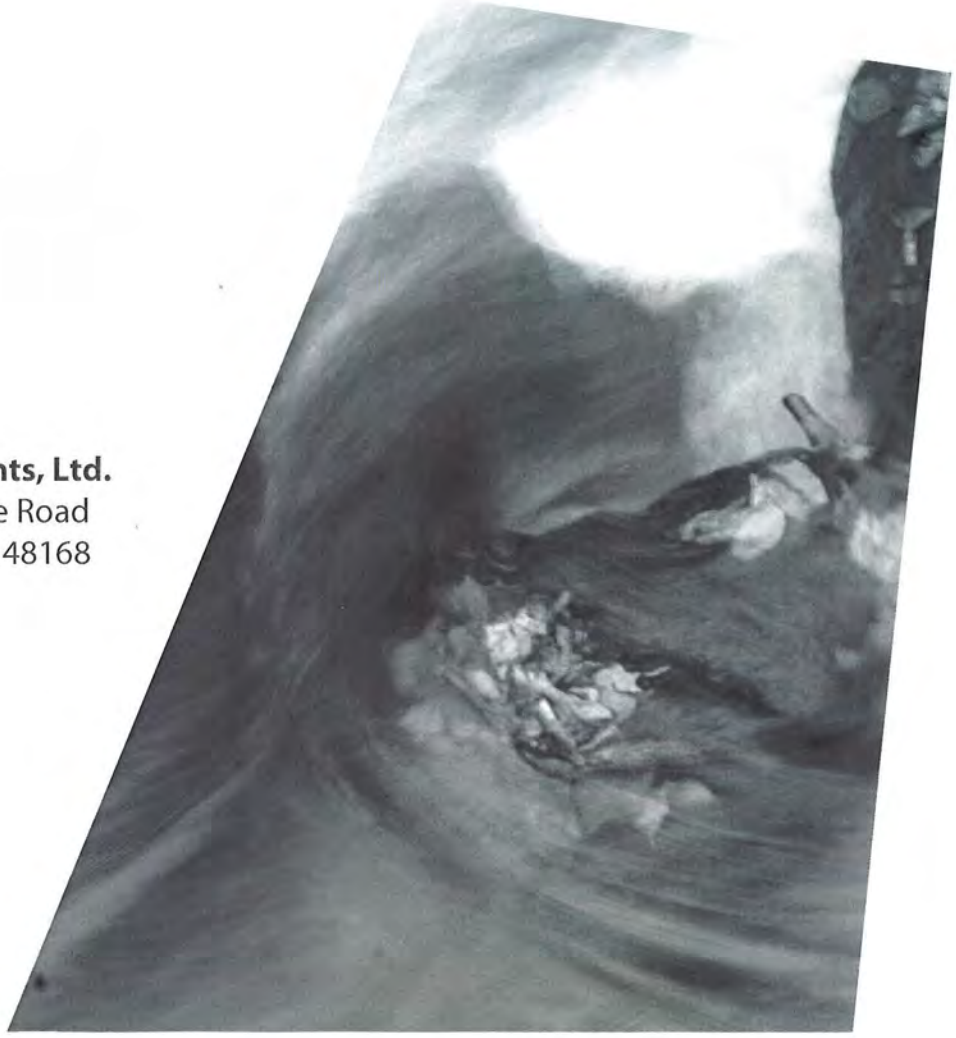
Volume IV - WDI Operating License Application Master Cells VI F & G

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

NTH Project No. 13-060921-03

February 2011

Revised September 2011



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PHASE DESIGNATION
CROSS-REFERENCE TABLE

REVISED CELL & PHASE DESIGNATION (FROM ENGINEERING DRAWINGS)	**PREVIOUS PHASE DESIGNATION** (IN ENGINEERING DRAWINGS & REPORTS FROM SUPPLEMENT TO APPLICATION: 6/10/11)	**ORIGINAL PHASE DESIGNATION** (FROM INITIAL SUBMISSION IN MARCH 2011)
CELL 6F – PHASE 1 (SUBCELL F1 & F2)	CELL 6F – PHASE 1	CELL 6F – PHASE 2
CELL 6F – PHASE 2 (SUBCELL F3 & F4)	CELL 6F – PHASE 2	CELL 6F – PHASE 1
CELL 6G – PHASE 1 (SUBCELL G1)	CELL 6G – PHASE 1	CELL 6G – PHASE 1 / PHASE 3
CELL 6G – PHASE 2 (SUBCELL G2 & G3)	CELL 6G – PHASE 2	CELL 6G – PHASE 1 / PHASE 2
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CELL 6G – PHASE 5 (SUBCELL G6)	CELL 6G – PHASE 5	CELL 6G – PHASE 6
CELL 6G – PHASE 6 (SUBCELL G7)	CELL 6G – PHASE 6	CELL 6G – PHASE 7

R 299.9506 HYDROGEOLOGIC REPORT
Wayne Disposal, Site No. 2 MC VI-F & G (Woodlot) Development
NTH Proj., No. 62-080376-04

EQP 5111	Template	NTH Report Location
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B3.B.1	Summary of Existing Information	Section 5.2
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B3.C	**ENGINEERING REPORT FOR PROPOSED GROUNDWATER MONITORING PROGRAM**	Section 1.3 & Basis of Design Report
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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

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

1.0 INTRODUCTION

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

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

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

1.1 SCOPE OF WORK

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

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

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

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

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

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

1.2 SITE LOCATION

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

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

1.3 SITE DESCRIPTION & PROPOSED DESIGN

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

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

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

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

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

[1] 80-mil textured high-density polyethylene (HDPE) primary geomembrane;

[2] 5-foot primary compacted clay liner with a maximum hydraulic conductivity of 1×10^{-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
W-10D	Sand	594.6	na	na	na	652.76	Downward
OB-21	Sand	600.9	652.57	652.84	652.62	652.55	0.000
OB-36	Rock	572.1	652.58	652.85	652.54	652.55	Neutral
OB-24	Sand	614.4	653.35	653.64	653.20	653.24	0.004
OB-22	Rock	568.3	653.27	653.66	653.17	653.20	Downward
OB-25	Sand	620.0	653.45	653.85	653.35	653.36	0.002
OB-37	Rock	572.7	653.48	653.90	653.39	653.44	Upward
OB-34A	Sand	617.8	654.02	654.41	653.90	653.98	0.001
OB-35A	Rock	577.5	653.99	654.38	653.88	653.94	Downward
OB-31AR	Sand	628.1	655.60	655.94	655.46	655.55	0.03
OB-7	Sand/Silt	627.0	655.32	655.86	655.40	655.45	Downward
OB-32	Rock	565.3	653.38	654.11	653.58	653.58	(Sand/Rock)

5.1.4 Existing Groundwater Quality

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

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

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

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

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

5.1.5 Surface Water Hydrology & Quality

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

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

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

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

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

5.2 WDI WOODLOT PARCEL HYDROGEOLOGIC CONDITIONS

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

5.2.1 Physical Conditions & Topography

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

5.2.2 Site Geology

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

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

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

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

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

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

Numerous samples of the silty clay till collected during the Woodlot investigation were tested to determine physical characteristics and properties. The tests indicate that the material classifies as a CL material according to the Unified Soil Classification System (USCS) (ASTM D-2487). Moisture contents and dry densities reported in Appendix C ranged from 12 to 33 percent and 86 to 127 pounds per cubic foot, respectively. Over 70 hydraulic conductivity tests on representative clay samples were completed. Tests performed on clay samples yielded hydraulic conductivity values ranging from 1.05×10^{-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)	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-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, Macmillian Publishing Company, Copyright 1988).

K is hydraulic conductivity in cm/sec

D10 is the effective grain size in cm

C is a coefficient based on:

Very fine sand, poorly sorted	40	-	80
Fine sand with appreciable fines	40	-	80
Medium sand, well sorted	80	-	120
Coarse sand, poorly sorted	80	-	120
Coarse sand, well sorted, clean	120	-	150

[1] Where D_{10} is not available. A hydrometer was not performed and therefore, information below 75um is not available.

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

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

V = Groundwater flow velocity in feet/day
K = Hydraulic conductivity of the aquifer in feet/day
i = Horizontal hydraulic gradient in foot per foot
n_e = Effective porosity

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

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

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

Table 5.3 Groundwater Flow Velocities

Lower Sand Aquifer

Flow Path	h	l	Hydraulic Gradient (h/ 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] h = Change in groundwater elevation.

[2] l = Distance along flow paths.

[3] Velocity = K(h / 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:

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

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

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

i_v = Vertical hydraulic gradient (ft/ft)

A_W = Area of Woodlot parcel proposed for landfill construction (ft^2)

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

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

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

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

Based on these parameters, under current conditions, the vertical seepage through the clay layer to the lower sand aquifer is estimated to be approximately 53 to 122 cubic feet per day (ft^3/day).

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

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

Where, Q_h = Horizontal groundwater flow rate (ft^3/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 (ft^2)

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 (ft^3/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

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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.

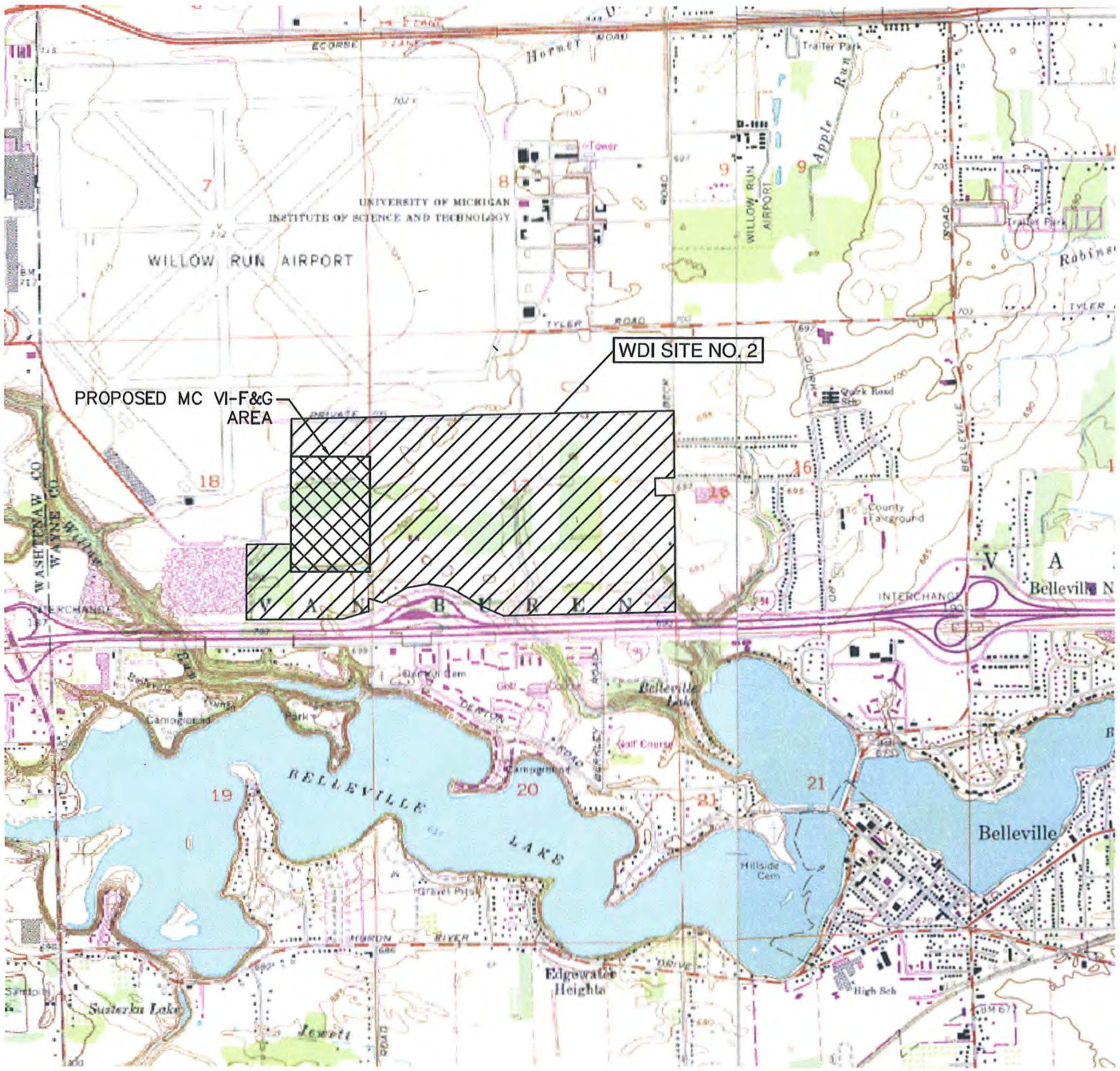
- Groundwater occurs under unconfined conditions across the Woodlot area in the surficial sand. Groundwater occurs under confined conditions in the lower silty sand zone. This zone represents the uppermost usable aquifer in the region.

- 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

- FIG. 1: SITE LOCATION MAP
- FIG. 2: WDI FACILITY MAP
- FIG. 3: MC VI – F & G TEST BORING & OBSERVATION WELL LOCATION PLAN
- 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)
- FIG. 9: WDI WATERSHED DRAINAGE MAP
- FIG. 10: WDI PIEZOMETRIC SURFACE ELEVATION CONTOUR MAP (SAND AQUIFER AS RECORDED FEBRUARY 9, 2009)
- FIG. 11: WDI PIEZOMETRIC SURFACE ELEVATION CONTOUR MAP (BEDROCK AQUIFER AS RECORDED FEBRUARY 9, 2009)
- FIG. 12: SUBSURFACE PROFILE ORIENTATION MAP
- FIG. 13: GENERALIZED GEOLOGIC CROSS SECTION A-A'
- FIG. 14: GENERALIZED GEOLOGIC CROSS SECTION B-B'
- FIG. 15: GENERALIZED GEOLOGIC CROSS SECTION C-C', D-D'
- FIG. 16: GENERALIZED GEOLOGIC CROSS SECTION E-E'
- FIG. 17: GENERALIZED GEOLOGIC CROSS SECTION F-F', G-G'
- FIG. 18: GENERALIZED GEOLOGIC CROSS SECTION H-H'
- FIG. 19: PIEZOMETRIC SURFACE ELEVATION CONTOUR MAP (DEC. 17, 2008)
- 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



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0 1000' 2000'

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

NTH Consultants, Ltd.
Infrastructure Engineering
and Environmental Services

NTH PROJECT No.: 62080376	CAD FILE NAME: 620808376-SLM
DESIGNED BY: DLP	PLOT DATE: 2/3/2011
DRAWN BY: RMLII	DRAWING SCALE: AS SHOWN
CHECKED BY: DLP	INCEPTION DATE: 02/16/09

SITE LOCATION MAP

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

FIGURE:
1

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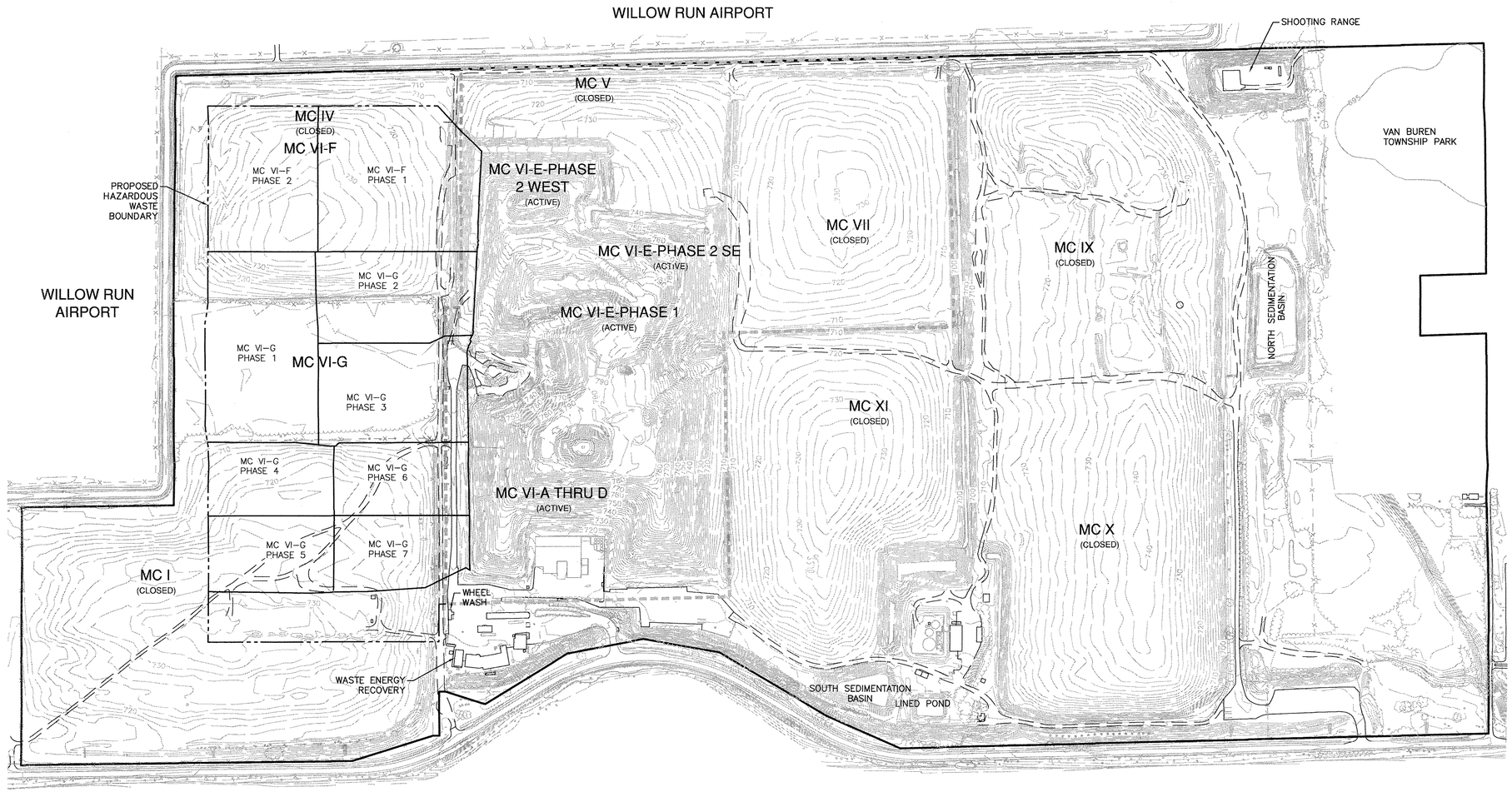

NOTE:

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.

N

0 150' 300' 600'
SCALE

LEGEND

- 710 — EXISTING CONTOUR (2 FT INTERVAL)
- EXISTING SITE ROAD
- PROPERTY BOUNDARY
- PHASE BOUNDARY
- PROPOSED HAZARDOUS WASTE BOUNDARY
- EXISTING HAZARDOUS WASTE BOUNDARY

NTH Consultants, Ltd.
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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

REVISIONS

REV	DESCRIPTION	DATE	BY

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-FP
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
2

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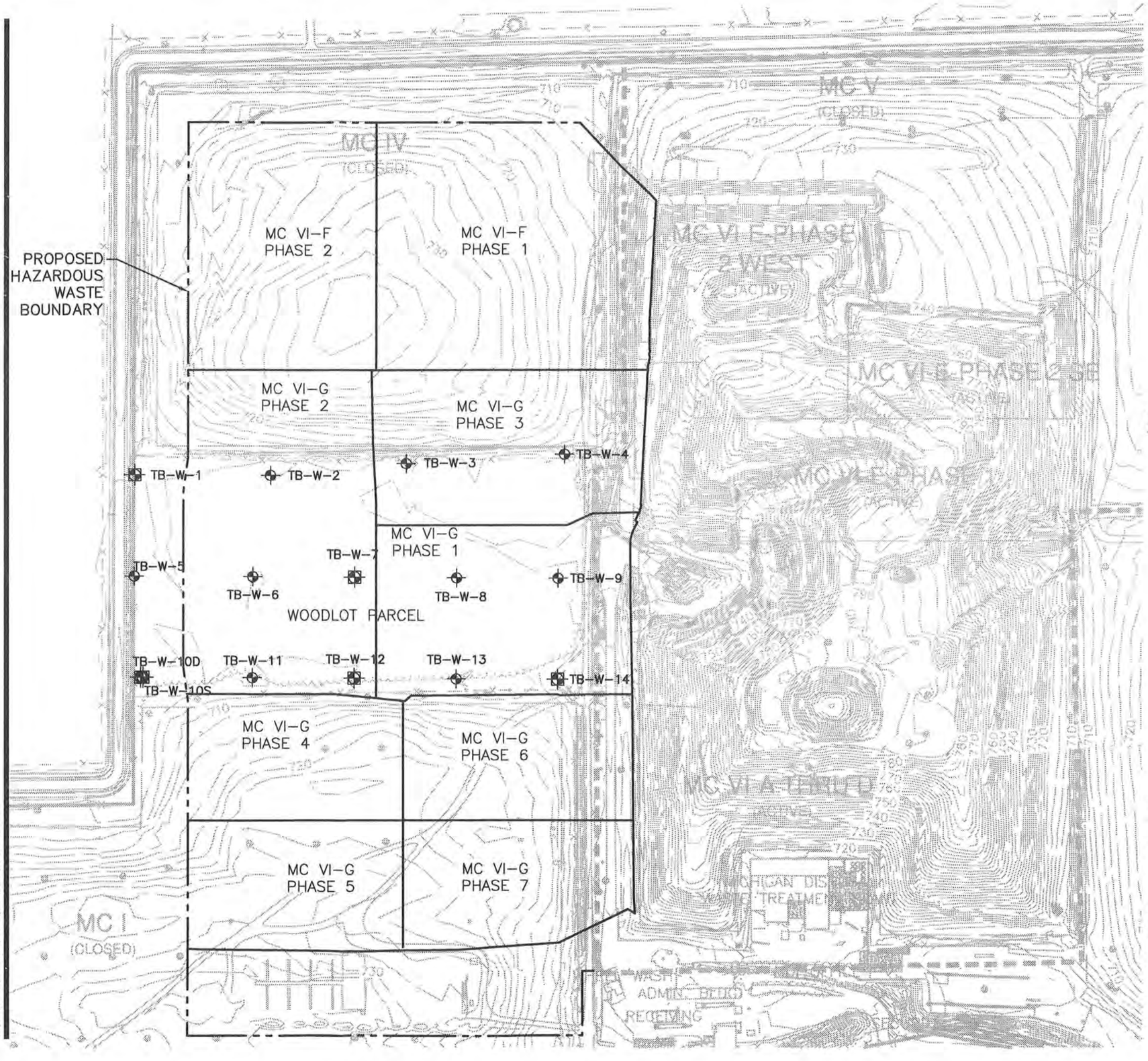

LEGEND:

- 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.

NTH Consultants, Ltd.
Infrastructure Engineering and Environmental Services

NTH PROJECT No.: 62080376	CAD FILE NAME: 62080376-SP
DESIGNED BY: DC	PLOT DATE: 2/3/2011
DRAWN BY: RMLII	DRAWING SCALE: AS SHOWN
CHECKED BY: DC	INCEPTION DATE: 02/16/09

MC VI-F & G TEST BORING & OBSERVATION WELL LOCATION PLAN

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

FIGURE: 3

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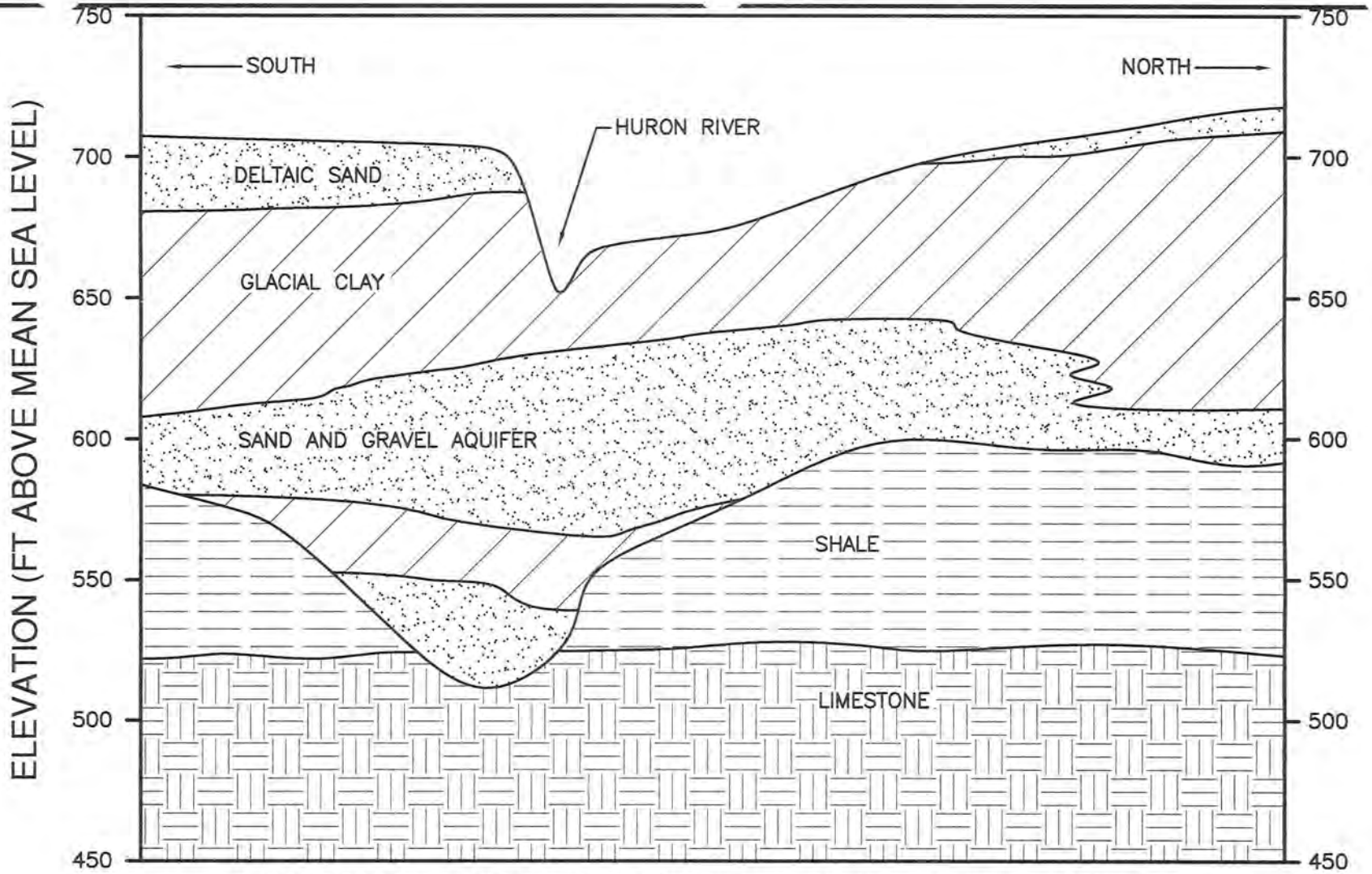

SECTION 24, YPSILANTI TOWNSHIP, WASHTENAW COUNTY

HORIZ. SCALE:
0 350' 700' 1400'

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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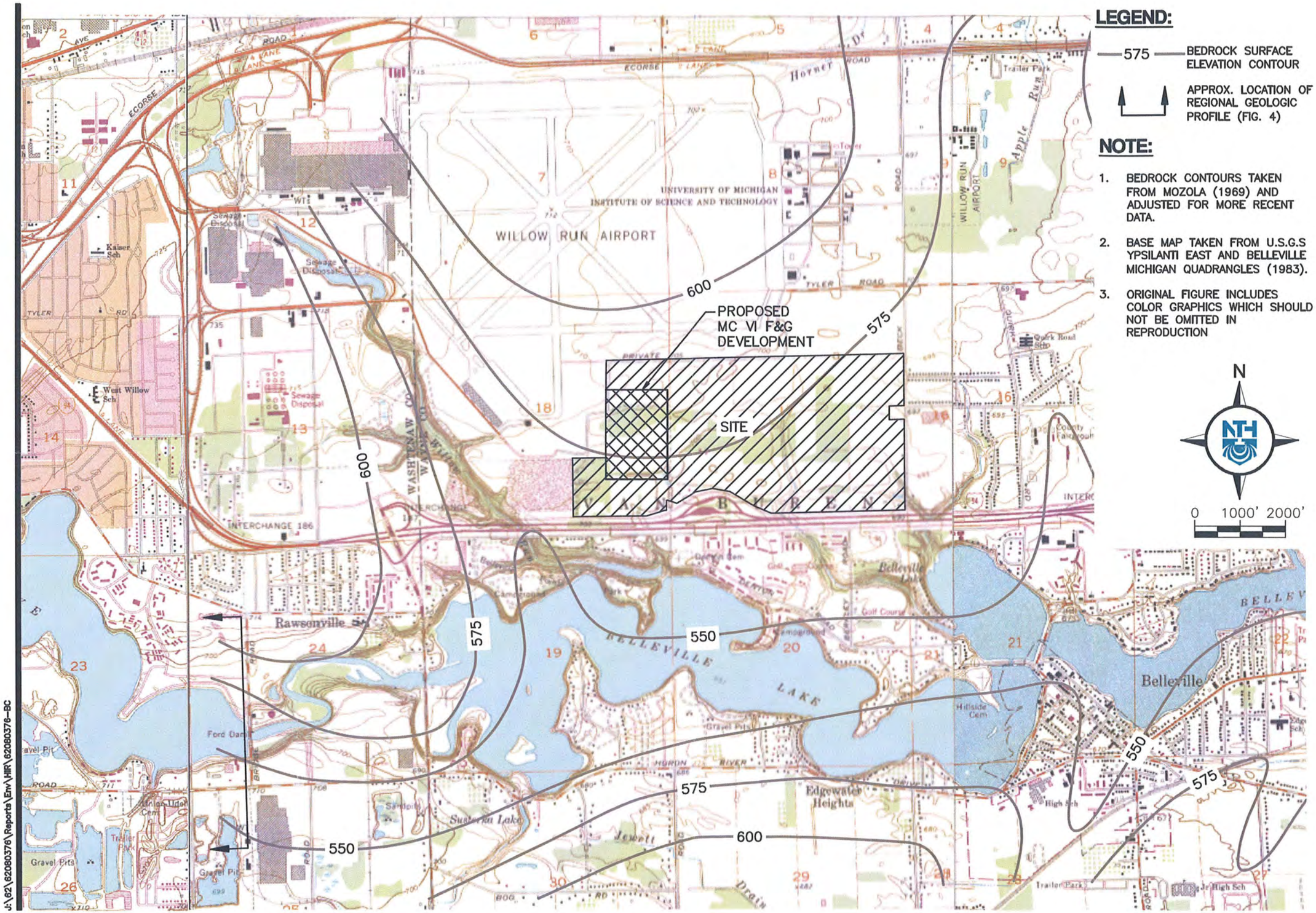

LEGEND:

575 — BEDROCK SURFACE ELEVATION CONTOUR

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

NOTE:

1. BEDROCK CONTOURS TAKEN FROM MOZOLA (1969) AND ADJUSTED FOR MORE RECENT DATA.
2. BASE MAP TAKEN FROM U.S.G.S YPSILANTI EAST AND BELLEVILLE MICHIGAN QUADRANGLES (1983).
3. ORIGINAL FIGURE INCLUDES COLOR GRAPHICS WHICH SHOULD NOT BE OMITTED IN REPRODUCTION

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DESIGNED BY: DLP	PLOT DATE: 2/3/2011
DRAWN BY: KRO	DRAWING SCALE: AS SHOWN
CHECKED BY: DLP	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

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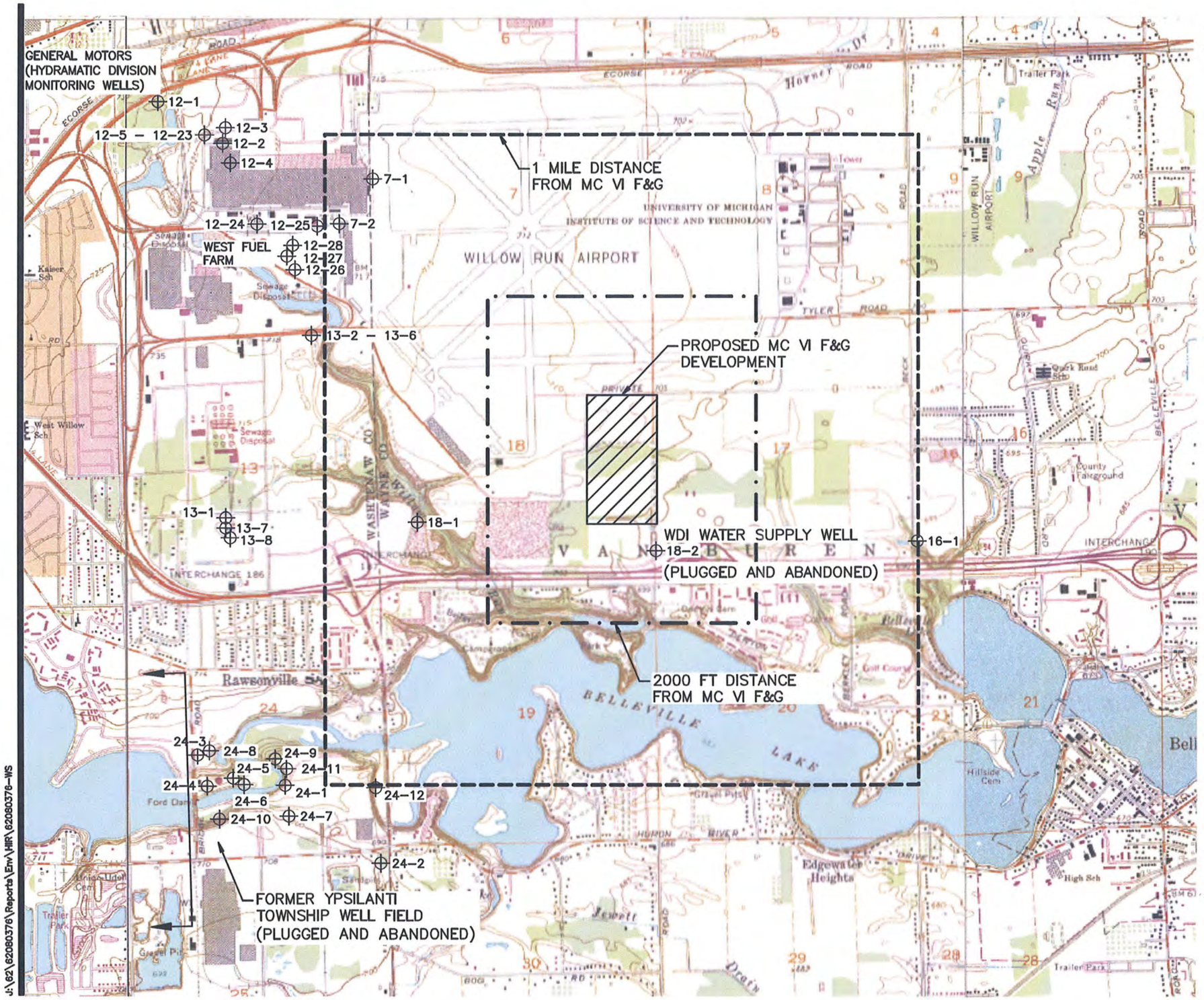

LEGEND:

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

N

0 1000' 2000'

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DESIGNED BY: DLP	PLOT DATE: 2/3/2011
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REGIONAL WATER SUPPLY WELL LOCATION MAP

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

FIGURE: 6

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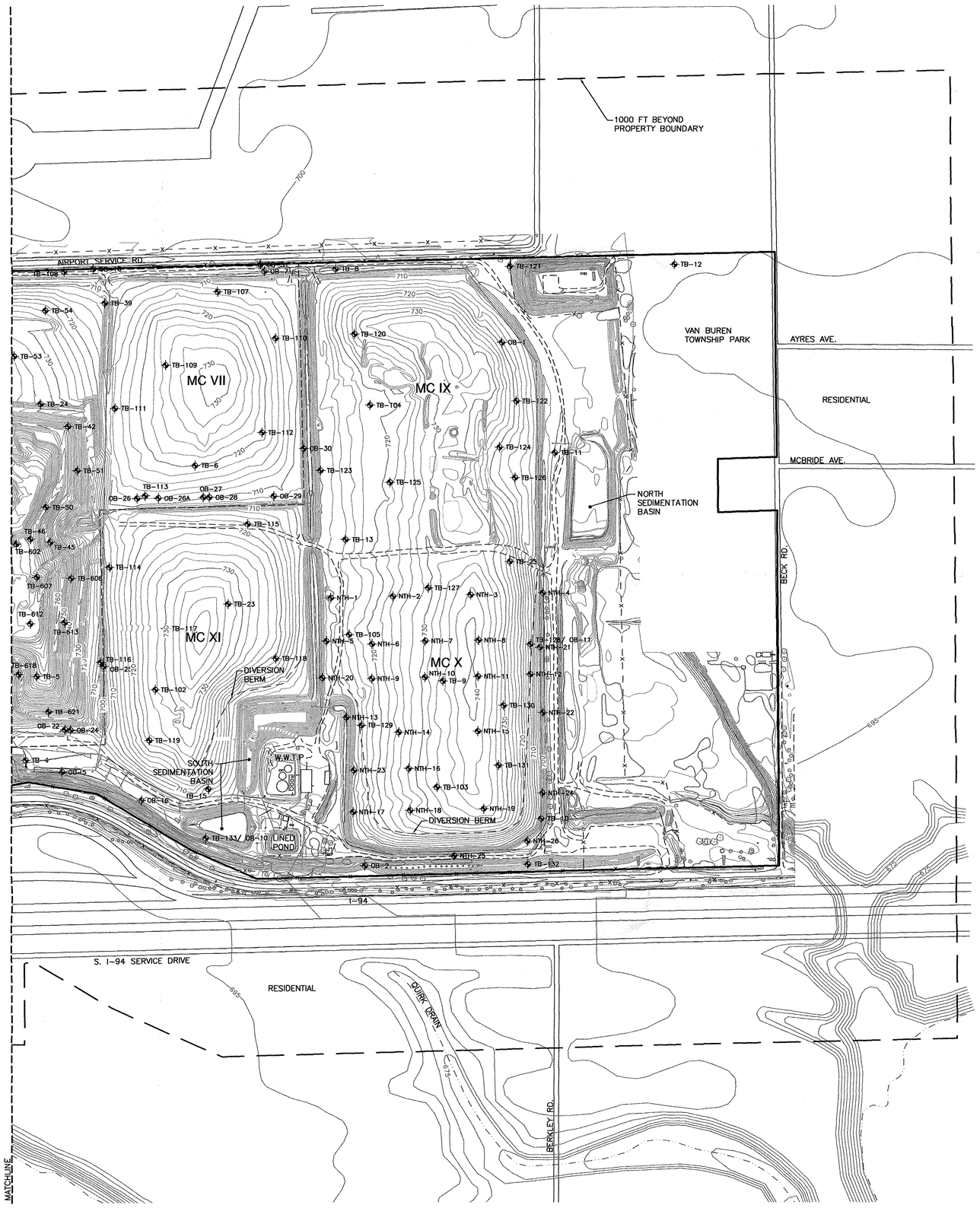


N

0 150' 300' 600'
SCALE

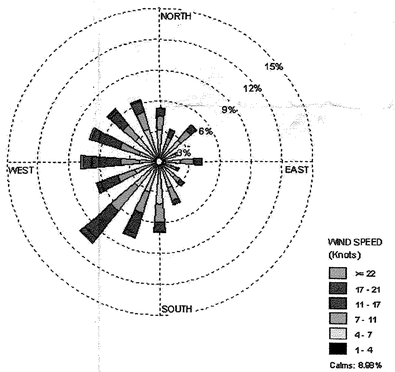
LEGEND:

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

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. 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)-(xii).
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 LOCATION STANDARDS.
4. ORIGINAL FIGURE INCLUDES COLOR GRAPHICS WHICH SHOULD NOT BE OMITTED IN REPRODUCTION.

YPSILANTI (WILLOW RUN) - 2006



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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

REVISIONS

REV	DESCRIPTION	DATE	BY

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

SHEET TITLE:
WDI TOPOGRAPHIC MAP (EAST)

FIGURE
8

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WILLOW RUN AIRPORT

PROPOSED HAZARDOUS WASTE BOUNDARY

MC IV

MC V

MC VII

MC IX

ACTIVE FILLING AREA/ FUTURE INTERIM COVER AREA/FUTURE FINAL COVER AREA

WOODLOT

NORTH SEDIMENTATION BASIN

MC XI

MC VI

MC X

MC I

SOUTH SEDIMENTATION BASIN

LINED POND

INTERSTATE–94

LEGEND:

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

N

0 250' 500'

SCALE

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.

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CHECKED BY: DLP	INCEPTION DATE: 02/16/09

EXISTING WDI WATERSHED DRAINAGE MAP

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

FIGURE: 9

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NOTE:

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

LEGEND:

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

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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

REVISIONS

REV	DESCRIPTION	DATE	BY

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

SHEET TITLE:

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

FIGURE

11

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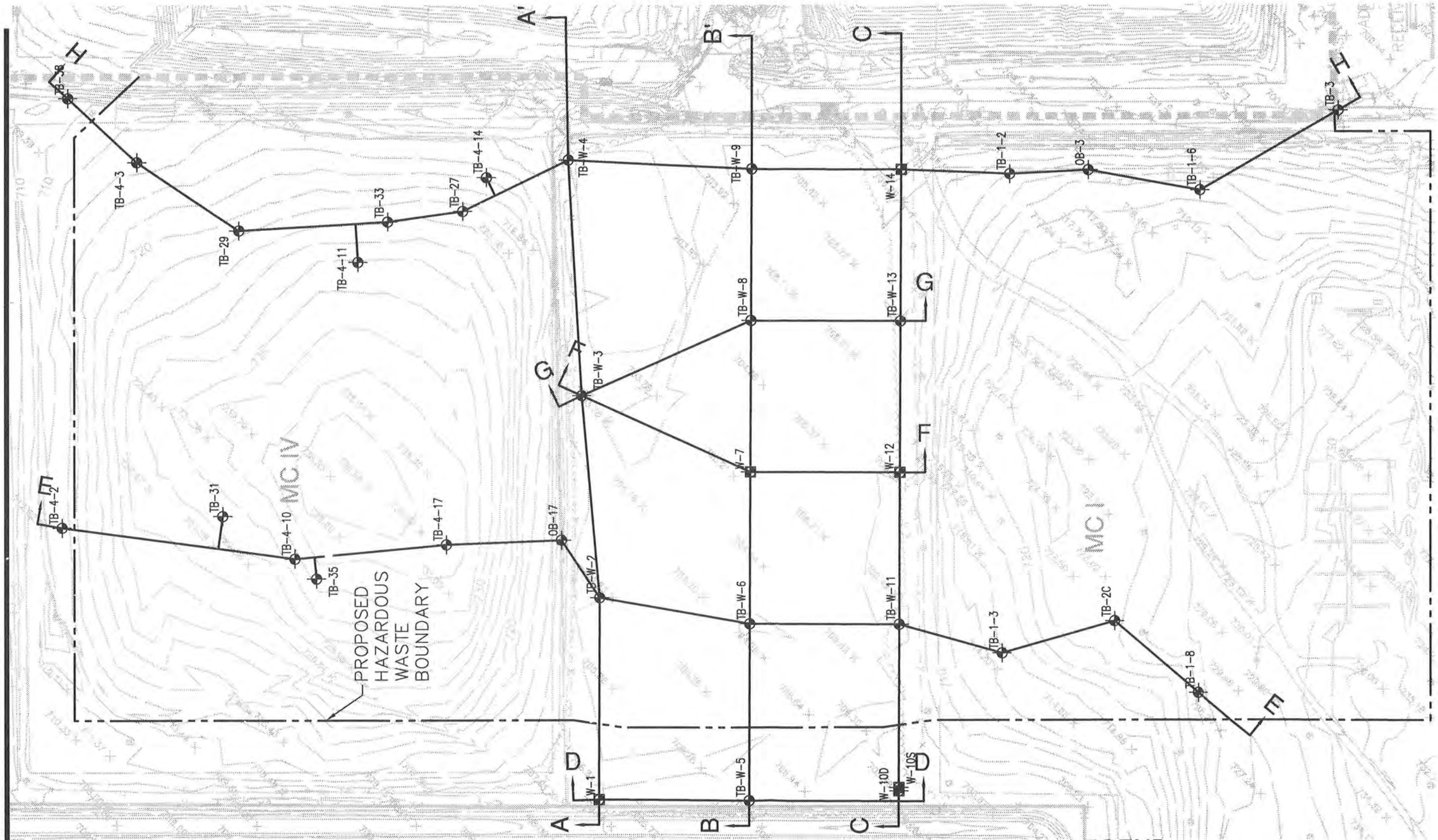

NOTE:

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.

N

0 100' 200'

LEGEND:

- TEST BORING LOCATION
- TEST BORING CONVERTED TO GROUNDWATER OBSERVATION WELL
- 710 EXISTING CONTOUR
- B B SUBSURFACE PROFILE ORIENTATION

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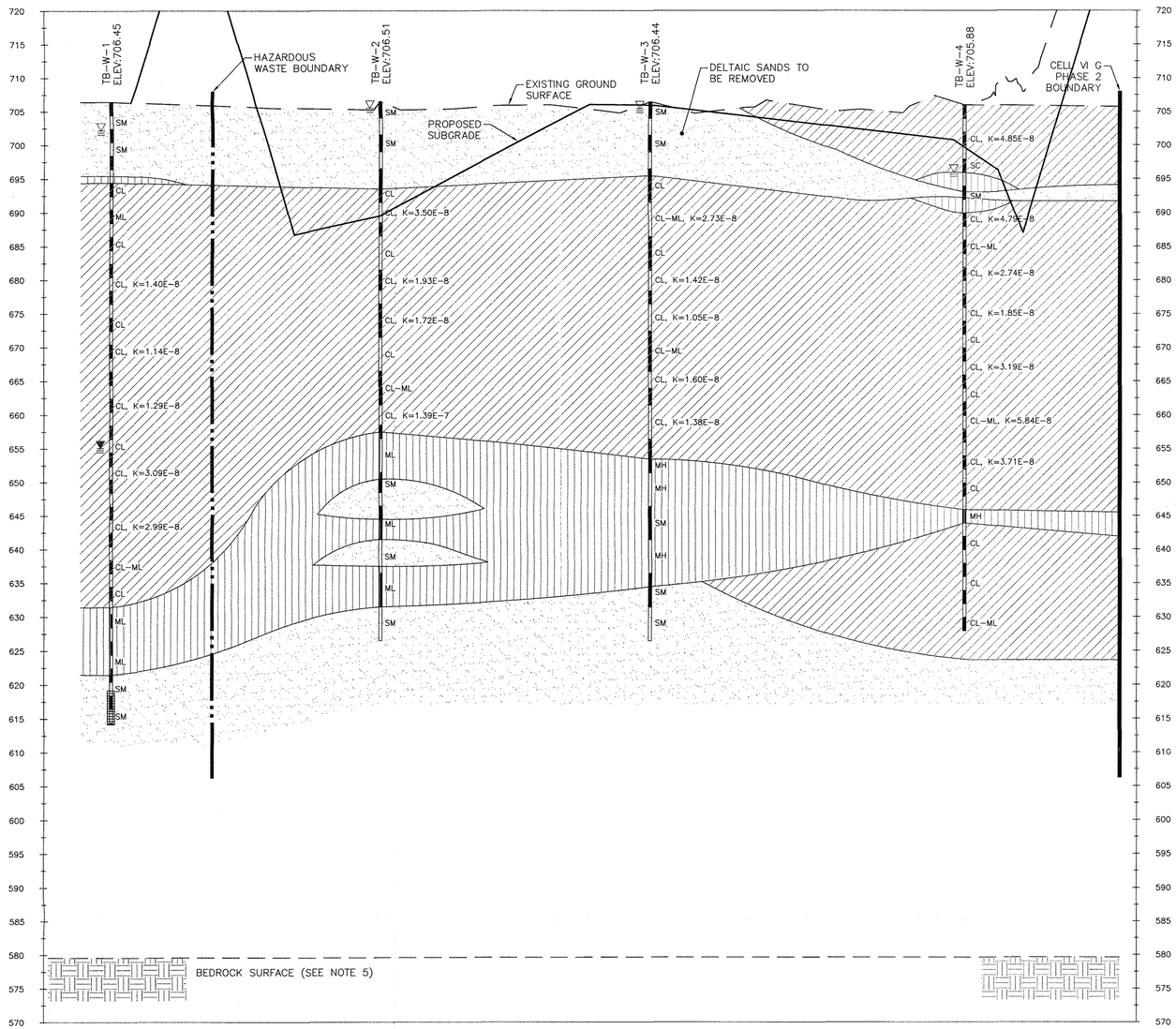
Infrastructure Engineering and Environmental Services

NTH PROJECT No.: 62080376	CAD FILE NAME: 62080379-PFMAP
DESIGNED BY: DLP	PLOT DATE: 2/3/2011
DRAWN BY: KRO	DRAWING SCALE: AS SHOWN
CHECKED BY: DLP	INCEPTION DATE: 02/16/09

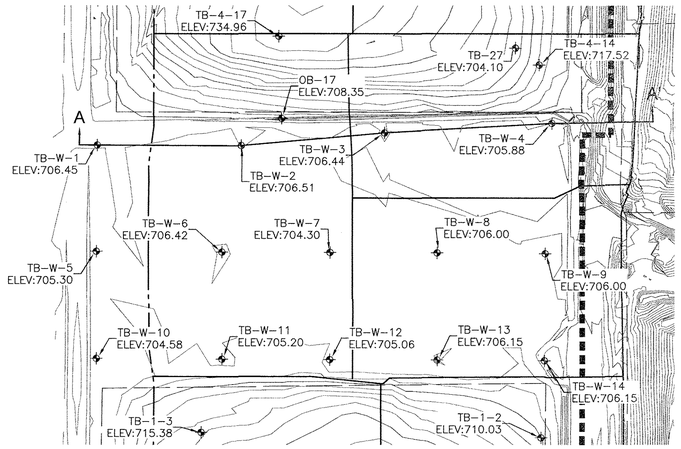
SUBSURFACE PROFILE ORIENTATION MAP

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

FIGURE:
12



CROSS-SECTION A-A'



WOODLOT PLAN VIEW

N

0 100' 200' 400'
SCALE

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:

HORIZ. SCALE:
0 50' 100' 200'
0 5' 10' 20'
VERT. SCALE:

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Infrastructure Engineering and Environmental Services

Farmington Hills, MI	248.553.6300
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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

REVISIONS

REV	DESCRIPTION	DATE	BY

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
13

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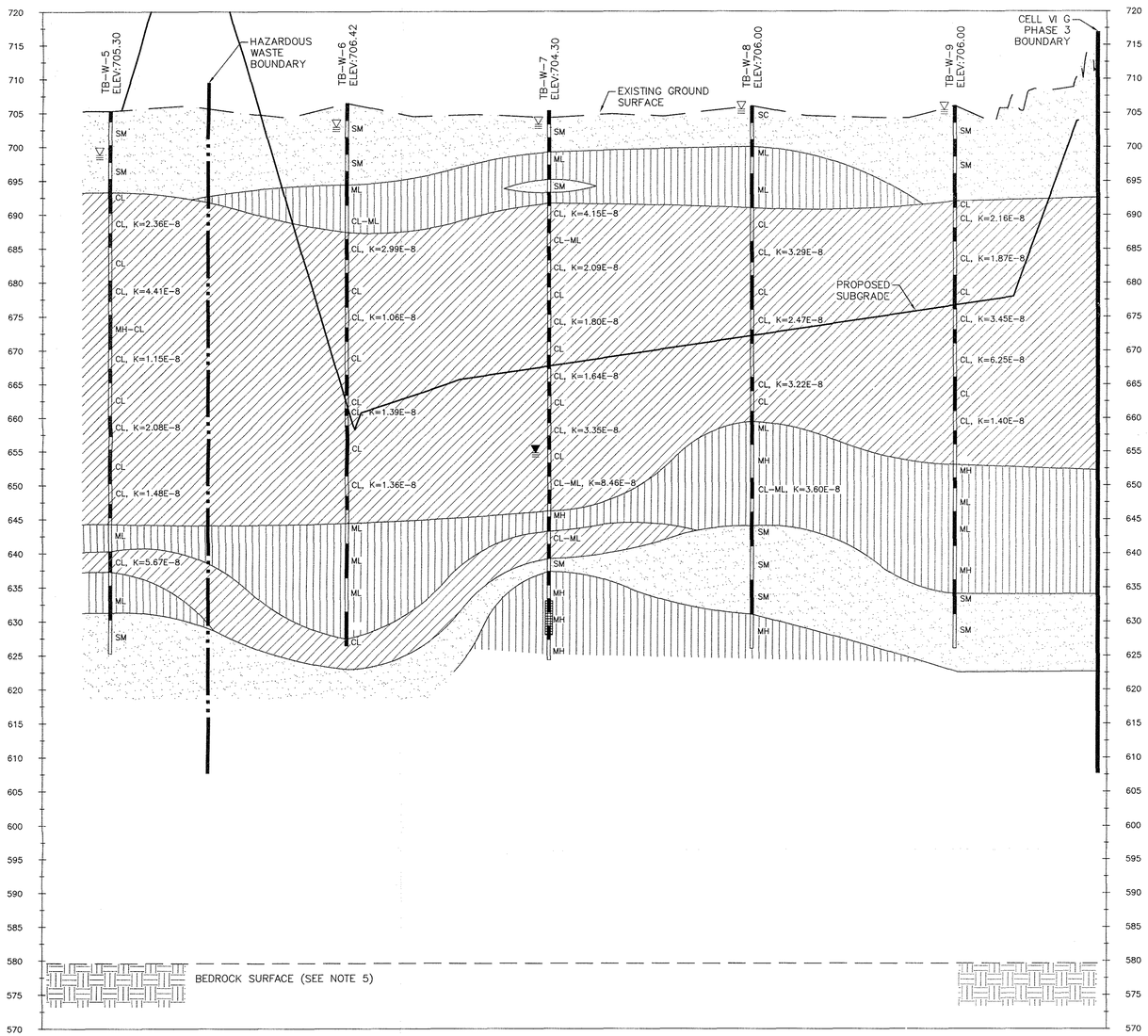
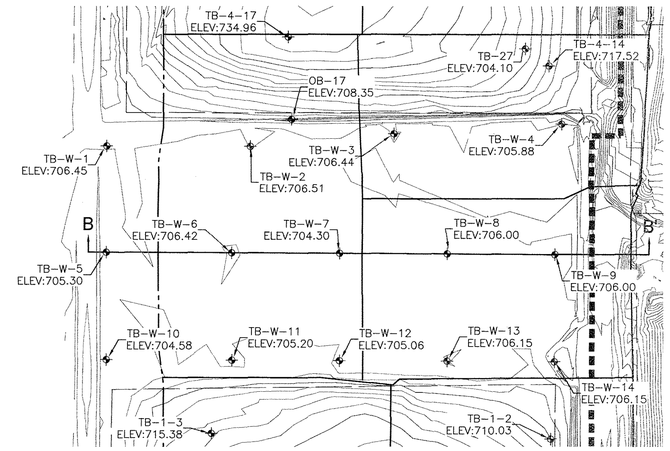


CROSS-SECTION B-B'



WOODLOT PLAN VIEW

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:

HORIZ. SCALE: 0 50' 100' 200'

VERT. SCALE: 0 5' 10' 20'

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Infrastructure Engineering and Environmental Services

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Indianapolis, IN	317.735.7649

REVISIONS

REV	DESCRIPTION	DATE	BY

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
14

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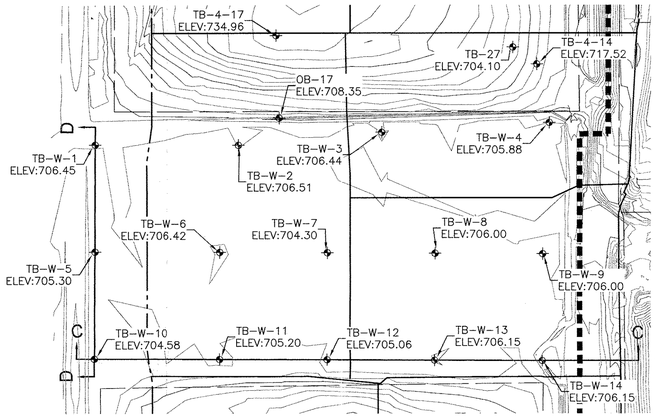
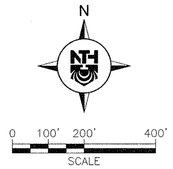


WOODLOT PLAN VIEW



LEGEND

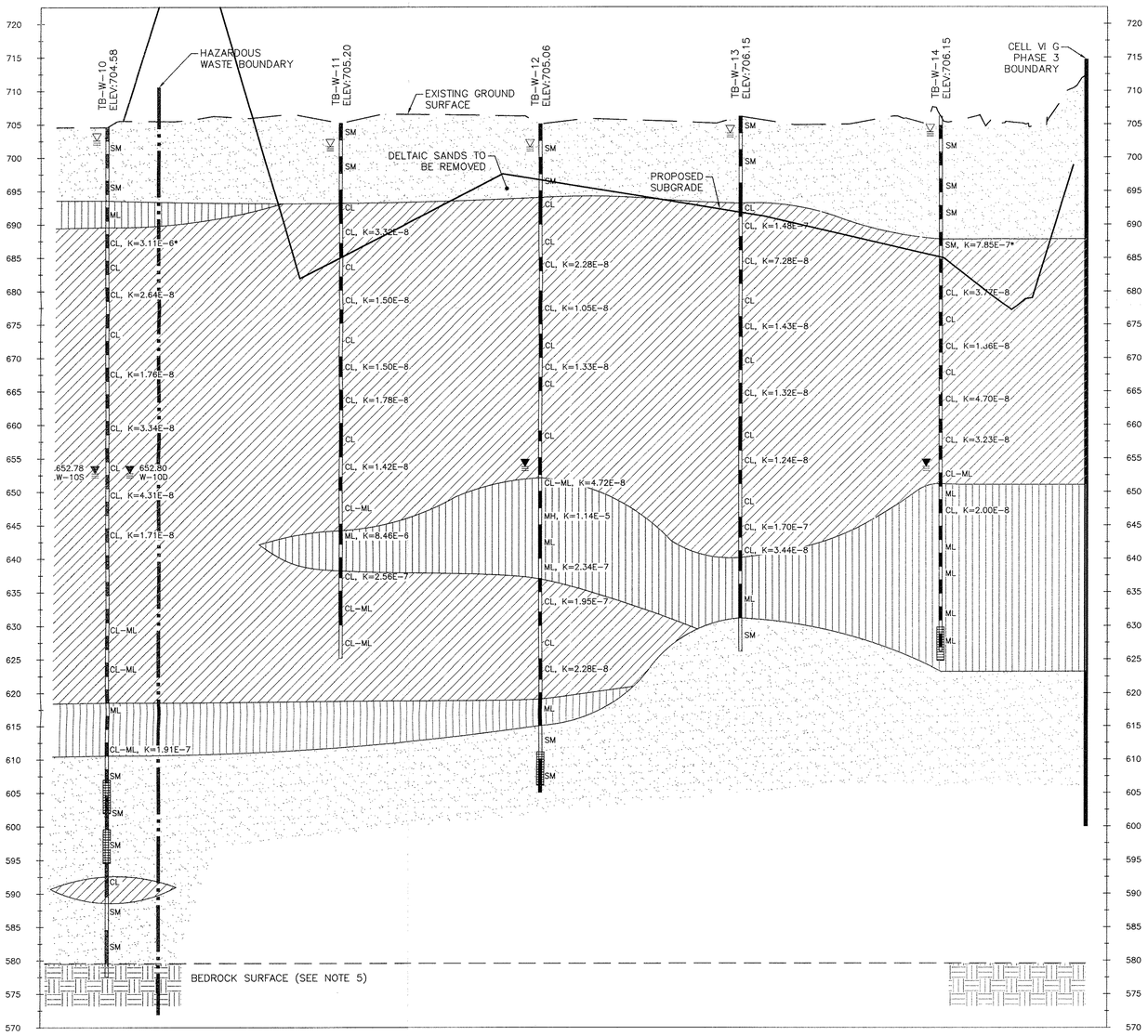
- TEST BORING
- SOIL SAMPLE INTERVALS
- GROUNDWATER ELEVATION (SEE NOTE 3)
- GROUNDWATER ELEVATION ENCOUNTERED DURING DRILLING
- WELL SCREEN INTERVAL
- CLAY (CL)
- SILT (MH, ML)
- SAND (SM, SC)
- BEDROCK
- CL — UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) FOR SOIL SAMPLE AT INDICATED INTERVAL
- K=3.3E-8 — LABORATORY HYDRAULIC CONDUCTIVITY TEST RESULT FOR SOIL SAMPLE AT INDICATED INTERVAL (CENTIMETERS/SECOND)

NOTES:

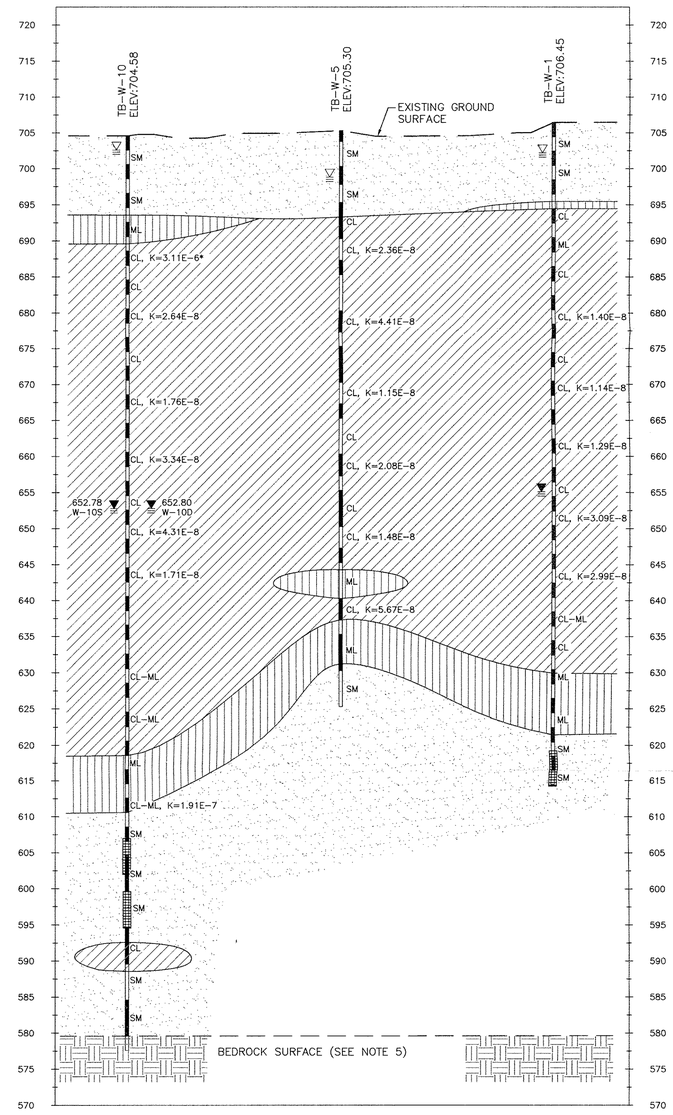
1. PROFILE IS GENERALIZED. SOIL CONTACTS BETWEEN BORINGS ARE INFERRED. FOR ACTUAL CONTACTS REFER TO ORIGINAL TEST BORING LOGS.
2. ELEVATIONS ARE REFERENCED TO MEAN SEA LEVEL.
3. GROUNDWATER ELEVATIONS WERE RECORDED FROM MONITORING WELLS ON FEBRUARY 9, 2009.
4. USCS CLASSIFICATIONS BASED ON RESULTS OF 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.
7. * SHELBY TUBE SAMPLE INTERSECTED CONTACT BETWEEN TWO SOIL TYPES. PERMEABILITY RESULTS ARE NOT REPRESENTATIVE OF CLAY UNIT AND MAY HAVE CONTAINED AN APPRECIABLE AMOUNT OF FINES.

PROFILE SCALE:

HORIZ. SCALE: 0 50' 100' 200'
VERT. SCALE: 0 5' 10' 20'



CROSS-SECTION C-C'



CROSS-SECTION D-D'

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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

REVISIONS

REV	DESCRIPTION	DATE	BY

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 PROFILES C-C' & D-D'

FIGURE
15

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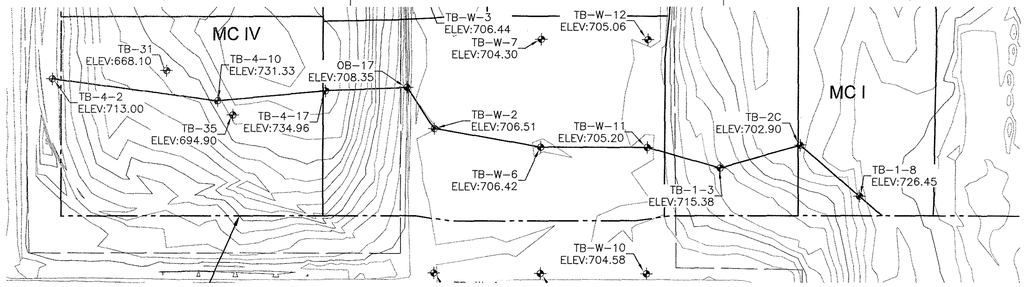

WOODLOT PLAN VIEW

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
- WASTE
- CL — UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) FOR SOIL SAMPLE AT INDICATED INTERVAL
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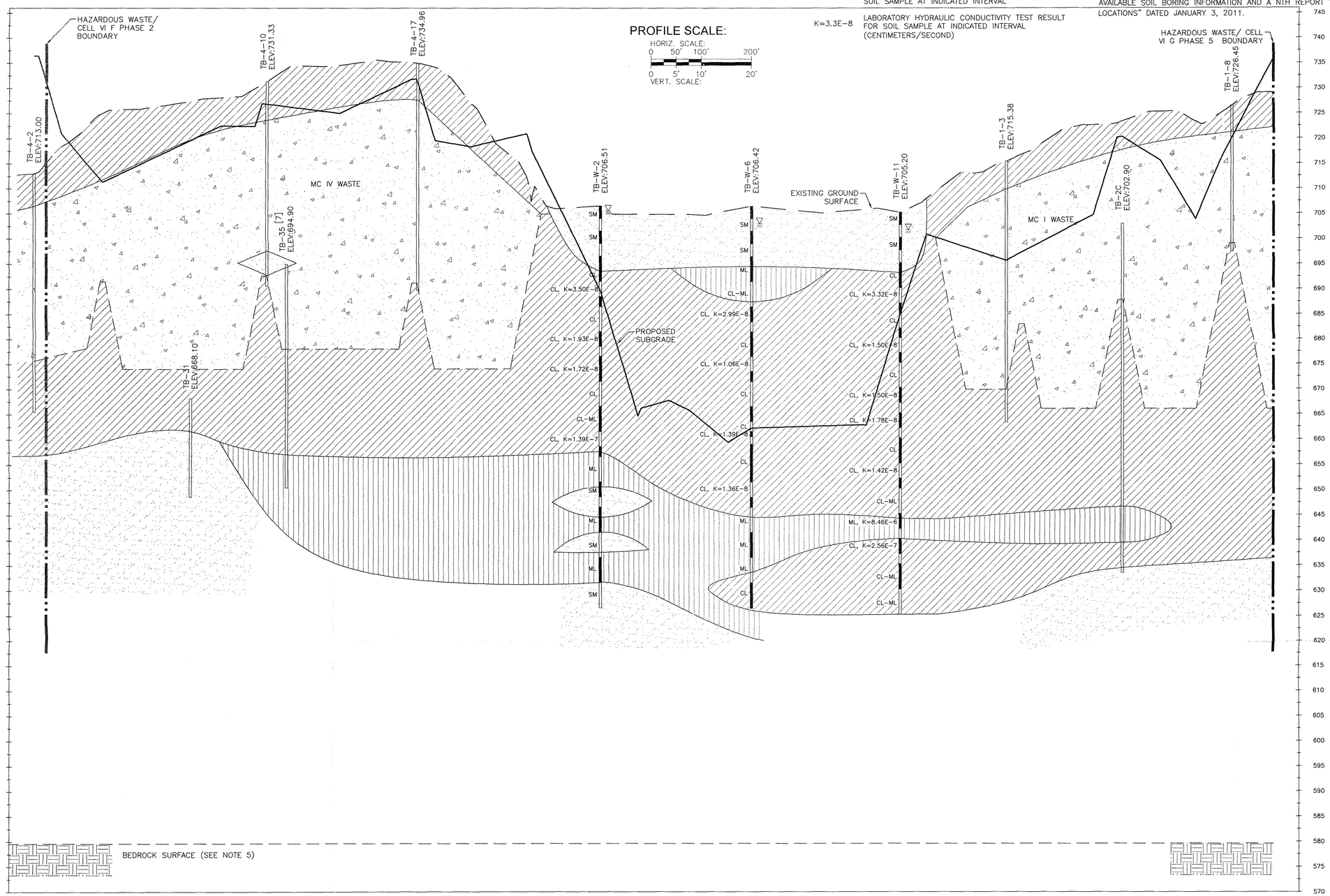
NOTES:

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.
7. THE SAND OBSERVED AT ELEVATION 690 DEPICTED ON THE LOG OF TEST BORING TB-35 REPRESENTS SURFICIAL SAND OBSERVED PRIOR TO CONSTRUCTION OF MC IV. THIS SAND WAS LIKELY REMOVED DURING CONSTRUCTION OF MC IV. IN ANY CASE, ANY SAND STILL PRESENT AT THIS ELEVATION HAS BEEN CUT OFF FROM THE REMAINING SURFICIAL SAND DEPOSITS BY THE MC IV PERIMETER CLAY DIKE. BORING INFORMATION NOT INCLUDED IN PROFILE.
8. MC I AND MC IV BOTTOM OF WASTE ELEVATION IS APPROXIMATE AND WAS DEVELOPED BASED ON AVAILABLE SOIL BORING INFORMATION AND A NTH REPORT "EVALUATION OF MC IV INTERCELL DIKE LOCATIONS" DATED JANUARY 3, 2011.



CROSS-SECTION E-E'

NTH Consultants, Ltd.
Infrastructure Engineering and Environmental Services

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

REVISIONS

REV	DESCRIPTION	DATE	BY

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

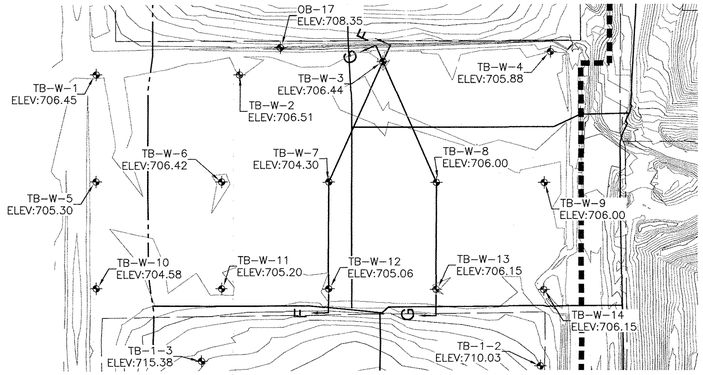
PROJECT LOCATION:
VAN BUREN TWP., WAYNE COUNTY, MICHIGAN

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
16

J:\62\62080376\Reports\Env\HH\62080376-PR.dwg Plotted: 3/1/2011 11:27 AM by Dlutz



WOODLOT PLAN VIEW

N

0 100' 200' 400'
SCALE

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.
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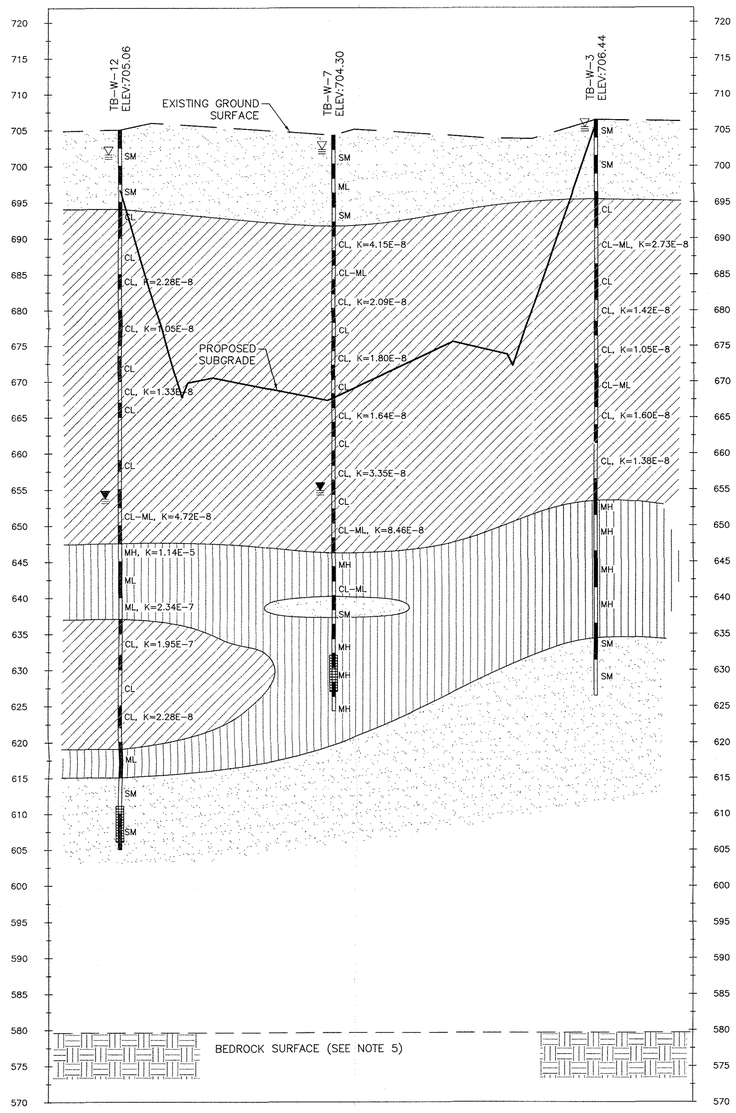
3. GROUNDWATER ELEVATIONS WERE RECORDED FROM MONITORING WELLS ON FEBRUARY 9, 2009.
4. USCS CLASSIFICATIONS BASED ON RESULTS OF LABORATORY SOIL TEST DATA.
5. BEDROCK SURFACE WAS INFERRED FROM TB-W-10 AND INFORMATION FROM PREVIOUS INVESTIGATIONS AT WDI SITE NO. 2.
6. REFER TO FIGURE 7 FOR HISTORIC BORING COMPLETION DATES.



CROSS-SECTION F-F'

PROFILE SCALE:

HORIZ. SCALE:
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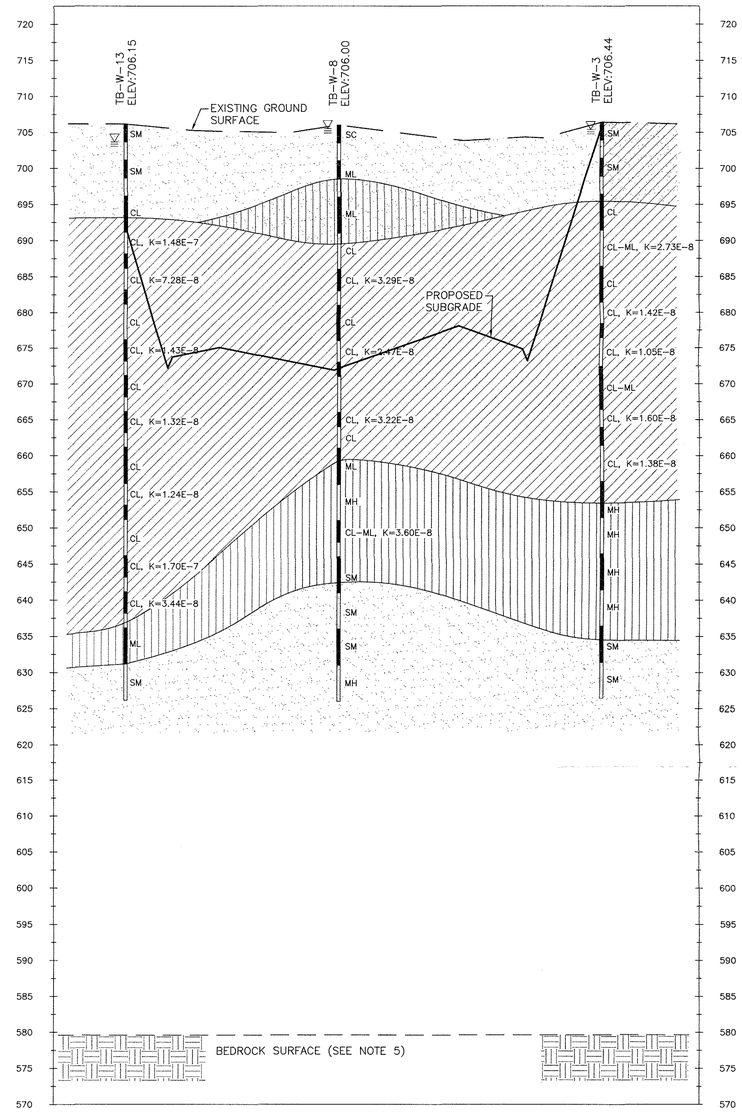
0 5' 10' 20'
VERT. SCALE:



CROSS-SECTION G-G'

NTH Consultants, Ltd.
Infrastructure Engineering and Environmental Services

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

REVISIONS

REV	DESCRIPTION	DATE	BY

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

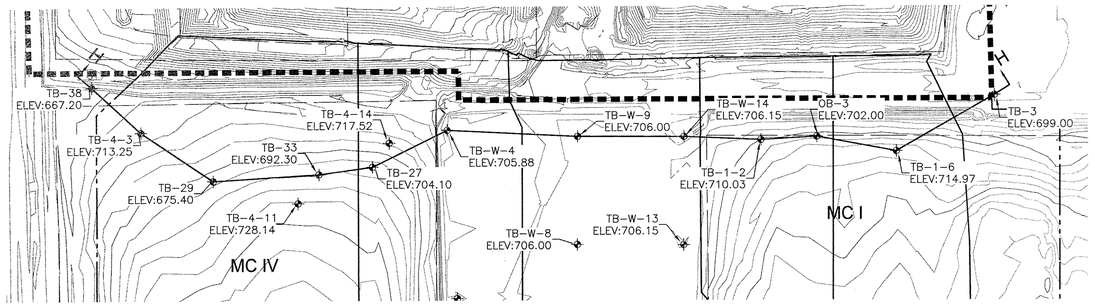
PROJECT LOCATION:
VAN BUREN TWP., WAYNE COUNTY, MICHIGAN

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

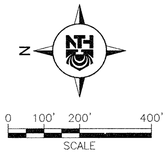
SHEET TITLE:
GENERALIZED GEOLOGIC PROFILES F-F' & G-G'

FIGURE
17

J:\62\62080376\Reports\Env\HIR\62080376-PR.dwg Plotted: 3/1/2011 11:27 AM by DLitz



WOODLOT PLAN VIEW



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
- WASTE
- 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.
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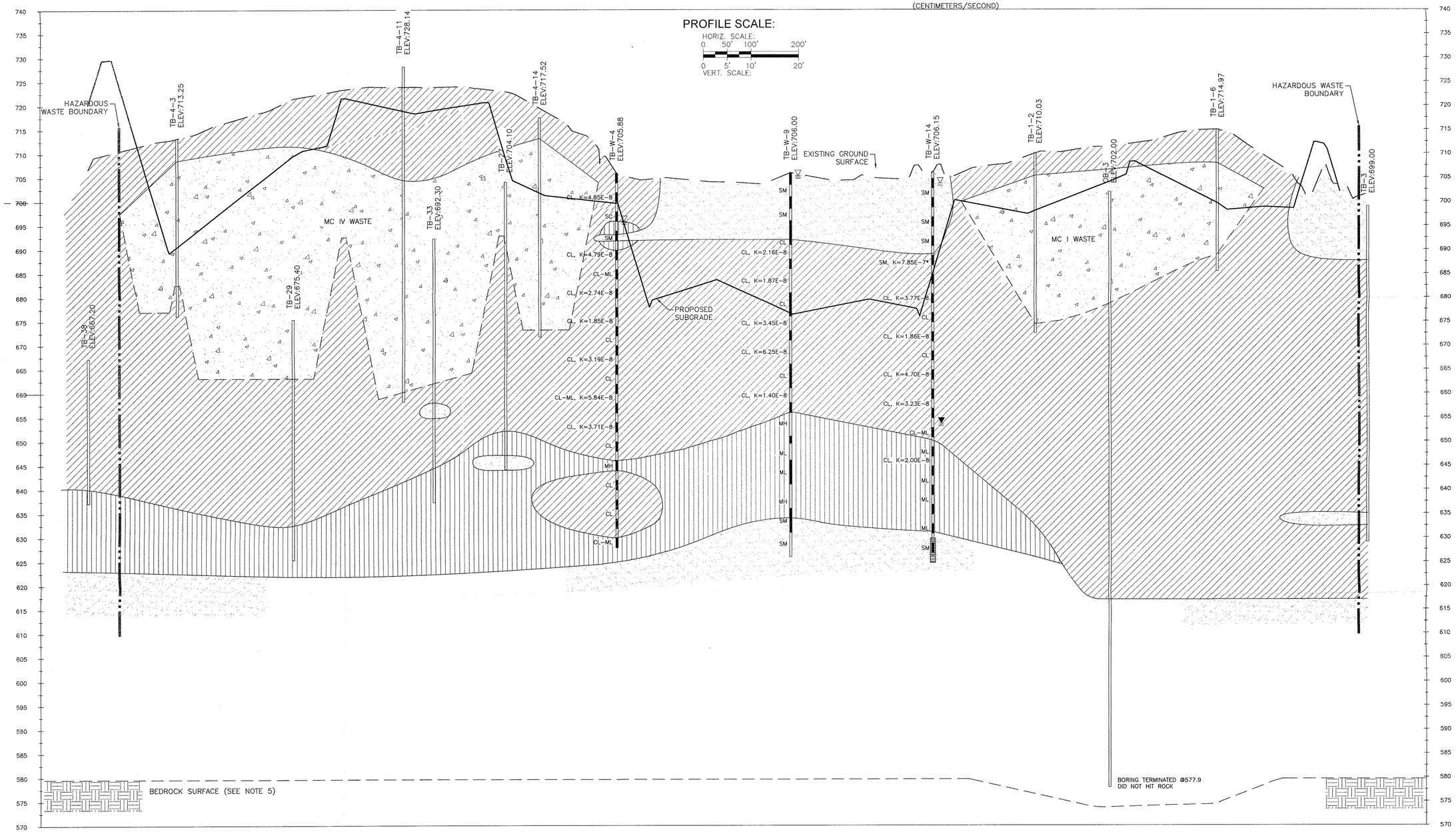
5. BEDROCK SURFACE WAS INFERRED FROM TB-W-10 AND INFORMATION FROM PREVIOUS INVESTIGATIONS AT WDI SITE NO. 2.
6. REFER TO FIGURE 7 FOR HISTORIC BORING COMPLETION DATES.
7. * SHELBY TUBE SAMPLE INTERSECTED CONTACT BETWEEN TWO SOIL TYPES. PERMEABILITY RESULTS ARE NOT REPRESENTATIVE OF CLAY UNIT AND MAY HAVE CONTAINED AN APPRECIABLE AMOUNT OF FINES.
8. MC I AND MC IV BOTTOM OF WASTE ELEVATION IS APPROXIMATE AND WAS DEVELOPED BASED ON AVAILABLE SOIL BORING INFORMATION AND A NTH REPORT "EVALUATION OF MC IV INTERCELL DIKE LOCATIONS" DATED JANUARY 3, 2011.



CROSS-SECTION H-H'

NTH Consultants, Ltd.
Infrastructure Engineering and Environmental Services

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

REVISIONS

REV	DESCRIPTION	DATE	BY

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

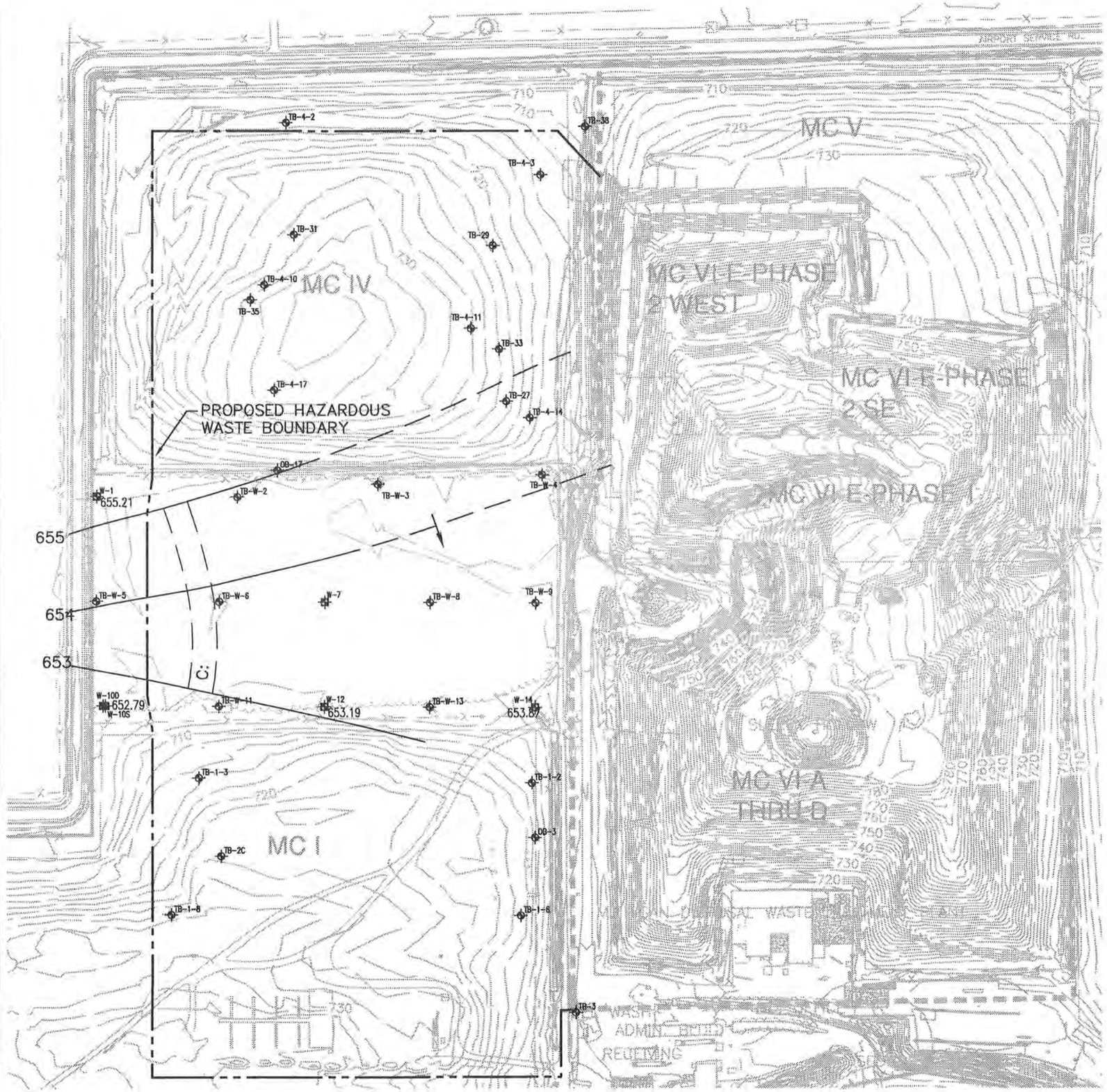
PROJECT LOCATION:
VAN BUREN TWP., WAYNE COUNTY, MICHIGAN

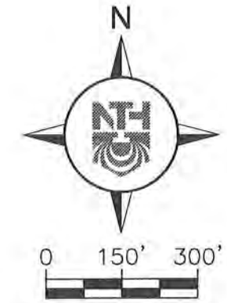
NTH PROJECT NO.: 62080376	CAD FILE NAME: 62080376-PR
DESIGNED BY: DKP	INCEP DATE: 02/16/09
DRAWN BY: KRO	DRAWING SCALE: AS SHOWN
CHECKED BY: DLP	SUBMITTED DATE: 09/17/09

SHEET TITLE:
GENERALIZED GEOLOGIC PROFILE H-H'

FIGURE
18

J:\62\62080376\Reports\Env\HR\62080376-PR.dwg Plotted: 3/1/2011 11:28 AM by Dutz





LEGEND:

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

NOTE:

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

NTH Consultants, Ltd.
Infrastructure Engineering and Environmental Services

NTH PROJECT No.: 62080376	CAD FILE NAME: 62080376 GWEC-02
DESIGNED BY: DC	PLOT DATE: 2/3/2011
DRAWN BY: RMLII	DRAWING SCALE: AS SHOWN
CHECKED BY: DC	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

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NOTE:

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

LEGEND:

- OB-18 OBSERVATION WELL LOCATION
- 710 EXISTING TOPOGRAPHIC CONTOUR
- OB-56 PROPOSED PHASE 1 MONITORING WELL FOR MC VI-F&G (LOWER SAND AQUIFER)
- OB-50 PROPOSED PHASE 1 MONITORING WELL FOR MC VI-F&G (ROCK)
- PROPOSED PHASE 2 MONITORING WELL FOR MC VI-F&G (LOWER SAND AQUIFER)
- PROPOSED PHASE 2 MONITORING WELL FOR MC VI-F&G (ROCK)

NTH Consultants, Ltd.

Infrastructure Engineering and Environmental Services

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

REVISIONS

REV	DESCRIPTION	DATE	BY

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

SHEET TITLE:

PROPOSED PART 111 GROUNDWATER MONITORING LOCATION PLAN

FIGURE

20

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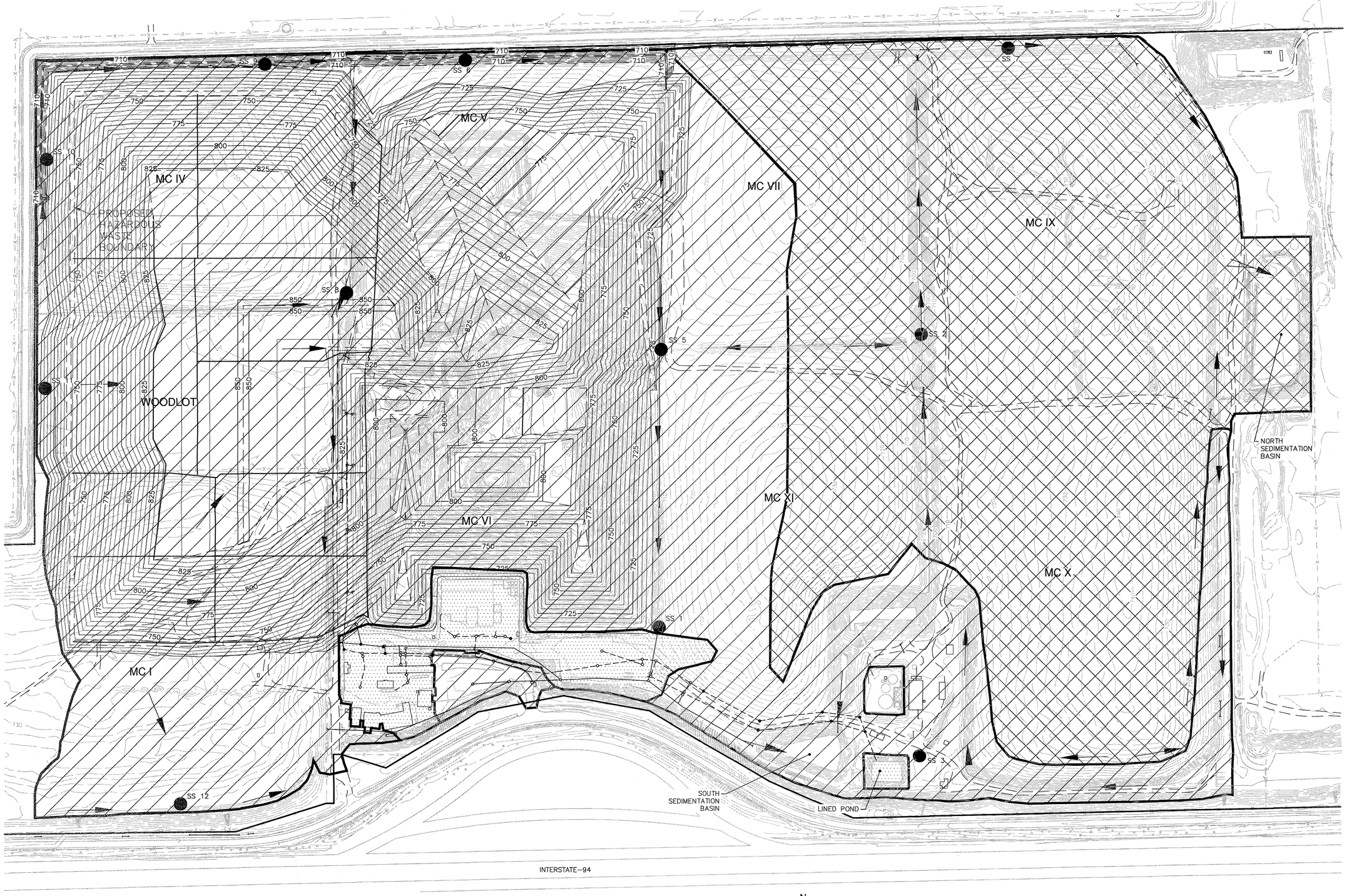
WILLOW RUN AIRPORT



LEGEND:

- SOUTH SEDIMENTATION BASIN STORM SEWER
- LINED POND STORM SEWER
- CULVERT
- CURB STYLE CATCH BASIN
- ROUND CATCH BASIN SHOWN OPENED OR FILLED ON DRAWING. FILLED CIRCLE = SOLID MANHOLE COVER
- SS 1 SURFACE WATER SAMPLING LOCATION
- DIRECTION OF SURFACE WATER FLOW
- SOUTH SEDIMENTATION BASIN WATERSHED
- NORTH SEDIMENTATION BASIN WATERSHED
- LINED POND WATERSHED

N

0 100' 200' 400'
SCALE

NOTE:

1. THE BASE MAP WAS CREATED USING AN AERIAL SURVEY TAKEN IN 2001 BY AIR-LAND SURVEY, AND PROVIDED BY WDI, A SURVEY BY MCLLC IN OCTOBER 2007 AND A GROUND SURVEY BY WDI IN OCTOBER 2008.
2. SS-8 WILL BE REPLACED BY SS-9 THROUGH SS-12.
3. SS-4 WAS PREVIOUSLY REMOVED FOR CONSTRUCTION.

NTH Consultants, Ltd.
Infrastructure Engineering and Environmental Services

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

REVISIONS

REV	DESCRIPTION	DATE	BY

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

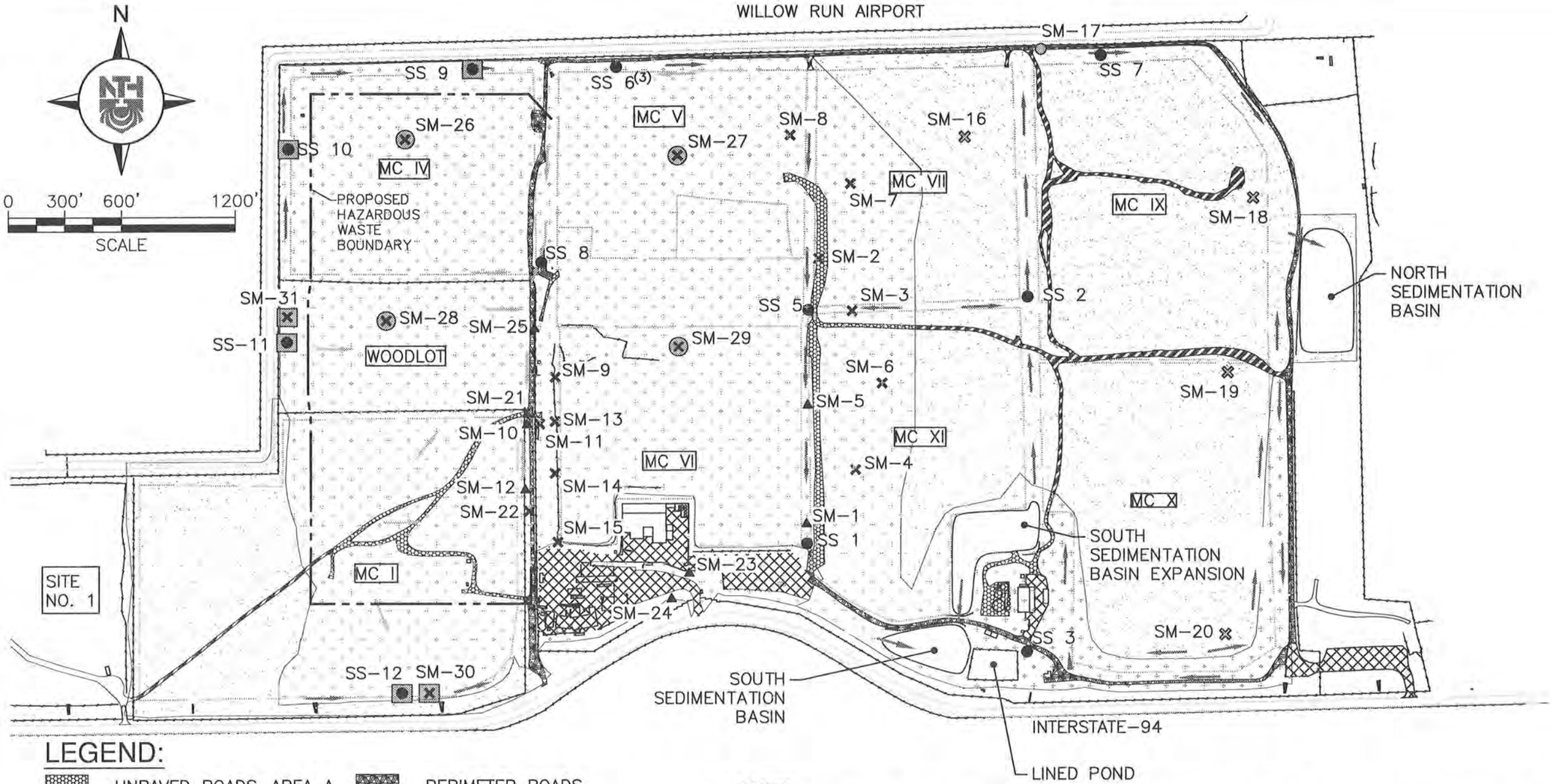
PROJECT LOCATION:
VAN BUREN TWP., WAYNE COUNTY, MICHIGAN

NTH PROJECT NO.: 62080376	CAD FILE NAME: 62080376-SWS
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:
SURFACE WATER SAMPLING LOCATIONS

FIGURE
21

J:\62\62080376\Reports\Env\HR\62080376-SWS.dwg Plotted: 2/9/2011 11:41 AM by Diaz



LEGEND:

- UNPAVED ROADS–AREA A
- UNPAVED ROADS–AREA B
- AREA A
- AREA B
- PERIMETER ROADS
- PAVED SURFACES
- SS 1 — SURFACE WATER SAMPLING LOCATION
- SM 2 — SOIL SAMPLING LOCATION – AREA A
- SM 1 — SEDIMENT SAMPLING LOCATION – AREA A
- SM 16 — SOIL SAMPLING LOCATION – AREA B
- SM 17 — SEDIMENT SAMPLING LOCATION – AREA B
- SM 26 — SOIL SAMPLING LOCATION – POST CLOSURE
- SM 30 — SOIL SAMPLING LOCATION – POST MC VI F/G CONSTRUCTION
- SS 11 — SURFACE WATER SAMPLING LOCATION – POST MC VI F/G CONSTRUCTION
- 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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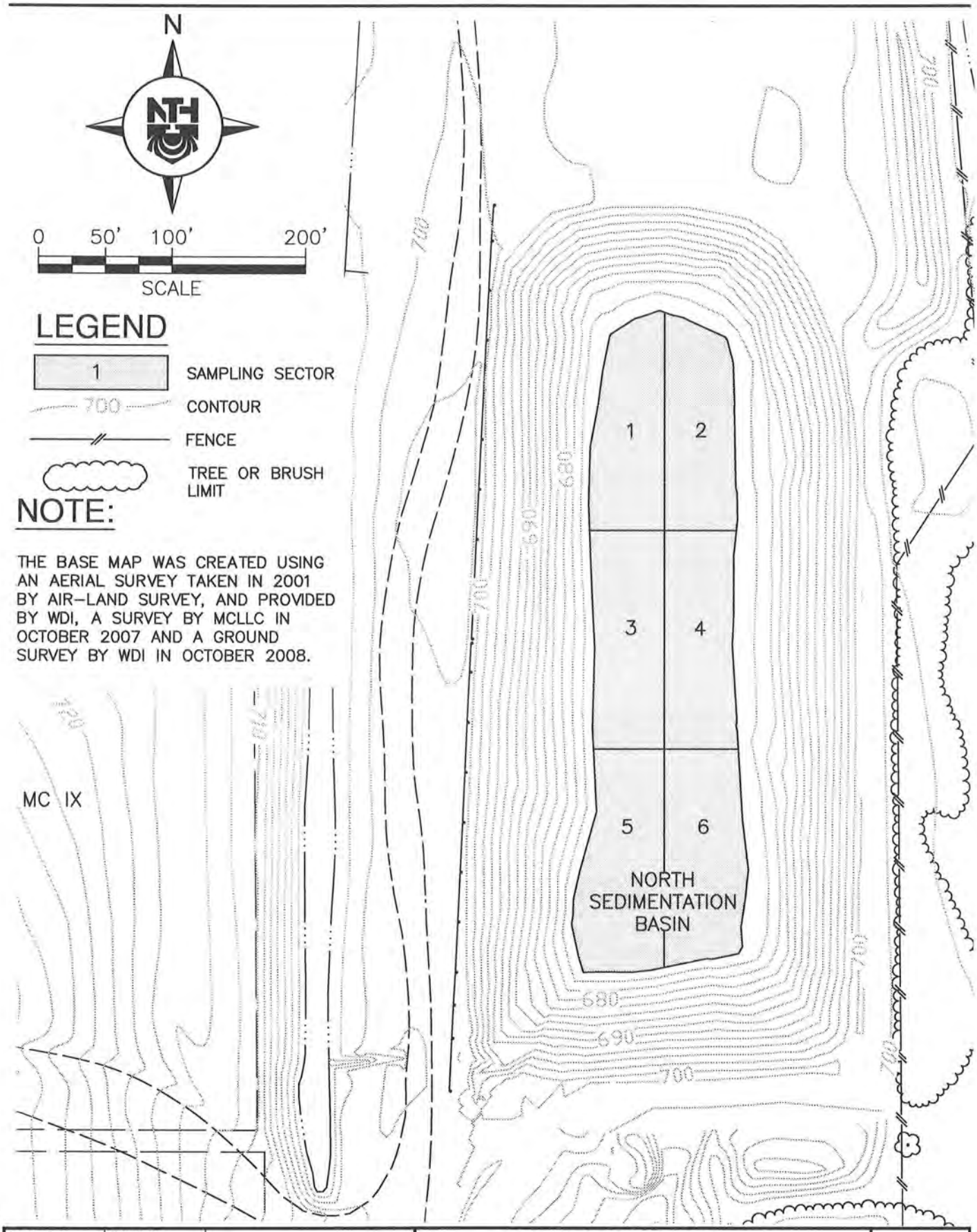
Infrastructure Engineering and Environmental Services

NTH PROJECT No. 62080376	CAD FILE NAME 62080376-SLP
DESIGNED BY: KRO	PLOT DATE 2/8/2011
DRAWN BY: KRO	DRAWING SCALE: AS SHOWN
CHECKED BY: DLP	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



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

FIGURE 23

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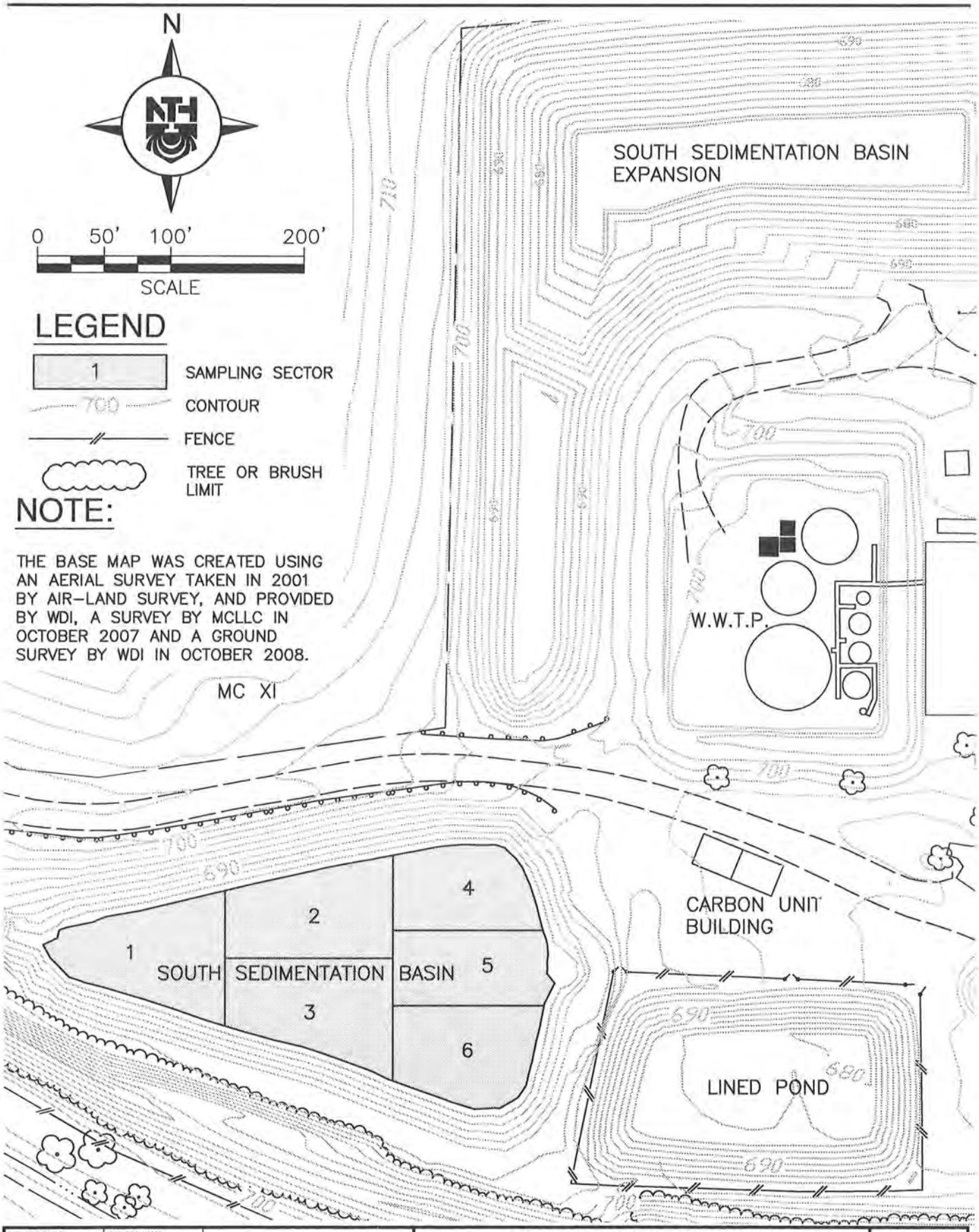

NTH PROJECT No. 62080376	CAD FILE NAME 62080376-SED	NTH Consultants, Ltd. Infrastructure Engineering and Environmental Services	SOUTH SEDIMENTATION BASIN MONITORING SAMPLE SECTORS
DESIGNED BY KRO	PLOT DATE 2/3/2011		WAYNE DISPOSAL, INC. SITE NO. 2 - MC VI F&G
DRAWN BY KRO	DRAWING SCALE AS SHOWN		VAN BUREN TWP., WAYNE COUNTY, MICHIGAN
CHECKED BY DLP	INCEPTION DATE 02/16/09		FIGURE 24

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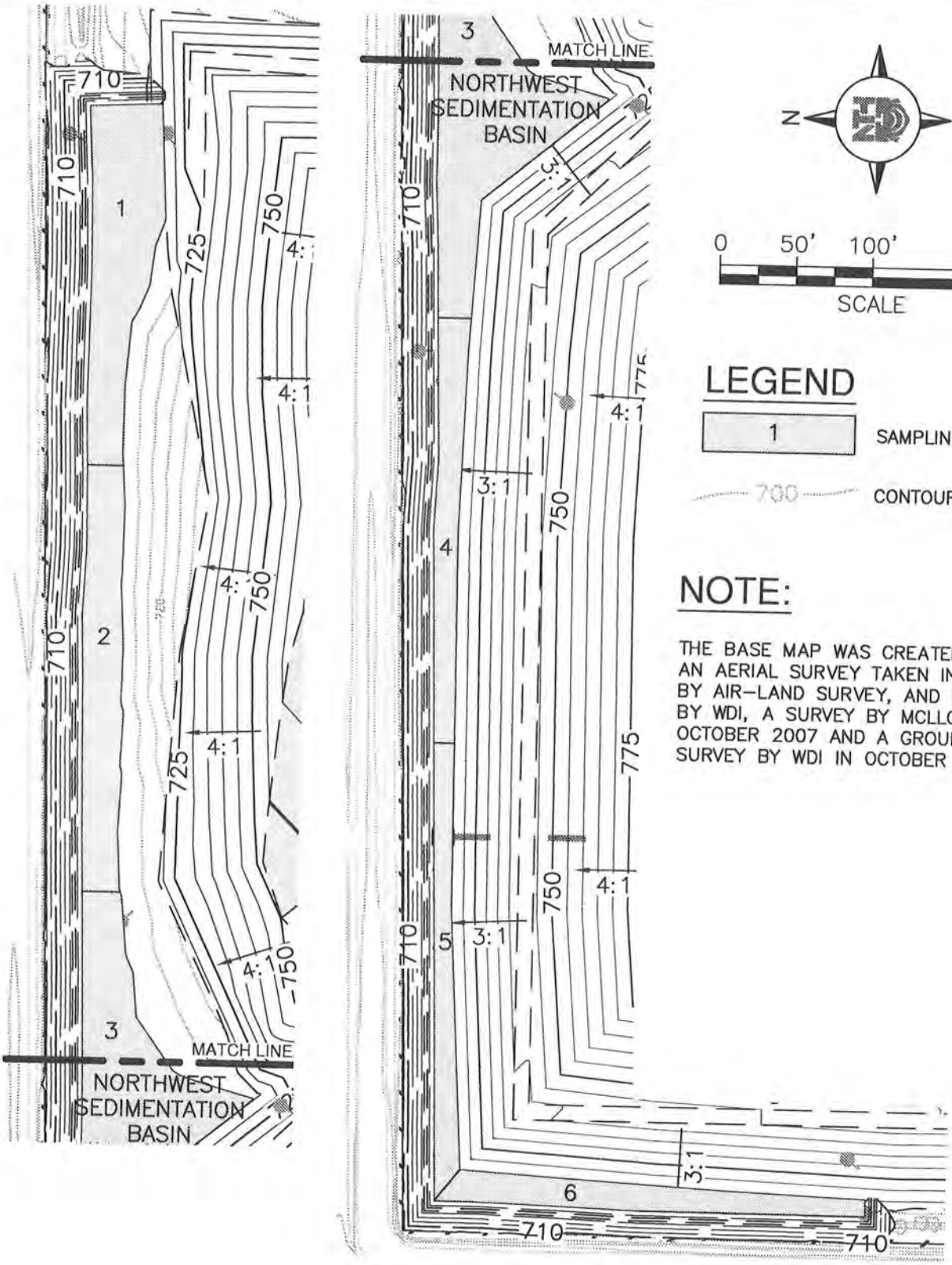

NTH PROJECT No.: 62080376	CAD FILE NAME: 62080376-SED	NTH Consultants, Ltd. Infrastructure Engineering and Environmental Services	NORTHWEST SEDIMENTATION BASIN MONITORING SAMPLE SECTORS
DESIGNED BY: DC	PLOT DATE: 2/3/2011		WAYNE DISPOSAL, INC. SITE NO. 2 - MC VI F&G VAN BUREN TWP., WAYNE COUNTY, MICHIGAN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

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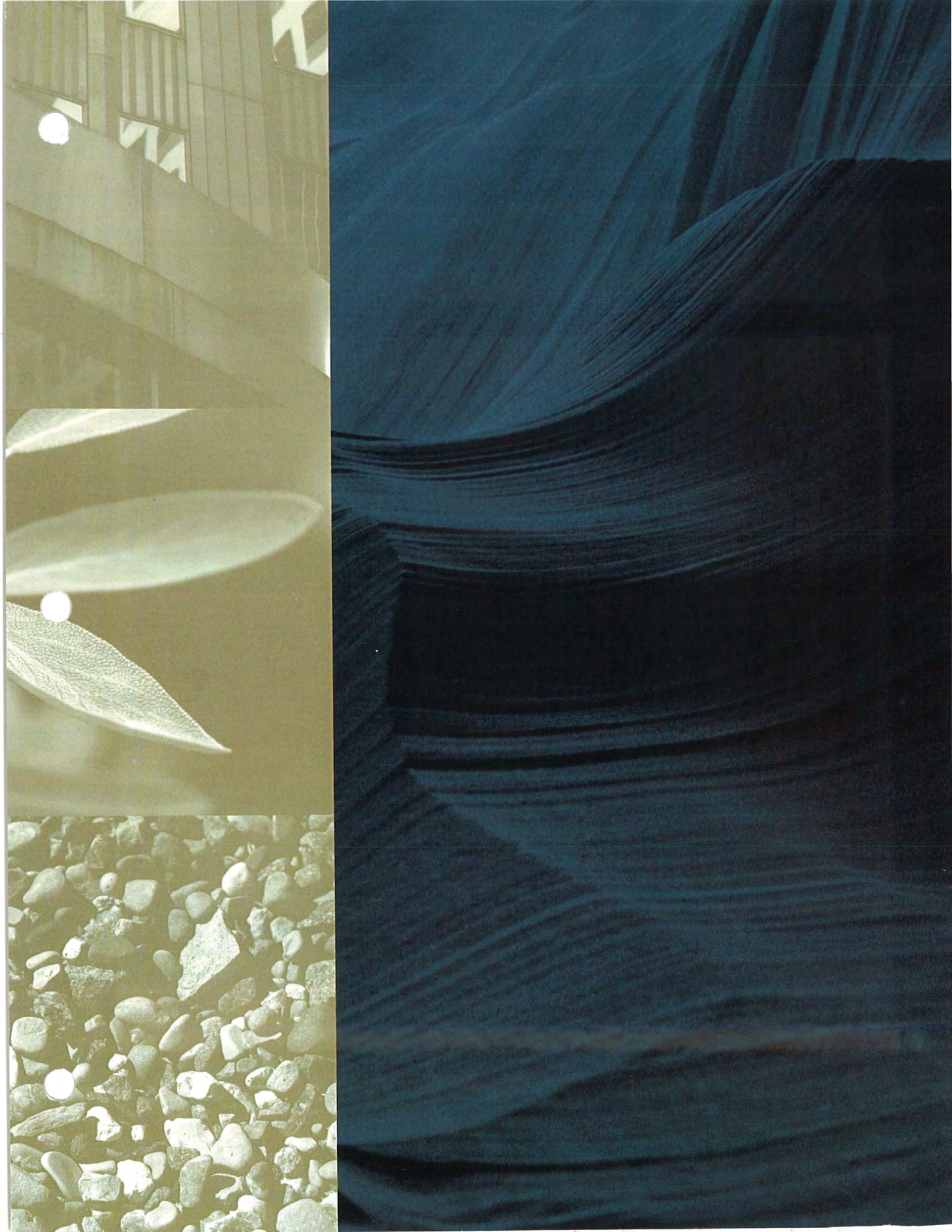

APPENDIX A

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)(l), 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
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- B3.E.4 Geologic Cross Sections
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📖 EPA 1992. *RCRA Groundwater Monitoring Draft Technical Guidance Document.* Document Number 530-R-93-001. November.

B3.A HYDROGEOLOGIC REPORT WAIVER REQUEST
[R 299.9508(2)]

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

☐ 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 runon/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 Uni])* 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]
	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐

☞ *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)]

3.2.1

☞ *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*

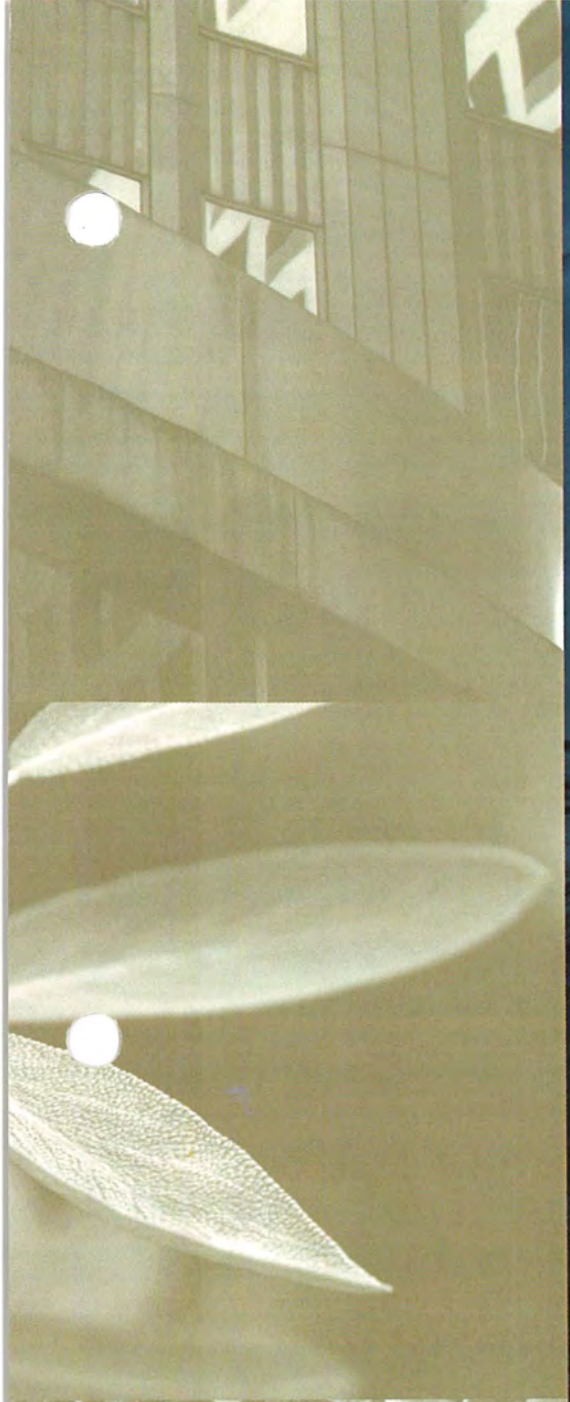
***Note**: References to previously included topographic maps may be included to address some of these requirements.*

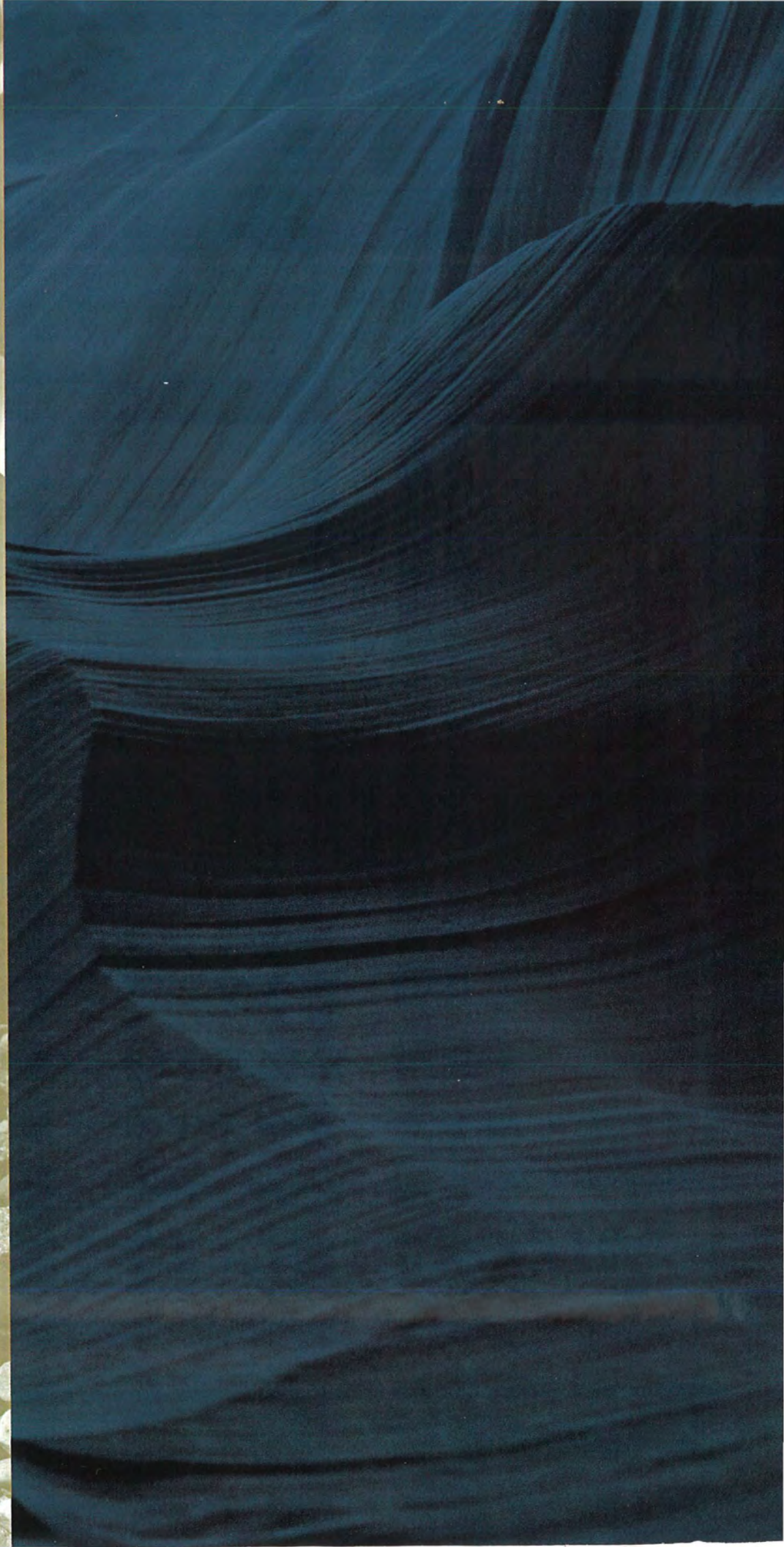
B3.E.5 Water Budget Calculations
[R 299.9506(6)(f)]

☞ *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

GROUND SURFACE ELEVATION: 706.2

ELEV. (ft)	PRO-FILE		DEPTH (ft)
		SANDY TOPSOIL 0.5	
705		Loose SAND with Trace of Clay, Silt & Gravel [SM]	
			5
		5.5	
700		Loose to Medium Compact Gray SILTY FINE SAND with Trace of Clay & Medium Sand [SM]	
			10
695		11.0	
		Medium Compact Gray SILT 12.0	
		Stiff to Very Stiff Gray SILTY CLAY with Trace to Little Sand & Trace of Gravel [CL]	15
690		17.0	
		Medium Compact Gray SILT withTrace of Fine Sand [ML] 18.0	
		Stiff to Very Stiff Gray SILTY CLAY with Trace to Little Sand & Trace of Gravel [CL]	20
685			
		24.0	
		Stiff to Very Stiff Gray SILTY CLAY with Little Sand, Trace of Gravel & Occasional Sand Seams [CL]	25
680			
			30
675			
		34.0	
		Very Stiff Gray SILTY CLAY with Little Sand & Trace of Gravel [CL]	35
670			
		37.2	

SOIL SAMPLE DATA

SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
LS-1	2 2 3	5	--	--	--	
LS-2	4 3 3	6	--	--	--	SM
LS-3	3 4 5	9	--	--	--	
LS-4	4 6 9	15	--	--	--	SM
LS-5	4 7 9	16	--	--	--	
LS-6	7 11 10	21	--	--	--	
LS-7	2 3 5	8	--	--	6500*	CL
LS-8	3 4 5	9	--	--	3000*	
ST-1	pushed 24"	--	21.0	106.6	--	ML
LS-9	3 5 7	12	--	--	5000*	
LS-10	4 5 4	9	--	--	3000*-5000*	CL
LS-11	3 5 6	11	--	--	7000*	
LS-12	3 6 8	14	--	--	6500*	
ST-2	pushed 24"	--	17.4	115.1	3607	CL
LS-13	5 8 12	20	--	--	6500*	
LS-14	7 8 12	20	--	--	5500*	
LS-15	3 5 7	12	--	--	4500*	CL
LS-16	5 7 10	17	--	--	7000*	

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

GROUND SURFACE ELEVATION: 706.2

ELEV. (ft)	PRO-FILE		DEPTH (ft)
		Very Stiff Gray SILTY CLAY with Trace of Gravel	40.0
665		Very Stiff to Hard Gray SILTY CLAY with Little to Some Sand & Trace of Gravel [CL]	45
660			50
655			55
650			60.0
645		Medium to Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL or CL-ML]	65
640			70
635			71.0
		Stiff Gray SILTY CLAY with Some Sand & Trace of Gravel [CL]	75.0
630		Loose CLAYEY SILT	76.5
		Medium Compact to Compact Gray SILT with Trace of Clay & Sand [ML]	80
625			82.3

SOIL SAMPLE DATA

SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
ST-3	pushed 24"	--	18.8	111.1	--	CL
LS-17	7 10 15	25	--	--	7000*	
LS-18	6 7 9	16	--	--	7500*	
LS-19	7 10 13	23	--	--	6500*-7000*	
ST-4	pushed 24"	--	16.2	118.5	8015	CL
LS-20	10 20 25	45	--	--	6500*	
LS-21	8 13 15	28	--	--	7000*	
LS-22	11 15 20	35	--	--	5000*	CL
LS-23	9 9 15	24	--	--	6000*	
ST-5	pushed 24"	--	13.9	124.1	--	CL
LS-24	8 7 9	16	--	--	5000*-7000*	
LS-25	5 6 9	15	--	--	5000*	
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*	
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*	
ST-7	pushed 24"	--	22.4	107.8	--	CL
LS-31	3 4 4	8	--	--	--	
LS-32	6 7 19	26	--	--	--	ML
LS-33	10 15 19	34	--	--	--	
LS-34	14 17 21	38	--	--	--	

LOG OF TEST BORING NO: TB-W-1

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

Project Location: *BELLEVILLE, MICHIGAN*

NTH CONSULTANTS, LTD.

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SUBSURFACE PROFILE

GROUND SURFACE ELEVATION: 706.2

Compact Gray SILT (0.0 – 85.0)

Compact to Very Compact Gray SILTY FINE SAND with Trace of Clay [SM] (85.0 – 92.0)

End of Boring

SOIL SAMPLE DATA

SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
LS-35	9 12 23	35	--	--	--	ML
LS-36	6 16 25	41	--	--	--	
LS-37	15 27 44	71	--	--	--	SM
LS-38	10 15 27	42	--	--	--	
LS-39	13 24 35	59	--	--	--	SM

ELEV. (ft): 620, 615, 610, 605, 600, 595, 590, 585, 580

DEPTH (ft): 85, 90, 95, 100, 105, 110, 115, 120, 125

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: dlp

SUBSURFACE PROFILE / SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 706.5±

ELEV. (ft)	PRO-FILE		DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
		TOPSOIL 0.7								
705		Very Loose to Loose Brown FINE SANDwith Trace of Clay & Silt [SM] 4.0		LS-1	1 1 1	2	--	--	--	SM
				LS-2	6 9 14	23	--	--	--	
		Medium Compact Brown & Gray FINE TO MEDIUM SAND with Trace of Clay & Silt [SM] 8.0	5							
700				LS-3	8 11 16	26	--	--	--	SM
			10	LS-4	10 15 19	34	--	--	--	
695		Compact Gray SILTY FINE TO MEDIUM SAND 13.0								
			15	LS-5	3 4 6	10	--	--	4500*	CL
690		Stiff to Very Stiff Gray SILTY CLAY with Trace of Sand & Gravel [CL]		ST-1	pushed 24"	--	18.8	109.8	--	CL
		20.0	20	LS-6	4 6 9	15	18.3	113.5	3773	
685										
			25	LS-7	3 5 9	14	--	--	6000*	CL
680				ST-2	pushed 24"	--	18.3	111.8	--	CL
		Very Stiff to Hard Gray SILTY CLAY with Trace of Sand & Gravel [CL]	30	LS-8	6 9 12	21	--	--	6000*-7000*	
675										
			35	ST-3	pushed 24"	--	18.2	112.3	8870	CL
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: dlp

SUBSURFACE PROFILE / SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 706.5±

ELEV. (ft)	PRO-FILE		DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
		Very Stiff to Hard Gray SILTY CLAY with Trace of Sand & Gravel [CL] 40.0	40	LS-9	7 15 22	37	--	--	9000*	CL
665		Very Stiff to Hard Gray SILTY CLAY with Trace of Sand [CL-ML or CL]	45	LS-10	7 14 18	32	--	--	8500*-9000*	CL-ML
660				ST-4	pushed 24"	--	13.2	125.3	--	CL
		49.0	50	LS-11	15 22 22	44	--	--	8500*	
655		Medium Compact to Compact Gray CLAYEY SILT with Trace of Sand [ML]	55	LS-12	5 9 14	23	--	--	--	ML
		56.0		ST-5	pushed 24"	--	--	--	--	SM
650		Compact Gray SILTY FINE SAND with Trace of Clay [SM]	60	LS-13	7 14 20	34	--	--	--	
645		62.0								
		Medium Compact Gray CLAYEY SILT with Trace of Sand [ML] 65.0	65	LS-14	5 8 16	24	--	--	--	ML
640		Medium Compact Gray SILTY FINE SAND with Trace of Clay [SM] 69.0	70	LS-15	8 10 16	26	--	--	--	SM
635		Medium Compact to Very Compact SAND & SILT with Trace of Clay [ML] 75.0	75	LS-16	7 17 35	52	--	--	--	ML
630		Medium Compact SILTY FINE SAND with Trace of Clay [SM] 80.0	80	LS-17	5 9 17	26	--	--	--	SM
625		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

GROUND SURFACE ELEVATION: 706.4±

ELEV. (ft)	PRO-FILE	Description	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								
705		Loose to medium Compact Brown & Gray FINE TO MEDIUM SAND with Trace of Clay, Silt & Gravel [SM]		LS-1	3 3 5	8	--	--	--	SM
			5	LS-2	4 10 12	22	--	--	--	
700		7.0		LS-3	3 6 10	16	--	--	--	SM
		Compact Gray FINE SAND with Trace of Clay & Silt [SM]	10	LS-4	6 14 22	36	--	--	--	
695		11.0 Stiff Gray CLAY & SILT with Trace of Sand [CL] 14.0	15	LS-5	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		ST-3	pushed 12"	--	14.6	121.3	10920	CL
		Hard Gray SILTY CLAY with Trace of Sand & Gravel [CL]	35							
670		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: dlP

SUBSURFACE PROFILE / SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 706.4±

ELEV. (ft)	PRO-FILE		DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
		Hard Gray CLAY & SILT with Some Fine Sand & Trace of Gravel [CL-ML]								
		40.0	40	LS-8	8 15 20	35	--	--	>9000*	CL-ML
665		Hard Gray CLAY & SILT with Some Sand & Trace of Gravel [CL]		ST-4	pushed 24"	--	16.1	118.1	9780	CL
			45	LS-9	8 18 20	38	--	--	9000*	
660		48.0								
		Hard Gray SILTY CLAY [CL]	50	ST-5	pushed 24"	--	29.1	94.3	--	CL
655		53.0								
		Medium Compact to Very Compact Gray SAND & SILT with Trace of Clay [MH]	55	LS-10	16 27 31	58	--	--	--	MH
650			60	LS-11	9 12 15	27	--	--	--	MH
645			65	LS-12	8 12 12	24	--	--	--	SM
640			70	LS-13	9 19 24	43	--	--	--	MH
635		72.0								
		Very Compact Gray SILTY FINE SAND with Trace of Clay [SM]	75	LS-14	15 25 23	58	--	--	--	SM
630			80	LS-15	25 34 25	59	--	--	--	SM
		80.0 End of Boring								
625										

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: *dlP*

SUBSURFACE PROFILE

GROUND SURFACE ELEVATION: 705.9±

ELEV. (ft)	PRO-FILE		DEPTH (ft)
705		SURFACE VEGETATION 0.2	
		Very Stiff to Hard Gray SILTY CLAY & FINE SAND with Trace of Gravel [CL]	5
700			
		10.0	10
695		Loose Gray SILT	
		13.0	
		Medium Compact Gray SILT & SAND with Trace of Clay 14.0	
		Medium Compact Gray SILT	15
690		16.0	
		Stiff to Very Stiff Gray CLAYEY SILT with Trace of Fine Sand [CL]	
		20.0	20
685		Stiff Gray CLAY & SILT with Some Sand & Trace of Gravel [CL-ML]	
		24.0	
		Very Stiff to Hard Gray SILTY CLAY with Trace of Sand & Gravel [CL]	25
680			
			30
675			
			35
670			
		37.2	

SOIL SAMPLE DATA

SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
LS-1	2 4 7	11	--	--	9000*	
LS-2	8 10 12	22	--	--	9000*	
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*	
LS-5	2 3 7	10	--	--	--	
LS-6	4 8 12	20	--	--	--	SM
LS-7	9 10 8	18	--	--	5000*	
ST-2	pushed 24"	--	26.6	99.6	2120	CL
LS-8	3 5 7	12	--	--	6000*	
LS-9	2 3 3	6	--	--	3500*	CL-ML
LS-10	2 3 5	8	--	--	3000*-5000*	
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*	
ST-4	pushed 24"	--	19.3	112.0	5500*	CL
LS-3	4 8 11	19	--	--	7500*	
LS-14	6 10 14	24	--	--	7500*	CL

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: dlp

SUBSURFACE PROFILE

GROUND SURFACE ELEVATION: 705.9±

ELEV. (ft)	PRO-FILE		DEPTH (ft)
665		Stiff to Hard Gray SILTY CLAY with Some Sand & Trace of Gravel [CL]	40
660			45
655			50
650			55
			60
645		Very Stiff Gray CLAYEY SILT withh Little Sand [MH] 62.0	
640		Medium to Stiff Gray SILTY CLAY with Some Sand & Trace of Gravel [CL]	65
635			70
630		76.0	75
		Very Stiff Gray CLAY & SILT with Trace of Fine Sand 78.0	
		End of Boring	80
625			

SOIL SAMPLE DATA

SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
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
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*	
LS-20	6 8 9	17	--	--	5500*-6000*	
ST-7	pushed 24"	--	20.5	107.5	5500*	CL
LS-21	4 5 7	12	28.8	98.4	2720	
LS-22	4 6 8	14	--	--	5500*	CL
LS-23	6 7 9	16	--	--	4000*	
ST-8	pushed 24"	--	21.9	108.1	--	MH
LS-24	2 3 4	7	--	--	2000*	
LS-25	5 7 7	14	--	--	3000*	CL
LS-28	6 6 5	11	--	--	3000*	
LS-29	3 5 5	10	--	--	2000*	
LS-30	2 3 3	6	--	--	1500*	CL
LS-31	3 3 3	6	--	--	1500*	
LS-32	3 7 13	20	--	--	1500*	
LS-33	10 19 9	28	--	--	1000*	CL-ML

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

GROUND SURFACE ELEVATION: 705.3±

ELEV. (ft)	PRO-FILE		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
				ST-2	pushed 24"	--	18.6	111.1	3648	CL
675			30	LS-8	6 9 11	20	--	--	--	
		32.0								
670		Very Stiff to Hard Gray SILTY CLAY with Some Sand & Trace of Gravel	35	LS-9	4 7 11	18	--	--	--	MH-CL
		37.2								

Total Depth: *80 FT*
Drilling Date: *07/11/08 & 07/14/08*
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 50.8 ft bgs upon completion.

Notes:
** - Pocket Penetrometer Value*

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: dlp

SUBSURFACE PROFILE / SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 705.3±

ELEV. (ft)	PRO-FILE		DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
				ST-3	pushed 24"	--	20.2	107.1	--	CL
665			40	LS-10	5 9 14	23	--	--	8000*-8500*	
660			45	LS-11	8 7 17	24	--	--	9000*	CL
		Very Stiff to Hard Gray SILTY CLAY with Trace to Little Sand & Trace of Gravel [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	60	LS-14	4 5 6	11	--	--	4020	
		61.0								
640		Loose Gray SILT with Trace of Clay & Fine Sand 65.0	65	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			70	LS-16	3 4 5	9	--	--	--	
		Loose to Medium Compact Gray SILT with Trace of Clay & Fine Sand 74.0								
630			75	LS-17	6 9 21	30	--	--	--	ML
625		Medium Compact to Very Compact SILTY FINE SAND with Trace of Gravel [SM] 80.0	80	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: dlp

SUBSURFACE PROFILE

GROUND SURFACE ELEVATION: 706.4±

ELEV. (ft)	PRO-FILE	Description	Depth (ft)
		Topsoil	0.5
705		Loose Brown SILTY FINE SAND with Trace of Clay [SM]	4.0
700		Medium Compact to Compact Gray SILTY FINE SAND with Trace of Clay [SM]	12.0
695		Medium Compact Gray FINE SANDY SILT with Some Very Stiff Clay	19.0
690		Very Stiff Gray CLAYEY SILT with Little Fine Sand [CL-ML]	20.0
685		Very Stiff to Hard Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]	
680			
675			
670			37.2

SOIL SAMPLE DATA

DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
	LS-1	1 2 3	5	--	--	--	
5	LS-2	8 10 14	24	--	--	--	SM
	LS-3	6 8 9	17	--	--	--	
10	LS-4	9 15 19	34	--	--	--	SM
15	LS-5	6 12 17	29	--	--	8000*	ML
20	LS-6	4 7 10	17	--	--	7500*	CL-ML
	ST-1	pushed 24"	--	18.2	113.7	--	
25	LS-7	7 9 12	21	--	--	7000*-8000*	
30	LS-8	4 8 14	22	--	--	9000*	CL
	ST-2	pushed 24"	--	17.8	114.2	5682	CL
35	LS-9	5 7 11	18	--	--	7500*-8000*	

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: dlP

SUBSURFACE PROFILE

GROUND SURFACE ELEVATION: 706.4±

Stiff to Very Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]

56.0

Very Soft to Medium Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel

62.0

Medium Compact to Compact Gray FINE SANDY SILT with Trace to Little Clay

79.0

Hard Gray SILTY CLAY with Some SAnd & Trace of Gravel

80.0

End of Boring

SOIL SAMPLE DATA

ELEV. (ft)	DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
	40	LS-10	8 12 16	28	--	--	5000*-7500*	CL
665		ST-no recovery	pushed 24"	--	--	--	--	
	45	LS-11	7 12 19	31	--	--	7500*	CL
660		ST-3	pushed 12"	--	17.8	114.7	--	CL
		LS-12	22 9 11	20	14.2	121.1	6638	
	50							
655								
	55	LS-13	4 5 6	11	--	--	6000*	CL
650		ST-4	pushed 24"	--	33.2	92.0	303	CL
	60	LS-14	4 5 5	10	18.5	114.4	2220	
645								
	65	LS-15	6 7 8	15	--	--	--	ML
640								
	70	LS-16	4 9 12	21	--	--	--	ML
635								
	75	LS-17	4 10 34	44	--	--	--	ML
630								
	80	LS-18	7 13 23	36	--	--	9000*	CL
625								

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
		SANDY TOPSOIL 1.0		LS-1	3 3 4	7	--	--	--	
700		Loose to Medium Compact FINE TO MEDIUM SAND with Trace of Clay & Silt	5	LS-2	5 6 5	11	--	--	--	SM
		6.0		LS-3	6 10 12	22	--	--	--	
695		Medium Compact to Compact Gray FINE SANDY SILT [ML]		LS-4	6 9 6	15	--	--	--	ML
		10.0	10	LS-5	8 12 16	28	--	--	--	
		Medium Compact Gray SILTY FINE SAND with Trace of Clay [SM]		LS-6	3 6 12	18	--	--	--	SM
		13.5		LS-7	5 6 6	12	--	--	7000*	
690		Stiff to Very Stiff Gray SILTY CLAY with Trace to Little Sand & Trace of Gravel [CL]	15	ST-1	pushed 24"	--	28.2	96.8	7000*	CL
				LS-8	3 3 9	12	--	--	6000*-8000*	
685			20	LS-9	3 4 6	10	--	--	6000*	CL-ML
				LS-10	5 6 7	13	--	--	6000*	
680				ST-2	pushed 24"	--	18.7	112.3	5960	CL
			25	LS-11	6 8 11	19	--	--	6000*	
				LS-12	4 6 9	15	--	--	7000*-8000*	CL
675		30.0	30	LS-13	6 10 11	21	--	--	7500*-8000*	
		Very Stiff to Hard Gray SILTY CLAY with Trace to Little Sand & Trace of Gravel [CL]		ST-3	pushed 24"	--	18.0	114.6	7320	CL
670				LS-14	9 12 18	30	--	--	7500*-9000*	
			35	LS-15	5 10 14	24	--	--	8500*-9000*	CL
		37.2								

Total Depth: *80 FT*
Drilling Date: *09/03/08 & 09/04/08*
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:
Observation Well W-7 installed in borehole with screen tip set at 78.0 ft bgs.

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

Notes:
** - Pocket Penetrometer Value*

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

GROUND SURFACE ELEVATION: 704.3

ELEV. (ft)	PROFILE	Description	Depth (ft)
665, 660, 655		Stiff to Hard Gray SILTY CLAY with Trace to Little Sand & Trace of Gravel [CL]	50.0
650, 645		Stiff to Very Stiff Gray SILTY CLAY with Trace of Sand & Gravel [CL]	59.0
		Loose to Medium Compact Gray CLAYEY SILT with Trace of Fine Sand [MH]	62.0
640		Medium Compact Gray CLAYEY SILT with Trace of Fine Sand [CL-ML]	66.0
		Loose Gray FINE SAND with Trace of Clay & Silt	68.0
635, 630, 625		Medium Compact to Very Compact Gray FINE SANDY SILT with Trace of Clay	80.0
		End of Boring	

SOIL SAMPLE DATA

SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
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*	
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
LS-20	4 8 8	16	--	--	5000*-7500*	
LS-21	3 4 6	10	--	--	3500*-5000*	CL
LS-22	9 13 8	21	--	--	5000*	
ST-6	pushed 24"	--	25.6	99.6	--	CL-ML
LS-23	3 4 6	10	--	--	5500*	
LS-24	5 9 11	20	--	--	--	MH
LS-25	2 3 4	7	--	--	--	
LS-26	5 6 6	12	--	--	--	CL-ML
LS-27	4 6 7	15	--	--	--	
LS-28	3 4 6	10	--	--	--	SM
LS-29	8 8 13	21	--	--	--	
LS-30	6 6 8	14	--	--	--	MH
LS-31	10 25 29	54	--	--	--	
LS-32	7 17 26	43	--	--	--	MH
LS-33	18 31 37	68	--	--	--	
LS-34	9 22 32	54	--	--	--	MH

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

GROUND SURFACE ELEVATION: 706.0±

ELEV. (ft)	PRO-FILE	Description	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
			5	LS-2	3 6 11	17	--	--	--	
700		6.0								
		Medium Compact to Compact Gray FINE SANDY SILT with Trace of Clay & Gravel [ML]		LS-3	7 11 13	24	--	--	--	ML
			10	LS-4	5 13 19	32	--	--	--	
695										
		15.0	15	LS-5	5 8 8	16	--	--	--	ML
690		Very Stiff to Hard Gray SILTY CLAY with Trace to Little Sand &Trace of Gravel [CL]								
			20	LS-6	4 5 9	14	--	--	6000*	CL
685				ST-1	pushed 24"	--	17.8	115.1	5100	CL
			25	LS-7	4 7 9	16	--	--	7500*	
680										
			30	LS-8	8 10 12	22	--	--	6500*-8000*	CL
675		31.0								
		Medium Gray SILTY CLAY with Trace to Little Sand &Trace of Gravel [CL] 33.0		ST-2	pushed 24"	--	17.8	114.0	1660	CL
		Very Stiff to Hard Gray SILTY CLAY with Trace to Little Sand &Trace of Gravel [CL]	35	LS-9	7 12 15	27	--	--	9000*	
670		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-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
			40	ST-no recovery	pushed 24"	--	--	--	--	
665				ST-3	pushed 24"	--	13.8	121.1	--	CL
		Very Stiff to Hard Gray SILTY CLAY with Trace to Little Sand &Trace of Gravel [CL]	45	LS-10	6 11 25	--	--	--	9000*	CL
660		48.0								
			50	ST-4	pushed 24"	--	17.3	115.8	--	ML
655										
		Stiff Gray CLAYEY SILT with Trace of Sand	55	LS-11	4 5 5	10	--	--	3500*	MH
650				ST-5	pushed 24"	--	27.5	98.0	--	CL-ML
			60	LS-12	6 6 7	13	--	--	--	
645		62.0								
			65	LS-13	15 27 32	59	--	--	--	SM
640		Compact to Very Compact Gray SILTY FINE SAND with Trace of Clay	70	LS-14	14 22 22	44	--	--	--	SM
635		75.0	75	LS-15	21 24 24	48	--	--	--	SM
630		Compact FINE SANDY SILT with Trace of Clay [MH]	80	LS-16	14 20 22	42	--	--	--	MH
		80.0								
625		End of Boring								

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: *dlp*

SUBSURFACE PROFILE / SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 706.0±

ELEV. (ft)	PRO-FILE		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								
		Medium Compact Brown SILTY FINE TO MEDIUM SAND with Trace of Clay [SM]		LS-1	2 4 8	12	--	--	--	
		5.0	5	LS-2	5 8 7	15	--	--	--	SM
700		Medium Compact Gray FINE TO MEDIUM SAND with Trace of Clay [SM] 7.5		LS-3	5 8 8	16	--	--	--	
		Medium Compact Gray SILTY FINE SAND with Trace of Clay [SM]	10	LS-4	6 9 12	21	--	--	--	SM
695		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]		ST-1	pushed 24"	--	12.8	114.6	6580	CL
		20.0	20	LS-6	4 7 11	18	--	--	7000*	
685			25	ST-2	pushed 24"	--	17.3	113.1	9000*	CL
680		Very Stiff to Hard Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]	30	LS-7	5 8 11	19	--	--	7000*-9000*	CL
675				ST-3	pushed 24"	--	16.4	117.6	11680	CL
			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: dlp

SUBSURFACE PROFILE / SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 706.0±

ELEV. (ft)	PRO-FILE		DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
		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
665			45	LS-9	9 12 15	27	--	--	9000*	CL
		44.0								
660		Very Stiff to Hard Gray SILTY CLAY with Trace to Some Sand, Trace of Gravel & Occasional Silt Seams [CL]		ST-5	pushed 24"	--	12.5	122.6	8360	CL
			50	LS-10	3 5 6	11	--	--	5000*-6000*	
655			55	ST-6	pushed 24"	--	21.9	104.2	--	MH
		53.0								
650		Medium Compact Gray CLAYEY SILT with Trace of Fine Sand [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								
630		Medium Compact to Compact Gray SILTY FINE SAND with Trace of Clay	75	LS-15	16 18 20	38	--	--	--	SM
			80	LS-16	9 13 17	30	--	--	--	SM
		80.0								
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

GROUND SURFACE ELEVATION: 704.6

ELEV. (ft)	PRO-FILE		DEPTH (ft)
		TOPSOIL 0.5	
700		Loose to Medium Compact Brown & Gray SILTY FINE SAND 8.0	5
695		Medium Compact Gray SILTY FINE SAND 11.0	10
690		Medium Compact Gray FINE SANDY SILT with Trace of Clay 15.0	15
685		Stiff to Very Stiff Gray SILTY CLAY with Some Sand & Trace of Gravel 20.0	20
680		Stiff to Very Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel (CL)	25
675			30
670			35
		37.2	

SOIL SAMPLE DATA

SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
LS-1	2 3 5	8	--	--	--	
LS-2	3 3 4	7	--	--	--	SM
LS-3	4 5 3	8	--	--	--	
LS-4	6 6 8	14	--	--	--	
LS-5	6 9 14	23	--	--	--	SM
LS-6	8 10 12	22	--	--	--	
LS-7	5 11 11	22	--	--	--	ML
LS-8	3 3 5	8	--	--	3500*-4500*	
ST-1	pushed 24"	--	26.3	101.3	--	CL
LS-9	5 7 8	15	--	--	6000*	
LS-10	4 5 6	11	--	--	5000*	CL
LS-11	5 4 6	10	--	--	6000*	
ST-2	pushed 24"	--	17.7	114.6	--	CL
LS-12	4 6 8	14	--	--	5000*-7000*	
LS-13	3 5 6	11	--	--	3500*	
LS-14	9 11 12	23	--	--	5000*-6500*	CL
LS-15	3 4 6	10	--	--	6000*-7000*	
LS-16	5 4 7	11	--	--	6500*-7500*	

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: dlp

SUBSURFACE PROFILE / SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 704.6

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
		Stiff to Very Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]		ST-3	pushed 24"	--	17.0	115.7	--	CL
665		40.0	40	LS-17	7 9 14	23	--	--	7000*	
		Stiff to Hard Gray SILTY CLAY with Some Sand & Trace of Gravel [CL]		LS-18	8 12 16	28	--	--	8500*	
				LS-19	4 7 12	19	--	--	7000*-9000*	
660			45	ST-4	pushed 24"	--	17.2	118.7	3546	CL
				LS-20	10 16 19	35	--	--	6000*	
655			50	LS-21	6 10 15	25	--	--	6500*-7500*	
				LS-22	5 5 9	14	--	--	7500*	CL
				LS-23	4 6 7	13	--	--	5000*-6500*	
650			55	ST-5	pushed 24"	--	19.1	111.0	--	CL
		57.0		LS-24	26 32 34	66	--	--	--	
		Stiff to Very Stiff Gray SILTY CLAY with Some Sand, Trace of Gravel & Occasional Silt Lenses [CL]		LS-25	5 5 6	11	--	--	4500*	
645		60.0	60							
		Soft Gray SILTY CLAY with Some Sand, Trace of Gravel & Occasional Silt Lenses [CL]		ST-6	pushed 24"	--	21.5	107.0	851	CL
		62.0		LS-26	3 3 5	8	--	--	3500*-4500*	
		Stiff to Very Stiff Gray SILTY CLAY with Some Sand, Trace of Gravel & Occasional Silt Lenses [CL]		LS-27	4 5 6	11	17.7	115.7	5340	
640		67.0	65	LS-28	4 6 6	12	--	--	--	
		Medium Compact Gray CLAYEY SILT with Little Sand & Trace of Gravel		LS-29	8 8 28	36	--	--	--	
				ST-no recovery	pushed 20"	--	--	--	--	
				LS-30	12 9 12	21	--	--	--	
635			70	ST-7	pushed 24"	--	18.7	--	--	CL-ML
		75.0		LS-31	21 32 50/1"	82/7"	--	--	>9000*	
		Hard Gray SILT & CLAY with Some Sand & Trace of Gravel		LS-32	32 50/2" --	50/2"	--	--	>9000*	
630			75	LS-33	30 17 23	40	--	--	>9000*	CL-ML
		82.3	80							

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		LS-34	24 41 50/5"	91/11"	--	--	>9000*	
		85.0	85							
		Gray SILTY SAND		LS-35	23 50/4" --	50/4"	--	--	>9000*	
		86.0								
		Very Compact Gray FINE SANDY SILT with Trace of Clay		LS-36	27 50/5" --	50/5"	--	--	--	ML
		88.0								
615		Hard Gray SILTY CLAY with Some Sand & Trace of Gravel	90	LS-37	27 34 40	74	--	--	>9000*	
				LS-38	12 19 26	45	--	--	>9000*	
		94.0		ST-8	pushed 12"	--	12.2	127.7	--	CL-ML
610		Medium Compact to Very Compact MEDIUM TO COARSE SAND with Little to Some Gravel & Little Silt	95	LS-39	50/5" -- --	50/5"	--	--	--	
				LS-40	25 40 49	89	--	--	--	SM
605			100	LS-41	5 6 8	14	--	--	--	
		104.0								
600		Very Compact CLAYEY SAND with Little Silt & Trace of Gravel	105	LS-42	23 45 32	77	--	--	--	SM
595			110	LS-43	32 38 49	87	--	--	--	SM
		112.0								
590		Very Stiff to Hard SILTY CLAY with Some Sand, Gravel & Occasional Silt Seams	115	LS-44	41 50/4" --	50/4"	--	--	7000*-9000*	CL
		116.0								
585		Compact Gray CLAYEY SAND with Some Gravel	120	LS-45	37 41 27	68	--	--		SM
580			125	LS-46	100 -- --	100/6"	--	--	--	SM
		125.0								
		BEDROCK: SHALE		LS-47	100/3" -- --	100/3"	--	--	--	
		127.0								
		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: dlp

SUBSURFACE PROFILE

GROUND SURFACE ELEVATION: 705.2±

ELEV. (ft)	PRO-FILE		DEPTH (ft)
		SANDY TOPSOIL 0.7	
		Medium Compact Brown SILTY FINE TO MEDIUM SAND [SM] 3.0	
700		Medium Compact Gray SILTY SAND 6.0	5
695		Medium Compact Gray SILTY FINE SAND [SM] 12.0	10
690		Stiff to Very Stiff Gray SILTY CLAY with Little Sand & Trace of Gravel [CL]	15
685			20
680			25
675			30
670			35
		36.0 Very Stiff to Hard Gray SILTY CLAY with Trace of Gravel 37.2	

SOIL SAMPLE DATA

SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
LS-1	5 6 5	11	13.9	--	--	SM
LS-2	3 6 10	16	--	--	--	
LS-3	5 10 12	22	21.9	--	--	SM
LS-4	8 12 13	25	--	--	--	
LS-5	5 4 5	9	24.6	--	3500*-4000*	CL
ST-1	pushed 24"	--	20.5	109.4	3361	CL
LS-6	5 7 10	17	--	--	4500*	
ST-2	pushed 24"	--	--	--	--	CL
LS-7	5 7 9	16	--	--	5000*-6000*	
ST-3	pushed 24"	--	17.6	115.4	--	CL
LS-8	10 10 13	23	--	--	5000*-7000*	
LS-9	9 11 16	27	19.8	--	3000*-5000*	CL

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: dlp

SUBSURFACE PROFILE / SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 705.2±

ELEV. (ft)	PRO-FILE		DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
				ST-4	pushed 24"	--	17.8	113.9	8421	CL
665			40	LS-10	5 9 14	23	--	--	8500*	
		Very Stiff to Hard Gray SILTY CLAY with Little Sand & Trace of Gravel		ST-5	pushed 24"	--	15.9	118.9	--	CL
660			45	LS-11	9 12 18	30	--	--	8500*	
		49.0								
655		Stiff to Very Stiff Gray SILTY CLAY with Occasional Silt Lenses [CL]	50	LS-12	6 10 16	26	22.8	--	4500*-7500*	CL
				ST-6	pushed 24"	--	14.9	121.3	6721	CL
650			55	LS-13	4 6 8	14	--	--	2500*-4000*	
		56.0								
645		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
		61.0								
		Medium Compact Gray CLAYEY SILT [ML]		ST-7	pushed 24"	--	22.8	105.5	--	ML
640			65	LS-15	5 10 13	23	--	--	--	
		67.0								
		Medium Gray SILTY CLAY with Some Sand & Trace of Gravel		ST-8	pushed 24"	--	21.4	103.2	1134	CL
635			70	LS-16	4 5 5	10	--	--	--	
		74.0								
630		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	80	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: dlp

SUBSURFACE PROFILE / SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 705.1

ELEV. (ft)	PRO-FILE	Description	Depth (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
		TOPSOIL 0.7								
		Loose to Medium Compact Brown & Gray SILTY FINE SAND		LS-1	2 3 5	8	--	--	--	
700		5.0	5	LS-2	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
		11.0								
690		Very Stiff Gray SILTY CLAY with Trace to Some Sand &Trace of Gravel	15	LS-5	3 5 6	11	14.8	--	4000*-6000*	CL
685		20.0	20	LS-6	3 5 8	13	16.1	117.2	6000*-8000*	CL
		Stiff to Hard Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel		ST-1	pushed 24"	--	15.7	119.8	7000*	CL
680			25	LS-7	4 6 10	16	--	--	7500*	
675			30	ST-2	pushed 24"	--	17.7	114.1	3480	CL
				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*

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.

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

Notes:
** - Pocket Penetrometer Value*

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
				ST-3	pushed 24"	--	13.3	121.9	3443	CL
665			40	LS-10	7 12 17	29	13.9	--	7000*-8000*	CL
660		Stiff to Very Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel	45	ST-no recovery	pushed 24"	--	--	--	--	
				LS-11	10 15 21	36	16.2	--	7500*	CL
655		50.0	50	ST-no recovery	pushed 24"	--	--	--	--	
		Very Stiff Gray SILTY CLAY with Frequent Sand Seams		LS-12	6 9 17	26	--	--	7500*	
		53.0		ST-4	pushed 24"	--	25.4	100.8	--	CL-ML
650			55	LS-13	4 5 7	12	--	--	--	
645		Medium Compact Gray CLAYEY SILT with Little Sand & Trace of Gravel	60	ST-5	pushed 24"	--	1.9	136.4	--	MH
640			65	LS-14	7 6 5	11	23.0	--	--	ML
		68.0		ST-6	pushed 24"	--	21.2	108.4	--	ML
635		Stiff Gray SILTY CLAY	70	LS-15	5 5 6	11	--	--	2000*-4000*	
		71.0								
		Medium Gray SILTY CLAY		ST-7	pushed 24"	--	19.1	114.3	1460	CL
630			75	LS-16	12 20 29	49	--	--	>9000*	
625		Very Stiff to Hard Gray SILTY CLAY with Some Sand & Trace of Gravel	80	LS-17	8 13 17	30	11.8	--	7000*-9000*	CL
		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: 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
		Medium Gray SILTY CLAY with Some Sand & Trace of Gravel	83.0		ST-8	- pushed 24"	--	14.9	117.2	1751	CL
620		Very Stiff to Hard Gray SILTY CLAY with Some Sand & Trace of Gravel	86.0	85	LS-18	11 19 31	50	--	--	9000*	
615		Very Compact FINE SAND & SILT with Trace of Clay	90.0	90	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	100	LS-21	23 38 50/5"	88/11"	6.9	--	--	SM
		End of Boring									
600				105							
595				110							
590				115							
585				120							
580				125							

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: dlp

SUBSURFACE PROFILE

GROUND SURFACE ELEVATION: 706.2±

ELEV. (ft)	PRO-FILE		DEPTH (ft)
		SANDY TOPSOIL 0.5	
705		Loose to Medium Compact Brown to Brown & Gray SILTY FINE TO MEDIUM SAND with Trace of Gravel	
			5
700		6.0	
		Medium Compact Gray SILTY FINE SAND	10
695		13.0	
		Stiff to Very Stiff Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]	15
690			
			20
685			
			25
680			
			30
675			
			35
670		37.2	

SOIL SAMPLE DATA

SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
LS-1	3 6 7	13	16.2	--	--	SM
LS-2	3 5 5	10	--	--	--	
LS-3	7 10 12	22	20.6	--	--	SM
LS-4	9 12 17	29	--	--	--	
LS-5	3 5 6	11	22.3	--	5500*-7500*	CL
ST-1	pushed 24"	--	22.5	104.0	2658	CL
LS-6	3 5 8	13	--	--	4500*	
ST-2	pushed 24"	--	23.2	106.6	--	CL
LS-7	5 8 10	18	--	--	5500*	
LS-8	5 7 11	18	17.2	--	5000*-6000*	CL
ST-3	pushed 24"	--	17.9	113.0	8000*	CL
LS-9	8 12 17	29	--	--	7500*	

Total Depth: *80 FT*
Drilling Date: *06/25/08 & 06/26/08*
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:

Notes:
** - Pocket Penetrometer Value*

Location Coordinates:
E *4626.8* N *7048.2*

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: dlp

SUBSURFACE PROFILE / SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 706.2±

ELEV. (ft)	PRO-FILE		DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
				ST-4	pushed 24"	--	--	--	--	CL
			40	LS-10	5 9 13	22	--	--	9000*	
665		Very Stiff to Hard Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]		ST-5	pushed 24"	--	15.9	114.7	6118	CL
			45	LS-11	7 10 16	26	--	--	8500*	
660		48.0								
			50	LS-12	5 8 12	20	12.8	132.7	5000*-7500*	CL
655		Very Stiff Gray SILTY CLAY with Trace to Some Sand, Trace of Gravel & Occasional Silt Lenses [CL]		ST-6	pushed 24"	--	16.7	115.4	5000*	CL
			55	LS-13	6 8 9	17	--	--	6000*	
650		57.0								
			60	LS-14	3 5 5	10	19.0	114.7	1646	CL
645		Medium to Stiff Gray SILTY CLAY with Trace of Sand [CL]		ST-7	pushed 24"	--	21.2	108.4	1936	CL
			65	LS-15	5 7 9	16	--	--	5000*	
640		66.0								
				ST-8	pushed 24"	--	27.9	96.3	--	CL
			70	LS-16	4 5 6	11	--	--	--	
635		Medium Compact Gray SILT with Trace of Sand & Clay [ML]								
		75.0	75	LS-17	5 10 17	27	21.1	--	--	ML
630		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

NTH CONSULTANTS, LTD.

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

Project Location: *BELLEVILLE, MICHIGAN*

NTH Proj. No: *62-080376-01*

Checked By: dlp

SUBSURFACE PROFILE / SOIL SAMPLE DATA

GROUND SURFACE ELEVATION: 704.8

ELEV. (ft)	PRO-FILE		DEPTH (ft)	SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
		Loose Brown & Gray SILTY SAND with Trace of Clay (2.0)		LS-1	3 3 7	10	--	--	--	
		Medium Compact Brown, Gray & Black SILTY SAND [SM]		LS-2	8 8 10	18	15.1	--	--	SM
700			5	LS-3	4 6 9	15	--	--	--	
		(6.5) Medium Compact Brown SILTY FINE SAND [SM]		LS-4	4 6 8	14	--	--	--	
695		(9.0) Medium Compact Brown & Gray SILTY FINE TO MEDIUM SAND	10	LS-5	8 12 13	25	19.3	--	--	SM
		(12.0) Loose to Medium Compact SILTY FINE SAND [SM]		LS-6	5 5 9	14	--	--	--	
				LS-7	4 5 5	10	21.2	--	--	SM
690			15	LS-8	3 6 5	11	--	--	2000*	
		(17.0) Very Stiff Gray SILTY CLAY with Some Sand & Trace of Gravel		ST-1	pushed 24"	--	23.4	103.6	--	SM
685		(20.0) Very Stiff to Hard Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]	20	LS-9	5 5 6	11	--	--	4000*-5000*	
				ST-no recovery	pushed 24"	--	--	--	--	
				LS-10	3 5 7	12	--	--	6500*	
680			25	ST-2	pushed 24"	--	17.7	116.0	6500*	CL
				LS-11	6 9 15	24	--	--	8000*-8500*	
675			30	ST-3	pushed 24"	--	--	--	--	CL
				LS-12	7 11 15	26	--	--	8500*	
				ST-4	pushed 24"	--	17.9	114.2	11202	CL
670			35	LS-13	7 11 14	25	--	--	8500*	
		(37.2)								

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

GROUND SURFACE ELEVATION: 704.8

ELEV. (ft)	PRO-FILE		DEPTH (ft)
665		Very Stiff to Hard Gray SILTY CLAY with Trace to Some Sand & Trace of Gravel [CL]	40.0
660		Stiff to Hard Gray SILTY CLAY with Trace to Some Sand, Trace of Gravel & Occasional Silt Lenses [CL]	45
655			50
650			55.0
		Loose Gray SILT with Trace of Clay [ML]	58.0
645		Very Stiff Gray SILTY CLAY [CL]	60.0
		Loose Gray FINE SANDY SILT with Trace of Gravel [ML]	64.0
640			65
635		Loose to Medium Compact Gray CLAYEY SILT & FINE SAND [ML]	70
630			75.0
		Loose to Medium Compact Gray SILTY FINE SAND with Trace of Clay [ML]	80.0
625		End of Boring	

SOIL SAMPLE DATA

SAMP. TYPE/ NO.	BLOWS/ 6"	STD.PEN. RESIST. (N)	MOIST. CONT. (%)	DRY DENS. (pcf)	UNCONF. COMP.ST. (psf)	USCS
LS-14	9 10 17	27	15.0	--	9000*	CL
LS-15	3 7 13	20	--	--	9000*	
ST-5	pushed 24"	--	20.4	108.8	--	CL
LS-16	7 12 19	31	--	--	9000*	
LS-17	11 28 29	57	--	--	9000*	
ST-6	pushed 24"	--	13.0	111.1	--	CL
LS-18	4 5 7	12	--	--	5000*-7000*	
LS-19	7 6 8	14	--	--	5500*	
LS-20	3 5 6	11	19.8	111.0	2536	CL-ML
LS-21	5 5 4	9	--	--	2000*	
LS-22	3 4 4	8	22.2	106.8		ML
ST-7	pushed 24"	--	27.1	96.8	--	CL
LS-23	4 4 5	9	--	--	--	
LS-24	3 4 5	9	21.5	--	--	ML
LS-25	3 3 4	7	--	--	--	
LS-26	4 4 7	11	21.2	--	--	ML
LS-27	2 2 3	5	--	--	--	
LS-28	3 3 4	7	--	--	--	
ST-8	pushed 24"	--	8.8	--	--	ML
LS-29	6 8 11	19	--	--	--	
LS-30	3 3 4	7	18.7	--	--	SM
LS-31	3 4 7	11	--	--	--	

LOG OF SUBSURFACE PROFILE

CLASSIFICATIONS BY: NEYER, TISEO & HINDO, LTD.

GROUND SURFACE ELEVATION: 704.1

ELEVATION - FEET: 700, 690, 680, 670, 660, 650, 640

Description	Depth
Medium Compact Brown FINE SAND with Trace of Silt.	7.0
Compact Gray FINE SAND.	13.0
Stiff Gray SILTY CLAY.	17.0
Very Stiff Gray SILTY CLAY with Traces of Sand and Gravel.	52.0
Medium Compact Gray SILT with Trace of Clay.	57.0
Medium Compact Gray SILTY FINE SAND.	60.0

SOIL SAMPLE DATA

SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *
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.
3. Boring backfilled with expandable grout.

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.

NEYER, TISEO & HINDO, LTD.
CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER 1

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

APPROVED BY: DH	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

ELEVATION - FEET: 705, 700, 695, 690

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

710
705
700
ELEVATION - FEET

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

4.5

FILL: Medium Gray SILTY SANDY CLAY.

11.0

Medium to Stiff Gray SILTY CLAY with Trace of Gravel.

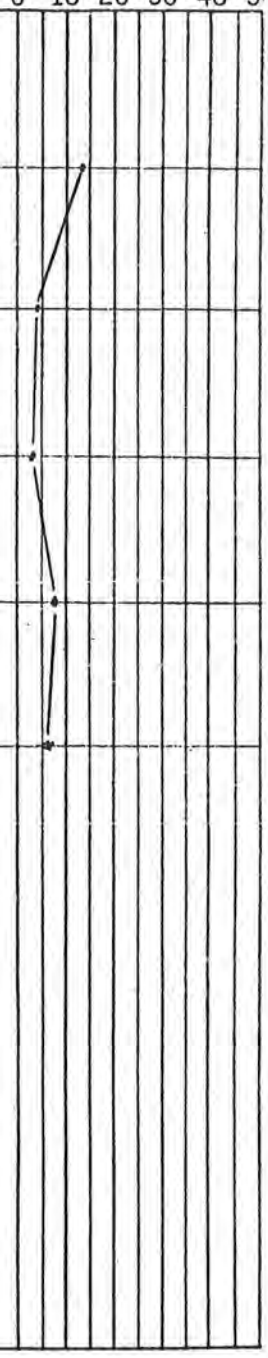
15.0

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)
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

PENETRATION RESISTANCE *
0 10 20 30 40 5



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

ELEVATION - FEET: 700, 695, 690

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

13.0

Medium Gray SANDY SILTY CLAY with Trace of Gravel.

18.0

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 50)
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	

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

ELEVATION - FEET: 700, 695, 690

FILL: Stiff Gray SILTY CLAY with Some Sand.

10.0

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

15.0

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)
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

PENETRATION RESISTANCE *: 0 10 20 30 40 5

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

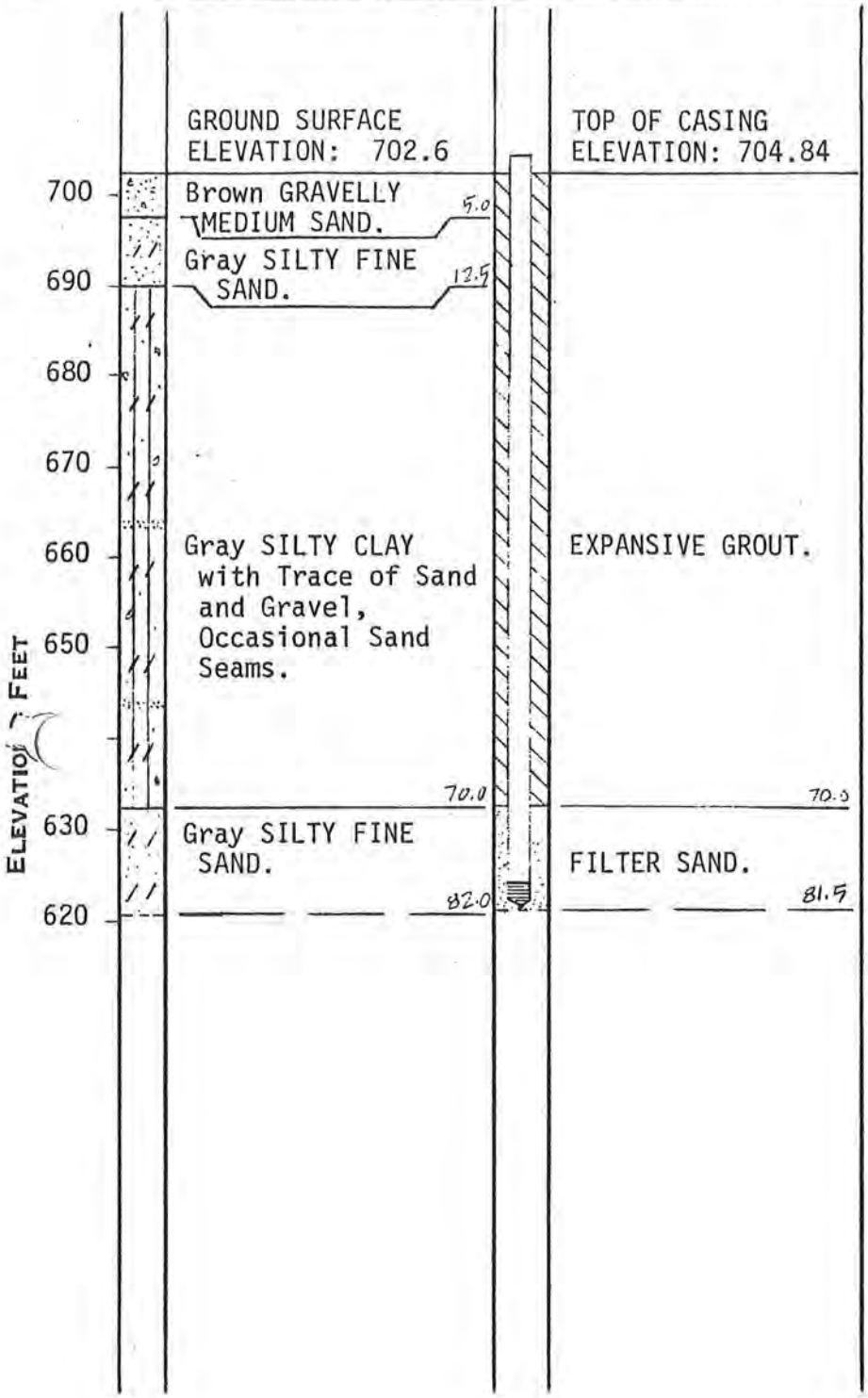
SOIL STUDY
WAYNE DISPOSAL #2
VAN BUREN TOWNSHIP, MICHIGAN

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 48024

GROUNDWATER MONITORING WELL No. OB-12

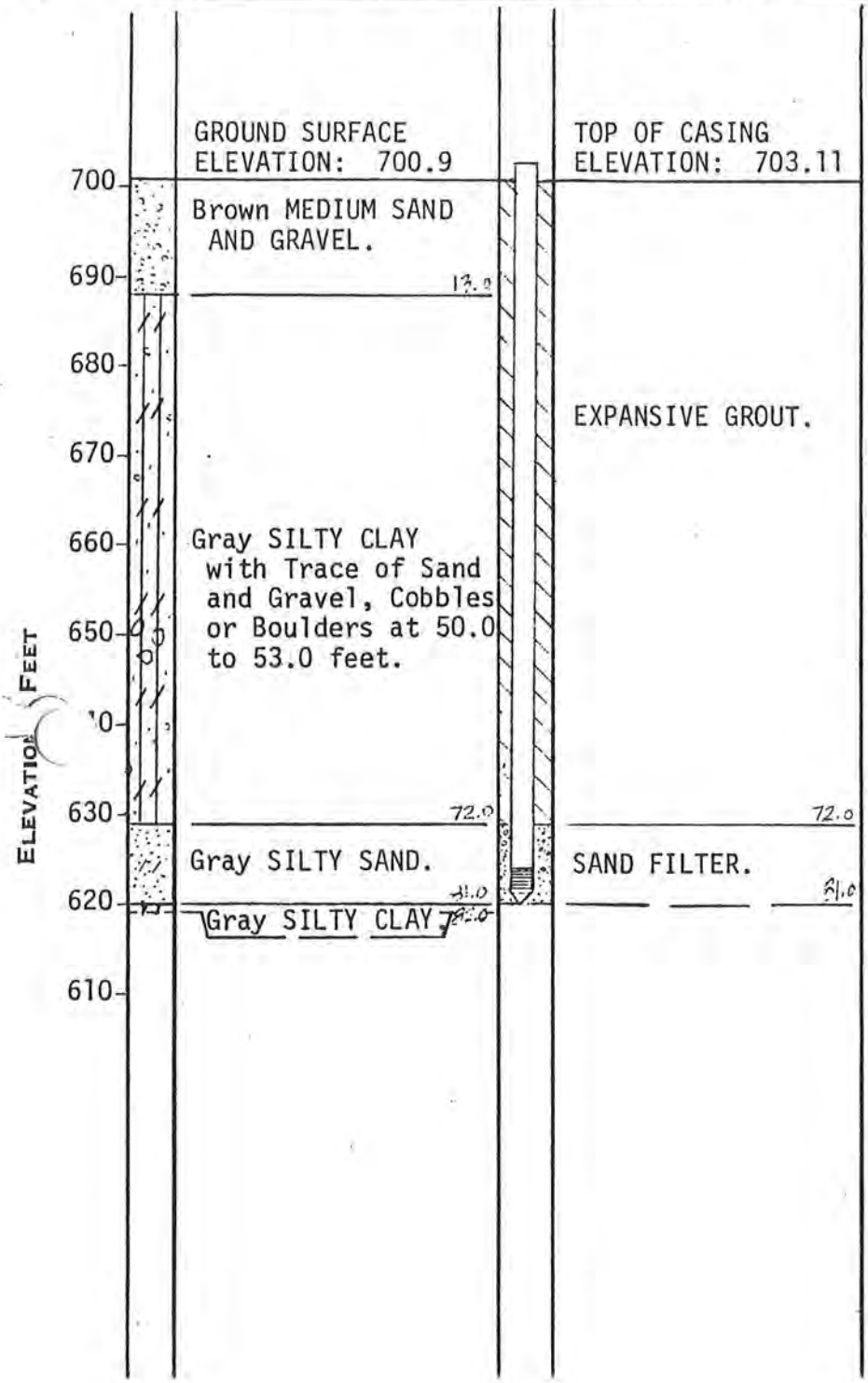
RAWSONVILLE LANDFILL
VAN BUREN TOWNSHIP
WAYNE COUNTY, MICHIGAN

APPROVED BY: WRB	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



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 Holemaste drilling rig utilizing 4.5-inch rotary bit with drilling fluid

NEYER, TISEO & HINDO, LTD.
CONSULTING ENGINEERS
39999 TEN MILE RD., FARMINGTON HILLS, MI 48024

GROUNDWATER MONITORING WELL No. OB-13

RAWSONVILLE LANDFILL
VAN BUREN TOWNSHIP
WAYNE COUNTY, MICHIGAN

APPROVED BY: WRB	DATE: 5/5/81
PROJECT NO: 94300	FIGURE NO: 90

Able DRILLING, INC.

~~20569 Northwestern Highway Southfield, Michigan 48076~~

~~Phone: 352-8949~~

FORM 2

Test Boring No. 21

SOIL SAMPLING RECORD

Driller E. 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 Belleville, Michigan

Location

Started 2-14-75 Completed 2-17-75 Job No. 625

ELEVATION	DEPTH Feet	Drillers Log ☐ Geologist Log ☐ Consistency Color Basic Texture Moisture	SAMPLE DEPTH	BLOWS ON SAMPLE 6" INCREMENTS
	1.0'	Loose dark brown sandy loam--top soil Moist		
		Medium compact brown (redish) 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'	Wet		
		Very compact gray fine to medium sand.	SS 2 10.0'	18-30-45
		Wet		
	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		
		Moist	SS 4 20.0'	5-7-8
	21.0'			
		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'			
		(Continued on Page 2)	SS 8 40.0'	14-21-30

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

USED _____ OF _____ CASINGS

Signed _____

Figure A-40

Able DRILLING, INC.

~~20562 Northwestern Highway Southfield, Michigan 48076~~

~~Phone: 862-5949~~

Test Boring No. 21

FORM

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 ☐ Geologist Log ☐ Consistency Color Basic Texture Moisture	SAMPLE DEPTH	BLOWS ON SAMPL 6" ~~CINCH~~ 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. Moist	SS 10 50.0'	9-12-15
	53.5'			
		Stiff gray silty clay, some fine sand, few small pebbles and fine to medium gravel. Moist	SS 11 55.0'	18-33-47
			Note: Driving stone o[illegible] SS 11 accounting f[illegible] ~~large~~ number of bl[illegible]	
	59.0'			
		Compact gray silty clayey extremely fine sand. Very Moist	SS 12 60.0'	8-16-33
	63.0'			
		Stiff gray clayey sandy silt. Very Moist	SS 13 65.0'	13-9-15
	66.5'			
		Compact gray fine to medium sand Moist		
	70.0'		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' OF 3" CASINGS

Signed

Figure A-41

LOG OF SUBSURFACE PROFILE

CLASSIFICATIONS BY:
NEYER, TISEO & HINDO, LTD.

GROUND SURFACE ELEVATION:
708.4

Loose Brown MEDIUM SAND with a Trace of Silt. (6.0)

Medium Compact Gray FINE SAND with Little Silt. (11.0)

Stiff to Very Stiff Gray SILTY CLAY with Traces of Sand and Gravel. (62.0)

Compact Gray SILT. (66.0)

Compact Gray FINE SAND with Some Silt. (71.0)

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.

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.

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.

NEYER, TISEO & HINDO, LTD.
CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER OB-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

ELEVATION - FEET: 700, 690, 680, 670, 660, 650, 640

Medium Compact Brown FINE SAND with Trace of Silt. (7.0)

Compact Gray FINE SAND. (13.0)

Stiff Gray SILTY CLAY. (17.0)

Very Stiff Gray SILTY CLAY with Traces of Sand and Gravel. (52.0)

Medium Compact Gray SILT with Trace of Clay. (57.0)

Medium Compact Gray SILTY FINE SAND. (60.0)

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.
3. Boring backfilled with expandable grout.

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

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

LOG OF SUBSURFACE PROFILE

CLASSIFICATIONS BY:
NEYER, TISEO & HINDO, LTD.

GROUND SURFACE ELEVATION:
696.2

ELEVATION - FEET: 690, 680, 670, 660, 650

- Loose Gray FINE SAND with Trace of Silt. — 4.0
- Stiff Gray SILTY CLAY. — 7.0
- Very Stiff Gray SILTY CLAY with Traces of Sand and Gravel. — 37.5
- Very Compact Gray SILT with Trace of Clay. — 41.0
- 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.

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

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

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: DH
DATE: 6/21/79
PROJECT No. 94309
FIGURE No. A-54

LOG OF SUBSURFACE PROFILE

CLASSIFICATIONS BY:
NEYER, TISEO & HINDO, LTD.

GROUND SURFACE ELEVATION:
675.4

ELEVATION - FEET: 670, 660, 650, 640, 630, 620

FILL: Stiff Gray SILTY CLAY. (3.0)

Stiff to Very Stiff Gray SILTY CLAY with Trace of Fine Gravel. (18.5)

Very Stiff Gray SILTY CLAY with Layers of Gray Sand. (23.5)

Medium to Stiff Gray SILTY CLAY with Layers of Silt and Trace of Sand and Fine Gravel. (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.

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

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.

NEYER, TISEO & HINDO, LTD.
CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER 29

MASTER CELL IV
WAYNE DISPOSAL, INC.
BELLEVILLE, MICHIGAN

APPROVED BY: DH	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
660
650
640
630

Very Stiff to Hard Gray SILTY CLAY with Trace of Fine Gravel. 13.5

Medium Compact Gray SILTY FINE SAND with Trace of Clay and Fine Gravel. 18.0

Very Stiff Gray SILTY CLAY. 34.0

Medium Gray SILT with Trace of Clay. 38.0

Loose Gray SILTY FINE SAND (Wet). 40.0

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

ELEVATION - FEET	Description
	Stiff Gray SILTY CLAY. (6.5)
660	Compact to Very Compact Gray SILTY FINE SAND.
650	(20.0)

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

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

13.5

Very Compact Gray SILTY FINE SAND.

20.0

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

ELEVATION - FEET

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 (51 →)
S-1	657.8	-	-	20-30-33 (63 →)
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

690
680
670
660
650
640
630

ELEVATION - FEET

FILL: Gray SILTY FINE SAND with Trace of Fine Gravel and Clay. 3.5'

FILL: Medium Gray SILTY CLAY with Trace of Fine Gravel. 4.2' 6.0'

FILL: Loose Gray FINE SAND (Moist).

Stiff to Very Stiff Gray SILTY CLAY with Trace of Fine Gravel. 34.8'

Medium Compact Gray SILTY FINE SAND. 41.5'

Stiff Gray SILTY CLAY. 43.5'

Medium Gray SILTY CLAY with Little Sand and Trace of Fine Gravel. 48.0'

1.5

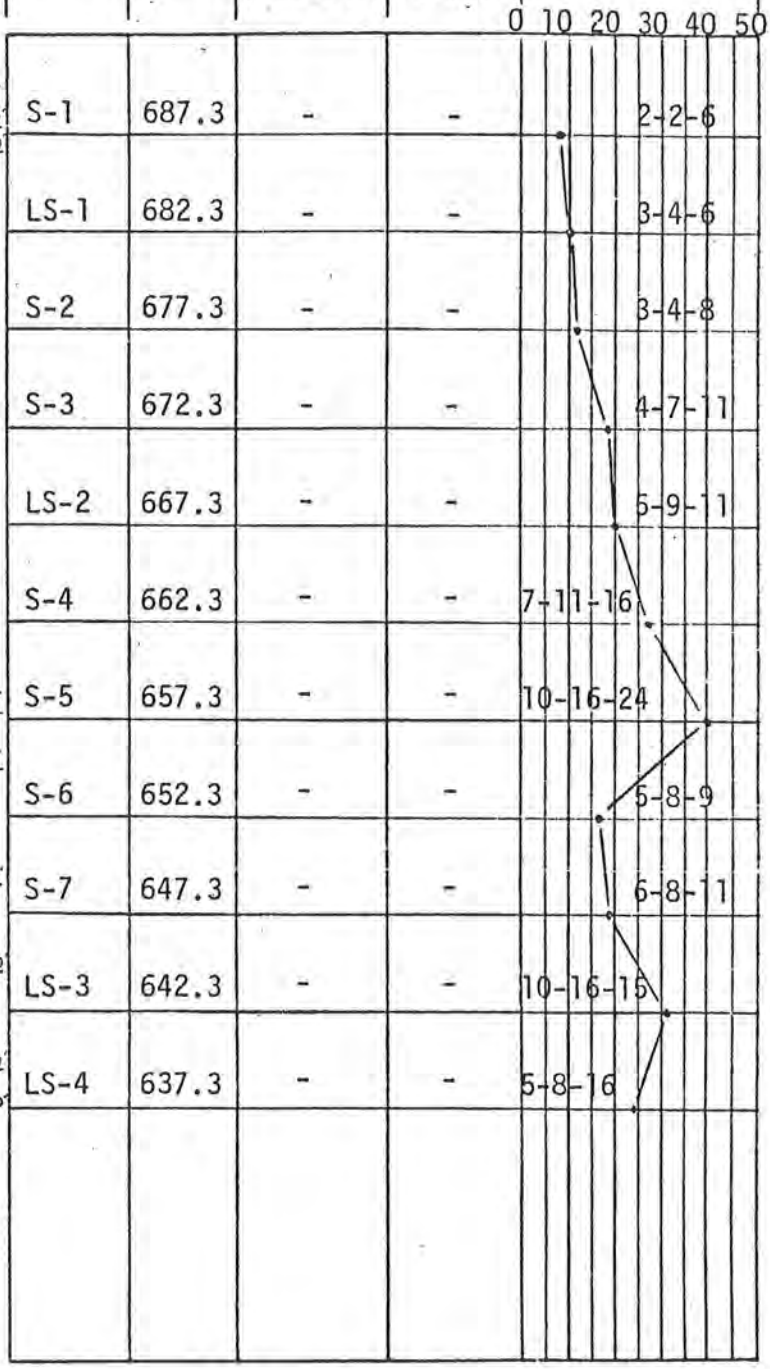
Compact Gray SILT (Wet). 53.0'

Medium Compact Gray SILT with Sand Seams and Trace of Clay. 55.0'

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.

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



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.

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

ELEVATION - FEET: 690, 680, 670, 660, 650, 640

Medium Compact Brown SILTY FINE SAND (Moist). 2.5

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

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

PENETRATION RESISTANCE * (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

ELEVATION - FEET: 690, 680, 670, 660, 550, 540

Medium Compact Gray SILTY SAND. (3.5')

Medium Compact Gray SILTY FINE SAND. (6.0')

Very Stiff to Hard Gray SILTY CLAY with Trace of Fine Gravel and Occasional Silt Lenses. (38.0')

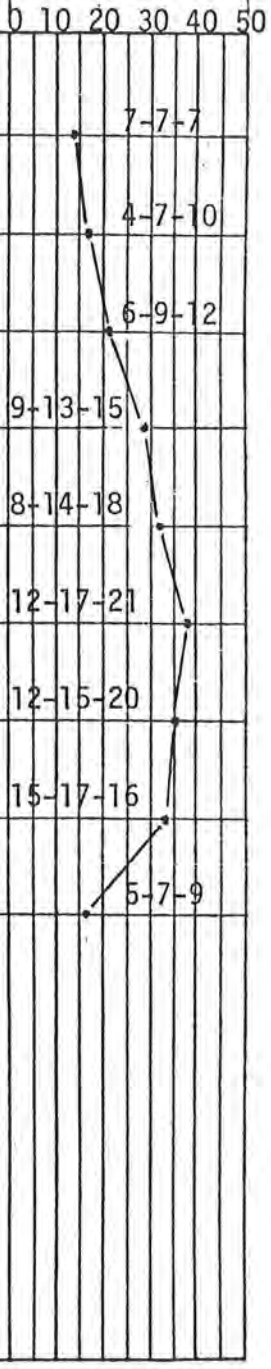
Very Stiff Gray CLAYEY SILT. (43.5')

Medium Gray CLAYEY SILT with Layers of Clay. (45.0')

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 *
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

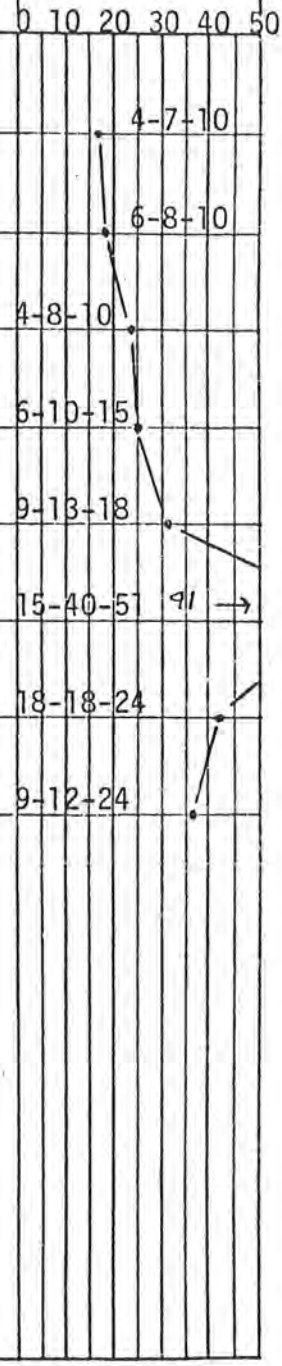
ELEVATION FEET: 690, 680, 670, 660, 650

- Medium Compact Gray SAND. 2.0
- Stiff Gray SILTY CLAY. 4.6
- Medium Compact Gray FINE SAND. 7.0
- Stiff to Very Stiff Gray SILTY CLAY with Trace of Fine Gravel and Lenses of Silt. 23.0
- Hard Gray SILTY CLAY with Trace of Fine Gravel. 27.0
- Very Compact Gray SANDY SILT with Trace of Fine Gravel. 32.0
- Compact Gray SILTY SAND with Trace of Fine Gravel with Layer of Clay. 37.0
- Stiff Gray CLAYEY SILT with Lenses of Clay and Trace of Fine Gravel. 40.0

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 *
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 91 →
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

ELEVATION - FEET: 690, 680, 670, 660, 650

- 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 *
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 55 →
LS-3	655.8	-	-	32-49-61 110 →
LS-4	650.8	-	-	17-27-34 61 →

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: DH	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.

17.0

650

Stiff Gray CLAY with Trace of Silt.

22.0

Medium Gray SILTY CLAY.

27.0

640

Soft to Medium Gray CLAYEY SILT with Trace of Fine Sand.

30.0

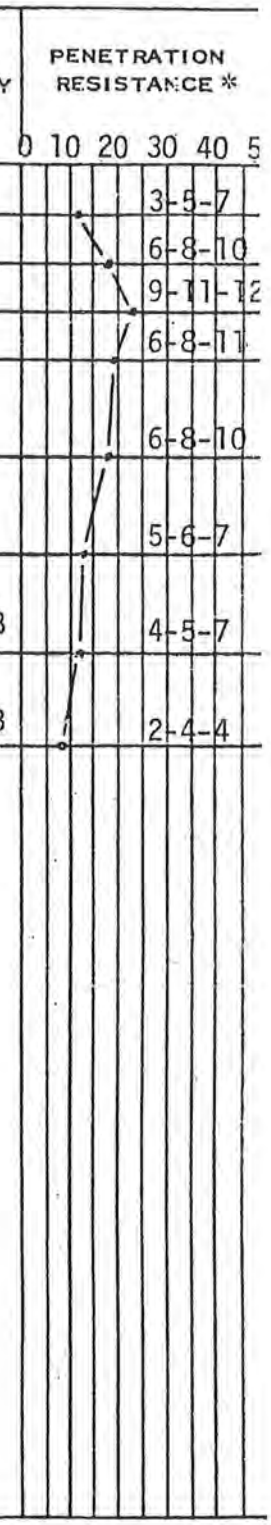
630

ELEVATION - FEET

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.

SOIL SAMPLE DATA

SAMPLE NUMBER	ELEV. (FEET)	NATURAL MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	PENETRATION RESISTANCE *
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



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.

NEYER, TISEO & HINDO, LTD.
CONSULTING ENGINEERS

LOG OF TEST BORING NUMBER 38

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

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

OBSERVATION WELL NO: W-1

NTH CONSULTANTS, LTD.

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

Project Location: *BELLEVILLE, MICHIGAN*

NTH Proj. No: *62-080376-01*

Checked By: dlp

LOG OF OBSERVATION WELL

Generalized Subsurface Profile | Installation Schematic

ELEV. (ft)	PRO-FILE	GROUND SURFACE ELEVATION: 706.2	WELL DETAIL	TOP OF WELL CASING ELEVATION: 708.70
705		0.0		0.0
		Sandy Topsoil 0.5		
		Sand 5.5		
		Silty Sand 11.0		
		Silt 12.0		
690		Silty Clay 17.0		
		Silt 18.0		
675				Non-Shrinking Cement Grout
660		Silty Clay		
645				
630		75.0 Clayey Silt 76.5		
		Silt 85.0		81.0 Hydrated Bentonite Grout 84.0
615		Silty Sand 92.0		Filter Sand 92.0
		End of Boring		Tip Elev: 614.2 Tip Depth: 92.0

GROUNDWATER DATA

DATE	ELEV. (ft.)	COMMENTS
12-07-08	655.21	
02-09-09	655.10	

NOTES

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

[2] Location Coordinates: E 3690.00
N 7660.02

Started:	*07-16-08*	Casing Diameter:	*2.0 in*
Completed:	*07-16-08*	Casing Length:	*89.5 ft*
Inspector:	*M. McNamara*	Casing Type:	*PVC*
Contractor:	*Mateco Drilling Co.*	Screen Diameter:	*2.0 in*
Driller:	*J. Pitsch*	Screen Length:	*5.0 ft*
Equipment:	*CME-750 ATV Drill Rig*	Screen Mesh:	*0.010 in*
Well Type:	*Observation*	Screen Type:	*PVC*

FIGURE NO. B-15

OBSERVATION WELL NO: W-7

NTH CONSULTANTS, LTD.

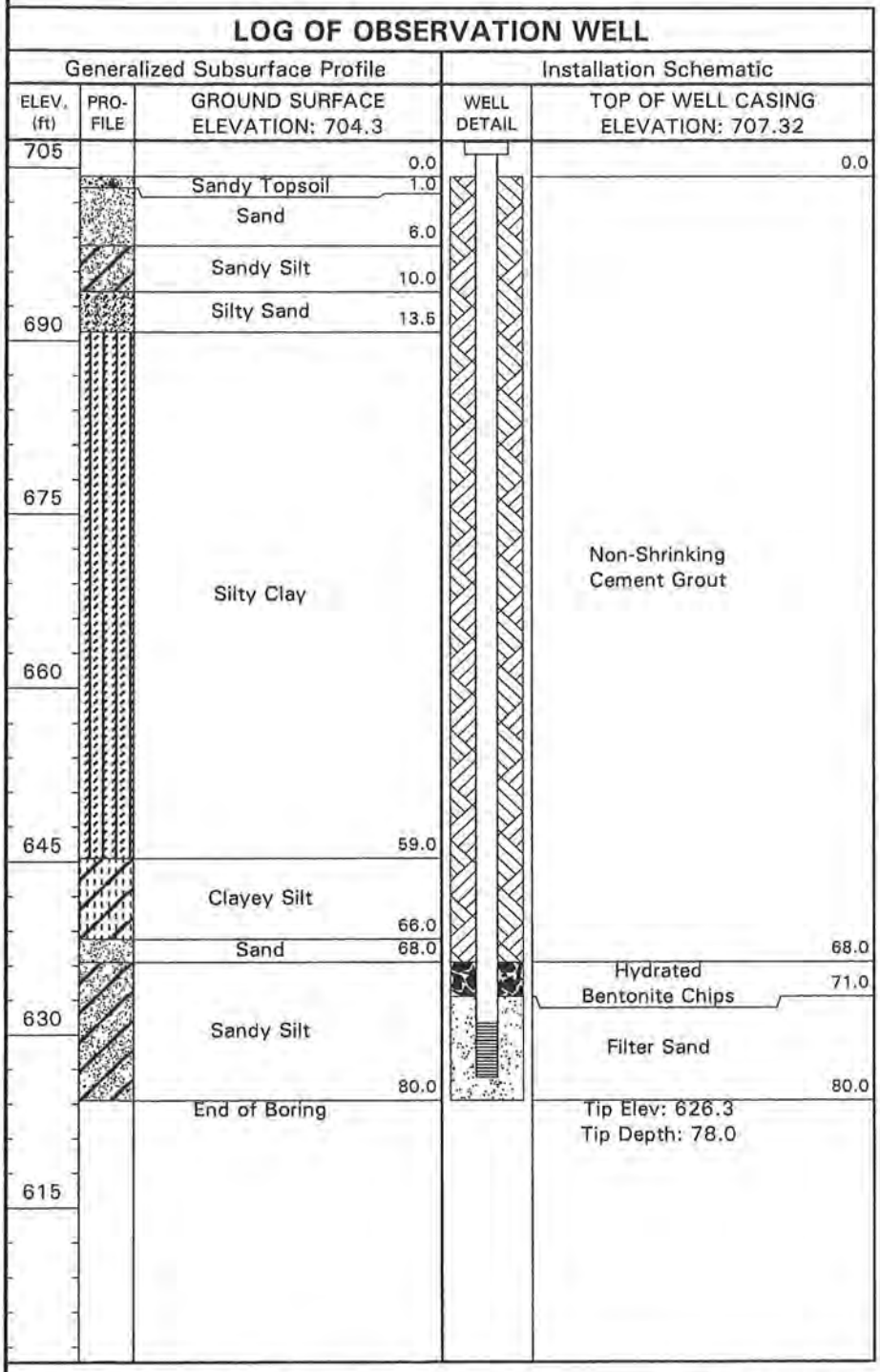
Project Name: *WAYNE DISPOSAL, INC. - WOOD LOT*

Project Location: *BELLEVILLE, MICHIGAN*

NTH Proj. No: *62-080376-01*

Checked By: dlp

LOG OF OBSERVATION WELL



GROUNDWATER DATA

DATE	ELEV. (ft.)	COMMENTS
12-07-08	654.92	
02-09-09	654.82	

NOTES

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

[2] Location Coordinates: E 4328.2
N 7346.7

Started:	*09-04-08*	Casing Diameter:	*2.0 in*
Completed:	*09-04-08*	Casing Length:	*74.3 ft*
Inspector:	*M. McNamara*	Casing Type:	*PVC*
Contractor:	*Mateco Drilling Co.*	Screen Diameter:	*2.0 in*
Driller:	*R. Crosby*	Screen Length:	*5.0 ft*
Equipment:	*CME-750 ATV Drill Rig*	Screen Mesh:	*0.010 in*
Well Type:	*Observation*	Screen Type:	*PVC*

FIGURE NO. B-16

OBSERVATION WELL NO: W-10D

NTH CONSULTANTS, LTD.

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

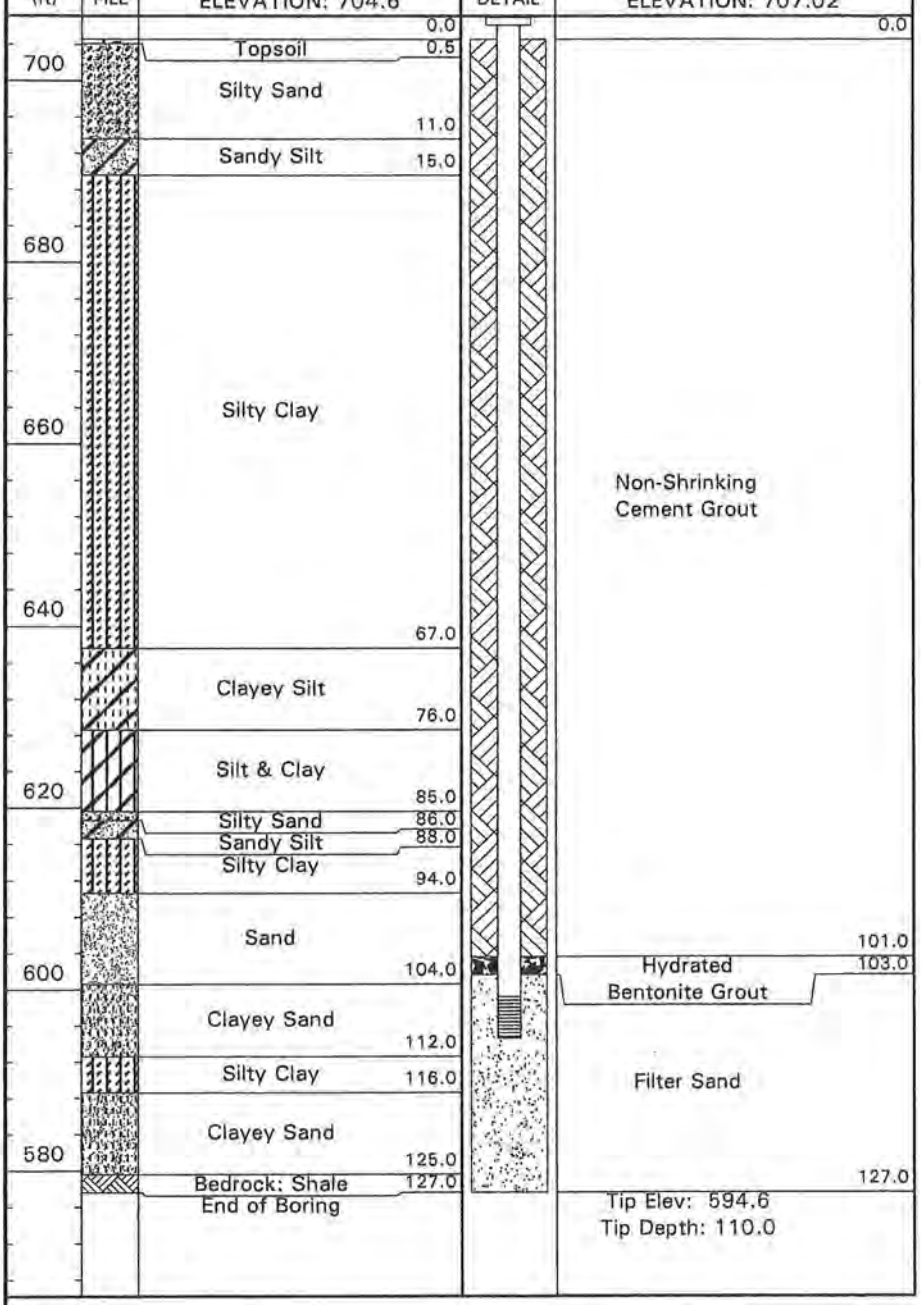
Project Location: *BELLEVILLE, MICHIGAN*

NTH Proj. No: *62-080376-01*

Checked By: dlp

LOG OF OBSERVATION WELL

Generalized Subsurface Profile | Installation Schematic



GROUNDWATER DATA

DATE	ELEV. (ft.)	COMMENTS
12-17-08	652.80	

NOTES

[1] For details of subsurface strata, see Log of Test Boring TB-W-10.

[2] Location Coordinates: E 3697.49
N 7052.58

Started:	*07-10-08*	Casing Diameter:	*2.0 in*
Completed:	*07-10-08*	Casing Length:	*107.4 ft*
Inspector:	*M. McNamara*	Casing Type:	*PVC*
Contractor:	*Mateco Drilling Co.*	Screen Diameter:	*2.0 in*
Driller:	*J. Pitsch*	Screen Length:	*5.0 ft*
Equipment:	*CME-750 ATV Drill Rig*	Screen Mesh:	*0.010 in*
Well Type:	*Observation*	Screen Type:	*PVC*

FIGURE NO. B-17

OBSERVATION WELL NO: W-10S

NTH CONSULTANTS, LTD.

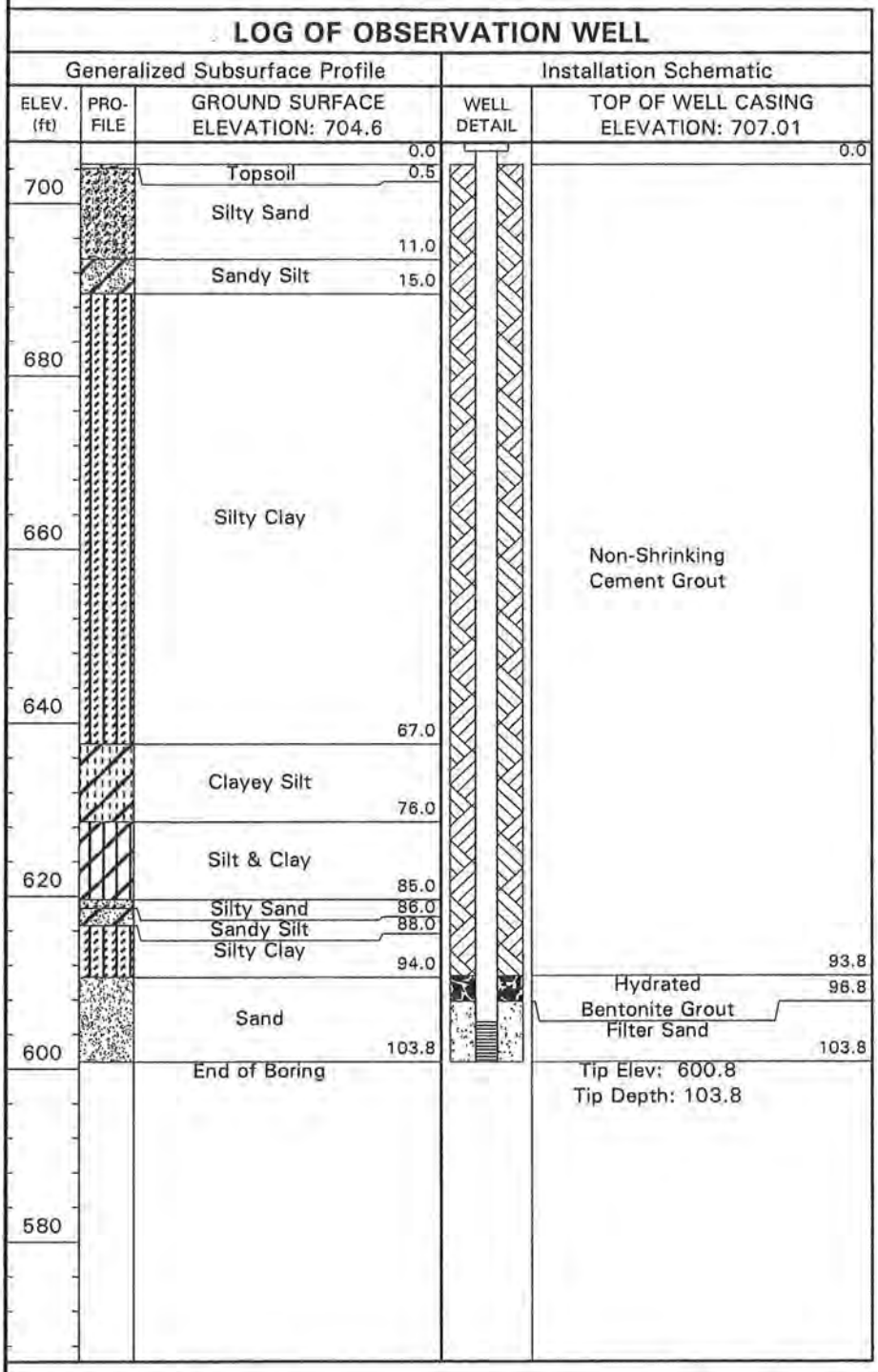
Project Name: *WAYNE DISPOSAL, INC. - WOOD LOT*

Project Location: *BELLEVILLE, MICHIGAN*

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*	Casing Diameter:	*2.0 in*
Completed:	*07-12-08*	Casing Length:	*101.2 ft*
Inspector:	*M. McNamara*	Casing Type:	*PVC*
Contractor:	*Mateco Drilling Co.*	Screen Diameter:	*2.0 in*
Driller:	*J. Pitsch*	Screen Length:	*5.0 ft*
Equipment:	*CME-750 ATV Drill Rig*	Screen Mesh:	*0.010 in*
Well Type:	*Observation*	Screen Type:	*PVC*

FIGURE NO. B-18

OBSERVATION WELL NO: W-12

NTH CONSULTANTS, LTD.

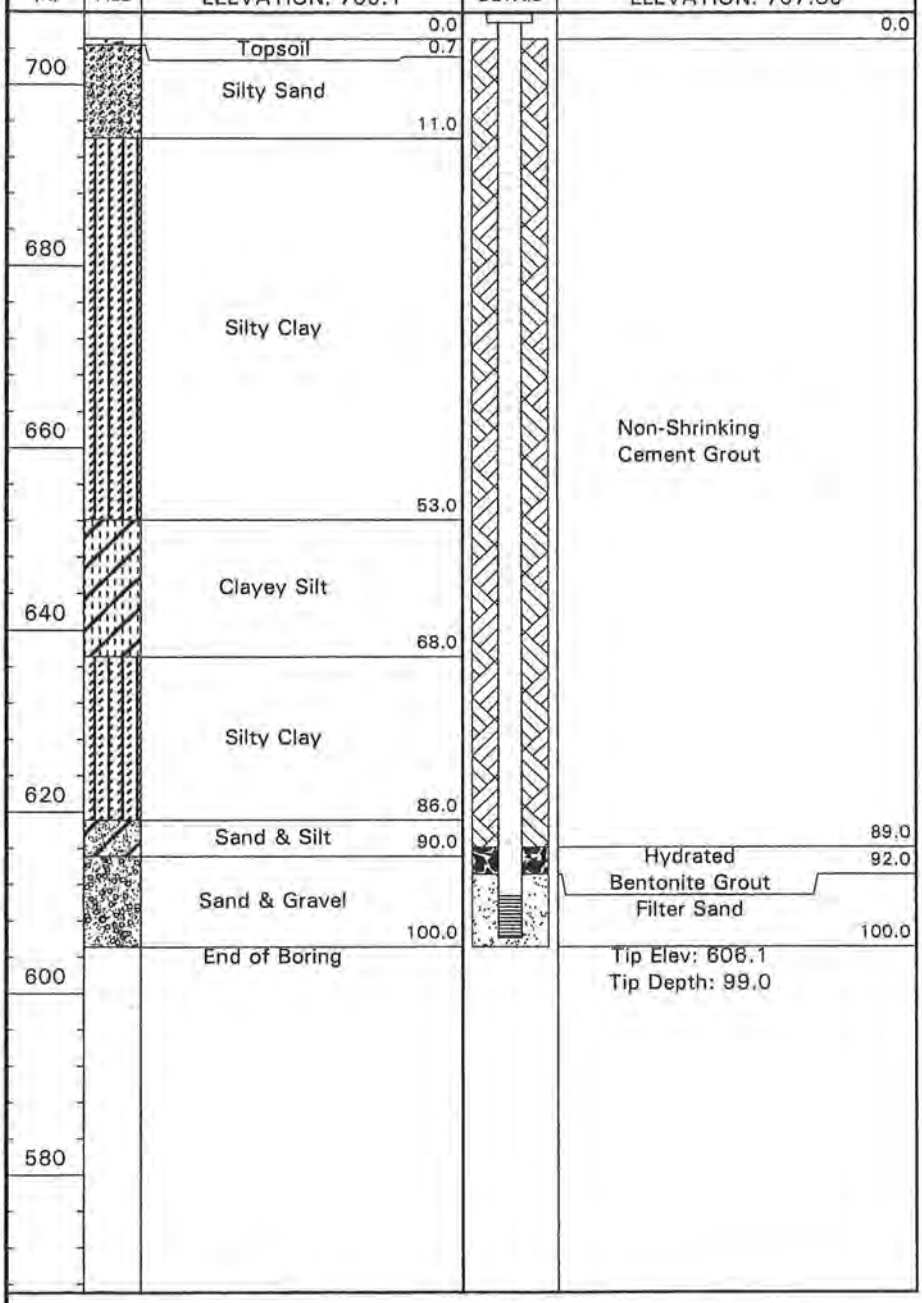
Project Name: *WAYNE DISPOSAL, INC. - WOOD LOT*

Project Location: *BELLEVILLE, MICHIGAN*

NTH Proj. No: *62-080376-01*

Checked By: dlp

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*	Casing Diameter:	*2.0 in*
Completed:	*07-02-08*	Casing Length:	*96.8 ft*
Inspector:	*M. McNamara*	Casing Type:	*PVC*
Contractor:	*Mateco Drilling Co.*	Screen Diameter:	*2.0 in*
Driller:	*J. Pitsch*	Screen Length:	*5.0 ft*
Equipment:	*CME-750 ATV Drill Rig*	Screen Mesh:	*0.010 in*
Well Type:	*Observation*	Screen Type:	*PVC*

FIGURE NO. B-19

OBSERVATION WELL NO: W-14

NTH CONSULTANTS, LTD.

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

Project Location: *BELLEVILLE, MICHIGAN*

NTH Proj. No: *62-080376-01*

Checked By: dlp

LOG OF OBSERVATION WELL

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

690 — 16.0

675

660 — 55.0

645 — 58.0 — 60.0 — 64.0

630 — 75.0 — 80.0

615

- 0.0 – 16.0: Silty Sand
- 16.0 – 55.0: Silty Clay
- 55.0 – 58.0: Silt
- 58.0 – 60.0: Silty Clay
- 60.0 – 64.0: Sandy Silt
- 64.0 – 75.0: Clayey Silt & Sand
- 75.0 – 80.0: Silty Sand
- End of Boring

Installation Schematic:

- 0.0 – 70.0: Non-Shrinking Cement Grout
- 70.0 – 73.0: Hydrated Bentonite Grout
- 73.0 – 80.0: Filter Sand
- Tip Elev: 624.8
- Tip Depth: 80.0

GROUNDWATER DATA

DATE	ELEV. (ft.)	COMMENTS
12-07-08	653.87	
02-09-09	653.72	

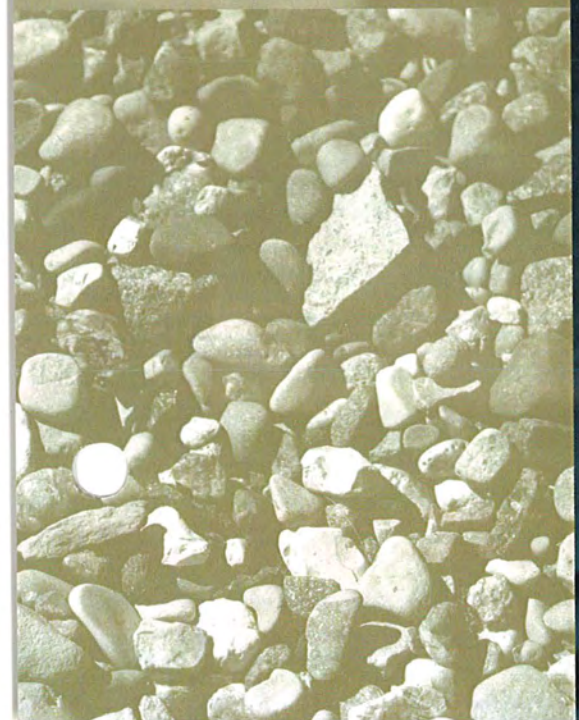
NOTES

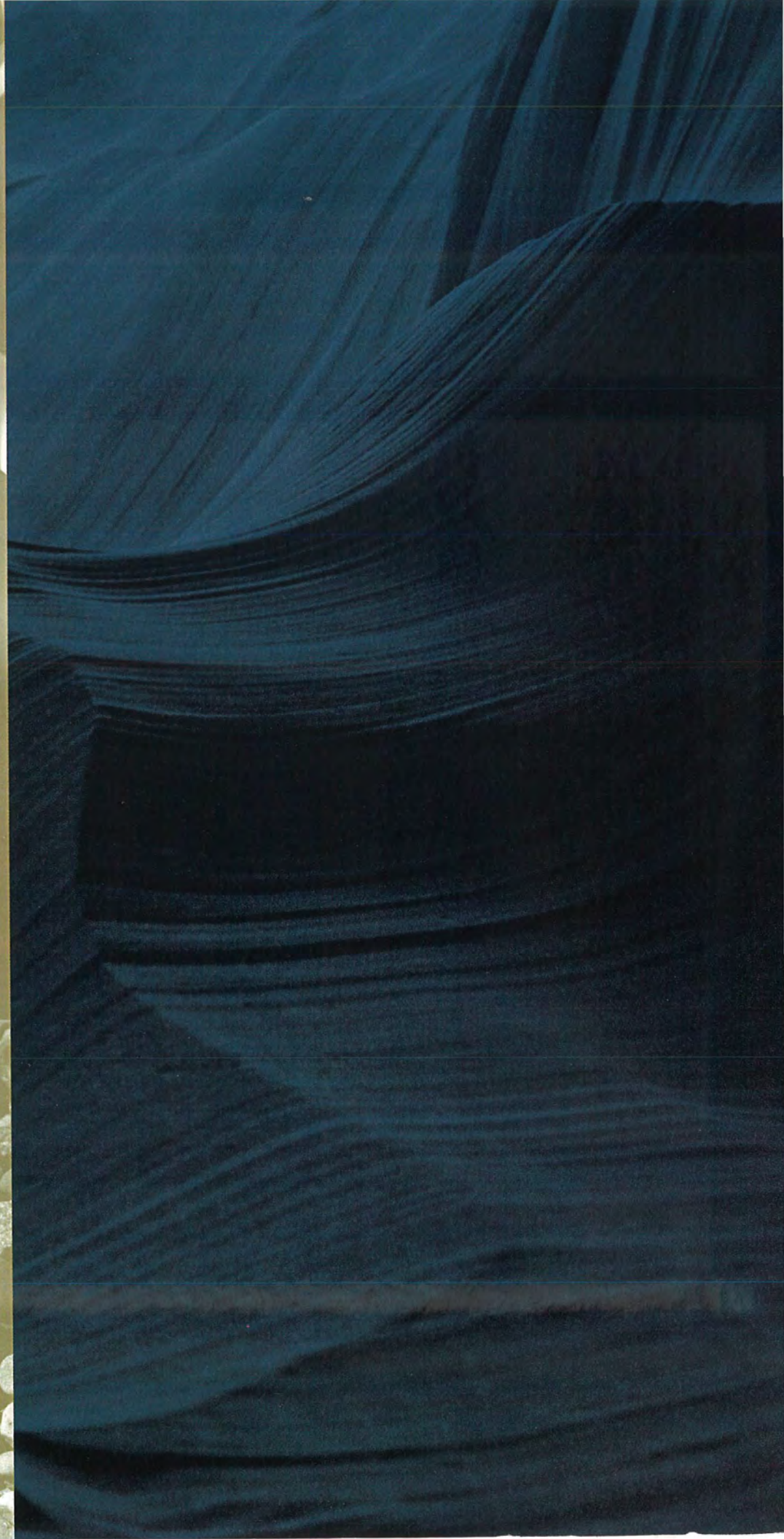
[1] For details of subsurface strata, see Log of Test Boring TB-W-14.

[2] Location Coordinates: E 4926.98
N 7046.44

Started:	*06-25-08*	Casing Diameter:	*2.0 in*
Completed:	*06-25-08*	Casing Length:	*77.6 ft*
Inspector:	*M. McNamara*	Casing Type:	*PVC*
Contractor:	*Mateco Drilling Co.*	Screen Diameter:	*2.0 in*
Driller:	*J. Pitsch*	Screen Length:	*5.0 ft*
Equipment:	*CME-750 ATV Drill Rig*	Screen Mesh:	*0.010 in*
Well Type:	*Observation*	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	---	---	17.8	114.7	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 →		Non-Plastic			SM
Aquifer Sands	TB-W-10	LS-42	105.0	601.2	---	---	---	---	---	29	19	22	12	← 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 (%)						Atterberg 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 Paydawy

Sample Details

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

Other Test Results

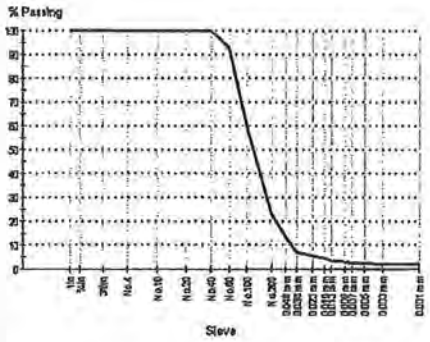
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	18.7	
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	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	

Chart



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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.

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

Sample Details

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

Other Test Results

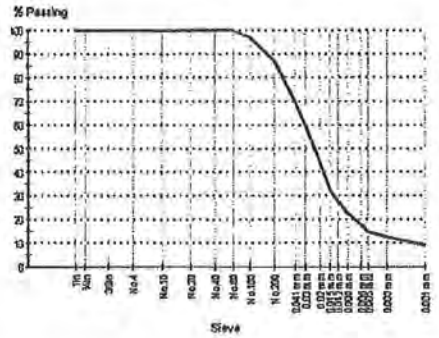
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	N/O	
Cell Pressure (lb/in²)		N/O	
Top Pressure (lb/in²)		N/O	
Bottom Pressure (lb/in²)		N/O	
Effective Pressure (lb/in²)		N/O	
Pressure Differential (lb/in²)		N/O	
Permeant		N/O	
Sample Height (in)		N/O	
Sample Diameter (in)		N/O	
Sample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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	97	
No.200 (75µm)	87	
0.041 mm	70	
0.030 mm	60	
0.020 mm	44	
0.015 mm	32	
0.012 mm	27	
0.009 mm	23	
0.006 mm	18	
0.005 mm	15	
0.003 mm	13	
0.001 mm	9	

Chart



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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.

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

Sample Details

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

Other Test Results

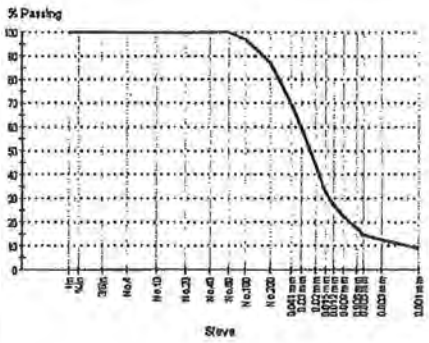
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	97	
No.200 (75µm)	87	
0.041 mm	70	
0.030 mm	60	
0.020 mm	44	
0.015 mm	32	
0.012 mm	27	
0.009 mm	23	
0.006 mm	18	
0.005 mm	15	
0.003 mm	13	
0.001 mm	9	

Chart



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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

This laboratory is accredited by 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-26
Sample Depth: 68
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

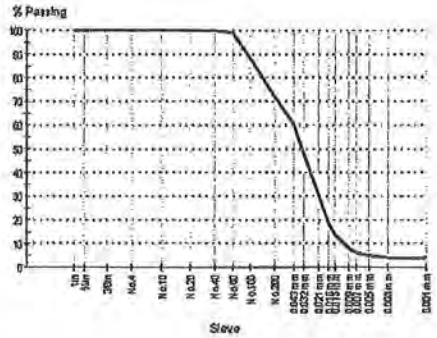
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	21.2	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	99	
No.100 (150µm)	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



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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.

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

Sample Details

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

Other Test Results

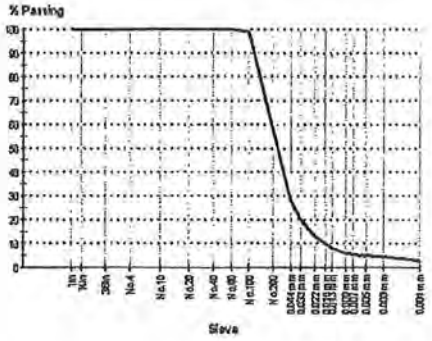
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	21.5	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	ML	
Group Name		Sandy silt	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	99	
No.200 (75µm)	58	
0.044 mm	28	
0.033 mm	20	
0.022 mm	13	
0.016 mm	10	
0.013 mm	8	
0.009 mm	6	
0.007 mm	6	
0.005 mm	5	
0.003 mm	5	
0.001 mm	3	

Chart



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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

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

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

Sample Details

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

Other Test Results

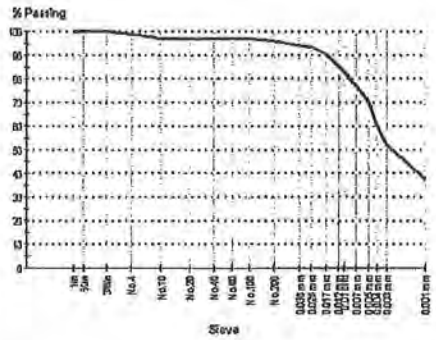
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.6	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.855	
Sample Diameter (in)		2.829	
Sample Cross-Section Area (in²)		6.29	
Sample Volume (in³)		17.95	
Dry Density (lb/ft³)		96.8	
Initial Moisture Content (%)		27.1	
Final Moisture Content (%)		27.5	
Average Permeabilty (cm/s)		2.00 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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

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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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AAP AASHTO #18

Zeerak Paydawy

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

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
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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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

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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 Paydawy

Sample Details

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

Other Test Results

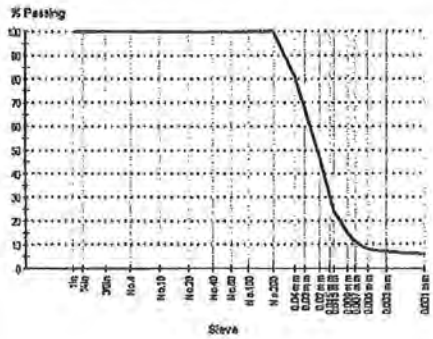
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	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	

Chart



Comments

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

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S063
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

This laboratory is accredited by 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-20
Sample Depth: 54
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	21	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		6	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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	

Chart

Comments

N/A

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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 Paydawy

Sample Details

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

Other Test Results

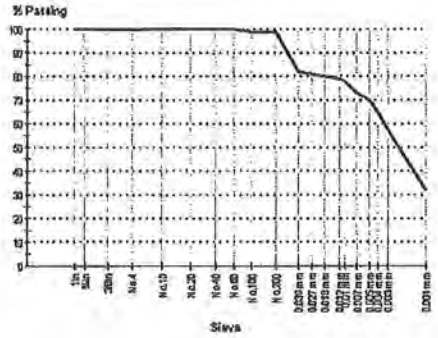
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.610	
Sample Diameter (in)		2.843	
Sample Cross-Section Area (in²)		6.35	
Sample Volume (in³)		16.57	
Dry Density (lb/ft³)		111.2	
Initial Moisture Content (%)		12.9	
Final Moisture Content (%)		26.1	
Average Permeabilty (cm/s)		3.23 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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	

Chart



Comments

N/A

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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 Paydawy

Sample Details

Boring No: TB-W-14
Field Sample No: ST-6
Sample Depth: 48
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	38	
Method		Method A	
Plastic Limit (%)		20	
Plasticity Index (%)		18	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	13.0	
Wet Density (lb/ft³)		125.6	
Dry Density (lb/ft³)		111.1	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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	

Chart

Comments

N/A

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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 Paydawy

Sample Details

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

Other Test Results

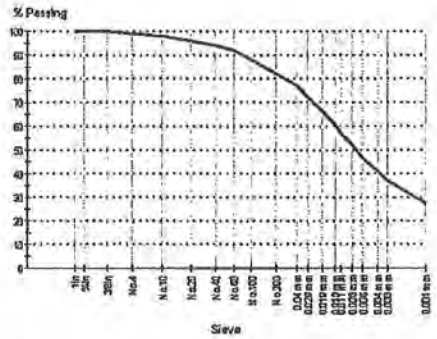
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.7	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.858	
Sample Diameter (in)		2.854	
Sample Cross-Section Area (in²)		6.40	
Sample Volume (in³)		18.28	
Dry Density (lb/ft³)		108.8	
Initial Moisture Content (%)		20.4	
Final Moisture Content (%)		19.4	
Average Permeabilty (cm/s)		4.70 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	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	

Chart



Comments

N/A

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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 Paydawy

Sample Details

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

Other Test Results

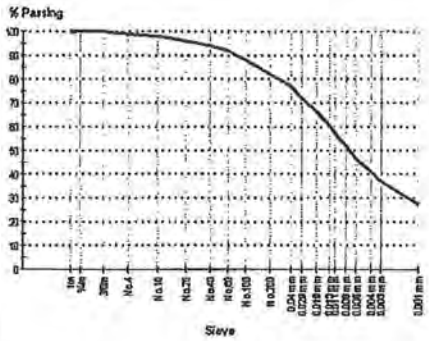
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	26	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		12	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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

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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:

Other Test Results

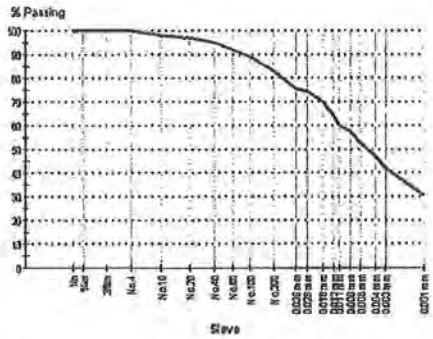
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	29	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		14	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	15.0	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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	

Chart



Comments

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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.

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

Sample Details

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

Other Test Results

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.868	
Sample Diameter (in)		2.850	
Sample Cross-Section Area (in²)		6.38	
Sample Volume (in³)		18.30	
Dry Density (lb/ft³)		114.2	
Initial Moisture Content (%)		17.9	
Final Moisture Content (%)		18.9	
Average Permeabilty (cm/s)		1.86 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	86	
No.200 (75µm)	82	
0.039 mm	77	
0.028 mm	73	
0.018 mm	69	
0.013 mm	65	
0.011 mm	63	
0.008 mm	60	
0.006 mm	55	
0.004 mm	49	
0.003 mm	43	
0.001 mm	34	

Chart

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.

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

Sample Details

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

Other Test Results

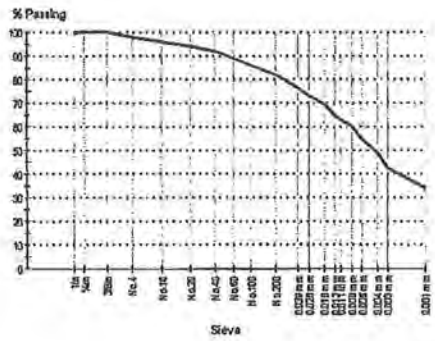
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	31	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		14	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	86	
No.200 (75µm)	82	
0.039 mm	77	
0.028 mm	73	
0.018 mm	69	
0.013 mm	65	
0.011 mm	63	
0.008 mm	60	
0.006 mm	55	
0.004 mm	49	
0.003 mm	43	
0.001 mm	34	

Chart



Comments

N/A

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S058
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

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

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

Sample Details

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

Other Test Results

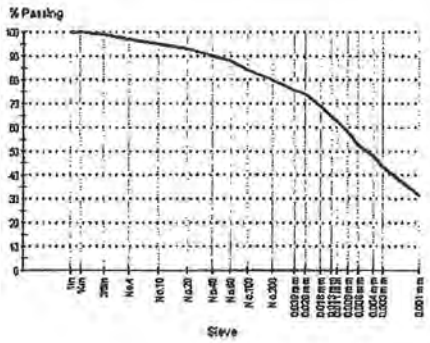
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	33	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		17	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 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	
¾in (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	

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.

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

Sample Details

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

Other Test Results

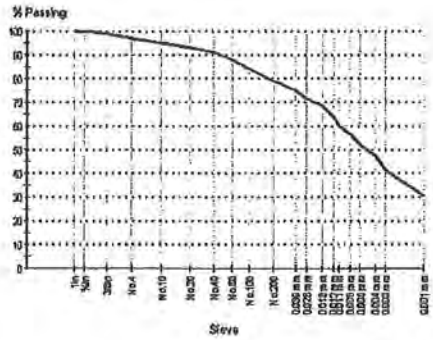
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.3	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.860	
Sample Diameter (in)		2.792	
Sample Cross-Section Area (in²)		6.12	
Sample Volume (in³)		17.51	
Dry Density (lb/ft³)		116.0	
Initial Moisture Content (%)		17.7	
Final Moisture Content (%)		18.5	
Average Permeabilty (cm/s)		3.77 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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	

Chart



Comments

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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.

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

Sample Details

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

Other Test Results

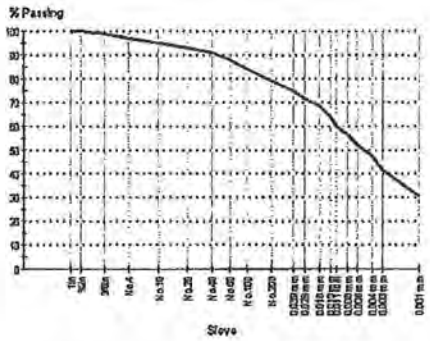
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	30	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		14	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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	

Chart



Comments

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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 Paydawy

Sample Details

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

Other Test Results

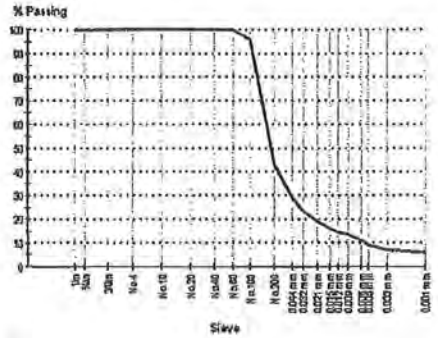
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.3	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.861	
Sample Diameter (in)		2.872	
Sample Cross-Section Area (in²)		6.48	
Sample Volume (in³)		18.53	
Dry Density (lb/ft³)		103.6	
Initial Moisture Content (%)		23.4	
Final Moisture Content (%)		20.3	
Average Permeability (cm/s)		7.85 E-7	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	96	
No.200 (75µm)	43	
0.044 mm	29	
0.032 mm	23	
0.021 mm	19	
0.015 mm	16	
0.012 mm	15	
0.009 mm	14	
0.006 mm	11	
0.005 mm	9	
0.003 mm	7	
0.001 mm	6	

Chart



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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 Paydawy

Sample Details

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

Other Test Results

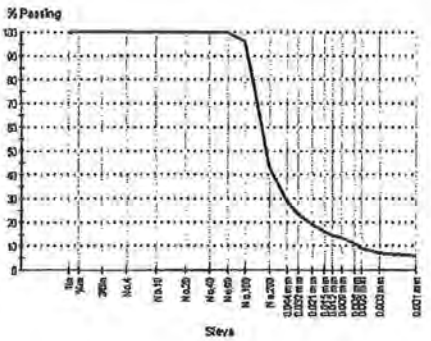
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	96	
No.200 (75µm)	43	
0.044 mm	29	
0.032 mm	23	
0.021 mm	19	
0.015 mm	16	
0.012 mm	15	
0.009 mm	14	
0.006 mm	11	
0.005 mm	9	
0.003 mm	7	
0.001 mm	6	

Chart



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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.

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

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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	99	
No.100 (150µm)	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

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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 Paydawy

Sample Details

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

Other Test Results

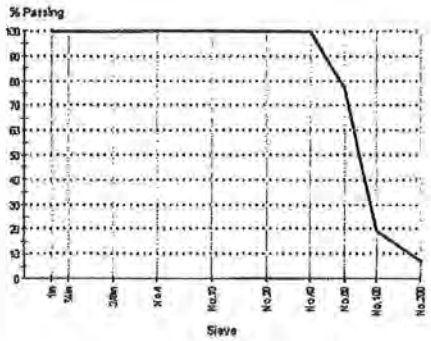
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Moisture Content (%)	ASTM D 2216	19.3	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	77	
No.100 (150µm)	19	
No.200 (75µm)	7	
Finer No.200 (75µm)	7	

Chart



Comments

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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 Paydawy

Sample Details

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

Other Test Results

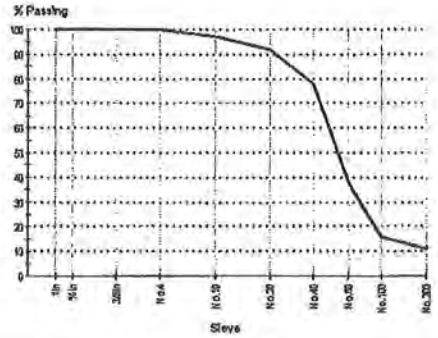
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Liquid Limit (%)	AASHTO T 89/T 90	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	15.1	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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	

Chart



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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 Paydawy

Sample Details

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

Other Test Results

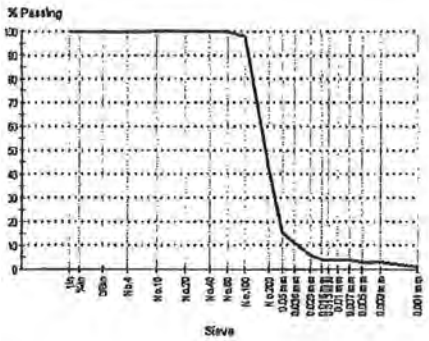
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Moisture Content (%)	ASTM D 2216	19.9	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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	

Chart



Comments

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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

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

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

Sample Details

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

Other Test Results

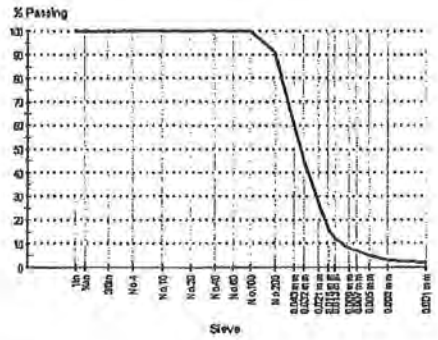
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Moisture Content (%)	ASTM D 2216	21.1	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	ML	
Group Name		Silt	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	91	
0.043 mm	61	
0.032 mm	45	
0.021 mm	28	
0.016 mm	16	
0.013 mm	12	
0.009 mm	8	
0.007 mm	7	
0.005 mm	5	
0.003 mm	3	
0.001 mm	2	

Chart



Comments

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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.

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

Sample Details

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

Other Test Results

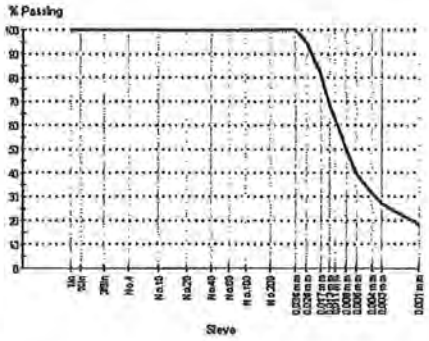
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.2	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.834	
Sample Diameter (in)		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 Permeabilty (cm/s)		3.44 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	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	

Chart



Comments

N/A

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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.

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

Sample Details

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

Other Test Results

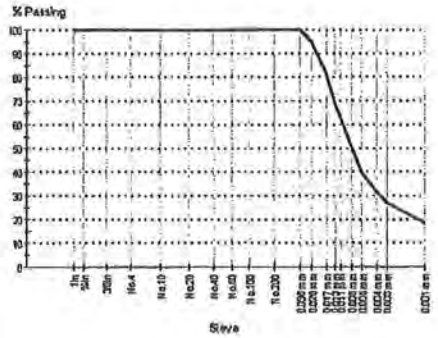
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	26	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		9	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	27.9	
Wet Density (lb/ft³)		123.2	
Dry Density (lb/ft³)		96.3	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	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	

Chart



Comments

N/A

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S033
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

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

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

Sample Details

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

Other Test Results

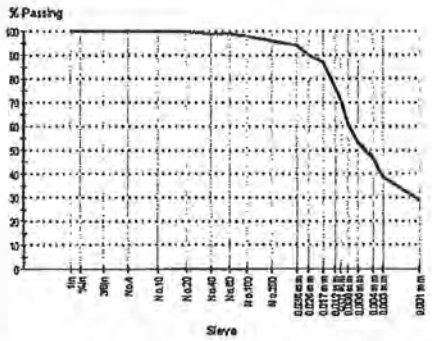
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	21.9	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.859	
Sample Diameter (in)		2.876	
Sample Cross-Section Area (in²)		6.50	
Sample Volume (in³)		18.57	
Dry Density (lb/ft³)		105.6	
Initial Moisture Content (%)		23.0	
Final Moisture Content (%)		18.6	
Average Permeabilty (cm/s)		1.70 E-7	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	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	

Chart



Comments

N/A

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S033
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

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

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

Sample Details

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

Other Test Results

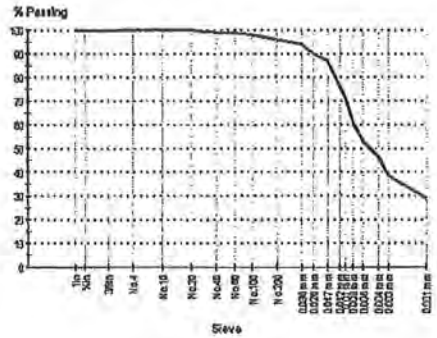
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	31	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		14	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	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 2166	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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	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	

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.

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

Sample Details

Boring No: TB-W-13
Field Sample No: LS-14
Sample Depth: 60
Date Sampled:
Sampled By:
LWO No: 000322
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	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 2166	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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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	

Chart

Comments

N/A

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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 Paydawy

Sample Details

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

Other Test Results

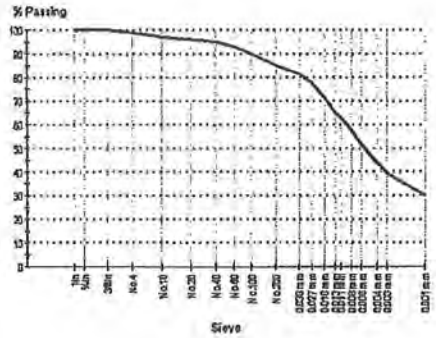
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.2	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.850	
Sample Diameter (in)		2.861	
Sample Cross-Section Area (in²)		6.43	
Sample Volume (in³)		18.32	
Dry Density (lb/ft³)		115.4	
Initial Moisture Content (%)		16.7	
Final Moisture Content (%)		16.7	
Average Permeability (cm/s)		1.24 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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

Sample Details

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

Other Test Results

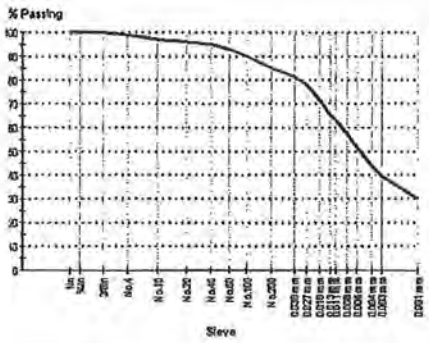
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	30	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		14	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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

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

Sample Details

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

Other Test Results

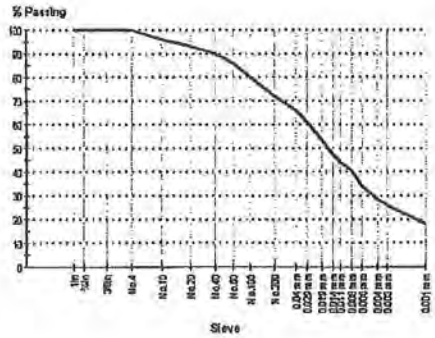
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	20	
Method		Method A	
Plastic Limit (%)		11	
Plasticity Index (%)		9	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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	

Chart



Comments

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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

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

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

Sample Details

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

Other Test Results

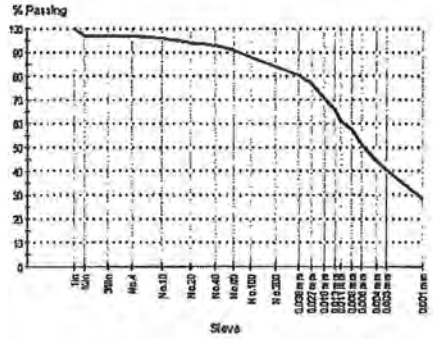
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.2	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.861	
Sample Diameter (in)		2.843	
Sample Cross-Section Area (in²)		6.35	
Sample Volume (in³)		18.16	
Dry Density (lb/ft³)		117.4	
Initial Moisture Content (%)		15.2	
Final Moisture Content (%)		16.1	
Average Permeabilty (cm/s)		1.32 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (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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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 Paydawy

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		Unkown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	15.9	
Wet Density (lb/ft³)		132.9	
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	6118	
Shear Strength (lb/ft²)		3059	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		14.3	
Average Height (in.)		5.886	
Average Diameter (in.)		2.837	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		114.7	
Init. Water Content (%)		15.9	
Liquid Limit		26	
Plastic Limit		15	
Remarks			
Visual Description			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (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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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

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

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

Sample Details

Boring No: TB-W-13
Field Sample No: ST-4
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	40	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		23	
Sample History		Unkown	
Preparation		Dry	
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	98	
No.4 (4.75mm)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	95	
No.40 (425µm)	93	
No.60 (250µm)	91	
No.100 (150µm)	88	
No.200 (75µm)	84	
0.038 mm	82	
0.027 mm	80	
0.018 mm	75	
0.013 mm	70	
0.010 mm	68	
0.008 mm	64	
0.005 mm	61	
0.004 mm	53	
0.003 mm	48	
0.001 mm	36	

Chart

Comments

N/A

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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

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

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

Sample Details

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

Other Test Results

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.2	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.856	
Sample Diameter (in)		2.843	
Sample Cross-Section Area (in²)		6.35	
Sample Volume (in³)		18.13	
Dry Density (lb/ft³)		113.0	
Initial Moisture Content (%)		17.9	
Final Moisture Content (%)		18.4	
Average Permeabilty (cm/s)		1.43 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart

Comments

N/A

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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

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

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

Sample Details

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

Other Test Results

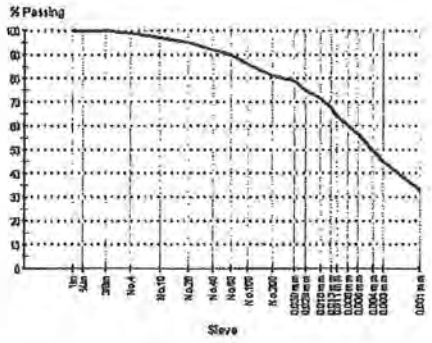
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	34	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		16	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	17.9	
Wet Density (lb/ft³)		133.2	
Dry Density (lb/ft³)		113.0	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

N/A

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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: 9/2/2006
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-13
Field Sample No: LS-8
Sample Depth: 30
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	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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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	

Chart

Comments

N/A

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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

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

Other Test Results

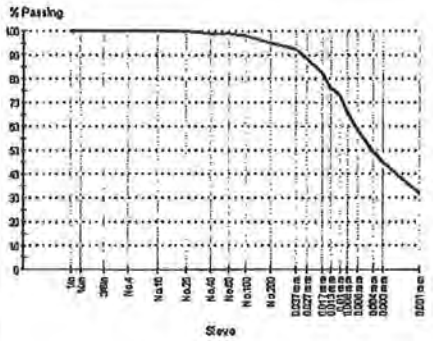
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.2	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.845	
Sample Diameter (in)		2.837	
Sample Cross-Section Area (in²)		6.32	
Sample Volume (in³)		17.98	
Dry Density (lb/ft³)		106.6	
Initial Moisture Content (%)		23.2	
Final Moisture Content (%)		21.7	
Average Permeabilty (cm/s)		7.28 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	99	
No.60 (250µm)	99	
No.100 (150µm)	98	
No.200 (75µm)	95	
0.037 mm	92	
0.027 mm	89	
0.017 mm	83	
0.013 mm	76	
0.010 mm	73	
0.008 mm	66	
0.006 mm	58	
0.004 mm	50	
0.003 mm	45	
0.001 mm	32	

Chart



Comments

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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: Zeerak 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:

Other Test Results

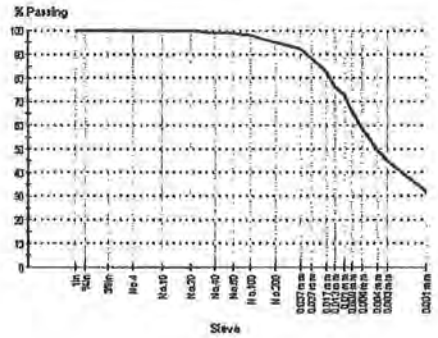
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	32	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		15	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	23.2	
Wet Density (lb/ft³)		131.3	
Dry Density (lb/ft³)		106.6	
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	99	
No.60 (250µm)	99	
No.100 (150µm)	98	
No.200 (75µm)	95	
0.037 mm	92	
0.027 mm	89	
0.017 mm	83	
0.013 mm	76	
0.010 mm	73	
0.008 mm	66	
0.006 mm	58	
0.004 mm	50	
0.003 mm	45	
0.001 mm	32	

Chart



Comments

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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

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

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

Sample Details

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

Other Test Results

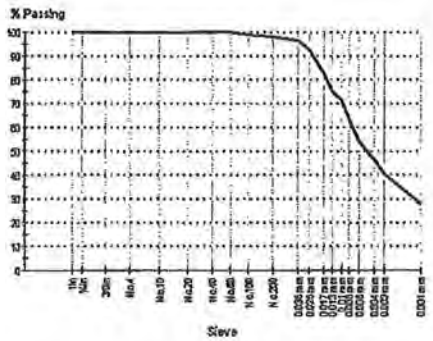
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.861	
Sample Diameter (in)		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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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	

Chart



Comments

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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

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

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

Sample Details

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

Other Test Results

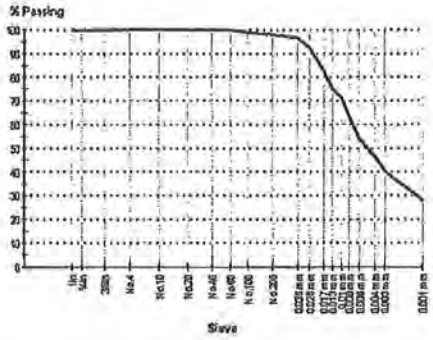
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	30	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		14	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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	

Chart



Comments

N/A

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S023
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

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

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

Sample Details

Boring No:	TB-W-13
Field Sample No:	LS-5
Sample Depth:	15
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	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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	99	
No.40 (425µm)	99	
No.60 (250µm)	98	
No.100 (150µm)	97	
No.200 (75µm)	95	
0.037 mm	92	
0.027 mm	88	
0.017 mm	83	
0.012 mm	77	
0.010 mm	73	
0.007 mm	71	
0.005 mm	65	
0.004 mm	55	
0.003 mm	50	
0.001 mm	38	

Chart

Comments

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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

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

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

Sample Details

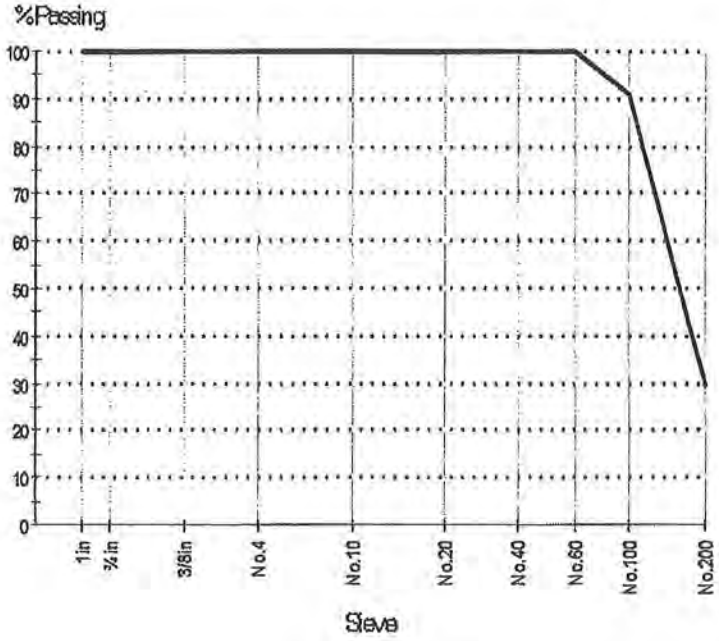
Boring No: TB-W-13
Field Sample No: LS-3
Sample Depth: 7.5
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

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/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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	91	
No.200 (75µm)	30	
Finer No.200 (75µm)	30	

Comments

N/A

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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

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

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

Sample Details

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

Other Test Results

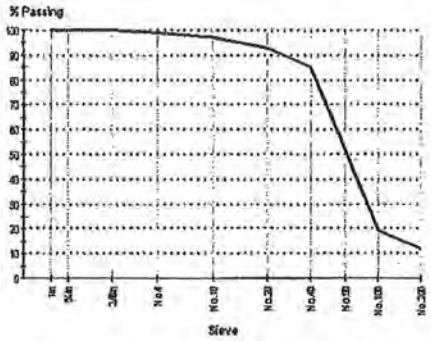
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	16.2	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

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-S020
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

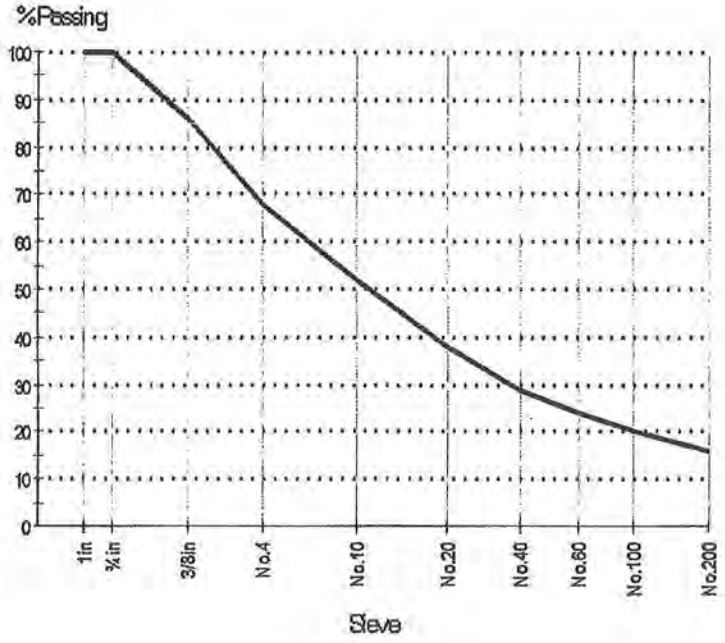
Boring No: TB-W-12
Field Sample No: LS-21
Sample Depth: 100
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

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/ft³)			
Dry Density (lb/ft³)			
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	
¾in (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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Aggregate/Soil Test Report

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

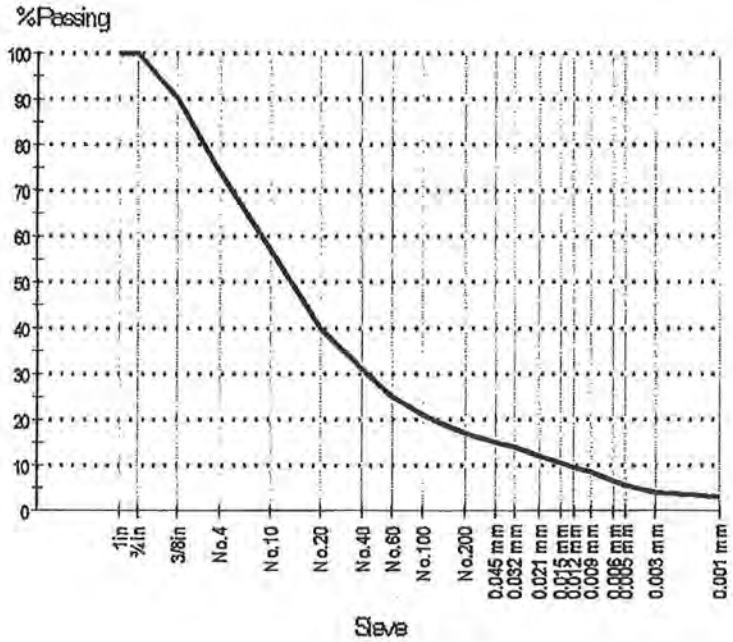
Boring No:	TB-W-12
Field Sample No:	LS-20
Sample Depth:	95
Date Sampled:	
Sampled By:	
LWO No:	000322
Sample Location:	

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/ft³)			
Dry Density (lb/ft³)			
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	
¾in (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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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 Paydawy

Sample Details

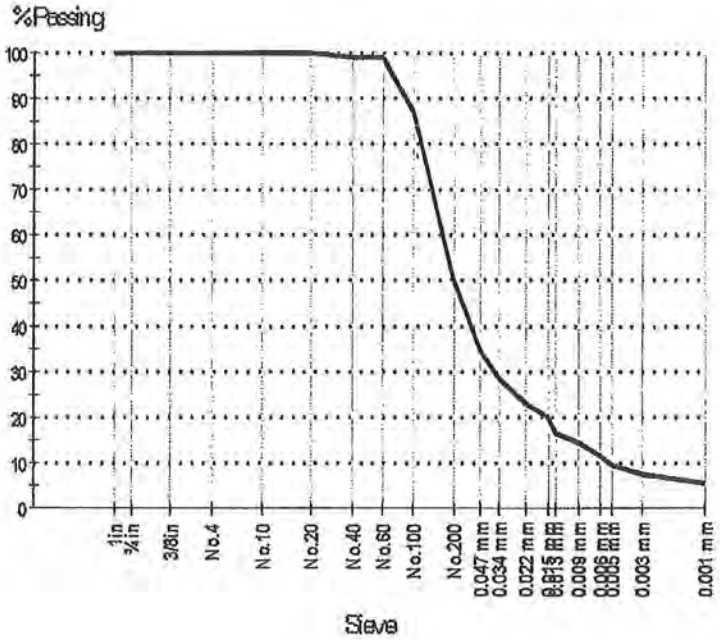
Boring No: TB-W-12
Field Sample No: LS-19
Sample Depth: 90
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

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/ft³)			
Dry Density (lb/ft³)			
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	99	
No.60 (250µm)	99	
No.100 (150µm)	87	
No.200 (75µm)	50	
0.047 mm	35	
0.034 mm	29	
0.022 mm	23	
0.015 mm	20	
0.013 mm	16	
0.009 mm	14	
0.006 mm	12	
0.005 mm	10	
0.003 mm	8	
0.001 mm	6	

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

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

Sample Details

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

Other Test Results

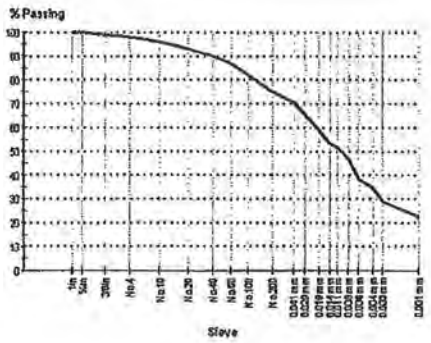
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.3	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.887	
Sample Diameter (in)		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 Permeabilty (cm/s)		2.28 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	93	
No.40 (425µm)	90	
No.60 (250µm)	87	
No.100 (150µm)	82	
No.200 (75µm)	75	
0.041 mm	70	
0.029 mm	66	
0.019 mm	59	
0.014 mm	54	
0.011 mm	52	
0.008 mm	47	
0.006 mm	39	
0.004 mm	35	
0.003 mm	29	
0.001 mm	23	

Chart



Comments

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

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

Sample Details

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

Other Test Results

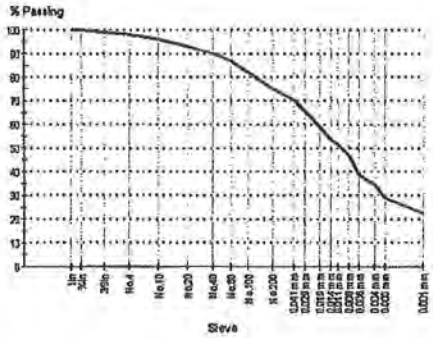
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	24	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		10	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM 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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	93	
No.40 (425µm)	90	
No.60 (250µm)	87	
No.100 (150µm)	82	
No.200 (75µm)	75	
0.041 mm	70	
0.029 mm	66	
0.019 mm	59	
0.014 mm	54	
0.011 mm	52	
0.008 mm	47	
0.006 mm	39	
0.004 mm	35	
0.003 mm	29	
0.001 mm	23	

Chart



Comments

N/A

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S016
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-12
Field Sample No: LS-17
Sample Depth: 80
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

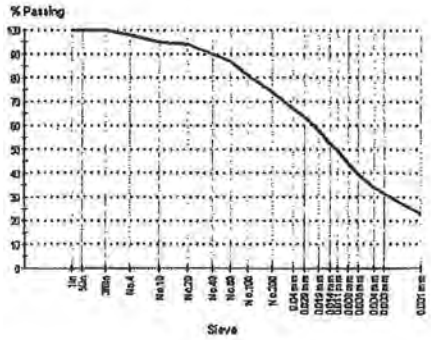
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	24	
Method		Method A	
Plastic Limit (%)		13	
Plasticity Index (%)		11	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	11.8	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



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 Paydawy

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 Paydawy

Sample Details

Boring No: TB-W-12
Field Sample No: ST-7
Sample Depth: 73
Date Sampled:
Sampled By: Michael McNamara
LWO No: 000380
Sample Location: WDI - Woodlot

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216 - 05	19.3	
Wet Density (lb/ft³)		133.0	
Dry Density (lb/ft³)		111.5	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	1460	
Shear Strength (lb/ft²)		740	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		14.2	
Average Height (in.)		5.790	
Average Diameter (in.)		2.800	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		111.5	
Init. Water Content (%)		19.3	
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Particle Size Distribution

Method:
Drying by:
Date Tested:

Sieve Size	% Passing	Limits

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 Paydawy

Sample Details

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

Other Test Results

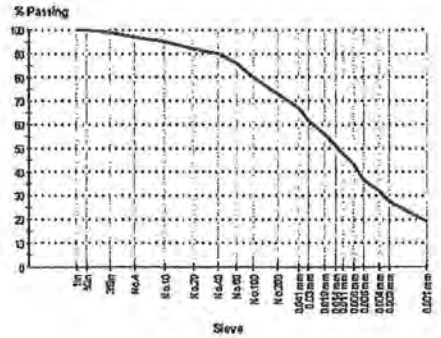
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.862	
Sample Diameter (in)		2.875	
Sample Cross-Section Area (in²)		6.49	
Sample Volume (in³)		18.58	
Dry Density (lb/ft³)		114.3	
Initial Moisture Content (%)		19.1	
Final Moisture Content (%)		20.9	
Average Permeability (cm/s)		1.95 E-7	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	97	
No.10 (2.0mm)	95	
No.20 (850µm)	92	
No.40 (425µm)	90	
No.60 (250µm)	86	
No.100 (150µm)	80	
No.200 (75µm)	73	
0.041 mm	67	
0.030 mm	61	
0.019 mm	56	
0.014 mm	51	
0.011 mm	48	
0.008 mm	43	
0.006 mm	37	
0.004 mm	32	
0.003 mm	27	
0.001 mm	19	

Chart



Comments

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.

AAP AASHTO R18

Zeerak Paydawy

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

Sample Details

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

Other Test Results

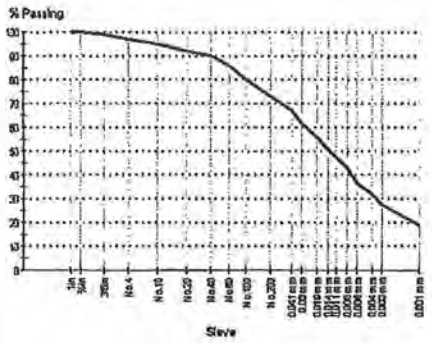
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	23	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		9	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	97	
No.10 (2.0mm)	95	
No.20 (850µm)	92	
No.40 (425µm)	90	
No.60 (250µm)	86	
No.100 (150µm)	80	
No.200 (75µm)	73	
0.041 mm	67	
0.030 mm	61	
0.019 mm	56	
0.014 mm	51	
0.011 mm	48	
0.008 mm	43	
0.006 mm	37	
0.004 mm	32	
0.003 mm	27	
0.001 mm	19	

Chart



Comments

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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 Paydawy

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

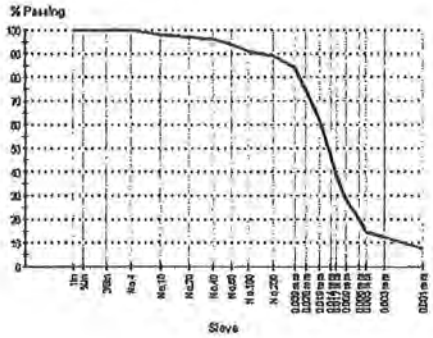
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	22.9	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.862	
Sample Diameter (in)		2.875	
Sample Cross-Section Area (in²)		6.49	
Sample Volume (in³)		18.58	
Dry Density (lb/ft³)		108.5	
Initial Moisture Content (%)		21.2	
Final Moisture Content (%)		17.5	
Average Permeabilty (cm/s)		2.34 E-7	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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

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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 Paydawy

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
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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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

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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

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

Sample Details

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

Other Test Results

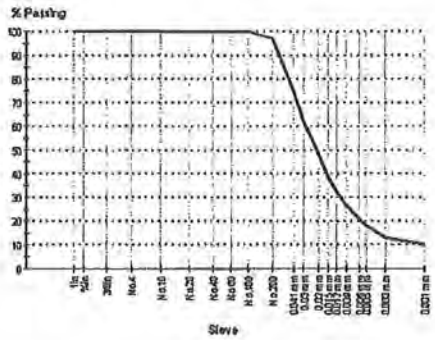
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	23.0	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	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	

Chart



Comments

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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

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

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

Sample Details

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

Other Test Results

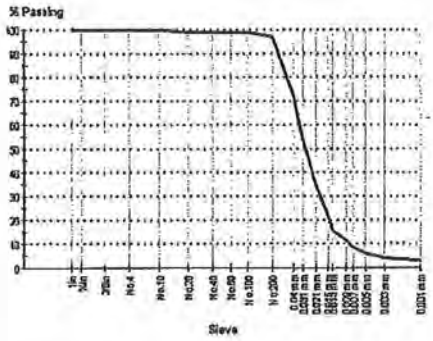
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.2	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.952	
Sample Diameter (in)		2.758	
Sample Cross-Section Area (in²)		5.97	
Sample Volume (in³)		17.64	
Dry Density (lb/ft³)		115.8	
Initial Moisture Content (%)		20.0	
Final Moisture Content (%)		17.7	
Average Permeabilty (cm/s)		1.14 E-5	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	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



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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

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

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

Sample Details

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

Other Test Results

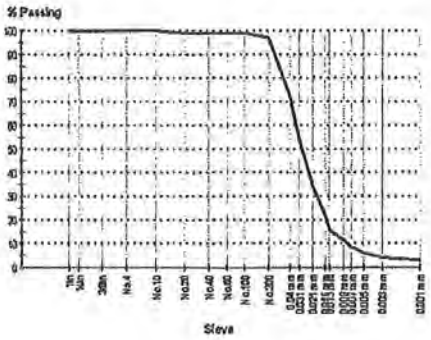
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	99	
No.40 (425µm)	99	
No.60 (250µm)	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



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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

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

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

Sample Details

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

Other Test Results

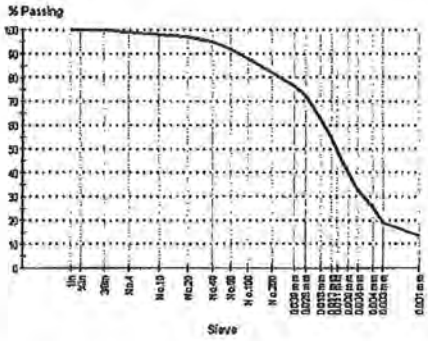
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.860	
Sample Diameter (in)		2.844	
Sample Cross-Section Area (in²)		6.35	
Sample Volume (in³)		18.17	
Dry Density (lb/ft³)		100.8	
Initial Moisture Content (%)		25.4	
Final Moisture Content (%)		24.0	
Average Permeabilty (cm/s)		4.72 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	98	
No.20 (850µm)	97	
No.40 (425µm)	95	
No.60 (250µm)	92	
No.100 (150µm)	88	
No.200 (75µm)	82	
0.039 mm	76	
0.028 mm	73	
0.018 mm	63	
0.013 mm	55	
0.011 mm	49	
0.008 mm	40	
0.006 mm	33	
0.004 mm	25	
0.003 mm	19	
0.001 mm	14	

Chart



Comments

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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

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

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

Sample Details

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

Other Test Results

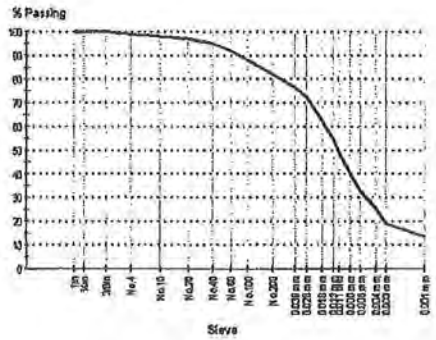
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	21	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		7	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	98	
No.20 (850µm)	97	
No.40 (425µm)	95	
No.60 (250µm)	92	
No.100 (150µm)	88	
No.200 (75µm)	82	
0.039 mm	76	
0.028 mm	73	
0.018 mm	63	
0.013 mm	55	
0.011 mm	49	
0.008 mm	40	
0.006 mm	33	
0.004 mm	25	
0.003 mm	19	
0.001 mm	14	

Chart



Comments

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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

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

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

Sample Details

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

Other Test Results

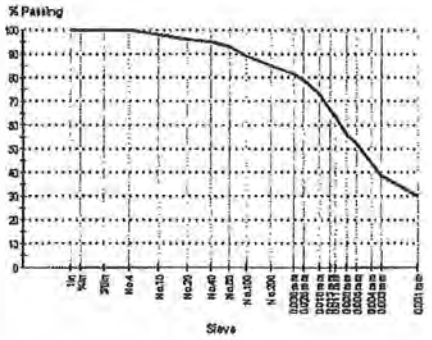
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	30	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		15	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	16.2	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	98	
No.20 (850µm)	96	
No.40 (425µm)	95	
No.60 (250µm)	93	
No.100 (150µm)	89	
No.200 (75µm)	85	
0.038 mm	82	
0.028 mm	79	
0.018 mm	73	
0.013 mm	66	
0.011 mm	64	
0.008 mm	56	
0.006 mm	52	
0.004 mm	44	
0.003 mm	39	
0.001 mm	30	

Chart



Comments

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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

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

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

Sample Details

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

Other Test Results

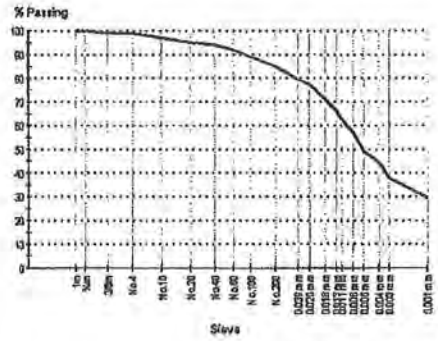
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	29	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		14	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	13.9	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	94	
No.60 (250µm)	92	
No.100 (150µm)	89	
No.200 (75µm)	85	
0.039 mm	80	
0.028 mm	78	
0.018 mm	71	
0.013 mm	66	
0.011 mm	63	
0.008 mm	57	
0.006 mm	49	
0.004 mm	45	
0.003 mm	38	
0.001 mm	29	

Chart



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

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

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

Sample Details

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

Other Test Results

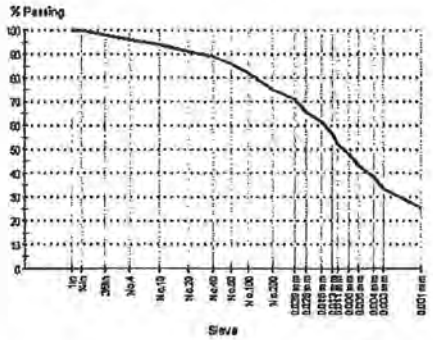
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	22.9	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.881	
Sample Diameter (in)		2.842	
Sample Cross-Section Area (in²)		6.34	
Sample Volume (in³)		18.28	
Dry Density (lb/ft³)		121.9	
Initial Moisture Content (%)		13.3	
Final Moisture Content (%)		13.9	
Average Permeability (cm/s)		1.33 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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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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

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

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

Sample Details

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

Other Test Results

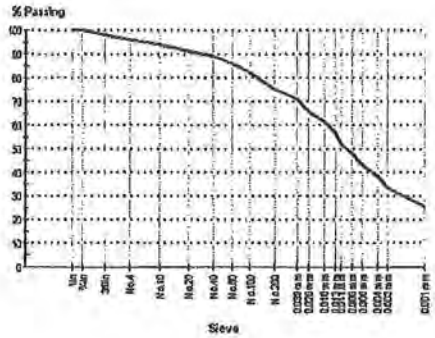
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	28	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		14	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	13.3	
Wet Density (lb/ft³)		138.2	
Dry Density (lb/ft³)		121.9	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	3443	
Shear Strength (lb/ft²)		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	
¾in (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

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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

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

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

Sample Details

Boring No: TB-W-12
Field Sample No: LS-9
Sample Depth: 35
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	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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	98	
No.20 (850µm)	96	
No.40 (425µm)	94	
No.60 (250µm)	92	
No.100 (150µm)	88	
No.200 (75µm)	84	
0.037 mm	82	
0.027 mm	79	
0.017 mm	75	
0.012 mm	72	
0.010 mm	69	
0.007 mm	64	
0.005 mm	61	
0.004 mm	53	
0.003 mm	46	
0.001 mm	38	

Chart

Comments

N/A

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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 Paydawy

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

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216 - 05	17.2	
Wet Density (lb/ft³)		133.1	
Dry Density (lb/ft³)		113.5	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	3480	
Shear Strength (lb/ft²)		1740	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (in.)		5.910	
Average Diameter (in.)		2.840	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		113.5	
Init. Water Content (%)		17.2	
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Particle Size Distribution

Method:
Drying by:
Date Tested:

Sieve Size	% Passing	Limits

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

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

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

Sample Details

Boring No: TB-W-12
Field Sample No: ST-2
Sample Depth: 30
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

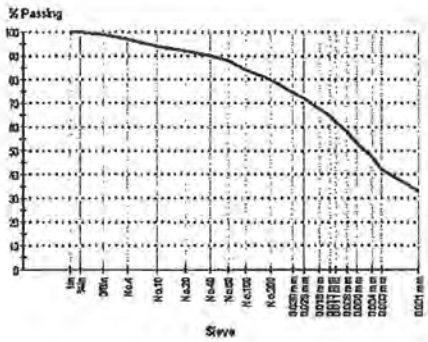
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.2	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.868	
Sample Diameter (in)		2.845	
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 Permeabilty (cm/s)		1.05 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	97	
No.10 (2.0mm)	94	
No.20 (850µm)	92	
No.40 (425µm)	90	
No.60 (250µm)	88	
No.100 (150µm)	84	
No.200 (75µm)	80	
0.039 mm	75	
0.028 mm	72	
0.018 mm	67	
0.013 mm	65	
0.011 mm	62	
0.008 mm	58	
0.006 mm	53	
0.004 mm	47	
0.003 mm	42	
0.001 mm	33	

Chart



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

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

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

Sample Details

Boring No: TB-W-12
Field Sample No: ST-2
Sample Depth: 30
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

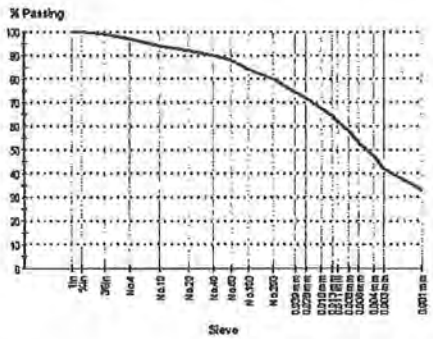
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	34	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		17	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM 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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	97	
No.10 (2.0mm)	94	
No.20 (850µm)	92	
No.40 (425µm)	90	
No.60 (250µm)	88	
No.100 (150µm)	84	
No.200 (75µm)	80	
0.039 mm	75	
0.028 mm	72	
0.018 mm	67	
0.013 mm	65	
0.011 mm	62	
0.008 mm	58	
0.006 mm	53	
0.004 mm	47	
0.003 mm	42	
0.001 mm	33	

Chart



Comments

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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.

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

Sample Details

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

Other Test Results

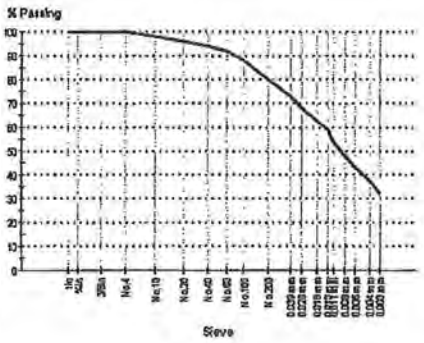
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.870	
Sample Diameter (in)		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 Permeabilty (cm/s)		2.28 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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	

Chart



Comments

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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.

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

Sample Details

Boring No: TB-W-12
Field Sample No: ST-1
Sample Depth: 22
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			
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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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	

Chart

Comments

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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

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

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

Sample Details

Boring No: TB-W-12
Field Sample No: 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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	93	
No.60 (250µm)	91	
No.100 (150µm)	88	
No.200 (75µm)	82	
0.039 mm	75	
0.029 mm	67	
0.019 mm	55	
0.014 mm	50	
0.011 mm	45	
0.008 mm	40	
0.006 mm	36	
0.004 mm	32	
0.003 mm	27	
0.000 mm	21	

Chart

Comments

N/O = Not Obtainable

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Aggregate/Soil Test Report

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

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

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

Sample Details

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

Other Test Results

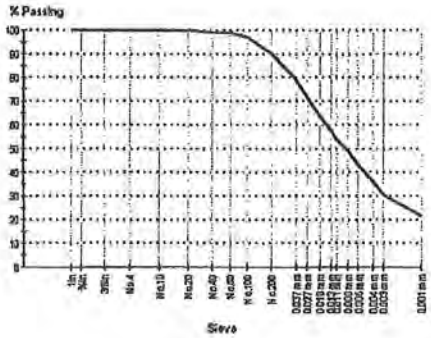
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	26	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		11	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	14.8	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	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	

Chart



Comments

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Aggregate/Soil Test Report

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

Sample Details

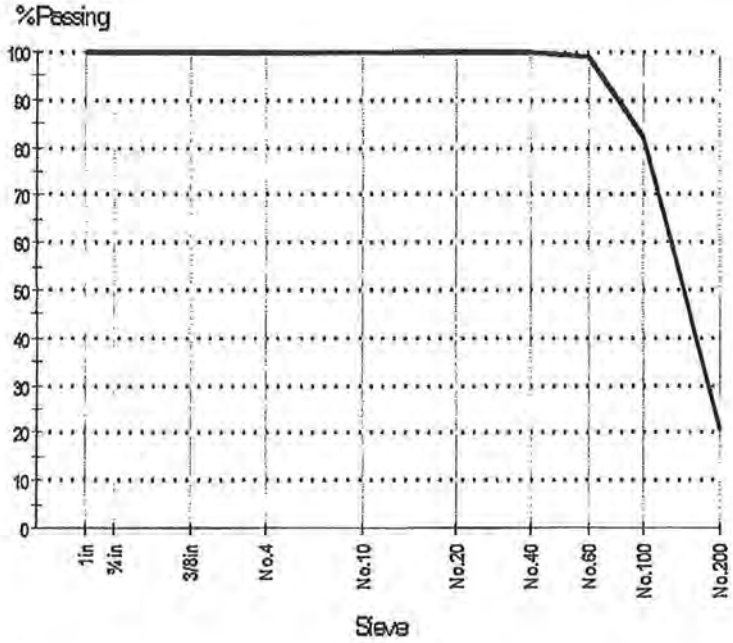
Boring No: TB-W-12
Field Sample No: LS-4
Sample Depth: 10
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

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/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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	99	
No.100 (150µm)	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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Date of Issue: 9/2/2008
Approved Signatory: Zeerak Paydawy

Sample Details

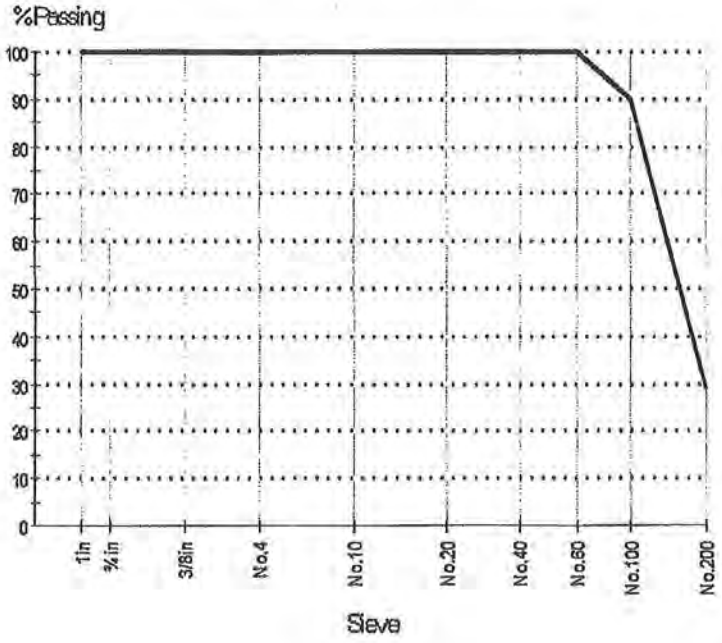
Boring No: TB-W-12
Field Sample No: LS-2
Sample Depth: 5
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

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/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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	90	
No.200 (75µm)	29	
Finer No.200 (75µm)	29	

Comments

N/A

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Aggregate/Soil Test Report

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

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

Sample Details

Boring No: TB-W-11
Field Sample No: LS-18
Sample Depth: 60
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

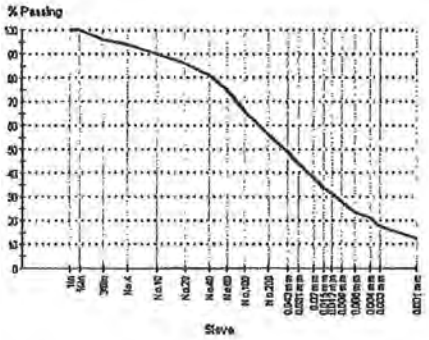
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	17	
Method		Method A	
Plastic Limit (%)		11	
Plasticity Index (%)		6	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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	

Chart



Comments

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S051
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

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

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

Sample Details

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

Other Test Results

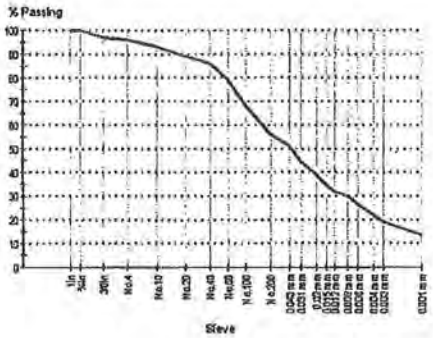
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	17	
Method		Method A	
Plastic Limit (%)		11	
Plasticity Index (%)		6	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	97	
No.4 (4.75mm)	96	
No.10 (2.0mm)	93	
No.20 (850µm)	89	
No.40 (425µm)	86	
No.60 (250µm)	79	
No.100 (150µm)	68	
No.200 (75µm)	56	
0.043 mm	51	
0.031 mm	45	
0.020 mm	39	
0.015 mm	35	
0.012 mm	32	
0.008 mm	30	
0.006 mm	26	
0.004 mm	22	
0.003 mm	19	
0.001 mm	14	

Chart



Comments

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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 Paydawy

Sample Details

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

Other Test Results

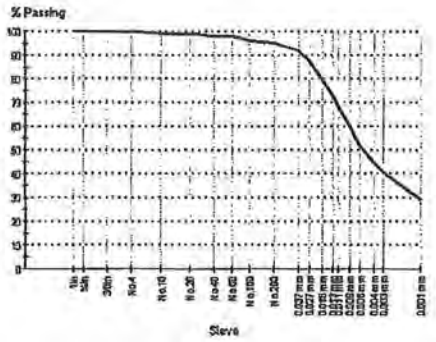
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	24.1	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.861	
Sample Diameter (in)		2.872	
Sample Cross-Section Area (in²)		6.48	
Sample Volume (in³)		18.53	
Dry Density (lb/ft³)		103.2	
Initial Moisture Content (%)		21.4	
Final Moisture Content (%)		20.9	
Average Permeabilty (cm/s)		2.56 E-7	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	99	
No.20 (850µm)	99	
No.40 (425µm)	98	
No.60 (250µm)	98	
No.100 (150µm)	96	
No.200 (75µm)	95	
0.037 mm	92	
0.027 mm	87	
0.018 mm	80	
0.013 mm	73	
0.011 mm	68	
0.008 mm	60	
0.006 mm	51	
0.004 mm	45	
0.003 mm	41	
0.001 mm	29	

Chart



Comments

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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

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

Sample Details

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

Other Test Results

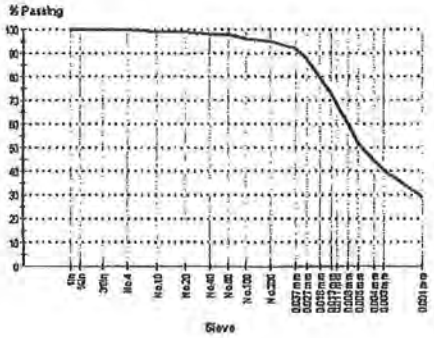
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	31	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		15	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM 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 2166	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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	99	
No.20 (850µm)	99	
No.40 (425µm)	98	
No.60 (250µm)	98	
No.100 (150µm)	96	
No.200 (75µm)	95	
0.037 mm	92	
0.027 mm	87	
0.018 mm	80	
0.013 mm	73	
0.011 mm	68	
0.008 mm	60	
0.006 mm	51	
0.004 mm	45	
0.003 mm	41	
0.001 mm	29	

Chart



Comments

N/A

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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: 9/2/2008
Approved Signatory: Zeerak Paydawy

Sample Details

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

Other Test Results

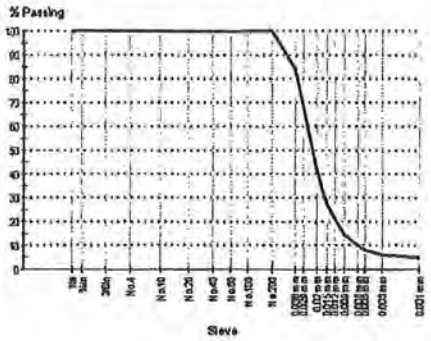
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.2	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.861	
Sample Diameter (in)		2.872	
Sample Cross-Section Area (in²)		6.48	
Sample Volume (in³)		18.53	
Dry Density (lb/ft³)		105.5	
Initial Moisture Content (%)		22.8	
Final Moisture Content (%)		19.0	
Average Permeabilty (cm/s)		8.46 E-6	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	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	

Chart



Comments

N/O = Not Obtainable
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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: 9/2/2008
Approved Signatory: Zeerak Paydawy

Sample Details

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

Other Test Results

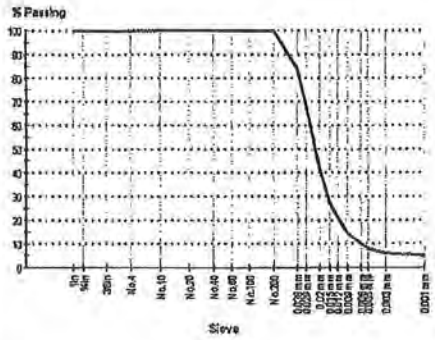
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216	22.8	
Wet Density (lb/ft³)		129.6	
Dry Density (lb/ft³)		105.5	
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	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	

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-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 Paydawy

Sample Details

Boring No: TB-W-11
Field Sample No: LS-14
Sample Depth: 60
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

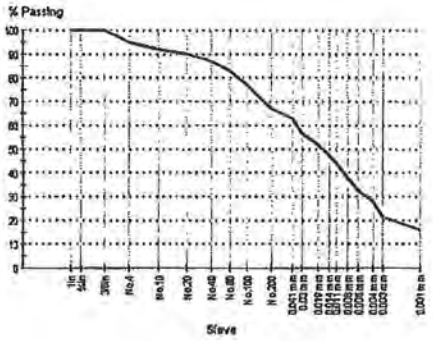
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	20	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		6	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	14.9	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL-ML	
Group Name		Sandy silty clay	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	95	
No.10 (2.0mm)	92	
No.20 (850µm)	90	
No.40 (425µm)	87	
No.60 (250µm)	83	
No.100 (150µm)	77	
No.200 (75µm)	67	
0.041 mm	63	
0.030 mm	57	
0.019 mm	52	
0.014 mm	48	
0.011 mm	44	
0.008 mm	38	
0.006 mm	32	
0.004 mm	28	
0.003 mm	22	
0.001 mm	16	

Chart



Comments

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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 Paydawy

Sample Details

Boring No: TB-W-11
Field Sample No: ST-6
Sample Depth: 53
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

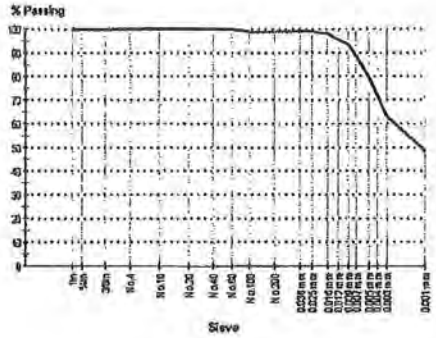
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	22.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.861	
Sample Diameter (in)		2.848	
Sample Cross-Section Area (in²)		6.37	
Sample Volume (in³)		18.23	
Dry Density (lb/ft³)		121.3	
Initial Moisture Content (%)		14.9	
Final Moisture Content (%)		15.0	
Average Permeabilty (cm/s)		1.42 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	99	
No.200 (75µm)	99	
0.036 mm	99	
0.025 mm	99	
0.016 mm	98	
0.012 mm	95	
0.009 mm	93	
0.007 mm	89	
0.005 mm	80	
0.004 mm	72	
0.003 mm	63	
0.001 mm	49	

Chart



Comments

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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 Paydawy

Sample Details

Boring No: TB-W-11
Field Sample No: ST-6
Sample Depth: 53
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

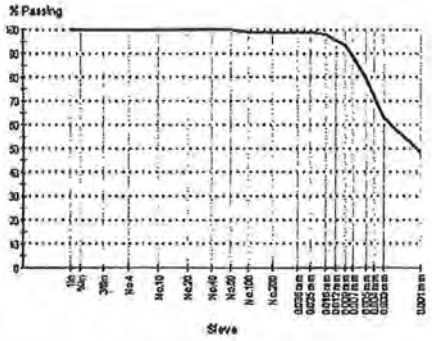
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	44	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		28	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	99	
No.200 (75µm)	99	
0.036 mm	99	
0.025 mm	99	
0.016 mm	98	
0.012 mm	95	
0.009 mm	93	
0.007 mm	89	
0.005 mm	80	
0.004 mm	72	
0.003 mm	63	
0.001 mm	49	

Chart



Comments

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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

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

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

Sample Details

Boring No: TB-W-11
Field Sample No: LS-12
Sample Depth: 50
Date Sampled:
Sampled By:
LWO No: 000322
Sample Location:

Other Test Results

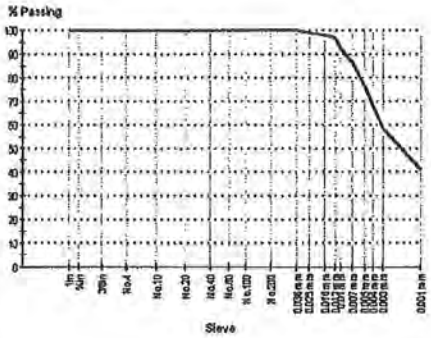
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	37	
Method		Method A	
Plastic Limit (%)		20	
Plasticity Index (%)		17	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	22.8	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	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	

Chart



Comments

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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 Paydawy

Sample Details

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

Other Test Results

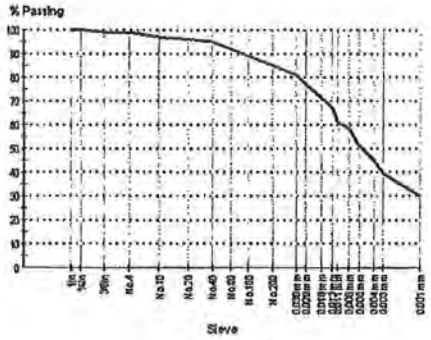
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.4	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.863	
Sample Diameter (in)		2.838	
Sample Cross-Section Area (in²)		6.33	
Sample Volume (in³)		18.11	
Dry Density (lb/ft³)		118.9	
Initial Moisture Content (%)		15.9	
Final Moisture Content (%)		16.3	
Average Permeabilty (cm/s)		1.78 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	96	
No.40 (425µm)	95	
No.60 (250µm)	92	
No.100 (150µm)	89	
No.200 (75µm)	85	
0.038 mm	81	
0.028 mm	77	
0.018 mm	72	
0.013 mm	67	
0.011 mm	61	
0.008 mm	58	
0.006 mm	51	
0.004 mm	45	
0.003 mm	40	
0.001 mm	30	

Chart



Comments

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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 Paydawy

Sample Details

Boring No: TB-W-11
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	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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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	

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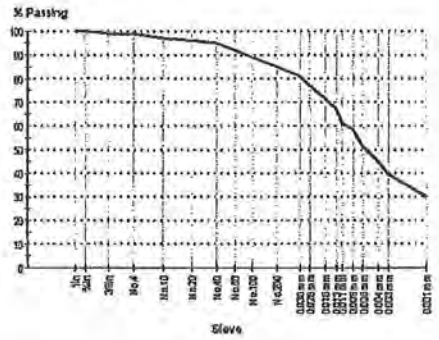

Comments

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

Sample Details

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

Other Test Results

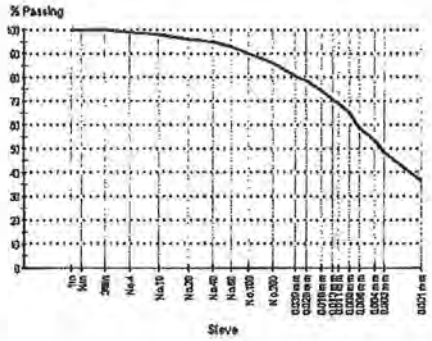
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.2	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.861	
Sample Diameter (in)		2.848	
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 Permeabilty (cm/s)		1.50 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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

Sample Details

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

Other Test Results

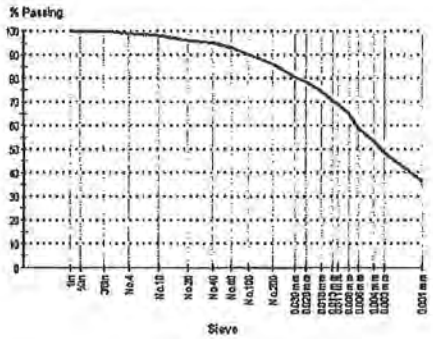
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	34	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		16	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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.

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

Sample Details

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

Other Test Results

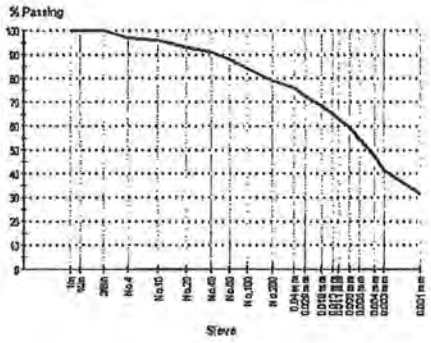
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	31	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		14	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	19.8	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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 Paydawy

Sample Details

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

Other Test Results

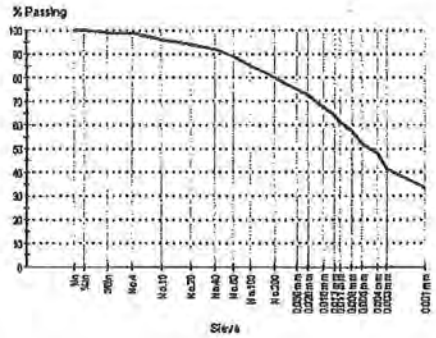
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.865	
Sample Diameter (in)		2.839	
Sample Cross-Section Area (in²)		6.33	
Sample Volume (in³)		18.14	
Dry Density (lb/ft³)		115.4	
Initial Moisture Content (%)		17.8	
Final Moisture Content (%)		18.1	
Average Permeabilty (cm/s)		1.50 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	99	
No.10 (2.0mm)	96	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	85	
No.200 (75µm)	80	
0.039 mm	75	
0.028 mm	72	
0.018 mm	67	
0.013 mm	64	
0.011 mm	61	
0.008 mm	58	
0.006 mm	52	
0.004 mm	48	
0.003 mm	42	
0.001 mm	33	

Chart



Comments

N/A

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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 Paydawy

Sample Details

Boring No: TB-W-11
Field Sample No: ST-3
Sample Depth: 28
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	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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	99	
No.10 (2.0mm)	96	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	85	
No.200 (75µm)	80	
0.039 mm	75	
0.028 mm	72	
0.018 mm	67	
0.013 mm	64	
0.011 mm	61	
0.008 mm	58	
0.006 mm	52	
0.004 mm	48	
0.003 mm	42	
0.001 mm	33	

Chart

Comments

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

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

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

Sample Details

Boring No: TB-W-11
Field Sample No: ST-2
Sample Depth: 23
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	30	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		15	
Sample History		Unkown	
Preparation		Dry	
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	
¾in (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	

Chart

Comments

N/A

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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 of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

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

Sample Details

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

Other Test Results

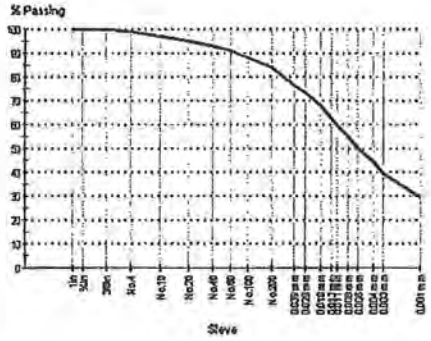
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.860	
Sample Diameter (in)		2.838	
Sample Cross-Section Area (in²)		6.33	
Sample Volume (in³)		18.09	
Dry Density (lb/ft³)		105.8	
Initial Moisture Content (%)		22.6	
Final Moisture Content (%)		23.0	
Average Permeabilty (cm/s)		3.32 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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 of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

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

Sample Details

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

Other Test Results

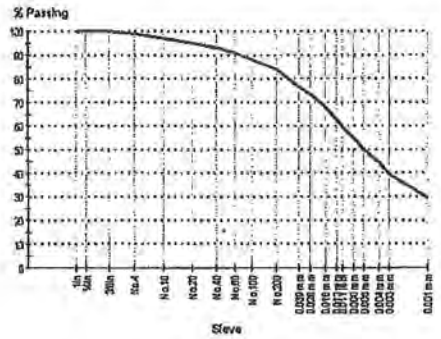
Description	Method	Result	Limits
Sand-Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	AASHTO T 89/T 90	28	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		13	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	20.5	
Wet Density (lb/ft³)		131.9	
Dry Density (lb/ft³)		109.4	
Group Symbol	ASTM D 2487	CL	
Group Name		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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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

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

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

Sample Details

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

Other Test Results

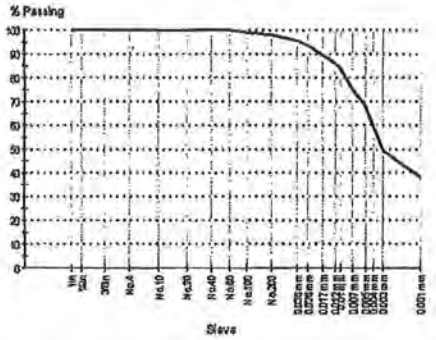
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	39	
Method		Method A	
Plastic Limit (%)		19	
Plasticity Index (%)		20	
Sample History			
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	24.6	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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	

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.

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

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:

Other Test Results

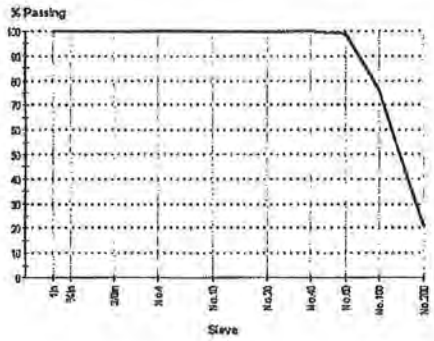
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Moisture Content (%)	ASTM D 2216	21.9	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	99	
No.100 (150µm)	76	
No.200 (75µm)	21	
Finer No.200 (75µm)	21	

Chart



Comments

N/A

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Aggregate/Soil Test Report

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

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:

Other Test Results

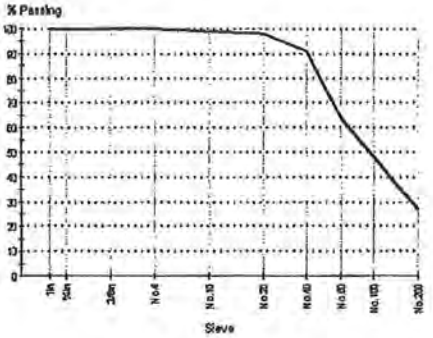
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Moisture Content (%)	ASTM D 2216	13.9	
Wet Density (lb/ft³)			
Dry Density (lb/ft³)			
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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	

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 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: LS-46
Sample Depth: 125
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Other Test Results

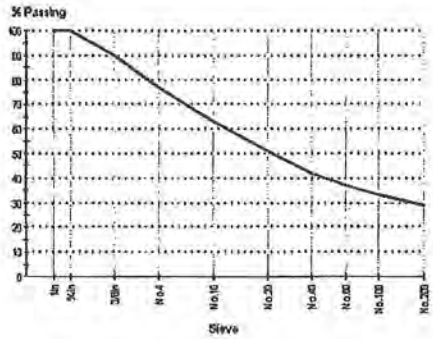
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Group Symbol	ASTM D 2487	SM	
Group Name	Silty sand with gravel		

Particle Size Distribution

Method: ASTM D 422
Drying by:

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (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	

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

This laboratory is accredited by 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: LS-45
Sample Depth: 120
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Other Test Results

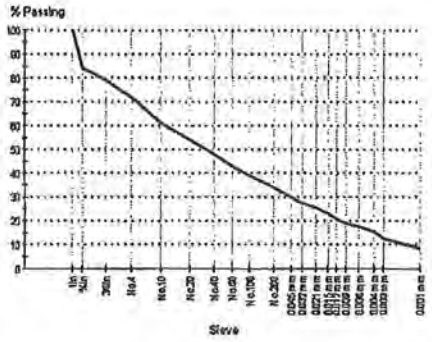
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (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	

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

This laboratory is accredited by 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: LS-44
Sample Depth: 115
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Other Test Results

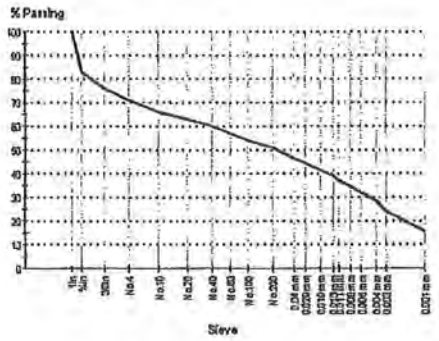
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	27	
Method		Method B	
Plastic Limit (%)		14	
Plasticity Index (%)		13	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name	Sandy lean clay with gravel		

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (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	

Chart



Comments

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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

This laboratory is accredited by 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: LS-43
Sample Depth: 110
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Other Test Results

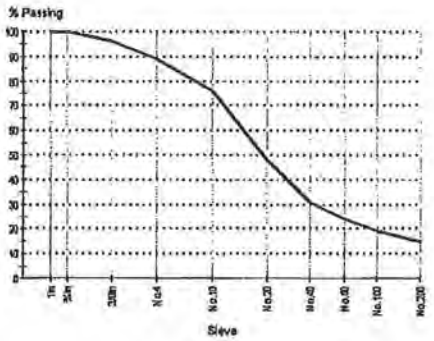
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (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	

Chart



Comments

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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

This laboratory is accredited by 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: LS-42
Sample Depth: 105
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Other Test Results

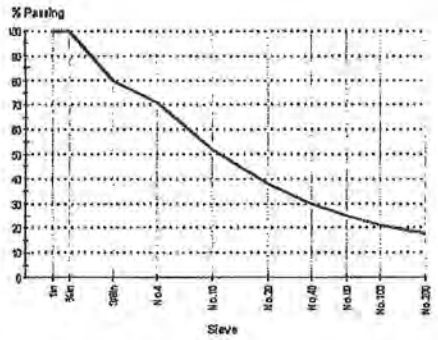
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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	

Chart



Comments

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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

This laboratory is accredited by 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: LS-40
Sample Depth: 98
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Other Test Results

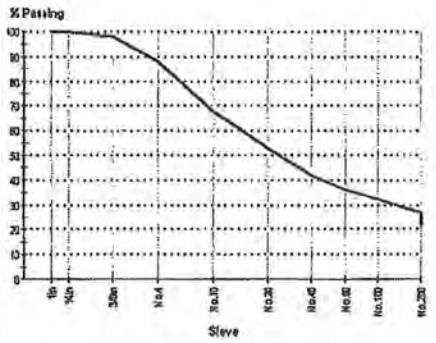
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (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	

Chart



Comments

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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.

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

Sample Details

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

Other Test Results

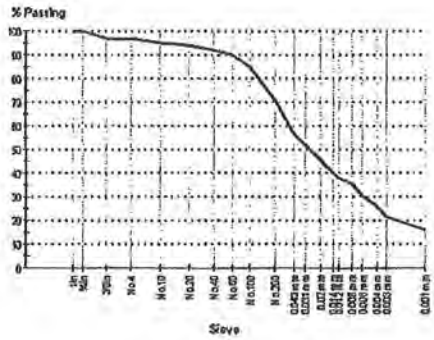
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.863	
Sample Diameter (in)		2.854	
Sample Cross-Section Area (in²)		6.40	
Sample Volume (in³)		18.32	
Dry Density (lb/ft³)		127.7	
Initial Moisture Content (%)		12.2	
Final Moisture Content (%)		12.1	
Average Permeabilty (cm/s)		1.91 E-7	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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	

Chart



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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.

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

Sample Details

Boring No: TB-W-10
Field Sample No: ST-8
Sample Depth: 94
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	18	
Method		Method A	
Plastic Limit (%)		12	
Plasticity Index (%)		6	
Sample History		Unkown	
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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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	

Chart

Comments

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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

This laboratory is accredited by 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: LS-36
Sample Depth: 88
Date Sampled:
Sampled By:
LWO No: 000332
Sample Location:

Other Test Results

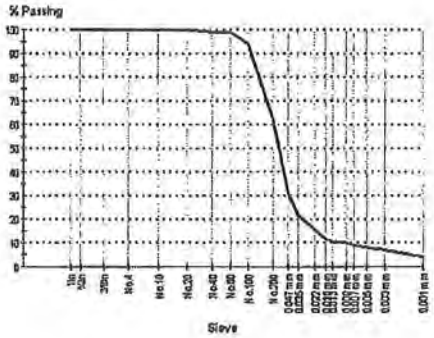
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	99	
No.60 (250µm)	99	
No.100 (150µm)	94	
No.200 (75µm)	62	
0.047 mm	31	
0.035 mm	22	
0.022 mm	16	
0.016 mm	12	
0.013 mm	11	
0.009 mm	10	
0.007 mm	9	
0.005 mm	8	
0.003 mm	7	
0.001 mm	4	

Chart



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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 Paydawy

Sample Details

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

Other Test Results

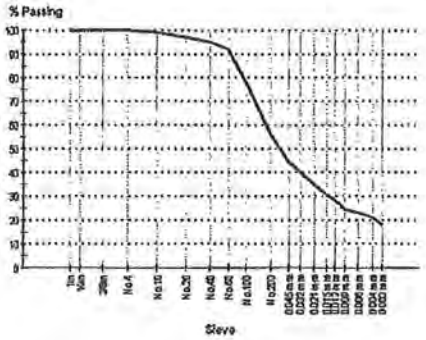
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	16	
Method		Method A	
Plastic Limit (%)		12	
Plasticity Index (%)		4	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL-ML	
Group Name		Sandy silty clay	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	99	
No.20 (850µm)	97	
No.40 (425µm)	95	
No.60 (250µm)	92	
No.100 (150µm)	78	
No.200 (75µm)	56	
0.045 mm	45	
0.032 mm	40	
0.021 mm	35	
0.015 mm	30	
0.012 mm	29	
0.009 mm	25	
0.006 mm	23	
0.004 mm	21	
0.003 mm	18	
0.000 mm	12	

Chart



Comments

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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

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

Sample Details

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

Other Test Results

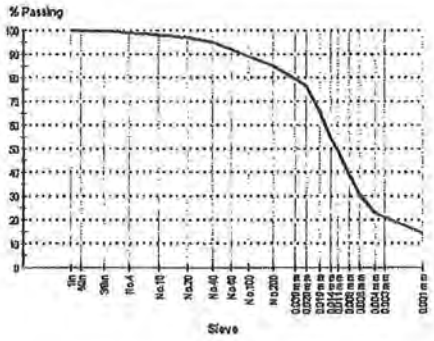
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	20	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		4	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	18.7	
Group Symbol	ASTM D 2487	CL-ML	
Group Name		Silty clay with sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	98	
No.20 (850µm)	97	
No.40 (425µm)	95	
No.60 (250µm)	92	
No.100 (150µm)	89	
No.200 (75µm)	85	
0.039 mm	79	
0.028 mm	77	
0.019 mm	66	
0.014 mm	55	
0.011 mm	49	
0.008 mm	39	
0.006 mm	31	
0.004 mm	23	
0.003 mm	21	
0.001 mm	14	

Chart



Comments

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 Paydawy

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

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216 - 05	17.7	
Wet Density (lb/ft³)		136.2	
Dry Density (lb/ft³)		115.7	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	5340	
Shear Strength (lb/ft²)		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			

Particle Size Distribution

Method:
Drying by:
Date Tested:

Sieve Size	% Passing	Limits

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

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	

Particle Size Distribution

Method:
Drying by:
Date Tested:

Sieve Size	% Passing	Limits

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.

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

Sample Details

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

Other Test Results

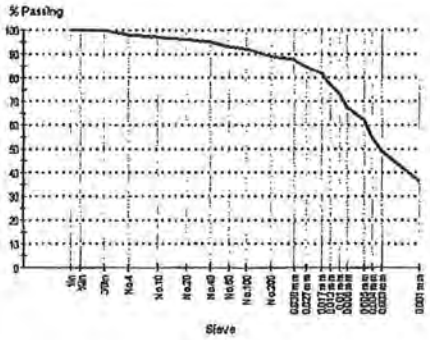
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.6	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.848	
Sample Diameter (in)		2.851	
Sample Cross-Section Area (in²)		6.38	
Sample Volume (in³)		18.18	
Dry Density (lb/ft³)		107.0	
Initial Moisture Content (%)		21.5	
Final Moisture Content (%)		20.7	
Average Permeabilty (cm/s)		1.71 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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 Paydawy

Sample Details

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

Other Test Results

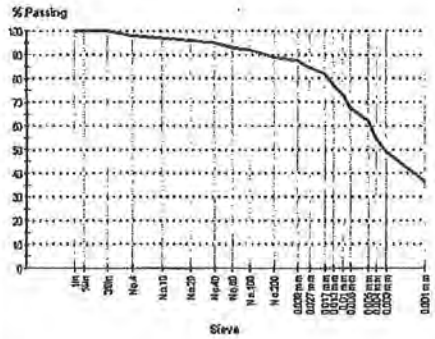
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	33	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		15	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	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 2166	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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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 Paydawy

Sample Details

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

Other Test Results

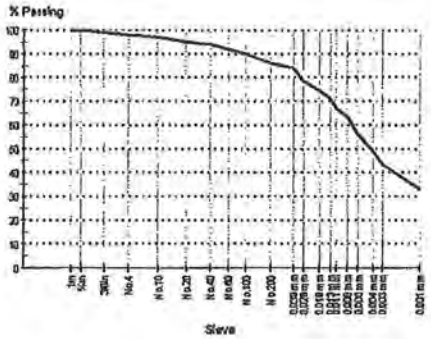
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	22.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.848	
Sample Diameter (in)		2.838	
Sample Cross-Section Area (in²)		6.33	
Sample Volume (in³)		18.02	
Dry Density (lb/ft³)		111.0	
Initial Moisture Content (%)		19.1	
Final Moisture Content (%)		20.0	
Average Permeabilty (cm/s)		4.31 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	98	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	94	
No.60 (250µm)	92	
No.100 (150µm)	90	
No.200 (75µm)	86	
0.038 mm	84	
0.028 mm	78	
0.018 mm	75	
0.013 mm	71	
0.011 mm	67	
0.008 mm	63	
0.006 mm	56	
0.004 mm	49	
0.003 mm	44	
0.001 mm	33	

Chart



Comments

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 Paydawy

Sample Details

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

Other Test Results

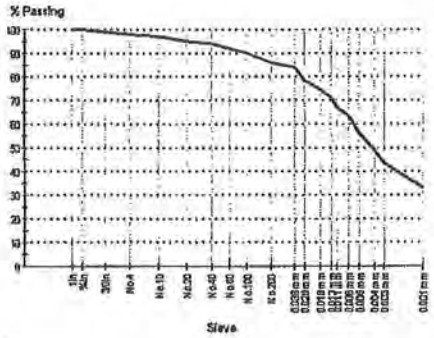
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	31	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		14	
Sample History		Unkown	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	19.1	
Wet Density (lb/ft³)		132.2	
Dry Density (lb/ft³)		111.0	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	98	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	94	
No.60 (250µm)	92	
No.100 (150µm)	90	
No.200 (75µm)	86	
0.038 mm	84	
0.028 mm	78	
0.018 mm	75	
0.013 mm	71	
0.011 mm	67	
0.008 mm	63	
0.006 mm	56	
0.004 mm	49	
0.003 mm	44	
0.001 mm	33	

Chart



Comments
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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 Paydawy

Sample Details

Boring No: TB-W-10
Field Sample No: LS-22
Sample Depth: 52
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	24	
Method		Method A	
Plastic Limit (%)		13	
Plasticity Index (%)		11	
Sample History		Unkown	
Preparation		Dry	
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	98	
No.20 (850µm)	96	
No.40 (425µm)	94	
No.60 (250µm)	90	
No.100 (150µm)	85	
No.200 (75µm)	79	
0.040 mm	75	
0.029 mm	71	
0.019 mm	62	
0.014 mm	57	
0.011 mm	54	
0.008 mm	49	
0.006 mm	44	
0.004 mm	37	
0.003 mm	32	
0.001 mm	25	

Chart

Comments

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

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

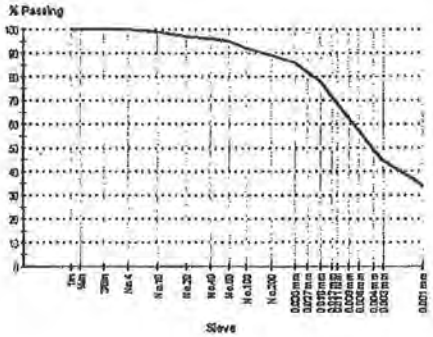
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.853	
Sample Diameter (in)		2.752	
Sample Cross-Section Area (in²)		5.95	
Sample Volume (in³)		16.97	
Dry Density (lb/ft³)		118.7	
Initial Moisture Content (%)		17.2	
Final Moisture Content (%)		18.2	
Average Permeabilty (cm/s)		3.34 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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
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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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Date of Issue: 9/2/2008
Approved Signatory: Zeerak Paydawy

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
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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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

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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 Paydawy

Sample Details

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

Other Test Results

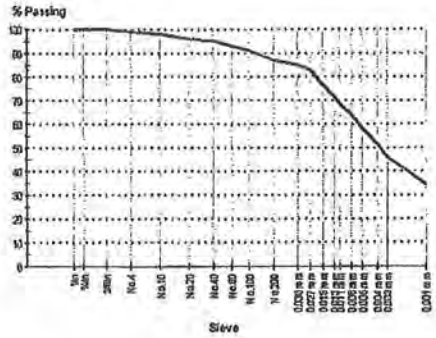
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.4	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.852	
Sample Diameter (in)		2.832	
Sample Cross-Section Area (in²)		6.30	
Sample Volume (in³)		17.97	
Dry Density (lb/ft³)		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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	98	
No.20 (850µm)	96	
No.40 (425µm)	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

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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 Paydawy

Sample Details

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

Other Test Results

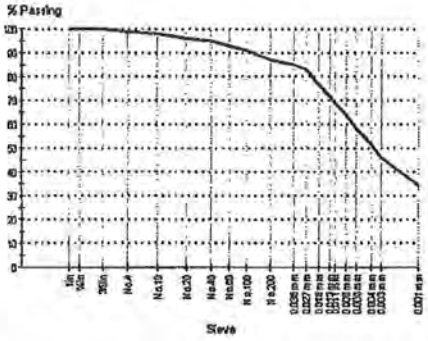
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	31	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		13	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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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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 Paydawy

Sample Details

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

Other Test Results

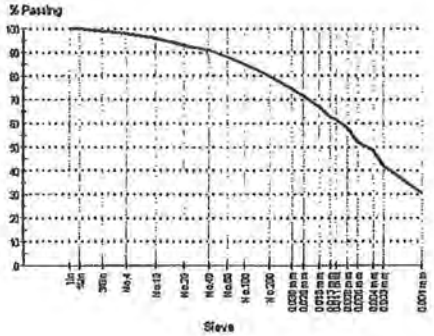
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	34	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		17	
Sample History		Unkown	
Preparation		Wet	
Group Symbol	ASTM D 2487	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	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	93	
No.40 (425µm)	91	
No.60 (250µm)	88	
No.100 (150µm)	85	
No.200 (75µm)	80	
0.039 mm	75	
0.028 mm	72	
0.018 mm	67	
0.013 mm	62	
0.011 mm	62	
0.008 mm	58	
0.006 mm	52	
0.004 mm	48	
0.003 mm	42	
0.001 mm	31	

Chart



Comments
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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

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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

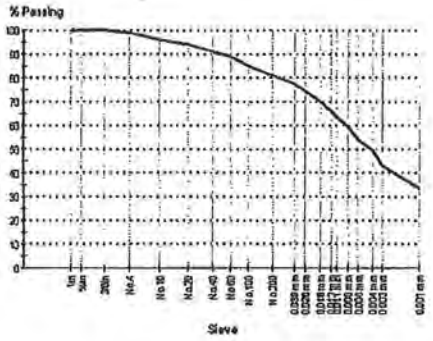
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.3	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.840	
Sample Diameter (in)		2.813	
Sample Cross-Section Area (in²)		6.22	
Sample Volume (in³)		17.65	
Dry Density (lb/ft³)		114.6	
Initial Moisture Content (%)		17.7	
Final Moisture Content (%)		18.3	
Average Permeabilty (cm/s)		2.64 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	96	
No.20 (850µm)	94	
No.40 (425µm)	91	
No.60 (250µm)	89	
No.100 (150µm)	85	
No.200 (75µm)	81	
0.039 mm	77	
0.028 mm	75	
0.018 mm	70	
0.013 mm	66	
0.011 mm	63	
0.008 mm	60	
0.006 mm	54	
0.004 mm	49	
0.003 mm	43	
0.001 mm	34	

Chart



Comments

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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/ft³)		134.9	
Dry Density (lb/ft³)		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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	96	
No.20 (850µm)	94	
No.40 (425µm)	91	
No.60 (250µm)	89	
No.100 (150µm)	85	
No.200 (75µm)	81	
0.039 mm	77	
0.028 mm	75	
0.018 mm	70	
0.013 mm	66	
0.011 mm	63	
0.008 mm	60	
0.006 mm	54	
0.004 mm	49	
0.003 mm	43	
0.001 mm	34	

Chart

Comments

N/A

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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 Paydawy

Sample Details

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

Other Test Results

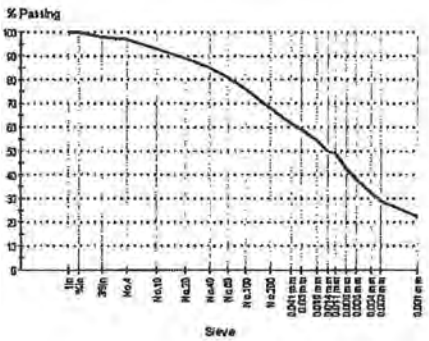
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	23	
Method		Method A	
Plastic Limit (%)		13	
Plasticity Index (%)		10	
Sample History		Unkown	
Preparation		Wet	
Group Symbol	ASTM D 2487	CL	
Group Name		Sandy lean clay	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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	

Chart



Comments

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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 Paydawy

Sample Details

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

Other Test Results

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.4	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.853	
Sample Diameter (in)		2.834	
Sample Cross-Section Area (in²)		6.31	
Sample Volume (in³)		18.00	
Dry Density (lb/ft³)		101.3	
Initial Moisture Content (%)		26.3	
Final Moisture Content (%)		24.6	
Average Permeabilty (cm/s)		3.11 E-6	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart

Comments

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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 Paydawy

Sample Details

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

Other Test Results

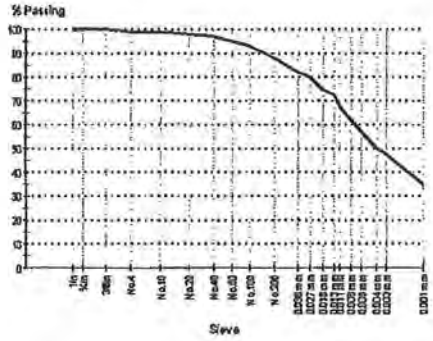
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	30	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		13	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



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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

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

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

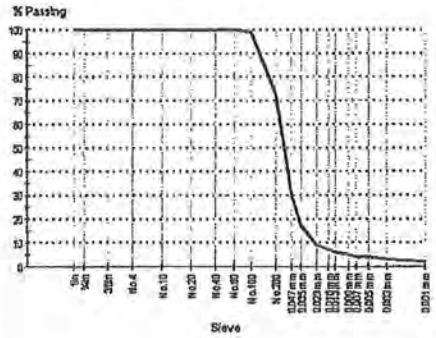
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	99	
No.200 (75µm)	73	
0.047 mm	31	
0.035 mm	17	
0.023 mm	9	
0.016 mm	7	
0.013 mm	6	
0.009 mm	5	
0.007 mm	4	
0.005 mm	4	
0.003 mm	3	
0.001 mm	2	

Chart



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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

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

Sample Details

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

Other Test Results

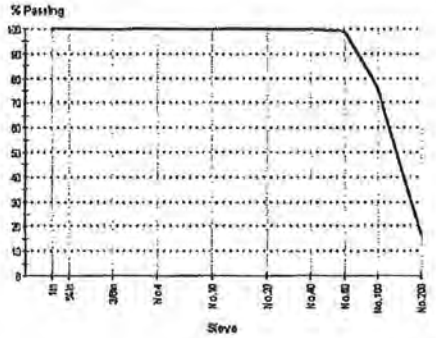
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	99	
No.100 (150µm)	76	
No.200 (75µm)	17	
Finer No.200 (75µm)	17	

Chart



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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 Paydawy

Sample Details

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

Other Test Results

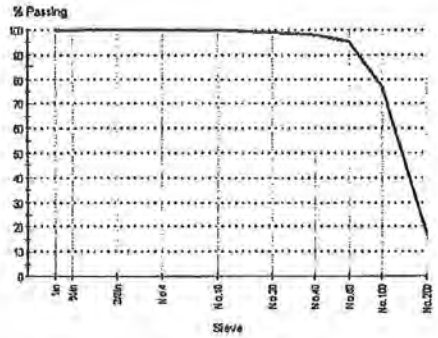
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period			
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by:

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	99	
No.40 (425µm)	98	
No.60 (250µm)	95	
No.100 (150µm)	77	
No.200 (75µm)	18	
Finer No.200 (75µm)	18	

Chart



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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

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

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

Sample Details

Boring No:	TB-W-9
Field Sample No:	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

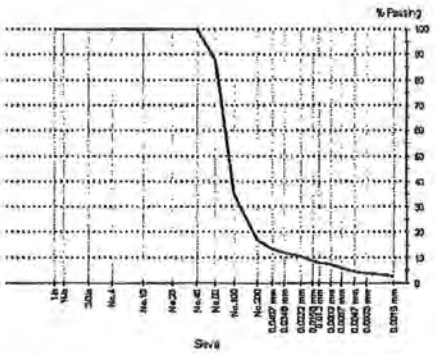
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand 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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	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



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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

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

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

Sample Details

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

Other Test Results

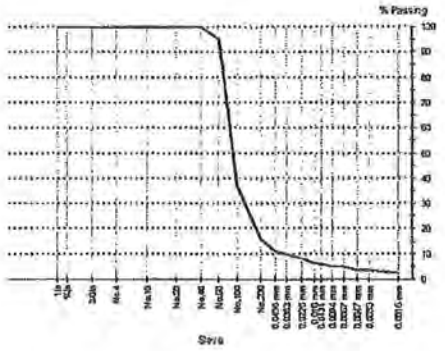
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand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

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	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	

Chart



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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 Paydawy

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

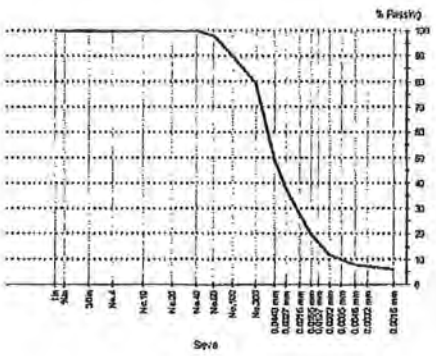
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand 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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	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



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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

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

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

Sample Details

Boring No:	TB-W-9
Field Sample No:	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

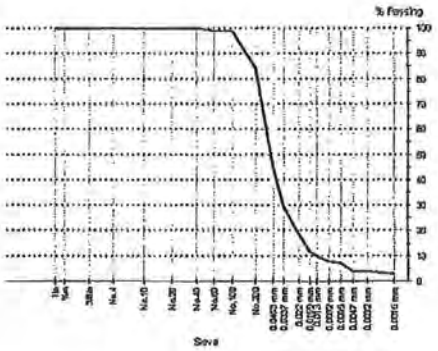
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07		
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	ML	
Group Name		Silt with sand	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	99	
No.100 (150µm)	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

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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

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

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

Sample Details

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

Other Test Results

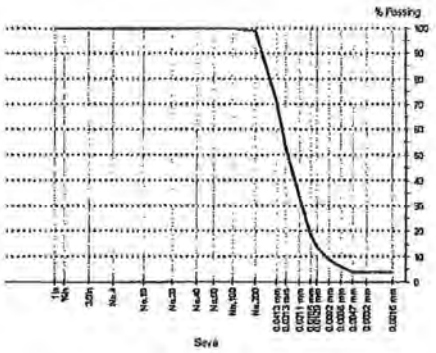
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	ML	
Group Name		Silt	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.041 mm	71	
0.031 mm	53	
0.021 mm	34	
0.016 mm	19	
0.013 mm	14	
0.009 mm	9	
0.007 mm	6	
0.005 mm	4	
0.003 mm	4	
0.002 mm	4	

Chart



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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: Zeerak Paydawy

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

Other Test Results

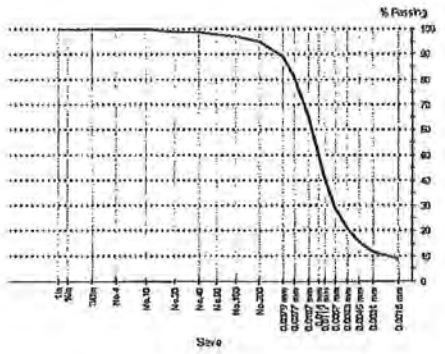
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	MH	
Group Name		Elastic silt	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	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	

Chart



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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: Zeerak Paydawy

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

Other Test Results

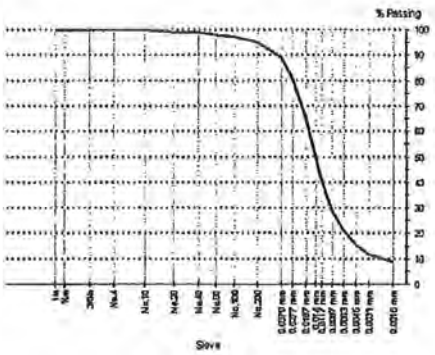
Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216 - 05	21.9	
Wet Density (lb/ft³)		127.0	
Dry Density (lb/ft³)		104.2	
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Temperture (°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 Permeabilty (cm/s)		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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	99	
No.40 (425µm)	99	
No.60 (250µm)	98	
No.100 (150µm)	97	
No.200 (75µm)	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	

Chart



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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

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

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

Sample Details

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

Other Test Results

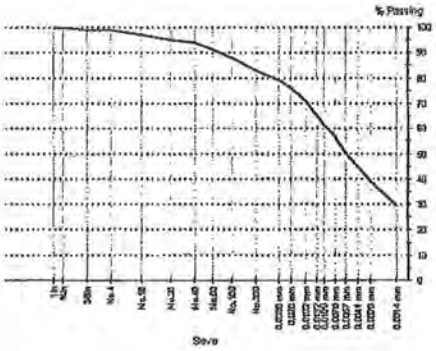
Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	8360	
Shear Strength (lb/ft²)		4180	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		12.2	
Average Height (in.)		6.010	
Average Diameter (in.)		2.830	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		122.6	
Init. Water Content (%)		12.5	
Liquid Limit		28	
Plastic Limit		16	
Remarks			
Visual Description			
Group Symbol	ASTM D 2487 - 06	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	
¾in (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	

Chart



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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

Other Test Results

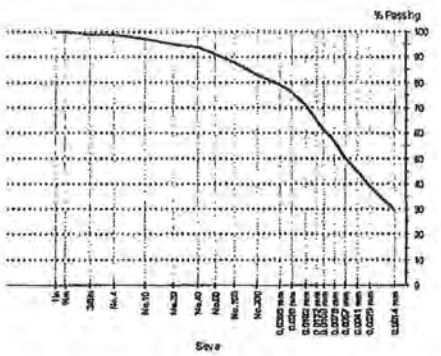
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	28	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		12	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03	23.4	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.850	
Sample Diameter (in)		2.816	
Sample Cross-Section Area (in²)		6.23	
Sample Volume (in³)		17.75	
Dry Density (lb/ft³)		118.8	
Initial Moisture Content (%)		16.1	
Final Moisture Content (%)		16.4	
Average Permeabilty (cm/s)		1.40 E-8	
Moisture Content (%)	ASTM D 2216 - 05	12.5	
Wet Density (lb/ft³)		137.9	
Dry Density (lb/ft³)		122.6	
Dispersion Period (mins)	ASTM D 422 - 07	1	
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	
¾in (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	

Chart



Comments

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S205
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

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

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

Sample Details

Boring No:	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

Other Test Results

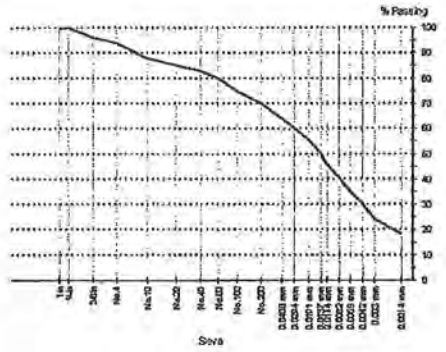
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	23	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		9	
Sample History		Air-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Sandy lean clay	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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	

Chart



Comments

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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 Paydawy

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

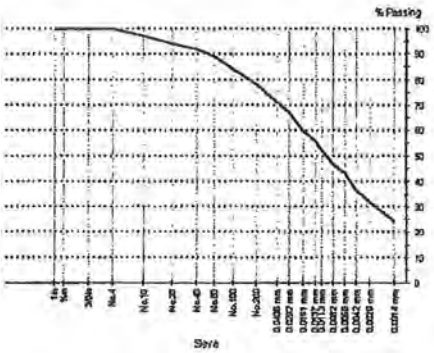
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	97	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	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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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 Paydawy

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

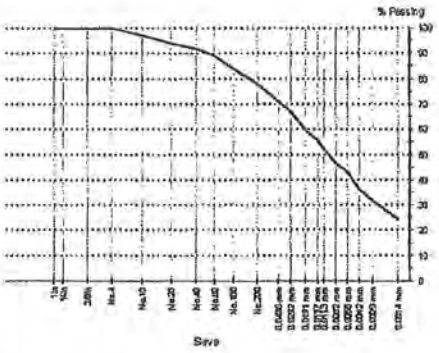
Description	Method	Result	Limits
Temperture (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.871	
Sample Diameter (in)		2.853	
Sample Cross-Section Area (in²)		6.39	
Sample Volume (in³)		18.35	
Dry Density (lb/ft³)		123.3	
Initial Moisture Content (%)		15.6	
Final Moisture Content (%)		15.7	
Average Permeabilty (cm/s)		6.25 E-8	
Liquid Limit (%)	ASTM D 4318 - 05	24	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		10	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Moisture Content (%)	ASTM D 2216 - 05	15.6	
Wet Density (lb/ft³)		142.5	
Dry Density (lb/ft³)		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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	97	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	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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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 Paydawy

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/ft²)	ASTM D 2166 - 06	11680	
Shear Strength (lb/ft²)		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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	93	
No.60 (250µm)	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	

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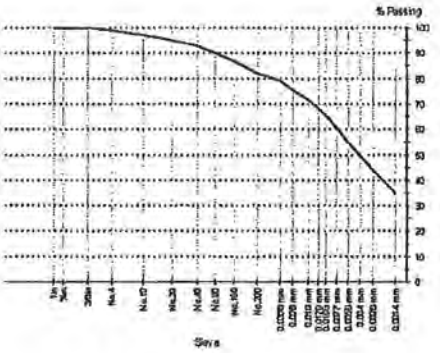

Comments

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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 Paydawy

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

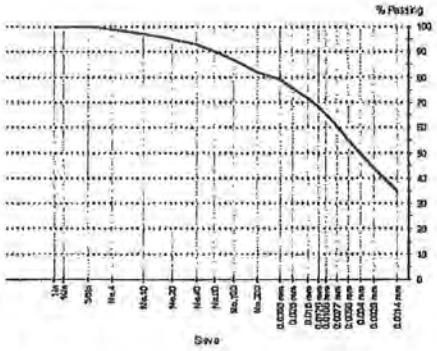
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay with sand	
Liquid Limit (%)	ASTM D 4318 - 05	31	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	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 CaS04	
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 Permeabilty (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	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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

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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 Paydawy

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	
¾in (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	

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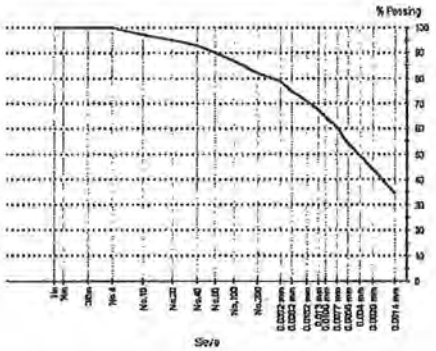

Comments

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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 Paydawy

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

Other Test Results

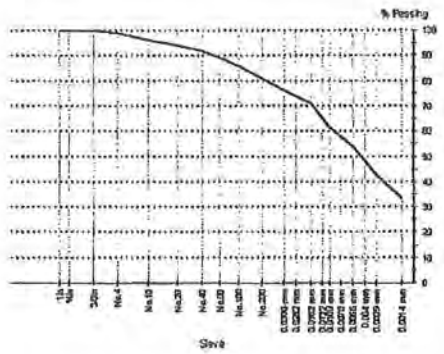
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name	Lean clay with sand		

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	96	
No.20 (850µm)	94	
No.40 (425µm)	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	

Chart



Comments

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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 Paydawy

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

Other Test Results

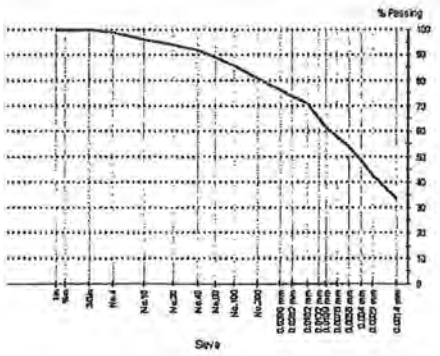
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	31	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03	22.7	
Cell Pressure (lb/in²)		40.0	
Top Pressure (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 CaS04	
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 Permeabilty (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			

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S200
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

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

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

Sample Details

Boring No:	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

Other Test Results

Description	Method	Result	Limits
Temperture (°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 CaS04	
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 Permeabilty (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			

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

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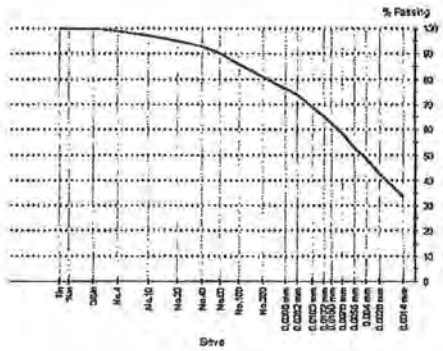

Comments

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S200
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

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

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

Sample Details

Boring No:	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

Other Test Results

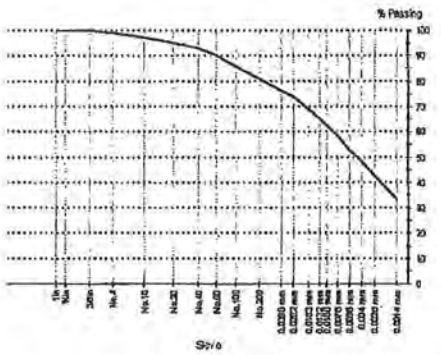
Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	6580	
Shear Strength (lb/ft²)		3300	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		11.8	
Average Height (in.)		5.930	
Average Diameter (in.)		2.850	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		114.6	
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	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

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-S199
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-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

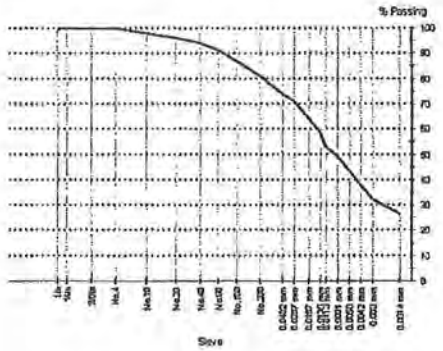
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	24	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		9	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	98	
No.20 (850µm)	96	
No.40 (425µm)	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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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

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

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

Sample Details

Boring No:	TB-W-9
Field Sample No:	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

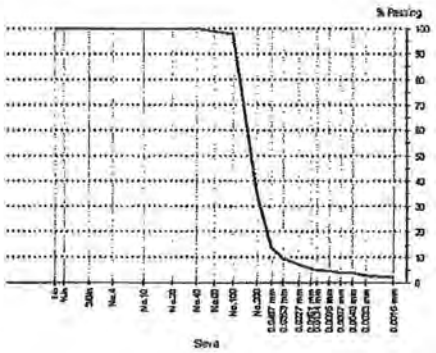
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	99	
No.100 (150µm)	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

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S197
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

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

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

Sample Details

Boring No: 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

Other Test Results

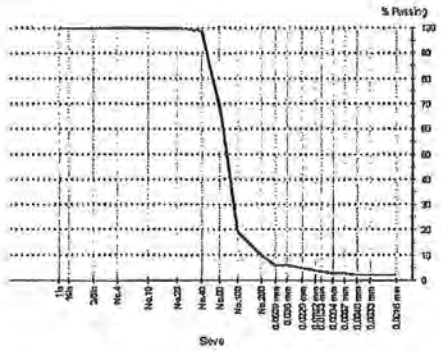
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	99	
No.60 (250µm)	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	

Chart



Comments

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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

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

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

Sample Details

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

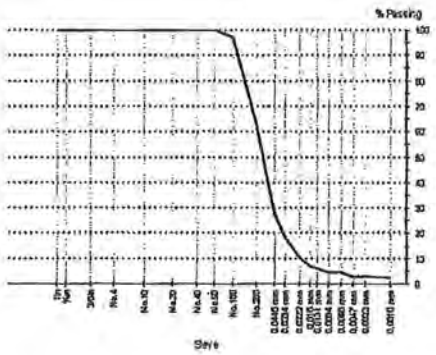
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand 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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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



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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

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

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

Sample Details

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

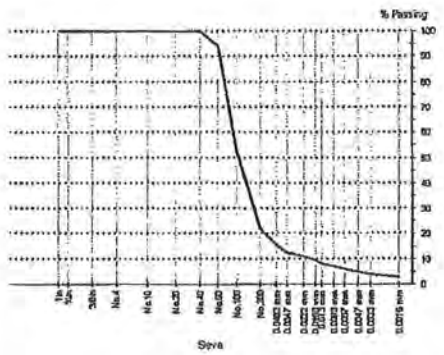
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand 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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	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



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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

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

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

Sample Details

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

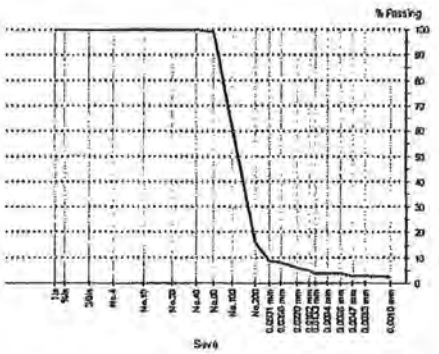
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand 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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	99	
No.100 (150µm)	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



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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 Paydawy

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

Other Test Results

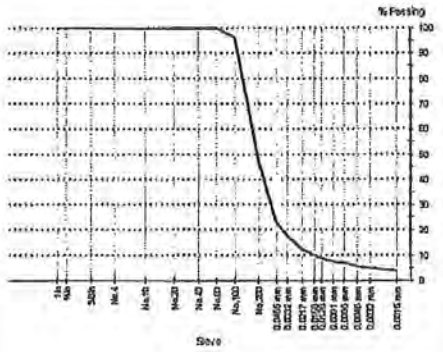
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand 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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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	

Chart



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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 Paydawy

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

Other Test Results

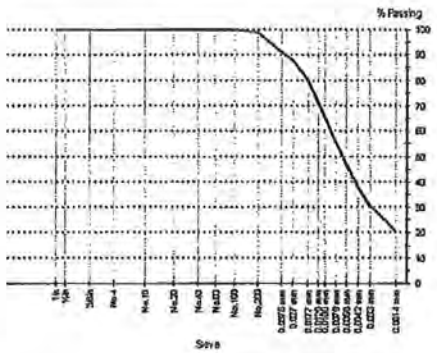
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL-ML	
Group Name		Silty clay	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.038 mm	91	
0.027 mm	88	
0.018 mm	80	
0.013 mm	71	
0.011 mm	66	
0.008 mm	56	
0.006 mm	47	
0.004 mm	38	
0.003 mm	30	
0.001 mm	21	

Chart



Comments

N/A

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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 Paydawy

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

Other Test Results

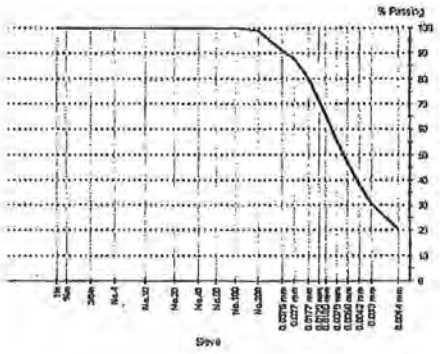
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	25	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		7	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03	22.6	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.846	
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 Permeabilty (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			

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.038 mm	91	
0.027 mm	88	
0.018 mm	80	
0.013 mm	71	
0.011 mm	66	
0.008 mm	56	
0.006 mm	47	
0.004 mm	38	
0.003 mm	30	
0.001 mm	21	

Chart



Comments

N/A

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NTH Consultants, Ltd.
Southeast Michigan Laboratory

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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

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

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

Other Test Results

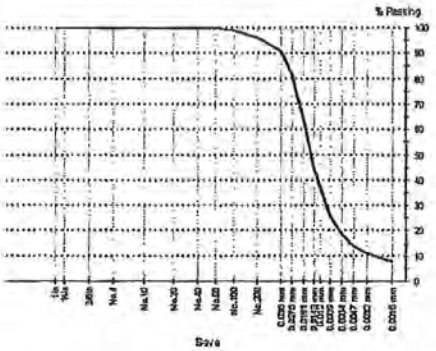
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand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

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	99	
No.200 (75µm)	96	
0.038 mm	91	
0.028 mm	82	
0.019 mm	63	
0.014 mm	45	
0.012 mm	38	
0.009 mm	26	
0.006 mm	19	
0.005 mm	14	
0.003 mm	11	
0.002 mm	8	

Chart



Comments

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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 Paydawy

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

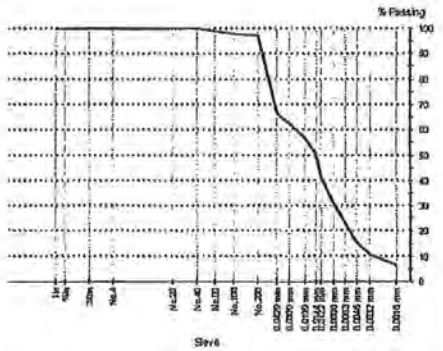
Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	N/O	
Shear Strength (lb/ft²)		N/O	
Ave. Rate Strain to Failure(%)		N/O	
Strain at Failure(%)		N/O	
Average Height (in.)		N/O	
Average Diameter (in.)		N/O	
Height-Diameter Ratio		N/O	
Init. Dry Dens.		N/O	
Init. 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	ML	
Group Name		Silt	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.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

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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 Paydawy

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

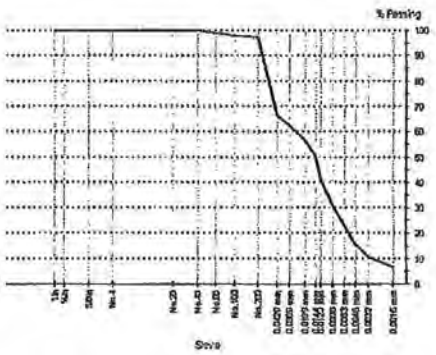
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	18	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		2	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03	N/O	
Cell Pressure (lb/in²)		N/O	
Top Pressure (lb/in²)		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 Permeabilty (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			

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.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

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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: Zeerak Paydawy

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

Other Test Results

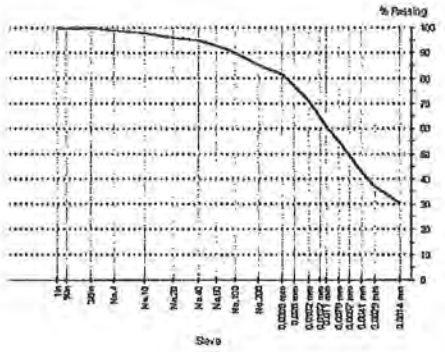
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	26	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		11	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay with sand	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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

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

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

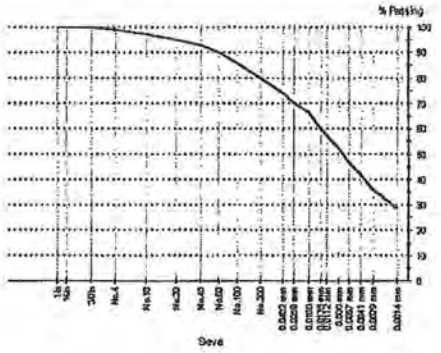
Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	N/O	
Shear Strength (lb/ft²)		N/O	
Ave. Rate Strain to Failure(%)		N/O	
Strain at Failure(%)		N/O	
Average Height (in.)		N/O	
Average Diameter (in.)		N/O	
Height-Diameter Ratio		N/O	
Init. Dry Dens.		N/O	
Init. 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		

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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

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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 Paydawy

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

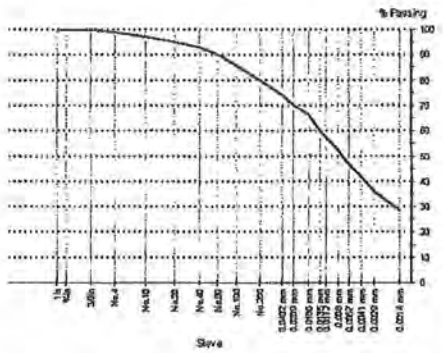
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	27	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		12	
Sample History		Natural state	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03	22.4	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.852	
Sample Diameter (in)		2.868	
Sample Cross-Section Area (in²)		6.46	
Sample Volume (in³)		18.42	
Dry Density (lb/ft³)		121.1	
Initial Moisture Content (%)		13.8	
Final Moisture Content (%)		14.3	
Average Permeabilty (cm/s)		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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	93	
No.60 (250µm)	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



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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.

Date of Issue: 12/13/2008
Approved Signatory: Zeerak Paydawy

Comments
N/A

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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.

Date of Issue: 12/13/2008
Approved Signatory: Zeerak Paydawy

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

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216 - 05	18.0	
Wet Density (lb/ft³)		135.7	
Dry Density (lb/ft³)		115.0	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	1660	
Shear Strength (lb/ft²)		840	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (in.)		5.980	
Average Diameter (in.)		2.840	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		115.0	
Init. Water Content (%)		18.0	
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Particle Size Distribution

Method:
Drying by:
Date Tested:

Sieve Size	% Passing	Limits

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 Paydawy

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

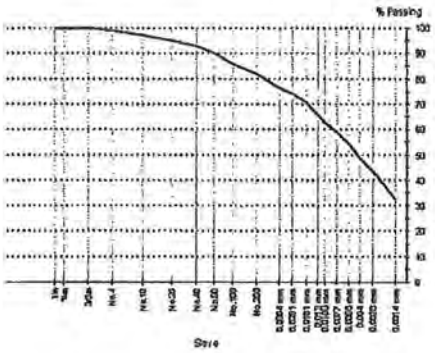
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	93	
No.60 (250µm)	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

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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 Paydawy

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

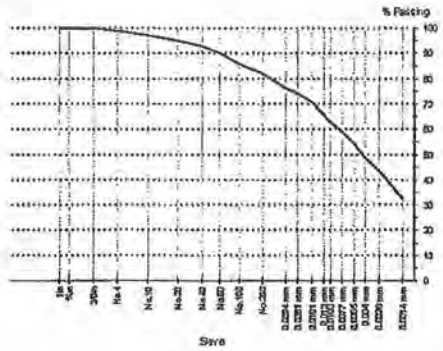
Description	Method	Result	Limits
Temperture (°C)	ASTM D 5084 - 03	22.6	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.869	
Sample Diameter (in)		2.861	
Sample Cross-Section Area (in²)		6.43	
Sample Volume (in³)		18.44	
Dry Density (lb/ft³)		114.0	
Initial Moisture Content (%)		17.8	
Final Moisture Content (%)		18.4	
Average Permeabilty (cm/s)		2.47 E-8	
Moisture Content (%)	ASTM D 2216 - 05	17.8	
Wet Density (lb/ft³)		134.3	
Dry Density (lb/ft³)		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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	93	
No.60 (250µm)	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

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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: 10/21/2008
Approved Signatory: Zeerak Paydawy

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

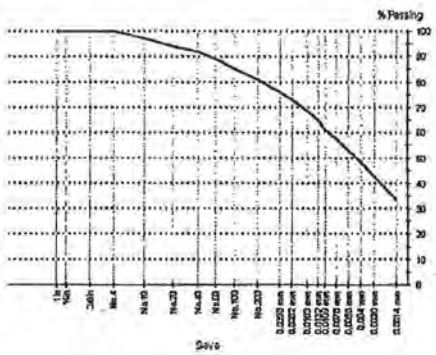
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	30	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		13	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	97	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	85	
No.200 (75µm)	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

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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 Paydawy

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

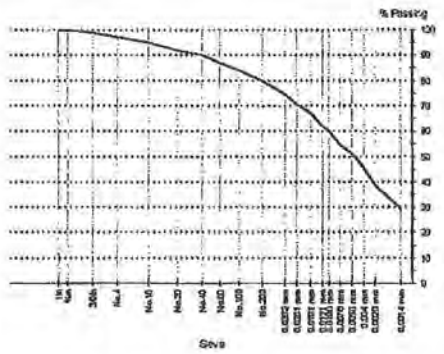
Description	Method	Result	Limits
Temperture (°C)	ASTM D 5084 - 03	22.4	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.855	
Sample Diameter (in)		2.834	
Sample Cross-Section Area (in²)		6.31	
Sample Volume (in³)		18.01	
Dry Density (lb/ft³)		115.1	
Initial Moisture Content (%)		17.8	
Final Moisture Content (%)		18.0	
Average Permeabilty (cm/s)		3.29 E-8	
Moisture Content (%)	ASTM D 2216 - 05	17.8	
Wet Density (lb/ft³)		135.6	
Dry Density (lb/ft³)		115.1	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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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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 Paydawy

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

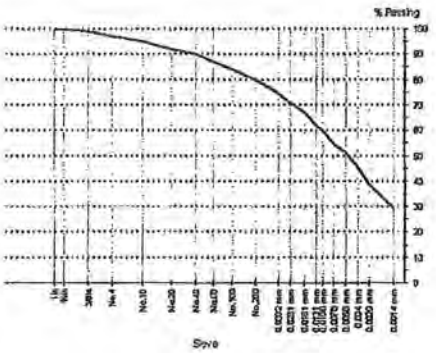
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	5100	
Shear Strength (lb/ft²)		2560	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
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		Unkown	
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	97	
No.10 (2.0mm)	95	
No.20 (850µm)	92	
No.40 (425µm)	90	
No.60 (250µm)	87	
No.100 (150µm)	84	
No.200 (75µm)	80	
0.039 mm	74	
0.028 mm	71	
0.018 mm	67	
0.013 mm	62	
0.011 mm	60	
0.008 mm	55	
0.006 mm	51	
0.004 mm	46	
0.003 mm	39	
0.001 mm	30	

Chart



Comments

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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 Paydawy

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

Other Test Results

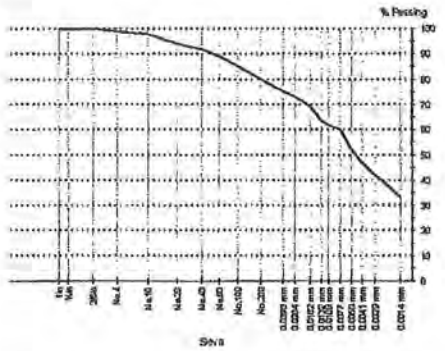
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay with sand	
Liquid Limit (%)	ASTM D 4318 - 05	30	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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

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

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

Sample Details

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

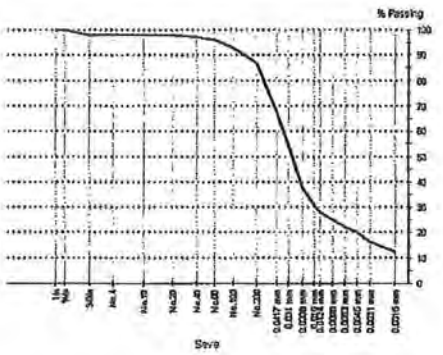
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	ML	
Group Name		Silt	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (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

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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

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

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

Sample Details

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

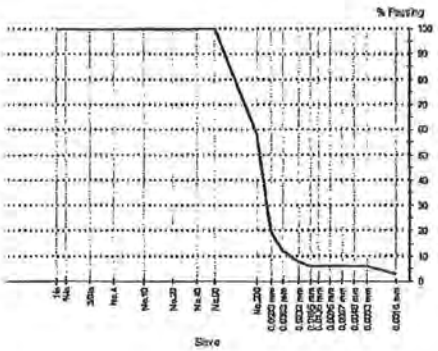
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	ML	
Group Name		Sandy silt	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.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

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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 Paydawy

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

Other Test Results

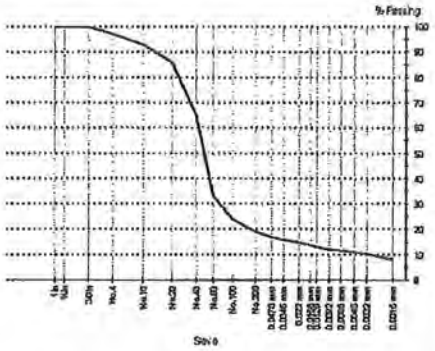
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	SC	
Group Name		Clayey sand	
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)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

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



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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 Paydawy

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

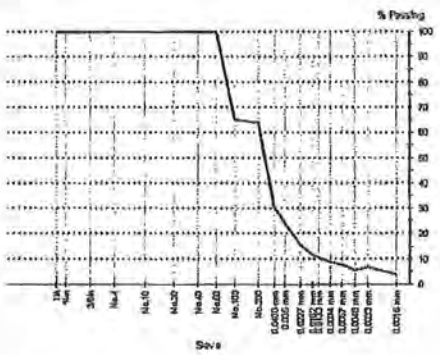
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand 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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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



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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

This laboratory is accredited by 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-32
Sample Depth: 76.0
Date Sampled: 9/4/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

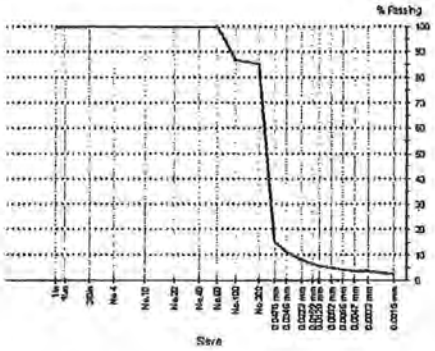
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand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

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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	

Chart



Comments

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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

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

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

Sample Details

Boring No:	TB-W-7
Field Sample No:	LS-30
Sample Depth:	72.0
Date Sampled:	9/4/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

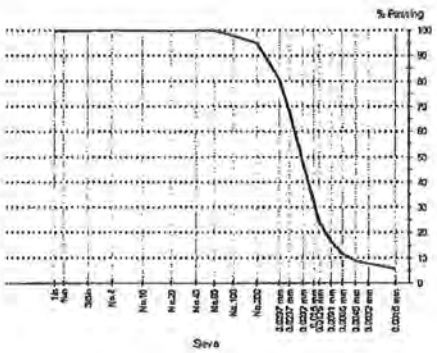
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	MH	
Group Name		Elastic silt	
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM 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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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

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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

This laboratory is accredited by 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-28
Sample Depth:	68.0
Date Sampled:	9/4/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

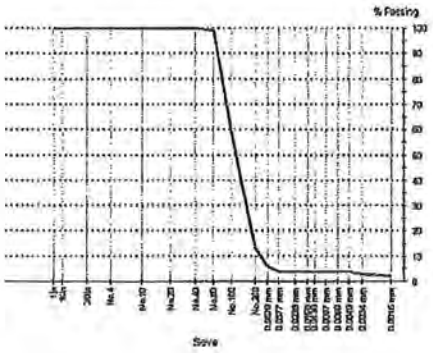
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand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

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	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	

Chart



Comments

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S176
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-26
Sample Depth: 64.0
Date Sampled: 9/4/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

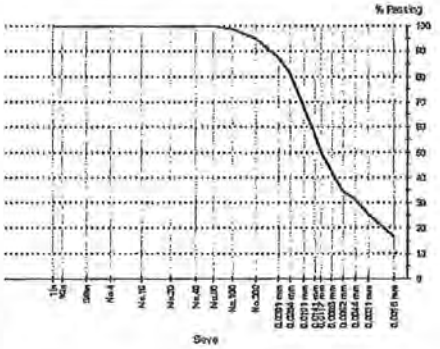
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	21	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		5	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	CL-ML	
Group Name		Silty clay	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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	

Chart



Comments

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S175
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

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

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

Sample Details

Boring No:	TB-W-7
Field Sample No:	LS-24
Sample Depth:	60.0
Date Sampled:	9/4/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

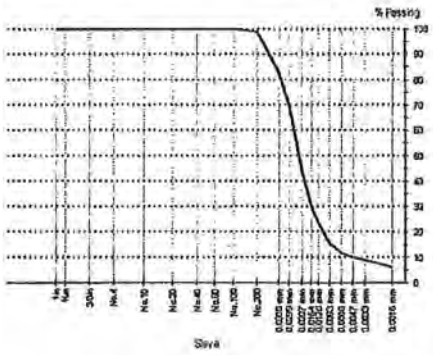
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand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

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.040 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	

Chart



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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.

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

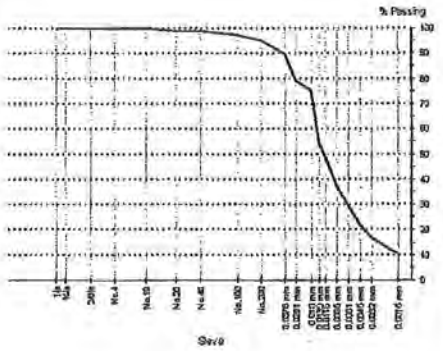
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Liquid Limit (%)	ASTM D 4318 - 05	22	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		5	
Sample History		Oven-dried	
Preparation		Dry	
Retained 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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	99	
No.40 (425µm)	99	
No.100 (150µm)	97	
No.200 (75µm)	95	
0.038 mm	90	
0.028 mm	79	
0.018 mm	75	
0.014 mm	54	
0.012 mm	49	
0.009 mm	37	
0.006 mm	29	
0.005 mm	22	
0.003 mm	17	
0.002 mm	10	

Chart



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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

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

Sample Details

Boring No:	TB-W-7
Field Sample No:	ST-6
Sample Depth:	56.0
Date Sampled:	9/4/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

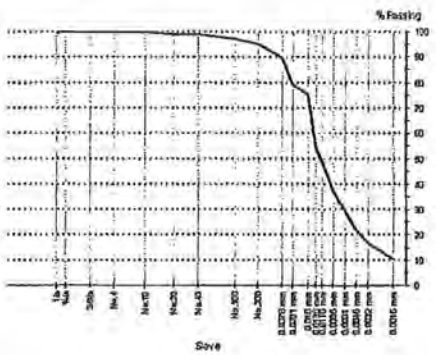
Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	N/O	
Shear Strength (lb/ft²)		N/O	
Ave. Rate Strain to Failure(%)		N/O	
Strain at Failure(%)		N/O	
Average Height (in.)		N/O	
Average Diameter (in.)		N/O	
Height-Diameter Ratio		N/O	
Init. Dry Dens.		N/O	
Init. Water Content (%)		N/O	
Liquid Limit		N/O	
Plastic Limit		N/O	
Remarks		N/O	
Visual Description		N/O	
Temperture (°C)	ASTM D 5084 - 03	23.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.852	
Sample Diameter (in)		2.832	
Sample Cross-Section Area (in²)		6.30	
Sample Volume (in³)		17.96	
Dry Density (lb/ft³)		99.6	
Initial Moisture Content (%)		25.6	
Final Moisture Content (%)		27.2	
Average Permeabilty (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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	99	
No.40 (425µm)	99	
No.100 (150µm)	97	
No.200 (75µm)	95	
0.038 mm	90	
0.028 mm	79	
0.018 mm	75	
0.014 mm	54	
0.012 mm	49	
0.009 mm	37	
0.006 mm	29	
0.005 mm	22	
0.003 mm	17	
0.002 mm	10	

Chart



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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

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

Sample Details

Boring No:	TB-W-7
Field Sample No:	LS-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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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

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

Sample Details

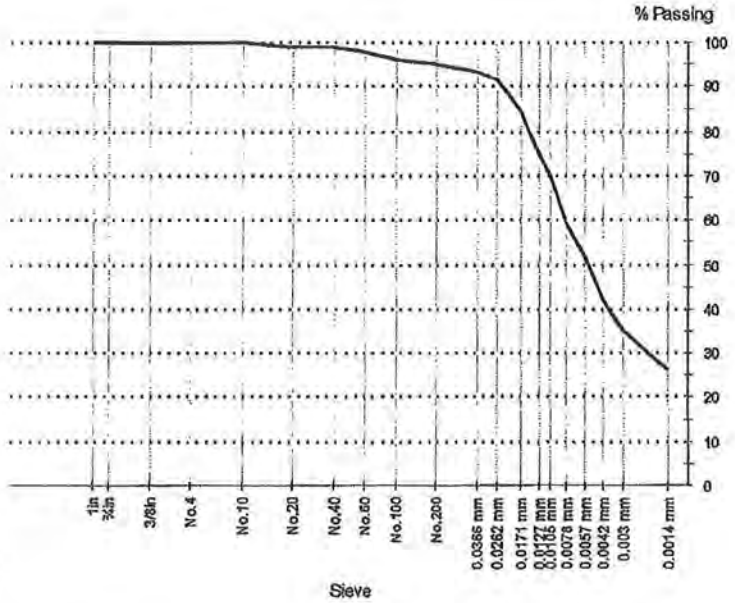
Boring No:	TB-W-7
Field Sample No:	LS-21
Sample Depth:	52.0
Date Sampled:	9/4/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Atterberg Limit:

Liquid Limit (%): 26
Plastic Limit (%): 17
Plasticity Index (%): 9
Linear Shrinkage (%):

Sample Description:

Particle Size Distribution



COBBLES	GRAVEL		SAND			FINES	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
(0.0%)	(0.0%)	(0.0%)	(0.0%)	(1.0%)	(4.0%)	(48.0%)	(47.0%)

Grading: (ASTM D 422 - 07)

Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	99	
No.40 (425µm)	99	
No.60 (250µm)	98	
No.100 (150µm)	96	
No.200 (75µm)	95	
0.037 mm	93	
0.026 mm	91	
0.017 mm	85	
0.013 mm	75	
0.011 mm	70	
0.008 mm	59	
0.006 mm	52	
0.004 mm	42	
0.003 mm	35	
0.001 mm	26	

D85: 0.0176 D60: 0.0080 D50: 0.0055
D30: 0.0021 D15: N/A D10: N/A
Cu: N/A Cc: N/A

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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

Other Test Results

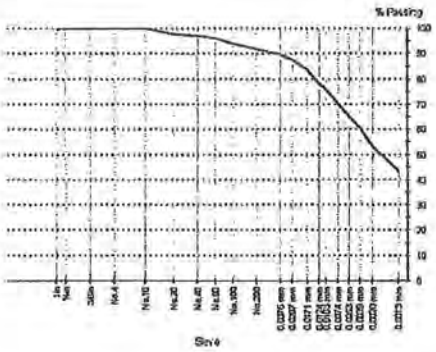
Description	Method	Result	Limits
Temperture (°C)	ASTM D 5084 - 03	22.7	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.831	
Sample Diameter (in)		2.850	
Sample Cross-Section Area (in²)		6.38	
Sample Volume (in³)		18.06	
Dry Density (lb/ft³)		101.1	
Initial Moisture Content (%)		25.2	
Final Moisture Content (%)		26.2	
Average Permeabilty (cm/s)		3.35 E-8	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	3680	
Shear Strength (lb/ft²)		1840	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		2.8	
Average Height (in.)		5.621	
Average Diameter (in.)		2.855	
Height-Diameter Ratio		2.0	
Init. Dry Dens.		101.1	
Init. Water Content (%)		25.2	
Liquid Limit		35	
Plastic Limit		18	
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	
¾in (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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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

Other Test Results

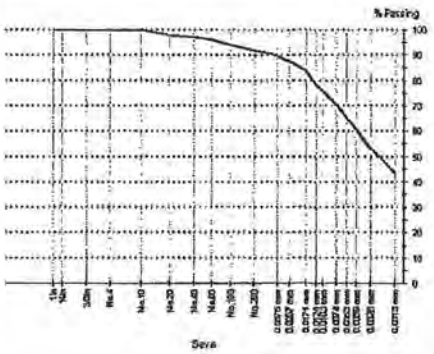
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	35	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		17	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
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	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	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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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 Paydawy

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

Other Test Results

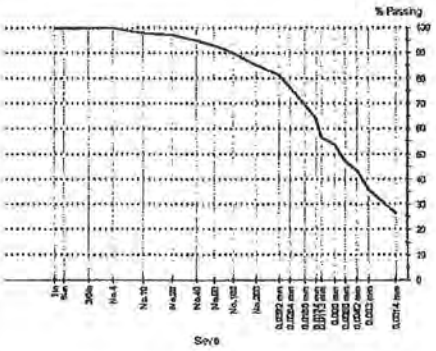
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay with sand	
Liquid Limit (%)	ASTM D 4318 - 05	26	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		8	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	98	
No.20 (850µm)	97	
No.40 (425µm)	95	
No.60 (250µm)	93	
No.100 (150µm)	90	
No.200 (75µm)	85	
0.039 mm	81	
0.028 mm	76	
0.019 mm	70	
0.013 mm	64	
0.011 mm	57	
0.008 mm	54	
0.006 mm	47	
0.004 mm	43	
0.003 mm	36	
0.001 mm	26	

Chart



Comments

N/A

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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 Paydawy

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

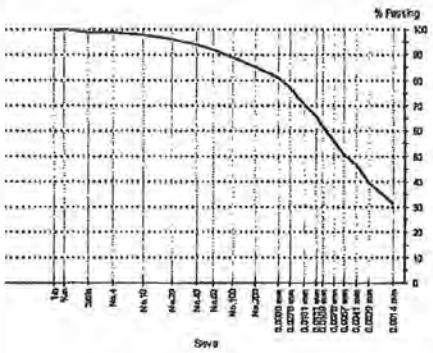
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (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

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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 Paydawy

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

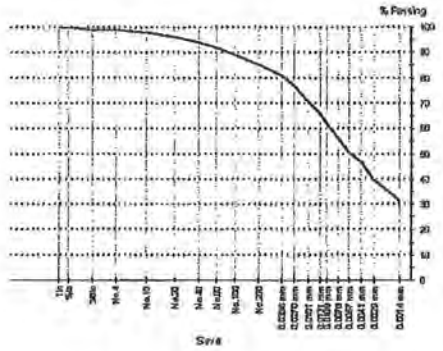
Description	Method	Result	Limits
Temperture (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.862	
Sample Diameter (in)		2.823	
Sample Cross-Section Area (in²)		6.26	
Sample Volume (in³)		17.91	
Dry Density (lb/ft³)		118.7	
Initial Moisture Content (%)		15.5	
Final Moisture Content (%)		15.7	
Average Permeabilty (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/ft³)		137.1	
Dry Density (lb/ft³)		118.6	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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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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

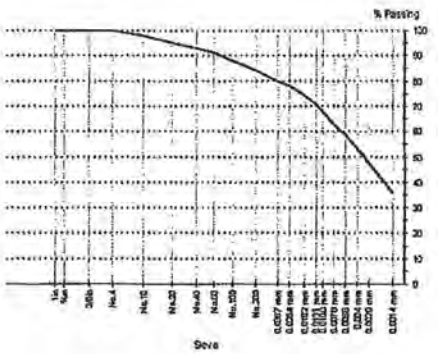
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	33	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		17	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
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	
¾in (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

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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

This laboratory is accredited by 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-3
Sample Depth: 32.0
Date Sampled: 9/3/2008
Sampled By: Michael McNamara
LWO No: 000355
Sample Location: WDI - Woodlot

Other Test Results

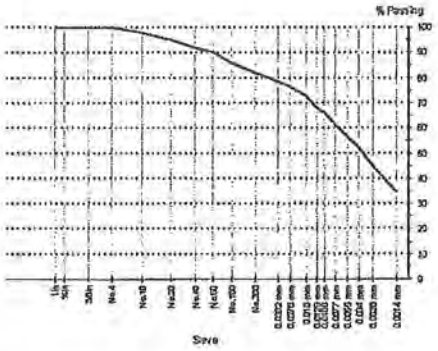
Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	7320	
Shear Strength (lb/ft²)		3660	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (in.)		5.882	
Average Diameter (in.)		2.858	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		114.6	
Init. Water Content (%)		18.0	
Liquid Limit		31	
Plastic Limit		17	
Remarks			
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	
¾in (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

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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 Paydawy

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

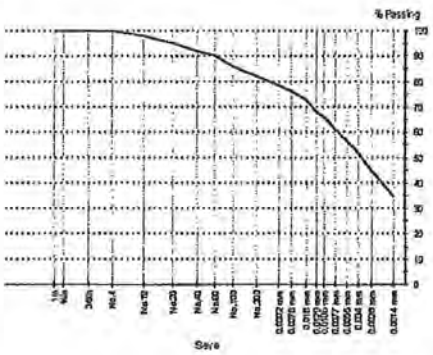
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	31	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03	22.6	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.834	
Sample Diameter (in)		2.848	
Sample Cross-Section Area (in²)		6.37	
Sample Volume (in³)		18.05	
Dry Density (lb/ft³)		114.6	
Initial Moisture Content (%)		18.0	
Final Moisture Content (%)		18.6	
Average Permeabilty (cm/s)		1.80 E-8	
Moisture Content (%)	ASTM D 2216 - 05	18.0	
Wet Density (lb/ft³)		135.3	
Dry Density (lb/ft³)		114.6	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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

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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

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

Sample Details

Boring No:	TB-W-7
Field Sample No:	LS-12
Sample Depth:	28.0
Date Sampled:	9/3/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

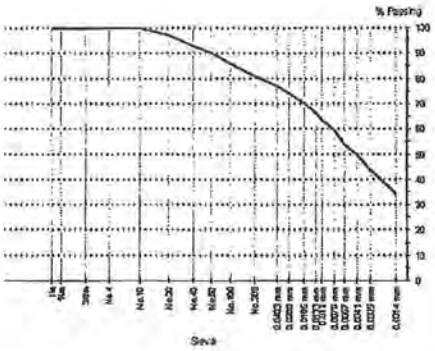
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	30	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		13	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
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	
¾in (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	

Chart



Comments

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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

This laboratory is accredited by 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-2
Sample Depth:	24.0
Date Sampled:	9/3/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

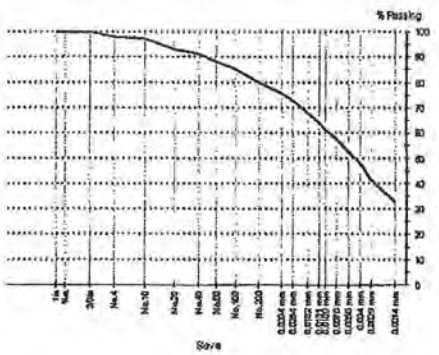
Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	5960	
Shear Strength (lb/ft²)		2980	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		13.5	
Average Height (in.)		5.760	
Average Diameter (in.)		2.846	
Height-Diameter Ratio		2.0	
Init. Dry Dens.		112.3	
Init. Water Content (%)		18.7	
Liquid Limit		31	
Plastic Limit		17	
Remarks			
Visual 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		

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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

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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: Zeerak Paydawy

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

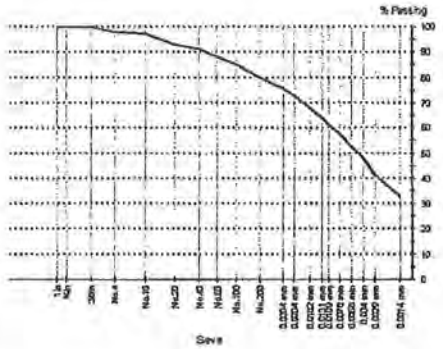
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	31	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.834	
Sample Diameter (in)		2.855	
Sample Cross-Section Area (in²)		6.40	
Sample Volume (in³)		18.14	
Dry Density (lb/ft³)		112.3	
Initial Moisture Content (%)		18.7	
Final Moisture Content (%)		18.8	
Average Permeabilty (cm/s)		2.09 E-8	
Moisture Content (%)	ASTM D 2216 - 05	18.7	
Wet Density (lb/ft³)		133.3	
Dry Density (lb/ft³)		112.3	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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

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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

This laboratory is accredited by 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-9
Sample Depth:	20.0
Date Sampled:	9/3/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

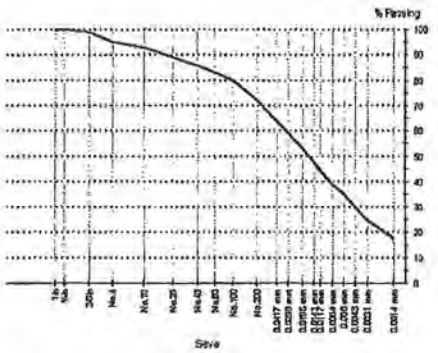
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	20	
Method		Method A	
Plastic Limit (%)		13	
Plasticity Index (%)		7	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
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	
¾in (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

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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

This laboratory is accredited by 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-1
Sample Depth:	16.0
Date Sampled:	9/3/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

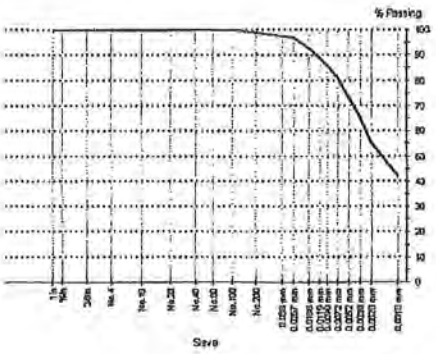
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.036 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	

Chart



Comments

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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

This laboratory is accredited by 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-1
Sample Depth:	16.0
Date Sampled:	9/3/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

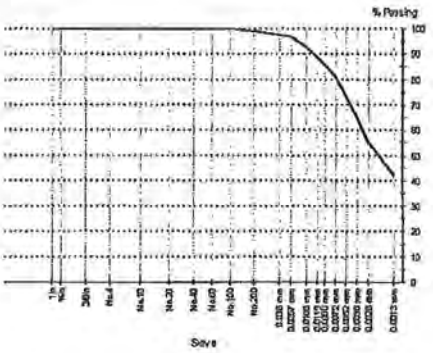
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	38	
Method		Method A	
Plastic Limit (%)		20	
Plasticity Index (%)		18	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03	22.6	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.831	
Sample Diameter (in)		2.855	
Sample Cross-Section Area (in²)		6.40	
Sample Volume (in³)		18.12	
Dry Density (lb/ft³)		97.1	
Initial Moisture Content (%)		28.1	
Final Moisture Content (%)		28.3	
Average Permeabilty (cm/s)		4.15 E-8	
Moisture Content (%)	ASTM D 2216 - 05	28.2	
Wet Density (lb/ft³)		124.1	
Dry Density (lb/ft³)		96.8	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.036 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	

Chart



Comments

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S163
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

This laboratory is accredited by 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

Other Test Results

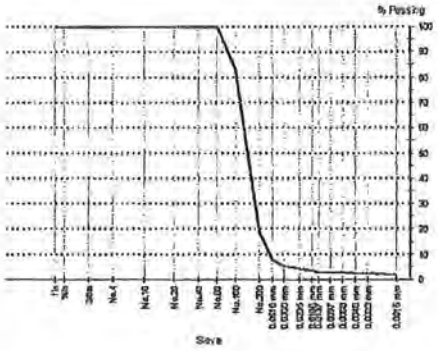
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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	

Chart



Comments

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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

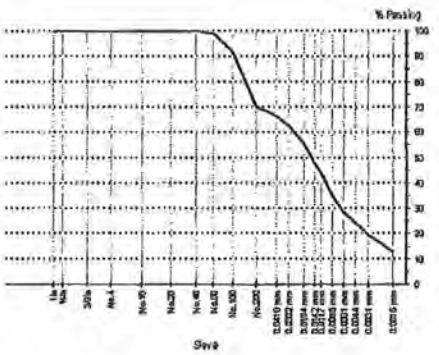
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	ML	
Group Name		Sandy silt	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	99	
No.100 (150µm)	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

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

Sample Details

Boring No:	TB-W-7
Field Sample No:	LS-2
Sample Depth:	4.0
Date Sampled:	9/3/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

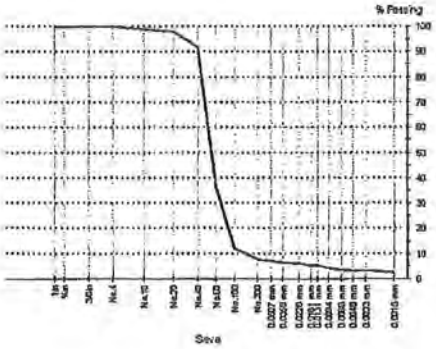
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (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



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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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-6
Field Sample No: LS-18
Sample Depth: 80
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

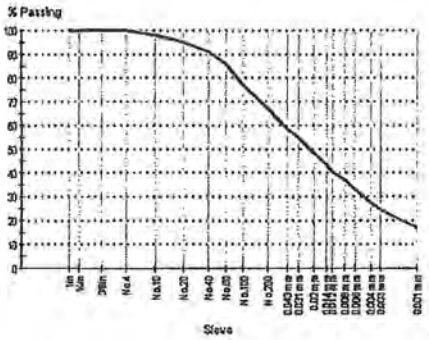
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	19	
Method		Method A	
Plastic Limit (%)		11	
Plasticity Index (%)		8	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Sandy lean clay	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (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	

Chart



Comments

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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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-6
Field Sample No: LS-17
Sample Depth: 75
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

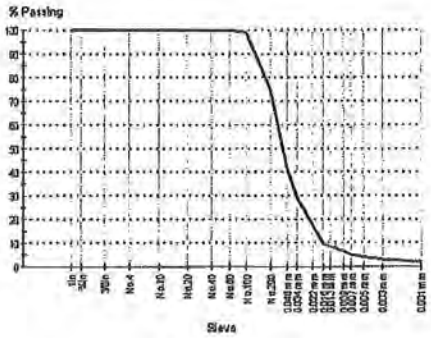
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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	

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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-6
Field Sample No: LS-16
Sample Depth: 70
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

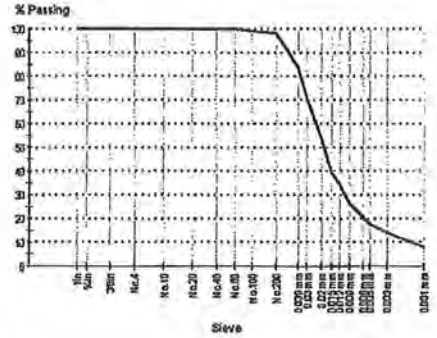
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	99	
No.200 (75µm)	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	

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-S139
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-6
Field Sample No: LS-15
Sample Depth: 65
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

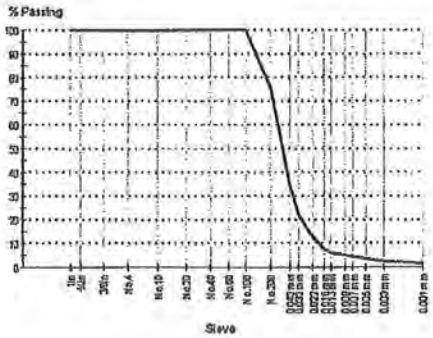
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	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	

Chart



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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 Paydawy

Comments
N/A

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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 Paydawy

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

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216 - 05	18.5	
Wet Density (lb/ft³)		135.5	
Dry Density (lb/ft³)		114.4	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	2220	
Shear Strength (lb/ft²)		1120	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (in.)		2.520	
Average Diameter (in.)		1.360	
Height-Diameter Ratio		1.9	
Init. Dry Dens.		114.4	
Init. Water Content (%)		18.5	
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Particle Size Distribution

Method:
Drying by:
Date Tested:

Sieve Size	% Passing	Limits

Chart

Comments

N/A

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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 Paydawy

Sample Details

Boring No: TB-W-6
Field Sample No: ST-4
Sample Depth: 58
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

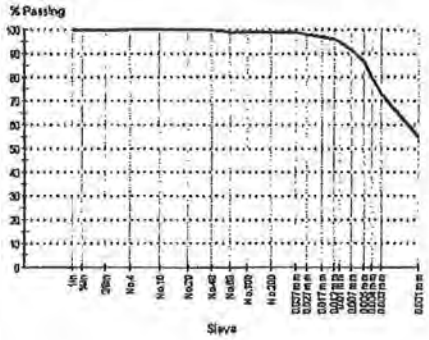
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	21.7	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.835	
Sample Diameter (in)		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 Permeabilty (cm/s)		1.36 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	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

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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 Paydawy

Sample Details

Boring No: TB-W-6
Field Sample No: ST-4
Sample Depth: 58
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

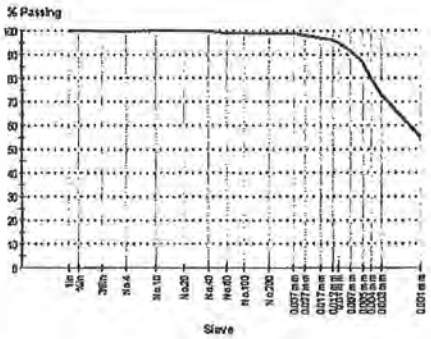
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	46	
Method		Method A	
Plastic Limit (%)		24	
Plasticity Index (%)		22	
Sample History			
Preparation			
Moisture Content (%)	ASTM D 2216	33.2	
Wet Density (lb/ft³)		122.5	
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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	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

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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.

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-6
Field Sample No: LS-13
Sample Depth: 55
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

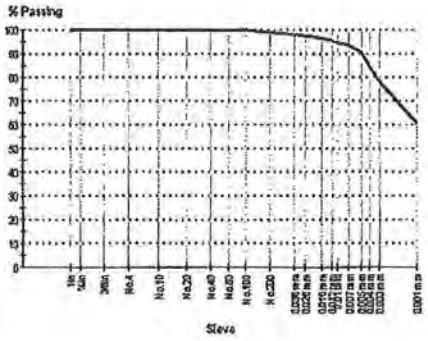
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	48	
Method		Method A	
Plastic Limit (%)		25	
Plasticity Index (%)		23	
Sample History		Oven-dried	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.036 mm	98	
0.026 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	

Chart



Comments

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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 of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-6
Field Sample No: LS-12
Sample Depth: 47.5
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216	14.2	
Wet Density (lb/ft³)		138.4	
Dry Density (lb/ft³)		121.1	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	6638	
Shear Strength (lb/ft²)		3319	
Ave. Rate Strain to Failure(%)		0.9	
Strain at Failure(%)		14.4	
Average Height (in.)		2.772	
Average Diameter (in.)		1.374	
Height-Diameter Ratio		2.0	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Particle Size Distribution

Method:
Drying by:
Date Tested:

Sieve Size	% Passing	Limits

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 Paydawy

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

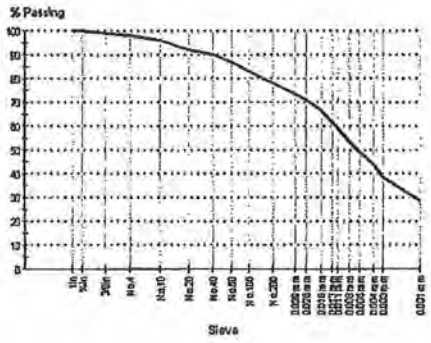
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.7	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.853	
Sample Diameter (in)		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 Permeabilty (cm/s)		1.39 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S136
Issue No: 1

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

Sample Details

Boring No: TB-W-6
Field Sample No: ST-3
Sample Depth: 46
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

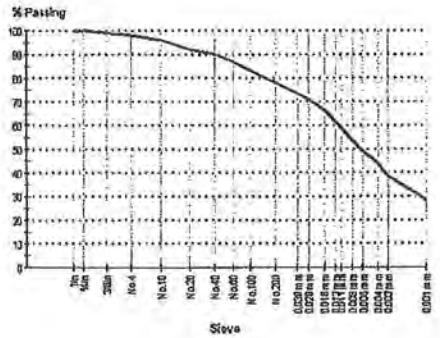
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	29	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		13	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	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	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	92	
No.40 (425µm)	90	
No.60 (250µm)	87	
No.100 (150µm)	83	
No.200 (75µm)	78	
0.039 mm	74	
0.028 mm	71	
0.018 mm	66	
0.013 mm	62	
0.011 mm	59	
0.008 mm	53	
0.006 mm	49	
0.004 mm	44	
0.003 mm	39	
0.001 mm	29	

Chart



Comments

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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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-6
Field Sample No: LS-11
Sample Depth: 45
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

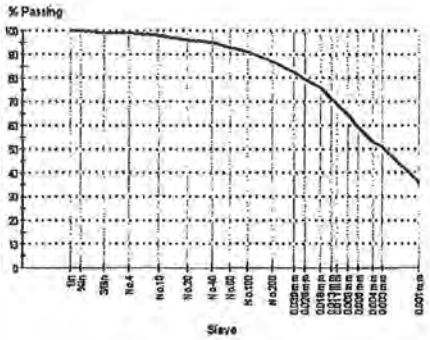
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	33	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		16	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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	

Chart



Comments

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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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-6
Field Sample No: LS-10
Sample Depth: 40
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

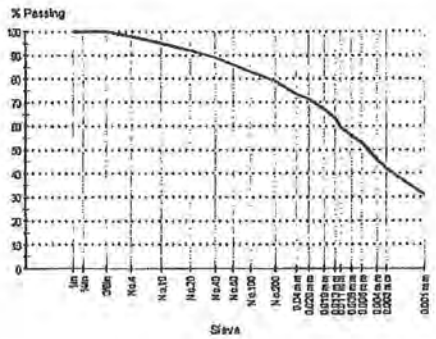
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	32	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		16	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

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 Paydawy

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
Temperture (°C)	[ASTM D 5084]	22.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.871	
Sample Diameter (in)		2.832	
Sample Cross-Section Area (in²)		6.30	
Sample Volume (in³)		18.09	
Dry Density (lb/ft³)		114.2	
Initial Moisture Content (%)		17.8	
Final Moisture Content (%)		18.0	
Average Permeabilty (cm/s)		1.06 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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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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 Paydawy

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

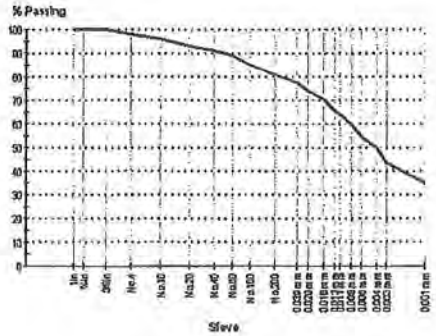
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	32	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		15	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM D 2216	17.8	
Wet Density (lb/ft³)		134.5	
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	5682	
Shear Strength (lb/ft²)		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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	93	
No.40 (425µm)	91	
No.60 (250µm)	89	
No.100 (150µm)	85	
No.200 (75µm)	81	
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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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.

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-6
Field Sample No: LS-8
Sample Depth: 30
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

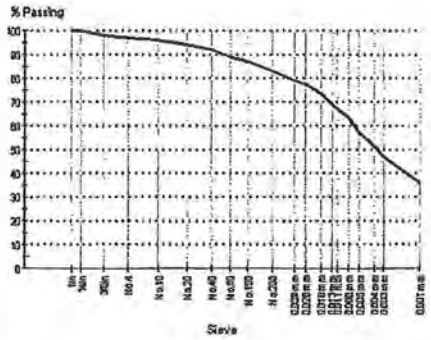
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	35	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		17	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	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	
¾in (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	

Chart



Comments

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S131
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-6
Field Sample No: ST-1
Sample Depth: 23
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	21.9	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
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 Permeabilty (cm/s)		2.99 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	98	
No.20 (850µm)	96	
No.40 (425µm)	94	
No.60 (250µm)	92	
No.100 (150µm)	89	
No.200 (75µm)	85	
0.038 mm	81	
0.028 mm	78	
0.018 mm	73	
0.013 mm	70	
0.011 mm	69	
0.008 mm	64	
0.006 mm	56	
0.004 mm	53	
0.003 mm	49	
0.000 mm	38	

Chart

Comments

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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 Paydawy

Sample Details

Boring No: TB-W-6
Field Sample No: ST-1
Sample Depth: 23
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

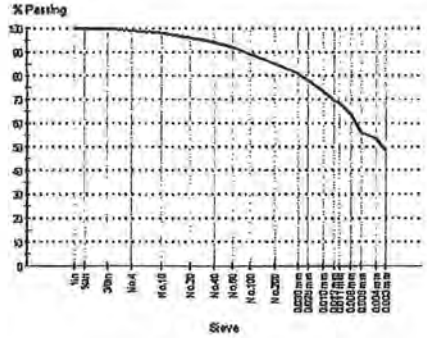
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	33	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		15	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	98	
No.20 (850µm)	96	
No.40 (425µm)	94	
No.60 (250µm)	92	
No.100 (150µm)	89	
No.200 (75µm)	85	
0.038 mm	81	
0.028 mm	78	
0.018 mm	73	
0.013 mm	70	
0.011 mm	69	
0.008 mm	64	
0.006 mm	56	
0.004 mm	53	
0.003 mm	49	
0.000 mm	38	

Chart



Comments

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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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-6
Field Sample No: LS-6
Sample Depth: 20
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

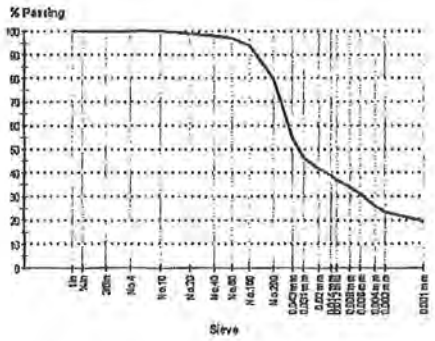
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	19	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		5	
Sample History		Oven-dried	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL-ML	
Group Name		Silty clay with sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	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	

Chart



Comments

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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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Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-6
Field Sample No: LS-5
Sample Depth: 15
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	99	
No.200 (75µm)	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	

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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-6
Field Sample No: LS-4
Sample Depth: 10
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

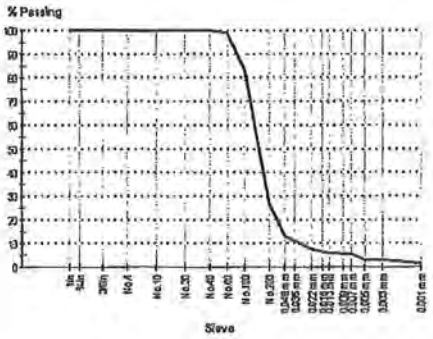
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	NO	
Method			
Plastic Limit (%)		NO	
Plasticity Index (%)		NP	
Sample History			
Preparation			
Group Symbol	ASTM D 2487	SM	
Group Name		Silty sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	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	

Chart



Comments

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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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-6
Field Sample No: LS-2
Sample Depth: 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	
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	99	
No.100 (150µm)	82	
No.200 (75µm)	23	
0.049 mm	13	
0.035 mm	10	
0.022 mm	9	
0.016 mm	7	
0.013 mm	7	
0.009 mm	6	
0.007 mm	5	
0.005 mm	5	
0.003 mm	3	
0.001 mm	2	

Chart

Comments

N/O = Not Obtainable
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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-5
Field Sample No: LS-18
Sample Depth: 80
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

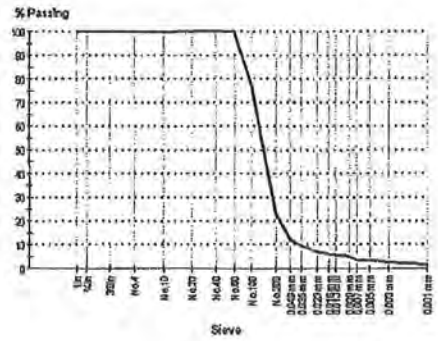
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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	

Chart



Comments

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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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-5
Field Sample No: LS-17
Sample Depth: 75
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

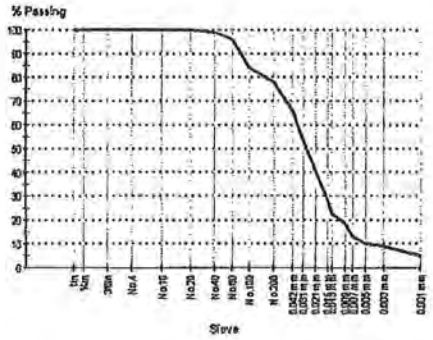
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	99	
No.60 (250µm)	96	
No.100 (150µm)	84	
No.200 (75µm)	78	
0.042 mm	66	
0.031 mm	54	
0.021 mm	40	
0.015 mm	29	
0.013 mm	23	
0.009 mm	19	
0.007 mm	13	
0.005 mm	10	
0.003 mm	9	
0.001 mm	5	

Chart



Comments

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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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-5
Field Sample No: ST-6
Sample Depth: 68
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

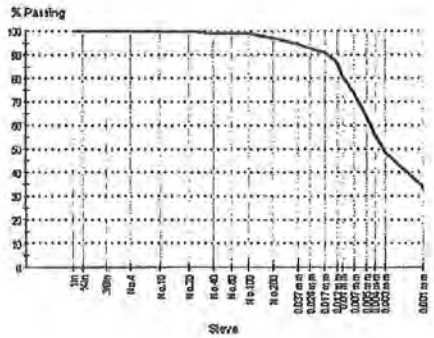
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.5	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.862	
Sample Diameter (in)		2.871	
Sample Cross-Section Area (in²)		6.47	
Sample Volume (in³)		18.53	
Dry Density (lb/ft³)		101.9	
Initial Moisture Content (%)		24.5	
Final Moisture Content (%)		21.6	
Average Permeabilty (cm/s)		5.67 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	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	

Chart



Comments

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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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-5
Field Sample No: ST-6
Sample Depth: 68
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

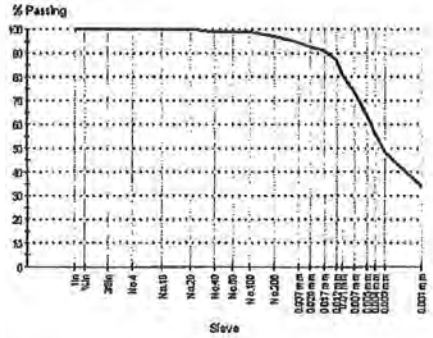
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	32	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	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	

Chart



Comments

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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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-5
Field Sample No: LS-15
Sample Depth: 65
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

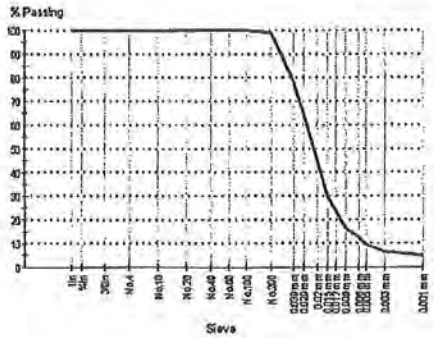
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.039 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	

Chart



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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

This laboratory is accredited by 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: 1/16/2009
Approved Signatory: Zeerak Paydawy

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

Other Test Results

Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	4020	
Shear Strength (lb/ft²)		2020	
Ave. Rate Strain to Failure(%)		1.1	
Strain at Failure(%)		8.0	
Average Height (in.)		2.640	
Average Diameter (in.)		1.350	
Height-Diameter Ratio		2.0	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			
Moisture Content (%)	ASTM D 2216 - 05		
Wet Density (lb/ft³)		135.4	
Dry Density (lb/ft³)			

Particle Size Distribution

Method:
Drying by:
Date Tested:

Sieve Size	% Passing	Limits

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: 9/8/2008
Approved Signatory: Zeersk Paydawy

Sample Details

Boring No: TB-W-5
Field Sample No: ST-5
Sample Depth: 58
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

Description	Method	Result	Limits
Temperture (°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 CaS04	
Sample Height (in)		2.853	
Sample Diameter (in)		2.838	
Sample Cross-Section Area (in²)		6.33	
Sample Volume (in³)		18.05	
Dry Density (lb/ft³)		101.5	
Initial Moisture Content (%)		25.8	
Final Moisture Content (%)		24.8	
Average Permeabilty (cm/s)		1.48 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	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	
0.006 mm	69	
0.005 mm	60	
0.004 mm	50	
0.003 mm	41	
0.001 mm	30	

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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Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-5
Field Sample No: ST-5
Sample Depth: 58
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

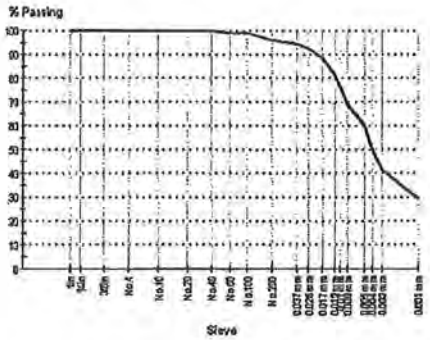
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	31	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		13	
Sample History			
Preparation			
Moisture Content (%)	ASTM D 2216	33.3	
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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	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	

Chart



Comments

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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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-5
Field Sample No: LS-13
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	31	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		14	
Sample History		Unkown	
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	99	
No.100 (150µm)	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	

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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-5
Field Sample No: ST-4
Sample Depth: 47.5
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

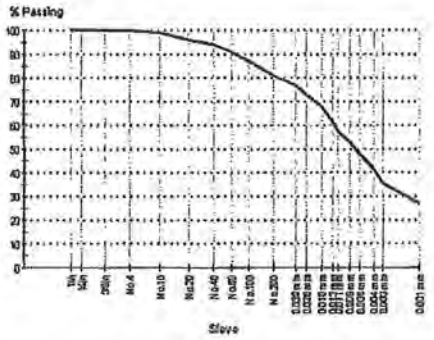
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.5	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.851	
Sample Diameter (in)		2.838	
Sample Cross-Section Area (in²)		6.33	
Sample Volume (in³)		18.04	
Dry Density (lb/ft³)		121.2	
Initial Moisture Content (%)		14.1	
Final Moisture Content (%)		14.5	
Average Permeabilty (cm/s)		2.08 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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	

Chart



Comments

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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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-5
Field Sample No: ST-4
Sample Depth: 47.5
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

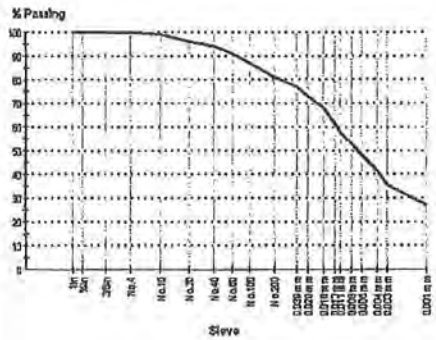
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	25	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		10	
Sample History			
Preparation			
Moisture Content (%)	ASTM D 2216	14.1	
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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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	

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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-5
Field Sample No: LS-11
Sample Depth: 45
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

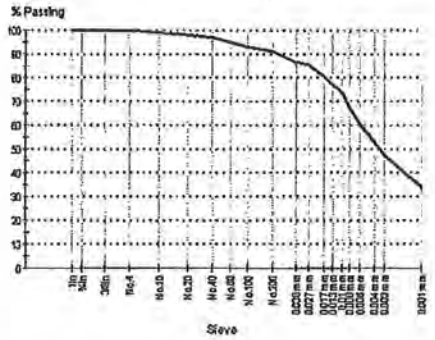
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	32	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		16	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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	

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 Paydawy

Sample Details

Boring No: TB-W-5
Field Sample No: ST-3
Sample Depth: 38
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

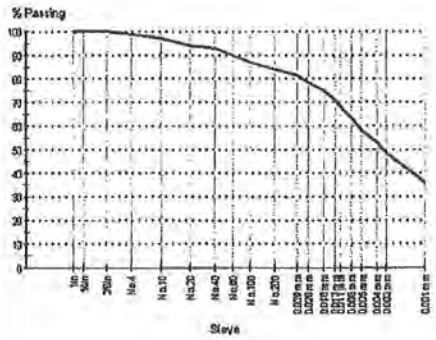
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.5	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.858	
Sample Diameter (in)		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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

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 Paydawy

Sample Details

Boring No: TB-W-5
Field Sample No: ST-3
Sample Depth: 38
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

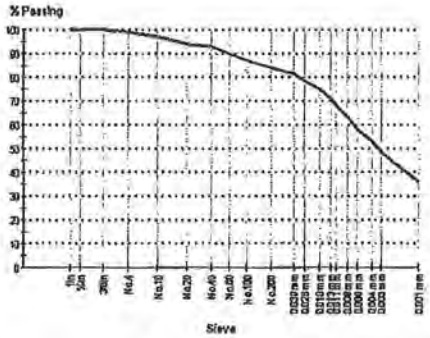
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	34	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		16	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-5
Field Sample No: LS-9
Sample Depth: 35
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

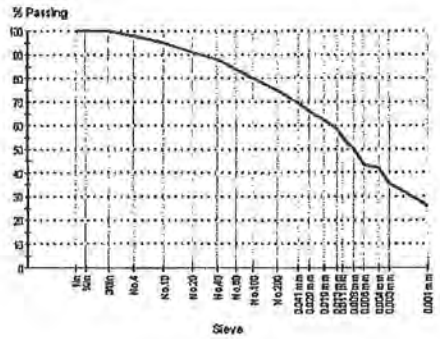
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Group Symbol	ASTM D 2488	MH/CL	
Group Name	Elastic silt with sand		

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	98	
No.10 (2.0mm)	95	
No.20 (850µm)	91	
No.40 (425µm)	88	
No.60 (250µm)	84	
No.100 (150µm)	80	
No.200 (75µm)	75	
0.041 mm	70	
0.029 mm	66	
0.019 mm	62	
0.013 mm	59	
0.011 mm	55	
0.008 mm	50	
0.006 mm	44	
0.004 mm	42	
0.003 mm	35	
0.001 mm	26	

Chart



Comments

not enough for limit test

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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.

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-5
Field Sample No: ST-2
Sample Depth: 28
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

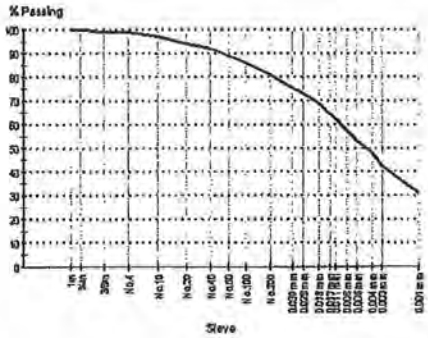
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.4	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.859	
Sample Diameter (in)		2.853	
Sample Cross-Section Area (in²)		6.39	
Sample Volume (in³)		18.28	
Dry Density (lb/ft³)		111.1	
Initial Moisture Content (%)		18.6	
Final Moisture Content (%)		18.7	
Average Permeabilty (cm/s)		4.41 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	86	
No.200 (75µm)	81	
0.039 mm	76	
0.028 mm	73	
0.018 mm	69	
0.013 mm	64	
0.011 mm	62	
0.008 mm	58	
0.006 mm	53	
0.004 mm	48	
0.003 mm	43	
0.001 mm	31	

Chart



Comments

N/A

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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.

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No:	TB-W-5
Field Sample No:	ST-2
Sample Depth:	28
Date Sampled:	
Sampled By:	
LWO No:	000334
Sample Location:	

Other Test Results

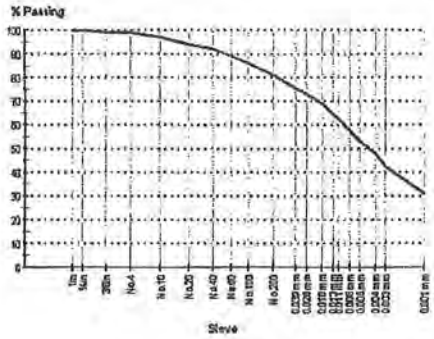
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	30	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		13	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	99	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	86	
No.200 (75µm)	81	
0.039 mm	76	
0.028 mm	73	
0.018 mm	69	
0.013 mm	64	
0.011 mm	62	
0.008 mm	58	
0.006 mm	53	
0.004 mm	48	
0.003 mm	43	
0.001 mm	31	

Chart



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 Paydawy

Sample Details

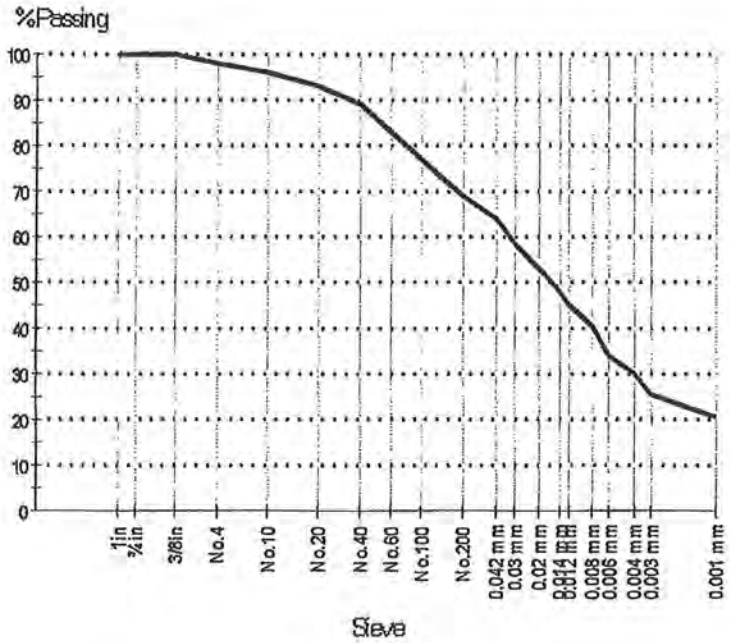
Boring No:	TB-W-5
Field Sample No:	LS-7
Sample Depth:	25
Date Sampled:	
Sampled By:	
LWO No:	000334
Sample Location:	

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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	93	
No.40 (425µm)	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

NOI enough for limit test

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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 Paydawy

Sample Details

Boring No: TB-W-5
Field Sample No: ST-1
Sample Depth: 18
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

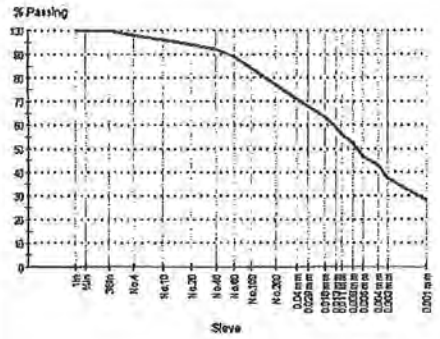
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.7	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.851	
Sample Diameter (in)		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 Permeabilty (cm/s)		2.36 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

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 Paydawy

Sample Details

Boring No:	TB-W-5
Field Sample No:	ST-1
Sample Depth:	18
Date Sampled:	
Sampled By:	
LWO No:	000334
Sample Location:	

Other Test Results

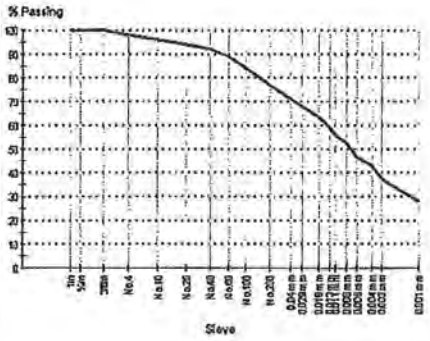
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	27	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		12	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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 Paydawy

Sample Details

Boring No: TB-W-5
Field Sample No: LS-5
Sample Depth: 15
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

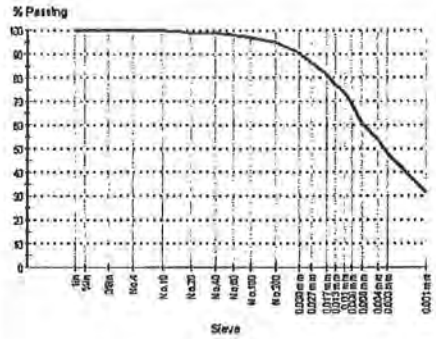
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	33	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		16	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	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	

Chart



Comments

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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 Paydawy

Sample Details

Boring No: TB-W-5
Field Sample No: LS-4
Sample Depth: 10
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

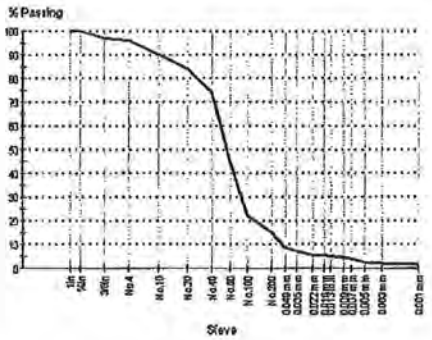
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (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	

Chart



Comments

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NP = Non Plastic

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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

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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-2
Sample Depth:	5
Date Sampled:	
Sampled By:	
LWO No:	000334
Sample Location:	

Other Test Results

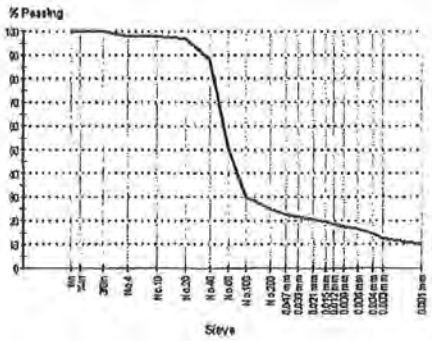
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	98	
No.10 (2.0mm)	98	
No.20 (850µm)	97	
No.40 (425µm)	88	
No.60 (250µm)	51	
No.100 (150µm)	30	
No.200 (75µm)	25	
0.047 mm	22	
0.033 mm	21	
0.021 mm	20	
0.015 mm	19	
0.012 mm	18	
0.009 mm	17	
0.006 mm	16	
0.004 mm	14	
0.003 mm	12	
0.001 mm	10	

Chart



Comments

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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 Paydawy

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

Other Test Results

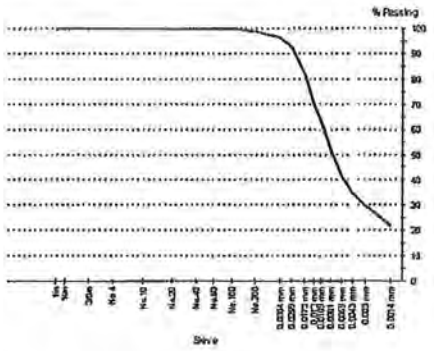
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	25	
Method		Method B	
Plastic Limit (%)		18	
Plasticity Index (%)		7	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	CL-ML	
Group Name		Silty clay	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.036 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	

Chart



Comments
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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

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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-30
Sample Depth: 72
Date Sampled: 9/18/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

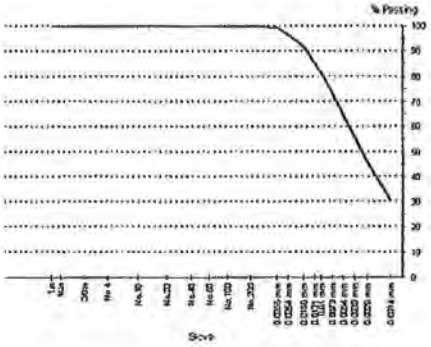
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	32	
Method		Method A	
Plastic Limit (%)		21	
Plasticity Index (%)		11	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	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
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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

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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-25
Sample Depth: 66
Date Sampled: 9/18/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

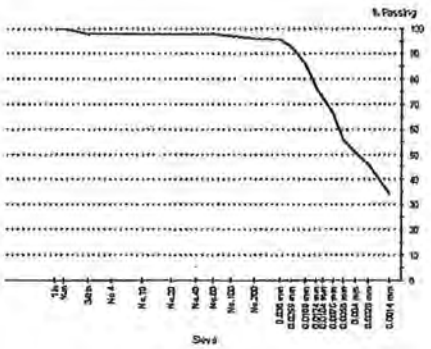
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	31	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		13	
Sample History		Oven-dried	
Preparation		Wet	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
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	
¾in (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
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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S242
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

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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-8
Sample Depth: 62
Date Sampled: 9/18/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

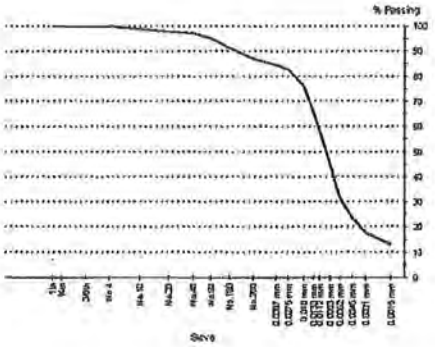
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Moisture Content (%)	ASTM D 2216 - 05	21.9	
Wet Density (lb/ft³)		131.8	
Dry Density (lb/ft³)		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/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	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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
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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 Paydawy

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

Other Test Results

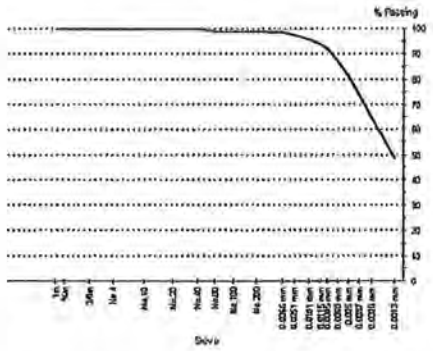
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	44	
Method		Method A	
Plastic Limit (%)		22	
Plasticity Index (%)		22	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	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	

Chart



Comments
N/A

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S251
Issue No: 1

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

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

Date of Issue: 12/13/2008
Approved Signatory: Zeerak Paydawy

Comments
N/A

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S251
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

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

Date of Issue: 12/13/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-4
Field Sample No: LS-21
Sample Depth: 56
Date Sampled:
Sampled By: Michael McNamara
LWO No: 000380
Sample Location: WDI - Woodlot

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216 - 05	28.8	
Wet Density (lb/ft³)		126.7	
Dry Density (lb/ft³)		98.4	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	2720	
Shear Strength (lb/ft²)		1360	
Ave. Rate Strain to Failure(%)		0.9	
Strain at Failure(%)		15.0	
Average Height (in.)		2.780	
Average Diameter (in.)		1.300	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		98.4	
Init. Water Content (%)		28.8	
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Particle Size Distribution

Method:
Drying by:
Date Tested:

Sieve Size	% Passing	Limits

Chart

Comments

N/A

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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.

Date of Issue: 10/27/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-4
Field Sample No: ST-7
Sample Depth: 54
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

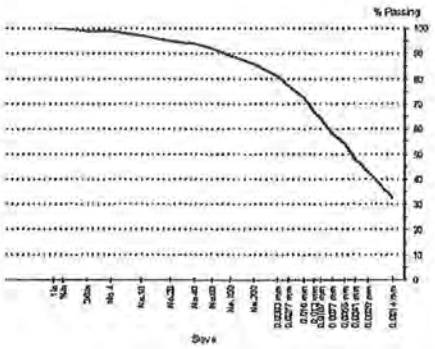
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	N/O	
Shear Strength (lb/ft²)		N/O	
Ave. Rate Strain to Failure(%)		N/O	
Strain at Failure(%)		N/O	
Average Height (in.)		N/O	
Average Diameter (in.)		N/O	
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	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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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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.

Date of Issue: 10/27/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-4
Field Sample No: ST-7
Sample Depth: 54
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

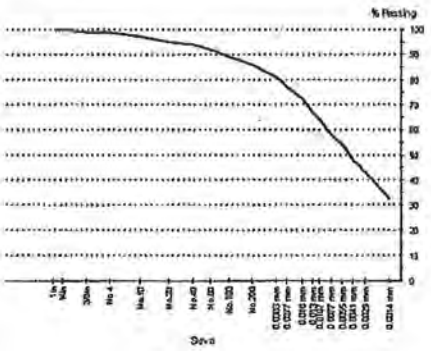
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	29	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		12	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Moisture Content (%)	ASTM D 2216 - 05	20.5	
Wet Density (lb/ft³)		129.5	
Dry Density (lb/ft³)		107.5	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Temperture (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.868	
Sample Diameter (in)		2.836	
Sample Cross-Section Area (in²)		6.32	
Sample Volume (in³)		18.12	
Dry Density (lb/ft³)		107.5	
Initial Moisture Content (%)		20.5	
Final Moisture Content (%)		20.9	
Average Permeabilty (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	
¾in (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
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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 Paydawy

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

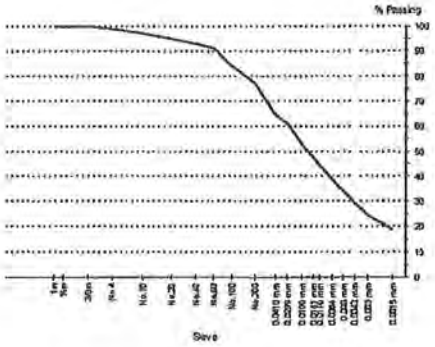
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL-ML	
Group Name		Silty clay with sand	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	N/O	
Shear Strength (lb/ft²)		N/O	
Ave. Rate Strain to Failure(%)		N/O	
Strain at Failure(%)		N/O	
Average Height (in.)		N/O	
Average Diameter (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	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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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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

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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-6
Sample Depth: 48
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

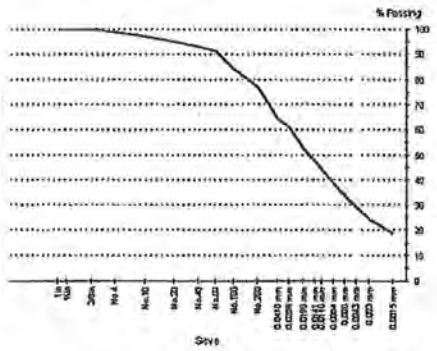
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	20	
Method		Method A	
Plastic Limit (%)		13	
Plasticity Index (%)		7	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03	22.9	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.853	
Sample Diameter (in)		2.848	
Sample Cross-Section Area (in²)		6.37	
Sample Volume (in³)		18.17	
Dry Density (lb/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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	93	
No.60 (250µm)	91	
No.100 (150µm)	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

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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 Paydawy

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

Other Test Results

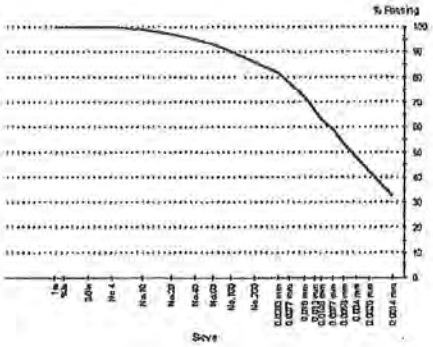
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	29	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		12	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Moisture Content (%)	ASTM D 2216 - 05	18.0	
Wet Density (lb/ft³)		137.0	
Dry Density (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	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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	

Chart



Comments
N/A

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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 Paydawy

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

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216 - 05	18.4	
Wet Density (lb/ft³)		133.0	
Dry Density (lb/ft³)		112.4	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	7300	
Shear Strength (lb/ft²)		3660	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		9.9	
Average Height (in.)		5.850	
Average Diameter (in.)		2.840	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		112.4	
Init. Water Content (%)		18.4	
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Particle Size Distribution

Method:
Drying by:
Date Tested:

Sieve Size	% Passing	Limits

Chart

Comments

N/A

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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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Date of Issue: 10/27/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-4
Field Sample No: ST-5
Sample Depth: 40
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

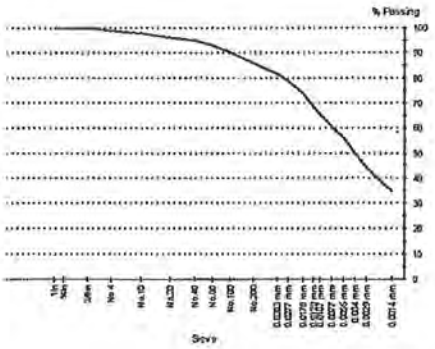
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay-	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	98	
No.20 (850µm)	96	
No.40 (425µm)	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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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 (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 10/27/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-4
Field Sample No: ST-5
Sample Depth: 40
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

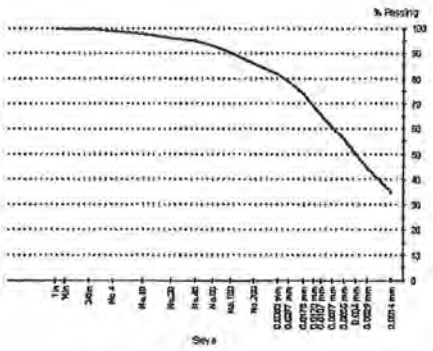
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	32	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.863	
Sample Diameter (in)		2.823	
Sample Cross-Section Area (in²)		6.26	
Sample Volume (in³)		17.92	
Dry Density (lb/ft³)		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/ft³)		134.9	
Dry Density (lb/ft³)		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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	98	
No.20 (850µm)	96	
No.40 (425µm)	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
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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

This laboratory is accredited by 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-14
Sample Depth: 36
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

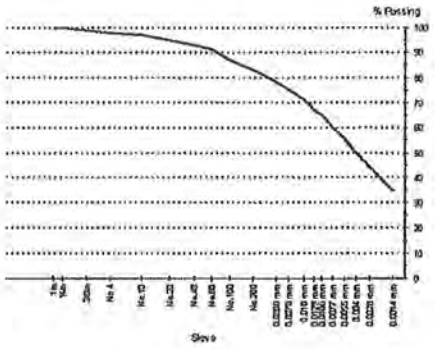
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	32	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
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	
¾in (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	

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.

Date of Issue: 10/27/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-4
Field Sample No: ST-4
Sample Depth: 32
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

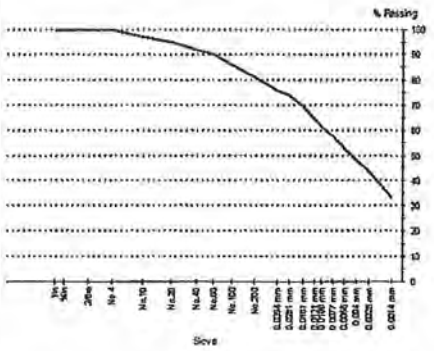
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay with sand	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (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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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

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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-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	
Temperture (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.854	
Sample Diameter (in)		2.830	
Sample Cross-Section Area (in²)		6.29	
Sample Volume (in³)		17.95	
Dry Density (lb/ft³)		112.0	
Initial Moisture Content (%)		19.3	
Final Moisture Content (%)		19.2	
Average Permeabilty (cm/s)		1.85 E-8	
Moisture Content (%)	ASTM D 2216 - 05	19.3	
Wet Density (lb/ft³)		133.6	
Dry Density (lb/ft³)		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	
¾in (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	

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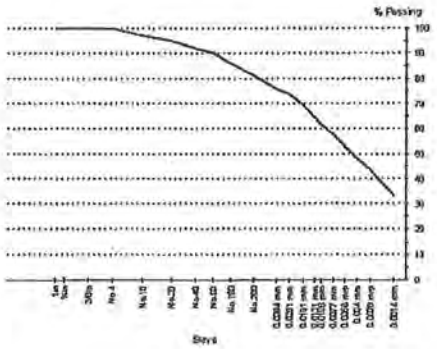

Comments
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Aggregate/Soil Test Report

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 Paydawy

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

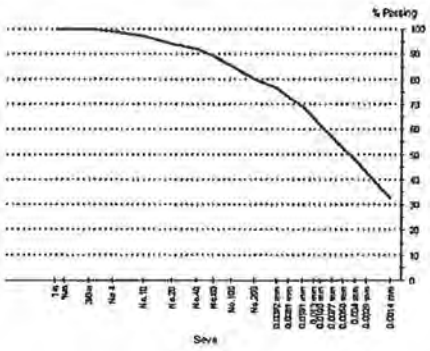
Description	Method	Result	Limits
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	6280	
Shear Strength (lb/ft²)		3140	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (in.)		5.750	
Average Diameter (in.)		2.840	
Height-Diameter Ratio		2.0	
Init. Dry Dens.		113.7	
Init. Water Content (%)		17.5	
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description			

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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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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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Date of Issue: 10/27/2008
Approved Signatory: Zeerak Paydawy

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

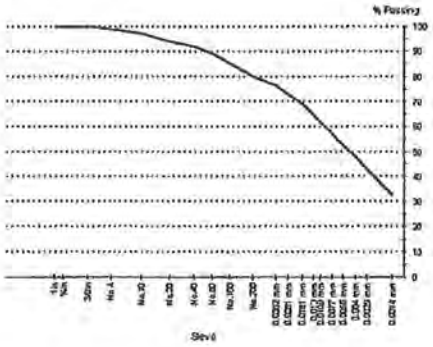
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay with sand	
Liquid Limit (%)	ASTM D 4318 - 05	30	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		12	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.853	
Sample Diameter (in)		2.842	
Sample Cross-Section Area (in²)		6.34	
Sample Volume (in³)		18.10	
Dry Density (lb/ft³)		112.7	
Initial Moisture Content (%)		18.8	
Final Moisture Content (%)		18.6	
Average Permeability (cm/s)		2.74 E-8	
Moisture Content (%)	ASTM D 2216 - 05	17.5	
Wet Density (lb/ft³)		133.6	
Dry Density (lb/ft³)		113.7	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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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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

This laboratory is accredited by 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-9
Sample Depth: 22
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

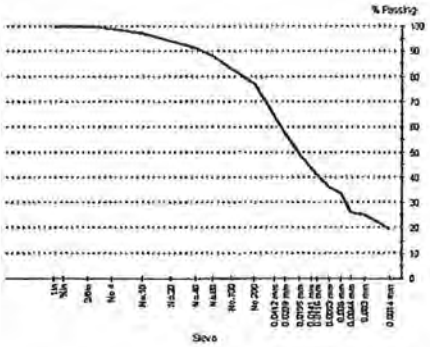
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	19	
Method		Method A	
Plastic Limit (%)		13	
Plasticity Index (%)		6	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	94	
No.40 (425µm)	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
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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

Other Test Results

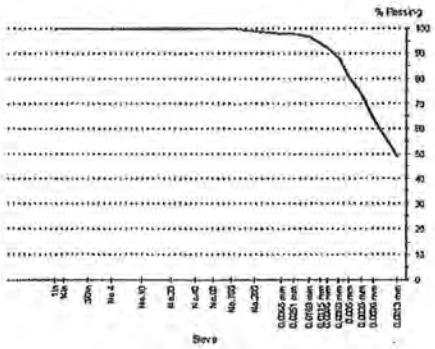
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	2120	
Shear Strength (lb/ft²)		1060	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (in.)		5.840	
Average Diameter (in.)		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			

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.036 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	

Chart



Comments
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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.

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

Other Test Results

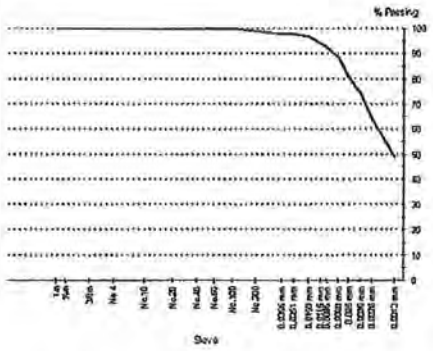
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	42	
Method		Method A	
Plastic Limit (%)		23	
Plasticity Index (%)		19	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.856	
Sample Diameter (in)		2.867	
Sample Cross-Section Area (in²)		6.46	
Sample Volume (in³)		18.44	
Dry Density (lb/ft³)		95.9	
Initial Moisture Content (%)		27.9	
Final Moisture Content (%)		27.3	
Average Permeability (cm/s)		4.79 E-8	
Moisture Content (%)	ASTM D 2216 - 05	26.6	
Wet Density (lb/ft³)		126.0	
Dry Density (lb/ft³)		99.6	
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.036 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	

Chart



Comments
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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

This laboratory is accredited by 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 Paydawy

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: 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	
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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	

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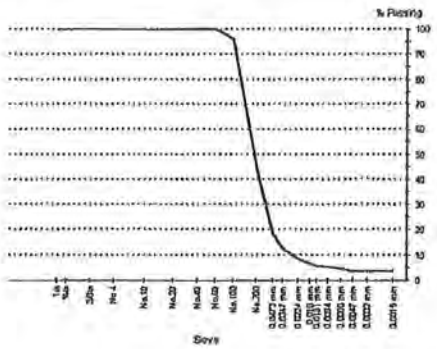

Comments
N/O = Not Obtainable

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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.

Date of Issue: 10/27/2008
Approved Signatory: Zeerak Paydawy

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

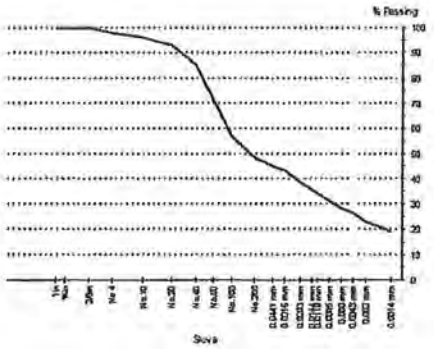
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	22	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		8	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	93	
No.40 (425µm)	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
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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

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

Date of Issue: 10/27/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-4
Field Sample No: ST-1
Sample Depth: 6
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

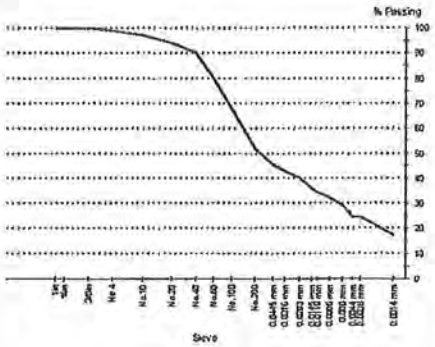
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Sandy lean clay	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	94	
No.40 (425µm)	90	
No.60 (250µm)	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
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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

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

Date of Issue: 10/27/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-4
Field Sample No: ST-1
Sample Depth: 6
Date Sampled: 9/17/2008
Sampled By: Michael McNamera
LWO No: 000363
Sample Location: WDI - Woodlot

Other Test Results

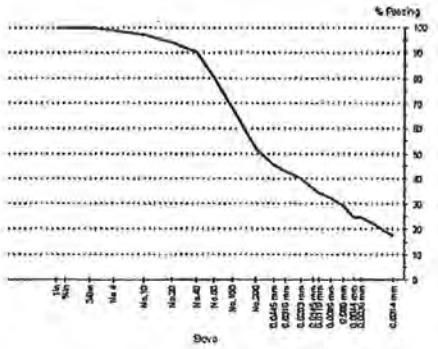
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	23	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		9	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.891	
Sample Diameter (in)		2.846	
Sample Cross-Section Area (in²)		6.36	
Sample Volume (in³)		18.39	
Dry Density (lb/ft³)		124.2	
Initial Moisture Content (%)		12.1	
Final Moisture Content (%)		13.2	
Average Permeabilty (cm/s)		4.85 E-8	
Moisture Content (%)	ASTM D 2216 - 05	12.1	
Wet Density (lb/ft³)		139.2	
Dry Density (lb/ft³)		124.2	
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	94	
No.40 (425µm)	90	
No.60 (250µm)	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
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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

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

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

Sample Details

Boring No:	TB-W-3
Field Sample No:	LS-15
Sample Depth:	80.0
Date Sampled:	9/16/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

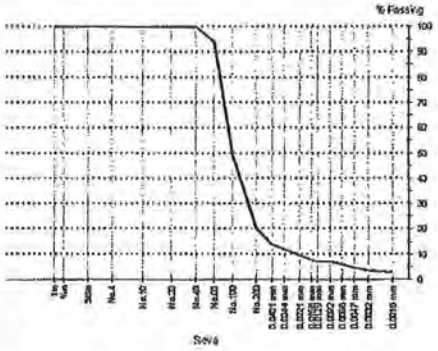
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand 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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	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



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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

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

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

Sample Details

Boring No:	TB-W-3
Field Sample No:	LS-14
Sample Depth:	75.0
Date Sampled:	9/16/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

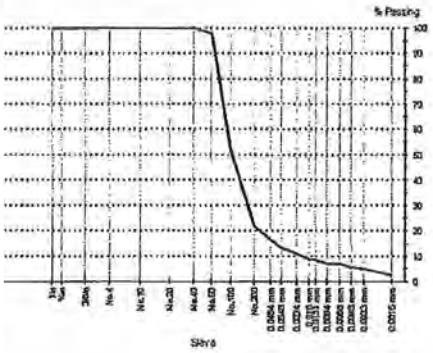
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand 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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	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



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

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

Other Test Results

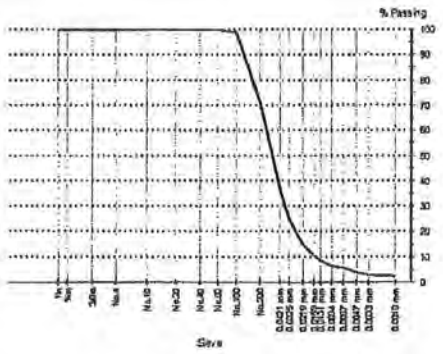
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/A	
Method		Method A	
Plastic Limit (%)		N/A	
Plasticity Index (%)		NP	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	MH	
Group Name		Elastic silt with sand	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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	

Chart



Comments

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

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

Other Test Results

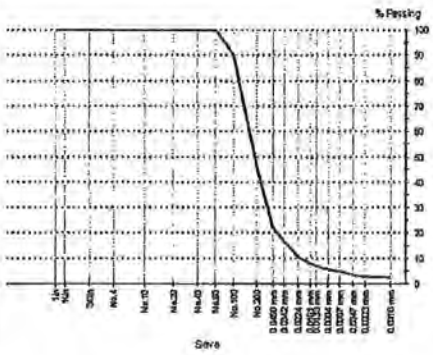
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	SM	
Group Name		Silty sand	
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D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

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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	

Chart



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

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

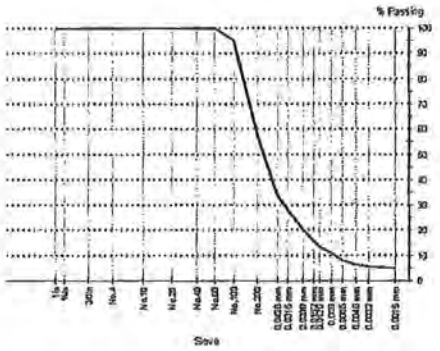
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand 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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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



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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S223
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

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

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

Sample Details

Boring No:	TB-W-3
Field Sample No:	LS-10
Sample Depth:	55.0
Date Sampled:	9/16/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

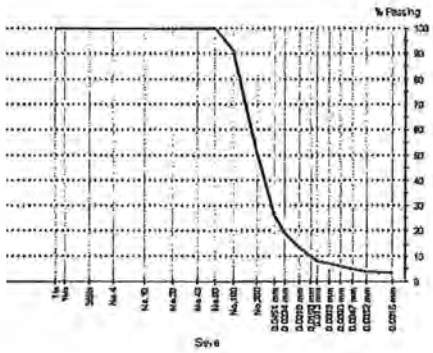
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand 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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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	

Chart



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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

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

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

Sample Details

Boring No:	TB-W-3
Field Sample No:	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

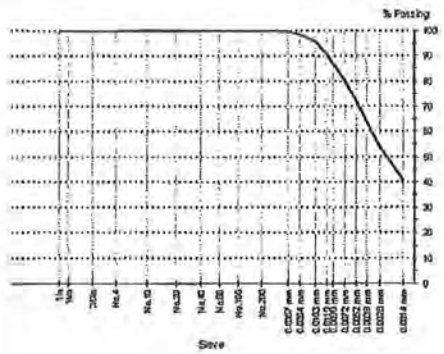
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	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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Telephone: 248. 553.6300
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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

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

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

Sample Details

Boring No:	TB-W-3
Field Sample No:	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

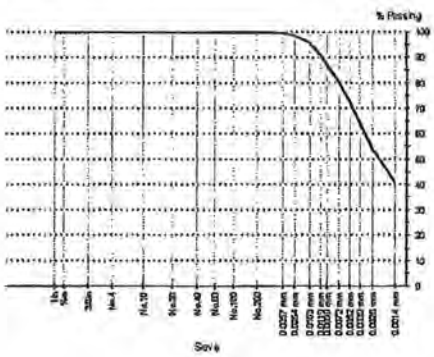
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	35	
Method		Method A	
Plastic Limit (%)		20	
Plasticity Index (%)		15	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03	22.8	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.853	
Sample Diameter (in)		2.854	
Sample Cross-Section Area (in²)		6.40	
Sample Volume (in³)		18.25	
Dry Density (lb/ft³)		94.3	
Initial Moisture Content (%)		29.1	
Final Moisture Content (%)		29.8	
Average Permeabilty (cm/s)		1.38 E-8	
Moisture Content (%)	ASTM D 2216 - 05	29.1	
Wet Density (lb/ft³)		121.7	
Dry Density (lb/ft³)		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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	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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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

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

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

Sample Details

Boring No:	TB-W-3
Field Sample No:	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

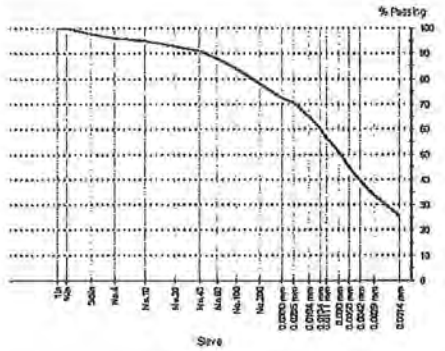
Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	9780	
Shear Strength (lb/ft²)		4900	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		14.8	
Average Height (in.)		5.928	
Average Diameter (in.)		2.855	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		118.1	
Init. Water Content (%)		16.1	
Liquid Limit		25	
Plastic Limit		15	
Remarks			
Visual Description			
Group Symbol	ASTM D 2487 - 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	
¾in (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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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

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

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

Sample Details

Boring No:	TB-W-3
Field Sample No:	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

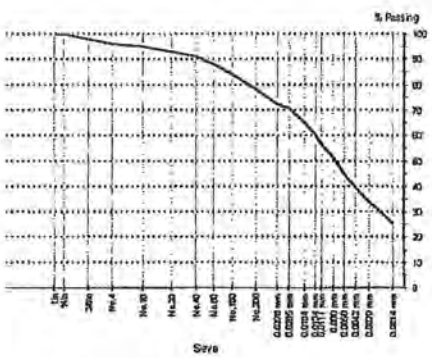
Description	Method	Result	Limits
Temperture (°C)	ASTM D 5084 - 03	23.4	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.860	
Sample Diameter (in)		2.811	
Sample Cross-Section Area (in²)		6.21	
Sample Volume (in³)		17.75	
Dry Density (lb/ft³)		120.5	
Initial Moisture Content (%)		14.6	
Final Moisture Content (%)		15.3	
Average Permeabilty (cm/s)		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			

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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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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

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

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

Sample Details

Boring No:	TB-W-3
Field Sample No:	LS-8
Sample Depth:	40.0
Date Sampled:	9/15/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

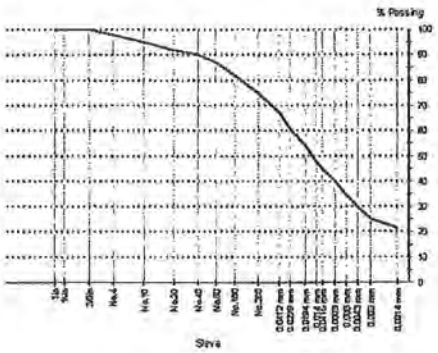
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	21	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		7	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
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	
¾in (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

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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 Paydawy

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

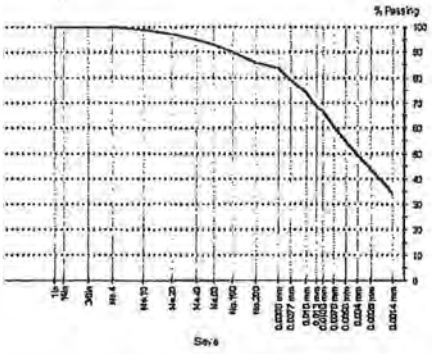
Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	10920	
Shear Strength (lb/ft²)		5460	
Ave. Rate Strain to Failure(%)		0.9	
Strain at Failure(%)		12.4	
Average Height (in.)		5.977	
Average Diameter (in.)		2.830	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		121.3	
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	
¾in (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

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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

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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-3
Sample Depth:	35.0
Date Sampled:	9/15/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

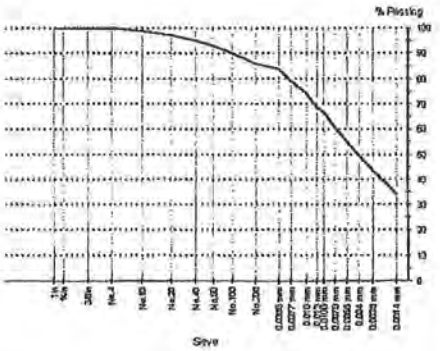
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	32	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03	22.6	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.879	
Sample Diameter (in)		2.861	
Sample Cross-Section Area (in²)		6.43	
Sample Volume (in³)		18.51	
Dry Density (lb/ft³)		117.0	
Initial Moisture Content (%)		16.1	
Final Moisture Content (%)		16.6	
Average Permeabilty (cm/s)		1.05 E-8	
Moisture Content (%)	ASTM D 2216 - 05	14.6	
Wet Density (lb/ft³)		139.0	
Dry Density (lb/ft³)		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	
¾in (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

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

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

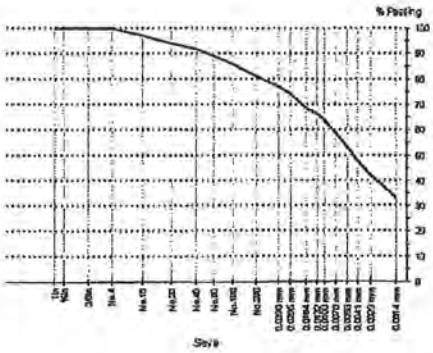
Description	Method	Result	Limits
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166 - 06	8120	
Shear Strength (lb/ft²)		4060	
Ave. Rate Strain to Failure(%)		1.0	
Strain at Failure(%)		15.0	
Average Height (in.)		5.960	
Average Diameter (in.)		2.830	
Height-Diameter Ratio		2.1	
Init. Dry Dens.		113.8	
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	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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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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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Date of Issue: 10/21/2008
Approved Signatory: Zeerak Paydawy

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

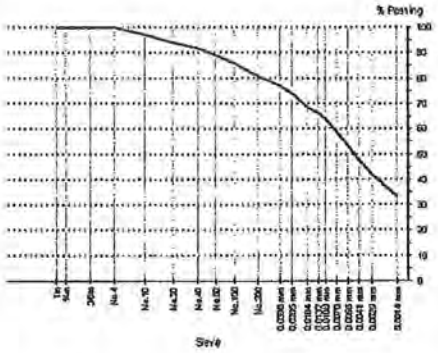
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	30	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		12	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03	22.9	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.865	
Sample Diameter (in)		2.832	
Sample Cross-Section Area (in²)		6.30	
Sample Volume (in³)		18.05	
Dry Density (lb/ft³)		114.7	
Initial Moisture Content (%)		17.3	
Final Moisture Content (%)		17.4	
Average Permeabilty (cm/s)		1.42 E-8	
Moisture Content (%)	ASTM D 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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	97	
No.20 (850µm)	94	
No.40 (425µm)	92	
No.60 (250µm)	89	
No.100 (150µm)	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

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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

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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-6
Sample Depth:	25.0
Date Sampled:	9/15/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

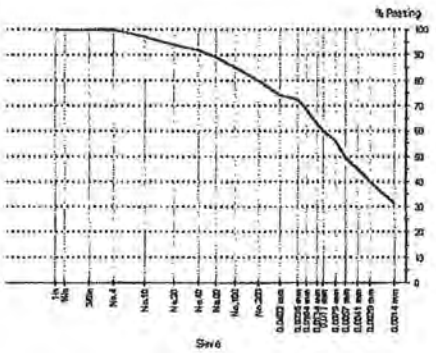
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	30	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		13	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07		
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay with sand	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	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	

Chart



Comments

N/A

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S216
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

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

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

Sample Details

Boring No:	TB-W-3
Field Sample No:	ST-1
Sample Depth:	20.0
Date Sampled:	9/15/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

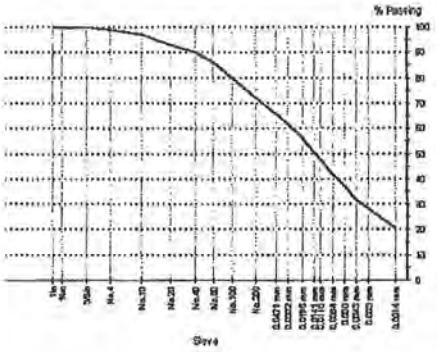
Description	Method	Result	Limits
Group Symbol	ASTM D 2487 - 06	CL-ML	
Group Name		Silty clay with sand	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (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	

Chart



Comments

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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S216
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

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

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

Sample Details

Boring No:	TB-W-3
Field Sample No:	ST-1
Sample Depth:	20.0
Date Sampled:	9/15/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

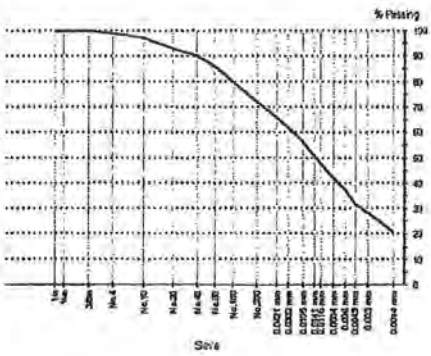
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	21	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		7	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Temperture (°C)	ASTM D 5084 - 03	22.7	
Cell Pressure (lb/in²)		40.0	
Top Pressure (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 CaS04	
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			

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



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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

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

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

Sample Details

Boring No:	TB-W-3
Field Sample No:	LS-5
Sample Depth:	15.0
Date Sampled:	9/15/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

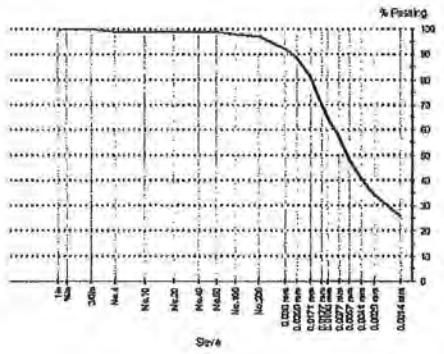
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	28	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		10	
Sample History		Oven-dried	
Preparation		Dry	
Retained 0.425mm (No. 40) (%)		0.0	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand Gravel Description			
Group Symbol	ASTM D 2487 - 06	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422 - 07
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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 Paydawy

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

Other Test Results

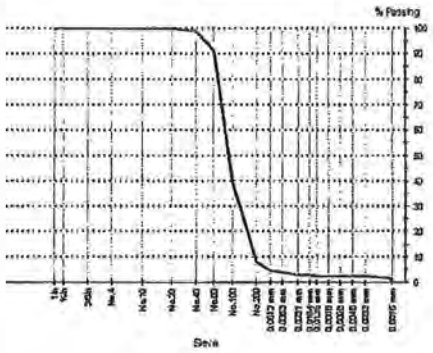
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand 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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	99	
No.60 (250µm)	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	

Chart



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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

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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-1
Sample Depth:	2.5
Date Sampled:	9/15/2008
Sampled By:	Michael McNamara
LWO No:	000355
Sample Location:	WDI - Woodlot

Other Test Results

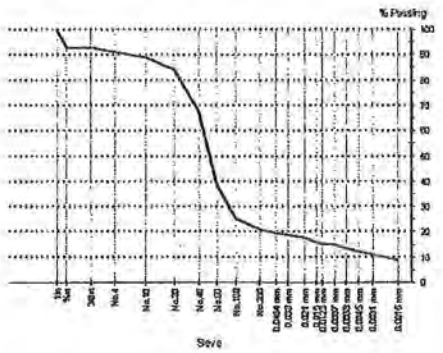
Description	Method	Result	Limits
Liquid Limit (%)	ASTM D 4318 - 05	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Retained 0.425mm (No. 40) (%)		N/O	
Dispersion Period (mins)	ASTM D 422 - 07	1	
Shape			
Hardness			
Dispersion Device			
Sand 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	
¾in (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



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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

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Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-2
Field Sample No: LS-17
Sample Depth: 80
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

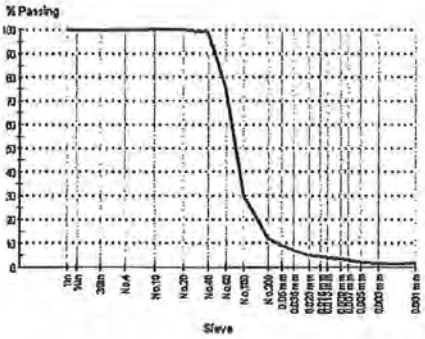
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	99	
No.60 (250µm)	75	
No.100 (150µm)	30	
No.200 (75µm)	12	
0.050 mm	9	
0.036 mm	7	
0.023 mm	5	
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	

Chart



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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 Paydawy

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

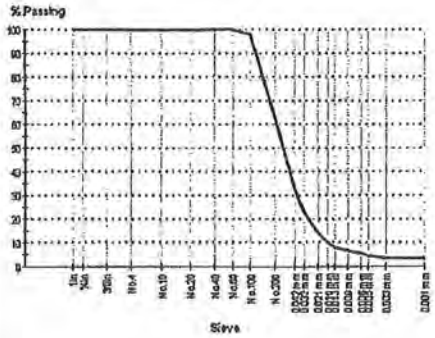
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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



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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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-2
Field Sample No: LS-15
Sample Depth: 70
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

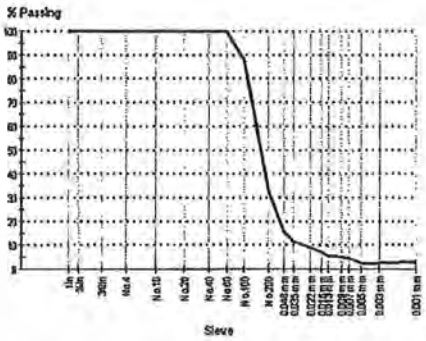
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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	

Chart



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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 Paydawy

Sample Details

Boring No: TB-W-2
Field Sample No: LS-14
Sample Depth: 65
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

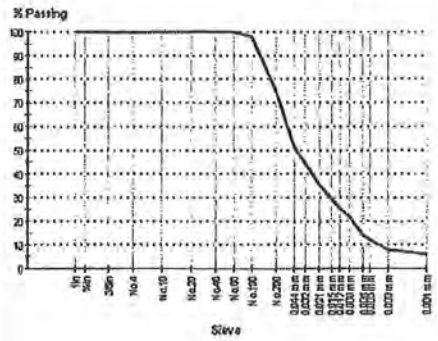
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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

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NO = Not Obtainable
NP = Non Plastic

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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 Paydawy

Sample Details

Boring No: TB-W-2
Field Sample No: ST-5
Sample Depth: 58
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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	

Chart

Comments

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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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-2
Field Sample No: LS-12
Sample Depth: 55
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

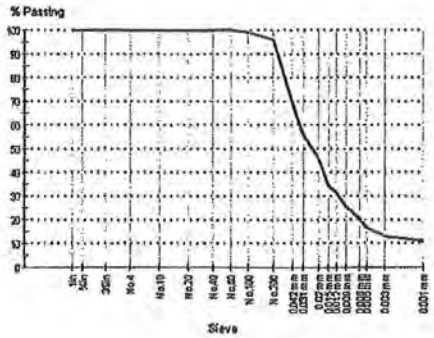
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	99	
No.200 (75µm)	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

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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 Paydawy

Sample Details

Boring No: TB-W-2
Field Sample No: ST-4
Sample Depth: 48
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

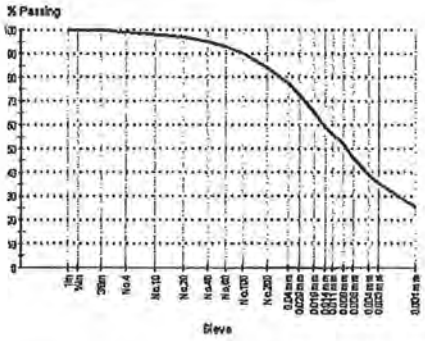
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.856	
Sample Diameter (in)		2.863	
Sample Cross-Section Area (in²)		6.44	
Sample Volume (in³)		18.39	
Dry Density (lb/ft³)		125.3	
Initial Moisture Content (%)		13.2	
Final Moisture Content (%)		13.1	
Average Permeabilty (cm/s)		1.39 E-7	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	98	
No.20 (850µm)	97	
No.40 (425µm)	95	
No.60 (250µm)	93	
No.100 (150µm)	90	
No.200 (75µm)	84	
0.040 mm	77	
0.029 mm	73	
0.019 mm	66	
0.014 mm	59	
0.011 mm	56	
0.008 mm	52	
0.006 mm	46	
0.004 mm	39	
0.003 mm	35	
0.001 mm	26	

Chart



Comments

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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 Paydawy

Sample Details

Boring No: TB-W-2
Field Sample No: ST-4
Sample Depth: 48
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

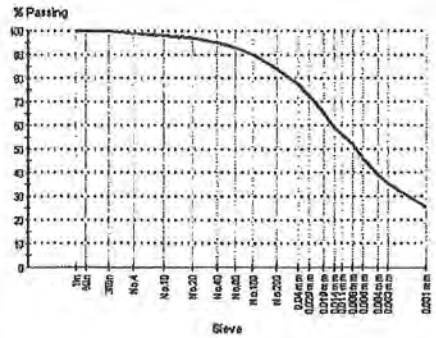
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	23	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		9	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM 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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	98	
No.20 (850µm)	97	
No.40 (425µm)	95	
No.60 (250µm)	93	
No.100 (150µm)	90	
No.200 (75µm)	84	
0.040 mm	77	
0.029 mm	73	
0.019 mm	66	
0.014 mm	59	
0.011 mm	56	
0.008 mm	52	
0.006 mm	46	
0.004 mm	39	
0.003 mm	35	
0.001 mm	26	

Chart



Comments

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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 Paydawy

Sample Details

Boring No: TB-W-2
Field Sample No: LS-10
Sample Depth: 45
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	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	

Chart

Comments

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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

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Date of Issue: 9/8/2008
Approved Signatory: Zeerak 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

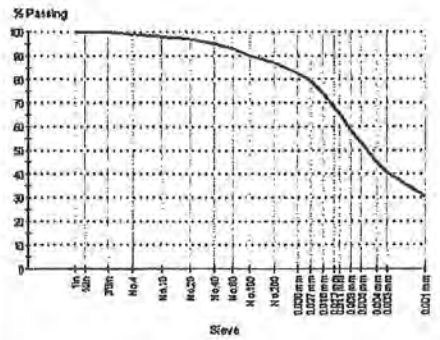
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	29	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		13	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	98	
No.20 (850µm)	97	
No.40 (425µm)	95	
No.60 (250µm)	93	
No.100 (150µm)	90	
No.200 (75µm)	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



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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 Paydawy

Sample Details

Boring No: TB-W-2
Field Sample No: ST-3
Sample Depth: 35
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

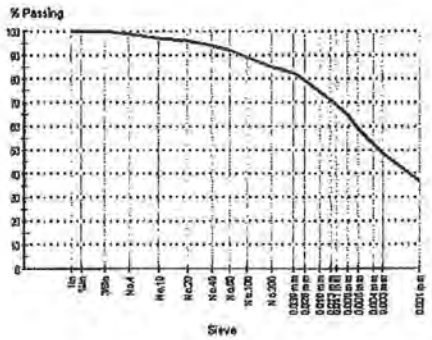
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.854	
Sample Diameter (in)		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 Permeabilty (cm/s)		1.72 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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 Paydawy

Sample Details

Boring No: TB-W-2
Field Sample No: ST-3
Sample Depth: 35
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

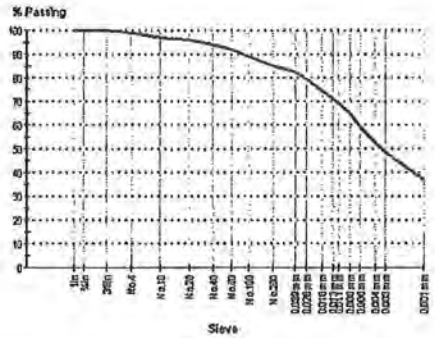
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	33	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		15	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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:

Other Test Results

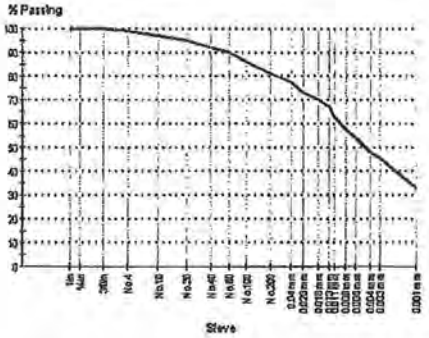
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	22.9	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.853	
Sample Diameter (in)		2.836	
Sample Cross-Section Area (in²)		6.32	
Sample Volume (in³)		18.02	
Dry Density (lb/ft³)		111.8	
Initial Moisture Content (%)		18.3	
Final Moisture Content (%)		19.0	
Average Permeabilty (cm/s)		1.93 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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 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:

Other Test Results

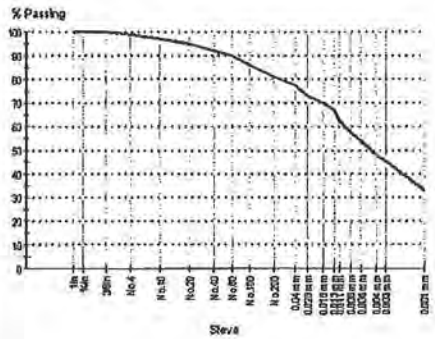
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	31	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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 Paydawy

Sample Details

Boring No: TB-W-2
Field Sample No: LS-7
Sample Depth: 25
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

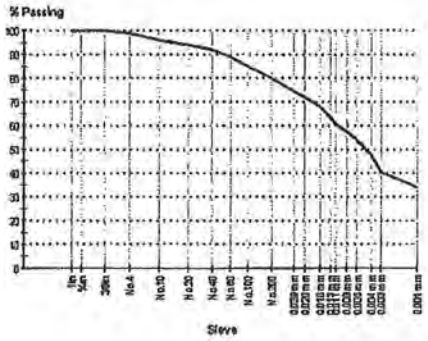
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	30	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		13	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay with sand	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

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 Paydawy

Sample Details

Boring No: TB-w-2
Field Sample No: LS-6
Sample Depth: 20
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	ASTM D 2216	18.3	
Wet Density (lb/ft³)		134.3	
Dry Density (lb/ft³)		113.5	
Unconfined Compressive Strength (lb/ft²)	ASTM D 2166	3773	
Shear Strength (lb/ft²)		1887	
Ave. Rate Strain to Failure(%)		0.9	
Strain at Failure(%)		14.5	
Average Height (in.)		2.750	
Average Diameter (in.)		1.366	
Height-Diameter Ratio		2.0	
Init. Dry Dens.			
Init. Water Content (%)			
Liquid Limit			
Plastic Limit			
Remarks			
Visual Description	—		

Particle Size Distribution

Method:
Drying by:
Date Tested:

Sieve Size	% Passing	Limits

Chart

Comments

N/A

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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 Paydawy

Sample Details

Boring No: TB-W-2
Field Sample No: ST-1
Sample Depth: 18
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

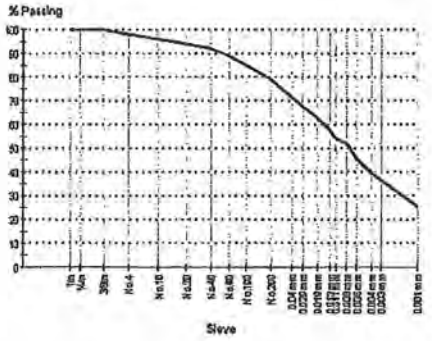
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	22.1	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.859	
Sample Diameter (in)		2.861	
Sample Cross-Section Area (in²)		6.43	
Sample Volume (in³)		18.38	
Dry Density (lb/ft³)		109.8	
Initial Moisture Content (%)		18.8	
Final Moisture Content (%)		19.0	
Average Permeability (cm/s)		3.50 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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 Paydawy

Sample Details

Boring No: TB-W-2
Field Sample No: ST-1
Sample Depth: 18
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

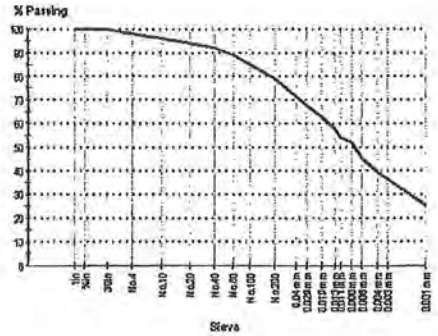
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	23	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		9	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM 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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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 Paydawy

Sample Details

Boring No: TB-W-2
Field Sample No: LS-5
Sample Depth: 15
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	46	
Method		Method A	
Plastic Limit (%)		23	
Plasticity Index (%)		23	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	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	

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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

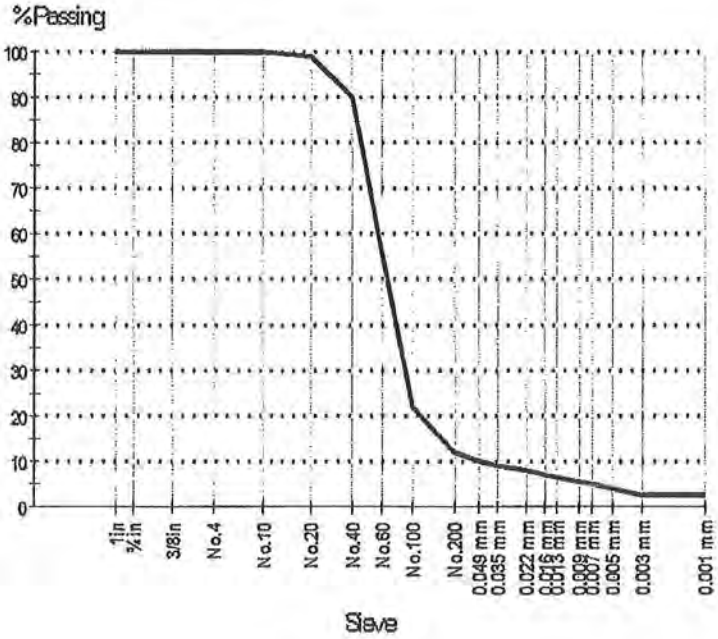
Boring No: TB-W-2
Field Sample No: LS-3
Sample Depth: 7.5
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

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



Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	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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Aggregate/Soil Test Report

Report No: MAT:62-080376-01-S093
Issue No: 1

Client: Wayne Disposal, Inc.

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

Job No: 62-080376-01

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

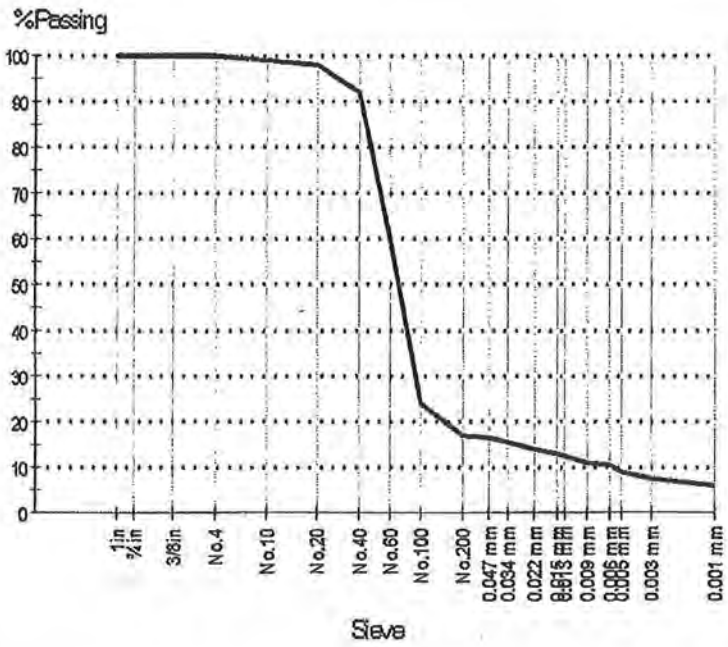
Boring No:	TB-W-2
Field Sample No:	LS-1
Sample Depth:	2.5
Date Sampled:	
Sampled By:	
LWO No:	000334
Sample Location:	

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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	99	
No.20 (850µm)	98	
No.40 (425µm)	92	
No.60 (250µm)	60	
No.100 (150µm)	24	
No.200 (75µm)	17	
0.047 mm	16	
0.034 mm	15	
0.022 mm	14	
0.015 mm	13	
0.013 mm	12	
0.009 mm	11	
0.006 mm	10	
0.005 mm	9	
0.003 mm	7	
0.001 mm	6	

Comments

N/A

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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 Paydawy

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

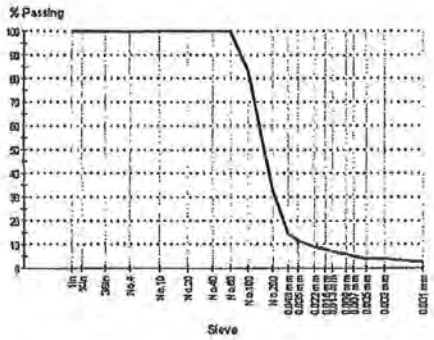
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	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

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NP = Non Plastic

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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 of State Highway and Transportation Officials (AASHTO). The test(s) reported have been performed in accordance with the terms of the accreditation.

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-1
Field Sample No: LS-37
Sample Depth: 88
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	98	
No.100 (150µm)	58	
No.200 (75µm)	20	
0.047 mm	19	
0.034 mm	18	
0.022 mm	14	
0.016 mm	11	
0.013 mm	10	
0.009 mm	9	
0.007 mm	7	
0.005 mm	6	
0.003 mm	5	
0.001 mm	3	

Chart

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-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 Paydawy

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

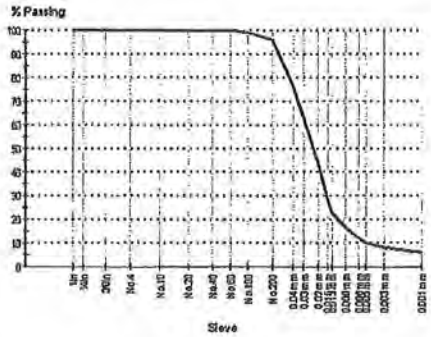
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	99	
No.200 (75µm)	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

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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 Paydawy

Sample Details

Boring No: TB-W-1
Field Sample No: LS-32
Sample Depth: 78
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

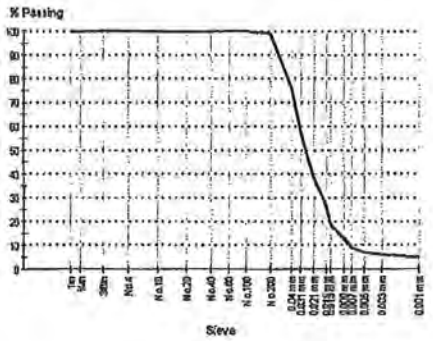
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	ML	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	100	
No.100 (150µm)	100	
No.200 (75µm)	99	
0.040 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	

Chart



Comments

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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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-1
Field Sample No: ST-7
Sample Depth: 74
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

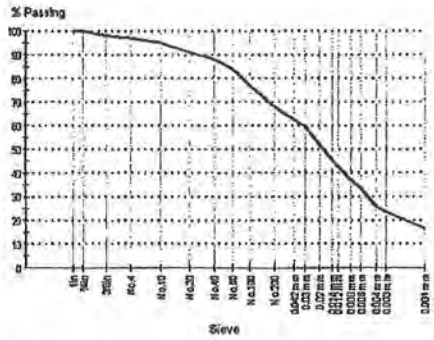
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	N/O	
Cell Pressure (lb/in²)		N/O	
Top Pressure (lb/in²)		N/O	
Bottom Pressure (lb/in²)		N/O	
Effective Pressure (lb/in²)		N/O	
Pressure Differential (lb/in²)		N/O	
Permeant		N/O	
Sample Height (in)		N/O	
Sample Diameter (in)		N/O	
Sample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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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	

Chart



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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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-1
Field Sample No: ST-7
Sample Depth: 74
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

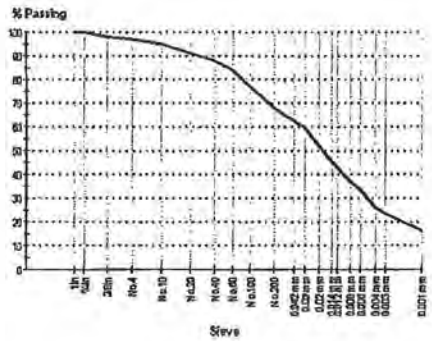
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	21	
Method		Method A	
Plastic Limit (%)		13	
Plasticity Index (%)		8	
Sample History			
Preparation			
Moisture Content (%)	ASTM D 2216	22.4	
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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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	

Chart



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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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-1
Field Sample No: LS-29
Sample Depth: 70
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

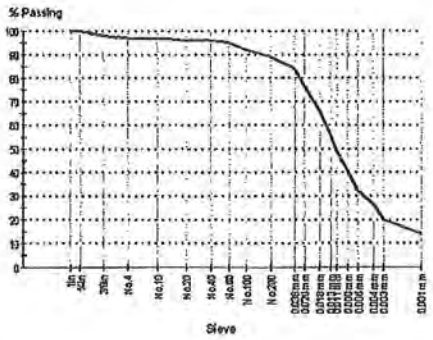
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	20	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		5	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL-ML	
Group Name		Silty clay	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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	

Chart



Comments

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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 Paydawy

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

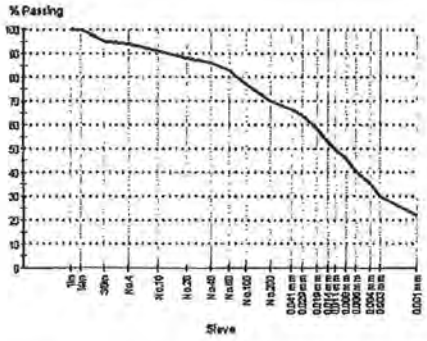
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	21.9	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.848	
Sample Diameter (in)		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 Permeabilty (cm/s)		2.99 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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

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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 Paydawy

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 2166	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	
¾in (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

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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 Paydawy

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

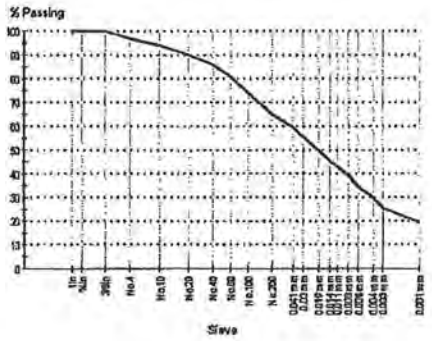
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	22.9	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.829	
Sample Diameter (in)		2.852	
Sample Cross-Section Area (in²)		6.39	
Sample Volume (in³)		18.07	
Dry Density (lb/ft³)		124.1	
Initial Moisture Content (%)		13.9	
Final Moisture Content (%)		13.9	
Average Permeabilty (cm/s)		3.09 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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

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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 Paydawy

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

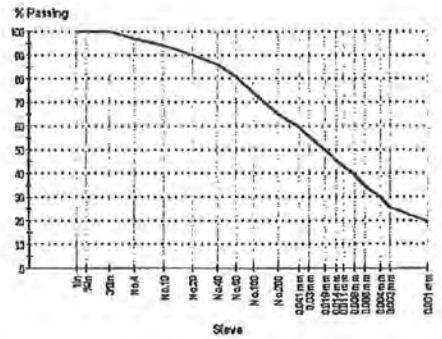
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	21	
Method		Method A	
Plastic Limit (%)		13	
Plasticity Index (%)		8	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	ASTM 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	
¾in (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

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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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-1
Field Sample No: LS-22
Sample Depth: 52
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

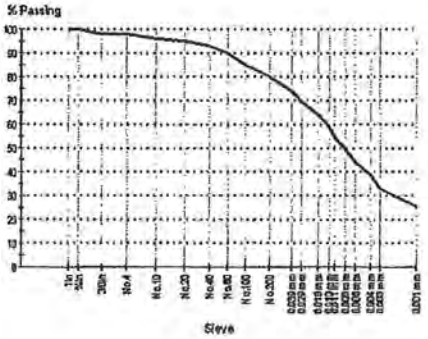
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	24	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		10	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	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	
¾in (19.0mm)	100	
3/8in (9.5mm)	98	
No.4 (4.75mm)	98	
No.10 (2.0mm)	96	
No.20 (850µm)	95	
No.40 (425µm)	93	
No.60 (250µm)	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	

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

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

Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-1
Field Sample No: ST-4
Sample Depth: 46
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

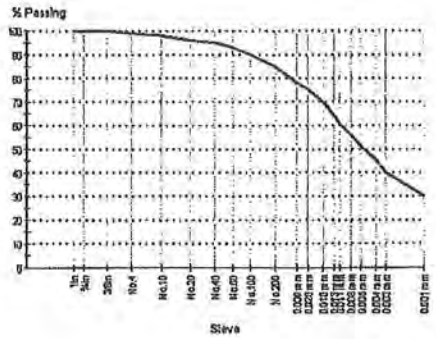
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.0	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.851	
Sample Diameter (in)		2.789	
Sample Cross-Section Area (in²)		6.11	
Sample Volume (in³)		17.42	
Dry Density (lb/ft³)		118.5	
Initial Moisture Content (%)		16.2	
Final Moisture Content (%)		16.7	
Average Permeabilty (cm/s)		1.29 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	98	
No.20 (850µm)	96	
No.40 (425µm)	95	
No.60 (250µm)	93	
No.100 (150µm)	90	
No.200 (75µm)	85	
0.039 mm	78	
0.028 mm	75	
0.018 mm	70	
0.013 mm	64	
0.011 mm	61	
0.008 mm	56	
0.006 mm	51	
0.004 mm	46	
0.003 mm	40	
0.001 mm	30	

Chart



Comments

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

This laboratory is accredited by 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 Paydewy

Sample Details

Boring No:	TB-W-1
Field Sample No:	ST-4
Sample Depth:	46
Date Sampled:	
Sampled By:	
LWO No:	000334
Sample Location:	

Other Test Results

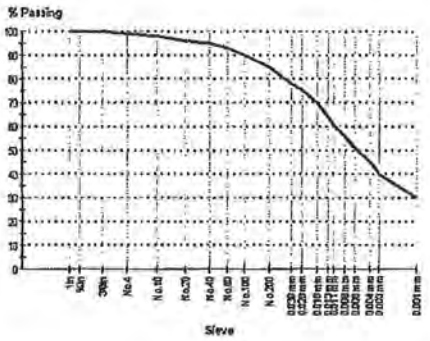
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	28	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		12	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	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	8015	
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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	98	
No.20 (850µm)	96	
No.40 (425µm)	95	
No.60 (250µm)	93	
No.100 (150µm)	90	
No.200 (75µm)	85	
0.039 mm	78	
0.028 mm	75	
0.018 mm	70	
0.013 mm	64	
0.011 mm	61	
0.008 mm	56	
0.006 mm	51	
0.004 mm	46	
0.003 mm	40	
0.001 mm	30	

Chart



Comments

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 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:

Other Test Results

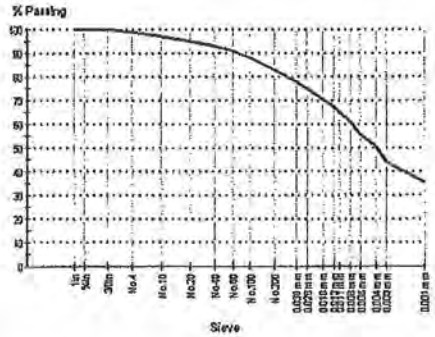
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.857	
Sample Diameter (in)		2.820	
Sample Cross-Section Area (in²)		6.25	
Sample Volume (in³)		17.84	
Dry Density (lb/ft³)		111.1	
Initial Moisture Content (%)		18.8	
Final Moisture Content (%)		19.5	
Average Permeability (cm/s)		1.14 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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 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:

Other Test Results

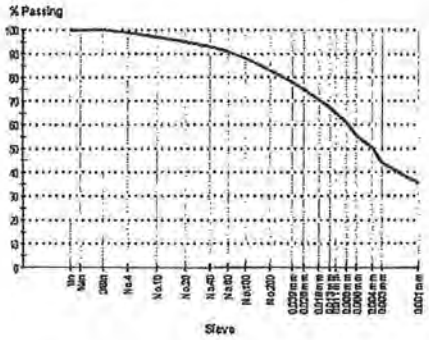
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	32	
Method		Method A	
Plastic Limit (%)		18	
Plasticity Index (%)		14	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	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	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	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	

Chart



Comments

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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 Paydawy

Sample Details

Boring No: TB-W-1
Field Sample No: LS-15
Sample Depth: 34
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

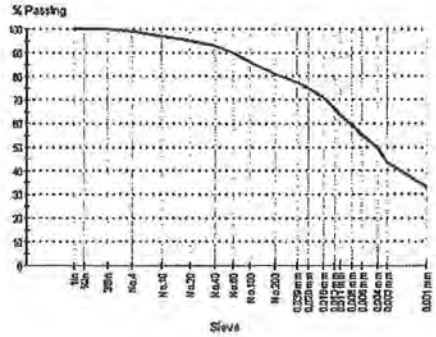
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	31	
Method		Method A	
Plastic Limit (%)		16	
Plasticity Index (%)		15	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	93	
No.60 (250µm)	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	

Chart



Comments

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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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Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-1
Field Sample No: ST-2
Sample Depth: 28
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

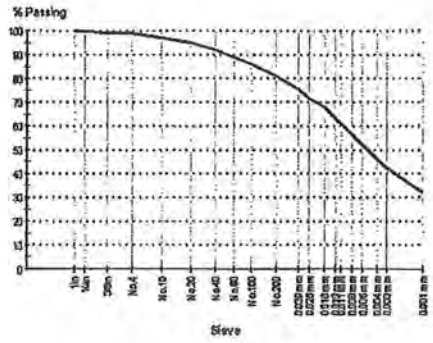
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	23.1	
Cell Pressure (lb/in²)		40.0	
Top Pressure (lb/in²)		32.0	
Bottom Pressure (lb/in²)		35.0	
Effective Pressure (lb/in²)		5.0	
Pressure Differential (lb/in²)		3.0	
Permeant		0.01 N CaS04	
Sample Height (in)		2.849	
Sample Diameter (in)		2.843	
Sample Cross-Section Area (in²)		6.35	
Sample Volume (in³)		18.09	
Dry Density (lb/ft³)		115.1	
Initial Moisture Content (%)		17.4	
Final Moisture Content (%)		17.9	
Average Permeabilty (cm/s)		1.40 E-8	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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	

Chart



Comments

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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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Date of Issue: 9/8/2008
Approved Signatory: Zeerak Paydawy

Sample Details

Boring No: TB-W-1
Field Sample No: ST-2
Sample Depth: 28
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

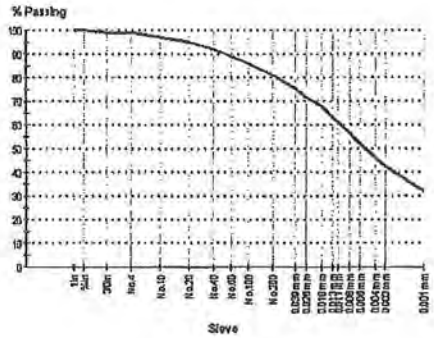
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	30	
Method		Method A	
Plastic Limit (%)		17	
Plasticity Index (%)		13	
Sample History		Oven-dried	
Preparation		Dry	
Moisture Content (%)	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			

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	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	

Chart



Comments

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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

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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-10
Sample Depth: 22
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	26	
Method		Method A	
Plastic Limit (%)		14	
Plasticity Index (%)		12	
Sample History		Unkown	
Preparation		Dry	
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	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	99	
No.10 (2.0mm)	97	
No.20 (850µm)	95	
No.40 (425µm)	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	

Chart

Comments

N/A

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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 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:

Other Test Results

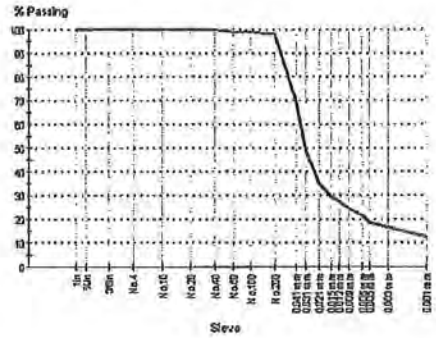
Description	Method	Result	Limits
Temperture (°C)	[ASTM D 5084]	N/O	
Cell Pressure (lb/in²)		N/O	
Top Pressure (lb/in²)		N/O	
Bottom Pressure (lb/in²)		N/O	
Effective Pressure (lb/in²)		N/O	
Pressure Differential (lb/in²)		N/O	
Permeant		N/O	
Sample Height (in)		N/O	
Sample Diameter (in)		N/O	
Sample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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	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	

Chart



Comments

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

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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-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 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:

Other Test Results

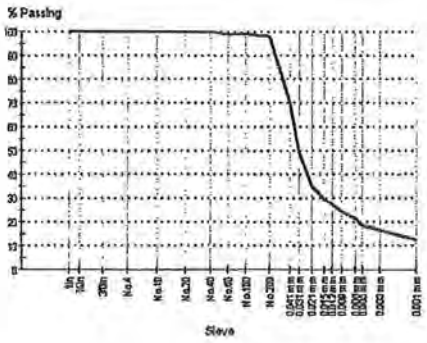
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Moisture Content (%)	ASTM D 2216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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	100	
No.60 (250µm)	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	

Chart



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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 Paydawy

Sample Details

Boring No: TB-W-1
Field Sample No: LS-7
Sample Depth: 14
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

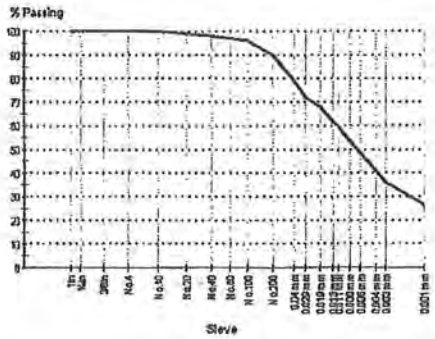
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	28	
Method		Method A	
Plastic Limit (%)		15	
Plasticity Index (%)		13	
Sample History		Unkown	
Preparation		Dry	
Group Symbol	ASTM D 2487	CL	
Group Name		Lean clay	

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	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	

Chart



Comments

N/A

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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 Paydawy

Sample Details

Boring No: TB-W-1
Field Sample No: LS-4
Sample Depth: 8
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

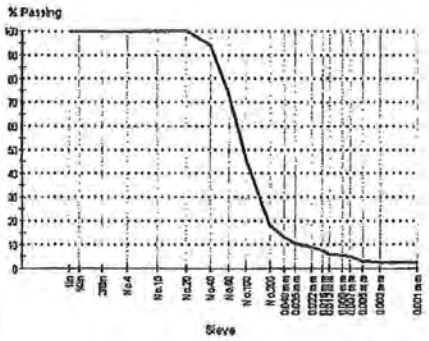
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (19.0mm)	100	
3/8in (9.5mm)	100	
No.4 (4.75mm)	100	
No.10 (2.0mm)	100	
No.20 (850µm)	100	
No.40 (425µm)	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	

Chart



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Southeast Michigan Laboratory

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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 Paydawy

Sample Details

Boring No: TB-W-1
Field Sample No: LS-2
Sample Depth: 4
Date Sampled:
Sampled By:
LWO No: 000334
Sample Location:

Other Test Results

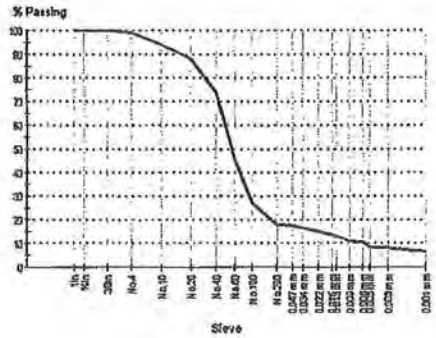
Description	Method	Result	Limits
Sand Gravel Description	ASTM D 422		
Shape			
Hardness			
Dispersion Device			
Dispersion Period		1	
Liquid Limit (%)	ASTM D 4318	N/O	
Method		N/O	
Plastic Limit (%)		N/O	
Plasticity Index (%)		N/O	
Sample History		N/O	
Preparation		N/O	
Group Symbol	ASTM D 2487	SM	
Group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

Particle Size Distribution

Method: ASTM D 422
Drying by: Oven

Sieve Size	% Passing	Limits
1in (25.0mm)	100	
¾in (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	

Chart



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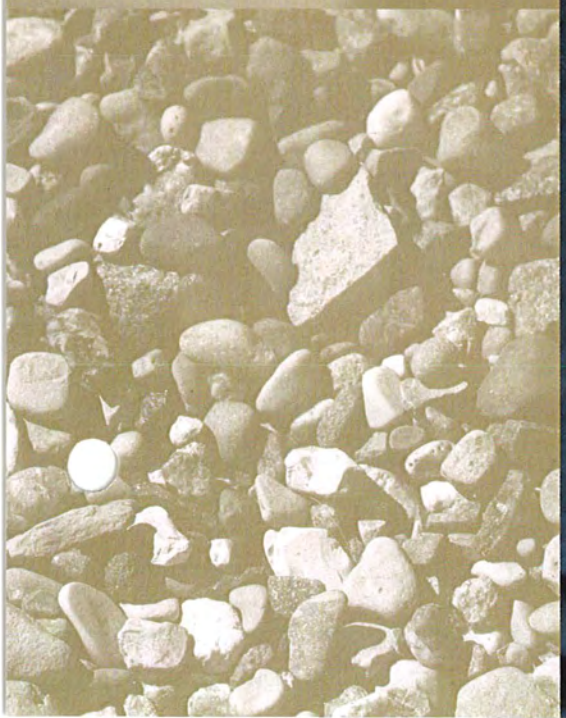
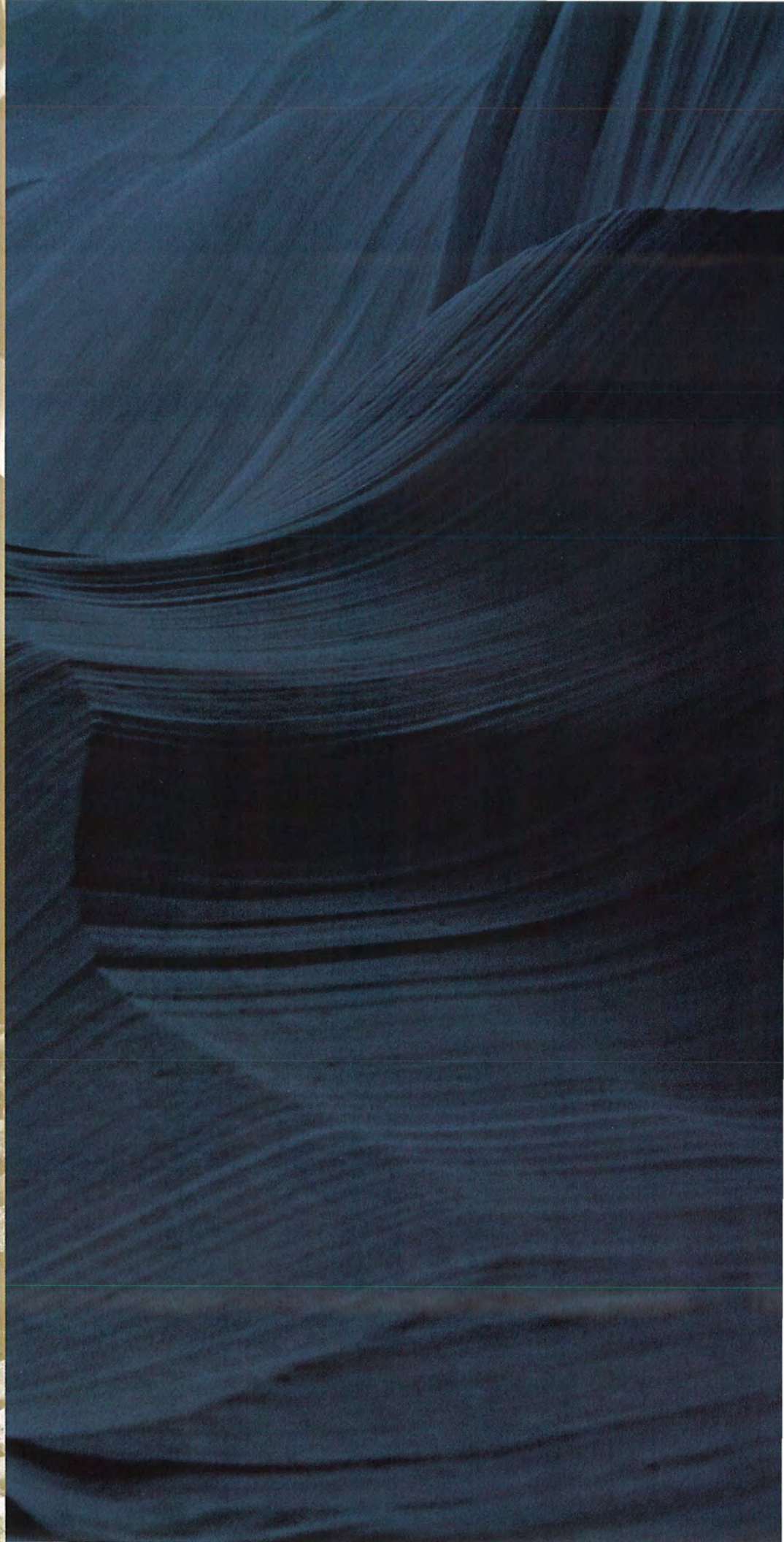




APPENDIX D

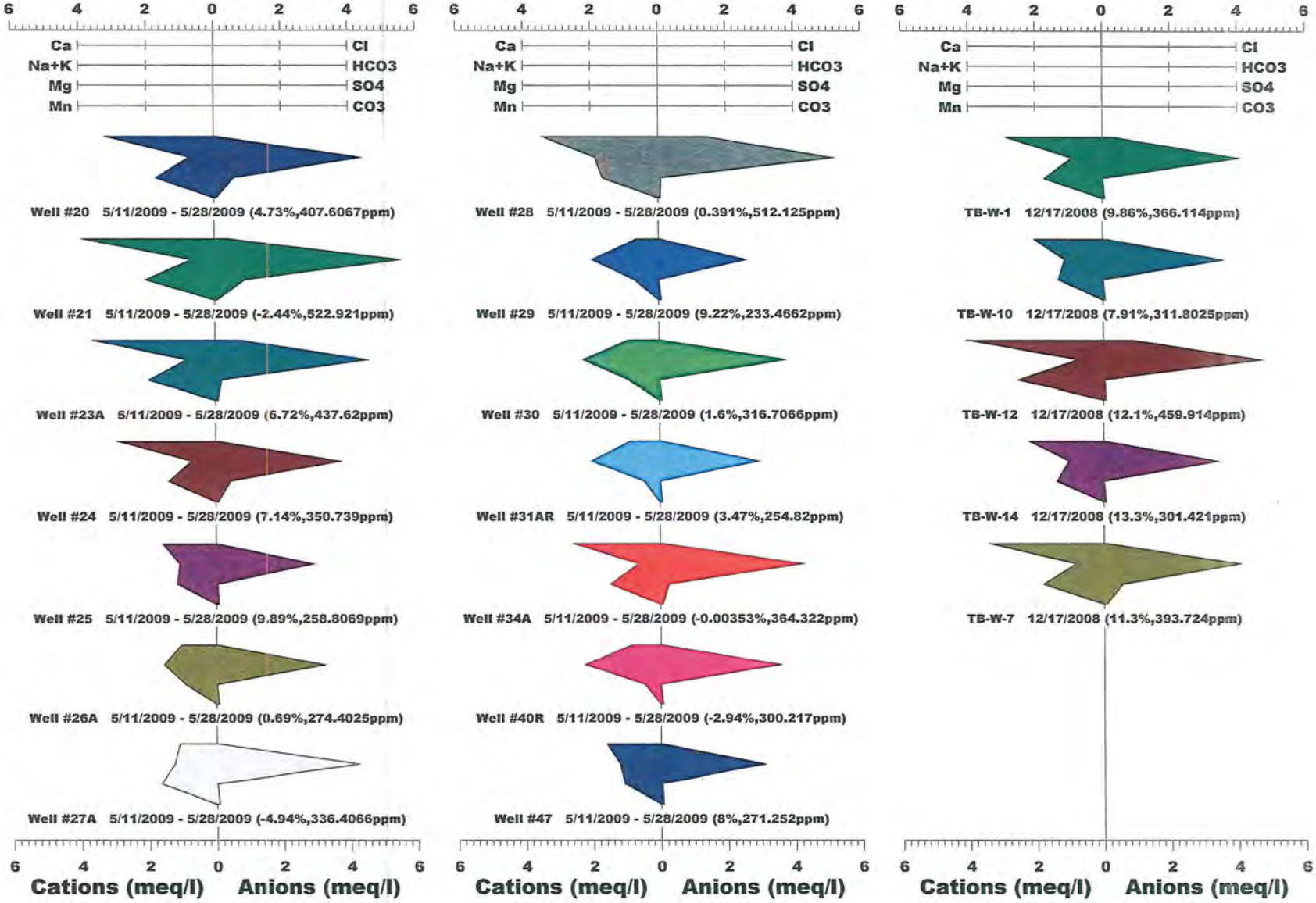
GROUNDWATER QUALITY ANALYTICAL DATA

SAMPLE DESIGNATION	ARSENIC 7440382	CADMIUM 7440439	CALCIUM	CHROMIUM 7440473	COPPER 7440508	IRO 74388	SPECIFIC CONDUCTANCE [MHOS/CM @ 25°C]	SULFATE 14808798	TOTAL CYANIDE 57125	ORGANIC ANALYSIS [MG/L] PHENOLICS, TOTAL 108952	ORGANIC ANALYSIS [MG/L] TOTAL ORGANIC CARBON (TOC)	PCBs [MG/L]	VOLATILE ORGANICS [MG/L]
TB-W-1	ND	ND	58	ND	ND	1.3	452	ND	ND	ND	1.2	NONE DETECTED	NONE DETECED
TB-W-7	ND	ND	69	ND	ND	1.2	492	27	ND	ND	0.91	NONE DETECTED	NONE DETECED
TB-W-10S	ND	ND	41	ND	ND	0.7	365	ND	ND	ND	0.90	NONE DETECTED	NONE DETECED
TB-W-12	ND	ND	82	ND	ND	2.0	600	2.8	ND	ND	1.2	NONE DETECTED	NONE DETECED
TB-W-14	ND	ND	45	ND	ND	0.7	363	ND	ND	ND	0.91	NONE DETECTED	NONE DETECED
REPORTING LIMIT	0.0010	0.00020	0.50	0.020	0.020	0.02	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	-----	250*	0.20	4.4	-----	0.0005	VARIOUS

NOTES:

[1] SAMPLES COLLECTED BY NTH CONSULTANTS PERSONNEL AND ANALYZED BY TRIM/
[2] **MG/L** - MILLIGRAMS PER LITER (≈ PARTS PER MILLION).
[3] **ND** - NOT DETECTED AT OR ABOVE LABORATORY-REPORTED METHOD DETECTION LI
[4] **(ID)** - INSUFFICIENT DATA.
[5] ***** - AESTHETIC-BASED CRITERIA--USE OF THE MOST RESTRICTIVE CRITERIA IS REQU
[6] **DW** - CONCENTRATION IN GROUNDWATER, IF NOT EXCEEDED, IS CONSIDERED SAFE
[7] - REPORTED CONCENTRATION EXCEEDS DRINKING WATER CRITERIA.

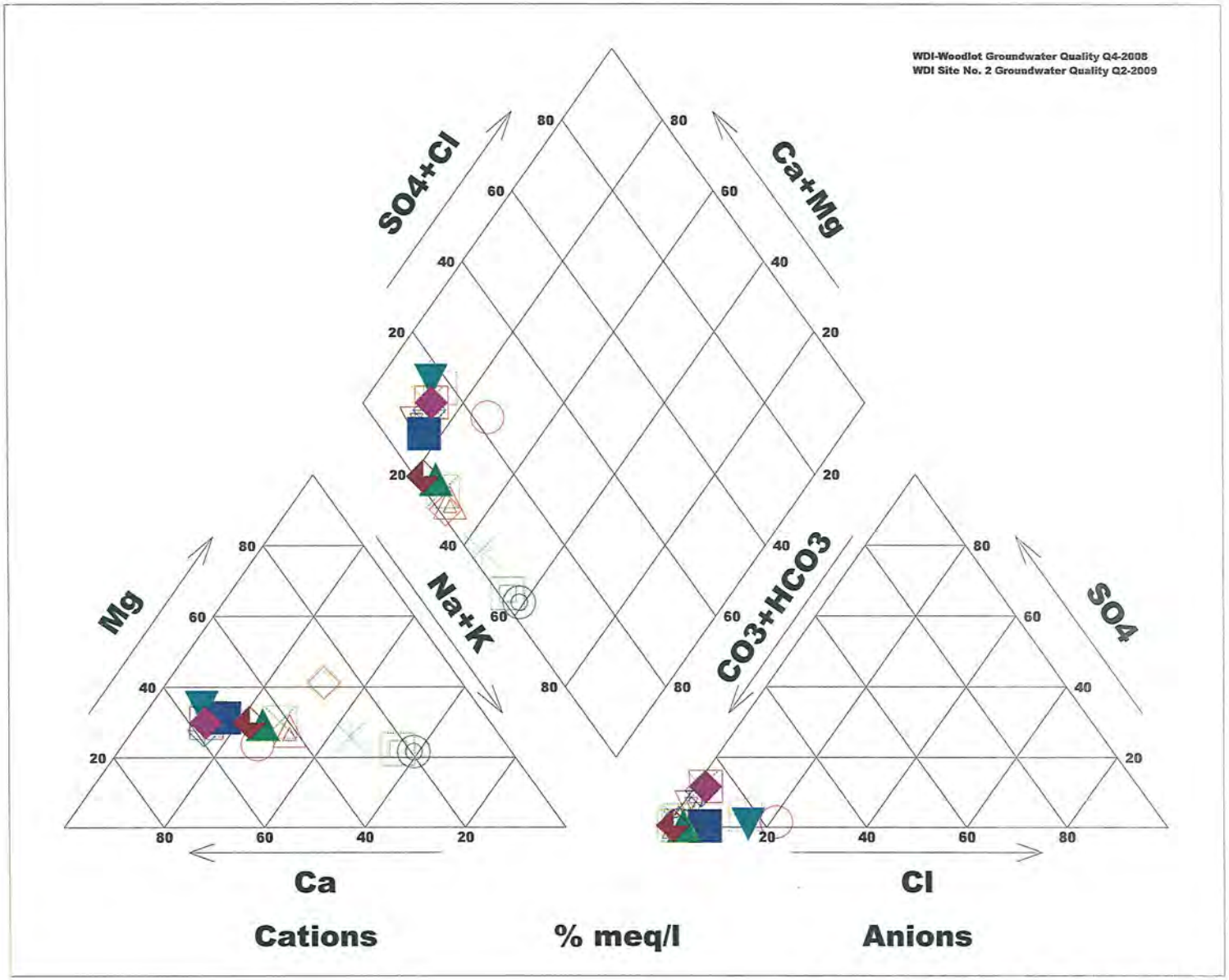
Wayne Disposal Site No. 2



Prepared by: NTH Consultants, Ltd.

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 (-2.45%,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 (9.89%,258.8ppm)
Well #26A	5/11/2009 -	5/28/2009 (0.689%,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 (9.22%,233.46ppm)
Well #30	5/11/2009 -	5/28/2009 (1.6%,316.7ppm)
Well #34A	5/11/2009 -	5/28/2009 (-0.012%,364.3ppm)
Well #47	5/11/2009 -	5/28/2009 (7.97%,271.2ppm)
TB-W-1	12/17/2008 (9.86%,366.1ppm)	
TB-W-10	12/17/2008 (7.91%,311.8ppm)	
TB-W-12	12/17/2008 (12.1%,459.9ppm)	
TB-W-14	12/17/2008 (13.3%,301.4ppm)	
TB-W-7	12/17/2008 (11.3%,393.7ppm)	



Prepared by: NTH Consultants, Ltd.

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

Jennifer L. Rice
Project Chemist

Enclosures(s)

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Individual sample results relate only to the sample tested.

ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-12**	Sampled:	12/17/08 14:30
Lab Sample ID:	**0812401-01**	Sampled By:	J. Cieslak
Matrix:	Ground Water	Received:	12/20/08 10:30
Unit:	mg/L	Prepared:	12/22/08 By: BJH
Dilution Factor:	1	Analyzed:	12/26/08 By: JMK
QC Batch:	0814683	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	108	*48-137*
Tetrachloro-m-xylene	65	*25-119*

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-12**	Sampled:	12/17/08 14:30
Lab Sample ID:	**0812401-01**	Sampled By:	J. Cieslak
Matrix:	Ground Water	Received:	12/20/08 10:30
Unit:	mg/L	Prepared:	12/23/08 By: JDM
Dilution Factor:	1	Analyzed:	12/24/08 By: JDM
QC Batch:	0814805	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	106	*81-116*
Toluene-d8	98	*87-113*
4-Bromofluorobenzene	98	*78-116*

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Individual sample results relate only to the sample tested.

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-12**	Sampled:	12/17/08 14:30
Lab Sample ID:	**0812401-01**	Sampled By:	J. Cieslak
Matrix:	Ground Water	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
dium	**17**	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
nc	<0.020	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964

*See Statement of Data Qualifications

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Individual sample results relate only to the sample tested.

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-12**	Sampled:	12/17/08 14:30
Lab Sample ID:	**0812401-01**	Sampled By:	J. Cieslak
Matrix:	Ground Water	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

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ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-10**	Sampled:	12/17/08 13:40
Lab Sample ID:	**0812401-02**	Sampled By:	J. Cieslak
Matrix:	Ground Water	Received:	12/20/08 10:30
Unit:	mg/L	Prepared:	12/22/08 By: BJH
Dilution Factor:	1	Analyzed:	12/26/08 By: JMK
QC Batch:	0814683	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*

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ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-10**	Sampled:	12/17/08 13:40
Lab Sample ID:	**0812401-02**	Sampled By:	J. Cieslak
Matrix:	Ground Water	Received:	12/20/08 10:30
Unit:	mg/L	Prepared:	12/23/08 By: JDM
Dilution Factor:	1	Analyzed:	12/24/08 By: JDM
QC Batch:	0814805	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	99	*87-113*
4-Bromofluorobenzene	97	*78-116*

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ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-10**	Sampled:	12/17/08 13:40
Lab Sample ID:	**0812401-02**	Sampled By:	J. Cieslak
Matrix:	Ground Water	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
dium	**25**	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
inc	**0.021**	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964

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ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-10**	Sampled:	12/17/08 13:40
Lab Sample ID:	**0812401-02**	Sampled By:	J. Cieslak
Matrix:	Ground Water	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

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ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-7**	Sampled:	12/17/08 12:30
Lab Sample ID:	**0812401-03**	Sampled By:	J. Cieslak
Matrix:	Ground Water	Received:	12/20/08 10:30
Unit:	mg/L	Prepared:	12/22/08 By: BJH
Dilution Factor:	1	Analyzed:	12/26/08 By: JMK
QC Batch:	0814683	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	111	*48-137*
Tetrachloro-m-xylene	33	*25-119*

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ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-7**	Sampled:	12/17/08 12:30
Lab Sample ID:	**0812401-03**	Sampled By:	J. Cieslak
Matrix:	Ground Water	Received:	12/20/08 10:30
Unit:	mg/L	Prepared:	12/23/08 By: JDM
Dilution Factor:	1	Analyzed:	12/24/08 By: JDM
QC Batch:	0814805	Analytical Batch:	8123029

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<0.0010	0.0010
95-50-1	1,2-Dichlorobenzene	<0.0010	0.0010
106-46-7	1,4-Dichlorobenzene	<0.0010	0.0010
75-34-3	1,1-Dichloroethane	<0.0010	0.0010
107-06-2	1,2-Dichloroethane	<0.0010	0.0010
156-59-2	cis-1,2-Dichloroethene	<0.0010	0.0010
156-60-5	trans-1,2-Dichloroethene	<0.0010	0.0010
100-41-4	Ethylbenzene	<0.0010	0.0010
75-09-2	Methylene Chloride	<0.0050	0.0050
108-88-3	Toluene	<0.0010	0.0010
71-55-6	1,1,1-Trichloroethane	<0.0010	0.0010
79-01-6	Trichloroethene	<0.0010	0.0010
75-01-4	Vinyl Chloride	<0.0050	0.0050
1330-20-7	Xylene (Total)	<0.0030	0.0030

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	100	*88-115*
1,2-Dichloroethane-d4	105	*81-116*
Toluene-d8	98	*87-113*
4-Bromofluorobenzene	98	*78-116*

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ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-7**	Sampled:	12/17/08 12:30
Lab Sample ID:	**0812401-03**	Sampled By:	J. Cieslak
Matrix:	Ground Water	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
dium	**18**	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
ic	<0.020	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964

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ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-7**	Sampled:	12/17/08 12:30
Lab Sample ID:	**0812401-03**	Sampled By:	J. Cieslak
Matrix:	Ground Water	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

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ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-1**	Sampled:	12/17/08 11:10
Lab Sample ID:	**0812401-04**	Sampled By:	J. Cieslak
Matrix:	Ground Water	Received:	12/20/08 10:30
Unit:	mg/L	Prepared:	12/22/08 By: BJH
Dilution Factor:	1	Analyzed:	12/26/08 By: JMK
QC Batch:	0814683	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*

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ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-1**	Sampled:	12/17/08 11:10
Lab Sample ID:	**0812401-04**	Sampled By:	J. Cieslak
Matrix:	Ground Water	Received:	12/20/08 10:30
Unit:	mg/L	Prepared:	12/23/08 By: JDM
Dilution Factor:	1	Analyzed:	12/24/08 By: JDM
QC Batch:	0814805	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*

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ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-1**	Sampled:	12/17/08 11:10
Lab Sample ID:	**0812401-04**	Sampled By:	J. Cieslak
Matrix:	Ground Water	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
dium	**20**	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
inc	<0.020	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964

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ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-1**	Sampled:	12/17/08 11:10
Lab Sample ID:	**0812401-04**	Sampled By:	J. Cieslak
Matrix:	Ground Water	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

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ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-14**	Sampled:	12/17/08 15:10
Lab Sample ID:	**0812401-05**	Sampled By:	J. Cieslak
Matrix:	Ground Water	Received:	12/20/08 10:30
Unit:	mg/L	Prepared:	12/22/08 By: BJH
Dilution Factor:	1	Analyzed:	12/26/08 By: JMK
QC Batch:	0814683	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*

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ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-14**	Sampled:	12/17/08 15:10
Lab Sample ID:	**0812401-05**	Sampled By:	J. Cieslak
Matrix:	Ground Water	Received:	12/20/08 10:30
Unit:	mg/L	Prepared:	12/23/08 By: JDM
Dilution Factor:	1	Analyzed:	12/24/08 By: JDM
QC Batch:	0814805	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	102	*88-115*
1,2-Dichloroethane-d4	105	*81-116*
Toluene-d8	99	*87-113*
4-Bromofluorobenzene	98	*78-116*

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ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-14**	Sampled:	12/17/08 15:10
Lab Sample ID:	**0812401-05**	Sampled By:	J. Cieslak
Matrix:	Ground Water	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
dium	**23**	0.50	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964
nc	<0.020	0.020	mg/L	1	USEPA-6010B	01/02/09	KLV	0814964

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ANALYTICAL REPORT

Client:	**NTH Consultants**	Work Order:	**0812401**
Project:	Woodlot/Wayne Disposal	Description:	Laboratory Services
Client Sample ID:	**TB-W-14**	Sampled:	12/17/08 15:10
Lab Sample ID:	**0812401-05**	Sampled By:	J. Cieslak
Matrix:	Ground Water	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

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QUALITY CONTROL REPORT

Polychlorinated Biphenyls (PCBs) by EPA Method 8082

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
QC Batch: 0814683 3510C Liquid-Liquid Extraction/USEPA-8082								
Method Blank					Analyzed:		12/26/2008	By: JMK
Unit: mg/L					Analytical Batch:		8122912	
PCB-1016			<0.00010					0.00010
PCB-1221			<0.00010					0.00010
PCB-1232			<0.00010					0.00010
PCB-1242			<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					Analyzed:		12/26/2008	By: JMK
Unit: mg/L					Analytical Batch:		8122912	
PCB-1254		0.00100	**0.00102**	102	66-126			0.00010
Surrogates:								
Decachlorobiphenyl				*122*	*48-137*			
Tetrachloro-m-xylene				*84*	*25-119*			

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B

QC Batch: 0814805 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank — Analyzed: 12/24/2008 By: JDM
Unit: mg/L — Analytical Batch: 8123029

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
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

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
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

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 0814805 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 12/23/2008 By: JDM
Unit: mg/L Analytical Batch: 8123029

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
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 Analyzed: 12/23/2008 By: JDM
Unit: ug/L 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 Analyzed: 12/24/2008 By: JDM
Unit: mg/L Analytical Batch: 8123029

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
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 Analyzed: 12/24/2008 By: JDM
Unit: ug/L 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*

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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
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]									
rix Spike	82.1	20.0	**99.0**	mg/L	84	75-125			0.50
atrix 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
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
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
trix 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
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

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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
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
ɔlicate	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

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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: 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]									
trix Spike	<0.00500	0.100	**0.101**	mg/L	101	59-128			0.00500
·atrix 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

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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

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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

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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

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TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE Grand Rapids, MI 49512
Phone (616) 975-4500 Fax (616) 942-7463
www.trimatrixlabs.com

Chain of Custody Record

COC No. 127354

Page 1 of 1

For Lab Use Only

Cart: 4
VOA Rack/Tray: 5B
Receipt Log No.: 33-1
Project Chemist:
Laboratory Project No.: 0812401

Client Name: NTH CONSULTANTS
Address: 47168 6 MILE RD
NORTHVILLE MI
Phone: (248) 521-1884
Fax:

Project Name: WOODLOT / WAYNE DISPOSAL
Client Project No./P.O. No.: 62 080367
Invoice No.: ☐ Client ☐ Other (comments)
Contact/Report To: DAN CHANDONAIS

Analyses Requested: D, E, C, B, H, A, A — Dissolved Metals; Quarterly Schedule wells 18.40 per M. Trikey

Container Type (corresponds to Container Packing List): 40ml Glass; 250ml Plastic; 250ml Plastic; 1000ml Clear; 250 BRN; 250 BRN; 750ml Clear Plastic

PRESERVATIVES
A NONE pH~7
B HNO_3 pH<2
C H_2SO_4 pH<2
D 1+1 HCl pH<2
E NaOH pH>12
F ZnAc/NaOH pH>9
G MeOH
H Other (note below)

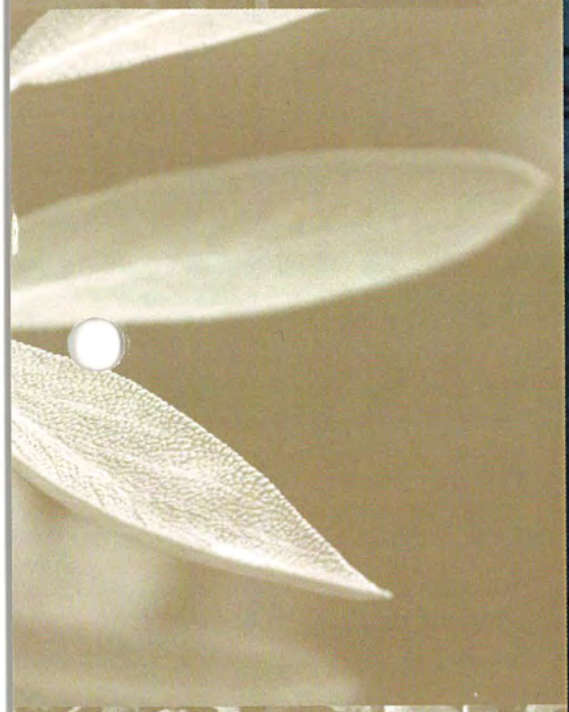
Test Group	Matrix Code	Laboratory Sample Number		Sample ID	Cooler ID	Sample Date	Sample Time	COMP	GRAB	Matrix	D	E	C	B	H	A	A			Total	Sample Comments
01		01	1	TB-W-12		12/17	14:30				2	1	1	1	3	2	1			11	
		02	2	TB-W-10			13:40													11	
		03	3	TB-W-7			12:30													11	
		04	4	TB-W-1			11:10													11	
		05	5	TB-W-14			15:10													11	*
			6																		
			7																		
			8																		
			9																		
			10																		

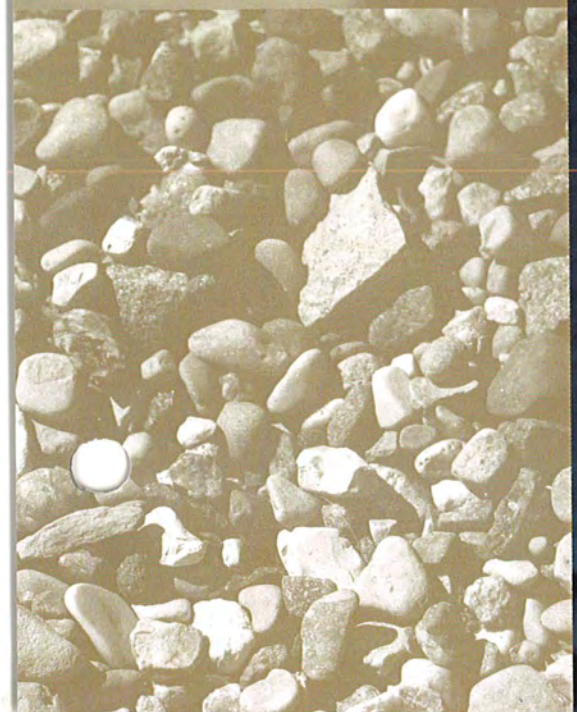
Sampled By (print): DANIEL CHANDONAIS
Sampler's Signature: [signature]
Company:

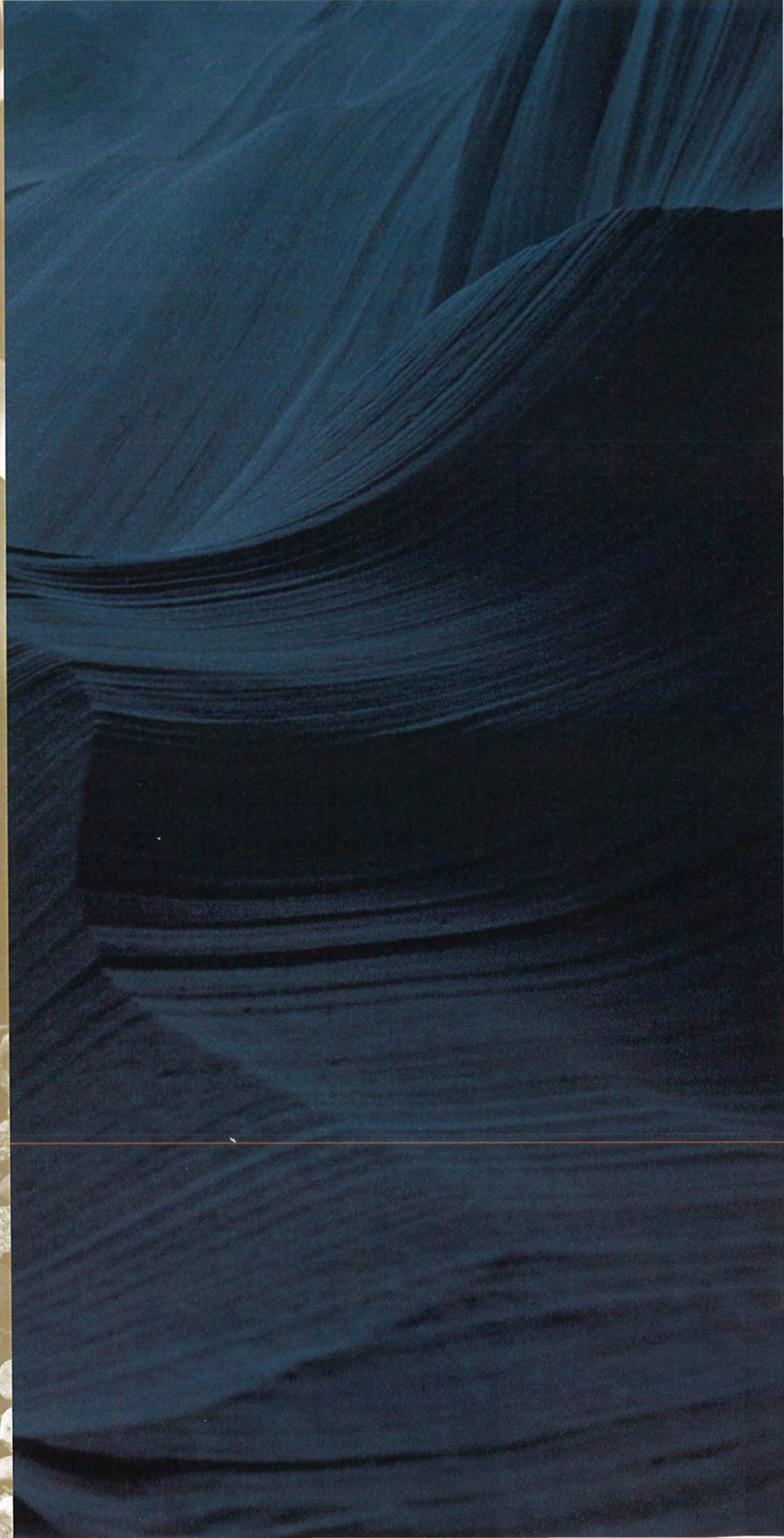
How Shipped? Hand Carrier
Tracking No.

Comments: H = Sulfuric Acid
WILL CALL IN SPECIFIC CONSTITUENTS TO BE TESTED FOR TOMORROW 12/18

1. Relinquished By	Date	Time	2. Relinquished By	Date	Time	3. Relinquished By	Date	Time
[signature]	12/19	12:00 pm						
1. Received By	**Date**	**Time**	**2. Received By**	**Date**	**Time**	**3. Received For Lab By**	**Date**	**Time**
						[signature]	12-20-08	1035







APPENDIX E

REGIONAL WATER SUPPLY WELL RECORDS

NTH Consultants, Ltd.
A Neyer, Tiseo & Hindo Company
38955 Hills Tech Drive, Farmington Hills, Michigan 48331-3432 • (313) 553-6300 • Fax (313) 489-0727

November 20, 1990
Project No. 90413 OW

Mr. Mike Olson
Michigan Disposal, Inc.
1349 South Huron Street
Ypsilanti, Michigan 48197

RE: Report on Abandonment and Plugging of Water Supply Well for the Former MDI Waste Processing Facility
Van Buren Township, Wayne County, Michigan

Dear Mike:

As you requested, we monitored the abandonment and plugging of the water supply well for the former Michigan Disposal, Inc. (MDI) waste processing facility (Pugmill). We performed this work in general accordance with our Agreement for Services dated August 8, 1990. As described below, the well was abandoned following the general requirements of the General Rules of Public Act 315, 1969, as amended. We understand that the abandonment of the water supply well was necessary to allow the development of Wayne Disposal, Incorporated's (WDI) Master Cell No. VI-D (MC VI-D) at Site No. 2.

BACKGROUND

The water supply well for the former Pugmill was located at grid location 6764N, 5752E, according to WDI's site coordinate system based on information supplied by MDI. This well served as groundwater supply well for the former MDI Pugmill, which was located immediately south of the well prior to the pugmill's demolition in 1989.

The Water Well and Pump Record, presented as Figure 1, reportedly describes the well when it was installed. This record shows the well was originally installed to a total depth of approximately 116 feet below ground surface by Slusser Drilling Co., Inc. in December, 1982. As originally constructed, the well consisted of 108 feet of galvanized steel pipe with a 4-inch diameter, 8-foot long stainless steel well screen. According to the information presented on the log, the screen was secured to the well casing with a "hemp packer", which apparently consisted of a length of

hemp-type rope wrapped around the connection between the casing and the screen. An Aeromotor Model 4ST30 pump was placed in the well and was attached to a 2-inch diameter galvanized steel casing, which served as the well's "drop pipe". The water record, signed by Slusser personnel, indicates that the annular space between the well casing and the borehole was grouted with bentonite to an unspecified depth below ground surface. The original ground surface elevation at the well location, as determined by WDI, was approximately 694.7 feet (msl).

The first phase of the excavation of MC VI-D preceded removal of the water supply well. During excavation of the cell floor to an elevation of 686.7 feet, construction personnel struck the well which broke off the upper 8 feet of well casing. Following this, WDI excavated the cell floor further around the well to an elevation of approximately 661.2 feet (msl) leaving approximately 25.5 feet of casing standing above the ground surface and 82.5 feet of the well assembly below ground surface.

The Mineral Well Act and General Rules, (P.A. 315, 1969) govern abandonment and plugging of groundwater wells. The general rules specify that borehole and well plugging is to conform to "Recommended Practice for Plugging Soil Borings" as issued by the Southeastern Branch of the Michigan Section of the American Society of Civil Engineers (August, 1969). As described in that document, boreholes "drilled through clay above sand which encounter groundwater must be plugged with either cement or bentonite grout to minimum five feet above the sand". MDNR guidelines (Hydro Study Handbook, 1982) specify that the abandonment of monitoring wells at landfill sites comply with PA 315 criteria.

WELL ABANDONMENT AND PLUGGING PROCEDURE

The well abandonment and plugging was performed by WDI and Mateco Drilling Company personnel on August 8, 1990. This work was monitored by a staff geologist from NTH. The abandonment and plugging procedure included the following steps:

- WDI personnel, using an acetylene torch, cut the well casing which extended above the cell floor, leaving approximately 2 feet of casing exposed.

- The Aeromotor pump, associated wiring, and the attached 2-inch diameter drop pipe was removed from the well.

- A cement-bentonite grout was pumped into the well from the bottom upward through a tremie pipe, displacing the water present in the casing.

- The casing, filled with the grout, was removed using the drilling rig. The drilling crew then cut the casing into sections of approximately 8 feet using an acetylene torch. This method was used to remove approximately 20 feet of casing.

- The remainder of the casing (approximately 63 feet) was overdrilled with an 8-inch inside diameter hollow-stem auger. The auger and remaining well casing were removed and the borehole was completely filled with cement-bentonite grout to ground surface using tremie methods. The elevation of the bottom of the boring just prior to grouting was approximately 599 feet.

- The well screen, which had been attached to the casing with a hemp-packer as described previously, could not be retrieved during removal of the well casing. Instead, the screen was encased in the grout placed in the borehole. We estimate that the screen was disconnected from the well casing below an elevation of approximately 599 feet.

To minimize the possibility of a vertical pathway through the clay, a 20' x 20' area, centered on the well location, was excavated and backfilled with compacted cohesive soil. This work was performed by WDI personnel and monitored by NTH. The area surrounding the well was excavated to a depth of approximately 6 feet and was backfilled with cohesive soil which was placed in lifts of 1 foot. WDI compacted the backfill with a sheepsfoot roller and bulldozer. During backfilling, we measured the in-place moisture content and dry density of each lift placed with a Troxler nuclear density/moisture gauge. Each lift was compacted to at least 90 percent of the maximum dry density of the backfill material, which was determined by laboratory proctor testing. The locations and results of the in-place testing performed during backfilling are presented as Test Nos. 243 through 247 on Daily Landfill Construction Monitoring Report No. 20 for Job No. 87191 AW, which is included as Attachment No. 1 with this report.

The abandonment procedure is summarized graphically on Plate 1, which is attached to this report. As shown, this plate depicts the original construction of the well and its condition prior to

and after plugging. Relevant information including generalized subsurface conditions at the well location, depths, and elevations are also presented.

In summary, it is our professional opinion that the former water supply well which served the former MDI Pugmill has been properly plugged and abandoned in general accordance with the requirements of the Mineral Well Act. We believe that this report should provide sufficient documentation of the abandonment of the well for submittal to MDNR. If you should have any questions or require additional information, do not hesitate to contact us.

Sincerely,

NTH CONSULTANTS, LTD.

Richard L. Burns
Project Geologist

Robert F. Gorman
Project Director

RLB/RFG/mao

Attachments

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PART 127 ACT 368, P.A. 1978

PERMIT NUMBER

1 LOCATION OF WELL

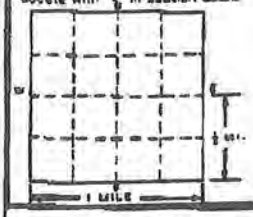
County	Township Name	Fraction	Section Number	Town Number	Range Number
Wayne	Van Buren	SE ¼ ¼ ¼	18	3S	8 E

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 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) 116 ft. — Date of Completion 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: Diameter ☒ Steel ☒ Threaded ☐ Plastic ☐ Welded

4 in. to 108 ft. depth

in. to ft. depth

Grouted Drill Hole Diameter

in. to ft. depth

in. to ft. depth

Height: Above/Below Surface ft.

Weight 11 lbs./ft.

Drive Shoe ☒ Yes ☐ No

2 FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH 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	115
Black Shale	1	116

USE A 2ND SHEET IF NEEDED

8 SCREEN: ☐ Not Installed

Type Stainless Diameter 4"

Slot/Gauge 18 Length 8'

Set between 108 ft. and 116 ft.

FITTINGS: ☐ E-Packer ☐ Lead Packer ☐ Bronze Check

☒ Blank above screen 1 ft. Other Hemp 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.

11 WELL HEAD COMPLETION: ☒ Pitless adapter ☐ 12" above grade ☐ Basement offset ☐ Approved pit

12 WELL GROUTED? ☐ No ☒ Yes From to 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 Only

Manufacturer's name Aermotor

Model number 48T36 HP 3 Volts 220

Length of Drop Pipe 100 ft. capacity G.P.M.

TYPE: ☒ Submersible ☐ Jet

PRESSURE TANK:

Manufacturer's name Wall X Trol

Model number WX252 Capacity Gallons

15. Remarks, elevation, source of data, etc.

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. — REGISTERED BUSINESS NAME

81-0368/1760 — REGISTRATION NO.

Address 1701 W. Michigan Ave Ypsilanti, MI

Signed [signature] — AUTHORIZED REPRESENTATIVE

Date 12-28-82

D076 (Rev. 10-80)

Figure No. 1

DAILY LANDFILL CONSTRUCTION MONITORING REPORT

NTH Consultants, Ltd.

Report No.: 20
Sheet 1 of 3
Attached:
Sketch [✓]
Special Report [ ]

NTH Proj. No.: 87191 AW

WAYNE DISPOSAL, INC.
VAN BUREN TOWNSHIP, MICHIGAN

Weather and Temp.: Clear, 40°F

Date: 11/13/90

Contractor: Wayne Disposal, Inc.
Contractors Representative: D. Gracey

Client Representative: D. Schroat
NTH Representative: C. McDougal

Construction Monitoring Data

Areas Worked: Cell VI D Floor and South Dike 6710N, 5650E; 6950N, 5725E; 6670N, 5650E

Vertical/Horizontal Control: Surveyors Stakes
Fill Placed Today: 800 cu yd
Cumulative: 25,270 cu yd

Samples Obtained: Bag(s) Block(s) Shelby Tube(s)
Borrow Source: Stockpile West of Cell XI
Lift Thickness: 9 in.
Compaction Equipment: Cat 825C Sheepsfoot Roller, Cat D8N Dozer

Field Density Test Method: Nuclear Moisture/Density Gauge No. 12166

Project Specifications

Lift Thickness: 9 in.
Compaction: 90 % of Maximum Density per ASTM D 1557-78
Moisture Range: - 2 % to + 5 % of Optimum Moisture Content

Moisture / Density Laboratory & Field Data

BAG NO.	MAX. DRY DENSITY	OPT. MOISTURE CONTENT	ACCEPTABLE MOISTURE RANGE
Bag 14	131.4 PCF	10.4 %	8.4 % to 15.4 %
	PCF	%	% to %
	PCF	%	% to %
	PCF	%	% to %

Test No.	Test Elevation (ft)	Material Designation by Bag No.	In-Place Moisture Content (%)	In-Place Dry Density (pcf)	Percent Max Dry Density (%)	Location / Remarks * Indicates Failing Test
235	641.0	14	11.5	126.8	96.5	6700N, 5640E - Lift No. 1
236	646.3	14	12.4	124.3	94.6	6830N, 5650E - Lift No. 4
237	642.2	14	10.8	127.5	97.0	6720N, 5635E - Lift No. 2
238	643.3	14	12.9	122.1	92.9	6740N, 5645E - Lift No. 3
239	644.4	14	11.2	124.8	95.0	6760N, 5637E - Lift No. 4

Remarks: Backfill and moisture density testing continued today. Test Nos. 243 thru 247 were taken at the 20'X 20' cell floor area above the former location of the MDI water supply well, abandoned 8/19/90. This area was excavated to a 6' depth. The excavation was backfilled using a bench procedure to rebuild the cell floor. See skecth for details.

Checked By: Jal

ATTACHMENT 1

DAILY LANDFILL CONSTRUCTION MONITORING REPORT

NTH Consultants, Ltd.

Report No.: 20
Sheet 2 of 3

NTH Proj. No.: 87191 AW

WAYNE DISPOSAL, INC.
VAN BUREN TOWNSHIP, MICHIGAN

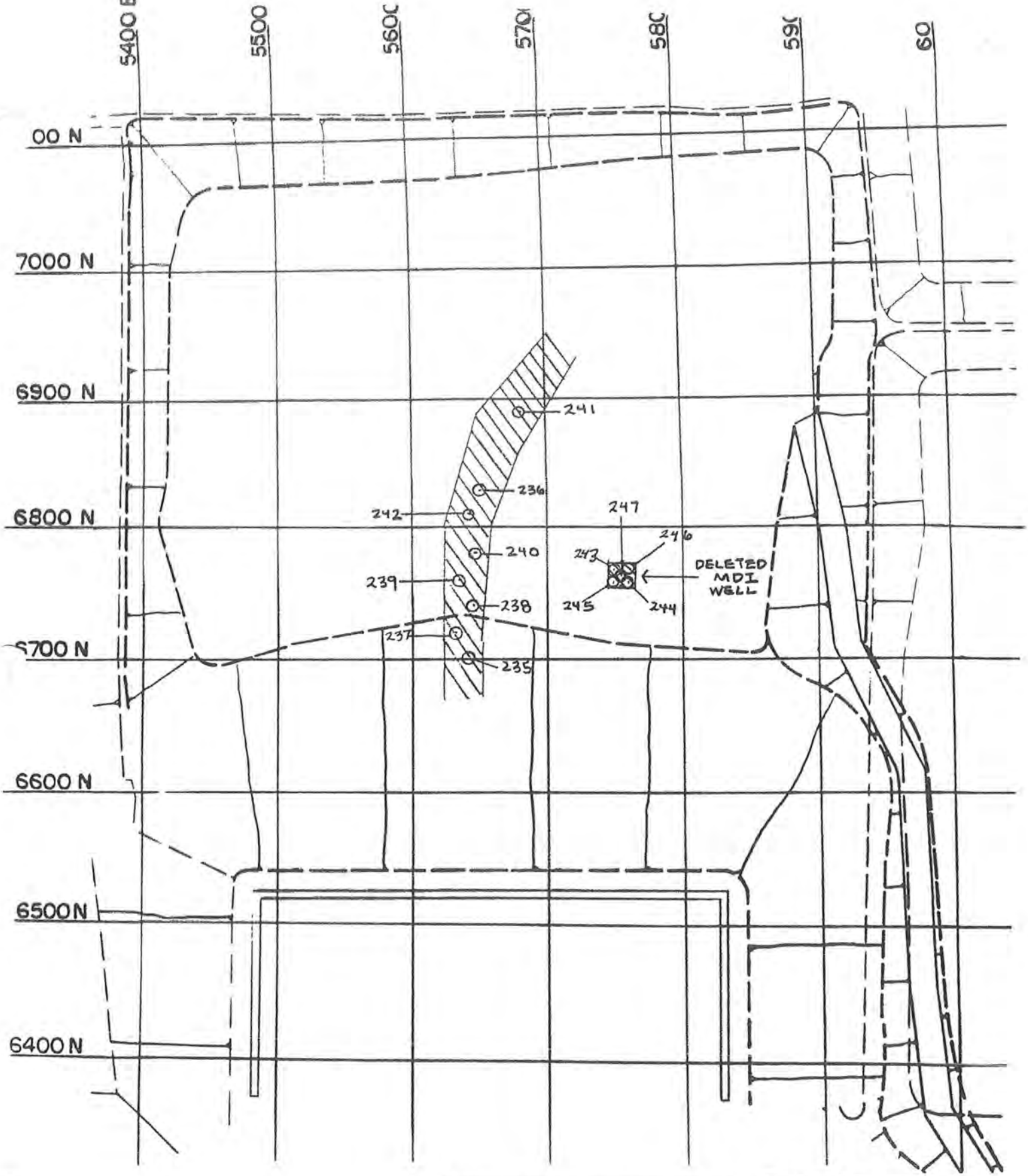
Date: 11/13/90

Test No.	Test Elevation (ft)	Material Designation by Bag No.	In-Place Moisture Content (%)	In-Place Dry Density (pcf)	Percent Max Dry Density (%)	Location / Remarks * Indicates Failing Test
240	645.5	14	11.0	123.6	94.1	6780N, 5648E - Lift No. 5
241	649.6	14	11.5	122.2	93.0	6890N, 5682E - Lift No. 5
242	647.1	14	12.3	122.5	93.2	6810N, 5645E - Lift No. 5
243	641.4	14	11.9	122.2	93.0	6768N, 5750E - Lift No. 1
244	642.3	14	11.3	123.8	94.2	6758N, 5760E - Lift No. 2
245	643.1	14	12.1	121.9	92.8	6755N, 5750E - Lift No. 3
246	644.2	14	11.0	122.8	93.5	6770N, 5760E - Lift No. 4
247	645.3	14	10.7	123.9	94.3	6760N, 5755E - Lift No. 5

Remarks:

Checked By: Jal

ATTACHMENT 1



LEGEND

⊙ M/D TEST LOCATION

EXCAVATION BACKFILL

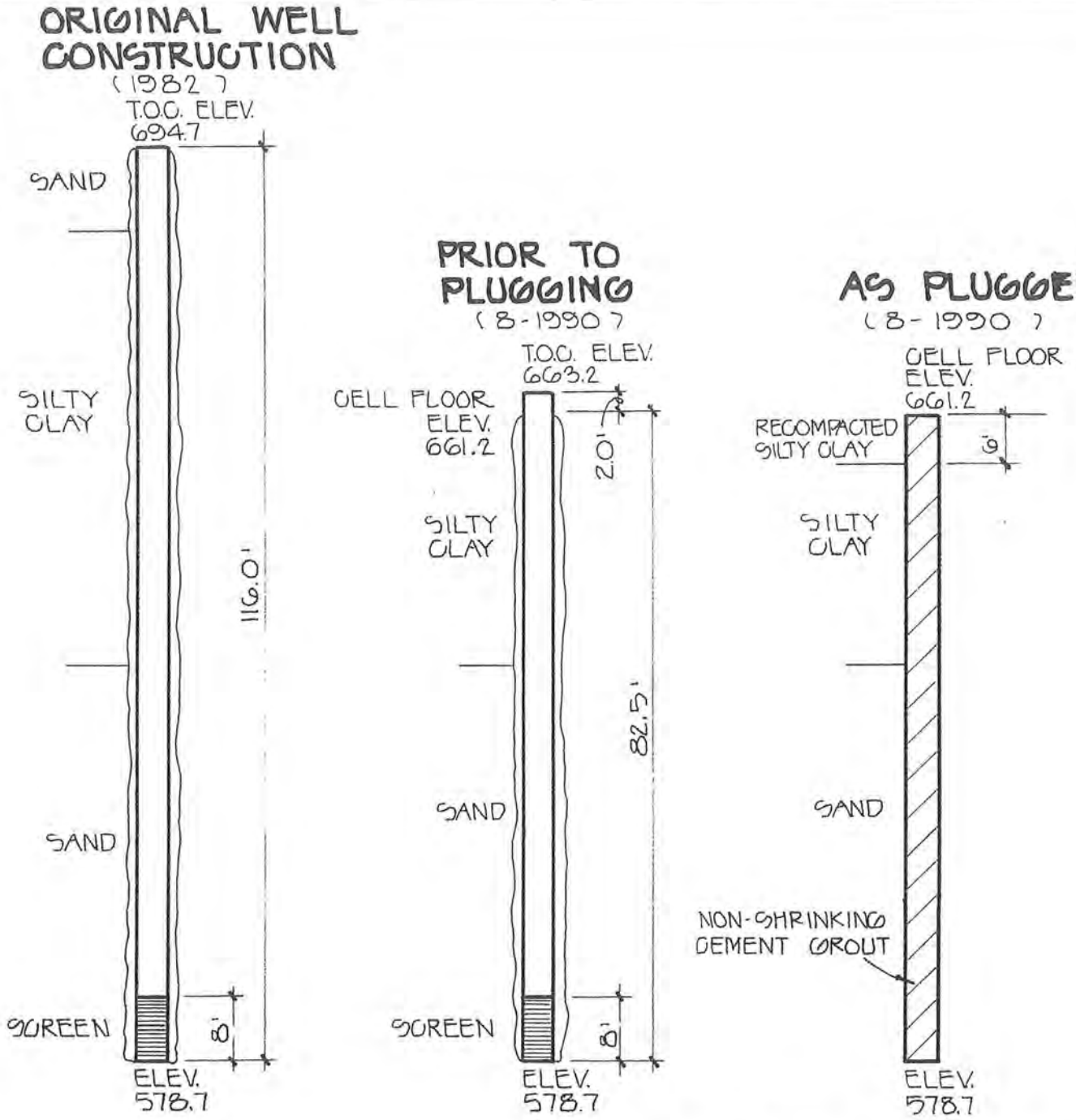
WAYNE DISPOSAL INC.
VAN BUREN TOWNSHIP, MI.
CELL VI CONSTRUCTION

NTH CONSULTANTS, L
Professional Engineering & Environmental S
Farmington Hills, Michigan

REPORT NO: 20

8791 AW	MDC	11-1
1=100'	JA	3

ATTACHMENT 1



DETAILS OF ABANDONMENT AND PLUGGING OF WATER SUPPLY WELL

FORMER PUGMILL
MASTER CELL VI-D SITE # 2
VAN BUREN TOWNSHIP, WAYNE COUNTY, MICHIGAN

NTH CONSULTANTS, LTD.
Professional Engineering & Environmental Services
Farmington Hills, Michigan

PROJECT NO:	DRAWN BY:	DATE
90413 OW	GUY	8-31-90
SCALE:	CHECKED BY:	SHEET
1" = 20'	CJE	1 OF 1

PLATE 1

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

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
SE¼ NW¼ U¼	7	03S 08E		

Well ID: 82000001820

Elevation:

Latitude: 42.24143041

Longitude: -83.54410837

Distance and Direction from Road Intersection: 2320' N OF CENTER LINE TYLER RD, 4'2" N OF N 6" 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
Well Depth: 10.70 ft. **Well Use:** Unknown
Well Type: Unknown **Date Completed:** 9/18/1986
Casing Type: Unknown
Casing Joint: Threaded & coupled
Diameter: 2.00 in. to 7.50 ft. depth

Bore Diameter 1: 7.00 in. to 9.00 ft. depth
Bore Diameter 2:
Bore Diameter 3:
Height: 0.33 ft. above grade
Casing Fitting: None

Pump Installed: No **Pump Installation only:** No
Pump Installation date: **HP:**
Manufacturer: **Pump Type:**
Model Number: **Pump Capacity:**
Length of Drop Pipe: **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: 6.95 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:

Formation Description	Thickness	Depth to Bottom
Topsoil	1.00	1.00
Yellow Gravel & Sand Fine To Coarse Clayey	2.00	3.00
Yellow Sand Silty Clayey	2.00	5.00
Tan & Gray Sand Fine Clayey	1.00	6.00
White Sand Fine Clayey	1.00	7.00
Black Sand Clayey Fine	1.00	8.00
Gray Sand Fine Clayey	1.50	9.50
Gray Sand & Clay Clayey Silty	1.50	11.00
Gray Sand & Clay Fine Silty	2.00	13.00

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

Geology Remarks:

Nearest source of possible contamination:

Type	Distance	Direction
Fuel tank	5.00 ft.	South

Contractor Type: Water well drilling contractor
Registration Number: 666
Business Name: STRLING DRLG CO
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: GLENN MILLER
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

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
NW¼ SW¼ U¼	7	03S 08E		

Well ID: 82000001819

Elevation:

Latitude:

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
Well Depth: 10.50 ft. **Well Use:** Unknown
Well Type: Unknown **Date Completed:** 9/16/1986
Casing Type: Unknown
Casing Joint: Threaded & coupled
Diameter: 2.00 in. to 7.40 ft. depth

Bore Diameter 1: 7.00 in. to 9.00 ft. depth
Bore Diameter 2:
Bore Diameter 3:
Height: 0.12 ft. above grade
Casing Fitting: None

Pump Installed: No **Pump Installation only:** No
Pump Installation date: **HP:**
Manufacturer: **Pump Type:**
Model Number: **Pump Capacity:**
Length of Drop Pipe: **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: 6.95 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:

Formation Description	Thickness	Depth to Bottom
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
Tan Gravel & Sand W/Clay Silty	1.50	5.50
Tan Sand & Gravel Fine Silty	0.50	6.00
Gray Gravel & Sand Fine To Medium Coarse	1.50	7.50
Tan & Gray Sand Fine To Medium Coarse	2.00	9.50
Gray Sand Fine To Medium Coarse	0.50	10.00
Gray Sand & Clay Fine Silty	1.00	11.00

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: 10.00 in. Set Between 7.40 ft. and 10.40 ft.
Blank: Unknown
Fittings:
Unknown

Well Grouted: Yes **Grouting Method:** Unknown
No. of Bags: **Additives:** None
Grouting Materials:
Bentonite slurry From 5.00 ft. to 7.00 ft.

Well Head Completion: Unknown

Geology Remarks:

Nearest source of possible contamination:

Type	Distance Direction
Fuel tank	160.00 ft. Northwest

Contractor Type: Water well drilling contractor
Registration Number: 666
Business Name: STERLING DRLG CO
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: GLENN MILLER
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

GEOLOGICAL SURVEY SAMPLE No.

WATER WELL RECORD
ACT 294 PA 1965

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

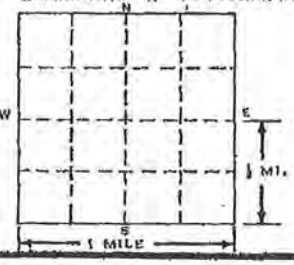
1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
WAYNE	VAN BUREN	SW/4 SW/4 SW/4	16	3 N/S.	8 E/W

Distance And Direction from Road Intersections: 11200 BECK RD.

Street address & City of Well Location

Locate with "X" in section below — Sketch Map:



3 OWNER OF WELL:
Address: SZABO, 11200 BECK RD., BELLEVILLE

4 WELL DEPTH: (completed) 95 ft. Date of Completion

5 ☐ Cable tool ☑ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☐ Jetted ☐ Bored ☐

6 USE: ☑ Domestic ☐ Public Supply ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☐ Test Well ☐

7 CASING: Threaded ☐ Welded ☐ Diam. 6 in. to 91 ft. Depth; ___ in. to ___ ft. Depth
Height: Above/Below Surface ___ ft.
Weight 17 lbs./ft.
Drive Shoe? Yes ☐ No ☐

2

FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
YELLOW SAND	7	7
GRAY SAND	4	11
HARD BLUE CLAY	49	60
SOFT SILTY SAND & CLAY	25	85
FINE SAND	7	92
COARSE SAND & GRAVEL	3	95

USE A 2ND SHEET IF NEEDED

8 SCREEN:
Type: STAINLESS Dia.: 6"
Slot/Gauze 10 Length 4 FT.
Set between 91 ft. and 95 ft.
Fittings: HEMP PACKER 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: ☐ In Approved Pit ☑ Pitless Adaptor ☐ 12" Above Grade

13 Well Grouted? ☑ Yes ☐ No
☐ Neat Cement ☑ Bentonite ☐
Depth: From ___ ft. to ___ ft.

14 Nearest Source of possible contamination
100 feet NE Direction DRAINFIELD Type
Well disinfected upon completion ☑ Yes ☐ No

15 PUMP: ☐ 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: ☑ Submersible ☐ Jet ☐ Reciprocating

16 Remarks, elevation, source of data, etc.
ADDED INFO BY DRILLER, ITEM NO.
*CORRECTED BY
**ADDITION BY
ELEVATION
DEPTH TO ROCK
So Hs

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.
SLUSSER DRILLING CO., INC. (REGISTERED BUSINESS NAME) 0388 (REGISTRATION NO.)
Address 1701 W. MICHIGAN, YPSILANTI
Signed [signature] (AUTHORIZED REPRESENTATIVE) Date 11-4-74

D67d 100M (Rev. 12-68)

GEOLOGICAL SURVEY COPY

18

16-1

Van Buren Twp.

Section 18

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 82000001381 | Import ID: 82737818001

Tax No: 82071990002004	Permit No:	County: Wayne	Township: Van Buren

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
SW¼ NW¼ SW¼	18	03S 08E		

Well ID: 82000001381

Elevation: 705 ft

Latitude: 42.2218449018

Longitude: -83.5408955186

Distance and Direction from Road Intersection: 1000 FT N I-94 SERVICE RD

Well Owner: Thompson And Mccally

Well Address:
1785 RAWSONVILLE RD
VAN BUREN MI 48111

Owner Address:
MI

Drilling Method: Rotary
Well Depth: 95.00 ft. | Well Use: Household
Well Type: Replacement | Date Completed: 10/18/1967
Casing Type: Unknown
Casing Joint: Threaded & coupled
Diameter: 4.00 in. to 91.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: Drive shoe

Pump Installed: Yes | Pump Installation only: No
Pump Installation date: | HP:
Manufacturer: Goulds | Pump Type: Submersible
Model Number: | Pump Capacity: 0.00 GPM
Length of Drop Pipe: 74.00 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: 60.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:
80.00 ft. after 2.00 hrs. pumping at 18.00 GPM

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Formation Description	Thickness	Depth to Bottom
Topsoil Sandy	1.00	1.00
Yellow Sand	9.00	10.00
Gray Sand & Gravel Fine	6.00	16.00
Gray Clay Soft	37.00	53.00
Clay Sand Gravel Soft Silty	14.00	67.00
Sand W/Gravel W/Clay	9.00	76.00
Clay W/Gravel	8.00	84.00
Gravel Fine To Medium Water Bearing	11.00	95.00

Screen Installed: Yes | Well Intake:
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:
Bentonite slurry | From 0.00 ft. to 0.00 ft.

Well Head Completion: Pitless adapter

Geology Remarks: 1. [TOP SOIL SANDY] [1] [1] 2. [SAND YELLOW] [10] [9] 3. [GRAY SAND AND FINE GRAVEL] [16] [6] 4. [CLAY LIGHT GRAY SOFT AND PLASTIC] [53] [37] 5. [CLAY SOFT SILTY SAND SOME GRAVEL] [67] [14] 6. [SAND SOME GRAVEL CLAY9] [76] [9] 7. [CLAY WITH EMBEDDED GRAVEL] [84] [8] 8. [GRAVEL FINE TO MEDIUM W/ SAND WATER BEARING] [95] [11]

Nearest source of possible contamination:

Type	Distance	Direction
Septic tank	75.00 ft.	North

Contractor Type: Unknown
Registration Number: 388
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

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

County	Twp.	Fraction **	Section No. **	Town **	Range **
Wayne	Van Buren	SW¼ NW¼ SW¼	18	3 N/S.	8 E/W.

Distance And Direction from Road Intersections: 1000' N. I-94 Service Rd. Dead end of Rawsonville Rd.

OWNER No.

Street address & City of Well Location: 785 Rawsonville Rd.

3 OWNER OF WELL: Thompson + McCally

Address

2 FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Top Soil-Sandy	1	1
Sand-yellow	9	10
Gray Sand + Fine		
Gravel	6	16
Clay, light Gray		
Soft + Plastic	37	53
Clay-Soft-Silty	14	67
Sand-Some Gravel		
Clayey	9	76
Clay w/embedded		
Gravel	8	84
Gravel-Fine To medium		
w/Some Sand		
Water Bearing	11	95
Washed Screen w/ 1000 Gal.		
Fresh water - Developed		
with Air Lift		

4 WELL DEPTH: (completed) 95 ft. Date of Completion 10-18-67

5 ☐ Cable tool ☑ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☐ Jetted ☐ Bored ☐ ___

6 USE: ☑ Domestic ☐ Public Supply ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☐ Test Well ☐ ___

7 CASING: Diam. 4 in. to 91 ft. Depth; Threaded ☑ Welded ☐; ___ in. to ___ ft. Depth

Height: Above/Below surface ___ ft. Weight ___ lbs/ft. Drive Shoe? Yes ☑ No ☐

8 SCREEN: Type: Red Brass Slotted Dia.: 3 inch

Slot/Gauze 30 Length: 4 Feet

Set between 91 ft. and 95 ft.

Fittings: Closed Bottom - 1' Blank at Top w/ Hemp Packer

9 STATIC WATER LEVEL 60 ft. below land surface

10 PUMPING LEVEL below land surface 80 ft. after 2 hrs. pumping 18-20 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: ☐ In Approved Pit ☒ Pitless Adapter ☑ 12" Above Grade

13 GROUTING: Well Grouted? ☑ Yes ☐ No

Material: ☐ Neat Cement ☐ 80 lbs. Bentonite

Depth: From 91 ft. to 61 ft. + Clay cuttings

14 SANITARY: Nearest Source of possible contamination 75 feet N Direction Septic Type

Well disinfected upon completion ☑ Yes ☐ No

15 PUMP: Manufacturer's Name UEH Could

Model Number ___ HP ½

Length of Drop Pipe 74 ft. capacity 10 G.P.M.

Type: ☒ Submersible ☐ ___ ☐ Jet ☐ Reciprocating

16 Remarks, elevation, source of data, etc.

ADDED INFO. BY DRILLER, ITEM No.

*CORRECTED BY:

**ADDITION 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.

R.B. Slussen — REGISTERED BUSINESS NAME

0388 — REGISTRATION NO.

715 Cambridge

Address Ypsilanti, Mich.

Signed R.B. Slussen — AUTHORIZED REPRESENTATIVE

Date Mar 27 69

D67D 100M 8-66

AUG 2 1968

GEOLOGICAL SURVEY COPY

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18-1

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

GEOLOGICAL SURVEY NO. AUG 3 1983

WATER WELL AND PUMP RECORD

PART 127 ACT 368, P.A. 1978

PERMIT NUMBER

1. LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Wayne	Van Buren	SE 1/4 1/4 1/4	18	3~~XX~~S	8 E~~XX~~

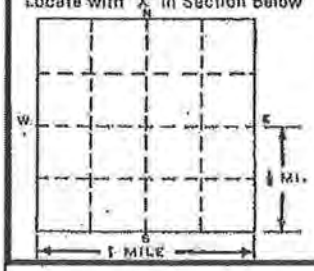
Distance And Direction From Road Intersection

49350 North I-94 Service Drive

Street Address & City of Well Location

Locate with "X" in Section Below

Sketch Map:



2. FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH 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	(115)
Black Shale	1	116

RECEIVED Mich. Dept. of Public Health JUL 6 1983 Environmental Health Services Administration

USE A 2ND SHEET IF NEEDED

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)

116 ft.

Date of Completion: 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:

Diameter ☒ Steel ☒ Threaded ☐ Plastic ☐ Welded

4 in. to 108 ft. depth
_____ in. to _____ ft. depth

Grouted Drill Hole Diameter
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth

Height: Above/Below Surface _____ ft.

Weight 11 lbs./ft.

Drive Shoe ☒ Yes ☐ No

8. SCREEN:

☐ Not Installed

Type Stainless Diameter 4"

Slot/~~Gauge~~ 12 Length 8'

Set between 108 ft. and 116 ft.

FITTINGS: ☐ K-Packer ☐ Lead Packer ☐ Bremer Check

☒ Blank above screen 1 ft. Other ~~Hemp 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.

11. WELL HEAD COMPLETION:

☒ Pitless adapter ☐ 12" above grade
☐ Basement offset ☐ Approved pit

12. WELL GROUTED?

☐ No ☒ Yes From _____ to _____ 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 Only

Manufacturer's name Aermotor

Model number 4ST30 HP 3 Volts 220

Length of Drop Pipe 100 ft. capacity _____ G.P.M.

TYPE: ☒ Submersible ☐ Jet _____

PRESSURE TANK:

Manufacturer's name Well X Trol

Model number WX252 Capacity _____ Gallons

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. 81-0388/1760
REGISTERED BUSINESS NAME REGISTRATION NO.

Address 1701 W. Michigan Ave Ypsilanti, MI

Signed Roland A. Slusser Date 12-28-82
AUTHORIZED REPRESENTATIVE

D67d (Rev. 10-80)

36

GEOLOGICAL SURVEY COPY

18-2

Ypsilanti Twp.

Section 12

(C)

12-3S-7E
Ypsilanti Twp. (Washtenaw Co.)

Ford Test Well No. 44

Well No. Y-12-1

Drilling Contractor: Fee Company

Location: NW¼ Section 12, T.3S., R.7E.,
By old barn and spur track at NW corner of Section 12,
of Leorse Road or Ward Road.

Record by: Testimony from driller.

	Distance Down Feet
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.

3-16-60

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: 81000007404

Import ID: 81737712007

Tax No:	Permit No:	County: Washtenaw	Township: Ypsilanti

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
NE¼ SE¼ NW¼	12	03S 07E		

Well ID: 81000007404

Elevation: 722 ft

Latitude: 42.2423564587

Longitude: -83.5550884308

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

Well Address:
WILLOW RUN
YPSILANTI MI 48197

Owner Address:
WILLOW RUN
YPSILANTI MI 48197

Drilling Method: Auger/Bored
Well Depth: 15.00 ft. Well Use: Household
Well Type: Replacement Date Completed: 10/30/1985
Casing Type: PVC plastic
Casing Joint: Unknown
Diameter: 2.00 in. to 5.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 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:

Pump Installation only:
HP:
Pump Type:
Pump Capacity:
Id of Well:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:
Pressure Relief Valve Installed : No

Tank Capacity : Gallons

Static Water Level: 7.50 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:

Formation Description	Thickness	Depth to Bottom
Lithology Unknown Fill	2.00	2.00
Brown Sand Fine	3.00	5.00
Brown Sand Medium Fine	2.00	7.00
Gray Sand Fine W/Silt	4.00	11.00
Gray Sand Fine W/Silt	2.00	13.00
Gray Silt	2.00	15.00

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

Geology Remarks: 1. [MISC FILL] [2] [2] 2. [DK BROWN FINE SAND] [5] [3] 3. [MED BROWN FINE SAND] [7] [2] 4. [FINE GRAY SAND W/TR SILT] [11] [4] 5. [FINE GRAY SAND W/SOME SILT] [13] [2] 6. [STIFF GRAY SILT] [15] [2]

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:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Contractor Type: Unknown
Registration Number: 1758
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

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:17

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL

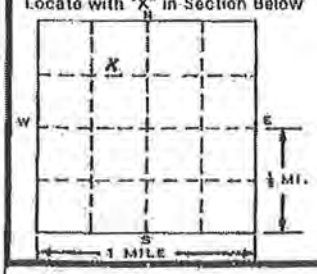
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE 1/4 NW 1/4 1/4	12	3 N/S	7 E/W

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 10-30-85

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 ☑ Monitor

7 CASING: Diameter ☐ Steel ☐ Threaded ☑ Plastic ☐ Welded

2 in. to 05 ft. depth

____ in. to ____ ft. depth

Grouted Drill Hole Diameter

____ in. to ____ ft. depth

____ in. to ____ ft. depth

Height Above/Below Surface 0 ft.

Weight ____ lbs./ft.

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 ☐ 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: N.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

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Misc fill	2	2
DK brown fine Sand	3	5
Med brown fine Sand	2	7
Fine gray Sand w/ tr silt	4	11
Fine gray Sand w/ some silt	2	13
Stiff gray Silt	2	15

USE A 2ND SHEET IF NEEDED

15. Remarks, elevation, source of data, etc.

MW-7

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

1758 — REGISTRATION NO.

Address P.O. Box 551 Maumee OH 43537

Signed Michael V. Gill — AUTHORIZED REPRESENTATIVE

Date 6/25/85

D67d 2/84

GEOLOGICAL SURVEY COPY

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

12-2

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

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
NE¼ SE¼ NW¼	12	03S 07E		

Well ID: 81000007406

Elevation: 722 ft

Latitude: 42.2432633872

Longitude: -83.5546229047

Distance and Direction from Road Intersection: 4000' N OF SE CORNER SEC 12, 2800' W OF 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
Well Depth: 15.00 ft. — Well Use: Household
Well Type: Replacement — Date Completed: 10/30/1984
Casing Type: PVC plastic
Casing Joint: Unknown
Diameter: 2.00 in. to 5.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Pump Installed: No — Pump Installation only:
Pump Installation date: — HP:
Manufacturer: — Pump Type:
Model Number: — Pump Capacity:
Length of Drop Pipe: — Id of Well:
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : — Tank Capacity : Gallons
Pressure Relief Valve Installed : No

Static Water Level: 8.00 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:

Formation Description	Thickness	Depth to Bottom
Brown Clay Silty	2.00	2.00
Brown Sand Medium Fine	3.00	5.00
Gray Sand Fine	2.00	7.00
Gray Sand & Silt Fine	6.00	13.00
Gray Silt	2.00	15.00

Screen Installed: Yes — Well Intake:
Filter Packed: No
Screen Diameter: 2.10 in. — Length: 10.00 ft.
Screen Material Type:
Slot: 10.00 in. Set Between 5.00 ft. and 15.00 ft.
Blank: 0.00 ft. Above
Fittings:
None

Geology Remarks: 1. [DK BROWN 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]

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:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Contractor Type: Unknown
Registration Number: 1758
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

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:17

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

GEOLOGICAL SURVEY NO. [ ]

WATER WELL AND PUMP RECORD

PERMIT NUMBER [ ][ ][ ] [ ][ ] [ ][ ][ ][ ][ ]

1 LOCATION OF WELL

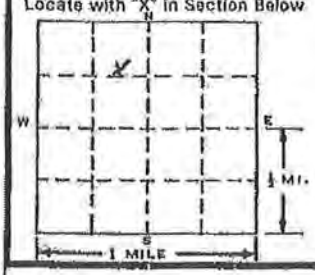
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE 1/4 NW 1/4 1/4	12	3 N/S	7 E/W

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? [x] Yes [ ] No

4 WELL DEPTH: (completed) 15 ft. 0 | Date of Completion 10-30-84

5 [ ] Cable tool [ ] Rotary [ ] Driven [ ] Dug [ ] Hollow rod [x] Auger [ ] Jetted [ ]

6 USE: [ ] Domestic [ ] Type I Public [ ] Type III Public [ ] Irrigation [ ] Type IIa Public [ ] Heat pump [ ] Test Well [ ] Type IIb Public [x] Monitor

7 CASING: Diameter [ ] Steel [ ] Threaded [x] Plastic [ ] Welded

2 in. to 5 ft. depth

in. to ft. depth

Grouted Drill Hole Diameter

in. to ft. depth

in. to ft. depth

Height: Above/Below Surface 0 ft.

Weight lbs./ft.

Drive Shoe [ ] Yes [x] 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 [ ] 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 pit

12 WELL GROUTED? [ ] No [x] Yes From 2 to 4 ft.

[ ] Neat cement [x] Bentonite [ ] Other

No. of bags of cement Additives

13 Nearest source of possible contamination

Type Distance ft. Direction

Well disinfected upon completion? [ ] Yes [x] No

14 PUMP: N.A. [x] 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

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH 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

USE A 2ND SHEET IF NEEDED

15. Remarks, elevation, source of data, etc.

MW-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 — REGISTERED BUSINESS NAME

1758 — REGISTRATION NO.

Address PO Box 257 Mauraee OH 43537

Signed [signature] — AUTHORIZED REPRESENTATIVE

Date 6/25/85

Authority: Act 368 PA 1978

Completion: Required

Penalty: Conviction of a violation of any provision is a misdemeanor.

D67d 2/84

GEOLOGICAL SURVEY COPY

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

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
NE¼ SE¼ NW¼	12	03S 07E		

Well ID: 81000007410

Elevation: 722 ft

Latitude: 42.2414656653

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
Well Depth: 15.00 ft. — Well Use: Household
Well Type: Replacement — Date Completed: 2/8/1985
Casing Type: PVC plastic
Casing Joint: Threaded & coupled
Diameter: 2.00 in. to 5.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Pump Installed: No — Pump Installation only:
Pump Installation date: — HP:
Manufacturer: — Pump Type:
Model Number: — Pump Capacity:
Length of Drop Pipe: — Id of Well:
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number: — Tank Capacity: Gallons
Pressure Relief Valve Installed: No

Static Water Level: 7.00 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:

Formation Description	Thickness	Depth to Bottom
Lithology Unknown Fill	2.00	2.00
Brown Sand Fine To Medium	3.00	5.00
Brown Sand & Silt Medium	5.00	10.00
Gray Sand Fine W/Silt	5.00	15.00

Screen Installed: Yes — Well Intake:
Filter Packed: No
Screen Diameter: 2.10 in. — Length: 10.00 ft.
Screen Material Type:
Slot: 10.00 in. Set Between 5.00 ft. and 15.00 ft.
Blank: 0.00 ft. Above
Fittings:
None

Geology Remarks: 1. [MISC FILL] [2] [2] 2. [MEDIUM BROWN FINE SAND] [5] [3] 3. [MEDIUM BROWN/GRAY FINE SAND, TR. SILT] [10] [5] 4. [GRAY FINE SAND, W/SOME SILT] [15] [5]

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:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Contractor Type: Unknown
Registration Number: 1758
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

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:17

12-4

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

GEOLOGICAL SURVEY NO. [ ]

WATER WELL AND PUMP RECORD

PERMIT NUMBER [ ][ ][ ] [ ][ ] [ ][ ][ ][ ]

1 LOCATION OF WELL

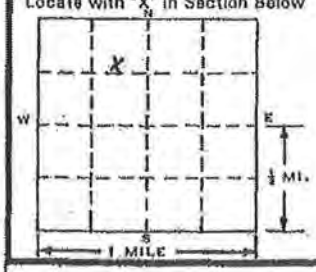
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE 1/4 NW 1/4 1/4	12	3 N/S	7 E/W

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? [x] Yes [ ] No

4 WELL DEPTH: (completed) 15 ft. 0 | Date of Completion 10-30-84

5 [ ] Cable tool [ ] Rotary [ ] Driven [ ] Dug [ ] Hollow rod [x] Auger [ ] Jetted [ ] ____

6 USE: [ ] Domestic [ ] Type I Public [ ] Type III Public [ ] Irrigation [ ] Type IIa Public [ ] Heat pump [ ] Test Well [ ] Type IIb Public [x] Monitor

7 CASING: Diameter [ ] Steel [ ] Threaded [x] Plastic [ ] Welded

2 in. to 5 ft. depth

____ in. to ____ ft. depth

Grouted Drill Hole Diameter

____ in. to ____ ft. depth

____ in. to ____ ft. depth

Height: Above/Below Surface 0 ft.

Weight ____ lbs./ft.

Drive Shoe [ ] Yes [x] No

2 FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Misc fill	2	2
Dk. brown fine Sand	3	5
Med brown fine Sand	2	7
Gray fine Sand	4	11
Gray fine Sand w/tr. silt	2	13
Stiff gray Silt	2	15

USE A 2ND SHEET IF NEEDED

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 [ ] 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 pit

12 WELL GROUTED? [ ] No [x] Yes From 2 to 4 ft.

[ ] Neat cement [x] Bentonite [ ] Other ____

No. of bags of cement ____ Additives ____

13 Nearest source of possible contamination

Type ____ Distance ____ ft. Direction ____

Well disinfected upon completion? [ ] Yes [x] No

14 PUMP: N.A. [x] 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.

MW-8

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 P.O. Box 559 Mauimee OH 43537

Signed Michael T. Gill Date 6/25/85

AUTHORIZED REPRESENTATIVE

Authority: Act 368 PA 1978

Completion: Required

Penalty: Conviction of a violation of any provision is a misdemeanor.

D67d 2/84

GEOLOGICAL SURVEY COPY

12-5

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

GEOLOGICAL SURVEY NO.

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL

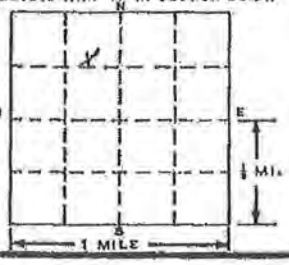
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE 1/4 NW 1/4 1/4	12	3 N(S)	7 (E)W

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. **Date of Completion** 2-6-85

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 ☑ Monitor

7 CASING: Diameter ☑ Steel ☐ Threaded ☐ Plastic ☐ Welded

3 in. to 3 ft. depth

____ in. to ____ ft. depth

Grouted Drill Hole Diameter

____ in. to ____ ft. depth

____ in. to ____ ft. depth

Height: Above/Below Surface 0 ft.

Weight ____ lbs./ft.

Drive Shoe ☐ Yes ☑ No

8 SCREEN: ☐ Not Installed

Type Johnson Diameter 3" I.D.

Slot/Gauze 010 Length 12'

Set between 3 ft. and 15 ft.

FITTINGS: ☐ K-Packer ☐ Lead Packer ☐ Bremer Check ☐ Blank above screen ____ ft. Other ____

9 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: ☐ Pitless adapter ☐ 12" above grade ☐ Basement offset ☐ Approved pit

12 WELL GROUTED? ☐ No ☑ Yes From ____ to ____ 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 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

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Misc fill	1.5	1.5
Med brown sand	3.5	5
Med brown/gray fine Sand, tr. silt	5	10
Gray fine Sand w/ silt	5	15

USE A 2ND SHEET IF NEEDED

15. Remarks, elevation, source of data, etc.

~~Model~~ RW-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 — REGISTERED BUSINESS NAME

1758 — REGISTRATION NO.

Address P.O. Box 559 Maumee, OH 43537

Signed [signature] — AUTHORIZED REPRESENTATIVE

Date 6/25/85

D67d 2/84

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

GEOLOGICAL SURVEY COPY

12-6

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL

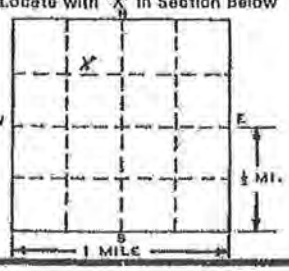
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE 1/4 NW 1/4 1/4	12	3 N(S)	7 (E)W

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? [x] Yes [ ] No

4 WELL DEPTH: (completed) 15 ft. 0 **Date of Completion** 2-7-85

5 [ ] Cable tool [ ] Rotary [ ] Driven [ ] Dug [ ] Hollow rod [x] Auger [ ] Jetted [ ]

6 USE: [ ] Domestic [ ] Type I Public [ ] Type III Public [ ] Irrigation [ ] Type IIa Public [ ] Heat pump [ ] Test Well [ ] Type IIb Public [x] Monitor

7 CASING: Diameter [x] Steel [ ] Threaded [ ] Plastic [ ] Welded

3 in. to 3 ft. depth

___ in. to ___ ft. depth

Grouted Drill Hole Diameter

___ in. to ___ ft. depth

___ in. to ___ ft. depth

Height: Above/Below Surface 0 ft.

Weight ___ lbs./ft.

Drive Shoe [ ] Yes [x] No

2 FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Misc fill	1.5	1.5
Med brown fine Sand, tr. silt	3.5	5
Med brown/gray fine Sand, tr. silt	5	10
Gray fine Sand w/ silt	5	15

USE A 2ND SHEET IF NEEDED

8 SCREEN: [ ] Not Installed

Type Galvanized Diameter 3" I.D.

Slot/Gauze 010 Length 12'

Set between 3 ft. and 15 ft.

FITTINGS: [ ] K-Packer [ ] Lead Packer [ ] Bremer Check

[ ] Blank above screen ___ ft. Other ___

9 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: [ ] Pitless adapter [ ] 12" above grade [ ] Basement offset [ ] Approved pit

12 WELL GROUTED? [ ] No [x] Yes From 3 to 1 ft.

[ ] Neat cement [x] Bentonite [ ] Other ___

No. of bags of cement ___ Additives ___

13 Nearest source of possible contamination

Type ___ Distance ___ ft. Direction ___

Well disinfected upon completion? [ ] Yes [x] No

14 PUMP: N.A. [x] 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.

RW
~~New~~ - 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 Services, Inc. — REGISTERED BUSINESS NAME

17578 — REGISTRATION NO.

Address P.O. Box 157 Maumee, OH 43537

Signed Michael T. Gage — AUTHORIZED REPRESENTATIVE

Date 6/25/85

D67d 2/84

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

GEOLOGICAL SURVEY COPY

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MICHIGAN DEPARTMENT OF PUBLIC HEALTH

GEOLOGICAL SURVEY NO.

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL

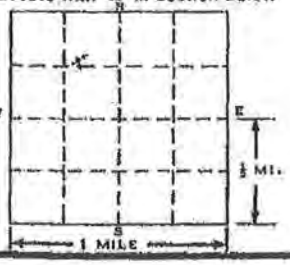
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE 1/4 NW 1/4 1/4	12	3 N/S	7 E/W

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** 8-7-85

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 ☑ Monitor

7 CASING: Diameter ☑ Steel ☐ Threaded ☐ Plastic ☐ Welded

3" in. to 3 ft. depth

in. to ft. depth

Grouted Drill Hole Diameter

in. to ft. depth

in. to ft. depth

Height: Above/Below Surface 0 ft.

Weight lbs./ft.

Drive Shoe ☐ Yes ☑ No

8 SCREEN: ☐ Not Installed

Type Galvanized Diameter 3" I.D

Slot/Gauze 010 Length 12'

Set between 3 ft. and 15 ft.

FITTINGS: ☐ K-Packer ☐ Lead Packer ☐ Bremer Check

☐ Blank above screen ft. Other

9 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: ☐ Pitless adapter ☐ 12" above grade ☐ Basement offset ☐ Approved pit

12 WELL GROUTED? ☐ No ☑ Yes From 1 to 3 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: N.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

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Misc fill	1.5	1.5
Med brown fine Sand	3.5	5
Med brown/gray fine Sand, tr. silt	5	10
Gray fine Sand w/silt	5	15

USE A 2ND SHEET IF NEEDED

15. Remarks, elevation, source of data, etc.

~~Monitor~~ RW-3

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

1758 — REGISTRATION NO.

Address P.O. Box 857 Maumee, OH 43537

Signed [signature] — AUTHORIZED REPRESENTATIVE

Date 6/25/85

D67d 2/84

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

GEOLOGICAL SURVEY COPY

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MICHIGAN DEPARTMENT OF PUBLIC HEALTH

GEOLOGICAL SURVEY NO. ____

WATER WELL AND PUMP RECORD

PART 127 ACT 368, P.A. 1978

PERMIT NUMBER ____

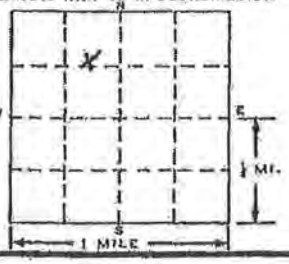
1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE 1/4 NW 1/4 1/4	12	3 N/S	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

Address: Ypsilanti, Michigan 48197

Address Same As Well Location? ☑ Yes ☐ No

4 WELL DEPTH: (completed) 15 ft. 0 — **Date of Completion** 11-2-84

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 ☑ Monitor

7 CASING: Diameter ☐ Steel ☐ Threaded ☑ Plastic ☐ Welded

2 in. to 5 ft. depth

____ in. to ____ ft. depth

Grouted Drill Hole Diameter

____ in. to ____ ft. depth

____ in. to ____ ft. depth

Height Above/Below Surface 0 ft

Weight ____ lbs./ft.

Drive Shoe ☐ Yes ☑ No

8 SCREEN: ☐ Not Installed

Type PVC Diameter 2" I.D.

Slot/Gauze 010 Length 10

Set between 5 ft. and 15 ft.

FITTINGS: ☐ K-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 Only

N.A.

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

2 FORMATION DESCRIPTION

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
Misc fill	2	2
DK brown fine Sand	3	5
Med brown/gray Sand	2	7
Fine gray Sand w/ tr. silt	6	13
Stiff gray Silt	2	15

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

1758 — REGISTRATION NO.

Address P.O. Box 557 Maumee OH 43537

Signed [signature] — AUTHORIZED REPRESENTATIVE

Date 6/25/85

D67d (Rev. 10-80)

GEOLOGICAL SURVEY COPY

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GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL

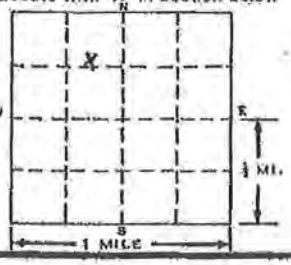
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	N2 1/4 NW 1/4 1/4	12	3 N/S	7 E/W

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 10-30-84

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 ☑ Monitor

7 CASING: Diameter ☐ Steel ☐ Threaded ☑ Plastic ☐ Welded

2 in. to 5 ft. depth

in. to ft. depth

Grouted Drill Hole Diameter

in. to ft. depth

in. to ft. depth

Height: Above/Below Surface 0 ft.

Weight lbs./ft.

Drive Shoe ☐ Yes ☑ No

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
Gray fine Sand	4	11
Gray fine Sand w/ tr. silt	2	13
Stiff gray Silt	2	15

USE A 2ND SHEET IF NEEDED

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 ☐ 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 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: N.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

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 567 Maumee OH 43537

Signed [signature] Date 6/25/85

AUTHORIZED REPRESENTATIVE

Authority: Act 368 PA 1978

Completion: Required

Penalty: Conviction of a violation of any provision is a misdemeanor.

067d 2/84

GEOLOGICAL SURVEY COPY

12-10

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER

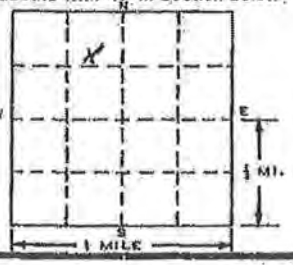
1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE 1/4 NW 1/4 1/4	12	3 N/(S)	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 of General Motors

Address: Ypsilanti, Michigan 48197

Address Same As Well Location? ☑ Yes ☐ No

4 WELL DEPTH: (completed) 15 ft. 0 — Date of Completion 10-29-84

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 ☑ Monitor

7 CASING: Diameter ☐ Steel ☐ Threaded ☑ Plastic ☐ Welded

2 in. to 5 ft. depth

____ in. to ____ ft. depth

Grouted Drill Hole Diameter

____ in. to ____ ft. depth

____ in. to ____ ft. depth

Height: Above/Below Surface 0 ft.

Weight ____ lbs./ft.

Drive Shoe ☐ Yes ☑ No

2 FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Misc. fill	2	2
Dk brown fine Sand	5	7
bray fine Sand	4	11
bray fine Sand w/ silt	2	13
Stiff gray Silt	2	15

USE A 2ND SHEET IF NEEDED

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 ☐ 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: N.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

15. Remarks, elevation, source of data, etc.

MW-5

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

1758 — REGISTRATION NO.

Address P.O. Box 157 Maumee, OH 43537

Signed Michael T. Cole — AUTHORIZED REPRESENTATIVE

Date 6/25/85

D67d 2/84

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

GEOLOGICAL SURVEY COPY

12-11

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE 1/4 NW 1/4 1/4	12	3 N(S)	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 10-29-84

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 ☑ Monitor

7 CASING: Diameter ☐ Steel ☐ Threaded ☑ Plastic ☐ Welded

2 in. to 5 ft. depth

in. to ft. depth

Grouted Drill Hole Diameter

in. to ft. depth

in. to ft. depth

Height: Above/Below

Surface 0 ft.

Weight lbs./ft.

Drive Shoe ☐ Yes ☑ No

2 FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Misc fill	5	5
Medium brown fine Sand	2	7
Dark brown/gray Sand	4	11
Fine gray, silty Sand	2	13
Hard gray Silt	2	15

USE A 2ND SHEET IF NEEDED

8 SCREEN: ☐ Not Installed

Type PVC Diameter 2" ID

Slot/Gauze 010 Length 10'

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 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: N.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

15. Remarks, elevation, source of data, etc.

MW-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 557 Maumee, OH 43537

Signed Michael T. Gyl Date 6/25/85

AUTHORIZED REPRESENTATIVE

Authority: Act 368 PA 1978

Completion: Required

Penalty: Conviction of a violation of any provision is a misdemeanor.

D67d 2/84

GEOLOGICAL SURVEY COPY

12-12

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL

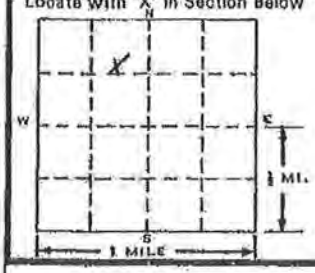
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE 1/4 NW 1/4 1/4	12	3 N/S	7 E/W

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 11-2-84

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 ☑ Monitor

7 CASING: Diameter ☐ Steel ☐ Threaded ☑ Plastic ☐ Welded

2 in. to 5 ft. depth

in. to ft. depth

Grouted Drill Hole Diameter

in. to ft. depth

in. to ft. depth

Height: Above/Below Surface 0 ft.

Weight lbs./ft.

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 ☐ 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 Only

N.A.

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

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Misc fill	2	2
Med. brown fine Sand	3	5
Med brown/gray Sand	2	7
bray fine Sand w/ tr. silt	6	13
Stiff gray Silt	2	15

USE A 2ND SHEET IF NEEDED

15. Remarks, elevation, source of data, etc.

MW-11

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 — REGISTERED BUSINESS NAME

1758 — REGISTRATION NO.

Address P.O. Box 559 Maumee OH 43537

Signed Michael T. Gill — AUTHORIZED REPRESENTATIVE

Date 6/25/85

D67d 2/84

Authority: Act 368 PA 1978

Completion: Required

Penalty: Conviction of a violation of any provision is a misdemeanor.

GEOLOGICAL SURVEY COPY

12-13

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL

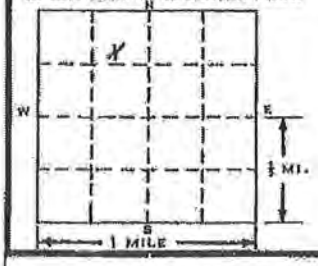
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE 1/4 NW 1/4 1/4	12	3 N/S	7 E/W

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 2-8-85

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 ☑ Monitor

7 CASING: Diameter ☐ Steel ☑ Threaded ☑ Plastic ☐ Welded

2" in. to 5 ft. depth

____ in. to ____ ft. depth

Grouted Drill Hole Diameter

____ in. to ____ ft. depth

____ in. to ____ ft. depth

Height: Above/Below Surface 0 ft.

Weight ____ lbs./ft.

Drive Shoe ☐ Yes ☑ No

2 FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Misc fill	1.5	1.5
Medium brown, fine Sand	3.5	5.0
Medium brown/gray fine Sand, tr. silt	5.0	10.0
Gray fine Sand, w/some silt	5.0	15.0

USE A 2ND SHEET IF NEEDED

8 SCREEN: ☐ Not Installed

Type PVC Diameter 2" I.D.

Slot/Gauze .010 Length 10 ft

Set between 5.0 ft. and 15.0 ft.

FITTINGS: ☐ K-Packer ☐ Lead Packer ☐ Bremer Check

☐ Blank above screen ____ ft. Other ____

9 STATIC WATER LEVEL: 7.0 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 1 to 3 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: N.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

15. Remarks, elevation, source of data, etc.

MW-13

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 — 1758 — REGISTRATION NO.

Address P.O. Box 957 Maumee, Ohio 43537

Signed [signature] — AUTHORIZED REPRESENTATIVE — Date 6/25/85

D67d 2/84

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

GEOLOGICAL SURVEY COPY

12.14

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

GEOLOGICAL SURVEY NO.

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL

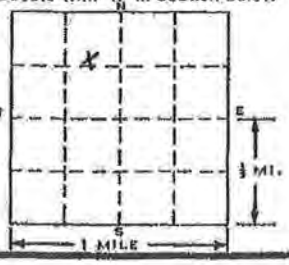
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE 1/4 NW 1/4 1/4	12	3 N/S	7 E/W

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 2-12-85

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 ☑ Monitor

7 CASING: Diameter ☑ Steel ☑ Threaded ☐ Plastic ☐ Welded

2 in. to 5 ft. depth

____ in. to ____ ft. depth

Grouted Drill Hole Diameter

____ in. to ____ ft. depth

____ in. to ____ ft. depth

Height: Above/Below Surface 0 ft.

Weight ____ lbs./ft.

Drive Shoe ☐ Yes ☑ No

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Misc. Fill	1	1
Medium brown fine Sand	4	5
Medium brown/gray fine Sand, tr. silt	5	10
Gray fine Sand w/ some silt	5	15

USE A 2ND SHEET IF NEEDED

8 SCREEN: ☐ Not Installed

Type Galvanized steel Diameter 2" ID

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:

7.0 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: N.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

15. Remarks, elevation, source of data, etc.

MW-14

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 357 Maumee, OH 43537

Signed Michael V. Gaye Date 6/25/85

AUTHORIZED REPRESENTATIVE

Authority: Act 368 PA 1978

Completion: Required

Penalty: Conviction of a violation of any provision is a misdemeanor.

D67d 2/84

GEOLOGICAL SURVEY COPY

12-15

GEOLOGICAL SURVEY NO. [ ]

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER [ ]

1 LOCATION OF WELL

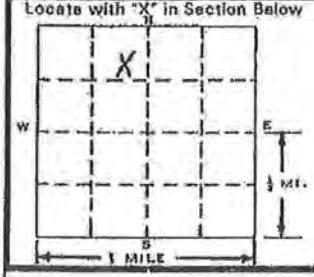
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE ¼ NW ¼ ¼	12	3 N(S)	7 (E)W

Distance And Direction From Road Intersection

Street Address & City of Well Location

Locate with "X" in Section Below

Sketch Map:



3 OWNER OF WELL: General Motors Corporation
Hydra-Matic Division
Address Ypsilanti, MI 48197

Address Same As Well Location? [X] Yes [ ] No

4 WELL DEPTH: (completed) 15 ft. | Date of Completion 9/18/85

5 [ ] Cable tool [ ] Rotary [ ] Driven [ ] Dug
[ ] Hollow rod [X] Auger [ ] Jetted [ ]

6 USE: [ ] Domestic [ ] Type I Public [ ] Type III Public
[ ] Irrigation [ ] Type IIa Public [ ] Heat pump
[X] Test Well [ ] Type IIb Public [ ]

7 CASING: Diameter [X] Steel [ ] Threaded
[ ] Plastic [ ] Welded
3 in. to 18 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 [ ] Yes [ ] No

8 SCREEN: [ ] Not Installed
Type stainless steel Diameter 3"
Slot/Gauze .010 Length 5'
Set between 6 ft. and 11 ft.
FITTINGS: [ ] K-Packer [ ] Lead Packer [ ] Bremer Check
[ ] Blank above screen 6 ft. Other 4' below scree

9 STATIC WATER LEVEL:
6' 6" 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 [X] Approved pit valve bo

12 WELL GROUTED? [ ] No [X] Yes From 1' to 3' ft.
[ ] Neat cement [X] Bentonite [ ] Other
No. of bags of cement Additives 1 bag benseal

13 Nearest source of possible contamination
Type gasoline Distance ft. Direction
Well disinfected upon completion? [ ] Yes [X] No

14 PUMP: [ ] Not Installed [ ] Pump Installation Only
Manufacturer's name
Model number HP Volts
Length of Drop Pipe 14' ft. capacity G.P.M.
TYPE: [ ] Submersible [ ] Jet
PRESSURE TANK:
Manufacturer's name
Model number Capacity Gallons

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
WOOD	0.2'	0.2'
CONCRETE	0.67'	0.88'
GRAVEL - with trace sand	6.1'	7.0'
GRAVEL	0.5'	7.5'
SAND - with trace gravel, med.-fine	6.5'	14.0'
CLAY - blue to gray	1.0'	15.0'

USE A 2ND SHEET IF NEEDED

15. Remarks, elevation, source of data, etc.
S.W.#5 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 157 / MAUMEE, OHIO 43537

Signed [signature] Date 11/5/85
AUTHORIZED REPRESENTATIVE

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

D67d 2/84

GEOLOGICAL SURVEY COPY

12-16

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL

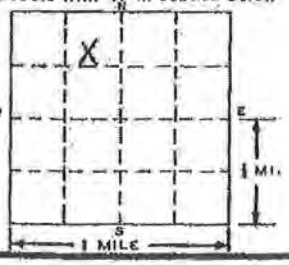
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE ¼ NW ¼ ¼	12	3 N(S)	7 (E)W

Distance And Direction From Road Intersection

Street Address & City of Well Location

Locate with "X" in Section Below

Sketch Map:



3 OWNER OF WELL: General Motors Corporation
Hydra-Matic Division
Address Ypsilanti, MI 48197

Address Same As Well Location? [X] Yes [ ] No

4 WELL DEPTH: (completed) 15 ft. **Date of Completion** 9/17/85

5 [ ] Cable tool [ ] Rotary [ ] Driven [ ] Dug [ ] Hollow rod [X] Auger [ ] Jetted [ ]

6 USE: [ ] Domestic [ ] Type I Public [ ] Type III Public [ ] Irrigation [ ] Type IIa Public [ ] Heat pump [X] Test Well [ ] Type IIb Public [ ]

7 CASING: Diameter [X] Steel [ ] Threaded [ ] Plastic [ ] 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 [ ] Yes [X] No

8 SCREEN: [ ] Not Installed
Type stainless steel Diameter 3'
Slot/Gauze .010 Length 5'
Set between 6 ft. and 11 ft.
FITTINGS: [ ] K-Packer [ ] Lead Packer [ ] Bremer Check
[ ] Blank above screen 6 ft. Other 4' below scree

9 STATIC WATER LEVEL:
5' 9½" 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 [X] Approved pit valve box

12 WELL GROUTED? [ ] No [X] Yes From 1' to 3' ft.
[ ] Neat cement [X] Bentonite [ ] 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? [ ] Yes [X] No

14 PUMP: [X] Not Installed [ ] Pump Installation Only
Manufacturer's name
Model number ___ HP ___ Volts ___
Length of Drop Pipe 14 ft. capacity ___ G.P.M.
TYPE: [ ] Submersible [ ] Jet
PRESSURE TANK:
Manufacturer's name
Model number ___ Capacity ___ Gallons

2 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'

USE A 2ND SHEET IF NEEDED

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, MAUMEE, OHIO 43537
Signed [signature] Date 11/5/85
AUTHORIZED REPRESENTATIVE

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

D67d 2/84

GEOLOGICAL SURVEY COPY

12-17

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL

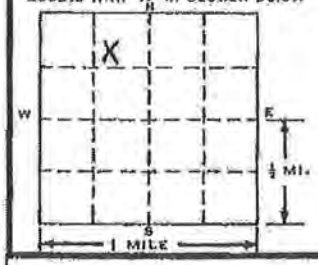
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE ¼ NW ¼ ¼	12	3 N(S)	7 (E)W

Distance And Direction From Road Intersection

Street Address & City of Well Location

Locate with "X" in Section Below

Sketch Map:



3 OWNER OF WELL: General Motors Corporation
Hydra-Matic Division
Address Ypsilanti, MI 48197

Address Same As Well Location? ☒ Yes ☐ No

4 WELL DEPTH: (completed) 15 ft. **Date of Completion** 9/18/85

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 ☐ ____

7 CASING: Diameter ☒ Steel ☐ Threaded ☐ Plastic ☐ 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 ☐ Yes ☒ No

8 SCREEN: ☐ Not Installed

Type stainless steel Diameter 3"
Slot/Gauze .010 Length 5'
Set between 6' ft. and 11'8 ft.
FITTINGS: ☐ K-Packer ☐ Lead Packer ☐ Bremer Check
☒ Blank above screen 6' ft. Other 4' below scree

9 STATIC WATER LEVEL:
6' ½" 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 valve box

12 WELL GROUTED? ☐ No ☒ Yes From 1' to 3 ft.
☐ Neat cement ☒ Bentonite ☐ 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? ☐ Yes ☒ No

14 PUMP: ☒ Not Installed ☐ Pump Installation Only
Manufacturer's name ____
Model number ____ HP ____ Volts ____
Length of Drop Pipe 14 ft. capacity ____ G.P.M.
TYPE: ☐ Submersible ☐ Jet ____
PRESSURE TANK:
Manufacturer's name ____
Model number ____ Capacity ____ Gallons

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
WOOD	0.2'	0.2'
CONCRETE	0.67'	0.88'
CLAY - sand and gravel backfill	5.1'	6.0'
SAND - med.-fine, lt. brn.	2.0'	8.0'
SAND - med.-fine, lt. brn.	4.5'	12.5'
CLAY - gray-blue	2.5'	15.0'

USE A 2ND SHEET IF NEEDED

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 — REGISTERED BUSINESS NAME
1758 — REGISTRATION NO.
Address P.O. BOX 557 MAUMEE, OHIO 43537
Signed Michael V. Gyk — AUTHORIZED REPRESENTATIVE
Date 11/5/85

D67d 2/84

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

GEOLOGICAL SURVEY COPY

12-10

GEOLOGICAL SURVEY NO. [ ]

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER [ ]

1 LOCATION OF WELL

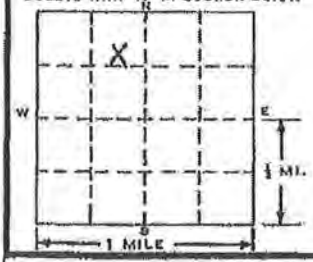
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE ¼ NW ¼ ¼	12	3 N(S)	7 (E)W

Distance And Direction From Road Intersection

Street Address & City of Well Location

Locate with "X" in Section Below

Sketch Map:



3 OWNER OF WELL: General Motors Corporation
Hydra-Matic Division

Address Ypsilanti, MI 48197

Address Same As Well Location? [X] Yes [ ] No

4 WELL DEPTH: (completed) 15 ft. | Date of Completion 9/19/85

5 [ ] Cable tool [ ] Rotary [ ] Driven [ ] Dug
[ ] Hollow rod [X] Auger [ ] Jetted [ ] ____

6 USE: [ ] Domestic [ ] Type I Public [ ] Type III Public
[ ] Irrigation [ ] Type IIa Public [ ] Heat pump
[X] Test Well [ ] Type IIb Public [ ] ____

7 CASING: Diameter [X] Steel [ ] Threaded [ ] Plastic [ ] 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 [ ] Yes [X] No

8 SCREEN: [ ] Not Installed
Type stainless steel Diameter 3"
Slot/Gauze .010 Length 5'
Set between 6 ft. and 11 ft.
FITTINGS: [ ] K-Packer [ ] Lead Packer [ ] Bremer Check
[ ] Blank above screen 6 ft. Other 4' below scree

9 STATIC WATER LEVEL:
7' ½" 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 [X] Approved pit valve box

12 WELL GROUTED? [ ] No [X] Yes From 1' to 3 ft.
[ ] Neat cement [X] Bentonite [ ] 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? [ ] Yes [X] No

14 PUMP: [X] Not Installed [ ] Pump Installation Only
Manufacturer's name ____
Model number ____ HP ____ Volts ____
Length of Drop Pipe 14 ft. capacity ____ G.P.M.
TYPE: [ ] Submersible [ ] Jet ____
PRESSURE TANK:
Manufacturer's name ____
Model number ____ Capacity ____ Gallons

2 FORMATION DESCRIPTION

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 gravel	3.0'	7.0'
GRAVEL - with some silt	1.0'	8.0'
SAND	5.0'	13.0'
CLAY	2.0'	15.0'

USE A 2ND SHEET IF NEEDED

15. Remarks, elevation, source of data, etc.
S.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 — REGISTERED BUSINESS NAME
1758 — REGISTRATION NO.
Address P.O. Box 557 MAUMEE, OHIO 43537
Signed Michael V. Cox — AUTHORIZED REPRESENTATIVE
Date 11/5/85

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

D67d 2/84

GEOLOGICAL SURVEY COPY

12-19

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

GEOLOGICAL SURVEY NO. [ ]

WATER WELL AND PUMP RECORD

PERMIT NUMBER [ ]

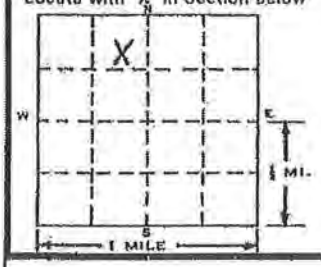
1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE ¼ NW ¼ ¼	12	3 N(S)	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: General Motors Corporation
Hydra-Matic Division
Address: Ypsilanti, MI 48197

Address Same As Well Location? [X] Yes [ ] No

4 WELL DEPTH: (completed) 15 ft. — Date of Completion 9/20/85

5 [ ] Cable tool [ ] Rotary [ ] Driven [ ] Dug [ ] Hollow rod [X] Auger [ ] Jetted [ ]

6 USE: [ ] Domestic [ ] Type I Public [ ] Type III Public [ ] Irrigation [ ] Type IIa Public [ ] Heat pump [X] Test Well [ ] Type IIb Public [ ]

7 CASING: Diameter [X] Steel [ ] Threaded [ ] Plastic [ ] Welded
3 in. to 15 ft. depth
11' in. to 15 ft. depth
Grouted Drill Hole Diameter
___ in. to ___ ft. depth
8 in. to 15 ft. depth

Height: Above/Below Surface Flush ft.
Weight 7.58 lbs./ft.
Drive Shoe [ ] Yes [X] No

8 SCREEN: [ ] Not Installed
Type stainless steel Diameter 3'
Slot/Gauze .010 Length 5'
Set between 6 ft. and 11 ft.
FITTINGS: [ ] K-Packer [ ] Lead Packer [ ] Bremer Check
[ ] Blank above screen 6 ft. Other 4' below scre

9 STATIC WATER LEVEL:
7' 2" 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 [X] Approved pit valve bo

12 WELL GROUTED? [ ] No [X] Yes From 1' to 3' ft.
[ ] Neat cement [X] Bentonite [ ] Other ___
No. of bags of cement ___ Additives 1 bag benseal

13 Nearest source of possible contamination
Type gasoline Distance ___ ft. Direction ___
Well disinfected upon completion? [ ] Yes [X] No

14 PUMP: [X] Not Installed [ ] Pump Installation Only
Manufacturer's name ___
Model number ___ HP ___ Volts ___
Length of Drop Pipe 14 ft. capacity ___ G.P.M.
TYPE: [ ] Submersible [ ] Jet ___
PRESSURE TANK:
Manufacturer's name ___
Model number ___ Capacity ___ Gallons

2 FORMATION DESCRIPTION

	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
WOOD	0.2'	0.2'
CONCRETE	0.67'	0.88'
SAND	8.1'	9.0'
SAND	4.0'	13.0'
CLAY	2.0'	15.0'

USE A 2ND SHEET IF NEEDED

15. Remarks, elevation, source of data, etc.
S.W.#4 Elevation 721.05

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 V. Cope — Date 11/5/85
AUTHORIZED REPRESENTATIVE

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

D67d 2/84

GEOLOGICAL SURVEY COPY

12.20

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

GEOLOGICAL SURVEY NO. [ ]

WATER WELL AND PUMP RECORD

PERMIT NUMBER [ ]

1 LOCATION OF WELL

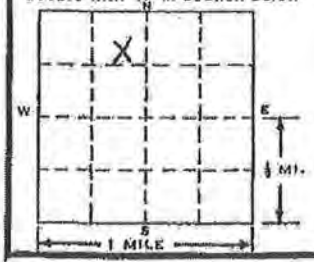
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE ¼ NW ¼ ¼	12	3 N/S	7 E/W

Distance And Direction From Road Intersection

Street Address & City of Well Location

Locate with "X" in Section Below

Sketch Map:



3 OWNER OF WELL: General Motors Corporation
Hydra-Matic Division
Address Ypsilanti, MI 48197

Address Same As Well Location? [X] Yes [ ] No

4 WELL DEPTH: (completed) 15 ft. | Date of Completion 9/24/85

5 [ ] Cable tool [ ] Rotary [ ] Driven [ ] Dug [ ] Hollow rod [X] Auger [ ] Jetted [ ]

6 USE: [ ] Domestic [ ] Type I Public [ ] Type III Public [ ] Irrigation [ ] Type IIa Public [ ] Heat pump [X] Test Well [ ] Type IIb Public [ ]

7 CASING: Diameter [X] Steel [ ] Threaded [ ] Plastic [ ] 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 [ ] Yes [ ] No

8 SCREEN: [ ] Not Installed
Type stainless steel Diameter 3"
Slot/Gauze .010 Length 5'
Set between 6 ft. and 11 ft.
FITTINGS: [ ] K-Packer [ ] Lead Packer [ ] Bremer Check
[ ] Blank above screen 6 ft. Other

9 STATIC WATER LEVEL:
7' 7/8" 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 [X] Approved pit valve box

12 WELL GROUTED? [ ] No [X] Yes From 1' to 3 ft.
[ ] Neat cement [X] Bentonite [ ] 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? [ ] Yes [X] No

14 PUMP: [ ] Not Installed [ ] Pump Installation Only
Manufacturer's name
Model number ___ HP ___ Volts
Length of Drop Pipe 14 ft. capacity ___ G.P.M.
TYPE: [ ] Submersible [ ] Jet
PRESSURE TANK:
Manufacturer's name
Model number ___ Capacity ___ Gallons

2 FORMATION DESCRIPTION

	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
WOOD	0.2'	0.2'
CONCRETE	0.67'	0.88'
BACKFILL - sand and gravel	4.1'	5.0"
SAND - with trace gravel, med.-fine	8.0'	13.0'
CLAY	2.0'	15.0'

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: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

D67d 2/84

GEOLOGICAL SURVEY COPY

12-21

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER

1 LOCATION OF WELL

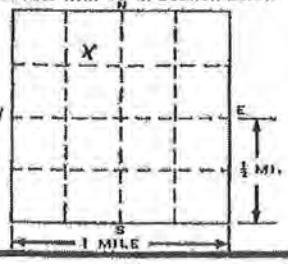
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE 1/4 NW 1/4 1/4	12	3 N/S	7 E/W

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 III Public ☐ Irrigation ☐ Type IIa Public ☐ Heat pump ☐ Test Well ☐ Type IIb Public ☑ Monitor

7 CASING: Diameter ☐ Steel ☐ Threaded ☑ Plastic ☐ Welded

2 in. to 5 ft. depth

____ in. to ____ ft. depth

Grouted Drill Hole Diameter

____ in. to ____ ft. depth

____ in. to ____ ft. depth

Height: Above/Below Surface 0 ft.

Weight ____ lbs./ft.

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 ☐ 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 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: N.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

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Misc fill	1.5	1.5
DK brown Sand	1.5	3.0
Md. brown Sand	4	7
Gray fine Sand	4	11
Gray fine Sand w/silt	2	13
Stiff gray Silt	2	15

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 557 Maumee OH 43537

Signed [signature] Date 6/25/85

AUTHORIZED REPRESENTATIVE

Authority: Act 368 PA 1978

Completion: Required

Penalty: Conviction of a violation of any provision is a misdemeanor.

567d 2/84

GEOLOGICAL SURVEY COPY

12-22

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

GEOLOGICAL SURVEY NO. [ ]

WATER WELL AND PUMP RECORD

PERMIT NUMBER [ ][ ][ ] [ ][ ] [ ][ ][ ][ ]

1 LOCATION OF WELL

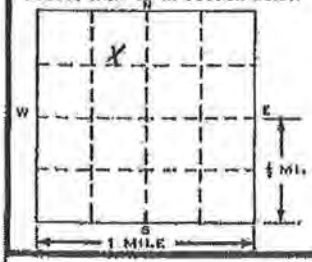
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE 1/4 NW 1/4 1/4	12	3 N/S	7 E/W

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 III Public [ ] Irrigation [ ] Type IIa Public [ ] Heat pump [ ] Test Well [ ] Type IIb Public [✓] Monitor

7 CASING: Diameter [ ] Steel [ ] Threaded [✓] Plastic [ ] Welded

2 in. to 5 ft. depth

____ in. to ____ ft. depth

Grouted Drill Hole Diameter

____ in. to ____ ft. depth

____ in. to ____ ft. depth

Height: Above/Below Surface 0 ft.

Weight ____ lbs./ft.

Drive Shoe [ ] Yes [✓] No

2 FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Misc. fill	3	3
Med. brown fine Sand	4	7
DK. brown fine Sand	4	11
brown fine Sand w/ silt	2	13
Stiff gray Silt	2	15

USE A 2ND SHEET IF NEEDED

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 [ ] 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 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: N.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

15. Remarks, elevation, source of data, etc.

MW-4

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 157 Maumee OH 43537

Signed [signature] Date 6/25/85

AUTHORIZED REPRESENTATIVE

Authority: Act 368 PA 1978

Completion: Required

Penalty: Conviction of a violation of any provision is a misdemeanor.

D67d 2/84

GEOLOGICAL SURVEY COPY

12-23

DEWATERING WELL RECORD
Act 218, P.A. 1972

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

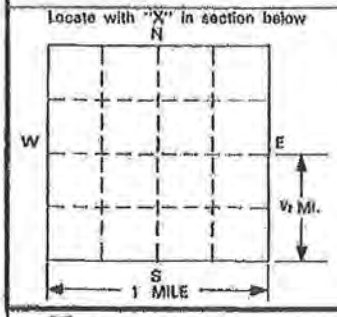
1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	¼ ¼ ¼	12	3 N(S)	7 (E)W

STARTING POINT:
Distance and Direction from Nearest Road Intersection

200' South of Gate 3 at
General Motors Assembly Plant, Willow Run

Locate with "X" in section below — Sketch Map:



LOCATION:
From Eng. Plan Sheet No. _____
Other: _____
Engineering Firm: _____

PROJECT OWNER: General Motors
Address: _____
Project Name: _____
Type of Project: ☐ Sewer ☐ Pumping Station ☐ Foundations Other: Water Main Repaid

2 ☐ Single Well
☒ Several Wells: Total Number of Wells 4
Total Distance Covered _____ ft, N/S/E/W
Includes Wells From Station _____ to Station _____

Well Depth — Range 24 ft. 26 ft.
Date of Drilling 8 Month 85 Year

4 ☐ Cable Tool ☒ Rotary ☐ Bored (Auger
☐ Jetted ☐ 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: ☐ Drive Points ☐ Rock Well
☐ Natural Pack ☒ Gravel Pack
Drill Hole Size: Diam 36 in Depth 26 ft
Casing: Diam 24 in Depth 26 ft
Gravel Pack: From 0 ft to 26 ft
Pack Material: Pea Stone & Mason Sand
Screened From 25 ft to 17 ft

6 STATIC WATER LEVEL N.A. ft above/below land surface

7 DEWATERED LEVEL _____ ft
Pump Operated _____ hr/day,
Pump Capacity _____ gpm
Discharge Point _____
(river, pond, lake, storm sewer, etc.)

8 ABANDONMENT PROCEDURES:
Wells under 40 feet
☐ Parent Material: from _____ ft to _____ ft
☐ Finer Textured Soils: from _____ ft to _____ ft
☐ Other: _____
Wells over 40 feet:
Bentonite-Fine Textured Soil Mixture
from _____ ft to _____ ft
Other: _____

Special Cases: ☐ Gas ☐ Flowing Well
☐ Bedrock ☐ _____

Grout
☐ Bentonite Grout ☐ Neat Cement Grout
from _____ ft to _____ ft

10 REMARKS, Water Quality, Gas, etc.

RECEIVED
Mich. Dept. of Public Health
SEP 18 1985
Bureau of Environmental and Occupational Health - GWQS

9 ABANDONMENT CERTIFICATION
This well has been abandoned under my jurisdiction and this report is true to the best of my knowledge and belief.

UNION CONSTRUCTION CO. D 1315
REGISTERED CONTRACTOR NAME: REGISTRATION NUMBER
Address 505 TERRITORIAL ROAD, MANCHESTER, MICH 48158
Signed [signature] 8/26/85
AUTHORIZED REPRESENTATIVE DATE

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.

UNION CONSTRUCTION CO. D 1315
REGISTERED CONTRACTOR NAME: REGISTRATION NUMBER
Address 505 TERRITORIAL RD., MANCHESTER, MICH. 481
Signed James D. Wilde 8/26/85
AUTHORIZED REPRESENTATIVE DATE

D67k

GEOLOGICAL SURVEY COPY

12-24

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

Tax No:	Permit No:	County: Washtenaw	Township: Ypsilanti

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
NW¼ NE¼ SE¼	12	03S 07E		

Well ID: 81000007416

Elevation: 717 ft

Latitude: 42.2385215651

Longitude: -83.5477303034

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

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 only:**
Pump Installation date: **HP:**
Manufacturer: **Pump Type:**
Model Number: **Pump Capacity:**
Length of Drop Pipe: **Id of Well:**
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity :** Gallons
Pressure Relief Valve Installed : No

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:

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

Screen Installed: Yes **Well Intake:**
Filter Packed: No
Screen Diameter: 2.00 in. **Length:** 11.00 ft.
Screen Material Type:
Slot: 7.00 in. Set Between 5.50 ft. and 11.00 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: Other

Geology Remarks: 1. [TAN, SAND (BLACK ASHPHALT)] [1] [1] 2. [TAN SILT, CLAY, GRAVEL & SAND] [2] [1] 3. [PALE YELLOW CLAY, VERY FINE & FINE SAND] [3] [1] 4. [PALE YELLOW CLAY, VERY FINE & FINE SAND] [4] [1] 5. [LIGHT CLAY, VERY FINE & FINE SAND] [6] [2] 6. [TAN CLAY, VERY FINE & FINE SAND] [8] [2] 7. [GRAY SILTY CLAYS, FINE & VERY FINE SAND] [10] [2] 8. [VERY FINE SAND, SILTY CLAY] [13] [3]

Nearest source of possible contamination:

Type	Distance	Direction
Chemical/Fertilizer storage	40.00 ft.	North

Contractor Type: Unknown
Registration Number: 666
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

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:17

12-25

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

GEOLOGICAL SURVEY NO.

WATER WELL AND PUMP RECORD

PERMIT NUMBER

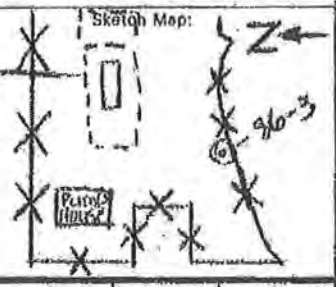
1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE/4 SW/4 1/4	12	3 N/S	7 E/W

Distance And Direction From Road Intersection
2152' North of C.L. Tyler Road
3'4" N. of S. chain link fence property line
87' East of South property line fence
1215' E. of C.L. McGregor Road (extended North)
Street Address or City of Well Location

Locate with "X" in Section Below

Sketch Map:



3 OWNER OF WELL: Wayne County
Address: Airport Division, West Fuel Farm, Willow Run Airport
Address Same As Well Location? [X] Yes [ ] No

4 WELL DEPTH: (completed) 11 ft. | Date of Completion: 13 Sept 86

5 [ ] Cable tool [ ] Rotary [ ] Driven [ ] Dug [ ] Hollow rod [X] Auger [ ] Jetted [ ]

6 USE: [ ] Domestic [ ] Type I Public [ ] Type III Public [ ] Irrigation [ ] Type IIa Public [ ] Heat pump [ ] Test Well [ ] Type IIb Public [X] monitoring

7 CASING: Diameter [ ] Steel [X] Threaded [ ] Plastic [ ] Welded
2 in. to 5 ft. depth
in. to ft. depth
Grouted Drill Hole Diameter
9 in. to 4.5 ft. depth
in. to ft. depth
Height: Above/Below Surface 0.33 ft.
Weight 3.5 lbs./ft.
Drive Shoe [ ] Yes [X] No

8 SCREEN: Stainless Steel [ ] Not Installed
Type Diameter 2"
Slot/Gauge #7 Length 6.5'
Set between 5.5' ft. and 11' ft.
FITTINGS: [ ] K-Packer [ ] Lead Packer [ ] Bremer Check
[ ] Blank above screen ft. Other threaded

9 STATIC WATER LEVEL: 7.11' ft. below land surface [ ] Flow

10 PUMPING LEVEL: below land surface
ft. after hrs. pumping at N/A G.P.M.
ft. after hrs. pumping at G.P.M.

11 WELL HEAD COMPLETION: [ ] Pitless adapter [ ] 12" above grade [ ] Basement offset [ ] Approved pit
threaded cap

12 WELL GROUTED? [ ] No [X] Yes From 2.5' to 4.5' ft.
[ ] Neat cement [X] Bentonite [ ] Other
No. of bags of cement Additives

13 Nearest source of possible contamination
Type: Aviation Fuels Distance: 40'- ft. Direction: North
Filler Pipes 200'
Well disinfected upon completion? [ ] Yes [X] No

14 PUMP: [X] 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

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Tan, sand	2"	2"
Black Ashphalt	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'+

USE A 2ND SHEET IF NEEDED

RECEIVED
Mich. Dept. of Public Health
JAN 06 1988
Bureau of Environmental and Occupational Health - GWQS

15. Remarks, elevation, source of data, etc.
Surface Elevation 717.02'
Top of Casing 716.69' MSL
12-15-87

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.

Starling Drilling Company 0666
REGISTERED BUSINESS NAME REGISTRATION NO.
Address 6236 W. Grand River, Brighton, MI 48116
Signed AUTHORIZED REPRESENTATIVE Date 13 Sept. 1986
Glenn Miller

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

D67d 2/84

GEOLOGICAL SURVEY COPY

12-25

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

GEOLOGICAL SURVEY NO.

WATER WELL AND PUMP RECORD

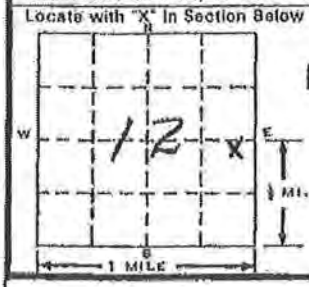
PERMIT NUMBER

1 LOCATION OF WELL

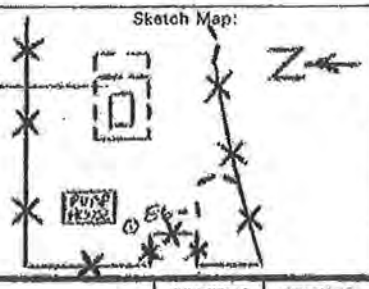
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE ¼ SW ¼ ¼	12	3S N/S	7E E/W

Distance And Direction From Road Intersection
2221' North of C.L. Tyler Road
96' South of North of property line
1160' East of C.L. McGregor Road (extended North)
44' East of property line
Street Address & City of Well Location

Locate with "X" In Section Below



Sketch Map:



3 OWNER OF WELL: Wayne County Airport Division
Address: West Fuel Farm, Willow Run Airport
Address Same As Well Location? ☒ Yes ☐ No

4 WELL DEPTH: (completed) 11.8' ft. | Date of Completion: 19 Sept 86

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 ☒ monitoring

7 CASING: Diameter ☐ Steel ☒ Threaded ☐ Plastic ☐ Welded
2" in. to 8.5 ft. depth
in. to ft. depth
Grouted Drill Hole Diameter
9 in. to 8' ft. depth
in. to ft. depth
Height: Above/Below Surface 1.75 ft.
Weight 3.5 lbs./ft.
Drive Shoe ☐ Yes ☒ No

8 SCREEN: ☐ Not Installed
Type Stainless Steel Diameter 2"
Slot/Gauge XXX #7 Length 3'
Set between 8.8' ft. and 11.8' ft.
FITTINGS: ☐ K-Packer ☐ Lead Packer ☐ Bremer Check
☐ Blank above screen ft. Other threaded

9 STATIC WATER LEVEL:
8.11' ft. below land surface ☐ 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: ☐ Pitless adapter ☐ 12" above grade
threaded Cap ☐ Basement offset ☐ Approved pit

12 WELL GROUTED? ☐ No ☒ Yes From 6' to 8' ft.
☐ Neat cement ☒ Bentonite ☐ Other
No. of bags of cement Additives

13 Nearest source of possible contamination
Type filler pipes Distance 70 ft. Direction east
Well disinfected upon completion? ☐ Yes ☐ No

14 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

2 FORMATION DESCRIPTION

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
Brown silty, clayey, sand TOPSOIL	6"	6"
Blackish gray, silty, gravelly clayey, very fine, coarse SAND	1'	1.5'
Blackish gray, silty, gravelly, clayey, very fine, fine SAND	3'	4.5'
Dark gray, trace gravel, silty, clayey, very fine, fine SAND	1.5'	6'
Variegated black & blackish gray silty, clayey, very fine, fine SAND. Typical fill	1'	7'
Blackish gray, silty, clayey, very fine, fine SAND	4'	11'
Tan, gravel, silty, very fine, fine SAND. Typical fill.	2'	13'

USE A 2ND SHEET IF NEEDED

RECEIVED
Mich. Dept. of Public Health
JAN 06 1988
Bureau of Environmental and Occupational Health - GWQS

15. Remarks, elevation, source of data, etc.
Surface Elevation 717.88'
Top of Casing 719.63'
12-15-87
H.M.

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 Glenn Miller AUTHORIZED REPRESENTATIVE Date 19 Sept. 1986

Authority: Act 368 PA 1978
Completion Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

D67d 2/84

GEOLOGICAL SURVEY COPY

12-26

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

GEOLOGICAL SURVEY NO.

WATER WELL AND PUMP RECORD

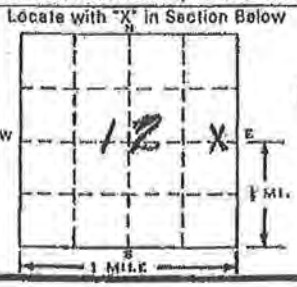
PERMIT NUMBER

1 LOCATION OF WELL

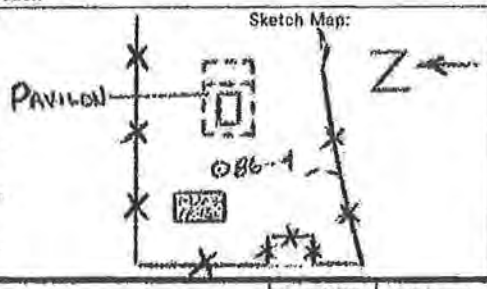
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	NE 1/4 SW 1/4 1/4	12	3 ~~N/S~~	7 ~~E/W~~

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 fience (S. gate posts)
.5' East of East edge pump house
Street Address & City of Well Location

Locate with "X" in Section Below



Sketch Map:



3 OWNER OF WELL: Wayne County Airport Division
Address West Fuel Farm, Willow Run Airport
Address Same As Well Location? [X] Yes [ ] No

4 WELL DEPTH: (completed) 11' ft. | Date of Completion 84

5 [ ] Cable tool [ ] Rotary [ ] Driven [ ] Dug
[ ] Hollow rod [X] Auger [ ] Jetted [ ]

6 USE: [ ] Domestic [ ] Type I Public [ ] Type III Public
[ ] Irrigation [ ] Type IIa Public [ ] Heat pump
[ ] Test Well [ ] Type IIb Public [X] monitoring

7 CASING: Diameter [ ] Steel [X] Threaded [ ] Plastic [ ] Welded
___ in. to 7.6 ft. depth
___ in. to ___ ft. depth
Grouted Drill Hole Diameter
9" in. to 7' ft. depth
___ in. to ___ ft. depth
Height: ~~Above~~/Below Surface 0.41' ft.
Weight 3.5 lbs./ft.
Drive Shoe [ ] Yes [X] No

8 SCREEN: Stainless Steel [ ] Not Installed
Type ___ Diameter 2"
Slot/~~Gauze~~ #7 Length 3'
Set between 7.8' ft. and 10.8' ft.
FITTINGS: [ ] K-Packer [ ] Lead Packer [ ] Bremer Check
[ ] Blank above screen ___ ft. Other threaded

9 STATIC WATER LEVEL: 7.82' ft. below land surface [ ] 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: threaded cap [ ] Pitless adapter [ ] 12" above grade [ ] Basement offset [ ] Approved pit

12 WELL GROUTED? [ ] No [X] Yes From 5' to 7' ft.
[ ] Neat cement [X] Bentonite [ ] 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? [ ] Yes [ ] No

14 PUMP: [X] 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

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
White broken lime stone and SLAG	6"	6"
Grayish black, silty, clayey, gravel, very fine to medium SAND	1.5'	2'
Blackish gray, silty, clayey, very fine, fine sand, GRAVEL	2'	4'
Dark gray, silty, gravel, clayey, very fine, fine, medium SAND	2'	6'
Dark gray, silty, gravel, clayey, very fine-fine SAND	6'	12'
Grayish tan, silty, gravel, clayey, very fine, fine SAND	1'	13'

USE A 2ND SHEET IF NEEDED

RECEIVED
Mich. Dept. of Public Health
JAN 06 1988
Bureau of Environmental and Occupational Health - GWQS

15. Remarks, elevation, source of data, etc.
Surface Elevation 717.39'
Top of Casing 716.98
12-15-87
H. Fill

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 [signature] AUTHORIZED REPRESENTATIVE Date 18 Sept. 1986
Glenn Miller

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

D67d 2/84

GEOLOGICAL SURVEY COPY

12.27

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

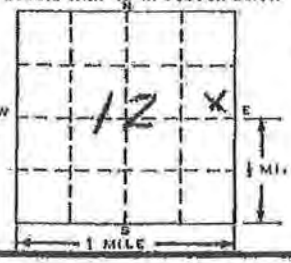
PERMIT NUMBER

1 LOCATION OF WELL

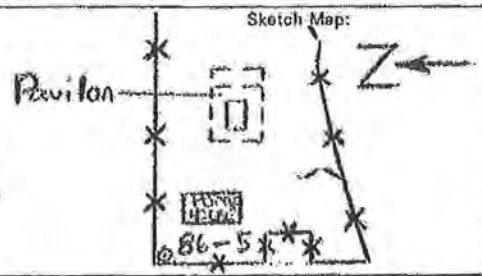
County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Ypsilanti	SE ¼ NE ¼ ¼	12	3 N/S	7 E/W

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
1132' East of C.L. McGregor Road (extended North)
Street Address & City of Well Location

Locate with "X" in Section Below



Sketch Map:



3 OWNER OF WELL: Wayne County Airport Division
Address West Fuel Farm, Willow Run Airport
Address Same As Well Location? [X] Yes [ ] No

4 WELL DEPTH: (completed) 13' ft. | Date of Completion 15 Sept 86

5 [ ] Cable tool [ ] Rotary [ ] Driven [ ] Dug
[ ] Hollow rod [X] Auger [ ] Jetted [ ]

6 USE: [ ] Domestic [ ] Type I Public [ ] Type III Public
[ ] Irrigation [ ] Type IIa Public [ ] Heat pump
[ ] Test Well [ ] Type IIb Public [X] monitoring

7 CASING: [ ] Steel [X] Threaded
Diameter [ ] Plastic [ ] Welded
2" in. to 7' ft. depth
in. to ft. depth
Ground Drill Hole Diameter
9" in. to 7' ft. depth
in. to ft. depth
Height: Above/Below
Surface 1.25' ft.
Weight 3.5 lbs./ft.
Drive Shoe [ ] Yes [X] No

2 FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Brown clayey, silty, sand TOPSOIL	3.5'	3.5'
Light gray tan, clayey, silty, SAND	3.5'	3.5'
Gray, clayey, gravel, with tan, sandy, SILTY	3'	10'
Gray, very fine, fine, medium SAND	3'	13'

USE A 2ND SHEET IF NEEDED

8 SCREEN: [ ] Not Installed
Type Stainless Steel Diameter 2"
Slot/Gauze #10 Length 6.50'
Set between 7' ft. and 13.5' ft.
FITTINGS: [ ] K-Packer [ ] Lead Packer [ ] Bremer Check
[ ] Blank above screen ft. Other threaded

9 STATIC WATER LEVEL:
9.0' ft. below land surface [ ] 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: [ ] Pitless adapter [ ] 12" above grade
threaded cap [ ] Basement offset [ ] Approved pit

12 WELL GROUTED? [ ] No [X] Yes From 5' to 7' ft.
[ ] Neat cement [X] Bentonite [ ] 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? [ ] Yes [ ] No

14 PUMP: [X] 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

RECEIVED
Mich. Dept. of Public Health
JAN 06 1988
Bureau of Environmental and Occupational Health - GWQS

15. Remarks, elevation, source of data, etc.
Surface Elevation 718'
Top of Casing 719.69'
12-15-87

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 AUTHORIZED REPRESENTATIVE Date 15 Sept. 86

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

D67d 2/84

GEOLOGICAL SURVEY COPY

12-28

Ypsilanti Twp.

Section 13

OCT 4 1972

WATER WELL RECORD
ACT 294 PA 1965

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

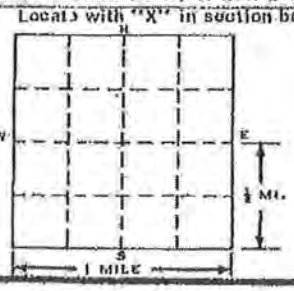
1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
WASHT.	Ypsilanti	NE¼ NE¼ SW¼	13	3 N/S	7 E/W

Distance And Direction from Road Intersections: 1560 Woodale

Street address & City of Well Location

Locate with "X" in section below — Sketch Map:



3 OWNER OF WELL: Clinton Farr
Address 1560 Woodale Yps. Ann

4 WELL DEPTH: (completed) 91 ft. Date of Completion

5 ☐ Cable tool ☑ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☐ Jetted ☐ Bored ☐

6 USE: ☑ Domestic ☐ Public Supply ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☐ Test Well ☐

7 CASING: Threaded ☑ Welded ☐
Diam. 4 in. to 87 ft. Depth
in. to ft. Depth
Height: Above/Below Surface ft.
Weight 11 lbs./ft.
Drive Shoe? Yes ☑ No ☐

8 SCREEN:
Type: RED BRASS Dia.: 4"
Slot/Gauze 35 Length 4'
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 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: ☐ In Approved Pit ☐ Pitless Adapter ☐ 12" Above Grade

13 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 Layne
Model Number VEJ HP ½ Volts 230
Length of Drop Pipe 63 ft. capacity G.P.M.
Type: ☐ Submersible ☐ Jet ☐ Reciprocating

2

FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Sand Gravel	12	12
Clay Blue	63	75
Sand Gravel	16	91

ADDED INFO. BY DRILLER, ITEM 11
*CORRECTED BY. JW
**ADDITION BY
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. Slusser Well Drilling Co. 0388
REGISTERED BUSINESS NAME REGISTRATION NO.
Address 715 Cambridge, Ypsilanti, Mich.
Signed [signature] Date 8-2-71
AUTHORIZED REPRESENTATIVE

D67d 100M (Rev. 12-68)

9

GEOLOGICAL SURVEY COPY

13-1

JUN 04 1969

WATER WELL RECORD
ACT 294 PA 1965

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

1 LOCATION OF WELL

County	Twp	Fraction	Section No.	Town	Range
WASHTENAW	YPSILANTI	NW¼ NW¼ NE¼	13	3 S N/S.	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

2 FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Sand	18	0 to 18
3 Water Sand	3	18 to 21

4 WELL DEPTH: (completed) 21 ft. Date of Completion 3-19-69

5 ☐ Cable tool ☐ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☐ Jetted ☒ Bored ☐

6 USE: ☐ Domestic ☐ Public Supply ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☒ Test Well ☐

7 CASING: Diam. Threaded ☐ Welded ☐
in. to 19 ft. Depth
in. to ft. Depth
Height: Above/Below surface ft.
Weight lbs/ft.
Drive Shoe? Yes ☐ No ☐

8 SCREEN:
Type: Johnson Dia.: 1¼
Slot/Gauze 10 Length 36"
Set between ft. and ft.
Fittings:

9 STATIC WATER LEVEL
16 ft. below land surface

10 PUMPING LEVEL below land surface
16 ft. after 1 hrs. pumping 9" 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: ☐ In Approved Pit ☐ Pitless Adapter ☐ 12" Above Grade

13 GROUTING:
Well Grouted? ☐ Yes ☐ No
Material: ☐ Neat Cement ☐
Depth: From ft. to ft.

14 SANITARY:
Nearest Source of possible contamination
feet Direction Type
Well disinfected upon completion ☐ Yes ☐ No

15 PUMP:
Manufacturer's Name
Model Number HP
Length of Drop Pipe ft. capacity G.P.M.
Type: ☐ Submersible ☐ ☐ Jet ☐ Reciprocating

Above Item No. 5 Bailer, Item No.
*CORRECTED BY:
**ADDITION BY

16 Remarks, elevation, source of data, etc.
Well #1

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 Rattee — REGISTERED BUSINESS NAME
0175 — REGISTRATION NO.
Address 2635 Ron Drive Rochester
Signed John Rattee — AUTHORIZED REPRESENTATIVE
Date May 31 1969

D67D 100M 6-66

GEOLOGICAL SURVEY COPY

29

13-2

WATER WELL RECORD

ACT 294 PA 1965

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

1 LOCATION OF WELL

County	Twp.	Fraction	Section No.	Town	Range
WASHTENAW	YPSILANTI	NW¼ NW¼ NE¼	13	3 S N/S.	7 E E/W.

Distance And Direction from Road Intersections

OWNER No.

3050 TYLER RD.

Street address & City of Well Location

3 OWNER OF WELL: J. FONS CO.

Address 3651 HAMLIN ROAD UTICA MICH 48087

2 FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Sand	12	0 to 12
Sand Water	6	12 to 18

4 WELL DEPTH: (completed) ft. Date of Completion 3-19-69

5 ☐ Cable tool ☐ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☐ Jetted ☒ Bored ☐ ___

6 USE: ☐ Domestic ☐ Public Supply ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☒ Test Well ☐ ___

7 CASING: Diam. Threaded ☐ Welded ☐

___ in. to 14 ft. Depth

___ in. to ___ ft. Depth

Height: Above/Below surface ___ ft.

Weight ___ lbs/ft.

Drive Shoe? Yes ☐ No ☐

8 SCREEN:

Type: Johnson Dia.: 1¼

Slot/Gauze 10 Length 36

Set between 16 ft. and 18 ft.

Fittings:

9 STATIC WATER LEVEL

12 ft. below land surface

10 PUMPING LEVEL below land surface

15 ft. after 1 hrs. pumping 12 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: ☐ In Approved Pit ☐ Pitless Adapter ☐ 12" Above Grade

13 GROUTING:

Well Grouted? ☐ Yes ☐ No

Material: ☐ Neat Cement ☐ ___

Depth: From ___ ft. to ___ ft.

14 SANITARY:

Nearest Source of possible contamination

___ feet ___ Direction ___ Type

Well disinfected upon completion ☐ Yes ☐ No

15 PUMP:

Manufacturer's Name ___

Model Number ___ HP ___

Length of Drop Pipe ___ ft. capacity ___ G.P.M.

Type: ☐ Submersible ☐ ___ ☐ Jet ☐ Reciprocating

CORRECTED BY:

ADDITION BY:

16 Remarks, elevation, source of data, etc.

Well #2

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 Rattee — REGISTERED BUSINESS NAME

8175 — REGISTRATION NO.

Address 2635 Longview Rochester

Signed John Rattee — AUTHORIZED REPRESENTATIVE

Date May 31 1969

D67D 100M 6-66

JUN 4 1969

GEOLOGICAL SURVEY COPY

30

13-3

WATER WELL RECORD
ACT 294 PA 1965

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

1 LOCATION OF WELL

County	Twp.	Fraction	Section No.	Town	Range
WASHTENAW	YPSILANTI	NE¼ NW¼ NE¼	13	3 S N/S.	7E E/W.

Distance And Direction from Road Intersections

OWNER No.

3050 TYLER RD.

Street address & City of Well Location

3 OWNER OF WELL: J. FONS CO.

Address 3651 HAMLIN ROAD UTICA MICH 48087

2 FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Sand	23	0 to 23
Clay	1	23 to 24

4 WELL DEPTH: (completed) ft. Date of Completion 3-19-69

5 ☐ Cable tool ☐ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☐ Jetted ☒ Bored ☐

6 USE: ☐ Domestic ☐ Public Supply ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☒ Test Well ☐

7 CASING: Diam. 14 in. to ft. Depth; Threaded ☐ Welded ☐; in. to ft. Depth

Height: Above/Below surface ft. Weight lbs/ft. Drive Shoe? Yes ☐ No ☐

8 SCREEN: Type: Johnson Dia.: 14

Slot/Gauze 10 Length 36

Set between 21 ft. and 24 ft.

Fittings:

9 STATIC WATER LEVEL Dry ft. below land surface

10 PUMPING LEVEL below land surface

Dry 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: ☐ In Approved Pit ☐ Pitless Adapter ☐ 12" Above Grade

13 GROUTING:

Well Grouted? ☐ Yes ☐ No

Material: ☐ Neat Cement ☐

Depth: From ft. to ft.

14 SANITARY:

Nearest Source of possible contamination

feet Direction Type

Well disinfected upon completion ☐ Yes ☐ No

15 PUMP:

Manufacturer's Name

Model Number HP

Length of Drop Pipe ft. capacity G.P.M.

Type: ☐ Submersible ☐ ☐ Jet ☐ Reciprocating

16 Remarks, elevation, source of data, etc.

Well #3

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 Rattee — REGISTERED BUSINESS NAME

0175 — REGISTRATION NO.

Address 2635 Longview Rochester

Signed John Rattee — AUTHORIZED REPRESENTATIVE

Date Mar 31 1969

D67D 100M 6-66

JUN 4 1969

GEOLOGICAL SURVEY COPY

31

13-4

WATER WELL RECORD
ACT 294 PA 1965

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

1 LOCATION OF WELL

County	Twp	Fraction	Section No.	Town	Range
WASHTENAW	YPSILANTI	¼ NW ¼ NE ¼	13	3 S N/S.	7 E E/W.

Distance And Direction from Road Intersections

3050 TYLER RD.

Street address & City of Well Location

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
Sand	16	0 to 16
Clay	1	16 to 17

4 WELL DEPTH: (completed) ft. Date of Completion 3-19-69

5 ☐ Cable tool ☐ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☐ Jetted ☒ Bored ☐

6 USE: ☐ Domestic ☐ Public Supply ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☒ Test Well ☐

7 CASING: Threaded ☐ Welded ☐
Diam. ___ in. to ___ ft. Depth
4"
___ in. to ___ ft. Depth
Height: Above/Below surface ___ ft.
Weight ___ lbs/ft.
Drive Shoe? Yes ☐ No ☐

8 SCREEN:
Type: Johnson Dia.: 4"
Slot/Gauze 10 Length
Set between 14 ft. and 17 ft.
Fittings:

9 STATIC WATER LEVEL
Dry ft. below land surface

10 PUMPING LEVEL below land surface
Dry 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: ☐ In Approved Pit ☐ Pitless Adapter ☐ 12" Above Grade

13 GROUTING:
Well Grouted? ☐ Yes ☐ No
Material: ☐ Neat Cement ☐
Depth: From ___ ft. to ___ ft.

14 SANITARY:
Nearest Source of possible contamination
___ feet ___ Direction ___ Type
Well disinfected upon completion ☐ Yes ☐ No

15 PUMP:
Manufacturer's Name ___
Model Number ___ HP ___
Length of Drop Pipe ___ ft. capacity ___ G.P.M.
Type: ☐ Submersible ☐ ___ ☐ Jet ☐ Reciprocating

ADDED INFO. BY DRILLER, ITEM NO.
*CORRECTED BY:
**ADDITION BY:

16 Remarks, elevation, source of data, etc.

Well # 4

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 Potter — REGISTERED BUSINESS NAME
0175 — REGISTRATION NO.

Address 2635 Longview Rochester

Signed John Potter — AUTHORIZED REPRESENTATIVE
Date Mar 31 1969

D670 100M 6-66

GEOLOGICAL SURVEY COPY

(32)

13-5

WATER WELL RECORD

ACT 294 PA 1965

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

1 LOCATION OF WELL

County	Twp.	Fraction	Section No.	Town	Range
WASHTENAW	YPSILANTI	NE¼ NW¼ NE¼	13	3S N/S.	7E E/W.

Distance And Direction from Road Intersections

3050 TYLER RD.

Street address & City of Well Location

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
Sand	19	0 to 19
Clay	12	19 to 31

4 WELL DEPTH: (completed) ft. Date of Completion 3-17-69

5 ☐ Cable tool ☐ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☐ Jetted ☒ Bored ☐

6 USE: ☐ Domestic ☐ Public Supply ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☒ Test Well ☐

7 CASING: Threaded ☐ Welded ☐

Diam. in. to 1¼ ft. Depth

in. to ft. Depth

Height: Above/Below surface ft.

Weight lbs/ft.

Drive Shoe? Yes ☐ No ☐

8 SCREEN:

Type: Johnson Dia.: 1¼

Slot/Gauze 10 Length 36

Set between 28 ft. and 31 ft.

Fittings: Pack Sand 19 to 31

9 STATIC WATER LEVEL

Dry ft. below land surface

10 PUMPING LEVEL below land surface

Dry 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: ☐ In Approved Pit ☐ Pitless Adapter ☐ 12" Above Grade

13 GROUTING:

Well Grouted? ☐ Yes ☐ No

Material: ☐ Neat Cement ☐

Depth: From ft. to ft.

14 SANITARY:

Nearest Source of possible contamination

feet Direction Type

Well disinfected upon completion ☐ Yes ☐ No

15 PUMP:

Manufacturer's Name

Model Number HP

Length of Drop Pipe ft. capacity G.P.M.

Type: ☐ Submersible ☐ Jet ☐ Reciprocating

ADDED INFO. BY DRILLER. ITEM NO.

*CORRECTED BY:

**ADDITION BY

16 Remarks, elevation, source of data, etc.

Well # 5

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 — REGISTERED BUSINESS NAME

0175 — REGISTRATION NO.

Address 2635 Longview Rochester

Signed John Patton — AUTHORIZED REPRESENTATIVE

Date Mar 31 1969

D67D 100M 6-66

JUN 4 1969 GEOLOGICAL SURVEY COPY

(33)

133SSE 13050 13-6

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: 81000014268

Tax No:	Permit No: 2003-00451	County: Washtenaw	Township: Ypsilanti

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
NW¼ SE¼ NW¼	13	03S 07E		

Well ID: 81000014268

Elevation: 709 ft

Latitude: 42.222099

Longitude: -83.554754

Distance and Direction from Road Intersection: 300 feet south of Cooledg on the west side of Woods

Well Owner: Carol Pearson

Well Address:
1780 Woodale Rd.
Ypsilanti MI 48179

Owner Address:
46885 Ford Rd.
Canton MI 48187

Drilling Method: Rotary
Well Depth: 138.00 ft. | Well Use: Household
Well Type: Dry hole | Date Completed: 9/22/2003
Casing Type:
Casing Joint:
Diameter:

Bore Diameter 1: 8.75 in. to 138.00 ft. depth
Bore Diameter 2:
Bore Diameter 3:
Height:
Casing Fitting:

Pump Installed:
Pump Installation date:
Manufacturer:
Model Number:
Length of Drop Pipe:
Diameter of Drop Pipe:
Draw Down Seal Used:

Pump Installation only:
HP:
Pump Type:
Pump Capacity:
Id of Well:

Pressure Tank Installed:
Pressure Tank Type:
Manufacturer:
Model Number :
Pressure Relief Valve Installed :
Tank Capacity : Gallons

Static Water Level:
Yield Test Method:
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:
Abandoned well ID:

Formation Description	Thickness	Depth to Bottom
Brown Sand	10.00	10.00
Gray Clay	123.00	133.00
Black Coal	5.00	138.00

Screen Installed: No | Well Intake:
Filter Packed:
Screen Diameter: | Length:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: No | Grouting Method:
No. of Bags: | Additives:
Grouting Materials:

Well Head Completion:

Geology Remarks:

Nearest source of possible contamination:
Type | Distance | Direction

Contractor Type: Water well drilling contractor
Registration Number: 1607
Business Name: Ed Birkmeier Well Drilling
Business Address: 9471 Genesee Street, New Lothrop MI 48460

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor | Date

Drilling Machine Operator Name: Barry Brown
Employment: Employee

General Remarks: bore hole was plugged off with 15 bags of benseal

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

3/19/2004 15:20

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: 81000014286

Tax No:	Permit No: 0300451	County: Washtenaw	Township: Ypsilanti

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
NW¼ SE¼ SW¼	13	03S 07E		

Well ID: 81000014286

Elevation:

Latitude: 42.220145

Longitude: -83.55702

Distance and Direction from Road Intersection:

Well Owner: Carol Pearson

Well Address:
1780 WOOD
YPSILANTI MI 48198

Owner Address:
46885 FORD ROAD
CANTON MI 48187

Drilling Method: Rotary
Well Depth: 200.00 ft. Well Use: Household
Well Type: New Date Completed: 10/21/2003
Casing Type: PVC plastic
Casing Joint: Unknown
Diameter: 5.00 in. to 140.00 ft. depth

Bore Diameter 1: 9.00 in. to 140.00 ft. depth
Bore Diameter 2:
Bore Diameter 3:
Height: 1.00 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:

Pump Installation only:
HP:
Pump Type:
Pump Capacity:
Id of Well:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number :
Tank Capacity : Gallons
Pressure Relief Valve Installed : No

Static Water Level: Unknown
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Formation Description	Thickness	Depth to Bottom
Sand	8.00	8.00
Yellow Clay	6.00	14.00
Gray Clay	120.00	134.00
Black Shale	46.00	180.00
Gray Shale	20.00	200.00

Screen Installed: No Well Intake: Bedrock Well
Filter Packed:
Screen Diameter: Length:
Screen Material Type:
Slot:
Blank:
Fittings:

Geology Remarks:

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:

Type	Distance	Direction
Unknown		
Unknown		

Contractor Type: Water well drilling contractor
Registration Number: 2014
Business Name: CRIBLEY DRLG CO INC
Business Address:

Drilling Machine Operator Name: KEN PEARCE

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: 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

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

3/29/2004 13:15

13-2

Ypsilanti Twp.

Section 24

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: 81000007473 | Import ID: 81737724001

Tax No:	Permit No:	County: Washtenaw	Township: Ypsilanti

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
SE¼ NE¼ SE¼	24	03S 07E		

Well ID: 81000007473

Elevation: 585 ft

Latitude: 42.2073728954

Longitude: -83.5501337153

Distance and Direction from Road Intersection: 2050' W OF RAWSONVILLE RD, 1450' N OF TEXTILE RD.

Well Owner: Ypsilanti Township

Well Address: YPSILANTI MI 48197

Owner Address: YPSILANTI MI 48197

Drilling Method: Rotary
Well Depth: 102.00 ft. | Well Use: Household
Well Type: Replacement | Date Completed: 10/22/1965
Casing Type: Unknown
Casing Joint: Unknown
Diameter: 34.00 in. to 61.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 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:
Pump Installation only:
HP:
Pump Type:
Pump Capacity:
Id of Well:

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:
76.00 ft. after 0.00 hrs. pumping at 23.00 GPM

Abandoned Well Plugged: No
Reason for not plugging Well:
Abandoned well ID:

Formation Description	Thickness	Depth to Bottom
Gravel	5.00	5.00
Clay	7.00	12.00
Clay W/Cobbles	10.00	22.00
Clay	10.00	32.00
Clay W/Cobbles	10.00	42.00
Clay & Gravel Sandy	10.00	52.00
Clay	8.00	60.00
Sand & Gravel	2.00	62.00
Gravel	30.00	92.00
Clay W/Shale	10.00	102.00

Screen Installed: No | Well Intake: Unknown
Filter Packed:
Screen Diameter: | Length:
Screen Material Type:
Slot:
Blank:
Fittings:

Geology Remarks: 1. [GRAVEL] [5] [5] 2. [CLAY] [12] [7] 3. [CLAY & ROCK] [22] [10] 4. [CLAY] [32] [10] 5. [CLAY & ROCKS] [42] [10] 6. [CLAY & SANDY GRAVEL] [52] [10] 7. [CLAY] [60] [8] 8. [SAND & GRAVEL] [62] [2] 9. [GRAVEL] [92] [30] 10. [CLAY & SHALE] [102] [10]

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		

Contractor Type: Unknown
Registration Number:
Business Name:
Business Address:

Drilling Machine Operator Name: J. TURNER

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: DRILLER WAS LAYNE NORTHERN- J. TURNER

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:18

24-1

Page ___ of ___
Sample No.

MICHIGAN DEPARTMENT OF CONSERVATION
GEOLOGICAL SURVEY DIVISION
SW NE SE
WATER WELL RECORD L-31390

Permit No. 24-8
Owner No. #6

County	Twp.		Sec.	Town	Range
Wastenaw	Ypsilanti	SE NE SW SE	24	3 S.	7 E.

Distance from Roads, Section Lines, etc.
Approx. 875' w. of Rawsonville rd
1850' N of Textile rd } (or intersection is SE corner sec 24)

FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Gravel	5	5
(1) Clay	7	12
(2) Clay & rock	10	22
(3) Clay	10	32
(4) Clay and rocks	10	42
(5) Clay and sandy gravel	10	52
(6) Clay	8	60
Sand & gravel	2	62
gravel	30	92
clay & shale	10	102 ?
Cly - 6 - 55'		
(BR + 593).		

Owner: Ypsilanti township
Address:
Driller and Address: Layne Northern - J. Turner
Well Depth: 102 ft. Date of Completion 10-22-65
☐ Cable tool ☐ Rotary ☐ Dug ☒ R.C.
☐ Driven ☐ Jetted ☐ Bored
Use: ☐ Domestic ☒ Public Supply ☐ Industry
☐ Irrigation ☐ Air Conditioning ☐ Dewatering
☐ Test Well ☐
Casing: Diam. 34 in. to 61 ft. Depth
___ in. to ___ ft. Depth
Height: Above/Below surface ___ ft.
Type-Weight
Screen:
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 1400 g.p.m.
___ ft. after ___ hrs. pumping ___ g.p.m.
Meas. by Date
Flow:
g.p.m./g.p.h. Temp: °F
Water Quality in Parts Per Million:
Iron (Fe) ___ Chlorides (Cl) ___
Hardness ___
Elevation:
~+585' topo. ft. above
Source of data:
Record by:
Date:

Remarks:

8
24-1

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

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
SE¼ NE¼ SE¼	24	03S 07E		

Well ID: 81000007474

Elevation: 685 ft

Latitude: 42.2076120879

Longitude: -83.5439899234

Distance and Direction from Road Intersection: 170' W OF RAWSONVELLE RD, 610' S OF HURON RIVER DR.

Well Owner: Ypsilanti Township

Well Address: YPSILANTI MI 48197

Owner Address: YPSILANTI MI 48197

Drilling Method: Other

Well Depth: 80.00 ft. Well Use: Household

Well Type: Replacement Date Completed: 9/9/1988

Casing Type: Unknown
Casing Joint: Unknown
Diameter: 36.00 in. to 35.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 1.50 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:

Pump Installation only:
HP:
Pump Type:
Pump Capacity:
Id of Well:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:
Tank Capacity: Gallons
Pressure Relief Valve Installed: No

Static Water Level: 7.50 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:

Formation Description	Thickness	Depth to Bottom
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

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

Geology Remarks: 1. [FILL - CLAY] [2] [2] 2. [TOP FILL & ROCKS] [4] [2] 3. [CLAY BROWN] [9] [5] 4. [CLAY - SAND & GRAVEL] [18] [9] 5. [SAND & GRAVEL -SOME CLAY] [25] [7] 6. [COARSE SAND & FINE GRAVEL] [49] [24] 7. [SAND & GRAVEL - ROCKS & SHALE] [78] [29] 8. [SHALE] [80] [2]

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:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Contractor Type: Unknown
Registration Number:
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: DRILLER WAS LAYNE NORTHERN

OTHER REMARKS Drilling Method: Drilling Method unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:18

24-2

Ypsi. Twp
24-7

Layne NORTHERN COMPANY INCORPORATED

INDIANAPOLIS • MISHAWAKA • LANSING

☐ TEST
☒ PERMANENT

Job No. L-32082

WELL LOG No. 9 CITY YPSILANTI County WASHTENAW

Owner YPSILANTI TOWNSHIP Township YPSILANTI

Section 24

Location SENESE 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 7½ - (SWL + 663')				
ADDED INFO. BY DRILLER, ITEM NO.				
*CORRECTED BY:				
**ADDITION BY:				

Hole 36 "Dia Drilled by: { Cable Tool ____ Rotary ____ Jetting ____ / Reverse Circ. X Bucket ____ Auger ____ }

Rotary Hole Grouted: Neat Cement X 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 15" #3 / 4' #4

(SEE WELL PRINT)

Date Completed ~~9/9/68~~ Driller L.D. COONROD

Layne Northern
Brian Hastell

R 8 1969

7 2A-2

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007475 — Failure to comply is a misdemeanor. — Import ID: 81737724003

Tax No:	Permit No:	County: Washtenaw	Township: Ypsilanti

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
SE¼ NW¼ SW¼	24	03S 07E		

Well ID: 81000007475

Elevation: 687 ft

Latitude: 42.2070900931

Longitude: -83.558175122

Distance and Direction from Road Intersection: 25' W OF WELL NO. 5, JUST W OF WATER TREATMENT PLANT

Well Owner: Ypsilanti Township

Well Address: YPSILANTI MI 48197

Owner Address: YPSILANTI MI 48197

Drilling Method: Rotary
Well Depth: 135.00 ft. — Well Use: Household
Well Type: Replacement — Date Completed: 10/8/1969
Casing Type: Unknown
Casing Joint: Unknown
Diameter: 2.00 in. to 99.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 2.00 ft. above grade
Casing Fitting: None

Pump Installed: No — Pump Installation only:
Pump Installation date: — HP:
Manufacturer: — Pump Type:
Model Number: — Pump Capacity:
Length of Drop Pipe: — Id of Well:
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number: — Tank Capacity: 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:

Abandoned Well Plugged: No
Reason for not plugging Well:
Abandoned well ID:

Screen Installed: Yes — Well Intake:
Filter Packed: No
Screen Diameter: 1.25 in. — Length: 4.00 ft.
Screen Material Type:
Slot: 20.00 in. Set Between 99.00 ft. and 103.00 ft.
Blank: 0.00 ft. Above
Fittings:
None

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		

Drilling Machine Operator Name:

Employment: Unknown

Formation Description	Thickness	Depth to Bottom
Brown Clay	16.00	16.00
Brown Sand	1.00	17.00
Blue Clay W/Stones	16.00	33.00
Brown Sand & Gravel W/Sand Fine	1.00	34.00
Brown Clay	4.00	38.00
Sand & Gravel Coarse	3.00	41.00
Gray Clay	1.00	42.00
Sand & Gravel Coarse	3.00	45.00
Sand & Gravel Medium	5.00	50.00
Sand & Gravel Medium Sandy	10.00	60.00
Sand & Gravel Fine To Coarse	15.00	75.00
Sand & Gravel	5.00	80.00
Sand & Gravel Medium	5.00	85.00
Sand & Gravel Fine Black	5.00	90.00
Sand & Gravel	13.00	103.00
Black Shale Hard	17.00	120.00
Gray Shale W/Clay Soft	8.00	128.00
Black Shale	6.00	134.00
Limestone	4.00	138.00

(Continued on Page 2)

ATTENTION WELL OWNER: FILE WITH DEED

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 81000007475 | Failure to comply is a misdemeanor. | Import ID: 81737724003

Tax No:	Permit No:	County: Washtenaw	Township: Ypsilanti

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
SE¼ NW¼ SW¼	24	03S 07E		

Well ID: 81000007475

Elevation: 687 ft

Latitude: 42.2070900931

Longitude: -83.558175122

Distance and Direction from Road Intersection: 25' W OF WELL NO. 5, JUST W OF WATER TREATMENT PLANT

Well Owner: Ypsilanti Township

Well Address: YPSILANTI MI 48197

Owner Address: YPSILANTI MI 48197

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

Geology Remarks: 1. [BROWN CLAY] [16] [16] 2. [BROWN SAND] [17] [1] 3. [BLUE GREY CLAY WITH STONES] [33] [16] 4. [SAND & GRAVEL, FINE SAND, BROWN] [34] [1] 5. [BROWN CLAY] [38] [4] 6. [SAND & GRAVEL, COARSE] [41] [3] 7. [GREY CLAY] [42] [1] 8. [SAND & GRAVEL -COARSE] [45] [3] 9. [SAND & GRAVEL -MEDIUM] [50] [5] 10. [SAND & GRAVEL - MEDIUM WITH FINES] [60] [10] 11. [SAND & GRAVEL MEDIUM WITH FINES & COARSE] [75] [15] 12. [SAND & GRAVEL] [80] [5] 13. [SAND & GRAVEL - MEDIUM] [85] [5] 14. [SAND & GRAVEL FINE MATERIAL BLACK] [90] [5] 15. [SAND & GRAVEL] [103] [13] 16. [HARD SHALE -BLACK, SLABBY] [120] [17] 17. [SOFT SHALE - CLAY LIKE- GREY] [128] [8] 18. [BLACK SHALE, SLABBY] [134] [6] 19. [LIMESTONE] [138] [4]

Contractor Type: Unknown
Registration Number:
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

General Remarks:

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:18

24-3

Layne NORTHERN COMPANY INCORPORATED

INDIANAPOLIS • MISHAWAKA • LANSING

24-9

[X] 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 W1/2, SW1/4 Section 24, T. 3 S., R. 7

Location El. 2 1687' topo. State Michigan

From Land Description 25' West of Well No. 5 ; just W of Water Treatment Pla

From Street or Road and W of 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	(+637')
	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 - McCracken

(6)

24-3

JUN 30 1971

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: 81000007482 | Import ID: 81737724307

Tax No:	Permit No:	County: Washtenaw	Township: Ypsilanti

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
U¼ U¼ U¼	24	03S 07E	7260	YPSILANTI TWP WELL #1

Well ID: 81000007482

Elevation: 690 ft

Latitude: 42.206880002

Longitude: -83.5564014822

Distance and Direction from Road Intersection: WSSN 07260;

Well Owner: Ypsilanti Community Utilities

Well Address: YPSILANTI TWP WELL #1 YPSILANTI MI

Owner Address: YPSILANTI MI

Drilling Method: Unknown
Well Depth: 91.00 ft. | Well Use: Type I public
Well Type: New | Date Completed:
Casing Type: Unknown
Casing Joint: Unknown
Diameter: 24.00 in. to 51.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Pump Installed: Yes | Pump Installation only: No
Pump Installation date: | HP:
Manufacturer: Other | Pump Type: Unknown
Model Number: | Pump Capacity: 0.00 GPM
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:

Abandoned Well Plugged: No
Reason for not plugging Well:
Abandoned well ID:

Formation Description	Thickness	Depth to Bottom
No Log	91.00	91.00

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
Grouting Materials:
Unknown | From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [91] [91]

42° 12' 25"

83° 33' 23"

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

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

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:18

24-4

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: 81000007483 | 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:
U¼ U¼ U¼	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

Well Depth: 88.00 ft. | Well Use: Type I public

Well Type: New | Date Completed:

Casing Type: Unknown
Casing Joint: Unknown
Diameter: 24.00 in. to 37.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Pump Installed: Yes | Pump Installation only: No
Pump Installation date: | HP:
Manufacturer: Other | Pump Type: Unknown
Model Number: | Pump Capacity: 0.00 GPM
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:

Abandoned Well Plugged: No
Reason for not plugging Well:
Abandoned well ID:

Formation Description	Thickness	Depth to Bottom
No Log	88.00	88.00

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
Grouting Materials:
Unknown | From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [88] [88]

42° 12' 25"

83° 33' 20"

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

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 24011; NO WELL LOG PROVIDED

OTHER REMARKS Pump Manufacturer: Pump Manufacturer unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:18

24-5

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: 81000007484 | 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:
U¼ U¼ U¼	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
Well Depth: 82.00 ft. | Well Use: Type I public
Well Type: New | Date Completed:
Casing Type: Unknown
Casing Joint: Unknown
Diameter: 26.00 in. to 32.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Pump Installed: Yes | Pump Installation only: No
Pump Installation date: | HP:
Manufacturer: Other | Pump Type: Unknown
Model Number: | Pump Capacity: 0.00 GPM
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:

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:

Formation Description	Thickness	Depth to Bottom
No Log	82.00	82.00

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

Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [82] [82]

42° 12' 24"

83° 33' 18"

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

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 WELL ID# WAS 24012; NO WELL LOG PROVIDED

OTHER REMARKS Pump Manufacturer: Pump Manufacturer unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:18

24-6

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: 81000007476 | Import ID: 81737724301

Tax No:	Permit No:	County: Washtenaw	Township: Ypsilanti

Well ID: 81000007476

Elevation: 691 ft

Latitude: 42.2072348472

Longitude: -83.5543043302

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
U¼ U¼ U¼	24	03S 07E	7260	YPSILANTI TWP WELL #4

Distance and Direction from Road Intersection: WSSN 07260;

Well Owner: Ypsilanti Community Utilities

Well Address: YPSILANTI TWP WELL #4 YPSILANTI MI

Owner Address: YPSILANTI MI

Drilling Method: Unknown

Well Depth: 66.00 ft. | Well Use: Type I public

Well Type: New | Date Completed:

Casing Type: Unknown
Casing Joint: Unknown
Diameter: 18.00 in. to 29.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above
Casing Fitting: Nor

83° 33' 15.5"
42° 12' 26"

Static Water Level: 999
Yield Test Method: Unk
Measurement Taken Du

Abandoned Well Plugge
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		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: Yes | Pump Installation only: No
Pump Installation date: | HP:
Manufacturer: Other | Pump Type: Unknown
Model Number: | Pump Capacity: 0.00 GPM
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

Formation Description	Thickness	Depth to Bottom
No Log	66.00	66.00

Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [66] [66]

Contractor Type: Unknown
Registration Number:
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

General Remarks: ORIGINAL WELLID# WAS 24004; NO WELL LOG PROVIDED

OTHER REMARKS Pump Manufacturer: Pump Manufacturer unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:18

24-7

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: 81000007477

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:
U¼ U¼ U¼	24	03S 07E	7260	YPSILANTI TWP WELL #5

Distance and Direction from Road Intersection: WSSN 07260;

Well Owner: Ypsilanti Community Utilities

Well Address: YPSILANTI TWP WELL #5 YPSILANTI MI

Owner Address: YPSILANTI MI

Drilling Method: Unknown

Well Depth: 105.00 ft. Well Use: Type I public

Well Type: New Date Completed:

Casing Type: Unknown

Casing Joint: Unknown

Diameter: 24.00 in. to 55.00 ft. depth

Bore Diameter 1:

Bore Diameter 2:

Bore Diameter 3:

Height: 0.00 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:

Pump Installation only:

HP:

Pump Type:

Pump Capacity:

Id of Well:

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:

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:

Formation Description	Thickness	Depth to Bottom
No Log	105.00	105.00

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

Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [105] [105]

42°12' 27"

83°33' 29

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

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 24005; NO WELL LOG PROVIDED

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:18

24-8

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: 81000007478 | 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:
U¼ U¼ U¼	24	03S 07E	7260	YPSILANTI TWP WELL #6

Distance and Direction from Road Intersection: WSSN 07260;

Well Owner: Ypsilanti Community Utilities

Well Address: YPSILANTI TWP WELL #6 YPSILANTI MI

Owner Address: YPSILANTI MI

Drilling Method: Unknown

Well Depth: 94.00 ft. | Well Use: Type I public

Well Type: New | Date Completed:

Casing Type: Unknown
Casing Joint: Unknown
Diameter: 34.00 in. to 61.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: Drive shoe

Pump Installed: Yes | Pump Installation only: No
Pump Installation date: | HP:
Manufacturer: Other | Pump Type: Unknown
Model Number: | Pump Capacity: 0.00 GPM
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:

Abandoned Well Plugged: No
Reason for not plugging Well:
Abandoned well ID:

Formation Description	Thickness	Depth to Bottom
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
Grouting Materials:
Unknown | From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [94] [94]

83° 33' 2
42° 12' 24

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

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 24006; NO WELL LOG PROVIDED

OTHER REMARKS Pump Manufacturer: Pump Manufacturer unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:18

24-9

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: 81000007479 | Import ID: 81737724304

Tax No:	Permit No:	County: Washtenaw	Township: Ypsilanti

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
U¼ U¼ U¼	24	03S 07E	7260	YPSILANTI TWP WELL #7

Well ID: 81000007479

Elevation: 687 ft

Latitude: 42.2052908481

Longitude: -83.5567594311

Distance and Direction from Road Intersection: WSSN 07260;

Well Owner: Ypsilanti Community Utilities

Well Address: YPSILANTI TWP WELL #7 YPSILANTI MI

Owner Address: YPSILANTI MI

Drilling Method: Unknown
Well Depth: 96.00 ft. | Well Use: Type I public
Well Type: New | Date Completed:
Casing Type: Unknown
Casing Joint: Unknown
Diameter: 34.00 in. to 37.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Pump Installed: Yes | Pump Installation only: No
Pump Installation date: | HP:
Manufacturer: Other | Pump Type: Unknown
Model Number: | Pump Capacity: 0.00 GPM
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:

Abandoned Well Plugged: No
Reason for not plugging Well:
Abandoned well ID:

Formation Description	Thickness	Depth to Bottom
No Log	96.00	96.00

42° 12' 19"

83° 33' 24"

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

Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [96] [96]

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

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 24007; NO WELL LOG PROVIDED

OTHER REMARKS Pump Manufacturer: Pump Manufacturer unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:18

24-10

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: 81000007480 | Import ID: 81737724305

Tax No:	Permit No:	County: Washtenaw	Township: Ypsilanti

Well ID: 81000007480

Elevation: 664 ft

Latitude: 42.207051613

Longitude: -83.5504675545

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
U¼ U¼ U¼	24	03S 07E	7260	YPSILANTI TWP WELL #8

Distance and Direction from Road Intersection: WSSN 07260;

Well Owner: Ypsilanti Community Utilities

Well Address: YPSILANTI TWP WELL #8 YPSILANTI MI

Owner Address: YPSILANTI MI

Drilling Method: Unknown
Well Depth: 89.00 ft. | Well Use: Type I public
Well Type: New | Date Completed:
Casing Type: Unknown
Casing Joint: Unknown
Diameter: 34.00 in. to 40.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Pump Installed: Yes | Pump Installation only: No
Pump Installation date: | HP:
Manufacturer: Other | Pump Type: Unknown
Model Number: | Pump Capacity: 0.00 GPM
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:

Abandoned Well Plugged: No
Reason for not plugging Well:
Abandoned well ID:

Formation Description	Thickness	Depth to Bottom
No Log	89.00	89.00

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
Grouting Materials:
Unknown | From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [89] [89]

42° 12' 25"

83° 33 1

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

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 24008; NO WELL LOG PROVIDED

OTHER REMARKS Pump Manufacturer: Pump Manufacturer unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:18

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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: 81000007481 | 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:
U¼ U¼ U¼	24	03S 07E	7260	YPSILANTI TWP WELL #9

Distance and Direction from Road Intersection: WSSN 07260;

Well Owner: Ypsilanti Community Utilities

Well Address: YPSILANTI TWP WELL #9 YPSILANTI MI

Owner Address: YPSILANTI MI

Drilling Method: Unknown
Well Depth: 79.00 ft. | Well Use: Type I public
Well Type: New | Date Completed:
Casing Type: Unknown
Casing Joint: Unknown
Diameter: 36.00 in. to 35.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Pump Installed: Yes
Pump Installation date:
Manufacturer: Other
Model Number:
Length of Drop Pipe: 0.00 ft.
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pump Installation only: No
HP:
Pump Type: Unknown
Pump Capacity: 0.00 GPM
Id of Well:

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:

Abandoned Well Plugged: No
Reason for not plugging Well:
Abandoned well ID:

Formation Description	Thickness	Depth to Bottom
No Log	79.00	79.00

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
Grouting Materials:
Unknown | From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Geology Remarks: 1. [NO LOG-DRIFT ACCORDING TO MDPH] [79] [79]

42°12'23"

83 32' 38"

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

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 24009; NO WELL LOG PROVIDED

OTHER REMARKS Pump Manufacturer: Pump Manufacturer unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/18/2000 22:18

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