
*				Hollow rod 5 USE: Domestic	Auger Type I Pu		Type III Public
The second secon				7 CASING: E Steel	Type lib.	Publia 🔲	
Here I Milk			p 4	Plastic	☐ Welded	Surface 111	
2 FORMATION DESCRIP	TION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	1 1 in 10 15	A Avert	Weight Z.	
000		0.21	0.21	Growlad Orill Hole D		Drive Shoe	Yes Ki No
				B SCREEN:	_1t. depth	☐ Not In	
ONCRETE	dan dan dan dan dan dan dan dan dan dan 	0.671	0.881	Typestainless	steel _{Dis}	meter 34	statied
LAY - sand and gravel h	ackfill	5.1'	6.0'	Slot/Gauze - 010 Set between6	ft. a	11's	ì.
AND - medfine, 1t. br	n.	2.01	8.01	FITTINGS: K-Pa Blank above scre STATIC WATER LEVEL	en 61 ft.		
AND - medfine, lt. br	n _e	4.57	12.5'	61 51 11	below land su	face	Flow
AY - gray-blue		2.5	15.0"	10 PUMPING LEVEL: be		nping al	GP.M.
				ž		nping él	
	1			CONFLCTION.	Pitiess adept		nove grade ved pitya Lva 1
				12 WELL GROUTED?	□ No 🗷	Yes From 1	
·	and the state of t			Next coment	Bentonite	1	
**************************************	Access to the second se			No, of bags of cemen 13 Nearest source of pas	tAdd	littives + DAY	DelibedT
				Type gasoline	Distance.	0 fi_Direct	lion
	**************************************			Well disinfected upon	2, 40.00	☐ Yes 📳	No
	Mir kalandaran ayan da karan ayan da karan ayan da karan ayan da karan ayan da karan ayan da karan ayan da kar			14 PUMP: S Not in Manufacturer's name		Pump Insta	listion Only
				Model number		IPVol	2.7
or many na 1984 in ann ann an Aireann an Aireann ann an Aireann ann an Aireann ann ann ann ann ann ann ann ann				Length of Drop Pipe _ TYPE: Submi		Leapacity	2 2 2 2 2
and the second s				PRESSURE TANK: Manufacturer's name.		وأدراه والمساورة والمساورة والمساورة والمساورة والمساورة	
USE A 2NO SHEET IF NEEDEL				Model number			Gallons
5. Remarks, elevation, source of data S.W.#1 Blevation 721.		- International Contract of the Contract of th	16. WATER This well to the be	WELL CONTRACTOR'S was drilled under my juris st of my knowledge and b	S CERTIFICAT Idiction and thi elief.	TON: s report is true)6:
			EAR	TH SEIFNERS	SERVICE	S /7.	7 <i>8</i>
		And the Control of th	Address :	P.O. BOX 55	7 MA	impe, on	10 43537
d 2/84	- Market de la contraction de		Signed	AUTHORIZED REPRE	SENTATIVE	Date	15/85

Authority: Completion: Penalty: Act SBS PA 1978
Regulard
Conviction of a violation
of any provision is a
misdemeanor.

LOCATION OF WELL	Township Name		Fraction	
Washtenaw	Ypsilanti		NE 14	NW4 4 12 3 NS 7 (2)
stance And Direction From Road Inte	rection		i E	3 OWNER OF WELL: General Motors Corporation
				Hydra-Matic Division
				Address Ypsilanti, MI 48197
treet Address & City of Well Location				and the second s
ocate with "X," in Section Below	and the state of t	Sketch Map:		Address Same As Well Location? Yes No. 4 WELL DEPTH: (completed) Date of Completion
		Okolon andhi.		15 % 9/19/85
L_iXi_J_				5 Cable tool Statery Driven Dug
				Hollow rod Auger Jetted
				6 USE Domestic Type I Public Type III Public
				☐ Brigation ☐ Type lie Public ☐ Heat pump
				Test Well Type the Public
				7 CASING: Steel Threaded Height: Above/Below
			er Des Comme	Plestic Welded Come Fincher
FORMATION DESCR	IPTION	THICKNESS	DEPTH TO BOTTOM OF STRATUM	3 in to 15 ft. depth Weight 7.58hbs.ft.
		STRATUM	STRATUM	Manager and the Control of the Contr
DOD		0.2	n 21	
The state of the s		U.A.	0.2	
DNCRETE		0.67	0.88'	a screen: Type stainless steel ameter 3.
				Slot/Gaure -010 tength 5
ACKFILL - native soil	v	2.5'	3.5'	Set between 6 (t. and 11 it
				FITTINGS: K-Packer Lead Packer Bramer Check
NCRETE - thin layer		0.5	4.0"	Blank above screen 6 ft. Other 4' below ac
ingening and an included an included and included and included and included and included and included and included and included and included and included and included and included and included and included and included and included and included and included an included and included an included and included an included and included an included and included an included and included an incl	4			9 STATIC WATER LEVEL:
ND - 1t. brn. medf	ine, taace	3.0"	7.0	10 PUMPING LEVEL: below land surface:
gravel				
			man a seguri a seli, seri de se	ft. alter hre pumping at G.P.M.
AVEL - with some sil	t	1.0	8.01	hra, pumping at G.P.M.
				11 WELL HEAD Pitless adapter 12° above grade
ŘID.		5.0	13.0'	Basement offset by Approved bit was large
				12 WELL GROUTED? No. W Yes From 1 to 3 1
AY		2.0'	15.0	☐ Nest cement
				No. of bage of gement Additives 1. bag bonson1 13 Nearest source of possible contamination
				•
				Type gasoline Distance 0 11 Direction
				Well disinfected upon completion? Yes No
				14 PUMP: Not installed Pump installation Only
				Manufacturer's name
				Model number HPVolts
			· · · · · · · · · · · · · · · · · · ·	Length of Drop Pipe 14 h. capacity G.P.M.
				TYPE: Submersible Jel
				PRESSURE TANK: Manufacturer's name
USE A 2ND SHEET IF NEED	DED	-		Model number Cepacity Gallons
Remarks, elevation, source of da	la, etc.		16. WATER	WELL CONTRACTOR'S CERTIFICATION:
S.W.#3 Blevation 721	.18		This well to the be	was drilled under my jurisdiction and this report is true at of my knowledge and uglisf.
		-	in all	1 may 1 may
			· A	EGISTERED BUSINESS NAME REGISTRATION NO
			Address	P.O. BOX/557 MAUMER, OHIO 43537
			Signed	muchael V 6/12 Date 11/5/85
2/84			orAuson ""	AUTHORIZED REPRESENTATIVE

WINDINGAIN DEFAILTRICINT OF PUBLIC HEALTH

GEOLOGICAL SURVEY NO.	WATER	WELL	AND P	UMP RECORD PERM	IT NUMBER
1 LOCATION OF WELL					and the second s
County Washtenaw	Township Name Ypsilanti	on the control of the	Fraction NE 14	NW14 14 K	ug 7 (ew
Distance And Direction From Road In	tersection			3 OWNER OF WELL: General Motors Hydra-Matic D	
***				Address Tpsilanti, NI	
Street Address & City of Well Location	va:			Address Same As Well Location? 2 Yes	ПÑo
Locate with "X" in Section Below	the same of the sa	Sketch Map:		4 WELL DEPTH: (completed) Date of Co	distribution of the second of
				15 tk 9/20,	85
X				6 Cable tool Rotary D	riven 🔲 Dug
w				Hollow rod Auger Ja	
				6 USE: Domestic Type I Public Inigetion Type IIs Public	Type III Public Heat pump
				Ziges: Well ☐ Type lib Public	
				7 CASING: Sieel Threaded Height:	Above/Below
Limite		A SECONDARIO	leter military as a second	Plastic Welded I	<u>flush</u>
2 FORMATION DESC	RIPTION	THICKNESS OF	DEPTH TO BOTTOM OF STRATUM	3 in to 15 it depth Weight	7.59 _{64./R} .
	· · · · · · · · · · · · · · · · · · ·	STRATUM	STRATOM	Grouted Drill Hole Diameter in, toft, depth	noe 🗍 Yes
WOOD		0.2*	0.2	8 in to 15 ft death	I No
				8 SCREEN:	Not Installed
CONCRETE		9.67*	0.88*	Type stainless steel liameter 3'	
SAND		8.1	9.0*	Slot/Gauze -010 Length	
GAND	manage of magnetic managed and distributions of the second	- 13	-	Set between 6 1t and 11 FITTINGS: K-Packer Lead Packer	
SAND		4.0	13.0'	Blank above screen 6 ft. Oth	
				9 STATIC WATER LEVEL:	
CLAY		2.0'	15.0'	7° 2° It. below fend surface	☐ Flow
				10 PUMPING LEVEL: below land surface	
S.		 		ft. after hrs. pumping at	
				II. after hrs_pumping at	G.P.M.
				11 WELL HEAD Pittess adapter	12" ábove grade
	- distribution			Dasament offset 36	Approved pit Valve bo
				12 WELL GROUTED! No 12 Yes From	
				The state of the s	ier
					bag benseal
				13 Nearest source of possible contamination	
				Type gasoline Distance It.	Direction
				Well disinfected upon completion? Yes	No.
				14 PUMP: Not installed Pami	Installation Only
The state of the s				Manufacturer's name	
				Model numberHP	Control of the Contro
oniis aranga _{aran} ainnya aranan arana					Ġ.P.M.
The state of the s				PRESSURE TANK:	
				Menulacturer's name	
use A and sheet if hi 15. Remarks, elevation, source of d		1	18 MATER	Model number Capacity . WELL CONTRACTOR'S GERTIFICATION:	- Gällöna
		1	This well	was drilled under my jurisdiction and this report is	rus
S.W. 44 Elevation 7	21.U5			st of my knowledge and belief. RTH SCIENCES SERVICES	1750
		•	<u> </u>	EGISTERED BUBINESS NAME 57 MEGISTI	IATION NO.
			Address .	P.O. BOX 557, MAUR	NATION NO.
			Signed	michael V. 6/98 Dole	11/5/85
067a 2/84			O(B) ING	AUTHORIZED HEPRESENTATIVE	77

GEOLOGICAL SURVEY NO.				UMP RECORD
1 LOCATION OF WELL				PERMIT NUMBER
County	Township Name		Fraction	
Washtenaw	Ypsilanti		NE W	NW4 4 12 3 NO 7 OW
Distance And Olirection From Road	Intersection		11.150	3 OWNER OF WELL: General Motors Corporation
mā:				Hydra-Matic Division
				Address Ypsilanti, MI 48197
				woman thewroner's with 40121
Street Address & City of Well Loca	ion			Address Same As Well Location? Yes No
Locate with "X" in Section Below		ketch Map:		4 WELL DEPTH; (completed) Date of Completion
	,			15 4 9/24/85
L_i_Xii				
	ė.			Gable tool Rotary Driven Dug
W				
				Domestic Type I Public Type III Public I Type III Public I Irigetion Type III Public I Heat pump
+ 141.				Test Well Type lib Public
				7 CASING: Steel Threaded Height: Above/Below
I MILE				
		THICKNESS	DEPTH TO	1 3 3 3 1 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3
2 FORMATION DES	CRIPTION	STRATUM	DEPTH TO BOTTOM OF STRATUM	11 m to 15 // death Weight
			277033.040	Grouted Drill Hole Diameter in, to 15 1. depth Drive Shoe Tyes
WOOD		0.2	0.2"	
		V. 14		
CONCRETE		0.67	0.88	8 SCREEN: Not installed Type Stainless Steeliameter 3!
<u> </u>			3,000	
BACKFILL - sand and	oravel.	4.1	₿.0ª	Stot/Gauze
				Set belween 6 ft. and 11 ft. FITTINGS: K-Pecker Lead Packer Bromer Check
SAND - with trace gr	avel. medfine	8.0	13.0	
			7017	L Blank above screen 6 ft. Cther 9 STATIC WATER LEVEL:
CLAY		2.0	15.0'	7° 7/8" 11. balow lend surface
	**************************************			10 PUMPING LEVEL: below land surface
			**····································	11. after his, pumping st Q.P.M.
				ft. after hre: pumping at G.P.M.
				11 WELL HEAD Pittless adapter 12° above grade
				COMPLETION: Complete
				12 WELL GROUTED? No x Yes From 1 to 3 to
		13:		Neat cement Benionite Other
			-	No. of bags of cementAdditives _1 _ bag _ bensea1
				13 Nearest source of possible contamination
				Type gasoline Distance O It Direction
		+		14 000400
				LI NOT Installed LI Pump Installetion Only
				Manufacturer's name
V.				Model number HP Volta
		1		TYPE: Submeralble Jst.
				Manufacturer's name
USE A 2ND BHEET IF				Model number Capacity Gallons
15. Remarks, elevation, source of	data, etc.			WELL CONTRACTOR'S CERTIFICATION:
S.W.#6 Elevation 7	21.12			was drilled under my juristiction and this report is true at of my knowledge and belief.
			In the per	and the same of th
			<u> Eri</u>	RTH DEJENCES JENVICES 1738
-			A restrant	EGISTERED BUSINESS NAME RECISTRATION NO. 473537
		ľ	Linning 5	
7d 2/84			Signed	muchan 19 Date 11/5/85.
57d 2/84		*		AUTHORIZED REPRESENTATIVE

Authority: Completion: Penalty: Act 388 PA 1878 Required Conviction of a violation of any provision is a misdemeanor.

GENI OCIONI CHRUCO MO			UMP RECORD
1 LOCATION OF WELL			PERMIT NUMBER
County Washtanew Ypsilanti		Fraction A/4 12	Seotlan Number Town Number Range Number
Distance And Direction From Road Intersection		1 2 4	3 OWNER OF WELL: Hydra Matic Division
6			General motors Corp
			Address Ypsilant, mechisan 48197
Street Address & City of Well Location			Address Same As Well Location? Tres I No
Locate with 'X' in Section Below 5	ketch Map:		4 WELL DEPTH: (completed) Date of Completion
			5 Cable tool Rotary Driven Dug
w			☐ Hollow rod ☐ PAuger ☐ Jetted ☐
			6 USE: Domestic Type I Public Type III Public
			☐ Infigation ☐ Type IIs Public ☐ Heat pump ☐ Test Well ☐ Type IIb Public ☐ Monitor
1 MLS			7 CASING: Steel Threaded Height: Aboys/Below
2 FORMATION DESCRIPTION	THICKNESS	DEPTH TO	Prestic Weided Surface O ft
* LOUMNTION DESCRIPTION	MUTARTS	BOTTOM OF STRATUM	in to It. depth ibs./it. Grouted Drill Hole Diamster
Mise fill	1.5	1.5	in toit, depthNoNo
DK brown Sand	1.5	3.0	8 SCREEN: Not installed
Md. bown Sand	4	7	Stot/Gauze 010 Langth 10 ff
			Sel between
bray fine Sand	4		Blank above screan it Other
bray fine Sand w/sift	7	13	9 STATIC WATER LEVEL: 11. below land surface Flow
Shift gay Silt	2	15	10 PUMPING LEVEL; below land surface
		/3	ft. alter hrs. pumping at 5.P.M.
	<u> </u>		fl. after firs, pumping at O.P.M.
			1) WELL HEAD COMPLETION: Pitiess adepter 12" above grade Basement offset Approved pit
			12 WELL GROUTED? No Pres From 2 to 4 II.
			Neat coment Bentonite Cother
			No. of bags of cement Additives
A STATE OF THE STA			TypeDistance
			Wall disinfected upon completion? Yes No
			14 PUMP: TP Not to collect
			Ménufeaturer's name
			Model number HP Volts
		***************************************	Length of Drop Pipe 14. capabity G.P.M. TYPE: Submersible Jet
		-	PRESSURE TANK: Manufacturer's name
USE A 2NO SHEET IF NEEDED			Model number Capacity Gallons
15, Remarks, elevation, source of data, etc.		This wall	WELL CONTRACTOR'S CERTIFICATION:
ener V	ŀ	to the bes	of my knowledge and belief.
		RE	Sciences Services, Inc. 1758 Gestered business hame resistration no
	Helpedon waters.	Address	P.O. Jok SDT Mariney 94 43537
67d 2/84		Signed	AUTHORIZED BEPRESENTATIVE Date 6/25/85
			Authority: Act 368 PA 978

GEOLOGICAL SURVEY NO. WATE	R WELL	AND P	UMP RECORD
T LOCATION OF WELL			PERMIT NUMBER
County Washtehaw Township Name Yosifanti		Fraction NL 1/2	NU 1/4 1/4 1/2 3 N/6 7 GW
Distance And Direction From Road Intersection	· · · · · · · · · · · · · · · · · · ·	***	3 OWNER OF WELL! Hydra Matic Division
1			Deponit motors (ord)
	8		Address Apsilant, mechan 48147
Street Address & City of Well Location		Jan 17 Jan 18 Sa	Address Same As Well Location?
Locale with "X" in Section Below	Sketch Map:	*	4 WELL DEPTH: (campleted) Date of Completion
			. /5 n. 0 /0-24 - 35 5 ☐ Cable tool ☐ Rotary ☐ Driven ☐ Dug
			Cable toot Rotary Driven Dug Hollow red Pauger Jetted D
W to be and the real and the second of the s			8 USE: Oomestic Type Public Type II Public
frame and an administration.			Irrigation Type lis Public Heat pump
			Test Well Type lib Public D Monfor- 7 CASING: Steel Threaded Height: Above/Below
1 Mile			☑ Plastic Welded
2 FORMATION DESCRIPTION	THICKNESS OF	DEPTH TO BOTTOM OF	in to the depth Weight lbs/ft.
	STRATUM	STRATUM	Grouted Drill Hole Clameter
Misc. fill	3	_3	in toft depth Universities Yes
Med brown fine Sand	4		B SCREEN: Not irretalled
		7	Type PVC Diameter 2" T.D. Slot/Gauze 0/0 Length /0 ff
DK. Srown fine Sand	4	\mathcal{U}	Set between 5 It, and 15 It.
bray fine Sand w/ silt Shiff gray Silt	2	13	PITTINGS: K-Packer Lead Packer Bramer Check Blank above screen 1. Other
4.0 674	2	15	9 STATIC WATER LEVEL:
TOTAL GOOD OF THE		7.3	10 PUMPING LEVEL: below land surface
1			ft. alter hra. pumping at Q.P.M.
			ft. afterhirs. pumping atG.A.M.
			11 WELL HEAD Pilless adapter 12" above grade COMPLETION: Basement offset Approved pit
			12 WELL GROUTED? No WYes From 2 to 4 ti
And the second s		•	Neat cament V Bentonile C Other
			No. of bags of cement Additives 13 Nearest source of possible contemination
- The state of the			The state of the s
			Type Distance IL Direction Well disinfected upon completion? Yes No
			14 PUMP: Not installed Pump installation Only
			Manufacturar's name
			Mödel number HP Volts
			Length of Drop Pipe
			PRESSURE TANK
USE A 2ND SHEET IF NEEDED			Manufacturer's name
15. Remarks, elevation, source of data, etc.		16. WATER	WELL CONTRACTOR'S CERTIFICATION:
mu-4		This well to the be:	was drilled under my jurisdiction and this report is true It of my knowledge end belief.
	energia de la composição de la composição de la composição de la composição de la composição de la composição	Eart	Sciences Services. Inc. 1758
NAME OF THE STATE		R	EQUISTERED BUSINESS NAME P.O. DAY 557 Maumes OH 43537 / /
·		AGGIOSS _	- 1 17/17 1-1-1-

D67d

2/84

AUTHORIZEO REPRESENTANY
Authority:
Completion:
Penalty:

Act 308 PA 1978
Required
Conviction of a violation
of any provision is a
misdemeanor.

1 LOCATION OF WELL	P.A. 1972 MIGHTGAN DEPARTMENT OF PUBLIC HEALTH						ALTH				
County Wash tenaw	Township Name	psilanti		Fraction 5/4	%	S 6	ection Number	Tawn Nember	N(S.)	flanga Nu 7	mber (E)A
STARTING POINT;	Nearest Road	Intersection	the the special districts and the special spec	LO	GATION:	7.	et No.				
200' South of General Motors			Millow R	ın En			weight of the second se	7	÷. Syntaetida		and the second s
Locate with "X" in section below	Sketch Map			PRO	gineering F	VNER:	till comment of the same of th	ul Motors	negeringskap kan de proposition og ser en en en en en en en en en en en en en		
1 MIE → 1	and the state of t			Typ	e of C	Sewer	ations Other	rumping Station: Water M	on .		. ,
2 Single Well Several Wells: Total Nur	nber of Wells	4	W24	Depth —	Range 6	ft:	Date of	Drilling Month	85	Year	
Total Distance Covered Includes Wells From Station	ft,	N/S/E/W	and the same of th	.4 [Ceble To		100000	otary	E	Bored	(Auger
3 FORMATION		THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	5 0	ONSTRUC	TION D	ETAILS: D	rive Points	Ť	Rock	Well
Clay		8	8				ДΝ	atural Pack	K	Gravel	
Fine Sand		8	16	Drill Hole Size; Diam 30 in Depth Casing: Diam 24 in Depth Gravel Pack: From 0 ft to					26_ft		
Clay		9	25		eck Mate icreened F	180		ne & Maso to17		nd	
juse remarks section if nei	EDE(?)	-		6 8	TATIC WA	ATER LE	VEL N.	Aft abov	/e/belo	w land	surfaci
8 ABANDONMENT PROCEDUR Wells under 40 feet Parent Material: Finer Textured Solle: Other:	from	ft_to_	fi	P	7 DEWATERED LEVEL						
Wells over 40 feet: Bentonite-Fine Textured (storm sewer,	etc.)	-	
from ft 'to _			· ·	10 F	10 REMARKS, Water Quality, Gas, etc. RECEIVED Mich. Dept. of Public Heads						
Special Cases: Li Gas		☐ Flowin	g Well		á.		SEP	1 8 1905			
Great : Bentonite Grout						,	Piccupational	Vironmental Health-GW	and Os		÷
				s T	his well	was dri		TIFICATION ny jurisdiction lige and belief		this re	port k
UNION CONSTRUCTION CO.	4.	Dl					cion co.			D 131	
ned contractor name:	ROAD, MANGE		RATION NUMBER ICH 4/32,5		ined contrac			, , Manches		egistratio MECH.	
Signed AUTHORIZED BECRESENTATIVE	Cucan		8/26/85		od Sa	Meso D REPRESE	29/1	lilde			////5'



Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007416

Fallure to comply is a misdemeanor.

Import ID: 81737712019

Township: Ypsilanti County: Washtenaw Tax No: Permit No: Source ID/Well No: Section: Town/Range: WSSN: Fraction: 03S 07E NWW NEW SEW 12 Distance and Direction from Road Intersection: 2152' N OF C.L. TYLER RD, 1215' E Well ID: 81000007416 OF C.L. MCGREGOR RD. Elevation: 717 ft Well Owner: Wayne County Airport Division Latitude: 42.2385215651 Owner Address: WILLOW RUN AIRPORT Well Address: WEST FUEL FARM WILLOW RUN AIR. Longitude: -83.5477303034 YPSILANTI MI 48197 YPSILANTI MI 48197

Pump installation only: Pump Installed: No Drilling Method: Auger/Bored Well Use: Household Well Depth: 11.00 ft. Pump Installation date: HP: Well Type: Replacement Date Completed: 9/13/1986 Manufacturer: Pump Type: Casing Type: Unknown Model Number: Pump Capacity: Casing Joint: Threaded & coupled Length of Drop Pipe: ld of Well: 2.00 in. to 5.00 ft. depth Diameter: Diameter of Drop Pipe: Draw Down Seal Used: Bore Diameter 1: 9.00 in to 4.50 ft. depth Pressure Tank Installed: No Bore Diameter 2: Pressure Tank Type: Bore Diameter 3: Manufacturer: Height: 0.30 ft. above grade Tank Capacity: Gallons Model Number: Casing Fitting: None Pressure Relief Valve Installed: No Depth to Static Water Level: 7.90 ft. Below Grade(Not Flowing) **Formation Description** Thickness Bottom Yield Test Method: Unknown 1.00 1.00 Tan Sand Measurement Taken During Pump Test: 1.00 2.00 fan Silt Clay Gravel W/Sand 1.00 3.00 Yellow Clay & Sand Fine 1.00 4.00 Yellow Clay & Sand Fine Abandoned Well Plugged: No 2.00 6.00 Clay Very Fine W/Sand Reason for not plugging Well: 8.00 Tan Clay & Sand Very Fine 2.00 10.00 2.00 Gray Clay Silty W/Sand Abandoned well ID: 13.00 3,00 Sand & Clay Very Fine Silty Screen installed: Yes Well Intake: Filter Packed: No Screen Dlameter: 2,00 in. Length: 11.00 ft. Screen Material Type: Stot: 7.00 in. Set Between 5.50 ft. and 11.00 ft. Blank: 0.00 ft. Above Fittings: None GEOLOGY REMARKS: 1. [TAN, SAND (BLACK ASHPHALT)] [1] [1] 2. [TAN SILT, CLAY, GRAVEL & SAND] [2] [1] 3. [PALE YELLOW CLAY, VERY FINE & FINE SAND] [3] [1] 4. [PALE YELLOW CLAY, VERY FINE & FINE SAND] [4] [1] 5. [LIGHT CLAY, VERY FINE & FINE SAND] [6] [2] 6. [TAN CLAY, VERY FINE & FINE SAND] [8] [2] 7. [GRAY SILTY CLAYS, FINE & VERY FINE SAND] [10] [2] 8. [VERY FINE SAND, SILTY CLAY] [13] [3] Well Grouted: Yes Grouting Method: Unknown No. of Bags: Additives: None **Grouting Materials:** From 0.00 ft. to 0.00 ft. Bentonite slurry Well Head Completion: Other Contractor Type: Unknown Nearest source of possible confamination: Registration Number: 666 Distance Direction Type **Business Name:** Chemical/Fertilizer **Business Address:** 40.00 ft. North storage WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my supervision and this report is true to the best of my knowledge and belief. **Drilling Machine Operator Name:** Employment: Unknown Date Signature of Registered Contractor General Remarks: OTHER REMARKS Well Head Completion: Completion Type Not Known

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:17

CECLODICAL ELIDIES NO.			UMP RECORD
1 LOCATION OF WELL		7,112.00	PERMIT NUMBER
County Township Name	No.	Fraction	Section Number Town Number Range Number
Washtenny Ypsilanti Distance And Direction From Road Intersection	<u></u>	NB/4	SWA 14 12 3 INVS 7 E/W
2152' North of C.L. Tyler Road			Wayne County
3'4" N. of S. chain link tence pro		ine	Address Airport Division
87' East of South property line fe		North	West Fuel Farm, Willow Run Airport
	keigh Map:	A secure	Address Same As Well Logation? 27 Yes No. 4 WELL DEPTH: [completed] Date of Completion
X 5	m l	> Z -	11 n. 13 Sept 86
Hauilon I		* .	5 Cable tool Rolary Driven Dug
X 1		× 46-3	☐ Hollow rad
		T	Irrigation Type lia Public Heat pump
The state of the s	DX-1	1	Test Well Type IIb Public Imonicoring
MILE	小飞		7 CASING: Steel Threaded Reight: Above/Balow Plastic Welded System 0 33
2 FORMATION DESCRIPTION	THICKNESS	оветн то	Plastic Welded Surface 0 . 3 3 ft. 2 in to 5 ft, depth Weight 3 . 5 lise /ft.
* PONNAMION DESCRIPTION	STRATUM	BOTTOM OF STRATUM	Grouted Drill Hote Diameter
Tan, sand	24	2.11	in. toft, depth Orive Shoe Yes
			8 SCREEN: STAIN LORG STAIN Not Instelled
Black Ashphalt	4"	6"	I Ivos9
Tan silt, clay, gravel & sand	11	1.5	Sion/6%% 1/7 Length 6.5' Set between 5.5' 11 and 11' (t.
Pale yellow clay, very fine &	,		FITTINGS: K-Packer Lead Packer Bremer Check
fine sand	1,5'	31	Blank shove screen II. Other threaded 9 STATIC WATER LEVEL:
Pale yellow clay, very fine & fine sand	11	41	7.11 to below land surface
Light clay, very fine &			10 PUMPING LEVEL: below land surface
fine sand	21	6 *	It. afterhrs. pumping at G.P.M.
Tan clay, very fine & fine sand	1.5	7.5!	It. effer hre. pumping at G.P.M.
Gray silty clays, fine &			11 WELL HEAD Pilless edapter 12" above grade
very fine sand	2.5'	10'	threaded carBasament offset Approved pit
Very fine sand, silty clay	3.1	13'+	12 WELL GROUTED? No X Yes From 2.5 to 4.5 1 It.
			Nest comont Bentonite Other
			No. of bags of coment Additives 13 Nearest source of possible contemination
		14,	Aviation Fuels Obtaine 40'- H Direction North
RECEIVED			Filler Pipes 200'
Mich. Dept. of Public Health			Well disinfected upon completion? Yes INo
JAN 0 6 1988			(V) Lot lust state (1) Samb lust state (10) Out
·			Manufacturer's name HP Volts
Eureau of Environmental and Decupational Plusitin-Civids			Length of Drop Pipsfl. sepacity G.P.M.
- Control of the Cont			TYPE: Submersible Jet
			Manufacturer's name
15. Remarks, elevation, source of date, etc.		18 WATER	Model number Capacity Gallens WELL CONTRACTOR'S CERTIFICATION:
		This well	was dilled under my jurisdiction and this report is true if of my knowledge and belief.
Top of Casing 716.69' MSL	15-01		
lit	15-87 JM	JIEL	line Drilling Company 0666 George Business NAME REGISTRATION NO. 1236 W. Grand River, Brighton, MI
17.0		Address 2	0/0 68116
671 2/84		Signed	/// // // // // // // Sept. 1986/
		-61	Authority! Act 308 PA 1978 Completion: Regulerd
GEO	LOGICAL	SURVEY	COPY Penalty: Gonviction of a violation of any provision is a misdemeanor.

MARO!	MALMAS	CHRVEY	22.72

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					F 1	П		F
-	لسنست	سبسنا		لتبيينا	ليبيبن	U	 تبيينا	 سبسا

1 LOCATION OF WELL						E EURANY M	OWNER	
	awaship Name		Fraction	CANCEL SALES PROPERTY AND AND ASSESSED.	Section Number	Town Number	Range Nu	mber
Washtenaw	Ypsilenti		NE W	SWVa Va	19	38 NXS	715	ÆΛΛ
Distance And Direction From Road Inte		4		3 OWNER OF	Well: Wayne	County	Marie Williams	mara. The lights
2221' North of G.	h. Tyler kon	ta .		Air	port Divi	sion		
96 South of North of 1160 Rast of G.L. Mo	property Line	Q: Sanishi si sensaniy sa cy	een mae	A Addrona was	est Fuel	Farm. Wil	low R	1711
street Address a City of Well Location	Seregor Koan (a Tina	exconded	North)	I A	irvort	4 750 W		. 39,500
Street Address & City of Well Location Locate with "X" in Section Below			ist the State and a second state of the second	Address Sa	me Ās Well Locatio			
	1 "	ketch Map:			H: (completed) . 8 ¹ It.	Date of Complete		
P.J.	les I		Z-4-		V Tara salah k	<u></u>		
	, F1	*	*	5 Cable too			R	
w1/12-1	* 4					Jetted		
		. 75		6 USE: Dom	estle Type ()		Type III Pub	lje
	* 1831	I Town		☐ Test	· · · · · · · · · · · · · · · · · · ·		Heat pump NON 1 0 K	rir
	A messa of	X X		7 CASING:				
		· /			Manitu I derneit.			
2 FORMATION DESCRI		THICKNESS	DEPTH TO	2 in to	1 1 1 depth	Weight 3.5		
		STRATUM	DEPTH TO BOTTOM OF STRATUM	in to	ft don't	Weight -2 1	iD8./11.	
Brown silty, clayey	, sand			Grouted Drill	Hole Diameter L ft. depth	Drive Shoe	☐ Yes	
POPSOIT.		6"	611	in, to	ft. depth		80 No	
lackish gray, silt	y, gravelly	·		8 SCREEN:		☐ Not list	italled	
layey, very fine-c	dánae SANN)	1.1	1.51	DCAINIE Type	ss Steel	rameter 211		
Blackish gray, sil	ty, gravelly	r _e ≱:		Slot/Oliver	#7 u	ingth 3 1		
layey, very fine,	fine SAND	91	4.51	Set between.	8.81 1	and 11.81 h		\$ ···
ark gray, trace gr	avel, silty			FITTINGS:		eed Packer 🔲 8		
layey, very fine,		1.51	6!	Blank abo	ve screen (i.	Other_T	reade	<u> </u>
ariegated black &	blackisk			9 STATIC WATER	# # # # # # # # # # # # # # # # # # #		gramag.	
ray silty, clayey,	very fine,			8,11	ft, below land surf	urface	Flow	
ine SAND. Typical	IIII					N/A		
Tentetab seam atte.		-1'1	7'		efter hrs. pr			
lackísh gray, silt ery fine, fine SAN	y, crayey,	41	111	H	ofterfire, pr	imping at	G.P.M.	ļ
an, gravel, silty,	wary fina			11 WELL HEAD	Pitless aday	iter 12 ab	ana aitala	-
ine SAND Typical	fill.	21	121	11 WELL HEAD COMPLETION Chreaded	C Theasement of		-	
				12 WELL GROUT	pri amagina	Yes From (1		
				بيشير .		-	emitei D	in the
		1		Nest com	ent XX Bentonii	e Ciher		ختست
					cement Ac			
	11		1.	13 Nearest source	of possible contem	ination	*	
				Type £111	er Distance	70 ft. Directi	on 648	ŀ
				Wall district Pia	P & 8 upon completion?	☐ Yes ☐ N	ìr	
1/ECEN	red —							
Mich. Dept. of P	rublic Health	all production of the state of		W	Nat Installed	Pump Install	ation Only	1
					name			
JAN 06	1388							
and the second s					Pipa			P.M.
Bureau of Environ	amortal and			TYPE: L		Jet	· · · · · · · · · · · · · · · · · · ·	
Occupational He	ann eyroza				name	- ta Adam - year and a later -		
NEE Y SNO BUEEL IL NEEDI	io:			Model number		Capacity	G.	ilone
5. Remarks, elevation, source of data	ı, etc.	1	6. WATER	WELL CONTRAC	TOR'S CERTIFICA	TION:	110	-14.10
	Name I am to A	, desirent	This well to the bes	was drilled under t t of my knowledge	ny jurisdiction and the	is report is true		
orface Elevation 7	17.88'	1887		7		المالة المالة		
op of Casing 719.6	3.	2.1	Sterl	Ing Dri	Ling Comp	BEOISTRATION	No	
	L.S.	1887 M	Address £	236 W. G	rand Rive	r. Brich	ton.	M.T.
	079			ain		min		8110
d 2/84		<u></u>	Signed	HORizeo	HEPRUS CONTRACTOR	1700 19 8		
			Cle			14 Capet 880	PA 1978	

GEOLOGICAL SURVEY COPY

GFOI	OG	CAL	SURVEY	NA
SELJL		13-25 L.	DIMET	1873.

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- 1			1 1	1 1					1
. 1	-a 4		1 1						ľ
**	-		THE PERSON NAMED IN	an derived		-	-	ليحتربين	يستبينا
	11 -4	e I	a la		18	基果的	27.3		

LOCATION OF WELL			
County Vash tenan Ypsilanti		Fraction	SW 4 14 12 3 AVS 7 EM
Distance And Direction From Road Intersection 2277 North of C.T., Tyler Road		14	SW 14 14 12 3 AVS 7 MAN S OWNER OF WELL Wayne County
2277' North of C.J., Tyler Road			Airport Division
1236' Rast of C.L. McGregor Road (extended 126' North of South property Line flence (North)		Address West Fuel Farm, Willow
Street Address of the Local pump house	a, gare po	scs/	Run Airport
	Sketch Map:		Address Same As Well Logston? Yes No. 4 WELL DEPTH: (completed): Date of Completion
	meter map.	ويوساه	WELL DEPTH: (completed) Date of Completion
PAVILON T		492	5 Cable tool Retary Driven Dug
w / / / V			☐ Hollow rad ☑ Auger ☐ Jetted ☐
THE TOTAL	-4 1		8 USE: Domestic Type I Public Type III Public
			☐ Irrigation ☐ Type IIa Public ☐ Heat pump
	inter T		7 CASING: Sieel EXThreaded Height: XXXXX/Below
The state of the s	3 14		7 CASING: Steel EXTereaded Reight: Alfoya/Below Playing Welded Studies 0 . 4 1 h.
2 FORMATION DESCRIPTION	THICKNESS	DEPTH TO BOTTOM OF	in, tott. depth Walahi 3 . 5 the #1
White broken lime stone and	3 main 2461	STRATUM	
SLAG	6.2	611	Grouped Drill Hole Diameter in, to It depth In to It depth
Grayish black, silty, clayey,			
gravel, very fine to medium			Stathless Steel
SAND	4 4 4		Slov/dake #7 Diameter 2
Blackish gray, silty, clayey,	1.5	2 '	Set between 100 1t. and 1000 1t.
very fine, fine sand, GRAVEL	2	4 *	FITTINGS: L K-Packer L Lead Packer, L Bremer Check
Dark gray, silty, gravel,	+		Blank above screen 1. Other threaded
clayey, very fine, fine,	2'	61	9 STATIC WATER LEVEL: 7 , 8 2 !
medium SAND			10 PUMPING LEVEL: below land surface N/A
Dark gray, silty, gravel,	-		ft. after hrs. pumping at G.F.M.
clayey, very fine-fine SAND	61	12 *	It-afterhrs. pumping atG.P.M.
Grayish tan, silty, gravel,			11 WELL HEAD Pilless adapter 12" above grade
clayey, very fine, fine SAND	11	131	threaded chisasement offset Approved pit
			12 WELL GROUTED? No No Yes From 5 1 to 7 1 ft.
The second secon			Neet cement Bentonite Other
			No. of bags of cement Additives
			13 Nearest source of possible contamination
The state of the s			Type filler Distance 20! it Direction South
RECEIVEN			pipes Well disinfected upon completion? The No.
Mich, New, of Public Nestila			
JAN-0-6 1988			Manufacturer's name.
			Model number HP Valte
Bureau of Englanmond and			Length of Drop Pipe IL coparity G.P.M.
Same alkida basela califia			TYPE: Submersible Jet
			PRESSURE TANK: Manufauturer's name
use a 2410 sheet it needed			Model number Gelique
5. Remarks, elevation, source of data, etc.	-		WELL CONTRACTOR'S CERTIFICATION:
urface Elevation 717.39'	10-00	to the bes	was dilled under my jurisdiction and this report is true It of my knowledge and belief.
op of Casing 716.98	1201	Ster	ling Drilling Company 0666
oh or castif (10730	15-87 MM	RI	igistered Business name registration no.
Here	TO CO	Address 1	5236 W. Grand River, Brighton MI
d 2/84		Signed	Date 18 Sept 986
		618	TIL MILLER Authority: Aut 368 PA 1978
GE	OLOGICAL	SURVEY	CODY CODY Penalty: Required Conviction of a violetion

GEOLOGICAL SURVEY NO. WATER	WELL	AND P	UMP RECORD	
1 LOCATION OF WELL	Section 2	,		PERMIT NUMBER
County Township Name		Fraction	Section Number	Town Number Range Number
		Sis 1/4	NEW W 12	3 XXVS 7 FW
Distance And Direction From flood Intersection 2375 North of Center 13 ne Tyler Road			3 OWNER OF WELL: WILY	e County
111 South of North property Kenne			Alrport	Division Farm, Willow Run
13.5' East of West property line fence	*		Addient wook Ruser	port
Street Address a City of Well Location Road (extended	North)		Address Same As Well Location	
Locate with X in Section Below	Sketch Map:		4 WELL DEPTH: (completed)	Date of Completion 15 Sept 86
	1 6	7-	131 4	A CONTRACTOR OF THE PROPERTY O
Pavilan-	*	pleninte.	5 Cable tool Hotary Hollow rod Auger	Driven Dug
"	, ×		8 USE: Domastic Type I	
	1		Leigetion Type I	***************************************
* 1	w k		Test Well Type II	bruble Kponitoring
\$6.5	*"X_\	r r	7 CASING: Steal Thread	
	THICKNESS	DEPTH TO	211 Plastic Welder	Surface 1 × 25 tc.
	STRATUM	BOTTOM OF STRATUM	in, toft, death	Weight 232 los/fi
Brown clayey, silty, sand			Grouted Orill Hole Diameterin, toin, depth	Drive Shoe
TOPSOIL Light gray tan, clayey,	3.5	3.5	in. to 11. depth 8 SCREEN;	1 图 No
silty. SAND	3.51	3.5	Stainless Steel	☐ Not Installed
Gray, clayey, gravel, with	3/ 8-3/		WW MATERIAL AT 18 A. A.	Nemeter 211
tan, sandy, SILTY	3.1	10'		and 13.5 h
Gray, very fine, fine, medium SAND	9.1	4.0.3	FITTINGS: K-Packer	end Packer Bramer Check
MSUIGH BAND	3	13!	Blank above screenfi	Other Enreaded
			9 . 0 1 /L below land s	surface
)			10 PUMPING LEVEL: below land sur	lace N/A
			ft, after hrs. p	umping at G.P.M.
			tt after hrs. p	umping at G.P.M.
			11 WELL HEAD Pilless ada	pter 12° above grade
			threaded Call Basement	olfset: Approved pit
			12 WELL GROUTEDY No K	Yes From 5 1 to 7 1 11.
			Neat coment 🙀 Bentoni	te C Other
			No. of bags of camentA	dditives
			13 Nearest source of possible conten	1
DEPENSE			fire pipes Distance	95' fl Olrection Rast
RECEIVED Little Doors, of Public Health		2-0-0	Well disinfected upon completion?	☐ Yes ☐ No
			14 PUMP! Not Installed	Pump Installation Only
JAN 0 6 1988			Manufacturer's name	S
Bureau of Environmental and	1	-	6	HRVolts
* Guinational Health - Groce			Tinising.	ft. capacity G.P.M.
			PRESSURE TANKS	
USE A 2ND SHEET IF NEEDED			Manufacturer's name	
15. Remarks, elevation, source of data, etc.		16. WATER	Model number WELL CONTRACTOR'S CERTIFICA	CapeoityGallons
Surface Blevation 718'	***	This well y	was drilled under my jurisdiction and fi t of my knowledge and belief.	nis report is true
Top of Casing 719.69' 12-5	-8/,			N. W. W. W. W. W. W. W. W. W. W. W. W. W.
	PAIL	RE	GISTERED BUSINESS NAME 18 COL	REGISTRATION NO.
The		Address	6236 W. Grand Riv	Cer. Brighton MI 2/2 48116 /
0674 2/84		Signed	AUTHORIZED REP STOOK SWEET	Date 15 Sept. 86
•		The state of the s	AUTHO	
GE	DLOGICAL	_ SURVEY	COPY Penals	letion: Required Ly: Conviction of a violation

MINIMAN DECAD INICH I OF PUBLIC HEALIH

GEOLOGICAL SURVEY COPY

Required
Conviction of a violation
of any provision is a
misdameanor.



Ypsilanti Twp.
Section 13

OCT 4 1972	WATER	WELL RE	CORD MICHIGAN DEPARTMENT
1 LOCATION OF WELL	ACT 2	94 PA 190	PUBLIC HEALTH
County Township Name		Fraction	Section Number Town Number Range Number
Islance And Direction from Road Interpretations	<u> L</u>	NE'x	VEX SIX 3 MSD 7 @W.
11 2			Address /500 woods/e
1560 Woodnie			Address 1560 woodale
Street address & City of Well Location Locato with "X" in section below Sketch	A desirable	- the state of the	4 WELL DEPTH, (completed) Date of Completion
PKetc.	h Map:		4 Merr DEJHY (combigged), page of compination
and the same of the same			5 Cable tool Rotary Driven Dug
			Hollow rad Listed Bored
			6 USE Obmestic Public Supply Industry Irrigation Air Conditioning Commercial
to the state of th			Test Well
		i	7 CASING: Threeded Welded Holght: Above/Below
MILE	TRICKNESS	DERTH TO	Surfacoft.
2 FORMATION	OF STRATUM	BOTTOM OF	In. toIt. Depth WeightIbs./t
6 2 1	13	/	8 SCHEEN!
Clay Blue SAND CARUEL	12	1/3	Type RED BRASS DIA: H"
Clay Blue	63	75	Siot/Gauze Longth 4.
	4.5.	-/-	Fittings:
JANU CANCE	16	11	9 STATIC WATER LEVEL
	¥		It, below land surfece
			10 PUMPING LEVEL below land surface
Live to the state of the state			
1			ft, after hrs. pumping g.p.m.
	***************************************		J1 WATER QUALITY In Parts For Million:
the state of the s			Iron (Fe) Chlorides (CI)
			Hardness Other
			12 WELL HEAD COMPLETION: In Approved Pit
	· · · · · · · · · · · · · · · · · · ·	A-/	Pitiese Adapter 12" Above Grade
			Neat Coment Sentonite
			Depth: From ft. to ft.
And the state of t			14 Negrest Source of possible contamination
			feet Direction Type Well disinfected upon completion Type No
			15 PUMP: Not installed
ADDED INFO. BY DRILLER, ITEM RILL			Manufacturar's Name Laulel
ADDED INTO. DI DIRECTALE COMPANY			Model Number UE J HP Volts 210 Length of Drop Pipe 63 It. capacity G.P.M.
CORRECTED BY.			Type: Submarsible
equotion at			Jet Reciprocating
equipition in the coep	I		
18 Remarks, elevation, source of data, etc.		17 WATER W	ELL CONTRACTOR'S CERTIFICATION: ,
	-	to the bes	was drilled under my jurisdiction and this report is true t of my knowledge and belief.
(), 1, 1, -		P. B.	LUSSER WELL DRULING CO. 0388
Seplacement Well			115 CAMBRIDGE, YPSILANTI, MICH.
The state of the s	and the state of t	Aun 658	
7004 (One 12 Off)		Sydned /	UTBORIZED REPRESENTATIVE

	WATER WI		
1 LOCATION OF WELL	ACT 294	PA 1965	OF PUBLIC HEALTH
COUNTY PSILANT	WNER No.	Fraction 4.00	WANTA 13 35 N/S. 7E E/W. 3 OWNER OF WELL J. FON 5 CO. Address 3651 HAMLIN ROAD UTICA MICH 48087
2 FORMATION	THICKNESS	DEPTH TO BOTTOM OF STRATUM	4 WELL DEPTH: (completed) Date of Completion
- CONMATION	STRATUM	STRATUM	5 Cable tool Relaty Driven Dug
Saul	18	0 518	☐ Hollow rad ☐ Jetted ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
3 Water Sand	3	18121	6 USE: Domestic Public Supply Industry Irrigation Air Conditioning Commercial X Test Well 7 CASING: Threaded Welded Height: Above/Below
			in, toit. Depth surfaceitin, toit. Depth Drive Shoe? Yes QNo Q
			8 SCREENS Types Dia: Dia: Dia: Slot/Gause 10 Length
			Set betweenft, andft.
			9 STATIC WATER LEVEL
			10 PUMPING LEVEL below land surface ———————————————————————————————————
		. ,	
			II WATER QUALITY in Parts For Million: Iron (Fe) Chlorides (CI) Hardness
			12 WELL HEAD COMPLETION: In Approved Pit Pitless Adapter 12" Above Grade
			13 GROUTING: Well Grouted? Yes No Muterials Neat Cement Depths From Jf. te ft.
			14 SANITARY:
Alloca its. o. P. bratility like the			15 PUMP:
*COMPLOTED BY			Model Number HP Length of Drop Pipe It, capacity G.P.M.
exposition and			Type: Submersible
16 Remarks, elevation, source of data, etc.		This well to the bes	ELL CONTRACTOR'S CERTIFICATION: was drilled under my jurisdiction and this report is true t of my knowledge and helief. Charles and helief. Charles and helief.
		Addross_C SignedA	Holites Hennesditative Was Dato May 31 (96)
167D 109M 6-66			

lishis!

MICHIGAN DEPARTMENT OF

1 LOCATION OF WELL			PUBLICHEALTH
County Twp.	MANTI	Fraction V	Section No. Town Range UN NEW 13 35 N/S. 7 E E/W.
Stones And Direction from Road Intersec	OWNER No.	-	3 OWNER OF WELLS T FONS CO.
3050 TYLER RI		1	3151 HAMLIN ROAD
Street address & City of Well Location	<i>.</i>		Address 3651 HAMLIN EGAD UTICA MICH 48087
2 FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	4 WELL DEPTH: (completed) Date of Completion
			5 Cable tool Rotary Driven Dug
doub	13	DT. 17	☐ Hollow rod ☐ Jeffed ☐ Bored ☐ —
			6 USE: Domestic Public Supply Industry
And Water	1 6	127.18	☐ Irrigation ☐ Air Conditioning ☐ Commercial
			Test Well [
and the second in the second in the second s			7 CASING: Threeded Welded Heights Above/Below
	district the second sec		in to ft. Depth surface ft.
and the state of the second se			1000
	-		8 SCREEN: Oph Depth Detve Shoo? Yest_NoL.
anteringuisis negarisis ny my magalaging dipingkapanénan kaometapa and makahapinan animbanasay.			Type: Oliver Dia.
			Slot/Gouze_// Longth_36
	**************************************		Set between 16 ft, and 18 ft.
Commence of the commence of th			
	tinin manamatan manamatan katalah makan barak ka ka katalah sa ka katalah sa ka		Fittings
			9 STATIC WATER LEVEL
			10 PUMPING LEVEL below land surface
			ft. after hirs, pumping 12.4.m.
	461		
	and the contract of the contra		
			11 WATER QUALITY in Ports Per Million:
the control of the co			tron (Fe) Chlorides (Ct)
			Hardness
<u></u>			12 WELL HEAD COMPLETION: [] In Approved Pit
			Pitiess Adapter 12" Above Grade
			13 GROUTING:
9-			Well Grouted? A Yes No
			Material: Neat Comont
			Depth; Fromft. toft.
			14 SANITARY: Necreal Source of passible contamination
ning managan di pangan di kanadan pangan pangan pangan pangan pangan pangan pangan pangan pangan pangan pangan			Negrets Source of passions configuration Type
* B			Well distribution completion Yes No
the state of the s	anisi atahin maka katapangsa di dingga kanan di baga dina magamipanyi dibas		15 PUMP:
Tang in	4		Manufacturer's Name
WHIECIED BIS		1.	Mödel Number HR.
SADURTION BY		*	Length of Drop Pipeft, capacityG,P.M.
Salar Salar Salar Salar Salar Salar Salar Salar Salar Salar Salar Salar Salar Salar Salar Salar Salar Salar Sa			Typer Submersible Reciprocating
Remarks, elevation, source of data, etc.		17 WATER	WELL CONTRACTOR'S CERTIFICATION
r valudival dialaticul socies of doid' sic.		This well	was drilled under my jurisdiction and this report is true
		to the be	st of my knowledge and beltal.
y was walken	· ·		they Walles 0175
- Well # 2		1/1	Coloreneo Business NAME REGISTRATION NO.
W. S. C.		Address	2635 Kong ween Vooley
		Signed	Ele Varter Date Mas 31 196
		1	OTHORIZED MEPRESCRIATIVE
67D 100M 6-66			

GEOLOGICAL SURVEY COPY

JUN 4 1000

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

1 LOCATION OF WELL		•		PUBLIC HEALTH
County	PSILANTI	<u>ii, aanga ininiriidakkan na</u> ntrangaka karab	Fraction NEW NO	OANE 4 Section No. Town Range 3.5 N/s. 1E E/W.
stance And Direction from Road Inte	reections OWN	ER No.		3 OWNER OF WELL, J. FONS CO. Address 3651 HAMLIN ROAD
3050 TYLER A	20.			Address 3651 HAMLIN ROAD
irrest address & City of Well Location				UTICA MICH 48081
2 FORMATION		THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	4 WELL DEPTH: (completed) Date of Completion
////		and the second		5 Cable tool Rotary Driven Dog
and		23_	0123	Hollow rod Jetted Bared
-0.			237 2	6 USE: Damestic Public Supply Industry I prigation Air Conditioning Commercial
- Coy			Children 19	🕅 Tori Well 🔲
\mathcal{O}_{-}				7 CASING: Threaded Welded Height: Above/Below
	***			I seem toft. Depth surfaceft.
And the second s				Weight
	***************************************			6 Ara againsta
				Stor/Gouze 10 Length 30
				Star Course 10 Langth 20
	-			Set between 21 ft. and 24 ft.
				Fillings
				9 STATIC WATER LEVEL
and the second supplication of the second second second second second second second second second second second				10 PUMPING LEYEL below land surface
				Della ofter hrs. pumping 0.p.m.
				fi. after hrs. pumping 9,p.m.
	,			and the second s
				11 WATER QUALITY in Ports Per Million: Iron (Fe) Chlorides (CI)
				Hardness
2	and the state of t			12 WELL HEAD COMPLETION: In Approved Pit Pitless Adopter 12" Above Grade
		. <u> </u>		Pitiess Adapter 12" Above Grade
	:			Well Grouted? Tyes No
				Moterial: Neat Gement .
				Depths Fromft. toft.
			,	14 SANITARY: Negrest Source of possible contamination
				footType
				Well disinfected upon completion 🗌 Yes 🔲 No
e triese, tekni d	age.			15 PUMP:
			mananan da isalah permendan dapi dalah da.	Model Number HP
of the state of th				Length of Drop Pipeft, capacityG.P.M.
- COMPANY CAR ARE				Type: Submersible
			17 0/2700	Jet Reciprocating WELL CONTRACTOR'S CERTIFICATION:
Remarks, elevation, source of data,	etc,		This wal	was drilled under my lurisdiction and this report is true
, t ^e			to the be	at of my knowledge and bellet.
100 #3			A.	REGISTRATION NO.
well #3				neze Part Donas
- -			Address	00 1084
			Signed_	GYRORIZED REPRESENTATIVE
			· · · · · · · · · · · · · · · · · · ·	*

D670 100M 6-66

GEOLOGICAL SURVEY COPY

MICHIGAN DEPARTMENT
OF
PUBLIC HEALTH

		and the state of t
	Fraction AND	NAME X 13 35 N/S. 74 E/N
	7	3 OWNER OF WELLI J. FONS CO.
U 140		3151 Hamling 18 84 D
		Notice Mich 48087
	The second second	WIICH TITCH TOURT
0F	BOTTOM OF	4 WELL DEPTH: (completed) Date of Completion
		5 Gable fool Refery Driven Du
16	01-16	☐ Hollow rad ☐ Jelled ☑ Bored ☐ ☐
		6 USE: Domestic Public Supply Industry
	1664	☐ Irrigation ☐ Air Conditioning ☐ Commercial
		7 CASING: Throaded Welded Height: Above/Below
 	<u></u>	i service
		Weightba/ft.
		ft. Depth Drive Shoe? Yes No
		8 SCREEN AD
		Types John Joy Dia.
	 	Slot/Cours 10 Longth
		Set batween 14 ft. and 17 ft.
		Fillings:
		9 STATIC WATER LEVEL
		10 PUMPING LEVEL below tend surface
		124 h. after hrs. pumping q.p.m.
	(m.)	
		II WATER QUALITY in Parts Per Million: [ron (Fe) Chlorides (CI)
		Hardness.
		12 WELL HEAD COMPLETION: In Approved Pit
		Pitless Adopter 12" Above Grade 13 GROUTING:
		Well Grouted? Tyes No
		Material: Neat Coment
		Dapth: Fromfi. toft;
1		14 SANITARY:
		Necrest Source of possible contomination
		Well disinfected upon completion \(\square\) Yes \(\square\) No
		15 PUMP:
		Monufacturer's Name
		Model Number HP
		Longth of Drap Pipeft. capacityG.P.M.
I		Types Submeralble Reciprocating
1		
		IELL CONTRACTOR'S CERTIFICATION:
	This well	FELL CONTRACTOR'S CERTIFICATION: was drilled under my jurisdiction and this report is true
	This well	IELL CONTRACTOR'S CERTIFICATION:
1	This well to the bes	FELL CONTRACTOR'S CERTIFICATION: was drilled under my jurisdiction and this report is true
	This well to the bes	VELL CONTRACTOR'S CERTIFICATION: was drilled under my jurisdiction and this report is five by of my knowledge and belief. REGISTRATION NO.
	This well to the bes	HELL CONTRACTOR'S CERTIFICATION: was drilled under my jurisdiction and this report is five that the transfer of the contract is five.
-	TRATUM	RICKNESS DEPTH TO BOTTOM OF STRATUM

MICHIGAN DEPARTMENT
OF
PUBLIC HEALTH

LOCATION OF WELL	•		PUBLIC HEALTH
WASHTENAU TWO. 4 PSIL	, , , , , , ,	Fraction	Section No. Town Range INNEW 13 35 N/S. DE E/W.
force And Direction from Road Interpactions	OWNER No.	A VIV	3 OWNER OF VELL: J. FOW 5 CO.
3050 TYLER RD.	TAKEY NO.	3	Address 3651 HAMLIN ROAD
19 2 And 1 April 1 Apr			UTICA MICH 40087
reet address & City of Well Location	THICKNESS	DEPTH TO	4 WELL DEPTR: (completed) Date of Completion
FORMATION	STRATUM	DEPTH TO BOTTOM OF STRATUM	6. 3-11-69
	10	15000000	5 Cable tool Rotary Driver Dug Hallow rod Jotted Bared D
saug		14	6 USE: Domestic Public Supply Dindustry
Clay	12	19531	☐ Irrigation ☐ Air Conditioning ☐ Commercial
4			7 CASING: Threuded Welded Height: Above/Below
		· · · · · · · · · · · · · · · · · · ·	Diam, Integrated Western Surface ft.
			Weightbs/fr.
	ř		ini to 7it, Depth Drive Shoo? Yes No
			Types And And Dio.; Ht
			Stor/Jauxe 10 Longth 36
			Set between 28 ft. and 3/ It.
A department of the second of			ON DELIVERING THE WIND THE PROPERTY OF THE PRO
			fack land 19 to 31
			9 STATIC WATER LEVEL
			10 PUMPING LEVEL below land surface
			Delli, after his, pumping g.p.m.
			Ali, other his. pumping 3.p.m.
			11 WATER QUALITY in Paris Per Million:
			fron (Fe)Chlorides (CI)
			Herdness
			12 WELL HEAD COMPLETION: In Approved Pit
	<u></u>		Pitless Adopter 12" Above Grade
			13 GROUTING: Well Grouted? Tyes No
			Materials 🗆 Neat Coment 🔲
			Dapthy Fromft. toft.
			14 SANITARY: Necrest Source of possible contemination
			foetDirectionType
and the second s			Well disinfected upon completion Yes No
ADDED INFO, BY DRILLER, ITEM NO.	***************************************		15 PUMP: Manufacturer's Name
*CORRECTED BY,			Model Number HP
			Length of Drop Pipeft, capacityG,P.M.
esonotion 8%	·		Type: Submersible . Reciprocating
Remarks, elevation, source of data, etc.		17 WATER	WELL CONTRACTOR'S CERTIFICATION:
Commission of the Commission o		This wel	I was drilled under my jurisdiction and this report is frue: si of my knowledge and belief.
. Aft was		in ila	PR 10-1100 10175
- Well # 5		P	ALL TERED SUSTINE STRATE REDISTRATION IN
		Address	2635 Syprian Hocher
* e		Signed	Total Vilateras Date Mar 31 17
7D 100M 6-66			(UTHORIZED REPRESENTATIVE



Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000014268

Failure to comply is a misdemeanor.

Tax No:	Permit No:	Permit No: 2003-00451		County: Washienaw		Township: Ypsilanti				
		Fraction: NW% SE% NV	N1/A	13	Town/Range: 03S 07E	WSSN		D/Well No:		
Well ID: 810	00014268	Distance and D)irectio	n from Road	Intersection: 30	0 feet soul	in of Cooledg	on the west		
Elevation: 709 ft		Side of Avoods				Ţ				
A VENEZIA DE LA COLO		Well Owner: C	arol Pe	arson			The state of the s			
Latitude: 42.222099		Well Address:	185.			Owner Address:				
			1780 Woodale Rd. 46885 Ford Rd. Ypsilanti Mi 48179 Canton Mi 48187							
Drilling Method: Rolary	· · · · · · · · · · · · · · · · · · ·	Pump	install	ed:	P	ımp İnstal	lation only:			
			Pump Installation date: HP:							
Casing Type: Ury noice Da	te Completed: 9/22/2003		Manufacturer: Pump Type							
Casing Joint:	Casing Joint:		Model Number: Pump Ca Length of Drop Pipe: Id of Well							
Diameter:				Drop Pipe:	•••	O1 110111				
				Seal Used:			and the state of			
Bore Diameter 1: 8.75 in. to 1 Bore Diameter 2:	38.00 ft. depth	-1-20	26 - 16 - 27	nk Installed:						
Bore Diameter 3:				ık Type:						
Height:		Secure Park	facture I Numb			Tan	k Capacity :	Gallons		
Casing Fitting:		1		er . lef Valve ins	talled :	£ 411	n Capacity.	Calibria		
Static Water Level: Yield Test Method:					Description		Thickness	Depth to Bettom		
Measurement Taken During Pump Test:		Brown	Sand				10,00	10.00		
		Gray C	lay				123.00	133.00		
	,	Black C	Coal				5.00	138.00		
Abandoned Well Plugged: No										
Reason for not plugging Well:										
Abandoned well ID:						with the same of t				
Screen Installed: No	Well Intake:									
Filter Packed:	a - : : 44a									
Screen Diameter: Screen Material Type:	Length:									
Stot:										
Blank:		***************************************								
Fittings:		<u> </u>								
		Godor	gy Rem	arira.						
Well Grouted: No Grouting M	lathod:	Georgi	AX szem	SAI STOP						
T	ditives:	1								
Grouting Materials:	ullives.	-								
क्षर प्राप्त स्वति ह ्याः वत्र व्यापात्त्रम् व्रवेशीति हिन्दिः										
		#								
Wall Head Completion:							a 2			
		L								

Drilling Machine Operator Name: Barry Brown

Nearest source of possible contamination:

Employment: Employee

Contractor Type: Water well drilling contractor Registration Number: 1607 Business Name: Ed Birkmeier Well Drilling Business Address: 9471 Genesee Street, New Lothrop MI 48460

WATER WELL CONTRACTOR'S CERTIFICATION:

This well was drilled under my supervision and this report is true to the best of

my knowledge and belief.

Signature of Registered Contractor

Date

OTHER REMARKS

Type

General Remarks: but here was plunged off with 15 bags of barge

Distance Direction

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

3/19/2004 15:20



Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

d dilute to positivit to a time-confection.						
0300451	County: Washtenaw		Township: Ypsilanti			
Fraction: NW%-SE%-SW%	Section:	Town/Range: 03\$ 07E	WSSN:	Source ID/Well No:		
Distance and Direc	tion from Ro	ad Intersection:				
Well Owner: Carol Pearson						
Well Address: 1780 WOOD		Owner Address: 46885 FORD ROAD CANTON MI 48187				
	Fraction: NW% SE% SW% Distance and Direc Well Owner: Carol Well Address: 1780 WOOD	Fraction: Section: 13 Distance and Direction from Row Well Owner: Carol Pearson Well Address:	County: Washteraw Fraction: Section: Town/Range: NW% SE% SW% 13 03\$ 07E	County: Washtenew Towns		

Pump Installation date: Manufacturer: Model Number: Length of Drop Pipe; Diameter of Drop Pipe: Draw Down Seal Used:	Pump Instellation only: HP: Pump Type: Pump Capacity: Id of Well:				
Pressure Tank Installed: No Pressure Tank Type: Manufacturer: Model Number: Pressure Relief Valve Installed: No	Tank Capacity :				
Formation Description	Thickness	Depth to Bottom			
Sand	8.00	8.00			
Yellow Clay	6.00	14.00			
Gray Clay	120.00	134.00			
Black Shale	46.00	180.00			
Gray Shale	20.00	200.00			
Geology Remarks:					
		*			
Gontractor Type: Water well drilling contractor Registration Number; 2014 Business Name; CRIBLEY DRLG CO INC Business Address:					
WATER WELL CONTRACT	TOR'S CERTIFICATION:	Marks Na commercial			
This well was drilled under my supervision my knowledge and belief.	on and this report is true to t	ne destiof			
A manufacture of the second					
	Mater				
Signature of Registered Contractor	7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SING CUT			
IE GROOT FROM UT TO STREET WORK OF STREET					
	Model Number: Length of Drop Pipe; Diameter of Drop Pipe; Draw Down Seal Used; Pressure Tank Installed; No Pressure Tank Type; Manufacturer: Model Number; Pressure Relief Valve Installed; No Formation Description Sand Yellow Clay Gray Clay Black Shale Gray Shale Gray Shale Geology Remarks: Contractor Type: Water well drilling con Registration Number; 2014; Business Name; CRIBLEY DRLG Col Business Address: WATER WELL CONTRAC This well was drilled under my supervision my knowledge and belief.	Model Number: Pump Capacity: Length of Drop Pipe; Id of Well: Diameter of Drop Pipe: Draw Down Seal Used: Pressure Tank Installed: No Pressure Tank Type: Manufacturer: Model Number: Tank Capacity: Pressure Relief Valve Installed: No Formation Description Sand Yellow Clay Gray Clay Black Shale Gray Shale Geology Remarks: Geology Remarks: Geology Remarks: Geology Remarks: Water well drilling contractor Registration Number; 2014 Business Name: CRIBLEY DRLG CO INC Business Address: WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my supervision and this report is true to to my knowledge and belief.			

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

3/29/2004 13:15



Ypsilanti Twp.
Section 24



Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007473

Failure to comply is a misdemeanor.

Import ID: 81737724001

Township: Ypsilanti Tax No: Permit No: County: Washtenaw Source ID/Well No: Town/Range: WSSN: Section: Fraction: 03\$ 07E SEW NEW SEW 24 Distance and Direction from Road Intersection: 2050' W OF RAWSONVILLE RD. Well ID: 81000007473 1450' N OF TEXTILE RD. Elevation: 585 ft Well Owner: Ypsilanti Township Latitude: 42.2073728954 Owner Address: Well Address: Longitude: -83,5501337153 YPSILANTI MI 48197 YPSILANTI MI 48197

Pump Installation only: **Drilling Method: Rolary** Pump Installed: No Well Depth: 102.00 ft. Well Type: Replacement Well Use: Household HP: Pump installation date: Date Completed: 10/22/1965 Manufacturer: **Pump Type:** Casing Type: Unknown Casing Joint: Unknown **Pump Capacity:** Model Number: ld of Well: Length of Drop Pipe: Diameter: 34.00 in. to 61.00 ft. depth Diameter of Drop Pips: Draw Down Seal Used: Bore Dlameter 1: Preseure Tank Installed: No **Bore Diameter 2:** Pressure Tank Type: **Bore Diameter 3:** Manufacturer: Height: 0.00 ft. above grade Tank Capacity: Gallons **Model Number:** Casing Fitting: None Pressure Relief Valve Installed: No Depth to Static Water Level; 999.99 ft. Below Grade(Not Flowing) Thickness **Formation Description** Bottom Yield Test Method: Unknown 5.00 5.00 Gravel Measurement Taken During Pump Test: 12.00 7.00 Clay 76.00 ft. after 0.00 hrs. pumping at 23.00 GPM 10.00 22.00 Clay W/Cobbles 10,00 32.00 Clay 42.00 Abandoned Well Plugged: No Clay W/Cobbles 10.00 52.00 Reason for not plugging Well: 10.00 Clay & Gravel Sandy 8.00 60.00 Clay Abandoned well ID: 2.00 62.00 Sand & Gravel Screen installed: No Well Intake: Unknown 30.00 92.00 Filter Packed: Gravel 102.00 Screen Diameter: Length: 10.00 Clay W/Shale Screen Material Type: Slot: Blank: Fittings: Geology Remarks: 1. [GRAVEL] [5] [5] 2. [CLAY] [12] [7] 3. [CLAY & ROCK] [22] [10] 4. [CLAY] [32] [10] 5. [CLAY & ROCKS] [42] [10] 6. [CLAY & SANDY GRAVEL] [52] [10] 7. [CLAY] [80] [8] 8. [SAND & GRAVEL] [52] [2] 9. [GRAVEL] [92] [30] 10. [CLAY & SHALE] [102] [10] Well Grouted: Yes Grouting Method: Unknown Additives: None No. of Bags: **Grouting Materials:** From 0.00 ft. to 0.00 ft. Unknown Well Head Completion: Unknown Contractor Type: Unknown. Nearest source of possible contamination: Registration Number: Distance Direction Type **Business Name:** Unknown 0.00 ft. Business Address: Unknown WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my supervision and this report is true to the best of **Drilling Machine Operator Name: J. TURNER** my knowledge and belief. Employment: Unknown Date Signature of Registered Contractor General Remarks: DRILLER WAS LAYNE NORTHERN- J. TURNER OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

Page	MICHIGAN DEPART		I FOURIL NO.
Sample Ho.	GEOLOGICAL	SURVEY DI	VISION 24-8
Sample No.	WATER W	ELL RE	CORD 6-31390 Denor No. 16
Wastenzin Two.	lanti s	ENE T	SW4 See sec. 24 Town Range
Applox. 875	w. of R	DW Son	ville re } (or intersection
1850	randa de la companya del la companya de la companya		the state of the s
FORMATION	THICKNES OF STRATUM	S DEPTH TO BOTTOM OF STRATUM	Ypsilanti township
Gracel	5	\$	Driller and Address:
clay		15	Caune Northern - J. Torner Well Pett : Date of completion
Clay a rock	/6	22	/02 ft. /0-22-65
Clay	10	3 %	Oriven Jetted Sored Use: Domestic Public Supply Industry
Clay and rocks	10	42	☐ Irrigation ☐ Sir Conditioning ☐ Dowatering ☐ Test Well ☐
Clay and sandy qua	ve 10	SŁ	Cating) Diam. Height: Above/Selow 32 in. to 61 ft. Septh surface ft.
clay	8	60	in. toft. Depth
Soud -gravel		62	Soraent Type:
gravel	30	92	Sfot/GauzeLength
clay a shale	10	192	Sot between ft. and ft.
y-6-551			Accessories: Water level:
		l II	ft. above/below
(BQ + 593).			Meas. by Oate
			Drawdown: 7816" P.L.
			ft. afterhea, pumping 1909.p.m.
			ft. after hrs. pumping g.p.m.
Principal and the second secon			Flows
			g.p.m./g.p.N. Temps Of Water Quality in Perta Per Hillion:
	•		Irah (Fe) Chierles (C)1
			Hardness
			Elevation: 2+585 1 1000 tt. above
			Source of detai
			Record by : Date:
amarka:			



Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007474

Failure to comply is a misdemeanor.

Import ID: 81737724002

Township: Ypsilanti Tax No: Permit No: County: Washlenaw Source ID/Well No: Fraction: SE1/4 NE1/4 SE1/4 Town/Range: 03S 07E Section: WSSN: 24 Distance and Direction from Road Intersection: 170' W OF RAWSONVELLE RD, 610' S OF HURON RIVER DR. Well ID: 81000007474 Elevation: 685 ft Well Owner: Ypsilanti Township Latitude: 42.2076120879 Well Address: Owner Address: Longitude: -83.5439899234 YPSILANTI MI 48197 YPSILANTI MI 48197

Orilling Method: Other		Pump Installed: No Pu	mp installation only:	Access to the second
Well Depth; 80,00 ft.	Well Use: Household	Pump Installation date: HP		
Well Type: Replacement	Date Completed: 9/9/1968	Manufacturer: Pu	mp Type:	
Casing Type: Unknown		Model Number: Pu	mp Capacity:	
Casing Joint: Unknown	con & doub	Length of Drop Pipe: Id	of Well;	
Diameter: 36.00 in. to 3	5.00 it. depth	Diameter of Drop Pipe:		
		Draw Down Seal Used:		
Bore Diameter 1:		Pressure Tank Installed: No		
Bore Diameter 2:		Pressure Tank Type:		
Bore Diameter 3:		Manufacturer:		
Height: 1.50 ft. above grad	de	Model Number :	Tank Capacity:	Gallons
Casing Fitting: None		Pressure Relief Valve Installed : No		The service of Services
Static Water Level: 7.50 ft Yield Test Method: Unknown	: Below Grade(Not Flowing)	Formation Description	Thickness	Depth to Bottom
Measurement Taken Durk		Clay Fill	2.00	2.00
modonament I dudi Man	ig ruins ruot.	Unidentified Consolidated Fm	2.00	4.00
		Brown Clay	5.00	9.00
			9.00	18,00
Abandoned Well Plugged	· No	Clay Sand Gravel	7.00	25.00
Reason for not plugging t		Sand & Gravel W/Clay	4	49.00
	real.	Sand & Gravel Fine To Coarse	24.00	The same of the sa
Abandoned well ID:		Sand & Gravel W/Shale	29,00	78.00
Screen Installed: Yes	Well intake:	Shale	2.00	80.00
Filter Packed: No	5 1 . 1			
Screen Diameter: 4.00 in.	Length: 20.00 ft.			
Screen Material Type:	and the second s			
Slot: 4,00 in. Set Betweer	59.00 ft. and 79.00 ft.			
Blank: 0.00 ft. Above				
Fittings: None				
Notice.		5 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TODELL PROCKS	M1013
		Geology Remarks: 1. [FILL - CLAY] [2] [2] [2] [CLAY BROWN] [9] [5] 4. [CLAY - SAND & G	RAVELLIAN 1915. ISAN	[7] [2] U.
Well Grouted: Yes Grou	ting Method: Unknown	GRAVEL -SOME CLAY [25] [7] 8. [COARSE	SAND & FINE GRAVE	L1 [49] [24]
No. of Bags:	Additives: None	7, [SAND & GRAVEL - ROCKS & SHALE] [7		
Grouting Materials:				
Neat cement	From 0.00 ft. to 0.00 ft.			
Well Head Completion:	Unknown	***		
The state of the s				
No. of the second		Contractor Type: Unknown		
Nearest source of possibl		Registration Number:		
TWEET	Distance Direction	Business Name:		
Unknown	0.00 ft.	Business Address:	Anna Anna Anna Anna Anna Anna Anna Anna	72.5
			BIO PERTICIPATIONS	
Unknown		WATER WELL CONTRACTO	KS CERTIFICATION.	
	M. in white on a	This well was drilled under my supervision at	nd this report is true to the	e best of
Unknown Drilling Machine Operator	Name:	WATER WELL CONTRACTO This well was drilled under my supervision as my knowledge and belief.	nd this report is true to the	e best of
	Name:	This well was drilled under my supervision at	nd this report is true to the	e best of
Drilling Machine Operator	Name:	This well was drilled under my supervision at my knowledge and belief.	nd this report is true to th	ne best of
Drilling Machine Operator Employment: Unknown	Name:	This well was drilled under my supervision at	nd this report is true to the	ne best of

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED



INDIANAPOLIS . MISHAWAKA . LANSING

	TEST INDIANAPOLIS . MISHAWAKA .	LANSING		24/2	
)	IX PERMANENT		Job: J	No. L-3	2082
	WELL LOG No. 9 CITY YPSILANTI	C			
	Owner YPSILANTI TOWNSHIP	T	_qidanwo		NTI
		*	ellon	24	
	Location SENESE		ate MIC		<u> </u>
	From Land Description 170' West of guardrail of				
	From Street or Road 610' South of Huron river	(South	bank).		
•	FORMATION FOUND - DESCRIBE FULLY	FROM Dapit to Top of Stratum	NATURA Depth to Bellem of Strature	Dictions of Stratum	State Water Level
	Fill - clay		2	Siranin	i i i i i i i i i i i i i i i i i i i
	Top fill & rocks				
	O Clay - brown	À			-
	Clay - sand & gravel		9	-5	
		9	18	9	
	Sand & gravel - some clay	18	25	7	
	Coarse sand & fine gravel	25	49	24	
ju šte in	Sand & gravel - rocks & shale	49	78	29	22*3"
)	Shale	7/8	80	2	
		7.0	80	. 4	
		.d <u>a</u> s.			
			·		Collection
	Some of the shale in thick strips				
					an a service
	(BR+607').				
	Complete The Complete			*)	
	ELZ+685'TOPO 7/2 - (SWL +663')				
	ADDED INFO. BY ORICLER, ITEM NU.				
	«GORRECTED BY:				.=
	ťADDITION BY:				
	Hole 36 "Dia Drilled by: Cable Tool Rotary Reverse Circ. X Bucket	_ Jelling		:	
					•
·	Rotary Hole Grouted: Neat Cement X Orilling Mud	Olher			
**************************************	Casing 36 "OD From 116" "above ground to 35 feet below:	ground. Welg	ht	Pounds	per foot
	Streen 16 "Set from 79 to 59 feet Make LAYNE XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	_ Type_S_	S. S	of _4'	#4
'R 8 1969	Date Completed 9/9/68 Driller L.D. COON	ROD =	a Ari e waxa yaya	May J	125 3 S
2	Driller Driller Driller			1111	7



Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007475

Fallure to comply is a misdemeanor.

Import ID: 81737724003

Township: Ypsilanti County: Washlenaw Permit No: Tax No: WSSN: Source ID/Well No: Fraction: Section: Town/Range: SEW NWW SWW 03S 07E 24 Distance and Direction from Road Intersection: 25' W OF WELL NO. 5, JUST W OF Well ID: 81000007475 WATER TREATMENT PLANT Elevation: 687 ft Well Owner: Ypsilanti Township Latitude: 42.2070900931 Owner Address: Well Address: Longitude: -83.558175122 YPSILANTI MI 48197 YPSILANTI MI 48197

Pump installation only: **Drilling Method: Rotary** Pump installed: No Well Use: Household Well Depth: 135.00 ft. Pump installation date: HP: Well Type: Replacement Date Completed: 10/8/1969 Pump Type: Manufacturer: Casing Type: Unknown Casing Joint: Unknown **Pump Capacity:** Model Number: ld of Well: Length of Drop Pipe: Diameter: 2.00 in to 99.00 ft depth Diameter of Drop Pipe: Draw Down Seal Used: **Bore Diameter 1:** Pressure Tank Installed: No Bore Diameter 2: Pressure Tank Type: **Bore Diameter 3.** Manufacturer: Height: 2.00 ft. above grade Tank Capacity: Gallons Model Number: Casing Fitting: None Pressure Relief Valve Installed: No Depth to Static Water Level: 999.99 ft, Below Grade(Not Flowing) Formation Description Thickness Bottom Yield Test Method: Unknown 16,00 16.00 **Brown Clay** Measurement Taken During Pump Test: 1.00 17,00 **Brown Sand** Blue Clay W/Stones 16.00 33.00 34.00 Brown Sand & Gravel W/Sand Fine 1.00 Abandoned Well Plugged: No 4.00 38.00 Brown Clay Reason for not plugging Well: 3.00 41.00 Sand & Gravel Coarse 1.00 42.00 Gray Clay Abandoned well ID: 45.00 3.00 Sand & Gravel Coarse Screen installed: Yes Well Intake: 5.00 50,00 Sand & Gravel Medium Filter Packed: No Screen Diameter: 1.25 in. Length: 4.00 ft. Sand & Gravel Medium Sandy 10,00 60.00 Screen Material Type: 15,00 75.00 Sand & Gravel Fine To Coarse Slot: 20.00 in. Set Between 99.00 ft. and 103.00 ft. 80.00 Sand & Gravel 5.00 Blank: 0,00 ft. Above 5.00 85.00 Sand & Gravel Medium Fittings: 5.00 90.00 Sand & Gravel Fine Black None 103.00 13.00 Sand & Gravel 17.00 120.00 Black Shale Hard Well Grouted; Yes Grouting Method: Unknown Gray Shale W/Clay Soft 8.00 128.00 Additives: None No. of Bags: 134.00 6.00 Black Shale **Grouting Materials:** 4.00 138.00 Limestone From 0.00 ft. to 0.00 ft. Unknown Well Head Completion: Unknown Nearest source of possible contamination: Distance Direction Type Unknown 0.00 ft. Unknown **Drilling Machine Operator Name: Employment: Unknown**

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

(Continued on Page 2)



Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007475

Failure to comply is a misdemeanor.

Import ID: 81737724003

Tax No:	Permit No:		County.	Washtenaw	Towns	tip: Ypsilanti		
		Praction: SE% NW% SW%	Section: 24	Town/Range: 03S-07E	WSSN:	Source ID/Well No:		
Well ID: 810	000007475	Distance and Direction from Road Intersection: 25' W OF WELL NO. 5, JUST W OF WATER TREATMENT PLANT						
		Well Owner: Ypsilanli Township						
Latitude: 42.2070900931		Well Address:		Owner	Address:			
Longitude: -83.558175122		YPSILANTI MI 4819	A second second	YPSIL	ANTI MI 48			

(Continued from	Page 1)		Geology Remarks: 1, [BROWN CLAY][16] [16] 2, [BROWN SAND] [17] [1] 3. [BLUE GREY CLAY WITH STONES] [33] [16] 4, [SAND & GRAVEL, FINE
Formation Description	Thickness	Depth to Bottom	SAND, BROWN] [34] [1] 5. [BROWN CLAY] [38] [4] 6. [SAND & GRAYEL, COARSE] [41] [3] 7. [GREY CLAY] [42] [1] 8. [SAND & GRAVEL -COARSE] [45] [3] 9. [SAND & GRAVEL -MEDIUM] [50] [5] 10. [SAND & GRAVEL -
			IMPOUR WITH PINES I BOILTOUT ISAND & GRAVEL MEDIUM WITH FINES
			1& COARSELITSLITEL 12: ISAND & GRAVEL 1801 161 13: ISAND & GRAVEL -
			MEDIUM] [85] [5] 14. [SAND & GRAVEL FINE MATERIAL BLACK] [90] [6] 15. [SAND & GRAVEL] [103] [13] 16. [HARD SHALE -BLACK, SLABBY] [120] [17]
			17. SOFT SHALE - CLAY LIKE- GREY] [128] [8] 18. [BLACK SHALE, SLABBY]
			[134] (6) 19. [LIMESTONE] (138] [4]
	· .		
		:	
to the state of th			
	14 15 4 4 1		
(constitute to the constitut			
		<u> </u>	
	* * *		1
			Contractor Type: Unknown
			Registration Number: Business Name:
			Business Address:
			WATER WELL CONTRACTOR'S CERTIFICATION:
		W 	This well was drilled under my supervision and this report is true to the best of
			my knowledge and belief.
<u> </u>		<u></u>	
:			Signature of Registered Contractor Date
		/////////////////////////////////////	
General Remarks:			
OTHER REMARKS			
			·

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

((layne))	NORTHERN	COMPANY
	INCORP	DRATED

IN TEST Observation Hell for pumper	· MISHAWAKA · L/	ANSING	247
☐ PERMANENT		Job No.	L-32338
WELL LOG No. 69-E CITY YPSILANT	TI TOWNSHIP	County 2ka	
Owner YPSILANTI TOWNSHIP	· · · · · · · · · · · · · · · · · · ·	Township Z	Mailantis
.NI	ESWSN W/2	5W/4 Section 24	T. 35R.7
Location EL 24687 Topo		State Muchu	rans
From Land Description	of Well No. 5	: Just W of Haters	heatment 12
From Street or Road Bridge St.		<i>"</i>	

	FRO	A NATURAL	GROUND	LEVEL
FORMATION FOUND — DESCRIBE FULLY	"Depth to Top of Stratum	Papih to Bullom al Siratum	Thickness of Strolum	Sidlic Water Level
Brown clay	0	16	16	
Brown sand	16	17	. 1	· · · · · · · · · · · · · · · · · · ·
Blue grey clay with stones	17	33	16	
Sand & gravel, fine sand, brown	33	34	1	
Brown clay	34	38	4	
Sand & gravel, coarse	38	41.	3	
Grey clay	41	42	1	
Sand & gravel - coarse	42	45	3	
Sand & grayel - medium	45	50	5	
Sand & gravel - medium with fines	. 50	60	10	
Sand & gravel - medium with fines & coarse	60	75	15	
Sand & gravel	75	.80	5	1
Sand & gravel - medium	80	85	5	
Sand & gravel - fine material black	85	, 90	5	(+637')
Sand & gravel	90	106)	13	± 50'
Hard shale - black, slabby	106	117	17	
Soft shale - clay like - grey Black shale, slabby	117	125	. 8	
Limestone	125 131	131 135	6	

4	Hole 5 5/8 "Dia Drilled by: Cable Tool Rolary Jetting
	Reverse Circ Bucket Auger
•	Rotary Hole Grouted; Neat Cement Drilling Mud Other
Community of the Company	Casing 2 "OD From 24 "above ground to 97 feet below ground. Weight Pounds per foot
uiV 3 0 157 ii	Screen 1/4 " Sallenn 99 in 1/13 land the Valoring on 1/4 Which star 1 25
VII 0,U 1970	Pumping lest GPM drawdown tofeet after hours pumping
	Date Completed 10/8/69 Driller Burnows - Ma Cracken (6)

(3)

(3



Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007482

Failure to comply is a misdemeanor. County: Washlenaw Import ID: 81737724307

Township: Yosilanti

Tex No:	Permit No:		****	County: W				hip: Ypsilan	
		Fraction:		Section: 24	Town/R		WSSN: 7260	YPSIL/	D/Well No: NTI TWP
Well ID: 8100000	7482	Distance and D	مالات بدند		100 400 505	37.00	SN 07260		LL#I
Elevation: 690 ft	a a servino	Distance and Di	itantie	as morn recor	i ilivai adi	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		*	
Latitude: 42.206880002		Well Owner: Yp	silanti	Community I	Julities			<u> </u>	
Longitude: -83.5564014822		Well Address:	سفاد د ده د			Owner A	\ddress;		**************************************
Congresses00.00046 (4022	4.0	YPSILANTI TWI YPSILANTI MI	PAVEL	.L.#1		YPSILA	NTI MI		
Drilling Method: Unknown		Pump	instal	led: Yes	***************************************	Pu	mp Install	ation only:	Vo
Well Depth: 91.00 ft. Well Use: Type				lation date:		HP	*		
Well Type: New Date Complete Casing Type: Unknown	d:		Garage S	r. Other				Unknown	98°8
Casing Joint: Unknown		Model		ser: rop Pipe; 0.0	α A.		mp Capac of Well:	ity: 0.00 GF	.ivi
Diameter: 24.00 in to 51.00 ft depth				Drop Pipe:	335	14			
	a X			Seal Used:	Vo .				
Bore Diameter 1: Bore Diameter 2:		1		nk installed:	No				
Bore Diameter 3:		Pressu Manuf		nk Type:					
Height: 0.00 ft. above grade		Model	4.5.				Tani	k Capacity :	Gallons
Casing Fitting: None		Pressu	ire Re	lief Valve in	stalled :	No			
Static Water Level: 999.99 ft. Below Grade(Not Flowing)			Formation	Descripi	lon.		Thickness	Depth to Bottom
Measurement Taken During Pump Test:		No Log						91.00	91.00
		_	<u> </u>						=
			-					_	
Abandoned Well Plugged: No	ě1			**************************************					
Reason for not plugging Well:									
Abandoned well ID:				(X			10.11		
Screen Installed; No Well Intake	e: Unknown								gast a market a
Filter Packed:							.31		Harala III
Screen Diameter: Length: Screen Material Type:									
Slot:									
Blank:									
Fittings:									
Well Grouted: Yes Grouting Method: Uni	known	Geolog	y Ren	narks: 1. [NC	LOG-DI	RIFT ACC	CORDING	TO MDPH) [5	1] [91]
No. of Bags: Additives: Non	e					•		Ů	8
Grouting Materials:	0.000								9.1
Unknown From 0.00 ft. to	0.00 π.							- 4	
						4:	2012	' 25 °	4
Well Head Completion: Unknown						•		Section Colors	
									,
Nearest source of possible contamination:		Contra	ctor T	ype; Unknov	'n	8	30 32	3'23"	
Type Distance Directle Unknown 0.00 ft.	on	Registr	ation	Number:		Ü	y - 4		
Unknown		Busine Busine							, , ,
				WATER WE	LL CONT	RACTO	R'S CERTI	FICATION:	· ·
Drilling Machine Operator Name:			l was	drilled under	my supe	rvision an	d this repo	rt is true to ti	e best of
Employment: Unknown		my kno	wieda	and belief.					

		Signatu	re of	Registered (Contracto	or	Date		
General Remarks: ORIGINAL WELLID#WAS	S 24010; NO W	ELL LOG PROVI	DED		1 101				
OTHER REMARKS Pump Manufacturer: P	ump Manufact	urer unknown							

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED



Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007483

Fallure to comply is a misdemeanor.

Import ID: 81737724308

Tax No:	x No: Permit No;		County: Washlenaw			Township: Ypsnan		
		Fraction: U¼U¼U¼	Section: 24	Town/R 03S	ange: 07E	WSSN: 7260	YPSIL	D/Well No: \NTI TWP :LL #2
Well ID: 81000007	483	Distance and Direction	n from Road	Interse	ction: W	SN 07260		- San Dave . I I Page
Elevation: 692 ft								
Latilude: 42.2070884683	-	Well Owner: Ypsilant	Community	Hilities	***************************************		18	***
Longitude: -83.5556568754		Well Address:		- Watio H	Owner /	ddress:		Manager (parties)
Longitude, -03.2000000134		YPSILANTI TWP WEI	L#2		YPSILA	NTI MI		
Drilling Method: Unknown Well Depth: 88.00 ft. Well Use: Type	public	Pump Instal			Pü HP		lation only:	NO
Well Type: New Date Completed:		Manufactur					Unknown	
Casing Type: Unknown Casing Joint: Unknown		Model Num	per!		Pu	mp Capa	city: 0.00 GI	M
Diameter: 24.00 in. to 37.00 ft. depth			rop Pipe: 0.0	0 ft.	ld	of Well:		
		Diameter of	Orop Pipe: Seal Used:	No				
Bore Diameter 1:		The state of the s	nk installed:				· · · · · · · · · · · · · · · · · · ·	
Sore Diameter 2: Bore Diameter 3:		Pressure Ta	A CONTRACTOR OF THE PARTY OF TH	,				
Height: 0.00 ft. above grade		Manufacture Model Numi				Ton	k Capacity :	Gallons
Casing Fitting: None		# 1 TO 1 TO 1	ilef Valve In	stalled :	No	* 50.2	v Anhanis .	Aminos sign
Static Water Level: 999.99 ft. Below Grade(No	ot Flowing)		Formation	Descrip	tion		Thickness	Depth to Bottom
Yield Test Method: Unknown Measurement Taken During Pump Test:		No Log		Name of the last o	· · · · · · · · · · · · · · · · · · ·		88.00	88.00
measurement raken samp toot.					7 100			
Abandoned Well Plugged: No								
Reason for not plugging Well:								<u> </u>
Abandoned well ID:								
Screen Installed: No Well Intake:	Unknown							
Filter Packed:								
Screen Diameter: Length: Screen Material Type:								
Slot:								
Blank: Fittings:			****					
a unablisa dibinara								
							TO LONGIA	201 2003
Well Grouted: Yes Grouting Method: Unknown	own	Geology Rer	narks: 1. [No) LOG-D	RIFT AU	JUNUING	TO MDPH] (00] [00]
No. of Bags: Additives: None								
Grouting Materials: Unknown From 0.00 ft. to 0	1.00 ft.	***					•1	
- Carrier Carr					10	0,0	.' 25"	
and the sector because a section of the section of				£	41	1 6	-	**************************************
Well Head Completion: Unknown							. And it	1.
Nearest source of possible contamination:				inn deal also distributed also h	《 3	33	20"	-
Nearest source of possible contamination: Type Distance Direction).	Contractor 7	ype: Unknow	VIT:	20.0			age of the second
Unknown 0,00 ft.		Registration Business Na	number: me:					Bobianusiano
Unknown		Business Ad	dress:					*
Drilling Machine Operator Name:		This well was	WATER WE drilled under	my supe	rRACTOI rvisión ar	VS CERT Id this rep	IFICATION: on is true to t	ne best of

Signature of Registered Contractor

General Remarks: ORIGINAL WELLID# WAS 24011; NO WELL LOG PROVIDED OTHER REMARKS Pump Manufacturer: Pump Manufacturer unknown

EQP 2017C (2/2000)

Employment: Unknown

ATTENTION WELL OWNER: FILE WITH DEED

my knowledge and belief.



Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007484	Failure	to comply is a misde	meanor.			Import ID: 81737724309	
Tax No:	Permit No:		County:	Washtenaw		ip: Yesilanti	
145-1110-046		Fraction: U%U%U%	Section: 24	Town/Range: 03S 07E	WSSN: 7260	Source ID/Well No: YPSILANTI TWP WELL #3	
Well ID: 810	0000/484	Distance and Direc	tion from Ro	nd Intersection: W	SSN 07260;		
Elevation: 694 ft							
Latitude: 42.2072528612		Well Owner: Ypsila	nti Community	/ Utilities			
Longitude: -83.5550603744	Į.	Well Address: Owner Addi YPSILANTI TWP WELL #3				188:	
		YPSILANTI MI	11,5	YPSIL	ANTI MI		
Drilling Method: Unknown Well Denth: 82.00 ft We	il tee: Type I public		tailed: Yes		ump instalia	tion only: No.	

Drilling Method: Unknown Well Depth: 82.00 ft. Well Use: Type I public Well Type: New Date Completed: Casing Type: Unknown Casing Joint: Unknown Diameter: 26.00 in. to 32.00 ft, depth Bore Diameter 1: Bore Diameter 2: Bore Diameter 3: Height: 0.00 ft. above grade Casing Fitting: None	Pump installed: Yes Pump installed: Yes Manufacturer: Other Model Number; Length of Drop Pipe: 0.00 ft. Diameter of Drop Pipe: Draw Down Seal Used: No Pressure Tank Installed: No Pressure Tank Type: Manufacturer: Model Number: Pressure Relief Valve Installed: No	HP; Pump Type: Pump Capaci Id of Well:	Pump Type: Unknown Pump Capacity: 0.00 GPM ld of Well: Tank Capacity: Gallons		
Static Water Level: 999.99 ft. Below Grade(Not Flowing) Yield Test Methed: Unknown	Formation Description		Thickness	Depth to Bottom	
Measurement Taken During Pump Test:	No Log		82.00	82.00	
Abandoned Well Plugged: No Reason for not plugging Well: Abandoned well ID:					
Screen Installed: No Well Intake: Unknown Filter Packed:					
Screen Diameter: Length:				11	
Screen Material Type: Slot:					
Blank:					
Fittings:				daid	
			a . a		
Well Grouted: Yes Grouting Method: Unknown No. of Bags: Additives: None Grouting Materials: Unknown From 0.00 ft. to 0.00 ft.	Geology Remarks: 1. [NO LOG-DRIFT]			(82)	
Well Head Completion: Unknown		12° 12' 1	16 "		
Nearest source of possible contamination: Type Distance Direction Unknown 0,00 ft. Unknown	Contractor Type: Unknown Registration Number: Business Name: Business Address:	19 92			
S. The Share San Land	WATER WELL CONTRAC				
Drilling Machine Operator Name: Employment: Unknown	This well was drilled under my supervision my knowledge and belief.	n and this repor	t is true to th	e best of	
	Signature of Registered Contractor	Date		A	
General Remarks: ORIGINAL WELLID# WAS 24012; NO WELL LO					
OTHER REMARKS Pump Manufacturer: Pump Manufacturer unkn	nwor	£			

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007476

Failure to comply is a misdemeanor.

Import ID: 81737724301

				County: W	lachtanni	ir	Taune	hip: Ypsilan	
Tax No:	Permit No:	Fraction	۲.	Section:	Town/R		WSSN:	Source	D/Well No:
			 U%U%	24	1	07E	7260	YPSIL	NTI TWP
Well ID: 8	1000007476		e and Directi		10.00		SSN 07260		LL-17**
Elevation; 691 ft			ক্ৰম কৰা কৰা বুধ কৰা কৰি নীয়া	The second of th					•
Latitude: 42.207234847	72	Well Ow	mer: Ypsilani	Community	Utilities				
Longitude: -83.5543043	3302	Well Ad				Owner	Address:		
			NTI MI	Lite #4		YPSIL	ANTI MI		-
Drilling Method: Unknow			Pump Insta					ation only:	Vo:
Well Depth: 66.00 ft. Well Type: New	Well Use: Type I public Date Completed:			llation date:			P: imp Type:	1 Internues	
Casing Type: Unknown	Date combiener:		Manufactur Model Num			Pi	imp Type. Imp Capac	ity: 0.00 GI	M
Casing Joint: Unknown	and make the treatments.			rop Pipe: 0.0	O.R.	ld	of Well:		
Diameter: 18.00 in to 2	29.00 it. depth		Diameter of						
		4	7.74	Seal Used:					
Bore Diameter 1: Bore Diameter 2:	مشراعتين والع	LE I		ink installed	No				
Bore Diameter 3:	12 22 15.5	>	Pressure To						
Height: 0.00 ft. above	45 50	1	Model Num	77.7			Tani	Capacity:	Gallons
Gasing Fitting: Nor	10	, A		ellef Valve in	stalled:	No			
Static Water Level: 999	43° 33' 15.5	M		Formation	Descrip	tion		Thickness	Depth to Bottom
Yield Test Method: Unki	42	1	No Lóg	CALLED TO SECURE AND ADDRESS OF THE PERSON A				66.00	66.00
Measurement Taken Du	•	:	ito cog				T 120		
	₩ #								
	22						3		Vi-Pis
Abandoned Well Plugged									
Reason for not plugging	Welt								
Abandoned well ID:					,,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			,	
Screen Installed: No Filter Packed:	Well Intake: Unknown			4					
Screen Diameter:	Length:								7.
Screen Material Type:									
Slot: Blank:									
Fittings:				,,		-, ·			
					- 0				4.4.4
		*	Canlow Pa	marks: 1.[N	a Loga	RIFTAC	CORDING	TO MOPHI (61 (66)
Well Grouted: Yes Grou	T .		neorogy ive	internació (r. fen	5 200-2	1111 11,719			
No. of Bags: Grouting Materials:	Additives: None								
Unknown	From 0.00 ft. to 0.00 ft.								
Well Head Completion:	Unknown.								
Men tream combinerion.	Vitalonii.								
Nearest source of possib	le contamination:							North Back As Taked	- Andrews
Туре	Distance Direction		Contractor Registration	ype: Unknow	Wn				
Unknown	0.00 R.		Business N	ime:					
Unknown			Business A	idress: WATER WE	ىلەۋلارىي راۋ	ع ما الله الله		ein Atinui.	
Drilling Machine Operator	r Name:		This wall was	WATER WE drilled under	LL CON	rKACTO	nd this repo	rt is true to t	ne best of
Employment: Unknown	4)		my knowledg	e and belief.	- Carlot antiga	"As an discussion	,		Α
minhandinana, Antonana									
			Clamptima at	Registered	Contract	OF	Date		
Constal Parassis (Opicii	NAL WELLID# WAS 24004; NO V	MELLIO		vedinienen.	ywiniact	VI:			
OTHER REMARKS Pum	p Manufacturer: Pump Manufac	turer unkn	own						., .
	₩								

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED



Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007477	Failure to comply is a misdemeanor.			import ID: 81/3//243			
Tax No:	Permit No:	Permit No:		County: Washtenaw		nip: Ypsilanti	
	06007499	Fraction: U% U% U%	Section: 24	Town/Ránge: 03S 07E	WSSN: 7260	Source ID/Well No: YPSILANTI TWP WELL #5	
Well ID: 81000007477		Distance and Direction from Road Intersection: WSSN 07260;					
Elevation: 694 ft							
Lalilude: 42.2076014694		Well Owner: Ypsik	anti Communit	y Utilities			
Longilude; -83.5583079004		Well Address: YPSILANTI TWP V YPSILANTI MI		Owner	Address:		

Drilling Method: Unknown	,	Pump Installed: No	Pump Instal	lation only:	
Well Depth: 105.00 ft.	Well Use: Type I public	Pump installation date:	HP:	tenning a section	
Well Type: New	Date Completed:	Manufacturer:	Pump Type:		
Casing Type: Unknown		The first of the f	Pump Capa		
Casing Joint: Unknown		Model Number:		ony.	
Diameter: 24,00 in to 55	i.00 ft. depth	Length of Drop Pipe:	ld of Well:		
	Standard Lands Committee State	Diameter of Drop Pipe:			
		Draw Down Seal Used:			
Bore Diameter 1:		Pressure Tank Installed: No			
Bore Diameter 2:		Pressure Tank Type:			
Bore Diameter 3:		Manufacturer:			
Height: 0.00 ft. above grad	é	Model Number :	Ton	k Capacity :	Gallone
Casing Fitting: None		Pressure Relief Valve Installed : No	£ 0(1)	w markinging .	Statistics.
		Pressure Relief valve installed : NO	4 m		200 - 200 - 400
	ft, Below Grade(Not Flowing)	Formation Description		Thickness	Depth to Bottom
Yield Test Method: Unknow	Vn			1 30277, 012,7,110	
Measurement Taken Durin	g Pump Test:	No Log		105,00	105.00
	-				the state of
			1000	11-	
					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Abandana statem diament	\$1 _m .				
Abandoned Well Plugged:					
Reason for not plugging V	/ell:				
Abandoned well ID:					
Screen Installed: No	Well Intake: Unknown				
Filter Packed:	TYPE MISKS: UNKNOWN				
	Length:				L'
Screen Dlameter:	Lengin:				
Screen Material Type:					
Slot:					
Blank:					
Fittings:					

Well Grouted: Yes Grout	ing Method: Unknown	Geology Remarks: 1. [NO LOG-DRIFT]	ACCORDING	TO MDPH) [105] [105]
No. of Bags:	Additives: None	36000000000000000000000000000000000000			
Grouting Materials:	E	90000000000000000000000000000000000000		A. A.	
Unknown	From 0.00 ft. to 0.00 ft.		5. ~ 6 2	7	
		1	1910		
		£			
Well Head Completion:	Unknown	***		0	
			9 1	\mathcal{V}	
			22	-	
Nearest source of possible		Contractor Type: Unknown	333		
Type	Distance Direction	Registration Number:	B		
Unknown ().00 ft.	Business Name:	2		
Unknown		Business Address:			
		WATER WELL CONTRAC	TOP'S CEPT	FIGATION	
Drilling Machine Operator	Name:	This well was drilled under my supervision	n and this ten	art is true to th	te best of
		my knowledge and belief.	en mercan massa angka		
Employment: Unknown		int minimage site source			
	1)		200		
	A	Signature of Registered Contractor	Date	Air	and the second second
General Remarks: ORIGIN	AL WELLID# WAS 24005; NO WELL LO	3 PROVIDED			1
OTHER REMARKS		The state of the s			
and the same of the same of the same					
9					

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED



Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007478 Failure to comply is a misdemeanor. Import ID: 81737724303 Township: Ypsilanti County: Washtenaw Tax No: Permit No: Source ID/Well No: Fraction: Section: Town/Range: WSSN: YPSILANTI TWP U% U% U% 03S 07E 7260 WELL #6 Well ID: 81000007478 Distance and Direction from Road Intersection: WSSN 07260; Elevation: 687 ft Well Owner: Ypsilanti Community Utilifies Latitude: 42.2066747839 Owner Address: Well Address: YPSILANT! TWP WELL #6 Longitude: -83.550784922 YPSILANTI MI YPSILANTI MI Pump Installation only: No **Drilling Method: Unknown** Pump installed: Yes Well Depth: 94.00 ft. Well Use: Type I public HP: Pump installation date: Well Type: New **Date Completed:** Manufacturer: Other Pump Type: Unknown Casing Type: Unknown Pump Capacity: 0.00 GPM Model Number: Casing Joint: Unknown ld of Well: Length of Drop Pipe: 0.00 ft. Diameter: 34.00 in to 61.00 ft. depth Diameter of Drop Pipe: Draw Down Seal Used: No Bore Diameter 1: Pressure Tank Installed: No Bore Diameter 2: Pressure Tank Type: Bore Diameter 3: Height: 0.00 ft. above grade Casing Fitting: Drive shoe Manufacturer: Model Number: Tank Capacity: Gallons Pressure Relief Valve Installed: No Depth to Static Water Level: 999.99 ft. Below Grade(Not Flowing) **Formation Description** Thickness Bottom Yield Test Method: Unknown 94.00 94,00 No Log Measurement Taken During Pump Test: Abandoned Well Plugged: No Reason for not plugging Well: Abandoned well ID: Screen Installed: No Well Intake: Unknown Filter Packed: Screen Diameter: Length: Screen Material Type: Slot Blank: Fittings: Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [94] Well Grouted: Yes Grouting Method: Unknown Additives: None No. of Bags: 83° 33' 2 42°12' 24 **Grouting Materials:** From 0.00 ft. to 0.00 ft. Unknown Well Head Completion: Unknown Nearest source of possible contamination: Contractor Type: Unknown Distance Direction Type Registration Number: Unknown 0.00 ft. **Business Name:** Business Address: Unknown WATER WELL CONTRACTOR'S CERTIFICATION: **Drilling Machine Operator Name:** This well was drilled under my supervision and this report is true to the best of my knowledge and belief. **Employment:** Unknown Signature of Registered Contractor General Remarks: ORIGINAL WELLID# WAS 24006; NO WELL LOG PROVIDED OTHER REMARKS Pump Manufacturer: Pump Manufacturer unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED



Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007479

Failure to comply is a misdemeanor.

Import ID: 81737724304

Tax No:	Permit No:		County: Washtenaw		Township: Ypsilanti	
Well ID: 81000007479		Fraction; U¼U¼U¼	Section: 24	Town/Range: 038 07E	WSSN: 7260	Source ID/Well No: YPSILANTI TWP WELL #7
		Distance and Direction from Road Intersection: WSSN 07260;				
Elevation: 687 if		ď.				
Latitude: 42:2052908481		Well Owner: Ypsilanti Community Utilities				
Longitude: -83.5567594311		Well Address: YPSILANTI TWP W	fs) #7	Owner	Address:	
		YPSILANTI MI	III. W	YPSIL	ANTI MI	
					9 M 444	

Drilling Method: Unknown		Pump Installed: Yes Pump Installation only: No					
Well Depth: 96.00 ft.	Well Use: Type I public	Pump installation date:	HP:				
Well Type: New	Date Completed:	Manufacturer: Other	Pump Type:	Unknown			
Casing Type: Unknown		Model Number:	Pump Capac	ity: 0.00 G	N		
Casing Joint: Unknown Diameter: 34,00 in. to 37	DO & James	Length of Drop Pipe: 0.00 ft.	ld of Well:				
Diameter: 34,00 iii. io 3/	oo a. depar	Diameter of Drop Pipe:					
		Draw Down Seal Used: No					
Bore Diameter 1:		Pressure Tank Installed: No					
Bore Diameter 2:		Pressure Tank Type:			,		
Bore Diameter 3:		Manufacturer:					
Height: 0.00 it. above grad Casing Fitting: None	3 .	Model Number :	Tan	k Capacity :	Gallons		
ogsing Litting. Holia		Pressure Relief Valve Installed : No	~				
Static Water Level: 999.99	ft. Below Grade(Not Flowing)			Service Continues	Depth to		
Yield Test Method: Unknow		Formation Description	e si decembra	Thickness	Bottom		
Measurement Taken Durin	·	No Log		96.00	96.00		
	R . minter &				,		
				*			
				•			
Abandoned Well Plugged:	No		200	* :	't		
Reason for not plugging W	•			220	Brown a read of		
	w12.		·	420	12.19		
Abandoned well ID:				.			
Screen installed: No	Well Intake: Unknown				33' 24		
Filter Packed:	1 - 3 - 3			83	50 A'		
Screen Diameter:	Length:						
Screen Material Type: Slot:							
Blank:							
Fittings:							
I - a a cora d'all lates				* .			
				•			
Will Desided: Val. Service	a. Bratisale. Habanica.	Geology Remarks: 1. [NO LOG-DRIFT:	ACCORDING	TO MOPHI (9	61 [96]		
Well Grouted: Yes Grouti	7						
No. of Bags:	Additives: None	11					
Grouting Materials:	F						
Unknöwn	From 0.00 ft. to 0.00 ft.						
AND THE RESERVE TO THE PARTY OF THE PARTY OF	金融の職権である。						
Well Head Completion:	Unknown						
Nearest source of possible		Contractor Type: Unknown					
	istance Direction	Registration Number:					
Unknown 0	00 ft.	Business Name:					
Unknown		Business Address:					
		WATER WELL CONTRAC	TOR'S CERTI	FICATION:			
Drilling Machine Operator N	lame:	This well was drilled under my supervision	n and this repo	ort is true to th	ne best of		
Employment: Unknown		my knowledge and belief.					
minne Catalan & and munder . Jegen nie zu 2 gene gene gegen gene gegen g							
		× × × × × × × × × × × × × × × × × × ×					
		Signature of Registered Contractor	Date		7-		
General Remarks: ORIGINA	L WELLID# WAS 24007; NO WELL	LOG PROVIDED					
	Manufacturer: Pump Manufacturer u				1		
	€ "				1		

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED



Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007480 Fallure to comply is a misdemeanor.

Import ID: 81737724305 Tax No: Permit No: County: Washlenaw Township: Ypsilanfi Fraction: Section: Town/Range: WSSN: Source ID/Well No: YPSILANTI TWP 03S 07E 7260 MUMUMUM 24 WELL #8 Well ID: 81000007480 Distance and Direction from Road Intersection: WSSN 07260; Elevation: 664 ft

Latitude: 42.207051613 Well Owner: Ypsilanti Community Utilities Owner Address: Well Address: Longitude: -83.5504675545 YPSILANTI TWP WELL #8

YPSILANTI MI YPSILANTI MI Drilling Method: Unknown Pump Installation only: No Pump Installed: Yes Well Depth: 89.00 ft. Well Use: Type I public Pump installation date: HP: Well Type: New Date Completed: Manufacturer: Other Pump Type: Unknown Casing Type: Unknown Pump Capacity: 0.00 GPM Model Number: Casing Joint: Unknown Length of Drop Pipe: 0.00 ft. ld of Well: Diameter: 34.00 in to 40.00 ft depth Diameter of Drop Pipe: Draw Down Seal Used: No. Bore Diameter 1: Pressure Tank Installed: No Bore Dlameter 2: Pressure Tank Type: Bore Diameter 3: Manufacturer: Height: 0.00 ft. above grade Model Number : Tank Capacity: Gallons Casing Fitting: Pressure Relief Valve Installed: No Static Water Level: 999.99 ft. Below Grade(Not Flowing) Depth to **Formation Description** Thickness Bottom Yield Test Method: Unknown 89.00 89.00 Measurement Taken During Pump Test: No Log Abandoned Well Plugged: No Reason for not plugging Well: Abandoned well ID: Screen Installed: No Well Intake: Unknown Filter Packed: Screen Diameter: Length: Screen Material Type: Slot: Blank: Fittings: Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [89] [89] Well Grouted: Yes Grouting Method: Unknown No. of Bags: Additives: None **Grouting Materials:** Unknown From 0.00 ft, to 0.00 ft. Well Head Completion: Unknown Nearest source of possible contamination: Contractor Type: Unknown Registration Number: Distance Direction Type Unknown 0.00 ft. **Business Name:** Unknown Business Address: WATER WELL CONTRACTOR'S CERTIFICATION: **Drilling Machine Operator Name:** This well was drilled under my supervision and this report is true to the best of my knowledge and belief. **Employment:** Unknown Signature of Registered Contractor Date

General Remarks: ORIGINAL WELLID# WAS 24008; NO WELL LOG PROVIDED

OTHER REMARKS Pump Manufacturer: Pump Manufacturer unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED



Completion is required under authority of Part 127 Act 368 PA 1978.

Import ID; 81737724306 Well ID: 81000007481 Fallure to comply is a misdemeanor. Township: Ypsilanti Permit No: County: Washlenaw Tax No: Source ID/Well No: YPSILANTI TWP WELL #9 WSSN: Town/Range: Fraction: Section: 03S 07E 7260 UXUXUX 24 Well ID: 81000007481 Distance and Direction from Road Intersection: WSSN 07260; Elevation: 665 ft Latitude: 42.2066120202 Well Owner: Ypsilanti Community Utilities Owner Address: Well Address: YPSILANTI TWP WELL #9 YPSILANTI MI Longitude: -83.5440429866 YPSILANTI MI

fa.m. sasa a mara		Contract part and the Contract Contract		lation only:	ilia.		
Drilling Method: Unknown Well Depth: 79.00 ft.	Well Use: Type I public	Pump Installed: Yes Pump Installation date:	Pump instal	iation only.	¥U:		
Well Type: New	Date Completed:	Manufacturer: Other	5777	I inteneum.			
Casing Type: Unknown Casing Joint: Unknown Diameter: 36.00 in, to 35.00 ft, depth Bore Diameter 1: Bore Diameter 2: Bore Diameter 3: Height: 0.00 ft, above grade Casing Fitting: None		Manufacturer: Other Pump Type: Unknown Model Number: Pump Capacity: 0.00 GPM Length of Orop Pipe: 0.00 ft, Id of Well: Diameter of Drop Pipe: Draw Down Seal Used: No.					
		Pressure Tank Installed: No Pressure Tank Type: Manufacturer: Model Number: Pressure Relief Valve Installed: No	Tank Capacity :				
Static Water Level: 999.99 Yield Test Method: Unknow	ft: Below Grade(Not Flowing)	Formation Description		Thickness	Depth to Bottom		
Measurement Taken Durin		No Log		79.00	79.00		
Abandoned Well Plugged: Reason for not plugging W			<u> </u>				
Abandoned well ID:							
Screen installed: No Well Intake: Unkr Filter Packed: Screen Diameter: Length: Screen Material Type:	Well Intake: Unknown Length:						
Slot: Blank:							
Blank: Fittings:							
Well Grouted: Yes Grouting Method: Unknown No. of Bags: Additives: None Grouting Materials; Unknown From 0.00 ft. to 0,00 ft.		Geology Remarks: 1. [NO LOG-DRIFT			9] [79]		
Well Head Completion:	Unknown	_	42°12	23	The second secon		
7.00	contamination: Istance Direction .00 ft.	Registration Number: Business Name: Business Address:					
Drilling Machine Operator N Employment: Unknown	łame:	WATER WELL CONTRAC This well was drilled under my supervisio my knowledge and belief.			e best of		
		Signature of Registered Contractor	Date	······································			
General Remarks: ORIGIN/	L WELLID# WAS 24009; NO WELL	LOG PROVIDED	E4.722	man a graph of a			
OTHER REMARKS Pump	Manufacturer: Pump Manufacturer u	inknown					

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED