UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III

841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

SEP 25 1997

Mr. I. Norman Gerlach, R.A.
Vice-President
Fulton Financial Corporation
P.O. Box 4887
Lancaster, PA 17604

Dear Mr. Gerlach:

This letter serves to summarize our discussion of September 17, 1997. EPA concurs with comments from Fulton in the reconsideration of the proposed remedy described on the original Statement of Basis, dated September 28, 1995. This letter replaces EPA's Statement of Basis document and constitutes the final response to all comments to EPA from Fulton, its contractors, and its representatives. Further, EPA and Fulton now agree on the following five steps, which Fulton intends to implement voluntarily.

1. Fulton shall attempt bioremediation. This methodology was proposed by Fulton in a report dated June, 1997.

2. Fulton shall conduct annual groundwater sampling (i.e., at M-4, M-5, M-6, M-9, M-10, and sump) for VOC constitutients.

3. Fulton shall submit a report to EPA annually on the analytical results from the groundwater sampling event.

4. Fulton shall continue to operate the pump and treat operation at the sump and to properly maintain the GAC filter.

5. Fulton may abandon monitoring wells M-11, and M-12 per PA DEP well abandonment procedures. However, should Fulton decide not to abandon these wells, annual sampling from these wells shall be conducted by Fulton.

Groundwater sampling as described in item 2, above, shall take place in March of each year, with a 2 week notice to EPA prior to sampling, so that EPA is able to co-ordinate split sampling of groundwater with Fulton.

Nothing in this letter shall prevent EPA from requiring additional action should site conditions change. Such circumstances are unlikely, but additional action may be dictated for example when unexpected migration of the plume takes place.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

SEP 29 1995

I. Norman Gerlach, R.A.
Vice President
Fulton Financial Corporation
P.O. Box 4487
Lancaster PA 17604

Dear Mr. Gerlach:

Enclosed for your information is copy of the Statement of Basis for the former Lancaster Metal Facility. The Statement of Basis sets forth EPA's proposed final remedy for the Facility located at 1695 State Street, East Petersburg, Pennsylvania.

EPA is making the Statement of Basis available to the public for comment during a 30 day comment period staring on October 3, 1995 and ending on November 1, 1995. EPA will place an announcement in the New ERA newspaper on October 2, 1995 to notify the public of the availability of the Statement of Basis for review and the locations of the Administrative Record as follows:

Lancaster County Library
125 North Duke Street
Lancaster, PA 17602
(717) 394-2651

U.S. EPA Region III
841 Chestnut Street
Philadelphia, Pa 10107
(215) 597-2381

If Fulton has any comments of the Statement of Basis, please forward them to Kai Shum of my staff during the aforementioned public comment period as follows:

Mr. Kai Hon Shum
U.S. EPA Region III
841 Chestnut Building
Philadelphia Pa 19107
(215)-597-2381

If you have any questions concerning this correspondence please contact me at 215-597-5996.

Sincerely

Christopher B. Pilla
Chief Pennsylvania RCRA Enforcement

Enclosure

cc: Kai Shum EPA (3HW62)
Rob Rossman R.E. Wright Associates

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

SUBJECT: RCRA Statement of Basis
Fulton Financial Realty Company
East Petersburg Pennsylvania

DATE: SEP 28 1995

FROM: Maria P. Vickers,
Associate Director of RCRA Programs
Hazardous Waste Management Division (3HW03)

TO: Thomas C. Voltaggio, Director
Hazardous Waste Management Division (3HW00)

RECOMMENDED ACTION:

Please sign the attached RCRA Statement of Basis (SB) for the Fulton Financial Realty Company.

PURPOSE OF THE STATEMENT OF BASIS:

This Statement of Basis (SB) provides EPA's justification for the Agency's preliminary selection of the preferred corrective measures alternatives for the Fulton Financial Facility (a.k.a. Lancaster Metals), East Petersburg, Pennsylvania. The SB briefly summarizes the results of the RCRA Facility Investigation (RFI) and the Corrective Measures Study (CMS) prepared by Fulton Financial and the corrective measure alternatives presented in the CMS, and provides EPA's rational for its preliminary selection.

A workgroup consisting of the RCRA Project Manager Kai Shum, former RPM Cheryl Atkinson, RCRA hydrogeologists Thomas Buntin and Michael Cramer, RCRA Toxicologists Youngmoo Kim and Roy Smith, and RCRA Section Chief (Christopher Pilla), reviewed and commented on the Fulton Financial RFI and CMS. The workgroup utilized the following decision criteria (delineated in Headquarters final SB guidance document) to evaluate each of the proposed Corrective Measures Alternatives: four general standards for corrective measures (overall protection, attainment of media clean-up standards, source control, and compliance with waste management standards) and five remedial decision factors (long term reliability, reduction in toxicity, mobility or volume of waste, short term effectiveness, implementability and cost).

PROPOSED REMEDY:

The workgroup is proposing the construction and implementation of a groundwater recovery and treatment system to address the contaminated groundwater at this Facility as follows;

-Installation and operation of one central circulating pump which will be connected to the existing on-site groundwater wells and the boiler room sump to recover contaminated groundwater;

-Installation and operation of an air-stripper to treat groundwater. The air-stripper will be equipped with a granulated-activated carbon unit to treat off-gas emissions to prevent cross media contamination;

-Creating and imposing institutional controls to require periodic monitoring and reporting of groundwater data to track compliance with established media cleanup standards (See Section X., below);

-Discharging treated groundwater through a corrugated metal pipe located along the western boundary of the Facility, in accordance with the Clean Water Act National Pollutant Discharge Elimination System (NPDES) regulations.

FUTURE ACTIONS:

Upon signature by the Division Director, the SB will be made available to the public for comment. This public comment period will last thirty (30) days. A public meeting will be held if requested by the public during the 30-day public comment period. After the public comment period, EPA will, depending on the nature of substantive public comment, either select another corrective measure alternative or prepare a Final Decision and Response to Comments addressing substantive public comment on EPA's preferred corrective measure alternative. Following this, EPA and Fulton will begin negotiations to implement the Final Remedy under the provisions of RCRA 3008(h).

SIGNIFICANCE OF THE STATEMENT OF BASIS:

This SB is issued to a Fulton Financial Realty Company for the facility located at 1695 State Street, East Petersburg, Lancaster County, Pennsylvania, which is ranked high by the National Corrective Action Prioritization Systems (NCAPS).

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION III

STATEMENT OF BASIS

FULTON FINANCIAL REALTY COMPANY
1695 STATE STREET
EAST PETERSBURG
LANCASTER COUNTY
PENNSYLVANIA

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STATEMENT OF BASIS FOR PROPOSED CORRECTIVE MEASURES
UNDER RCRA SECTION 3008(h)
FULTON FINANCIAL REALTY COMPANY
1695 STATE STREET
EAST PETERSBURG, PENNSYLVANIA

I. Introduction

This Statement of Basis explains the proposed corrective measure alternatives for remediating contaminated groundwater at the Fulton Financial Realty Company ("Fulton"), located at 1695 State Street, East Petersburg, Lancaster County, Pennsylvania ("Facility"). This document summarizes the environmental investigation and the corrective measure alternatives that the United States Environmental Protection Agency ("EPA") and Fulton have evaluated under two Administrative Consent Orders ("Orders"). On September 25, 1987, EPA entered into an Administrative Order on Consent with Fulton, the present owner and operator, and Lancaster Metals Science, the former operator, pursuant to Section 3013 of the Resource Conservation and Recovery Act ("***RCRA***"), 42 U.S.C. Section 6934, ("3013 Order"), U.S. EPA Docket Number RCRA-III-007-AM, in order to determine the nature and extent of releases of hazardous wastes at the Facility. On September 25, 1991, EPA entered into a second Administrative Order on Consent with Fulton, U.S. EPA Docket Number RCRA-III-042-CA, pursuant to Section 3008(h) of RCRA, as amended, 42 U.S.C. Section 6928(h) ("3008(h) Order") to conduct additional environmental investigation and complete the description of the nature and extent of releases of hazardous wastes at the Facility, perform Interim Measures, and to perform a Corrective Measures Study.

Thereafter, Fulton completed the remedial investigation pursuant to the 3013 Order and the RCRA Facility Investigation pursuant to the 3008(h) Order, hereinafter collectively referred to as the "RFI".

Furthermore, in accordance with the 3008(h) Order, Fulton conducted a Corrective Measure Study ("CMS") and completed a CMS Report for EPA approval. The purpose of the CMS was to evaluate corrective measure alternatives in order to address contamination revealed at the site as a result of the RFI. The CMS Report sets forth the evaluation of these alternatives.

This Statement of Basis describes the corrective measure alternatives considered for the Facility, presents EPA's preferred corrective measure alternative and explains the reasons for the selection of that alternative.

This document also summarizes information that is presented in greater detail in the workplans and reports submitted by Fulton to EPA during the RFI. To gain a more comprehensive understanding of the relevant activities that have been conducted at the Facility, EPA encourages the public to review these documents which are part of the Administrative Record for this matter. The Administrative Record may be examined during business hours at the following locations:

Lancaster County Library
125 North Duke Street
Lancaster, PA 17602
(717) 394-2651

U.S. EPA Region III
841 Chestnut Building
Philadelphia, PA 19107
(215) 597-2381

EPA is issuing this Statement of Basis pursuant to the public participation provisions under RCRA. EPA will select a final corrective measure ("CM") for the Facility after considering any information submitted during a thirty (30) day public comment period following notice of publication of this Statement of Basis.

EPA may modify the proposed CM or select another CM based on new information and public comments. Therefore, the public is encouraged to review and comment on the alternatives described in this document and any additional options not previously identified and/or studied. The public may participate in the remedy selection process by reviewing the documents contained in the Administrative Record and submitting written comments to EPA during the public comment period. In the event that there is significant interest, EPA will hold a public meeting to discuss the details of this project. All comments received will be recorded and will be considered by EPA during the remedy selection process. Written comments may be submitted to:

Kai Hon Shum (3HW62)
U.S. EPA, Region III
841 Chestnut Building
Philadelphia, PA 19107
(215) 597-2381

II. Proposed Corrective Measures

EPA is proposing construction and implementation of a groundwater recovery and treatment system to address the contaminated groundwater at this Facility. This alternative includes:

-Installation and operation of one central circulating pump which will be connected to the existing on-site groundwater wells and the boiler room sump to recover contaminated groundwater;

-Installation and operation of an ***air-stripper*** to treat groundwater. The air-stripper will be equipped with a granulated-activated carbon unit to treat off-gas emissions to prevent ***cross media contamination***;

-Creating and imposing institutional controls to require periodic monitoring and reporting of groundwater data to track compliance with established media cleanup standards (See Section X., below);

-Discharging treated groundwater through a corrugated metal pipe located along the western boundary of the Facility, in accordance with the Clean Water Act ***National Pollutant Discharge Elimination System (NPDES)*** regulations.

A more detailed discussion of the proposed remedy is set forth in Section VII below.

III. Facility Background and Previous Investigations

The Facility is located at 1695 State Street (400 feet north of Route 722) in East Petersburg, Lancaster County, Pennsylvania, and is approximately 18 acres in size (see Figure 1).

From the early 1950s to 1977, a photochemical etching business and a fuse assembly business were operated at this Facility by the Hamilton Watch Company. From 1977 to 1984, Lancaster Metal Science Corporation ("LMS") operated a photochemical etching business at the Facility. In 1979, Lancaster Industrial Development Authority acquired the property and entered into an Installment Sale Agreement with Fulton Financial Corporation. Fulton Financial Realty Company, a wholly owned subsidiary of Fulton Financial Corporation, is the present owner and the sole operator of the Facility. Fulton Financial Realty presently operates the Facility as administrative offices.

On August 14, 1980, LMS submitted to EPA a Notification of Hazardous Waste Activity for the Facility, pursuant to Section 3010 of RCRA, 42 U.S.C. Section 6930. In the Notification, LMS identified itself as a generator of hazardous waste and as an owner/operator of a treatment, storage and/or disposal Facility for hazardous waste. EPA assigned the Facility the EPA Identification Number, PAD 08 234 4747.

On November 6, 1980, LMS submitted to EPA a Part A Permit Application, which stated that the Facility treated and stored the following types of hazardous wastes with the corresponding EPA Hazardous Waste Codes: hazardous wastes from non-specific sources (F001, spent halogenated solvents used in degreasing, and F006, wastewater treatment sludges from electroplating operations); hazardous wastes exhibiting the characteristic of corrosivity (D002, corrosive wastes); and hazardous wastes from commercial chemical products, manufacturing chemical intermediates, off-specification commercial chemical products, or manufacturing chemical intermediates (U134, Hydrogen Fluoride).

Several units at the Facility which were used to manage wastes included three surface impoundments, a drum storage area, a sludge disposal pit ("Hamilton Sludge Pit"), two concrete pits, two septic seepage beds, and a wastewater treatment unit. On August 12, 1986, LMS and the Pennsylvania Department of Environmental Resources ("PADER") sampled groundwater monitoring wells located around surface impoundments at the Facility and from a sump at the Facility. Results from sampling analyses showed the presence of halogenated solvents and associated breakdown products in the groundwater.

IV. Interim Measures

Pursuant to the 3008(h) Order, Interim Measures were implemented to prevent or relieve threats to human health and the environment as follows (see Figure 2):

Sump Discharge Treatment System - In September 1992, Fulton installed a sump discharge treatment system to treat trichloroethylene-contaminated groundwater collected from the boiler room sump at the Facility. Fulton installed two canisters of granulated-activated carbon to treat the trichloroethylene-contaminated groundwater prior to discharge into a storm drain on the western boundary of the Facility. This action prevented the discharge of contaminated groundwater directly into the storm drain, which had occurred previously. In addition, Fulton also upgraded the equipment used to monitor the quantity of contaminated groundwater inside the boiler room sump.

Hamilton Sludge Pit - On December 8, 1992, Fulton excavated the Hamilton Sludge Pit. The Hamilton Sludge Pit, the dimensions of which measured approximately 10 feet wide by 20 feet long by 7 feet deep, contained hazardous wastes consisting of liquids and sludges contaminated with VOCs, including trichloroethylene, and metallic compounds including chromium and beryllium. At this location, Fulton excavated approximately 170 tons of concrete and soil. All contaminated material was disposed off-site in accordance with RCRA. In February 1993, the excavated former Hamilton Sludge Pit was backfilled with clean soil.

Two Concrete Basins/Pits - On December 8, 1992, Fulton excavated sludge from two concrete pits at the Facility. Each of the concrete pits measured approximately 5 feet wide by 5 feet long by 5 feet deep. Approximately 4600 gallons of non-hazardous sludge and water containing trichloroethylene was removed. All material was disposed of in accordance with RCRA. The concrete basins were steam-cleaned and removed. In February, 1993, the excavated areas were back-filled with clean soil.

Three Surface Impoundments/Lagoons - On December 8, 1992, Fulton dewatered and excavated hazardous sludge containing beryllium from three surface impoundments/lagoons at the Facility. The surface impoundments measured 10 to 15 feet in diameter and were 3 to 4 feet deep. Approximately 5300 gallons of liquids and approximately 75 tons of contaminated sludge containing beryllium were excavated from the three surface impoundments. All materials were disposed of in accordance with RCRA. In February 1993, the excavated areas were backfilled with clean soil.

V. Summary of the RCRA Facility Investigation

The RFI consisted of a groundwater investigation, a soil investigation, a surface water investigation, an ecological assessment, and a risk assessment. The following paragraphs summarize these sections of the RFI.

A. Groundwater Investigation

Fulton installed and analyzed groundwater from 11 on-site groundwater monitoring wells within the Facility boundary. In addition, Fulton analyzed groundwater from the boiler room sump, from two off-site groundwater monitoring wells, and from seven off-site private water wells. (See Figure 2 & 3)

The groundwater investigation detected contaminants above health-based levels. Based on the findings of the RFI, the contaminants of concern are: benzene, trichloroethlyene (TCE), 1,2-dichloroethylene (1,2-DCE), 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethylene (1,1-DCE), vinyl chloride, methylene chloride, tetrachloroethylene (PCE), and ethyl-benzene.

Of these contaminants, the primary contaminant of concern is TCE. The highest concentration of TCE found at the Facility was 10,000 ***parts per billion (ppb)*** detected at monitoring well M-10 in October 1988. Based on results from the most recent sampling of October 1993, TCE from M-10 existed at a concentration of 2000 ppb, which is 400 times the EPA established ***Maximum Contaminant Level (MCL)*** for drinking water, which is 5 ppb. It has also been determined from the RFI that groundwater monitoring well M-10 has historically had the highest concentration of contaminants among all the wells at and around this Facility.

The area with the highest concentrations of contaminants is at the weathered bedrock interval in the vicinity of the former Hamilton Sludge Pit, where groundwater monitoring well M-10 is located. Based on the findings of the RFI, the potential sources of groundwater contamination include: the former Hamilton Sludge Pit, the two former drum storage areas, the three former surface impoundments, and two former concrete pits.

Figure 4 illustrates the horizontal extent of the contaminated groundwater ***plume***. The vertical extent of the plume has been determined to extend to approximately 40 feet. The horizontal extent of contaminated groundwater plume lies within the Facility boundaries, except for a small area at the Facility's Northwestern boundary. Groundwater analyses from the two off-site groundwater wells, M-11 and M-12, did not show any contamination. Of the seven off-site private wells tested, no contamination above MCLs was found (or in the absence of a published MCL, EPA Risk Based Concentrations) for the Facility specific contaminants of concern (See Figure 3) Based on groundwater elevations at the Facility, the generalized groundwater flow direction is from the North to the South.

B. Soil Investigation

For the soil investigation, Fulton analyzed soil samples, conducted an electromagnetic terrain conductivity survey, completed a ground-penetrating radar investigation, and completed a soil gas survey. The RFI has revealed that the native soils beneath the Facility consist of silts and clays. Except for the southwestern corner of the Facility where the bedrock is exposed, the entire Facility is covered by soil to an approximate depth of 41 feet. Special emphasis was placed on areas at the Facility where wastes were known to have been previously stored including: contaminated sludges and soils in the former Hamilton Sludge Pit, the two former concrete pits, and the three former impoundments. As part of Interim Measures, all the contaminated sludges and soils were removed and disposed of in accordance with applicable regulations. No additional contaminated soils are known to exist at the Facility.

C. Surface Water Investigation

As part of the RFI, Fulton conducted surface water sampling and analyses. As illustrated on Figure 2, the two locations where surface water were sampled are located inside the boundaries of the Facility. No Facility specific contaminants of concern were detected in the surface water samples. Therefore, there have been no detectable adverse impacts to surface water from the Facility.

D. Ecological Assessment

Fulton completed an ecological assessment as part of the RFI to ascertain potential impact from the Facility. Based on the findings of the ecological study, potential environmental receptors would be limited to terrestrial insects, small mammals, and birds. For these receptors, direct soil contact with contaminants of concern is unlikely because known areas of soil contamination have been excavated and disposed of in accordance with applicable RCRA regulations. The National Wetlands Inventory map for the area shows palustrine emergent persistent temporary flooded wetlands near the Facility. The stream and wetland provide a habitat for a number of small mammals and birds. There are no identifiable environmental concerns associated with contaminants of concern identified for this Facility.

VI. Summary of Facility Risks

A Health Risk Assessment was completed as part of the RFI. The assessment evaluated contaminant migration pathways and current and future exposure scenarios. The current-use scenario considered exposures that may presently occur to workers and off-site residents. The future-use scenarios involved hypothetical future residents who were assumed to live at the Facility and to use groundwater as a potable water source.

EPA expresses cancer risk in terms of the likelihood that a person might contract cancer from exposure to contaminants from a site. For example, a risk assessment might say that a receptor has an upper bound excess cancer risk of 1 in 10,000 (also written as 1 times 10^{-4}, or 1e-4). To properly interpret this risk estimate, it is necessary to keep several things in mind. First, the numerical risk is an upper bound rather than a best estimate. The true risk is likely to be less, and may be zero. Second, the numerical estimate means that if 10,000 people received this level of exposure over a 70-year lifetime, no more than one would be expected to contract cancer. Third, the Agency's acceptable risk range is between 1e-4 and ***1e-6*** (from 1 in 10,000 to 1 in one million).

EPA expresses risks other than cancer, (non-cancer or ***systemic risk***) as a ratio, called the ***Hazard Index*** or HI, defined as the calculated exposure divided by a reference dose. The reference dose is a level of exposure that the Agency believes will not cause adverse effects in human populations, including sensitive individuals. When the exposure equals the reference dose the HI is 1.0, which is EPA's limit of acceptable systemic risk. Like cancer risk estimates, EPA's HI values are upper bound estimates. Because the reference doses are very protective, adverse effects would not be expected until HI values substantially exceed one.

The following paragraphs describe the total health risks posed by the Facility to different groups of receptors. These risks were calculated by combining risks for exposure to contaminants of concern and exposure routes where it was reasonable to do so. Cancer risks for adult and child residents were added to simulate an integrated lifetime exposure. A more detailed breakdown of risks is provided in Tables 1 and 2.

Risks by Human Receptor

1. Current agricultural workers. Workers at a farm and nursery near the Fulton Financial site were assumed to inhale VOCs emitted by groundwater used for irrigation. (Note that groundwater is not presently used for irrigation purposes by potential receptor farms in the area. This scenario represents the potential worst case. Current practice is to draw water from surface water bodies in the area). The upper bound lifetime cancer risk associated with this exposure was less than 1e-10, or no more than one additional cancer occurrence per 10 billion exposed persons. The hazard index for non-cancer effects was less than 0.0002. These risks are below EPA's thresholds for concern of 1e-6 and 1, respectively.

2. Remedial workers. Workers engaged in operating and maintaining the Interim Measures equipment were assumed to inhale contaminants that vaporize from sump groundwater. (Note that this represents the potential worst case scenario for remedial workers, i.e. not wearing respiratory protection, or otherwise adhering to a Facility Specific Health and Safety Plan.) The upper bound lifetime cancer risk associated with this exposure is 4e-6, or no more than four additional occurrences of cancer per 1 million exposed persons. The hazard index for non-cancer effects was less than 0.0002. The cancer risk, associated with trichloroethene and 1,1-dichloroethene, exceeded EPA's threshold for concern of 1e-6; the HI did not exceed EPA's threshold of 1.

3. Current residents. People currently residing off-site were assumed to use contaminated groundwater as a potable water source. (Note that groundwater is not currently used for drinking water purposes. The use of groundwater as a drinking water source is a potential worst case scenario used for risk assessment purposes.) The upper bound lifetime cancer risk associated with ingestion and inhalation of volatile contaminants was 2e-6, or no more than two additional cancers per 1 million exposed persons. The hazard index for non-cancer effects was 0.02. The cancer risk, associated with trichloroethene, slightly exceeded EPA's threshold for concern of 1e-6; the HI did not exceed EPA's threshold of 1.

Also, adolescent children were assumed to be exposed to contaminants in surface water by dermal contact while wading. The upper bound lifetime cancer risk associated with this exposure was 4e-11, or no more than four additional cancer occurrences per 100 billion exposed persons. The chronic hazard index for non-cancer effects was less than 0.0001. These risks are below EPA's thresholds for concern of 1e-6 and 1, respectively. (Note that during the RFI children were not observed to be wading in surface waters in the vicinity, however this was a potential worst case scenario used for risk assessment purposes)

3. Future residents. Hypothetical future residents were assumed to live on or near the site, and to use contaminated groundwater as a potable water source. Exposure to these receptors could occur by ingestion of tap water, or by inhalation of contaminants volatilized during other uses of household tap water. Reasonable maximum risks to these future residents are presented in Table 2. Based on the reasonable maximum exposure (EPA's recommended method), the upper bound lifetime cancer risk was 1e-3, or no more than 1 additional cancers per 1000 exposed persons. The hazard index for non-cancer effects was 4.1, indicating exposures above the reference dose. Based on the maximum measured concentration, the upper bound lifetime cancer risk was 2e-2, or no more than 2 additional cancers per 100 exposed persons. The hazard index for non-cancer effects was 7.7, indicating exposures above the reference dose. All these risk estimates exceed EPA's thresholds for concern. (Note that this risk represents the potential worst case scenario, i.e. future residential development.)

Risks by medium

1. Ambient air. Workers engaged in maintaining the existing Interim Measures equipment had an upper bound lifetime excess cancer risk of 4e-6, associated with the inhalation of trichlorethene and 1,1-dichloroethene. All other exposure scenarios produced risk estimates well below EPA's thresholds of concern.

2. Groundwater. Present use of off-site groundwater as a potable water source produced an upper bound excess lifetime cancer risk of 2e-6, contributed by trichlorethene and 1,1-dichloroethene. This risk slightly exceeded EPA's threshold for concern of 1e-6. The hazard index for non-cancer effects was 0.02, well below EPA's threshold of 1.

Potential future use of on-site groundwater as a potable water source produced upper bound lifetime cancer risk estimates of 1e-3 (reasonable maximum) and 2e-2 (worst case). This risk, which substantially exceeded EPA's threshold for concern, was contributed by exposure to vinyl chloride, trichlorethene, 1,1-dichloroethene, methylene chloride, and tetrachloroethene. The hazard index estimates for effects other than cancer were 4.1 (reasonable maximum) and 7.7 (worst case), contributed by exposure to benzene, 1,2-dichloroethene, ethylbenzene, and 1,1,1-trichloroethane. These risks exceeded EPA's threshold of 1.

Table 1. Current use risk estimates

Exposure Route	Receptor	Cancer Risk	Hazard Index	Significant Contaminants
Ambient air, inhalation	Agricultural workers	< 1e-10	<0.0002	none
Ambient air, inhalation	Remedial workers	4e-6	<0.0002	TCE, 1,1-DCE
Groundwater, ingestion	Off-site residents	8e-7	0.02	TCE
Groundwater, inhalation	Off-site residents	1e-6	0.001	TCE
Surface water, dermal contact	Off-site children	4e-11	<0.0001	none

Table 2. Future use risk estimates

Exposure Route	Receptor	Cancer Risk	Hazard Index	Significant Contaminants
Groundwater, ingestion and inhalation at EPA's Reasonable Maximum Exposure (95% UCL concentration)	On-site residents	1e-3	4.1	Vinyl chloride, TCE, 1,1-DCE, benzene, 1,2-DCE
Groundwater, ingestion and inhalation (at the maximum concentration)	On-site residents	2e-2	7.7	Vinyl chloride, TCE, 1,1-DCE, methylene chloride, PCE, 1,2-DCE, ethylbenzene, 1,1,1-TCA

VII. Scope of Corrective Action

Based on the findings of the RFI, groundwater has been identified as the environmental medium requiring corrective measures. The scope of the proposed corrective action is restricted to hydraulic control, recovery, and treatment of groundwater and associated groundwater monitoring activities.

The proposed corrective action will include: 1) installing a central groundwater pump-and-treat system with an air-stripper which will be connected to existing wells; 2) installing a granulated-activated carbon system to treat off-gases from the air-stripper, and 3) implementing a regular sampling plan to monitor the concentration of contaminants in the ***aquifer***. For this corrective action, the treated water will then be discharged in accordance with the Clean Water Act, and regulations governing the National Pollutant Discharge Elimination System ("NPDES"). EPA's best estimate, given the environmental and geological conditions at this facility, is that the proposed corrective action for groundwater will take approximately 15 years to meet media cleanup standards.

VIII. Summary of Alternatives

As part of the RFI, the Facility completed a Pre-Investigation Evaluation of Corrective Measure Technologies for the remediation of contaminated soil and groundwater.

Fulton screened soil excavation, soil flushing, vacuum extraction, and neutralization/fixation as possible alternatives for remediation of contaminated soil. Since all known areas of soil contamination were excavated under the Interim Measures provisions of the RFI 3008(h) Consent Order with prior approval by EPA, full evaluation of these soil remediation alternatives following initial screening was not completed as part of the CMS.

With respect to groundwater, Fulton screened trench excavation for containment and extraction, pumping groundwater wells for contaminant and extraction, and air stripping/off gas carbon adsorption treatment. Based on this initial screening, Fulton evaluated pumping groundwater and treatment with air stripping and carbon adsorption and has proposed this remedy to EPA for the remediation of contaminated groundwater. Fulton's proposed remedy is also EPA's preferred remedy.

IX. Evaluation of the Proposed Remedy and Alternatives

In accordance with EPA guidance, the preferred corrective measure alternative and the no action alternative have been evaluated using four general standards and five remedial decision factors. This section profiles the performance of the proposed corrective measure alternative and the no action alternative against these four general standards for corrective measures:

overall protection, attainment of media clean-up standards, source control and compliance with waste management standards, and these five remedial decision factors: long-term reliability, reduction in toxicity, mobility or volume of waste, short-term effectiveness, implementability, and cost. Based on the discussion below, EPA has preliminarily identified the preferred remedy instead of a no action alternative because EPA's preferred remedy is more effective in protecting human health and the environment.

A. Overall Protection

EPA's preferred remedy, groundwater pump and treatment with air strippers/off gas carbon adsorption, provides for aggressive contaminant remediation, and hydraulic control of the contaminant plume. In addition, it includes groundwater treatment to eliminate contaminants of concern from the groundwater, and monitoring of contaminant levels, so that established media clean-up standards can be met. The no action alternative would be dependent on natural attenuation of contaminants, which will be far less effective in controlling the duration, concentration and migration of the contamination in the environment. Thus, the EPA preferred remedy provides for better overall protection of human health and the environment.

B. Attainment of Media Clean-Up Standards

EPA has established media clean-up standards for the proposed groundwater remediation alternative at the Facility. Media cleanup standards have been established that are either the MCLs for the contaminant of concern or in the absence of MCLs, the concentration of a given contaminant which corresponds to the 10e-6 risk level for a ***carcinogenic*** compound or hazardous index of 1 for a non-carcinogenic compound. The concentration level which is equivalent to the carcinogenic risk level of 10e-6, or the hazardous index of 1, is called EPA Region III's Risk-Based Concentration (RBC) for protection of human health.

The MCLs are the maximum permissible levels of a contaminant in water which are delivered to any user of public water system as defined in the 40 C.F.R. Part 141, Subpart B. The 1e-6 risk level represents the concentration of a carcinogen so that a person of average weight, drinking two liters of water per day containing the contaminant, would have no more than a 1 in a million chance of developing cancer from drinking the water during a 70 year lifetime.

GROUNDWATER CLEAN-UP STANDARDS FOR THE CONTAMINANTS OF CONCERN

CONTAMINANTS OF CONCERN	STANDARD
1,1-DCE	7 ppb (MCL)
1,2-DCE	55 ppb (RBC)
1,1,1-TCA	200 ppb (MCL)
PCE	5 ppb (MCL)
TCE	5 ppb (MCL)
Vinyl Chloride	2 ppb (MCL)
Methylene Chloride	5 ppb (MCL)
Ethyl-benzene	700 ppb (MCL)
Benzene	5 ppb (MCL)

When establishing media clean-up standards, it is also necessary to establish the area of compliance at which progress toward attaining the media clean-up standards will be measured. The area of compliance is the contaminant plume.

The goal of the corrective measure is to restore the groundwater to its beneficial use, which would be as a drinking water aquifer. Based on information obtained during the RFI and evaluation of the corrective measure alternative set forth in the CMS, the preferred remedy will aggressively achieve groundwater media clean-up standards, while the no action alternative will not. Consequently, groundwater pump and treat is the preferred corrective measure alternative. EPA's best estimate, given the environmental and geological conditions at this facility, is that the proposed groundwater corrective action will take approximately 15 years to meet media cleanup standards.

C. Controlling the Sources of Releases

The pump and treat system reduces and eliminates the RFI-identified contaminants of concern by: 1) containing and controlling the spread and migration of the contaminated groundwater plume; and 2) providing groundwater treatment to remove the VOCs. The no action alternative would not actively control the migration of the contaminant plume. Consequently, groundwater pump and treat is the preferred corrective measure alternative.

D. Complying with Standards for Management of Waste

Corrective measures alternatives must comply with federal and state regulations and policy. The groundwater withdrawal rates for the preferred alternative may have to be reviewed and approved by local and/or state officials. The discharge of treated groundwater for this alternative is regulated under the Clean Water Act NPDES regulations and requirements. Further, treatment by-products such as the spent carbon filters generated during the on-site treatment of groundwater must be handled in accordance with applicable RCRA regulations.

E. Long-Term Reliability and Effectiveness

The pump and treatment system will provide long-term reliability and effectiveness because it utilizes a proven groundwater technology which will remove contaminants of concern in the aquifer and, when implemented, will reduce contaminant mass. By comparison, the no action alternative is not effective in reducing contaminant mass within a similar time-frame, or controlling the potential migration of the contaminated groundwater plume.

F. Reduction of Toxicity, Mobility or Volume of Waste

The preferred corrective measure alternative of groundwater pump and treat serves to reduce the volume and toxicity of wastes by physically removing the contaminants of concern from the groundwater. The mobility of the contaminants will also be controlled by the hydraulic gradients from the recovery wells to prevent off-site migration.

G. Short-Term Effectiveness

The pump and treatment method of clean-up is effective in the short term because it provides for immediate removal of contaminant mass, induces immediate plume control, and is easily implemented. The no action alternative does not provide for short-term effectiveness because there will not be contaminant removal nor will there be any plume control.

H. Implementability

Implementability of any corrective measure alternative is related to the activities required to make such alternative operational. The time required to implement the preferred alternative is minimal because the existing monitoring wells will be converted for recovery purposes, saving time. In addition, the physical components required are easily obtainable and can easily be installed allowing for ease of implementation. The no action alternative has an implementability advantage compared to the preferred remedy; however, it will not achieve the desired environmental results.

I. Cost

The **EPA preferred** alternative is estimated at $85,327.00 in capital **costs, and** $46,200.00 in annual operations and maintenance **costs.** The no action alternative has financial advantage because it involves zero costs. However, the cost associated with the preferred alternative is reasonable, given its superior environmental advantage.

XI. Public Participation

On October 2, 1995 EPA will place an announcement in the New ERA newspaper to notify the public of the availability of the Statement of Basis for public review and the locations of the

Administrative Record. In addition, EPA will hold a public meeting if significant citizen interest is expressed.

EPA is requesting comments from the public on the proposed corrective measure to remediate the contaminated groundwater at the Facility. The public comment period will last thirty (30) calendar days beginning October 3, 1995 and will end on November 1, 1995. Comments on, or questions regarding, EPA's preliminary identification of a preferred corrective measure alternative may be submitted to:

Mr. Kai Hon Shum (3HW62)
U.S. EPA Region III
841 Chestnut Building
Philadelphia, PA 19107
(215) 597-2381

Following the thirty (30) calendar day public comment period, EPA will prepare a Final Decision Document and Response to Comments which identifies the selected Corrective Measure Alternative. The Response to Comments will address all significant written comments and any significant oral comments generated at the public meeting, if a meeting is held. If, on the basis of such comments or other relevant information, significant changes are proposed to be made to the Corrective Measures Alternative identified by EPA in this Statement of Basis, EPA will seek additional public comments on any proposed revised Corrective Measures Alternative.

Upon consideration of public comments, EPA will select a final Corrective Measure Alternative for the Fulton facility. This Final Decision and Response to Comments will be made available to the public. Thereafter, EPA will seek implementation of the final corrective measure alternative using available legal authorities, including RCRA Section 3008(h) of RCRA.

Based on information currently available, the proposed remedy provides the best balance with respect to the following criteria:

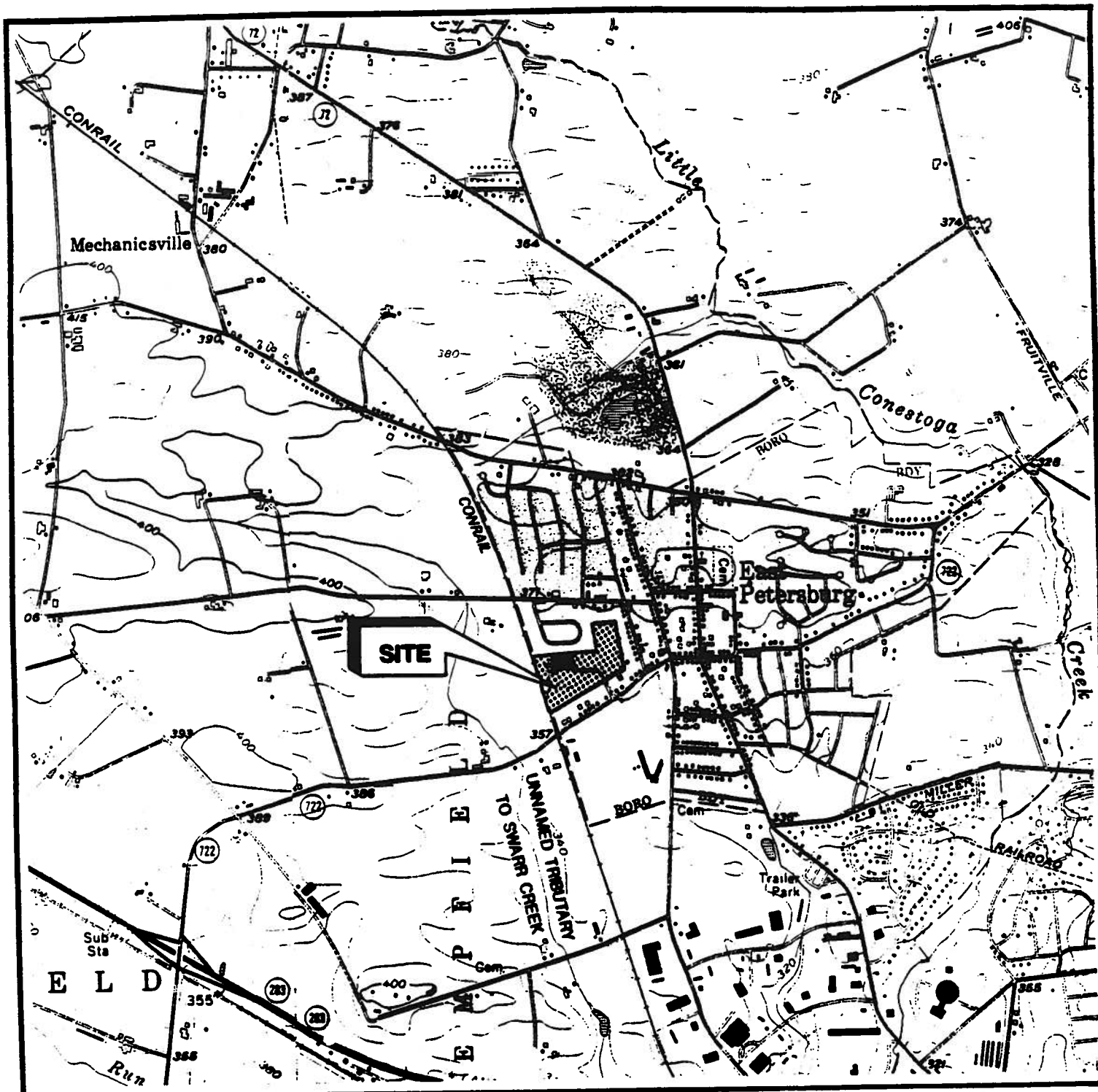
(1) to be protective of human health and the environment;
(2) to control the source of releases so as to reduce or eliminate, to the maximum extent practicable, further release that may pose a threat to human health and the environment;
(3) to attain media cleanup standards; and
(4) to comply with applicable standards for management of wastes.

9/28/95
Date

Thomas C. Voltaggio, Director
Hazardous Waste Management Division

LIST OF FIGURES

FIGURE 1
SITE LOCATION MAP
FULTON FINANCIAL REALTY COMPANY
EAST PETERSBURG, LANCASTER CO., PA



NOTE: BASE MAP FROM THE COLUMBIA EAST (PHOTOREVISED 1969 AND 1976) AND LANCASTER (PHOTOREVISED 1967), PA 7.5 MINUTE USGS TOPOGRAPHIC QUADRANGLES.

2000' 0 2000'

SCALE IN FEET

PENNSYLVANIA

QUADRANGLE LOCATION

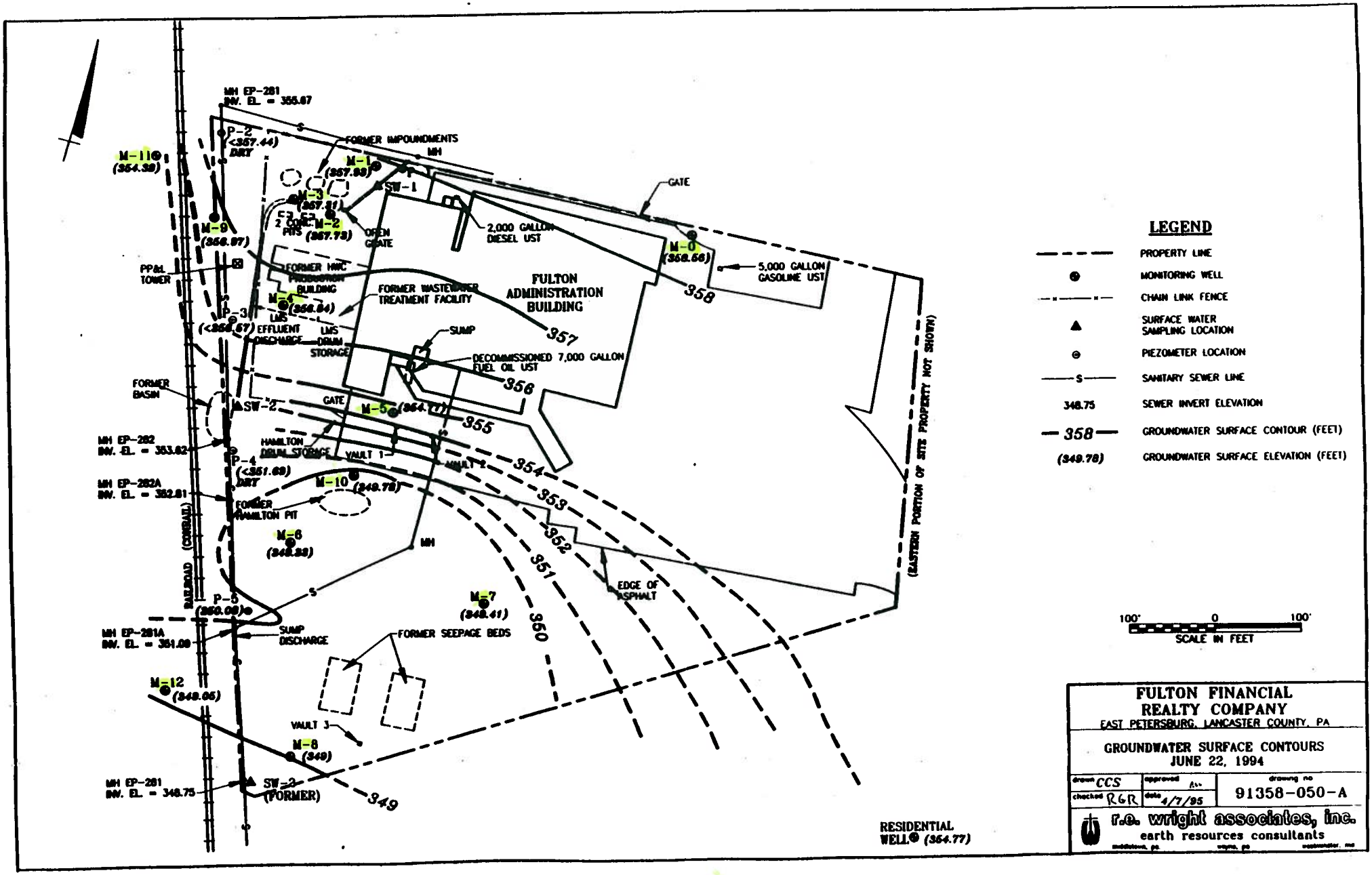
FULTON FINANCIAL REALTY COMPANY
EAST PETERSBURG, LANCASTER CO., PA

SITE LOCATION MAP

drawn CCS	approved RJL	drawing no. 91358-003-AA
checked KGM	date 9-30-91	

r. e. wright associates, inc.
earth resources consultants

FIGURE 2
GROUNDWATER SURFACE CONTOURS
FULTON FINANCIAL REALTY COMPANY
EAST PETERSBURG, LANCASTER CO., PA



FULTON FINANCIAL REALTY COMPANY

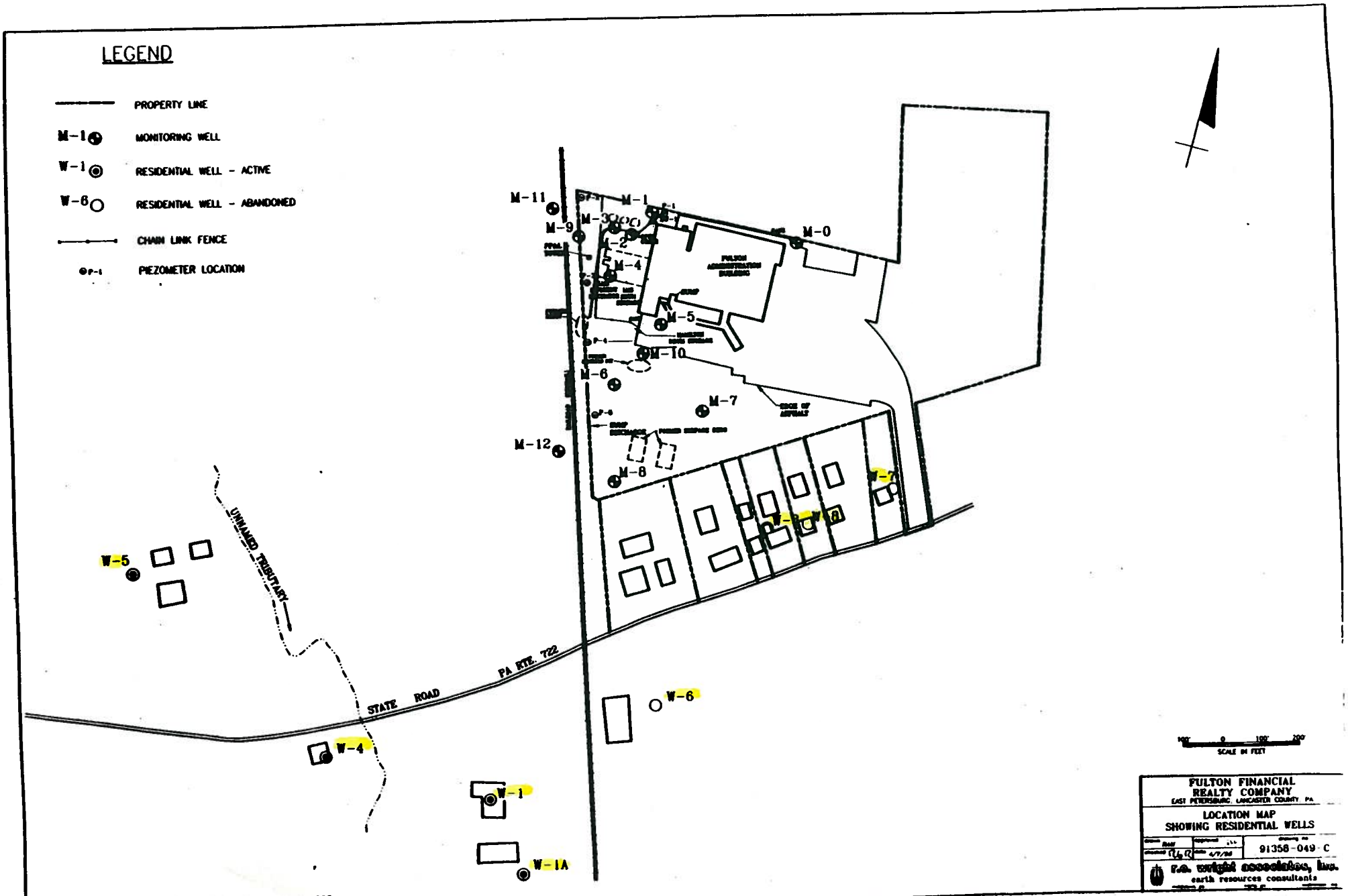
EAST PETERSBURG, LANCASTER COUNTY, PA

GROUNDWATER SURFACE CONTOURS
JUNE 22, 1994

drawn CCS	approved	drawing no 91358-050-A
checked RGR	date 4/7/95	

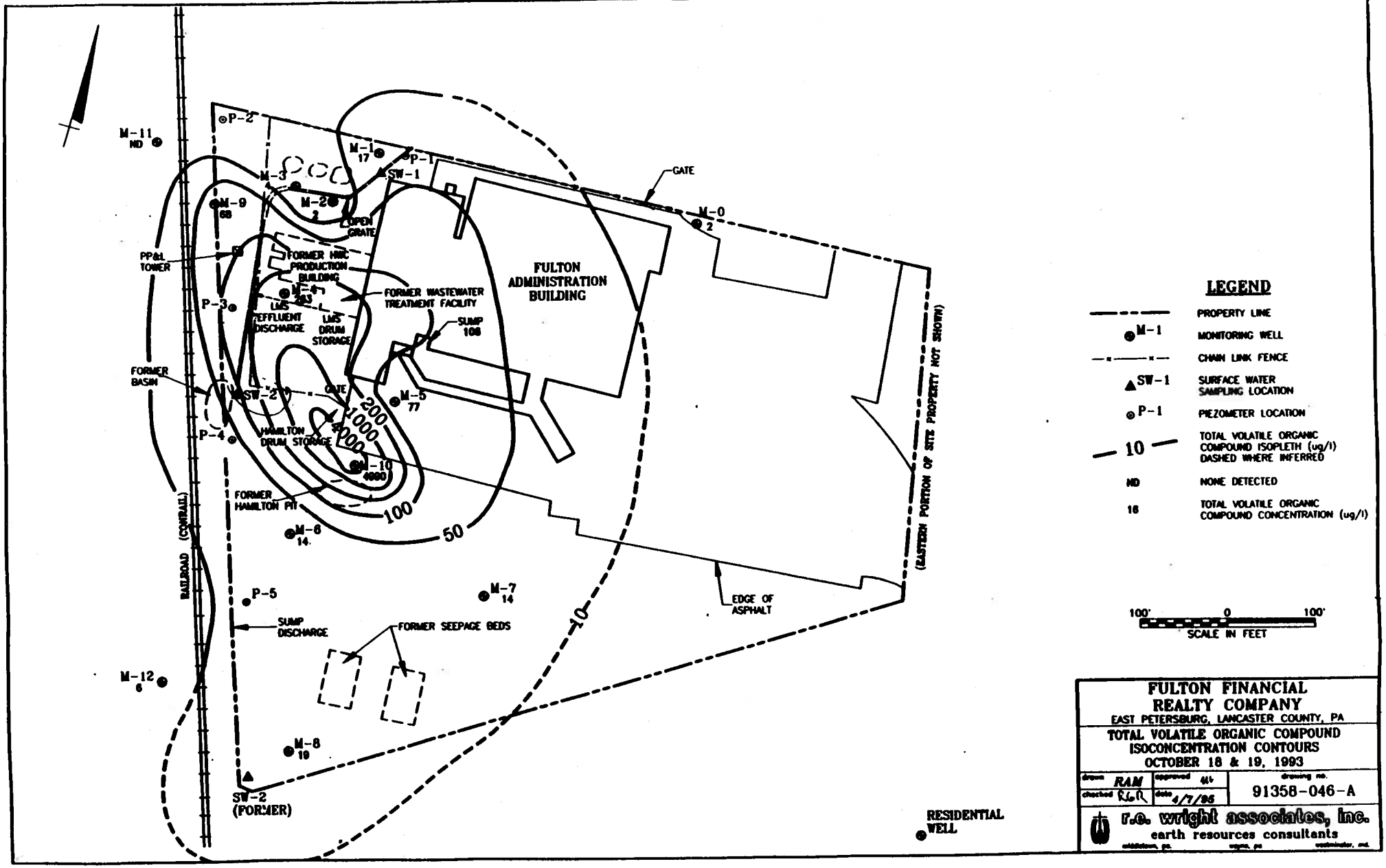
r.e. wright associates, inc.
earth resources consultants
middletown, pa wayne, pa westminster, md

FIGURE 3
RESIDENTIAL WELL LOCATIONS
FULTON FINANCIAL REALTY COMPANY
EAST PETERSBURG, LANCASTER CO., PA



NOTE: RESIDENTIAL WELLS NOT SAMPLED OCTOBER 1993.

FIGURE 4
TOTAL VOLATILE ORGANIC ISOCONCENTRATION CONTOURS
FULTON FINANCIAL REALTY COMPANY
EAST PETERSBURG, LANCASTER CO., PA



FULTON FINANCIAL REALTY COMPANY
EAST PETERSBURG, LANCASTER COUNTY, PA

TOTAL VOLATILE ORGANIC COMPOUND ISOCONCENTRATION CONTOURS
OCTOBER 18 & 19, 1993

drawn RAM	approved		drawing no. 91358-046-A
checked RLR	date 4/7/95		

r.e. wright associates, inc.
earth resources consultants
middletown, pa. upper, pa. westminster, md.

Air Stripper(ing) - A technology which causes volatilization of a substance from the liquid state into the gaseous state. For purposes of this document, air stripping causes volatile organic compounds in the groundwater to be transferred into the air for further treatment.

Aquifer - A water-bearing geologic strata or layer.

Cross media contamination - a process by which contaminants are transferred from one environmental medium to another, e.g. from water to air as in Air Stripping.

Carcinogenic Compound - Any substance that can cause or contribute to the formation of cancer.

Hazard Index (HI) - The sum of more than one ***hazard quotient*** for multiple substances and/or exposure pathways.

Hazard Quotient - The ratio of a single substance exposure level over a specified time period to the reference dose for that substance over a similar exposure period.

Maximum Contaminant Drinking Water Level (MCL) - The maximum permissible level of a contaminant in water delivered to any user of a public water system and developed under the Safe Drinking Water Act 42 U.S.C. Section 300(f) et seq. as amended, and published at 40 C.F.R. Part 141 Subpart B.

Non-Carcinogenic risk - The risk of adverse health effects other than cancer. Synonymous with systemic risk (see below).

National Pollutant Discharge Elimination System (NPDES) - 33 U.S.C. Section 1251 et seq. of the Clean Water Act (the "Act") and Pennsylvania's Clean Streams Law, as amended, 33 P.S. Section 691.1 et seq. authorize the discharge of wastewaters into water of the United States, in accordance with effluent limitations, monitoring requirements and other conditions set forth in the NPDES permit.

Parts Per Million (ppm) - A unit of concentration of a chemical substance or compound. It is comparable to 1 inch in 16 miles, 1 penny in $10,000 or 1 pound in 500 tons.

Parts Per Billion (ppb) - A unit of concentration of a chemical substance or compound. It is comparable to 1 inch in 16,000 miles, 1 penny in $10,000,000, 1 pound in 500,000 tons or 1 ppm divided by 1000.

Plume - The volume of contaminated groundwater.

RCRA - Resource Conservation and Recovery Act, which was enacted in 1976, and amended in 1984, and which directed EPA to develop and implement a program to protect human health and the environment from improper hazardous waste management practices. The program is designed to control the management of hazardous waste from generation to disposal.

1E-6 - Potential for one person in a population of one million people contracting cancer.

Systemic Risk - The risk of adverse health effects other than cancer. EPA calculates this risk by comparing the dose of a contaminant that a receptor receives from the environment with the "reference dose" for that contaminant. The reference dose is the daily intake of the contaminant that EPA believes will be without adverse effect in a population, including sensitive individuals.

The comparison is conveyed as the ratio (called the hazard quotient or HQ) of received dose to reference dose. When the received dose equals the reference dose the HQ equals one. EPA considers anything higher to be unacceptable. For most contaminants adverse effects are unlikely at an HQ slightly above one.