

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

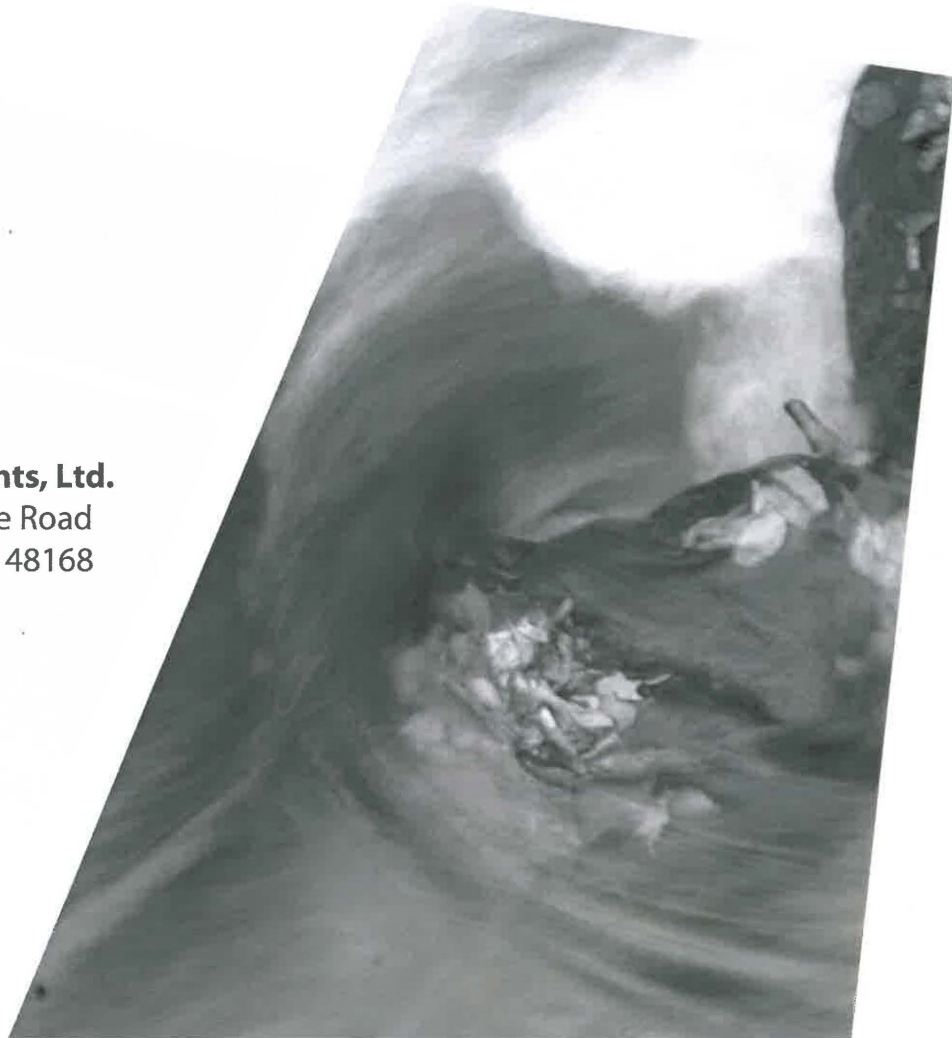
*Hydrogeologic Investigation Report
Wayne Disposal, Inc. - Site No. 2*

NTH Project No. 13-060921-03

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NTH Consultants, Ltd.
41780 Six Mile Road
Northville, MI 48168





**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 is 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 1×10^{-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 1×10^{-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
MC I	Closed	CMU	Fall 1976 – Winter 1978
MC IV	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
MC IX	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	pH
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 non-water 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 aquifer 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 Screened	Screen Elevation	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 Downward
W-10D	Sand	594.6	na	na	na	652.76	
OB-21	Sand	600.9	652.57	652.84	652.62	652.55	0.000 Neutral
OB-36	Rock	572.1	652.58	652.85	652.54	652.55	
OB-24	Sand	614.4	653.35	653.64	653.20	653.24	0.004 Downward
OB-22	Rock	568.3	653.27	653.66	653.17	653.20	
OB-25	Sand	620.0	653.45	653.85	653.35	653.36	0.002 Upward
OB-37	Rock	572.7	653.48	653.90	653.39	653.44	
OB-34A	Sand	617.8	654.02	654.41	653.90	653.98	0.001 Downward
OB-35A	Rock	577.5	653.99	654.38	653.88	653.94	
OB-31AR	Sand	628.1	655.60	655.94	655.46	655.55	0.03 Downward (Sand/Rock)
OB-7	Sand/Silt	627.0	655.32	655.86	655.40	655.45	
OB-32	Rock	565.3	653.38	654.11	653.58	653.58	



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 1.05×10^{-8} to 2.56×10^{-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 8.0×10^{-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).



TABLE 5.2: Aquifer Sand Hydraulic Conductivity (Based on Grain Size Distribution)

Geologic Unit	Boring Designation	Sample ID	Depth of Sample Tip (ft)	Elevation of Sample Tip (ft)	Partical Size Distribution (%)						Atterberg Limits (%)			D ₁₀ (Effective grain size in centimeters)	C (coefficient)			K = Permeability (cm/sec)		Unified Soil Classification
					Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay & Colloids	Liquid Limit	Plastic Limit	Plasticity Index							
Aquifer Sands	TB-W-1	LS-37	88.0	618.2	0	0	0	80	14	6	Non-Plastic			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-Plastic			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-Plastic			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-Plastic			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-Plastic			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-Plastic			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-Plastic			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-Plastic			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-Plastic			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-Plastic			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-Plastic			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-Plastic			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-Plastic			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-Plastic			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-Plastic			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-Plastic			NA ^[1]	40	120	--	--	SM	
Aquifer Sands	TB-W-10	LS-42	105.0	601.2	29	19	22	12	← 18 →		Non-Plastic			NA ^[1]	40	120	--	--	SM	



TABLE 5.2: Aquifer Sand Hydraulic Conductivity (Based on Grain Size Distribution)

Geologic Unit	Boring Designation	Sample ID	Depth of Sample Tip (ft)	Elevation of Sample Tip (ft)	Partial Size Distribution (%)						Atterberg Limits (%)			D ₁₀ (Effective grain size in centimeters)	C (coefficient)		K = Permeability (cm/sec)		Unified Soil Classification
					Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay & Colloids	Liquid Limit	Plastic Limit	Plasticity Index						
Aquifer Sands	TB-W-10	LS-43	110.0	596.2	11	13	45	16	← 15 →		Non-Plastic			NA ^[1]	40	120	—	—	SM
Aquifer Sands	TB-W-10	LS-45	120.0	586.5	28	11	13	14	18	16	Non-Plastic			2E-05	40	80	—	—	SM
Aquifer Sands	TB-W-10	LS-46	125.0	581.5	23	14	21	13	← 29 →		—	—	—	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	← 16 →		—	—	—	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	Non-Plastic			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 $K = C(D_{10})^2$ (Fetter, C.W., *Applied Hydrogeology* Second Edition, Macmillan 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 75µm 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	Δh	Δl	Hydraulic Gradient ($\Delta h / \Delta l$)	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:

[1] Δh = Change in groundwater elevation.

[2] Δl = Distance along flow paths.

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

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.



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:

$$Q_v = k_{\text{clay}} i_v A_w$$

Where, Q_v = Vertical seepage rate (ft³/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 3×10^{-8} cm/sec (8.5×10^{-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:

$$Q_h = k_{\text{sand}} i_h A_{\text{sand}}$$

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
MC I	X	—	CMU	—	X	—	—
MC IV	X	—	CMU	—	X	—	—
MC V	X	—	HWMU	—	X	—	—
MC VI	X	—	HWMU	—	X	—	—
MC VII	X	—	HWMU	—	X	—	—
MC IX	X	—	SWMU	—	X	—	—
MC X	X	—	SWMU	—	X	—	—
MC XI	X	—	SWMU	—	X	—	—
Gas Recovery	—	X	SWMU	—	X	—	—
Wheel Wash	—	X	SWMU	—	X	—	—

NOTES:

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 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.

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.

Prepared by NTH Consultants, Ltd.

2/1/2011



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	MC IX	701.89	562	140	Downgradient	ROCK	---
OB-42	MC IX	717.25	624.4	93	Downgradient	SAND	OB-43
OB-43	MC IX	717.46	595.1	122	Downgradient	SAND	OB-42
OB-44	MC IX	701.27	639.5	62	Downgradient	SAND	OB-2
OB-45	Part 115 / MC IX	701.31	628	73	Downgradient	SAND	OB-46
OB-46	MC IX	701.19	600	101	Downgradient	SAND	OB-45
OB-47	Part 111 (MDWTP)	702.70	594.3	108	Downgradient	SAND	---
OB-48	Part 111	708.70	614.2	94.5	Downgradient	SAND	OB-49
OB-49	Part 111	TO BE INSTALLED				ROCK	OB-48
OB-50	Part 111	TO BE INSTALLED				SAND	---
OB-51	Part 111	TO BE INSTALLED				SAND	---
OB-52	Part 111	TO BE INSTALLED				SAND	---
OB-53	Part 111	707.01	600.8	106.21	Downgradient	SAND	---
OB-54	Part 111	TO BE INSTALLED				SAND	---
OB-55	Part 111	TO BE INSTALLED				ROCK	OB-12R
OB-58	Part 111	TO BE INSTALLED				SAND	OB-59
OB-59	Part 111	TO BE INSTALLED				ROCK	OB-58



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.

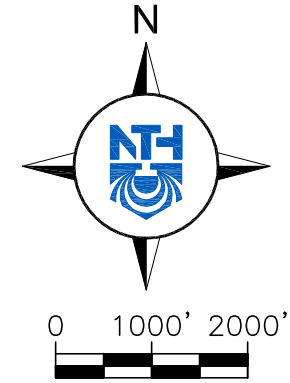
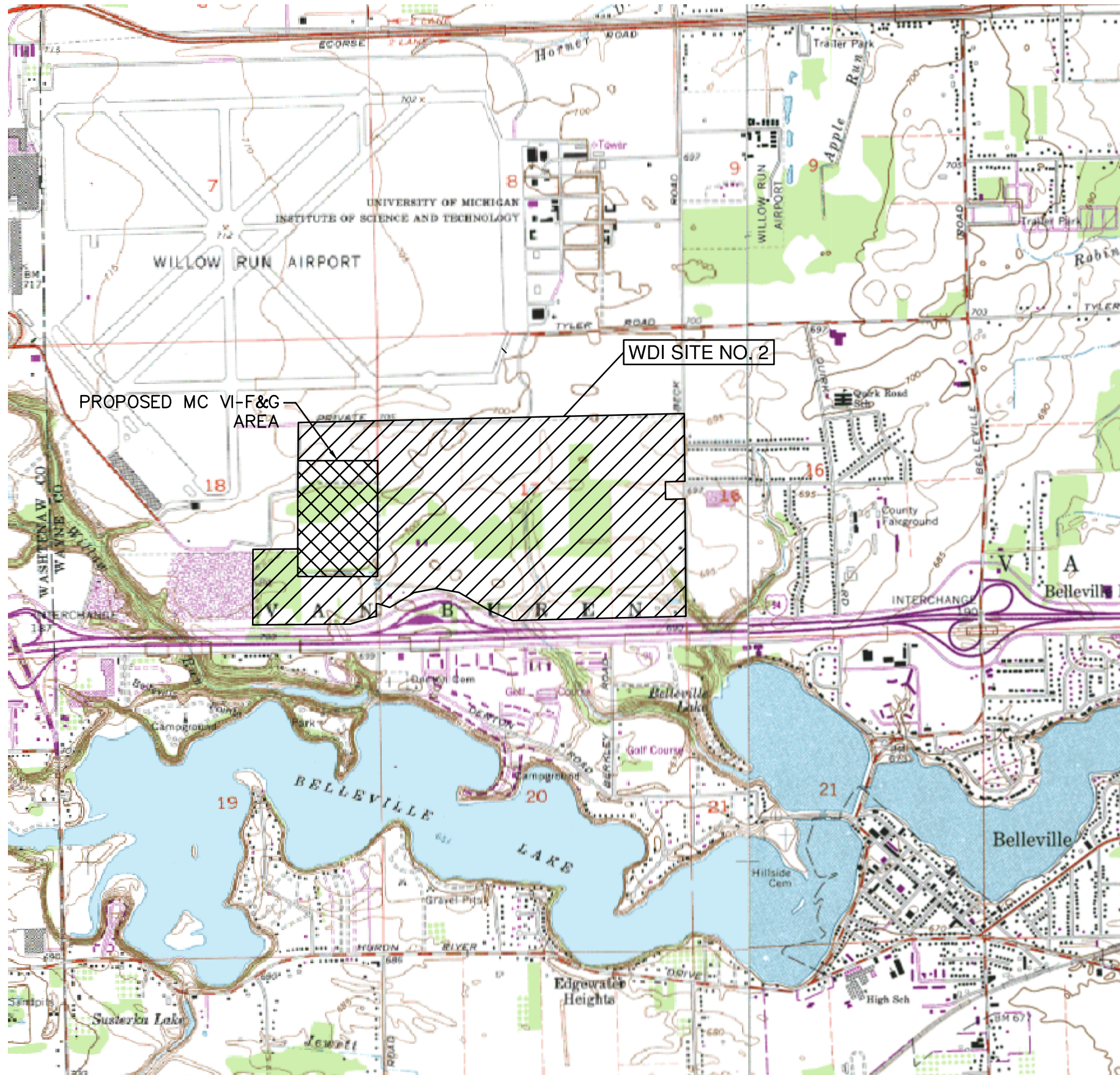
[5] **Bedrock** – Beneath the aquifer sands is the shale of the Antrim Formation.

- 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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- FIG. 2: WDI FACILITY MAP
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- FIG. 4: REGIONAL GEOLOGIC CONTOUR MAP
- FIG. 5: BEDROCK SURFACE CONTOUR MAP
- FIG. 6: REGIONAL WATER SUPPLY WELL LOCATION MAP
- FIG. 7: WDI TOPOGRAPHIC MAP (WEST)
- FIG. 8: WDI TOPOGRAPHIC MAP (EAST)
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- FIG. 20: PART 111 GROUNDWATER MONITORING LOCATION PLAN
- FIG. 21: SURFACE WATER SAMPLING LOCATIONS
- FIG. 22: SOIL MONITORING LOCATION PLAN
- FIG. 23: NORTH SEDIMENTATION BASIN MONITORING SAMPLING SECTORS
- FIG. 24: SOUTH SEDIMENTATION BASIN MONITORING SAMPLING SECTORS
- 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

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NTH PROJECT No.:	CAD FILE NAME:
62080376	620808376-SLM
DESIGNED BY:	PLOT DATE:
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RMLJ	AS SHOWN
CHECKED BY:	INCEPTION DATE:
DLP	02/16/09

SITE LOCATION MAP

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

FIGURE:

1

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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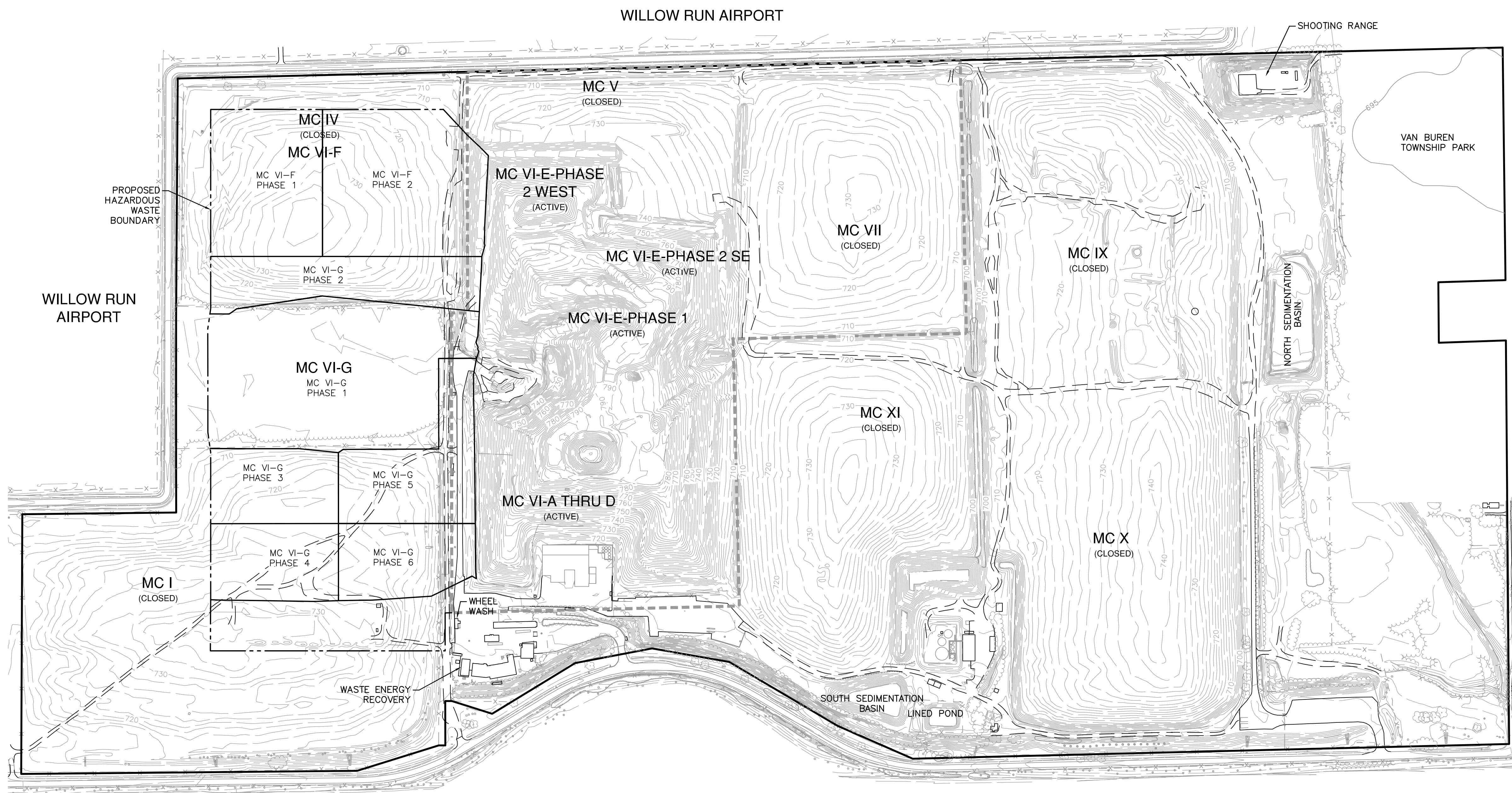
PROJECT NAME:
WAYNE DISPOSAL, INC.
SITE NO. 2 - MC VI F&G
(WOODLOT)
DEVELOPMENT

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

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

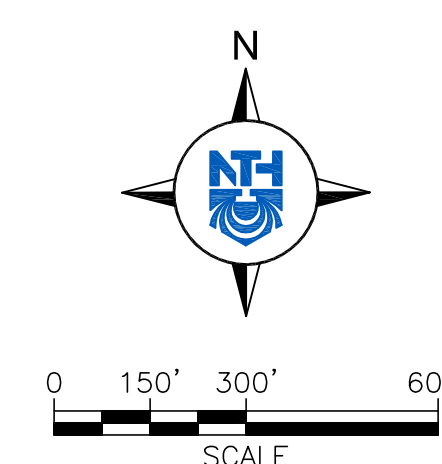
SHEET TITLE:
WDI FACILITY MAP

FIGURE



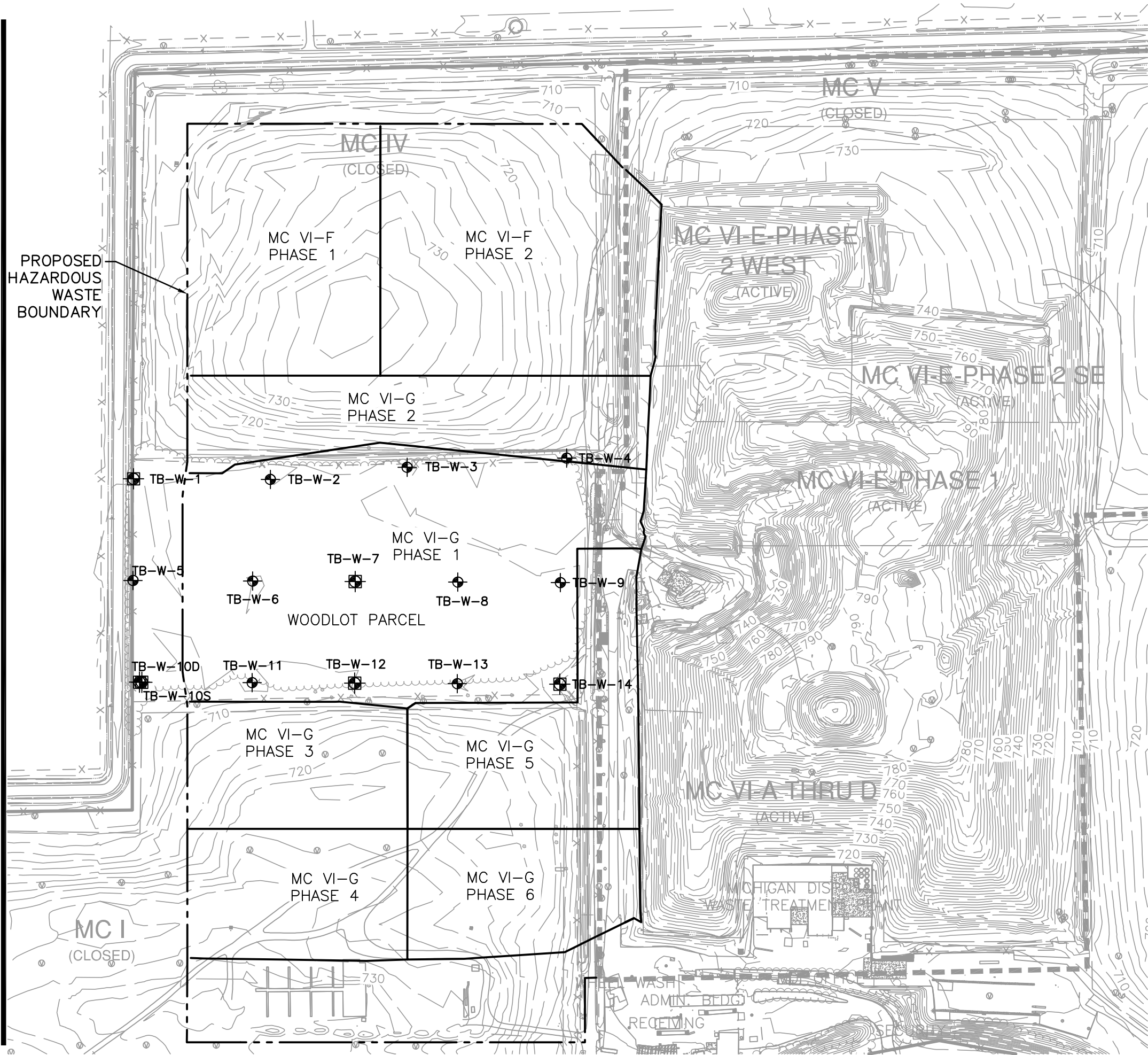
NOTE:

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

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LEGEND:

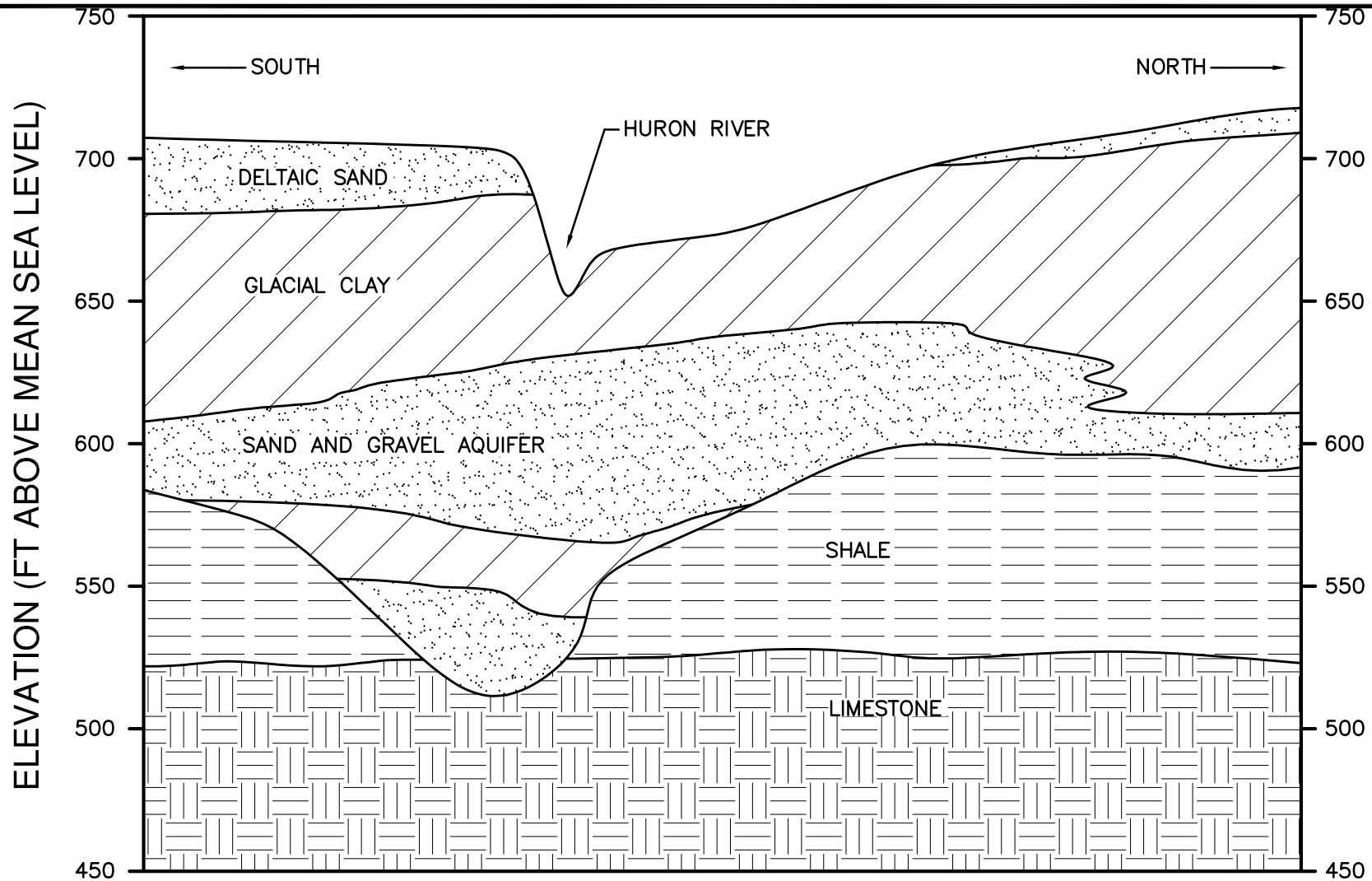
- TEST BORING DRILLED BY MATECO DRILLING CO. UNDER THE OBSERVATION OF NTH CONSULTANTS, LTD. JUNE-SEPT 2009
- TEST BORING WITH OBSERVATION WELL INSTALLED BY MATECO DRILLING CO. UNDER THE OBSERVATION OF NTH CONSULTANTS, LTD. JUNE-SEPT 2009

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.

<div>MC VI-F & G TEST BORING & OBSERVATION WELL LOCATION PLAN</div> <div>WAYNE DISPOSAL, INC. SITE NO. 2 - MC VI F&G VAN BUREN TWP., WAYNE COUNTY, MICHIGAN</div>		NTH PROJECT No.: 62080376		CAD FILE NAME: 62080376-SP		
		DESIGNED BY: DC		PLOT DATE: 6/6/2011		
		DRAWN BY: RML/J		DRAWING SCALE: AS SHOWN		
		CHECKED BY: DC		INCEPTION DATE: 02/16/09		
FIGURE: <div>3</div>		<div>NTH Consultants, Ltd. Infrastructure Engineering and Environmental Services</div>				




SECTION 24, YPSILANTI TOWNSHIP, WASHTENAW COUNTY

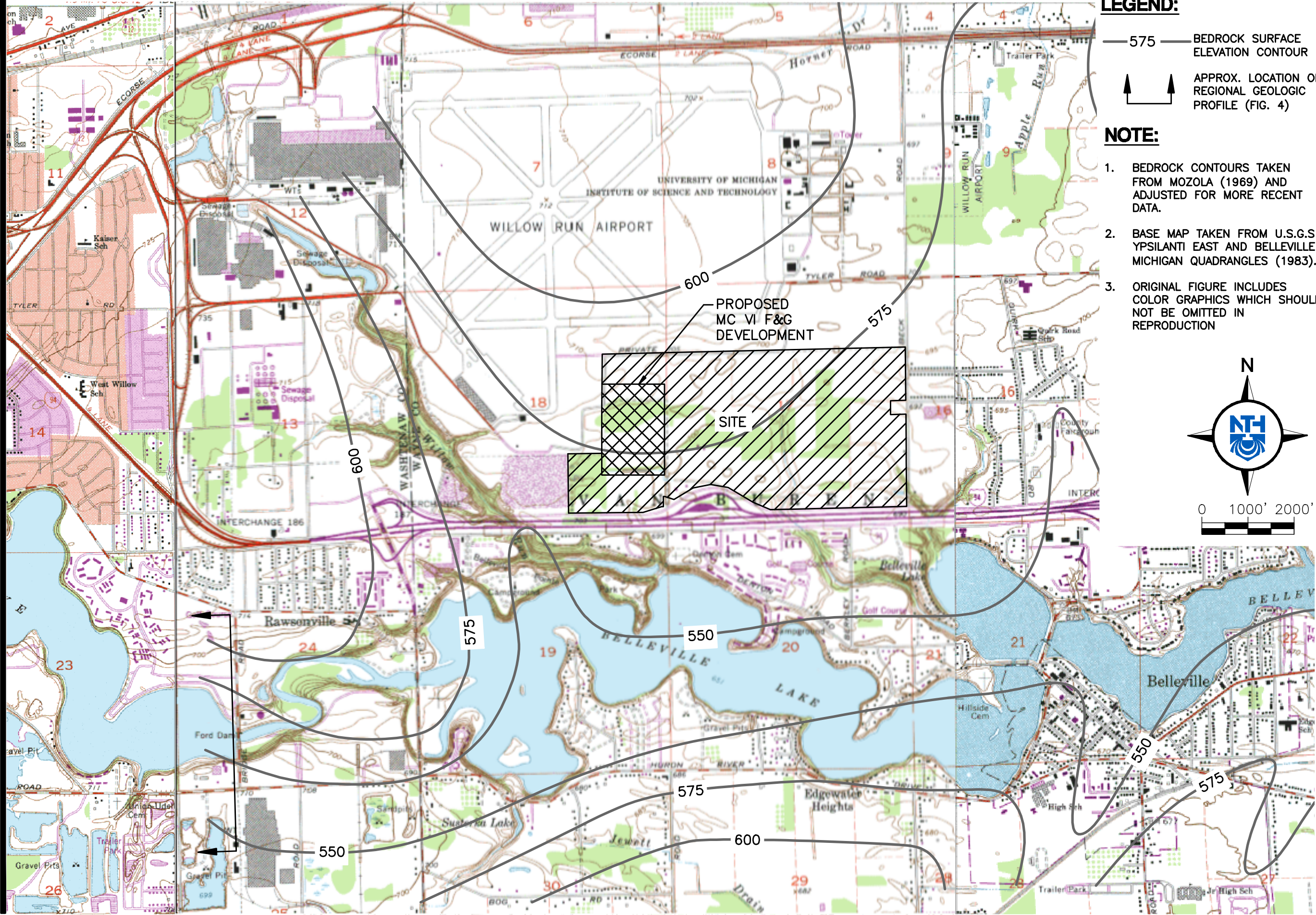


NOTE:

1. GEOLOGIC PROFILE IS NORTH - SOUTH PROFILE ALONG BRIDGE ROAD IN THE VICINITY OF THE FORMER YPSILANTI TOWNSHIP WELL FIELD.
2. 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: DLP	CHECKED BY: DLP	DRAWING SCALE: AS SHOWN	 NTH Consultants, Ltd. Infrastructure Engineering and Environmental Services	WAYNE DISPOSAL, INC. SITE NO. 2 - MC VI F&G VAN BUREN TWP., WAYNE COUNTY, MICHIGAN	REGIONAL GEOLOGIC PROFILE	FIGURE: 4
CAD FILE NAME: 62080376-GP	DRAWN BY: KRO	INCEPTION DATE: 02/16/09	PLOT DATE: 2/3/2011				

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and Environmental Services



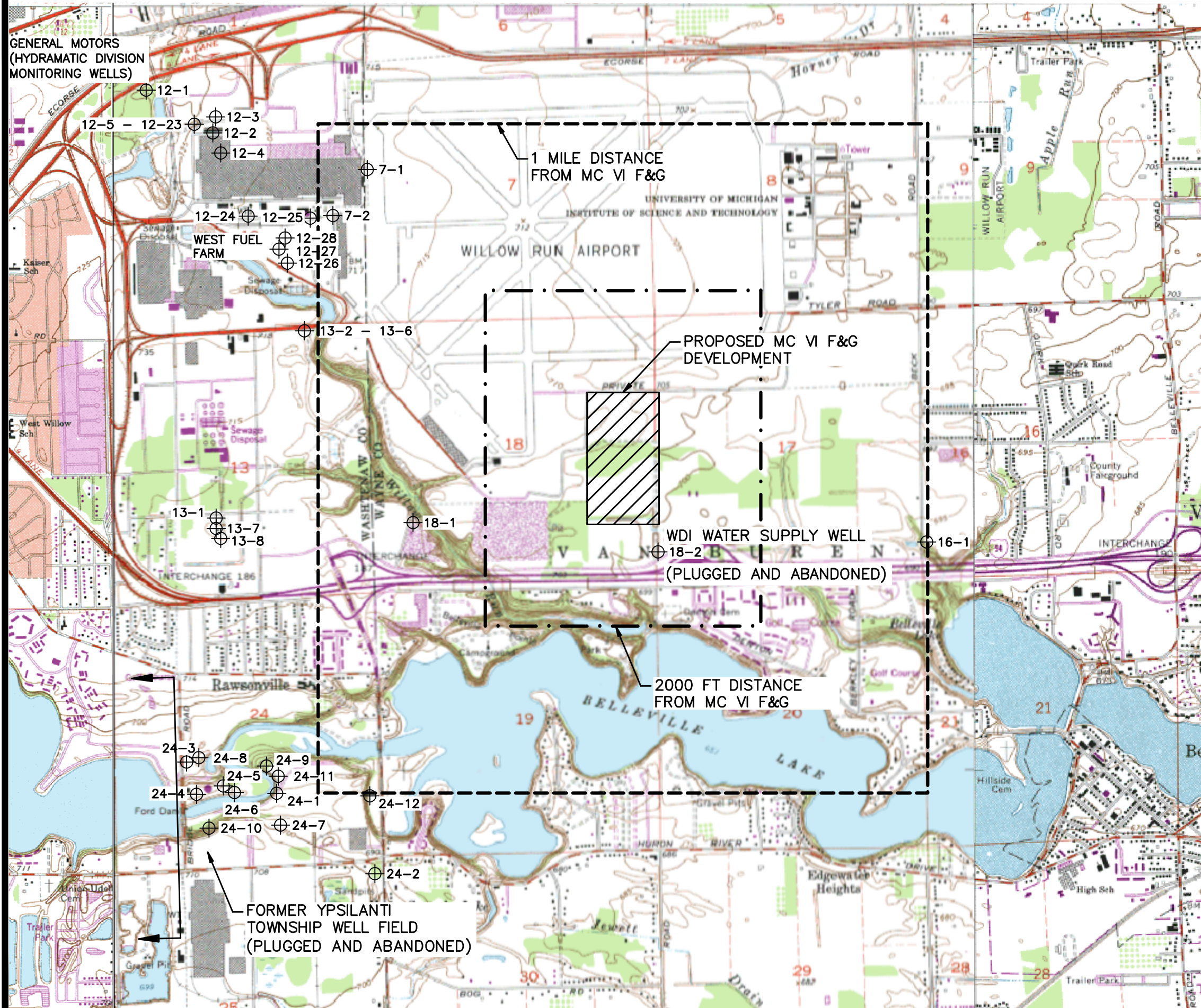
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DESIGNED BY:	DLP
PLOT DATE:	2/3/2011
DRAWN BY:	KRO
DRAWING SCALE:	AS SHOWN
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INCEPTION DATE:	02/16/09

BEDROCK SURFACE ELEVATION CONTOUR MAP

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

FIGURE:

5



LEGEND:

- 18-2 WELL LOCATION
- APPROX. LOCATION OF REGIONAL GEOLOGIC PROFILE (FIG. 4)

NOTE:

1. BASE MAP TAKEN FROM U.S.G.S YPSILANTI EAST AND BELLEVILLE MICHIGAN QUADRANGLES (1983).
2. 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).
3. 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.
4. REGIONAL WATER SUPPLY WELL LOGS PRESENTED IN APPENDIX D.
5. ORIGINAL FIGURE INCLUDES COLOR GRAPHICS WHICH SHOULD NOT BE OMITTED IN REPRODUCTION



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

REGIONAL WATER SUPPLY WELL LOCATION MAP

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

FIGURE:

6

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 NAME

WAYNE DISPOSAL, INC.
SITE NO. 2 - MC VI F&G
(WOODLOT)
DEVELOPMENT

PROJECT LOCATION:

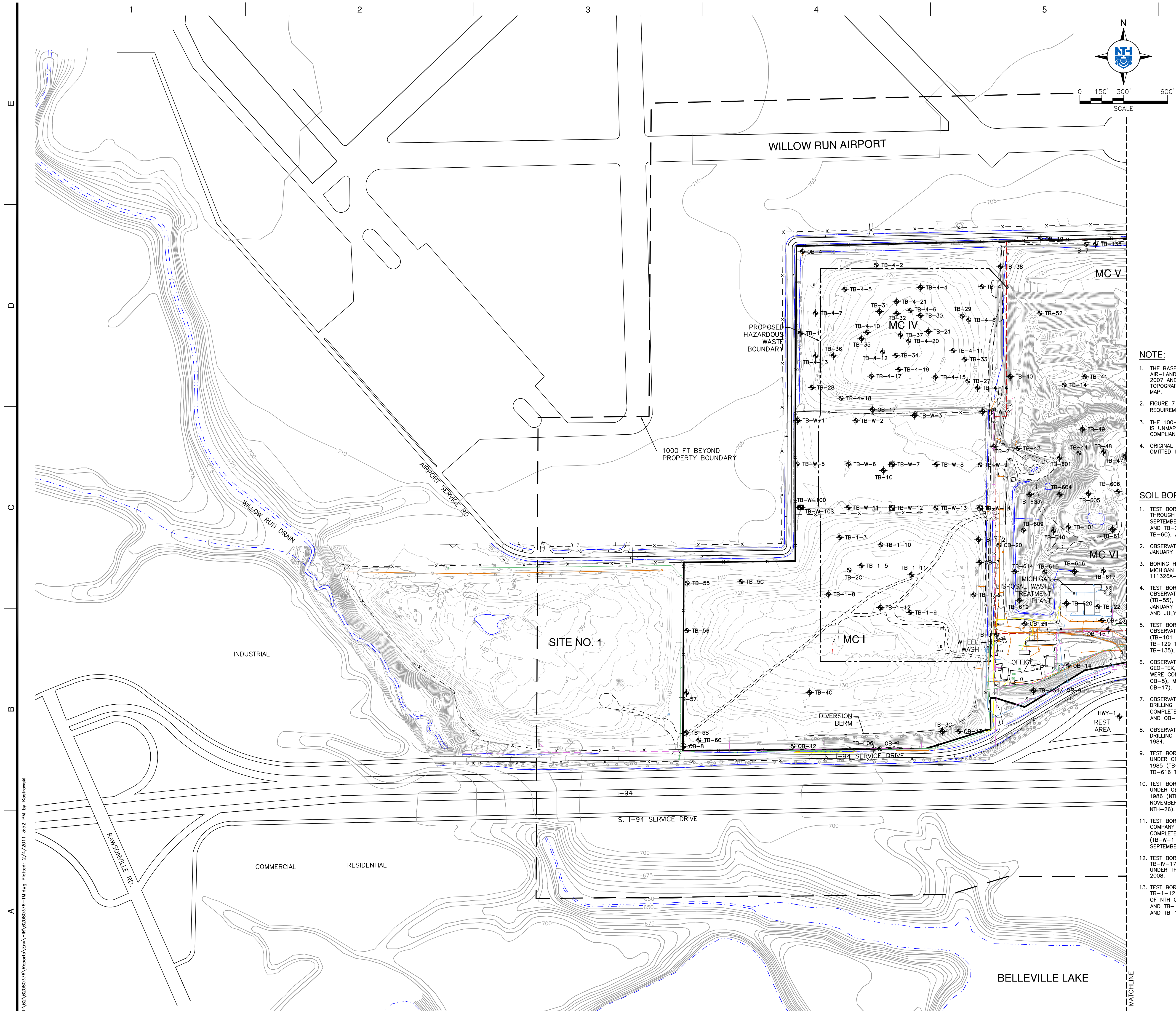
VAN BUREN TWP., WAYNE
COUNTY, MICHIGAN

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DRAWN BY: KRO	DRAWING SCALE: AS SHOWN
CHECKED BY: DLP	SUBMITTED DATE: 09/17/09

SHEET TITLE:

WDI TOPOGRAPHIC MAP
(WEST)

FIGURE



LEGEND:

-
- Legend:
- TB-W-7
 - TB-W-6
 - OB-17
 - 720
 - GROUNDWATER OBSERVATION WELL
 - SOIL BORING
 - MONITORING WELL
 - EXISTING CONTOUR
 - PROPERTY BOUNDARY
 - FENCE
 - ACCESS ROAD
 - EXISTING HAZARDOUS WASTE BOUNDARY
 - TREE LINE
 - DITCH/ STREAM
 - STORM
 - SANITARY
 - WATER MAIN
 - GAS
 - TELEPHONE
 - ELECTRIC
 - PROPOSED HAZARDOUS WASTE BOUNDARY
 - 1000 FT BOUNDARY

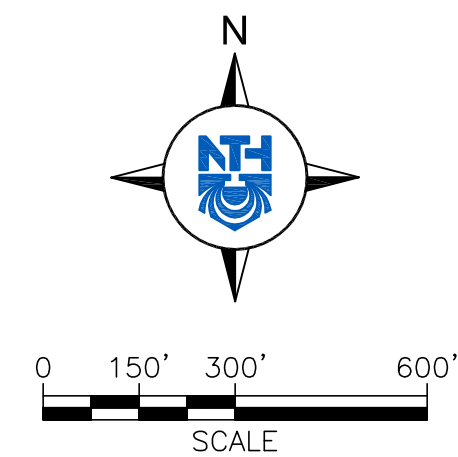
NOTE:

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 2002 AND A GROUND SURVEY BY WDI IN OCTOBER 2008. ADDITIONAL TOPOGRAPHIC INFORMATION BASED ON YPSILANTI EAST QUADRANGLE USGS MAP.
2. FIGURE 7 & 8 TOGETHER ARE SPECIFICALLY INTENDED TO MEET REQUIREMENTS OF SECTION 270.14 (b)(19)(i)& (iii)-(xi).
3. THE 100-YEAR FLOODPLAIN, AS REQUIRED UNDER SECTION 270.14(b)(19)(ii) IS UNMAPPED, REFER TO ENVIRONMENTAL ASSESSMENT FOR DISCUSSION OF COMPLIANCE WITH LOCAL STANDARDS.
4. ORIGINAL FIGURE INCLUDES COLOR GRAPHICS WHICH SHOULD NOT BE OMITTED IN REPRODUCTION.

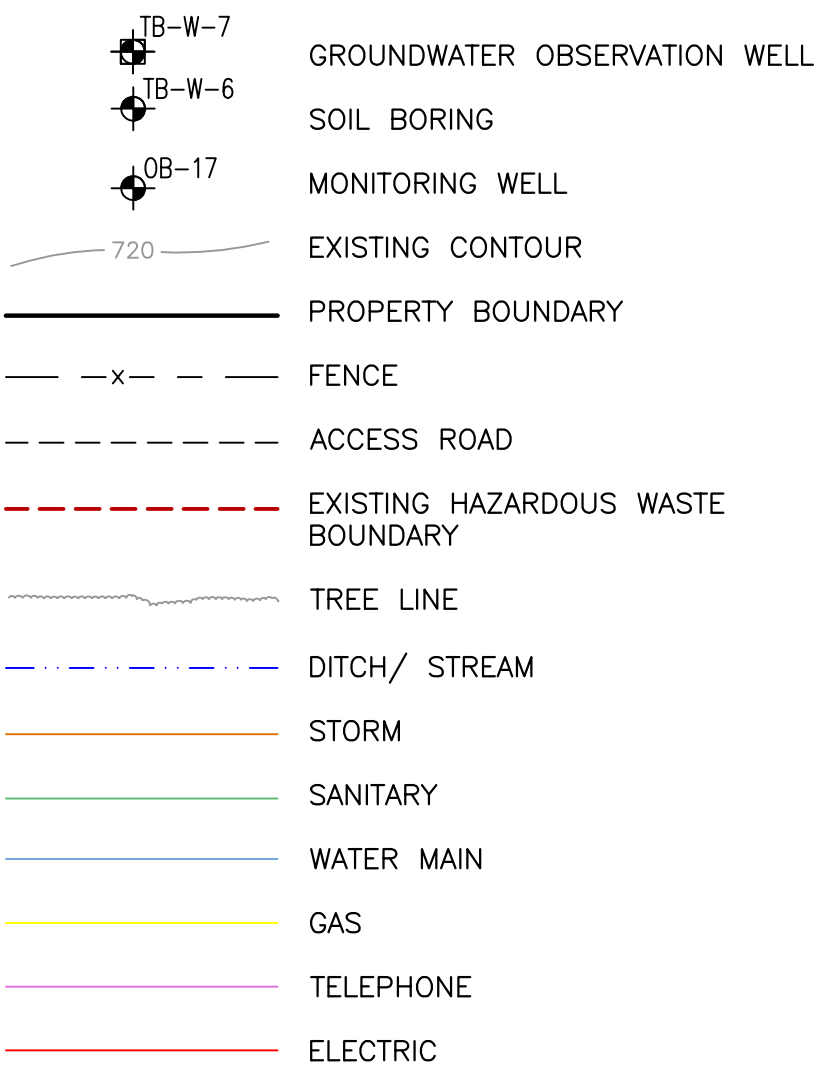
SOIL BORING NOTES:

1. TEST BORINGS TB-1 THROUGH TB-15, TB-1C THROUGH TB-6C, AND TB-21 THROUGH TB-25 WERE DRILLED BY ABLE DRILLING. BORINGS WERE COMPLETED SEPTEMBER/OCTOBER 1974 (TB-1 THROUGH TB-12), DECEMBER 1974 (TB-1C AND TB-6C), JANUARY 1975 (TB-13 THROUGH TB-15 AND TB-3C THROUGH TB-6C), AND FEBRUARY 1975 (TB-21 THROUGH TB-25).
2. OBSERVATION WELLS OB-1 THROUGH OB-3 WERE DRILLED BY ABLE DRILLING, JANUARY 1975.
3. BORING HWY-1 WAS FROM A COPY OF THE LOG OF TEST HOLE NO. 1 FROM MICHIGAN DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION JOB # 111326A-1975
4. TEST BORINGS TB-58 THROUGH TB-58S WERE DRILLED BY GEO-TEK, INC. UNDER OBSERVATION OF NTH CONSULTANTS. BORINGS WERE COMPLETED JUNE 1978 (TB-55), JULY 1978 (TB-56 THROUGH TB-58), MAY 1979 (TB-27 AND TB-28), JANUARY 1980 (TB-29 THROUGH TB-37), JUNE 1980 (TB-38 THROUGH TB-51), AND JULY 1980 (TB-52 THROUGH TB-54)
5. TEST BORINGS TB-101 THROUGH TB-135 WERE DRILLED BY GEO-TEK, INC. UNDER OBSERVATION OF NTH CONSULTANTS. BORINGS WERE COMPLETED SEPTEMBER 1980 (TB-101 THROUGH TB-107), OCTOBER 1980 (TB-108), FEBRUARY 1981 (TB-127, TB-128, TB-129, TB-132, TB-133), MARCH 1981 (TB-109, TB-126, TB-128, TB-133, TB-135), AND APRIL 1981 (TB-134)
6. OBSERVATION WELLS OB-4 THROUGH OB-11 AND OB-17 WERE DRILLED BY GEO-TEK, INC. UNDER OBSERVATION OF NTH CONSULTANTS. OBSERVATION WELLS WERE COMPLETED MAY 1979 (OB-4 AND OB-5), SEPTEMBER 1980 (OB-6 AND OB-8), MARCH 1981 (OB-7 AND OB-11), AND APRIL 1981 (OB-9, OB 10, AND OB-17)
7. OBSERVATION WELLS OB-12 THROUGH OB-16 WERE DRILLED BY PEARSON WELL DRILLING UNDER OBSERVATION OF NTH CONSULTANTS. OBSERVATION WELLS WERE COMPLETED MARCH 1981 (OB-14 THROUGH OB-16) AND APRIL 1981 (OB-12 AND OB-13).
8. OBSERVATION WELLS OB-18 THROUGH OB-31 WERE DRILLED BY AMERICAN DRILLING UNDER OBSERVATION OF NTH CONSULTANTS, JULY THROUGH SEPTEMBER 1984
9. TEST BORINGS TB-601 THROUGH TB-621 WERE DRILLED BY AMERICAN DRILLING UNDER OBSERVATION OF NTH CONSULTANTS. BORINGS WERE COMPLETED DECEMBER 1985 (TB-615 AND TB-619) AND JANUARY 1986 (TB-601 THROUGH TB-614, TB-616 THROUGH 618, TB-620, AND TB-621).
10. TEST BORINGS NTH-1 THROUGH NTH-26 WERE DRILLED BY AMERICAN DRILLING UNDER OBSERVATION OF NTH CONSULTANTS. BORINGS WERE COMPLETED OCTOBER 1986 (NTH-1 THROUGH NTH-7, NTH-14, AND NTH-16 THROUGH NTH-18) AND NOVEMBER 1986 (NTH-8 THROUGH NTH-13, NTH-15, AND NTH-19 THROUGH NTH-26).
11. TEST BORINGS TB-W-1 THROUGH TB-W-14 WERE DRILLED BY MATECO DRILLING COMPANY UNDER THE OBSERVATION OF NTH CONSULTANTS. BORINGS WERE COMPLETED MAY 2008 (TB-W-1, TB-W-11, TB-W-13, AND TB-W-14), JULY 2008 (TB-W-1 AND TB-W-2, TB-W-5 AND TB-W-6, TB-W-10, AND TB-W-12) AND SEPTEMBER 2008 (TB-W-2 AND TB-W-3, TB-W-7 THROUGH TB-W-9).
12. TEST BORINGS TB-IV-2 THROUGH TB-IV-8, TB-IV-10 THROUGH TB-IV-15, AND TB-IV-17 THROUGH TB-IV-21 WERE DRILLED BY MATECO DRILLING COMPANY UNDER THE OBSERVATION OF NTH CONSULTANTS. BORINGS WERE COMPLETED MAY 2008.
13. TEST BORINGS TB-1, TB-2, TB-1-3, TB-1-5, TB-1-6, AND TB-1-8 THROUGH TB-1-12 WERE DRILLED BY MATECO DRILLING COMPANY UNDER THE OBSERVATION OF NTH CONSULTANTS. BORINGS WERE COMPLETED MAY 2008 (TB-1-3, TB-1-5, AND TB-1-10) AND JUNE 2008 (TB-1-5, TB-1-6, TB-1-8, TB-1-9, TB-1-11, AND TB-1-12).

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



LEGEND:



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 2008 AND A GROUND SURVEY BY WDI IN OCTOBER 2008, ADDITIONAL TOPOGRAPHIC INFORMATION BASED ON YPSILANTI EAST QUADRANGLE USGS MAP.
2. FIGURE 7 & 8 TOGETHER ARE SPECIFICALLY INTENDED TO MEET REQUIREMENTS OF SECTION 270.14 (b)(19)(i)& (ii)-(xii).
3. THE 100-YEAR FLOODPLAIN, AS REQUIRED UNDER SECTION 270.14(b)(19)(ii) IS UNMAPPED, REQUIRING TO ENVIRONMENTAL ASSESSMENT FOR DISCUSSION OF CONFLICTS WITH LOCALITY STANDARDS.
4. ORIGINAL FIGURE INCLUDES COLOR GRAPHICS WHICH SHOULD NOT BE OMITTED IN REPRODUCTION.

PROJECT NAME:

WAYNE DISPOSAL, INC.
SITE NO. 2 - MC VI F&G
(WOODLOT)
DEVELOPMENT

PROJECT LOCATION:

VAN BUREN TWP., WAYNE
COUNTY, MICHIGAN

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

WDI TOPOGRAPHIC MAP
(EAST)

FIGURE



LEGEND:

- | | | | |
|--|---------------------------------------|--|-------------------------------------|
| | SOUTH SEDIMENTATION BASIN STORM SEWER | | LINED POND WATERSHED |
| | LINED POND STORM SEWER | | NORTH SEDIMENTATION BASIN WATERSHED |
| | CULVERT | | SOUTH SEDIMENTATION BASIN WATERSHED |
| | CURB STYLE CATCH BASIN | | DIRECTION OF SURFACE WATER FLOW |
| | SUBSURFACE PERIMETER DRAIN | | |

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.

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

[illegible]

PROJECT NAME

WAYNE DISPOSAL, INC
SITE NO. 2 - MC VI F&G
(WOODLOT)
DEVELOPMENT

PROJECT LOCATION:

VAN BUREN TWP., WAYNE
COUNTY, MICHIGAN

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






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

FIGURE



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 MEASURING 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 |
|  | PIEZOMETRIC SURFACE CONTOUR |
|  | DIRECTION OF GROUNDWATER FLOW |
|  | GROUNDWATER FLOW PATH USED
TO CALCULATE ESTIMATED
GROUNDWATER VELOCITY |

Farmington Hills, MI	248.553.6300
Detroit, MI	313.237.3900
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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

[illegible]

PROJECT NAME

WAYNE DISPOSAL, INC
SITE NO. 2 - MC VI F&G
(WOODLOT)
DEVELOPMENT

PROJECT LOCATION:

VAN BUREN TWP., WAYNE
COUNTY, MICHIGAN

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




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

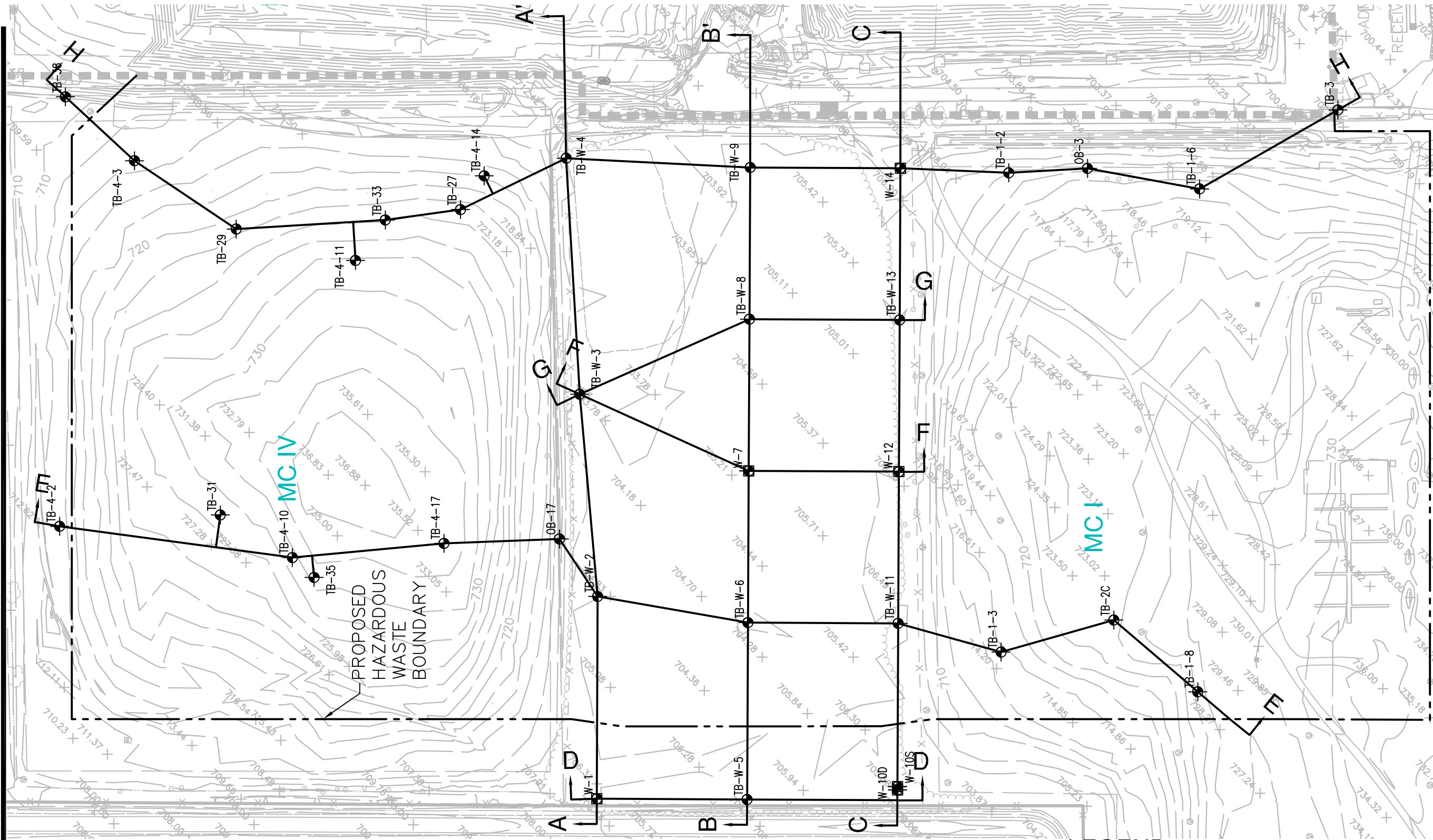
FIGURE



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.

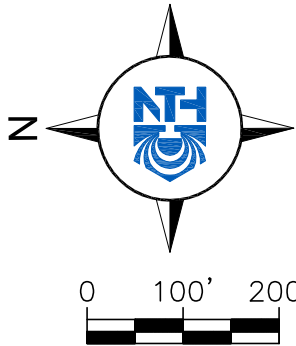
LEGEND:

-  OB-9 OBSERVATION/MONITORING WELL LOCATION
 652.55 GROUNDWATER ELEVATION (FEET MSL)
 710 EXISTING TOPOGRAPHIC CONTOUR
 653 PIEZOMETRIC SURFACE CONTOUR
 DIRECTION OF GROUNDWATER FLOW



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:

- TEST BORING LOCATION
- TEST BORING CONVERTED TO GROUNDWATER OBSERVATION WELL

EXISTING CONTOUR
 SUBSURFACE PROFILE ORIENTATION

SUBSURFACE PROFILE ORIENTATION MAP		NTH Consultants, Ltd.	
WAYNE DISPOSAL, INC. SITE NO. 2 - MC VI F&G VAN BUREN TWP., WAYNE COUNTY, MICHIGAN		Infrastructure Engineering and Environmental Services	
FIGURE: 12	NTH PROJECT No.:	CAD FILE NAME:	
	62080376	62080379-PTMAP	
	DESIGNED BY:	PLOT DATE:	
	DLP	2/3/2011	
	DRAWN BY:	DRAWING SCALE:	
	KRO	AS SHOWN	
	CHECKED BY:	INCEPTION DATE:	
	DLP	02/16/09	

Farmington Hills, MI	248.553.6300
Detroit, MI	313.237.3900
Lansing, MI	517.484.6900
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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

[illegible]

PROJECT NAME:
WAYNE DISPOSAL, INC.
SITE NO. 2 - MC VI F&G
(WOODLOT)
DEVELOPMENT

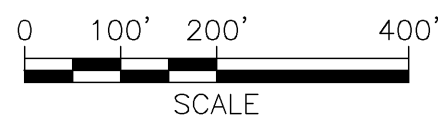
PROJECT LOCATION:
VAN BUREN TWP., WAYNE
COUNTY, MICHIGAN

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










SHEET TITLE:

GENERALIZED GEOLOGIC
PROFILE A-A'

FIGURE



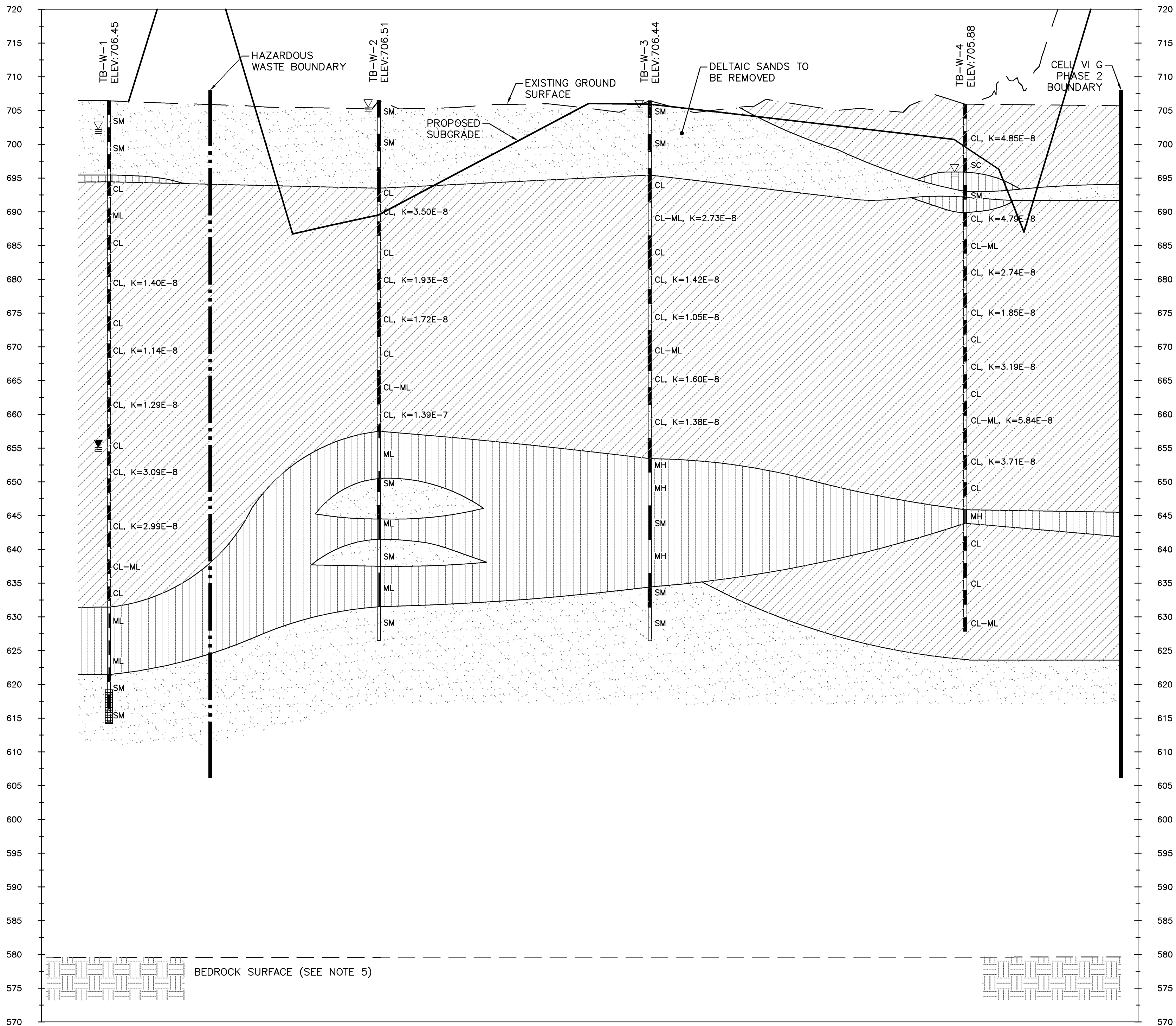
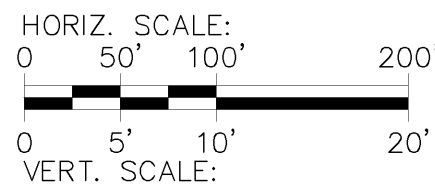
LEGEND

- | | |
|---|--|
|  | TEST BORING |
|  | SOIL SAMPLE INTERVALS |
|  | GROUNDWATER ELEVATION (SEE NOTE 3) |
|  | GROUNDWATER ELEVATION ENCOUNTERED DURING DRILLING |
|  | WELL SCREEN INTERVAL |
|  | CLAY (CL) |
|  | 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:

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:



CROSS-SECTION A-A'

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

[illegible]

PROJECT NAME

WAYNE DISPOSAL, INC.
SITE NO. 2 - MC VI F&G
(WOODLOT)
DEVELOPMENT

PROJECT LOCATION:

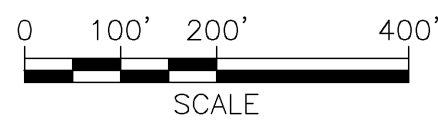
VAN BUREN TWP., WAYNE
COUNTY, MICHIGAN

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

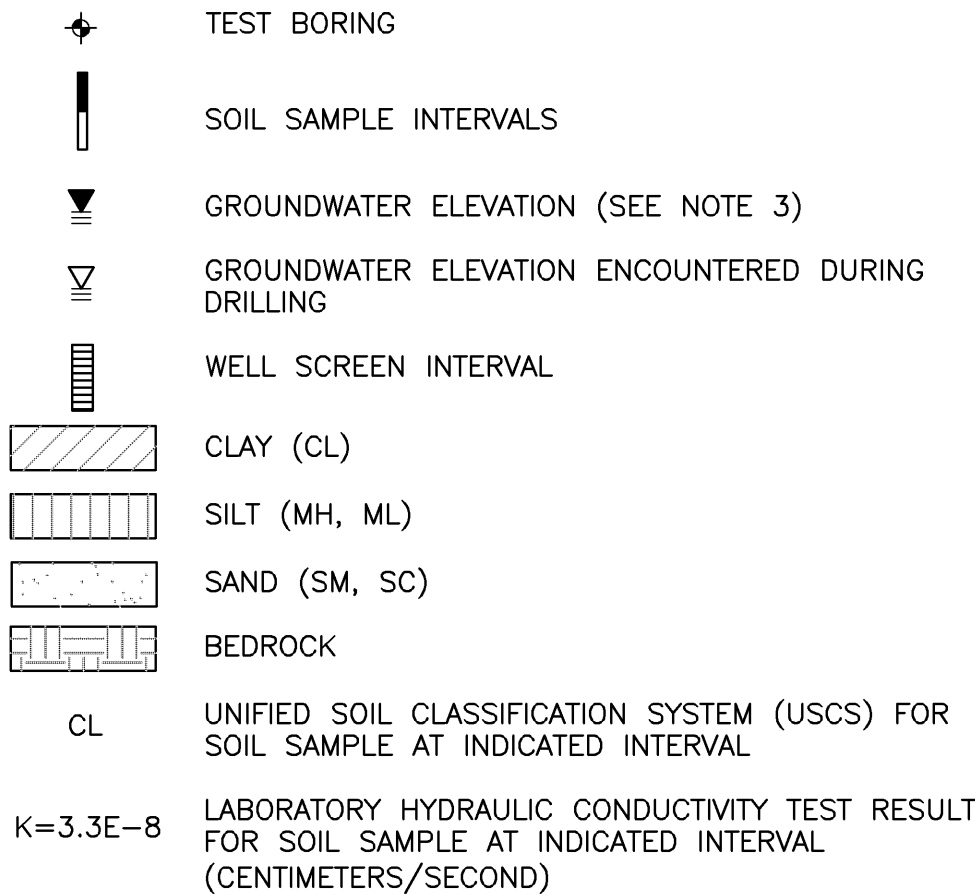
SHEET TITLE:

GENERALIZED GEOLOGIC PROFILE B-B'

FIGURE



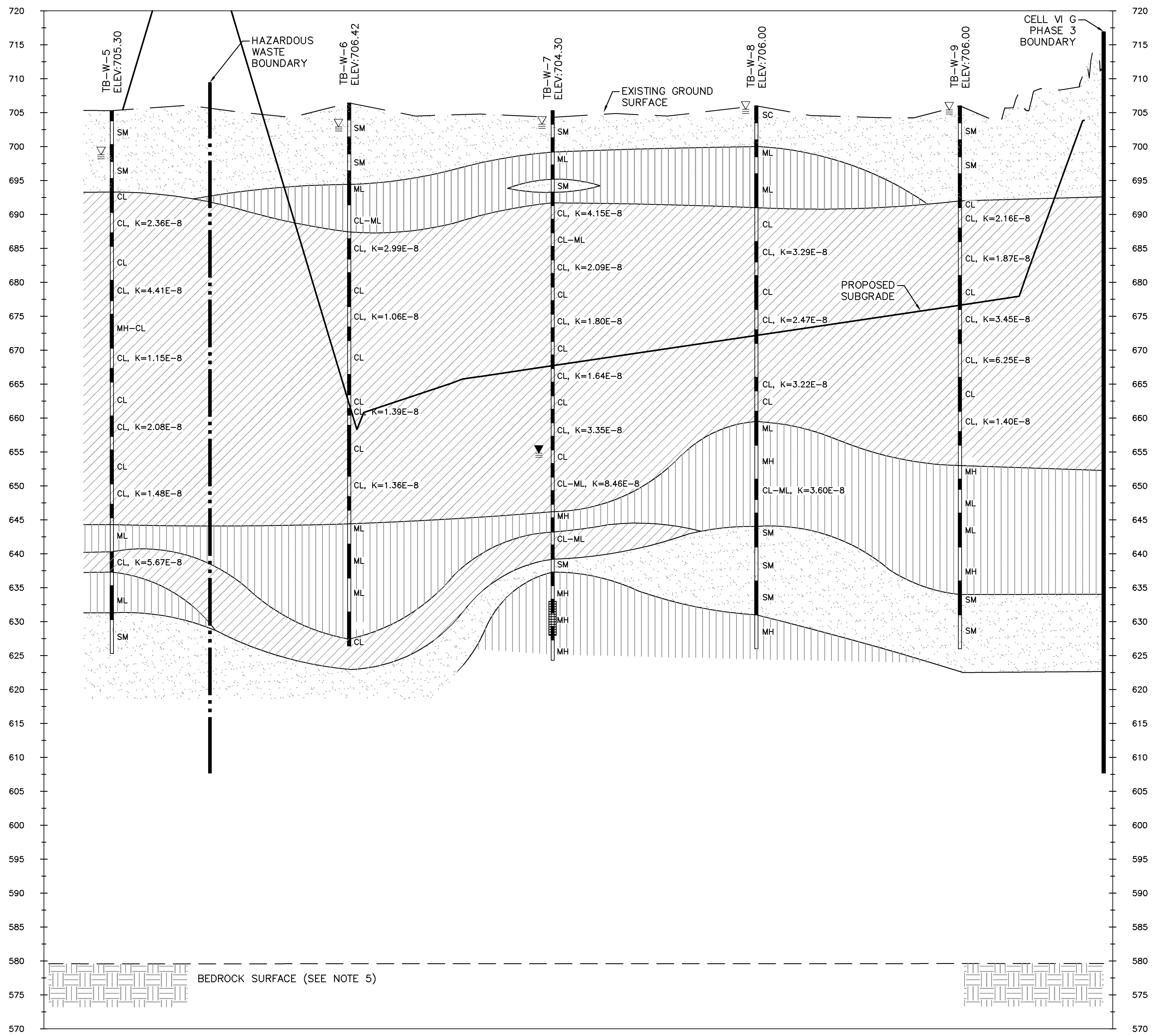
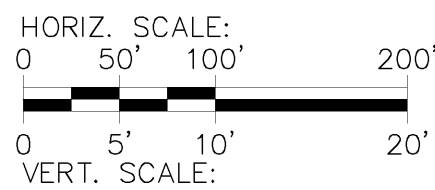
LEGEND



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:



CROSS-SECTION B-B'

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

[illegible]

PROJECT NAME

WAYNE DISPOSAL, INC.
SITE NO. 2 - MC VI F&G
(WOODLOT)
DEVELOPMENT

PROJECT LOCATION:

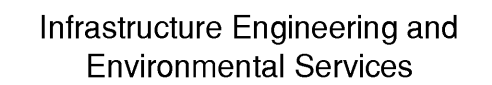
VAN BUREN TWP., WAYNE
COUNTY, MICHIGAN

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

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

FIGURE





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

[illegible]

PROJECT NAME

WAYNE DISPOSAL, INC.
SITE NO. 2 - MC VI F&G
(WOODLOT)
DEVELOPMENT

PROJECT LOCATION:

VAN BUREN TWP., WAYNE
COUNTY, MICHIGAN

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

SHEET TITLE:

GENERALIZED GEOLOGIC
PROFILE E-E'

FIGURE



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

[illegible]

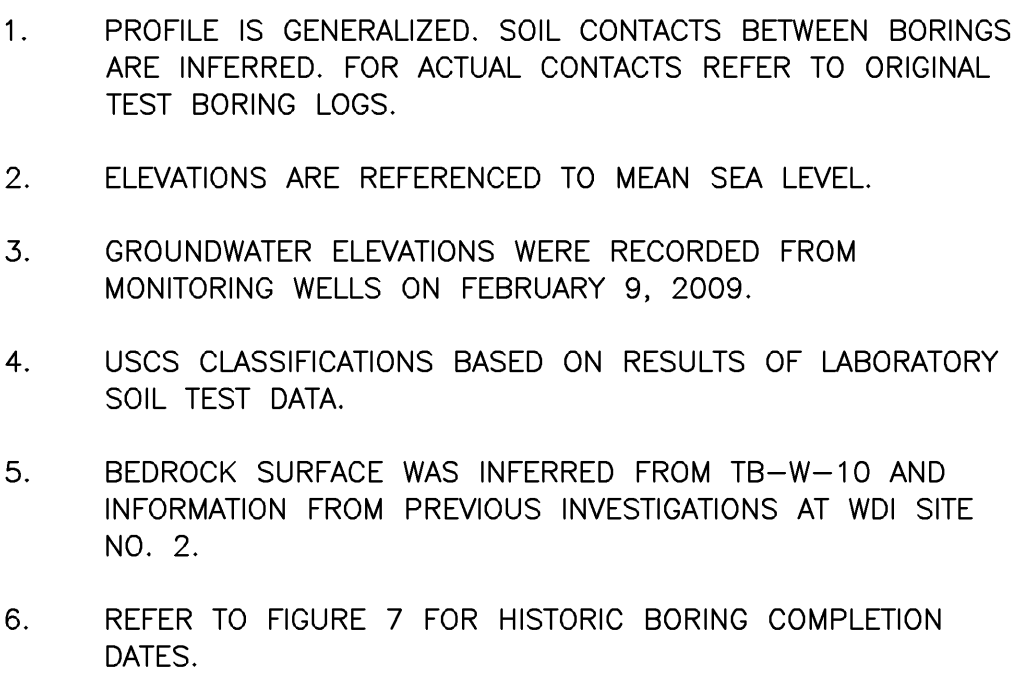
PROJECT NAME:
WAYNE DISPOSAL, INC.
SITE NO. 2 - MC VI F&G
(WOODLOT)
DEVELOPMENT

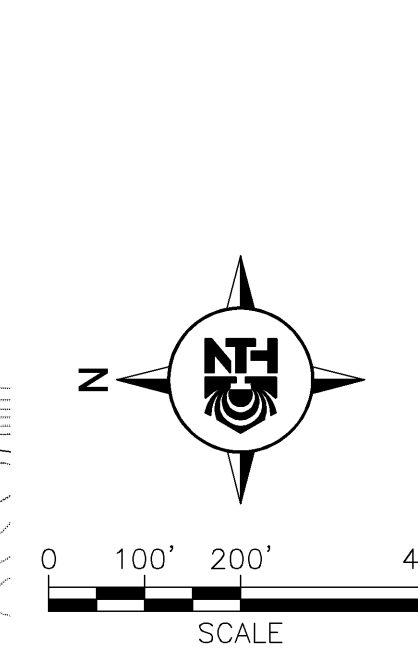
PROJECT LOCATION:
VAN BUREN TWP., WAYNE
COUNTY, MICHIGAN

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

GENERALIZED GEOLOGIC PROFILES F-F' & G-G'

FIGURE





4 LEGEND

- 5
-
- NOTES

- 

Farmington Hills, MI	248.553.6300
Detroit, MI	313.237.3900
Lansing, MI	517.484.6900
Grand Rapids, MI	616.957.3690
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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

[illegible]

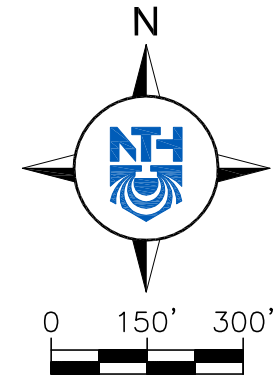
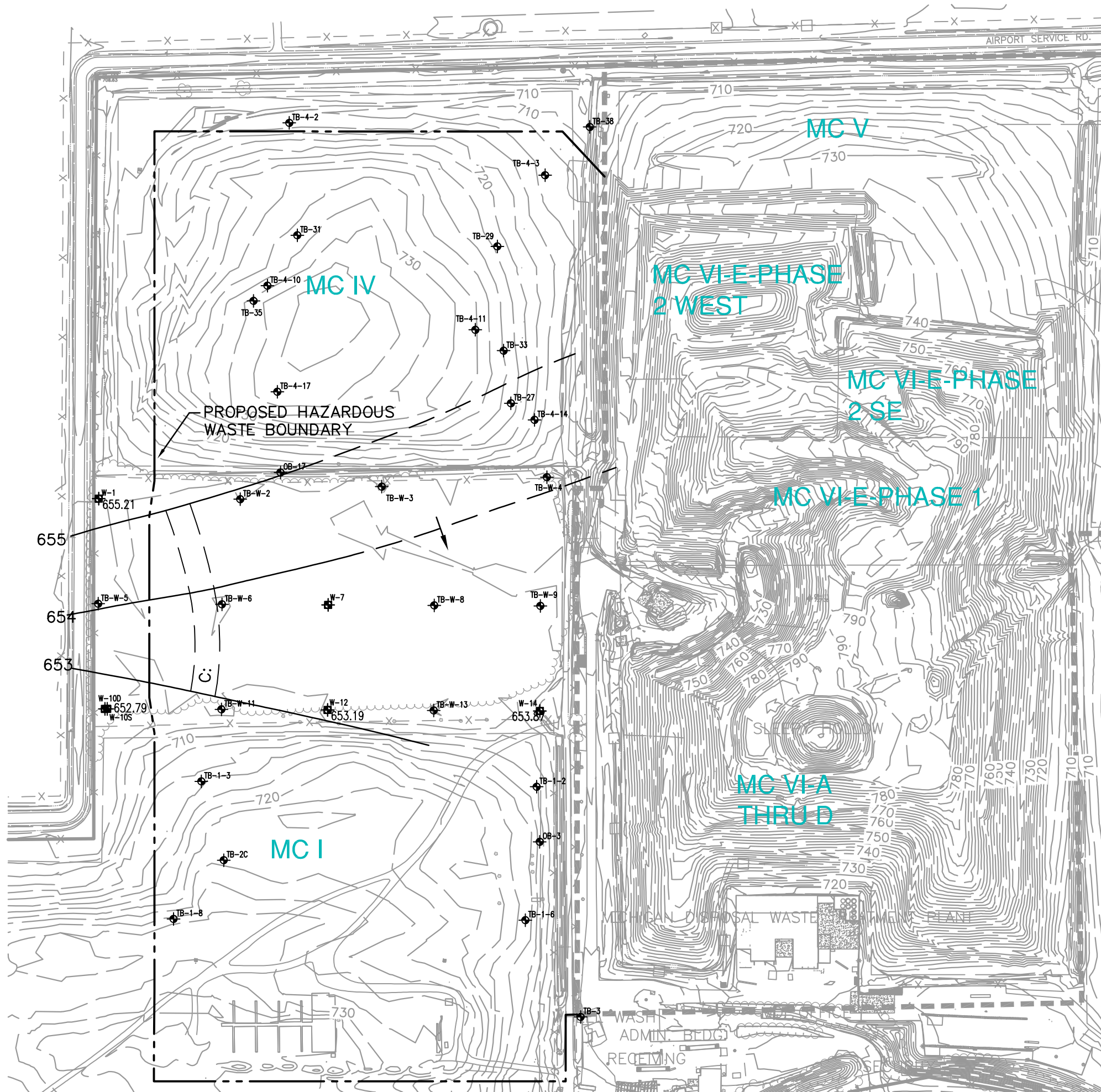
PROJECT NAME:
WAYNE DISPOSAL, INC.
SITE NO. 2 - MC VI F&G
(WOODLOT)
DEVELOPMENT

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

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

SHEET TITLE:
GENERALIZED GEOLOGIC
PROFILE H-H'

FIGURE



LEGEND:

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

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.
- 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

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and Environmental Services



CAD FILE NAME:	62080376 GWEC-02
NTH PROJECT No.:	62080376
DESIGNED BY:	DC
DRAWN BY:	RML/J
CHECKED BY:	DC
PLOT DATE:	2/3/2011
DRAWING SCALE:	AS SHOWN
INCEPTION DATE:	02/16/09
LOWER SAND AQUIFER PIEZOMETRIC SURFACE CONTOUR MAP- DECEMBER 17 2008	
WAYNE DISPOSAL, INC. SITE NO. 2 - MC VI F&G VAN BUREN TWP., WAYNE COUNTY, MICHIGAN	

FIGURE:

19

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

[illegible]

PROJECT NAME:

WAYNE DISPOSAL, INC.
SITE NO. 2 - MC VI F&G
(WOODLOT)
DEVELOPMENT

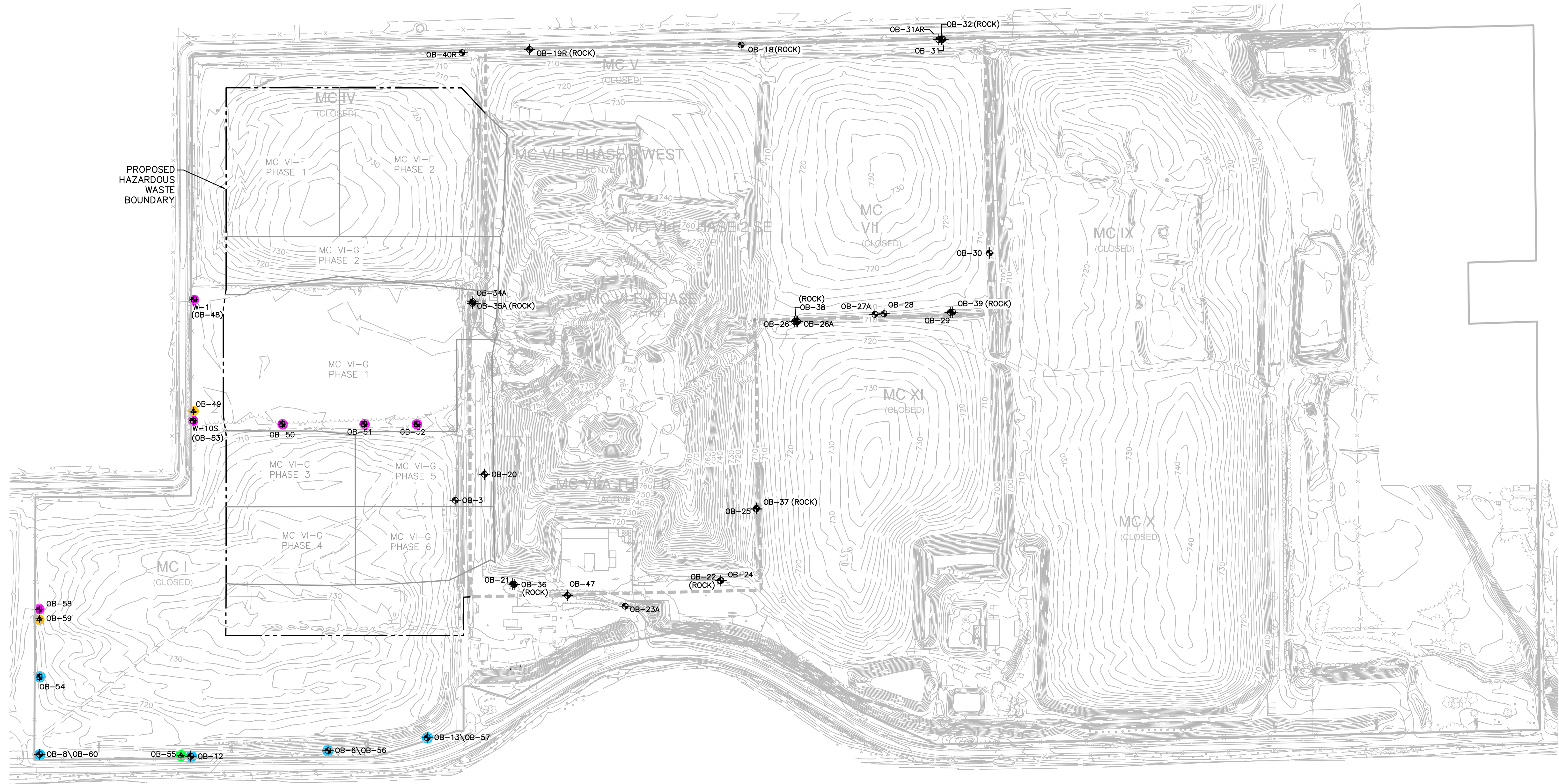
PROJECT LOCATION:

VAN BUREN TWP., WAYNE
COUNTY, MICHIGAN

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

PROPOSED PART 111 GROUNDWATER MONITORING LOCATION PLAN

FIGURE



OB-18 OBSERVATION WELL LOCATION

EXISTING TOPOGRAPHIC CONTOUR

OB-56 PROPOSED PHASE 1 OBSERVATION WELL
FOR MC VI-F&G (LOWER SAND AQUIFER)

OB-50 PROPOSED PHASE 1 OBSERVATION WELL
FOR MC VI-F&G (ROCK)

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

PROPOSED OBSERVATION WELL FOR
MC VI-F&G (ROCK)

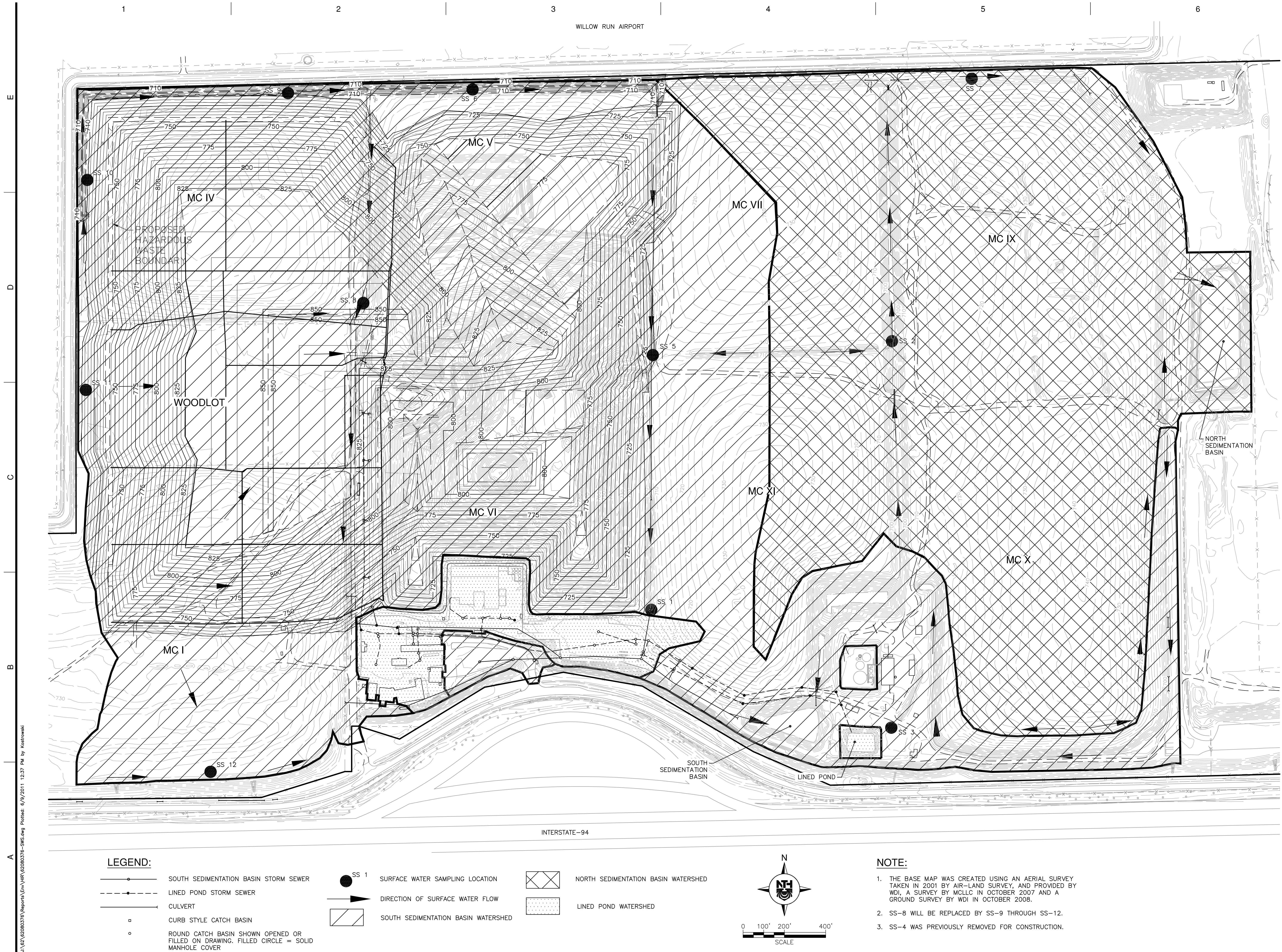
1. THE BASE MAP WAS CREATED USING AN AERIAL SURVEY TAKEN IN 2001 BY AIR-LAND SURVEY, AND PROVIDED BY WDI, A SURVEY BY MCLLC IN OCTOBER 2007 AND A GROUND SURVEY BY WDI IN OCTOBER 2008.
2. ORIGINAL FIGURE INCLUDES COLOR GRAPHICS WHICH SHOULD NOT BE OMITTED IN REPRODUCTION.

PROJECT NAME:
WAYNE DISPOSAL, INC.
SITE NO. 2 - MC VI F&G
(WOODLOT)
DEVELOPMENT

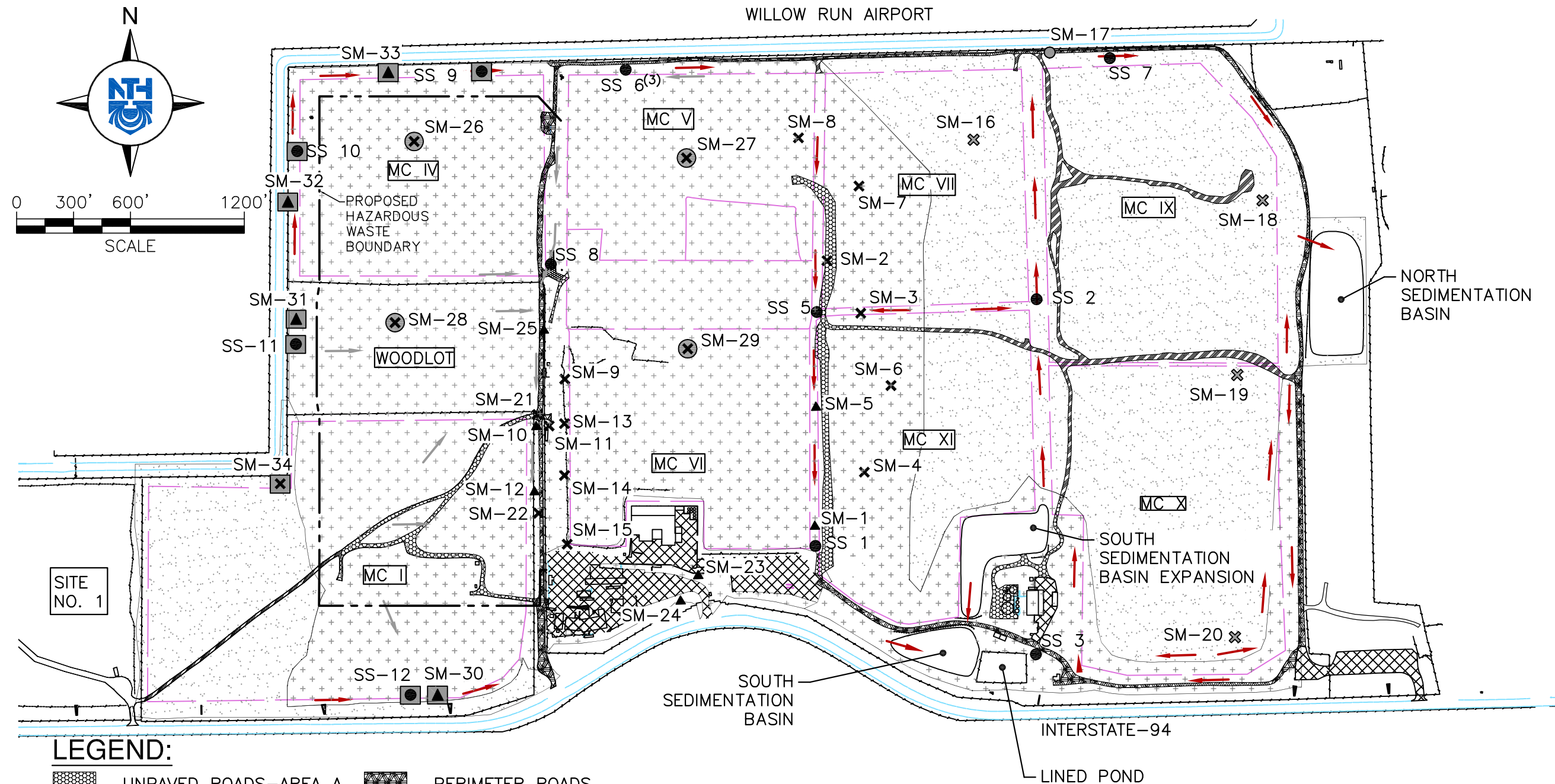
PROJECT LOCATION:
VAN BUREN TWP., WAYNE
COUNTY, MICHIGAN

SHEET TITLE:

SURFACE WATER
SAMPLING LOCATIONS



J:\62\62080376\Reports\Env\HIF\62080376-SLP.dwg



LEGEND:

- | | | | |
|---|---|--|-----------------|
| | UNPAVED ROADS—AREA A | | PERIMETER ROADS |
| | UNPAVED ROADS—AREA B | | PAVED SURFACES |
| | AREA A | | |
| | AREA B | | |
| ● | SS 1 | | |
| ● | SS 2 | | |
| × | SM 2 | | |
| × | SM 1 | | |
| ▲ | SM 1 | | |
| × | SM 16 | | |
| ● | SM 17 | | |
| ● | SM 26 | | |
| × | SM 34 | | |
| × | SS 11 | | |
| ● | SS 11 | | |
| ▲ | SS 30 | | |
| — | DIRECTION OF INTERIM SURFACE WATER FLOW | | |
| → | DIRECTION OF SURFACE WATER FLOW — POST MC VI F/G CONSTRUCTION | | |

NOTES:

1. ROADWAYS ARE SHOWN FOR REFERENCE ONLY AND MAY NOT REPRESENT THE ACTUAL ROADWAY DIMENSIONS.
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 SS-10 WILL REPLACE THE SAMPLING LOCATIONS THAT ARE REMOVED.

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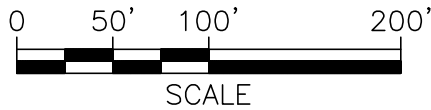
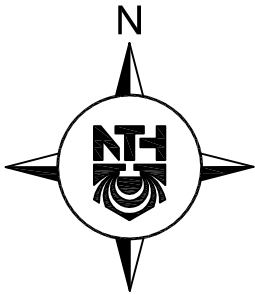
NTH PROJECT No.:	62080376
CAD FILE NAME:	62080376-SLP
DESIGNED BY:	KRO
PLOT DATE:	1/6/2012
DRAWN BY:	KRO
CHECKED BY:	DLP
DRAWING SCALE:	AS SHOWN
INCEPTION DATE:	02/16/09

SURFACE WATER AND SOIL MONITORING LOCATION PLAN



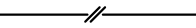

WAYNE DISPOSAL, INC. SITE NO. 2 - MC VI F&G
VAN BUREN TWP., WAYNE COUNTY, MICHIGAN

FIGURE

22

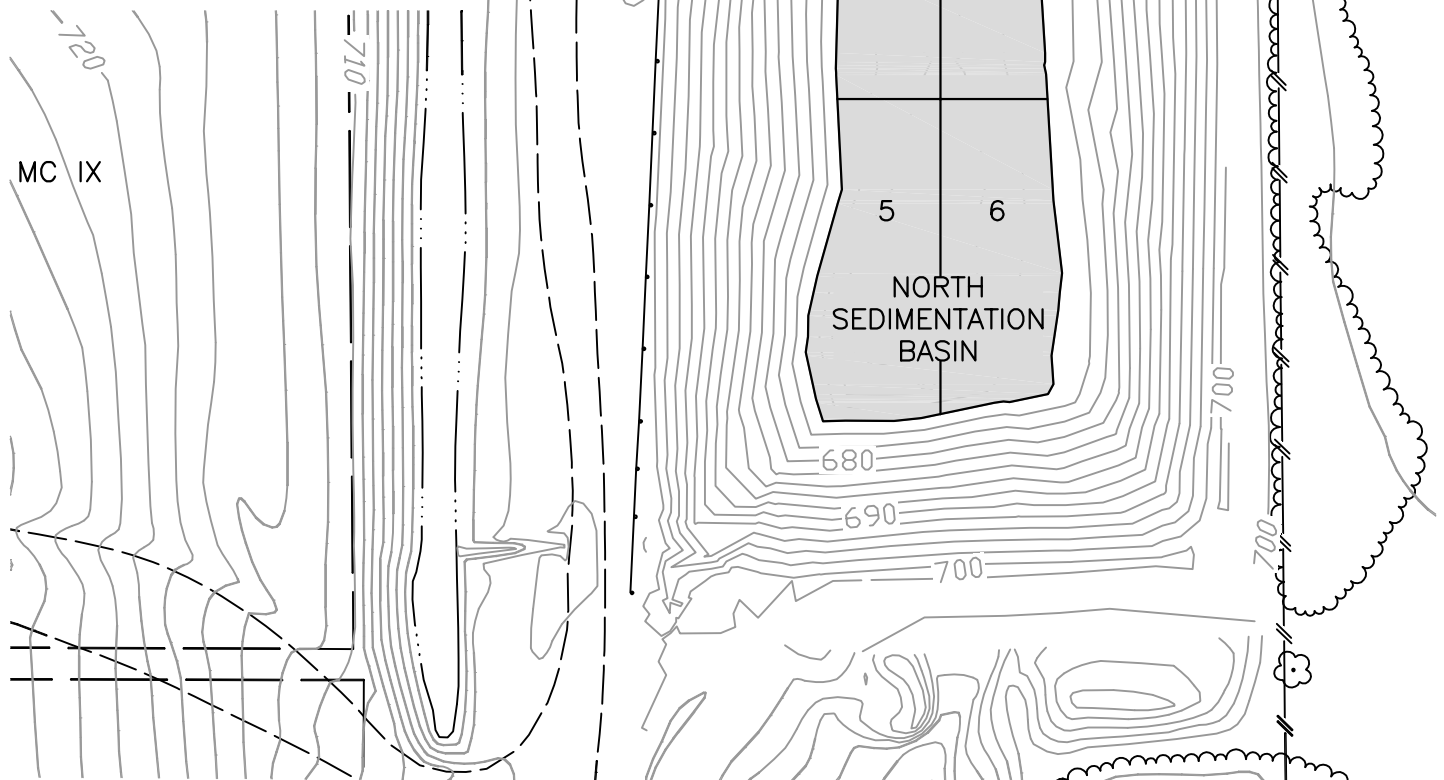



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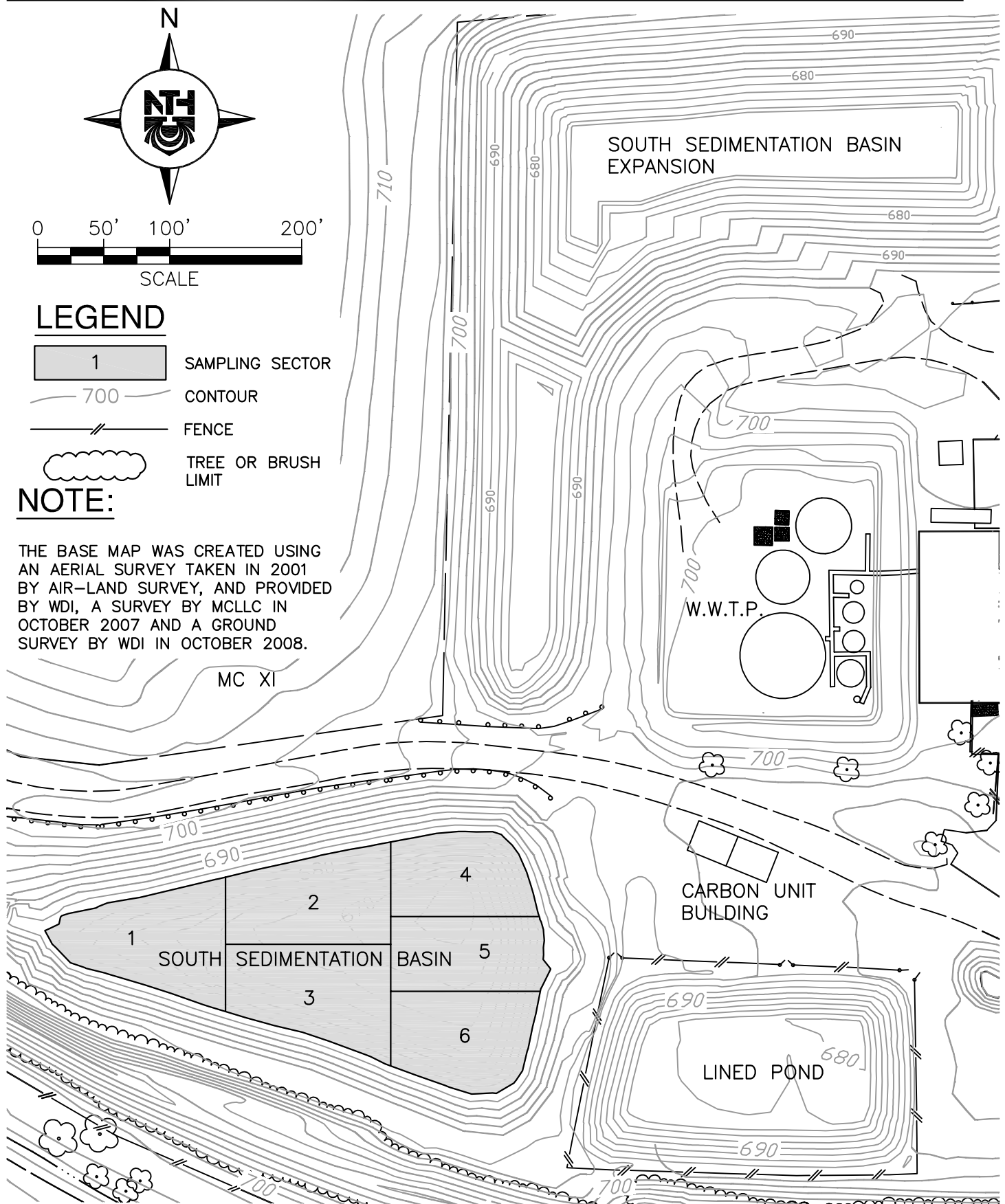
-  SAMPLING SECTOR
-  CONTOUR
-  FENCE
-  TREE OR BRUSH LIMIT

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 PROJECT No. 62080376 DESIGNED BY: KRO DRAWN BY: KRO CHECKED BY: DLP	CAD FILE NAME: 62080376-SED PLOT DATE: 2/3/2011 DRAWING SCALE: AS SHOWN INCEPTION DATE: 02/16/09	 NTH Consultants, Ltd. Infrastructure Engineering and Environmental Services	NORTH SEDIMENTATION BASIN MONITORING SAMPLE SECTORS WAYNE DISPOSAL, INC. SITE NO. 2 - MC VI F&G VAN BUREN TWP., WAYNE COUNTY, MICHIGAN	FIGURE <div style="font-size: 48pt; font-weight: bold;">23</div>
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NTH PROJECT No. 62080376	CAD FILE NAME: 62080376-SED
DESIGNED BY: KRO	PLOT DATE: 2/3/2011
DRAWN BY: KRO	DRAWING SCALE: AS SHOWN
CHECKED BY: DLP	INCEPTION DATE: 02/16/09



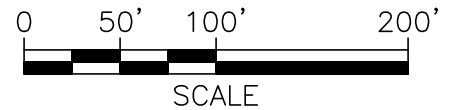
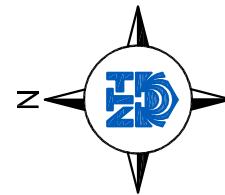
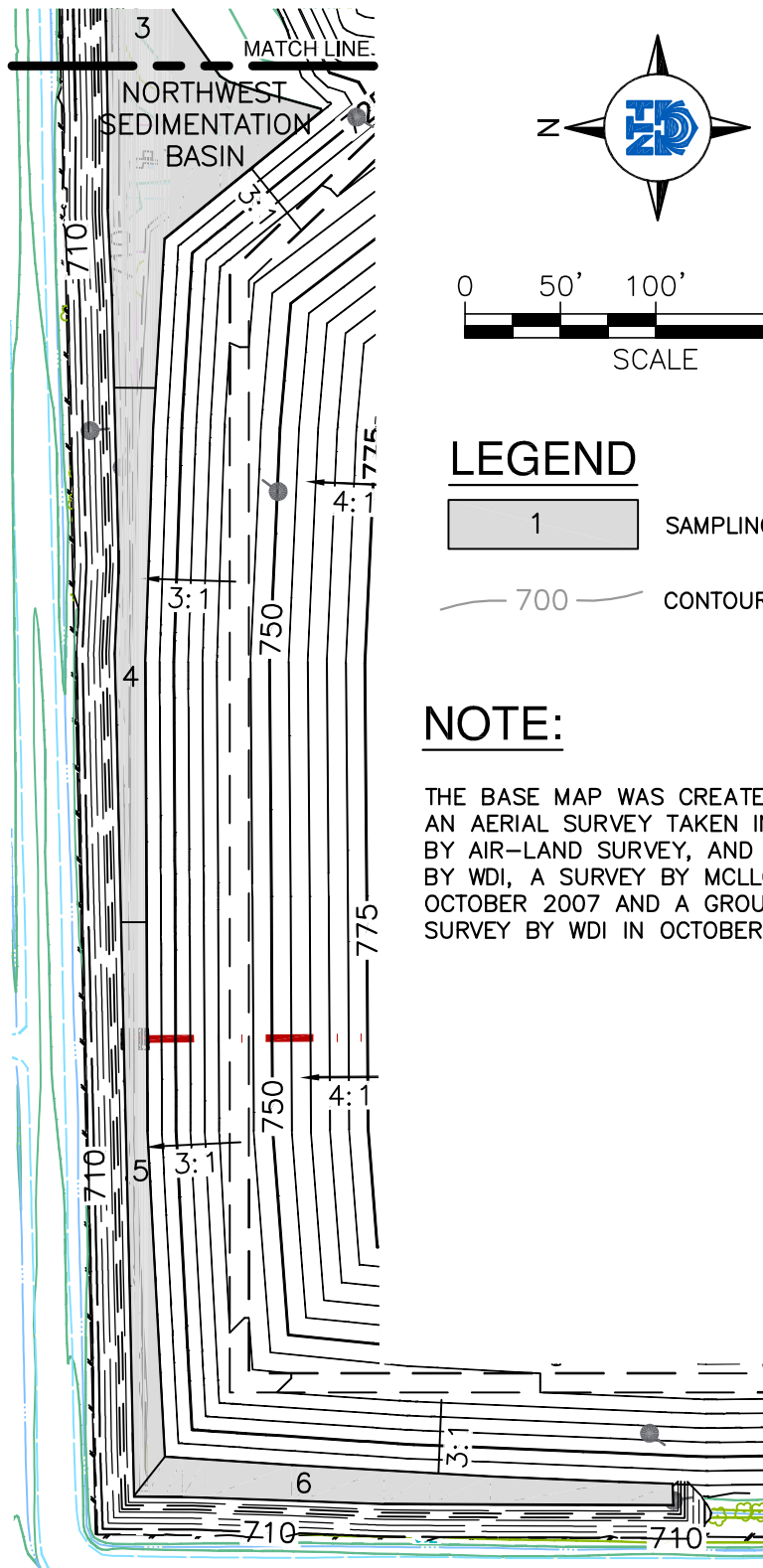
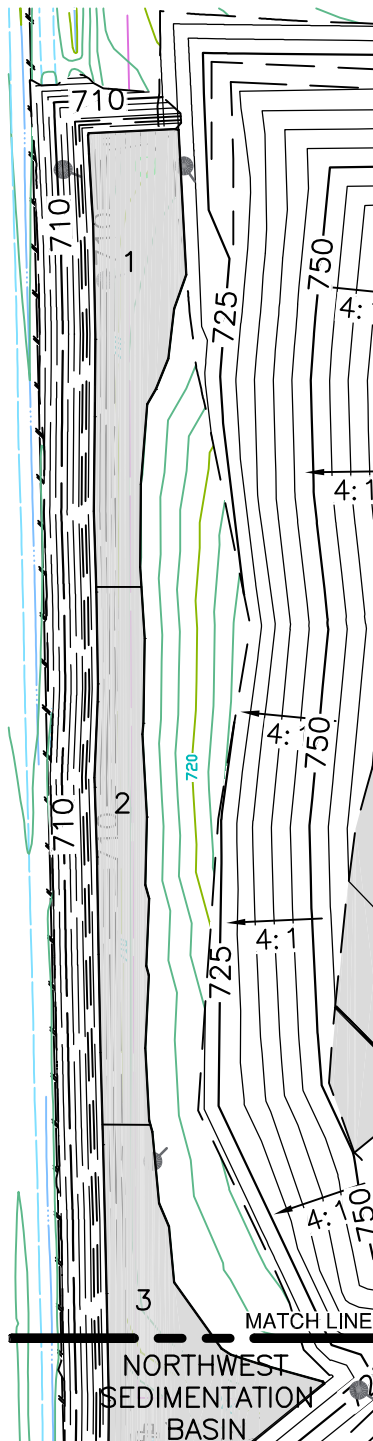
NTH Consultants, Ltd.
Infrastructure Engineering
and Environmental Services

SOUTH SEDIMENTATION BASIN MONITORING SAMPLE SECTORS

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

FIGURE

24




LEGEND

- 1 SAMPLING SECTOR
- 700 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 PROJECT No.: 62080376	CAD FILE NAME: 62080376-SED	 NTH Consultants, Ltd. Infrastructure Engineering and Environmental Services	NORTHWEST SEDIMENTATION BASIN MONITORING SAMPLE SECTORS WAYNE DISPOSAL, INC. SITE NO. 2 - MC VI F&G VAN BUREN TWP., WAYNE COUNTY, MICHIGAN	FIGURE: <div style="font-size: 2em; font-weight: bold;">25</div>
DESIGNED BY: DC	PLOT DATE: 2/3/2011			
DRAWN BY: RMLJI	DRAWING SCALE: AS SHOWN			
CHECKED BY: DC	INCEPTION DATE: 02/16/09			



APPENDIX A

MDNRE FORM EQP 5111 ATTACHMENT TEMPLATE B3

**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 Name] 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
- ☐ A waiver for the hydrogeologic report is requested for one or more units
- ☐ 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:

- ☐ R 299.9506 hydrogeologic report
- ☐ A waiver is requested for groundwater monitoring requirements for one or more units, and is included in Template B5


 *Both boxes may be checked, if appropriate*

This template is organized as follows:


- B3.A HYDROGEOLOGIC REPORT WAIVER REQUEST
- B3.B SITE HYDROGEOLOGY
 - B3.B.1 Summary of Existing Information
 - B3.B.2 Identification of Aquifers and Their Uses
 - B3.B.3 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 ENGINEERING 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 GROUNDWATER MONITORING PROGRAM
 - Table B3.D.1 Unit-Specific Groundwater Monitoring Program
- B3.E ADDITIONAL 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 runoff/runoff. Also make a reference to the template and section that describes the design and operating standards required by R 299.9604.*

- ☐ The [hazardous waste unit] is not a landfill, surface impoundment, waste pile, or land treatment unit, all hazardous waste management activities take place inside or under a structure that provides protection from precipitation and runoff, and the unit is in compliance with the facility design and operating standards found in R 299.9604.

 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 [Facility Name] 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.

B3.B.1 Summary of Existing Information

[R 299.9506(1)(a)] (summary of groundwater monitoring data)

 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 aquifers used by public and private wells within 2,000 feet of the site.
4. Identification of all other aquifers evidenced by available boring or well logs.

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.*

B3.B.3(f) Extent of Contaminant Plume
[R 299.9506(1)(g)(i)]

 *The topographic map must include a delineation of any plumes of contamination that have entered the groundwater from any hazardous waste management unit and plumes of contamination 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)]

 *In addition to the topographic map described in Section B3.B.3 required by R 299.9506(1)(e), R 299.9506 requires that the topographic map, included as part of Item X of the application form, showing an area extending at least one mile beyond the property boundaries, contains the following information:*

A topographic map has been included as Item X of the Michigan Construction Permit and Operating License Application Form for Hazardous Waste Treatment, Storage, and Disposal Facilities (EQP 5111). It also includes the following information.

1. Locations for all domestic, municipal, oil and gas, industrial, and agricultural wells within one mile of the facility, for which logs are available, and
2. Locations 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)]

 *Describe any plume of contamination that has entered the groundwater, at the time of the application, from any hazardous waste management unit and from any other regulated activity at the facility. If the hazardous waste management units are landfills, surface impoundments, waste piles, or waste treatment units, the plume description must also include the concentrations of constituents identified in 40 CFR, Part 261, Appendix VIII, or identifies the maximum concentrations of each Appendix VIII constituent in the plume.*

B3.C ENGINEERING REPORT FOR PROPOSED GROUNDWATER MONITORING PROGRAM
[R 299.9506(2) and (7)]

The engineering information included in the hydrogeologic report supports the proposed groundwater monitoring programs or waiver requests included in this application as Template B5, Environmental Monitoring Programs, and Template B2, Corrective Action.

B3.C.1 Waiver or Alternate Information Request
[R 299.9506(7)]

 *If you wish to request a waiver for information requirements in R 299.9506(2), or substitute 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)

☐ Alternate 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)]

A description of soil borings conducted, their locations, logs, and results from soil sampling and testing, is included in the sections below. This information thoroughly defines soil conditions at the site.

B3.C.2(a) Number and Location of Soil Borings
[R 299.9506(2)(a)(i)]


 *The applicant must provide information in this section that describes the following minimum number and location of soil borings, to demonstrate that an adequate definition of soil characteristics and variations has been achieved:*

1. *Five borings for the first five acres of the site and three borings for each additional five acres of the site. Fewer borings may be included for areas of the site that are not active. Borings may also be reduced in number if supported by geophysical testing information.*
2. *One boring for each geomorphic feature of the site, such as a ridge, or lowland area.*
3. *All borings 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 boxes below, as applicable:


☐ The [Hazardous Waste Unit] unit is not a surface impoundment, landfill waste pile, or land treatment area. Soil sampling and testing information to meet requirements of R 299.9506(2)(a)(ii) is included in this section.

 *If you have checked the box above, you must provide completed soil sampling and testing results for the following requirements:*

1. *A soil sample must be collected at each change in soil layers or lithology within each boring.*
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 must be logged using continuous sampling methods.*
3. *Samples that are collected from changes in layers or lithology must be tested for particle size distribution (using both a sieve and a hydrometer), and Atterberg limits. Samples must also be classified using the Unified Soil Classification System.*

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 Unit] 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.*

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.


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
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

 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,

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 [Hazardous Waste Unit] 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.*


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

LOG OF TEST BORING NO: TB-W-1

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				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
705		SANDY TOPSOIL	0.5		2					
		Loose SAND with Trace of Clay, Silt & Gravel [SM]	5	LS-1	2 3	5	--	--	--	
				LS-2	4 3 3	6	--	--	--	SM
				LS-3	3 4 5	9	--	--	--	
700		Loose to Medium Compact Gray SILTY FINE SAND with Trace of Clay & Medium Sand [SM]	10	LS-4	4 6 9	15	--	--	--	SM
				LS-5	4 7 9	16	--	--	--	
695		Medium Compact Gray SILT	11.0	LS-6	7 11 10	21	--	--	--	
		Stiff to Very Stiff Gray SILTY CLAY with Trace to Little Sand & Trace of Gravel [CL]	15	LS-7	2 3 5	8	--	--	6500*	CL
				LS-8	3 4 5	9	--	--	3000*	
690		Medium Compact Gray SILT with Trace of Fine Sand [ML]	17.0	ST-1	pushed 24"	--	21.0	106.5	--	ML
		Stiff to Very Stiff Gray SILTY CLAY with Trace to Little Sand & Trace of Gravel [CL]	20	LS-9	3 5 7	12	--	--	5000*	
685				LS-10	4 5 4	9	--	--	3000*- 5000*	CL
				LS-11	3 5 6	11	--	--	7000*	
680		Stiff to Very Stiff Gray SILTY CLAY with Little Sand, Trace of Gravel & Occasional Sand Seams [CL]	25	LS-12	3 6 8	14	--	--	6500*	
				ST-2	pushed 24"	--	17.4	115.1	3607	CL
				LS-13	5 8 12	20	--	--	6500*	
675				LS-14	7 8 12	20	--	--	5500*	
				LS-15	3 5 7	12	--	--	4500*	CL
		Very Stiff Gray SILTY CLAY with Little Sand & Trace of Gravel [CL]	35	LS-16	5 7 10	17	--	--	7000*	
670										
			37.2							

Total Depth: 92 FT
Drilling Date: 07/15/08 & 07/16/08
Inspector: M. McNamara
Contractor: 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

FIGURE NO. B-1

LOG OF TEST BORING NO: TB-W-1

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				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
665		Very Stiff Gray SILTY CLAY with Trace of Gravel	40.0	ST-3	pushed 24"	--	18.8	111.1	--	CL
				LS-17	7 10 15	25	--	--	7000*	
				LS-18	6 7	16	--	--	7500*	
660			45	LS-19	9 7 10 13	23	--	--	6500*- 7000*	
				ST-4	pushed 24"	--	16.2	118.5	8015	CL
				LS-20	10 20 25	45	--	--	6500*	
655		Very Stiff to Hard Gray SILTY CLAY with Little to Some Sand & Trace of Gravel [CL]	50	LS-21	8 13 15	28	--	--	7000*	
				LS-22	11 15 20	35	--	--	5000*	CL
				LS-23	9 9 15	24	--	--	6000*	
650			55	ST-5	pushed 24"	--	13.9	124.1	--	CL
				LS-24	8 7 9	16	--	--	5000*- 7000*	
				LS-25	5 6 9	15	--	--	5000*	
645			60	LS-26	6 8 10	18	--	--	3000*	
				ST-6	pushed 24"	--	18.2	113.7	1829	CL
				LS-27	5 6 7	13	--	--	1000*- 2000*	
640		Medium to Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL or CL-ML]	65	LS-28	3 5 6	11	--	--	1500*- 2500*	
				LS-29	3 5 6	11	--	--	1500*- 2500*	CL-ML
				LS-30	6 6 9	15	--	--	2500*	
635		Stiff Gray SILTY CLAY with Some Sand & Trace of Gravel [CL]	71.0	ST-7	pushed 24"	--	22.4	107.8	--	CL
				LS-31	3 4 4	8	--	--	--	
				LS-32	6 7 19	26	--	--	--	ML
630		Loose CLAYEY SILT	75.0	LS-33	10 15 19	34	--	--	--	
				LS-34	14 17 21	38	--	--	--	
625		Medium Compact to Compact Gray SILT with Trace of Clay & Sand [ML]	80							
			82.3							



Checked By: d/p

[illegible]

LOG OF TEST BORING NO: TB-W-2

Project Name: WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: *dip*

SUBSURFACE PROFILE				SOIL SAMPLE DATA						
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 706.5±	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
705		TOPSOIL	0.7		1					
		Very Loose to Loose Brown FINE SAND with Trace of Clay & Silt [SM]		LS-1	1	2	--	--	--	SM
			4.0		6					
		Medium Compact Brown & Gray FINE TO MEDIUM SAND with Trace of Clay & Silt [SM]		LS-2	9	23	--	--	--	
			8.0		14					
700				LS-3	8	26	--	--	--	SM
					11					
		Compact Gray SILTY FINE TO MEDIUM SAND		LS-4	10	34	--	--	--	
					15					
695			13.0		19					
		Stiff to Very Stiff Gray SILTY CLAY with Trace of Sand & Gravel [CL]		LS-5	3	10	--	--	4500*	CL
					4					
690				ST-1	6		18.8	109.8	--	CL
					pushed 24"	--				
			20.0	LS-6	4	15	18.3	113.5	3773	
					6					
685					9					
					3	14	--	--	6000*	CL
					5					
680				ST-2	9		18.3	111.8	--	CL
		Very Stiff to Hard Gray SILTY CLAY with Trace of Sand & Gravel [CL]			pushed 24"	--				
					6					
				LS-8	9	21	--	--	6000*-7000*	
					12					
675										
670			37.2							

Total Depth: 80 FT
 Drilling Date: 07/17/08
 Inspector: M. McNamara
 Contractor: 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:
 Borehole backfilled with cement-bentonite grout.

Water Level Observation:
 Groundwater at 51.5 ft bgs upon completion.

Notes:
 * - Pocket Penetrometer Value

Location Coordinates:
 E 4080.0 N 7645.3

FIGURE NO. B-2

LOG OF TEST BORING NO: TB-W-2

Project Name: WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: alp

SUBSURFACE PROFILE				SOIL SAMPLE DATA						
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 706.5±	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 of Sand & Gravel [CL]	40.0	LS-9	7 15 22	37	--	--	9000*	CL
660		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
655			49.0	ST-4	pushed 24"	--	13.2	125.3	--	CL
650		Medium Compact to Compact Gray CLAYEY SILT with Trace of Sand [ML]	50	LS-11	15 22 22	44	--	--	8500*	
645			56.0	LS-12	5 9 14	23	--	--	--	ML
640		Compact Gray SILTY FINE SAND with Trace of Clay [SM]	60	ST-5	pushed 24"	--	--	--	--	SM
635			62.0	LS-13	7 14 20	34	--	--	--	
630		Medium Compact Gray CLAYEY SILT with Trace of Sand [ML]	65.0	LS-14	5 8 16	24	--	--	--	ML
625		Medium Compact Gray SILTY FINE SAND with Trace of Clay [SM]	69.0	LS-15	8 10 16	26	--	--	--	SM
		Medium Compact to Very Compact SAND & SILT with Trace of Clay [ML]	75.0	LS-16	7 17 35	52	--	--	--	ML
		Medium Compact SILTY FINE SAND with Trace of Clay [SM]	80.0	LS-17	5 9 17	26	--	--	--	SM
		End of Boring								

LOG OF TEST BORING NO: TB-W-3

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				SOIL SAMPLE DATA							
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		Sandy Topsoil	0.7		3						
		Loose to medium Compact Brown & Gray FINE TO MEDIUM SAND with Trace of Clay, Silt & Gravel [SM]		LS-1	3 5	8	--	--	--	SM	
			5	LS-2	4 10 12	22	--	--	--		
700											
		Compact Gray FINE SAND with Trace of Clay & Silt [SM]	7.0		3 6 10	16	--	--	--	SM	
			10	LS-4	6 14 22	36	--	--	--		
695			11.0								
			Stiff Gray CLAY & SILT with Trace of Sand [CL]	14.0		2 4 6	10	--	--	7000*	CL
690	Very Stiff CLAY & SILT with Some Sand & Trace of Gravel [CL-ML]										
			20.0	20	ST-1	pushed 24"	--	14.5	123.0	7000*	CL-ML
685											
		Very Stiff to Hard Gray CLAY & SILT with Trace of Sand & Gravel [CL]	25	LS-6	5 8 11	19	--	--	6500*	CL	
680				ST-2	pushed 24"	--	16.7	113.8	8120	CL	
			30	LS-7	6 12 14	26	--	--	7500*		
675			33.0								
		Hard Gray SILTY CLAY with Trace of Sand & Gravel [CL]		ST-3	pushed 12"	--	14.6	121.3	10920	CL	
670				35							
			37.2								

Total Depth: 80 FT
 Drilling Date: 09/15/08 - 09/16/08
 Inspector: M. McNamara
 Contractor: Mateco Drilling Co.
 Driller: R. Crosby

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

Notes:
 * - Pocket Penetrometer Value

Location Coordinates:
 E 4480.0 N 7680.8

FIGURE NO. B-3

LOG OF TEST BORING NO: TB-W-3

Project Name: WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: *dip*

SUBSURFACE PROFILE				SOIL SAMPLE DATA						
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
665		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
				ST-4	pushed 24"	--	16.1	118.1	9780	CL
660		Hard Gray CLAY & SILT with Some Sand & Trace of Gravel [CL] 48.0	45	LS-9	8 18 20	38	--	--	9000*	
				ST-5	pushed 24"	--	29.1	94.3	--	CL
655		Hard Gray SILTY CLAY [CL] 53.0	50							
650			55	LS-10	16 27 31	58	--	--	--	MH
645		Medium Compact to Very Compact Gray SAND & SILT with Trace of Clay [MH] 72.0	60	LS-11	9 12 15	27	--	--	--	MH
640			65	LS-12	8 12 12	24	--	--	--	SM
635			70	LS-13	9 19 24	43	--	--	--	MH
630		Very Compact Gray SILTY FINE SAND with Trace of Clay [SM] 80.0	75	LS-14	15 25 23	58	--	--	--	SM
					25 34 25					
625		End of Boring	80	LS-15		59	--	--	--	SM

LOG OF TEST BORING NO: TB-W-4

Project Name: WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: *dip*

SUBSURFACE PROFILE				SOIL SAMPLE DATA							
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 705.9±	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS	
705		SURFACE VEGETATION	0.2		2						
				LS-1	4 7	11	--	--	9000*		
				LS-2	8 10 12	22	--	--	9000*		
700			Very Stiff to Hard Gray SILTY CLAY & FINE SAND with Trace of Gravel [CL]	5	ST-1	pushed 24"	--	12.1	124.2	9000*	CL
					LS-3	5 7 8	15	--	--	7500* - 9000*	SC
					LS-4	5 5 6	11	--	--	6000* - 7500*	
695				10.0							
			Loose Gray SILT		LS-5	2 3 7	10	--	--	--	
						4 8					
			Medium Compact Gray SILT & SAND with Trace of Clay	13.0 14.0	15	LS-6	12	20	--	--	--
					9 10						
690		Medium Compact Gray SILT	16.0		LS-7	8	18	--	--	5000*	
		Stiff to Very Stiff Gray CLAYEY SILT with Trace of Fine Sand [CL]	20.0	20	ST-2	pushed 24"	--	26.6	99.6	2120	CL
					3 5 7	12	--	--	6000*		
685											
		Stiff Gray CLAY & SILT with Some Sand & Trace of Gravel [CL-ML]	24.0		LS-9	2 3 3	6	--	--	3500*	CL-ML
					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*	
					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*	
				35							
					LS-14	6 10 14	24	--	--	7500*	CL
670											
			37.2								

Total Depth: 78 FT
 Drilling Date: 09/17/08 - 09/18/08
 Inspector: M. McNamara / K. Wise
 Contractor: Mateco Drilling Co.
 Driller: R. Crosby

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.

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

Notes:
 * - Pocket Penetrometer Value

Location Coordinates:
 E 4946.6 N 7707.6

FIGURE NO. B-4

LOG OF TEST BORING NO: TB-W-4

Project Name: WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: *dip*

SUBSURFACE PROFILE				SOIL SAMPLE DATA						
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 705.9±	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
665		Stiff to Hard Gray SILTY CLAY with Some Sand & Trace of Gravel [CL]	40	LS-15	5 8 11	19	--	--	7500*- 8500*	
				ST-5	pushed 24"	--	18.1	114.2	7300	CL
				LS-16	6 10 14	24	--	--	9000*	
				LS-17	8 16 13	29	18.0	116.1	3640	CL
660			45	LS-18	5 14 19	23	--	--	8500*	
				ST-6	pushed 24"	--	12.7	127.4	9000*	CL-ML
				LS-19	8 18 18	36	--	--	7000*	
655			50	LS-20	6 8 9	17	--	--	5500*- 6000*	
				ST-7	pushed 24"	--	20.5	107.5	5500*	CL
650			55	LS-21	4 5 7	12	28.8	98.4	2720	
		Very Stiff Gray CLAYEY SILT withh Little Sand [MH]		LS-22	4 6 8	14	--	--	5500*	CL
				LS-23	6 7 9	16	--	--	4000*	
645			60.0	ST-8	pushed 24"	--	21.9	108.1	--	MH
			62.0	LS-24	2 3 4	7	--	--	2000*	
640			65	LS-25	5 7 7	14	--	--	3000*	CL
				LS-28	6 6 5	11	--	--	3000*	
				LS-29	3 5 5	10	--	--	2000*	
635			70	LS-30	2 3 3	6	--	--	1500*	CL
				LS-31	3 3 3	6	--	--	1500*	
630			75	LS-32	3 7 13	20	--	--	1500*	
		Very Stiff Gray CLAY & SILT with Trace of Fine Sand	78.0	LS-33	10 19 9	28	--	--	1000*	CL-ML
		End of Boring								
625			80							

LOG OF TEST BORING NO: TB-W-5

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				SOIL SAMPLE DATA							
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	
		TOPSOIL	1.0	LS-1	2 2 3	5	--	--	--		
700		Medium Compact Brown to Gray SILTY FINE SAND with Little Clay & Trace of Gravel [SM]	5	LS-2	6 5 7	12	--	--	--	SM	
					LS-3	4 6 7	13	--	--	--	
695				10	LS-4	10 12 14	26	--	--	--	SM
				12.0							
690		Stiff to Very Stiff Gray SILTY CLAY with Trace of Sand & Gravel [CL]	15	LS-5	3 2 5	8	--	--	--	CL	
					ST-1	pushed 24"	--	19.1	112.1	5595	CL
685				20	LS-6	4 5 8	13	--	--	--	
680				25	LS-7			--	--	--	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								

Total Depth: 80 FT
 Drilling Date: 07/11/08 & 07/14/08
 Inspector: M. McNamara
 Contractor: Mateco Drilling Co.
 Driller: J. Pitsch

Water Level Observation:
 Groundwater at 50.8 ft bgs upon completion.

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 3678.5 N 7349.9

FIGURE NO. B-5

LOG OF TEST BORING NO: TB-W-5

Project Name: WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: alp

SUBSURFACE PROFILE				SOIL SAMPLE DATA						
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 705.3±	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 Little Sand & Trace of Gravel [CL]	40	ST-3	pushed 24"	--	20.2	107.1	--	CL
				LS-10	5 9 14	23	--	--	8000*- 8500*	
660			45	LS-11	8 7 17	24	--	--	9000*	CL
				ST-4	pushed 24"	--	14.1	121.2	6052	CL
655			50	LS-12	9 12 14	26	--	--	9000*	
650			55	LS-13	6 5 7	12	--	--	5500*	CL
		56.0								
		Very Soft Gray SILTY CLAY with Trace to Little Sand & Trace of Gravel [CL]	58.0	ST-5	pushed 24"	--	33.3	86.6	305	CL
645		Stiff to Very Stiff Gray SILTY CLAY with Trace of Sand & Gravel	61.0	LS-14	4 5 6	11	--	--	4020	
640		Loose Gray SILT with Trace of Clay & Fine Sand	65.0	LS-15	3 3 5	8	--	--	--	ML
		Loose Gray SILTY CLAY with Trace of Fine Sand	68.0	ST-6	pushed 24"	--	24.5	101.9	--	CL
635		Loose to Medium Compact Gray SILT with Trace of Clay & Fine Sand	70	LS-16	3 4 5	9	--	--	--	
630			75	LS-17	6 9 21	30	--	--	--	ML
		Medium Compact to Very Compact SILTY FINE SAND with Trace of Gravel [SM]								
625			80.0	LS-18	7 17 38	55	--	--	--	SM
		End of Boring								

LOG OF TEST BORING NO: TB-W-6

Project Name: WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: *dip*

SUBSURFACE PROFILE				SOIL SAMPLE DATA							
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		Topsoil	0.5								
		Loose Brown SILTY FINE SAND with Trace of Clay [SM]	4.0	LS-1	1 2 3	5	--	--	--		
				LS-2	8 10 14	24	--	--	--	SM	
700		Medium Compact to Compact Gray SILTY FINE SAND with Trace of Clay [SM]	5	LS-3	6 8 9	17	--	--	--		
				LS-4	9 15 19	34	--	--	--	SM	
695											
		Medium Compact Gray FINE SANDY SILT with Some Very Stiff Clay	12.0	LS-5	6 12 17	29	--	--	8000*	ML	
690											
		Very Stiff Gray CLAYEY SILT with Little Fine Sand [CL-ML]	19.0	LS-6	4 7 10	17	--	--	7500*	CL-ML	
685											
		Very Stiff to Hard Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]	20.0	ST-1	pushed 24"	--	18.2	113.7	--		
				LS-7	7 9 12	21	--	--	7000* 8000*		
680											
				LS-8	4 8 14	22	--	--	9000*	CL	
				ST-2	pushed 24"	--	17.8	114.2	5682	CL	
675				LS-9	5 7 11	18	--	--	7500* 8000*		
670											
				37.2							

Total Depth: 80 FT
 Drilling Date: 07/18/08
 Inspector: M. McNamara
 Contractor: 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:
 Borehole backfilled with cement-bentonite grout.

Water Level Observation:
 Groundwater at 52.0 ft bgs upon completion.

Notes:
 * - Pocket Penetrometer Value

Location Coordinates:
 E 4028.3 N 7348.2

FIGURE NO. B-6

LOG OF TEST BORING NO: TB-W-6

Project Name: WAYNE DISPOSAL, INC. - WOOD LOT



Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: *dip*

SUBSURFACE PROFILE				SOIL SAMPLE DATA								
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		
665		Stiff to Very Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]	40	LS-10	8 12 16	28	--	--	5000* 7500*	CL		
660				ST- no recovery	pushed 24"	--	--	--	--			
			45	LS-11	7 12 19	31	--	--	7500*	CL		
				ST-3	pushed 12"	--	17.8	114.7	--	CL		
655				LS-12	22 9 11	20	14.2	121.1	6638			
			50									
650				55	LS-13	4 5 6	11	--	--	6000*	CL	
645				60		ST-4	pushed 24"	--	33.2	92.0	303	CL
					LS-14	4 5 5	10	18.5	114.4	2220		
640				Medium Compact to Compact Gray FINE SANDY SILT with Trace to Little Clay	65	LS-15	6 7 8	15	--	--	--	ML
635												
	70	LS-16			4 9 12	21	--	--	--	ML		
630		75			LS-17	4 10 34	44	--	--	--	ML	
625		79.0 80.0			7 13 23							
		Hard Gray SILTY CLAY with Some SAND & Trace of Gravel End of Boring	80	LS-18		36	--	--	9000*	CL		

LOG OF TEST BORING NO: TB-W-7

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				SOIL SAMPLE DATA						
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 704.3	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
700		SANDY TOPSOIL	1.0		3					
		Loose to Medium Compact FINE TO MEDIUM SAND with Trace of Clay & Silt	5	LS-1	4	7	--	--	--	
				LS-2	5	11	--	--	--	SM
				LS-3	6	22	--	--	--	
695		Medium Compact to Compact Gray FINE SANDY SILT [ML]			6					
		LS-4	9	15	--	--	--	ML		
		Medium Compact Gray SILTY FINE SAND with Trace of Clay [SM]	10	LS-5	12	28	--	--	--	
				LS-6	6	18	--	--	--	SM
690		Stiff to Very Stiff Gray SILTY CLAY with Trace to Little Sand & Trace of Gravel [CL]	15	LS-7	6	12	--	--	7000*	
ST-1				pushed 24"	--	28.2	96.8	7000*	CL	
685			20	LS-8	9	12	--	--	6000*- 8000*	
				LS-9	6	10	--	--	6000*	CL-ML
680			25	LS-10	7	13	--	--	6000*	
				ST-2	pushed 24"	--	18.7	112.3	5960	CL
675			30	LS-11	11	19	--	--	6000*	
				LS-12	9	15	--	--	7000*- 8000*	CL
670			35	LS-13	11	21	--	--	7500*- 8000*	
				ST-3	pushed 24"	--	18.0	114.6	7320	CL
				LS-14	18	30	--	--	7500*- 9000*	
					37.2	LS-15	14	24	--	--

Total Depth: 80 FT
 Drilling Date: 09/03/08 & 09/04/08
 Inspector: M. McNamara
 Contractor: Mateco Drilling Co.
 Driller: R. Crosby

Water Level Observation:
 Groundwater at 49.3 ft bgs upon completion.

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-7 installed in borehole with screen tip set at 78.0 ft bgs.

Location Coordinates:
 E 4328.2 N 7346.7

FIGURE NO. B-7

LOG OF TEST BORING NO: TB-W-7

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				SOIL SAMPLE DATA						
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 704.3	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
665		Stiff to Hard Gray SILTY CLAY with Trace to Little Sand & Trace of Gravel [CL]	40	LS-16	7 10 14	24	--	--	8000* 8500*	
				ST-4	pushed 24"	--	15.6	118.6	--	CL
				LS-17	4 9 12	21	--	--	8500* 9000*	
660			45	LS-18	6 10 12	22	--	--	6500* 7000*	CL
				LS-19	5 11 13	24	--	--	8500*	
				ST-5	pushed 24"	--	25.2	101.1	3680	CL
655				LS-20	4 8 8	16	--	--	5000* 7500*	
			55	Stiff to Very Stiff Gray SILTY CLAY with Trace of Sand & Gravel [CL]	LS-21	3 4 6	10	--	--	3500* 5000*
650		LS-22			9 13 8	21	--	--	5000*	
		ST-6			pushed 24"	--	25.6	99.6	--	CL-ML
		LS-23			3 4 6	10	--	--	5500*	
645		LS-24			5 9 11	20	--	--	--	MH
		Loose to Medium Compact Gray CLAYEY SILT with Trace of Fine Sand [MH]	60	LS-25	2 3 4	7	--	--	--	
640				LS-26	5 6 6	12	--	--	--	CL-ML
		Medium Compact Gray CLAYEY SILT with Trace of Fine Sand [CL-ML]	65	LS-27	4 6 7	15	--	--	--	
				LS-28	3 4 6	10	--	--	--	SM
635		Loose Gray FINE SAND with Trace of Clay & Silt	70	LS-29	8 8 13	21	--	--	--	
				LS-30	6 6 8	14	--	--	--	MH
				LS-31	10 25 29	54	--	--	--	
630		Medium Compact to Very Compact Gray FINE SANDY SILT with Trace of Clay	75	LS-32	7 17 26	43	--	--	--	MH
				LS-33	18 31 37	68	--	--	--	
				LS-34	9 22 32	54	--	--	--	MH
625										
		End of Boring	80.0	80						

LOG OF TEST BORING NO: TB-W-8

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				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
705		SANDY TOPSOIL	0.5							
		Medium Compact Brown to Brown & Gray FINE TO MEDIUM SAND with Little Clay & Silt [SC]		LS-1	4 6 9	15	--	--	--	SC
					3 6 11	17	--	--	--	
700			5	LS-2						
					7 11 13	24	--	--	--	ML
					5 13 19	32	--	--	--	
695			10	LS-4						
					5 8 8	16	--	--	--	ML
690			15	LS-5						
					4 5 9	14	--	--	6000*	CL
685			20	LS-6						
					pushed 24"	--	17.8	115.1	5100	CL
					4 7 9	16	--	--	7500*	
680			25	LS-7						
					8 10 12	22	--	--	6500*- 8000*	CL
675			30	LS-8						
					pushed 24"	--	17.8	114.0	1660	CL
					7 12 15	27	--	--	9000*	
670			35	LS-9						
			37.2							

Total Depth: 80 FT
 Drilling Date: 09/09/08 & 09/10/08
 Inspector: M. McNamara
 Contractor: Mateco Drilling Co.
 Driller: R. Crosby

Water Level Observation:
 Groundwater at 51.0 ft bgs upon completion.

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 4628.3 N 7345.2

FIGURE NO. B-8

LOG OF TEST BORING NO: TB-W-9

Project Name: *WAYNE DISPOSAL, INC. - WOOD LOT*

Project Location: *BELLEVILLE, MICHIGAN*



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: *dip*

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	
705		SANDY TOPSOIL	0.7		2 4 8	12	--	--	--		
		Medium Compact Brown SILTY FINE TO MEDIUM SAND with Trace of Clay [SM]	5.0	5	LS-1	5 8 7	15	--	--	--	SM
700											
		Medium Compact Gray FINE TO MEDIUM SAND with Trace of Clay [SM]	7.5		LS-3	6 9 12	21	--	--	--	SM
695											
		Medium Compact Gray SILTY FINE SAND with Trace of Clay [SM]	14.0	15	LS-5	3 5 8	13	--	--	5000*- 6000*	CL
690											
		Very Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]	20.0	20	LS-6	4 7 11	18	--	--	7000*	
685											
		Very Stiff to Hard Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]		25	ST-2	pushed 24"	--	17.3	113.1	9000*	CL
680											
			30	LS-7	5 8 11	19	--	--	7000*- 9000*	CL	
675											
				35	LS-8	6 8 12	20	--	--	9000*	
670											
			37.2								

Total Depth: 80 FT
 Drilling Date: 09/11/08 & 09/12/08
 Inspector: M. McNamara
 Contractor: Mateco Drilling Co.
 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

FIGURE NO. B-9

LOG OF TEST BORING NO: TB-W-9

Project Name: WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: *dip*

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
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
			44.0		9 12 15					
660		Very Stiff to Hard Gray SILTY CLAY with Trace to Some Sand, Trace of Gravel & Occasional Silt Seams [CL]	45	LS-9		27	--	--	9000*	CL
				ST-5	pushed 24"	--	12.5	122.6	8360	CL
			50	LS-10	3 5 6	11	--	--	5000* - 6000*	
655			53.0							
650		Medium Compact Gray CLAYEY SILT with Trace of Fine Sand [MH]	55	ST-6	pushed 24"	--	21.9	104.2	--	MH
				LS-11	8 8 10	18	--	--	--	
			58.0							
645		Compact Gray FINE SANDY SILT with Trace Clay [ML]	60	LS-12	10 13 18	31	--	--	--	ML
			65	LS-13	13 20 22	42	--	--	--	ML
640										
			70	LS-14	8 19 20	39	--	--	--	MH
635			72.0							
		Medium Compact to Compact Gray SILTY FINE SAND with Trace of Clay	75	LS-15	16 18 20	38	--	--	--	SM
630										
			80.0							
			80	LS-16	9 13 17	30	--	--	--	SM
625		End of Boring								

LOG OF TEST BORING NO: TB-W-10

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				SOIL SAMPLE DATA						
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		2					
				LS-1	3					
					5	8	--	--	--	
				LS-2	3					
					3	7	--	--	--	SM
700		Loose to Medium Compact Brown & Gray SILTY FINE SAND	5		4					
				LS-3	5					
					3	8	--	--	--	
				LS-4	6					
					6	14	--	--	--	
695		Medium Compact Gray SILTY FINE SAND	10	LS-5	9	23	--	--	--	SM
					14					
				LS-6	8	22	--	--	--	
					10					
					12					
690		Medium Compact Gray FINE SANDY SILT with Trace of Clay	15	LS-7	5	22	--	--	--	ML
					11					
				LS-8	3				3500*-	
					3	8	--	--	4500*	
					5					
		Stiff to Very Stiff Gray SILTY CLAY with Some Sand & Trace of Gravel	15	ST-1	pushed 24"	--	26.3	101.3	--	CL
					5					
685				LS-9	7	15	--	--	6000*	
					8					
				LS-10	4				5000*	CL
					5	11	--	--		
				LS-11	4	10	--	--	6000*	
680					6					
				ST-2	pushed 24"	--	17.7	114.6	--	CL
					4					
				LS-12	6	14	--	--	5000*-	
					8				7000*	
675		Stiff to Very Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]	30	LS-13	3	11	--	--	3500*	
					5					
					6					
				LS-14	9	23	--	--	5000*-	CL
					11				6500*	
					12					
				LS-15	3	10	--	--	6000*-	
					4				7000*	
					6					
670				LS-16	5	11	--	--	6500*-	
					4				7500*	
					7					
			37.2							

Total Depth: 127 FT
 Drilling Date: 07/02/08 & 07/10/08
 Inspector: M. McNamara
 Contractor: Mateco Drilling Co.
 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

FIGURE NO. B-10

LOG OF TEST BORING NO: TB-W-10

Project Name: WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: *dip*

SUBSURFACE PROFILE				SOIL SAMPLE DATA						
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
665		Stiff to Very Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL] 40.0	40	ST-3	pushed 24"	--	17.0	115.7	--	CL
				LS-17	7 9 14	23	--	--	7000*	
				LS-18	8 12 16	28	--	--	8500*	
660			45	LS-19	4 7 12	19	--	--	7000*- 9000*	
		Stiff to Hard Gray SILTY CLAY with Some Sand & Trace of Gravel [CL] 50.0		ST-4	pushed 24"	--	17.2	118.7	3546	CL
				LS-20	10 16 19	35	--	--	6000*	
655			50	LS-21	8 10 15	25	--	--	6500*- 7500*	
				LS-22	5 5 9	14	--	--	7500*	CL
				LS-23	4 6 7	13	--	--	5000*- 8500*	
650			55	ST-5	pushed 24"	--	19.1	111.0	--	CL
				LS-24	26 32 34	66	--	--	--	
645			60	LS-25	5 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 [CL] 67.0		LS-26	3 3 5	8	--	--	3500*- 4500*	
			65	LS-27	4 5 6	11	17.7	115.7	5340	
				LS-28	4 6 6	12	--	--	--	
635			70	LS-29	8 8 28	36	--	--	--	
		Medium Compact Gray CLAYEY SILT with Little Sand & Trace of Gravel 76.0		ST- no recovery	pushed 20"	--	--	--	--	
				LS-30	12 9 12	21	--	--	--	
630			75	ST-7	pushed 24"	--	18.7	--	--	CL-ML
				LS-31	21 32 50/1"	82/7"	--	--	>9000*	
625		Hard Gray SILT & CLAY with Some Sand & Trace of Gravel 82.3	80	LS-32	32 50/2"	50/2"	--	--	>9000*	
				LS-33	30 17 23	40	--	--	>9000*	CL-ML

LOG OF TEST BORING NO: TB-W-10

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				SOIL SAMPLE DATA						
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
620		Hard Gray SILT & CLAY with Some Sand & Trace of Gravel	85.0	LS-34	24 41 50/5"	91/11"	--	--	>9000*	
		Gray SILTY SAND	86.0	LS-35	23 50/4"	50/4"	--	--	>9000*	
		Very Compact Gray FINE SANDY SILT with Trace of Clay	88.0	LS-36	27 50/5"	50/5"	--	--	--	ML
615		Hard Gray SILTY CLAY with Some Sand & Trace of Gravel	90.0	LS-37	27 34 40	74	--	--	>9000*	
				LS-38	12 19 26	45	--	--	>9000*	
610			94.0	ST-8	pushed 12"	--	12.2	127.7	--	CL-ML
			95.0	LS-39	50/5"	50/5"	--	--	--	
		Medium Compact to Very Compact MEDIUM TO COARSE SAND with Little to Some Gravel & Little Silt	100.0	LS-40	25 40 49	89	--	--	--	SM
605				LS-41	5 6 8	14	--	--	--	
600			104.0	LS-42	23 45 32	77	--	--	--	SM
595		Very Compact CLAYEY SAND with Little Silt & Trace of Gravel	110.0	LS-43	32 38 49	87	--	--	--	SM
590		Very Stiff to Hard SILTY CLAY with Some Sand, Gravel & Occasional Silt Seams	115.0	LS-44	41 50/4"	50/4"	--	--	7000*- 9000*	CL
585		Compact Gray CLAYEY SAND with Some Gravel	120.0	LS-45	37 41 27	68	--	--	--	SM
580			125.0	LS-46	100 -- --	100/6"	--	--	--	SM
		BEDROCK: SHALE	127.0	LS-47	100/3" -- --	100/3"	--	--	--	
		End of Boring								

LOG OF TEST BORING NO: TB-W-11

Project Name: WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: alp

SUBSURFACE PROFILE				SOIL SAMPLE DATA						
ELEV. (ft)	PRO-FILE	GROUND SURFACE ELEVATION: 705.2±	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD. PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP. ST. (psf)	USCS
		SANDY TOPSOIL	0.7		5					
		Medium Compact Brown SILTY FINE TO MEDIUM SAND [SM]	3.0	LS-1	5	11	13.9	--	--	SM
700		Medium Compact Gray SILTY SAND	6.0	LS-2	10	16	--	--	--	
		Medium Compact Gray SILTY FINE SAND [SM]	10	LS-3	12	22	21.9	--	--	SM
695				LS-4	13	25	--	--	--	
			12.0							
690			15	LS-5	5	9	24.6	--	3500*-4000*	CL
				ST-1	pushed 24"	--	20.5	109.4	3361	CL
685			20	LS-6	10	17	--	--	4500*	
				ST-2	pushed 24"	--	--	--	--	CL
680		Stiff to Very Stiff Gray SILTY CLAY with Little Sand & Trace of Gravel [CL]	25	LS-7	9	16	--	--	5000*-6000*	
				ST-3	pushed 24"	--	17.6	115.4	--	CL
675			30	LS-8	13	23	--	--	5000*-7000*	
670			35	LS-9	16	27	19.8	--	3000*-5000*	CL
			36.0							
		Very Stiff to Hard Gray SILTY CLAY with Trace of Gravel	37.2							

Total Depth: 80 FT
 Drilling Date: 06/26/08 & 06/27/08
 Inspector: M. McNamara
 Contractor: 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:
 Borehole backfilled with cement-bentonite grout.

Water Level Observation:
 Groundwater at 7.5 ft bgs upon completion.

Notes:
 * - Pocket Penetrometer Value

Location Coordinates:
 E 4026.8 N 7051.2

FIGURE NO. B-11

LOG OF TEST BORING NO: TB-W-11

Project Name: WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: dip

SUBSURFACE PROFILE				SOIL SAMPLE DATA						
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 705.2±	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 Little Sand & Trace of Gravel	40	ST-4	pushed 24"	--	17.8	113.9	8421	CL
				LS-10	5 9 14	23	--	--	8500*	
660			45	ST-5	pushed 24"	--	15.9	118.9	--	CL
				LS-11	9 12 18	30	--	--	8500*	
655			49.0		6 10 16				4500*- 7500*	CL
		Stiff to Very Stiff Gray SILTY CLAY with Occasional Silt Lenses [CL]	50	LS-12		26	22.8	--		
650				ST-6	pushed 24"	--	14.9	121.3	6721	CL
			55	LS-13	4 6 8	14	--	--	2500*- 4000*	
645			56.0							
		Stiff to Very Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL-ML]	60	LS-14	4 4 6	10	14.9	--	3500*- 4500*	CL-ML
640			61.0							
		Medium Compact Gray CLAYEY SILT [ML]	65	ST-7	pushed 24"	--	22.8	105.5	--	ML
				LS-15	5 10 13	23	--	--	--	
635			67.0							
		Medium Gray SILTY CLAY with Some Sand & Trace of Gravel	70	ST-8	pushed 24"	--	21.4	103.2	1134	CL
				LS-16	4 5 5	10	--	--	--	
630			74.0							
		Hard Gray SILTY CLAY with Some Sand, Trace of Gravel & Occasional Sand Lenses	75	LS-17	8 15 19	34	8.5	136.4	13936	CL-ML
625			80.0							
				LS-18	50/3" --	50/3"	11.7	--	9000*	CL-ML
		End of Boring								

LOG OF TEST BORING NO: TB-W-12

Project Name: WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: dip

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
		TOPSOIL	0.7		2 3 5	8	--	--	--	
700		Loose to Medium Compact Brown & Gray SILTY FINE SAND	5.0	LS-1	8 12 14	26	22.1	--	--	SM
		Medium Compact Gray SILTY FINE SAND		LS-3	8 11 17	28	--	--	--	
695			10	LS-4	8 14 13	27	21.2	--	--	SM
		Very Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel	11.0							
690			15	LS-5	3 5 6	11	14.8	--	4000*- 6000*	CL
685			20.0	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*	
		Stiff to Hard Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel		ST-2	pushed 24"	--	17.7	114.1	3480	CL
675			30	LS-8	8 11 15	26	--	--	6000*- 7500*	
670			35	LS-9	5 10 16	26	16.2	--	8500*	CL
			37.2							

Total Depth: 100 FT
 Drilling Date: 07/01/08 & 07/02/08
 Inspector: M. McNamara
 Contractor: Mateco Drilling Co.
 Driller: J. Pitsch

Water Level Observation:
 Groundwater at 51.8 ft bgs upon completion.

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-12 installed in borehole with screen
 tip set at 99.0 ft bgs.

Location Coordinates:
 E 4326.99 N 7041.95

FIGURE NO. B-12

LOG OF TEST BORING NO: TB-W-12

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					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		Stiff to Very Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel	40	ST-3	pushed 24"	--	13.3	121.9	3443	CL
				LS-10	7 12 17	29	13.9	--	7000*- 8000*	CL
660			45	ST-no recovery	pushed 24"	--	--	--	--	
				LS-11	10 15 21	36	16.2	--	7500*	CL
655			50.0	ST-no recovery	pushed 24"	--	--	--	--	
		Very Stiff Gray SILTY CLAY with Frequent Sand Seams	53.0	LS-12	6 9 17	26	--	--	7500*	
650		Medium Compact Gray CLAYEY SILT with Little Sand & Trace of Gravel	55	ST-4	pushed 24"	--	25.4	100.8	--	CL-ML
				LS-13	4 5 7	12	--	--	--	
645			60	ST-5	pushed 24"	--	1.9	136.4	--	MH
				LS-14	7 6 5	11	23.0	--	--	ML
640			68.0	ST-6	pushed 24"	--	21.2	108.4	--	ML
635		Stiff Gray SILTY CLAY	71.0	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		Very Stiff to Hard Gray SILTY CLAY with Some Sand & Trace of Gravel	75	LS-16	12 20 29	49	--	--	>9000*	
				LS-17	8 13 17	30	11.8	--	7000*- 9000*	CL
625			81.0							
		Medium Gray SILTY CLAY with Some Sand & Trace of Gravel	82.3							

LOG OF TEST BORING NO: TB-W-12

Project Name: WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: dip

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
620		Medium Gray SILTY CLAY with Some Sand & Trace of Gravel	83.0	ST-8	-	-	14.9	117.2	1751	CL
		Very Stiff to Hard Gray SILTY CLAY with Some Sand & Trace of Gravel	85	LS-18	pushed 24" 11 19 31	50	-	-	9000*	
			86.0							
615		Very Compact FINE SAND & SILT with Trace of Clay	90.0	LS-19	18 26 50/4"	76/10"	16.6	-	-	ML
610		Very Compact SAND & GRAVEL with Little Silty Clay	95	LS-20	21 50/5" --	50/5"	7.0	-	-	SM
605			100.0	LS-21	23 38 50/5"	88/11"	6.9	-	-	SM
		End of Boring								
600			105							
595			110							
590			115							
585			120							
580			125							

FIGURE NO. B-13

LOG OF TEST BORING NO: TB-W-13

Project Name: WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: *dip*

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
665		Very Stiff to Hard Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]	40	ST-4	pushed 24"	--	--	--	--	CL
				LS-10	5 9 13	22	--	--	9000*	
			45	ST-5	pushed 24"	--	15.9	114.7	6118	CL
660				LS-11	7 10 16	26	--	--	8500*	
			48.0							
655		Very Stiff Gray SILTY CLAY with Trace to Some Sand, Trace of Gravel & Occasional Silt Lenses [CL]	50	LS-12	5 8 12	20	12.8	132.7	5000*- 7500*	CL
				ST-6	pushed 24"	--	16.7	115.4	5000*	CL
			55	LS-13	6 8 9	17	--	--	6000*	
650			57.0							
645		Medium to Stiff Gray SILTY CLAY with Trace of Sand [CL]	60	LS-14	3 5 5	10	19.0	114.7	1646	CL
				ST-7	pushed 24"	--	21.2	108.4	1936	CL
			65	LS-15	5 7 9	16	--	--	5000*	
640			66.0							
635		Medium Compact Gray SILT with Trace of Sand & Clay [ML]	70	LS-16	4 5 6	11	--	--	--	
				ST-8	pushed 24"	--	27.9	96.3	--	CL
			75	LS-17	5 10 17	27	21.1	--	--	ML
630			75.0							
		Compact Gray SILT & SAND with Trace of Clay [SM]	80	LS-18	11 17 21	38	19.9	--	--	SM
625										
		End of Boring								

LOG OF TEST BORING NO: TB-W-14

Project Name: WAYNE DISPOSAL, INC. - WOOD LOT

Project Location: BELLEVILLE, MICHIGAN



NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: *dip*

SUBSURFACE PROFILE				SOIL SAMPLE DATA						
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 704.8	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
700		Loose Brown & Gray SILTY SAND with Trace of Clay	2.0	LS-1	3 3 7	10	--	--	--	
		Medium Compact Brown, Gray & Black SILTY SAND [SM]	5	LS-2	8 8 10	18	15.1	--	--	SM
695		Medium Compact Brown SILTY FINE SAND [SM]	6.5	LS-3	4 6 9	15	--	--	--	
		Medium Compact Brown & Gray SILTY FINE TO MEDIUM SAND	9.0	LS-4	4 6 8	14	--	--	--	
690		Loose to Medium Compact SILTY FINE SAND [SM]	12.0	LS-5	8 12 13	25	19.3	--	--	SM
		Very Stiff Gray SILTY CLAY with Some Sand & Trace of Gravel	15	LS-6	5 5 9	14	--	--	--	
685		Very Stiff to Hard Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]	17.0	LS-7	4 5 5	10	21.2	--	--	SM
			20	LS-8	3 6 5	11	--	--	2000*	
680			25	ST-1	pushed 24"	--	23.4	103.6	--	SM
			30	LS-9	5 5 6	11	--	--	4000*- 5000*	
675			35	ST-2	pushed 24"	--	--	--	--	
			37.2	LS-10	3 5 7	12	--	--	6500*	
670				ST-3	pushed 24"	--	17.7	116.0	6500*	CL
				LS-11	6 9 15	24	--	--	8000*- 8500*	
				ST-4	pushed 24"	--	--	--	--	CL
				LS-12	7 11 15	26	--	--	8500*	
				ST-5	pushed 24"	--	17.9	114.2	11202	CL
				LS-13	7 11 14	25	--	--	8500*	

Total Depth: 80 FT
 Drilling Date: 06/24/08 & 06/25/08
 Inspector: M. McNamara
 Contractor: Mateco Drilling Co.
 Driller: J. Pitsch

Water Level Observation:

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

FIGURE NO. B-14

LOG OF TEST BORING NO: TB-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*

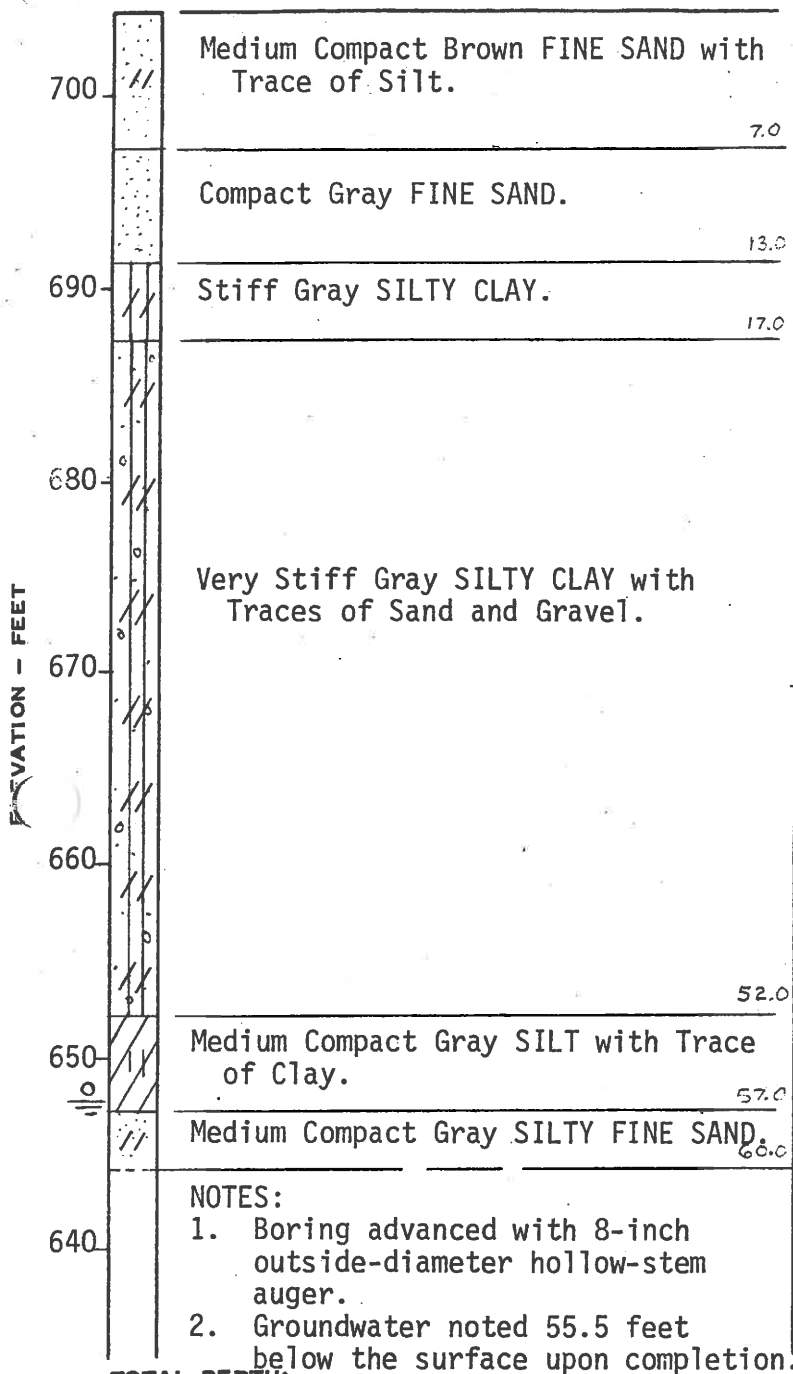
SUBSURFACE PROFILE				SOIL SAMPLE DATA												
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 704.8	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS						
665		Very Stiff to Hard Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]	40.0	40	LS-14	9	27	15.0	--	9000*	CL					
					LS-15	10	20	--	--	9000*						
						17										
660		Stiff to Hard Gray SILTY CLAY with Trace to Some Sand, Trace of Gravel & Occasional Silt Lenses [CL]	45	45	ST-5	13	--	20.4	108.8	--	CL					
					LS-16	7	31	--	--	9000*						
						12										
					655		Stiff to Hard Gray SILTY CLAY with Trace to Some Sand, Trace of Gravel & Occasional Silt Lenses [CL]	50	50	LS-17	19	57	--	--	9000*	
										ST-6	28	--	13.0	111.1	--	CL
29																
650		Loose Gray SILT with Trace of Clay [ML]	55.0	55	LS-18	4	12	--	--	5000*- 7000*						
					LS-19	5	14	--	--	5500*						
						6										
					645		Loose Gray FINE SANDY SILT with Trace of Gravel [ML]	60.0	60	LS-20	7	11	19.8	111.0	2536	CL-ML
										LS-21	3	9	--	--	2000*	
4																
640		Loose to Medium Compact Gray CLAYEY SILT & FINE SAND [ML]	75.0	75	LS-22	4	8	22.2	106.8		ML					
					ST-7	3	--	27.1	96.8	--	CL					
						4										
					635		Loose to Medium Compact Gray CLAYEY SILT & FINE SAND [ML]	80.0	80	LS-23	4	9	--	--	--	
										LS-24	5	9	21.5	--	--	ML
6																
630		Loose to Medium Compact Gray CLAYEY SILT & FINE SAND [ML]	80.0	80	LS-25	3	7	--	--	--						
					LS-26	3	11	21.2	--	--	ML					
						4										
					625		Loose to Medium Compact Gray CLAYEY SILT & FINE SAND [ML]	80.0	80	LS-27	4	5	--	--	--	
										LS-28	2	7	18.7	--	--	SM
3																
625		Loose to Medium Compact Gray CLAYEY SILT & FINE SAND [ML]	80.0	80	ST-8	6	--	8.8	--	--	ML					
					LS-29	8	19	--	--	--						
						11										
625		Loose to Medium Compact Gray CLAYEY SILT & FINE SAND [ML]	80.0	80	LS-30	3	7	18.7	--	--						
					LS-31	3	11	--	--	--						
						4										
625		Loose to Medium Compact Gray CLAYEY SILT & FINE SAND [ML]	80.0	80	LS-31	7	11	--	--	--						
					End of Boring											

LOG OF SUBSURFACE PROFILE

CLASSIFICATIONS BY:
NEYER, TISEO & HINDO, LTD.

GROUND SURFACE ELEVATION:
 704.1

SOIL SAMPLE DATA				
SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *
				0 10 20 30 40 50
S-1	699.1	-	-	9-14-15
S-2	694.1	-	-	14-23-28
LS-1	689.1	-	-	3-4-6
LS-2	584.1	-	-	6-7-10
LS-3	679.1	-	-	6-7-11
S-3	674.1	-	-	8-9-15
LS-4	669.1	-	-	7-10-13
LS-5	664.1	-	-	6-9-12
LS-6	659.1	-	-	14-14-15
LS-7	654.1	20.5	101.6	8-10-11
S-4	649.1	-	-	4-5-6
LS-8	644.1	-	-	12-13-11



- NOTES:**
1. Boring advanced with 8-inch 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

BORING COMPLETED: 5/23/79

INSPECTOR: D. Harpstead

DRILLER: D. Klitz

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.

3. Boring backfilled with expandable grout.

NEYER, TISEO & HINDO, LTD. CONSULTING ENGINEERS	
LOG OF TEST BORING NUMBER <u>1</u>	
SOIL AND GROUNDWATER STUDY MICHIGAN DISPOSAL LANDFILL NO. 2 VAN BUREN TOWNSHIP, MICHIGAN	
APPROVED BY: <u>DH</u>	DATE: 6/21/79
PROJECT NO. 94306	FIGURE NO. 1

LOG OF SUBSURFACE PROFILE

CLASSIFICATIONS BY:
NEYER, TISEO & HINDO, LTD.

GROUND SURFACE ELEVATION:

708.3

FILL: Black and Brown SAND with
Wood and Miscellaneous Rubble.

3.0

FILL: Medium to Stiff Gray SILTY
CLAY with Some Sand and Trace of
Gravel and Wood.

12.0

Very Stiff Gray SILTY CLAY with
Trace of Sand and Gravel.

17.5

NOTES:

1. Boring advanced with 6-inch
diameter hollow-stem auger.
2. Boring dry upon completion.
3. Boring backfilled with
excavated soils.

SOIL SAMPLE DATA

SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *				
				0	10	20	30	40 5
S-1	705.8	-	-					
LS-1	702.8	13.6	-					
LS-2	699.8	12.8	118.8					
LS-3	696.8	15.3	122.1					
LS-4	693.8	13.4	122.9					
LS-5	690.8	17.2	116.0					

TOTAL DEPTH: 17.5'
BORING STARTED: 6/6/78
BORING COMPLETED: 6/6/78
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.

NEYER, TISEO & HINDO, LTD.
CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER 55

SOIL STUDY

WAYNE DISPOSAL #2

VAN BUREN TOWNSHIP, MICHIGAN

APPROVED BY: BT

DATE: 6/12/78

PROJECT No. 94309

FIGURE No. A-81

LOG OF SUBSURFACE PROFILE
CLASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD.
GROUND SURFACE ELEVATION: 710.9

SOIL SAMPLE DATA					PENETRATION RESISTANCE *					
SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)		0	10	20	30	40	50
LS-1	707.9	7.1	106.7							
LS-2	704.9	14.2	117.9							
LS-3	701.9	22.6	103.8							
LS-4	698.9	17.8	112.8							
LS-5	695.9	21.2	107.6							

ELEVATION - FEET

710

FILL: Medium Compact Brown FINE TO MEDIUM SAND with Trace of Gravel.

4.5

705

FILL: Medium Gray SILTY SANDY CLAY.

700

Medium to Stiff Gray SILTY CLAY with Trace of Gravel.

11.0

15.0

NOTES:

1. Boring advanced with 6-inch diameter hollow-stem auger.
2. Boring dry upon completion.
3. Boring backfilled with excavated soils.

TOTAL DEPTH: 15.0'
 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 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

LOG OF TEST BORING NUMBER 56

SOIL STUDY

WAYNE DISPOSAL #2

VAN BUREN TOWNSHIP, MICHIGAN

APPROVED BY: BT DATE: 8/14/78

PROJECT No. 94309 FIGURE No. A-82

LOG OF SUBSURFACE PROFILE
CLASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD.
GROUND SURFACE ELEVATION: 704.8

SOIL SAMPLE DATA				
SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *
LS-1	701.8	20.1	108.9	
LS-2	698.8	17.6	107.5	
LS-3	695.8	19.9	109.9	
LS-4	692.8	20.3	107.5	
LS-5	689.8	18.0	113.7	
LS-6	686.8	18.7	112.9	

FILL: Medium to Stiff Gray SILTY CLAY with Trace of Gravel.

Medium Gray SANDY SILTY CLAY with Trace of Gravel.

NOTES:

1. Boring advanced with 6-inch diameter hollow-stem auger.
2. Boring dry upon completion.
3. Boring backfilled with excavated soils.

TOTAL DEPTH: 18.0'
 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 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

LOG OF TEST BORING NUMBER 57

SOIL STUDY

WAYNE DISPOSAL #2

VAN BUREN TOWNSHIP, MICHIGAN

APPROVED BY: BT

DATE: 8/14/78

PROJECT No. 94309

FIGURE No. A-83

LOG OF SUBSURFACE PROFILE

CLASSIFICATIONS BY:
NEYER, TISEO & HINDO, LTD.

GROUND SURFACE ELEVATION:

708.0

SOIL SAMPLE DATA

SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *					
				0	10	20	30	40	50
LS-1	705.0	14.8	115.8						
LS-2	702.0	13.2	117.4						
LS-3	699.0	19.8	109.9						
LS-4	696.0	20.6	102.2						
LS-5	693.0	19.0	109.2						

FILL: Stiff Gray SILTY CLAY
with Some Sand.

Stiff to Very Stiff Gray SILTY
CLAY with Trace of Gravel.

NOTES:

1. Boring advanced with 6-inch diameter hollow-stem auger.
2. Boring dry upon completion.
3. Boring backfilled with excavated soils.

TOTAL DEPTH: 15.0'
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 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

LOG OF TEST BORING NUMBER 58

SOIL STUDY

WAYNE DISPOSAL #2

VAN BUREN TOWNSHIP, MICHIGAN

APPROVED BY: BT DATE: 8/14/78

PROJECT No. 94309 FIGURE No. A-84

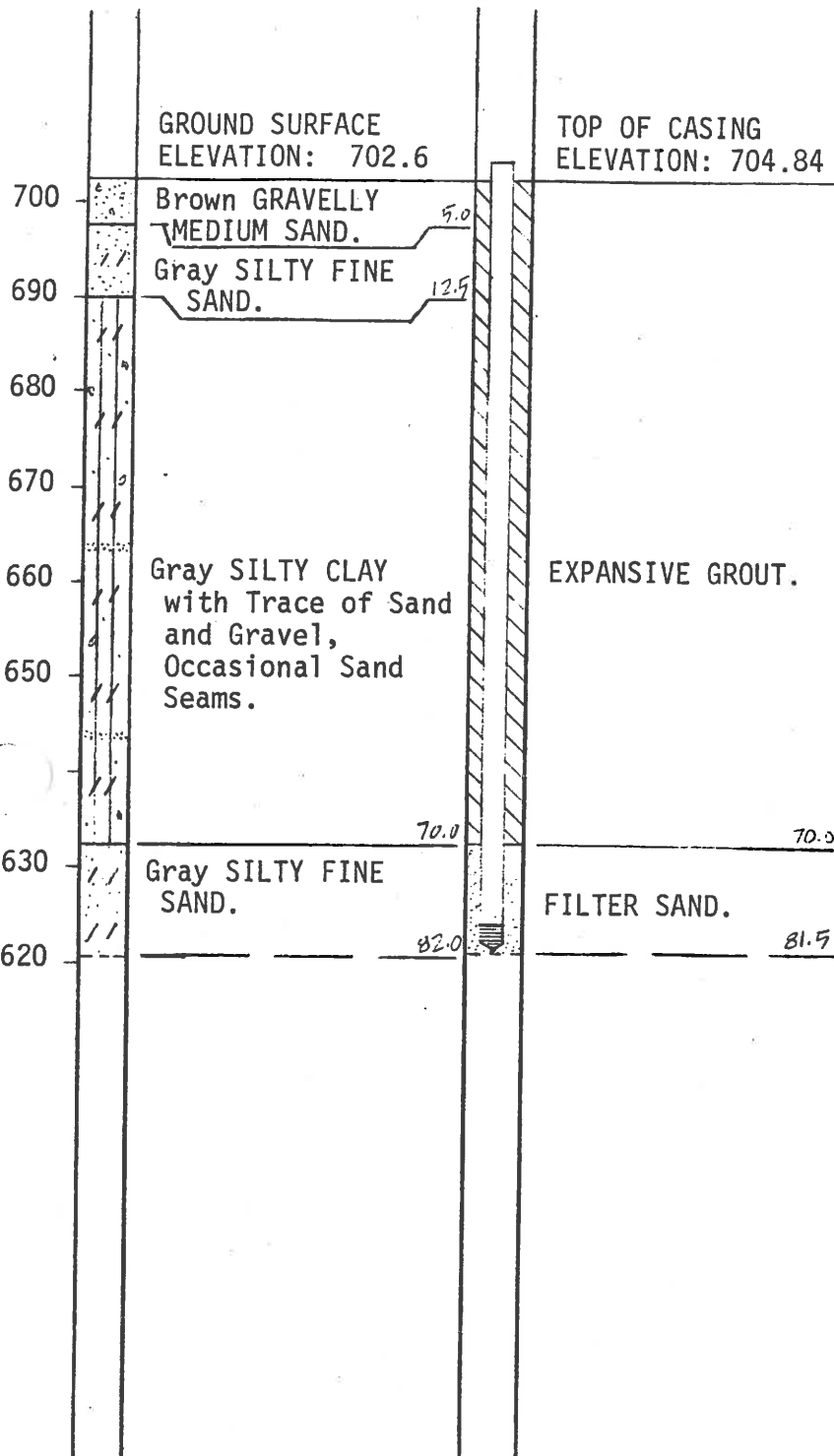
LOG OF GROUNDWATER MONITORING WELL

CLASSIFICATIONS BY:

NEYER, TISEO & HINDO, LTD.

GENERALIZED
SUBSURFACE PROFILE

WELL SCHEMATIC



GROUNDWATER DATA

DATE	GROUND-WATER ELEV. (FEET)	COMMENTS
4/9/81	649.01	
4/16/81	648.17	
4/23/81	648.67	
5/21/81	650.34	

CASING - DIAMETER: 2"
- LENGTH: 80.2'
- MATERIAL: Galvanized Steel

SCREEN - DIAMETER: 2"
- LENGTH: 3.5'
- MESH: No. 10 Slot
- MATERIAL: Stainless Steel

WELL STARTED: 4/1/81
WELL COMPLETED: 4/1/81
INSPECTOR: K. Ebere
DRILLER: A. Pearson
CONTRACTOR: Pearson Well Drilling
EQUIPMENT: Truck mounted Hole-master drilling rig utilizing 4.5-inch diameter rotary bit with drilling fluid.



NEYER, TISEO & HINDO, LTD.
CONSULTING ENGINEERS

30999 TEN MILE RD., FARMINGTON HILLS, MI 48334

GROUNDWATER MONITORING WELL No. 08-12

RAWSONVILLE LANDFILL
VAN BUREN TOWNSHIP
WAYNE COUNTY, MICHIGAN

APPROVED BY: WLB DATE: 5/5/81

PROJECT NO: 94309 FIGURE NO: 89

LOG OF GROUNDWATER MONITORING WELL

CLASSIFICATIONS BY:

NEYER, TISEO & HINDO, LTD.

GENERALIZED

SUBSURFACE PROFILE

WELL SCHEMATIC

GROUND SURFACE
ELEVATION: 700.9

TOP OF CASING
ELEVATION: 703.11

Brown MEDIUM SAND
AND GRAVEL.

EXPANSIVE GROUT.

Gray SILTY CLAY
with Trace of Sand
and Gravel, Cobbles
or Boulders at 50.0
to 53.0 feet.

Gray SILTY SAND.

SAND FILTER.

Gray SILTY CLAY.

GROUNDWATER DATA		
DATE	GROUND- WATER ELEV. (FEET)	COMMENTS
4/9/81	649.19	
4/16/81	648.78	
4/23/81	647.53	
5/21/81	649.57	

CASING - DIAMETER: 2"
- LENGTH: 79.7'
- MATERIAL: Galvanized Steel

SCREEN - DIAMETER: 2"
- LENGTH: 3.5'
- MESH: No. 10 Slot
- MATERIAL: Stainless Steel

WELL STARTED: 4/1/81
WELL COMPLETED: 4/1/81
INSPECTOR: K. Ebere
DRILLER: A. Pearson
CONTRACTOR: Pearson Well Drilling
EQUIPMENT: Truck mounted Holmaste
drilling rig utilizing
4.5-inch rotary bit
with drilling fluid



NEYER, TISEO & HINDO, LTD.

CONSULTING ENGINEERS

30900 TEN MILE RD., FARMINGTON HILLS, MI 48334

GROUNDWATER MONITORING WELL No. 0B-13

RAWSONVILLE LANDFILL
VAN BUREN TOWNSHIP
WAYNE COUNTY, MICHIGAN

APPROVED BY: WRB DATE: 5/5/81

PROJECT NO: 01200 FIGURE NO: 00

20568 Northwest Highway Southfield, Michigan 48076

Phone: 352-0949

SOIL SAMPLING RECORD

Driller B. Singleton
 Ground Water: 0 hrs. 3.2'
 24 hrs. _____
 Sampler Hammer Wt. 140 lbs. Drop 30 in.
 Sampler Size 2 in. C.D.

Hole No. 21 Surface Elevation 705.0 Sheet No. 1 of 2 sheets
 For Wayne Disposal Company
Sanitary Landfill Site
 Location Belleville, Michigan
 Started 2-14-75 Completed 2-17-75 Job No. 625

ELEVATION	DEPTH	Drillers Log <input type="checkbox"/> Geologist Log <input type="checkbox"/>	SAMPLE DEPTH	BLOWS ON SAMPLE 6" CASEY INCREMENTS
		Consistency Color Basic Texture Moisture		
	1.0'	Moist Loose dark brown sandy loam - top soil		
		Medium compact brown (reddish) fine to medium sand, trace of coarse sand.		
	3.2'	Moist		
		Medium compact brown fine to medium sand, some coarse sand and few small pebbles and fine gravel.	SS 1 5.0'	3-6-7
	7.5'	Moist		
		Very compact gray fine to medium sand.	SS 2 10.0'	18-30-45
		Moist		
	13.0'	Medium compact gray silty clayey fine sand.	SS 3 15.0'	7-9-9
	16.0'	Very Moist		
		Medium to firm gray silty clay, few small seams (wafer type) of extremely fine sand	SS 4 20.0'	5-7-8
	21.0'	Moist		
		Firm to stiff gray silty clay, trace of fine sand, few small pebbles and trace of fine to medium gravel.	SS 5 25.0'	5-10-15
		Moist		
			SS 6 30.0'	7-12-16
	34.0'	Stiff gray silty clay, some fine sand, few small pebbles and trace of fine gravel.	SS 7 35.0'	9-14-20
		Moist		
	39.0'		SS 8 40.0'	14-21-30

(Continued on Page 2)

S.S. - STANDARD SAMPLE
 S.T. - SHELBY TUBE
 L.S. - LINER SAMPLE

USED _____ OF _____ CASINGS

Signed _____

Figure A-40

20562 Northwestern Highway Southfield, Michigan 48076

Phone 852-8949

SOIL SAMPLING RECORD

Driller B. Singleton
 Ground Water: 0 hrs. 3.2'
 24 hrs. _____
 Sampler Hammer Wt. 140 lbs. Drop 30 in.
 Sampler Size 2 in. O.D.

Hole No. 21 Surface Elevation 705.0 Sheet No. 2 of 2 sheet
 For Wayne Disposal Company
Sanitary Landfill Site
 Location Belleville, Michigan
 Started 2-14-75 Completed 2-17-75 Job No. 625

ELEVATION	DEPTH	Drillers Log <input type="checkbox"/> Geologist Log <input type="checkbox"/>	SAMPLE DEPTH	BLOWS ON SAMPLE
		Consistency Color Basic Texture Moisture		6" INCHES INCREMENTS
		Hard gray silty clay, some fine sand, few small pebbles and fine gravel.		
		Moist		
			SS 9 45.0'	18-27-35
	47.5'			
		Stiff gray silty clay, few small wafer type seams of extremely fine sand.	SS 10 50.0'	9-12-15
		Moist		
	53.5'			
		Stiff gray silty clay, some fine sand, few small pebbles and fine to medium gravel.	SS 11 55.0'	18-33-47
		Moist		
	59.0'			
		Compact gray silty clayey extremely fine sand.	SS 12 60.0'	8-16-33
		Very Moist		
	63.0'			
		Stiff gray clayey sandy silt.	SS 13 65.0'	13-9-15
		Very Moist		
	66.5'			
		Compact gray fine to medium sand		
	70.0'	Moist	SS 14 70.0'	19-20-26
		BORING STOPPED		
		At completion water level was 3.3'		
		Backfilled boring with sand and bentonite slurry		

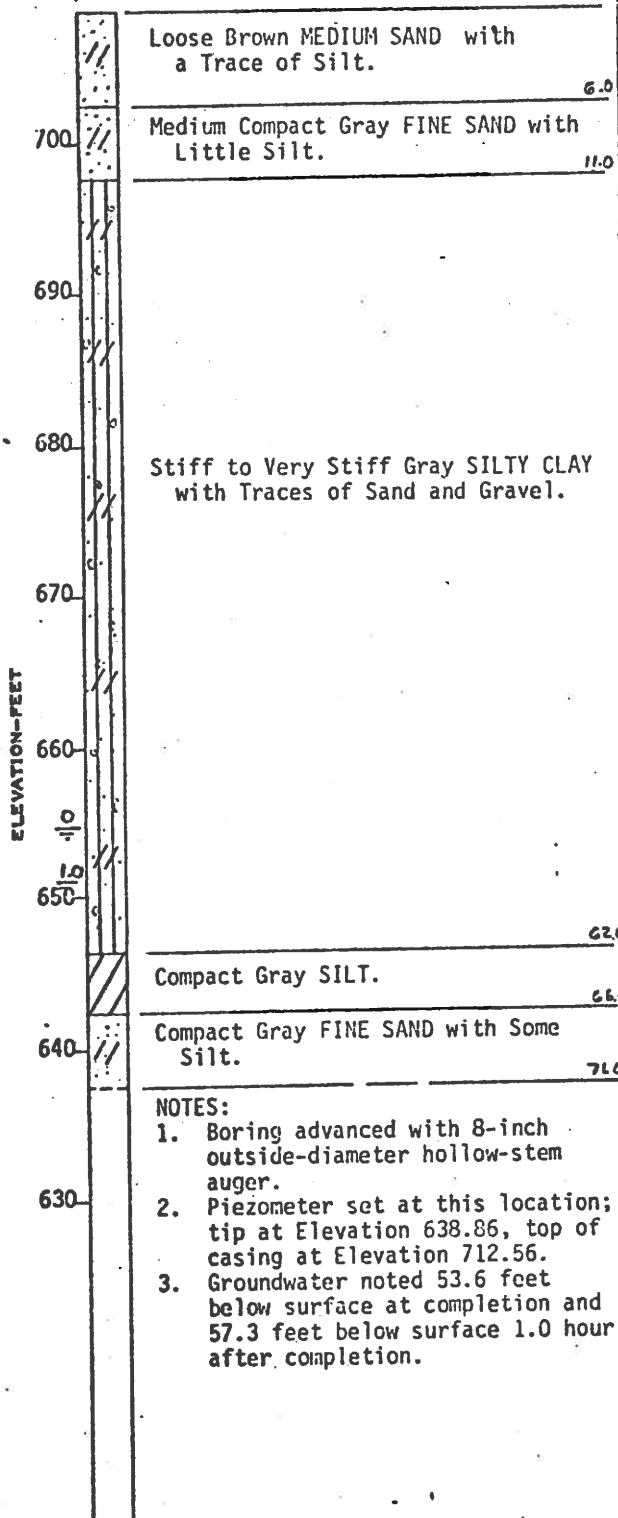
S.S. - STANDARD SAMPLE
 S.T. - SHELBY TUBE
 L.S. - LINER SAMPLE

USED 18' 3" OF CASINGS

Signed _____

Figure A-41

LOG OF SUBSURFACE PROFILE
CLASSIFICATIONS BY:
NEYER, TISEO & HINDO, LTD.
GROUND SURFACE ELEVATION:
708.4



NOTES:

1. Boring advanced with 8-inch outside-diameter hollow-stem auger.
2. Piezometer set at this location; tip at Elevation 638.86, top of casing at Elevation 712.56.
3. Groundwater noted 53.6 feet below surface at completion and 57.3 feet below surface 1.0 hour after completion.

TOTAL DEPTH: 71.0'
BORING STARTED: 5/23/79
BORING COMPLETED: 5/23/79
INSPECTOR: D. Harpstead
DRILLER: D. Klitz
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.

SOIL SAMPLE DATA				
SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION* RESISTANCE
S-1	703.4	-	-	2-2-2
S-2	698.4	-	-	11-12-13
LS-1	693.4	-	-	4-6-8
LS-2	688.4	-	-	6-9-10
S-3	683.4	-	-	7-10-13
LS-3	678.4	-	-	6-9-12
LS-4	673.4	-	-	7-14-18
LS-5	668.4	-	-	11-19-21
LS-6	663.4	-	-	11-15-19
LS-7	658.4	-	-	10-12-15
LS-8	653.4	20.5	100.8	6-9-10
LS-9	648.4	-	-	9-11-15
LS-10	643.4	-	-	8-15-19
S-4	637.4	-	-	9-11-13

NOTE: Revised Top of Casing Elevation = 712.36 on 8/2/83 due to resurvey by MCI.

NEYER, TISEO & HINDO, LTD. CONSULTING ENGINEERS	
LOG OF TEST BORING NUMBER 08-4	
SOIL AND GROUNDWATER STUDY MICHIGAN DISPOSAL LANDFILL NO. 2 VAN BUREN TOWNSHIP, MICHIGAN	
APPROVED BY: DH	DATE: 6/21/79
PROJECT No. 94309	FIGURE No. F-12

LOG OF SUBSURFACE PROFILE

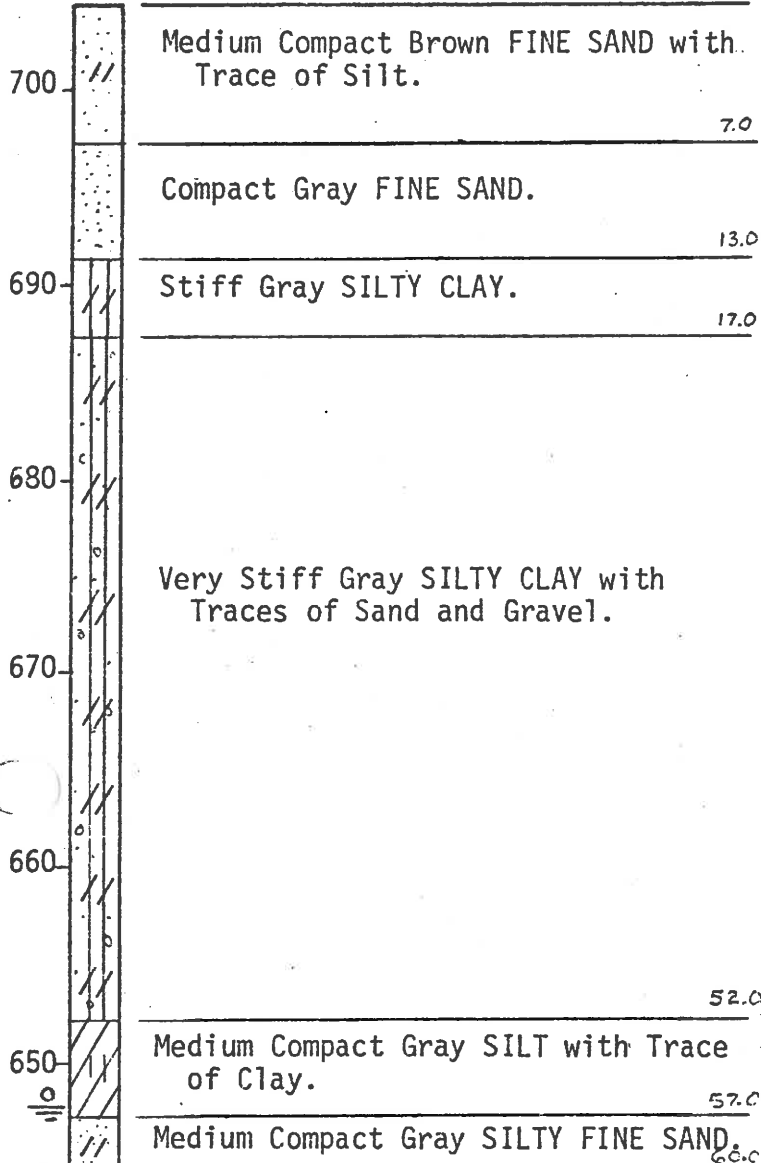
CLASSIFICATIONS BY:
NEYER, TISEO & HINDO, LTD.

GROUND SURFACE ELEVATION:

704.1

SOIL SAMPLE DATA

SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *
				0 10 20 30 40 50



S-1	699.1	-	-	9-14-15
S-2	694.1	-	-	14-23-28
LS-1	689.1	-	-	3-4-5
LS-2	584.1	-	-	6-7-10
LS-3	679.1	-	-	6-7-11
S-3	674.1	-	-	8-9-15
LS-4	669.1	-	-	7-10-13
LS-5	664.1	-	-	6-9-12
LS-6	659.1	-	-	14-14-15
LS-7	654.1	20.5	101.6	8-10-11
S-4	649.1	-	-	4-5-6
LS-8	644.1	-	-	12-13-11

NOTES:

- Boring advanced with 8-inch outside-diameter hollow-stem auger.
- Groundwater noted 55.5 feet below the surface upon completion.

TOTAL DEPTH: 60.0'
BORING STARTED: 5/23/79
BORING COMPLETED: 5/23/79
INSPECTOR: D. Harpstead
DRILLER: D. Klitz
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

- Boring backfilled with expandable grout.

NEYER, TISEO & HINDO, LTD.

CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER 27

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

APPROVED BY: DH DATE: 6/21/79
PROJECT NO. 94309 FIGURE NO. A-53

ELEVATION - FEET

LOG OF SUBSURFACE PROFILE
CLASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD.
GROUND SURFACE ELEVATION: 696.2

690	Loose Gray FINE SAND with Trace of Silt.	4.0
	Stiff Gray SILTY CLAY.	7.0
680	Very Stiff Gray SILTY CLAY with Traces of Sand and Gravel.	
670		
660		
650		
	Very Compact Gray SILT with Trace of Clay.	4.0
	Very Compact Gray FINE SAND with Trace of Silt.	45.0

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'
 BORING STARTED: 5/24/79
 BORING COMPLETED: 5/24/79
 INSPECTOR: D. Harpstead
 DRILLER: D. Klitz
 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

SOIL SAMPLE DATA									
SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *					
				0	10	20	30	40	50
LS-1	691.2	-	-				3-4-7		
LS-2	686.2	-	-				6-9-12		
LS-3	681.2	-	-				7-8-10		
LS-4	676.2	-	-				7-10-11		
LS-5	671.2	-	-			10-15-19			
LS-6	666.2	13.4	118.2		9-14-18				
LS-7	661.2	-	-		10-16-18				
LS-8	656.2	-	-		21-25-31				
LS-9	651.2	-	-		21-34-37				

NEYER, TISEO & HINDO, LTD.
 CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER 28

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

APPROVED BY: DA

DATE: 6/21/79

PROJECT NO. 04200

FIGURE NO. A-5A

LOG OF SUBSURFACE PROFILE
CLASSIFICATIONS BY:
NEYER, TISEO & HINDO, LTD.
GROUND SURFACE ELEVATION:
 675.4

670	///	FILL: Stiff Gray SILTY CLAY.	3.0
	///	Stiff to Very Stiff Gray SILTY CLAY with Trace of Fine Gravel.	
660	///		
	///	Very Stiff Gray SILTY CLAY with Layers of Gray Sand.	18.5
650	///		23.5
640	///	Medium to Stiff Gray SILTY CLAY with Layers of Silt and Trace of Sand and Fine Gravel.	
630	///		43.0
	///	Loose Gray SILT (Wet).	50.0

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.

TOTAL DEPTH: 50.0'
BORING STARTED: 01/17/80
BORING COMPLETED: 01/17/80
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.

SOIL SAMPLE DATA

SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *					
				0	10	20	30	40	50
LS-1	670.4	-	-					3-4-11	
S-1	665.4	-	-	7-12-15					
LS-2	660.4	-	-					5-8-12	
S-2	655.4	-	-	9-11-14					
LS-3	650.4	-	-					4-5-7	
S-3	645.4	-	-					3-4-5	
S-4	640.4	-	-					4-5-7	
LS-4	635.4	-	-					4-6-8	
LS-5	630.5	-	-					7-4-4	
LS-6	625.4	-	-					4-3-5	

NEYER, TISEO & HINDO, LTD.
 CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER 29

MASTER CELL IV
 WAYNE DISPOSAL, INC.
 BELLEVILLE, MICHIGAN

APPROVED BY: DA

DATE: 02/06/80

PROJECT No. 94309

FIGURE No. A-55

LOG OF SUBSURFACE PROFILE
CLASSIFICATIONS BY:
NEYER, TISEO & HINDO, LTD.
GROUND SURFACE ELEVATION:

674.4

670

Very Stiff to Hard Gray SILTY CLAY
 with Trace of Fine Gravel.

660

Medium Compact Gray SILTY FINE SAND
 with Trace of Clay and Fine
 Gravel.

650

Very Stiff Gray SILTY CLAY.

640

Medium Gray SILT with Trace of Clay.

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.

SOIL SAMPLE DATA

SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *										
				0	10	20	30	40	50					
LS-1	669.4	-	-	5	10	14								
S-1	664.4	-	-	7	14	16								
S-2	659.4	-	-	7	12	12								
	654.4	-	-							4	6	8		
S-3	649.4	-	-							5	7	9		
LS-3	644.4	-	-							9	7	9		
LS-4	639.4	-	-							4	3	8		
LS-5	634.4	-	-							3	4			

TOTAL DEPTH: 40.0'
BORING STARTED: 01/17/80
BORING COMPLETED: 01/17/80
INSPECTOR: K. Ebere
DRILLER: S. Qualls
CONTRACTOR:

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

LOG OF TEST BORING NUMBER 30

MASTER CELL IV
 WAYNE DISPOSAL, INC.
 BELLEVILLE, MICHIGAN

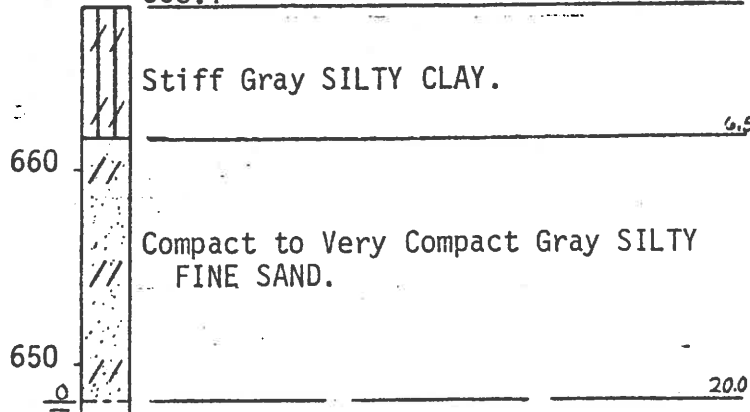
APPROVED BY: DH

DATE: 02/06/80

PROJECT No. 94309

FIGURE No. A-56

LOG OF SUBSURFACE PROFILE
CLASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD.
GROUND SURFACE ELEVATION: 668.1



NOTES:

1. Boring advanced with 8-inch outside-diameter hollow-stem augers.
2. Groundwater encountered 20.0 feet below the ground surface upon completion.
3. Boring backfilled with expandable grout.

SOIL SAMPLE DATA									
SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *					
				0	10	20	30	40	50
LS-1	663.1	-	-	6	11	15			
S-1	658.1	-	-	15	23	28			
S-2	653.1	-	-	15	23	28			
LS-2	648.3	-	-	12	15	19			

TOTAL DEPTH: 20.0'

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

LOG OF TEST BORING NUMBER 31

MASTER CELL IV
WAYNE DISPOSAL, INC.
BELLEVILLE, MICHIGAN

APPROVED BY: DH DATE: 02/06/80

PROJECT No. 94309 FIGURE No. A-57

ELEVATION - FEET

LOG OF SUBSURFACE PROFILE

CLASSIFICATIONS BY:

NEYER, TISEO & HINDO, LTD.

GROUND SURFACE ELEVATION:

672.8

670

Very Stiff to Hard Gray SILTY CLAY
with Trace of Fine Gravel and
Trace of Sand.

660

Very Compact Gray SILTY FINE SAND.

NOTES:

1. Boring advanced with 8-inch outside-diameter hollow-stem augers.
2. Boring dry upon completion.
3. Boring backfilled with expandable grout.

SOIL SAMPLE DATA

SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *										
				0	10	20	30	40	50					
LS-1	667.8	-	-	9	15	22								
LS-2	662.8	-	-	12	23	28								
S-1	657.8	-	-	20	30	33								
LS-3	652.8	-	-	16	20	27								

TOTAL DEPTH: 20.0'

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

LOG OF TEST BORING NUMBER 32

MASTER CELL IV

WAYNE DISPOSAL, INC.

BELLEVILLE, MICHIGAN

APPROVED BY: DH

DATE: 02/06/80

PROJECT No. 94309

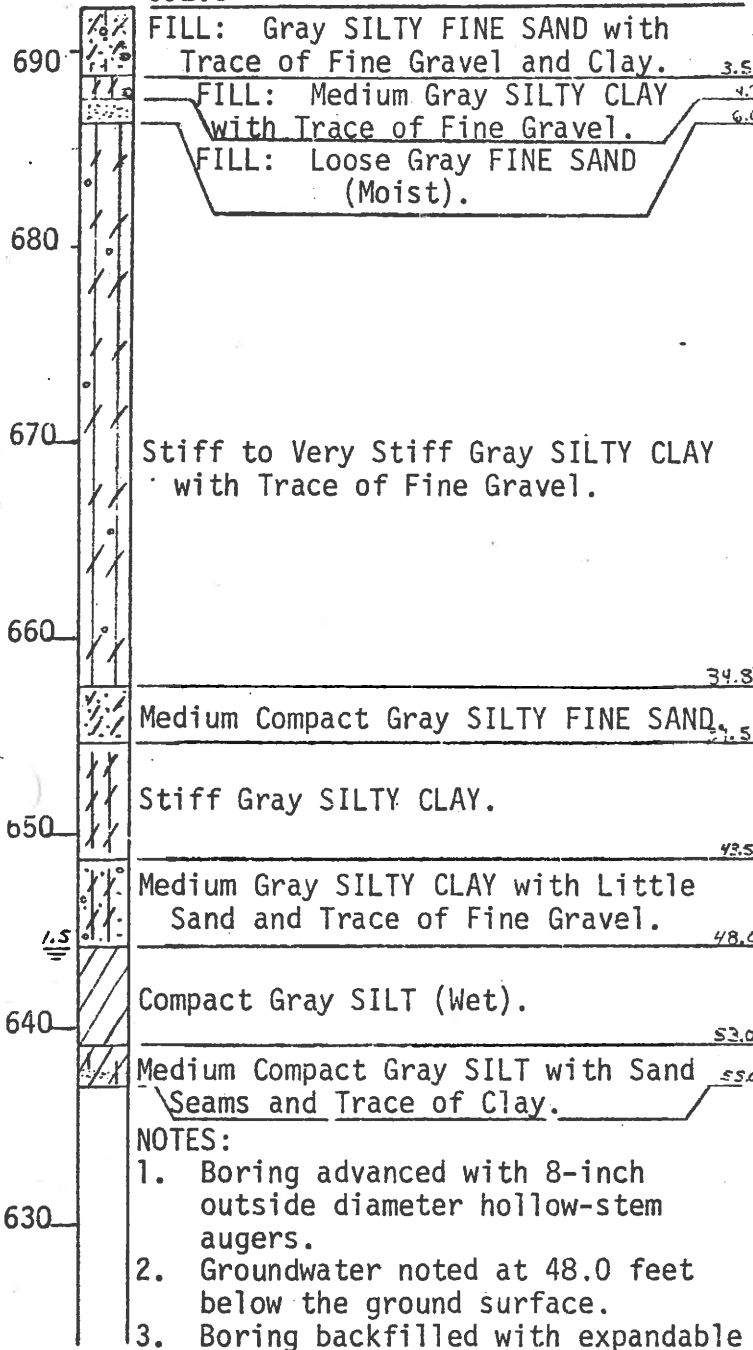
FIGURE No. A-58

LOG OF SUBSURFACE PROFILE

CLASSIFICATIONS BY:
NEYER, TISEO & HINDO, LTD.

GROUND SURFACE ELEVATION:

692.3



NOTES:

1. Boring advanced with 8-inch outside diameter hollow-stem augers.
2. Groundwater noted at 48.0 feet below the ground surface.
3. Boring backfilled with expandable grout.

TOTAL DEPTH: 55.0'

BORING STARTED: 01/23/80

BORING COMPLETED: 01/23/80

INSPECTOR: K. Ebere

DRILLER: D. Klitz

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.

SOIL SAMPLE DATA

SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *
S-1	687.3	-	-	2-2-6
LS-1	682.3	-	-	3-4-6
S-2	677.3	-	-	3-4-8
S-3	672.3	-	-	4-7-11
LS-2	667.3	-	-	5-9-11
S-4	662.3	-	-	7-11-16
S-5	657.3	-	-	10-16-24
S-6	652.3	-	-	5-8-9
S-7	647.3	-	-	6-8-11
LS-3	642.3	-	-	10-16-15
LS-4	637.3	-	-	5-8-16

NEYER, TISEO & HINDO, LTD.
 CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER 33

MASTER CELL IV
 WAYNE DISPOSAL, INC.
 BELLEVILLE, MICHIGAN

APPROVED BY: DH

DATE: 02/06/80

PROJECT NO. 94309

FIGURE NO. A-59

LOG OF SUBSURFACE PROFILE

CLASSIFICATIONS BY:
NEYER, TISEO & HINDO, LTD.

GROUND SURFACE ELEVATION:

693.7

690 - Medium Compact Brown SILTY FINE SAND (Moist). 2.5'

680

670 - Very Stiff to Hard Gray SILTY CLAY with Trace of Fine Gravel and Occasional Silt Layers.

660

650

37.0'
Stiff Gray SILT with Trace of Clay (Wet). 45.0'

NOTES:

1. Boring advanced with 8-inch outside-diameter hollow-stem augers.
2. Boring dry upon completion.
3. Boring backfilled with expandable grout.

640

SOIL SAMPLE DATA				
SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *
S-1	688.7	-	-	3-5-9
S-2	683.7	-	-	4-8-9
LS-1	678.7	-	-	4-8-11
S-3	673.7	-	-	6-11-14
S-4	668.7	-	-	6-10-13
S-5	663.7	-	-	6-10-17
LS-2	658.7	-	-	10-17-22
LS-3	653.7	-	-	12-14-15
LS-4	648.7	-	-	6-6-8

0 10 20 30 40 50

TOTAL DEPTH: 45.0'
BORING STARTED: 01/23/80
BORING COMPLETED: 01/23/80
INSPECTOR: K. Ebere
DRILLER: D. Klitz
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

LOG OF TEST BORING NUMBER 34

MASTER CELL IV
WAYNE DISPOSAL, INC.
BELLEVILLE, MICHIGAN

APPROVED BY: DH DATE: 02/06/80
PROJECT No. 94309 FIGURE No. A-60

LOG OF SUBSURFACE PROFILE

CLASSIFICATIONS BY:
NEYER, TISEO & HINDO, LTD.

GROUND SURFACE ELEVATION:

694.9

Medium Compact Gray SILTY SAND.

Medium Compact Gray SILTY FINE SAND.

Very Stiff to Hard Gray SILTY CLAY
with Trace of Fine Gravel and
Occasional Silt Lenses.

Very Stiff Gray CLAYEY SILT.

Medium Gray CLAYEY SILT with Layers
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.

SOIL SAMPLE DATA

SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *
				0 10 20 30 40 50
S-1	689.9	-	-	7-7-7
S-2	684.9	-	-	4-7-10
LS-1	679.9	-	-	6-9-12
S-3	674.9	-	-	9-13-15
S-4	669.9	-	-	8-14-18
LS-2	664.9	-	-	12-17-21
S-5	659.9	-	-	12-15-20
S-6	654.9	-	-	15-17-16
LS-3	649.9	-	-	5-7-9

TOTAL DEPTH: 45.0'

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 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

LOG OF TEST BORING NUMBER 35

MASTER CELL IV
WAYNE DISPOSAL, INC.
BELLEVILLE, MICHIGAN

APPROVED BY: DH

DATE: 02/06/80

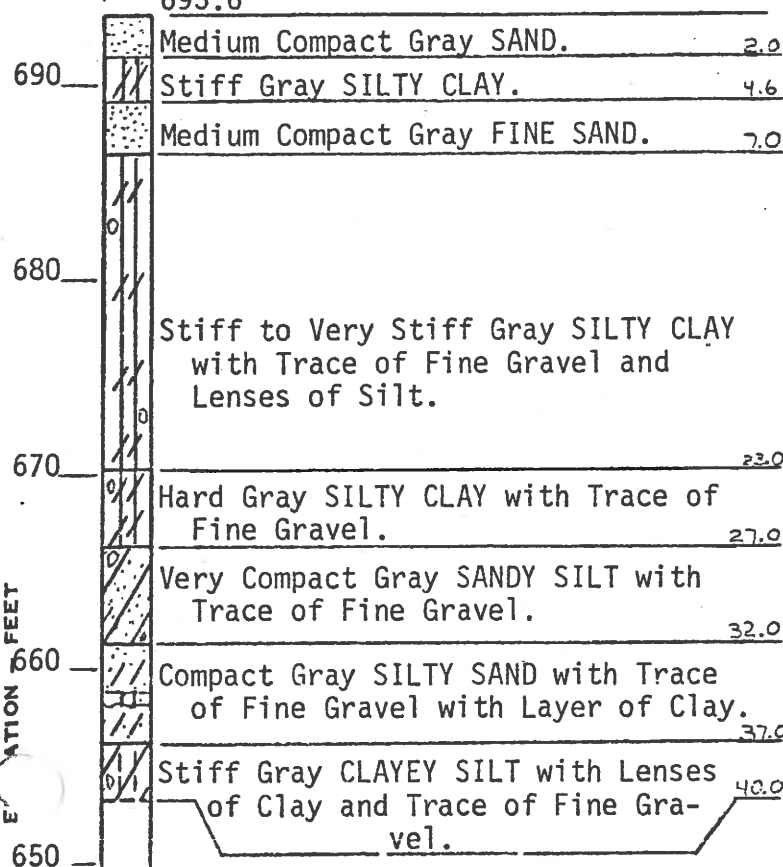
PROJECT No. 94309

FIGURE No. A-61

LOG OF SUBSURFACE PROFILE

CLASSIFICATIONS BY:
NEYER, TISEO & HINDO, LTD.

GROUND SURFACE ELEVATION:
693.6



NOTES:

1. Boring advanced with 8-inch outside-diameter hollow-stem augers.
2. Boring dry upon completion.
3. Boring backfilled with expandable grout.

SOIL SAMPLE DATA					PENETRATION RESISTANCE *					
SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)		0	10	20	30	40	50
S-1	688.6	-	-						4-7-10	
S-2	683.6	-	-						6-8-10	
LS-1	678.6	-	-		4-8-10					
S-3	673.6	-	-		6-10-15					
S-4	668.6	-	-		9-13-18					
LS-2	663.6	-	-		15-40-51					
LS-3	658.6	-	-		18-18-24					
S-5	653.6	-	-		9-12-24					

TOTAL DEPTH: 40.0'

BORING STARTED: 01/24/80

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 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

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

CLASSIFICATIONS BY:
NEYER, TISEO & HINDO, LTD.

GROUND SURFACE ELEVATION:

695.8

Medium Compact Brown SAND (Wet).

2.5

Medium Compact Gray SILTY FINE SAND.

7.0

Stiff Gray SILTY CLAY with Trace of Fine Gravel and Trace of Sand.

14.0

Very Stiff to Hard Gray SILTY CLAY with Trace of Fine Gravel.

34.0

Hard Gray SANDY CLAY with Trace of Fine Gravel and Little Silt.

38.0

Very Compact Gray SILTY FINE SAND.

45.0

NOTES:

1. Boring advanced with 8-inch outside-diameter hollow-stem augers.
2. Boring dry upon completion.
3. Boring backfilled with expandable grout.

SOIL SAMPLE DATA

SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *
				0 10 20 30 40 50
S-1	690.8	-	-	6-14-16
S-2	685.8	-	-	4-5-10
S-3	680.8	-	-	6-10-13
S-4	675.8	-	-	5-10-16
LS-1	670.8	-	-	6-13-18
S-5	665.8	-	-	8-13-20
LS-2	660.8	-	-	13-25-30
LS-3	655.8	-	-	32-49-61
LS-4	650.8	-	-	17-27-34

TOTAL DEPTH: 45.0'

BORING STARTED: 01/24/80

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 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

LOG OF TEST BORING NUMBER 37

MASTER CELL IV
WAYNE DISPOSAL, INC.
BELLEVILLE, MICHIGAN

APPROVED BY: SH DATE: 02/06/80

PROJECT NO. 94309 FIGURE NO. A-63

LOG OF SUBSURFACE PROFILE

CLASSIFICATIONS BY:
NEYER, TISEO & HINDO, LTD.

GROUND SURFACE ELEVATION:

667.2

660	Very Stiff Gray SILTY CLAY with Trace of Sand and Gravel and Occasional Silty Fine Sand Seams.	
650	Stiff Gray CLAY with Trace of Silt.	17.0
640	Medium Gray SILTY CLAY.	22.0
630	Soft to Medium Gray CLAYEY SILT with Trace of Fine Sand.	21.0 20.0

NOTES:

1. Test boring drilled with a trailer mounted CME-55 rotary drilling rig utilizing 8-inch hollow-stem auger.
2. Groundwater seepage noted at 28.5 feet below the ground surface.
3. Boring backfilled with cement grout.

TOTAL DEPTH: 30.0'
BORING STARTED: 6/2/80
BORING COMPLETED: 6/2/80
INSPECTOR: D. Kaniarz
DRILLER: G. Canfield
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.

SOIL SAMPLE DATA

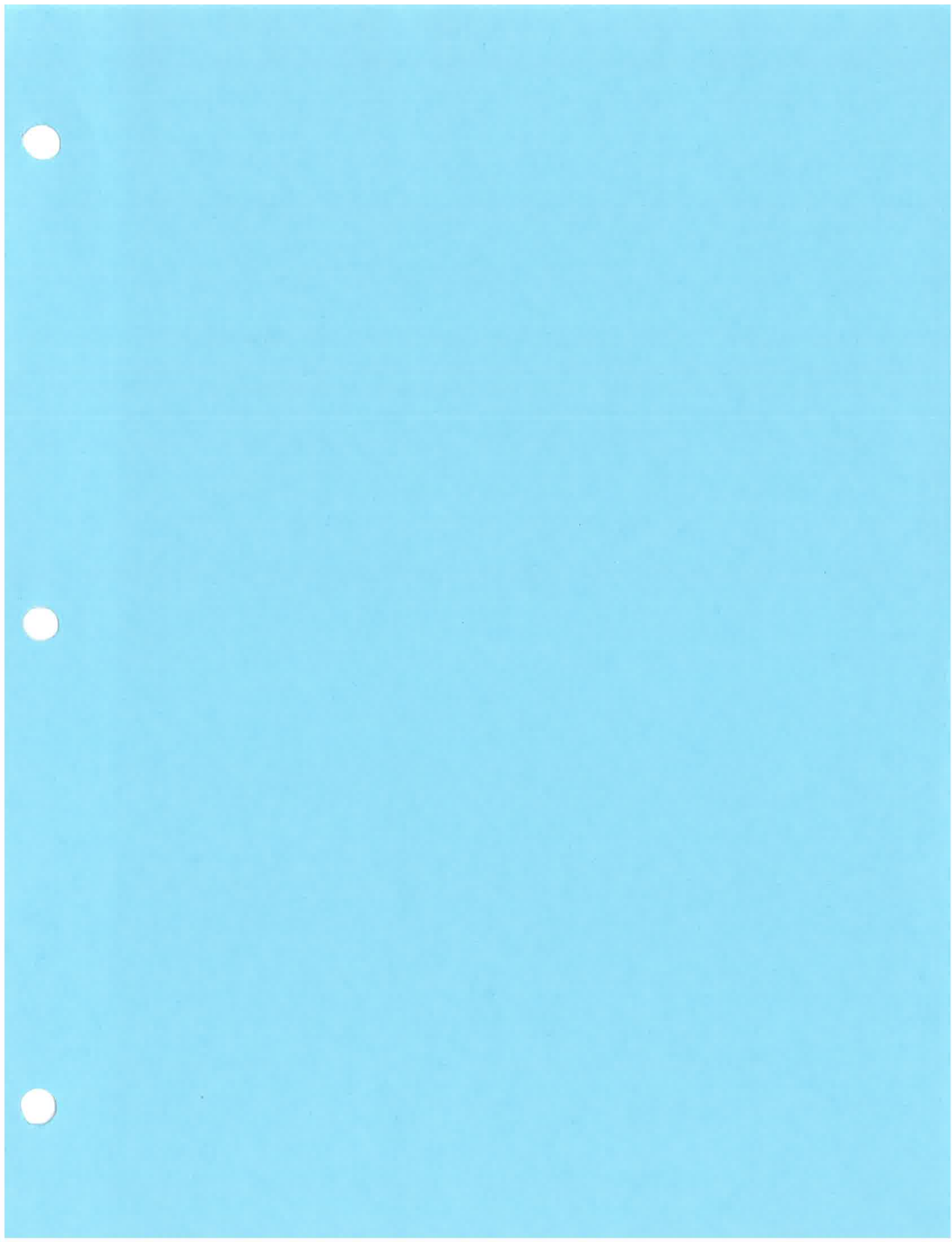
SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *					
				0	10	20	30	40	50
S-1	664.7	-	-						3-5-7
LS-1	662.2	-	-						6-8-10
LS-2	659.7	-	-						9-11-12
S-2	657.2	-	-						6-8-11
LS-3	652.2	-	-						6-8-10
LS-4	647.2	-	-						5-6-7
LS-5	622.2	24.8	98.8						4-5-7
LS-6	617.2	21.9	115.3						2-4-4

NEYER, TISEO & HINDO, LTD.
CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER 38

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

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





NTH Proj. No: 62-080376-01

Checked By: dip

GROUNDWATER DATA

<u>DATE</u>	<u>ELEV.</u> <u>(ft.)</u>	<u>COMMENTS</u>
12-07-08	655.21	
02-09-09	655.10	

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

[2] Location Coordinates: E 3690.00
N 7660.02

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

FIGURE NO. B-15



NTH Proj. No: 62-080376-01

Checked By: *dip*

LOG OF OBSERVATION WELL

GROUNDWATER DATA

NOTES

[2] Location Coordinates: E 4328.2
N 7346.7

Casing Diameter: 2.0 in
Casing Length: 74.3 ft
Casing Type: PVC
Screen Diameter: 2.0 in
Screen Length: 5.0 ft
Screen Mesh: 0.010 in
Screen Type: PVC

FIGURE NO. B-16



Checked By: dip

GROUNDWATER DATA

<u>DATE</u>	<u>ELEV.</u> <u>(ft.)</u>	<u>COMMENTS</u>
12-17-08	652.80	

[2] Location Coordinates: E 3697.49
N 7052.58

Casing Diameter: 2.0 in
Casing Length: 107.4 ft
Casing Type: PVC
Screen Diameter: 2.0 in
Screen Length: 5.0 ft
Screen Mesh: 0.010 in
Screen Type: PVC

FIGURE NO. B-17

OBSERVATION WELL NO: W-10S

Project Name: *WAYNE DISPOSAL, INC. - WOOD LOT*

Project Location: *BELLEVILLE, MICHIGAN*

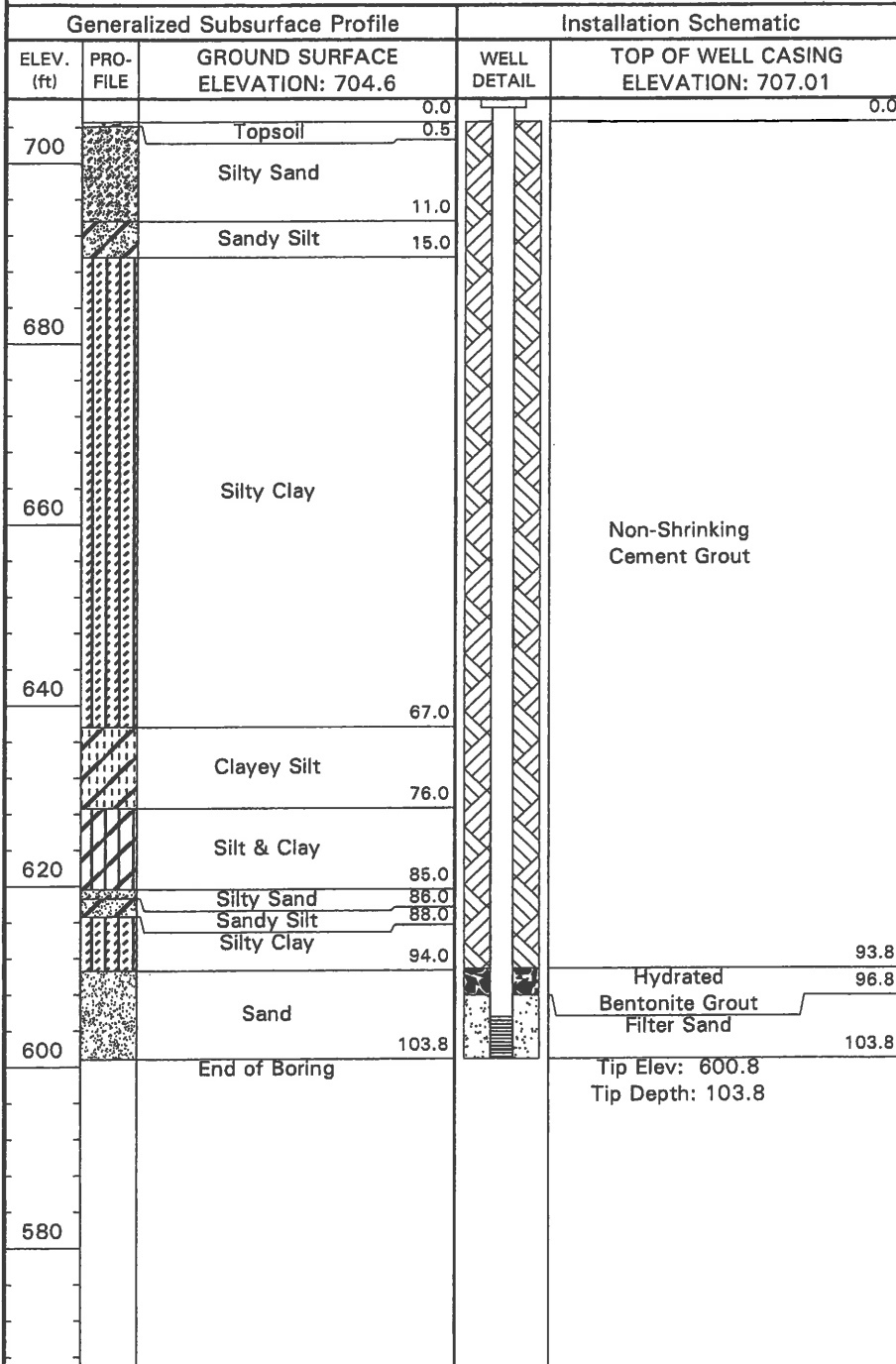


NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: *dlp*

LOG OF OBSERVATION WELL



GROUNDWATER DATA

DATE	ELEV. (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

Started: 07-12-08
Completed: 07-12-08
Inspector: M. McNamara
Contractor: Mateco Drilling Co.
Driller: J. Pitsch
Equipment: CME-750 ATV Drill Rig
Well Type: Observation

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

FIGURE NO. B-18

OBSERVATION WELL NO: W-12

Project Name: *WAYNE DISPOSAL, INC. - WOOD LOT*

Project Location: *BELLEVILLE, MICHIGAN*



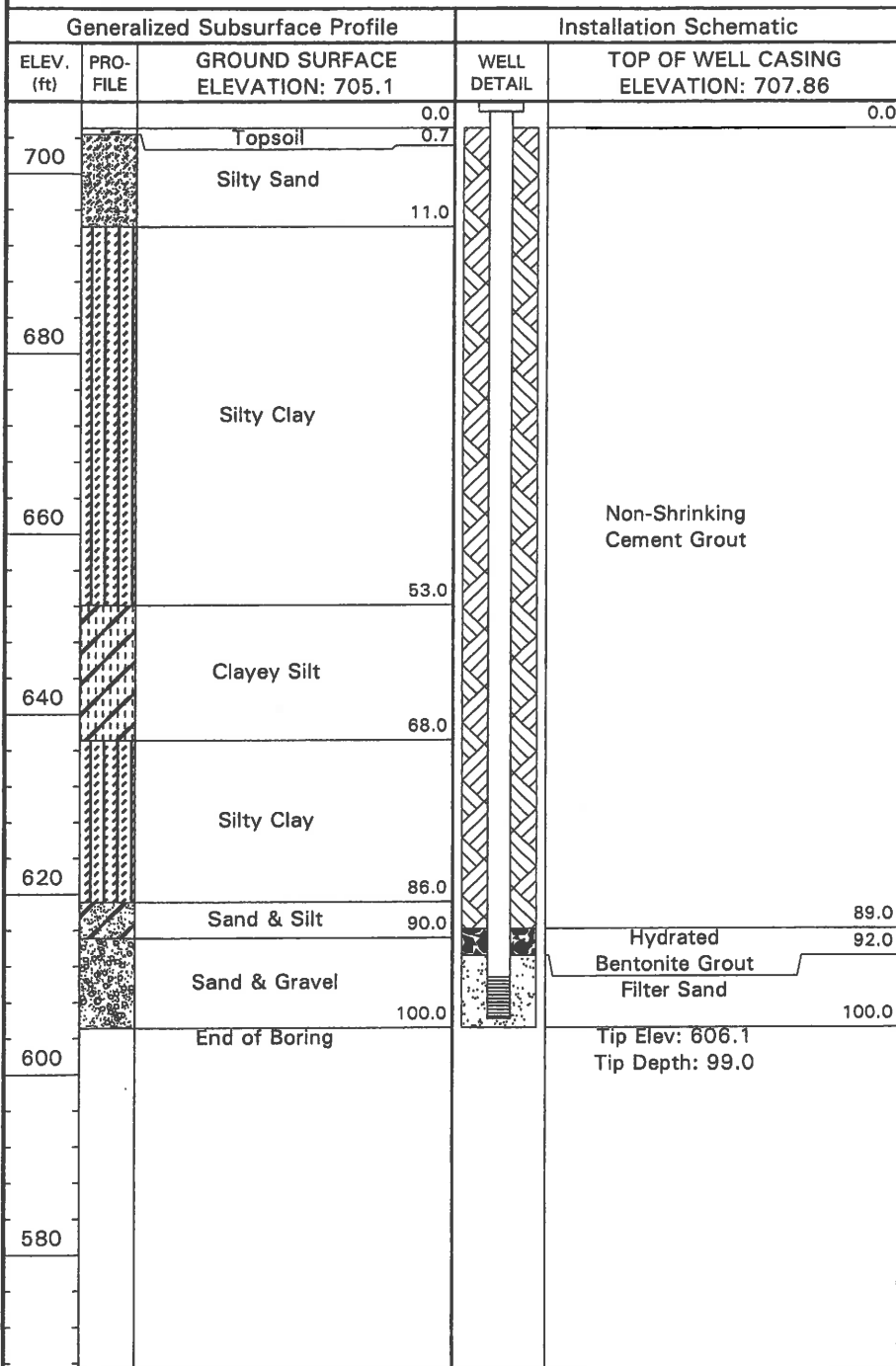
NTH CONSULTANTS, LTD.

NTH Proj. No: 62-080376-01

Checked By: *dip*

LOG OF OBSERVATION WELL

GROUNDWATER DATA



DATE	ELEV. (ft.)	COMMENTS
12-07-08	653.19	
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. McNamara
Contractor: Mateco Drilling Co.
Driller: J. Pitsch
Equipment: CME-750 ATV Drill Rig
Well Type: Observation

Casing Diameter: 2.0 in
Casing Length: 96.8 ft
Casing Type: PVC
Screen Diameter: 2.0 in
Screen Length: 5.0 ft
Screen Mesh: 0.010 in
Screen Type: PVC

FIGURE NO. B-19

OBSERVATION WELL NO: W-14



NTH CONSULTANTS, LTD.

Project Name: WAYNE DISPOSAL, INC. - WOOD LOT

NTH Proj. No: 62-080376-01

Project Location: BELLEVILLE, MICHIGAN

Checked By: *dip*

LOG OF OBSERVATION WELL

GROUNDWATER DATA

Generalized Subsurface Profile			Installation Schematic	
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 704.8	WELL DETAIL	TOP OF WELL CASING ELEVATION: 707.32
705		0.0		0.0
		Silty Sand		
690		16.0		
		Silty Clay		Non-Shrinking Cement Grout
675				
660		55.0		
		Silt 58.0		
645		Silty Clay 60.0		
		Sandy Silt 64.0		
		Clayey Silt & Sand		70.0
630		75.0		Hydrated Bentonite Grout 73.0
		Silty Sand 80.0		Filter Sand 80.0
		End of Boring		Tip Elev: 624.8 Tip Depth: 80.0
615				

DATE	ELEV. (ft.)	COMMENTS
12-07-08	653.87	
02-09-09	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: 06-25-08
 Completed: 06-25-08
 Inspector: M. McNamara
 Contractor: Mateco Drilling Co.
 Driller: J. Pitsch
 Equipment: CME-750 ATV Drill Rig
 Well Type: Observation

Casing Diameter: 2.0 in
 Casing Length: 77.6 ft
 Casing Type: PVC
 Screen Diameter: 2.0 in
 Screen Length: 5.0 ft
 Screen Mesh: 0.010 in
 Screen Type: PVC

FIGURE NO. B-20



APPENDIX C

SOIL LABORATORY RESULTS

SUMMARY OF LABORATORY TEST DATA (BY GEOLOGIC UNIT)

Geologic Unit	Boring Designation	Sample ID	Depth of Sample Tip (ft)	Elevation of Sample Tip (ft)	Unconfined Compressive Strength (psf)	Failure Strain (%)	Natural Water Content (% of dry weight)	In-Place Dry Density (lbs/cu. ft)	Permeability (cm/sec)	Partical Size Distribution (%)						Atterberg Limits (%)			Unified Soil Classification
										Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay & Colloids	Liquid Limit	Plastic Limit	Plasticity Index	
Deltaic Sands	TB-W-1	LS-2	4.0	700.6	-----	-----	-----	-----	-----	1	5	20	56	10	8	Non-Plastic		SM	
Deltaic Sands	TB-W-1	LS-4	8.0	696.6	-----	-----	-----	-----	-----	0	0	6	76	15	3	Non-Plastic		SM	
Deltaic Sands	TB-W-2	LS-1	2.5	702.7	-----	-----	-----	-----	-----	0	1	7	75	8	9	-----	-----	SM	
Deltaic Sands	TB-W-2	LS-3	7.5	697.7	-----	-----	-----	-----	-----	0	0	10	78	8	4	-----	-----	SM	
Deltaic Sands	TB-W-3	LS-1	2.5	702.7	-----	-----	-----	-----	-----	9	2	22	46	9	12	Non-Plastic		SM	
Deltaic Sands	TB-W-3	LS-3	7.5	697.7	-----	-----	-----	-----	-----	0	0	1	91	5	3	Non-Plastic		SM	
Deltaic Sands	TB-W-4	LS-6	14.0	691.2	-----	-----	-----	-----	-----	0	0	0	55	41	4	Non-Plastic		SM	
Deltaic Sands	TB-W-5	LS-2	5.0	700.2	-----	-----	-----	-----	-----	2	0	10	63	10	15	Non-Plastic		SM	
Deltaic Sands	TB-W-5	LS-4	10.0	695.2	-----	-----	-----	-----	-----	4	6	16	59	12	3	Non-Plastic		SM	
Deltaic Sands	TB-W-6	LS-2	5.0	700.2	-----	-----	-----	-----	-----	0	0	0	77	18	5	Non-Plastic		SM	
Deltaic Sands	TB-W-6	LS-4	10.0	695.2	-----	-----	-----	-----	-----	0	0	0	73	24	3	Non-Plastic		SM	
Deltaic Sands	TB-W-6	LS-5	15.0	690.2	-----	-----	-----	-----	-----	0	0	0	11	72	17	Non-Plastic		ML	
Deltaic Sands	TB-W-7	LS-2	4.0	701.2	-----	-----	-----	-----	-----	0	1	7	84	5	3	-----	-----	SM	
Deltaic Sands	TB-W-7	LS-4	8.0	697.2	-----	-----	-----	-----	-----	0	0	0	30	44	26	-----	-----	ML	
Deltaic Sands	TB-W-7	LS-6	12.0	693.2	-----	-----	-----	-----	-----	0	0	0	81	17	2	-----	-----	SM	
Deltaic Sands	TB-W-8	LS-1	2.5	702.6	-----	-----	-----	-----	-----	3	4	28	46	8	11	Non-Plastic		SC	
Deltaic Sands	TB-W-8	LS-3	7.5	697.6	-----	-----	-----	-----	-----	0	0	0	42	52	6	-----	-----	ML	
Deltaic Sands	TB-W-8	LS-5	15.0	690.1	-----	-----	-----	-----	-----	2	0	1	10	67	20	-----	-----	ML	
Deltaic Sands	TB-W-9	LS-2	5.0	700.1	-----	-----	-----	-----	-----	0	0	1	89	8	2	-----	-----	SM	
Deltaic Sands	TB-W-9	LS-4	10.0	695.1	-----	-----	-----	-----	-----	0	0	0	65	31	4	-----	-----	SM	
Deltaic Sands	TB-W-10	LS-2	4.0	701.1	-----	-----	-----	-----	-----	0	0	2	80	← 18 →	→	Non-Plastic		SM	
Deltaic Sands	TB-W-10	LS-5	10.0	695.1	-----	-----	-----	-----	-----	0	0	0	83	← 17 →	→	Non-Plastic		SM	
Deltaic Sands	TB-W-10	LS-7	14.0	691.1	-----	-----	-----	-----	-----	0	0	0	27	69	4	Non-Plastic		ML	
Deltaic Sands	TB-W-11	LS-1	2.5	702.6	-----	-----	13.9	-----	-----	0	1	8	64	← 27 →	→	-----	-----	SM	
Deltaic Sands	TB-W-11	LS-3	7.5	697.6	-----	-----	21.9	-----	-----	0	0	0	79	← 21 →	→	-----	-----	SM	
Deltaic Sands	TB-W-12	LS-2	5.0	700.1	-----	-----	22.1	-----	-----	0	0	0	71	← 29 →	→	-----	-----	SM	
Deltaic Sands	TB-W-12	LS-4	10.0	695.1	-----	-----	21.2	-----	-----	0	0	0	79	← 21 →	→	-----	-----	SM	

SUMMARY OF LABORATORY TEST DATA (BY GEOLOGIC UNIT)

Geologic Unit	Boring Designation	Sample ID	Depth of Sample Tip (ft)	Elevation of Sample Tip (ft)	Unconfined Compressive Strength (psf)	Failure Strain (%)	Natural Water Content (% of dry weight)	In-Place Dry Density (lbs/cu. ft)	Permeability (cm/sec)	Partical Size Distribution (%)						Atterberg Limits (%)			Unified Soil Classification
										Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay & Colloids	Liquid Limit	Plastic Limit	Plasticity Index	
Deltaic Sands	TB-W-13	LS-1	2.5	702.6	---	---	16.2	---	---	1	2	12	73	← 12 →	---	Non-Plastic	---	---	SM
Deltaic Sands	TB-W-13	LS-3	7.5	697.6	---	---	20.6	---	---	0	0	0	70	← 30 →	---	---	---	---	SM
Deltaic Sands	TB-W-14	LS-2	4.0	701.1	---	---	15.1	---	---	0	3	19	67	← 11 →	---	Non-Plastic	---	---	SM
Deltaic Sands	TB-W-14	LS-5	10.0	695.1	---	---	19.3	---	---	0	0	0	93	← 7 →	---	---	---	---	SM
Deltaic Sands	TB-W-14	LS-7	14.0	691.1	---	---	21.2	---	---	0	0	0	68	30	2	Non-Plastic	---	---	SM
Glacial Clay	TB-W-1	LS-7	14.0	692.5	---	---	---	---	---	0	0	2	8	45	45	28	15	13	CL
Glacial Clay	TB-W-1	ST-1	18.0	688.5	---	---	21.0	106.5	---	0	0	0	2	79	19	Non-Plastic	---	---	ML
Glacial Clay	TB-W-1	LS-10	22.0	684.5	---	---	---	---	---	1	2	5	15	34	43	26	14	12	CL
Glacial Clay	TB-W-1	ST-2	28.0	678.5	3607	15.0	17.4	115.1	1.40 E-8	1	2	5	11	32	49	30	17	13	CL
Glacial Clay	TB-W-1	LS-15	34.0	672.5	---	---	---	---	---	1	2	4	12	23	58	31	16	15	CL
Glacial Clay	TB-W-1	ST-3	38.0	668.5	---	---	18.8	111.1	1.14 E-8	1	2	4	10	30	53	32	18	14	CL
Glacial Clay	TB-W-1	ST-4	46.0	660.5	8015	6.3	16.2	118.5	1.29 E-8	1	1	3	10	36	49	28	16	12	CL
Glacial Clay	TB-W-1	LS-22	52.0	654.5	---	---	---	---	---	2	2	3	13	38	42	24	14	10	CL
Glacial Clay	TB-W-1	ST-5	56.0	650.5	---	---	13.9	124.1	3.09 E-8	3	3	8	21	33	32	21	13	8	CL
Glacial Clay	TB-W-1	ST-6	64.0	642.5	1829	14.3	18.2	113.7	2.99 E-8	6	3	5	16	32	38	24	14	10	CL
Glacial Clay	TB-W-1	LS-29	70.0	636.5	---	---	---	---	---	3	0	1	7	60	29	20	15	5	CL-ML
Glacial Clay	TB-W-1	ST-7	74.0	632.4	---	---	22.4	107.8	---	3	2	7	20	38	30	21	13	8	CL
Glacial Clay	TB-W-2	LS-5	15.0	691.4	---	---	---	---	---	0	0	1	3	18	78	46	23	23	CL
Glacial Clay	TB-W-2	ST-1	18.0	688.4	---	---	18.8	109.8	3.50 E-8	2	2	4	13	36	43	23	14	9	CL
Glacial Clay	TB-W-2	LS-6	20.0	686.4	3773	14.5	18.3	113.5	---	---	---	---	---	---	---	---	---	---	---
Glacial Clay	TB-W-2	LS-7	25.0	681.4	---	---	---	---	---	1	3	4	12	29	51	30	17	13	CL
Glacial Clay	TB-W-2	ST-2	28.0	678.4	---	---	18.3	111.8	1.93 E-8	1	2	5	11	30	51	31	17	14	CL
Glacial Clay	TB-W-2	ST-3	35.0	671.4	8870	14.1	18.2	112.3	1.72 E-8	1	2	3	9	29	56	33	18	15	CL
Glacial Clay	TB-W-2	LS-9	40.0	666.4	---	---	---	---	---	1	1	3	8	38	49	29	16	13	CL
Glacial Clay	TB-W-2	LS-10	45.0	661.4	---	---	---	---	---	0	0	4	16	49	31	19	12	7	CL-ML
Glacial Clay	TB-W-2	ST-4	48.0	658.4	---	---	13.2	125.3	1.39 E-7	1	1	3	11	41	43	23	14	9	CL
Glacial Clay	TB-W-3	LS-5	15.0	691.4	---	---	---	---	---	1	0	0	2	52	45	28	18	10	CL

SUMMARY OF LABORATORY TEST DATA (BY GEOLOGIC UNIT)

Geologic Unit	Boring Designation	Sample ID	Depth of Sample Tip (ft)	Elevation of Sample Tip (ft)	Unconfined Compressive Strength (psf)	Failure Strain (%)	Natural Water Content (% of dry weight)	In-Place Dry Density (lbs/cu.ft)	Permeability (cm/sec)	Partical Size Distribution (%)						Atterberg Limits (%)			Unified Soil Classification
										Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay & Colloids	Liquid Limit	Plastic Limit	Plasticity Index	
Glacial Clay	TB-W-3	ST-1	20.0	686.4	---	---	14.5	123.0	2.73 E-8	1	2	7	18	37	35	21	14	7	CL-ML
Glacial Clay	TB-W-3	LS-6	25.0	681.4	---	---	---	---	---	0	3	5	12	32	48	30	17	13	CL
Glacial Clay	TB-W-3	ST-2	28.0	678.4	8120	15.0	16.7	113.8	1.42 E-8	0	3	5	11	30	51	30	18	12	CL
Glacial Clay	TB-W-3	ST-3	34.0	672.4	10920	12.4	14.6	121.3	1.05 E-8	0	1	4	9	28	58	32	18	14	CL
Glacial Clay	TB-W-3	LS-8	40.0	666.4	---	---	---	---	---	2	3	5	15	42	33	21	14	7	CL-ML
Glacial Clay	TB-W-3	ST-4	42.5	663.4	9780	14.8	16.1	118.1	1.60 E-8	4	1	4	13	36	42	25	15	10	CL
Glacial Clay	TB-W-3	ST-5	50.0	655.9	---	---	29.1	94.3	1.38 E-8	0	0	0	0	27	73	35	20	15	CL
Glacial Clay	TB-W-4	ST-1	6.0	699.2	---	---	12.1	124.2	4.85 E-8	1	2	7	38	24	28	23	14	9	CL
Glacial Clay	TB-W-4	LS-4	10.0	695.2	---	---	---	---	---	2	2	11	37	21	27	22	14	8	SC
Glacial Clay	TB-W-4	ST-2	18.0	687.9	2120	15.0	26.6	99.6	4.79 E-8	0	0	0	1	18	81	42	23	19	CL
Glacial Clay	TB-W-4	LS-9	22.0	683.9	---	---	---	---	---	1	2	6	14	47	30	19	13	6	CL-ML
Glacial Clay	TB-W-4	ST-3	26.0	679.9	6280	15.0	17.5	113.7	2.74 E-8	1	2	5	12	30	50	30	18	12	CL
Glacial Clay	TB-W-4	ST-4	32.0	673.9	---	---	19.3	112.0	1.85 E-8	0	3	5	11	30	51	30	17	13	CL
Glacial Clay	TB-W-4	LS-14	36.0	669.9	---	---	---	---	---	2	1	4	10	30	53	32	18	14	CL
Glacial Clay	TB-W-4	ST-5	40.0	665.9	7300	9.9	18.1	114.2	3.19 E-8	1	1	3	9	33	53	32	18	14	CL
Glacial Clay	TB-W-4	LS-17	44.0	661.9	3640	15.0	18.0	116.1	---	0	1	4	9	35	51	29	17	12	CL
Glacial Clay	TB-W-4	ST-6	48.0	657.9	---	---	12.7	127.4	5.84 E-8	1	2	4	16	45	32	20	13	7	CL-ML
Glacial Clay	TB-W-4	ST-7	54.0	651.9	---	---	20.5	107.5	3.71 E-8	1	2	3	8	35	51	29	17	12	CL
Glacial Clay	TB-W-4	LS-21	56.0	649.9	2720	15.0	28.8	98.4	---	---	---	---	---	---	---	---	---	---	---
Glacial Clay	TB-W-4	LS-22	58.0	647.9	---	---	---	---	---	0	0	0	1	18	81	44	22	22	CL
Glacial Clay	TB-W-4	LS-25	66.0	639.9	---	---	---	---	---	2	0	0	2	42	54	31	18	13	CL
Glacial Clay	TB-W-4	LS-30	72.0	633.9	---	---	---	---	---	0	0	0	0	36	64	32	21	11	CL
Glacial Clay	TB-W-4	LS-33	78.0	627.9	---	---	---	---	---	0	0	0	1	61	38	25	18	7	CL-ML
Glacial Clay	TB-W-5	LS-5	15.0	690.9	---	---	---	---	---	0	0	1	4	37	58	33	17	16	CL
Glacial Clay	TB-W-5	ST-1	18.0	687.9	5595	14.2	19.1	112.1	2.36 E-8	2	2	4	15	32	45	27	15	12	CL
Glacial Clay	TB-W-5	LS-7	25.0	680.3	---	---	---	---	---	2	2	7	20	37	32	---	---	---	CL
Glacial Clay	TB-W-5	ST-2	28.0	677.3	3648	14.2	18.6	111.1	4.41 E-8	1	2	5	11	30	51	30	17	13	CL

SUMMARY OF LABORATORY TEST DATA (BY GEOLOGIC UNIT)

Geologic Unit	Boring Designation	Sample ID	Depth of Sample Tip (ft)	Elevation of Sample Tip (ft)	Unconfined Compressive Strength (psf)	Failure Strain (%)	Natural Water Content (% of dry weight)	In-Place Dry Density (lbs/cu.ft)	Permeability (cm/sec)	Partical Size Distribution (%)						Atterberg Limits (%)			Unified Soil Classification
										Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay & Colloids	Liquid Limit	Plastic Limit	Plasticity Index	
Glacial Clay	TB-W-5	LS-9	35.0	670.3	---	---	---	---	---	2	3	7	13	33	43	---	---	---	MH-CL
Glacial Clay	TB-W-5	ST-3	38.0	667.3	---	---	20.2	107.1	1.15 E-8	1	2	4	9	28	56	34	18	16	CL
Glacial Clay	TB-W-5	LS-11	45.0	660.3	---	---	---	---	---	0	1	2	6	34	57	32	16	16	CL
Glacial Clay	TB-W-5	ST-4	48.0	657.3	6052	9.2	14.1	121.2	2.08 E-8	0	1	5	13	36	45	25	15	10	CL
Glacial Clay	TB-W-5	LS-13	55.0	650.3	---	---	---	---	---	0	0	0	2	32	66	31	17	14	CL
Glacial Clay	TB-W-5	ST-5	58.0	647.3	305	14.4	33.3	86.6	1.48 E-8	0	0	0	4	36	60	31	18	13	CL
Glacial Clay	TB-W-5	LS-14	60.0	645.3	4020	8.0	---	---	---	---	---	---	---	---	---	---	---	---	---
Glacial Clay	TB-W-5	ST-6	68.0	637.3	---	---	24.5	101.9	5.67 E-8	0	0	1	2	33	64	32	18	14	CL
Glacial Clay	TB-W-6	LS-6	20.0	685.2	---	---	---	---	---	0	0	2	18	51	29	19	14	5	CL-ML
Glacial Clay	TB-W-6	ST-1	23.0	682.3	---	---	18.2	113.7	2.99 E-8	1	1	4	9	30	55	33	18	15	CL
Glacial Clay	TB-W-6	LS-8	30.0	675.3	---	---	---	---	---	3	1	4	9	28	55	35	18	17	CL
Glacial Clay	TB-W-6	ST-2	33.0	672.3	5682	14.1	17.8	114.2	1.06 E-8	2	2	5	10	28	53	32	17	15	CL
Glacial Clay	TB-W-6	LS-10	40.0	665.3	---	---	---	---	---	2	3	6	10	29	50	32	16	16	CL
Glacial Clay	TB-W-6	LS-11	45.0	660.3	---	---	---	---	---	1	1	3	8	31	56	33	17	16	CL
Glacial Clay	TB-W-6	ST-3	46.0	659.3	---	---	---	---	1.39 E-8	2	2	6	12	31	47	29	16	13	CL
Glacial Clay	TB-W-6	LS-12	47.5	657.8	6638	14.4	14.2	121.1	---	---	---	---	---	---	---	---	---	---	---
Glacial Clay	TB-W-6	LS-13	55.0	651.4	---	---	---	---	---	0	0	0	1	8	91	48	25	23	CL
Glacial Clay	TB-W-6	ST-4	58.0	648.4	303	13.1	33.2	92.0	1.36 E-8	0	0	0	1	12	87	46	24	22	CL
Glacial Clay	TB-W-6	LS-14	60.0	646.4	2220	15.0	18.5	114.4	---	---	---	---	---	---	---	---	---	---	---
Glacial Clay	TB-W-6	LS-18	80.0	626.4	---	---	---	---	---	0	2	7	24	36	31	19	11	8	CL
Glacial Clay	TB-W-7	ST-1	16.0	690.4	---	---	28.2	96.8	4.15 E-8	0	0	0	1	26	73	38	20	18	CL
Glacial Clay	TB-W-7	LS-9	20.0	686.4	---	---	---	---	---	5	2	7	14	39	33	20	13	7	CL-ML
Glacial Clay	TB-W-7	ST-2	24.0	682.4	5960	13.5	18.7	112.3	2.09 E-8	2	1	6	11	29	51	31	17	14	CL
Glacial Clay	TB-W-7	LS-12	28.0	678.4	---	---	---	---	---	0	0	7	12	29	52	30	17	13	CL
Glacial Clay	TB-W-7	ST-3	32.0	674.4	7320	15.0	18.0	114.6	1.80 E-8	0	2	6	10	27	55	31	17	14	CL
Glacial Clay	TB-W-7	LS-15	36.0	670.4	---	---	---	---	---	0	2	5	9	28	56	33	16	17	CL
Glacial Clay	TB-W-7	ST-4	40.0	666.4	---	---	15.6	118.6	1.64 E-8	1	1	4	9	36	49	28	16	12	CL

SUMMARY OF LABORATORY TEST DATA (BY GEOLOGIC UNIT)

Geologic Unit	Boring Designation	Sample ID	Depth of Sample Tip (ft)	Elevation of Sample Tip (ft)	Unconfined Compressive Strength (psf)	Failure Strain (%)	Natural Water Content (% of dry weight)	In-Place Dry Density (lbs/cu. ft)	Permeability (cm/sec)	Partical Size Distribution (%)						Atterberg Limits (%)			Unified Soil Classification
										Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay & Colloids	Liquid Limit	Plastic Limit	Plasticity Index	
Glacial Clay	TB-W-7	LS-18	44.0	662.4	---	---	---	---	---	0	2	3	10	40	45	26	18	8	CL
Glacial Clay	TB-W-7	ST-5	48.0	658.4	3680	2.8	25.2	101.1	3.35 E-8	0	0	3	5	26	66	35	18	17	CL
Glacial Clay	TB-W-7	LS-21	52.0	654.4	---	---	---	---	---	0	0	1	4	48	47	26	17	9	CL
Glacial Clay	TB-W-7	ST-6	56.0	650.4	---	---	25.6	99.6	8.46 E-8	0	0	1	4	73	22	22	17	5	CL-ML
Glacial Clay	TB-W-7	LS-26	64.0	642.4	---	---	---	---	---	0	0	0	5	61	34	21	16	5	CL-ML
Glacial Clay	TB-W-8	LS-6	20.0	686.4	---	---	---	---	---	1	1	6	12	30	50	30	16	14	CL
Glacial Clay	TB-W-8	ST-1	23.0	683.4	5100	15.0	17.8	115.1	3.29 E-8	3	2	5	10	31	49	30	17	13	CL
Glacial Clay	TB-W-8	LS-8	30.0	676.0	---	---	---	---	---	0	3	5	11	30	51	30	17	13	CL
Glacial Clay	TB-W-8	ST-2	33.0	673.0	1660	15.0	17.8	114.0	2.47 E-8	1	2	4	11	30	52	32	18	14	CL
Glacial Clay	TB-W-8	ST-3	42.0	664.0	---	---	13.8	121.1	3.22 E-8	1	2	4	13	35	45	27	15	12	CL
Glacial Clay	TB-W-8	LS-10	45.0	661.0	---	---	---	---	---	1	1	3	10	39	46	26	15	11	CL
Glacial Clay	TB-W-9	LS-5	15.0	689.6	---	---	---	---	---	0	2	4	13	40	41	24	15	9	CL
Glacial Clay	TB-W-9	ST-1	18.0	686.6	6580	11.8	12.8	114.6	2.16 E-8	1	2	4	12	30	51	30	17	13	CL
Glacial Clay	TB-W-9	ST-2	25.0	679.6	---	---	17.3	113.1	1.87 E-8	1	3	4	11	29	52	31	17	14	CL
Glacial Clay	TB-W-9	LS-7	30.0	674.6	---	---	---	---	---	0	3	4	11	30	52	31	17	14	CL
Glacial Clay	TB-W-9	ST-3	33.0	671.6	11680	15.0	16.4	117.6	3.45 E-8	1	2	4	11	29	53	31	17	14	CL
Glacial Clay	TB-W-9	ST-4	40.0	664.6	---	---	15.6	123.3	6.25 E-8	0	3	5	14	38	40	24	14	10	CL
Glacial Clay	TB-W-9	LS-9	45.0	659.6	---	---	---	---	---	6	6	5	13	37	33	23	14	9	CL
Glacial Clay	TB-W-9	ST-5	48.0	656.6	8360	12.2	12.5	122.6	1.40 E-8	1	2	3	11	35	48	28	16	12	CL
Glacial Clay	TB-W-10	ST-1	18.0	688.0	---	---	26.3	101.3	3.11 E-6 ⁽¹⁾	1	0	2	9	34	54	30	17	13	CL
Glacial Clay	TB-W-10	LS-10	22.0	684.0	---	---	---	---	---	3	4	8	17	32	36	23	13	10	CL
Glacial Clay	TB-W-10	ST-2	26.0	680.0	---	---	17.7	114.6	2.64 E-8	1	3	5	10	29	52	30	17	13	CL
Glacial Clay	TB-W-10	LS-14	32.0	674.0	---	---	---	---	---	2	2	5	11	30	50	34	17	17	CL
Glacial Clay	TB-W-10	ST-3	38.0	668.0	---	---	17.0	115.7	1.76 E-8	1	1	3	8	32	55	31	18	13	CL
Glacial Clay	TB-W-10	ST-4	46.0	660.0	3546	14.3	17.2	118.7	3.34 E-8	0	1	3	7	36	53	31	17	14	CL
Glacial Clay	TB-W-10	LS-22	52.0	654.0	---	---	---	---	---	0	2	4	15	38	41	24	13	11	CL
Glacial Clay	TB-W-10	ST-5	56.0	650.0	---	---	19.1	111.0	4.31 E-8	2	1	3	8	33	53	31	17	14	CL

SUMMARY OF LABORATORY TEST DATA (BY GEOLOGIC UNIT)

Geologic Unit	Boring Designation	Sample ID	Depth of Sample Tip (ft)	Elevation of Sample Tip (ft)	Unconfined Compressive Strength (psf)	Failure Strain (%)	Natural Water Content (% of dry weight)	In-Place Dry Density (lbs/cu.ft)	Permeability (cm/sec)	Partical Size Distribution (%)						Atterberg Limits (%)			Unified Soil Classification
										Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay & Colloids	Liquid Limit	Plastic Limit	Plasticity Index	
Glacial Clay	TB-W-10	ST-6	62.0	644.0	851	14.2	21.5	107.0	1.71 E-8	2	1	2	6	27	62	33	18	15	CL
Glacial Clay	TB-W-10	LS-27	66.0	640.0	5340	10.8	17.7	115.7	---	---	---	---	---	---	---	---	---	---	---
Glacial Clay	TB-W-10	ST-7	76.0	630.0	---	---	18.7	---	---	1	1	3	10	58	27	20	16	4	CL-ML
Glacial Clay	TB-W-10	LS-33	82.0	624.0	---	---	---	---	---	0	1	4	39	34	22	16	12	4	CL-ML
Glacial Clay	TB-W-10	LS-44	115.0	591.0	---	---	---	---	---	29	5	6	9	20	31	27	14	13	CL
Glacial Clay	TB-W-11	LS-5	15.0	691.0	---	---	24.6	---	---	0	0	0	2	30	68	39	19	20	CL
Glacial Clay	TB-W-11	ST-1	18.0	688.0	3361	4.2	20.5	109.4	3.32 E-8	1	2	4	9	37	47	28	15	13	CL
Glacial Clay	TB-W-11	ST-2	23.0	683.0	---	---	---	---	---	3	2	5	12	28	50	30	15	15	CL
Glacial Clay	TB-W-11	ST-3	28.0	678.0	---	---	17.6	115.4	1.50 E-8	1	3	4	12	30	50	33	16	17	CL
Glacial Clay	TB-W-11	LS-9	35.0	671.0	---	---	19.8	---	---	3	1	5	12	28	51	31	17	14	CL
Glacial Clay	TB-W-11	ST-4	38.0	668.0	8421	15.0	17.8	113.9	1.50 E-8	1	1	3	9	30	56	34	18	16	CL
Glacial Clay	TB-W-11	ST-5	43.0	663.0	---	---	15.9	118.9	1.78 E-8	1	2	2	10	37	48	30	15	15	CL
Glacial Clay	TB-W-11	LS-12	50.0	656.0	---	---	22.8	---	---	0	0	0	0	23	77	37	20	17	CL
Glacial Clay	TB-W-11	ST-6	53.0	653.0	6721	11.0	14.9	121.3	1.42 E-8	0	0	0	1	19	80	44	16	28	CL
Glacial Clay	TB-W-11	LS-14	60.0	646.0	---	---	14.9	---	---	5	3	5	20	37	30	20	14	6	CL-ML
Glacial Clay	TB-W-11	ST-8	68.0	638.0	1134	15.0	21.4	103.2	2.56 E-7	0	1	1	3	47	48	31	16	15	CL
Glacial Clay	TB-W-11	LS-17	75.0	631.0	13936	13.6	8.5	136.4	---	4	3	7	30	32	24	17	11	6	CL-ML
Glacial Clay	TB-W-11	LS-18	80.0	626.0	---	---	11.7	---	---	6	4	9	25	33	23	17	11	6	CL-ML
Glacial Clay	TB-W-12	LS-5	15.0	691.0	---	---	14.8	---	---	0	0	1	9	50	40	26	15	11	CL
Glacial Clay	TB-W-12	LS-6	20.0	686.0	---	---	16.1	117.2	---	1	2	4	11	48	34	23	14	9	CL
Glacial Clay	TB-W-12	ST-1	22.0	684.0	---	---	15.7	119.8	2.28 E-8	0	2	4	14	40	40	26	15	11	CL
Glacial Clay	TB-W-12	ST-2	30.0	676.0	3480	15.0	17.7	114.1	1.05 E-8	3	3	4	10	30	50	34	17	17	CL
Glacial Clay	TB-W-12	LS-9	35.0	671.0	---	---	16.2	---	---	0	2	4	10	23	61	36	18	18	CL
Glacial Clay	TB-W-12	ST-3	38.0	668.0	3443	15.0	13.3	121.9	1.33 E-8	4	2	5	14	34	41	28	14	14	CL
Glacial Clay	TB-W-12	LS-10	40.0	666.0	---	---	13.9	---	---	1	2	3	9	38	47	29	15	14	CL
Glacial Clay	TB-W-12	LS-11	47.5	658.5	---	---	16.2	---	---	0	2	3	10	37	48	30	15	15	CL
Glacial Clay	TB-W-12	ST-4	55.0	651.0	---	---	25.4	100.8	4.72 E-8	1	1	3	13	53	29	21	14	7	CL-ML

SUMMARY OF LABORATORY TEST DATA (BY GEOLOGIC UNIT)

Geologic Unit	Boring Designation	Sample ID	Depth of Sample Tip (ft)	Elevation of Sample Tip (ft)	Unconfined Compressive Strength (psf)	Failure Strain (%)	Natural Water Content (% of dry weight)	In-Place Dry Density (lbs/cu.ft)	Permeability (cm/sec)	Partical Size Distribution (%)						Atterberg Limits (%)			Unified Soil Classification
										Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay & Colloids	Liquid Limit	Plastic Limit	Plasticity Index	
Glacial Clay	TB-W-12	ST-7	73.0	633.0	1460	14.2	19.1	114.3	1.95 E-7	3	2	5	17	38	35	23	14	9	CL
Glacial Clay	TB-W-12	LS-17	80.0	626.0	---	---	11.8	---	---	2	3	5	16	37	37	24	13	11	CL
Glacial Clay	TB-W-12	ST-8	83.0	623.0	1751	14.8	14.9	117.2	2.28 E-8	2	2	6	15	38	37	24	14	10	CL
Glacial Clay	TB-W-13	LS-5	15.0	691.0	---	---	22.3	---	---	0	0	1	4	30	65	35	19	16	CL
Glacial Clay	TB-W-13	ST-1	18.0	688.0	2658	9.0	22.5	104.0	1.48 E-7	0	0	0	2	48	50	30	16	14	CL
Glacial Clay	TB-W-13	ST-2	23.0	683.0	---	---	23.2	106.6	7.28 E-8	0	0	1	4	41	54	32	17	15	CL
Glacial Clay	TB-W-13	LS-8	30.0	676.0	---	---	17.2	---	---	2	3	4	12	28	51	31	17	14	CL
Glacial Clay	TB-W-13	ST-3	33.0	673.0	---	---	17.9	113.0	1.43 E-8	1	2	5	11	28	53	34	18	16	CL
Glacial Clay	TB-W-13	ST-4	38.0	668.0	---	---	---	---	---	2	2	3	9	23	61	40	17	23	CL
Glacial Clay	TB-W-13	ST-5	43.0	663.0	6118	14.3	15.9	114.7	1.32 E-8	3	1	3	9	36	48	26	15	11	CL
Glacial Clay	TB-W-13	LS-12	50.0	656.0	---	---	12.8	132.7	---	0	4	6	18	40	32	20	11	9	CL
Glacial Clay	TB-W-13	ST-6	53.0	653.0	---	---	16.7	115.4	1.24 E-8	1	2	2	10	37	48	30	16	14	CL
Glacial Clay	TB-W-13	LS-14	60.0	646.0	1646	14.9	19.0	114.7	---	0	1	2	11	50	36	23	15	8	CL
Glacial Clay	TB-W-13	ST-7	63.0	641.6	1936	15.0	21.2	108.4	1.70 E-7	0	0	1	3	46	50	31	17	14	CL
Glacial Clay	TB-W-13	ST-8	68.0	636.6	---	---	27.9	96.3	3.44 E-8	0	0	0	0	64	36	26	17	9	CL
Glacial Clay	TB-W-14	ST-1	17.0	687.6	---	---	---	---	---	0	0	0	57	34	9	Non-Plastic			SM
Glacial Clay	TB-W-14	ST-1	17.0	687.6	---	---	23.4	103.6	7.85 E-7 ^[2]	---	---	---	---	---	---	---	---	---	---
Glacial Clay	TB-W-14	ST-2	26.0	678.6	---	---	17.7	116.0	3.77 E-8	3	2	4	12	29	50	30	16	14	CL
Glacial Clay	TB-W-14	ST-3	30.0	674.6	---	---	---	---	---	3	2	5	10	29	51	33	16	17	CL
Glacial Clay	TB-W-14	ST-4	34.0	670.6	11202	11.9	17.9	114.2	1.86 E-8	2	2	4	10	30	52	31	17	14	CL
Glacial Clay	TB-W-14	LS-14	38.0	666.6	---	---	15.0	---	---	0	2	3	12	33	50	29	15	14	CL
Glacial Clay	TB-W-14	ST-5	42.0	662.6	---	---	20.4	108.8	4.70 E-8	1	1	4	12	38	44	26	14	12	CL
Glacial Clay	TB-W-14	ST-6	48.0	656.6	---	---	13.0	111.1	3.23 E-8	0	0	0	1	29	70	38	20	18	CL
Glacial Clay	TB-W-14	LS-20	54.0	650.6	2536	14.5	19.8	111.0	---	3	0	2	8	59	28	21	15	6	CL-ML
Glacial Clay	TB-W-14	LS-22	58.0	646.6	---	---	22.2	106.8	---	0	0	0	0	92	8	Non-Plastic			ML
Glacial Clay	TB-W-14	ST-7	60.0	644.6	---	---	27.1	96.8	2.00 E-8	1	2	0	1	25	71	34	20	14	CL
Transition Silts	TB-W-1	LS-32	78.0	627.1	---	---	---	---	---	0	0	0	1	92	7	Non-Plastic			ML

SUMMARY OF LABORATORY TEST DATA (BY GEOLOGIC UNIT)

Geologic Unit	Boring Designation	Sample ID	Depth of Sample Tip (ft)	Elevation of Sample Tip (ft)	Unconfined Compressive Strength (psf)	Failure Strain (%)	Natural Water Content (% of dry weight)	In-Place Dry Density (lbs/cu.ft)	Permeability (cm/sec)	Partical Size Distribution (%)						Atterberg Limits (%)			Unified Soil Classification
										Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay & Colloids	Liquid Limit	Plastic Limit	Plasticity Index	
Transition Silts	TB-W-1	LS-35	84.0	621.1	---	---	---	---	---	0	0	0	4	86	10	Non-Plastic			ML
Transition Silts	TB-W-2	LS-12	55.0	650.1	---	---	---	---	---	0	0	0	4	79	17	Non-Plastic			ML
Transition Silts	TB-W-2	LS-14	65.0	641.2	---	---	---	---	---	0	0	0	25	63	12	Non-Plastic			ML
Transition Silts	TB-W-2	LS-16	75.0	631.2	---	---	---	---	---	0	0	0	37	59	4	Non-Plastic			ML
Transition Silts	TB-W-3	LS-10	55.0	651.2	---	---	---	---	---	0	0	0	49	46	5	Non-Plastic			MH
Transition Silts	TB-W-3	LS-11	60.0	646.2	---	---	---	---	---	0	0	0	42	51	7	Non-Plastic			MH
Transition Silts	TB-W-3	LS-13	70.0	636.2	---	---	---	---	---	0	0	0	29	67	4	Non-Plastic			MH
Transition Silts	TB-W-4	ST-8	62.0	644.2	---	---	21.9	108.1	---	0	1	2	10	63	24	Non-Plastic			MH
Transition Silts	TB-W-5	LS-15	65.0	641.2	---	---	---	---	---	0	0	0	1	89	10	Non-Plastic			ML
Transition Silts	TB-W-5	LS-17	75.0	631.2	---	---	---	---	---	0	0	1	21	68	10	Non-Plastic			ML
Transition Silts	TB-W-6	LS-15	65.0	641.2	---	---	---	---	---	0	0	0	24	72	4	Non-Plastic			ML
Transition Silts	TB-W-6	LS-16	70.0	636.2	---	---	---	---	---	0	0	0	2	80	18	Non-Plastic			ML
Transition Silts	TB-W-6	LS-17	75.0	631.2	---	---	---	---	---	0	0	0	25	71	4	Non-Plastic			ML
Transition Silts	TB-W-7	LS-24	60.0	646.2	---	---	---	---	---	0	0	0	1	89	10	Non-Plastic			MH
Transition Silts	TB-W-7	LS-30	72.0	634.2	---	---	---	---	---	0	0	0	5	86	9	Non-Plastic			MH
Transition Silts	TB-W-7	LS-32	76.0	630.2	---	---	---	---	---	0	0	0	15	82	3	Non-Plastic			MH
Transition Silts	TB-W-7	LS-34	80.0	626.2	---	---	---	---	---	0	0	0	36	58	6	Non-Plastic			MH
Transition Silts	TB-W-8	ST-4	50.0	656.2	---	---	17.3	115.8	---	0	0	0	3	81	16	18	16	2	ML
Transition Silts	TB-W-8	LS-11	55.0	649.8	---	---	---	---	---	0	0	0	4	82	14	Non-Plastic			MH
Transition Silts	TB-W-8	ST-5	58.0	646.8	---	---	27.5	98.0	3.60 E-8	0	0	0	1	56	43	25	18	7	CL-ML
Transition Silts	TB-W-8	LS-16	80.0	624.8	---	---	---	---	---	0	0	0	37	60	3	Non-Plastic			MH
Transition Silts	TB-W-9	ST-6	55.0	649.8	---	---	21.9	104.2	---	0	0	1	4	79	16	Non-Plastic			MH
Transition Silts	TB-W-9	LS-12	60.0	644.8	---	---	---	---	---	0	0	0	1	95	4	---	---	---	ML
Transition Silts	TB-W-9	LS-13	65.0	639.8	---	---	---	---	---	0	0	0	16	80	4	---	---	---	ML
Transition Silts	TB-W-9	LS-14	70.0	634.8	---	---	---	---	---	0	0	0	21	71	8	Non-Plastic			MH
Transition Silts	TB-W-10	LS-36	88.0	616.8	---	---	---	---	---	0	0	1	37	54	8	Non-Plastic			ML
Transition Silts	TB-W-10	ST-8	94.0	610.8	---	---	12.2	127.7	1.91 E-7	3	2	3	21	42	29	18	12	6	CL-ML

SUMMARY OF LABORATORY TEST DATA (BY GEOLOGIC UNIT)

Geologic Unit	Boring Designation	Sample ID	Depth of Sample Tip (ft)	Elevation of Sample Tip (ft)	Unconfined Compressive Strength (psf)	Failure Strain (%)	Natural Water Content (% of dry weight)	In-Place Dry Density (lbs/cu. ft)	Permeability (cm/sec)	Partical Size Distribution (%)						Atterberg Limits (%)			Unified Soil Classification
										Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay & Colloids	Liquid Limit	Plastic Limit	Plasticity Index	
Transition Silts	TB-W-11	ST-7	63.0	641.8	---	---	22.8	105.5	8.46 E-6 ^[3]	0	0	0	0	92	8	Non-Plastic			ML
Transition Silts	TB-W-12	ST-5	60.0	644.8	---	---	1.9	136.4	1.14 E-5 ^[3]	0	0	1	2	91	6	Non-Plastic			MH
Transition Silts	TB-W-12	LS-14	65.0	639.8	---	---	23.0	---	---	0	0	0	3	79	18	Non-Plastic			ML
Transition Silts	TB-W-12	ST-6	68.0	636.8	---	---	21.2	108.4	2.34 E-7	0	2	2	7	75	14	Non-Plastic			ML
Transition Silts	TB-W-12	LS-19	90.0	614.8	---	---	16.6	---	---	0	0	1	49	40	10	---	---	---	ML
Transition Silts	TB-W-13	LS-17	75.0	629.8	---	---	21.1	---	---	0	0	0	9	86	5	---	---	---	ML
Transition Silts	TB-W-14	LS-24	64.0	640.8	---	---	21.5	---	---	0	0	0	42	53	5	Non-Plastic			ML
Transition Silts	TB-W-14	LS-26	68.0	636.8	---	---	21.2	---	---	0	0	0	28	67	5	Non-Plastic			ML
Transition Silts	TB-W-14	ST-8	74.0	630.8	---	---	8.8	---	---	0	0	0	13	72	15	Non-Plastic			ML
Aquifer Sands	TB-W-1	LS-37	88.0	618.2	---	---	---	---	---	0	0	0	80	14	6	Non-Plastic			SM
Aquifer Sands	TB-W-1	LS-39	92.0	614.2	---	---	---	---	---	0	0	0	67	29	4	Non-Plastic			SM
Aquifer Sands	TB-W-2	ST-5	58.0	648.2	---	---	---	---	---	0	0	0	75	23	2	Non-Plastic			SM
Aquifer Sands	TB-W-2	LS-15	70.0	636.2	---	---	---	---	---	0	0	0	67	30	3	Non-Plastic			SM
Aquifer Sands	TB-W-2	LS-17	80.0	626.2	---	---	---	---	---	0	0	1	87	10	2	Non-Plastic			SM
Aquifer Sands	TB-W-3	LS-12	65.0	641.2	---	---	---	---	---	0	0	0	54	42	4	Non-Plastic			SM
Aquifer Sands	TB-W-3	LS-14	75.0	631.2	---	---	---	---	---	0	0	0	78	16	6	Non-Plastic			SM
Aquifer Sands	TB-W-3	LS-15	80.0	626.2	---	---	---	---	---	0	0	0	80	15	5	Non-Plastic			SM
Aquifer Sands	TB-W-5	LS-18	80.0	626.2	---	---	---	---	---	0	0	0	77	19	4	Non-Plastic			SM
Aquifer Sands	TB-W-7	LS-28	68.0	638.2	---	---	---	---	---	0	0	0	87	9	4	Non-Plastic			SM
Aquifer Sands	TB-W-8	LS-13	65.0	641.2	---	---	---	---	---	0	0	0	53	41	6	Non-Plastic			SM
Aquifer Sands	TB-W-8	LS-14	70.0	636.2	---	---	---	---	---	0	0	0	84	13	3	Non-Plastic			SM
Aquifer Sands	TB-W-8	LS-15	75.0	631.2	---	---	---	---	---	0	0	0	78	17	5	Non-Plastic			SM
Aquifer Sands	TB-W-9	LS-15	75.0	631.2	---	---	---	---	---	0	0	0	84	12	4	Non-Plastic			SM
Aquifer Sands	TB-W-9	LS-16	80.0	626.2	---	---	---	---	---	0	0	0	83	12	5	Non-Plastic			SM
Aquifer Sands	TB-W-10	LS-40	98.0	608.2	---	---	---	---	---	12	20	26	15	← 27 →	← 18 →	Non-Plastic			SM
Aquifer Sands	TB-W-10	LS-42	105.0	601.2	---	---	---	---	---	29	19	22	12	← 18 →	← 18 →	Non-Plastic			SM

SUMMARY OF LABORATORY TEST DATA (BY GEOLOGIC UNIT)																			
Geologic Unit	Boring Designation	Sample ID	Depth of Sample Tip (ft)	Elevation of Sample Tip (ft)	Unconfined Compressive Strength (psf)	Failure Strain (%)	Natural Water Content (% of dry weight)	In-Place Dry Density (lbs/cu.ft)	Permeability (cm/sec)	Partical Size Distribution (%)						Afterberg Limits (%)			Unified Soil Classification
										Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt	Clay & Colloids	Liquid Limit	Plastic Limit	Plasticity Index	
Aquifer Sands	TB-W-10	LS-43	110.0	596.2	---	---	---	---	---	11	13	45	16	← 15 →			Non-Plastic		SM
Aquifer Sands	TB-W-10	LS-45	120.0	586.5	---	---	---	---	---	28	11	13	14	18	16		Non-Plastic		SM
Aquifer Sands	TB-W-10	LS-46	125.0	581.5	---	---	---	---	---	23	14	21	13	← 29 →					SM
Aquifer Sands	TB-W-12	LS-20	95.0	611.5	---	---	7.0	---	---	26	17	26	14	12	5				SM
Aquifer Sands	TB-W-12	LS-21	100.0	606.5	---	---	6.9	---	---	32	16	23	13	← 16 →					SM
Aquifer Sands	TB-W-13	LS-18	80.0	626.5	---	---	19.9	---	---	0	0	0	58	39	3				SM
Aquifer Sands	TB-W-14	LS-30	78.0	628.5	---	---	18.7	---	---	0	0	0	77	20	3		Non-Plastic		SM

Notes:

- [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.
- [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 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 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.



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Aggregate/Soil Test Report

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

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 Paydary

Sample Details

Boring No: TB-W-14
Field Sample No: LS-30
Sample Depth: 78
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

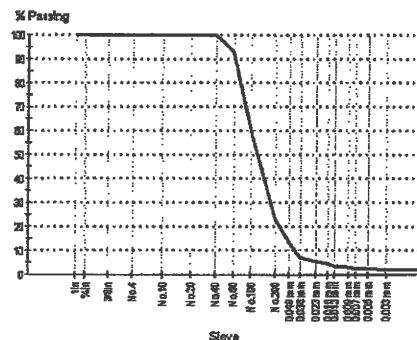
Method: ASTM D 422
Drying by: Oven

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)	93	
No.100 (150µm)	60	
No.200 (75µm)	23	
0.049 mm	13	
0.036 mm	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	
0.001 mm	2	

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	18.7	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	SM	
Group Name		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-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.



Zeera Paydary

Date of Issue: 9/2/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-14
Field Sample No: ST-8
Sample Depth: 74
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

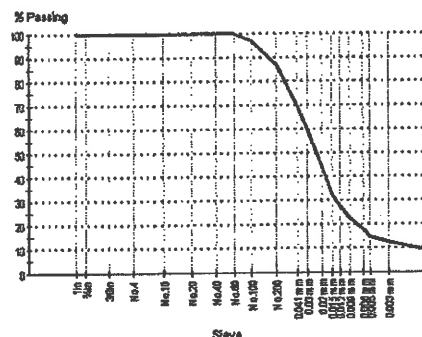
Method: ASTM D 422
Drying by: Oven

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)	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	

Other Test Results

Description	Method	Result	Limits
Temperature (°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)		N/O	
Sample Volume (in³)		N/O	
Dry Density (lb/ft³)		N/O	
Initial Moisture Content (%)		N/O	
Final Moisture Content (%)		N/O	
Average Permeability (cm/s)		N/O	

Chart



Comments

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



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Southeast Michigan Laboratory

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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.



Zeevak Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeevak Payday

Sample Details

Boring No: TB-W-14
Field Sample No: ST-8
Sample Depth: 74
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

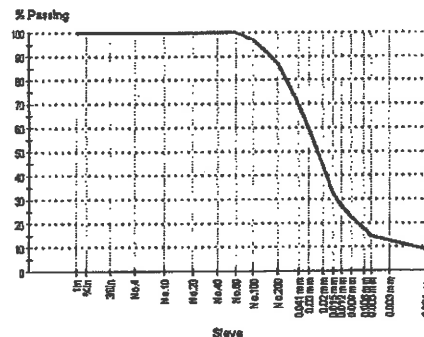
Method: ASTM D 422
Drying by: Oven

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)	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	

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	8.8	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	ML	
Group Name		Silt	

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-S067

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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Zeera Paydary

Date of Issue: 9/2/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-14
Field Sample No: LS-26
Sample Depth: 68
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

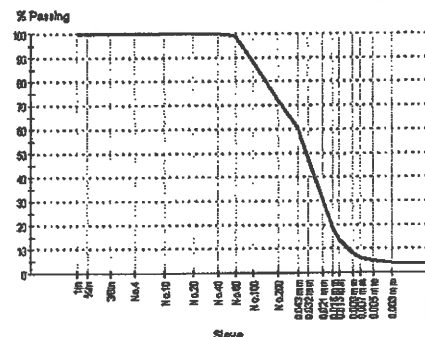
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	21.2	
Wet Density (lb/ft ³)			
Dry Density (lb/ft ³)			
Group Symbol	ASTM D 2487	ML	
Group Name		Silt with 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)	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



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-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.



Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-14
Field Sample No: LS-24
Sample Depth: 64
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

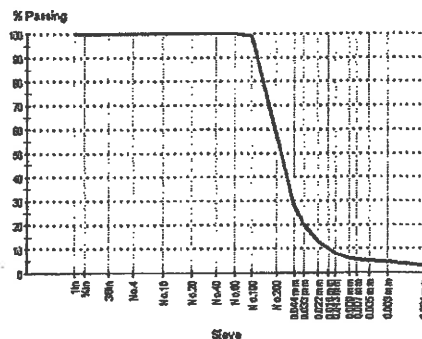
Method: ASTM D 422
Drying by: Oven

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)	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	

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	21.5	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	ML	
Group Name		Sandy silt	

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-S065

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
Approved Signatory: Zeerak Payday

Sample Details

Boring No: TB-W-14
Field Sample No: ST-7
Sample Depth: 60
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

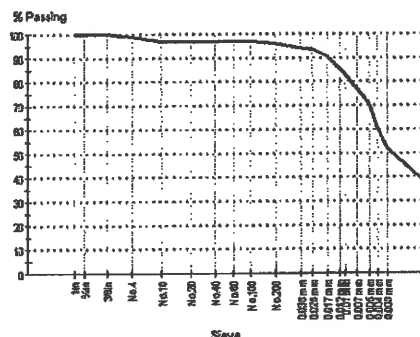
Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.6	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.855	
Sample Diameter (in)		2.829	
Sample Cross-Section Area (in ²)		6.29	
Sample Volume (in ³)		17.95	
Dry Density (lb/ft ³)		96.8	
Initial Moisture Content (%)		27.1	
Final Moisture Content (%)		27.5	
Average Permeability (cm/s)		2.00 E-8	

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)	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	
0.007 mm	77	
0.005 mm	71	
0.004 mm	60	
0.003 mm	52	
0.001 mm	38	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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Aggregate/Soil Test Report

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

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
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-14
Field Sample No: ST-7
Sample Depth: 60
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

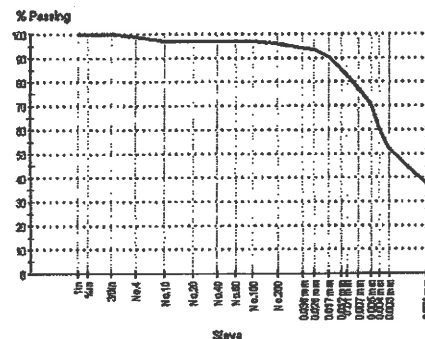
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	
0.007 mm	77	
0.005 mm	71	
0.004 mm	60	
0.003 mm	52	
0.001 mm	38	

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 (%)		20	
Plasticity Index (%)		14	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	27.1	
Wet Density (lb/ft³)		123.1	
Dry Density (lb/ft³)		96.8	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Chart



Comments
N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

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

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 Paydary

Sample Details

Boring No: TB-W-14
Field Sample No: LS-22
Sample Depth: 58
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

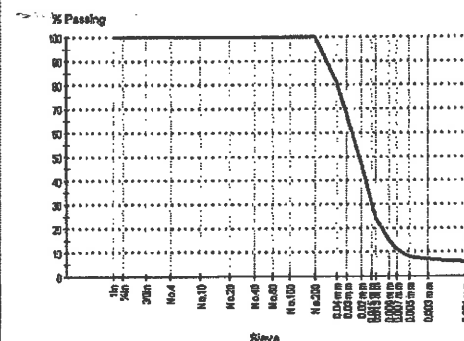
Method: ASTM D 422
Drying by: Oven

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)	100	
No.100 (150µm)	100	
No.200 (75µm)	100	
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	7	
0.001 mm	6	

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 2218	22.2	
Wet Density (lb/ft³)		130.5	
Dry Density (lb/ft³)		106.8	
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	
Visual Description		N/O	

Chart



Comments

sample was disturbed ,not enough for Limit test.
N/O = Not Obtainable
NO = Not Obtainable



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

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

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.



Zeera Paydary

Date of Issue: 9/2/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-14
Field Sample No: LS-20
Sample Depth: 54
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

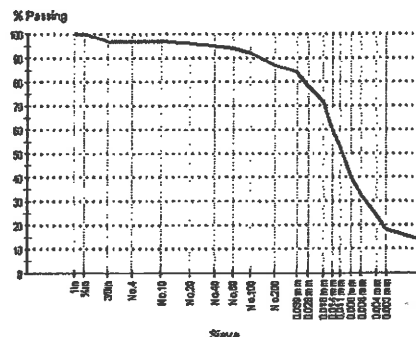
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	97	
No.4 (4.75mm)	97	
No.10 (2.0mm)	97	
No.20 (850µm)	96	
No.40 (425µm)	95	
No.60 (250µm)	94	
No.100 (150µm)	92	
No.200 (75µm)	87	
0.039 mm	84	
0.028 mm	78	
0.018 mm	71	
0.014 mm	60	
0.011 mm	52	
0.008 mm	40	
0.006 mm	32	
0.004 mm	24	
0.003 mm	18	
0.001 mm	13	

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	21	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		6	
Sample History		Unknown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2218	19.8	
Wet Density (lb/ft³)		133.0	
Dry Density (lb/ft³)		111.0	
Group Symbol	ASTM D 2487	CL-ML	
Group Name		Silty clay	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	2536	
Shear Strength (lb/ft²)		1268	
Ave. Rate Strain to Failure(%)		0.9	
Strain at Failure(%)		14.5	
Average Height (in.)		2.759	
Average Diameter (in.)		1.368	
Height-Diameter Ratio		2.0	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Chart



Comments
N/A



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NTH Consultants, Ltd.
Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

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

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 Payday

Sample Details

Boring No: TB-W-14
Field Sample No: ST-6
Sample Depth: 48
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

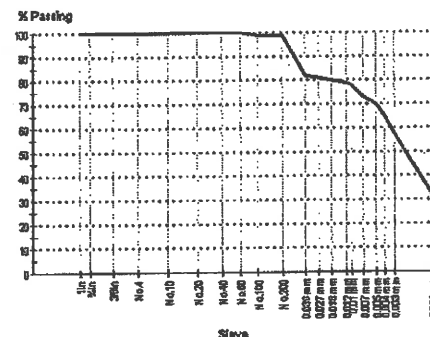
Method: ASTM D 422
Drying by: Oven

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)	100	
No.100 (150µm)	99	
No.200 (75µm)	99	
0.039 mm	82	
0.027 mm	81	
0.018 mm	80	
0.012 mm	79	
0.010 mm	78	
0.007 mm	73	
0.005 mm	70	
0.004 mm	65	
0.003 mm	57	
0.001 mm	32	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.8	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant		0.01 N CaSO ₄	
Sample Height (in)		2.610	
Sample Diameter (in)		2.843	
Sample Cross-Section Area (in ²)		6.35	
Sample Volume (in ³)		16.57	
Dry Density (lb/ft ³)		111.2	
Initial Moisture Content (%)		12.9	
Final Moisture Content (%)		26.1	
Average Permeability (cm/s)		3.23 E-8	

Chart



Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248.553.8300
Fax: 248.324.5179

Aggregate/Soil Test Report

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

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 Paydary

Sample Details

Boring No: TB-W-14
Field Sample No: ST-6
Sample Depth: 48
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

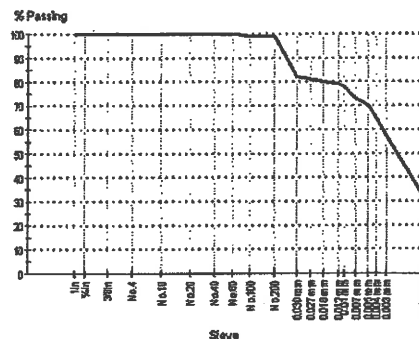
Method: ASTM D 422
Drying by: Oven

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)	100	
No.100 (150µm)	99	
No.200 (75µm)	99	
0.039 mm	82	
0.027 mm	81	
0.018 mm	80	
0.012 mm	79	
0.010 mm	78	
0.007 mm	73	
0.005 mm	70	
0.004 mm	65	
0.003 mm	57	
0.001 mm	32	

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	38	
Method		Method A	
Plastic Limit (%)		20	
Plasticity Index (%)		18	
Sample History		Unknown	
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	

Chart



Comments:
N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

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

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 Paydary

Sample Details

Boring No: TB-W-14
Field Sample No: ST-5
Sample Depth: 42
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

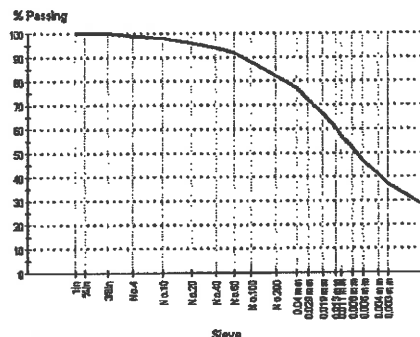
Method: ASTM D 422
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Temperature (°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	0.01 N CaSO4		
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 Permeability (cm/s)		4.70 E-8	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

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

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 Paydary

Sample Details

Boring No: TB-W-14
Field Sample No: ST-5
Sample Depth: 42
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

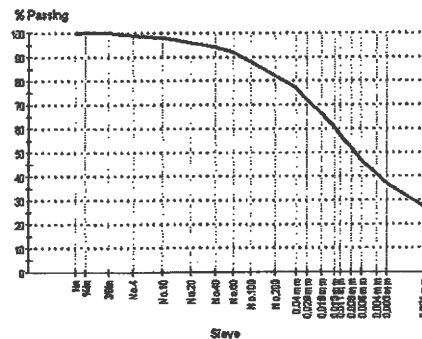
Method: ASTM D 422
Drying by: Oven

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

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	26	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		12	
Sample History		Unknown	
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	

Chart



Comments
N/A



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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: TB-W-14
Field Sample No: LS-14
Sample Depth: 38
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

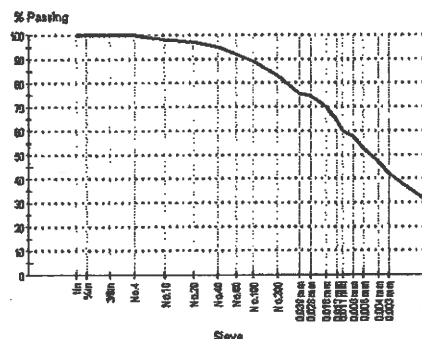
Method: ASTM D 422
Drying by: Oven

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)	98	
No.20 (850µm)	97	
No.40 (425µm)	95	
No.60 (250µm)	92	
No.100 (150µm)	89	
No.200 (75µm)	83	
0.039 mm	76	
0.028 mm	75	
0.018 mm	70	
0.013 mm	64	
0.011 mm	60	
0.008 mm	57	
0.006 mm	53	
0.004 mm	47	
0.003 mm	42	
0.001 mm	31	

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	15.0	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Chart



Comments

N/A



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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.



Zeera Paydary

Date of Issue: 9/2/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-14
Field Sample No: ST-4
Sample Depth: 34
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

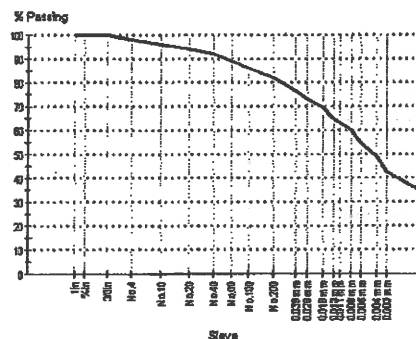
Method: ASTM D 422
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Temperature (°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 CaSO4		
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/ft³)		114.2	
Initial Moisture Content (%)		17.9	
Final Moisture Content (%)		18.9	
Average Permeability (cm/s)		1.86 E-8	

Chart



Comments
N/A



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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

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

Sample Details

Boring No: TB-W-14
Field Sample No: ST-4
Sample Depth: 34
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

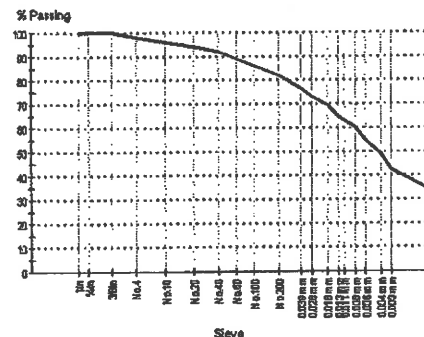
Method: ASTM D 422
Drying by: Oven

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

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	31	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		14	
Sample History		Unknown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	17.9	
Wet Density (lb/ft³)		134.7	
Dry Density (lb/ft³)		114.2	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	11202	
Shear Strength (lb/ft²)		5601	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		11.9	
Average Height (in.)		6.031	
Average Diameter (in.)		2.851	
Height-Diameter Ratio		2.1	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Chart



Comments

N/A



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Fax: 248.324.5179

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

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.



Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-14
Field Sample No: ST-3
Sample Depth: 30
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

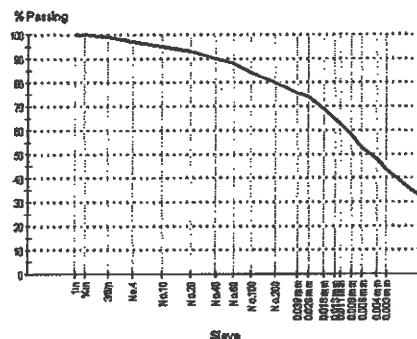
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	
0.003 mm	43	
0.001 mm	31	

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	33	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		17	
Sample History		Unknown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Chart



Comments
N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

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

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.



Zeera Paydary

Date of Issue: 9/2/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-14
Field Sample No: ST-2
Sample Depth: 26
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

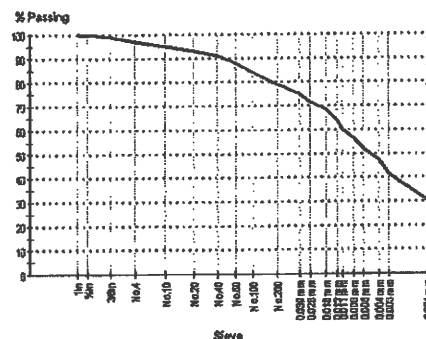
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	60	
0.008 mm	57	
0.006 mm	52	
0.004 mm	47	
0.003 mm	42	
0.001 mm	31	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.3	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.860	
Sample Diameter (in)		2.792	
Sample Cross-Section Area (in ²)		6.12	
Sample Volume (in ³)		17.51	
Dry Density (lb/ft ³)		116.0	
Initial Moisture Content (%)		17.7	
Final Moisture Content (%)		18.5	
Average Permeability (cm/s)		3.77 E-8	

Chart



Comments

N/A



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Infrastructure Engineering
and Environmental Services

NTH Consultants, Ltd.
Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

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

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.



Zeera Paydary

Date of Issue: 9/2/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-14
Field Sample No: ST-2
Sample Depth: 26
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

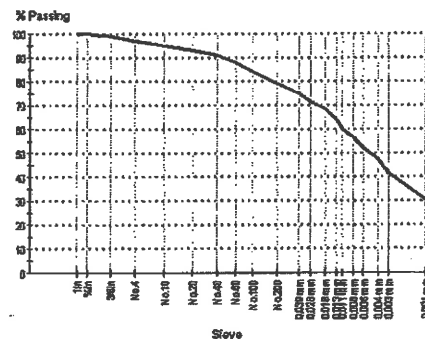
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	60	
0.008 mm	57	
0.006 mm	52	
0.004 mm	47	
0.003 mm	42	
0.001 mm	31	

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 (%)		16	
Plasticity Index (%)		14	
Sample History		Unknown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	17.7	
Wet Density (lb/ft³)		136.5	
Dry Density (lb/ft³)		116.0	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Chart



Comments
N/A



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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

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 Payday

Sample Details

Boring No: TB-W-14
Field Sample No: ST-1
Sample Depth: 18
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

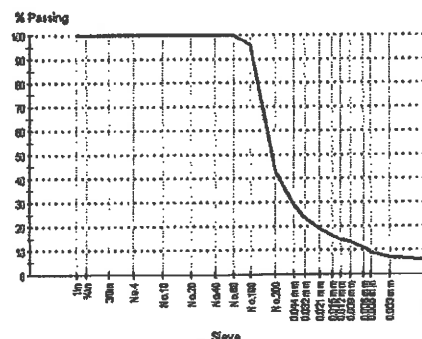
Method: ASTM D 422
Drying by: Oven

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)	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	

Other Test Results

Description	Method	Result	Limits
Temperature (°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 CaSO4		
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	
Final Moisture Content (%)		20.3	
Average Permeability (cm/s)		7.85 E-7	

Chart



Comments

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



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Southeast Michigan Laboratory

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Fax: 248.324.5179

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

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.



Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-14
Field Sample No: ST-1
Sample Depth: 18
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

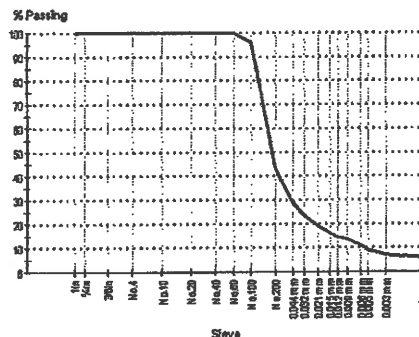
Method: ASTM D 422
Drying by: Oven

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)	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	

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	23.4	
Wet Density (lb/ft³)		127.8	
Dry Density (lb/ft³)		103.6	
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	
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	
Visual Description		N/O	

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-S055

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.



Zeera Paydary

Date of Issue: 9/2/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-14
Field Sample No: LS-7
Sample Depth: 14
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

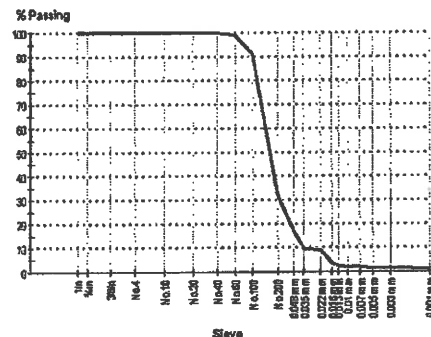
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM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

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-S054

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 Paydary

Sample Details

Boring No: TB-W-14
Field Sample No: LS-5
Sample Depth: 10
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

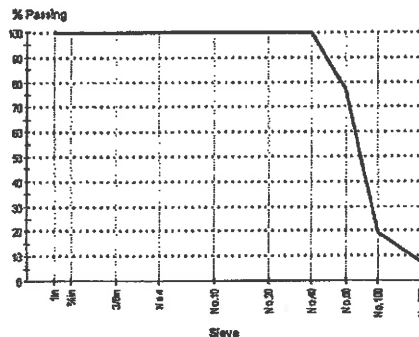
Method: ASTM D 422
Drying by: Oven

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)	77	
No.100 (150µm)	19	
No.200 (75µm)	7	
Finer No.200 (75µm)	7	

Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
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	
Group Name		Silty sand	

Chart



Comments:
N/A



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Aggregate/Soil Test Report

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

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
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-14
Field Sample No: LS-2
Sample Depth: 4
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

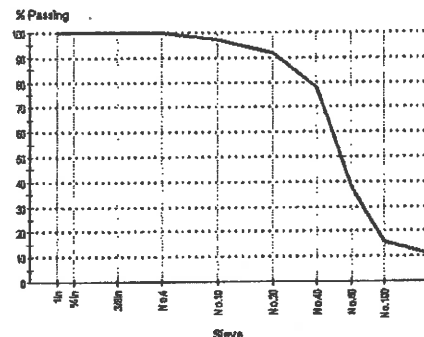
Method: ASTM D 422
Drying by: Oven

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)	97	
No.20 (850µm)	92	
No.40 (425µm)	78	
No.60 (250µm)	38	
No.100 (150µm)	16	
No.200 (75µm)	11	
Finer No.200 (75µm)	12	

Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
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	15.1	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

Chart



Comments

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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



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 Paydary

Sample Details

Boring No: TB-W-13
Field Sample No: LS-18
Sample Depth: 80
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

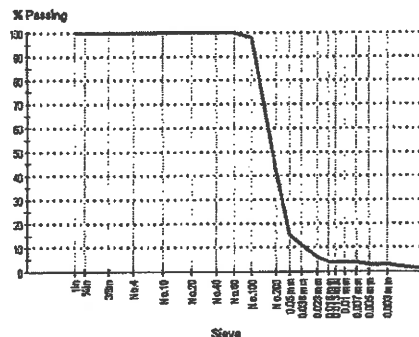
Method: ASTM D 422
Drying by: Oven

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)	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	

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	

Chart



Comments
N/A



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Aggregate/Soil Test Report

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

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
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-13
Field Sample No: LS-17
Sample Depth: 75
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

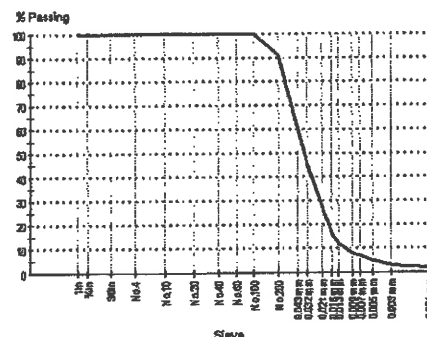
Method: ASTM D 422
Drying by: Oven

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)	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	
0.003 mm	3	
0.001 mm	2	

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	21.1	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	ML	
Group Name		Silt	

Chart



Comments
N/A



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NTH Consultants, Ltd.
Southeast Michigan Laboratory

Telephone: 248.553.8300
Fax: 248.324.6179

Aggregate/Soil Test Report

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

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.



Zeerak Paydary

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

Sample Details

Boring No: TB-W-13
Field Sample No: ST-8
Sample Depth: 68
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

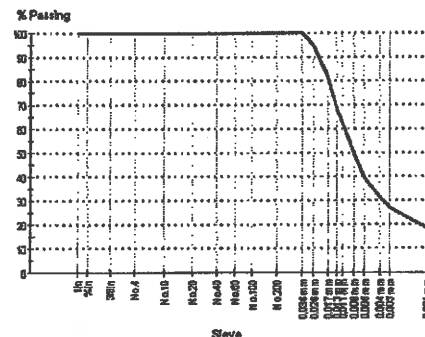
Method: ASTM D 422
Drying by: Oven

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)	100	
No.100 (150µm)	100	
No.200 (75µm)	100	
0.036 mm	100	
0.026 mm	95	
0.017 mm	82	
0.013 mm	68	
0.011 mm	63	
0.008 mm	50	
0.006 mm	39	
0.004 mm	32	
0.003 mm	27	
0.001 mm	18	

Other Test Results

Description	Method	Result	Limits
Temperature (°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	0.01 N CaSO4		
Sample Height (in)		2.834	
Sample Diameter (in)		2.839	
Sample Cross-Section Area (in²)		6.33	
Sample Volume (in³)		17.94	
Dry Density (lb/ft³)		96.3	
Initial Moisture Content (%)		27.9	
Final Moisture Content (%)		28.4	
Average Permeability (cm/s)		3.44 E-8	

Chart



Comments
N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

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

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
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(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 Paydary

Sample Details

Boring No: TB-W-13
Field Sample No: ST-8
Sample Depth: 68
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

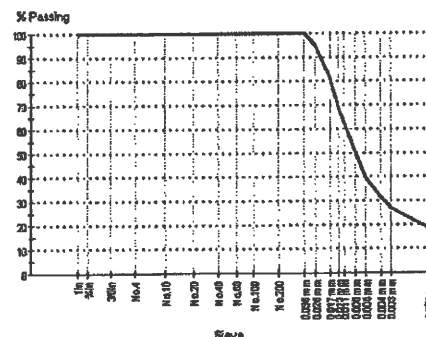
Method: ASTM D 422
Drying by: Oven

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)	100	
No.100 (150µm)	100	
No.200 (75µm)	100	
0.036 mm	100	
0.026 mm	95	
0.017 mm	82	
0.013 mm	68	
0.011 mm	63	
0.008 mm	50	
0.006 mm	39	
0.004 mm	32	
0.003 mm	27	
0.001 mm	18	

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	26	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		9	
Sample History		Unknown	
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	
Group Name		Lean clay	

Chart



Comments

N/A



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NTH Consultants, Ltd.
Southeast Michigan Laboratory

Telephone: 248.653.6300
Fax: 248.324.5179

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

Issue No: 1

Aggregate/Soil Test Report

Client: Wayne Disposal, Inc.
Project: Woodlot & MC1&4 Waste Investigation
Soil Boring Program
Job No: 62-080376-01

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Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-13
Field Sample No: ST-7
Sample Depth: 63
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

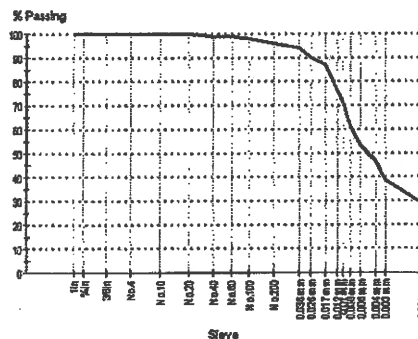
Method: ASTM D 422
Drying by: Oven

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)	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	
0.006 mm	53	
0.004 mm	46	
0.003 mm	39	
0.001 mm	29	

Other Test Results

Description	Method	Result	Limits
Temperature (°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	0.01 N CaSO4		
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 Permeability (cm/s)		1.70 E-7	

Chart



Comments
N/A



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NTH Consultants, Ltd.
Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.6179

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 Paydary

Sample Details

Boring No: TB-W-13
Field Sample No: ST-7
Sample Depth: 63
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

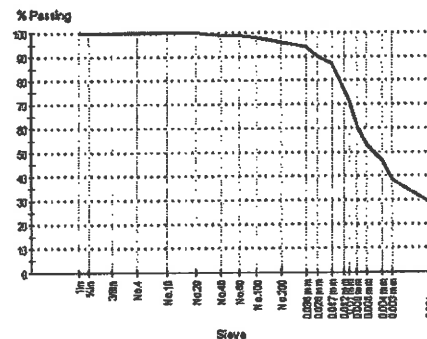
Method: ASTM D 422
Drying by: Oven

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)	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	
0.006 mm	53	
0.004 mm	46	
0.003 mm	39	
0.001 mm	29	

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	31	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		14	
Sample History		Unknown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	21.2	
Wet Density (lb/ft³)		131.4	
Dry Density (lb/ft³)		108.4	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2186	1936	
Shear Strength (lb/ft²)		968	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (in.)		5.958	
Average Diameter (in.)		2.823	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		108.4	
Init. Water Content (%)		21.2	
Liquid Limit		31	
Plastic Limit		17	
Remarks			
Visual Description			

Chart



Comments

N/A



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Aggregate/Soil Test Report

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

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.



Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-13
Field Sample No: LS-14
Sample Depth: 60
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

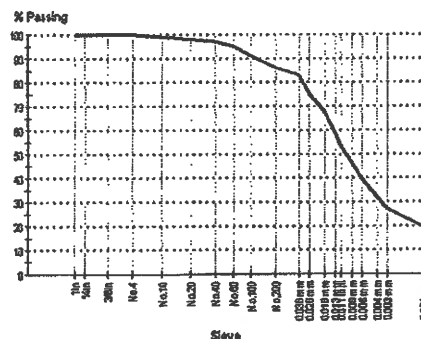
Method: ASTM D 422
Drying by: Oven

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)	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	
0.013 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	

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 (%)		15	
Plasticity Index (%)		8	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	19.0	
Wet Density (lb/ft³)		136.6	
Dry Density (lb/ft³)		114.7	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2168	1646	
Shear Strength (lb/ft²)		823	
Ave. Rate Strain to Failure(%)		0.9	
Strain at Failure(%)		14.9	
Average Height (in.)		2.677	
Average Diameter (in.)		1.328	
Height-Diameter Ratio		2.0	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Chart



Comments
N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

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

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 Paydary

Sample Details

Boring No: TB-W-13
Field Sample No: ST-6
Sample Depth: 53
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

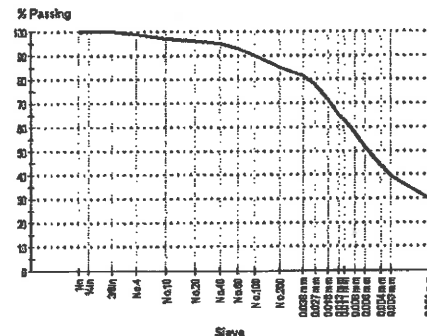
Method: ASTM D 422
Drying by: Oven

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)	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	
0.003 mm	39	
0.001 mm	30	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.2	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.850	
Sample Diameter (in)		2.861	
Sample Cross-Section Area (in ²)		6.43	
Sample Volume (in ³)		18.32	
Dry Density (lb/ft ³)		115.4	
Initial Moisture Content (%)		16.7	
Final Moisture Content (%)		16.7	
Average Permeability (cm/s)		1.24 E-8	

Chart



Comments
N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

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

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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Zaerak Paydary

Date of Issue: 9/2/2008
Approved Signatory: Zaerak Paydary

Sample Details

Boring No: TB-W-13
Field Sample No: ST-6
Sample Depth: 53
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

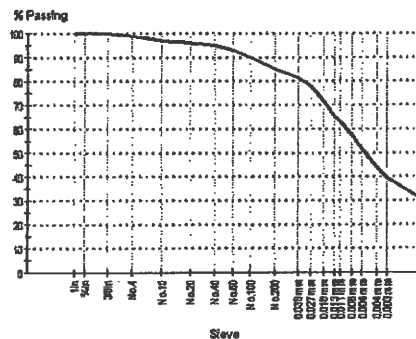
Method: ASTM D 422
Drying by: Oven

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)	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	
0.003 mm	39	
0.001 mm	30	

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 (%)		16	
Plasticity Index (%)		14	
Sample History		Unknown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	16.7	
Wet Density (lb/ft³)		134.7	
Dry Density (lb/ft³)		115.4	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	
Specific Gravity (at 20 deg C)	ASTM D 854	2.73	

Chart



Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

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

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
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in accordance with the terms of the accreditation.



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

Sample Details

Boring No: TB-W-13
Field Sample No: LS-12
Sample Depth: 50
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

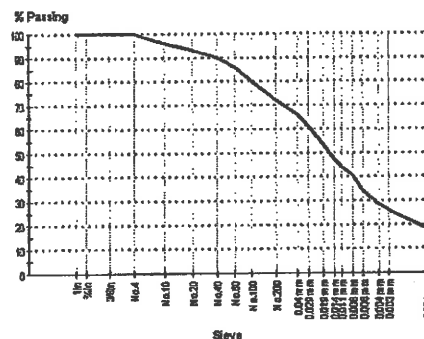
Method: ASTM D 422
Drying by: Oven

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)	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	

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 (%)		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 clay with sand	

Chart



Comments
N/A



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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.

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

Sample Details

Boring No: TB-W-13
Field Sample No: ST-5
Sample Depth: 43
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

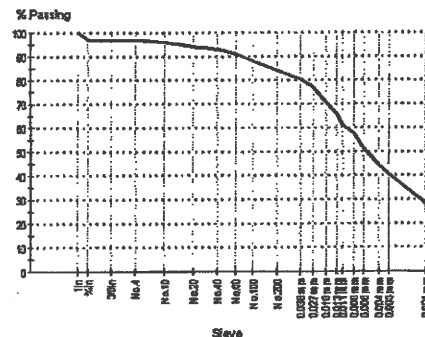
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	97	
3/8in (9.5mm)	97	
No.4 (4.75mm)	97	
No.10 (2.0mm)	96	
No.20 (850µm)	94	
No.40 (425µm)	93	
No.60 (250µm)	91	
No.100 (150µm)	88	
No.200 (75µm)	84	
0.038 mm	81	
0.027 mm	77	
0.018 mm	70	
0.013 mm	66	
0.011 mm	61	
0.008 mm	57	
0.006 mm	51	
0.004 mm	44	
0.003 mm	41	
0.001 mm	29	

Other Test Results

Description	Method	Result	Limits
Temperature (°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	0.01 N CaSO4		
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 Permeability (cm/s)		1.32 E-8	

Chart



Comments
N/A



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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

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

Sample Details

Boring No: TB-W-13
Field Sample No: ST-5
Sample Depth: 43
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

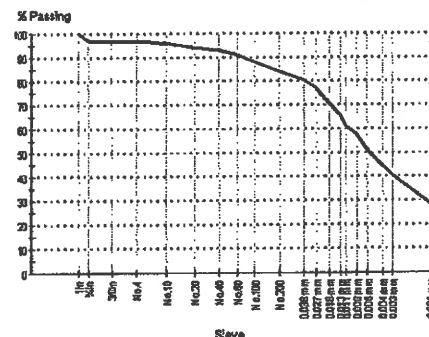
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	26	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		11	
Sample History		Unknown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	15.9	
Wet Density (lb/ft ³)		132.9	
Dry Density (lb/ft ³)		114.7	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166	6118	
Shear Strength (lb/ft ²)		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	
Plastic Limit		15	
Remarks			
Visual Description			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	97	
3/8in (9.5mm)	97	
No.4 (4.75mm)	97	
No.10 (2.0mm)	96	
No.20 (850µm)	94	
No.40 (425µm)	93	
No.60 (250µm)	91	
No.100 (150µm)	88	
No.200 (75µm)	84	
0.038 mm	81	
0.027 mm	77	
0.018 mm	70	
0.013 mm	66	
0.011 mm	61	
0.008 mm	57	
0.006 mm	51	
0.004 mm	44	
0.003 mm	41	
0.001 mm	29	

Chart



Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

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

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
Approved Signatory: Zeerak Payday

Sample Details

Boring No: TB-W-13
Field Sample No: ST-4
Sample Depth: 38
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

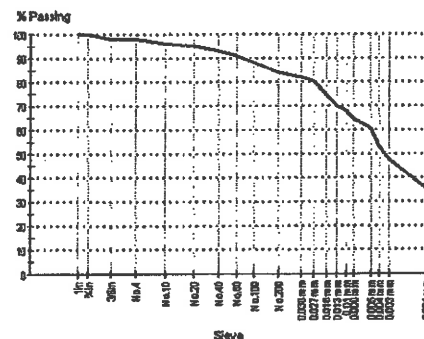
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

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	40	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		23	
Sample History		Unknown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Chart



Comments:
N/A



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Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

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

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
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-13
Field Sample No: ST-3
Sample Depth: 33
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

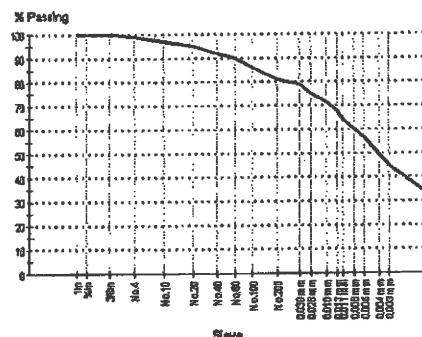
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	79	
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	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.2	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.856	
Sample Diameter (in)		2.843	
Sample Cross-Section Area (in ²)		6.35	
Sample Volume (in ³)		18.13	
Dry Density (lb/ft ³)		113.0	
Initial Moisture Content (%)		17.9	
Final Moisture Content (%)		18.4	
Average Permeability (cm/s)		1.43 E-8	

Chart



Comments
N/A



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Infrastructure Engineering
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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

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

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
Approved Signatory: Zeerak Payday

Sample Details

Boring No: TB-W-13
Field Sample No: ST-3
Sample Depth: 33
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

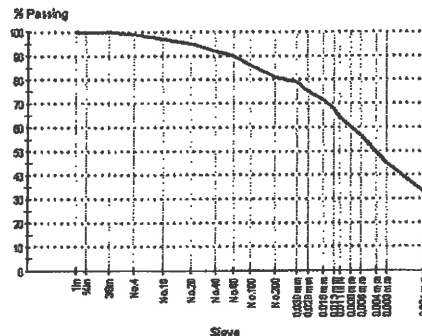
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	79	
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	

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 (%)		18	
Plasticity Index (%)		16	
Sample History		Unknown	
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	

Chart



Comments
N/A



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Fax: 248.324.6179

Aggregate/Soil Test Report

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

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 Paydary

Sample Details

Boring No: TB-W-13
Field Sample No: LS-8
Sample Depth: 30
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

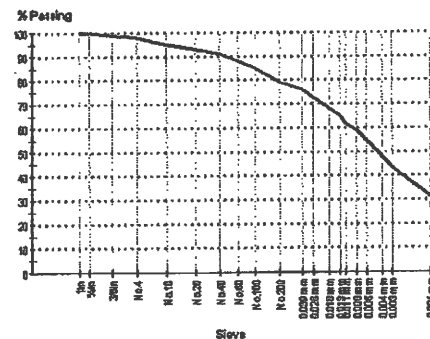
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	98	
No.10 (2.0mm)	95	
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	
0.003 mm	43	
0.001 mm	32	

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	31	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		14	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	17.2	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Chart



Comments
N/A



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Southeast Michigan Laboratory

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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.



Zeevak Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeevak Payday

Sample Details

Boring No: TB-W-13
Field Sample No: ST-2
Sample Depth: 23
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

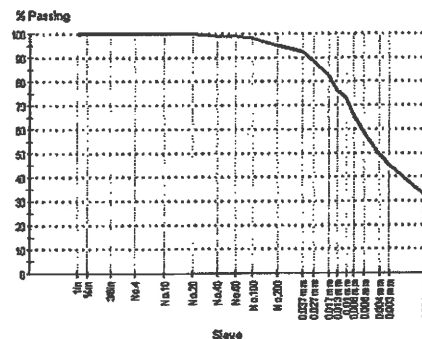
Method: ASTM D 422
Drying by: Oven

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)	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	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.2	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.845	
Sample Diameter (in)		2.837	
Sample Cross-Section Area (in ²)		6.32	
Sample Volume (in ³)		17.98	
Dry Density (lb/ft ³)		106.6	
Initial Moisture Content (%)		23.2	
Final Moisture Content (%)		21.7	
Average Permeability (cm/s)		7.28 E-8	

Chart



Comments
N/A



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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.



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

Sample Details

Boring No: TB-W-13
Field Sample No: ST-2
Sample Depth: 23
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

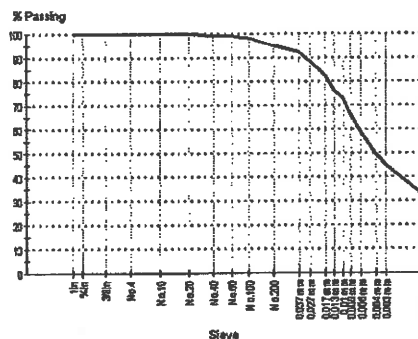
Method: ASTM D 422
Drying by: Oven

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)	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	

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		Unknown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	23.2	
Wet Density (lb/ft³)		131.3	
Dry Density (lb/ft³)		106.6	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Chart



Comments
N/A



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Aggregate/Soil Test Report

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

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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Zeera Paydew

Date of Issue: 8/2/2008
Approved Signatory: Zeera Paydew

Sample Details

Boring No: TB-W-13
Field Sample No: ST-1
Sample Depth: 18
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

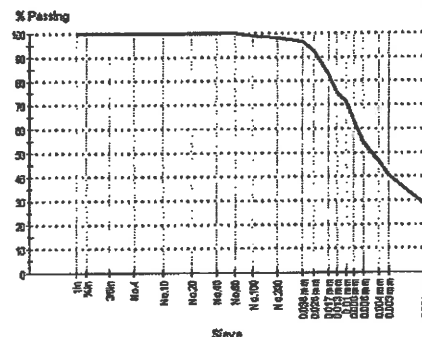
Method: ASTM D 422
Drying by: Oven

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)	100	
No.100 (150µm)	99	
No.200 (75µm)	98	
0.036 mm	97	
0.026 mm	93	
0.017 mm	83	
0.013 mm	75	
0.010 mm	71	
0.008 mm	64	
0.006 mm	54	
0.004 mm	46	
0.003 mm	41	
0.001 mm	28	

Other Test Results

Description	Method	Result	Limits
Temperature (°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 N CaSO4		
Sample Height (in)		2.861	
Sample Diameter (in)		2.873	
Sample Cross-Section Area (in²)		6.48	
Sample Volume (in³)		18.55	
Dry Density (lb/ft³)		104.0	
Initial Moisture Content (%)		22.5	
Final Moisture Content (%)		22.2	
Average Permeability (cm/s)		1.48 E-7	

Chart



Comments
N/A



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Aggregate/Soil Test Report

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

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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Zeerek Paydary

Date of Issue: 9/2/2008
Approved Signatory: Zeerek Paydary

Sample Details

Boring No: TB-W-13
Field Sample No: ST-1
Sample Depth: 18
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

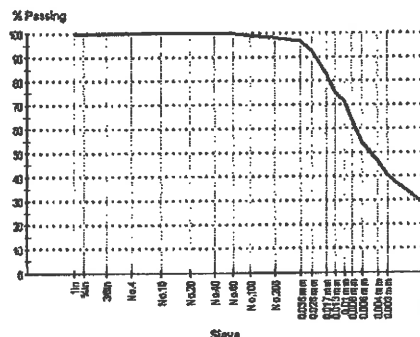
Method: ASTM D 422
Drying by: Oven

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)	100	
No.100 (150µm)	99	
No.200 (75µm)	98	
0.036 mm	97	
0.026 mm	93	
0.017 mm	83	
0.013 mm	75	
0.010 mm	71	
0.008 mm	64	
0.006 mm	54	
0.004 mm	46	
0.003 mm	41	
0.001 mm	28	

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 (%)		16	
Plasticity Index (%)		14	
Sample History		Unknown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	22.5	
Wet Density (lb/ft³)		127.4	
Dry Density (lb/ft³)		104.0	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	2658	
Shear Strength (lb/ft²)		1329	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		9.0	
Average Height (in.)		6.024	
Average Diameter (in.)		2.818	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		104.0	
Init. Water Content (%)		22.5	
Liquid Limit		30	
Plastic Limit		16	
Remarks			
Visual Description			

Chart



Comments
N/A



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Fax: 248.324.5179

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

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Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-13
Field Sample No: LS-5
Sample Depth: 15
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

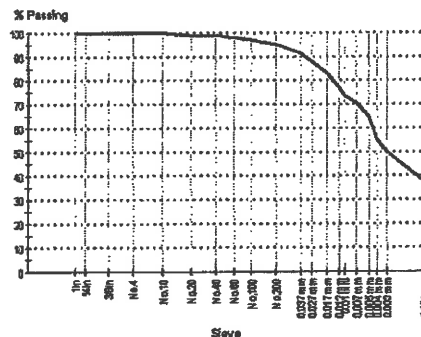
Method: ASTM D 422
Drying by: Oven

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)	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	

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	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	
Group Name		Lean clay	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S022

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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in accordance with the terms of the accreditation.



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

Sample Details

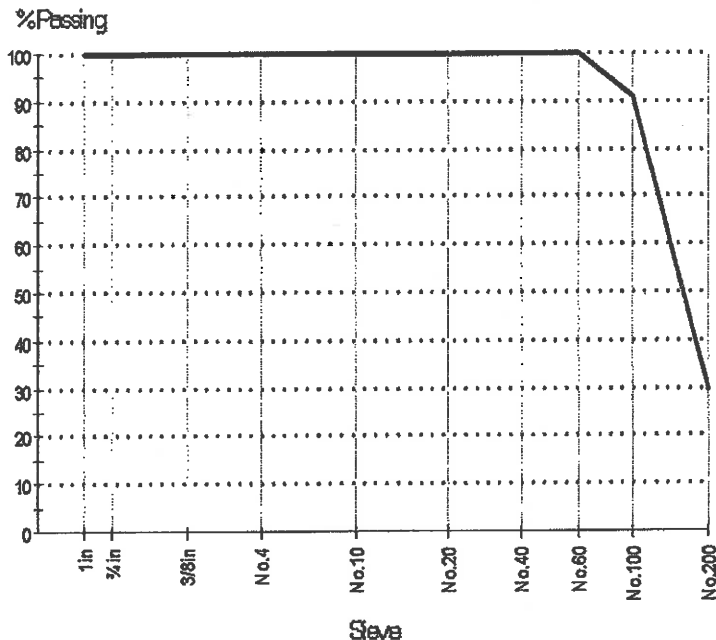
Boring No: TB-W-13
Field Sample No: LS-3
Sample Depth: 7.5
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Moisture Content (%)	ASTM D 2216	20.6	
Wet Density (lb/ft ³)			
Dry Density (lb/ft ³)			
Group Symbol	ASTM D 2487	SM	
Group Name		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)	100	
No. 100 (150µm)	91	
No. 200 (75µm)	30	
Finer No. 200 (75µm)	30	

Comments
N/A



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Fax: 248.324.5179

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

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Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-13
Field Sample No: LS-1
Sample Depth: 2.5
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

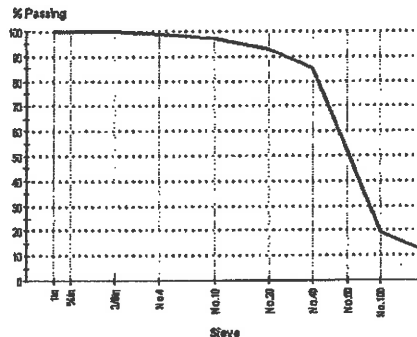
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	93	
No.40 (425µm)	85	
No.60 (250µm)	52	
No.100 (150µm)	19	
No.200 (75µm)	12	
Finer No.200 (75µm)	12	

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	
Moisture Content (%)	ASTM D 2216	16.2	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

Chart



Comments

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



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S020

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
Approved Signatory: Zeerak Paydary

Sample Details

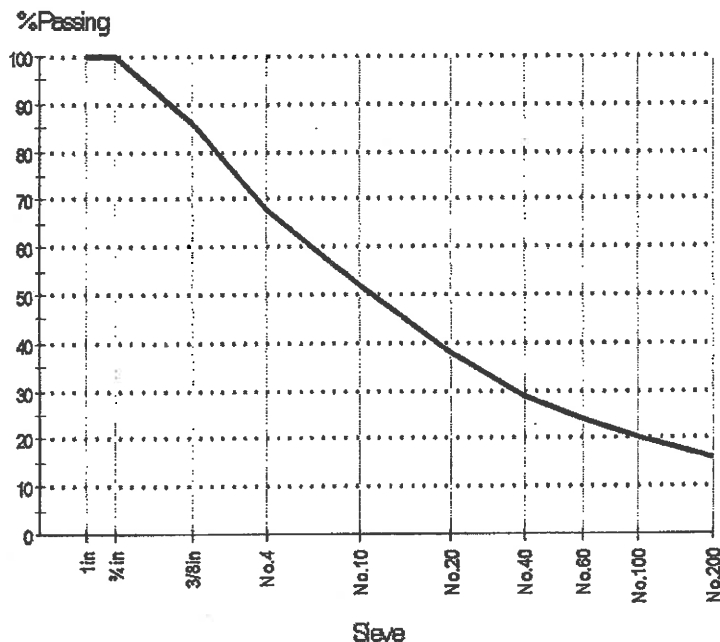
Boring No: TB-W-12
Field Sample No: LS-21
Sample Depth: 100
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Moisture Content (%)	ASTM D 2216	6.9	
Wet Density (lb/ft ³)			
Dry Density (lb/ft ³)			
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand with gravel	

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)	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 (75µm)	16	

Comments
N/A



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Fax: 248.324.5179

Report No: MAT-62-080376-01-S019

Issue No: 1

Aggregate/Soil Test Report

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 Paydary

Sample Details

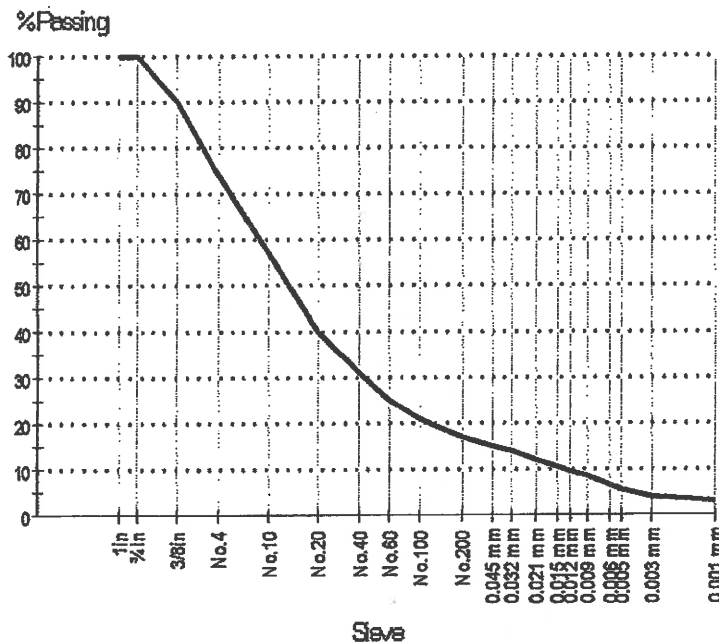
Boring No: TB-W-12
Field Sample No: LS-20
Sample Depth: 95
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

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	7.0	
Wet Density (lb/ft ³)			
Dry Density (lb/ft ³)			
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand with gravel	

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)	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
N/A



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Telephone: 248. 553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S018

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 Paydary

Sample Details

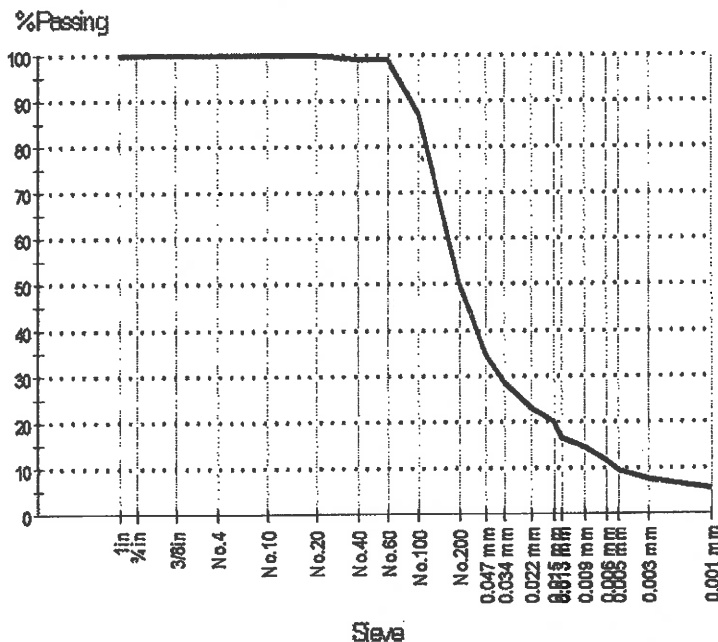
Boring No: TB-W-12
Field Sample No: LS-19
Sample Depth: 90
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

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	16.6	
Wet Density (lb/ft ³)			
Dry Density (lb/ft ³)			
Group Symbol	ASTM D 2487	ML	
Group Name		Sandy silt	

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)	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	

Comments
N/A



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Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S017

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.



Zeera Paydary

Date of Issue: 9/2/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-12
Field Sample No: ST-8
Sample Depth: 83
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

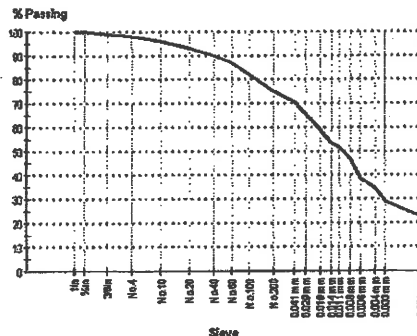
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

Other Test Results

Description	Method	Result	Limits
Temperature (°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 CaSO4		
Sample Height (in)		2.887	
Sample Diameter (in)		2.856	
Sample Cross-Section Area (in²)		6.41	
Sample Volume (in³)		18.50	
Dry Density (lb/ft³)		128.4	
Initial Moisture Content (%)		11.2	
Final Moisture Content (%)		11.6	
Average Permeability (cm/s)		2.28 E-8	

Chart



Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S017

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.



Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-12
Field Sample No: ST-8
Sample Depth: 83
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

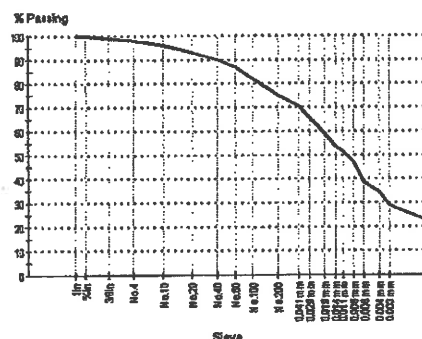
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

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	24	
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 clay 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	
Init. Water Content (%)		14.9	
Liquid Limit		24	
Plastic Limit		14	
Remarks			
Visual Description			

Chart



Comments
N/A



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Report No: MAT:62-080376-01-S016

Issue No: 1

Aggregate/Soil Test Report

Client: Wayne Disposal, Inc.
Project: Woodlot & MC1&4 Waste Investigation
Soil Boring Program
Job No: 62-080376-01

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Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

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

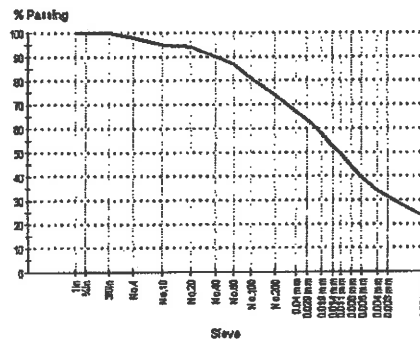
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	98	
No.10 (2.0mm)	95	
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	

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	24	
Method		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	

Chart



Comments

N/A



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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 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.

Zeera Paydary

Date of Issue: 12/13/2008
Approved Signatory: Zeera Paydary

Comments

N/A



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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 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 Paydary

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
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Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216 - 05	19.3	
Wet Density (lb/ft ³)		133.0	
Dry Density (lb/ft ³)		111.5	
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	1460	
Shear Strength (lb/ft ²)		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			

Chart

Comments

N/A



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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.



Date of issue: 9/2/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-12
Field Sample No: ST-7
Sample Depth: 73
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

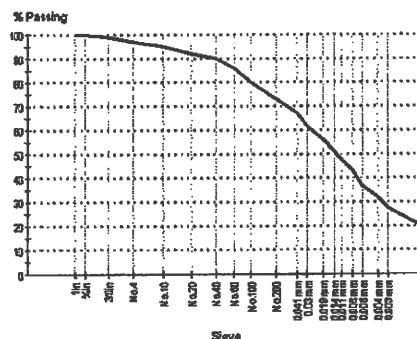
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

Other Test Results

Description	Method	Result	Limits
Temperature (°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 N CaSO4		
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 Permeability (cm/s)		1.95 E-7	

Chart



Comments

N/A



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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

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in accordance with the terms of the accreditation.



Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-12
Field Sample No: ST-7
Sample Depth: 73
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

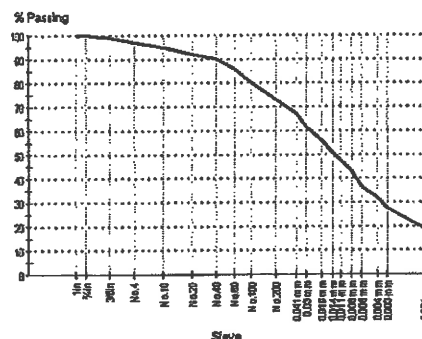
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

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	
Group Name		Lean clay with sand	

Chart



Comments:
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S014

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 Paydary

Sample Details

Boring No: TB-W-12
Field Sample No: ST-6
Sample Depth: 68
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

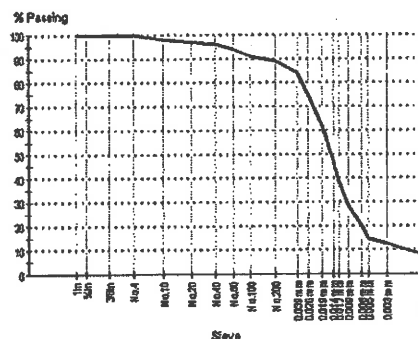
Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	22.9	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.862	
Sample Diameter (in)		2.875	
Sample Cross-Section Area (in ²)		6.49	
Sample Volume (in ³)		18.58	
Dry Density (lb/ft ³)		108.5	
Initial Moisture Content (%)		21.2	
Final Moisture Content (%)		17.5	
Average Permeability (cm/s)		2.34 E-7	

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)	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



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Southeast Michigan Laboratory

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S014

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.



Zeera Paydau

Date of Issue: 9/2/2008
Approved Signatory: Zeera Paydau

Sample Details

Boring No: TB-W-12
Field Sample No: ST-6
Sample Depth: 68
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

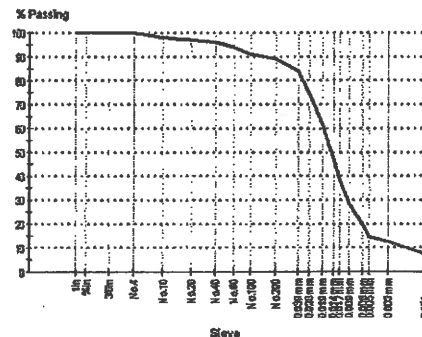
Method: ASTM D 422
Drying by: Oven

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)	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	

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)		131.4	
Dry Density (lb/ft³)		108.4	
Group Symbol	ASTM D 2487	ML	
Group Name		Silt	

Chart



Comments:

sample was silt
N/O = Not Obtainable
NO = Not Obtainable



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Southeast Michigan Laboratory

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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

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 Paydary

Sample Details

Boring No: TB-W-12
Field Sample No: LS-14
Sample Depth: 65
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

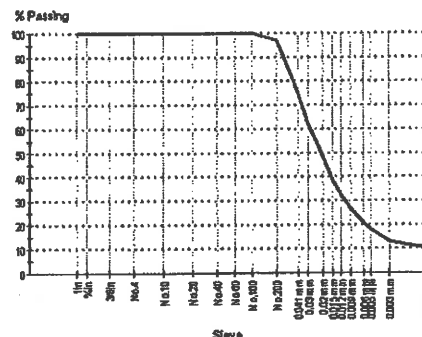
Method: ASTM D 422
Drying by: Oven

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)	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	10	

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	23.0	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	ML	
Group Name		Silt	

Chart



Comments

sample was silt
N/O = Not Obtainable
NO = Not Obtainable



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Telephone: 248.553.6300
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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

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Zeera Paydary

Date of Issue: 9/2/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-12
Field Sample No: ST-5
Sample Depth: 60
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

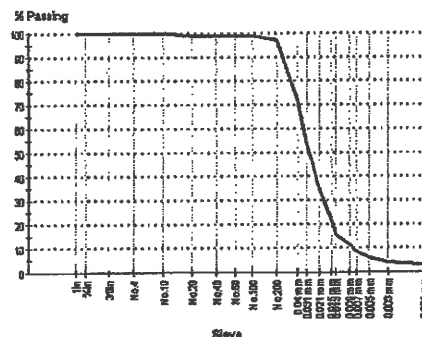
Method: ASTM D 422
Drying by: Oven

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)	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	

Other Test Results

Description	Method	Result	Limits
Temperature (°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	0.01 N CaSO4		
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/ft³)		115.8	
Initial Moisture Content (%)		20.0	
Final Moisture Content (%)		17.7	
Average Permeability (cm/s)		1.14 E-5	

Chart



Comments

SAMPLE IS SILT, NO UNCONFINED



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Southeast Michigan Laboratory

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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

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

Sample Details

Boring No: TB-W-12
Field Sample No: ST-5
Sample Depth: 60
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

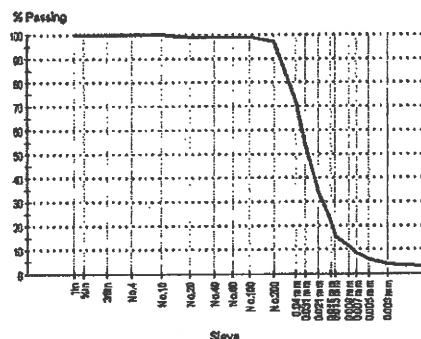
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	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	
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	

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)	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



Comments

SAMPLE IS SILT, NO UNCONFINED
N/O = Not Obtainable
NO = Not Obtainable



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Southeast Michigan Laboratory

Telephone: 248.553.6300
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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

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Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-12
Field Sample No: ST-4
Sample Depth: 55
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

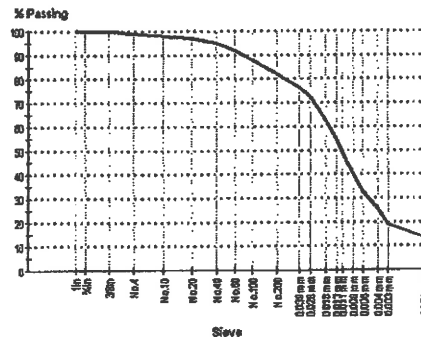
Method: ASTM D 422
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.860	
Sample Diameter (in)		2.844	
Sample Cross-Section Area (in ²)		6.35	
Sample Volume (in ³)		18.17	
Dry Density (lb/ft ³)		100.8	
Initial Moisture Content (%)		25.4	
Final Moisture Content (%)		24.0	
Average Permeability (cm/s)		4.72 E-8	

Chart



Comments
N/A



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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

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Date of Issue: 9/2/2008
Approved Signatory: Zeerek 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:

Particle Size Distribution

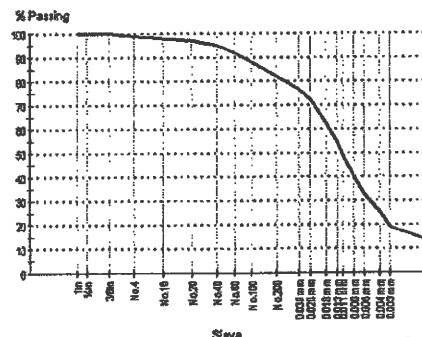
Method: ASTM D 422
Drying by: Oven

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

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	21	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		7	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	25.4	
Wet Density (lb/ft³)		126.4	
Dry Density (lb/ft³)		100.8	
Group Symbol	ASTM D 2487	CL-ML	
Group Name		Silty clay with sand	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S010

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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Zeevak Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeevak Payday

Sample Details

Boring No: TB-W-12
Field Sample No: LS-11
Sample Depth: 47.5
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

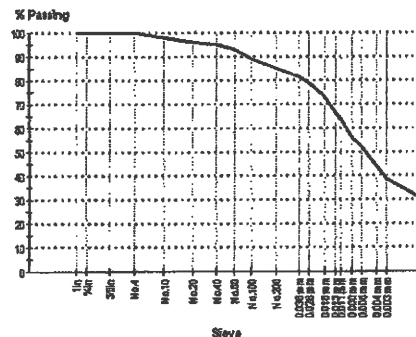
Method: ASTM D 422
Drying by: Oven

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)	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	

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			
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	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S009

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
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-12
Field Sample No: LS-10
Sample Depth: 40
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

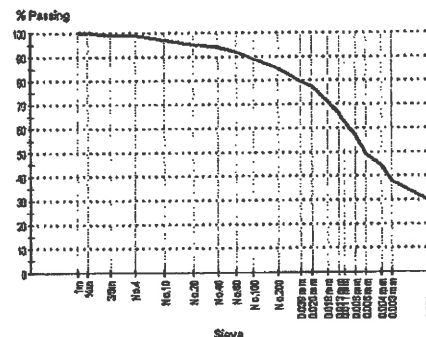
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

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	

Chart



Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S008

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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Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

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 Distribution

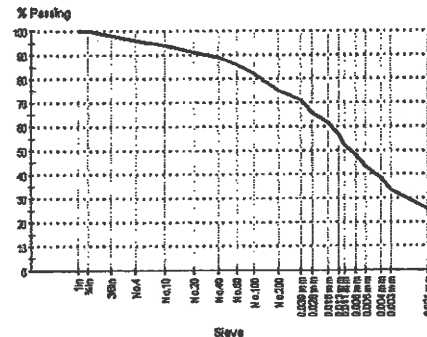
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	
0.013 mm	56	
0.011 mm	52	
0.008 mm	48	
0.006 mm	43	
0.004 mm	39	
0.003 mm	34	
0.001 mm	25	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	22.9	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.881	
Sample Diameter (in)		2.842	
Sample Cross-Section Area (in ²)		6.34	
Sample Volume (in ³)		18.28	
Dry Density (lb/ft ³)		121.9	
Initial Moisture Content (%)		13.3	
Final Moisture Content (%)		13.9	
Average Permeability (cm/s)		1.33 E-8	

Chart



Comments
N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S008

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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Zeera Paydary

Date of Issue: 9/2/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-12
Field Sample No: ST-3
Sample Depth: 38
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

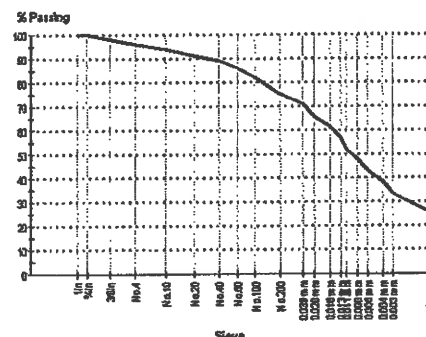
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	28	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		14	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	13.3	
Wet Density (lb/ft ³)		138.2	
Dry Density (lb/ft ³)		121.9	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166	3443	
Shear Strength (lb/ft ²)		1722	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (in.)		6.021	
Average Diameter (in.)		2.848	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		121.9	
Init. Water Content (%)		13.3	
Liquid Limit		28	
Plastic Limit		14	
Remarks			
Visual Description			

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)	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	
0.013 mm	56	
0.011 mm	52	
0.008 mm	48	
0.006 mm	43	
0.004 mm	39	
0.003 mm	34	
0.001 mm	25	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S007

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
Approved Signatory: Zeerak Payday

Sample Details

Boring No: TB-W-12
Field Sample No: LS-9
Sample Depth: 35
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

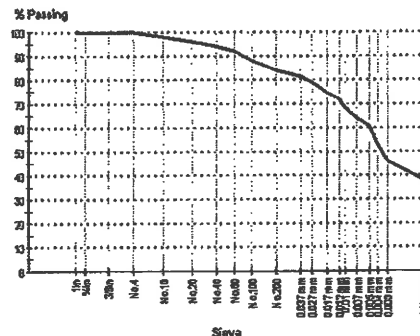
Method: ASTM D 422
Drying by: Oven

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)	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	

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	36	
Method		Method 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 with sand	

Chart



Comments:
N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S246

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: 11/24/2008
Approved Signatory: Zeerak Payday

Sample Details

Boring No: TB-W-12
Field Sample No: ST-2
Sample Depth: 30
Date Sampled:
Sampled 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 - 05	17.2	
Wet Density (lb/ft ³)		133.1	
Dry Density (lb/ft ³)		113.5	
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	3480	
Shear Strength (lb/ft ²)		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

Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S006

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
Approved Signatory: Zeerak Paydary

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 Size Distribution

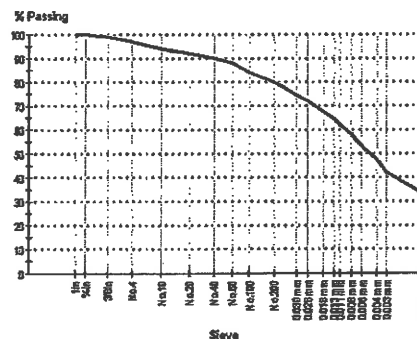
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

Other Test Results

Description	Method	Result	Limits
Temperature (°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	0.01 N CaSO4		
Sample Height (in)		2.868	
Sample Diameter (in)		2.845	
Sample Cross-Section Area (in²)		6.36	
Sample Volume (in³)		18.23	
Dry Density (lb/ft³)		114.1	
Initial Moisture Content (%)		17.7	
Final Moisture Content (%)		18.1	
Average Permeability (cm/s)		1.05 E-8	

Chart



Comments
N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S006

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 Paydary

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 Size Distribution

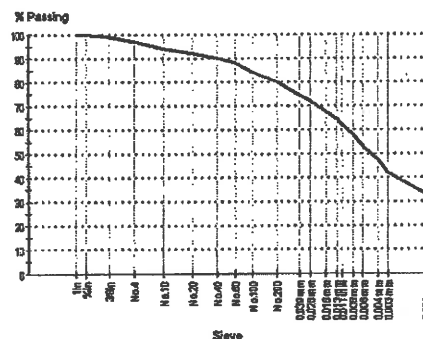
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

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	

Chart



Comments

N/A



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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

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.



Zeera Paydary

Date of Issue: 9/2/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-12
Field Sample No: ST-1
Sample Depth: 22
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

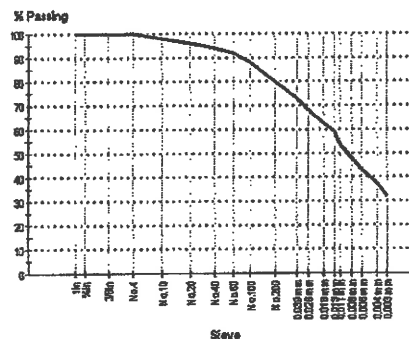
Method: ASTM D 422
Drying by: Oven

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)	98	
No.20 (850µm)	96	
No.40 (425µm)	94	
No.60 (250µm)	92	
No.100 (150µm)	88	
No.200 (75µm)	80	
0.039 mm	73	
0.028 mm	68	
0.018 mm	62	
0.013 mm	59	
0.011 mm	54	
0.008 mm	48	
0.006 mm	43	
0.004 mm	37	
0.003 mm	32	
0.000 mm	25	

Other Test Results

Description	Method	Result	Limits
Temperature (°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 N CaSO4		
Sample Height (in)		2.870	
Sample Diameter (in)		2.849	
Sample Cross-Section Area (in²)		6.38	
Sample Volume (in³)		18.30	
Dry Density (lb/ft³)		119.8	
Initial Moisture Content (%)		15.7	
Final Moisture Content (%)		15.1	
Average Permeability (cm/s)		2.28 E-8	

Chart



Comments
N/A



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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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in accordance with the terms of the accreditation.



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

Sample Details

Boring No: TB-W-12
Field Sample No: ST-1
Sample Depth: 22
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

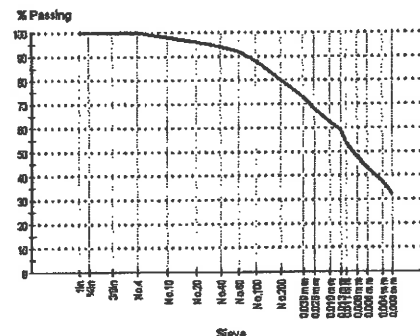
Method: ASTM D 422
Drying by: Oven

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)	98	
No.20 (850µm)	96	
No.40 (425µm)	94	
No.60 (250µm)	92	
No.100 (150µm)	88	
No.200 (75µm)	80	
0.039 mm	73	
0.028 mm	68	
0.018 mm	62	
0.013 mm	59	
0.011 mm	54	
0.008 mm	48	
0.006 mm	43	
0.004 mm	37	
0.003 mm	32	
0.000 mm	25	

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	28	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		11	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	15.7	
Wet Density (lb/ft³)		138.6	
Dry Density (lb/ft³)		119.8	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S004

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
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-12
Field Sample No: LS-6
Sample Depth: 20
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

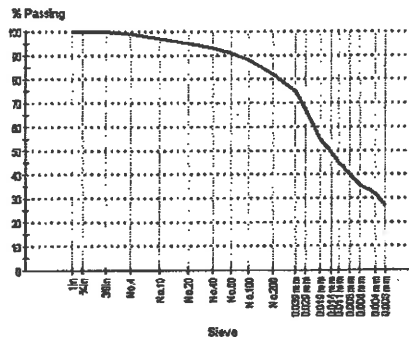
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	N/O	
Method.		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	16.1	
Wet Density (lb/ft³)		136.1	
Dry Density (lb/ft³)		117.2	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with 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)	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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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S003

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
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-12
Field Sample No: LS-5
Sample Depth: 15
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

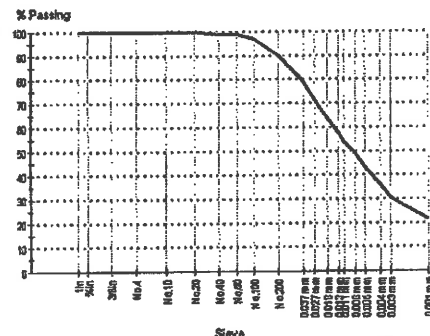
Method: ASTM D 422
Drying by: Oven

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)	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	

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	26	
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	

Chart



Comments
N/A



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Report No: MAT:62-080376-01-S002

Issue No: 1

Aggregate/Soil Test Report

Client: Wayne Disposal, Inc.

Project: Woodlot & MC1&4 Waste Investigation
Soil Boring Program

Job No: 62-080376-01

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Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

Sample Details

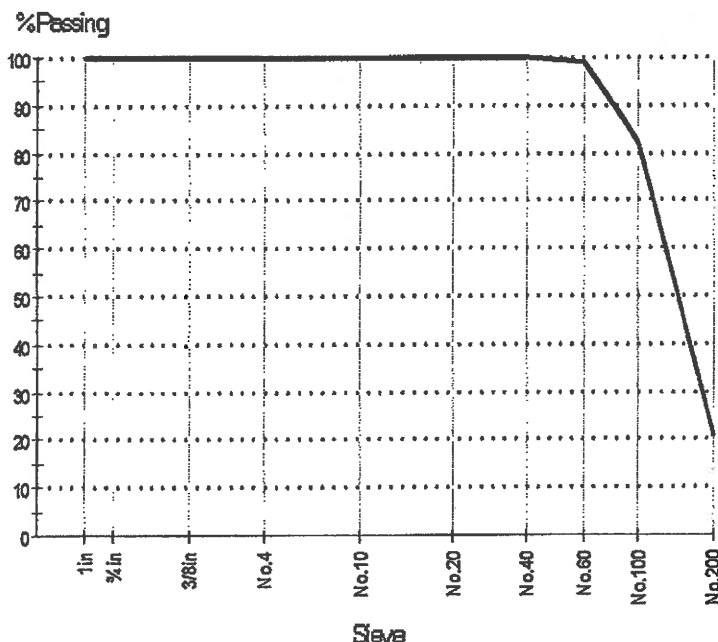
Boring No: TB-W-12
Field Sample No: LS-4
Sample Depth: 10
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Moisture Content (%)	ASTM D 2216	21.2	
Wet Density (lb/ft ³)			
Dry Density (lb/ft ³)			
Group Symbol	ASTM D 2487	SM	
Group Name		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 (75µm)	21	

Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S001

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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in accordance with the terms of the accreditation.



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

Sample Details

Boring No: TB-W-12
Field Sample No: LS-2
Sample Depth: 5
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

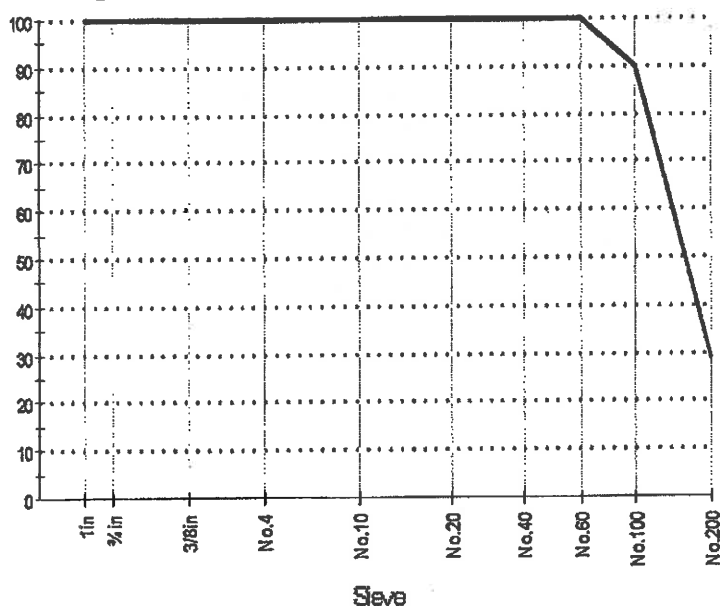
Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Moisture Content (%)	ASTM D 2216	22.1	
Wet Density (lb/ft ³)			
Dry Density (lb/ft ³)			
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

% Passing



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)	100	
No. 100 (150µm)	90	
No. 200 (75µm)	29	
Finer No. 200 (75µm)	29	

Comments
N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-82-080376-01-S052

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.



Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-11
Field Sample No: LS-18
Sample Depth: 80
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

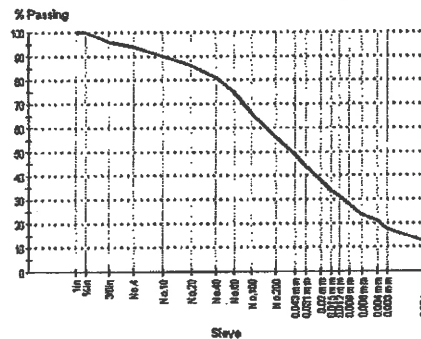
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	96	
No.4 (4.75mm)	94	
No.10 (2.0mm)	90	
No.20 (850µm)	86	
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	

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	17	
Method		Method A	
Plastic Limit (%)		11	
Plasticity Index (%)		6	
Sample History		Unknown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	11.7	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL-ML	
Group Name		Sandy silty clay	

Chart



Comments:
N/A



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Southeast Michigan Laboratory

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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 Paydary

Sample Details

Boring No: TB-W-11
Field Sample No: LS-17
Sample Depth: 75
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

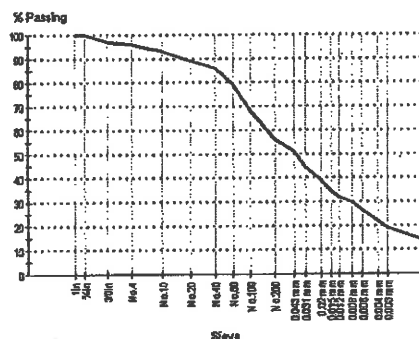
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

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	17	
Method		Method A	
Plastic Limit (%)		11	
Plasticity Index (%)		6	
Sample History		Unknown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	8.5	
Wet Density (lb/ft³)		148.0	
Dry Density (lb/ft³)		136.4	
Group Symbol	ASTM D 2487	CL-ML	
Group Name		Sandy silty clay	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	13936	
Shear Strength (lb/ft²)		6968	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		13.6	
Average Height (in.)		2.582	
Average Diameter (in.)		1.351	
Height-Diameter Ratio		1.9	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Chart



Comments
N/A



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Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S050

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 Paydary

Sample Details

Boring No: TB-W-11
Field Sample No: ST-8
Sample Depth: 68
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

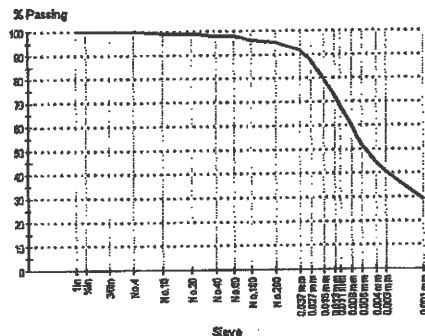
Method: ASTM D 422
Drying by: Oven

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)	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	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	24.1	
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 N CaSO4		
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)		103.2	
Initial Moisture Content (%)		21.4	
Final Moisture Content (%)		20.9	
Average Permeability (cm/s)		2.56 E-7	

Chart



Comments

N/A



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Telephone: 248.553.6300
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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S050

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 Paydary

Sample Details

Boring No: TB-W-11
Field Sample No: ST-8
Sample Depth: 68
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

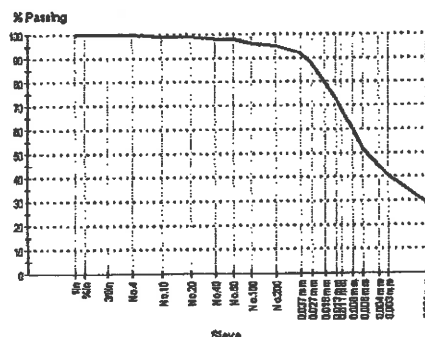
Method: ASTM D 422
Drying by: Oven

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)	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	

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	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)		125.3	
Dry Density (lb/ft³)		103.2	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2168	1134	
Shear Strength (lb/ft²)		567	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (in.)		5.945	
Average Diameter (in.)		2.845	
Height-Diameter Ratio		2.1	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Chart



Comments
N/A



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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.

Zeera Paydau

Date of Issue: 9/2/2008
Approved Signatory: Zeera Paydau

Sample Details

Boring No: TB-W-11
Field Sample No: ST-7
Sample Depth: 63
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

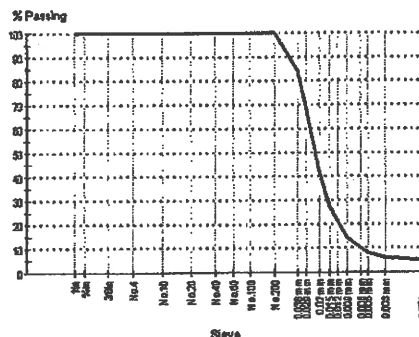
Method: ASTM D 422
Drying by: Oven

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)	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	

Other Test Results

Description	Method	Result	Limits
Temperature (°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	0.01 N CaSO4		
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)		105.5	
Initial Moisture Content (%)		22.8	
Final Moisture Content (%)		19.0	
Average Permeability (cm/s)		8.46 E-6	

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-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: 8/2/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-11
Field Sample No: ST-7
Sample Depth: 63
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

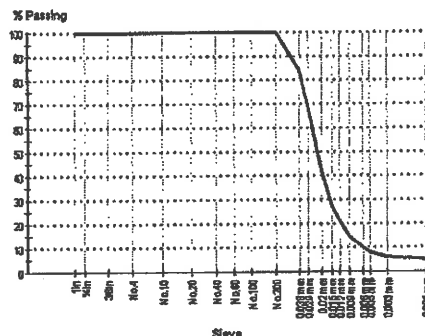
Method: ASTM D 422
Drying by: Oven

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)	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	

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	22.8	
Wet Density (lb/ft³)		129.6	
Dry Density (lb/ft³)		105.5	
Group Symbol	ASTM D 2487	ML	
Group Name		Silt	

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-S048

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 Paydary

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 Distribution

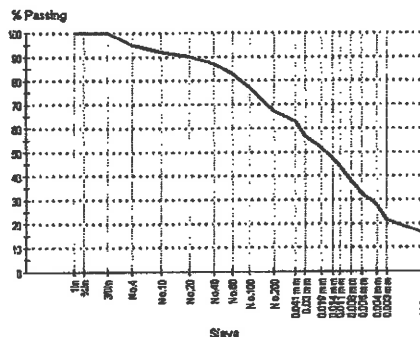
Method: ASTM D 422
Drying by: Oven

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

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	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	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S047

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 Paydary

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

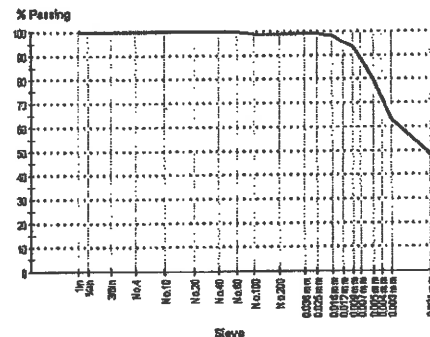
Method: ASTM D 422
Drying by: Oven

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)	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	

Other Test Results

Description	Method	Result	Limits
Temperature (°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	0.01 N CaSO4		
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 Permeability (cm/s)		1.42 E-8	

Chart



Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S047

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
Approved Signatory: Zeerak Paydary

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

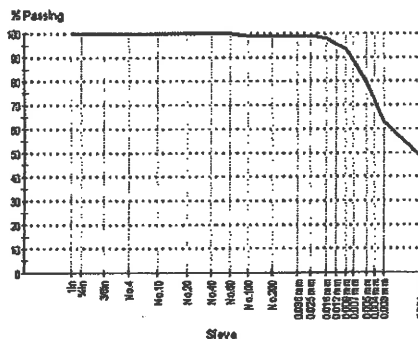
Method: ASTM D 422
Drying by: Oven

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)	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	

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	44	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		28	
Sample History		Unknown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	14.9	
Wet Density (lb/ft³)		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			
Visual Description			

Chart



Comments
N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S046

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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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-12
Sample Depth: 50
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

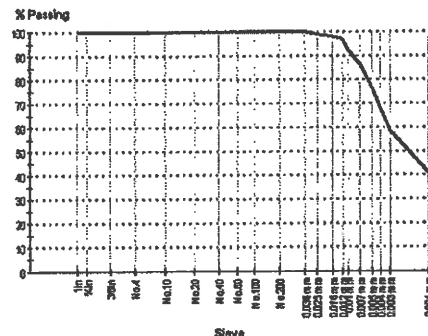
Method: ASTM D 422
Drying by: Oven

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)	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	

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	37	
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	
Group Name		Lean clay	

Chart



Comments
N/A



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Southeast Michigan Laboratory

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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



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

Sample Details

Boring No: TB-W-11
Field Sample No: ST-5
Sample Depth: 43
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

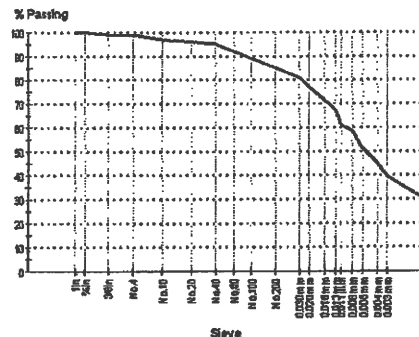
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.4	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.863	
Sample Diameter (in)		2.838	
Sample Cross-Section Area (in ²)		6.33	
Sample Volume (in ³)		18.11	
Dry Density (lb/ft ³)		118.9	
Initial Moisture Content (%)		15.9	
Final Moisture Content (%)		16.3	
Average Permeability (cm/s)		1.78 E-8	

Chart



Comments

N/A



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Infrastructure Engineering
and Environmental Services

NTH Consultants, Ltd.
Southeast Michigan Laboratory

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.

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

Sample Details

Boring No: TB-W-11
Field Sample No: ST-5
Sample Depth: 43
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

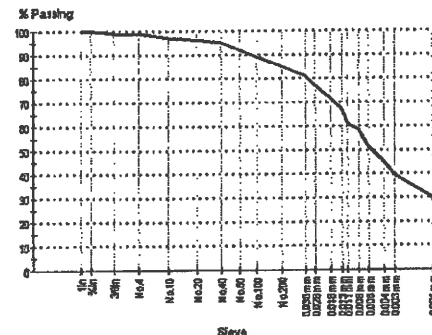
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

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		Natural state	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	15.9	
Wet Density (lb/ft³)		137.8	
Dry Density (lb/ft³)		118.9	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Chart



Comments
N/A



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Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S044

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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Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-11
Field Sample No: ST-4
Sample Depth: 38
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

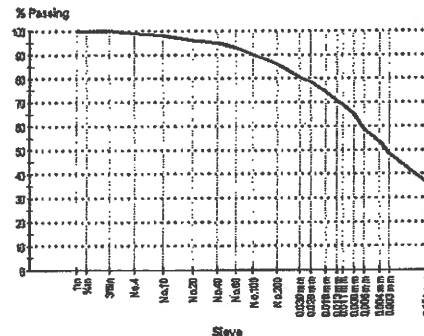
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	
0.039 mm	80	
0.028 mm	78	
0.018 mm	75	
0.013 mm	71	
0.011 mm	69	
0.008 mm	65	
0.006 mm	58	
0.004 mm	54	
0.003 mm	49	
0.001 mm	36	

Other Test Results

Description	Method	Result	Limits
Temperature (°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	0.01 N CaSO4		
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)		113.5	
Initial Moisture Content (%)		18.5	
Final Moisture Content (%)		19.5	
Average Permeability (cm/s)		1.50 E-8	

Chart



Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248. 553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S044

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.



Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-11
Field Sample No: ST-4
Sample Depth: 38
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

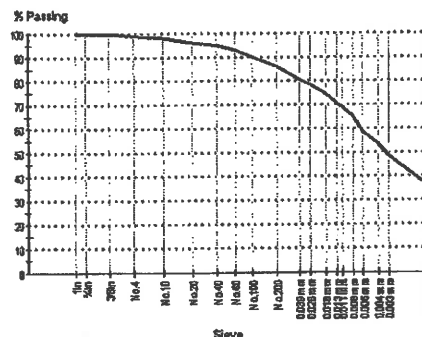
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	
0.039 mm	80	
0.028 mm	78	
0.018 mm	75	
0.013 mm	71	
0.011 mm	69	
0.008 mm	65	
0.006 mm	58	
0.004 mm	54	
0.003 mm	49	
0.001 mm	36	

Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 69/T 90	34	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		16	
Sample History		Unknown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	17.8	
Wet Density (lb/ft³)		134.1	
Dry Density (lb/ft³)		113.9	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	8421	
Shear Strength (lb/ft²)		4211	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (in.)		5.944	
Average Diameter (in.)		2.843	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		113.9	
Init. Water Content (%)		17.8	
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Chart



Comments
NA



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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

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.



Zeera Paydary

Date of Issue: 9/2/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-11
Field Sample No: LS-9
Sample Depth: 35
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

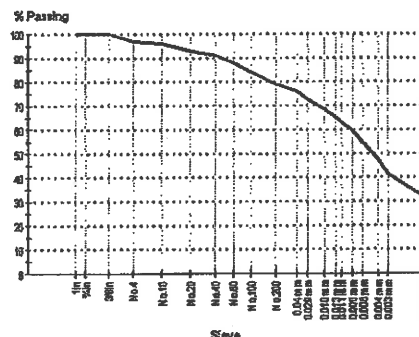
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	
0.029 mm	72	
0.018 mm	69	
0.013 mm	65	
0.011 mm	63	
0.008 mm	59	
0.006 mm	55	
0.004 mm	47	
0.003 mm	42	
0.001 mm	32	

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	31	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		14	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	19.8	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Chart



Comments
N/A



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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

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 Paydary

Sample Details

Boring No: TB-W-11
Field Sample No: ST-3
Sample Depth: 28
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

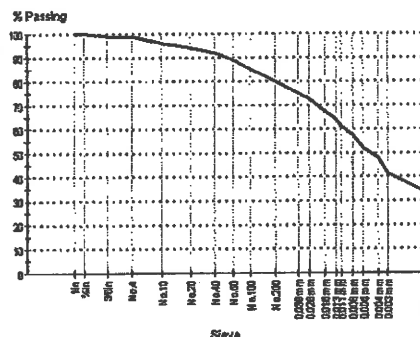
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

Other Test Results

Description	Method	Result	Limits
Temperature (°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 N CaSO4		
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 Permeability (cm/s)		1.50 E-8	

Chart



Comments

N/A



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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



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

Sample Details

Boring No: TB-W-11
Field Sample No: ST-3
Sample Depth: 28
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

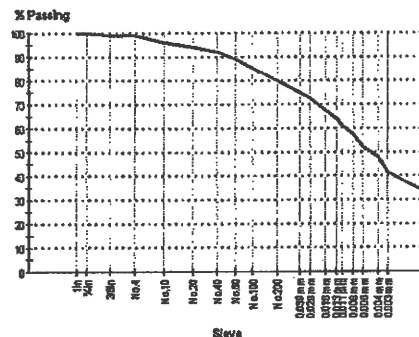
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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)	86	
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	

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	33	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		17	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	17.6	
Wet Density (lb/ft³)		135.7	
Dry Density (lb/ft³)		115.4	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Chart



Comments

N/A



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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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in accordance with the terms of the accreditation.



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

Sample Details

Boring No: TB-W-11
Field Sample No: ST-2
Sample Depth: 23
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

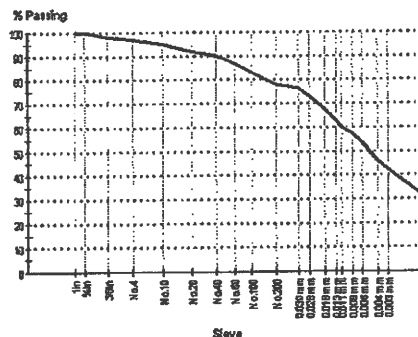
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	
No.200 (75µm)	78	
0.039 mm	77	
0.028 mm	73	
0.018 mm	68	
0.013 mm	63	
0.011 mm	60	
0.008 mm	57	
0.006 mm	54	
0.004 mm	46	
0.003 mm	43	
0.001 mm	31	

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

Chart



Comments
N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

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

Sample Details

Boring No: TB-W-11
Field Sample No: ST-1
Sample Depth: 18
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

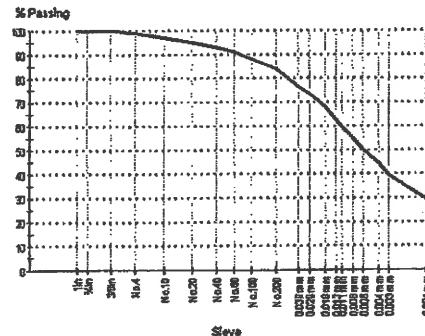
Method: ASTM D 422
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 6084]	23.1	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.860	
Sample Diameter (in)		2.838	
Sample Cross-Section Area (in ²)		6.33	
Sample Volume (in ³)		18.09	
Dry Density (lb/ft ³)		105.8	
Initial Moisture Content (%)		22.6	
Final Moisture Content (%)		23.0	
Average Permeability (cm/s)		3.32 E-8	

Chart



Comments

N/A



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Fax: 248.324.5179

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

This laboratory is accredited by American Association
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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-1
Sample Depth: 18
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

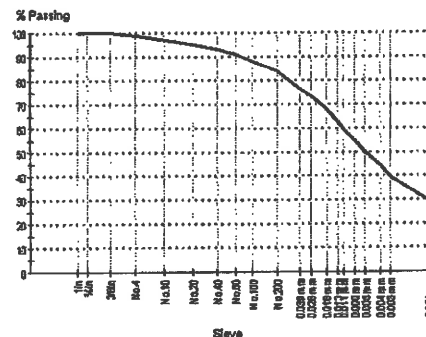
Method: ASTM D 422
Drying by: Oven

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

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	28	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		13	
Sample History		Unknown	
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		Lean clay with sand	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	3361	
Shear Strength (lb/ft²)		1681	
Ave. Rate Strain to Failure(%)		1.1	
Strain at Failure(%)		4.2	
Average Height (in.)		5.940	
Average Diameter (in.)		2.833	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		109.4	
Init. Water Content (%)		20.5	
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Chart



Comments
N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S039

Issue No: 2

Client: Wayne Disposal, Inc.
Project: Woodlot & MC1&4 Waste Investigation
Soil Boring Program
Job No: 62-080376-01

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in accordance with the terms of the accreditation.



Zeevak Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeevak Payday

Sample Details

Boring No: TB-W-11
Field Sample No: LS-5
Sample Depth: 15
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

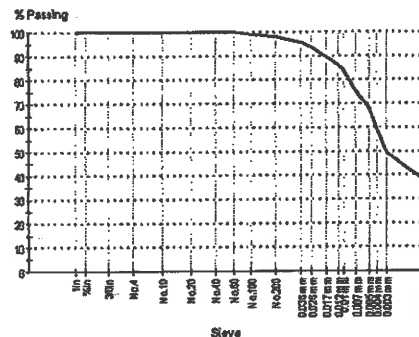
Method: ASTM D 422
Drying by: Oven

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)	100	
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	
0.005 mm	68	
0.004 mm	59	
0.003 mm	50	
0.001 mm	38	

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)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Chart



Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S038

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.



Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-11
Field Sample No: LS-3
Sample Depth: 7.5
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

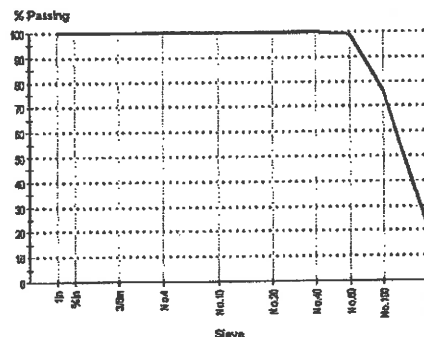
Method: ASTM D 422
Drying by: Oven

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)	76	
No. 200 (75µm)	21	
Finer No. 200 (75µm)	21	

Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Moisture Content (%)	ASTM D 2216	21.9	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

Chart



Comments:
N/A



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Report No: MAT:62-080376-01-S037

Issue No: 1

Aggregate/Soil Test Report

Client: Wayne Disposal, Inc.
Project: Woodlot & MC1&4 Waste Investigation
Soil Boring Program
Job No: 62-080376-01

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Zeera Paydary

Date of Issue: 9/2/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-11
Field Sample No: LS-1
Sample Depth: 2.5
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Particle Size Distribution

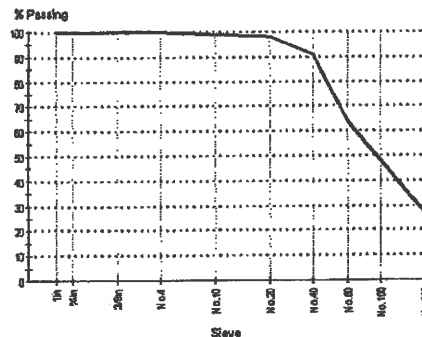
Method: ASTM D 422
Drying by: Oven

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)	99	
No.20 (850µm)	98	
No.40 (425µm)	91	
No.60 (250µm)	64	
No.100 (150µm)	48	
No.200 (75µm)	27	
Finer No.200 (75µm)	27	

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	
Group Name		Silty sand	

Chart



Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S092

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
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in accordance with the terms of the accreditation.



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

Sample Details

Boring No: TB-W-10
Field Sample No: LS-46
Sample Depth: 125
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

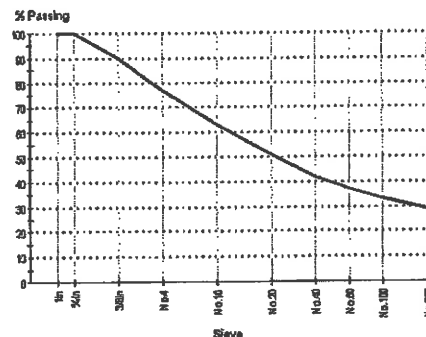
Method: ASTM D 422
Drying by:

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	90	
No. 4 (4.75mm)	77	
No. 10 (2.0mm)	63	
No. 20 (850µm)	51	
No. 40 (425µm)	42	
No. 60 (250µm)	37	
No. 100 (150µm)	33	
No. 200 (75µm)	29	

Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand with gravel	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S091

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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Zeera Paydew

Date of Issue: 9/2/2008
Approved Signatory: Zeera Paydew

Sample Details

Boring No: TB-W-10
Field Sample No: LS-45
Sample Depth: 120
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

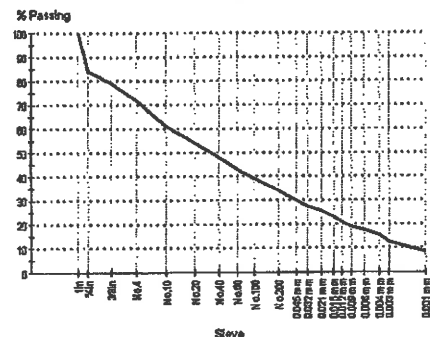
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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	
No.100 (150µm)	39	
No.200 (75µm)	34	
0.045 mm	30	
0.032 mm	28	
0.021 mm	25	
0.015 mm	23	
0.012 mm	21	
0.009 mm	19	
0.006 mm	17	
0.004 mm	16	
0.003 mm	13	
0.001 mm	8	

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	

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-S090

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
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: LS-44
Sample Depth: 115
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

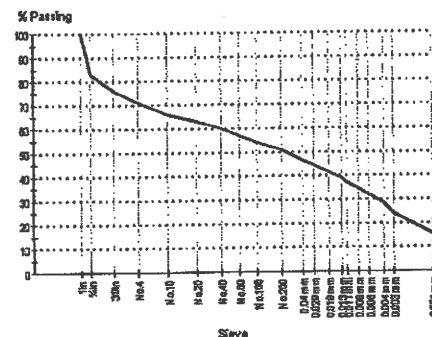
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	83	
3/8in (9.5mm)	76	
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	
0.040 mm	47	
0.029 mm	45	
0.019 mm	42	
0.013 mm	39	
0.011 mm	37	
0.008 mm	35	
0.006 mm	32	
0.004 mm	29	
0.003 mm	24	
0.001 mm	15	

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		Unknown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Sandy lean clay with gravel	

Chart



Comments
N/A



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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



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

Sample Details

Boring No: TB-W-10
Field Sample No: LS-43
Sample Depth: 110
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

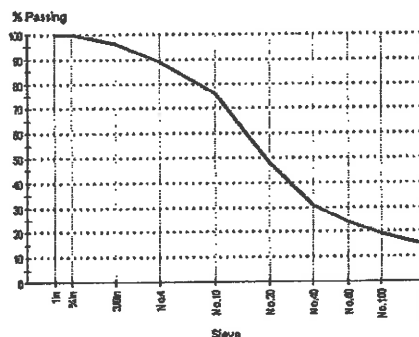
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	96	
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



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S088

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
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: LS-42
Sample Depth: 105
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

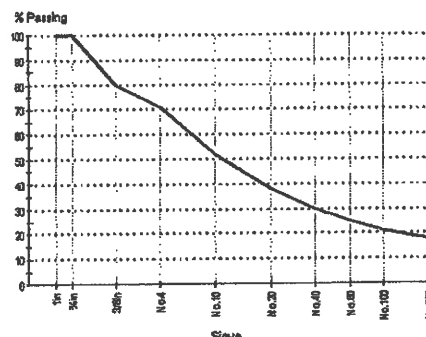
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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 (75µm)	18	

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 with gravel	

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-S087

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
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: LS-40
Sample Depth: 98
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

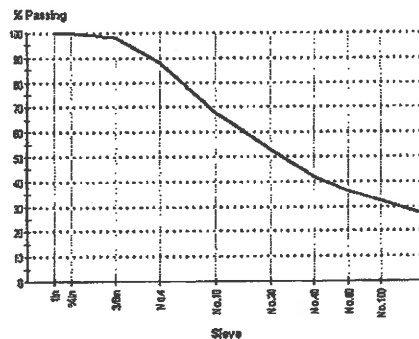
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	98	
No.4 (4.75mm)	88	
No.10 (2.0mm)	68	
No.20 (850µm)	53	
No.40 (425µm)	42	
No.60 (250µm)	36	
No.100 (150µm)	32	
No.200 (75µm)	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



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S086

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
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: ST-8
Sample Depth: 94
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

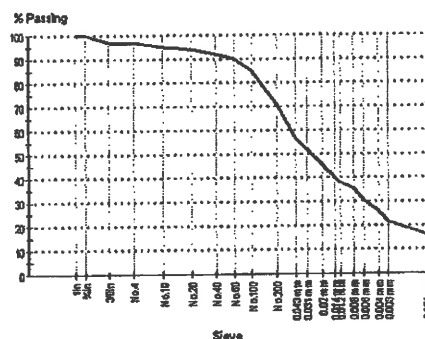
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.863	
Sample Diameter (in)		2.854	
Sample Cross-Section Area (in ²)		6.40	
Sample Volume (in ³)		18.32	
Dry Density (lb/ft ³)		127.7	
Initial Moisture Content (%)		12.2	
Final Moisture Content (%)		12.1	
Average Permeability (cm/s)		1.91 E-7	

Chart



Comments

N/O = Not Obtainable



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S086

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.



Zeera Paydary

Date of Issue: 9/2/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: ST-8
Sample Depth: 94
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

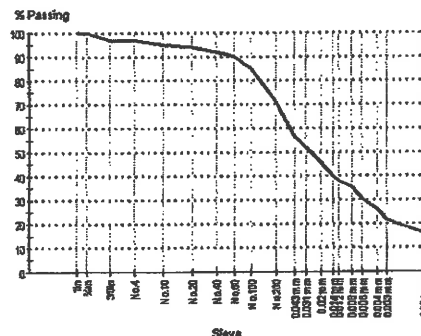
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

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	18	
Method		Method A	
Plastic Limit (%)		12	
Plasticity Index (%)		6	
Sample History		Unknown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	12.2	
Wet Density (lb/ft³)		143.3	
Dry Density (lb/ft³)		127.7	
Group Symbol	ASTM D 2487	CL-ML	
Group Name		Silty clay with sand	
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	
Visual Description		N/O	

Chart



Comments
N/O = Not Obtainable



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S085

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

Approved Signatory: Zaerak Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: LS-36
Sample Depth: 88
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

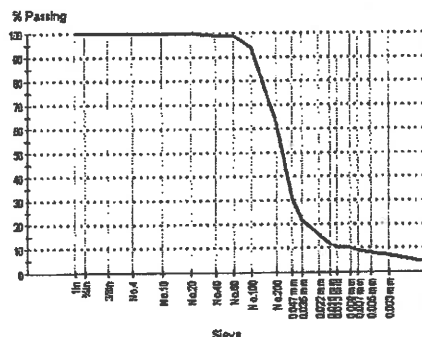
Method: ASTM D 422
Drying by: Oven

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)	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	

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		Sandy silt	

Chart



Comments

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NO = Not Obtainable
NP = Non Plastic



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S084

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 Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: LS-33
Sample Depth: 82
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

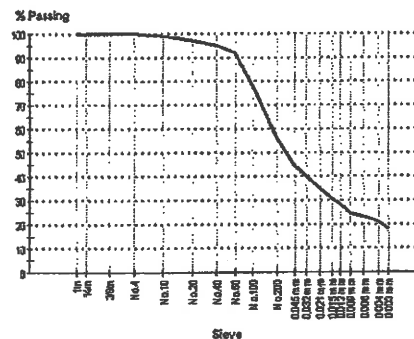
Method: ASTM D 422
Drying by: Oven

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)	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	

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	
Group Name		Sandy silty clay	

Chart



Comments
N/A



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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 Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: ST-7
Sample Depth: 76
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

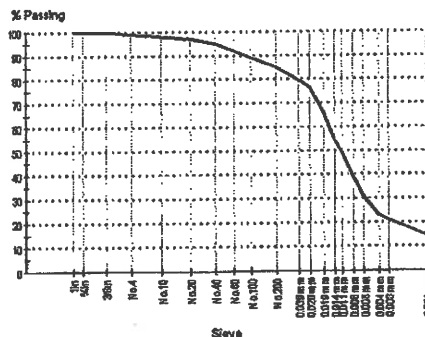
Method: ASTM D 422
Drying by: Oven

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

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 (%)		16	
Plasticity Index (%)		4	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	18.7	
Group Symbol	ASTM D 2487	CL-ML	
Group Name		Silty clay with sand	

Chart



Comments

N/A



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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.

Date of Issue: 11/24/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: LS-27
Sample Depth: 66
Date Sampled:
Sampled By: Michael McNamara
LWO No: 000374
Sample Location: WDI - Woodlot

Particle Size Distribution

Method:
Drying by:
Date Tested:

Sieve Size	% Passing	Limits
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Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216 - 05	17.7	
Wet Density (lb/ft ³)		136.2	
Dry Density (lb/ft ³)		115.7	
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	5340	
Shear Strength (lb/ft ²)		2680	
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 (%)		17.7	
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Chart

Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S248

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: 11/24/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-10
Field Sample No: LS-26
Sample Depth: 64
Date Sampled:
Sampled 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
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	N/O	
Shear Strength (lb/ft ²)		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	

Chart

Comments

N/O = Not Obtainable
Sample disturbed because it was too short. PP = 4.25 tons/square foot



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S081

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.



Zeerak Paydary

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

Sample Details

Boring No: TB-W-10
Field Sample No: ST-6
Sample Depth: 62
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

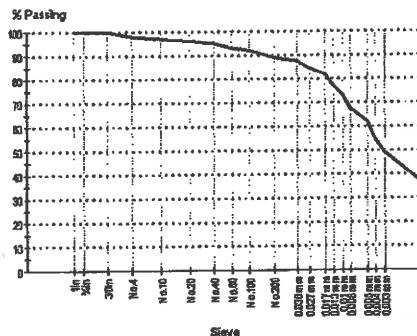
Method: ASTM D 422
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.6	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.848	
Sample Diameter (in)		2.851	
Sample Cross-Section Area (in ²)		6.38	
Sample Volume (in ³)		18.18	
Dry Density (lb/ft ³)		107.0	
Initial Moisture Content (%)		21.5	
Final Moisture Content (%)		20.7	
Average Permeability (cm/s)		1.71 E-8	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S081

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 Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: ST-6
Sample Depth: 62
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

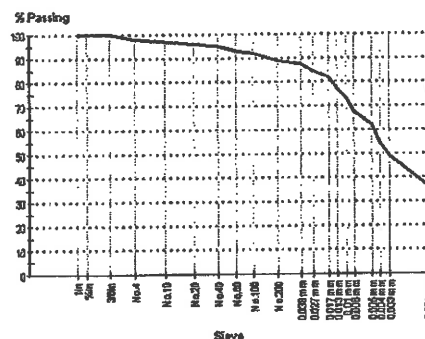
Method: ASTM D 422
Drying by: Oven

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

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	21.5	
Wet Density (lb/ft³)		130.0	
Dry Density (lb/ft³)		107.0	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2168	851	
Shear Strength (lb/ft²)		426	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		14.2	
Average Height (in.)		5.926	
Average Diameter (in.)		2.763	
Height-Diameter Ratio		2.1	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit		33	
Plastic Limit		18	
Remarks			
Visual Description			

Chart



Comments:
N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S080

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.

Zeera Paydau

Date of Issue: 9/2/2008
Approved Signatory: Zeera Paydau

Sample Details

Boring No: TB-W-10
Field Sample No: ST-5
Sample Depth: 56
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

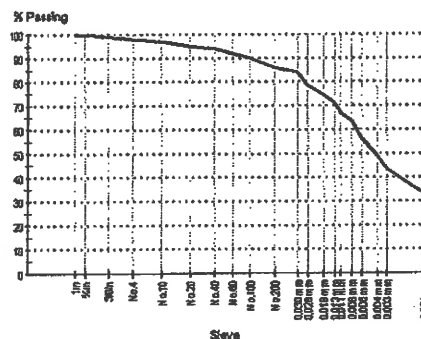
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

Other Test Results

Description	Method	Result	Limits
Temperature (°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	0.01 N CaSO4		
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	
Final Moisture Content (%)		20.0	
Average Permeability (cm/s)		4.31 E-8	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S080

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 Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: ST-5
Sample Depth: 56
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

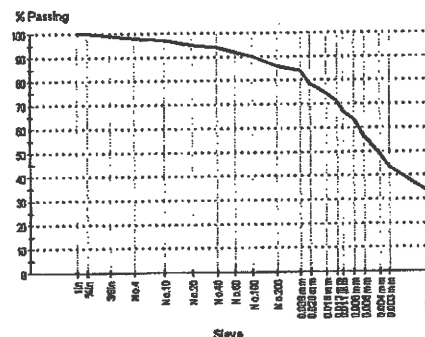
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

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 (%)		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	

Chart



Comments
N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S079

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 Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: LS-22
Sample Depth: 52
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

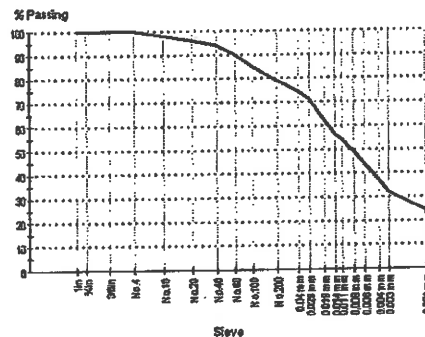
Method: ASTM D 422
Drying by: Oven

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)	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	

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 (%)		13	
Plasticity Index (%)		11	
Sample History		Unknown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S078

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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Zeeraak Paydary

Date of Issue: 9/2/2008
Approved Signatory: Zeeraak Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: ST-4
Sample Depth: 46
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Other Test Results

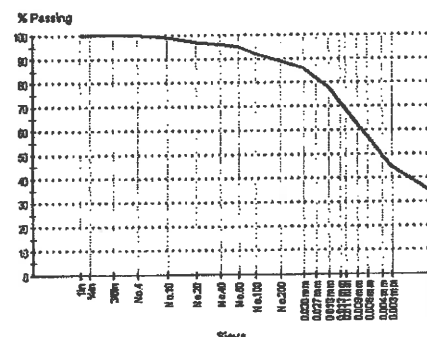
Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.853	
Sample Diameter (in)		2.752	
Sample Cross-Section Area (in ²)		5.95	
Sample Volume (in ³)		16.97	
Dry Density (lb/ft ³)		118.7	
Initial Moisture Content (%)		17.2	
Final Moisture Content (%)		18.2	
Average Permeability (cm/s)		3.34 E-8	

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)	99	
No.20 (850µm)	97	
No.40 (425µm)	96	
No.60 (250µm)	95	
No.100 (150µm)	92	
No.200 (75µm)	89	
0.038 mm	86	
0.027 mm	82	
0.018 mm	78	
0.013 mm	71	
0.011 mm	69	
0.008 mm	63	
0.006 mm	57	
0.004 mm	49	
0.003 mm	44	
0.001 mm	34	

Chart



Comments
N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S078

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
Approved Signatory: Zeerak Payday

Sample Details

Boring No: TB-W-10
Field Sample No: ST-4
Sample Depth: 46
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

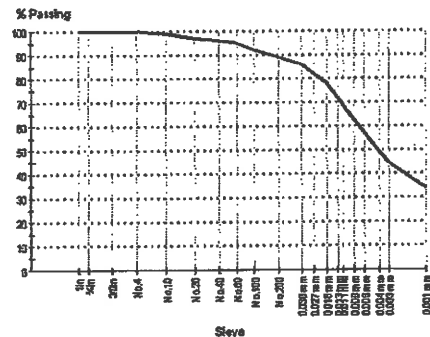
Method: ASTM D 422
Drying by: Oven

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)	99	
No.20 (850µm)	97	
No.40 (425µm)	96	
No.60 (250µm)	95	
No.100 (150µm)	92	
No.200 (75µm)	89	
0.038 mm	86	
0.027 mm	82	
0.018 mm	78	
0.013 mm	71	
0.011 mm	69	
0.008 mm	63	
0.006 mm	57	
0.004 mm	49	
0.003 mm	44	
0.001 mm	34	

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 (%)		17	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	17.2	
Wet Density (lb/ft³)		139.1	
Dry Density (lb/ft³)		118.7	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	3546	
Shear Strength (lb/ft²)		1773	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		14.3	
Average Height (in.)		5.865	
Average Diameter (in.)		2.847	
Height-Diameter Ratio		2.1	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit		31	
Plastic Limit		17	
Remarks			
Visual Description			

Chart



Comments
N/A



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Southeast Michigan Laboratory

Telephone: 248. 553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S077

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.



Zaerak Paydary

Date of Issue: 9/2/2008
Approved Signatory: Zaerak Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: ST-3
Sample Depth: 38
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Other Test Results

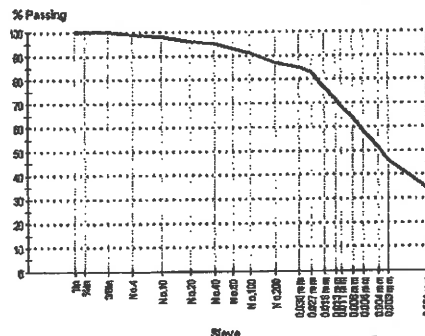
Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.4	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.852	
Sample Diameter (in)		2.832	
Sample Cross-Section Area (in ²)		6.30	
Sample Volume (in ³)		17.97	
Dry Density (lb/ft ³)		115.8	
Initial Moisture Content (%)		17.0	
Final Moisture Content (%)		18.3	
Average Permeability (cm/s)		1.76 E-8	

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)	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	

Chart



Comments
N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S077

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 Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: ST-3
Sample Depth: 38
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

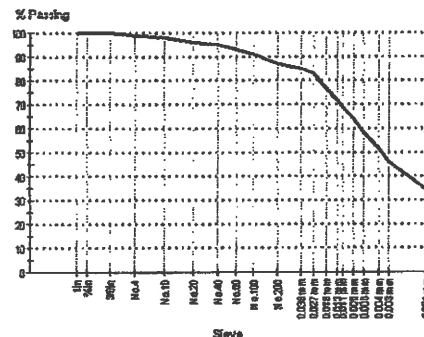
Method: ASTM D 422
Drying by: Oven

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

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		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	17.0	
Wet Density (lb/ft³)		135.4	
Dry Density (lb/ft³)		115.7	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Chart



Comments
N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S076

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 Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: LS-14
Sample Depth: 32
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

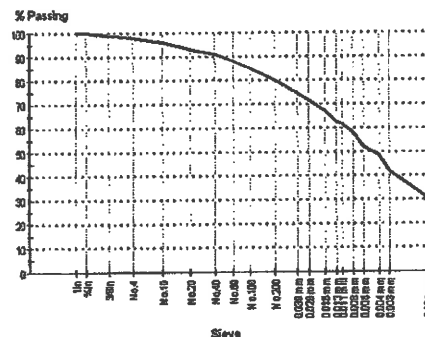
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

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	34	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		17	
Sample History		Unknown	
Preparation		Wet	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S075

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.



Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-10
Field Sample No: ST-2
Sample Depth: 26
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

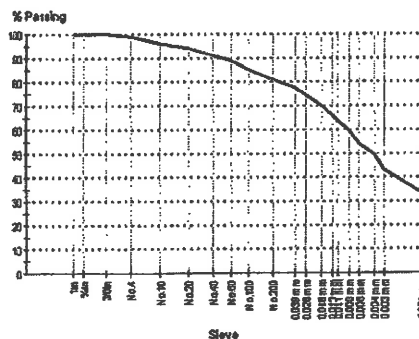
Method: ASTM D 422
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Temperature (°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 CaSO4		
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 Permeability (cm/s)		2.64 E-8	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S075

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-10
Field Sample No: ST-2
Sample Depth: 26
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Other Test Results

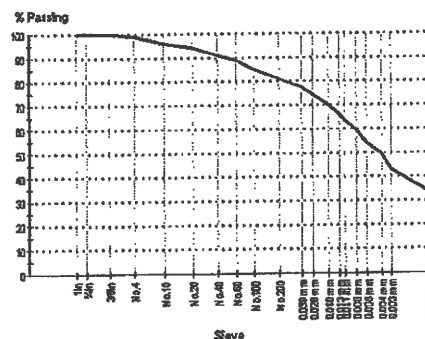
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	30	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		13	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	17.7	
Wet Density (lb/ft ³)		134.9	
Dry Density (lb/ft ³)		114.6	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with 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)	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	
0.075 mm	77	
0.075 mm	75	
0.075 mm	70	
0.075 mm	66	
0.075 mm	63	
0.075 mm	60	
0.075 mm	54	
0.075 mm	49	
0.075 mm	43	
0.075 mm	34	

Chart



Comments
N/A



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

Sample Details

Boring No: TB-W-10
Field Sample No: LS-10
Sample Depth: 22
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

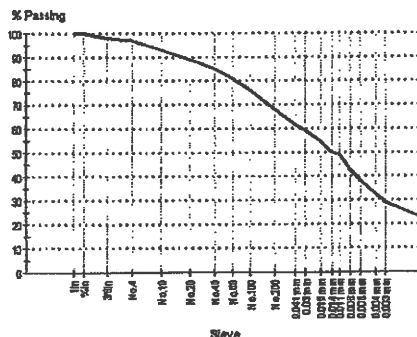
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	98	
No.4 (4.75mm)	97	
No.10 (2.0mm)	93	
No.20 (850µm)	89	
No.40 (425µm)	85	
No.60 (250µm)	81	
No.100 (150µm)	76	
No.200 (75µm)	68	
0.041 mm	62	
0.030 mm	59	
0.019 mm	54	
0.014 mm	50	
0.011 mm	49	
0.008 mm	43	
0.006 mm	38	
0.004 mm	33	
0.003 mm	29	
0.001 mm	23	

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	CL	
Group Name		Sandy lean clay	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S073

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 Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: ST-1
Sample Depth: 18
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

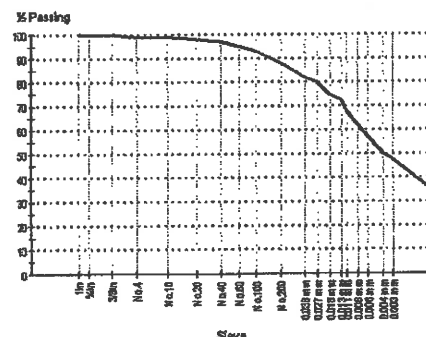
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
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	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.4	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.853	
Sample Diameter (in)		2.834	
Sample Cross-Section Area (in ²)		6.31	
Sample Volume (in ³)		18.00	
Dry Density (lb/ft ³)		101.3	
Initial Moisture Content (%)		26.3	
Final Moisture Content (%)		24.6	
Average Permeability (cm/s)		3.11 E-6	

Chart



Comments

N/O = Not Obtainable



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S073

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
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: ST-1
Sample Depth: 18
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

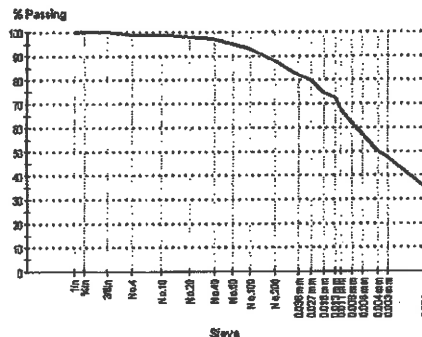
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
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	

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	
Moisture Content (%)	ASTM D 2216	26.3	
Wet Density (lb/ft³)		128.0	
Dry Density (lb/ft³)		101.3	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	
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	
Visual Description		N/O	

Chart



Comments

N/O = Not Obtainable



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S072

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 Paydary

Sample Details

Boring No: TB-W-10
Field Sample No: LS-7
Sample Depth: 14
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Other Test Results

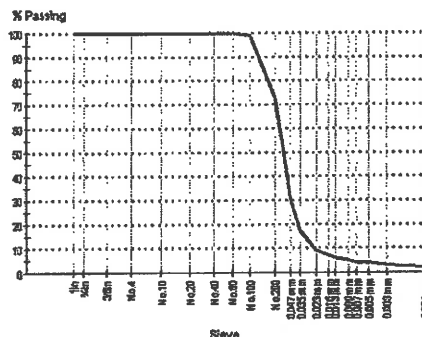
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group Name		Silt with 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)	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



Comments

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



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Infrastructure Engineering
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Telephone: 248.553.6300
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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S071

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.



Zeera Payday

Date of Issue: 9/2/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-10
Field Sample No: LS-5
Sample Depth: 10
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

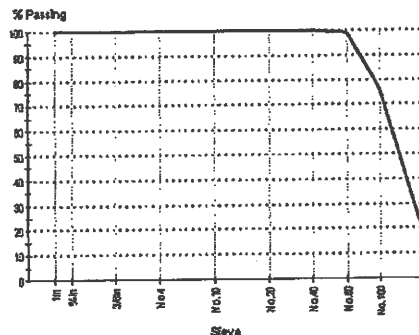
Method: ASTM D 422
Drying by: Oven

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)	76	
No.200 (75µm)	17	
Finer No.200 (75µm)	17	

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



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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

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

Sample Details

Boring No: TB-W-10
Field Sample No: LS-2
Sample Depth: 4
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Particle Size Distribution

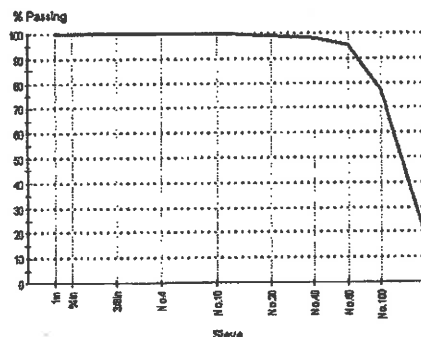
Method: ASTM D 422
Drying by:

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)	99	
No.40 (425µm)	98	
No.60 (250µm)	95	
No.100 (150µm)	77	
No.200 (75µm)	18	
Finer No.200 (75µm)	18	

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



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S212

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 Paydary

Sample Details

Boring No: TB-W-9
Field Sample No: LS-16
Sample Depth: 80.0
Date Sampled: 9/12/2009
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

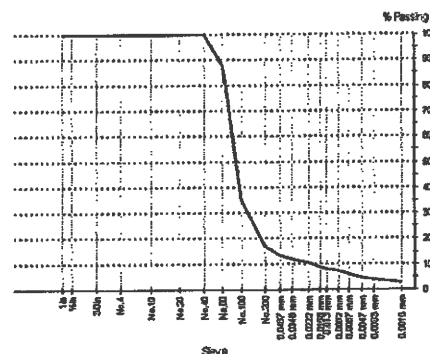
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	N/O	
Group Name		N/O	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	88	
No.100 (150µm)	35	
No.200 (75µm)	17	
0.049 mm	14	
0.035 mm	12	
0.022 mm	11	
0.016 mm	9	
0.013 mm	8	
0.009 mm	8	
0.007 mm	6	
0.005 mm	5	
0.003 mm	4	
0.002 mm	3	

Chart



Comments

N/O = Not Obtainable



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S211

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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in accordance with the terms of the accreditation.



Date of Issue: 10/22/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-9
Field Sample No: LS-15
Sample Depth: 75.0
Date Sampled: 9/12/2009
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

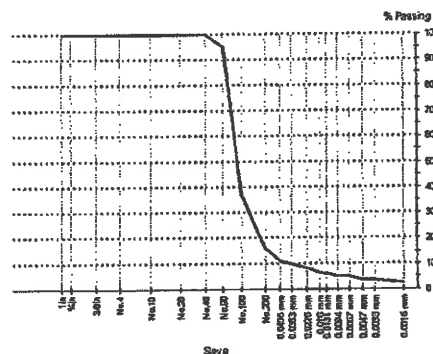
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
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)	95	
No.100 (150µm)	37	
No.200 (75µm)	16	
0.050 mm	11	
0.035 mm	10	
0.023 mm	8	
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	3	

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	
Group Name		Silty sand	

Chart



Comments

N/O = Not Obtainable



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S210

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 Payday

Sample Details

Boring No: TB-W-9
Field Sample No: LS-14
Sample Depth: 70.0
Date Sampled: 9/12/2009
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

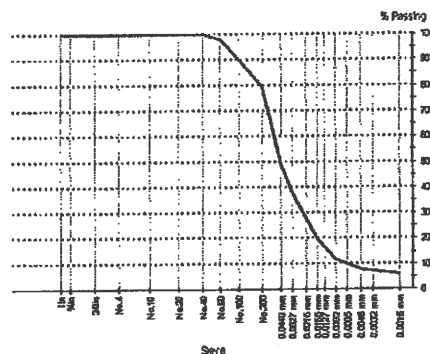
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	MH	
Group Name		Elastic silt with sand	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	
0.013 mm	17	
0.009 mm	12	
0.007 mm	10	
0.005 mm	8	
0.003 mm	7	
0.002 mm	6	

Chart



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

Job No: 62-080376-01

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Date of Issue: 10/21/2008
Approved Signatory: Zeerak Paydary

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
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

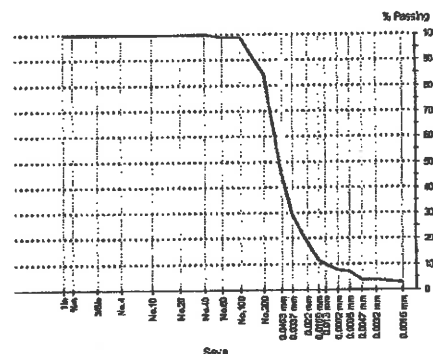
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07		
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	ML	
Group Name		Silt with sand	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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



Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S208

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 Payday

Sample Details

Boring No: TB-W-9
Field Sample No: LS-12
Sample Depth: 60.0
Date Sampled: 9/11/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

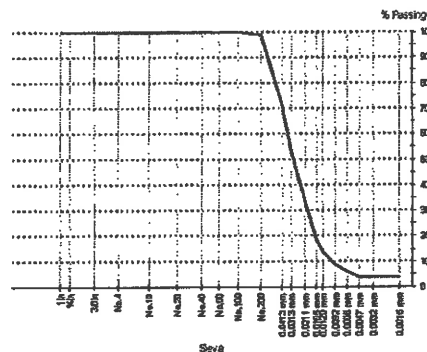
Method: ASTM D 422 - 07
Drying by: Oven

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

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 - 06	ML	
Group Name		Silt	

Chart



Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S207

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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Zeera Payday

Date of Issue: 10/21/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-9
Field Sample No: ST-6
Sample Depth: 55.0
Date Sampled: 9/11/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

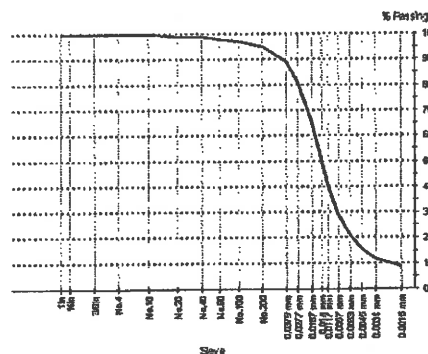
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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	

Other Test Results

Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	MH	
Group Name		Elastic silt	

Chart



Comments

N/O = Not Obtainable



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S207

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: Zaerak Payday

Sample Details

Boring No: TB-W-9
Field Sample No: ST-6
Sample Depth: 55.0
Date Sampled: 9/11/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

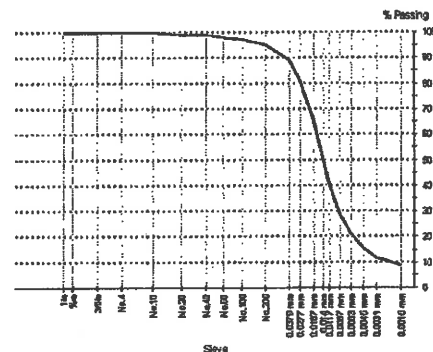
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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	

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216 - 05	21.9	
Wet Density (lb/ft³)		127.0	
Dry Density (lb/ft³)		104.2	
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	
Temperature (°C)	ASTM D 5084 - 03	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)		N/O	
Sample Volume (in³)		N/O	
Dry Density (lb/ft³)		N/O	
Initial Moisture Content (%)		N/O	
Final Moisture Content (%)		N/O	
Average Permeability (cm/s)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Chart



Comments

N/O = Not Obtainable



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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



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Date of Issue: 10/21/2008
Approved Signatory: Zeerak Payday

Sample Details

Boring No: TB-W-9
Field Sample No: ST-5
Sample Depth: 48.0
Date Sampled: 9/11/2008
Sampled By: Michael McNamara
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	
3/4in (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	
0.011 mm	62	
0.008 mm	57	
0.006 mm	50	
0.004 mm	45	
0.003 mm	39	
0.001 mm	30	

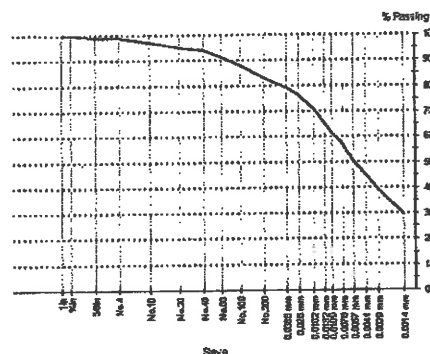
Other Test Results

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	

Visual Description

Group Symbol: ASTM D 2487 - 06 CL
Group Name: Lean clay with sand

Chart



Comments

N/A



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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



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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-5
Sample Depth: 48.0
Date Sampled: 9/11/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

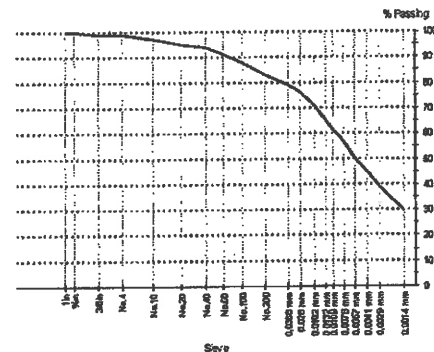
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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	
0.011 mm	62	
0.008 mm	57	
0.006 mm	50	
0.004 mm	45	
0.003 mm	39	
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	
Temperature (°C)	ASTM D 5084 - 03	23.4	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant		0.01 N CaSO ₄	
Sample Height (in)		2.850	
Sample Diameter (in)		2.816	
Sample Cross-Section Area (in ²)		6.23	
Sample Volume (in ³)		17.75	
Dry Density (lb/ft ³)		118.8	
Initial Moisture Content (%)		16.1	
Final Moisture Content (%)		16.4	
Average Permeability (cm/s)		1.40 E-8	
Moisture Content (%)	ASTM D 2216 - 05	12.5	
Wet Density (lb/ft ³)		137.9	
Dry Density (lb/ft ³)		122.6	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Chart



Comments

N/A



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Southeast Michigan Laboratory

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 Payday

Sample Details

Boring No: TB-W-9
Field Sample No: LS-9
Sample Depth: 45.0
Date Sampled: 9/11/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

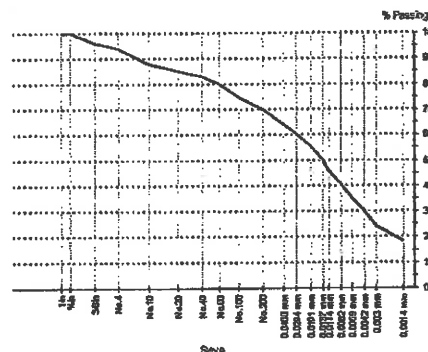
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	96	
No.4 (4.75mm)	94	
No.10 (2.0mm)	88	
No.20 (850µm)	85	
No.40 (425µm)	83	
No.60 (250µm)	80	
No.100 (150µm)	75	
No.200 (75µm)	70	
0.041 mm	64	
0.029 mm	61	
0.019 mm	55	
0.014 mm	50	
0.011 mm	46	
0.008 mm	41	
0.006 mm	36	
0.004 mm	30	
0.003 mm	24	
0.001 mm	18	

Other Test Results

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	23	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		9	
Sample History		Air-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	
Group Name		Sandy lean clay	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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Fax: 248.324.6179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S204

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 Paydary

Sample Details

Boring No: TB-W-9
Field Sample No: ST-4
Sample Depth: 40.0
Date Sampled: 9/11/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

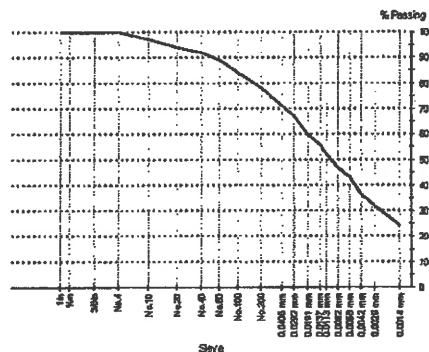
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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



Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S204

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 Paydary

Sample Details

Boring No: TB-W-9
Field Sample No: ST-4
Sample Depth: 40.0
Date Sampled: 9/11/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

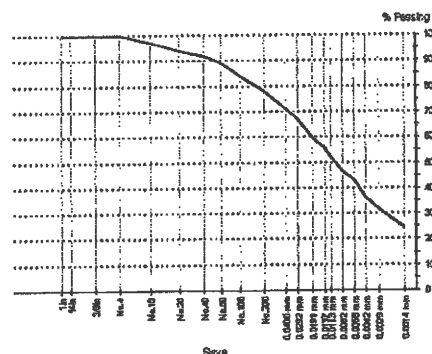
Description	Method	Result	Limits
Temperature (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.871	
Sample Diameter (in)		2.853	
Sample Cross-Section Area (in ²)		6.39	
Sample Volume (in ³)		18.35	
Dry Density (lb/ft ³)		123.3	
Initial Moisture Content (%)		15.6	
Final Moisture Content (%)		15.7	
Average Permeability (cm/s)		6.25 E-8	
Liquid Limit (%)	ASTM D 4318 - 05	24	
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/ft ³)		142.5	
Dry Density (lb/ft ³)		123.3	
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay with sand	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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



Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248. 553.6300
Fax: 248.324.5179

Report No: MAT:62-080376-01-S203

Issue No: 1

Aggregate/Soil Test Report

Client: Wayne Disposal, Inc.
Project: Woodlot & MC1&4 Waste Investigation
Soil Boring Program
Job No: 62-080376-01

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Zeera Payday

Date of Issue: 10/21/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-9
Field Sample No: ST-3
Sample Depth: 33.0
Date Sampled: 9/11/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

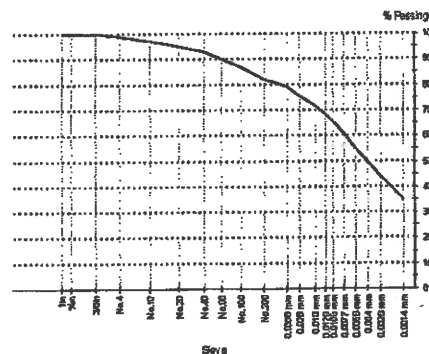
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	11680	
Shear Strength (lb/ft ²)		5840	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (in.)		6.044	
Average Diameter (in.)		2.851	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		117.6	
Init. Water Content (%)		16.4	
Liquid Limit		31	
Plastic Limit		17	
Remarks			
Visual Description			

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	

Chart



Comments

N/A

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S203

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 Paydary

Sample Details

Boring No: TB-W-9
Field Sample No: ST-3
Sample Depth: 33.0
Date Sampled: 9/11/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

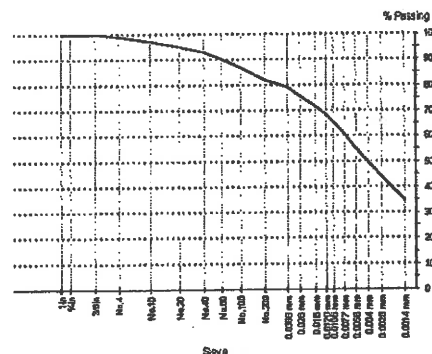
Method: ASTM D 422 - 07
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay with sand	
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	
Temperature (°C)	ASTM D 5084 - 03	22.7	
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		0.01 N CaSO4	
Sample Height (in)		2.878	
Sample Diameter (in)		2.827	
Sample Cross-Section Area (in²)		6.28	
Sample Volume (in³)		18.06	
Dry Density (lb/ft³)		116.1	
Initial Moisture Content (%)		17.1	
Final Moisture Content (%)		17.7	
Average Permeability (cm/s)		3.45 E-8	
Moisture Content (%)	ASTM D 2216 - 05	16.4	
Wet Density (lb/ft³)		136.8	
Dry Density (lb/ft³)		117.6	

Chart



Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S202

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 Payday

Sample Details

Boring No: TB-W-9
Field Sample No: LS-7
Sample Depth: 30.0
Date Sampled: 9/11/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

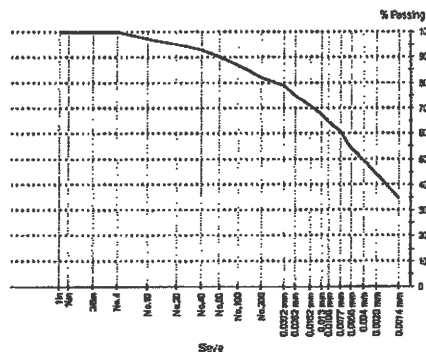
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	31	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay with sand	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	75	
0.018 mm	71	
0.013 mm	67	
0.011 mm	65	
0.008 mm	61	
0.006 mm	54	
0.004 mm	50	
0.003 mm	44	
0.001 mm	35	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S201

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: 10/22/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-9
Field Sample No: ST-2
Sample Depth: 25.0
Date Sampled: 9/11/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

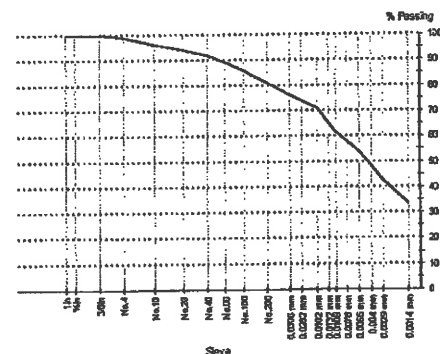
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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	

Other Test Results

Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay with sand	

Chart



Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S201

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: 10/22/2008
Approved Signatory: Zeerak Payday

Sample Details

Boring No: TB-W-9
Field Sample No: ST-2
Sample Depth: 25.0
Date Sampled: 9/11/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

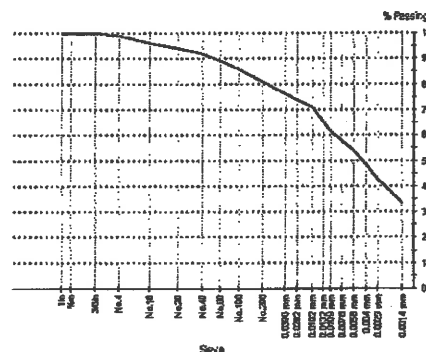
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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	

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	
Temperature (°C)	ASTM D 5084 - 03	22.7	
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		0.01 N CaSO4	
Sample Height (in)		2.864	
Sample Diameter (in)		2.834	
Sample Cross-Section Area (in²)		6.31	
Sample Volume (in³)		18.07	
Dry Density (lb/ft³)		113.1	
Initial Moisture Content (%)		17.3	
Final Moisture Content (%)		18.0	
Average Permeability (cm/s)		1.87 E-8	
Moisture Content (%)	ASTM D 2216 - 05	17.3	
Wet Density (lb/ft³)		132.7	
Dry Density (lb/ft³)		113.1	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Chart



Comments

N/A



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Infrastructure Engineering
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Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.6179

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

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(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-1
Sample Depth: 18.0
Date Sampled: 9/11/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

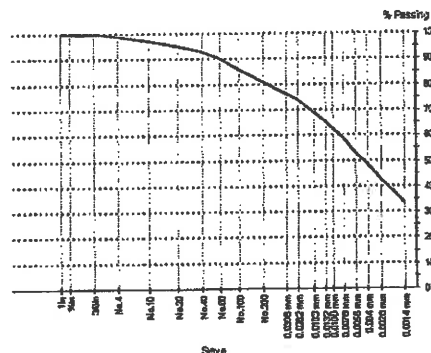
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
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)	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	
0.003 mm	43	
0.001 mm	34	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	ASTM D 5084 - 03	22.7	
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	0.01 N CaSO4		
Sample Height (in)		2.872	
Sample Diameter (in)		2.851	
Sample Cross-Section Area (in²)		6.38	
Sample Volume (in³)		18.33	
Dry Density (lb/ft³)		110.6	
Initial Moisture Content (%)		18.7	
Final Moisture Content (%)		18.9	
Average Permeability (cm/s)		2.16 E-8	
Moisture Content (%)	ASTM D 2216 - 05	12.8	
Wet Density (lb/ft³)		129.2	
Dry Density (lb/ft³)		114.6	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Chart



Comments

N/A



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Fax: 248.324.6179

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



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Zeera Payday

Date of Issue: 10/21/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-9
Field Sample No: ST-1
Sample Depth: 18.0
Date Sampled: 9/11/2008
Sampled By: Michael McNamara
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	
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)	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	
0.003 mm	43	
0.001 mm	34	

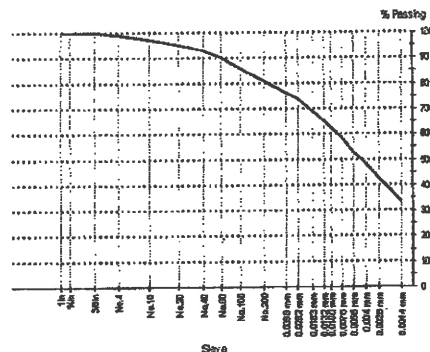
Other Test Results

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

Chart



Comments

N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S199

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 Paydary

Sample Details

Boring No: TB-W-9
Field Sample No: LS-5
Sample Depth: 15.0
Date Sampled: 9/11/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

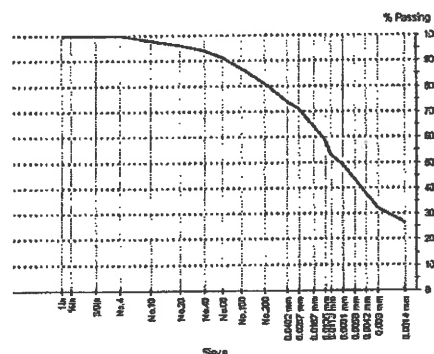
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	24	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		9	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay with sand	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	98	
No.20 (850µm)	96	
No.40 (425µm)	94	
No.60 (250µm)	91	
No.100 (150µm)	87	
No.200 (75µm)	81	
0.040 mm	74	
0.029 mm	71	
0.019 mm	64	
0.014 mm	59	
0.011 mm	53	
0.008 mm	49	
0.006 mm	44	
0.004 mm	38	
0.003 mm	32	
0.001 mm	27	

Chart



Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S198

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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Zeera Payday

Date of Issue: 10/21/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-9
Field Sample No: LS-4
Sample Depth: 10.0
Date Sampled: 9/11/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

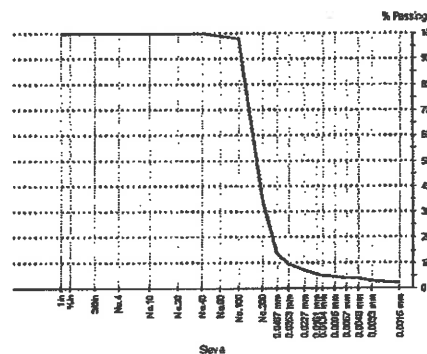
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	2	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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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

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Date of Issue: 10/21/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-9
Field Sample No: LS-2
Sample Depth: 5.0
Date Sampled: 9/11/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

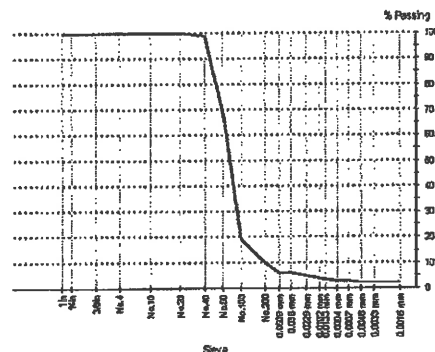
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
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)	69	
No. 100 (150µm)	19	
No. 200 (75µm)	10	
0.051 mm	6	
0.036 mm	6	
0.023 mm	5	
0.016 mm	4	
0.013 mm	4	
0.009 mm	3	
0.007 mm	3	
0.005 mm	2	
0.003 mm	2	
0.002 mm	2	

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 - 08	SM	
Group Name		Silty sand	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S196

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 Paydary

Sample Details

Boring No: TB-W-8
Field Sample No: LS-16
Sample Depth: 80.0
Date Sampled: 9/10/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

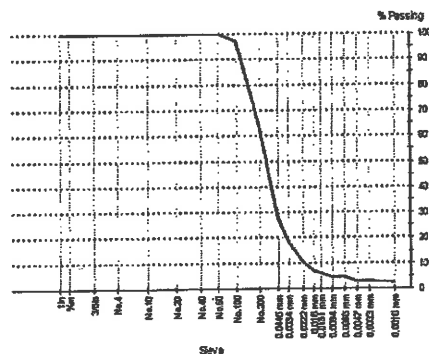
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	MH	
Group Name		Sandy elastic silt	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by:

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)	100	
No. 100 (150µm)	97	
No. 200 (75µm)	63	
0.045 mm	28	
0.033 mm	18	
0.022 mm	11	
0.016 mm	7	
0.013 mm	6	
0.009 mm	5	
0.007 mm	5	
0.005 mm	3	
0.003 mm	3	
0.002 mm	3	

Chart



Comments

N/O = Not Obtainable



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S195

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 Paydary

Sample Details

Boring No: TB-W-8
Field Sample No: LS-15
Sample Depth: 75.0
Date Sampled: 9/10/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

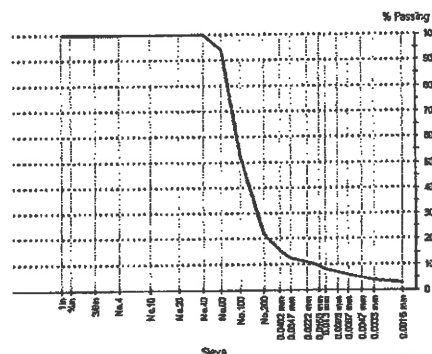
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	94	
No. 100 (150µm)	53	
No. 200 (75µm)	22	
0.048 mm	16	
0.035 mm	13	
0.022 mm	11	
0.016 mm	10	
0.013 mm	8	
0.009 mm	7	
0.007 mm	6	
0.005 mm	5	
0.003 mm	4	
0.002 mm	3	

Chart



Comments

N/O = Not Obtainable



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S194

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 Paydary

Sample Details

Boring No: TB-W-8
Field Sample No: LS-14
Sample Depth: 70.0
Date Sampled: 9/10/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

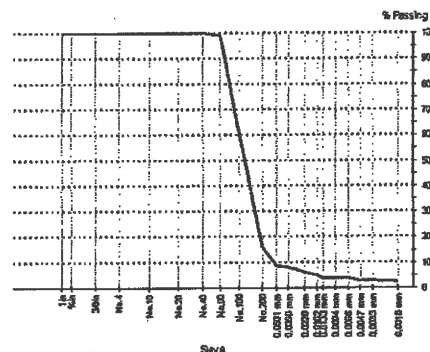
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	61	
No.200 (75µm)	16	
0.050 mm	9	
0.036 mm	8	
0.023 mm	6	
0.016 mm	5	
0.013 mm	4	
0.009 mm	4	
0.007 mm	4	
0.005 mm	3	
0.003 mm	3	
0.002 mm	3	

Chart



Comments

N/O = Not Obtainable



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Southeast Michigan Laboratory

Telephone: 248. 553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S193

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 Paydauy

Sample Details

Boring No: TB-W-8
Field Sample No: LS-13
Sample Depth: 65.0
Date Sampled: 9/10/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

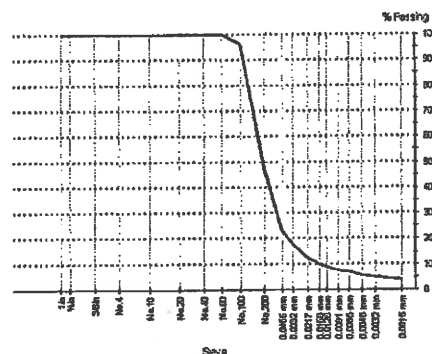
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
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)	96	
No. 200 (75µm)	47	
0.046 mm	23	
0.033 mm	18	
0.022 mm	13	
0.016 mm	10	
0.013 mm	9	
0.009 mm	8	
0.007 mm	7	
0.005 mm	6	
0.003 mm	5	
0.002 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	
Group Name		Silty sand	

Chart



Comments

N/O = Not Obtainable



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Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S192

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 Payday

Sample Details

Boring No: TB-W-8
Field Sample No: ST-5
Sample Depth: 58.0
Date Sampled: 9/10/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

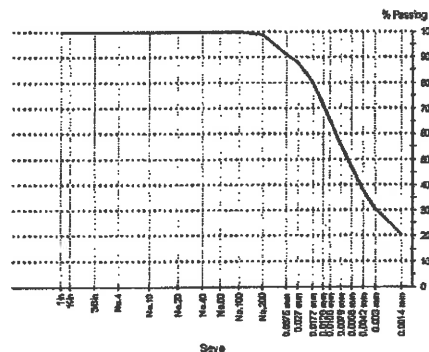
Method: ASTM D 422 - 07
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06 CL-ML		
Group Name		Silty clay	

Chart



Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248. 553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S192

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 Paydary

Sample Details

Boring No: TB-W-8
Field Sample No: ST-5
Sample Depth: 58.0
Date Sampled: 9/10/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

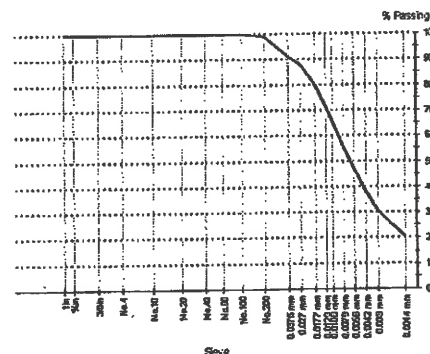
Method: ASTM D 422 - 07
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	25	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		7	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperature (°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 CaSO4	
Sample Height (in)		2.846	
Sample Diameter (in)		2.858	
Sample Cross-Section Area (in²)		6.42	
Sample Volume (in³)		18.26	
Dry Density (lb/ft³)		98.0	
Initial Moisture Content (%)		27.5	
Final Moisture Content (%)		27.2	
Average Permeability (cm/s)		3.60 E-8	
Moisture Content (%)	ASTM D 2216 - 05	27.5	
Wet Density (lb/ft³)		124.9	
Dry Density (lb/ft³)		98.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Chart



Comments

N/A



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Infrastructure Engineering
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NTH Consultants, Ltd.
Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S191

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.



Zeera Payday

Date of Issue: 10/21/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-8
Field Sample No: LS-11
Sample Depth: 55.0
Date Sampled: 9/10/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

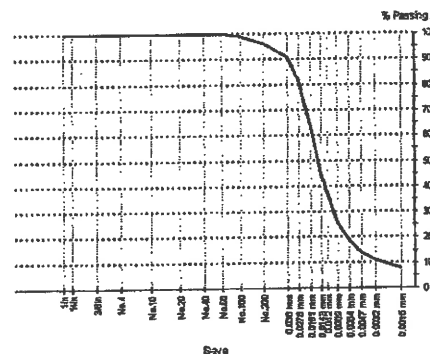
Method: ASTM D 422 - 07
Drying by: Oven

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

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	MH	
Group Name		Elastic silt	

Chart



Comments

N/O = Not Obtainable



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Telephone: 248.553.6300
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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S190

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 Paydary

Sample Details

Boring No: TB-W-8
Field Sample No: ST-4
Sample Depth: 50.0
Date Sampled: 9/10/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

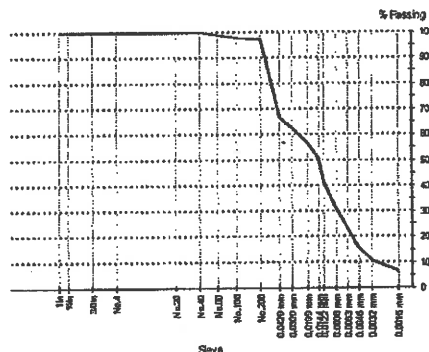
Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	N/O	
Shear Strength (lb/ft ²)		N/O	
Ave. Rate Strain to Failure(%)		N/O	
Strain at Failure(%)		N/O	
Average Height (in.)		N/O	
Average Diameter (in.)		N/O	
Height-Diameter Ratio		N/O	
Init. Dry Dens.		N/O	
Init. Water Content (%)		N/O	
Liquid Limit		N/O	
Plastic Limit		N/O	
Remarks		N/O	
Visual Description		N/O	
Group Symbol	ASTM D 2487 - 06	ML	
Group Name		Silt	

Particle Size Distribution

Method: ASTM D 422 - 07
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. 20 (850µm)	100	
No. 40 (425µm)	100	
No. 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



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S190

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 Paydary

Sample Details

Boring No: TB-W-8
Field Sample No: ST-4
Sample Depth: 50.0
Date Sampled: 9/10/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

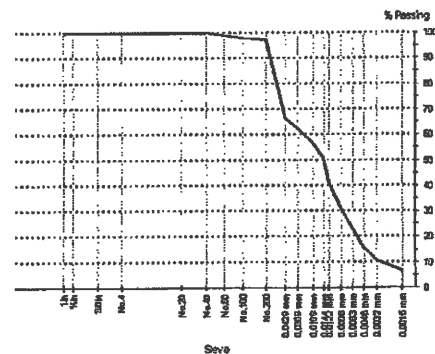
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.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	

Other Test Results

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	18	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		2	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperature (°C)	ASTM D 5084 - 03	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)		N/O	
Sample Volume (in³)		N/O	
Dry Density (lb/ft³)		N/O	
Initial Moisture Content (%)		N/O	
Final Moisture Content (%)		N/O	
Average Permeability (cm/s)		N/O	
Moisture Content (%)	ASTM D 2216 - 05	17.3	
Wet Density (lb/ft³)		135.9	
Dry Density (lb/ft³)		115.8	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Chart



Comments

N/O = Not Obtainable
N/O = Not Obtainable



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S189

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: Zeerek Paydauy

Sample Details

Boring No: TB-W-8
Field Sample No: LS-10
Sample Depth: 45.0
Date Sampled: 9/10/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

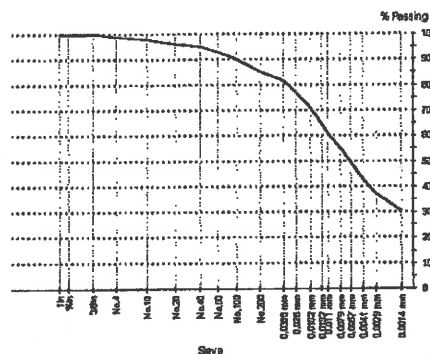
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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)	95	
No.60 (250µm)	93	
No.100 (150µm)	90	
No.200 (75µm)	85	
0.039 mm	82	
0.028 mm	77	
0.018 mm	71	
0.013 mm	65	
0.011 mm	61	
0.008 mm	55	
0.006 mm	49	
0.004 mm	43	
0.003 mm	37	
0.001 mm	30	

Other Test Results

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	26	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		11	
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	
Group Name		Lean clay with sand	

Chart



Comments

N/A



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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



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 Payday

Sample Details

Boring No: TB-W-8
Field Sample No: ST-3
Sample Depth: 42.0
Date Sampled: 9/10/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

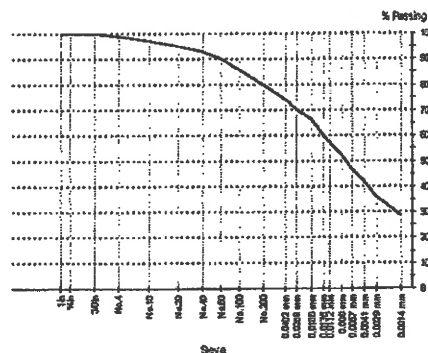
Method: ASTM D 422 - 07
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
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	
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay with sand	

Chart



Comments

N/A
N/O = Not Obtainable



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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

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 Paydary

Sample Details

Boring No: TB-W-8
Field Sample No: ST-3
Sample Depth: 42.0
Date Sampled: 9/10/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

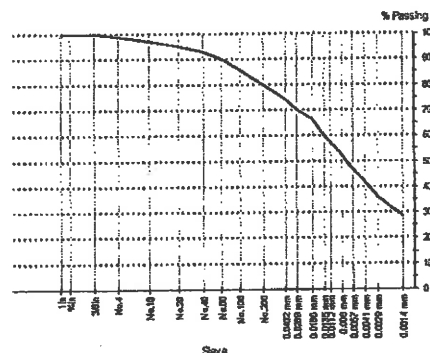
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	27	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		12	
Sample History		Natural state	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperature (°C)	ASTM D 5084 - 03	22.4	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaSO4	
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 Permeability (cm/s)		3.22 E-8	
Moisture Content (%)	ASTM D 2216 - 05	13.8	
Wet Density (lb/ft³)		137.8	
Dry Density (lb/ft³)		121.1	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	

Chart



Comments

N/A
N/O = Not Obtainable



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S253

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.

Zeera Paydary
Date of Issue: 12/13/2008
Approved Signatory: Zeera Paydary

Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S253

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
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in accordance with the terms of the accreditation.



Date of Issue: 12/13/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-8
Field Sample No: ST-2
Sample Depth: 33
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/ft ³)		135.7	
Dry Density (lb/ft ³)		115.0	
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	1660	
Shear Strength (lb/ft ²)		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			

Chart

Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S187

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 Paydary

Sample Details

Boring No: TB-W-8
Field Sample No: ST-2
Sample Depth: 33.0
Date Sampled: 9/9/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

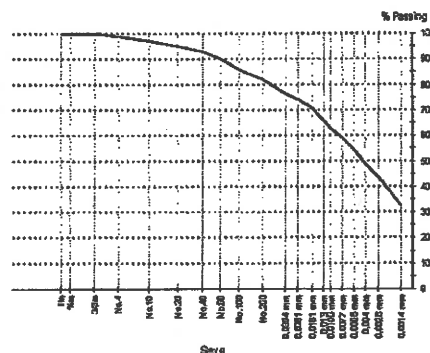
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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)	82	
0.039 mm	76	
0.028 mm	74	
0.018 mm	71	
0.013 mm	66	
0.011 mm	63	
0.008 mm	59	
0.006 mm	54	
0.004 mm	49	
0.003 mm	44	
0.001 mm	32	

Chart



Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S187

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 Paydary

Sample Details

Boring No: TB-W-8
Field Sample No: ST-2
Sample Depth: 33.0
Date Sampled: 9/9/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

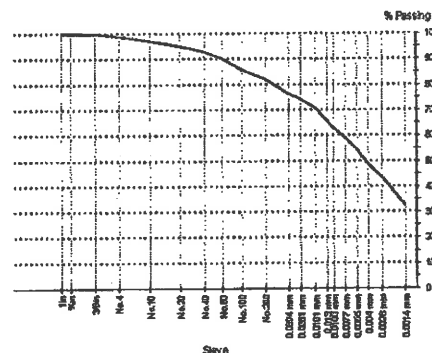
Description	Method	Result	Limits
Temperature (°C)	ASTM D 5084 - 03	22.6	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.869	
Sample Diameter (in)		2.861	
Sample Cross-Section Area (in ²)		6.43	
Sample Volume (in ³)		18.44	
Dry Density (lb/ft ³)		114.0	
Initial Moisture Content (%)		17.8	
Final Moisture Content (%)		18.4	
Average Permeability (cm/s)		2.47 E-8	
Moisture Content (%)	ASTM D 2216 - 05	17.8	
Wet Density (lb/ft ³)		134.3	
Dry Density (lb/ft ³)		114.0	
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	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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)	82	
0.039 mm	76	
0.028 mm	74	
0.018 mm	71	
0.013 mm	66	
0.011 mm	63	
0.008 mm	59	
0.006 mm	54	
0.004 mm	49	
0.003 mm	44	
0.001 mm	32	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S186

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: 10/21/2006
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-8
Field Sample No: LS-8
Sample Depth: 30.0
Date Sampled: 9/9/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

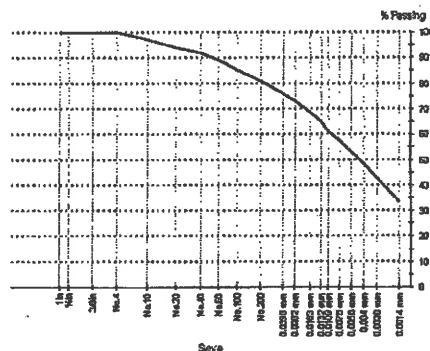
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	30	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		13	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay with sand	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	97	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	85	
No.200 (75µm)	81	
0.040 mm	76	
0.028 mm	73	
0.018 mm	69	
0.013 mm	65	
0.011 mm	61	
0.008 mm	58	
0.006 mm	53	
0.004 mm	48	
0.003 mm	43	
0.001 mm	33	

Chart



Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S185

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 Payday

Sample Details

Boring No: TB-W-8
Field Sample No: ST-1
Sample Depth: 23.0
Date Sampled: 9/9/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

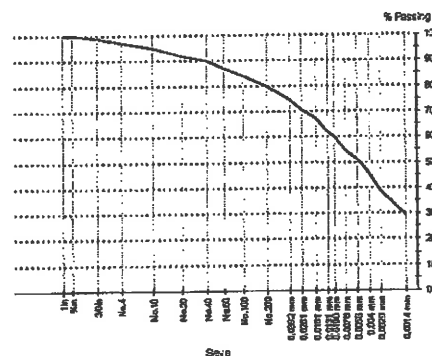
Description	Method	Result	Limits
Temperature (°C)	ASTM D 5084 - 03	22.4	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.855	
Sample Diameter (in)		2.834	
Sample Cross-Section Area (in ²)		6.31	
Sample Volume (in ³)		18.01	
Dry Density (lb/ft ³)		115.1	
Initial Moisture Content (%)		17.8	
Final Moisture Content (%)		18.0	
Average Permeability (cm/s)		3.29 E-8	
Moisture Content (%)	ASTM D 2216 - 05	17.8	
Wet Density (lb/ft ³)		135.6	
Dry Density (lb/ft ³)		115.1	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S185

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 Payday

Sample Details

Boring No: TB-W-8
Field Sample No: ST-1
Sample Depth: 23.0
Date Sampled: 9/9/2008
Sampled By: Michael McNamara
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	
3/4in (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	

Other Test Results

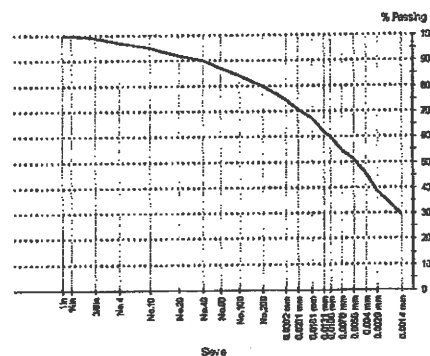
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	5100	
Shear Strength (lb/ft²)		2560	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
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	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		Unknown
Preparation		Dry
Retained 0.425mm (No. 40) (%)		0.0

Chart



Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S184

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 Payday

Sample Details

Boring No: TB-W-8
Field Sample No: LS-6
Sample Depth: 20.0
Date Sampled: 9/9/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

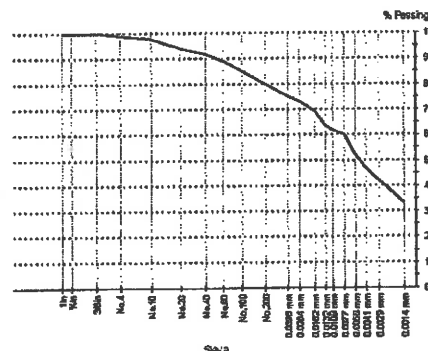
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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	

Other Test Results

Description	Method	Result	Limits
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 (%)		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			
Dispersion Device			
Sand Gravel Description			

Chart



Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S183

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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in accordance with the terms of the accreditation.



Zeera Paydary

Date of Issue: 10/21/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-8
Field Sample No: LS-5
Sample Depth: 15.0
Date Sampled: 9/9/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

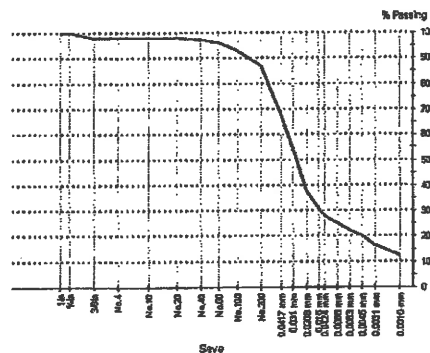
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	ML	
Group Name		Silt	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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	

Chart



Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S182

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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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: LS-3
Sample Depth: 7.5
Date Sampled: 9/9/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

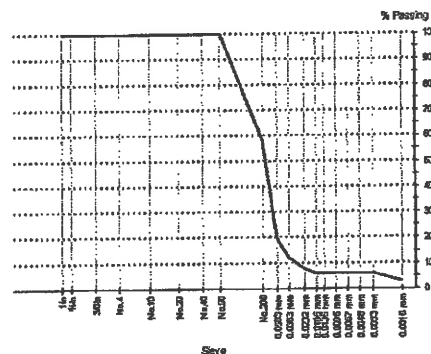
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	ML	
Group Name		Sandy silt	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	

Chart



Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S181

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 Paydary

Sample Details

Boring No: TB-W-8
Field Sample No: LS-1
Sample Depth: 2.5
Date Sampled: 9/9/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

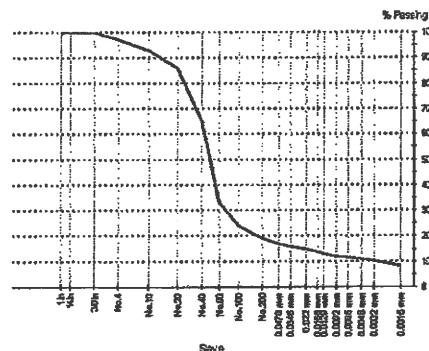
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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	

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 - 06	SC	
Group Name		Clayey sand	
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	

Chart



Comments

N/O = Not Obtainable



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S180

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 Payday

Sample Details

Boring No: TB-W-7
Field Sample No: LS-34
Sample Depth: 80.0
Date Sampled: 9/4/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

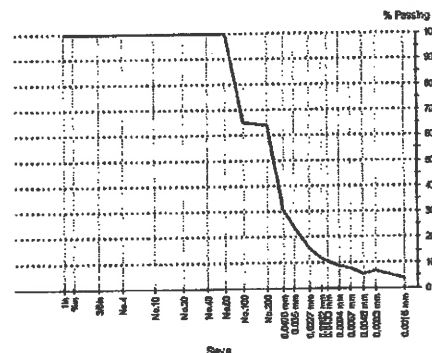
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	MH	
Group Name		Sandy elastic silt	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	100	
No.100 (150µm)	65	
No.200 (75µm)	64	
0.049 mm	31	
0.035 mm	24	
0.023 mm	16	
0.016 mm	12	
0.013 mm	11	
0.009 mm	9	
0.007 mm	8	
0.005 mm	6	
0.003 mm	7	
0.002 mm	4	

Chart



Comments

N/O = Not Obtainable



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Southeast Michigan Laboratory

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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



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Date of Issue: 10/21/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-7
Field Sample No: LS-32
Sample Depth: 76.0
Date Sampled: 9/4/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

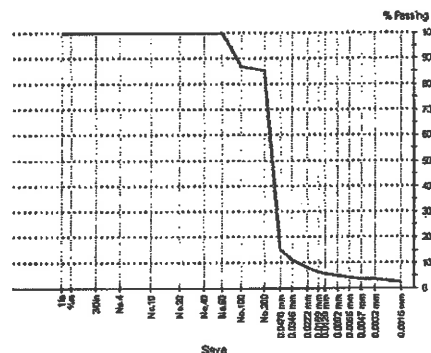
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
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)	87	
No.200 (75µm)	85	
0.048 mm	15	
0.035 mm	11	
0.022 mm	8	
0.016 mm	6	
0.013 mm	6	
0.009 mm	5	
0.007 mm	4	
0.005 mm	3	
0.003 mm	3	
0.002 mm	2	

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	MH	
Group Name		Elastic silt with sand	

Chart



Comments

N/O = Not Obtainable



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S178

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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in accordance with the terms of the accreditation.



Date of Issue: 10/21/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-7
Field Sample No: LS-30
Sample Depth: 72.0
Date Sampled: 9/4/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

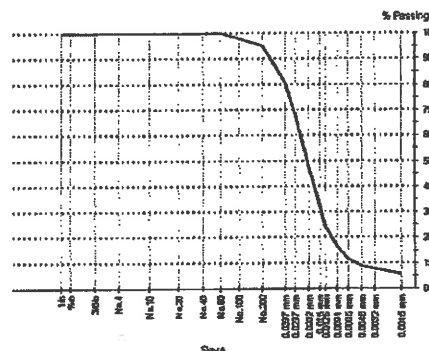
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	MH	
Group Name		Elastic silt	
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	

Chart



Comments

N/O = Not Obtainable



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Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S177

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 Payday

Sample Details

Boring No: TB-W-7
Field Sample No: LS-28
Sample Depth: 68.0
Date Sampled: 9/4/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

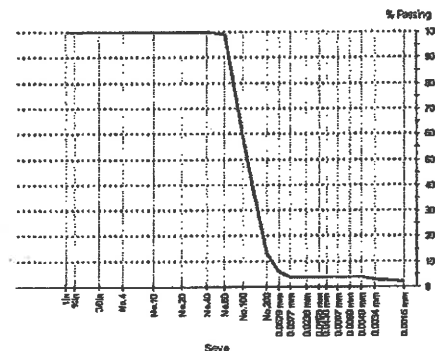
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
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)	59	
No.200 (75µm)	13	
0.053 mm	6	
0.038 mm	4	
0.024 mm	4	
0.017 mm	4	
0.014 mm	4	
0.010 mm	4	
0.007 mm	4	
0.005 mm	4	
0.003 mm	3	
0.002 mm	2	

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	
Group Name		Silty sand	

Chart



Comments

N/O = Not Obtainable



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Southeast Michigan Laboratory

Telephone: 248.653.6300
Fax: 248.324.5179

Report No: MAT:62-080376-01-S176

Issue No: 1

Aggregate/Soil Test Report

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 Paydary

Sample Details

Boring No: TB-W-7
Field Sample No: LS-26
Sample Depth: 64.0
Date Sampled: 9/4/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

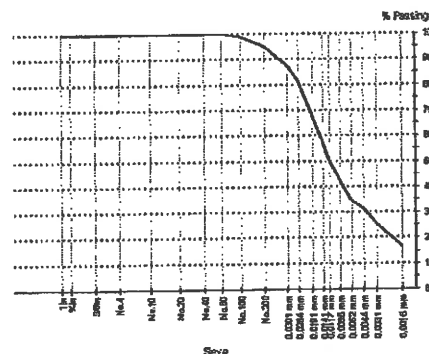
Method: ASTM D 422 - 07
Drying by: Oven

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

Other Test Results

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 - 06 CL-ML		
Group Name		Silty clay	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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 Paydary

Sample Details

Boring No: TB-W-7
Field Sample No: LS-24
Sample Depth: 60.0
Date Sampled: 9/4/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

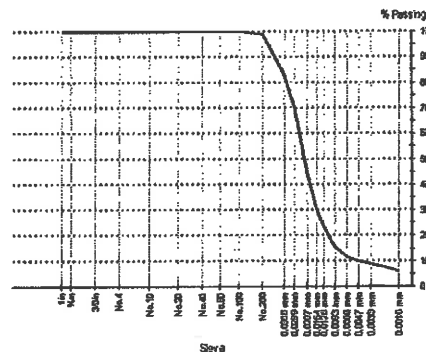
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
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)	99	
0.040 mm	83	
0.030 mm	70	
0.021 mm	45	
0.015 mm	30	
0.013 mm	24	
0.009 mm	16	
0.007 mm	12	
0.005 mm	10	
0.003 mm	9	
0.002 mm	6	

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	MH	
Group Name		Elastic silt	

Chart



Comments

N/O = Not Obtainable



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S174

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.



Zeevak Paydawy

Date of Issue: 10/21/2008
Approved Signatory: Zeevak Paydawy

Sample Details

Boring No: TB-W-7
Field Sample No: ST-6
Sample Depth: 56.0
Date Sampled: 9/4/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

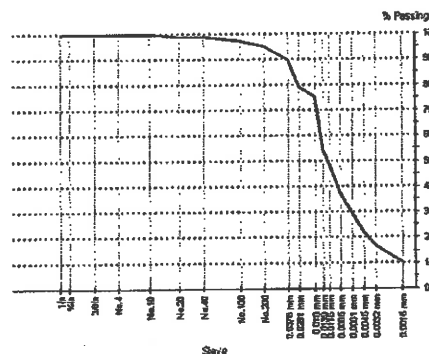
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Liquid Limit (%)	ASTM D 4318 - 05	22	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		5	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Group Symbol	ASTM D 2487 - 06 CL-ML		
Group Name		Silty clay	
Moisture Content (%)	ASTM D 2216 - 05	25.6	
Wet Density (lb/ft³)		125.1	
Dry Density (lb/ft³)		99.6	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	
0.008 mm	29	
0.005 mm	22	
0.003 mm	17	
0.002 mm	10	

Chart



Comments

N/O = Not Obtainable



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S174

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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Zeera Payday

Date of Issue: 10/21/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-7
Field Sample No: ST-6
Sample Depth: 58.0
Date Sampled: 9/4/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

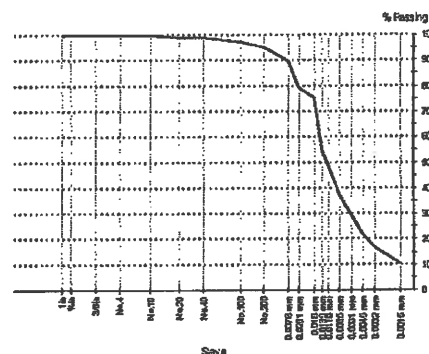
Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	N/O	
Shear Strength (lb/ft ²)		N/O	
Ave. Rate Strain to Failure(%)		N/O	
Strain at Failure(%)		N/O	
Average Height (in.)		N/O	
Average Diameter (in.)		N/O	
Height-Diameter Ratio		N/O	
Init. Dry Dens.		N/O	
Init. Water Content (%)		N/O	
Liquid Limit		N/O	
Plastic Limit		N/O	
Remarks		N/O	
Visual Description		N/O	
Temperature (°C)	ASTM D 5084 - 03	23.8	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.852	
Sample Diameter (in)		2.832	
Sample Cross-Section Area (in ²)		6.30	
Sample Volume (in ³)		17.96	
Dry Density (lb/ft ³)		99.6	
Initial Moisture Content (%)		25.6	
Final Moisture Content (%)		27.2	
Average Permeability (cm/s)		8.46 E-8	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	

Chart



Comments

N/O = Not Obtainable



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Southeast Michigan Laboratory

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Fax: 248.324.6179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S173

Issue No: 1

Client: Wayne Disposal, Inc.
Project: Woodlot & MC184 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 Paydary

Sample Details

Boring No: TB-W-7
Field Sample No: LS-21
Sample Depth: 52.0
Date Sampled: 9/4/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

Description	Method	Result	Limits
Liquid Limit (%)	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	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Comments

N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S173

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.



Zeera Payday

Date of Issue: 10/21/2008
Approved Signatory: Zeera Payday

Sample Details

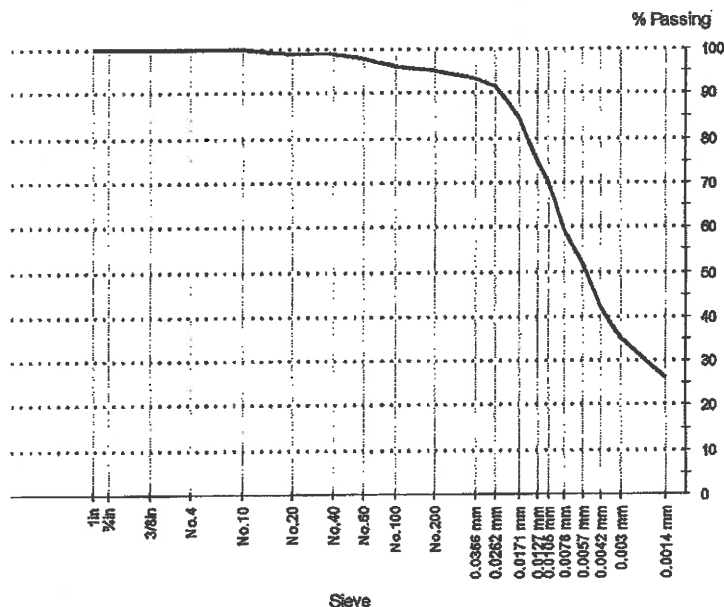
Boring No: TB-W-7
Field Sample No: LS-21
Sample Depth: 52.0
Date Sampled: 9/4/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Atterberg Limit:

Liquid Limit (%): 26
Plastic Limit (%): 17
Plasticity Index (%): 9
Linear Shrinkage (%):

Sample Description:

Particle Size Distribution



Grading: (ASTM D 422 - 07)

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)	99	
No.40 (425µm)	99	
No.60 (250µm)	98	
No.100 (150µm)	96	
No.200 (75µm)	95	
0.075 mm	93	
0.06 mm	91	
0.05 mm	85	
0.0425 mm	75	
0.0375 mm	70	
0.03 mm	59	
0.025 mm	52	
0.02 mm	42	
0.015 mm	35	
0.01 mm	26	

COBBLES	GRAVEL		SAND			FINES	
(0.0%)	Coarse (0.0%)	Fine (0.0%)	Coarse (0.0%)	Medium (1.0%)	Fine (4.0%)	Silt (48.0%)	Clay (47.0%)

D85: 0.0176 D60: 0.0080 D50: 0.0055
D30: 0.0021 D15: N/A D10: N/A
Cu: N/A Cc: N/A



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NTH Consultants, Ltd.
Southeast Michigan Laboratory

Telephone: 248.553.8300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S172

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 Paydary

Sample Details

Boring No: TB-W-7
Field Sample No: ST-5
Sample Depth: 48.0
Date Sampled: 9/4/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

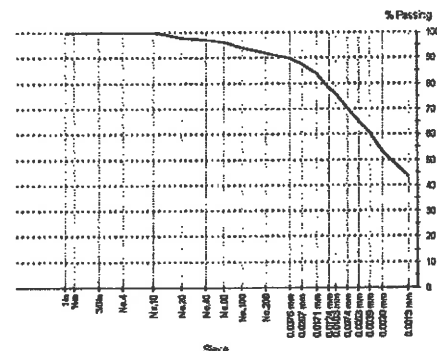
Description	Method	Result	Limits
Temperature (°C)	ASTM D 5084 - 03	22.7	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.831	
Sample Diameter (in)		2.850	
Sample Cross-Section Area (in ²)		6.38	
Sample Volume (in ³)		18.06	
Dry Density (lb/ft ³)		101.1	
Initial Moisture Content (%)		25.2	
Final Moisture Content (%)		26.2	
Average Permeability (cm/s)		3.35 E-8	
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	3680	
Shear Strength (lb/ft ²)		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	
Remarks			
Visual Description			
Specific Gravity (at 20°C)	ASTM D 854 - 06	2.76	
Avg Specific Gravity (at 20°C)			

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	66	
0.004 mm	61	
0.003 mm	54	
0.001 mm	43	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S172

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: ST-5
Sample Depth: 48.0
Date Sampled: 9/4/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

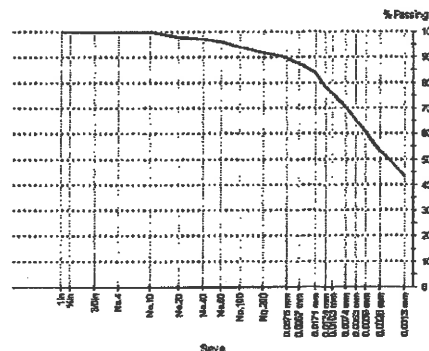
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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	66	
0.004 mm	61	
0.003 mm	54	
0.001 mm	43	

Other Test Results

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	35	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		17	
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	
Group Name		Lean clay	
Moisture Content (%)	ASTM D 2216 - 05	25.2	
Wet Density (lb/ft³)		126.5	
Dry Density (lb/ft³)		101.1	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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Fax: 248.324.6178

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S171

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: 10/22/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-7
Field Sample No: LS-18
Sample Depth: 44.0
Date Sampled: 9/4/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

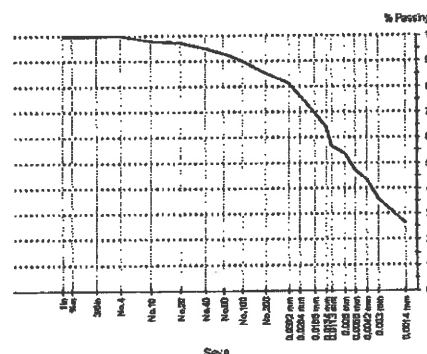
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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	

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 - 06	CL	
Group Name		Lean clay with sand	
Liquid Limit (%)	ASTM D 4318 - 05	26	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		8	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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



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 Payday

Sample Details

Boring No: TB-W-7
Field Sample No: ST-4
Sample Depth: 40.0
Date Sampled: 9/3/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WD1 - Woodlot

Particle Size Distribution

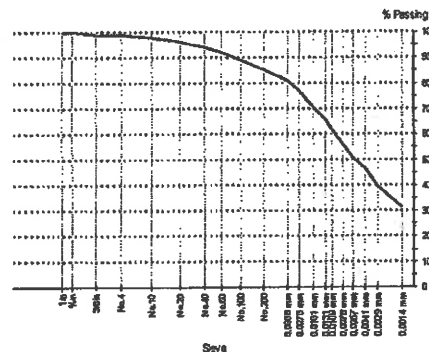
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
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	

Other Test Results

Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Chart



Comments

N/A



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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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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 Paydary

Sample Details

Boring No: TB-W-7
Field Sample No: ST-4
Sample Depth: 40.0
Date Sampled: 9/3/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

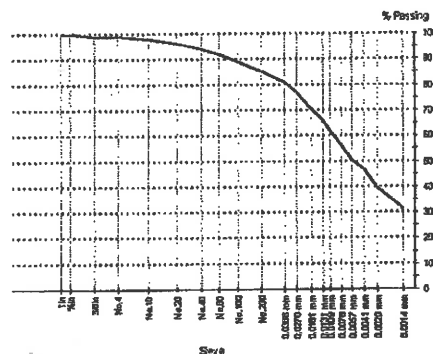
Description	Method	Result	Limits
Temperature (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.862	
Sample Diameter (in)		2.823	
Sample Cross-Section Area (in ²)		6.26	
Sample Volume (in ³)		17.91	
Dry Density (lb/ft ³)		118.7	
Initial Moisture Content (%)		15.5	
Final Moisture Content (%)		15.7	
Average Permeability (cm/s)		1.64 E-8	
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay with sand	
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	
Moisture Content (%)	ASTM D 2216 - 05	15.6	
Wet Density (lb/ft ³)		137.1	
Dry Density (lb/ft ³)		118.6	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
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

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S169

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: LS-15
Sample Depth: 36.0
Date Sampled: 9/3/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

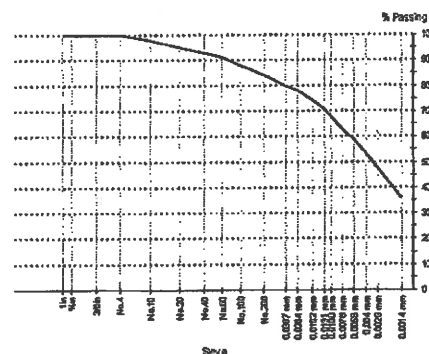
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	33	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		17	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay with sand	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	98	
No.20 (850µm)	95	
No.40 (425µm)	93	
No.60 (250µm)	91	
No.100 (150µm)	88	
No.200 (75µm)	84	
0.040 mm	80	
0.028 mm	78	
0.018 mm	74	
0.013 mm	71	
0.011 mm	68	
0.008 mm	63	
0.006 mm	59	
0.004 mm	53	
0.003 mm	48	
0.001 mm	36	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S168

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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in accordance with the terms of the accreditation.



Zeera Payday

Date of Issue: 10/21/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-7
Field Sample No: ST-3
Sample Depth: 32.0
Date Sampled: 9/3/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	7320	
Shear Strength (lb/ft ²)		3660	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (in.)		5.882	
Average Diameter (in.)		2.858	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		114.6	
Init. Water Content (%)		18.0	
Liquid Limit		31	
Plastic Limit		17	

Visual Description

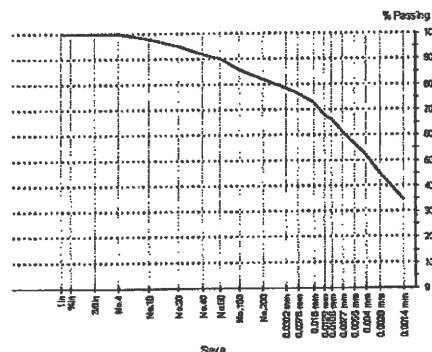
Group Symbol: ASTM D 2487 - 06 CL
Group Name: Lean clay with sand

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	

Chart



Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S168

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 Payday

Sample Details

Boring No: TB-W-7
Field Sample No: ST-3
Sample Depth: 32.0
Date Sampled: 9/3/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

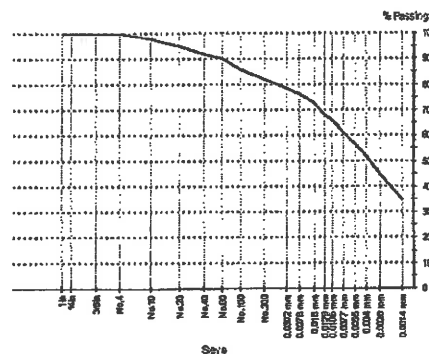
Method: ASTM D 422 - 07
Drying by: Oven

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)	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	

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	
Temperature (°C)	ASTM D 5084 - 03	22.6	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant		0.01 N CaSO ₄	
Sample Height (in)		2.834	
Sample Diameter (in)		2.848	
Sample Cross-Section Area (in ²)		6.37	
Sample Volume (in ³)		18.05	
Dry Density (lb/ft ³)		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/ft ³)		135.3	
Dry Density (lb/ft ³)		114.6	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Chart



Comments

N/A



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Telephone: 248. 553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S167

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 Paydary

Sample Details

Boring No: TB-W-7
Field Sample No: LS-12
Sample Depth: 28.0
Date Sampled: 9/3/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

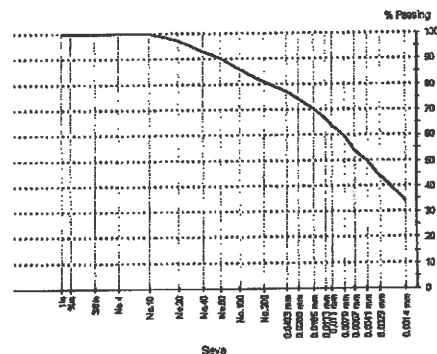
Method: ASTM D 422 - 07
Drying by: Oven

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)	97	
No.40 (425µm)	93	
No.60 (250µm)	90	
No.100 (150µm)	86	
No.200 (75µm)	81	
0.040 mm	77	
0.029 mm	74	
0.019 mm	70	
0.013 mm	66	
0.011 mm	64	
0.008 mm	60	
0.006 mm	54	
0.004 mm	50	
0.003 mm	44	
0.001 mm	34	

Other Test Results

Description	Method	Result	Limits
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	
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	

Chart



Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S166

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: Zeenak Payday

Sample Details

Boring No: TB-W-7
Field Sample No: ST-2
Sample Depth: 24.0
Date Sampled: 9/3/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	

Other Test Results

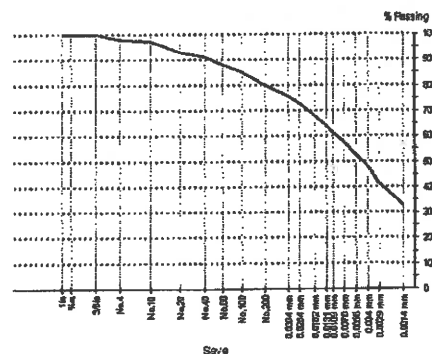
Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	5960	
Shear Strength (lb/ft ²)		2980	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		13.5	
Average Height (in.)		5.760	
Average Diameter (in.)		2.846	
Height-Diameter Ratio		2.0	
Init. Dry Dens.		112.3	
Init. Water Content (%)		18.7	
Liquid Limit		31	
Plastic Limit		17	

Remarks

Visual Description

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

Chart



Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S166

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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Zeera Payday

Date of Issue: 10/21/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-7
Field Sample No: ST-2
Sample Depth: 24.0
Date Sampled: 9/3/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

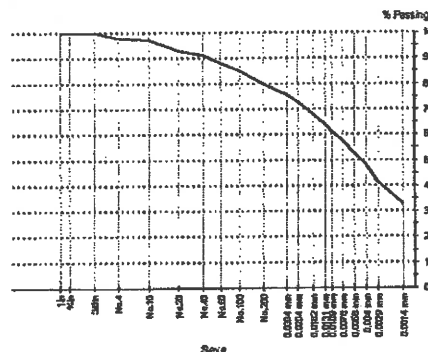
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	31	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperature (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant		0.01 N CaSO ₄	
Sample Height (in)		2.834	
Sample Diameter (in)		2.855	
Sample Cross-Section Area (in ²)		6.40	
Sample Volume (in ³)		18.14	
Dry Density (lb/ft ³)		112.3	
Initial Moisture Content (%)		18.7	
Final Moisture Content (%)		18.8	
Average Permeability (cm/s)		2.09 E-8	
Moisture Content (%)	ASTM D 2216 - 05	18.7	
Wet Density (lb/ft ³)		133.3	
Dry Density (lb/ft ³)		112.3	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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



Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S165

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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Zeera Paydary

Date of Issue: 10/21/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-7
Field Sample No: LS-9
Sample Depth: 20.0
Date Sampled: 9/3/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

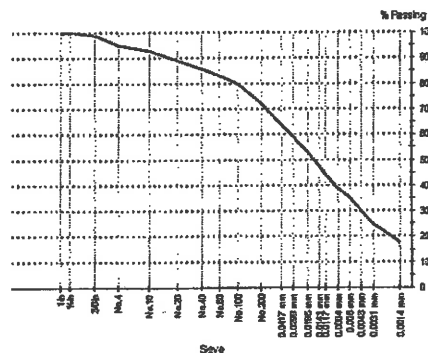
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	20	
Method		Method A	
Plastic Limit (%)		13	
Plasticity Index (%)		7	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06 CL-ML		
Group Name	Silty clay with sand		

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	95	
No.10 (2.0mm)	93	
No.20 (850µm)	89	
No.40 (425µm)	86	
No.60 (250µm)	83	
No.100 (150µm)	80	
No.200 (75µm)	72	
0.042 mm	64	
0.030 mm	59	
0.020 mm	53	
0.014 mm	48	
0.012 mm	44	
0.008 mm	39	
0.006 mm	35	
0.004 mm	30	
0.003 mm	25	
0.001 mm	18	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S164

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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in accordance with the terms of the accreditation.



Date of Issue: 10/21/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-7
Field Sample No: ST-1
Sample Depth: 16.0
Date Sampled: 9/3/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

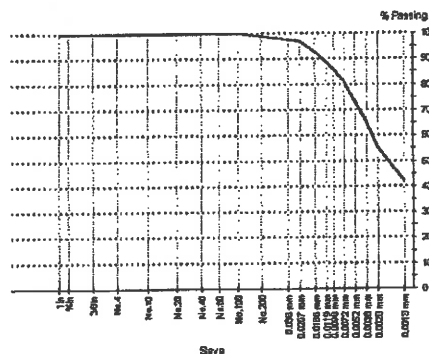
Method: ASTM D 422 - 07
Drying by: Oven

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)	100	
No.100 (150µm)	100	
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	

Other Test Results

Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay	

Chart



Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S164

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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Zeera Payday

Date of Issue: 10/21/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-7
Field Sample No: ST-1
Sample Depth: 16.0
Date Sampled: 9/3/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

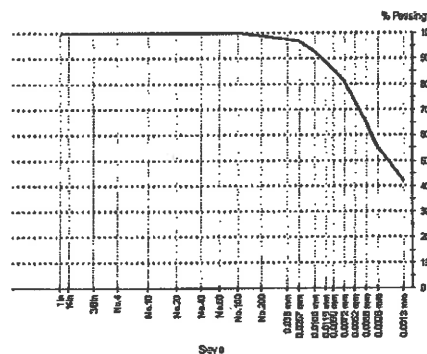
Method: ASTM D 422 - 07
Drying by: Oven

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)	100	
No.100 (150µm)	100	
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	

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	
Temperature (°C)	ASTM D 5084 - 03	22.6	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant		0.01 N CaSO ₄	
Sample Height (in)		2.831	
Sample Diameter (in)		2.855	
Sample Cross-Section Area (in ²)		6.40	
Sample Volume (in ³)		18.12	
Dry Density (lb/ft ³)		97.1	
Initial Moisture Content (%)		28.1	
Final Moisture Content (%)		28.3	
Average Permeability (cm/s)		4.15 E-8	
Moisture Content (%)	ASTM D 2216 - 05	28.2	
Wet Density (lb/ft ³)		124.1	
Dry Density (lb/ft ³)		96.8	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Chart



Comments

N/A



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Fax: 248.324.5179

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



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-6
Sample Depth: 12.0
Date Sampled: 9/3/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

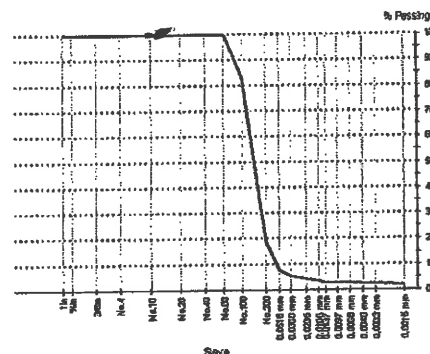
Method: ASTM D 422 - 07
Drying by: Oven

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)	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	

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 - 06	SM	
Group Name		Silty sand	

Chart



Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S162

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: LS-4
Sample Depth: 8.0
Date Sampled: 9/3/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

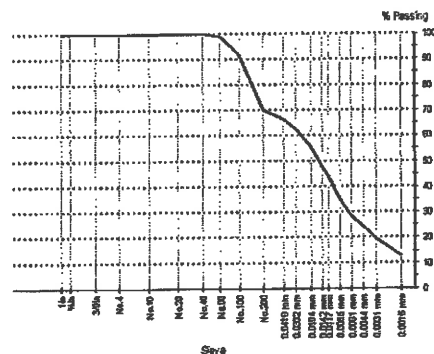
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	ML	
Group Name		Sandy silt	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S161

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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of State Highway and Transportation Officials
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in accordance with the terms of the accreditation.



Zeera Paydary

Date of Issue: 10/21/2008
Approved Signatory: Zeera Paydary

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

Other Test Results

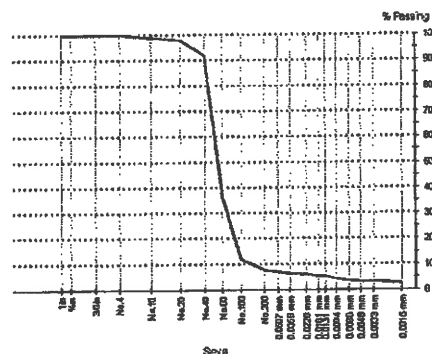
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	99	
No.20 (850µm)	98	
No.40 (425µm)	92	
No.60 (250µm)	36	
No.100 (150µm)	12	
No.200 (75µm)	8	
0.051 mm	7	
0.036 mm	6	
0.023 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	3	
0.002 mm	3	

Chart



Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S142

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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Zeera Payday

Date of Issue: 9/8/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-6
Field Sample No: LS-18
Sample Depth: 80
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

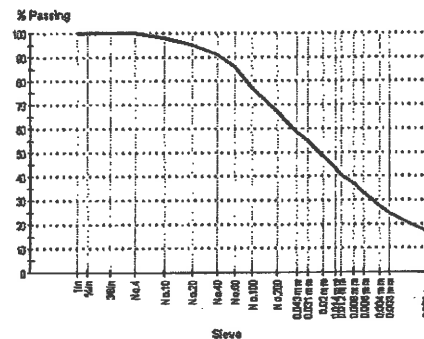
Method: ASTM D 422
Drying by: Oven

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)	98	
No.20 (850µm)	95	
No.40 (425µm)	91	
No.60 (250µm)	86	
No.100 (150µm)	77	
No.200 (75µm)	67	
0.043 mm	59	
0.031 mm	55	
0.020 mm	48	
0.014 mm	44	
0.012 mm	41	
0.008 mm	37	
0.006 mm	33	
0.004 mm	28	
0.003 mm	25	
0.001 mm	17	

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	19	
Method		Method A	
Plastic Limit (%)		11	
Plasticity Index (%)		8	
Sample History		Unknown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Sandy lean clay	

Chart



Comments:
N/A



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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

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(AASHTO). The test(s) reported have been performed
in accordance with the terms of the accreditation.



Zeera Paydary

Date of Issue: 9/8/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-6
Field Sample No: LS-17
Sample Depth: 75
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

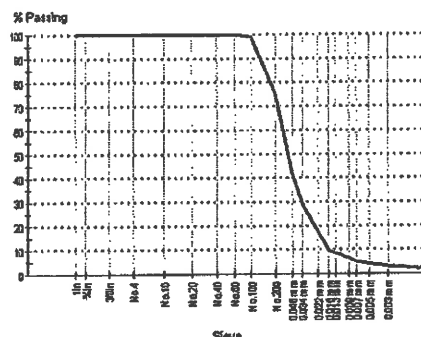
Method: ASTM D 422
Drying by: Oven

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)	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	5	
0.005 mm	4	
0.003 mm	3	
0.001 mm	2	

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 with 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-S140

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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Zeera Payday

Date of Issue: 9/8/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-6
Field Sample No: LS-16
Sample Depth: 70
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

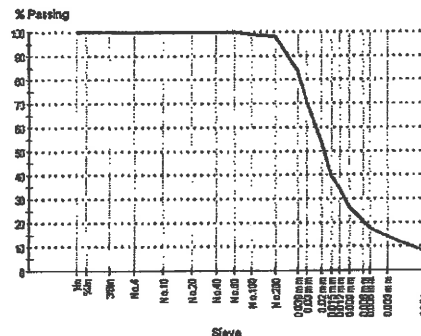
Method: ASTM D 422
Drying by: Oven

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)	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	8	

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	

Chart



Comments

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



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S139

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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in accordance with the terms of the accreditation.



Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-6
Field Sample No: LS-15
Sample Depth: 65
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

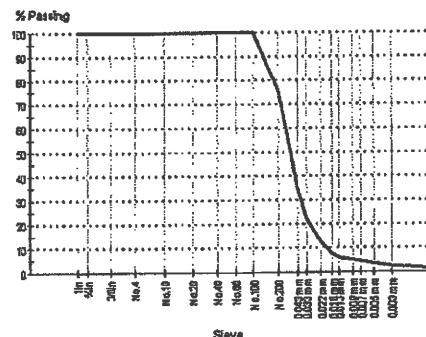
Method: ASTM D 422
Drying by: Oven

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)	100	
No.100 (150µm)	100	
No.200 (75µm)	76	
0.043 mm	35	
0.033 mm	22	
0.022 mm	12	
0.016 mm	8	
0.013 mm	6	
0.009 mm	5	
0.007 mm	5	
0.005 mm	4	
0.003 mm	3	
0.001 mm	2	

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 with sand	

Chart



Comments:

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



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Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S252

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 Paydary

Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.6179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S252

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 Paydary

Sample Details

Boring No: TB-W-6
Field Sample No: LS-14
Sample Depth: 60
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	18.5	
Wet Density (lb/ft ³)		135.5	
Dry Density (lb/ft ³)		114.4	
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	2220	
Shear Strength (lb/ft ²)		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			
Plastic Limit			
Remarks			
Visual Description			

Chart

Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248.553.8300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S138

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 Paydary

Sample Details

Boring No: TB-W-6
Field Sample No: ST-4
Sample Depth: 58
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

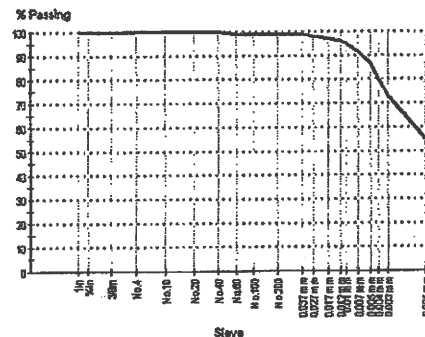
Method: ASTM D 422
Drying by: Oven

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)	99	
No.200 (75µm)	99	
0.037 mm	99	
0.027 mm	98	
0.017 mm	97	
0.012 mm	96	
0.010 mm	95	
0.007 mm	92	
0.005 mm	87	
0.004 mm	80	
0.003 mm	73	
0.001 mm	55	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	21.7	
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	0.01 N CaSO4		
Sample Height (in)		2.835	
Sample Diameter (in)		2.848	
Sample Cross-Section Area (in²)		6.37	
Sample Volume (in³)		18.06	
Dry Density (lb/ft³)		87.5	
Initial Moisture Content (%)		33.1	
Final Moisture Content (%)		30.9	
Average Permeability (cm/s)		1.36 E-8	

Chart



Comments
N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S138

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 Paydary

Sample Details

Boring No: TB-W-6
Field Sample No: ST-4
Sample Depth: 58
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

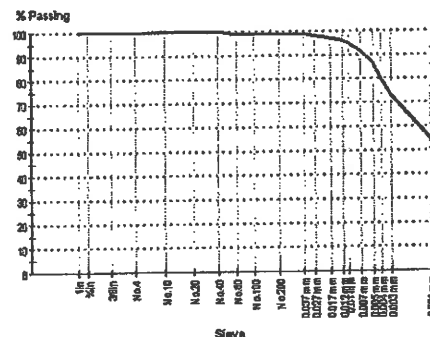
Method: ASTM D 422
Drying by: Oven

Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	46	
Method		Method A	
Plastic Limit (%)		24	
Plasticity Index (%)		22	
Sample History			
Preparation			
Moisture Content (%)	ASTM D 2216	33.2	
Wet Density (lb/ft³)		122.6	
Dry Density (lb/ft³)		92.0	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	303	
Shear Strength (lb/ft²)		152	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		13.1	
Average Height (in.)		5.941	
Average Diameter (in.)		2.763	
Height-Diameter Ratio		2.2	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

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)	99	
No.200 (75µm)	99	
0.037 mm	99	
0.027 mm	98	
0.017 mm	97	
0.012 mm	96	
0.010 mm	95	
0.007 mm	92	
0.005 mm	87	
0.004 mm	80	
0.003 mm	73	
0.001 mm	55	

Chart



Comments
N/A



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Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S137

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.



Zeera Payday

Date of Issue: 9/8/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-6
Field Sample No: LS-13
Sample Depth: 55
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

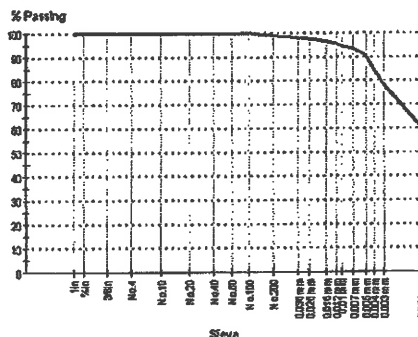
Method: ASTM D 422
Drying by: Oven

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)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.036 mm	98	
0.028 mm	97	
0.016 mm	96	
0.012 mm	95	
0.010 mm	94	
0.007 mm	93	
0.005 mm	91	
0.004 mm	85	
0.003 mm	78	
0.001 mm	60	

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	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	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S160

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
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(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: LS-12
Sample Depth: 47.5
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

Method:
Drying by:
Date Tested:

Sieve Size	% Passing	Limits
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Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216	14.2	
Wet Density (lb/ft ³)		138.4	
Dry Density (lb/ft ³)		121.1	
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166	6638	
Shear Strength (lb/ft ²)		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			

Chart

Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S136

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 Paydary

Sample Details

Boring No: TB-W-6
Field Sample No: ST-3
Sample Depth: 46
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

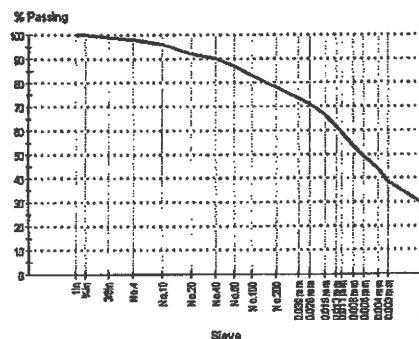
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

Other Test Results

Description	Method	Result	Limits
Temperature (°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	0.01 N CaSO4		
Sample Height (in)		2.853	
Sample Diameter (in)		2.851	
Sample Cross-Section Area (in²)		6.38	
Sample Volume (in³)		18.21	
Dry Density (lb/ft³)		114.7	
Initial Moisture Content (%)		17.8	
Final Moisture Content (%)		17.0	
Average Permeability (cm/s)		1.39 E-8	

Chart



Comments

N/O = Not Obtainable



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S136

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 Paydary

Sample Details

Boring No: TB-W-6
Field Sample No: ST-3
Sample Depth: 46
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

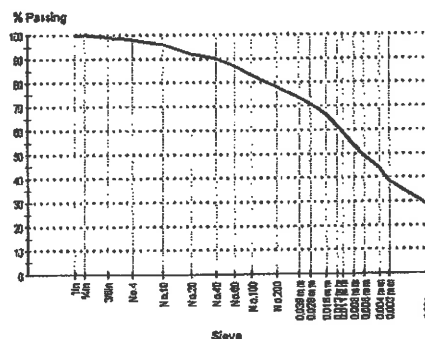
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	29	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		13	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	17.8	
Wet Density (lb/ft³)		135.1	
Dry Density (lb/ft³)		114.7	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	
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	
Visual Description		N/O	

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)	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



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S135

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: Zaerak Paydary

Sample Details

Boring No: TB-W-6
Field Sample No: LS-11
Sample Depth: 45
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

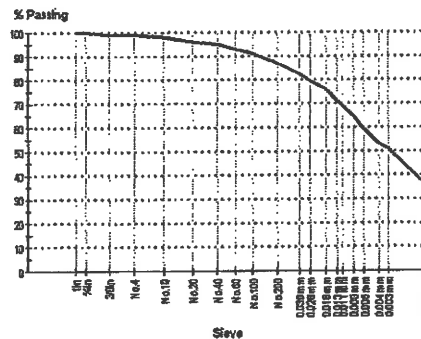
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

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 (%)		17	
Plasticity Index (%)		16	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S134

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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Zeera Paydary

Date of Issue: 9/8/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-6
Field Sample No: LS-10
Sample Depth: 40
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

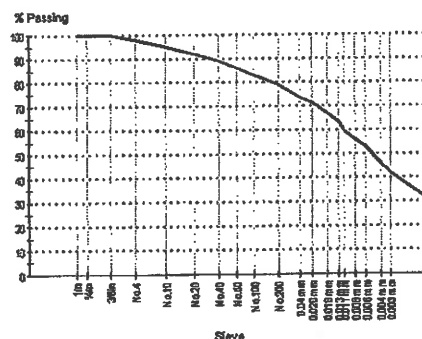
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	98	
No.10 (2.0mm)	95	
No.20 (850µm)	92	
No.40 (425µm)	89	
No.60 (250µm)	86	
No.100 (150µm)	83	
No.200 (75µm)	79	
0.040 mm	73	
0.028 mm	72	
0.018 mm	67	
0.013 mm	63	
0.011 mm	60	
0.008 mm	56	
0.006 mm	53	
0.004 mm	46	
0.003 mm	42	
0.001 mm	31	

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

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S133

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 Paydary

Sample Details

Boring No: TB-W-6
Field Sample No: ST-2
Sample Depth: 33
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

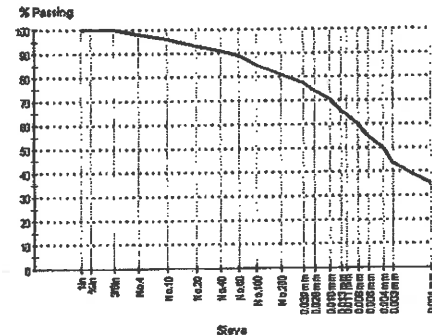
Method: ASTM D 422
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	22.8	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.871	
Sample Diameter (in)		2.832	
Sample Cross-Section Area (in ²)		6.30	
Sample Volume (in ³)		18.09	
Dry Density (lb/ft ³)		114.2	
Initial Moisture Content (%)		17.8	
Final Moisture Content (%)		18.0	
Average Permeability (cm/s)		1.06 E-8	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S133

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 Paydary

Sample Details

Boring No: TB-W-6
Field Sample No: ST-2
Sample Depth: 33
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

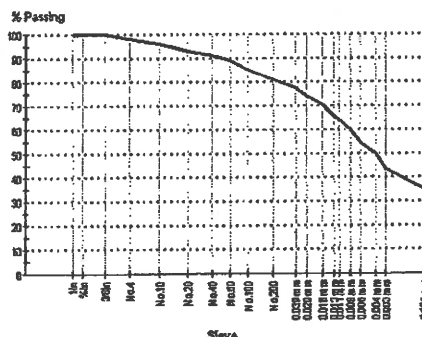
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	32	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		15	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	17.8	
Wet Density (lb/ft ³)		134.5	
Dry Density (lb/ft ³)		114.2	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166	5682	
Shear Strength (lb/ft ²)		2841	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		14.1	
Average Height (in.)		5.937	
Average Diameter (in.)		2.833	
Height-Diameter Ratio		2.1	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit		32	
Plastic Limit		17	
Remarks			
Visual Description			

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)	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



Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S132

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.



Zeera Paydary

Date of Issue: 9/8/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-6
Field Sample No: LS-8
Sample Depth: 30
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

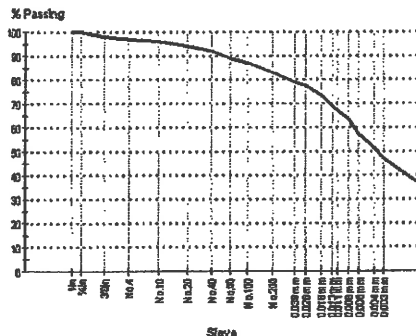
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

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	35	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		17	
Sample History		Unknown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Chart



Comments
N/A



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Southeast Michigan Laboratory

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

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Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-6
Field Sample No: ST-1
Sample Depth: 23
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

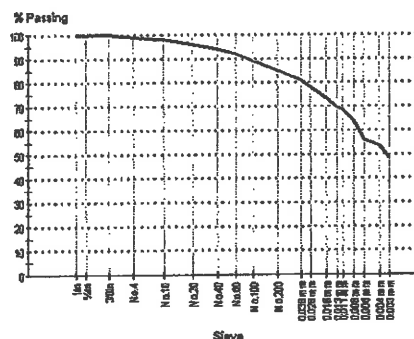
Method: ASTM D 422
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	21.9	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.848	
Sample Diameter (in)		2.824	
Sample Cross-Section Area (in ²)		6.26	
Sample Volume (in ³)		17.84	
Dry Density (lb/ft ³)		113.7	
Initial Moisture Content (%)		18.2	
Final Moisture Content (%)		18.9	
Average Permeability (cm/s)		2.99 E-8	

Chart



Comments
N/A



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Fax: 248.324.6179

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



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Date of issue: 9/8/2008
Approved Signatory: Zeerak Payday

Sample Details

Boring No: TB-W-6
Field Sample No: ST-1
Sample Depth: 23
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

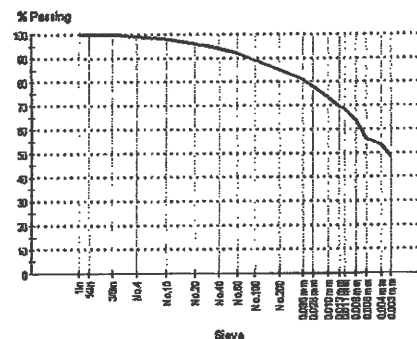
Method: ASTM D 422
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4316	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 clay with sand	

Chart



Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S130

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 Paydary

Sample Details

Boring No: TB-W-6
Field Sample No: LS-6
Sample Depth: 20
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

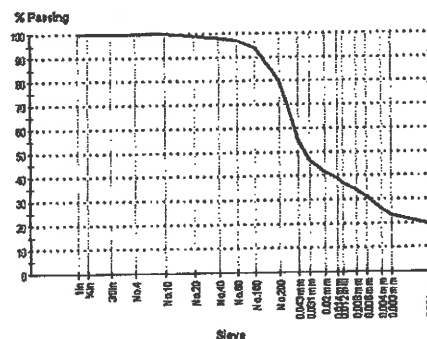
Method: ASTM D 422
Drying by: Oven

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)	99	
No.40 (425µm)	98	
No.60 (250µm)	97	
No.100 (150µm)	94	
No.200 (75µm)	80	
0.043 mm	55	
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	26	
0.003 mm	23	
0.001 mm	19	

Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device		1	
Dispersion Period			
Liquid Limit (%)	ASTM D 4318	19	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		5	
Sample History		Oven-dried	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL-ML	
Group Name		Silty clay with sand	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S129

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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Zeera Payday

Date of Issue: 9/8/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-6
Field Sample No: LS-5
Sample Depth: 15
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

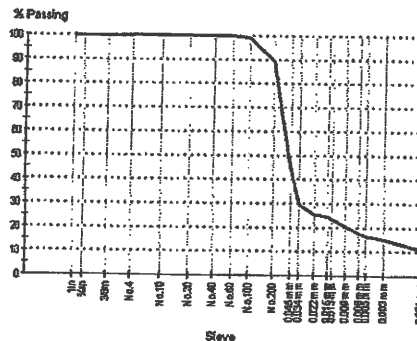
Method: ASTM D 422
Drying by: Oven

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)	100	
No.100 (150µm)	99	
No.200 (75µm)	89	
0.045 mm	44	
0.034 mm	30	
0.022 mm	26	
0.015 mm	25	
0.013 mm	24	
0.009 mm	21	
0.006 mm	18	
0.005 mm	17	
0.003 mm	15	
0.001 mm	11	

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	

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-S128

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 Paydary

Sample Details

Boring No: TB-W-6
Field Sample No: LS-4
Sample Depth: 10
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

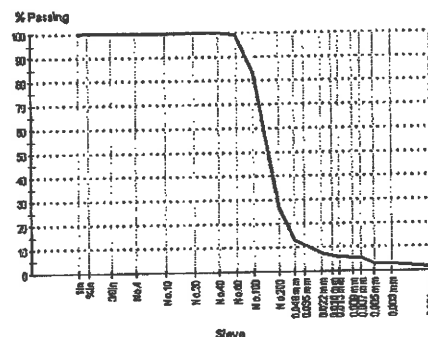
Method: ASTM D 422
Drying by: Oven

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)	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	6	
0.005 mm	3	
0.003 mm	3	
0.001 mm	2	

Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device		1	
Dispersion Period			
Liquid Limit (%)	ASTM D 4318	NO	
Method			
Plastic Limit (%)		NO	
Plasticity Index (%)		NP	
Sample History			
Preparation			
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

Chart



Comments

NO = Not Obtainable
NP = Non Plastic



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S127

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 Paydary

Sample Details

Boring No: TB-W-6
Field Sample No: LS-2
Sample Depth: 5
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

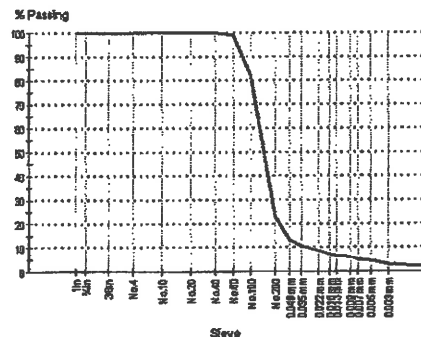
Method: ASTM D 422
Drying by: Oven

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)	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	

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	

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-S158

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 Payday

Sample Details

Boring No: TB-W-5
Field Sample No: LS-18
Sample Depth: 80
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

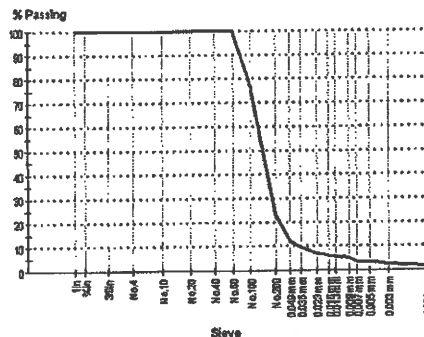
Method: ASTM D 422
Drying by: Oven

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)	100	
No.100 (150µm)	77	
No.200 (75µm)	23	
0.049 mm	12	
0.035 mm	10	
0.023 mm	7	
0.016 mm	6	
0.013 mm	6	
0.009 mm	5	
0.007 mm	4	
0.005 mm	4	
0.003 mm	3	
0.001 mm	2	

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	

Chart



Comments

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



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Southeast Michigan Laboratory

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S157

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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Zeera Paydary

Date of Issue: 9/8/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-5
Field Sample No: LS-17
Sample Depth: 75
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

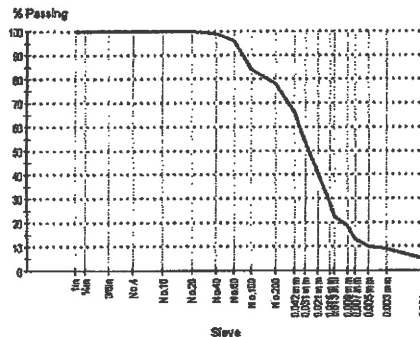
Method: ASTM D 422
Drying by: Oven

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)	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	

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 with sand	

Chart



Comments

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



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S156

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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in accordance with the terms of the accreditation.



Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-5
Field Sample No: ST-6
Sample Depth: 68
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

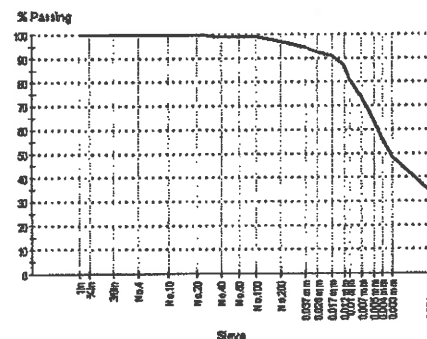
Method: ASTM D 422
Drying by: Oven

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)	99	
No.60 (250µm)	99	
No.100 (150µm)	99	
No.200 (75µm)	97	
0.037 mm	95	
0.026 mm	93	
0.017 mm	91	
0.012 mm	87	
0.010 mm	81	
0.007 mm	73	
0.005 mm	64	
0.004 mm	56	
0.003 mm	48	
0.001 mm	34	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.5	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.862	
Sample Diameter (in)		2.871	
Sample Cross-Section Area (in ²)		6.47	
Sample Volume (in ³)		18.53	
Dry Density (lb/ft ³)		101.9	
Initial Moisture Content (%)		24.5	
Final Moisture Content (%)		21.6	
Average Permeability (cm/s)		5.67 E-8	

Chart



Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S156

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 Paydary

Sample Details

Boring No: TB-W-5
Field Sample No: ST-6
Sample Depth: 68
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

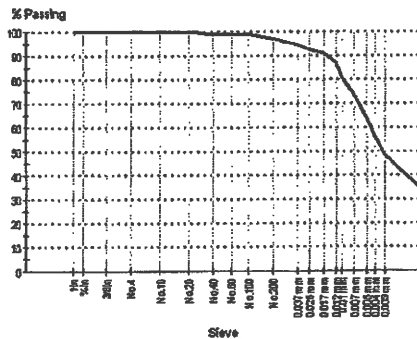
Method: ASTM D 422
Drying by: Oven

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)	99	
No.60 (250µm)	99	
No.100 (150µm)	99	
No.200 (75µm)	97	
0.037 mm	95	
0.026 mm	93	
0.017 mm	91	
0.012 mm	87	
0.010 mm	81	
0.007 mm	73	
0.005 mm	64	
0.004 mm	56	
0.003 mm	48	
0.001 mm	34	

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	24.5	
Wet Density (lb/ft³)		126.9	
Dry Density (lb/ft³)		101.9	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S155

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 Paydary

Sample Details

Boring No: TB-W-5
Field Sample No: LS-15
Sample Depth: 65
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

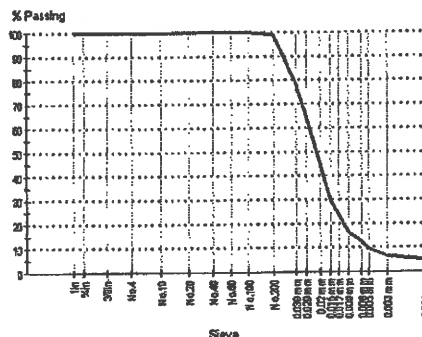
Method: ASTM D 422
Drying by: Oven

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)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.039 mm	78	
0.029 mm	64	
0.020 mm	45	
0.015 mm	30	
0.012 mm	24	
0.009 mm	16	
0.006 mm	13	
0.005 mm	10	
0.003 mm	7	
0.001 mm	5	

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	

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-S254

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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in accordance with the terms of the accreditation.



Date of Issue: 1/16/2009
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W5
Field Sample No: LS-14
Sample Depth: 60
Date Sampled:
Sampled By: Michael McNamara
LWO No: 000394
Sample Location: WDI - Woodlot

Particle Size Distribution

Method:
Drying by:
Date Tested:

Sieve Size	% Passing	Limits
------------	-----------	--------

Other Test Results

Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	4020	
Shear Strength (lb/ft ²)		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/ft ³)		135.4	
Dry Density (lb/ft ³)			

Chart

Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S154

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: 8/8/2008
Approved Signatory: Zeerak Paydary

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 Distribution

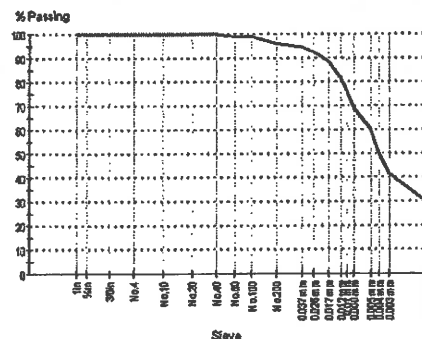
Method: ASTM D 422
Drying by: Oven

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)	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	60	
0.003 mm	41	
0.001 mm	30	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.5	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.853	
Sample Diameter (in)		2.838	
Sample Cross-Section Area (in ²)		6.33	
Sample Volume (in ³)		18.05	
Dry Density (lb/ft ³)		101.5	
Initial Moisture Content (%)		25.8	
Final Moisture Content (%)		24.8	
Average Permeability (cm/s)		1.48 E-8	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S154

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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Zeera Payday

Date of Issue: 9/8/2008
Approved Signatory: Zeera Payday

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 Distribution

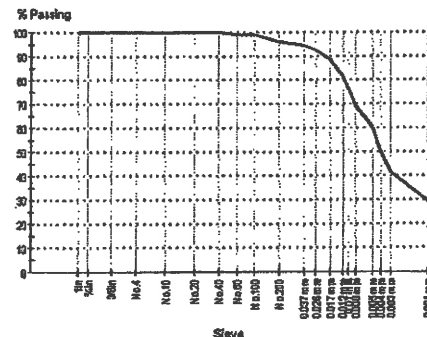
Method: ASTM D 422
Drying by: Oven

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)	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	

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	CL	
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.)		1.381	
Height-Diameter Ratio		2.0	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Chart



Comments:
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S153

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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in accordance with the terms of the accreditation.



Zeera Paydary

Date of Issue: 9/8/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-5
Field Sample No: LS-13
Sample Depth: 55
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

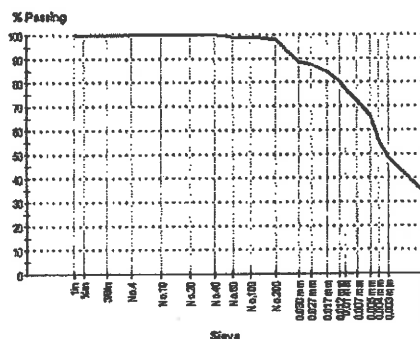
Method: ASTM D 422
Drying by: Oven

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)	99	
No.200 (75µm)	98	
0.038 mm	88	
0.027 mm	87	
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	

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 (%)		17	
Plasticity Index (%)		14	
Sample History		Unknown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S152

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 Paydary

Sample Details

Boring No: TB-W-5
Field Sample No: ST-4
Sample Depth: 47.5
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

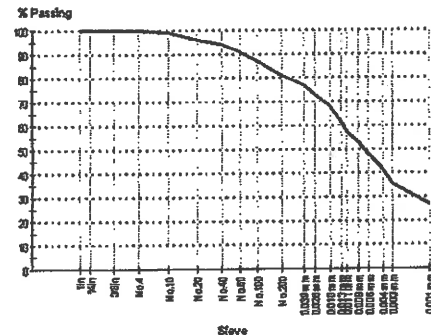
Method: ASTM D 422
Drying by: Oven

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)	99	
No.20 (850µm)	96	
No.40 (425µm)	94	
No.60 (250µm)	91	
No.100 (150µm)	87	
No.200 (75µm)	81	
0.039 mm	77	
0.028 mm	73	
0.018 mm	68	
0.013 mm	61	
0.011 mm	58	
0.008 mm	53	
0.006 mm	48	
0.004 mm	41	
0.003 mm	36	
0.001 mm	27	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.5	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.851	
Sample Diameter (in)		2.838	
Sample Cross-Section Area (in ²)		6.33	
Sample Volume (in ³)		18.04	
Dry Density (lb/ft ³)		121.2	
Initial Moisture Content (%)		14.1	
Final Moisture Content (%)		14.5	
Average Permeability (cm/s)		2.08 E-8	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S152

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: 8/8/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-5
Field Sample No: ST-4
Sample Depth: 47.5
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

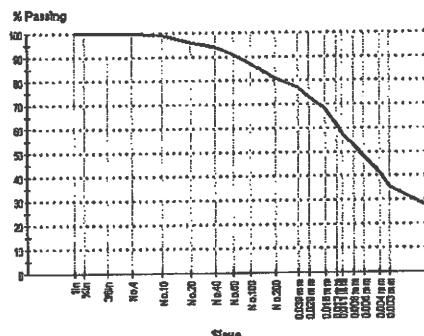
Method: ASTM D 422
Drying by: Oven

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)	99	
No.20 (850µm)	96	
No.40 (425µm)	94	
No.60 (250µm)	91	
No.100 (150µm)	87	
No.200 (75µm)	81	
0.039 mm	77	
0.028 mm	73	
0.018 mm	68	
0.013 mm	61	
0.011 mm	58	
0.008 mm	53	
0.006 mm	48	
0.004 mm	41	
0.003 mm	36	
0.001 mm	27	

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	25	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		10	
Sample History			
Preparation			
Moisture Content (%)	ASTM D 2216	14.1	
Wet Density (lb/ft³)		138.4	
Dry Density (lb/ft³)		121.2	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	
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			
Plastic Limit			
Remarks			
Visual Description			

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S151

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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Zeerak Payday

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Payday

Sample Details

Boring No: TB-W-5
Field Sample No: LS-11
Sample Depth: 45
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

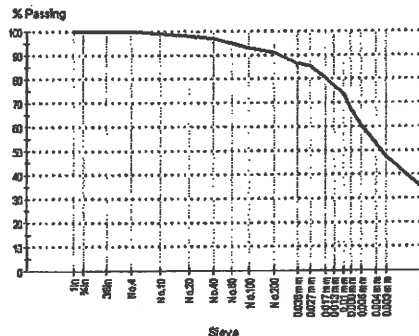
Method: ASTM D 422
Drying by: Oven

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)	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	

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		Unknown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Chart



Comments

N/A



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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 Paydary

Sample Details

Boring No: TB-W-5
Field Sample No: ST-3
Sample Depth: 38
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

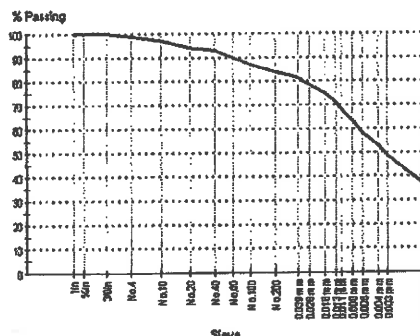
Method: ASTM D 422
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.5	
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 CaSO4		
Sample Height (in)		2.858	
Sample Diameter (in)		2.830	
Sample Cross-Section Area (in²)		6.29	
Sample Volume (in³)		17.98	
Dry Density (lb/ft³)		107.1	
Initial Moisture Content (%)		20.2	
Final Moisture Content (%)		19.9	
Average Permeability (cm/s)		1.15 E-8	

Chart



Comments
N/A



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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.



Zeera Paydary

Date of Issue: 9/8/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-5
Field Sample No: ST-3
Sample Depth: 38
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

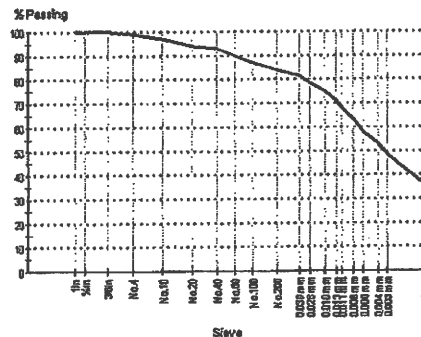
Method: ASTM D 422
Drying by: Oven

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

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	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	

Chart



Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S149

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-5
Field Sample No: LS-9
Sample Depth: 35
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

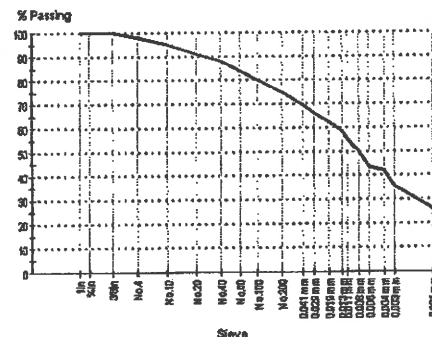
Method: ASTM D 422
Drying by: Oven

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

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 silt with sand	

Chart



Comments

not enough for limit test



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Telephone: 248. 553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S148

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 Paydary

Sample Details

Boring No: TB-W-5
Field Sample No: ST-2
Sample Depth: 28
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

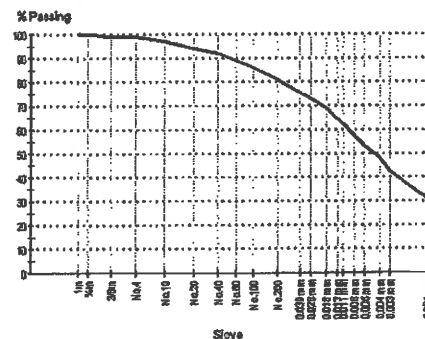
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.4	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.859	
Sample Diameter (in)		2.853	
Sample Cross-Section Area (in ²)		6.39	
Sample Volume (in ³)		18.28	
Dry Density (lb/ft ³)		111.1	
Initial Moisture Content (%)		18.6	
Final Moisture Content (%)		18.7	
Average Permeability (cm/s)		4.41 E-8	

Chart



Comments
N/A



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Southeast Michigan Laboratory

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S148

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.



Zeera Payday

Date of Issue: 9/8/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-5
Field Sample No: ST-2
Sample Depth: 28
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

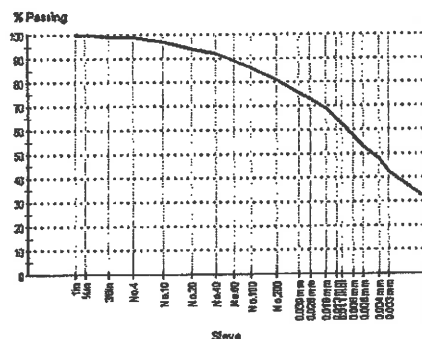
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

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	
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(%)		14.2	
Average Height (in.)		5.932	
Average Diameter (in.)		2.796	
Height-Diameter Ratio		2.1	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit		30	
Plastic Limit		17	
Remarks			
Visual Description			

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S147

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 Paydary

Sample Details

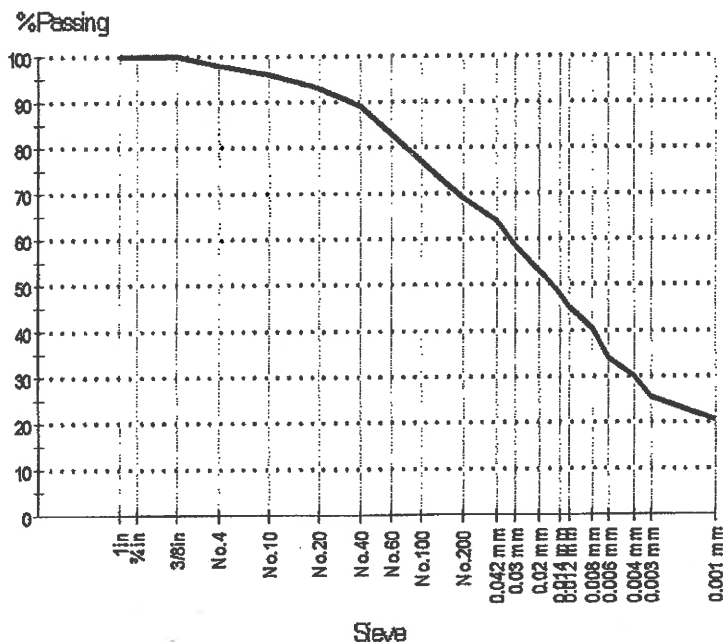
Boring No: TB-W-5
Field Sample No: LS-7
Sample Depth: 25
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

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	CL	
Group Name		Sandy lean clay	

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)	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



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Southeast Michigan Laboratory

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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

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: Zeerek Paydary

Sample Details

Boring No: TB-W-5
Field Sample No: ST-1
Sample Depth: 18
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

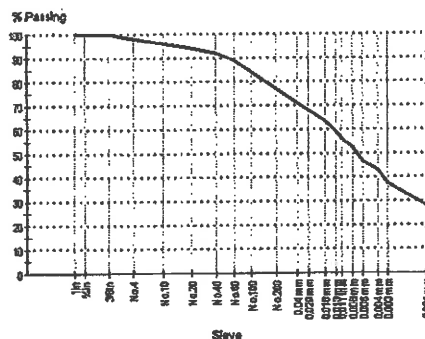
Method: ASTM D 422
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Temperature (°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	0.01 N CaSO4		
Sample Height (in)		2.851	
Sample Diameter (in)		2.825	
Sample Cross-Section Area (in²)		6.27	
Sample Volume (in³)		17.87	
Dry Density (lb/ft³)		112.1	
Initial Moisture Content (%)		19.1	
Final Moisture Content (%)		18.9	
Average Permeability (cm/s)		2.36 E-8	

Chart



Comments

N/A



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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



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 Paydary

Sample Details

Boring No: TB-W-5
Field Sample No: ST-1
Sample Depth: 18
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

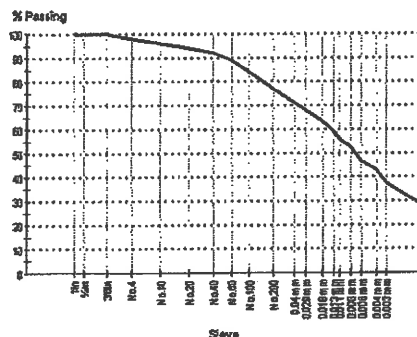
Method: ASTM D 422
Drying by: Oven

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

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		Dry	
Moisture Content (%)	ASTM D 2216	19.1	
Wet Density (lb/ft³)		133.4	
Dry Density (lb/ft³)		112.1	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	5595	
Shear Strength (lb/ft²)		2798	
Ave. Rate Strain to Failure(%)		1.0	
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			

Chart



Comments
N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S145

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 Paydary

Sample Details

Boring No: TB-W-5
Field Sample No: LS-5
Sample Depth: 15
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

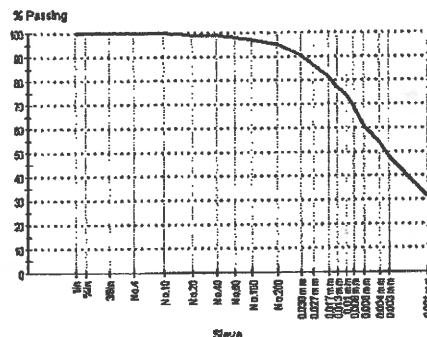
Method: ASTM D 422
Drying by: Oven

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)	99	
No.40 (425µm)	99	
No.60 (250µm)	98	
No.100 (150µm)	97	
No.200 (75µm)	95	
0.038 mm	90	
0.027 mm	87	
0.017 mm	82	
0.013 mm	77	
0.010 mm	74	
0.008 mm	69	
0.006 mm	61	
0.004 mm	54	
0.003 mm	48	
0.001 mm	32	

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 (%)		17	
Plasticity Index (%)		16	
Sample History		Unknown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Chart



Comments
N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S144

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 Paydary

Sample Details

Boring No: TB-W-5
Field Sample No: LS-4
Sample Depth: 10
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

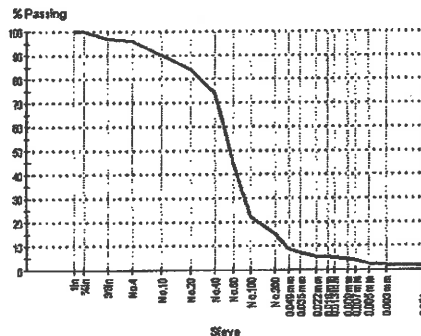
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	97	
No.4 (4.75mm)	96	
No.10 (2.0mm)	90	
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	
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	

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	

Chart



Comments

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



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S143

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 Paydary

Sample Details

Boring No: TB-W-5
Field Sample No: LS-2
Sample Depth: 5
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

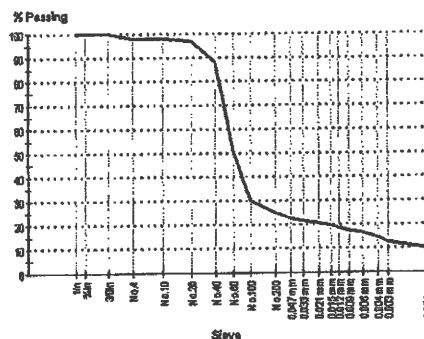
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	
0.008 mm	16	
0.004 mm	14	
0.003 mm	12	
0.001 mm	10	

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	

Chart



Comments

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



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Telephone: 248. 553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S245

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 Payday

Sample Details

Boring No: TB-W-4
Field Sample No: LS-33
Sample Depth: 78
Date Sampled: 9/18/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Particle Size Distribution

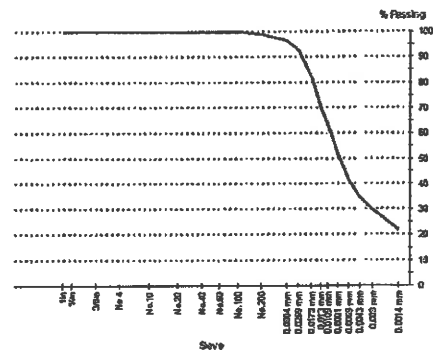
Method: ASTM D 422 - 07
Drying by: Oven

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)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.036 mm	97	
0.026 mm	93	
0.017 mm	82	
0.013 mm	69	
0.011 mm	64	
0.008 mm	52	
0.006 mm	41	
0.004 mm	35	
0.003 mm	30	
0.001 mm	22	

Other Test Results

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	25	
Method		Method B	
Plastic Limit (%)		18	
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	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S244

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

Boring No: TB-W-4
Field Sample No: LS-30
Sample Depth: 72
Date Sampled: 9/18/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

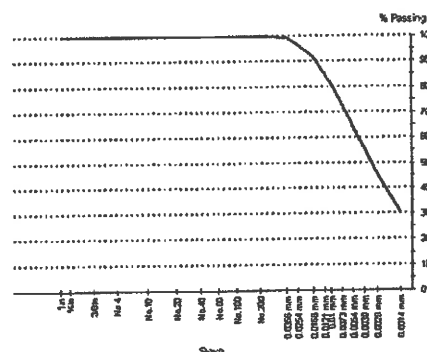
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	32	
Method		Method A	
Plastic Limit (%)		21	
Plasticity Index (%)		11	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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



Comments

N/A



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Telephone: 248. 553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S243

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.



Zeevak Payday

Date of Issue: 10/27/2008
Approved Signatory: Zeevak Payday

Sample Details

Boring No: TB-W-4
Field Sample No: LS-25
Sample Depth: 66
Date Sampled: 9/18/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

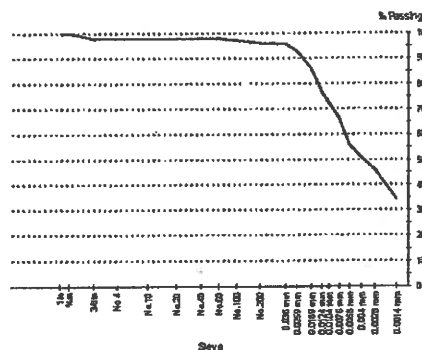
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	31	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		13	
Sample History		Oven-dried	
Preparation		Wet	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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)	98	
No.60 (250µm)	98	
No.100 (150µm)	97	
No.200 (75µm)	96	
0.036 mm	96	
0.026 mm	93	
0.017 mm	86	
0.012 mm	76	
0.010 mm	73	
0.008 mm	66	
0.006 mm	56	
0.004 mm	51	
0.003 mm	46	
0.001 mm	34	

Chart



Comments

N/A



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Telephone: 248.553.6300
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Report No: MAT:62-080376-01-S242

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.



Zeera Payday

Date of Issue: 10/27/2008
Approved Signatory: Zeera Payday

Aggregate/Soil Test Report

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-8
Sample Depth: 62
Date Sampled: 9/18/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

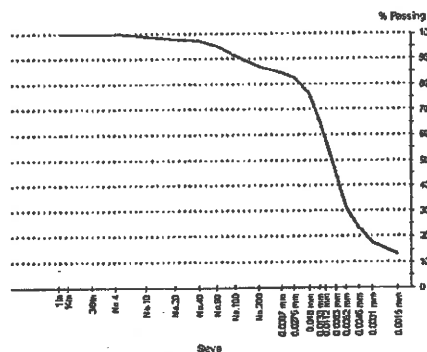
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Moisture Content (%)	ASTM D 2216 - 05	21.9	
Wet Density (lb/ft ³)		131.8	
Dry Density (lb/ft ³)		108.1	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	MH	
Group Name		Elastic silt	
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	N/O	
Shear Strength (lb/ft ²)		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	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	99	
No.20 (850µm)	98	
No.40 (425µm)	97	
No.60 (250µm)	95	
No.100 (150µm)	91	
No.200 (75µm)	87	
0.039 mm	85	
0.028 mm	83	
0.018 mm	76	
0.013 mm	65	
0.011 mm	58	
0.008 mm	45	
0.006 mm	31	
0.005 mm	24	
0.003 mm	18	
0.002 mm	13	

Chart



Comments

N/O = Not Obtainable



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S241

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 Payday

Sample Details

Boring No: TB-W-4
Field Sample No: LS-22
Sample Depth: 58
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Particle Size Distribution

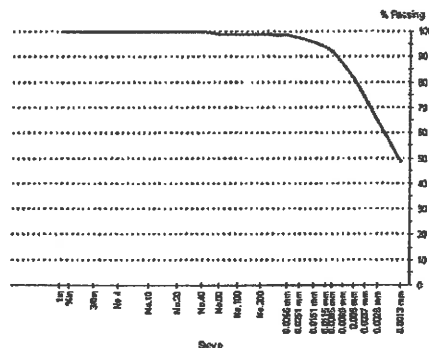
Method: ASTM D 422 - 07
Drying by: Oven

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)	99	
No.200 (75µm)	99	
0.036 mm	99	
0.025 mm	98	
0.016 mm	96	
0.012 mm	94	
0.010 mm	92	
0.007 mm	87	
0.005 mm	81	
0.004 mm	73	
0.003 mm	65	
0.001 mm	48	

Other Test Results

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	44	
Method		Method A	
Plastic Limit (%)		22	
Plasticity Index (%)		22	
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	
Group Name		Lean clay	

Chart



Comments

N/A



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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
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Zeerak Paydary
Date of Issue: 12/13/2008
Approved Signatory: Zeerak Paydary

Comments

N/A



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Southeast Michigan Laboratory

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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 Paydary

Sample Details

Boring No: TB-W-4
Field Sample No: LS-21
Sample Depth: 56
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
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Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216 - 05	28.8	
Wet Density (lb/ft ³)		126.7	
Dry Density (lb/ft ³)		98.4	
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	2720	
Shear Strength (lb/ft ²)		1360	
Ave. Rate Strain to Failure(%)		0.9	
Strain at Failure(%)		15.0	
Average Height (in.)		2.780	
Average Diameter (in.)		1.300	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		98.4	
Init. Water Content (%)		28.8	
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Chart

Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S240

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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in accordance with the terms of the accreditation.



Date of Issue: 10/27/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-4
Field Sample No: ST-7
Sample Depth: 54
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Particle Size Distribution

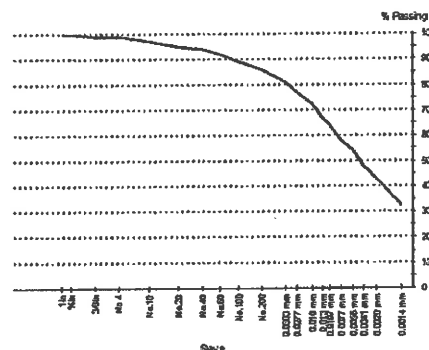
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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)	86	
0.038 mm	81	
0.028 mm	77	
0.018 mm	72	
0.013 mm	67	
0.011 mm	64	
0.008 mm	58	
0.006 mm	54	
0.004 mm	48	
0.003 mm	43	
0.001 mm	32	

Other Test Results

Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay	
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	N/O	
Shear Strength (lb/ft ²)		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	

Chart



Comments

N/A
N/O = Not Obtainable



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S240

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.



Zeera Payday

Date of Issue: 10/27/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-4
Field Sample No: ST-7
Sample Depth: 54
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

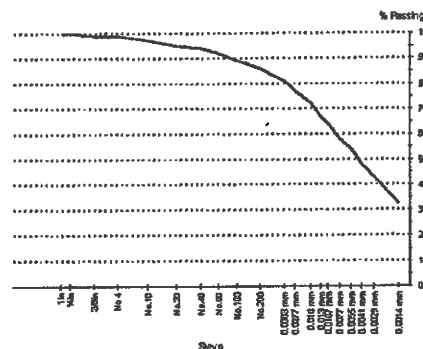
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	29	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		12	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Moisture Content (%)	ASTM D 2216 - 05	20.5	
Wet Density (lb/ft ³)		129.5	
Dry Density (lb/ft ³)		107.5	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Temperature (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant		0.01 N CaSO ₄	
Sample Height (in)		2.868	
Sample Diameter (in)		2.836	
Sample Cross-Section Area (in ²)		6.32	
Sample Volume (in ³)		18.12	
Dry Density (lb/ft ³)		107.5	
Initial Moisture Content (%)		20.5	
Final Moisture Content (%)		20.9	
Average Permeability (cm/s)		3.71 E-8	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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)	86	
0.038 mm	81	
0.028 mm	77	
0.018 mm	72	
0.013 mm	67	
0.011 mm	64	
0.008 mm	58	
0.006 mm	54	
0.004 mm	48	
0.003 mm	43	
0.001 mm	32	

Chart



Comments

N/A
N/O = Not Obtainable



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S239

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 Paydary

Sample Details

Boring No: TB-W-4
Field Sample No: ST-6
Sample Depth: 48
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Particle Size Distribution

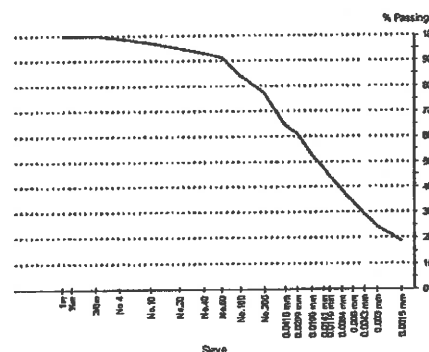
Method: ASTM D 422 - 07
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06 CL-ML		
Group Name	Silty clay with sand		
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	N/O	
Shear Strength (lb/ft ²)		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	

Chart



Comments

N/A
N/O = Not Obtainable



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S239

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 Payday

Sample Details

Boring No: TB-W-4
Field Sample No: ST-6
Sample Depth: 48
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

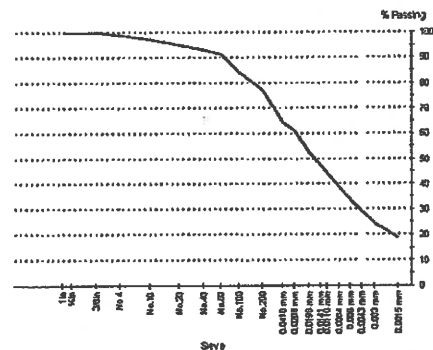
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	20	
Method		Method A	
Plastic Limit (%)		13	
Plasticity Index (%)		7	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperature (°C)	ASTM D 5084 - 03	22.9	
Cell Pressure (lb/in²)		40.0	
Top Pressure (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 CaSO4	
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/ft³)		127.4	
Initial Moisture Content (%)		12.7	
Final Moisture Content (%)		12.9	
Average Permeability (cm/s)		5.84 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			
Hardness			
Dispersion Device			
Sand Gravel Description			

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	

Chart



Comments

N/A
N/O = Not Obtainable



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Infrastructure Engineering
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Southeast Michigan Laboratory

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

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Date of Issue: 10/27/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-4
Field Sample No: LS-17
Sample Depth: 44
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Particle Size Distribution

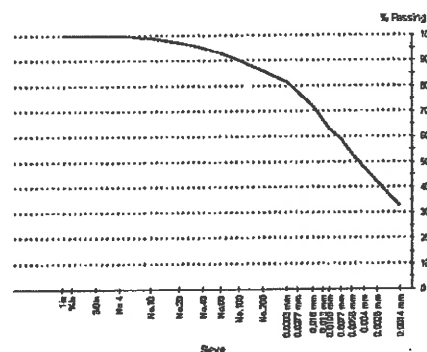
Method: ASTM D 422 - 07
Drying by: Oven

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)	99	
No.20 (850µm)	97	
No.40 (425µm)	95	
No.60 (250µm)	93	
No.100 (150µm)	90	
No.200 (75µm)	86	
0.038 mm	82	
0.028 mm	78	
0.018 mm	72	
0.013 mm	67	
0.011 mm	63	
0.008 mm	59	
0.006 mm	53	
0.004 mm	48	
0.003 mm	42	
0.001 mm	33	

Other Test Results

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	29	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		12	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Moisture Content (%)	ASTM D 2216 - 05	18.0	
Wet Density (lb/ft³)		137.0	
Dry Density (lb/ft³)		116.1	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	3640	
Shear Strength (lb/ft²)		1820	
Ave. Rate Strain to Failure(%)		0.9	
Strain at Failure(%)		15.0	
Average Height (in.)		2.810	
Average Diameter (in.)		1.310	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		116.1	
Init. Water Content (%)		18.0	
Liquid Limit		29	
Plastic Limit		17	
Remarks			
Visual Description			
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay	

Chart



Comments

N/A



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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.

Date of Issue: 11/24/2008
Approved Signatory: Zeerak Payday

Sample Details

Boring No: TB-W-4
Field Sample No: ST-5
Sample Depth: 40
Date Sampled:
Sampled By: Michael McNamara
LWO No: 000374
Sample Location: WDI - Woodlot

Particle Size Distribution

Method:
Drying by:
Date Tested:

Sieve Size	% Passing	Limits
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Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216 - 05	18.4	
Wet Density (lb/ft ³)		133.0	
Dry Density (lb/ft ³)		112.4	
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	7300	
Shear Strength (lb/ft ²)		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

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S237

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
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in accordance with the terms of the accreditation.



Date of Issue: 10/27/2008
Approved Signatory: Zeerak Paydary

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

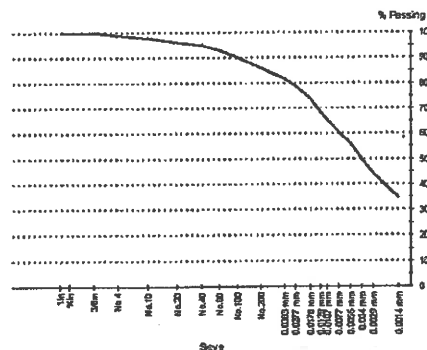
Method: ASTM D 422 - 07
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay-	

Chart



Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S237

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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Zeera Paydary

Date of Issue: 10/27/2008
Approved Signatory: Zeera Paydary

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

Other Test Results

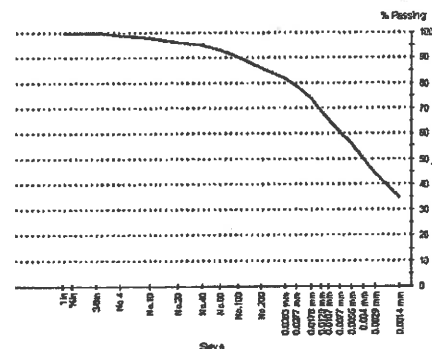
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	32	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperature (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant		0.01 N CaSO ₄	
Sample Height (in)		2.863	
Sample Diameter (in)		2.823	
Sample Cross-Section Area (in ²)		6.26	
Sample Volume (in ³)		17.92	
Dry Density (lb/ft ³)		114.2	
Initial Moisture Content (%)		18.1	
Final Moisture Content (%)		18.4	
Average Permeability (cm/s)		3.19 E-8	
Moisture Content (%)	ASTM D 2216 - 05	18.1	
Wet Density (lb/ft ³)		134.9	
Dry Density (lb/ft ³)		114.2	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S236

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: 10/27/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-4
Field Sample No: LS-14
Sample Depth: 36
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Particle Size Distribution

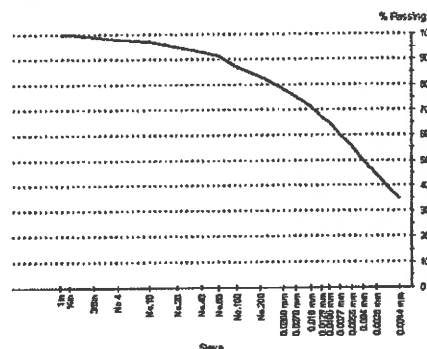
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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	
0.018 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	

Other Test Results

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 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 2487 - 06	CL	
Group Name		Lean clay with sand	

Chart



Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S235

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.



Zeeraak Paydawy

Date of Issue: 10/27/2008
Approved Signatory: Zeeraak Paydawy

Sample Details

Boring No: TB-W-4
Field Sample No: ST-4
Sample Depth: 32
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

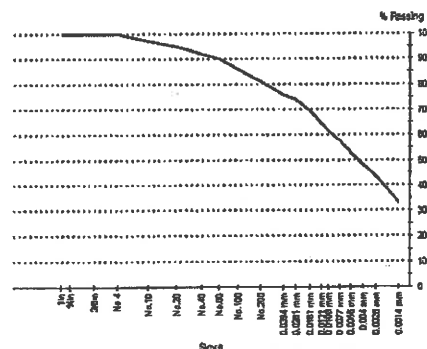
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay with sand	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	58	
0.006 mm	53	
0.004 mm	48	
0.003 mm	44	
0.001 mm	33	

Chart



Comments

N/A



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Report No: MAT:62-080376-01-S235

Issue No: 1

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Date of Issue: 10/27/2008
Approved Signatory: Zeerak Payday

Aggregate/Soil Test Report

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-4
Sample Depth: 32
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

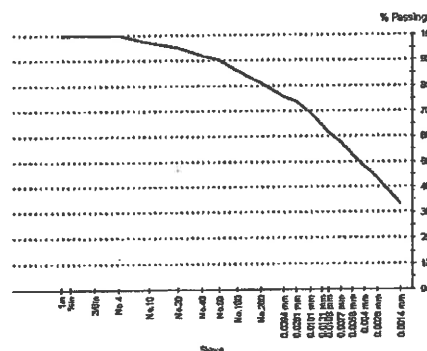
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	30	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		13	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperature (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant		0.01 N CaSO ₄	
Sample Height (in)		2.854	
Sample Diameter (in)		2.830	
Sample Cross-Section Area (in ²)		6.29	
Sample Volume (in ³)		17.95	
Dry Density (lb/ft ³)		112.0	
Initial Moisture Content (%)		19.3	
Final Moisture Content (%)		19.2	
Average Permeability (cm/s)		1.85 E-8	
Moisture Content (%)	ASTM D 2216 - 05	19.3	
Wet Density (lb/ft ³)		133.6	
Dry Density (lb/ft ³)		112.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	58	
0.006 mm	53	
0.004 mm	48	
0.003 mm	44	
0.001 mm	33	

Chart



Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S234

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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Zeeraak Payday

Date of Issue: 10/27/2008
Approved Signatory: Zeeraak Payday

Sample Details

Boring No: TB-W-4
Field Sample No: ST-3
Sample Depth: 26
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

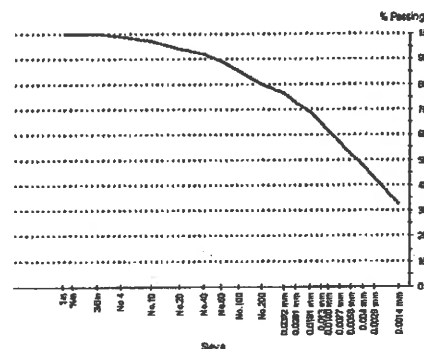
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	6280	
Shear Strength (lb/ft ²)		3140	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		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			

Particle Size Distribution

Method: ASTM D 422 - 07
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)	99	
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	
0.039 mm	77	
0.028 mm	73	
0.018 mm	69	
0.013 mm	64	
0.011 mm	62	
0.008 mm	57	
0.006 mm	52	
0.004 mm	48	
0.003 mm	43	
0.001 mm	33	

Chart



Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S234

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 Paydary

Sample Details

Boring No: TB-W-4
Field Sample No: ST-3
Sample Depth: 26
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

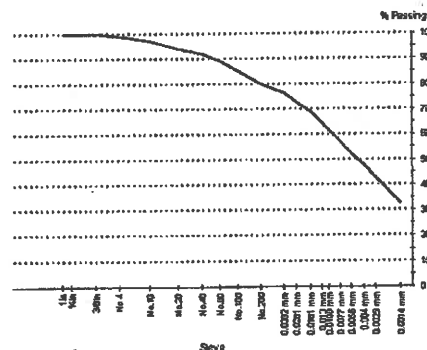
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name	Lean clay with sand		
Liquid Limit (%)	ASTM D 4318 - 05	30	
Method	Method A		
Plastic Limit (%)		18	
Plasticity Index (%)		12	
Sample History	Oven-dried		
Preparation	Dry		
Retained 0.425mm (No. 40) (%)		0.0	
Temperature (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.853	
Sample Diameter (in)		2.842	
Sample Cross-Section Area (in ²)		6.34	
Sample Volume (in ³)		18.10	
Dry Density (lb/ft ³)		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/ft ³)		133.6	
Dry Density (lb/ft ³)		113.7	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	99	
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	
0.039 mm	77	
0.028 mm	73	
0.018 mm	69	
0.013 mm	64	
0.011 mm	62	
0.008 mm	57	
0.006 mm	52	
0.004 mm	48	
0.003 mm	43	
0.001 mm	33	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S233

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: 10/27/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-4
Field Sample No: LS-9
Sample Depth: 22
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

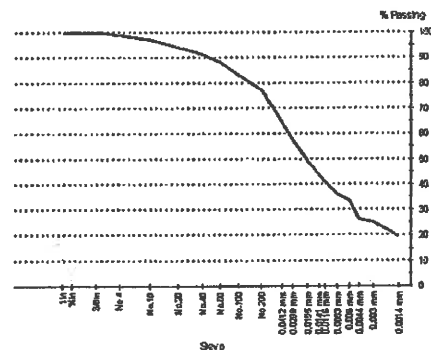
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	19	
Method		Method A	
Plastic Limit (%)		13	
Plasticity Index (%)		6	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06 CL-ML		
Group Name	Silty clay with sand		

Particle Size Distribution

Method: ASTM D 422 - 07
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)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	94	
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	
0.004 mm	26	
0.003 mm	25	
0.001 mm	20	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S232

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.



Zeera Payday

Date of Issue: 10/27/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-4
Field Sample No: ST-2
Sample Depth: 18
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Particle Size Distribution

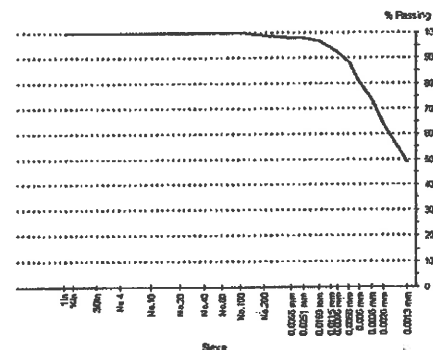
Method: ASTM D 422 - 07
Drying by: Oven

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)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.036 mm	98	
0.025 mm	98	
0.016 mm	97	
0.012 mm	94	
0.010 mm	92	
0.007 mm	88	
0.005 mm	81	
0.004 mm	74	
0.003 mm	64	
0.001 mm	49	

Other Test Results

Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay	
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	2120	
Shear Strength (lb/ft ²)		1060	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (in.)		5.840	
Average Diameter (in.)		2.840	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		99.6	
Init. Water Content (%)		26.6	
Liquid Limit		42	
Plastic Limit		23	
Remarks			
Visual Description			

Chart



Comments

N/A



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Fax: 248.324.6179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S232

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: 10/27/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-4
Field Sample No: ST-2
Sample Depth: 18
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Particle Size Distribution

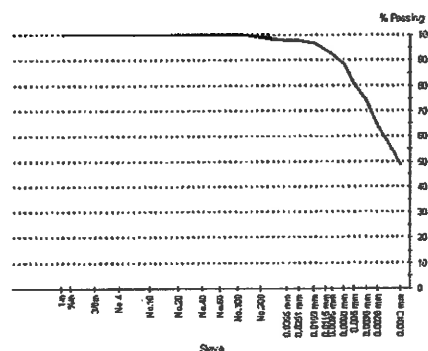
Method: ASTM D 422 - 07
Drying by: Oven

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)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.036 mm	98	
0.025 mm	98	
0.016 mm	97	
0.012 mm	94	
0.010 mm	92	
0.007 mm	88	
0.005 mm	81	
0.004 mm	74	
0.003 mm	64	
0.001 mm	49	

Other Test Results

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	42	
Method		Method A	
Plastic Limit (%)		23	
Plasticity Index (%)		19	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperature (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant		0.01 N CaSO ₄	
Sample Height (in)		2.856	
Sample Diameter (in)		2.867	
Sample Cross-Section Area (in ²)		6.46	
Sample Volume (in ³)		18.44	
Dry Density (lb/ft ³)		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	
Wet Density (lb/ft ³)		126.0	
Dry Density (lb/ft ³)		99.6	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Chart



Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S231

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: 10/27/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-4
Field Sample No: LS-6
Sample Depth: 14
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000383
Sample Location: WDI - Woodlot

Particle Size Distribution

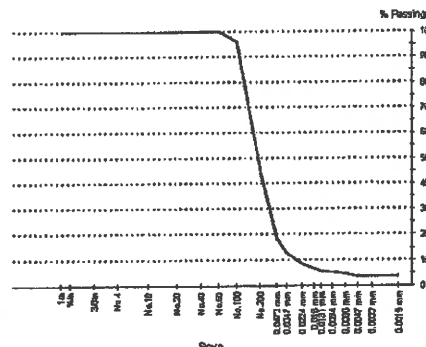
Method: ASTM D 422 - 07
Drying by: Oven

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)	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	

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	
Group Name		Silty sand	

Chart



Comments

N/O = Not Obtainable



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S230

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.



Zeera Paydary

Date of Issue: 10/27/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-4
Field Sample No: LS-4
Sample Depth: 10
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

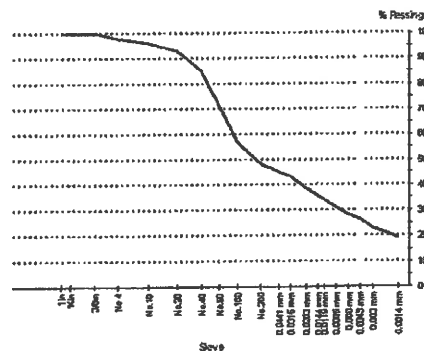
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	22	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		8	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	SC	
Group Name		Clayey sand	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	93	
No.40 (425µm)	85	
No.60 (250µm)	71	
No.100 (150µm)	57	
No.200 (75µm)	48	
0.044 mm	45	
0.032 mm	43	
0.020 mm	39	
0.014 mm	36	
0.012 mm	34	
0.009 mm	31	
0.006 mm	28	
0.004 mm	27	
0.003 mm	23	
0.001 mm	19	

Chart



Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S229

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: 10/27/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-4
Field Sample No: ST-1
Sample Depth: 6
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

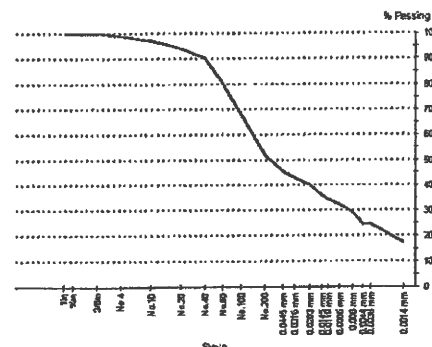
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Sandy lean clay	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	94	
No.40 (425µm)	90	
No.60 (250µm)	80	
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

N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S229

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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Zeerek Paydary

Date of Issue: 10/27/2008
Approved Signatory: Zeerek Paydary

Sample Details

Boring No: TB-W-4
Field Sample No: ST-1
Sample Depth: 6
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Particle Size Distribution

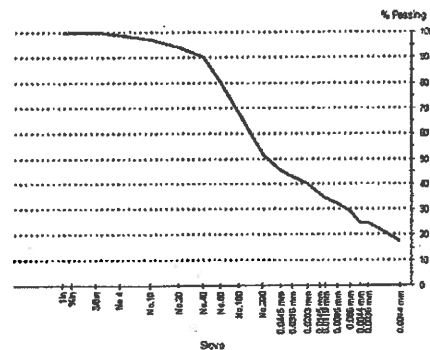
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	94	
No.40 (425µm)	90	
No.60 (250µm)	80	
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	

Other Test Results

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	23	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		9	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperature (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant		0.01 N CaSO ₄	
Sample Height (in)		2.891	
Sample Diameter (in)		2.846	
Sample Cross-Section Area (in ²)		6.36	
Sample Volume (in ³)		18.39	
Dry Density (lb/ft ³)		124.2	
Initial Moisture Content (%)		12.1	
Final Moisture Content (%)		13.2	
Average Permeability (cm/s)		4.85 E-8	
Moisture Content (%)	ASTM D 2216 - 05	12.1	
Wet Density (lb/ft ³)		139.2	
Dry Density (lb/ft ³)		124.2	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Chart



Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S228

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-3
Field Sample No: LS-15
Sample Depth: 80.0
Date Sampled: 9/16/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

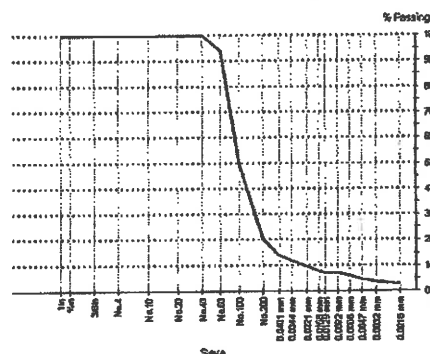
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	94	
No.100 (150µm)	50	
No.200 (75µm)	20	
0.048 mm	14	
0.034 mm	12	
0.022 mm	9	
0.016 mm	8	
0.013 mm	7	
0.009 mm	7	
0.007 mm	6	
0.005 mm	5	
0.003 mm	4	
0.002 mm	3	

Chart



Comments

N/O = Not Obtainable



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S227

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 Paydary

Sample Details

Boring No: TB-W-3
Field Sample No: LS-14
Sample Depth: 75.0
Date Sampled: 9/16/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

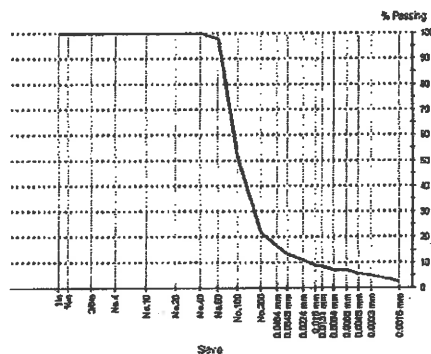
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	98	
No.100 (150µm)	52	
No.200 (75µm)	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

N/O = Not Obtainable



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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

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in accordance with the terms of the accreditation.



Date of Issue: 10/21/2008
Approved Signatory: Zeerak Payday

Sample Details

Boring No: TB-W-3
Field Sample No: LS-13
Sample Depth: 70.0
Date Sampled: 9/16/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

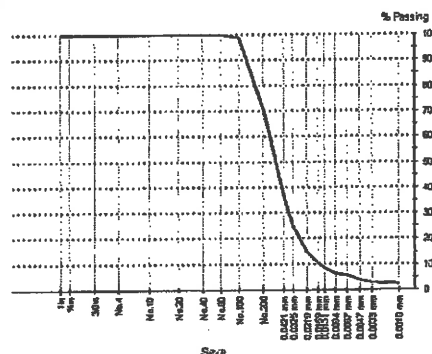
Method: ASTM D 422 - 07
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/A	
Method		Method A	
Plastic Limit (%)		N/A	
Plasticity Index (%)		NP	
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	MH	
Group Name		Elastic silt with sand	

Chart



Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S225

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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Zeera Payday

Date of Issue: 10/21/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-3
Field Sample No: LS-12
Sample Depth: 65.0
Date Sampled: 9/16/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

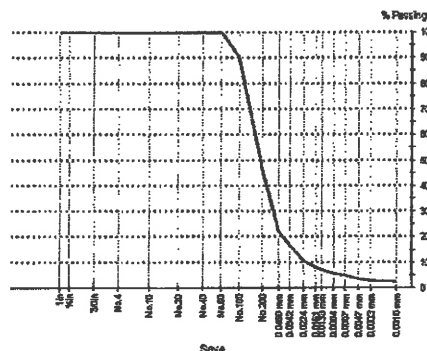
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
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)	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	
0.007 mm	5	
0.005 mm	4	
0.003 mm	3	
0.002 mm	3	

Other Test Results

Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	SM	
Group Name		Silty sand	
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			

Chart



Comments

N/O = Not Obtainable



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Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S224

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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(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 Paydary

Sample Details

Boring No: TB-W-3
Field Sample No: LS-11
Sample Depth: 60.0
Date Sampled: 9/16/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

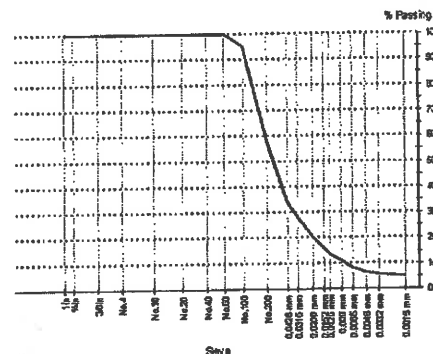
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	MH	
Group Name		Sandy elastic silt	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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



Comments

N/O = Not Obtainable



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Fax: 248.324.5179

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



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Date of Issue: 10/21/2008
Approved Signatory: Zeerak Payday

Sample Details

Boring No: TB-W-3
Field Sample No: LS-10
Sample Depth: 55.0
Date Sampled: 9/16/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

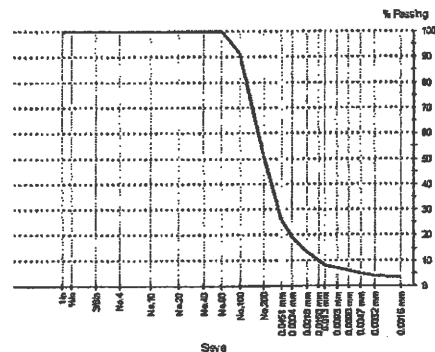
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
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)	91	
No.200 (75µm)	51	
0.045 mm	26	
0.033 mm	19	
0.022 mm	14	
0.016 mm	10	
0.013 mm	8	
0.009 mm	7	
0.007 mm	6	
0.005 mm	5	
0.003 mm	4	
0.002 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	MH	
Group Name		Sandy elastic silt	

Chart



Comments

N/O = Not Obtainable



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Fax: 248.324.6179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S222

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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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: ST-5
Sample Depth: 50.0
Date Sampled: 9/16/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

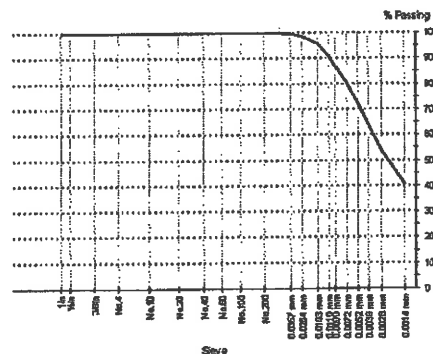
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	

Chart



Comments

N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S222

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-3
Field Sample No: ST-5
Sample Depth: 50.0
Date Sampled: 9/16/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

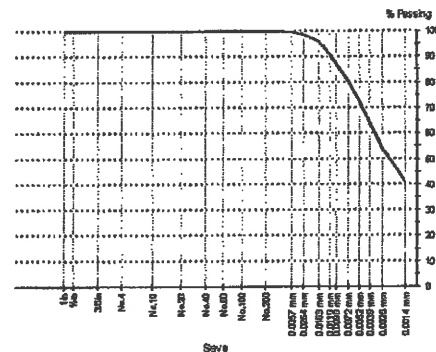
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	35	
Method		Method A	
Plastic Limit (%)		20	
Plasticity Index (%)		15	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperature (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant		0.01 N CaSO ₄	
Sample Height (in)		2.853	
Sample Diameter (in)		2.854	
Sample Cross-Section Area (in ²)		6.40	
Sample Volume (in ³)		18.25	
Dry Density (lb/ft ³)		94.3	
Initial Moisture Content (%)		29.1	
Final Moisture Content (%)		29.8	
Average Permeability (cm/s)		1.38 E-8	
Moisture Content (%)	ASTM D 2216 - 05	29.1	
Wet Density (lb/ft ³)		121.7	
Dry Density (lb/ft ³)		94.3	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	

Chart



Comments

N/A



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NTH Consultants, Ltd.
Southeast Michigan Laboratory

Telephone: 248.563.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S221

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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Zeera Payday

Date of Issue: 10/21/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-3
Field Sample No: ST-4
Sample Depth: 42.0
Date Sampled: 9/16/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	9780	
Shear Strength (lb/ft ²)		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

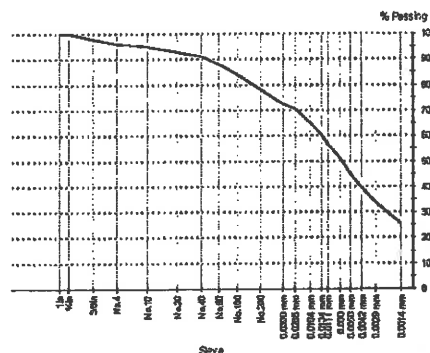
Group Symbol	ASTM D 2487 - 06	CL
Group Name	Lean clay with sand	
Liquid Limit (%)	ASTM D 4318 - 05	25
Method	Method A	
Plastic Limit (%)		15
Plasticity Index (%)		10
Sample History	Oven-dried	
Preparation	Dry	
Retained 0.425mm (No. 40) (%)		0.0

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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



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Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S221

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 Paydary

Sample Details

Boring No: TB-W-3
Field Sample No: ST-4
Sample Depth: 42.0
Date Sampled: 9/16/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

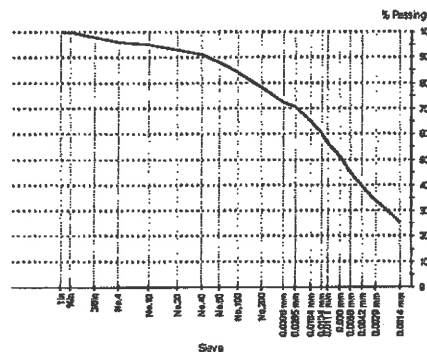
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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	28	

Other Test Results

Description	Method	Result	Limits
Temperature (°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 CaSO4		
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 Permeability (cm/s)		1.60 E-8	
Moisture Content (%)	ASTM D 2216 - 05	16.1	
Wet Density (lb/ft³)		137.0	
Dry Density (lb/ft³)		118.1	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Chart



Comments

N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S220

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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in accordance with the terms of the accreditation.



Date of issue: 10/21/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-3
Field Sample No: LS-8
Sample Depth: 40.0
Date Sampled: 9/15/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

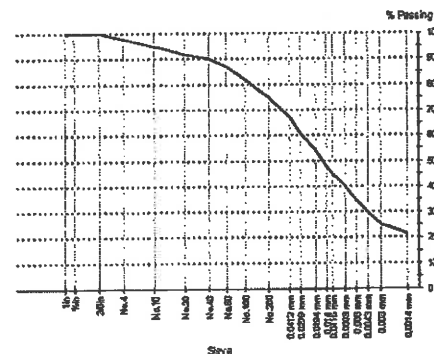
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	21	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		7	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06 CL-ML		
Group Name	Silty clay with sand		

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	

Chart



Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S219

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.



Zeera Paydary

Date of Issue: 10/21/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-3
Field Sample No: ST-3
Sample Depth: 35.0
Date Sampled: 9/15/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

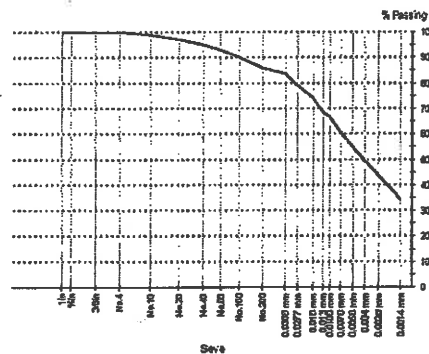
Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166 - 06	10920	
Shear Strength (lb/ft ²)		5460	
Ave. Rate Strain to Failure(%)		0.9	
Strain at Failure(%)		12.4	
Average Height (in.)		5.977	
Average Diameter (in.)		2.830	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		121.3	
Init. Water Content (%)		14.6	
Liquid Limit		32	
Plastic Limit		18	
Remarks			
Visual Description			
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	

Chart



Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248.563.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S219

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 Payday

Sample Details

Boring No: TB-W-3
Field Sample No: ST-3
Sample Depth: 35.0
Date Sampled: 9/15/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

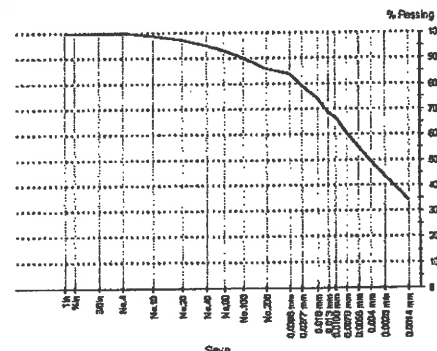
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	32	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperature (°C)	ASTM D 5084 - 03	22.6	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant		0.01 N CaSO ₄	
Sample Height (in)		2.879	
Sample Diameter (in)		2.861	
Sample Cross-Section Area (in ²)		6.43	
Sample Volume (in ³)		18.51	
Dry Density (lb/ft ³)		117.0	
Initial Moisture Content (%)		16.1	
Final Moisture Content (%)		16.6	
Average Permeability (cm/s)		1.05 E-8	
Moisture Content (%)	ASTM D 2216 - 05	14.6	
Wet Density (lb/ft ³)		139.0	
Dry Density (lb/ft ³)		121.3	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Particle Size Distribution

Method: ASTM D 422 - 07
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)	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	

Chart



Comments

N/A



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NTH Consultants, Ltd.
Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S218

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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Zeera Payday

Date of Issue: 10/21/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-3
Field Sample No: ST-2
Sample Depth: 28.0
Date Sampled: 9/15/2008
Sampled By: Michael McNamara
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	
3/4in (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)	86	
No.200 (75µm)	81	
0.040 mm	77	
0.029 mm	74	
0.018 mm	69	
0.013 mm	67	
0.011 mm	64	
0.008 mm	59	
0.006 mm	53	
0.004 mm	48	
0.003 mm	42	
0.001 mm	33	

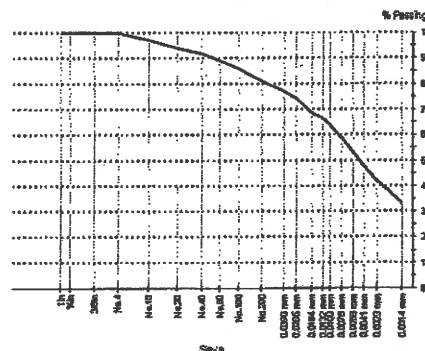
Other Test Results

Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	8120	
Shear Strength (lb/ft²)		4060	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (in.)		5.960	
Average Diameter (in.)		2.830	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		113.8	
Init. Water Content (%)		16.7	
Liquid Limit		30	
Plastic Limit		18	
Remarks			

Visual Description

Group Symbol: ASTM D 2487 - 06 CL
Group Name: Lean clay with sand

Chart



Comments

N/A



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Telephone: 248.553.8300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S218

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 Paydary

Sample Details

Boring No: TB-W-3
Field Sample No: ST-2
Sample Depth: 28.0
Date Sampled: 9/15/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

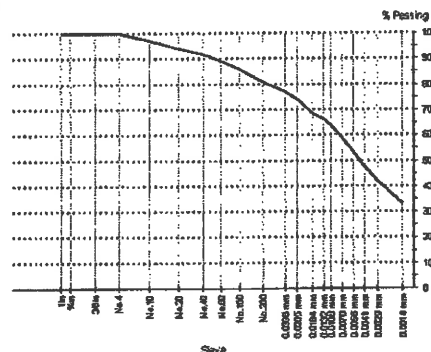
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	30	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		12	
Sample History	Oven-dried		
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperature (°C)	ASTM D 5084 - 03	22.9	
Cell Pressure (lb/in²)		40.0	
Top Pressure (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 CaSO4		
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 Permeability (cm/s)		1.42 E-8	
Moisture Content (%)	ASTM D 2216 - 05	16.7	
Wet Density (lb/ft³)		132.8	
Dry Density (lb/ft³)		113.8	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Particle Size Distribution

Method: ASTM D 422 - 07
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)	97	
No. 20 (850µm)	94	
No. 40 (425µm)	92	
No. 60 (250µm)	89	
No. 100 (150µm)	86	
No. 200 (75µm)	81	
0.040 mm	77	
0.029 mm	74	
0.018 mm	69	
0.013 mm	67	
0.011 mm	64	
0.008 mm	59	
0.006 mm	53	
0.004 mm	48	
0.003 mm	42	
0.001 mm	33	

Chart



Comments

N/A



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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 (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 Payday

Sample Details

Boring No: TB-W-3
Field Sample No: LS-6
Sample Depth: 25.0
Date Sampled: 9/15/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

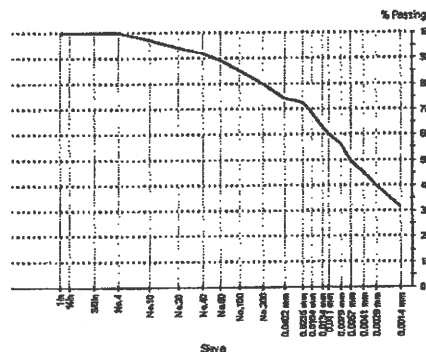
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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	

Other Test Results

Description	Method	Result	Limits
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	
Dispersion Period (mins)	ASTM D 422 - 07		
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay with sand	

Chart



Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248.553.8300
Fax: 248.324.5179

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



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 Paydary

Sample Details

Boring No: TB-W-3
Field Sample No: ST-1
Sample Depth: 20.0
Date Sampled: 9/15/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

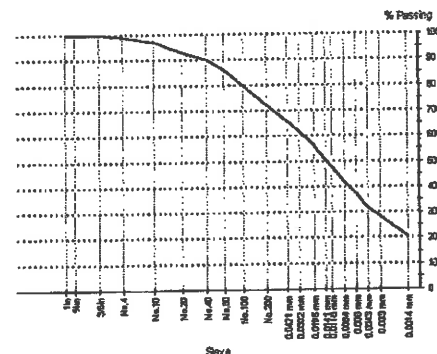
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	93	
No.40 (425µm)	90	
No.60 (250µm)	86	
No.100 (150µm)	80	
No.200 (75µm)	72	
0.042 mm	66	
0.030 mm	62	
0.020 mm	56	
0.014 mm	51	
0.012 mm	48	
0.008 mm	42	
0.006 mm	38	
0.004 mm	32	
0.003 mm	28	
0.001 mm	21	

Other Test Results

Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06 CL-ML		
Group Name	Silty clay with sand		

Chart



Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

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

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.



Zearak Paydary

Date of Issue: 10/21/2008
Approved Signatory: Zearak Paydary

Sample Details

Boring No: TB-W-3
Field Sample No: ST-1
Sample Depth: 20.0
Date Sampled: 9/15/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

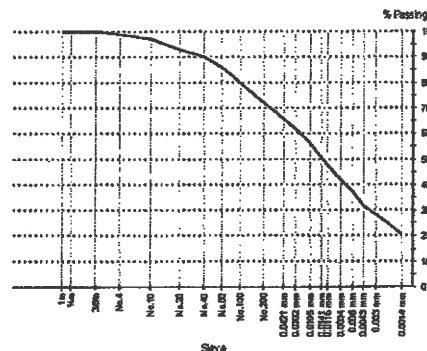
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	93	
No.40 (425µm)	90	
No.60 (250µm)	86	
No.100 (150µm)	80	
No.200 (75µm)	72	
0.042 mm	66	
0.030 mm	62	
0.020 mm	56	
0.014 mm	51	
0.012 mm	48	
0.008 mm	42	
0.006 mm	38	
0.004 mm	32	
0.003 mm	28	
0.001 mm	21	

Other Test Results

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	21	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		7	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperature (°C)	ASTM D 5084 - 03	22.7	
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		0.01 N CaSO4	
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 Permeability (cm/s)		2.73 E-8	
Moisture Content (%)	ASTM D 2216 - 05	14.5	
Wet Density (lb/ft³)		140.8	
Dry Density (lb/ft³)		123.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Chart



Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.6179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S215

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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Zeera Paydary

Date of Issue: 10/21/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-3
Field Sample No: LS-5
Sample Depth: 15.0
Date Sampled: 9/15/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

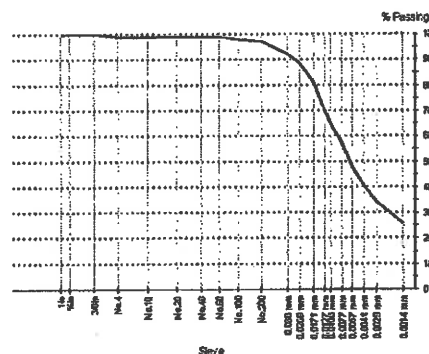
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	99	
No.20 (850µm)	99	
No.40 (425µm)	99	
No.60 (250µm)	99	
No.100 (150µm)	98	
No.200 (75µm)	97	
0.036 mm	92	
0.026 mm	89	
0.017 mm	81	
0.013 mm	70	
0.011 mm	65	
0.008 mm	57	
0.006 mm	48	
0.004 mm	41	
0.003 mm	34	
0.001 mm	26	

Other Test Results

Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	28	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		10	
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	
Group Name		Lean clay	

Chart



Comments

N/A



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Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S214

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 Payday

Sample Details

Boring No: TB-W-3
Field Sample No: LS-3
Sample Depth: 7.5
Date Sampled: 9/15/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Particle Size Distribution

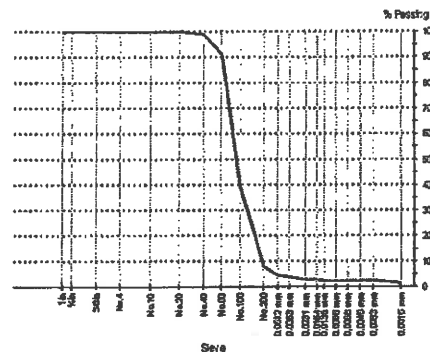
Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
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	
0.003 mm	3	
0.002 mm	2	

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	
Group Name		Silty sand	

Chart



Comments

N/O = Not Obtainable



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S213

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 Paydary

Sample Details

Boring No: TB-W-3
Field Sample No: LS-1
Sample Depth: 2.5
Date Sampled: 9/15/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

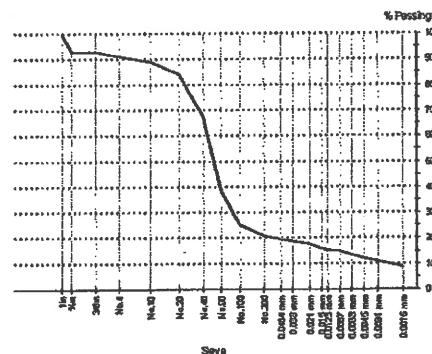
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (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	
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

N/O = Not Obtainable



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Southeast Michigan Laboratory

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



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 Paydary

Sample Details

Boring No: TB-W-2
Field Sample No: LS-17
Sample Depth: 80
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

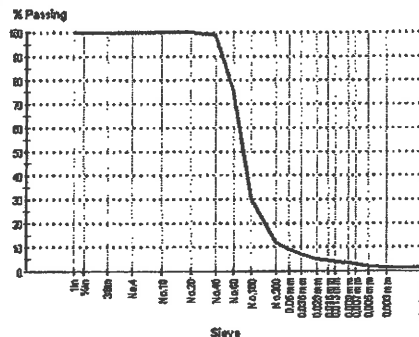
Method: ASTM D 422
Drying by: Oven

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)	99	
No.60 (250µm)	75	
No.100 (150µm)	30	
No.200 (75µm)	12	
0.050 mm	9	
0.036 mm	7	
0.023 mm	6	
0.016 mm	5	
0.013 mm	4	
0.009 mm	4	
0.007 mm	3	
0.005 mm	2	
0.003 mm	2	
0.001 mm	2	

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	

Chart



Comments

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



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Telephone: 248. 553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S107

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 Paydary

Sample Details

Boring No: TB-W-2
Field Sample No: LS-16
Sample Depth: 75
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

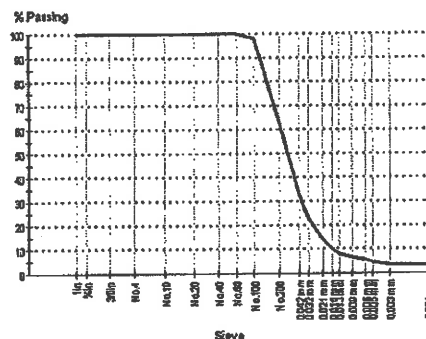
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group Name		Sandy silt	

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)	100	
No.100 (150µm)	98	
No.200 (75µm)	63	
0.042 mm	33	
0.032 mm	23	
0.021 mm	14	
0.016 mm	10	
0.013 mm	8	
0.009 mm	6	
0.006 mm	5	
0.005 mm	4	
0.003 mm	4	
0.001 mm	4	

Chart



Comments

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



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and Environmental Services

NTH Consultants, Ltd.
Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S106

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 Paydary

Sample Details

Boring No: TB-W-2
Field Sample No: LS-15
Sample Depth: 70
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

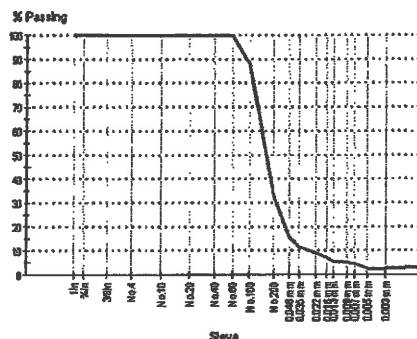
Method: ASTM D 422
Drying by: Oven

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)	100	
No.100 (150µm)	88	
No.200 (75µm)	33	
0.048 mm	15	
0.035 mm	11	
0.022 mm	9	
0.016 mm	7	
0.013 mm	6	
0.009 mm	5	
0.007 mm	5	
0.005 mm	3	
0.003 mm	3	
0.001 mm	3	

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	

Chart



Comments

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



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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

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Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-2
Field Sample No: LS-14
Sample Depth: 65
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

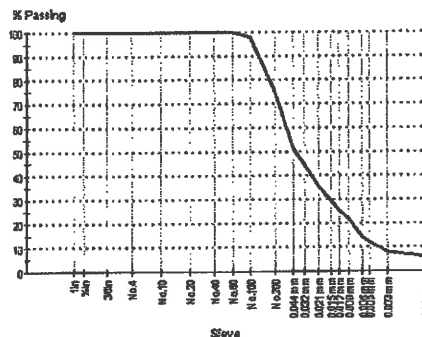
Method: ASTM D 422
Drying by: Oven

Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
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 with sand	

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)	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



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and Environmental Services

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Southeast Michigan Laboratory

Telephone: 248.553.6300
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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S104

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 Paydary

Sample Details

Boring No: TB-W-2
Field Sample No: ST-5
Sample Depth: 58
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

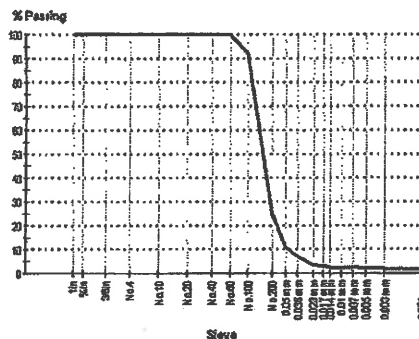
Method: ASTM D 422
Drying by: Oven

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)	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	
0.007 mm	3	
0.005 mm	2	
0.003 mm	2	
0.001 mm	2	

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	

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-S103

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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(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-12
Sample Depth: 55
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

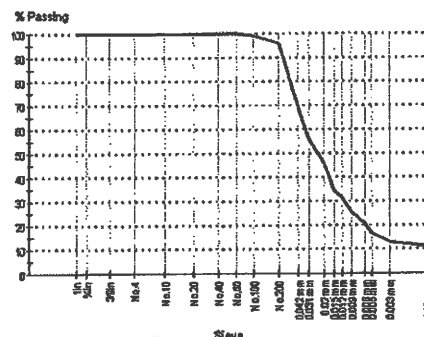
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group Name		Silt	

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)	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	

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-S102

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 Paydary

Sample Details

Boring No: TB-W-2
Field Sample No: ST-4
Sample Depth: 48
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

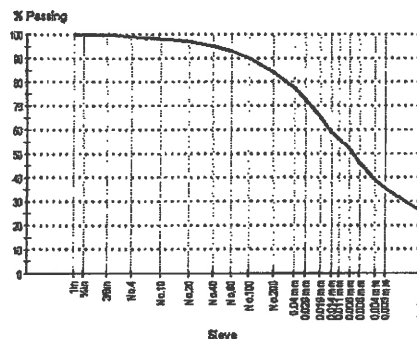
Method: ASTM D 422
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Temperature (°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 N CaSO4		
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 Permeability (cm/s)		1.39 E-7	

Chart



Comments:
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S102

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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Zeera Paydary

Date of Issue: 9/8/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-2
Field Sample No: ST-4
Sample Depth: 48
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

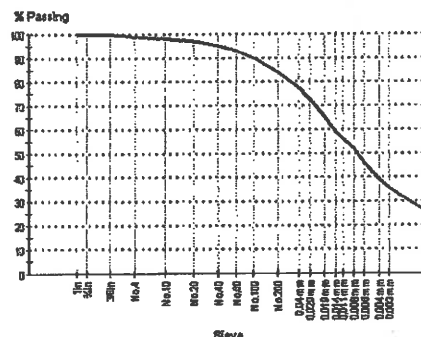
Method: ASTM D 422
Drying by: Oven

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

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 (%)		14	
Plasticity Index (%)		9	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	13.2	
Wet Density (lb/ft³)		141.8	
Dry Density (lb/ft³)		125.3	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S101

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 Paydary

Sample Details

Boring No: TB-W-2
Field Sample No: LS-10
Sample Depth: 45
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

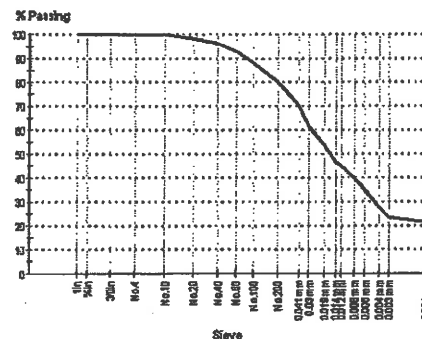
Method: ASTM D 422
Drying by: Oven

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)	98	
No.40 (425µm)	96	
No.60 (250µm)	93	
No.100 (150µm)	88	
No.200 (75µm)	80	
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	
0.004 mm	27	
0.003 mm	23	
0.001 mm	21	

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	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 clay with sand	

Chart



Comments
N/A



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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

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: Zeevak Paydawy

Sample Details

Boring No: TB-W-2
Field Sample No: LS-9
Sample Depth: 40
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

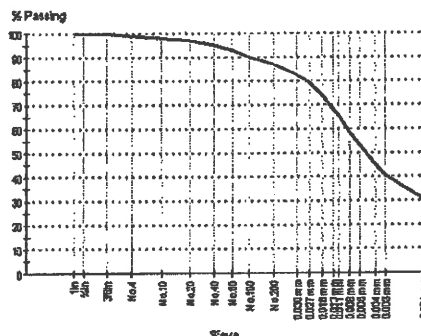
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	29	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		13	
Sample History		Unknown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

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)	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)	87	
0.038 mm	83	
0.027 mm	80	
0.018 mm	74	
0.013 mm	68	
0.011 mm	65	
0.008 mm	59	
0.006 mm	53	
0.004 mm	45	
0.003 mm	40	
0.001 mm	31	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S099

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 Paydary

Sample Details

Boring No: TB-W-2
Field Sample No: ST-3
Sample Depth: 35
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

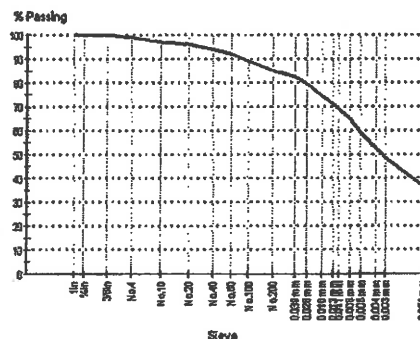
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	96	
No.40 (425µm)	94	
No.60 (250µm)	92	
No.100 (150µm)	89	
No.200 (75µm)	85	
0.039 mm	83	
0.028 mm	80	
0.018 mm	75	
0.013 mm	71	
0.011 mm	69	
0.008 mm	65	
0.006 mm	59	
0.004 mm	52	
0.003 mm	49	
0.001 mm	37	

Other Test Results

Description	Method	Result	Limits
Temperature (°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 N CaSO4		
Sample Height (in)		2.854	
Sample Diameter (in)		2.844	
Sample Cross-Section Area (in²)		6.35	
Sample Volume (in³)		18.13	
Dry Density (lb/ft³)		112.3	
Initial Moisture Content (%)		18.2	
Final Moisture Content (%)		18.9	
Average Permeability (cm/s)		1.72 E-8	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S099

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 Paydary

Sample Details

Boring No: TB-W-2
Field Sample No: ST-3
Sample Depth: 35
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

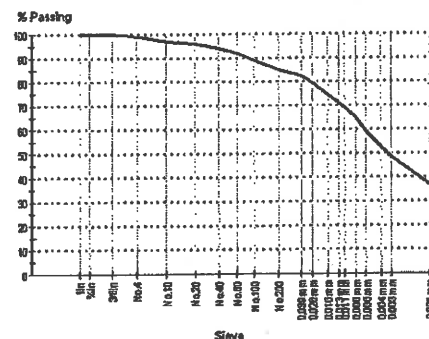
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	96	
No.40 (425µm)	94	
No.60 (250µm)	92	
No.100 (150µm)	89	
No.200 (75µm)	85	
0.039 mm	83	
0.028 mm	80	
0.018 mm	75	
0.013 mm	71	
0.011 mm	69	
0.008 mm	65	
0.006 mm	59	
0.004 mm	52	
0.003 mm	49	
0.001 mm	37	

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)		132.7	
Dry Density (lb/ft³)		112.3	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	8870	
Shear Strength (lb/ft²)		4435	
Ave. Rate Strain to Failure(%)		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			
Visual Description			

Chart



Comments
N/A



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NTH Consultants, Ltd.
Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S098

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 Paydary

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 Distribution

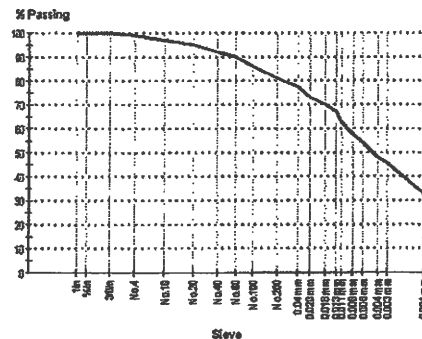
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	
0.028 mm	73	
0.018 mm	70	
0.013 mm	67	
0.011 mm	62	
0.008 mm	58	
0.006 mm	54	
0.004 mm	48	
0.003 mm	45	
0.001 mm	33	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	22.9	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.853	
Sample Diameter (in)		2.836	
Sample Cross-Section Area (in ²)		6.32	
Sample Volume (in ³)		18.02	
Dry Density (lb/ft ³)		111.8	
Initial Moisture Content (%)		18.3	
Final Moisture Content (%)		19.0	
Average Permeability (cm/s)		1.93 E-8	

Chart



Comments
N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S098

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: TB-W-2
Field Sample No: ST-2
Sample Depth: 28
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

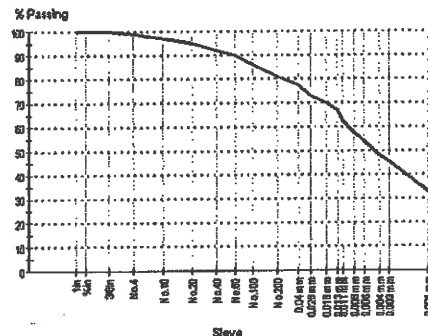
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	
0.028 mm	73	
0.018 mm	70	
0.013 mm	67	
0.011 mm	62	
0.008 mm	58	
0.006 mm	54	
0.004 mm	48	
0.003 mm	45	
0.001 mm	33	

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 (%)		17	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	18.3	
Wet Density (lb/ft³)		132.2	
Dry Density (lb/ft³)		111.8	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S097

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 Paydary

Sample Details

Boring No: TB-W-2
Field Sample No: LS-7
Sample Depth: 25
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

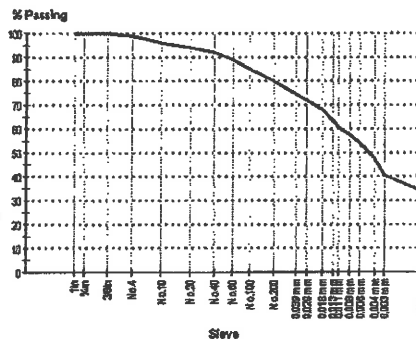
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	68	
0.013 mm	63	
0.011 mm	61	
0.008 mm	58	
0.006 mm	54	
0.004 mm	47	
0.003 mm	41	
0.001 mm	34	

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

Chart



Comments
N/A



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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.



Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-w-2
Field Sample No: LS-6
Sample Depth: 20
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

Method:
Drying by:
Date Tested:

Sieve Size	% Passing	Limits
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Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216	18.3	
Wet Density (lb/ft ³)		134.3	
Dry Density (lb/ft ³)		113.5	
Unconfined Compressive Strength (lb/ft ²)	ASTM D 2166	3773	
Shear Strength (lb/ft ²)		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

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S096

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 Paydary

Sample Details

Boring No: TB-W-2
Field Sample No: ST-1
Sample Depth: 18
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

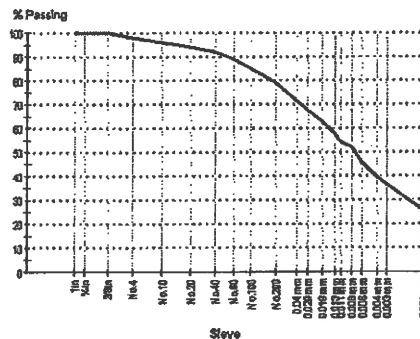
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	26	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	22.1	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.859	
Sample Diameter (in)		2.861	
Sample Cross-Section Area (in ²)		6.43	
Sample Volume (in ³)		18.38	
Dry Density (lb/ft ³)		109.8	
Initial Moisture Content (%)		18.8	
Final Moisture Content (%)		19.0	
Average Permeability (cm/s)		3.50 E-8	

Chart



Comments

N/O = Not Obtainable



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S096

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 Paydary

Sample Details

Boring No: TB-W-2
Field Sample No: ST-1
Sample Depth: 18
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

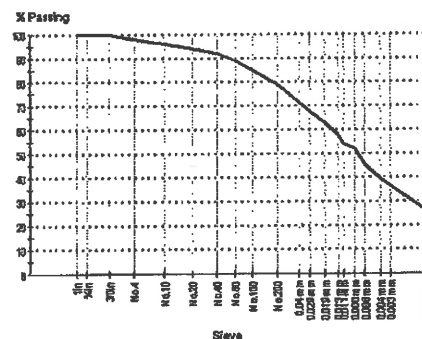
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	26	

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 (%)		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 clay with sand	
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	
Visual Description		N/O	

Chart



Comments

N/O = Not Obtainable



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S095

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 Paydary

Sample Details

Boring No: TB-W-2
Field Sample No: LS-5
Sample Depth: 15
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

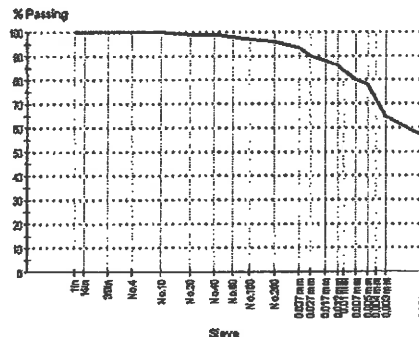
Method: ASTM D 422
Drying by: Oven

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)	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	

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	46	
Method		Method A	
Plastic Limit (%)		23	
Plasticity Index (%)		23	
Sample History		Unknown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Chart



Comments:
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S094

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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in accordance with the terms of the accreditation.



Date of Issue: 9/8/2008
Approved Signatory: Zeerak Payday

Sample Details

Boring No: TB-W-2
Field Sample No: LS-3
Sample Depth: 7.5
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

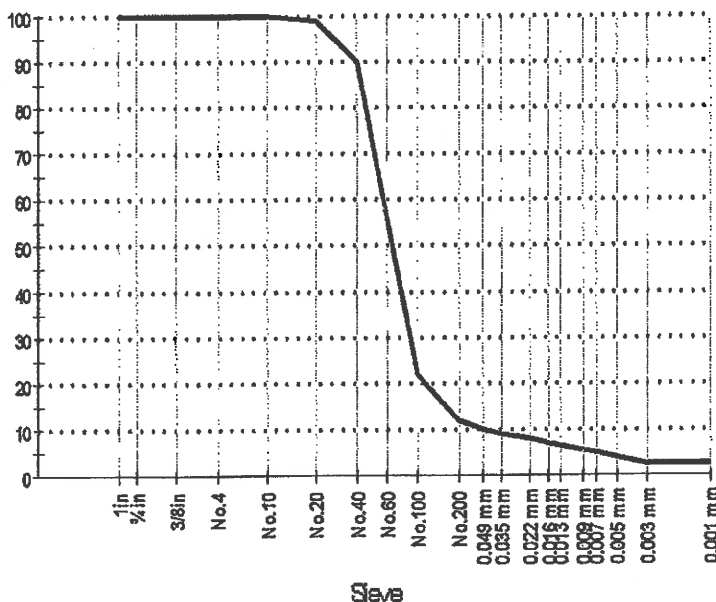
Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

% Passing



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)	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
N/A



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Report No: MAT-62-080376-01-S093

Issue No: 1

Aggregate/Soil Test Report

Client: Wayne Disposal, Inc.

Project: Woodlot & MC1&4 Waste Investigation
Soil Boring Program

Job No: 62-080376-01

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in accordance with the terms of the accreditation.



Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

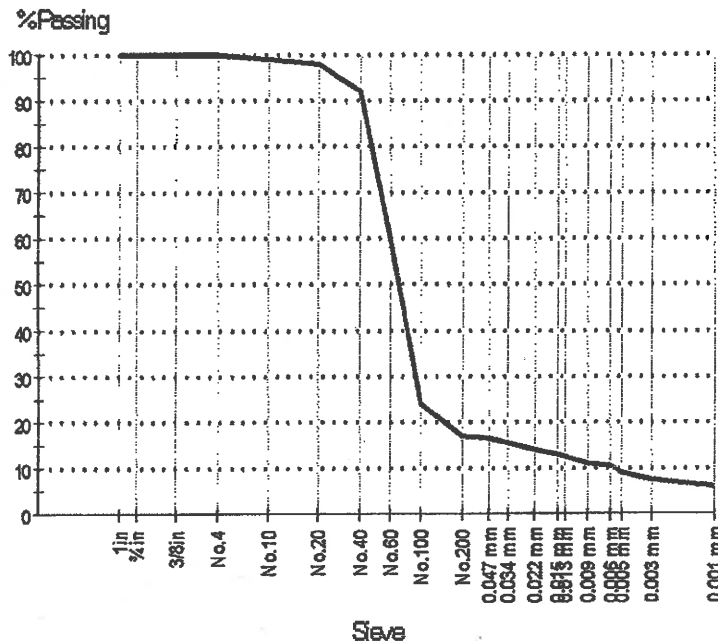
Boring No: TB-W-2
Field Sample No: LS-1
Sample Depth: 2.5
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven



Sieve Size	% Passing	Limits
1in (25.0mm)	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:
N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S126

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 Paydary

Sample Details

Boring No: TB-W-1
Field Sample No: LS-39
Sample Depth: 92
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

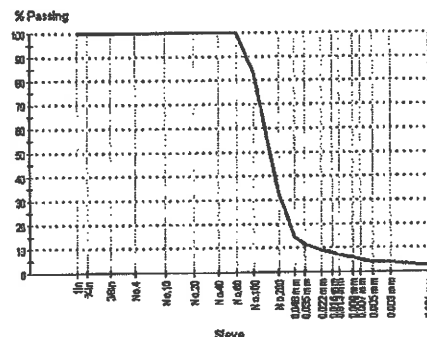
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group Name		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)	100	
No.100 (150µm)	83	
No.200 (75µm)	33	
0.048 mm	14	
0.035 mm	11	
0.022 mm	9	
0.016 mm	8	
0.013 mm	7	
0.009 mm	6	
0.007 mm	5	
0.005 mm	4	
0.003 mm	4	
0.001 mm	3	

Chart



Comments

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



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S125

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
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(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 Paydary

Sample Details

Boring No: TB-W-1
Field Sample No: LS-37
Sample Depth: 88
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

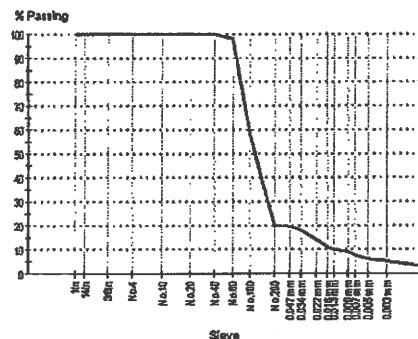
Method: ASTM D 422
Drying by: Oven

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)	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	

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	

Chart



Comments

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



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Infrastructure Engineering
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Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S124

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 Payday

Sample Details

Boring No: TB-W-1
Field Sample No: LS-35
Sample Depth: 84
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

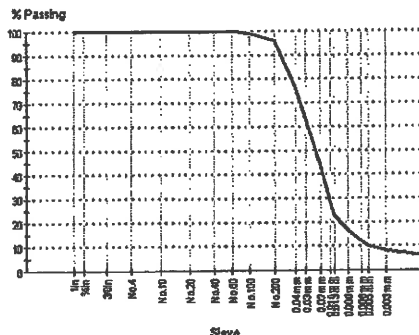
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group Name		Silt	

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)	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	

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-S123

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 Paydary

Sample Details

Boring No: TB-W-1
Field Sample No: LS-32
Sample Depth: 78
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

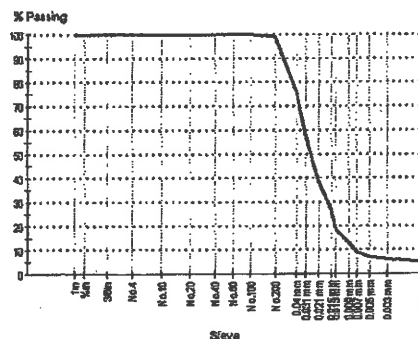
Method: ASTM D 422
Drying by: Oven

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)	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	
0.003 mm	6	
0.001 mm	5	

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	

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-S122

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 Paydary

Sample Details

Boring No: TB-W-1
Field Sample No: ST-7
Sample Depth: 74
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

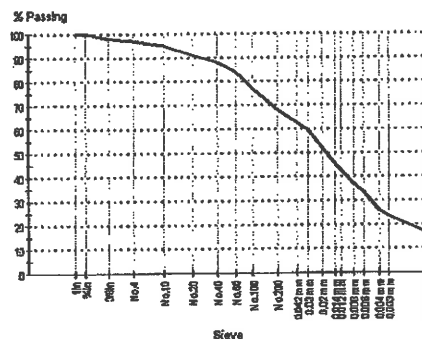
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	98	
No.4 (4.75mm)	97	
No.10 (2.0mm)	95	
No.20 (850µm)	91	
No.40 (425µm)	88	
No.60 (250µm)	84	
No.100 (150µm)	77	
No.200 (75µm)	68	
0.042 mm	62	
0.030 mm	60	
0.020 mm	52	
0.014 mm	46	
0.012 mm	43	
0.008 mm	37	
0.006 mm	34	
0.004 mm	26	
0.003 mm	23	
0.001 mm	17	

Other Test Results

Description	Method	Result	Limits
Temperature (°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)		N/O	
Sample Volume (in³)		N/O	
Dry Density (lb/ft³)		N/O	
Initial Moisture Content (%)		N/O	
Final Moisture Content (%)		N/O	
Average Permeability (cm/s)		N/O	

Chart



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

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: Zearak Paydawy

Sample Details

Boring No: TB-W-1
Field Sample No: ST-7
Sample Depth: 74
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

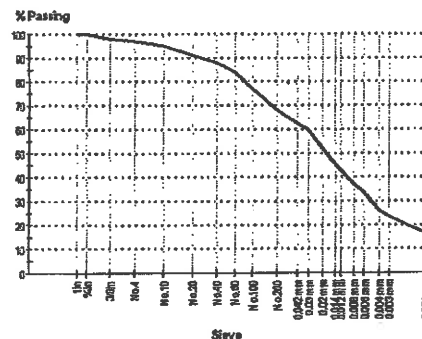
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	98	
No.4 (4.75mm)	97	
No.10 (2.0mm)	95	
No.20 (850µm)	91	
No.40 (425µm)	88	
No.60 (250µm)	84	
No.100 (150µm)	77	
No.200 (75µm)	68	
0.042 mm	62	
0.030 mm	60	
0.020 mm	52	
0.014 mm	46	
0.012 mm	43	
0.008 mm	37	
0.006 mm	34	
0.004 mm	26	
0.003 mm	23	
0.001 mm	17	

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	21	
Method		Method A	
Plastic Limit (%)		13	
Plasticity Index (%)		8	
Sample History			
Preparation			
Moisture Content (%)	ASTM D 2216	22.4	
Wet Density (lb/ft³)		131.9	
Dry Density (lb/ft³)		107.8	
Group Symbol	ASTM D 2487	CL	
Group Name		Sandy lean clay	
Specific Gravity (at 20 deg C)	ASTM D 854	2.71	

Chart



Comments

N/O = Not Obtainable



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S121

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: LS-29
Sample Depth: 70
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

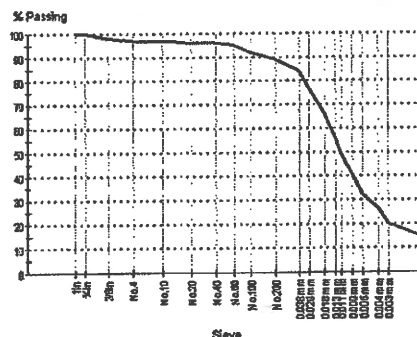
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	98	
No.4 (4.75mm)	97	
No.10 (2.0mm)	97	
No.20 (850µm)	96	
No.40 (425µm)	96	
No.60 (250µm)	95	
No.100 (150µm)	92	
No.200 (75µm)	89	
0.038 mm	84	
0.028 mm	77	
0.018 mm	66	
0.013 mm	56	
0.011 mm	49	
0.008 mm	41	
0.006 mm	32	
0.004 mm	26	
0.003 mm	20	
0.001 mm	14	

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		Unknown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL-ML	
Group Name		Silty clay	

Chart



Comments

N/A



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Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S120

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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Zeera Paydary

Date of Issue: 9/8/2008
Approved Signatory: Zeera Paydary

Sample Details

Boring No: TB-W-1
Field Sample No: ST-6
Sample Depth: 64
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

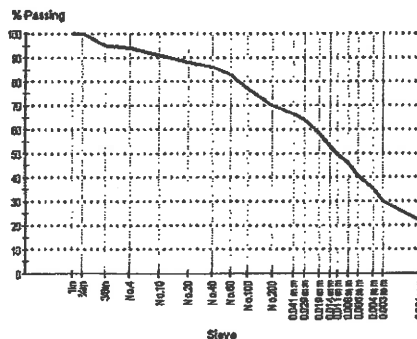
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

Other Test Results

Description	Method	Result	Limits
Temperature (°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	0.01 N CaSO4		
Sample Height (in)		2.848	
Sample Diameter (in)		2.824	
Sample Cross-Section Area (in²)		6.26	
Sample Volume (in³)		17.84	
Dry Density (lb/ft³)		113.7	
Initial Moisture Content (%)		18.2	
Final Moisture Content (%)		18.9	
Average Permeability (cm/s)		2.99 E-8	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S120

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 Paydary

Sample Details

Boring No: TB-W-1
Field Sample No: ST-6
Sample Depth: 64
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

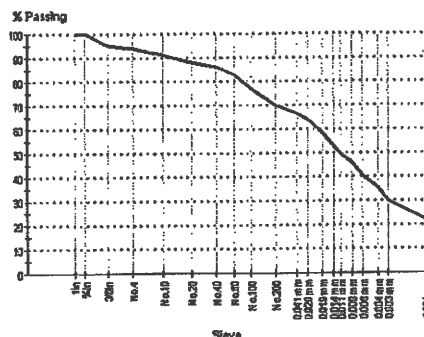
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	24	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		10	
Sample History		Natural state	
Preparation			
Moisture Content (%)	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		Sandy lean clay	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2168	1829	
Shear Strength (lb/ft²)		915	
Ave. Rate Strain to Failure(%)		0.9	
Strain at Failure(%)		14.3	
Average Height (In.)		2.795	
Average Diameter (In.)		1.370	
Height-Diameter Ratio		2.0	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

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)	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	

Chart



Comments

N/A



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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S119

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 Paydary

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

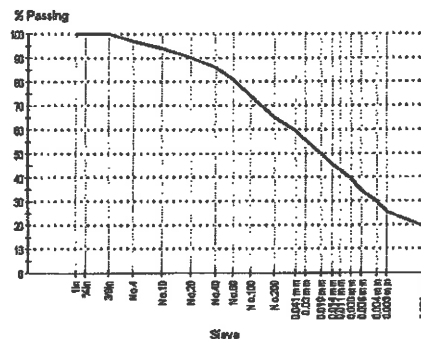
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	97	
No.10 (2.0mm)	94	
No.20 (850µm)	90	
No.40 (425µm)	86	
No.60 (250µm)	81	
No.100 (150µm)	74	
No.200 (75µm)	65	
0.041 mm	60	
0.030 mm	55	
0.019 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	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	22.9	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.829	
Sample Diameter (in)		2.852	
Sample Cross-Section Area (in ²)		6.39	
Sample Volume (in ³)		18.07	
Dry Density (lb/ft ³)		124.1	
Initial Moisture Content (%)		13.9	
Final Moisture Content (%)		13.9	
Average Permeability (cm/s)		3.09 E-8	

Chart



Comments
N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S119

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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(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 Paydary

Sample Details

Boring No: TB-W-1
Field Sample No: ST-5
Sample Depth: 56
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

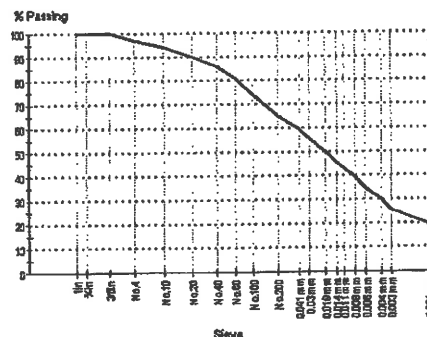
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	21	
Method		Method A	
Plastic Limit (%)		13	
Plasticity Index (%)		8	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	13.9	
Wet Density (lb/ft³)		141.4	
Dry Density (lb/ft³)		124.1	
Group Symbol	ASTM D 2487	CL	
Group Name		Sandy lean clay	

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)	97	
No. 10 (2.0mm)	94	
No. 20 (850µm)	90	
No. 40 (425µm)	86	
No. 60 (250µm)	81	
No. 100 (150µm)	74	
No. 200 (75µm)	65	
0.041 mm	60	
0.030 mm	55	
0.019 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	

Chart



Comments
N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S118

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 Paydary

Sample Details

Boring No: TB-W-1
Field Sample No: LS-22
Sample Depth: 52
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

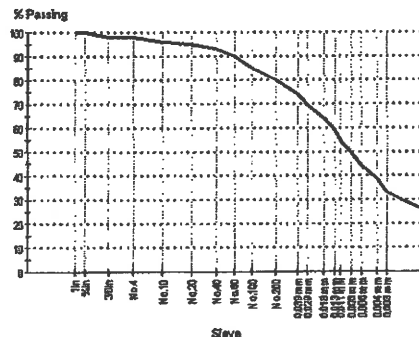
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	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	

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

Chart



Comments
N/A



NTH Consultants, Ltd.
Infrastructure Engineering
and Environmental Services

NTH Consultants, Ltd.
Southeast Michigan Laboratory

Telephone: 248. 553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S117

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 Paydary

Sample Details

Boring No: TB-W-1
Field Sample No: ST-4
Sample Depth: 46
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

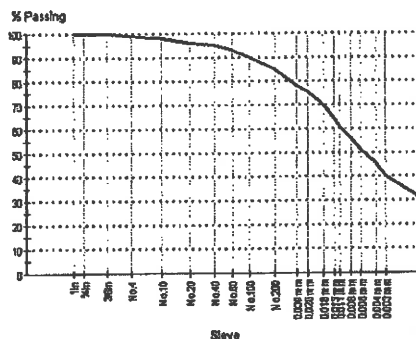
Method: ASTM D 422
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.0	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.851	
Sample Diameter (in)		2.789	
Sample Cross-Section Area (in ²)		6.11	
Sample Volume (in ³)		17.42	
Dry Density (lb/ft ³)		118.5	
Initial Moisture Content (%)		16.2	
Final Moisture Content (%)		16.7	
Average Permeability (cm/s)		1.29 E-8	

Chart



Comments
N/A



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S117

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 Paydary

Sample Details

Boring No: TB-W-1
Field Sample No: ST-4
Sample Depth: 46
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

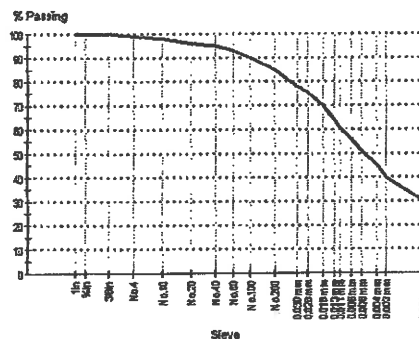
Method: ASTM D 422
Drying by: Oven

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

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		Dry	
Moisture Content (%)	ASTM D 2216	16.2	
Wet Density (lb/ft³)		137.7	
Dry Density (lb/ft³)		118.5	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	8016	
Shear Strength (lb/ft²)		4008	
Ave. Rate Strain to Failure(%)		0.4	
Strain at Failure(%)		6.3	
Average Height (in.)		5.982	
Average Diameter (in.)		2.831	
Height-Diameter Ratio		2.1	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit		28	
Plastic Limit		16	
Remarks			
Visual Description			

Chart



Comments
N/A



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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

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 Payday

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 Size Distribution

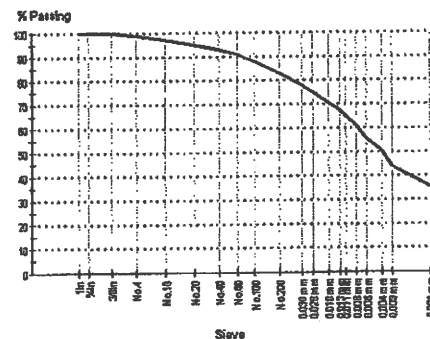
Method: ASTM D 422
Drying by: Oven

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

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.857	
Sample Diameter (in)		2.820	
Sample Cross-Section Area (in ²)		6.25	
Sample Volume (in ³)		17.84	
Dry Density (lb/ft ³)		111.1	
Initial Moisture Content (%)		18.8	
Final Moisture Content (%)		19.5	
Average Permeability (cm/s)		1.14 E-8	

Chart



Comments

N/A



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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



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: Zearak 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 Size Distribution

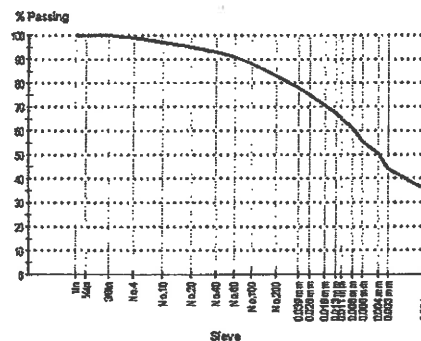
Method: ASTM D 422
Drying by: Oven

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

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 clay with sand	

Chart



Comments
N/A



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Southeast Michigan Laboratory

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Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S115

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 Paydary

Sample Details

Boring No: TB-W-1
Field Sample No: LS-15
Sample Depth: 34
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

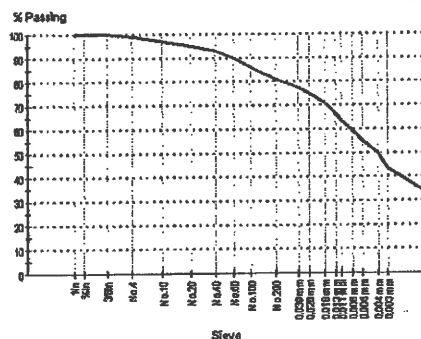
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	
0.011 mm	64	
0.008 mm	60	
0.006 mm	55	
0.004 mm	50	
0.003 mm	44	
0.001 mm	33	

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 (%)		16	
Plasticity Index (%)		15	
Sample History		Unknown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Chart



Comments

N/A



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Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S114

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 Paydary

Sample Details

Boring No: TB-W-1
Field Sample No: ST-2
Sample Depth: 28
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

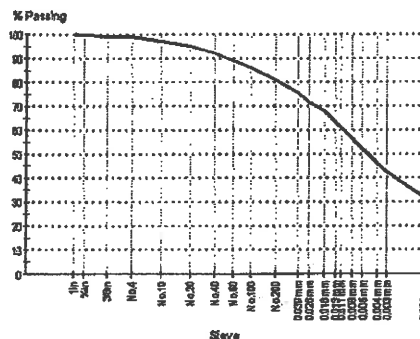
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	86	
No.200 (75µm)	81	
0.039 mm	75	
0.028 mm	72	
0.018 mm	68	
0.013 mm	63	
0.011 mm	61	
0.008 mm	57	
0.006 mm	52	
0.004 mm	46	
0.003 mm	42	
0.001 mm	32	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in ²)		40.0	
Top Pressure (lb/in ²)		32.0	
Bottom Pressure (lb/in ²)		35.0	
Effective Pressure (lb/in ²)		5.0	
Pressure Differential (lb/in ²)		3.0	
Permeant	0.01 N CaSO ₄		
Sample Height (in)		2.849	
Sample Diameter (in)		2.843	
Sample Cross-Section Area (in ²)		6.35	
Sample Volume (in ³)		18.09	
Dry Density (lb/ft ³)		115.1	
Initial Moisture Content (%)		17.4	
Final Moisture Content (%)		17.9	
Average Permeability (cm/s)		1.40 E-8	

Chart



Comments
N/A



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Southeast Michigan Laboratory

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S114

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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Zeera Payday

Date of Issue: 9/8/2008
Approved Signatory: Zeera Payday

Sample Details

Boring No: TB-W-1
Field Sample No: ST-2
Sample Depth: 28
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

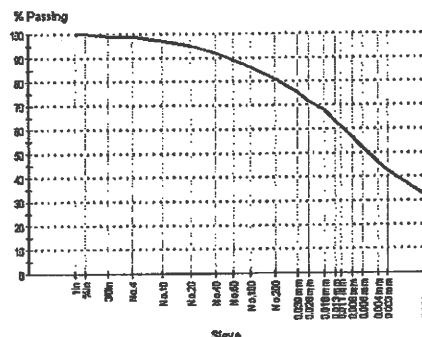
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	99	
No. 4 (4.75mm)	99	
No. 10 (2.0mm)	97	
No. 20 (850µm)	95	
No. 40 (425µm)	92	
No. 60 (250µm)	89	
No. 100 (150µm)	86	
No. 200 (75µm)	81	
0.039 mm	75	
0.028 mm	72	
0.018 mm	68	
0.013 mm	63	
0.011 mm	61	
0.008 mm	57	
0.006 mm	52	
0.004 mm	46	
0.003 mm	42	
0.001 mm	32	

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	
Moisture Content (%)	ASTM D 2216	17.4	
Wet Density (lb/ft³)		135.1	
Dry Density (lb/ft³)		115.1	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	3607	
Shear Strength (lb/ft²)		1804	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (in.)		5.982	
Average Diameter (in.)		2.843	
Height-Diameter Ratio		2.1	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit		30	
Plastic Limit		17	
Remarks			
Visual Description			

Chart



Comments

N/A



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Infrastructure Engineering
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NTH Consultants, Ltd.
Southeast Michigan Laboratory

Telephone: 248.653.6300
Fax: 248.324.6179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S113

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 Paydary

Sample Details

Boring No: TB-W-1
Field Sample No: LS-10
Sample Depth: 22
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

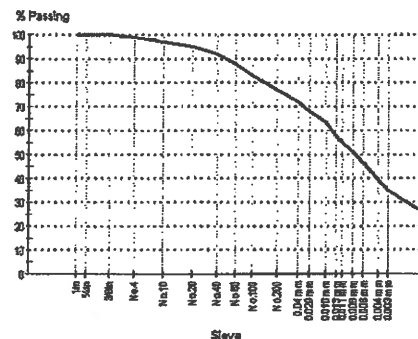
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
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	26	

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

Chart



Comments
N/A



NTH Consultants, Ltd.
Infrastructure Engineering
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NTH Consultants, Ltd.
Southeast Michigan Laboratory

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

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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-1
Sample Depth: 18
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

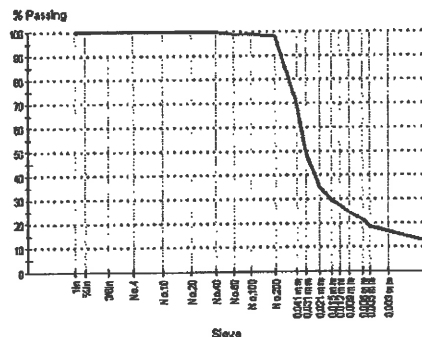
Method: ASTM D 422
Drying by: Oven

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)	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	

Other Test Results

Description	Method	Result	Limits
Temperature (°C)	[ASTM D 5084]	N/O	
Cell Pressure (lb/in ²)		N/O	
Top Pressure (lb/in ²)		N/O	
Bottom Pressure (lb/in ²)		N/O	
Effective Pressure (lb/in ²)		N/O	
Pressure Differential (lb/in ²)		N/O	
Permeant		N/O	
Sample Height (in)		N/O	
Sample Diameter (in)		N/O	
Sample Cross-Section Area (in ²)		N/O	
Sample Volume (in ³)		N/O	
Dry Density (lb/ft ³)		N/O	
Initial Moisture Content (%)		N/O	
Final Moisture Content (%)		N/O	
Average Permeability (cm/s)		N/O	

Chart



Comments

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



NTH Consultants, Ltd.
Infrastructure Engineering
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NTH Consultants, Ltd.
Southeast Michigan Laboratory

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.



Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydary

Sample Details

Boring No: TB-W-1
Field Sample No: ST-1
Sample Depth: 18
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

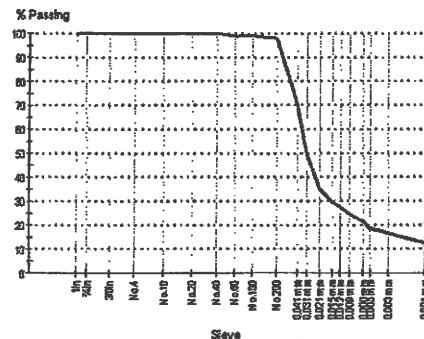
Method: ASTM D 422
Drying by: Oven

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)	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	

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	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	
Visual Description		N/O	

Chart



Comments

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



NTH Consultants, Ltd.
Infrastructure Engineering
and Environmental Services

NTH Consultants, Ltd.
Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT-62-080376-01-S111

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 Paydary

Sample Details

Boring No: TB-W-1
Field Sample No: LS-7
Sample Depth: 14
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

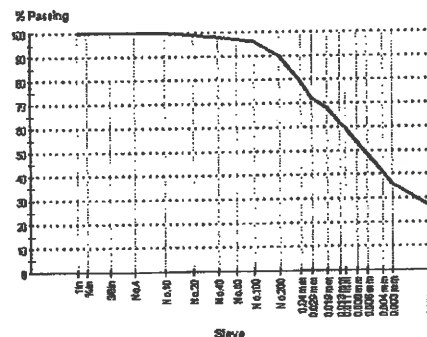
Method: ASTM D 422
Drying by: Oven

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)	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	

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		Unknown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Chart



Comments
N/A



NTH Consultants, Ltd.
Infrastructure Engineering
and Environmental Services

NTH Consultants, Ltd.
Southeast Michigan Laboratory

Telephone: 248.553.8300
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



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 Paydary

Sample Details

Boring No: TB-W-1
Field Sample No: LS-4
Sample Depth: 8
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

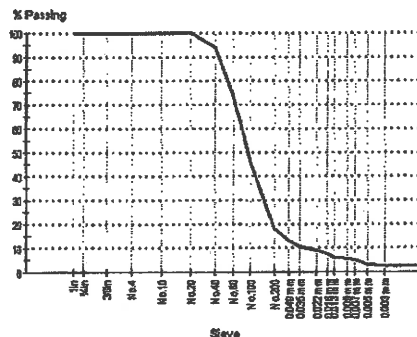
Method: ASTM D 422
Drying by: Oven

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)	94	
No.60 (250µm)	74	
No.100 (150µm)	46	
No.200 (75µm)	18	
0.049 mm	13	
0.035 mm	11	
0.022 mm	9	
0.016 mm	8	
0.013 mm	6	
0.009 mm	6	
0.007 mm	5	
0.005 mm	3	
0.003 mm	3	
0.001 mm	3	

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	

Chart



Comments

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



NTH Consultants, Ltd.
Infrastructure Engineering
and Environmental Services

NTH Consultants, Ltd.
Southeast Michigan Laboratory

Telephone: 248.553.6300
Fax: 248.324.5179

Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S109

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 Paydary

Sample Details

Boring No: TB-W-1
Field Sample No: LS-2
Sample Depth: 4
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Particle Size Distribution

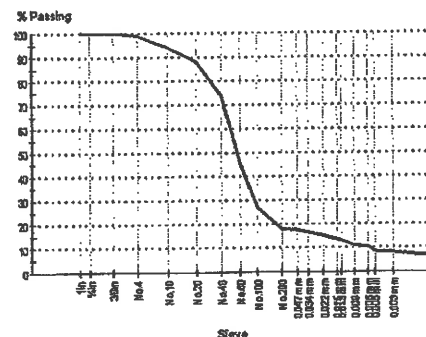
Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
3/4in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	94	
No.20 (850µm)	88	
No.40 (425µm)	74	
No.60 (250µm)	46	
No.100 (150µm)	27	
No.200 (75µm)	18	
0.047 mm	17	
0.034 mm	16	
0.022 mm	15	
0.015 mm	14	
0.013 mm	13	
0.009 mm	11	
0.006 mm	11	
0.005 mm	8	
0.003 mm	8	
0.001 mm	7	

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	

Chart



Comments

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



APPENDIX D

GROUNDWATER QUALITY ANALYTICAL DATA

SUMMARY OF CHEMICAL ANALYSES

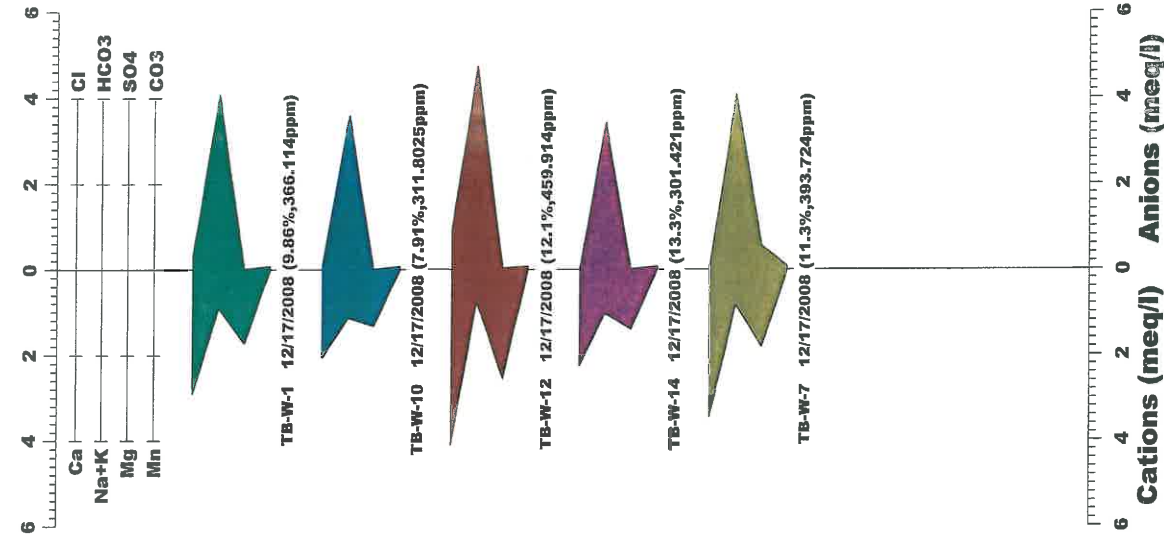
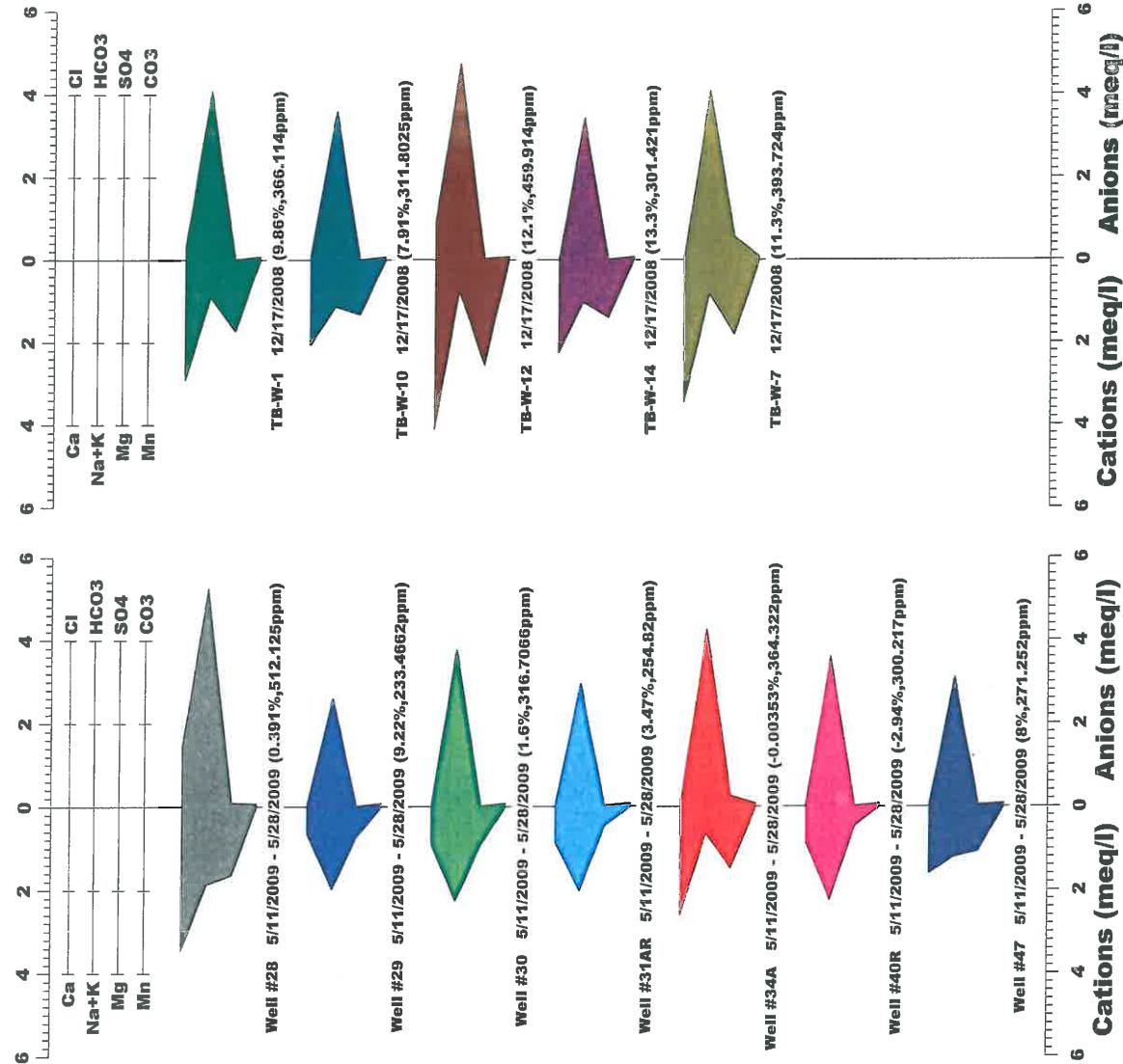
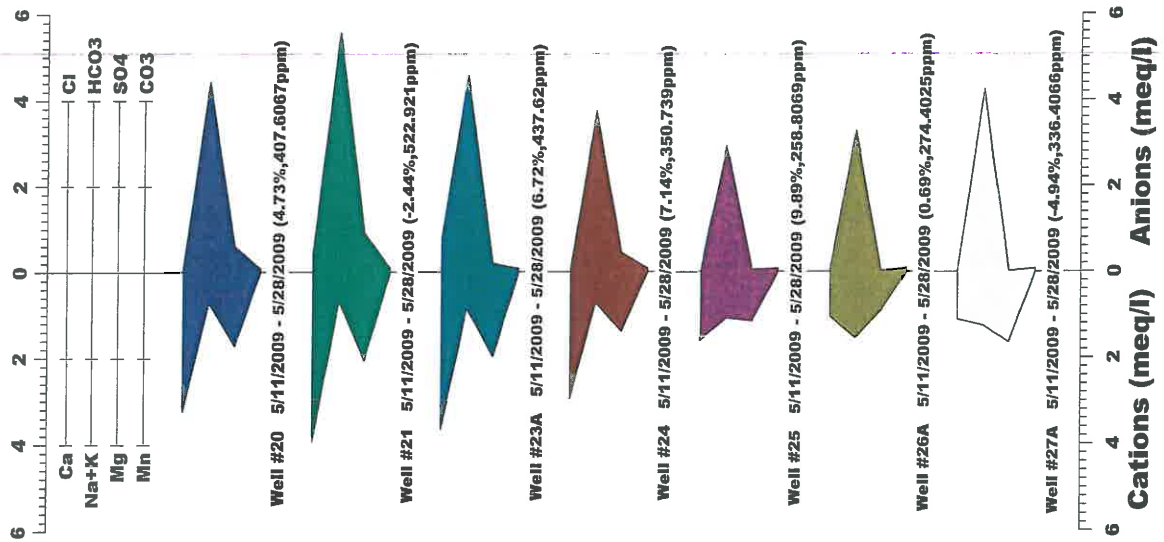
WAYNE DISPOSAL, INC.
SITE NO. 2 – MASTER CELL VI - F & G EXPANSION
NTH PROJECT NO. 62-080376-01

SAMPLE DESIGNATION	DISSOLVED METALS [MG/L]														INORGANIC ANALYSIS [MG/L]										ORGANIC ANALYSIS [MG/L]		PCBs [MG/L]	VOLATILE ORGANICS [MG/L]
	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 [pH]	SPECIFIC CONDUCTANCE [µMHOS/CM @ 25°C]	SULFATE 14808798	TOTAL CYANIDE 57125	PHENOLICS, TOTAL 108952	TOTAL ORGANIC CARBON (TOC)			
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:

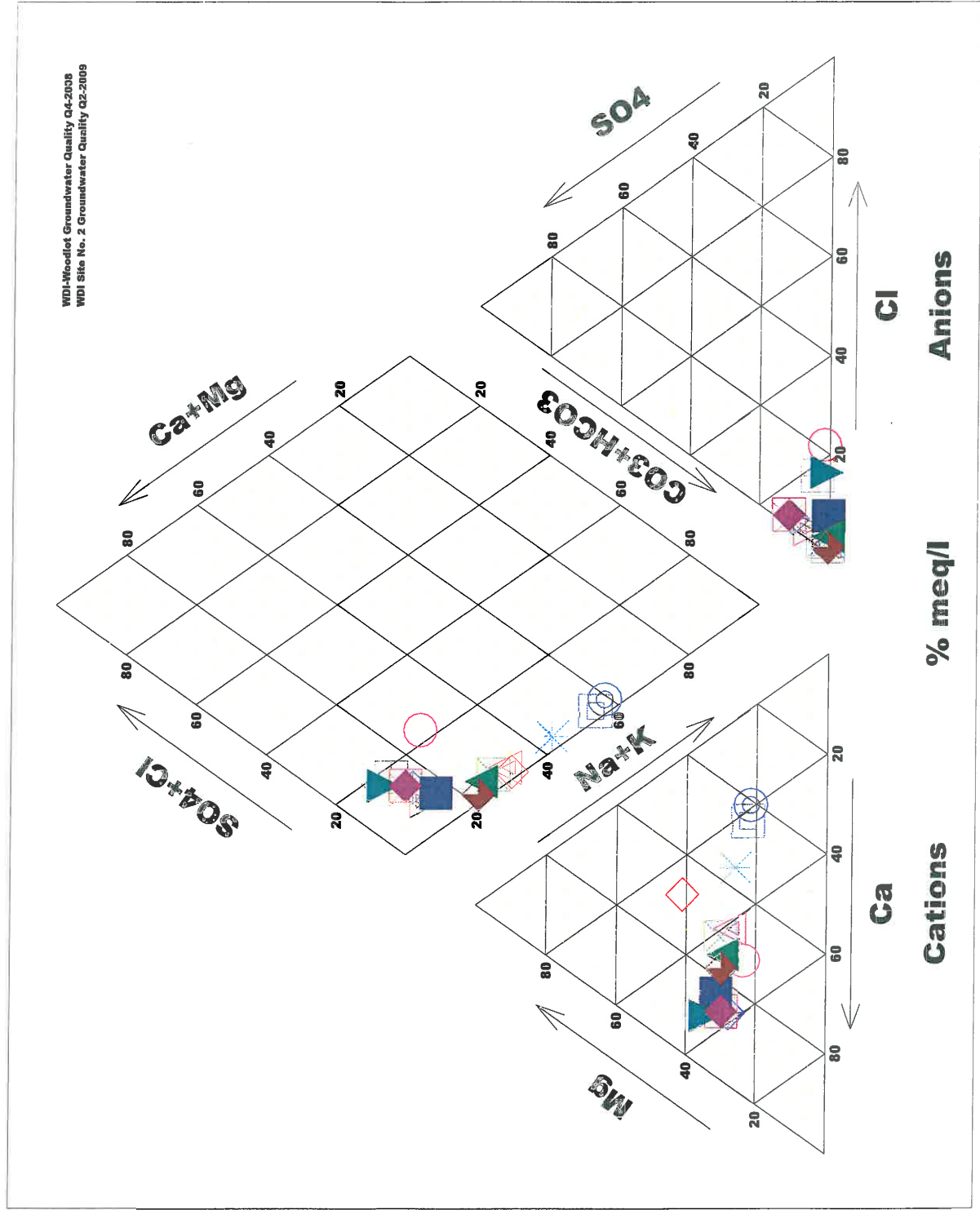
- [1] SAMPLES COLLECTED BY NTH CONSULTANTS PERSONNEL AND ANALYZED BY TRIMATRIX OF GRAND RAPIDS, MI.
- [2] MG/L - MILLIGRAMS PER LITER (≈ PARTS PER MILLION).
- [3] ND - NOT DETECTED AT OR ABOVE LABORATORY-REPORTED METHOD DETECTION LIMIT FOR INDICATED PARAMETER.
- [4] (ID) - INSUFFICIENT DATA.
- [5] * - AESTHETIC-BASED CRITERIA—USE OF THE MOST RESTRICTIVE CRITERIA IS REQUIRED, THEREFORE HEALTH-BASED CRITERIA IS NOT PRESENTED.
- [6] DW - CONCENTRATION IN GROUNDWATER, IF NOT EXCEEDED, IS CONSIDERED SAFE FOR EXPOSURE.
- [7] - REPORTED CONCENTRATION EXCEEDS DRINKING WATER CRITERIA.

Wayne Disposal Site No. 2



Wayne Disposal Site No. 2 - Part 111 Downgradient Groundwater Quality Data & Woodlot Data

Well #20	5/11/2009	5/28/2009	(4.73%, 407.6ppm)
Well #21	5/11/2009	5/28/2009	(-2.48%, 522.9ppm)
Well #23A	5/11/2009	5/28/2009	(6.72%, 437.6ppm)
Well #24	5/11/2009	5/28/2009	(7.12%, 350.7ppm)
Well #25	5/11/2009	5/28/2009	(6.89%, 256.8ppm)
Well #26A	5/11/2009	5/28/2009	(0.889%, 274.4ppm)
Well #27A	5/11/2009	5/28/2009	(-4.95%, 336.4ppm)
Well #28	5/11/2009	5/28/2009	(0.385%, 512.1ppm)
Well #29	5/11/2009	5/28/2009	(0.22%, 233.46ppm)
Well #30	5/11/2009	5/28/2009	(1.6%, 316.7ppm)
Well #34A	5/11/2009	5/28/2009	(-0.012%, 384.3ppm)
Well #47	5/11/2009	5/28/2009	(9.88%, 366.1ppm)
TB-W-1	12/17/2008	(7.91%, 311.8ppm)	
TB-W-10	12/17/2008	(12.1%, 459.9ppm)	
TB-W-12	12/17/2008	(13.3%, 301.4ppm)	
TB-W-14	12/17/2008	(11.3%, 393.7ppm)	
TB-W-7			



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:

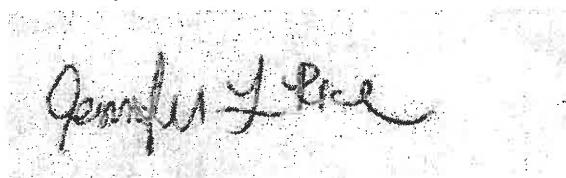
Work Order	Received	Description
0812401	12/20/2008	Laboratory Services

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)

ANALYTICAL REPORT

Client: **NTH Consultants**
 Project: Woodlot/Wayne Disposal
 Client Sample ID: **TB-W-12**
 Lab Sample ID: **0812401-01**
 Matrix: Ground Water
 Unit: mg/L
 Dilution Factor: 1
 QC Batch: 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

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:

Decachlorobiphenyl
 Tetrachloro-*m*-xylene

% Recovery

108
 65

Control Limits

48-137
 25-119

ANALYTICAL REPORT

Client: **NTH Consultants**
 Project: Woodlot/Wayne Disposal
 Client Sample ID: **TB-W-12**
 Lab Sample ID: **0812401-01**
 Matrix: Ground Water
 Unit: mg/L
 Dilution Factor: 1
 QC Batch: 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 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
1,2-Dichloroethane-d4
Toluene-d8
4-Bromofluorobenzene

101
 106
 98
 98

88-115
 81-116
 87-113
 78-116

ANALYTICAL REPORT

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	By	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	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
Sodium	17	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Zinc	<0.020	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964

*See Statement of Data Qualifications

ANALYTICAL REPORT

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

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Analyzed	By	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

*See Statement of Data Qualifications

ANALYTICAL REPORT

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

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	102	48-137	
Tetrachloro-m-xylene	50	25-119	

ANALYTICAL REPORT

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
 1,2-Dichloroethane-d4
 Toluene-d8
 4-Bromofluorobenzene

101
 107
 99
 97

88-115
 81-116
 87-113
 78-116

ANALYTICAL REPORT

Client: **NTH Consultants**
 Project: Woodlot/Wayne Disposal
 Client Sample ID: **TB-W-10**
 Lab Sample ID: **0812401-02**
 Matrix: 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	By	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
Sodium	25	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Zinc	0.021	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964

*See Statement of Data Qualifications

ANALYTICAL REPORT

Client: **NTH Consultants**
 Project: Woodlot/Wayne Disposal
 Client Sample ID: **TB-W-10**
 Lab Sample ID: **0812401-02**
 Matrix: 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	By	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	mg/L	1	USEPA-415.1	12/23/08	LMA	0814942

*See Statement of Data Qualifications

ANALYTICAL REPORT

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: 12/22/08 By: BJH
 Analyzed: 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:

Decachlorobiphenyl
 Tetrachloro-*m*-xylene

% Recovery

111
 33

Control Limits

48-137
 25-119

ANALYTICAL REPORT

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: 0814805

Work Order: **0812401**
 Description: Laboratory Services
 Sampled: 12/17/08 12:30
 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
 1,2-Dichloroethane-d4
 Toluene-d8
 4-Bromofluorobenzene

100
 105
 98
 98

88-115
 81-116
 87-113
 78-116

ANALYTICAL REPORT

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

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Analyzed	By	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	69	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	1.2	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	22	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Manganese	0.024	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
Radium	18	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Zinc	<0.020	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964

*See Statement of Data Qualifications

ANALYTICAL REPORT

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**

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Analyzed	By	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
*pH	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

*See Statement of Data Qualifications

ANALYTICAL REPORT

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: 1
 QC Batch: 0814683

Work Order: **0812401**
 Description: Laboratory Services
 Sampled: 12/17/08 11:10
 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

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	112	48-137	
Tetrachloro-m-xylene	46	25-119	

ANALYTICAL REPORT

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: 1
 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: 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	88-115	
1,2-Dichloroethane-d4	107	81-116	
Toluene-d8	100	87-113	
4-Bromofluorobenzene	99	78-116	

ANALYTICAL REPORT

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

*Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Analyzed	By	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	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
Sodium	20	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Zinc	<0.020	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964

*See Statement of Data Qualifications

ANALYTICAL REPORT

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	By	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

*See Statement of Data Qualifications

ANALYTICAL REPORT

Client: **NTH Consultants**
 Project: Woodlot/Wayne Disposal
 Client Sample ID: **TB-W-14**
 Lab Sample ID: **0812401-05**
 Matrix: Ground Water
 Unit: mg/L
 Dilution Factor: 1
 QC Batch: 0814683

Work Order: **0812401**
 Description: Laboratory Services
 Sampled: 12/17/08 15:10
 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

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	48-137	
Tetrachloro-m-xylene	68	25-119	

ANALYTICAL REPORT

Client: **NTH Consultants**
 Project: Woodlot/Wayne Disposal
 Client Sample ID: **TB-W-14**
 Lab Sample ID: **0812401-05**
 Matrix: Ground Water
 Unit: mg/L
 Dilution Factor: 1
 QC Batch: 0814805

Work Order: **0812401**
 Description: Laboratory Services
 Sampled: 12/17/08 15:10
 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
1,2-Dichloroethane-d4
Toluene-d8
4-Bromofluorobenzene

102
 105
 99
 98

88-115
 81-116
 87-113
 78-116

ANALYTICAL REPORT

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	By	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	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
Sodium	23	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
Zinc	<0.020	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964

*See Statement of Data Qualifications

ANALYTICAL REPORT

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	By	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

*See Statement of Data Qualifications

QUALITY CONTROL REPORT

Polychlorinated Biphenyls (PCBs) by EPA Method 8082

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
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QC Batch: 0814683 3510C Liquid-Liquid Extraction/USEPA-8082

Method Blank

Unit: mg/L

Analyzed: 12/26/2008 By: JMK

Analytical Batch: 8122912

PCB-1016			<0.00010				0.00010	
PCB-1221			<0.00010				0.00010	
PCB-1232			<0.00010				0.00010	
PCB-1242			<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

82 25-119

Laboratory Control Sample

Unit: mg/L

Analyzed: 12/26/2008 By: JMK

Analytical Batch: 8122912

PCB-1254	0.00100	0.00102	102	66-126			0.00010	
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Surrogates:

Decachlorobiphenyl

122 48-137

Tetrachloro-m-xylene

84 25-119

QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
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QC Batch: 0814805 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank	Analyzed:	12/24/2008	By: JDM
Unit: 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	0.0010
trans-1,2-Dichloroethene	<0.0010	0.0010
Ethylbenzene	<0.0010	0.0010
Methylene Chloride	<0.0010	0.0010
Toluene	<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: JDM
Unit: 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

Laboratory Control Sample	Analyzed:	12/23/2008	By: JDM
Unit: mg/L	Analytical Batch:	8123029	

Benzene	0.0400	0.0431	108	86-122	0.0010
1,2-Dichlorobenzene	0.0400	0.0420	105	87-119	0.0010
1,4-Dichlorobenzene	0.0400	0.0418	105	86-117	0.0010
1,1-Dichloroethane	0.0400	0.0409	102	80-122	0.0010
1,2-Dichloroethane	0.0400	0.0433	108	78-121	0.0010
cis-1,2-Dichloroethene	0.0400	0.0410	103	84-121	0.0010
trans-1,2-Dichloroethene	0.0400	0.0396	99	85-121	0.0010
Ethylbenzene	0.0400	0.0448	112	86-116	0.0010
Methylene 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
Trichloroethene	0.0400	0.0411	103	80-122	0.0010

Continued on next page

QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
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QC Batch: 0814805 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued)

Unit: mg/L					Analyzed:	12/23/2008	By: JDM
					Analytical Batch:	8123029	
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					Analyzed:	12/23/2008	By: JDM
					Analytical Batch:	8123029	

Surrogates:

Dibromofluoromethane	101	88-115
1,2-Dichloroethane-d4	103	81-116
Toluene-d8	102	87-113
4-Bromofluorobenzene	102	78-116

Laboratory Control Sample Duplicate

Unit: mg/L					Analyzed:	12/24/2008	By: JDM
					Analytical Batch:	8123029	
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 Duplicate

Unit: ug/L					Analyzed:	12/24/2008	By: JDM
					Analytical Batch:	8123029	

Surrogates:

Dibromofluoromethane	101	88-115
1,2-Dichloroethane-d4	102	81-116
Toluene-d8	101	87-113
4-Bromofluorobenzene	101	78-116

QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
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Analyte: Arsenic/USEPA-6020A

QC Batch: 0814965 (General Metals Prep)

Analyzed: 12/31/2008 By: MSM

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]									
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/USEPA-6020A

QC Batch: 0814965 (General Metals Prep)

Analyzed: 12/31/2008 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/USEPA-6010B

QC Batch: 0814964 (General Metals Prep)

Analyzed: 01/02/2009 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]									
Matrix Spike	82.1	20.0	99.0	mg/L	84	75-125			0.50
Matrix Spike Duplicate	82.1	20.0	98.4	mg/L	82	75-125	0.5	20	0.50

Analyte: Chromium/USEPA-6020A

QC Batch: 0814965 (General Metals Prep)

Analyzed: 12/31/2008 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/USEPA-6010B

QC Batch: 0814964 (General Metals Prep)

Analyzed: 01/02/2009 By: KLV

Method Blank			<0.010	mg/L					0.010
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QUALITY CONTROL REPORT

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
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Analyte: Copper/USEPA-6010B (Continued)

QC Batch: 0814964 (Continued) (General Metals Prep)

Analyzed: 01/02/2009 By: KLV

Laboratory Control Sample		0.400	0.443	mg/L	111	80-120			0.010
0812401-01 [TB-W-12]									
Matrix 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/USEPA-6010B

QC Batch: 0814964 (General Metals Prep)

Analyzed: 01/02/2009 By: KLV

Method Blank			<0.010	mg/L					0.010
Laboratory Control Sample		0.400	0.433	mg/L	108	80-120			0.010
0812401-01 [TB-W-12]									
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/USEPA-6020A

QC Batch: 0814965 (General Metals Prep)

Analyzed: 12/31/2008 By: MSM

Method Blank			<0.0010	mg/L					0.0010
Laboratory Control Sample		0.0500	0.0482	mg/L	96	80-120			0.0010
0812401-01 [TB-W-12]									
Matrix Spike	<0.0010	0.0500	0.0477	mg/L	95	75-125			0.0010
Matrix Spike Duplicate	<0.0010	0.0500	0.0490	mg/L	98	75-125	3	20	0.0010

Analyte: Magnesium/USEPA-6010B

QC Batch: 0814964 (General Metals Prep)

Analyzed: 01/02/2009 By: KLV

Method Blank			<0.50	mg/L					0.50
Laboratory Control Sample		20.0	21.1	mg/L	106	80-120			0.50
0812401-01 [TB-W-12]									
Matrix Spike	30.7	20.0	50.3	mg/L	98	75-125			0.50
Matrix Spike Duplicate	30.7	20.0	49.7	mg/L	95	75-125	1	20	0.50

Analyte: Manganese/USEPA-6020A

QC Batch: 0814965 (General Metals Prep)

Analyzed: 12/31/2008 By: MSM

Method Blank			<0.0050	mg/L					0.0050
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QUALITY CONTROL REPORT

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
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Analyte: Manganese/USEPA-6020A (Continued)

QC Batch: 0814965 (Continued) (General Metals Prep)

Analyzed: 12/31/2008 By: MSM

Laboratory Control Sample		0.0500	0.0490	mg/L	98	80-120			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: Molybdenum/USEPA-6020A

QC Batch: 0814965 (General Metals Prep)

Analyzed: 12/31/2008 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/USEPA-6010B

QC Batch: 0814964 (General Metals Prep)

Analyzed: 01/02/2009 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
Matrix Spike Duplicate	<0.010	0.400	0.396	mg/L	99	75-125	1	20	0.010

Analyte: Potassium/USEPA-6010B

QC Batch: 0814964 (General Metals Prep)

Analyzed: 01/02/2009 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/USEPA-6010B

QC Batch: 0814964 (General Metals Prep)

Analyzed: 01/02/2009 By: KLV

Method Blank			<0.50	mg/L					0.50
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QUALITY CONTROL REPORT

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
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Analyte: Sodium/USEPA-6010B (Continued)

QC Batch: 0814964 (Continued) (General Metals Prep)						Analyzed: 01/02/2009 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-6010B

QC Batch: 0814964 (General Metals Prep)						Analyzed: 01/02/2009 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

QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
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Analyte: Alkalinity, Bicarbonate/USEPA-310.1

QC Batch: 0814862 (General Inorganic Prep)						Analyzed: 12/23/2008		By: CLD	
Method Blank			<2.0	mg/L					2.0
Laboratory Control 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/USEPA-310.1

QC Batch: 0814863 (General Inorganic Prep)						Analyzed: 12/23/2008		By: CLD	
Method Blank			<2.0	mg/L					2.0
Laboratory Control 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-310.1

QC Batch: 0814861 (General Inorganic Prep)						Analyzed: 12/23/2008		By: CLD	
Method Blank			<2.0	mg/L					2.0
Laboratory Control 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
Duplicate	214		219	mg/L			2	20	2.0

Analyte: Carbon, Total Organic/USEPA-415.1

QC Batch: 0814942 (General Inorganic Prep)						Analyzed: 12/23/2008		By: LMA	
Method Blank			<0.50	mg/L					0.50
Laboratory Control 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 Duplicate	1.25	2.00	3.33	mg/L	104	75-124	2	20	1.0

Analyte: Chloride/USEPA-325.2

QC Batch: 0814834 (General Inorganic Prep)						Analyzed: 12/22/2008		By: GEH	
Method Blank			<1.0	mg/L					1.0

Continued on next page

QUALITY CONTROL REPORT

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
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Analyte: Chloride/USEPA-325.2 (Continued)

QC Batch: 0814834 (Continued) (General Inorganic Prep)

Analyzed: 12/22/2008 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/USEPA-120.1

QC Batch: 0814822 (General Inorganic Prep)

Analyzed: 12/22/2008 By: CLD

Method Blank			<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, Total/USEPA-9014

QC Batch: 0814868 (9010B Cyanide Distillation)

Analyzed: 12/24/2008 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]									
Matrix 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: 12/29/2008 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]									
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, Nitrate+Nitrite/USEPA-353.2

QC Batch: 0815002 (Method-Specific Preparation)

Analyzed: 12/30/2008 By: CKD

Method Blank			<0.010	mg/L					0.010
--------------	--	--	--------	------	--	--	--	--	-------

Continued on next page

QUALITY CONTROL REPORT

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, Nitrate+Nitrite/USEPA-353.2 (Continued)

QC Batch: 0815002 (Continued) (Method-Specific Preparation)

Analyzed: 12/30/2008 By: CKD

Laboratory Control 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 Duplicate	<0.050	0.500	0.532	mg/L	106	90-110	7	20	0.050

Analyte: Phenolics, Total/USEPA-420.1

QC Batch: 0814906 (420.1 Phenolics)

Analyzed: 12/26/2008 By: INR

Method Blank			<0.00500	mg/L					0.00500
Laboratory Control Sample		0.400	0.384	mg/L	96	90-110			0.0500
0812401-01 [TB-W-12]									
Matrix Spike	0.00489	0.400	0.378	mg/L	93	90-110			0.0500
Matrix Spike Duplicate	0.00489	0.400	0.373	mg/L	92	90-110	1	20	0.0500

Analyte: pH/USEPA-150.1

QC Batch: 0814821 (General Inorganic Prep)

Analyzed: 12/22/2008 By: CLD

0812401-03 [TB-W-7]									
Duplicate	7.54		7.58	pH Units			0.5	20	1.0

Analyte: Sulfate/USEPA-375.4

Batch: 0814838 (General Inorganic Prep)

Analyzed: 12/22/2008 By: GEH

Method Blank			<1.0	mg/L					1.0
Laboratory Control 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 Duplicate	2.77	20.0	21.6	mg/L	94	55-151	0.02	20	2.0

QC Batch: 0814839 (General Inorganic Prep)

Analyzed: 12/22/2008 By: GEH

Method Blank			<5.0	mg/L					5.0
Laboratory Control 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 pH

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 pH

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 pH
0812401-02 TB-W-10 pH
0812401-03 TB-W-7 pH



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

Tax No:	Permit No:	County: Wayne	Township: Van Buren
Well ID: 82000001820		Fraction: SE¼NW¼U¼	Section: 7
Elevation:		Town/Range: 03S 08E	WSSN:
Latitude: 42.24143041		Source ID/Well No:	
Longitude: -83.54410837		Distance and Direction from Road Intersection: 2320' N OF CENTER LINE TYLER RD, 4'2" N OF N 8" CHAIN LINK FENCE OF E TANK STORAGE, 34' EAST OF NW CORNER POSTS, 1510 E OF CTR LINE MCGREGOR RD	
Well Owner: Wayne Cty Airport Div.		Well Address:	
		Owner Address:	

Drilling Method: Auger/Bored	Pump Installed: No	Pump Installation only: No
Well Depth: 10.70 ft.	Well Use: Unknown	HP:
Well Type: Unknown	Date Completed: 9/18/1986	Pump Type:
Casing Type: Unknown	Manufacturer:	Pump Capacity:
Casing Joint: Threaded & coupled	Model Number:	Id of Well:
Diameter: 2.00 in. to 7.50 ft. depth	Length of Drop Pipe:	
	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: 0.33 ft. above grade	Model Number:	Tank Capacity: Gallons
Casing Fitting: None	Pressure Relief Valve Installed: No	
Static Water Level: 6.95 ft. Below Grade(Not Flowing)	Formation Description	Thickness
Yield Test Method: Unknown		Depth to Bottom
Measurement Taken During Pump Test:	Topsoil	1.00
	Yellow Gravel & Sand Fine To Coarse Clayey	2.00
	Yellow Sand Silty Clayey	2.00
	Tan & Gray Sand Fine Clayey	1.00
	White Sand Fine Clayey	1.00
	Black Sand Clayey Fine	1.00
	Gray Sand Fine Clayey	1.50
	Gray Sand & Clay Clayey Silty	1.50
	Gray Sand & Clay Fine Silty	2.00
Abandoned Well Plugged: No	Geology Remarks:	
Reason for not plugging Well:		
Abandoned well ID:		
Screen Installed: Yes	Well Intake:	
Filter Packed: No		
Screen Diameter: 2.00 in.	Length: 3.00 ft.	
Screen Material Type: Stainless steel-wire wrapped		
Slot: 7.00 in. Set Between 7.90 ft. and 10.70 ft.		
Blank: Unknown		
Fittings:		
Unknown		
Well Grouted: Yes	Grouting Method: Unknown	
No. of Bags:	Additives: None	
Grouting Materials:		
Bentonite slurry	From 7.90 ft. to 10.70 ft.	
Well Head Completion:	Unknown	
Nearest source of possible contamination:	Contractor Type: Water well drilling contractor	
Type	Registration Number: 686	
Fuel tank	Business Name: STRLING DRLG CO	
Distance	Business Address:	
Direction		
5.00 ft. South	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: GLENN MILLER	Signature of Registered Contractor	Date
Employment: Unknown		
General Remarks: SURFACE ELEVATION 718.19', TOP OF CASING 717.86		
OTHER REMARKS		

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.

Well ID: 82000001819

Tax No:	Permit No:	County: Wayne	Township: Van Buren
Well ID: 82000001819		Fraction: NW 1/4 SW 1/4 U 1/4	Section: 7
Elevation:		Town/Range: 03S 08E	WSSN:
Latitude:		Source ID/Well No:	
Longitude:		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 Address:	Owner Address:

Drilling Method: Auger/Bored	Pump Installed: No	Pump Installation only: No
Well Depth: 10.50 ft.	Pump Installation date:	HP:
Well Type: Unknown	Manufacturer:	Pump Type:
Casing Type: Unknown	Model Number:	Pump Capacity:
Casing Joint: Threaded & coupled	Length of Drop Pipe:	Id of Well:
Diameter: 2.00 in. to 7.40 ft. depth	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	Model Number:	Tank Capacity: Gallons
Casing Fitting: None	Pressure Relief Valve Installed: No	
Static Water Level: 6.95 ft. Below Grade(Not Flowing)	Formation Description	Thickness
Yield Test Method: Unknown		Depth to Bottom
Measurement Taken During Pump Test:	Sand & Gravel	0.20 0.20
	Unidentified Consolidated Fm	0.10 0.30
	Unidentified Consolidated Fm	0.60 0.90
	Tan Clay & Gravel W/Silt	3.10 4.00
Abandoned Well Plugged: No	Tan Gravel & Sand W/Clay Silty	1.50 5.50
Reason for not plugging Well:	Tan Sand & Gravel Fine Silty	0.50 6.00
Abandoned well ID:	Gray Gravel & Sand Fine To Medium Coarse	1.50 7.50
Screen Installed: Yes	Tan & Gray Sand Fine To Medium Coarse	2.00 9.50
Well Intake:	Gray Sand Fine To Medium Coarse	0.50 10.00
Filter Packed: No	Gray Sand & Clay Fine Silty	1.00 11.00
Screen Diameter: 2.00 in.		
Length: 3.00 ft.		
Screen Material Type: Stainless steel-wire wrapped		
Slot: 10.00 in. Set Between 7.40 ft. and 10.40 ft.		
Blank: Unknown		
Fittings:		
Unknown		
Well Grouted: Yes	Geology Remarks:	
Grouting Method: Unknown		
No. of Bags:		
Additives: None		
Grouting Materials:		
Bentonite slurry		
From 5.00 ft. to 7.00 ft.		
Well Head Completion: Unknown	Contractor Type: Water well drilling contractor	
	Registration Number: 666	
	Business Name: STERLING DRLG CO	
	Business Address:	
Nearest source of possible contamination:	WATER WELL CONTRACTOR'S CERTIFICATION:	
Type	This well was drilled under my supervision and this report is true to the best of my knowledge and belief.	
Distance		
Direction		
Fuel tank		
160.00 ft. Northwest		
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

MICHIGAN DEPARTMENT
OF
PUBLIC HEALTH

1 LOCATION OF WELL		Township Name		Section Number		Range Number	
County		Van Buren		16		3 N/S.	
Distance and Direction from Road Intersections		11200 BECK RD.		3 OWNER OF WELL:		SZABO	
Street address & City of Well Location		11200 BECK RD.		Address		BELLEVILLE	
Locals with "X" in section below		Sketch Map:		4 WELL DEPTH: (completed)		Date of Completion	
				95 ft.			
2 FORMATION		THICKNESS OF STRATUM		DEPTH TO BOTTOM OF STRATUM		5 CASING: Threaded <input type="checkbox"/> Welded <input type="checkbox"/>	
YELLOW SAND		7		7		Height: Above/Below Surface	
GRAY SAND		4		11		Weight 17 lbs./ft.	
HARD BLUE CLAY		49		60		Drive Shoe? Yes <input type="checkbox"/> No <input type="checkbox"/>	
SOFT SILTY SAND & CLAY		25		85		6 USE: <input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Public Supply <input type="checkbox"/> Industry	
FINE SAND		7		92		<input type="checkbox"/> Irrigation <input type="checkbox"/> Air Conditioning <input type="checkbox"/> Commercial	
COARSE SAND & GRAVEL		3		95		<input type="checkbox"/> Test Well	
						7 CASING: Diam.	
						6 in. to 91 ft. Depth	
						Weight 17 lbs./ft.	
						Drive Shoe? Yes <input type="checkbox"/> No <input type="checkbox"/>	
						8 SCREEN:	
						Type: STAINLESS Dia.: 6"	
						Slot/Gauze 10 Length 4 FT.	
						Set between 91 ft. and 95 ft.	
						Fittings:	
						HEMP PALKER PLUG 1 FT. BLANK	
						9 STATIC WATER LEVEL	
						55 ft. below land surface	
						10 PUMPING LEVEL below land surface	
						90 ft. after 4 hrs. pumping 10 g.p.m.	
						ft. after hrs. pumping g.p.m.	
						11 WATER QUALITY in Parts Per Million:	
						Iron (Fe) Chlorides (Cl)	
						Hardness Other	
						12 WELL HEAD COMPLETION: <input type="checkbox"/> In Approved Pit	
						<input checked="" type="checkbox"/> Pitless Adaptor <input type="checkbox"/> 12" Above Grade	
						13 Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> Neat Cement <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/>	
						Depth: From ft. to ft.	
						14 Nearest Source of possible contamination	
						100 feet NE Direction DRAINFIELD Type	
						Well disinfected upon completion <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
						15 PUMP: <input type="checkbox"/> Not Installed	
						Manufacturer's Name GOULD	
						Model Number 13EM HP 3/4 Volts 230	
						Length of Drop Pipe 82 ft. capacity G.P.M.	
						Type: <input checked="" type="checkbox"/> Submersible	
						<input type="checkbox"/> Jet <input type="checkbox"/> Reciprocating	
16 Remarks, elevation, source of data, etc.		17 WATER WELL CONTRACTOR'S CERTIFICATION:					
ADDED INFO BY DRILLER, ITEM NO.		This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.					
*CORRECTED BY		Slusser Drilling Co., Inc. 0388					
**ADDITION BY		REGISTERED BUSINESS NAME					
ELEVATION		Address 1201 W. MICHIGAN, YPSILANTI					
DEPTH TO ROCK		Signed Richard D. Slusser Date 11-4-74					
		AUTHORIZED REPRESENTATIVE					



Van Buren Twp.

Section 18



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 82000001381

Failure to comply is a misdemeanor.

Import ID: 82737818001

Tax No: 82071990002004		Permit No:		County: Wayne		Township: Van Buren	
Well ID: 82000001381		Fraction: SW 1/4 NW 1/4 SW 1/4	Section: 18	Town/Range: 03S 08E	WSSN:	Source ID/Well No:	
Elevation: 705 ft		Distance and Direction from Road Intersection: 1000 FT N I-94 SERVICE RD					
Latitude: 42.2218449018		Well Owner: Thompson And Mccally				Owner Address:	
Longitude: -83.5408955186		Well Address: 1785 RAWSONVILLE RD VAN BUREN MI 48111				MI.	

Drilling Method: Rotary		Pump Installed: Yes		Pump Installation only: No	
Well Depth: 95.00 ft.		Well Use: Household		HP:	
Well Type: Replacement		Date Completed: 10/18/1967		Pump Type: Submersible	
Casing Type: Unknown		Manufacturer: Goulds		Pump Capacity: 0.00 GPM	
Casing Joint: Threaded & coupled		Model Number:		Id of Well:	
Diameter: 4.00 in. to 91.00 ft. depth		Length of Drop Pipe: 74.00 ft.			
		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:		Tank Capacity: Gallons	
Height: 0.00 ft. above grade		Model Number:			
Casing Fitting: Drive shoe		Pressure Relief Valve Installed: No			
Stable Water Level: 80.00 ft. Below Grade (Not Flowing)		Formation Description		Thickness	Depth to Bottom
Yield Test Method: Unknown		Topsoil Sandy		1.00	1.00
Measurement Taken During Pump Test:		Yellow Sand		9.00	10.00
80.00 ft. after 2.00 hrs. pumping at 18.00 GPM		Gray Sand & Gravel Fine		8.00	16.00
Abandoned Well Plugged: No		Gray Clay Soft		37.00	53.00
Reason for not plugging Well:		Clay Sand Gravel Soft Silty		14.00	67.00
Abandoned well ID:		Sand W/Gravel W/Clay		9.00	76.00
Screen Installed: Yes		Clay W/Gravel		8.00	84.00
Well Intake:		Gravel Fine To Medium Water Bearing		11.00	95.00
Filter Packed: No					
Screen Diameter: 3.00 in.					
Length: 4.00 ft.					
Screen Material Type:					
Slot: 30.00 in. Set Between 91.00 ft. and 95.00 ft.					
Blank: 0.00 ft. Above					
Fittings:					
Neoprene packer:					
Well Grouted: Yes		Grouting Method: Unknown			
No. of Bags:		Additives: None			
Grouting Materials:		Geology Remarks: 1. [TOP SOIL SANDY] [1] [1] 2. [SAND YELLOW] [10] [9]			
Bentonite slurry		3. [GRAY SAND AND FINE GRAVEL] [16] [6] 4. [CLAY LIGHT GRAY SOFT AND PLASTIC] [63] [37] 5. [CLAY SOFT SILTY SAND SOME GRAVEL] [67]			
		[14] 6. [SAND SOME GRAVEL CLAY] [76] [9] 7. [CLAY WITH EMBEDDED GRAVEL] [84] [8] 8. [GRAVEL FINE TO MEDIUM W/ SAND WATER BEARING] [95] [11]			
Well Head Completion: Pitless adapter		Contractor Type: Unknown			
		Registration Number: 388			
		Business Name:			
		Business Address:			
Nearest source of possible contamination:		WATER WELL CONTRACTOR'S CERTIFICATION:			
Type		This well was drilled under my supervision and this report is true to the best of my knowledge and belief.			
Distance Direction		Signature of Registered Contractor		Date	
Septic tank					
75.00 ft. North					
Drilling Machine Operator Name:					
Employment: Unknown					
General Remarks:					
OTHER REMARKS					

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 23:15

WATER WELL RECORD

ACT 294 PA 1965

MICHIGAN DEPARTMENT

OF
PUBLIC HEALTH

1 LOCATION OF WELL			Fraction		Section No.	Town	Range	E.P.
County	Twp.	OWNER No.	SW NW SW		18	3 N.S.	8	E.P.
Distance And Direction from Road Intersections 1000' N.I.-94 Service Rd. Dead end of Rawsonville Rd.			3 OWNER OF WELL: Thompson & McCally Address					
Street address & City of Well Location 1785 Rawsonville Rd.								
2	FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	4 WELL DEPTH: (completed) 75 ft. Date of Completion 10-18-67				
	Top Soil-sandy	1	1	5 <input type="checkbox"/> Cable tool <input checked="" type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input type="checkbox"/> Jetted <input type="checkbox"/> Bored <input type="checkbox"/>				
	SAND-yellow	9	10	6 USE: <input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Public Supply <input type="checkbox"/> Industry <input type="checkbox"/> Irrigation <input type="checkbox"/> Air Conditioning <input type="checkbox"/> Commercial <input type="checkbox"/> Test Well <input type="checkbox"/>				
	GRAY SAND & FINE GRAVEL	6	16	7 CASING: Threaded <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Diam. 4 in. to 9 1/2 ft. Depth 9 1/2 ft. Height: Above/Below surface _____ ft. Weight _____ lbs./ft. (Drive Shoe? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
	CLAY, light GRAY SOFT & PLASTIC	37	53	8 SCREEN: Type Red Brass Slotted 3 inch Slot/Gauge 30 Length 4 Feet Set between 9 1/2 ft. and 95 ft. Blank at closed bottom. 1 Blank at top w/ Hemp Packer				
	CLAY-SOFT-SILTY SAND-some GRAVEL	14	67	9 STATIC WATER LEVEL 60 ft. below land surface				
	CLAYey	9	76	10 PUMPING LEVEL below land surface 80 ft. after 2 hrs. pumping 18-20 g.p.m. _____ ft. after _____ hrs. pumping _____ g.p.m.				
	CLAY w/embedded GRAVEL	8	84	11 WATER QUALITY in Parts Per Million: Iron (Fe) _____ Chlorides (Cl) _____ Hardness _____				
	GRAVEL-FINE To medium w/some SAND	11	95	12 WELL HEAD COMPLETION: <input type="checkbox"/> In Approved Pit <input checked="" type="checkbox"/> Pitless Adapter <input checked="" type="checkbox"/> 12" Above Grade				
	WATER BEARING			13 GROUTING: Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Material: <input type="checkbox"/> Neat Cement <input checked="" type="checkbox"/> 80 vis. Bentonite Depth: From 9 1/2 ft. to 64 ft. Clay cuttings				
	Washed screen w/ 1000 Gal. Fresh water - Developed with AIR LIFT			14 SANITARY: Nearest source of possible contamination 75 feet N Direction Septic Type Well disinfected upon completion <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
				15 PUMP: Manufacturer's Name VEH Gould Model Number HP 1 Length of Drop Pipe 74 ft. capacity 10 G.P.M. Types <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Jet <input type="checkbox"/> Reciprocating				
16 Remarks, elevation, source of data, etc.			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. P.B. Stossen 0388 REGISTERED BUSINESS ENGINEER Address Upsala, Mich Signed P.B. Stossen Date Nov 27/67 AUTHORIZED REPRESENTATIVE					

ADDED INFO. BY DRILLER, ITEM 100

*CORRECTED BY:

**ADDITION BY:

D67D

100M

6-56

AUG 2 1968

GEOLOGICAL SURVEY COPY

1

15-1

AUG 3 1983

WATER WELL AND PUMP RECORD

PART 127 ACT 368, P.A. 1978

PERMIT NUMBER

1. LOCATION OF WELL		Township Name		Fraction	Section Number	Town Number	Range Number
County Wayne		Van Buren		SE 1/4	18	3XNS	8 ENM

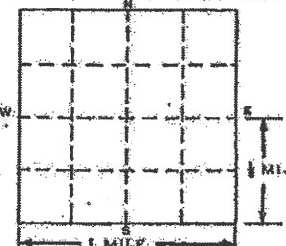
Distance And Direction From Road Intersection

49350 North I-94 Service Drive

Street Address & City of Well Location

Locate with "X" in Section Below

Sketch Map:



2 FORMATION DESCRIPTION

THICKNESS
OF
STRATUMDEPTH TO
BOTTOM OF
STRATUM

Yellow Sand

6

6

Gray Sand

5

11

Soft Blue Clay

22

33

Hard Blue Clay

33

66

Fine Silty Sand

29

95

Fine Sand & Gravel

20

(15)

Black Shale

1

116

3 OWNER OF WELL:

Wayne Disposal, Inc.

Address: P. O. Box 5187

Dearborn, MI 48128

Address Same As Well Location? ☐ Yes ☒ No

4 WELL DEPTH: (completed)

Date of Completion

116 ft.

12-6-82

5 ☐ Cable tool ☒ Rotary ☐ Driven ☐ Dug
☐ Hollow rod ☐ Auger ☐ Jetted ☐

6 USE: ☐ Domestic ☐ Type I Public ☐ Type III Public
☐ Irrigation ☐ Type IIa Public ☐ Heat pump
☐ Test Well ☐ Type IIb Public ☒ Processing

7 CASING: ☒ Steel ☒ Threaded ☐ Welded
☐ Plastic ☐

Height: Above/Below

Surface _____ ft.

Weight _____ lbs./ft.

4 in. to 108 ft. depth

_____ in. to _____ ft. depth

Grouted Drill Hole Diameter

_____ in. to _____ ft. depth

_____ in. to _____ ft. depth

Drive Shoes ☒ Yes ☐ No8 SCREEN: ☐ Not installedType Stainless Diameter 4"Slot/Orifice 12 Length 8'Set between 108 ft. and 116 ft.FITTINGS: ☐ K-Packer ☐ Land Packer ☐ Brainer Check☒ Blank above screen 1 ft. Other Non-Packer

9 STATIC WATER LEVEL:

60 ft. below land surface ☐ Flow

10 PUMPING LEVEL: below land surface

100 ft. after 2 hrs. pumping at 35 G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

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_____ ft. after _____ hrs. pumping at _____ G.P.M.

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_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

15. Remarks, elevation, source of data, etc.

ADDED INFO BY DRILLER, ITEM NO.

*CORRECTED BY

**ADDITION BY

ELEVATION

DEPTH TO ROCK

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.

Slusser Drilling Co., Inc. 81-0388/1-82

Address 1701 W. Michigan Ave Ypsilanti, MI

Signed Richard A. Slusser Date 12-28-82

AUTHORIZED REPRESENTATIVE



Ypsilanti Twp.

Section 12

(C)

T2-39-7E
Ypsilanti Twp. (Washington Co.)

Ford Test Well No. 44

Well No. Y-12-1

Drilling Contractor: Fox Company

Location: NW $\frac{1}{4}$ Section 12, T.3S., R.7E.,
By old barn and spur track at SW corner of Section 12,
of Leorse Road or Ward Road.

Record by: Testimony from driller.

Distance
Down
Foot

Yellow sand and a few stones	5
Clay and a few stones	10
Clay, sand, few stones	15
Fine sand	20
Sand, clay	25
Blue clay, few stones	30, 35, 40, 45
Clay, few stones	50
Clay, stones	55
Clay, few fine stones	60
Clay and stones	65, 70, 75
Sand, gravel, clay	80
Clay, few stones	85
Clay and stones	90, 95, 100, 105,
	110, 115, 120, 125
	130
Fine Sand	135
Gravel	136
Fine sand	140

Date Drilled: 7-30-41

Pumping conditions: At 135' water came to 78' level.
At 136' water came to 55' level.



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007404

Failure to comply is a misdemeanor.

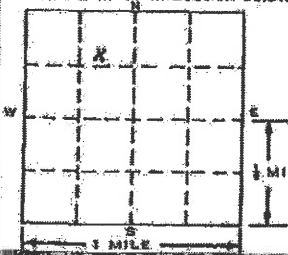
Import ID: 81737712007

Tax No:	Permit No:	County: Washtenaw	Township: Ypsilanti
Well ID: 81000007404		Fraction: NEX SE 1/4 NW 1/4	Section: 12
Elevation: 722 ft		Town/Range: 03S-07E	WSSN:
Latitude: 42.2423564587		Source ID/Well No:	
Longitude: -83.5560884308		Distance and Direction from Road Intersection: 3750' N OF SE CORNER SEC 12, 2850' W OF E SEC 12 LINE	
Well Owner: Hyrda Matic Div. Gm		Owner Address: WILLOW RUN, YPSILANTI MI 48197	

Drilling Method: Auger/Bored	Pump Installed: No	Pump Installation only:
Well Depth: 16.00 ft	Pump Installation date:	HP:
Well Type: Replacement	Manufacturer:	Pump Type:
Casing Type: PVC plastic	Model Number:	Pump Capacity:
Casing Joint: Unknown	Length of Drop Pipe:	Id of Well:
Diameter: 2.00 in. to 5.00 ft. depth	Diameter of Drop Pipe:	
Bore Diameter 1:	Draw Down Seal Used:	
Bore Diameter 2:	Pressure Tank Installed: No	
Bore Diameter 3:	Pressure Tank Type:	
Height: 0.00 ft. above grade	Manufacturer:	Tank Capacity: Gallons
Casing Fitting: None	Model Number:	
	Pressure Relief Valve Installed: No	
Static Water Level: 7.50 ft. Below Grade (Not Flowing)	Formation Description	Thickness
Yield Test Method: Unknown		Depth to Bottom
Measurement Taken During Pump Test:	Lithology Unknown Fill	2.00
	Brown Sand Fine	3.00
	Brown Sand Medium Fine	2.00
	Gray Sand Fine W/Silt	4.00
	Gray Sand Fine W/Silt	2.00
	Gray Silt	2.00
Abandoned Well Plugged: No		
Reason for not plugging Well:		
Abandoned well ID:		
Screen Installed: Yes	Well Intake:	
Filter Packed: No		
Screen Diameter: 3.00 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		
Well Grouted: Yes	Grouting Method: Unknown	
No. of Bags:	Additives: None	
Grouting Materials:		
Bentonite slurry	From 0.00 ft. to 0.00 ft.	
Well Head Completion:	Unknown	
Nearest source of possible contamination:	Contractor Type: Unknown	
Type	Registration Number: 1758	
Unknown	Business Name:	
Unknown	Business Address:	
Drilling Machine Operator Name:	WATER WELL CONTRACTOR'S CERTIFICATION:	
Employment: Unknown	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
General Remarks:		
OTHER REMARKS		

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL		3 OWNER OF WELL: <u>Hydra-Matic Division</u> <u>General Motors Corp</u> Address <u>Ypsilanti, Michigan 48197</u>	
County <u>Washtenaw</u>	Township Name <u>Ypsilanti</u>	Fraction <u>NE 1/4 NW 1/4 1/4</u>	Section Number <u>12</u> Town Number <u>3</u> Range Number <u>7 N</u>
Distance And Direction From Road Intersection		Address Same As Well Location? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Street Address & City of Well Location		4 WELL DEPTH: (completed) <u>15 ft. 0</u> Date of Completion <u>10-30-85</u>	
Locate with "X" in Section Below		5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input checked="" type="checkbox"/> Auger <input type="checkbox"/> Jetted <input type="checkbox"/>	
Sketch Map:		6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Type I Public <input type="checkbox"/> Type III Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Type IIa Public <input type="checkbox"/> Heat pump <input type="checkbox"/> Test Well <input type="checkbox"/> Type IIb Public <input checked="" type="checkbox"/> Monitor	
		7 CASING: Diameter <input type="checkbox"/> Steel <input type="checkbox"/> Threaded <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Welded <u>2</u> in. to <u>0.5</u> ft. depth <u> </u> in. to <u> </u> ft. depth Grouted Drill Hole Diameter <u> </u> in. to <u> </u> ft. depth <u> </u> in. to <u> </u> ft. depth	
2 FORMATION DESCRIPTION		Height Above/Below Surface <u>0</u> ft. Weight <u> </u> lbs./ft. Drive Shoe <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Misc fill	THICKNESS OF STRATUM <u>2</u>	DEPTH TO BOTTOM OF STRATUM <u>2</u>	8 SCREEN: <input type="checkbox"/> Not installed Type <u>PVC</u> Diameter <u>2" I.D.</u> Slot/Gauze <u>010</u> Length <u>10 ft</u> Set between <u>5</u> ft. and <u>15</u> ft. FITTINGS: <input type="checkbox"/> K-Packer <input type="checkbox"/> Lead Packer <input type="checkbox"/> Bremer Check <input type="checkbox"/> Blank above screen <u> </u> ft. Other <u> </u>
DK brown fine Sand	<u>3</u>	<u>5</u>	9 STATIC WATER LEVEL: <u>7.5</u> ft. below land surface. <input type="checkbox"/> Flow
Med. brown fine Sand	<u>2</u>	<u>7</u>	10 PUMPING LEVEL: below land surface <u> </u> ft. after <u> </u> hrs. pumping at <u> </u> G.P.M. <u> </u> ft. after <u> </u> hrs. pumping at <u> </u> G.P.M.
Fine gray Sand w/ to silt	<u>4</u>	<u>11</u>	11 WELL HEAD COMPLETION: <input type="checkbox"/> Pileless adapter <input type="checkbox"/> 12" above grade <input type="checkbox"/> Basement offset <input type="checkbox"/> Approved pit
Fine gray Sand w/ some silt	<u>2</u>	<u>13</u>	12 WELL GROUTED? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes From <u>2</u> to <u>4</u> ft. <input type="checkbox"/> Neat cement <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Other <u> </u> No. of bags of cement <u> </u> Additives <u> </u>
Stiff gray silt	<u>2</u>	<u>15</u>	13 Nearest source of possible contamination Type <u> </u> Distance <u> </u> ft. Direction <u> </u> Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
USE A 2ND SHEET IF NEEDED		14 PUMP: <input checked="" type="checkbox"/> Not installed <input type="checkbox"/> Pump installation Only Manufacturer's name <u> </u> Model number <u> </u> HP <u> </u> Volts <u> </u> Length of Drop Pipe <u> </u> ft. capacity <u> </u> G.P.M. TYPE: <input type="checkbox"/> Submersible <input type="checkbox"/> Jet PRESSURE TANK: Manufacturer's name <u> </u> Model number <u> </u> Capacity <u> </u> Gallons	
15. Remarks, elevation, source of data, etc. <u>MW-7</u>		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. <u>Earth Sciences Services Inc</u> <u>1758</u> REGISTERED BUSINESS NAME <u>P.O. Box 651 Mainway OH 43137</u> REGISTRATION NO. <u>43137</u> Address <u> </u> Signed <u>Michael J. Gabe</u> Date <u>6/25/85</u> AUTHORIZED REPRESENTATIVE	



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007406

Failure to comply is a misdemeanor.

Import ID: 81737712009

Tax No:		Permit No:		County: Washtenaw		Township: Ypsilanti	
Well ID: 81000007406		Fraction: NE 1/4 SEC 12 NW 1/4	Section: 12	Town/Range: 03S 07E	WSSN:	Source ID/Well No:	
Elevation: 722 ft		Distance and Direction from Road Intersection: 4000' N OF SE CORNER SEC 12, 2800' W OF SEC 12 E LINE					
Latitude: 42.2432633872		Well Owner: Hydra Matic Div. Gm					
Longitude: -83.5546229047		Well Address: WILLOW RUN YPSILANTI MI 48197		Owner Address: WILLOW RUN YPSILANTI MI 48197			

Drilling Method: Auger/Bored		Pump Installed: No		Pump Installation only:	
Well Depth: 15.00 ft.		Well Use: Household		HP:	
Well Type: Replacement		Date Completed: 10/30/1984		Pump Type:	
Casing Type: PVC plastic		Manufacturer:		Pump Capacity:	
Casing Joint: Unknown		Model Number:		Id of Well:	
Diameter: 2.00 in. to 5.00 ft. depth		Length of Drop Pipe:			
		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 grade		Model Number:		Tank Capacity: Gallons	
Casing Fitting: None		Pressure Relief Valve Installed: No			
Static Water Level: 8.00 ft. Below Grade(Not Flowing)		Formation Description		Thickness	Depth to Bottom
Yield Test Method: Unknown		Brown Clay Silty		2.00	2.00
Measurement Taken During Pump Test:		Brown Sand Medium Fine		3.00	5.00
		Gray Sand Fine		2.00	7.00
		Gray Sand & Silt Fine		8.00	13.00
		Gray Silt		2.00	15.00
Abandoned Well Plugged: No					
Reason for not plugging Well:					
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					
Well Grouted: Yes		Grouting Method: Unknown		Geology Remarks: 1. [DK BROWN SILTY CLAY] [2] [2] 2. [MED BROWN FINE SAND] [5] [3] 3. [GRAY FINE SAND] [7] [2] 4. [GRAY FINE SAND W/ TR. 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					
Nearest source of possible contamination:		Contractor Type: Unknown			
Type		Registration Number: 1758			
Unknown		Business Name:			
Unknown		Business Address:			
Drilling Machine Operator Name:		WATER WELL CONTRACTOR'S CERTIFICATION:			
Employment: Unknown		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	
General Remarks:					
OTHER REMARKS					

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:17

WATER WELL AND PUMP RECORD

PERMIT NUMBER

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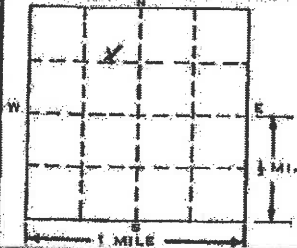
1 LOCATION OF WELL		Fraction		Section Number	Town Number	Range Number
County	Township Name					
Washtenaw	Ypsilanti	NE 1/4 NW 1/4 1/4	12	3	N 10	7

Distance And Direction From Road Intersection

Street Address & City of Well Location

Locate with "X" in Section Below.

Sketch Map:



2 FORMATION DESCRIPTION

THICKNESS
OF
STRATUMDEPTH TO
BOTTOM OF
STRATUM

DK brown silty clay

2

2

Med brown fine sand

3

5

gray fine sand

2

7

gray fine sand w/ tr. silt

6

13

Stiff gray silt

2

15

3 OWNER OF WELL: Hydra-Matic Division

General Motors Corp
Ypsilanti, Michigan 48197

Address

Address Same As Well Location? ☒ Yes ☐ No

4 WELL DEPTH: (completed)

15 ft. 0

Date of Completion

10-30-84

5 ☐ Cable tool ☐ Rotary ☐ Driven ☐ Dug
☐ Hollow rod ☒ Auger ☐ Jetted ☐6 USE: ☐ Domestic ☐ Type I Public ☐ Type III Public
☐ Irrigation ☐ Type IIa Public ☐ Heat pump
☐ Test Well ☐ Type IIb Public ☒ Monitor7 CASING: ☐ Steel ☐ Threaded ☐ WeldedDiameter ☒ Plastic

Height: Above/Below

Surface 0 ft.

2 in. to 5 ft. depth

Weight lbs./ft.

in. to ft. depth

Grouted Drill Hole Diameter

in. to ft. depth

in. to ft. depth

Drive Shoes ☐ Yes ☒ No8 SCREEN: ☐ Not installed

Type PVC Diameter 2" I.D.

Slot/Gauze 010 Length 10 ft.

Set between 5 ft. and 15 ft.

FITTINGS: ☐ K-Packer ☐ Lead Packer ☐ Bremer Check☐ Blank above screen ft. Other

9 STATIC WATER LEVEL:

8 ft. below land surface ☐ Flow

10 PUMPING LEVEL: below land surface

ft. after hrs. pumping at G.P.M.

ft. after hrs. pumping at G.P.M.

11 WELL HEAD COMPLETION: ☐ Pitless adapter ☐ 12" above grade☐ Basement offset ☐ Approved pit12 WELL GROUTED? ☐ No ☒ Yes From 2 to 4 ft.☐ Neat cement ☒ Bentonite ☐ Other

No. of bags of cement Additives

13 Nearest source of possible contamination

Type Distance ft. Direction

Well disinfected upon completion? ☐ Yes ☒ No14 PUMP: ☒ Not installed ☐ Pump installation only

Manufacturer's name

Model number HP Volts

Length of Drop Pipe ft. capacity G.P.M.

TYPE: ☐ Submersible ☐ Jet

PRESSURE TANK:

Manufacturer's name

Model number Capacity Gallons

15. Remarks, elevation, source of data, etc.

M-1-9

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.

Earth Sciences Services, Inc. 1758

REGISTERED BUSINESS NAME

REGISTRATION NO.

Address PO Box 957 Manassas VA 43537

Signed [Signature] Date 6/25/85

AUTHORIZED REPRESENTATIVE

Authority:
Completion:
Penalty:Act 368 PA 1978
Required
Conviction of a violation
of any provision is a
misdemeanor.

12-3



WATER WELL AND PUMP RECORD

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: Washtenaw	Township: Ypsilanti
Well ID: 81000007410		Fraction: NE 1/4 SE 1/4 NW 1/4	Section: 12
Elevation: 722 ft		Town/Range: 03S 07E	WSSN:
Latitude: 42.2414656653		Source ID/Well No:	
Longitude: -83.5547191401		Distance and Direction from Road Intersection: 3350' N OF SE CORNER OF SEC 12, 2675' W SEC 12 E LINE	
Well Owner: Hydra Matic Div Gm		Well Address: WILLOW RUN YPSILANTI, MI 48197	
		Owner Address: WILLOW RUN YPSILANTI, MI 48197	

Drilling Method: Auger/Bored	Pump Installed: No	Pump Installation only:
Well Depth: 15.00 ft.	Pump Installation date:	HP:
Well Type: Replacement	Manufacturer:	Pump Type:
Casing Type: PVC plastic	Model Number:	Pump Capacity:
Casing Joint: Threaded & coupled	Length of Drop Pipe:	Id of Well:
Diameter: 2.00 in. to 5.00 ft. depth	Diameter of Drop Pipe:	
Bore Diameter 1:	Draw Down Seal Used:	
Bore Diameter 2:	Pressure Tank Installed: No	
Bore Diameter 3:	Pressure Tank Type:	
Height: 0.00 ft. above grade	Manufacturer:	Tank Capacity: Gallons
Casing Fitting: None	Model Number:	
	Pressure Relief Valve Installed: No	
Static Water Level: 7.00 ft. Below Grade(Not Flowing)	Formation Description	Thickness
Yield Test Method: Unknown		Depth to Bottom
Measurement Taken During Pump Test:	Lithology Unknown Fill	2.00
	Brown Sand Fine To Medium	3.00
	Brown Sand & Silt Medium	5.00
	Gray Sand Fine W/Silt	5.00
Abandoned Well Plugged: No		
Reason for not plugging Well:		
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		
Well Grouted: Yes	Grouting Method: Unknown	
No. of Bags:	Additives: None	
Grouting Materials:		
Bentonite slurry	From 0.00 ft. to 0.00 ft.	
Well Head Completion: Unknown		
Nearest source of possible contamination:	Contractor Type: Unknown	
Type	Registration Number: 1758	
Unknown	Business Name:	
Unknown	Business Address:	
Drilling Machine Operator Name:	WATER WELL CONTRACTOR'S CERTIFICATION:	
Employment: Unknown	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
General Remarks:		
OTHER REMARKS		

Distance And Direction From Road Intersection

Address Same As Well Location? ☒ Yes ☐ No

Model number _____ Capacity _____ Gallons _____12-5

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL		Fraction		Section Number	Town Number	Range Number
County	Washtenaw	Township Name	Ypsilanti	N 1/4 N 1/4 1/4	12	3 N(E) 7 EW
Distance And Direction From Road Intersection						
Street Address & City of Well Location						
Locate with "X" in Section Below						
Sketch Map:						
2 FORMATION DESCRIPTION		THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	3 OWNER OF WELL: Hydrex-Matic Musson General Motors Corp. Ypsilanti, Michigan 48197		
Misc fill		1.5	1.5	Address: Ypsilanti, Michigan 48197		
Med brown sand		3.5	5	Address Same As Well Location? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
med brown/grey fine sand, fr. silt		5	10	4 WELL DEPTH: (completed) 15 ft. Date of Completion 2-6-85		
gray fine sand w/ silt		5	15	5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input checked="" type="checkbox"/> Auger <input type="checkbox"/> Jetted <input type="checkbox"/>		
				6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Type I Public <input type="checkbox"/> Type II Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Type IIa Public <input type="checkbox"/> Heat pump <input type="checkbox"/> Test Well <input type="checkbox"/> Type IIb Public <input checked="" type="checkbox"/> Monitor		
				7 CASING: Diameter <input checked="" type="checkbox"/> Steel <input type="checkbox"/> Threaded <input type="checkbox"/> Height: Above/Below Surface 0 ft. <input type="checkbox"/> Plastic <input type="checkbox"/> Welded <input type="checkbox"/> Weight lbs./ft. Drive Shoe <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
				8 SCREEN: <input type="checkbox"/> Not installed Type Galvanneal Diameter 3" I.D. Slot/Gauge 0/10 Length 12' Set between 3 ft. and 15 ft. FITTINGS: <input type="checkbox"/> K-Packer <input type="checkbox"/> Lead Packer <input type="checkbox"/> Bremer Check <input type="checkbox"/> Blank above screen ft. Other		
				9 STATIC WATER LEVEL: 6.5 ft. below land surface <input type="checkbox"/> Flow		
				10 PUMPING LEVEL: below land surface ft. after hrs. pumping at G.P.M. ft. after hrs. pumping at G.P.M.		
				11 WELL HEAD COMPLETION: <input type="checkbox"/> Pitless adapter <input type="checkbox"/> 12' above grade <input type="checkbox"/> Basement offset <input type="checkbox"/> Approved pit		
				12 WELL GROUTED? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes From to ft. <input type="checkbox"/> Neat cement <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Other No. of bags of cement Additives		
				13 Nearest source of possible contamination Type Distance ft. Direction Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
				14 PUMP: <input checked="" type="checkbox"/> Not installed <input type="checkbox"/> Pump installation only Manufacturer's name Model number HP Volts Length of Drop Pipe ft. capacity G.P.M. TYPE: <input type="checkbox"/> Submersible <input type="checkbox"/> Jet PRESSURE TANK: Manufacturer's name Model number Capacity Gallons		
15. Remarks, elevation, source of data, etc.		16. WATER WELL CONTRACTOR'S CERTIFICATION:				
Notes R(1) - 1		This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. Earth Sciences Services, Inc. 1758 REGISTERED BUSINESS NAME REGISTRATION NO. Address P.O. Box 54, Maumee, OH 43537 Signed Michael T. G/nc Date 6/25/85 AUTHORIZED REPRESENTATIVE Authority: Completion: Penalty: Aot 369 PA 1978 Required Conviction of a violation of any provision is a misdemeanor.				

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1. LOCATION OF WELL

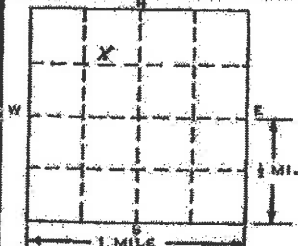
County Washtenaw Township Name Ypsilanti Fraction N 1/4 NW 1/4 1/4 Section Number 12 Town Number 3 N 6 Range Number 7 E W

Distance And Direction From Road Intersection

Street Address & City of Well Location

Locate with "X" in Section Below

Sketch Map:



2. FORMATION DESCRIPTION

THICKNESS
OF
STRATUMDEPTH TO
BOTTOM OF
STRATUMMisc fill1.51.5Med brown fine Sand, fr. silt3.55Med brown/gray fine Sand, fr. silt510Gray fine Sand w/ silt5153. OWNER OF WELL: Hydra-Matic DivisionGeneral Motors Corp.Address Ypsilanti, Michigan 48197Address Same As Well Location? ☒ Yes ☐ No

4. WELL DEPTH: (completed)

15 ft. 0

Date of Completion

2-7-85

6. ☐ Cable tool ☐ Rotary ☐ Driven ☐ Dug
☐ Hollow rod ☒ Auger ☐ Jettied ☐

8. USE: ☐ Domestic ☐ Type I Public ☐ Type III Public
☐ Irrigation ☐ Type IIa Public ☐ Heat pump
☐ Test Well ☐ Type IIb Public ☒ Monitor

7. CASING: Diameter ☒ Steel ☐ Threaded3 in. to 3 ft. depth☐ Plastic ☐ Welded3 in. to 3 ft. depth

Grouted Drill Hole Diameter

3 in. to 3 ft. depth3 in. to 3 ft. depth

Height: Above/Below

Surface 0 ft.Weight lbs./ft.Drive Shoe ☐ Yes☒ No

9. SCREEN:

Type Latunized ☐ Not InstalledDiameter 3" I.D.Slot/Gauge 010 Length 12'Set between 3 ft. and 15 ft.FITTINGS: ☐ R-Packer ☐ Lead Packer ☐ Bremer Check☐ Blank above screen ft. Other

8. STATIC WATER LEVEL:

6.5 ft. below land surface ☐ Flow

10. PUMPING LEVEL: below land surface

 ft. after hrs. pumping at G.P.M. ft. after hrs. pumping at G.P.M.

11. WELL HEAD COMPLETION:

☐ Pileless adapter ☐ 12" above grade☐ Basement offset ☐ Approved pit12. WELL GROUTED? ☐ No ☒ Yes From 3 to 1 ft.☐ Neat cement ☒ Bentonite ☐ Other No. of bags of cement Additives

13. Nearest source of possible contamination

Type Distance ft. Direction Well disinfected upon completion? ☐ Yes ☒ No14. PUMP: N.A. ☒ Not Installed ☐ Pump Installation OnlyManufacturer's name Model number HP Volts Length of Drop Pipe ft. capacity G.P.M.TYPE: ☐ Submersible ☐ JetPRESSURE TANK: Manufacturer's name Model number Capacity Gallons

USE A 2ND SHEET IF NEEDED

15. Remarks, elevation, source of data, etc.

RJApp-2

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.

Earth Sciences Service, Inc.1758

REGISTERED BUSINESS NAME

REGISTRATION NO.

Address P.O. Box 1557 Mankato, OH 43537Signed Michael T. G/2 Date 6/25/85

AUTHORIZED REPRESENTATIVE

Authority:
Completion:
Penalty:Act 366 PA 1978
Required
Conviction of a violation
of any provision is a
misdemeanor.

WATER WELL AND PUMP RECORD

PERMIT NUMBER

--	--	--	--	--	--	--	--

1 LOCATION OF WELL		County <u>Washitanaw</u>		Township Name <u>Ypsilanti</u>		Fraction <u>NE 1/4</u> <u>N 1/4</u> <u>1/4</u>		Section Number <u>12</u>		Town Number <u>3</u> <u>N 3</u>		Range Number <u>7</u> <u>EW</u>	
Distance And Direction From Road Intersection													
Street Address & City of Well Location													
Locate with "X" in Section Below													
Sketch Map:													
2 FORMATION DESCRIPTION				THICKNESS OF STRATUM		DEPTH TO BOTTOM OF STRATUM							
<u>Misc fill</u>				<u>1.5</u>		<u>1.5</u>							
<u>Med brown fine Sand</u>				<u>3.5</u>		<u>5</u>							
<u>Med brown/gray fine Sand, tr. silt</u>				<u>5</u>		<u>10</u>							
<u>gray fine Sand w/ silt</u>				<u>5</u>		<u>15</u>							
3 OWNER OF WELL: <u>Hydramatic Division</u> <u>General Motors Corp</u> <u>Ypsilanti, Michigan 48197</u>													
Address: <u>Ypsilanti, Michigan 48197</u>													
Address Same As Well Location? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No													
4 WELL DEPTH: (completed) <u>15</u> ft. 0 Date of Completion <u>2-7-85</u>													
5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input checked="" type="checkbox"/> Auger <input type="checkbox"/> Jettied <input type="checkbox"/>													
6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Type I Public <input type="checkbox"/> Type III Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Type IIa Public <input type="checkbox"/> Heat pump <input type="checkbox"/> Test Well <input type="checkbox"/> Type IIb Public <input checked="" type="checkbox"/> Monitor													
7 CASING: Diameter <input checked="" type="checkbox"/> Steel <input type="checkbox"/> Threaded <input type="checkbox"/> Height: Above/Below <u>3"</u> in. to <u>3</u> ft. depth <input type="checkbox"/> Plastic <input type="checkbox"/> Welded Surface <u>0</u> ft. Grouted Drill Hole Diameter <u>3</u> in. to <u>3</u> ft. depth Weight <u>0</u> lbs./ft. <u>3</u> in. to <u>3</u> ft. depth Drive Shoe <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
8 SCREEN: <input type="checkbox"/> Not Installed Type <u>Galvanized</u> Diameter <u>3" 1-0</u> Slot/Gauze <u>010</u> Length <u>12'</u> Set between <u>3</u> ft. and <u>15</u> ft. FITTINGS: <input type="checkbox"/> K-Packer <input type="checkbox"/> Lead Packer <input type="checkbox"/> Breather Check <input type="checkbox"/> Blank above screen <u>0</u> ft. Other													
9 STATIC WATER LEVEL: <u>6.5</u> ft. below land surface <input type="checkbox"/> Flow													
10 PUMPING LEVEL: below land surface <u>0</u> ft. after <u>0</u> hrs. pumping at <u>0</u> G.P.M. <u>0</u> ft. after <u>0</u> hrs. pumping at <u>0</u> G.P.M.													
11 WELL HEAD COMPLETION: <input type="checkbox"/> Pitless adapter <input type="checkbox"/> 12" above grade <input type="checkbox"/> Basement offset <input type="checkbox"/> Approved pit													
12 WELL GROUTED? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes From <u>1</u> to <u>3</u> ft. <input type="checkbox"/> Neat cement <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Other No. of bags of cement <u>0</u> Additives													
13 Nearest source of possible contamination Type <u>0</u> Distance <u>0</u> ft. Direction <u>0</u> Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
14 PUMP: <input checked="" type="checkbox"/> Not Installed <input type="checkbox"/> Pump Installation Only Manufacturer's name <u>P.A.</u> Model number <u>0</u> HP <u>0</u> Volts <u>0</u> Length of Drop Pipe <u>0</u> ft. capacity <u>0</u> G.P.M. TYPE: <input type="checkbox"/> Submersible <input type="checkbox"/> Jet PRESSURE TANK: Manufacturer's name <u>0</u> Model number <u>0</u> Capacity <u>0</u> Gallons													
15. Remarks, elevation, source of data, etc. <u>Handwritten RN-3</u>													
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. <u>Earth Sciences Services, Inc.</u> <u>1758</u> REGISTERED BUSINESS NAME REGISTRATION NO. Address <u>P.O. Box 577, Mansfield, OH 43537</u> Signed <u>Michael V. Gage</u> Date <u>6/25/85</u> AUTHORIZED REPRESENTATIVE													

WATER WELL AND PUMP RECORD

PART 127 ACT 366, P.A. 1978

PERMIT NUMBER

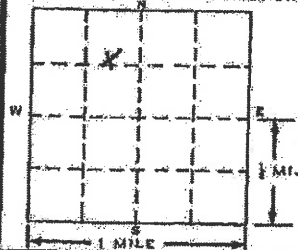
--	--	--	--	--	--

1 LOCATION OF WELL		Township Name		Fraction	Section Number	Town Number	Range Number
County <u>Washtenaw</u>		<u>Ypsilanti</u>		<u>N 1/4</u> <u>N 1/4</u> <u>1/4</u>	<u>12</u>	<u>3</u> <u>N/2</u>	<u>7</u> <u>EW</u>
Distance And Direction From Road Intersection							

Street Address & City of Well Location

Locate with "X" in Section Below

Sketch Map:



2 FORMATION DESCRIPTION

THICKNESS
OF
STRATUMDEPTH TO
BOTTOM OF
STRATUMMisc fill22DK brown fine Sand35Med brown/gray Sand27Fine gray Sand w/ fr. silt613Stiff gray Silt215

3 OWNER OF WELL:

Hydra-matic Division
General MotorsAddress Ypsilanti, Michigan 48197Address Same As Well Location? ☒ Yes ☐ No

4 WELL DEPTH: (Completed)

15 ft. 0

Date of Completion

11-2-846 ☐ Cable tool☐ Rotary☐ Driven☐ Dug☐ Hollow rod☒ Auger☐ Jetted☐

8 USE:

☐ Domestic☐ Type I Public☐ Type II Public☐ Irrigation☐ Type IIA Public☐ Heat pump☐ Test Well☐ Type IIB Public☒ Monitor

7 CASING:

Diameter

☐ Steel☐ Threaded

Height: Above/Below

☒ Plastic☐ WeldedSurface 0 ft.2 in. to 5 ft. depthWeight 0 lbs./ft. in. to ft. depth

Grouted Drill Hole Diameter

 in. to ft. depth in. to ft. depthDrive Shoe ☐ Yes☒ No

8 SCREEN:

☐ Not installedType PVCDiameter 3" I.D.Slot/Gauge 010Length 10Set between 5 ft. and 15 ft.FITTINGS: ☐ X-Packer☐ Lead Packer☐ Bremer Check☐ Blank above screen ft.Other

9 STATIC WATER LEVEL:

7.5 ft. below land surface☐ Flow

10 PUMPING LEVEL: below land surface

 ft. after hrs. pumping at G.P.M. ft. after hrs. pumping at G.P.M.

11 WELL HEAD

COMPLETION:

☐ Pitless adapter☐ 12" above grade☐ Basement offset☐ Approved pit

12 WELL GROUTED?

☐ No☒ Yes From 2 to 4 ft.☐ Neat cement☒ Bentonite☐ Other No. of bags of cement Additives

13 Nearest source of possible contamination:

Type Distance ft. Direction Well disinfected upon completion? ☐ Yes ☒ No

14 PUMP:

☒ Not installed☐ Pump Installation OnlyManufacturer's name Model number HP Volts Length of Drop Pipe ft. capacity G.P.M. TYPE: ☐ Submersible☐ Jet

PRESSURE TANK:

Manufacturer's name Model number Capacity Gallons

USE A 2ND SHEET IF NEEDED

15. Remarks, elevation, source of data, etc.

MW-12

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.

Earth Sciences Services, Inc.

REGISTERED BUSINESS NAME

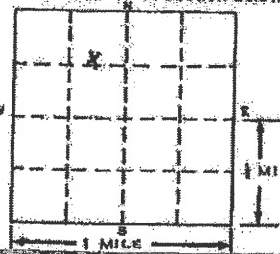
REGISTRATION NO. 1758Address P.O. Box 557, Maysville, OH 43337Signed Michael J. G. / J. G.

AUTHORIZED REPRESENTATIVE

Date 6/25/85

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL		
County <u>Washtenaw</u>	Township Name <u>Ypsilanti</u>	Fraction <u>N 2 1/4 NW 1/4 1/4</u> Section Number <u>12</u> Town Number <u>3</u> Range Number <u>7 E/W</u>
Distance And Direction From Road Intersection		
Street Address & City of Well Location Locate with "X" in Section Below		
Sketch Map:		
		
2 FORMATION DESCRIPTION		
THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	
Misc fill	3	3
DK brown fine Sand	2	5
Med brown fine Sand	2	7
Fine fine Sand	4	11
gray fine Sand w/ fr. silt	2	13
Stiff gray Silt	2	15
3 OWNER OF WELL: <u>Hydra-Matic Division General Motors Corp</u> Address <u>Ypsilanti, Michigan 48197</u> Address Same As Well Location? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
4 WELL DEPTH: (completed) <u>15 ft. 0</u> Date of Completion <u>10-30-84</u>		
5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input checked="" type="checkbox"/> Auger <input type="checkbox"/> Jetted <input type="checkbox"/>		
6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Type I Public <input type="checkbox"/> Type II Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Type III Public <input type="checkbox"/> Heat pump <input type="checkbox"/> Test Well <input type="checkbox"/> Type IIB Public <input checked="" type="checkbox"/> Monitor		
7 CASING: Diameter <input type="checkbox"/> Steel <input type="checkbox"/> Threaded <input type="checkbox"/> Height: Above/Below <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Welded Surface <u>0</u> ft. <u>2</u> in. to <u>5</u> ft. depth Weight <u>0</u> lbs./ft. <u> </u> in. to <u> </u> ft. depth Grouted Drill Hole Diameter <u> </u> in. to <u> </u> ft. depth Drive Shoe <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <u> </u> in. to <u> </u> ft. depth		
8 SCREEN: <input type="checkbox"/> Not Installed Type <u>PVC</u> Diameter <u>2" ± 0.0</u> Slot/Gauze <u>010</u> Length <u>10 ft</u> Set between <u>5</u> ft. and <u>15</u> ft. FITTINGS: <input type="checkbox"/> K-Packer <input type="checkbox"/> Lead Packer <input type="checkbox"/> Bremer Check <input type="checkbox"/> Blank above screen <u> </u> ft. Other <u> </u>		
9 STATIC WATER LEVEL: <u>8</u> ft. below land surface <input type="checkbox"/> Flow		
10 PUMPING LEVEL: below land surface <u> </u> ft. after <u> </u> hrs. pumping at <u> </u> G.P.M. <u> </u> ft. after <u> </u> hrs. pumping at <u> </u> G.P.M.		
11 WELL HEAD COMPLETION: <input type="checkbox"/> Pitless adapter <input type="checkbox"/> 12" above grade <input type="checkbox"/> Basement offset <input type="checkbox"/> Approved pit		
12 WELL GROUTED? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes From <u>2</u> to <u>4</u> ft. <input type="checkbox"/> Neat cement <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Other <u> </u> No. of bags of cement <u> </u> Additives <u> </u>		
13 Nearest source of possible contamination Type <u> </u> Distance <u> </u> ft. Direction <u> </u> Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
14 PUMP: <input checked="" type="checkbox"/> Not installed <input type="checkbox"/> Pump installation Only Manufacturer's name <u> </u> Model number <u> </u> HP <u> </u> Volts <u> </u> Length of Drop Pipe <u> </u> ft. capacity <u> </u> G.P.M. TYPE: <input type="checkbox"/> Submersible <input type="checkbox"/> Jet PRESSURE TANK: Manufacturer's name <u> </u> Model number <u> </u> Capacity <u> </u> Gallons		

USE A 2ND SHEET IF NEEDED

15. Remarks, elevation, source of data, etc.

MW-10

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.

Earth Sciences Services Corp 1758
REGISTERED BUSINESS NAME REGISTRATION NO.
Address PO Box 587, Maumee OH 43537
Signed Michael T. G. G. G. Date 6/25/85
AUTHORIZED REPRESENTATIVE

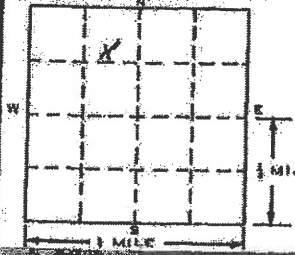
Authority:
Completion:
Penalty:Act 388 PA 1978
Required
Conviction of a violation
of any provision is a
misdemeanor.

GEOLOGICAL SURVEY COPY

12-10

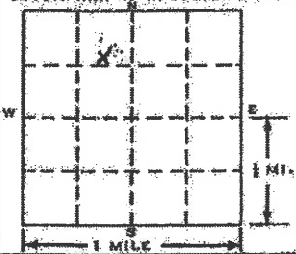
WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL			2 FORMATION DESCRIPTION				THICKNESS OF STRATUM		DEPTH TO BOTTOM OF STRATUM	
County <u>Washtenaw</u> Township Name <u>Ypsilanti</u> Fraction <u>N 2 1/4 NW 1/4 1/4</u> Section Number <u>12</u> Town Number <u>3</u> Range Number <u>7</u> <u>EAN</u>			Street Address & City of Well Location Locate with "X" in Section Below.		Sketch Map:		OWNER OF WELL: <u>Hydra-Matic</u> <u>Division of General Motors</u> Address <u>Ypsilanti, Michigan 48197</u> Address Same As Well Location? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
			WELL DEPTH: (completed) <u>15 ft. 0</u>		Date of Completion <u>10-29-84</u>		6 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dig. <input type="checkbox"/> Hollow rod <input checked="" type="checkbox"/> Auger <input type="checkbox"/> Jettied <input type="checkbox"/>			
			8 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Type I Public <input type="checkbox"/> Type III Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Type IIa Public <input type="checkbox"/> Heat pump <input type="checkbox"/> Test Well <input type="checkbox"/> Type IIb Public <input checked="" type="checkbox"/> Monitor		7 CASING: Diameter <input type="checkbox"/> Steel <input type="checkbox"/> Threaded <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Welded <u>2</u> in. to <u>5</u> ft. depth <u> </u> in. to <u> </u> ft. depth Grouted Drill Hole Diameter <u> </u> in. to <u> </u> ft. depth <u> </u> in. to <u> </u> ft. depth Height: Above/Below Surface <u>0</u> ft. Weight <u> </u> lbs./ft. Drive Shoe <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
			8 SCREEN: <input type="checkbox"/> Not Installed Type <u>PVC</u> Diameter <u>2" I.D.</u> Slot/Gauze <u>010</u> Length <u>10 ft</u> Set between <u>5</u> ft. and <u>15</u> ft. FITTINGS: <input type="checkbox"/> K-Packer <input type="checkbox"/> Lead Packer <input type="checkbox"/> Brenner Check <input type="checkbox"/> Blank above screen <u> </u> ft. Other <u> </u>		9 STATIC WATER LEVEL: <u>7.5</u> ft. below land surface <input type="checkbox"/> Flow					
			10 PUMPING LEVEL: below land surface <u> </u> ft. after <u> </u> hrs. pumping at <u> </u> G.P.M. <u> </u> ft. after <u> </u> hrs. pumping at <u> </u> G.P.M.		11 WELL HEAD COMPLETION: <input type="checkbox"/> Pipes adapter <input type="checkbox"/> 12" above grade <input type="checkbox"/> Basement offset <input type="checkbox"/> Approved pit					
			12 WELL GROUTED? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes From <u>2</u> to <u>4</u> ft. <input type="checkbox"/> Neat cement <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Other <u> </u> No. of bags of cement <u> </u> Additives <u> </u>		13 Nearest source of possible contamination Type <u> </u> Distance <u> </u> ft. Direction <u> </u> Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
			14 PUMP: <input checked="" type="checkbox"/> Not Installed <input type="checkbox"/> Pump Installation Only Manufacturer's name <u> </u> Model number <u> </u> HP <u> </u> Volts <u> </u> Length of Drop Pipe <u> </u> ft. capacity <u> </u> G.P.M. TYPE: <input type="checkbox"/> Submersible <input type="checkbox"/> Jet PRESSURE TANK: Manufacturer's name <u> </u> Model number <u> </u> Capacity <u> </u> Gallons		15. Remarks, elevation, source of data, etc. <u>MW-5</u>					
USE A 2ND SHEET IF NEEDED			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. <u>Earth Sciences Services, Inc.</u> <u>1758</u> REGISTERED BUSINESS NAME REGISTRATION NO. Address <u>P.O. Box 1571, Maumee, OH 43537</u> Signed <u>Michael J. C. [Signature]</u> Date <u>6/25/85</u> AUTHORIZED REPRESENTATIVE		Authority: <u> </u> Completion: <u> </u> Penalty: <u> </u> Act 388 PA 1978 Required Conviction of a violation of any provision is a misdemeanor.					
			12-11							

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL		Fraction		Section Number	Town Number	Range Number
County Washtenaw	Township Name Ypsilanti	NW 1/4 NW 1/4 1/4	12	3	N 10	7 E 1/4
Distance And Direction From Road Intersection						
Street Address & City of Well Location						
Locate with "X" In Section Below						
Sketch Map:						
						
2 FORMATION DESCRIPTION		THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	3 OWNER OF WELL: Hydra-Matic Division General Motors Corp.		
Misc fill		5	5	Address Ypsilanti, Michigan 48197		
Medium brown fine Sand		2	7	Address Same As Well Location? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Dark brown/gray Sand		4	11	4 WELL DEPTH: (completed) 15 ft. 0 Date of Completion 10-29-84		
Fine gray, silty Sand		2	13	5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input checked="" type="checkbox"/> Auger <input type="checkbox"/> Jetted <input type="checkbox"/>		
Hard gray Silt		2	15	6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Type I Public <input type="checkbox"/> Type III Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Type IIa Public <input type="checkbox"/> Heat pump <input type="checkbox"/> Test Well <input type="checkbox"/> Type IIb Public <input checked="" type="checkbox"/> Monitor		
				7 CASING: Diameter <input type="checkbox"/> Steel <input type="checkbox"/> Threaded <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Welded 2 in. to 5 ft. depth Ground Drill Hole Diameter in. to ft. depth in. to ft. depth in. to ft. depth		
				Height: Above/Below Surface 0 ft. Weight lbs./ft. Drive Shoe <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
				8 SCREEN: <input type="checkbox"/> Not installed Type PVC Diameter 2" 10 Slot/Gauze 010 Length 10' Set between 5 ft. and 15 ft. FITTINGS: <input type="checkbox"/> K-Packer <input type="checkbox"/> Lead Packer <input type="checkbox"/> Bremer Check <input type="checkbox"/> Blank above screen ft. Other		
				9 STATIC WATER LEVEL: 8 ft. below land surface <input type="checkbox"/> Flow		
				10 PUMPING LEVEL: below land surface ft. after hrs. pumping at G.P.M. ft. after hrs. pumping at G.P.M.		
				11 WELL HEAD COMPLETION: <input type="checkbox"/> Pitless adapter <input type="checkbox"/> 12" above grade <input type="checkbox"/> Basement offset <input type="checkbox"/> Approved pit		
				12 WELL GROUTED? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes From 2 to 4 ft. <input type="checkbox"/> Neat cement <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Other No. of bags of cement Additives		
				13 Nearest source of possible contamination: Type Distance ft. Direction Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
				14 PUMP: <input checked="" type="checkbox"/> Not installed <input type="checkbox"/> Pump Installation Only Manufacturer's name Model number HP Volts Length of Drop Pipe ft. capacity G.P.M. TYPE: <input type="checkbox"/> Submersible <input type="checkbox"/> Jet PRESSURE TANK: Manufacturer's name Model number Capacity Gallons		
USE A 2ND SHEET IF NEEDED						
15. Remarks, elevation, source of data, etc. MD-1				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. Earth Sciences Services, Inc 1758 REGISTERED BUSINESS NAME REGISTRATION NO. Address P.O. Box 567 Plymouth, MI 48177 Signed [Signature] Date 6/25/85 AUTHORIZED REPRESENTATIVE Authority: Act 388 PA 1978 Penalty: Required Completion of a violation of any provision is a misdemeanor.		

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL		Fraction		Section Number		Town Number		Range Number	
County: <u>Washtenaw</u>		Township Name: <u>Ypsilanti</u>		<u>N 2 1/4 W 1/4 1/4</u>		<u>12</u>		<u>3 N 1/2 7 E W</u>	
Distance And Direction From Road Intersection									
Street Address & City of Well Location									
Locate with "X" in Section Below									
Sketch Map:									
2 FORMATION DESCRIPTION				THICKNESS OF STRATUM		DEPTH TO BOTTOM OF STRATUM			
<u>Misc fill</u>				<u>2</u>		<u>2</u>			
<u>Med. Brown fine Sand</u>				<u>3</u>		<u>5</u>			
<u>Med brown/gray Sand</u>				<u>2</u>		<u>7</u>			
<u>gray fine Sand w/ tr. silt</u>				<u>6</u>		<u>13</u>			
<u>Stiff gray silt</u>				<u>2</u>		<u>15</u>			
3 OWNER OF WELL: <u>Hydra-Matic Division General Motors Corp</u>									
Address: <u>Ypsilanti, Michigan 48197</u>									
Address Same As Well Location? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No									
4 WELL DEPTH: (completed) <u>15 ft.</u> Date of Completion <u>11-2-84</u>									
5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dig									
<input type="checkbox"/> Hollow rod <input checked="" type="checkbox"/> Auger <input type="checkbox"/> Jetted <input type="checkbox"/>									
6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Type I Public <input type="checkbox"/> Type III Public									
<input type="checkbox"/> Irrigation <input type="checkbox"/> Type IIa Public <input type="checkbox"/> Heat pump									
<input type="checkbox"/> Test Well <input type="checkbox"/> Type IIb Public <input checked="" type="checkbox"/> Monitor									
7 CASING: <input type="checkbox"/> Steel <input type="checkbox"/> Threaded <input type="checkbox"/> Height: Above/Below									
<input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Welded									
<u>2</u> in. to <u>5</u> ft. depth									
<u>Grouted Drill Hole Diameter</u>									
<u>in. to</u> ft. depth									
<u>in. to</u> ft. depth									
<u>in. to</u> ft. depth									
Drive Shoe <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
8 SCREEN: <input type="checkbox"/> Not installed									
Type <u>PVC</u> Diameter <u>2" I.D.</u>									
Slot/Gauge <u>010</u> Length <u>10 ft</u>									
Set between <u>5</u> ft. and <u>15</u> ft.									
FITTINGS: <input type="checkbox"/> K-Packer <input type="checkbox"/> Lead Packer <input type="checkbox"/> Gravel Check									
<input type="checkbox"/> Blank above screen ft. Other									
9 STATIC WATER LEVEL: <u>7.5</u> ft. below land surface <input type="checkbox"/> Flow									
10 PUMPING LEVEL: below land surface									
<u>ft.</u> after <u>hrs.</u> pumping at <u>G.P.M.</u>									
<u>ft.</u> after <u>hrs.</u> pumping at <u>G.P.M.</u>									
11 WELL HEAD COMPLETION: <input type="checkbox"/> Pitless adapter <input type="checkbox"/> 12" above grade									
<input type="checkbox"/> Basement offset <input type="checkbox"/> Approved pit									
12 WELL GROUTED? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes From <u>2</u> to <u>4</u> ft.									
<input type="checkbox"/> Neat cement <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Other									
No. of bags of cement <u> </u> Additives <u> </u>									
13 Nearest source of possible contamination									
Type <u> </u> Distance <u> </u> ft. Direction <u> </u>									
Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
14 PUMP: <input checked="" type="checkbox"/> Not installed <input type="checkbox"/> Pump installation Only									
Manufacturer's name <u>N.A.</u>									
Model number <u> </u> HP <u> </u> Volts <u> </u>									
Length of Drop Pipe <u> </u> ft. capacity <u> </u> G.P.M.									
TYPE: <input type="checkbox"/> Submersible <input type="checkbox"/> Jet									
PRESSURE TANK:									
Manufacturer's name <u> </u>									
Model number <u> </u> Capacity <u> </u> Gallons									
15. Remarks, elevation, source of data, etc.									
<u>MW-11</u>									
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.									
<u>Earth Sciences Services</u> <u>1758</u>									
REGISTERED BUSINESS NAME <u> </u> REGISTRATION NO. <u>43537</u>									
Address <u>P.O. Box 8571 Mankato OH</u>									
Signed <u>Michael J. Glick</u> Date <u>6/25/85</u>									
AUTHORIZED REPRESENTATIVE									
Authority: <u> </u>									
Completion: <u> </u>									
Penalty: <u> </u>									
Act 308 PA 1978. Required Conviction of a violation of any provision is a misdemeanor.									

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL			5 OWNER OF WELL: <i>Hydra-Matic Division General Motors Corp.</i>																	
County <i>Washtenaw</i>	Township Name <i>Ypsilanti</i>	Fraction <i>NE 1/4 NW 1/4 1/4</i>	Section Number <i>12</i>	Town Number <i>3 N/A</i>	Range Number <i>7 E/W</i>															
Distance And Direction From Road Intersection			Address <i>Ypsilanti, Michigan 48197</i>																	
Street Address & City of Well Location			Address Same As Well Location? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																	
Locate with "X" in Section Below			4 WELL DEPTH: (completed) <i>15 ft. 0</i>																	
<div style="display: flex; align-items: center;"> <div style="margin-left: 10px;">Sketch Map:</div> </div>			Date of Completion <i>2-8-85</i>																	
			5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input checked="" type="checkbox"/> Auger <input type="checkbox"/> Jetted <input type="checkbox"/>																	
2 FORMATION DESCRIPTION <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;">FORMATION DESCRIPTION</th> <th style="width:10%;">THICKNESS OF STRATUM</th> <th style="width:10%;">DEPTH TO BOTTOM OF STRATUM</th> </tr> </thead> <tbody> <tr> <td><i>Misc fill</i></td> <td><i>1.5</i></td> <td><i>1.5</i></td> </tr> <tr> <td><i>Medium brown, fine sand</i></td> <td><i>3.5</i></td> <td><i>5.0</i></td> </tr> <tr> <td><i>Medium brown/gray fine sand, fr. silt</i></td> <td><i>5.0</i></td> <td><i>10.0</i></td> </tr> <tr> <td><i>Gray fine sand, w/ some silt</i></td> <td><i>5.0</i></td> <td><i>15.0</i></td> </tr> </tbody> </table>			FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	<i>Misc fill</i>	<i>1.5</i>	<i>1.5</i>	<i>Medium brown, fine sand</i>	<i>3.5</i>	<i>5.0</i>	<i>Medium brown/gray fine sand, fr. silt</i>	<i>5.0</i>	<i>10.0</i>	<i>Gray fine sand, w/ some silt</i>	<i>5.0</i>	<i>15.0</i>	6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Type I Public <input type="checkbox"/> Type III Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Type IIa Public <input type="checkbox"/> Heat pump <input type="checkbox"/> Test Well <input type="checkbox"/> Type IIb Public <input checked="" type="checkbox"/> Monitor		
			FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM															
<i>Misc fill</i>	<i>1.5</i>	<i>1.5</i>																		
<i>Medium brown, fine sand</i>	<i>3.5</i>	<i>5.0</i>																		
<i>Medium brown/gray fine sand, fr. silt</i>	<i>5.0</i>	<i>10.0</i>																		
<i>Gray fine sand, w/ some silt</i>	<i>5.0</i>	<i>15.0</i>																		
7 CASING: Diameter <input type="checkbox"/> Steel <input checked="" type="checkbox"/> Threaded <input type="checkbox"/> Welded <i>2" in. to 5 ft. depth</i> <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Height: Above/Below Surface <i>0</i> ft. Grouted Drill Hole Diameter <i>2" in. to 5 ft. depth</i> Weight <i>10</i> lbs./ft. Drive Shoe <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																				
8 SCREEN: <input type="checkbox"/> Not installed Type <i>PVC</i> Diameter <i>2" I.D.</i> Slot/Gauze <i>.010</i> Length <i>10 ft</i> Set between <i>5.0</i> ft. and <i>15.0</i> ft. FITTINGS: <input type="checkbox"/> K-Packer <input type="checkbox"/> Lead Packer <input type="checkbox"/> Bremer Check <input type="checkbox"/> Blank above screen <i>ft.</i> Other <i>ft.</i>																				
9 STATIC WATER LEVEL: <i>7.0</i> ft. below land surface: <input type="checkbox"/> Flow																				
10 PUMPING LEVEL: below land surface _____ ft. after _____ hrs. pumping at _____ G.P.M. _____ ft. after _____ hrs. pumping at _____ G.P.M.																				
11 WELL HEAD COMPLETION: <input type="checkbox"/> Pitless adapter <input type="checkbox"/> 12" above grade <input type="checkbox"/> Basement offset <input type="checkbox"/> Approved pit																				
12 WELL GROUTED? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes From <i>1</i> to <i>3</i> ft. <input type="checkbox"/> Neat cement <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Other _____ No. of bags of cement _____ Additives _____																				
13 Nearest source of possible contamination Type _____ Distance _____ ft. Direction _____ Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																				
14 PUMP: <input checked="" type="checkbox"/> Not installed <input type="checkbox"/> Pump installation Only Manufacturer's name _____ Model number _____ HP _____ Volts _____ Length of Drop Pipe _____ ft. capacity _____ G.P.M. TYPE: <input type="checkbox"/> Submersible <input type="checkbox"/> Jet _____ PRESSURE TANK: Manufacturer's name _____ Model number _____ Capacity _____ Gallons																				
15. Remarks, elevation, source of data, etc. <i>MW-13</i>			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. <i>Earth Sciences Services, Inc. 1758</i> REGISTERED BUSINESS NAME REGISTRATION NO. Address <i>P.O. Box 977 Maumee, Ohio 43537</i> Signed <i>Mark T. G. [Signature]</i> Date <i>6/25/85</i> AUTHORIZED REPRESENTATIVE																	

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GEOLOGICAL SURVEY COPY

 Authority: Act 368, PA 1978
 Completion: Required
 Penalty: Conviction of a violation of any provision is a misdemeanor.

12.14

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

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PERMIT NUMBER

1 LOCATION OF WELL			3. OWNER OF WELL: <i>Hydra-matic Division General Motors Corp.</i>		
County <i>Washtenaw</i>	Township Name <i>Ypsilanti</i>	Fraction <i>NE 1/4 NW 1/4 1/4</i>	Section Number <i>12</i>	Town Number <i>3 N 10</i>	Range Number <i>7 W</i>
Distance And Direction From Road Intersection:			Address <i>Ypsilanti, Michigan 48197</i>		
Street Address & City of Well Location			Address Same As Well Location? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Locate with "X" in Section Below			4 WELL DEPTH: (completed) <i>15 ft 0</i> Date of Completion <i>2-12-85</i>		
Sketch Map:			5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input checked="" type="checkbox"/> Auger <input type="checkbox"/> Jelled <input type="checkbox"/>		
			6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Type I Public <input type="checkbox"/> Type II Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Type IIA Public <input type="checkbox"/> Heat pump <input type="checkbox"/> Test Well <input type="checkbox"/> Type IIB Public <input checked="" type="checkbox"/> Monitor		
			7 CASING: Diameter <input checked="" type="checkbox"/> Steel <input checked="" type="checkbox"/> Threaded <input type="checkbox"/> Plastic <input type="checkbox"/> Welded <i>2</i> in. to <i>5</i> ft. depth Grouted Drill Hole Diameter <i>2</i> in. to <i>5</i> ft. depth Height: Above/Below Surface <i>0</i> ft. Weight: <i>0</i> lbs./ft. Drive Shoe <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
2 FORMATION DESCRIPTION			8 SCREEN: <input type="checkbox"/> Not installed		
THICKNESS OF STRATUM			Type <i>galvanized steel</i> Diameter <i>2" 10</i>		
DEPTH TO BOTTOM OF STRATUM			Slot/Gauze <i>010</i> Length <i>10 ft</i>		
<i>Misc. Fill</i>			Set between <i>5</i> ft. and <i>15</i> ft.		
<i>Medium brown fine sand</i>			FITTINGS: <input type="checkbox"/> K-Packer <input type="checkbox"/> Lead Packer <input type="checkbox"/> Bremer Check <input type="checkbox"/> Blank above screen <i>0</i> ft. Other		
<i>Medium brown/gray fine sand, fr. silt</i>			9 STATIC WATER LEVEL: <i>7.0</i> ft. below land surface <input type="checkbox"/> Flow		
<i>gray fine sand w/ some silt</i>			10 PUMPING LEVEL: below land surface		
			ft. after _____ hrs. pumping at _____ G.P.M.		
			ft. after _____ hrs. pumping at _____ G.P.M.		
			11 WELL HEAD COMPLETION: <input type="checkbox"/> Pitless adapter <input type="checkbox"/> 12" above grade <input type="checkbox"/> Basement offset <input type="checkbox"/> Approved pit		
			12 WELL GROUTED? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes From <i>2</i> to <i>4</i> ft.		
			<input type="checkbox"/> Near cement <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Other		
			No. of bags of cement _____ Additives _____		
			13 Nearest source of possible contamination		
			Type _____ Distance _____ ft. Direction _____		
			Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
			14 PUMP: <input checked="" type="checkbox"/> Not installed <input type="checkbox"/> Pump installation only		
			Manufacturer's name _____		
			Model number _____ HP _____ Volts _____		
			Length of Drop Pipe _____ ft. capacity _____ G.P.M.		
			TYPE: <input type="checkbox"/> Submersible <input type="checkbox"/> Jet		
			PRESSURE TANK:		
			Manufacturer's name _____		
			Model number _____ Capacity _____ Gallons		
15. Remarks, elevation, source of data, etc. <i>MW-14</i>			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.		
			<i>Earth Sciences Services, Inc. 1758</i>		
			REGISTERED BUSINESS NAME		
			Address <i>P.O. Box 9571, Muncie, OH 43537</i>		
			REGISTRATION NO. <i>43537</i>		
			Signed <i>Michael V. G. / y e</i> Date <i>6/25/85</i>		
			AUTHORIZED REPRESENTATIVE		
			Authority: <input type="checkbox"/> Completion: <input type="checkbox"/> Penalty: <input type="checkbox"/>		
			Act 398 PA 1978 Required Conviction of a violation of any provision is a misdemeanor.		

D674 2/84

GEOLOGICAL SURVEY COPY

12-15

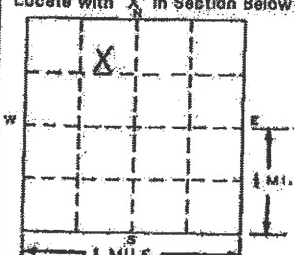
WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL			2 OWNER OF WELL: General Motors Corporation Hydra-Matic Division Ypsilanti, MI 48197			
County Washtenaw	Township Name Ypsilanti	Fraction NE 1/4 NW 1/4	Section Number 12	Town Number 3 N 1/2	Range Number 7 E W	
Distance And Direction From Road Intersection			Address Same As Well Location? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Street Address & City of Well Location			4 WELL DEPTH: (completed) 15 ft. Date of Completion 9/18/85			
Locate with "X" in Section Below			5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input checked="" type="checkbox"/> Auger <input type="checkbox"/> Jatted <input type="checkbox"/>			
Sketch Map:			6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Type I Public <input type="checkbox"/> Type II Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Type III Public <input type="checkbox"/> Heat pump <input checked="" type="checkbox"/> Test Well <input type="checkbox"/> Type IV Public <input type="checkbox"/>			
			7 CASING: Diameter <input checked="" type="checkbox"/> Steel <input type="checkbox"/> Threaded <input type="checkbox"/> Welded <input type="checkbox"/> Plastic <input type="checkbox"/> Height: Above/Below Surface Flush ft. Weight 7.58 lbs./ft. Drive Shoe <input type="checkbox"/> Yes <input type="checkbox"/> No			
2 FORMATION DESCRIPTION			8 SCREEN: <input type="checkbox"/> Not installed Type stainless steel Diameter 3" Slot/Gauge .010 Length 5' Set between 6 ft. end 11 ft. FITTINGS: <input type="checkbox"/> K-Pecker <input type="checkbox"/> Lead Pecker <input type="checkbox"/> Rammer Check <input type="checkbox"/> Blank above screen 6 ft. Other 4" below screen			
WOOD			9 STATIC WATER LEVEL: 6' 6" ft. below land surface <input type="checkbox"/> Flow			
CONCRETE			10 PUMPING LEVEL: below land surface _____ ft. after _____ hrs. pumping at _____ G.P.M. _____ ft. after _____ hrs. pumping at _____ G.P.M.			
GRAVEL - with trace sand			11 WELL HEAD COMPLETION: <input type="checkbox"/> Pitless adapter <input type="checkbox"/> 12" above grade <input type="checkbox"/> Basement offset <input checked="" type="checkbox"/> Approved pit valve box			
GRAVEL			12 WELL GROUTED? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes From 1' to 3' ft. <input type="checkbox"/> Neat cement <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Other _____ No. of bags of cement _____ Additives 1 bag benzal			
SAND - with trace gravel, med.-fine			13 Nearest source of possible contamination Type gasoline Distance _____ ft. Direction _____ Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
CLAY - blue to gray			14 PUMP: <input type="checkbox"/> Not installed <input type="checkbox"/> Pump installation only Manufacturer's name _____ Model number _____ HP _____ Volts _____ Length of Drop Pipe 14' ft. capacity _____ G.P.M. TYPE: <input type="checkbox"/> Submersible <input type="checkbox"/> Jet _____ PRESSURE TANK Manufacturer's name _____ Model number _____ Capacity _____ Gallons			
USE A 2ND SHEET IF NEEDED			15. Remarks, elevation, source of data, etc. 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. EARTH SCIENCES SERVICES 1758 REGISTERED BUSINESS NAME _____ REGISTRATION NO. _____ Address P.O. Box 557 / MAUMEE, OHIO 43537 Signed Michele T. G. / 9 Date 11/15/85 AUTHORIZED REPRESENTATIVE			

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL			3 OWNER OF WELL: General Motors Corporation Hydra-Matic Division Address Ypsilanti, MI 48197																													
County Washtenaw	Township Name Ypsilanti	Fraction NE 1/4 NW 1/4	Section Number 12	Town Number 3 N 9	Range Number 7 E W																											
Distance And Direction From Road Intersection Street Address & City of Well Location Locate with "X" in Section Below: 			Address Same As Well Location? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																													
2 FORMATION DESCRIPTION <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 40%;">FORMATION DESCRIPTION</th><th style="width: 10%;">THICKNESS OF STRATUM</th><th style="width: 10%;">DEPTH TO BOTTOM OF STRATUM</th></tr></thead><tbody><tr><td>WOOD</td><td>0.2'</td><td>0.2'</td></tr><tr><td>CONCRETE</td><td>0.67'</td><td>0.88'</td></tr><tr><td>CLAY - gravel and backfill</td><td>2.1'</td><td>3.0'</td></tr><tr><td>SAND - med.-fine brn., med. to dark</td><td>1.0'</td><td>4.0'</td></tr><tr><td>SAND - and gravel, trace silt</td><td>4.0'</td><td>8.0'</td></tr><tr><td>SAND - trace gravel, med.-fine</td><td>1.0'</td><td>9.0'</td></tr><tr><td>SAND - trace clay and gravel</td><td>3.0'</td><td>12.0'</td></tr><tr><td>CLAY - gray to blue</td><td>3.0'</td><td>15.0'</td></tr></tbody></table>			FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	WOOD	0.2'	0.2'	CONCRETE	0.67'	0.88'	CLAY - gravel and backfill	2.1'	3.0'	SAND - med.-fine brn., med. to dark	1.0'	4.0'	SAND - and gravel, trace silt	4.0'	8.0'	SAND - trace gravel, med.-fine	1.0'	9.0'	SAND - trace clay and gravel	3.0'	12.0'	CLAY - gray to blue	3.0'	15.0'	4 WELL DEPTH: (completed) 15 ft. Date of Completion: 9/17/85		
			FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM																											
			WOOD	0.2'	0.2'																											
			CONCRETE	0.67'	0.88'																											
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8 SCREEN: <input type="checkbox"/> Not Installed Type stainless steel Diameter 3 " Slot/Gauge .010 Length 5 " Set Between 6 ft. and 11 ft. FITTINGS: <input type="checkbox"/> K-Packer <input type="checkbox"/> Lead Packer <input type="checkbox"/> Bremner Check <input type="checkbox"/> Blank above screen 6 ft. Other 4" below screen			9 STATIC WATER LEVEL: 5' 9" ft. below land surface <input type="checkbox"/> Flow																													
10 PUMPING LEVEL: below land surface ____ ft. after ____ hrs. pumping at ____ G.P.M. ____ ft. after ____ hrs. pumping at ____ G.P.M.			11 WELL HEAD COMPLETION: <input type="checkbox"/> Pileless adapter <input type="checkbox"/> 12" above grade <input type="checkbox"/> Basement offset <input checked="" type="checkbox"/> Approved pit valve box																													
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14 PUMP: <input checked="" type="checkbox"/> Not installed <input type="checkbox"/> Pump Installation Only Manufacturer's name _____ Model number _____ HP _____ Volts _____ Length of Drop Pipe 14 ft. capacity _____ G.P.M. TYPE: <input type="checkbox"/> Submersible <input type="checkbox"/> Jet _____ PRESSURE TANK: Manufacturer's name _____ Model number _____ Capacity _____ Gallons			15. Remarks, elevation, source of data, etc. S.W.#2 Elevation 721.09																													
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. EARTH SCIENCES SERVICES 1758 REGISTERED BUSINESS NAME REGISTRATION NO. Address P.O. Box 557, MUMFORD, OH 43537 Signed Thomas Y. G. [Signature] Date 11/5/85 AUTHORIZED REPRESENTATIVE Authority: Act 388 PA 1978 Penalty: Required Conviction of a violation of any provision is a misdemeanor.																																

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL			3 OWNER OF WELL: General Motors Corporation Hydra-Matic Division Ypsilanti, MI 48197			
County Washtenaw	Township Name Ypsilanti	Fraction NE 1/4 NW 1/4 1/4	Section Number 12	Town Number 3 N 3	Range Number 7 E W	
Distance And Direction From Road Intersection			Address Ypsilanti, MI 48197			
Street Address & City of Well Location			Address Same As Well Location? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Locate with "X" in Section Below			4 WELL DEPTH: (completed) 15 ft. Date of Completion 9/18/85			
			5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input checked="" type="checkbox"/> Auger <input type="checkbox"/> Jetted <input type="checkbox"/>			
			6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Type I Public <input type="checkbox"/> Type II Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Type III Public <input type="checkbox"/> Heat pump <input checked="" type="checkbox"/> Test Well <input type="checkbox"/> Type IV Public <input type="checkbox"/>			
2 FORMATION DESCRIPTION			7 CASING: Diameter <input checked="" type="checkbox"/> Steel <input type="checkbox"/> Threaded <input type="checkbox"/> Plastic <input type="checkbox"/> Welded			
THICKNESS OF STRATUM			Height: Above/Below Surface flush ft.			
DEPTH TO BOTTOM OF STRATUM			Weight 7.58 lbs./ft.			
WOOD			Drive Shoe <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
CONCRETE			8 SCREEN: <input type="checkbox"/> Not installed			
CLAY - sand and gravel backfill			Type stainless steel Diameter 3"			
SAND - med.-fine, lt. brn.			Slot/Gauze .010 Length 5'			
SAND - med.-fine, lt. brn.			Set between 6' ft. and 11'6" ft.			
SAND - med.-fine, lt. brn.			FITTINGS: <input type="checkbox"/> K-Packer <input type="checkbox"/> Lead Packer <input type="checkbox"/> Bremer Check			
CLAY - gray-blue			<input checked="" type="checkbox"/> Blank above screen 6' ft. Other 4' below screen			
			9 STATIC WATER LEVEL: 6' 1/2" ft. below land surface <input type="checkbox"/> Flow			
			10 PUMPING LEVEL: below land surface			
			ft. after _____ hrs. pumping at _____ G.P.M.			
			ft. after _____ hrs. pumping at _____ G.P.M.			
			11 WELL HEAD COMPLETION: <input type="checkbox"/> Pitless adapter <input type="checkbox"/> 12" above grade			
			<input type="checkbox"/> Basement offset <input checked="" type="checkbox"/> Approved pit valve box			
			12 WELL GROUTED? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes From 1' to 3' ft.			
			<input type="checkbox"/> Neat cement <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Other _____			
			No. of bags of cement _____ Additives 1 bag benseal			
			13 Nearest source of possible contamination			
			Type gasoline Distance 0 ft. Direction _____			
			Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
			14 PUMP: <input checked="" type="checkbox"/> Not installed <input type="checkbox"/> Pump installation Only			
			Manufacturer's name _____			
			Model number _____ HP _____ Volts _____			
			Length of Drop Pipe 14 ft. capacity _____ G.P.M.			
			TYPE: <input type="checkbox"/> Submersible <input type="checkbox"/> Jet _____			
			PRESSURE TANK: _____			
			Manufacturer's name _____			
			Model number _____ Capacity _____ Gallons			
15. Remarks, elevation, source of data, etc. S.W. #1 Elevation 721.10			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. EARTH SCIENCES SERVICES 1758 REGISTERED BUSINESS NAME Address P.O. BOX 857 MAUMEE, OHIO 43537 Signed Thomas J. G... Date 11/5/85 AUTHORIZED REPRESENTATIVE			

WATER WELL AND PUMP RECORD

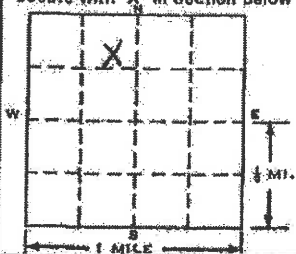
PERMIT NUMBER

1 LOCATION OF WELL			3 OWNER OF WELL: General Motors Corporation Hydra-Matic Division																																
County Washtenaw	Township Name Ypsilanti	Fraction NE 1/4 NW 1/4 1/4	Section Number 12	Town Number 3 N(S)	Range Number 7 (EW)																														
Distance And Direction From Road Intersection			Address Ypsilanti, MI 48197																																
Street Address & City of Well Location Locate with "X" in Section Below			Address Same As Well Location? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																
			4 WELL DEPTH: (completed) 15 ft. Date of Completion 9/19/85																																
			5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input checked="" type="checkbox"/> Auger <input type="checkbox"/> Jetted <input type="checkbox"/>																																
2 FORMATION DESCRIPTION <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:60%;">FORMATION DESCRIPTION</th> <th style="width:20%;">THICKNESS OF STRATUM</th> <th style="width:20%;">DEPTH TO BOTTOM OF STRATUM</th> </tr> </thead> <tbody> <tr><td>WOOD</td><td>0.2'</td><td>0.2'</td></tr> <tr><td>CONCRETE</td><td>0.67'</td><td>0.88'</td></tr> <tr><td>BACKFILL - native soil</td><td>2.5'</td><td>3.5'</td></tr> <tr><td>CONCRETE - thin layer</td><td>0.5'</td><td>4.0'</td></tr> <tr><td>SAND - lt. brn. med.-fine, trace</td><td>3.0'</td><td>7.0'</td></tr> <tr><td>gravel</td><td></td><td></td></tr> <tr><td>GRAVEL - with some silt</td><td>1.0'</td><td>8.0'</td></tr> <tr><td>SAND</td><td>5.0'</td><td>13.0'</td></tr> <tr><td>CLAY</td><td>2.0'</td><td>15.0'</td></tr> </tbody> </table>			FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	WOOD	0.2'	0.2'	CONCRETE	0.67'	0.88'	BACKFILL - native soil	2.5'	3.5'	CONCRETE - thin layer	0.5'	4.0'	SAND - lt. brn. med.-fine, trace	3.0'	7.0'	gravel			GRAVEL - with some silt	1.0'	8.0'	SAND	5.0'	13.0'	CLAY	2.0'	15.0'	6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Type I Public <input type="checkbox"/> Type III Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Type IIa Public <input type="checkbox"/> Heat pump <input checked="" type="checkbox"/> Test Well <input type="checkbox"/> Type IIb Public <input type="checkbox"/>		
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CLAY	2.0'	15.0'																																	
7 CASING: <input checked="" type="checkbox"/> Steel <input type="checkbox"/> Threaded <input type="checkbox"/> Plastic <input type="checkbox"/> Welded 3 in. to 15 ft. depth 11 in. to 15 ft. depth Grouted Drill Hole Diameter 8 in. to 15 ft. depth in. to ft. depth			Height: Above/Below Surface flush ft. Weight 7.58 lbs./ft. Drive Shoe <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																
			8 SCREEN: <input type="checkbox"/> Not installed Type stainless steel Diameter 3 " Slot/Gauge .010 Length 5 " Set between 6 ft. and 11 ft. FITTINGS: <input type="checkbox"/> K-Packer <input type="checkbox"/> Lead Packer <input type="checkbox"/> Brainer Check <input type="checkbox"/> Blank above screen 6 ft. Other 4' below screen																																
9 STATIC WATER LEVEL: 7' 4" ft. below land surface <input type="checkbox"/> Flow			10 PUMPING LEVEL: below land surface: ft. after hrs. pumping at G.P.M. ft. after hrs. pumping at G.P.M.																																
			11 WELL HEAD COMPLETION: <input type="checkbox"/> Pitless adapter <input type="checkbox"/> 12" above grade <input type="checkbox"/> Basement offset <input checked="" type="checkbox"/> Approved pit valve box																																
12 WELL GROUTED? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes From 1' to 3 ft. <input type="checkbox"/> Neat cement <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Other No. of bags of cement Additives 1 bag benseal			13 Nearest source of possible contamination: Type gasoline Distance 0 ft. Direction Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																
			14 PUMP: <input checked="" type="checkbox"/> Not installed <input type="checkbox"/> Pump Installation Only Manufacturer's name Model number HP Volts Length of Drop Pipe 14 ft. capacity G.P.M. TYPE: <input type="checkbox"/> Submersible <input type="checkbox"/> Jet PRESSURE TANK: Manufacturer's name Model number Capacity Gallons																																
15. Remarks, elevation, source of data, etc. H.W.#3 Elevation 721.18			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. EARTH SCIENCES SERVICES 1758 REGISTERED BUSINESS NAME REGISTRATION NO. Address P.O. Box 557 MAUMEE, OHIO 43537 Signed Michael J. Givens Date 11/5/85 AUTHORIZED REPRESENTATIVE																																

DE7d 2/84

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL			3 OWNER OF WELL: General Motors Corporation		
County Washtenaw	Township Name Ypsilanti	Fraction NE 1/4 NW 1/4 1/4	Section Number 12	Town Number 3 N 1/2 S	Range Number 7 E W
Distance And Direction From Road Intersection			Address Hydra-Matic Division Ypsilanti, MI 48197		
Street Address & City of Well Location			Address Same As Well Location? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Locate with "X" in Section Below			4 WELL DEPTH: (completed) 15 ft. Date of Completion 9/24/85		
Sketch Map: 			5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug		
			<input type="checkbox"/> Hollow rod <input checked="" type="checkbox"/> Auger <input type="checkbox"/> Jetted <input type="checkbox"/>		
2 FORMATION DESCRIPTION			6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Type I Public <input type="checkbox"/> Type III Public		
THICKNESS OF STRATUM			<input type="checkbox"/> Irrigation <input type="checkbox"/> Type IIa Public <input type="checkbox"/> Heat pump		
DEPTH TO BOTTOM OF STRATUM			<input checked="" type="checkbox"/> Test Well <input type="checkbox"/> Type IIb Public <input type="checkbox"/>		
WOOD			7 CASING: <input checked="" type="checkbox"/> Steel <input type="checkbox"/> Threaded <input type="checkbox"/> Welded		
CONCRETE			Diameter 3 in. to 15 ft. depth		
BACKFILL - sand and gravel			11 in. to 15 ft. depth		
SAND - with trace gravel, med.-fine			Grouted Drill Hole Diameter 8 in. to 15 ft. depth		
CLAY			Height: Above/Below Surface flush ft.		
			Weight 7.50 lbs./ft.		
			Drive Shoe <input type="checkbox"/> Yes <input type="checkbox"/> No		
			8 SCREEN: <input type="checkbox"/> Not Installed		
			Type stainless steel Diameter 3 ft.		
			Slot/Gauze .010 Length 5 ft.		
			Set between 6 ft. and 11 ft.		
			FITTINGS: <input type="checkbox"/> K-Packer <input type="checkbox"/> Lead Packer <input type="checkbox"/> Brimmer-Check		
			<input type="checkbox"/> Blank above screen 6 ft. Other		
			9 STATIC WATER LEVEL: 7' 7/8" ft. below land surface <input type="checkbox"/> Flow		
			10 PUMPING LEVEL: below land surface		
			ft. after hrs. pumping at G.P.M.		
			ft. after hrs. pumping at G.P.M.		
			11 WELL HEAD COMPLETION: <input type="checkbox"/> Pitless adapter <input type="checkbox"/> 12" above grade		
			<input type="checkbox"/> Basement offset <input checked="" type="checkbox"/> Approved pit valve box		
			12 WELL GROUTED? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes From 1 ft. to 3 ft.		
			<input type="checkbox"/> Neat cement <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Other		
			No. of bags of cement Additives 1 bag benesal		
			13 Nearest source of possible contamination		
			Type gasoline Distance 0 ft. Direction		
			Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
			14 PUMP: <input type="checkbox"/> Not installed <input type="checkbox"/> Pump installation Only		
			Manufacturer's name		
			Model number HP Volts		
			Length of Drop Pipe 14 ft. capacity G.P.M.		
			TYPE: <input type="checkbox"/> Submersible <input type="checkbox"/> Jet		
			PRESSURE TANK:		
			Manufacturer's name		
			Model number Capacity Gallons		

USE A 2ND SHEET IF NEEDED

15. Remarks, elevation, source of data, etc.

S.W.#6 Elevation 721.12

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.

EARTH SCIENCES SERVICES 1758

REGISTERED BUSINESS NAME

REGISTRATION NO.

Address P.O. Box 5517 MAUMEE, OHIO 43537

Signed [Signature]

Date

11/5/85

AUTHORIZED REPRESENTATIVE

Authority:
Completion:
Penalty:Act 388 PA 1978
Required
Conviction of a violation
of any provision is a
misdemeanor.

12-21

WATER WELL AND PUMP RECORD

PERMIT NUMBER

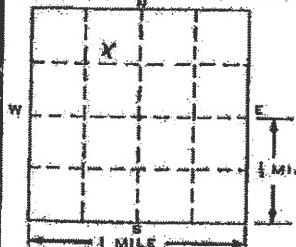
1 LOCATION OF WELL		Fraction		Section Number	Town Number	Range Number
County	Township Name					
Washtenaw	Ypsilanti	NE 1/4 NW 1/4	1/4	12	3 N/2	7 E/W

Distance And Direction From Road Intersection

Street Address & City of Well Location

Locate with "X" in Section Below

Sketch Map:



3 OWNER OF WELL: Hydra-Matic Division

General Motors Corp

Address Ypsilanti, Michigan 48197

Address Same As Well Location? ☒ Yes ☐ No

4 WELL DEPTH: (completed)

15 ft. 0

Date of Completion

10-29-85

5 ☐ Cable tool ☐ Rotary ☐ Driven ☐ Dug
☐ Hollow rod ☒ Auger ☐ Jetted ☐

6 USE: ☐ Domestic ☐ Type I Public ☐ Type II Public
☐ Irrigation ☐ Type IIa Public ☐ Heat pump
☐ Test Well ☐ Type IIb Public ☒ Monitor

7 CASING: Diameter

☐ Steel ☐ Threaded ☒ Plastic ☐ Welded

Height: Above/Below

Surface 0 ft.

2 in. to 5 ft. depth

Weight lbs./ft.

in. to ft. depth

Grouted Drill Hole Diameter

in. to ft. depth

in. to ft. depth

Drive Shoe ☐ Yes ☒ No

8 SCREEN:

☐ Not installed

Type PVC Diameter 2" I.D.

Slot/Gauze 010 Length 10 ft

Set between 5 ft. and 15 ft.

FITTINGS: ☐ K-Packer ☐ Lead Packer ☐ Brainer Check☐ Blank above screen ft. Other

9 STATIC WATER LEVEL:

8

ft. below land surface

☐ Flow

10 PUMPING LEVEL: below land surface

ft. after hrs. pumping at G.P.M.

ft. after hrs. pumping at G.P.M.

11 WELL HEAD COMPLETION:

☐ Pitless adapter ☐ 12" above grade☐ Basement offset ☐ Approved pit

12 WELL GROUTED?

☐ No ☒ Yes From 2 to 4 ft.☐ Neat cement ☒ Bentonite ☐ Other

No. of bags of cement Additives

13 Nearest source of possible contamination

Type Distance ft. Direction

Well disinfected upon completion? ☐ Yes ☒ No

14 PUMP: P.A.

☒ Not installed ☐ Pump installation only

Manufacturer's name

Model number HP Volts

Length of Drop Pipe ft. capacity G.P.M.

TYPE: ☐ Submersible ☐ Jet

PRESSURE TANK

Manufacturer's name

Model number Capacity Gallons

USE A 2ND SHEET IF NEEDED

15. Remarks. elevation, source of data, etc.

MW-6

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.

Earth Sciences Services, Inc.

1758

REGISTERED BUSINESS NAME

REGISTRATION NO.

Address P.O. Box 307 Maumee, OH

43537

Signed Michael J. G. Date 6/25/85

AUTHORIZED REPRESENTATIVE

Authority: Completion: Penalty:

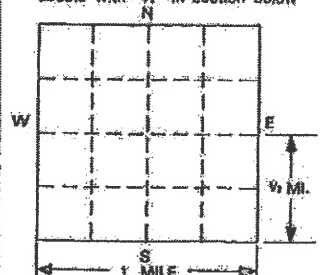
Act 388 PA 1978 Required Conviction of a violation of any provision is a misdemeanor.

12-22

D67d 2184

DEWATERING WELL RECORD Act 218, P.A. 1972

MICHIGAN DEPARTMENT
OF
PUBLIC HEALTH

1 LOCATION OF WELL		County Washtenaw		Township Name Ypsilanti		Fraction <div style="display: flex; justify-content: space-around;"><div>1/4</div><div>1/2</div><div>3/4</div></div>		Section Number 12		Town Number 3		Range Number 7 N.E.											
STARTING POINT: Distance and Direction from Nearest Road Intersection <div style="text-align: center; padding: 10px;"> 200' South of Gate 3 at General Motors Assembly Plant, Willow Run </div>						LOCATION: From Eng. Plan Sheet No. _____ Other: _____ Engineering Firm: _____																	
Locate with "X" in section below 						PROJECT OWNER: <u>General Motors</u> Address: _____ Project Name: _____ Type of <input type="checkbox"/> Sewer <input type="checkbox"/> Pumping Station Project <input type="checkbox"/> Foundations <input checked="" type="checkbox"/> Other: <u>Water Main Repaired</u>																	
2 <input type="checkbox"/> Single Well <input checked="" type="checkbox"/> Several Wells: Total Number of Wells <u>4</u> Total Distance Covered _____ ft, N/S/E/W Includes Wells From Station _____ to Station _____						Well Depth — Range <u>24</u> ft. to <u>26</u> ft. Date of Drilling <u>8</u> Month <u>85</u> Year																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 40%;">3 FORMATION</th> <th style="width: 20%;">THICKNESS OF STRATUM</th> <th style="width: 20%;">DEPTH TO BOTTOM OF STRATUM</th> </tr> <tr> <td>Clay</td> <td style="text-align: center;">8</td> <td style="text-align: center;">8</td> </tr> <tr> <td>Fine Sand</td> <td style="text-align: center;">8</td> <td style="text-align: center;">16</td> </tr> <tr> <td>Clay</td> <td style="text-align: center;">9</td> <td style="text-align: center;">25</td> </tr> </table>						3 FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	Clay	8	8	Fine Sand	8	16	Clay	9	25	4 <input type="checkbox"/> Cable Tool <input checked="" type="checkbox"/> Rotary <input type="checkbox"/> Bored (Auger) <input type="checkbox"/> Jetted <input type="checkbox"/> Driven					
3 FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM																					
Clay	8	8																					
Fine Sand	8	16																					
Clay	9	25																					
(USE REMARKS SECTION IF NEEDED)						5 CONSTRUCTION DETAILS: <input type="checkbox"/> Drive Points <input type="checkbox"/> Rock Well <input type="checkbox"/> Natural Pack <input checked="" type="checkbox"/> Gravel Pack Drill Hole Size: Diam <u>36</u> in Depth <u>26</u> ft Casing: Diam <u>24</u> in Depth <u>26</u> ft Gravel Pack: From <u>0</u> ft to <u>26</u> ft Pack Material: <u>Pea Stone & Mason Sand</u> Screened From <u>25</u> ft to <u>17</u> ft																	
8 ABANDONMENT PROCEDURES: <u>Wells under 40 feet</u> <input type="checkbox"/> Parent Material: from _____ ft to _____ ft <input type="checkbox"/> Finer Textured Soils: from _____ ft to _____ ft <input type="checkbox"/> Other: _____ <u>Wells over 40 feet:</u> Bentonite-Fine Textured Soil Mixture from _____ ft to _____ ft Other: _____ <u>Special Cases:</u> <input type="checkbox"/> Gas <input type="checkbox"/> Flowing Well <input type="checkbox"/> Bedrock <input type="checkbox"/> _____ <u>Grout</u> <input type="checkbox"/> Bentonite Grout <input type="checkbox"/> Neat Cement Grout from _____ ft to _____ ft						6 STATIC WATER LEVEL <u>N.A.</u> ft above/below land surface 7 DEWATERED LEVEL _____ ft Pump Operated _____ hr/day, Pump Capacity _____ gpm Discharge Point _____ (river, pond, lake, storm sewer, etc.)																	
9 ABANDONMENT CERTIFICATION This well has been abandoned under my jurisdiction and this report is true to the best of my knowledge and belief.						10 REMARKS, Water Quality, Gas, etc. <div style="text-align: center; padding: 10px;"> RECEIVED Mich. Dept. of Public Health SEP 18 1985 Bureau of Environmental and Occupational Health - GWQS </div>																	
11 DRILLING CONTRACTOR'S CERTIFICATION This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.						(This section is merged with the signature block below)																	
UNION CONSTRUCTION CO. D 1315 REGISTERED CONTRACTOR NAME: _____ REGISTRATION NUMBER: _____ Address <u>505 TERRITORIAL ROAD, MANCHESTER, MICH 48158</u> Signed <u>James J. Folsom</u> 8/26/85 AUTHORIZED REPRESENTATIVE DATE						UNION CONSTRUCTION CO. D 1315 REGISTERED CONTRACTOR NAME: _____ REGISTRATION NUMBER: _____ Address <u>505 TERRITORIAL RD., MANCHESTER, MICH. 481</u> Signed <u>James J. Wilde</u> 8/26/85 AUTHORIZED REPRESENTATIVE DATE																	



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007416

Failure to comply is a misdemeanor.

Import ID: 81737712019

Well ID: 81000007416 Elevation: 717 ft Latitude: 42.2385215651 Longitude: -83.5477303034	Well ID: 81000007416 Distance and Direction from Road Intersection: 2152' N OF C.L. TYLER RD, 1215' E OF C.L. MCGREGOR RD. Well Owner: Wayne County Airport Division Well Address: WEST FUEL FARM WILLOW RUN AIR. YPSILANTI MI 48197 Owner Address: WILLOW RUN AIRPORT YPSILANTI MI 48197
Tax No: Permit No: County: Washtenaw Section: 12 Town/Range: 03S 07E WSSN: Source ID/Well No:	Township: Ypsilanti

Drilling Method: Auger/Bored Well Depth: 11.00 ft. Well Use: Household Well Type: Replacement Date Completed: 9/13/1986 Casing Type: Unknown Casing Joint: Threaded & coupled Diameter: 2.00 in. to 5.00 ft. depth Bore Diameter 1: 9.00 in. to 4.50 ft. depth Bore Diameter 2: Bore Diameter 3: Height: 0.30 ft. above grade Casing Fitting: None	Pump Installed: No Pump Installation date: Manufacturer: 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 Pump Installation only: HP: Pump Type: Pump Capacity: Id of Well: Tank Capacity: Gallons																																													
Static Water Level: 7.90 ft. Below Grade(Not Flowing) Yield Test Method: Unknown Measurement Taken During Pump Test: Abandoned Well Plugged: No Reason for not plugging Well: Abandoned well ID: Screen Installed: Yes Filter Packed: No Screen Diameter: 2.00 in. Screen Material Type: Slot: 7.00 in. Set Between 5.50 ft. and 11.00 ft. Blank: 0.00 ft. Above Fittings: None	<table border="1"> <thead> <tr> <th>Formation Description</th> <th>Thickness</th> <th>Depth to Bottom</th> </tr> </thead> <tbody> <tr> <td>Tan Sand</td> <td>1.00</td> <td>1.00</td> </tr> <tr> <td>Tan Silt Clay Gravel W/Sand</td> <td>1.00</td> <td>2.00</td> </tr> <tr> <td>Yellow Clay & Sand Fine</td> <td>1.00</td> <td>3.00</td> </tr> <tr> <td>Yellow Clay & Sand Fine</td> <td>1.00</td> <td>4.00</td> </tr> <tr> <td>Clay Very Fine W/Sand</td> <td>2.00</td> <td>6.00</td> </tr> <tr> <td>Tan Clay & Sand Very Fine</td> <td>2.00</td> <td>8.00</td> </tr> <tr> <td>Gray Clay Silty W/Sand</td> <td>2.00</td> <td>10.00</td> </tr> <tr> <td>Sand & Clay Very Fine Silty</td> <td>3.00</td> <td>13.00</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Formation Description	Thickness	Depth to Bottom	Tan Sand	1.00	1.00	Tan Silt Clay Gravel W/Sand	1.00	2.00	Yellow Clay & Sand Fine	1.00	3.00	Yellow Clay & Sand Fine	1.00	4.00	Clay Very Fine W/Sand	2.00	6.00	Tan Clay & Sand Very Fine	2.00	8.00	Gray Clay Silty W/Sand	2.00	10.00	Sand & Clay Very Fine Silty	3.00	13.00																		
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Gray Clay Silty W/Sand	2.00	10.00																																												
Sand & Clay Very Fine Silty	3.00	13.00																																												
Well Grouted: Yes No. of Bags: Grouting Materials: Bentonite slurry Grouting Method: Unknown Additives: None From 0.00 ft. to 0.00 ft. Well Head Completion: Other	Geology Remarks: 1. [TAN, SAND (BLACK ASPHALT)] [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]																																													
Nearest source of possible contamination: Type: Chemical/Fertilizer storage Distance: 40.00 ft. Direction: North	Contractor Type: Unknown Registration Number: 866 Business Name: Business Address: 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: _____																																													
Drilling Machine Operator Name: Employment: Unknown	General Remarks: OTHER REMARKS: Well Head Completion: Completion Type Not Known																																													

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL		Township Name		Fraction	Section Number	Town Number	Range Number																														
County Washtenaw		Ypsilanti		NH₄	SW₄	12	3 NWS 7 E/W																														
Distance And Direction From Road Intersection 2152' North of G.L. Tyler Road 3'4" N. of S. chain link fence property line 87' East of South property line fence 1215' E. of G.L. McGregor Road (extended North) Street Address & City of Well Location																																					
Locals with "X" in Section Below 		3 OWNER OF WELL: Wayne County Airport Division Address West Fuel Farm, Willow Run Airport Address Same As Well Location? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																			
2 FORMATION DESCRIPTION <table border="1"> <thead> <tr> <th>FORMATION DESCRIPTION</th> <th>THICKNESS OF STRATUM</th> <th>DEPTH TO BOTTOM OF STRATUM</th> </tr> </thead> <tbody> <tr> <td>Tan, sand</td> <td>2"</td> <td>2"</td> </tr> <tr> <td>Black Asphalt</td> <td>4"</td> <td>6"</td> </tr> <tr> <td>Tan silt, clay, gravel & sand</td> <td>1'</td> <td>1.5'</td> </tr> <tr> <td>Pale yellow clay, very fine & fine sand</td> <td>1.5'</td> <td>3'</td> </tr> <tr> <td>Pale yellow clay, very fine & fine sand</td> <td>1'</td> <td>4'</td> </tr> <tr> <td>Light clay, very fine & fine sand</td> <td>2'</td> <td>6'</td> </tr> <tr> <td>Tan clay, very fine & fine sand</td> <td>1.5'</td> <td>7.5'</td> </tr> <tr> <td>Gray silty clays, fine & very fine sand</td> <td>2.5'</td> <td>10'</td> </tr> <tr> <td>Very fine sand, silty clay</td> <td>3'</td> <td>13'+</td> </tr> </tbody> </table>		FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	Tan, sand	2"	2"	Black Asphalt	4"	6"	Tan silt, clay, gravel & sand	1'	1.5'	Pale yellow clay, very fine & fine sand	1.5'	3'	Pale yellow clay, very fine & fine sand	1'	4'	Light clay, very fine & fine sand	2'	6'	Tan clay, very fine & fine sand	1.5'	7.5'	Gray silty clays, fine & very fine sand	2.5'	10'	Very fine sand, silty clay	3'	13'+	4 WELL DEPTH: (completed) 11 ft. Date of Completion 13 Sept 86 5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input checked="" type="checkbox"/> Auger <input type="checkbox"/> Jetted <input type="checkbox"/> 6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Type I Public <input type="checkbox"/> Type III Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Type IIa Public <input type="checkbox"/> Heat pump <input type="checkbox"/> Test Well <input type="checkbox"/> Type IIb Public <input checked="" type="checkbox"/> Monitoring 7 CASING: <input type="checkbox"/> Steel <input checked="" type="checkbox"/> Threaded <input type="checkbox"/> Welded Diameter 2 in. to 5 ft. depth Height: 0.33 ft. Surface 3.5 lbs./ft. Weight 3.5 lbs./ft. Drive Shoe <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 8 SCREEN: <input checked="" type="checkbox"/> Stainless Steel <input type="checkbox"/> Not Installed Type B Diameter 2" Slot #7 Length 6.5' Set between 5.5' ft. and 11' ft. FITTINGS: <input type="checkbox"/> K-Packer <input type="checkbox"/> Lead Packer <input type="checkbox"/> Brauer Check <input type="checkbox"/> Blank above screen ft. Other threaded 9 STATIC WATER LEVEL: 7.11' ft. below land surface <input type="checkbox"/> Flow 10 PUMPING LEVEL: below land surface N/A ft. after hrs. pumping at G.P.M. ft. after hrs. pumping at G.P.M. 11 WELL HEAD COMPLETION: <input type="checkbox"/> Pilees adapter <input type="checkbox"/> 12" above grade threaded cap <input type="checkbox"/> Basement offset <input type="checkbox"/> Approved pit 12 WELL GROUTED? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes From 2.5' to 4.5' ft. <input type="checkbox"/> Neat cement <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Other No. of bags of cement Additives 13 Nearest source of possible contamination Aviation Fuels Distance 40' Direction North Type Filler Pipes Distance 200' Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 14 PUMP: <input checked="" type="checkbox"/> Not Installed <input type="checkbox"/> Pump Installation Only Manufacturer's name Model number HP Volts Length of Drop Pipe ft. capacity G.P.M. TYPE: <input type="checkbox"/> Submersible <input type="checkbox"/> Jet PRESSURE TANK: Manufacturer's name Model number Capacity Gallons					
FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM																																			
Tan, sand	2"	2"																																			
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Tan silt, clay, gravel & sand	1'	1.5'																																			
Pale yellow clay, very fine & fine sand	1.5'	3'																																			
Pale yellow clay, very fine & fine sand	1'	4'																																			
Light clay, very fine & fine sand	2'	6'																																			
Tan clay, very fine & fine sand	1.5'	7.5'																																			
Gray silty clays, fine & very fine sand	2.5'	10'																																			
Very fine sand, silty clay	3'	13'+																																			
15. Remarks, elevation, source of data, etc. Surface Elevation 717.02' Top of Casing 716.69' MSL 12-15-87 H. Miller		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. Sterling Drilling Company 0666 REGISTERED BUSINESS NAME REGISTRATION NO. 6236 W. Grand River, Brighton, MI 48116 Address Signed H. Miller Date 13 Sept. 1986 AUTHORIZED REPRESENTATIVE Authority: Completion: Penalty: Act 308 PA 1978 Required Conviction of a violation of any provision is a misdemeanor.																																			

D67d 2/84

GEOLOGICAL SURVEY COPY

Act 388 PA 1978
Required
Conviction of a violation
of any provision is a
misdemeanor.

12-21

WATER WELL AND PUMP RECORD

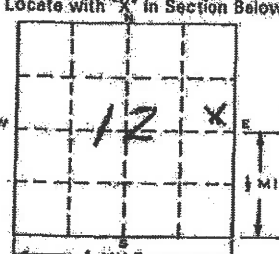
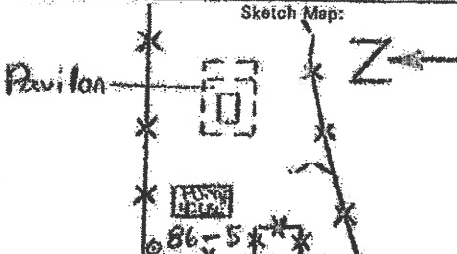
PERMIT NUMBER

--	--	--	--	--	--

1 LOCATION OF WELL		County Washtenaw		Township Name Ypsilanti		Fraction NE 1/4 SW 1/4 1/4		Section Number 12		Town Number 3		Range Number 7	
Distance And Direction From Road Intersection 2277' North of C.L. Tyler Road 1236' East of C.L. McGregor Road (extended North) 126' North of South property line fence (S. gate posts) 5' East of East edge pump house Street Address & City of Well Location													
Locate with "X" in Section Below 				Sketch Map: 									
2 FORMATION DESCRIPTION				THICKNESS OF STRATUM		DEPTH TO BOTTOM OF STRATUM		3 OWNER OF WELL: Wayne County Airport Division Address: West Fuel Farm, Willow Run Airport Address Same As Well Location? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Date of Completion: 8/7					
White broken lime stone and SLAG				6"		6"		4 WELL DEPTH: (completed) 11' ft.					
Grayish black, silty, clayey, gravel, very fine to medium								5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input checked="" type="checkbox"/> Auger <input type="checkbox"/> Jetted <input type="checkbox"/>					
SAND				1.5'		2'		6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Type I Public <input type="checkbox"/> Type III Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Type IIa Public <input type="checkbox"/> Heat pump <input type="checkbox"/> Test Well <input type="checkbox"/> Type IIb Public <input checked="" type="checkbox"/> Monitoring					
Blackish gray, silty, clayey, very fine, fine sand, GRAVEL				2'		4'		7 CASING: <input type="checkbox"/> Steel <input checked="" type="checkbox"/> Threaded <input type="checkbox"/> Plastic <input type="checkbox"/> Welded Height: 300' Below Surface 0.41 h Weight 3.5 lbs./ft. Drive Shoe <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Dark gray, silty, gravel, clayey, very fine, fine, medium SAND				2'		6'		8 SCREEN: Stainless Steel <input type="checkbox"/> Not Installed Type: _____ Diameter: 2" Slot/Screen #7 Length 3' Set between 7.8' ft. and 10.8' ft. FITTINGS: <input type="checkbox"/> K-Packer <input type="checkbox"/> Lead Packer <input type="checkbox"/> Bremer Check <input type="checkbox"/> Blank above screen _____ ft. Other threaded					
Dark gray, silty, gravel, clayey, very fine-fine SAND				6'		12'		9 STATIC WATER LEVEL: 7.82' ft. below land surface <input type="checkbox"/> Flow					
Grayish tan, silty, gravel, clayey, very fine, fine SAND				1'		13'		10 PUMPING LEVEL: below land surface N/A _____ ft. after _____ hrs. pumping at _____ G.P.M. _____ ft. after _____ hrs. pumping at _____ G.P.M.					
								11 WELL HEAD COMPLETION: <input type="checkbox"/> Pitless adapter <input type="checkbox"/> 12" above grade threaded cap <input type="checkbox"/> Basement offset <input type="checkbox"/> Approved pit					
								12 WELL GROUTED? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes From 5' to 7' ft. <input type="checkbox"/> Neat cement <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Other _____ No. of bags of cement _____ Additives _____					
								13 Nearest source of possible contamination Type: filler pipes Distance: 20' ft Direction: South Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No					
								14 PUMP: <input checked="" type="checkbox"/> Not installed <input type="checkbox"/> Pump installation only Manufacturer's name _____ Model number _____ HP _____ Volts _____ Length of Drop Pipe _____ ft. capacity _____ G.P.M. TYPE: <input type="checkbox"/> Submersible <input type="checkbox"/> Jet PRESSURE TANK Manufacturer's name _____ Model number _____ Capacity _____ Gallons					
15. Remarks, elevation, source of data, etc. Surface Elevation 717.39' Top of Casing 716.98													
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. Sterling Drilling Company 0666 REGISTERED BUSINESS NAME REGISTRATION NO. Address 6236 W. Grand River, Brighton MI 48116 Signed _____ Date 18 Sept 1986 Glenn Miller Authority: _____ Compensation: _____ Penalty: _____ Act 368 PA 1978 Required Conviction of a violation of any provision is a misdemeanor.													

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL					
County Washtenaw	Township Name Ypsilanti	Fraction SE 1/4 NE 1/4 1/4	Section Number 12	Town Number 3	Range Number 7
Distance And Direction From Road Intersection 2375' North of Center Line Tyler Road 11' South of North property fence 13.5' East of West property line fence 132' East of C.L. McGregor Road (extended North) Street Address & City of Well Location			3 OWNER OF WELL: Wayne County Airport Division Address West Fuel Farm, Willow Run Airport Address Same As Well Location? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Locate with "X" in Section Below 			4 WELL DEPTH: (completed) 13' Date of Completion 15 Sept 86		
Sketch Map: 			5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input checked="" type="checkbox"/> Auger <input type="checkbox"/> Jetted <input type="checkbox"/>		
			6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Type I Public <input type="checkbox"/> Type III Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Type IIa Public <input type="checkbox"/> Heat pump <input type="checkbox"/> Test Well <input type="checkbox"/> Type IIb Public <input checked="" type="checkbox"/> Monitoring		
2 FORMATION DESCRIPTION			7 CASING: Diameter <input type="checkbox"/> Steel <input checked="" type="checkbox"/> Threaded Height: Above Ground <input type="checkbox"/> Plastic <input type="checkbox"/> Welded Surface 1.25' 2" in. to 7' ft. depth Weight 3.5 lbs./ft. Ground Drill Hole Diameter 9" in. to 7' ft. depth in. to 7' ft. depth		
			8 SCREEN: <input type="checkbox"/> Not Installed Type Stainless Steel Diameter 2" Slot/Screen XXX #10 Length 6.50' Set between 7' ft. and 13.5' ft. FITTINGS: <input type="checkbox"/> K-Packer <input type="checkbox"/> Lead Packer <input type="checkbox"/> Blower Check <input type="checkbox"/> Blank above screen ft. Other threaded		
Brown clayey, silty, sand TOPSOIL			9 STATIC WATER LEVEL: 9.0' ft. below land surface <input type="checkbox"/> Flow		
Light gray tan, clayey, silty, SAND			10 PUMPING LEVEL: below land surface N/A ft. after hrs. pumping at G.P.M. ft. after hrs. pumping at G.P.M.		
Gray, clayey, gravel, with tan, sandy, SILTY			11 WELL HEAD COMPLETION: <input type="checkbox"/> Fltless adapter <input type="checkbox"/> 12" above grade threaded cap <input type="checkbox"/> Basement offset <input type="checkbox"/> Approved pit		
Gray, very fine, fine, medium SAND			12 WELL GROUTED? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes From 5' to 7' ft. <input type="checkbox"/> Neat cement <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Other		
			No. of bags of cement Additives		
			13 Nearest source of possible contamination Type filler pipes Distance 95' ft. Direction East Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No		
			14 PUMP: <input checked="" type="checkbox"/> Not Installed <input type="checkbox"/> Pump Installation Only Manufacturer's name Model number HP Volts Length of Drop Pipe ft. capacity G.P.M. TYPE: <input type="checkbox"/> Submersible <input type="checkbox"/> Jet PRESSURE TANK: Manufacturer's name Model number Capacity Gallons		
15. Remarks, elevation, source of data, etc. Surface Elevation 718' Top of Casing 719.69' 12-15-87 H. Miller			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. Sterling Drilling Company 0666 REGISTERED BUSINESS NAME REGISTRATION NO. Address 6236 W. Grand River, Brighton MI 48116 Signed H. Miller Date 15 Sept. 86 AUTHORIZED REPRESENTATIVE Authority: Required Penalty: Conviction of a violation of any provision is a misdemeanor.		
			USE A 2ND SHEET IF NEEDED		



Ypsilanti Twp.

Section 13

OCT 4 1972

WATER WELL RECORD

ACT 284 PA 1965

MICHIGAN DEPARTMENT

OF
PUBLIC HEALTH

1 LOCATION OF WELL

County

Washt.

Township Name

Ypsilanti

Fraction

NE 1/4 NE 1/4 SW 1/4

Section Number

13

Town Number

3 N 13

Range Number

7 E.W.

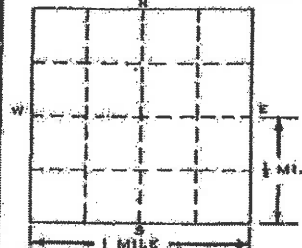
Distance And Direction from Road Intersections

1560 Woodate

Street address & City of Well Location

Locate with "X" in section below

Sketch Map:



2 FORMATION

THICKNESS
OF
STRATUMDEPTH TO
BOTTOM OF
STRATUM

SAND GRAVEL

12

12

CLAY BLUE

63

75

SAND GRAVEL

16

91

3 OWNER OF WELL:

Address

Clinton Farm
1560 Woodate
Ypsilanti

4 WELL DEPTH: (completed) Date of Completion

91 ft.

5 ☐ Cable tool☒ Rotary☐ Driven☐ Aug.☐ Hollow rod☐ Jetted☐ Bored☐6 USE: ☒ Domestic☐ Public Supply☐ Industry☐ Irrigation☐ Air Conditioning☐ Commercial☐ Test Well☐7 CASING: Threaded ☒ Welded ☐ Height: Above/Below

Diam.

Surface _____ ft.

4 in. to

87 ft. Depth

Weight 11 lbs./ft.

in. to _____ ft. Depth

Drive Shoe? Yes ☒ No ☐

8 SCREEN:

Type: RED BRASS

Dia.: 4"

Slot/Gauze 25

Length 21'

Set between 87 ft. and 91 ft.

Fittings:

9 STATIC WATER LEVEL

_____ ft. below land surface.

10 PUMPING LEVEL below land surface

80 ft. after

2 hrs. pumping

40' o.p.m.

_____ ft. after _____ hrs. pumping _____ o.p.m.

11 WATER QUALITY In Parts Per Million:

Iron (Fe) _____

Chlorides (Cl) _____

Hardness _____

Other _____

12 WELL HEAD COMPLETION: ☐ In Approved Pit☐ Piggy Adapter☐ 12" Above Grade13 Well Grouted? ☒ Yes ☐ No☐ Neat Cement☐ Bentonite

Depth: From _____ ft. to _____ ft.

14 Nearest Source of possible contamination

_____ feet

Direction _____

Type _____

Well disinfected upon completion ☐ Yes ☐ No

15 PUMP:

☐ Not Installed

Manufacturer's Name

Kaiser

Model Number

DEJ

HP 1/2 Volts 230

Length of Drop Pipe

63 ft. capacity

G.P.M.

Type: ☐ Submersible☐ Jet☐ Reciprocating

ADDED INFO. BY DRILLER, ITEM NO.

CORRECTED BY: JU

ADDITIONAL

USE A 2ND SHEET IF NEEDED

16 Remarks, elevation, source of data, etc.

Replacement Well

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.

P. B. SUTTER, WELL DRILLING CO.

0388

REGISTERED BUSINESS NAME

REGISTRATION NO.

Address 715 Cambridge, Ypsilanti, Mich.

Signed

Richard D. Allen

Date 8-2-71

AUTHORIZED REPRESENTATIVE

D67d

100M (Rev. 12-68)

GEOLOGICAL SURVEY COPY

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13-1

WATER WELL RECORD

ACT 294 PA 1965

MICHIGAN DEPARTMENT
OF
PUBLIC HEALTH

JUN 04 1969

1 LOCATION OF WELL		County <u>WASHTENAW</u>		Twp. <u>YPSILANTI</u>	Fraction <u>1/4</u>	Section No. <u>13</u>	Town <u>33</u>	Range <u>7E</u>
Distance And Direction from Road Intersections.		OWNER No. _____		3 OWNER OF WELL: <u>J FOWS CO.</u> Address <u>3651 HAMLIN ROAD</u> <u>UTICA MICH 48087</u>				
Street address & City of Well Location		FORMATION		THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	4 WELL DEPTH: (completed) _____ ft. Date of Completion <u>3-19-69</u>		
2		<u>Sand</u>		<u>18</u>	<u>0.518</u>	5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dig <input type="checkbox"/> Hollow rod <input type="checkbox"/> Jatted <input checked="" type="checkbox"/> Bored		
3		<u>Water sand</u>		<u>3</u>	<u>18.21</u>	6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Public Supply <input type="checkbox"/> Industry <input type="checkbox"/> Irrigation <input type="checkbox"/> Air Conditioning <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Test Well		
						7 CASING: Threaded <input type="checkbox"/> Welded <input type="checkbox"/> Diam. _____ in. to _____ ft. Depth: _____ ft. Weight _____ lbs./ft. Drive Shoe? Yes <input type="checkbox"/> No <input type="checkbox"/>		
						8 SCREEN: Type <u>Johnson</u> Dia. <u>1 1/4</u> Slot/Gauze <u>10</u> Length <u>36"</u> Set between _____ ft. and _____ ft. Fittings: _____		
						9 STATIC WATER LEVEL <u>16</u> ft. below land surface		
						10 PUMPING LEVEL below land surface <u>16</u> ft. after <u>1</u> hrs. pumping <u>9"</u> g.p.m. _____ ft. after _____ hrs. pumping _____ g.p.m.		
						11 WATER QUALITY in Parts Per Million: Iron (Fe) _____ Chlorides (Cl) _____ Hardness _____		
						12 WELL HEAD COMPLETION: <input type="checkbox"/> In Approved Pit <input type="checkbox"/> Pitless Adapter <input type="checkbox"/> 12" Above Grade		
						13 GROUTING: Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No Materials <input type="checkbox"/> Neat Cement <input type="checkbox"/> _____ Depth: From _____ ft. to _____ ft.		
						14 SANITARY: Nearest Source of possible contamination: _____ feet _____ Direction _____ Type _____ Well disinfected upon completion <input type="checkbox"/> Yes <input type="checkbox"/> No		
						15 PUMP: Manufacturer's Name _____ Model Number _____ HP _____ Length of Drop Pipe _____ ft. capacity _____ G.P.M. Type: <input type="checkbox"/> Submersible <input type="checkbox"/> _____ <input type="checkbox"/> Jet <input type="checkbox"/> Reciprocating		
16 Remarks, elevation, source of data, etc.		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. <u>John Ratter</u> REGISTERED BUSINESS NAME <u>0175</u> REGISTRATION NO. Address <u>2635 Roy Green</u> <u>Rockville</u> Signed <u>John Ratter</u> Date <u>Mar 31 1969</u> Authorized Representative						

WATER WELL RECORD

ACT 294 PA 1965

MICHIGAN DEPARTMENT
OF
PUBLIC HEALTH

1 LOCATION OF WELL		County <u>Washtenaw</u>		Twp. <u>Ypsilanti</u>		Fraction <u>1/4 NW 1/4 NE 1/4</u>		Section No. <u>13</u>		Town <u>3 S</u> N/S. <u>7 E</u> E/W.	
Distance And Direction from Road Intersections <u>30.50 TYLER RD.</u>		OWNER No. _____		3 OWNER OF WELL: <u>J. FONS CO.</u> Address <u>3651 HAMLIN ROAD</u> <u>UTICA MICH 48007</u>							
Street address & City of Well Location		THICKNESS OF STRATUM		DEPTH TO BOTTOM OF STRATUM		4 WELL DEPTH: (completed) _____ ft. Date of Completion <u>3-19-69</u>					
2 FORMATION		12		12		5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input type="checkbox"/> Jetted <input checked="" type="checkbox"/> Bored <input type="checkbox"/> _____					
<u>sand</u>		<u>6</u>		<u>12618</u>		6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Public Supply <input type="checkbox"/> Industry <input type="checkbox"/> Irrigation <input type="checkbox"/> Air Conditioning <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Test Well <input type="checkbox"/> _____					
<u>sand water</u>						7 CASING: Diam. _____ Threaded <input type="checkbox"/> Welded <input type="checkbox"/> Height: Above/Below surface _____ ft. _____ in. to _____ ft. Depth _____ lbs./ft. _____ in. to _____ ft. Depth _____ Drive Shoe? Yes <input type="checkbox"/> No <input type="checkbox"/>					
						8 SCREEN: Type <u>Johnson</u> Dia. <u>1 1/4</u> Slot/Gauge <u>10</u> Length <u>36</u> Set between <u>15</u> ft. and <u>18</u> ft. Fittings: _____					
						9 STATIC WATER LEVEL <u>12</u> ft. below land surface					
						10 PUMPING LEVEL below land surface <u>15</u> ft. after <u>1</u> hrs. pumping <u>12</u> g.p.m. _____ ft. after _____ hrs. pumping _____ g.p.m.					
						11 WATER QUALITY in Parts Per Million: Iron (Fe) _____ Chlorides (Cl) _____ Hardness _____					
						12 WELL HEAD COMPLETION: <input type="checkbox"/> In Approved Pit <input type="checkbox"/> Pitless Adapter <input type="checkbox"/> 12" Above Grade					
						13 GROUTING: Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No Material: <input type="checkbox"/> Neat Cement <input type="checkbox"/> _____ Depth: From _____ ft. to _____ ft.					
						14 SANITARY: Nearest Source of possible contamination _____ feet _____ Direction _____ Type _____ Well disinfected upon completion <input type="checkbox"/> Yes <input type="checkbox"/> No					
						15 PUMP: Manufacturer's Name _____ Model Number _____ HP _____ Length of Drop Pipe _____ ft. capacity _____ G.P.M. Type <input type="checkbox"/> Submersible <input type="checkbox"/> _____ <input type="checkbox"/> Jet <input type="checkbox"/> Reciprocating					
16 Remarks, elevation, source of data, etc. <u>Well #2</u> <u>ADDITION BY</u>				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. <u>John Kattke</u> REGISTERED BUSINESS NAME <u>0175</u> REGISTRATION NO. Address <u>2635 Longview Road</u> Signed <u>John Kattke</u> Date <u>Mar 31 1969</u> AUTHORIZED REPRESENTATIVE							

WATER WELL RECORD

ACT 294 PA 1965

MICHIGAN DEPARTMENT
OF
PUBLIC HEALTH

1 LOCATION OF WELL		County <u>Washtenaw</u>		Twp. <u>Ypsilanti</u>		Fraction <u>NE 1/4 NW 1/4 NE 1/4</u>		Section No. <u>13</u>		Town <u>39 N/S</u>		Range <u>7E E/W</u>	
Distance And Direction from Road Intersections <u>3050 TYLER RD.</u>				OWNER No. _____		3 OWNER OF WELL: <u>J. FONS CO.</u> Address <u>3651 HAMLIN ROAD</u> <u>UTICA MICH 48087</u>							
Street address & City of Well Location				THICKNESS OF STRATUM		DEPTH TO BOTTOM OF STRATUM		4 WELL DEPTH: (completed) _____ ft. Date of Completion <u>3-19-69</u>					
2 FORMATION				23		0123		5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dog <input type="checkbox"/> Hollow rod <input type="checkbox"/> Jetted <input checked="" type="checkbox"/> Bored <input type="checkbox"/> _____					
<u>sand clay</u>				1		2360		6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Public Supply <input type="checkbox"/> Industry <input type="checkbox"/> Irrigation <input type="checkbox"/> Air Conditioning <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Test Well <input type="checkbox"/> _____					
								7 CASING: Threaded <input type="checkbox"/> Welded <input type="checkbox"/> Height Above/Below surface _____ ft. 1 1/2 in. to _____ ft. Depth Weight _____ lbs./ft. _____ in. to _____ ft. Depth Drive Shoe? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>					
								8 SCREEN: Type <u>Johnson</u> Dia. <u>1 1/2</u> Slot/Gauze <u>10</u> Length <u>30</u> Set between <u>21</u> ft. and <u>24</u> ft. Fittings: _____					
								9 STATIC WATER LEVEL <u>Dry</u> ft. below land surface					
								10 PUMPING LEVEL below land surface <u>Dry</u> ft. after _____ hrs. pumping _____ G.P.M. _____ ft. after _____ hrs. pumping _____ G.P.M.					
								11 WATER QUALITY in Parts Per Million: Iron (Fe) _____ Chlorides (Cl) _____ Hardness _____					
								12 WELL HEAD COMPLETION: <input type="checkbox"/> In Approved Pit <input type="checkbox"/> Pitless Adapter <input type="checkbox"/> 12" Above Grade					
								13 GROUTING: Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No Material: <input type="checkbox"/> Neat Cement <input type="checkbox"/> _____ Depth From _____ ft. to _____ ft.					
								14 SANITARY: Nearest Source of possible contamination _____ feet _____ Direction _____ Type _____ Well disinfected upon completion <input type="checkbox"/> Yes <input type="checkbox"/> No					
								15 PUMP: Manufacturer's Name _____ Model Number _____ HP Length of Drop Pipe _____ ft. capacity _____ G.P.M. Type: <input type="checkbox"/> Submersible <input type="checkbox"/> _____ <input type="checkbox"/> Jet <input type="checkbox"/> Reciprocating					
16 Remarks, elevation, source of data, etc. <u>Well #3</u>				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. <u>John Rattice</u> <u>0175</u> REGISTERED BUSINESS NAME REGISTRATION NO. Address <u>2635 Longview Rochester</u> Signed <u>John Rattice</u> Date <u>Mar 31 1969</u> AUTHORIZED REPRESENTATIVE									

D67D 100M 6-66

1963

GEOLOGICAL SURVEY COPY

(31)

WATER WELL RECORD
ACT 294 PA 1965

MICHIGAN DEPARTMENT
OF
PUBLIC HEALTH

1 LOCATION OF WELL									
County WASHTENAW	Twp. YPSILANTI	Fraction N 1/4 NW 1/4 NE 1/4	Section No. 13	Town 3 S N/S	Range 7 E E/W				
Distance And Direction from Road Intersections 3050 TYLER RD.						OWNER No. _____			
Street address & City of Well Location						3 OWNER OF WELL J. FONS CO. Address 3651 HAMLIN ROAD UTICA MICH 48087			
						4 WELL DEPTH: (completed) _____ ft. Date of Completion 3-19-69			
2 FORMATION sand clay		THICKNESS OF STRATUM 16	DEPTH TO BOTTOM OF STRATUM 16 to 17	5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input type="checkbox"/> Jiffed <input checked="" type="checkbox"/> Bored					
				6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Public Supply <input type="checkbox"/> Industry <input type="checkbox"/> Irrigation <input type="checkbox"/> Air Conditioning <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Test Well					
				7 CASING: Threaded <input type="checkbox"/> Welded <input type="checkbox"/> Diam. _____ in. to _____ ft. Depth _____ ft. Weight _____ lbs./ft. Drive Shoes? Yes <input type="checkbox"/> No <input type="checkbox"/>					
				8 SCREEN: Type Johnston Dia. 1 1/2 Slot/Gauze 10 Length _____ Set between 14 ft. and 17 ft. Fittings: _____					
				9 STATIC WATER LEVEL 14 ft. below land surface					
				10 PUMPING LEVEL below land surface 14 ft. after _____ hrs. pumping _____ g.p.m. 17 ft. after _____ hrs. pumping _____ g.p.m.					
				11 WATER QUALITY in Parts Per Million: Iron (Fe) _____ Chlorides (Cl) _____ Hardness _____					
				12 WELL HEAD COMPLETION: <input type="checkbox"/> In Approved Pit <input type="checkbox"/> Pitless Adapter <input type="checkbox"/> 12" Above Grade					
				13 GROUTING: Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No Material: <input type="checkbox"/> Neat Cement <input type="checkbox"/> _____ Depth: From _____ ft. to _____ ft.					
				14 SANITARY: Nearest Source of possible contamination _____ feet _____ Direction _____ Type _____ Well disinfected upon completion <input type="checkbox"/> Yes <input type="checkbox"/> No					
ADDED INFO. BY DRILLER, ITEM NO.				15 PUMP: Manufacturer's Name _____ Model Number _____ HP Length of Drop Pipe _____ ft. capacity _____ G.P.M. Types: <input type="checkbox"/> Submersible <input type="checkbox"/> _____ <input type="checkbox"/> Jet <input type="checkbox"/> Reciprocating					
				16 Remarks, elevation, source of data, etc. Well # 4					
CORRECTED BY: _____				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. John Patton 0175 REGISTERED BUSINESS NAME REGISTRATION NO. Address 2635 Longview Rochester Signed John Patton Date Mar 31 1969 AUTHORIZED REPRESENTATIVE					

D670 100M 6-66

11/1/1

GEOLOGICAL SURVEY COPY

(32)

15-5

WATER WELL RECORD

ACT 294 PA 1965

MICHIGAN DEPARTMENT
OF
PUBLIC HEALTH

1 LOCATION OF WELL		County		Twp.		Fraction		Section No.		Town		Range	
WASHTENAW		4		PSILANTI		NW 1/4 NE 1/4		13		35 N/S		7 E/W	
Distance And Direction from Road Intersections		3050 TYLER RD.		OWNER No.		3 OWNER OF WELL: J. FONS CO.		Address: 3651 HAMLIN ROAD		UTICA MICH 48087			
2 FORMATION		THICKNESS OF STRATUM		DEPTH TO BOTTOM OF STRATUM		4 WELL DEPTH: (completed)		Date of Completion					
Sand		19		20 to 19		5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug		3-19-69					
Clay		12		19 to 31		<input type="checkbox"/> Hollow rod <input type="checkbox"/> Jetted <input checked="" type="checkbox"/> Bored <input type="checkbox"/>							
						6 USE: <input type="checkbox"/> Domestic <input type="checkbox"/> Public Supply <input type="checkbox"/> Industry							
						<input type="checkbox"/> Irrigation <input type="checkbox"/> Air Conditioning <input type="checkbox"/> Commercial							
						<input checked="" type="checkbox"/> Test Well <input type="checkbox"/>							
						7 CASING: <input type="checkbox"/> Threaded <input type="checkbox"/> Welded <input type="checkbox"/>		Height: Above/Below surface _____ ft.					
						In. to _____ ft. Depth		Weight _____ lbs./ft.					
						In. to _____ ft. Depth		Drive Shoe? Yes <input type="checkbox"/> No <input type="checkbox"/>					
						8 SCREEN:							
						Type: John Deere		Dia.: 1 1/2					
						Slot/Gauge: 10		Length: 36					
						Set between: 28 ft. and 31 ft.							
						Fitted: Jack sand 19 to 31							
						9 STATIC WATER LEVEL		_____ ft. below land surface					
						10 PUMPING LEVEL below land surface		_____ ft. after _____ hrs. pumping _____ g.p.m.					
						_____ ft. after _____ hrs. pumping _____ g.p.m.							
						11 WATER QUALITY in Parts Per Million:							
						Iron (Fe) _____ Chlorides (Cl) _____							
						Hardness _____							
						12 WELL HEAD COMPLETION: <input type="checkbox"/> In Approved Pit							
						<input type="checkbox"/> Pitless Adapter <input type="checkbox"/> 12" Above Grade							
						13 GROUTING:							
						Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No							
						Materials: <input type="checkbox"/> Neat Cement <input type="checkbox"/>							
						Depth: From _____ ft. to _____ ft.							
						14 SANITARY:							
						Nearest Source of possible contamination _____		_____ Direction _____ Type _____					
						Well disinfected upon completion <input type="checkbox"/> Yes <input type="checkbox"/> No							
						15 PUMP:							
						Manufacturer's Name _____							
						Model Number _____ HP _____							
						Length of Drop Pipe _____ ft. capacity _____ G.P.M.							
						Type: <input type="checkbox"/> Submersible <input type="checkbox"/>							
						<input type="checkbox"/> Jet <input type="checkbox"/> Reciprocating							
16 Remarks, elevation, source of data, etc.						17 WATER WELL CONTRACTOR'S CERTIFICATION:							
Well # 5						This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.							
						John Patton		0175					
						REGISTERED BUSINESS NAME		REGISTRATION NO.					
						Address: 2635 Superior Rochester							
						Signed: John Patton		Date: Mar 31 1969					
						AUTHORIZED REPRESENTATIVE							

D67D 100M 6-66

JUN 4 1969 GEOLOGICAL SURVEY COPY

13355F 8305018-6

(33)



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127, Act 368 PA 1978.

Well ID: 81000014286

Failure to comply is a misdemeanor.

Tax No:	Permit No: 0300451	County: Washtenaw	Township: Ypsilanti
Well ID: 81000014286		Fraction: NW 1/4 SE 1/4 SW 1/4	Section: 13
Elevation:		Town/Range: 03S 07E	WSSN:
Latitude: 42.220145		Source ID/Well No:	
Longitude: -83.55702		Distance and Direction from Road Intersection:	
Well Owner: Carol Pearson		Well Address:	
1760 WOOD		Owner Address:	
YPSILANTI MI 48198		46885 FORD ROAD	
		CANTON MI 48187	

Drilling Method: Rotary	Pump Installed: No	Pump Installation only:
Well Depth: 200.00 ft.	Pump Installation date:	HP:
Well Use: Household	Manufacturer:	Pump Type:
Well Type: New	Model Number:	Pump Capacity:
Casing Type: PVC plastic	Length of Drop Pipe:	Id of Well:
Casing Joint: Unknown	Diameter of Drop Pipe:	
Diameter: 5.00 in. to 140.00 ft. depth	Draw Down Seal Used:	
Bore Diameter 1: 9.00 in. to 140.00 ft. depth	Pressure Tank Installed: No	
Bore Diameter 2:	Pressure Tank Type:	
Bore Diameter 3:	Manufacturer:	Tank Capacity: Gallons
Height: 1.00 ft. above grade	Model Number:	
Casing Fitting: None	Pressure Relief Valve Installed: No	
Static Water Level: Unknown	Formation Description	Thickness
Yield Test Method: Unknown		Depth to Bottom
Measurement Taken During Pump Test:	Sand	8.00
	Yellow Clay	6.00
	Gray Clay	120.00
	Black Shale	46.00
	Gray Shale	20.00
Abandoned Well Plugged: No		
Reason for not plugging Well:		
Abandoned well ID:		
Screen Installed: No	Well Intake: Bedrock Well	
Filter Packed:		
Screen Diameter:	Length:	
Screen Material Type:		
Slot:		
Blank:		
Fittings:		
Well Grouted: Yes	Grouting Method: Unknown	
No. of Bags: 11	Additives: None	
Grouting Materials:		
Bentonite slurry	From 0.00 ft. to 140.00 ft.	
Well Head Completion: Unknown		
Nearest source of possible contamination:	Contractor Type: Water well drilling contractor	
Type	Registration Number: 2014	
Unknown	Business Name: CRIBLEY DRLG CO INC	
Unknown	Business Address:	
Drilling Machine Operator Name: KEN PEARCE	WATER WELL CONTRACTOR'S CERTIFICATION:	
Employment: Unknown	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
General Remarks: ABANDONED WITH 4-50# BAGS BENTONITE GROUT FROM 0-115' & 10-94 # BAGS NEAT CEMENT 115-200' CASING CUT OFF 1' BELOW GRADE		
OTHER REMARKS		



Ypsilanti Twp.

Section 24



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007473

Failure to comply is a misdemeanor.

Import ID: 81737724001

Tax No:		Permit No:		County: Washtenaw		Township: Ypsilanti	
Well ID: 81000007473 Elevation: 585 ft Latitude: 42.2073728954 Longitude: -83.5501337153		Fraction: SE 1/4 NE 1/4 SE 1/4		Section: 24		Town/Range: 03S 07E	
		Distance and Direction from Road Intersection: 2050' W OF RAWSONVILLE RD, 1450' N OF TEXTILE RD.		WSSN:		Source ID/Well No:	
		Well Owner: Ypsilanti Township		Well Address:		Owner Address:	
		YPSILANTI MI 48197		YPSILANTI MI 48197			

Drilling Method: Rotary		Pump Installed: No		Pump Installation only:		
Well Depth: 102.00 ft.		Pump Installation date:		HP:		
Well Type: Replacement		Manufacturer:		Pump Type:		
Casing Type: Unknown		Model Number:		Pump Capacity:		
Casing Joint: Unknown		Length of Drop Pipe:		Id of Well:		
Diameter: 34.00 in. to 61.00 ft. depth		Diameter of Drop Pipe:				
Bore Diameter 1:		Draw Down Seal Used:				
Bore Diameter 2:		Pressure Tank Installed: No				
Bore Diameter 3:		Pressure Tank Type:				
Height: 0.00 ft. above grade		Manufacturer:		Tank Capacity: Gallons		
Casing Fitting: None		Model Number:				
		Pressure Relief Valve Installed: No				
Static Water Level: 999.99 ft. Below Grade(Not Flowing)		Formation Description		Thickness	Depth to Bottom	
Yield Test Method: Unknown		Gravel		5.00	5.00	
Measurement Taken During Pump Test:		Clay		7.00	12.00	
76.00 ft. after 0.00 hrs. pumping at 23.00 GPM		Clay W/Cobbles		10.00	22.00	
Abandoned Well Plugged: No		Clay		10.00	32.00	
Reason for not plugging Well:		Clay W/Cobbles		10.00	42.00	
Abandoned well ID:		Clay & Gravel Sandy		10.00	52.00	
Screen Installed: No		Clay		8.00	60.00	
Filter Packed:		Sand & Gravel		2.00	62.00	
Screen Diameter:		Gravel		30.00	92.00	
Screen Material Type:		Clay W/Shale		10.00	102.00	
Slot:						
Blank:						
Fittings:						
Well Grouted: Yes		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] [60] [8] 8. [SAND & GRAVEL] [62] [2] 9. [GRAVEL] [92] [30] 10. [CLAY & SHALE] [102] [10]				
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				
Type		Registration Number:				
Distance		Business Name:				
Direction		Business Address:				
Unknown						
Unknown						
Drilling Machine Operator Name: J. TURNER		WATER WELL CONTRACTOR'S CERTIFICATION:				
Employment: Unknown		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:		
General Remarks: DRILLER WAS LAYNE NORTHERN- J. TURNER						
OTHER REMARKS						

Page _____ of _____
 Sample No. _____

MICHIGAN DEPARTMENT OF CONSERVATION
 GEOLOGICAL SURVEY DIVISION

WATER WELL RECORD 6-31390

Permit No. 24-8
 Owner No. 16
 Town 3 Range 7

County Washtenaw Twp. Ypsilanti Sec. 24

Distance from Roads, Section Lines, etc.

Approx. 875' W. of Rowsonville rd } (on intersection)
 1850' N of Textile rd } (is SE corner sec 24)

FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	Owner Ypsilanti township
Gravel	5	5	Address:
Clay	7	12	Driller and Address: Layne Northern - J. Turner
Clay & rock	10	22	Well Depth: 102 ft. Date of Completion: 10-22-65
Clay	10	32	<input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Aug <input checked="" type="checkbox"/> R.C. <input type="checkbox"/> Driven <input type="checkbox"/> Jetted <input type="checkbox"/> Bored
Clay and rocks	10	42	Use: <input type="checkbox"/> Domestic <input checked="" type="checkbox"/> Public Supply <input type="checkbox"/> Industry <input type="checkbox"/> Irrigation <input type="checkbox"/> Air Conditioning <input type="checkbox"/> Dewatering <input type="checkbox"/> Test Well <input type="checkbox"/>
Clay and sandy gravel	10	52	Casing: Diam. 3 3/4 in. to 6 1/2 ft. Depth
Clay	8	60	Height: Above/Below surface _____ ft. Type-Weight
Sand & gravel	2	62	_____ in. to _____ ft. Depth
Gravel	30	92	Screen:
Clay & shale	10	102	Type: _____ Dia: _____ Slot/Gauze _____ Length _____ Set between _____ ft. and _____ ft.
			Accessories:
			Water level: _____ ft. above/below _____
			_____ ft. above/below _____
			Meas. by _____ Date _____
			Drawdown: 75' 6" P.L. _____ ft. after _____ hrs. pumping 1900 g.p.m. _____ ft. after _____ hrs. pumping _____ g.p.m.
			Meas. by _____ Date _____
			Flows: _____ g.p.m./g.p.h. Temp: _____ of _____
			Water Quality in Parts Per Million: Iron (Fe) _____ Chlorides (Cl) _____ Hardness _____
			Elevations: 21585' 1000 ft. above
			Source of data:
			Record by: _____ Date: _____

Remarks:



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007474

Failure to comply is a misdemeanor.

Import ID: 81737724002

Tax No:	Permit No:	County: Washtenaw	Township: Ypsilanti
Well ID: 81000007474		Fraction: SE 1/4 NE 1/4 SE 1/4	Section: 24
Elevation: 685 ft		Town/Range: 03S 07E	WSSN:
Latitude: 42.2076120879		Source ID/Well No:	
Longitude: -83.5439899234		Distance and Direction from Road Intersection: 170' W OF RAWSONVELLE RD, 610' S OF HURON RIVER DR.	
Well Owner: Ypsilanti Township		Owner Address:	
Well Address:		YPSILANTI MI 48197	

Drilling Method: Other	Pump Installed: No	Pump Installation only:
Well Depth: 80.00 ft.	Pump Installation date:	HP:
Well Use: Household	Manufacturer:	Pump Type:
Well Type: Replacement	Model Number:	Pump Capacity:
Casing Type: Unknown	Length of Drop Pipe:	Id of Well:
Casing Joint: Unknown	Diameter of Drop Pipe:	
Diameter: 36.00 in. to 35.00 ft. depth	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 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
Yield Test Method: Unknown		Depth to Bottom
Measurement Taken During Pump Test:	Clay Fill	2.00 2.00
	Unidentified Consolidated Fm	2.00 4.00
	Brown Clay	5.00 9.00
	Clay Sand Gravel	9.00 18.00
	Sand & Gravel W/Clay	7.00 25.00
	Sand & Gravel Fine To Coarse	24.00 49.00
	Sand & Gravel W/Shale	29.00 78.00
	Shale	2.00 80.00
Abandoned Well Plugged: No		
Reason for not plugging Well:		
Abandoned well ID:		
Screen Installed: Yes	Well Intake:	
Filter Packed: No		
Screen Diameter: 4.00 in.	Length: 20.00 ft.	
Screen Material Type:		
Slot: 4.00 in. Set Between 59.00 ft. and 79.00 ft.		
Blank: 0.00 ft. Above		
Fittings:		
None		
Well Grouted: Yes	Grouting Method: Unknown	
No. of Bags:	Additives: None	
Grouting Materials:		
Neat cement	From 0.00 ft. to 0.00 ft.	
Well Head Completion: Unknown		
Nearest source of possible contamination:	Contractor Type: Unknown	
Type	Registration Number:	
Unknown	Business Name:	
Unknown	Business Address:	
Drilling Machine Operator Name:	WATER WELL CONTRACTOR'S CERTIFICATION:	
Employment: Unknown	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:
General Remarks: DRILLER WAS LAYNE NORTHERN		
OTHER REMARKS Drilling Method: Drilling Method unknown		



NORTHERN COMPANY

INCORPORATED

INDIANAPOLIS • MISHAWAKA • LANSING

Ypsilanti
24-7

- ☐ TEST
☒ PERMANENT

Job No. **L-32082**

WELL LOG No. **9** CITY **YPSILANTI**

County **WASHTENAW**

Owner **YPSILANTI TOWNSHIP**

Township **YPSILANTI**

Section **24**

Location **SENSE**

State **MICHIGAN**

From Land Description **170' West of guardrail of Rawsonville Road**

From Street or Road **610' South of Huron river (South bank)**

FORMATION FOUND -- DESCRIBE FULLY	FROM NATURAL GROUND LEVEL			
	Depth to Top of Stratum	Depth to Bottom of Stratum	Thickness of Stratum	Static Water Level
Fill - clay	0	2	2	
Top fill & rocks	2	4	2	
① Clay - brown	4	9	5	
② Clay - sand & gravel	9	18	9	
Sand & gravel - some clay	18	25	7	
Coarse sand & fine gravel	25	49	24	
Sand & gravel - rocks & shale	49	78	29	22' 3"
Shale	78	80	2	
Some of the shale in thick strips				
(BR + 607')				
EL ± + 685' TOPO 7 1/2' - (SWL + 663')				
ADDED INFO. BY DRILLER, ITEM NO.				
*CORRECTED BY:				
**ADDITION BY:				

Hole **36** "Dia Drilled by: { Cable Tool _____ Rotary _____ Jetting _____
Reverse Circ. ☒ Bucket _____ Auger _____

Rotary Hole Grouted: Neat Cement ☒ Drilling Mud _____ Other _____

Casing **36** "OD From **1' 6"** "above ground to **35** feet below ground. Weight _____ Pounds per foot

Screen **16** " Set from **79** to **59** feet Make **LAYNE** Type **S.S.** Slot **4'** **13**

XXXXXXXXXXXXXXXXXXXX (SEE WELL PRINT) XXXXXXXXXXXXXXXXXXXXXXX

Date Completed **9/9/68** Driller **L.D. COONROD**

Layne Northern
Engineering
7-2

8 1969

(Layne) NORTHERN COMPANY
INCORPORATED

INDIANAPOLIS • MISHAWAKA • LANSING

24-9

☒ TEST *Observation Well for pumping test of pumping Well No. 5*
☐ PERMANENT

Job No. L-32338

WELL LOG No. 69-E CITY YPSILANTI TOWNSHIP County *Washtenaw*

Owner YPSILANTI TOWNSHIP Township *Ypsilanti*

NE SW SW W 1/2, SW 1/4 Section 24, T. 3 S., R. 7.

Location *EL 216.87' topo.* State *Michigan*

From Land Description *25' West of Well No. 5 ; just W of Water Treatment Pla*

From Street or Road *Bridge St.*

FORMATION FOUND - DESCRIBE FULLY	FROM NATURAL GROUND LEVEL			
	Depth to Top of Stratum	Depth to Bottom of Stratum	Thickness of Stratum	Static Water Level
① Brown clay	0	16	16	
Brown sand	16	17	1	
② Blue grey clay with stones	17	33	16	
Sand & gravel, fine sand, brown	33	34	1	
③ Brown clay	34	38	4	
Sand & gravel, coarse	38	41	3	
④ Grey clay	41	42	1	
Sand & gravel - coarse	42	45	3	
Sand & gravel - 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	
Sand & gravel - medium	80	85	5	
Sand & gravel - fine material black	85	90	5	(+6.87')
Sand & gravel	90	106	13	± 50'
Hard shale - black, slabby	106	117	17	
Soft shale - clay like - grey	117	125	8	
Black shale, slabby	125	131	6	
Limestone	131	135	4	

Hole *5 5/8* "Dia Drilled by: Cable Tool _____ Rotary *X* Jetting _____
Reverse Circ. _____ Bucket _____ Auger _____

Rotary Hole Grouted; Neat Cement _____ Drilling Mud _____ Other _____

Casing *2* "OD From *24* "above ground to *99* feet below ground. Weight _____ Pounds per foot

Screen *1 1/4* " Set from *99* to *103* feet Make *Johnson* type *1 1/4* " Point Slot *.025*

Pumping test _____ GPM drawdown to _____ feet after _____ hours pumping

Date Completed *10/8/69* Driller *Burrows - Mc Cracken*

①
24-5

JUN 30 1970



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007482

Failure to comply is a misdemeanor.

Import ID: 81737724307

Tax No:		Permit No:		County: Washtenaw		Township: Ypsilanti	
Well ID: 81000007482 Elevation: 690 ft Latitude: 42.206880002 Longitude: -83.5564014822		Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:	
		U/4 U/4 U/4	24	03S 07E	7260	YPSILANTI TWP WELL #1	
		Distance and Direction from Road Intersection: WSSN 07260;					
Well Owner: Ypsilanti Community Utilities				Owner Address:			
Well Address: YPSILANTI TWP WELL #1 YPSILANTI MI				YPSILANTI MI			

Drilling Method: Unknown		Pump Installed: Yes		Pump Installation only: No	
Well Depth: 91.00 ft		Pump Installation date:		HP:	
Well Use: Type I public		Manufacturer: Other		Pump Type: Unknown	
Well Type: New		Model Number:		Pump Capacity: 0.00 GPM	
Casing Type: Unknown		Length of Drop Pipe: 0.00 ft.		Id of Well:	
Casing Joint: Unknown		Diameter of Drop Pipe:			
Diameter: 24.00 in. to 51.00 ft. depth		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 ft. above grade		Model Number:		Tank Capacity: Gallons	
Casing Fitting: None		Pressure Relief Valve Installed: No			

Static Water Level: 999.99 ft. Below Grade(Not Flowing)	Formation Description	Thickness	Depth to Bottom
Yield Test Method: Unknown	No Log	91.00	91.00
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:	

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:		
Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [91] [91]

42° 12' 25"

83° 33' 23"

Contractor Type: Unknown
Registration Number:
Business Name:
Business Address:

Drilling Machine Operator Name:

Employment: Unknown

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

General Remarks: ORIGINAL WELLID# WAS 24010; NO WELL LOG PROVIDED

OTHER REMARKS Pump Manufacturer: Pump Manufacturer unknown



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007483

Failure to comply is a misdemeanor.

Import ID: 81737724308

Tax No:		Permit No:		County: Washtenaw		Township: Ypsilanti	
Well ID: 81000007483 Elevation: 692 ft Latitude: 42.2070884683 Longitude: -83.5556568754		Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:	
		U/4 U/4 U/4	24	03S 07E	7260	YPSILANTI TWP WELL #2	
		Distance and Direction from Road Intersection: WSSN 07260;					
Well Owner: Ypsilanti Community Utilities				Well Address:			
YPSILANTI TWP WELL #2 YPSILANTI MI				Owner Address: YPSILANTI MI			

Drilling Method: Unknown		Pump Installed: Yes		Pump Installation only: No	
Well Depth: 88.00 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 Capacity: 0.00 GPM	
Casing Joint: Unknown		Length of Drop Pipe: 0.00 ft.		Id of Well:	
Diameter: 24.00 in. to 37.00 ft. depth		Diameter of Drop Pipe:			
Bore Diameter 1:		Draw Down Seal Used: No			
Bore Diameter 2:		Pressure Tank Installed: No			
Bore Diameter 3:		Pressure Tank Type:			
Height: 0.00 ft. above grade		Manufacturer:			
Casing Fitting: None		Model Number:		Tank Capacity: Gallons	
Static Water Level: 999.99 ft. Below Grade(Not Flowing)		Pressure Relief Valve Installed: No			
Yield Test Method: Unknown		Formation Description		Thickness	Depth to Bottom
Measurement Taken During Pump Test:		No Log		88.00	88.00
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:					
Well Grouted: Yes Grouting Method: Unknown		Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [88] [88]			
No. of Bags:	Additives: None	42° 12' 25" 83° 33' 20"			
Grouting Materials:	From 0.00 ft. to 0.00 ft.				
Unknown					
Well Head Completion: Unknown					
Nearest source of possible contamination:		Contractor Type: Unknown			
Type	Distance Direction	Registration Number:			
Unknown	0.00 ft.	Business Name:			
Unknown		Business Address:			
Drilling Machine Operator Name:		WATER WELL CONTRACTOR'S CERTIFICATION:			
Employment: Unknown		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	
General Remarks: ORIGINAL WELLID# WAS 24011; NO WELL LOG PROVIDED					
OTHER REMARKS Pump Manufacturer: Pump Manufacturer unknown					



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007484

Failure to comply is a misdemeanor.

Import ID: 81737724309

Tax No:		Permit No:		County: Washtenaw		Township: Ypsilanti	
Well ID: 81000007484 Elevation: 694 ft Latitude: 42.2072528612 Longitude: -83.5550603744		Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:	
		U/4 U/4 U/4	24	03S 07E	7260	YPSILANTI TWP WELL #3	
		Distance and Direction from Road Intersection: WSSN 07260;					
Well Owner: Ypsilanti Community Utilities				Well Address:			
YPSILANTI TWP WELL #3				YPSILANTI MI			
Owner Address:				YPSILANTI MI			

Drilling Method: Unknown	Pump Installed: Yes	Pump Installation only: No
Well Depth: 82.00 ft	Pump Installation date:	HP:
Well Use: Type I public	Manufacturer: Other	Pump Type: Unknown
Well Type: New	Model Number:	Pump Capacity: 0.00 GPM
Casing Type: Unknown	Length of Drop Pipe: 0.00 ft.	Id of Well:
Casing Joint: Unknown	Diameter of Drop Pipe:	
Diameter: 26.00 in. to 32.00 ft. depth	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 ft. above grade	Model Number:	Tank Capacity: Gallons
Casing Fitting: None	Pressure Relief Valve Installed: No	

Static Water Level: 999.99 ft. Below Grade(Not Flowing)	Formation Description	Thickness	Depth to Bottom
Yield Test Method: Unknown	No Log	82.00	82.00
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:			
Screen Material Type:			
Slot:			
Blank:			
Fittings:			

Well Grouted: Yes	Grouting Method: Unknown	Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [82] [82]
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:		
Type	Distance	
Unknown	0.00 ft.	
Unknown		
Contractor Type: Unknown		
Registration Number:		
Business Name:		
Business Address:		

Drilling Machine Operator Name:	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.
Employment: Unknown	
Signature of Registered Contractor	Date

General Remarks: ORIGINAL WELLID# WAS 24012; NO WELL LOG PROVIDED
OTHER REMARKS Pump Manufacturer: Pump Manufacturer unknown



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 366 PA 1978.

Well ID: 81000007477

Failure to comply is a misdemeanor.

Import ID: 81737724302

Tax No:		Permit No:		County: Washtenaw		Township: Ypsilanti	
Well ID: 81000007477 Elevation: 694 ft Latitude: 42.2076014694 Longitude: -83.5583079004		Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:	
		0/4 0/4 0/4	24	03S 07E	7260	YPSILANTI TWP WELL #5	
		Distance and Direction from Road Intersection: WSSN 07260;					
Well Owner: Ypsilanti Community Utilities				Owner Address:			
Well Address: YPSILANTI TWP WELL #5 YPSILANTI MI				YPSILANTI MI			

Drilling Method: Unknown		Pump Installed: No		Pump Installation only:	
Well Depth: 105.00 ft.		Pump Installation date:		HP:	
Well Type: New		Manufacturer:		Pump Type:	
Casing Type: Unknown		Model Number:		Pump Capacity:	
Casing Joint: Unknown		Length of Drop Pipe:		Id of Well:	
Diameter: 24.00 in. to 55.00 ft. depth		Diameter of Drop Pipe:			
Bore Diameter 1:		Draw Down Seal Used:			
Bore Diameter 2:		Pressure Tank Installed: No			
Bore Diameter 3:		Pressure Tank Type:			
Height: 0.00 ft. above grade		Manufacturer:		Tank Capacity: Gallons	
Casing Fitting: None		Model Number:			
		Pressure Relief Valve Installed: No			
Static Water Level: 999.99 ft. Below Grade(Not Flowing)		Formation Description		Thickness	Depth to Bottom
Yield Test Method: Unknown		No Log		105.00	105.00
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:		Length:			
Screen Diameter:					
Screen Material Type:					
Slot:					
Blank:					
Fittings:					
Well Grouted: Yes		Grouting Method: Unknown		Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [105] [105]	
No. of Bags:		Additives: None		<i>42' 12" 27"</i> <i>83' 33" 29"</i>	
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:			
Type		Business Name:			
Unknown		Business Address:			
Unknown					
Drilling Machine Operator Name:		WATER WELL CONTRACTOR'S CERTIFICATION:			
Employment: Unknown		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	
General Remarks: ORIGINAL WELLID# WAS 24005; NO WELL LOG PROVIDED					
OTHER REMARKS					



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007478

Failure to comply is a misdemeanor.

Import ID: 81737724303

Tax No:		Permit No:		County: Washtenaw		Township: Ypsilanti		
Well ID: 81000007478 Elevation: 687 ft Latitude: 42.2066747839 Longitude: -83.550784922		Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:		
		04 04 04	24	03S 07E	7260	YPSILANTI TWP WELL #6		
		Distance and Direction from Road Intersection: WSSN 07260:						
Well Owner: Ypsilanti Community Utilities				Well Address:				Owner Address:
YPSILANTI TWP WELL #6				YPSILANTI MI				YPSILANTI MI

Drilling Method: Unknown		Well Depth: 94.00 ft.		Well Use: Type I public		Pump installed: Yes		Pump installation only: No	
Well Type: New		Date Completed:				Pump installation date:		HP:	
Casing Type: Unknown		Casing Joint: Unknown		Diameter: 34.00 in. to 61.00 ft. depth		Manufacturer: Other		Pump Type: Unknown	
Bore Diameter 1:		Bore Diameter 2:		Bore Diameter 3:		Model Number:		Pump Capacity: 0.00 GPM	
Height: 0.00 ft. above grade		Casing Fitting: Drive shoe				Length of Drop 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:		Tank Capacity: Gallons	
						Pressure Relief Valve installed: No			
Static Water Level: 999.99 ft. Below Grade (Not Flowing)		Yield Test Method: Unknown		Measurement Taken During Pump Test:		Formation Description		Thickness	Depth to Bottom
Abandoned Well Plugged: No		Reason for not plugging Well:		Abandoned well ID:		No Log		94.00	94.00
Screen installed: No		Well Intake: Unknown		Filter Packed:					
Screen Diameter:		Length:		Screen Material Type:					
Slot:				Blank:					
Fittings:									
Well Grouted: Yes		Grouting Method: Unknown		No. of Bags:		Additives: None		Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [B4] [94]	
Grouting Materials:		Unknown		From 0.00 ft. to 0.00 ft.				83° 33' 2	
Well Head Completion:		Unknown						42° 12' 24	
Nearest source of possible contamination:		Type		Distance		Direction		Contractor Type: Unknown	
Unknown		Unknown		0.00 ft.				Registration Number:	
Unknown								Business Name:	
Drilling Machine Operator Name:								Business Address:	
Employment: Unknown								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	
General Remarks: ORIGINAL WELLID# WAS 24006; NO WELL LOG PROVIDED									
OTHER REMARKS Pump Manufacturer: Pump Manufacturer unknown									



WATER WELL AND PUMP RECORD

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:	Section:	Town/Range:	WSSN:	Source ID/Well No:	
		U/4 U/4 U/4	24	03S 07E	7260	YPSILANTI TWP WELL #7	
Elevation: 687 ft		Distance and Direction from Road Intersection: WSSN 07260;					
Latitude: 42.2052908481		Well Owner: Ypsilanti Community Utilities					
Longitude: -83.5567594311		Well Address: YPSILANTI TWP WELL #7 YPSILANTI MI				Owner Address: YPSILANTI MI	

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 Capacity: 0.00 GPM	
Casing Joint: Unknown		Length of Drop Pipe: 0.00 ft.		Id of Well:	
Diameter: 34.00 in. to 37.00 ft. depth		Diameter of Drop Pipe:			
Bore Diameter 1:		Draw Down Seal Used: No			
Bore Diameter 2:		Pressure Tank Installed: No			
Bore Diameter 3:		Pressure Tank Type:			
Height: 0.00 ft. above grade		Manufacturer:		Tank Capacity: Gallons	
Casing Fitting: None		Model Number:			
		Pressure Relief Valve Installed: No			
Static Water Level: 999.99 ft. Below Grade (Not Flowing)		Formation Description		Thickness	Depth to Bottom
Yield Test Method: Unknown		No Log		96.00	96.00
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:					
Well Grouted: Yes		Grouting Method: Unknown		Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [96] [96]	
No. of Bags:		Additives: None			
Grouting Materials:		From 0.00 ft. to 0.00 ft.			
Unknown					
Well Head Completion: Unknown					
Nearest source of possible contamination:		Contractor Type: Unknown			
Type		Registration Number:			
Distance		Business Name:			
Direction		Business Address:			
Unknown					
Unknown					
Drilling Machine Operator Name:		WATER WELL CONTRACTOR'S CERTIFICATION:			
Employment: Unknown		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	
General Remarks: ORIGINAL WELLID# WAS 24007; NO WELL LOG PROVIDED					
OTHER REMARKS Pump Manufacturer: Pump Manufacturer unknown.					



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007480

Failure to comply is a misdemeanor.

Import ID: 81737724305

Tax No:		Permit No:		County: Washenaw		Township: Ypsilanti	
Well ID: 81000007480 Elevation: 664 ft Latitude: 42.207051613 Longitude: -83.5504675545				Fraction: U/4 U/4 U/4	Section: 24	Town/Range: 03S 07E	WSSN: 7260
				Source ID/Well No: YPSILANTI TWP WELL #8			
				Distance and Direction from Road Intersection: WSSN 07260;			
Well Owner: Ypsilanti Community Utilities				Owner Address: YPSILANTI MI			

Drilling Method: Unknown		Pump Installed: Yes		Pump Installation only: No	
Well Depth: 89.00 ft.		Well Use: Type I public		HP:	
Well Type: New		Date Completed:		Pump Type: Unknown	
Casing Type: Unknown		Manufacturer: Other		Pump Capacity: 0.00 GPM	
Casing Joint: Unknown		Model Number:		Id of Well:	
Diameter: 34.00 in. to 40.00 ft. depth		Length of Drop Pipe: 0.00 ft.			
Bore Diameter 1:		Diameter of Drop Pipe:			
Bore Diameter 2:		Draw Down Seal Used: No			
Bore Diameter 3:		Pressure Tank Installed: No			
Height: 0.00 ft. above grade		Pressure Tank Type:			
Casing Fitting: None		Manufacturer:			
		Model Number:		Tank Capacity: Gallons	
		Pressure Relief Valve Installed: No			
Static Water Level: 999.99 ft. Below Grade(Not Flowing)		Formation Description		Thickness	Depth to Bottom
Yield Test Method: Unknown		No Log		89.00	89.00
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:		Length:			
Screen Diameter:					
Screen Material Type:					
Slot:					
Blank:					
Fittings:					
Well Grouted: Yes		Grouting Method: Unknown		Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [89] [89]	
No. of Bags:		Additives: None		42° 12' 25" 83° 33' 1"	
Grouting Materials:		From 0.00 ft. to 0.00 ft.			
Well Head Completion:		Unknown			
Nearest source of possible contamination:		Contractor Type: Unknown			
Type		Registration Number:			
Unknown		Business Name:			
Unknown		Business Address:			
Drilling Machine Operator Name:		WATER WELL CONTRACTOR'S CERTIFICATION:			
Employment: Unknown		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:	
General Remarks: ORIGINAL WELL ID# WAS 24008; NO WELL LOG PROVIDED					
OTHER REMARKS Pump Manufacturer: Pump Manufacturer unknown					



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007481

Failure to comply is a misdemeanor.

Import ID: 81737724306

Tax No:		Permit No:		County: Washtenaw		Township: Ypsilanti	
Well ID: 81000007481 Elevation: 665 ft Latitude: 42.2066120202 Longitude: -83.5440429866		Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:	
		U/4 U/4 U/4	24	03S 07E	7260	YPSILANTI TWP WELL #9	
		Distance and Direction from Road Intersection: WSSN 07260;					
Well Owner: Ypsilanti Community Utilities				Owner Address:			
Well Address: YPSILANTI TWP WELL #9 YPSILANTI MI				YPSILANTI MI			

Drilling Method: Unknown		Pump Installed: Yes		Pump Installation only: No	
Well Depth: 79.00 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 Capacity: 0.00 GPM	
Casing Joint: Unknown		Length of Drop Pipe: 0.00 ft		Id of Well:	
Diameter: 36.00 in. to 35.00 ft. depth		Diameter of Drop Pipe:			
Bore Diameter 1:		Draw Down Seal Used: No			
Bore Diameter 2:		Pressure Tank Installed: No			
Bore Diameter 3:		Pressure Tank Type:			
Height: 0.00 ft. above grade		Manufacturer:		Tank Capacity: Gallons	
Casing Fitting: None		Model Number:			
		Pressure Relief Valve Installed: No			
Static Water Level: 999.99 ft. Below Grade(Not Flowing)		Formation Description		Thickness	Depth to Bottom
Yield Test Method: Unknown		No Log		79.00	79.00
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:		Length:			
Screen Diameter:					
Screen Material Type:					
Slot:					
Blank:					
Fittings:					
Well Grouted: Yes		Grouting Method: Unknown		Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [79] [79]	
No. of Bags:		Additives: None		42° 12' 23'' 83 32' 38''	
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:			
Type	Distance Direction	Business Name:			
Unknown	0.00 ft.	Business Address:			
Unknown					
Drilling Machine Operator Name:		WATER WELL CONTRACTOR'S CERTIFICATION:			
Employment: Unknown		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	
General Remarks: ORIGINAL WELLID# WAS 24009; NO WELL LOG PROVIDED					
OTHER REMARKS Pump Manufacturer: Pump Manufacturer unknown					