KSA

REMEDIAL INVESTIGATION REPORT
CLARK OIL # 118
1037 EAST GREEN BAY STREET
SHAWANO, WISCONSIN 54166

Project Number #4291

1135 Legion Drive
Elm Grove, Wisconsin 53122

K. SINGH & ASSOCIATES, INCORPORATED

Engineers, Architects & Environmental Consultants

KSA

K. SINGH & ASSOCIATES, INC.

Engineers, Scientists and Environmental Management Consultants

March 23, 2001

Mr. Tom Sturm
Wisconsin Department of Natural Resources
Bureau of Remediation & Redevelopment
647 Lakeland Road
Shawano, WI 54166

Project # 4291

Subject: Remedial Investigation Report for Clark Oil # 118,
1037 East Green Bay Street, Shawano, WI 54166
(DNR Case No. 03-59-186613)
(PECFA Claim # 54166-2203-37)

Dear Mr. Sturm :

On behalf of National Investments, LLC, we are pleased to submit a Remedial Investigation Report for the referenced project.

The remedial investigation documents that near-surface soils and groundwater are affected by the release of petroleum products. This site does not appear to meet the definiton of a "high risk site" as defined in COMM 46. Therefore,we request that the case be transferred to the Department of Commerce.

Sincerely,

K. SINGH & ASSOCIATES, INC.

Kristin A. Schultheis
Staff Hydrogeologist

Dilip K. Singh, Ph. D., P.E.
Senior Engineer

Pratap N. Singh, Ph. D., P.E.
Project Manager

CC: Yogi Bhardwaj / National Investments, LLC
Kamala Singh / PECFA Claim File

1135 Legion Drive, Elm Grove, WI 53122 Phone: (262) 821-1171 Fax: (262) 821-1174 email: singh@execpc.com

REMEDIAL INVESTIGATION REPORT
CLARK OIL # 118
1037 EAST GREEN BAY STREET
SHAWANO, WI 54166

PREPARED FOR

NATIONAL INVESTMENTS, LLC
6621 39TH AVENUE
KENOSHA, WI 53142

PREPARED BY

K. SINGH & ASSOCIATES, INC.
1135 LEGION DRIVE
ELM GROVE, WI 53122

JOB # 4291

MARCH, 2001

Kristin A. Schultheis
Staff Hydrogeologist

Dilip K. Singh, Ph.D., P.E.
Senior Engineer

Pratap N. Singh, Ph. D., P.E.
Project Manager

TABLE OF CONTENTS

TABLE OF CONTENTS (CONT.)

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

SECTION I. EXECUTIVE SUMMARY

This Remedial Investigation Report and Interim Remedial Action Plan is prepared to define the nature and extent of petroleum contamination in the subsurface environment at the Clark Oil # 118 located at 1037 East Green Bay Street, Shawano, Wisconsin. The purpose of the remedial investigation is to compile the data necessary to complete a site characterization sufficient for a contamination assessment and subsequent remedial action plan.

On April 29, 1998, soil contamination was confirmed at the site. The WDNR was notified of the contamination. The Wisconsin Department of Natural Resources required an investigation to delineate the magnitude and extent of the contamination.

The scope of this investigation includes a review of the existing data for the project, conducting a hydrogeologic investigation consisting of fifteen soil borings extending to 10 feet below grade, conversion of eleven into monitoring wells, and a sampling and analysis program to determine the contamination levels in the soil and groundwater. The groundwater flow regime was characterized, potential contaminant migration pathways were evaluated, and potential impact on receptors was determined.

Based upon a review of soil borings and grain size data, near-surface soils are predominantly silty sand. In-situ hydraulic conductivities are on the order of 10^{-3} cm/sec. The prominent groundwater flow direction appears to be toward the west at a rate of less than two feet per year.

Field activities associated with the site assessment revealed the presence of petroleum constituents in near-surface soils. Test results indicated elevated levels of petroleum hydrocarbons in the samples recovered from test borings at the site. The highest GRO concentration detected was 6,500 part per million (ppm) in a sample recovered between 3.5 and 5 feet below grade from a soil boring performed east of the pump island area. The highest benzene concentration detected was less than 5,000 part per billion (ppb) (elevated detection limit) in a sample recovered between 3.5 and 5 feet below grade from a soil boring performed east of the pump island area.

An estimated 3,570 tons (2,380 cubic yards) of soil are contaminated with concentrations greater than 25 ppb benzene. The contaminated soil is situated between the surface and the water table located 5 feet below grade. Approximately 10 pounds of benzene and 10,900 pounds of GRO are estimated to be present in the vadose zone.

Groundwater quality was assessed in order to evaluate the potential for petroleum contamination of near-surface groundwater. Analytical testing was conducted on samples that were collected from eleven monitoring wells at the site. Concentrations of benzene in groundwater were above the enforcement standard for six monitoring wells. Other PVOC parameters, including trimethylbenzenes and MTBE, were above their respective enforcement standards (ES) in at least one of the six wells with benzene impacts. Contaminant levels are stable or declining in all of the affected wells except MW-5, based upon the results of Mann-Kendall statistical analysis. Contaminant concentrations in MW-5 appear to be fluctuating and further sampling is necessary to determine an overall trend.

Not all of the risk criteria set forth in COMM 46 have been met for this site. Specifically, soil sampled within 4 feet of the ground surface on June 2, 1998, had levels of petroleum constituents ranging from 3 to 20 times the standard screening levels indicated in Table 2 of COMM 46.06.

Additional rounds of groundwater sampling are proposed, to determine trends of groundwater contaminants in MW-5 and confirm the stability of contaminants in the remaining monitoring wells. At the time of closure a groundwater use restriction would need to be placed on the property to address levels of contaminants in the groundwater above enforcement standards. To address residual soil contamination at the site, it is likely that at the time of closure a deed restriction will need to be placed on the property. The restriction would require a barrier such as the type currently in use (asphalt pavement) to remain in place over the contaminated soil.

SECTION II. INTRODUCTION

2.1 Facility Description

Clark Oil # 118 is located at 1037 East Green Bay Street, City of Shawano, Shawano County, Wisconsin. The property is a part of the SE 1/4 of the SE 1/4 of Section 30, Township 27 North, Range 16 East. The property is bounded by residential facility to the north, Char's Take-a-Break Cafe to the east, Martin's Cleaners to the west, and Green Bay Street to the south. The project location is shown in Figure 2.1.

The property lies in a gently rolling area, and has a surface elevation of approximately 815 feet, MSL. Ground surface slopes to south. Shawano Lake Outlet is located approximately 1/4 mile north to the site.

Two underground storage tanks are active at the site. These tanks are an 8,000 gallon unleaded gasoline tank and a 7,500 gallon unleaded gasoline tank. Reportedly, two 100 gallon leaded gasoline tanks have been closed in place at the site in 1993. The dates of installation of the abandoned tanks are unknown. Locations of 8,000 and 7,500 gallon tanks are shown in Figure 2.2. Tank registration forms are included in Appendix A.

2.2 Project Background

On April 30, 1998 petroleum contamination was discovered during a preliminary site assessment conducted (Appendix B). A responsible party letter from the WDNR was issued on May 18, 1998. K. Singh & Associates, Inc., was retained by National Investments, LLC, to conduct a remedial site investigation. A Remedial Investigation Work Plan was submitted on May 29, 1998 (1).

2.3 Site History

The site has been used as a commercial gas station for over 30 years. Areas of concrete to the outside of the current pump islands are likely to be previous pump island locations. Interviews with neighboring property owners and gas station personnel indicate that the land was undeveloped prior to the construction of the gas station. The current station office is the original one. No information regarding site history could be obtained through city records, aerial photographs or the owners records.

2.4 Purpose and Scope

The purpose of this report is to fulfill the requirements of the Wisconsin Department of Natural Resources (WDNR) and the Wisconsin Department of Commerce (DCOMM) in conducting site assessments at underground storage tank (UST) sites. This report documents the site assessment work conducted at the Clark Oil #118.

The specific objectives of this study are as follows:

1) Perform soil borings and install monitoring wells to evaluate the quality of near-surface soil and groundwater for contamination with petroleum products;

2) Conduct analytical testing of soil samples for petroleum volatile organic compounds (PVOCs), gasoline range organics (GRO), and lead, in accordance with the Quality

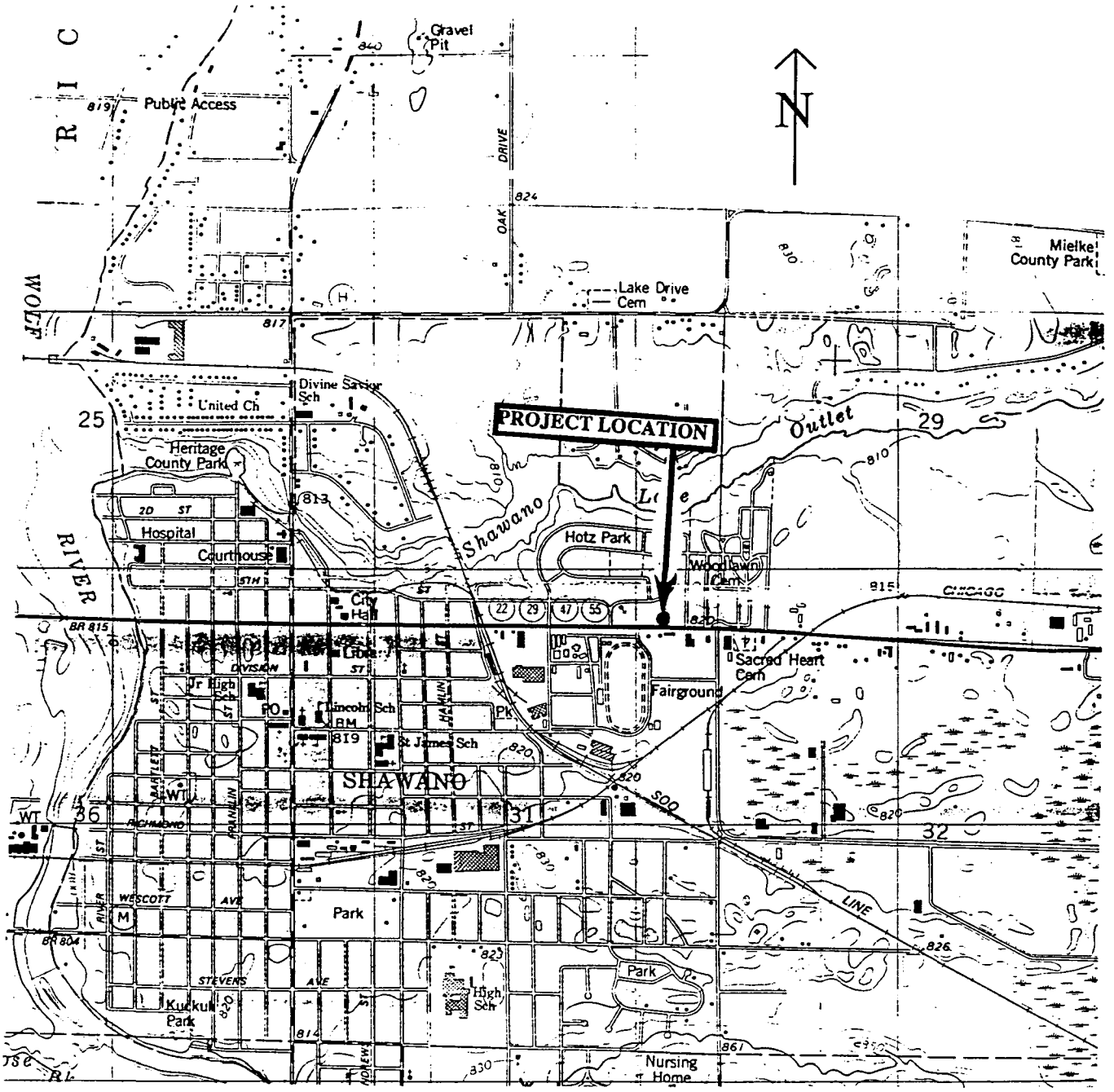
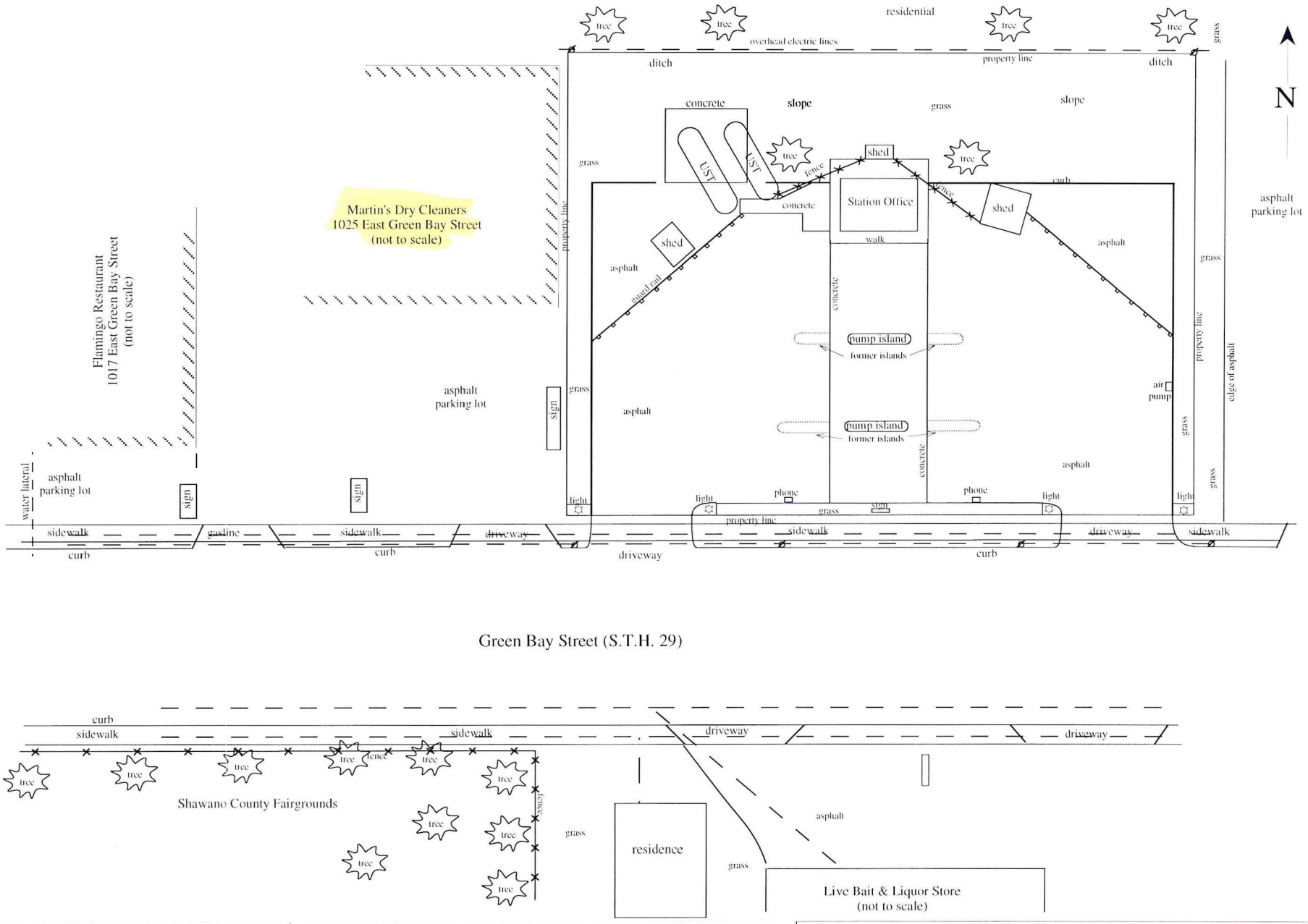


Figure 2.1 Project Location Map Scale: 1" = 2000'



II-3

Clark Oil #118
Owner
National Investments, LLC
1037 East Green Bay Street
Shawano, WI 53142

Engineer
K. SINGH & ASSOCIATES, INC.,
Engineers & Environmental Management Consultants
1135 Legion Drive, Elm Grove, Wisconsin 53122, (414) 821-1171

Figure 2.2 Site Layout Map

DATE	DRAWN BY	REVISIONS BY	DATE	PROJECT NO.
October 26, 1998	A.S.M.			4291
SCALE 0' 40'	CHECKED BY D.K.S.			SHEET NO. ONE OF ONE

Assurance / Quality Control procedures prepared by K. Singh & Associates, Inc.(2);

3) Conduct analytical testing of groundwater samples for volatile organic compounds (VOCs), gasoline range organics (GRO), and lead, in accordance with the Quality Assurance / Quality Control procedures prepared by K. Singh & Associates, Inc.(2);

4) Delineate the plume of contamination in soil and groundwater;

5) Evaluate the site with regard to environmental factors set forth in COMM 47;

6) Evaluate the site with respect to the risk criteria set forth in COMM 46.06;

2.5 Report Organization

This report is organized into nine Sections. Sections I and II include an executive summary and introduction for the report, respectively. Section III briefly discusses the current investigation procedures. Section IV provides a characterization of the geology and hydrogeology of the site. Section V discusses the contamination assessment. Sections VI includes an evaluation of risk criteria. Section VII presents conclusions and recommendations for the study. Sections VIII and IX include references and appendices, respectively.

SECTION III. SITE INVESTIGATION

3.1 General

The purpose of this investigation was to delineate the plume of contamination in the soil and groundwater, and to assess public health concerns. These goals were achieved by performing soil borings, installing monitoring wells, testing soil and groundwater samples for gasoline constituents and interpreting soil and groundwater quality test results. A description of the procedures employed during this investigation are included in this section.

3.2 Soil Sampling and Testing

Between June 2 of 1998 and August 19 of 1999, fifteen soil borings (B-1 through B-15), were performed. All test borings extend to 10 feet below grade. These test borings were performed by Boart Longyear of Schofield, Wisconsin under the supervision of our staff. The locations of test borings B-1 through B-15 are shown on Figure 3.1.

The general conditions for data collection are shown in Appendix C. A 4-1/4 inch inner diameter hollow stem auger was used for drilling all of the borings. Soil sampling was conducted at 2.5 feet intervals.

Soil samples were tested on-site for volatile organic compounds using a PID meter, HNU model number PI-101, equipped with a 11.2 electron volt photoionization detector. The PID meter readings are shown on the boring logs and included in Appendix D. The PID meter was also used to assess contamination levels for field personnel health and safety. Safety precautions were taken at Level D.

Sampling tools, including hollow stem augers, were decontaminated prior to mobilization on the project site. Also, sampling tools were decontaminated between sampling events and between boring locations. Decontamination consisted of steam cleaning for the augers and use of a detergent solution for the split spoon.

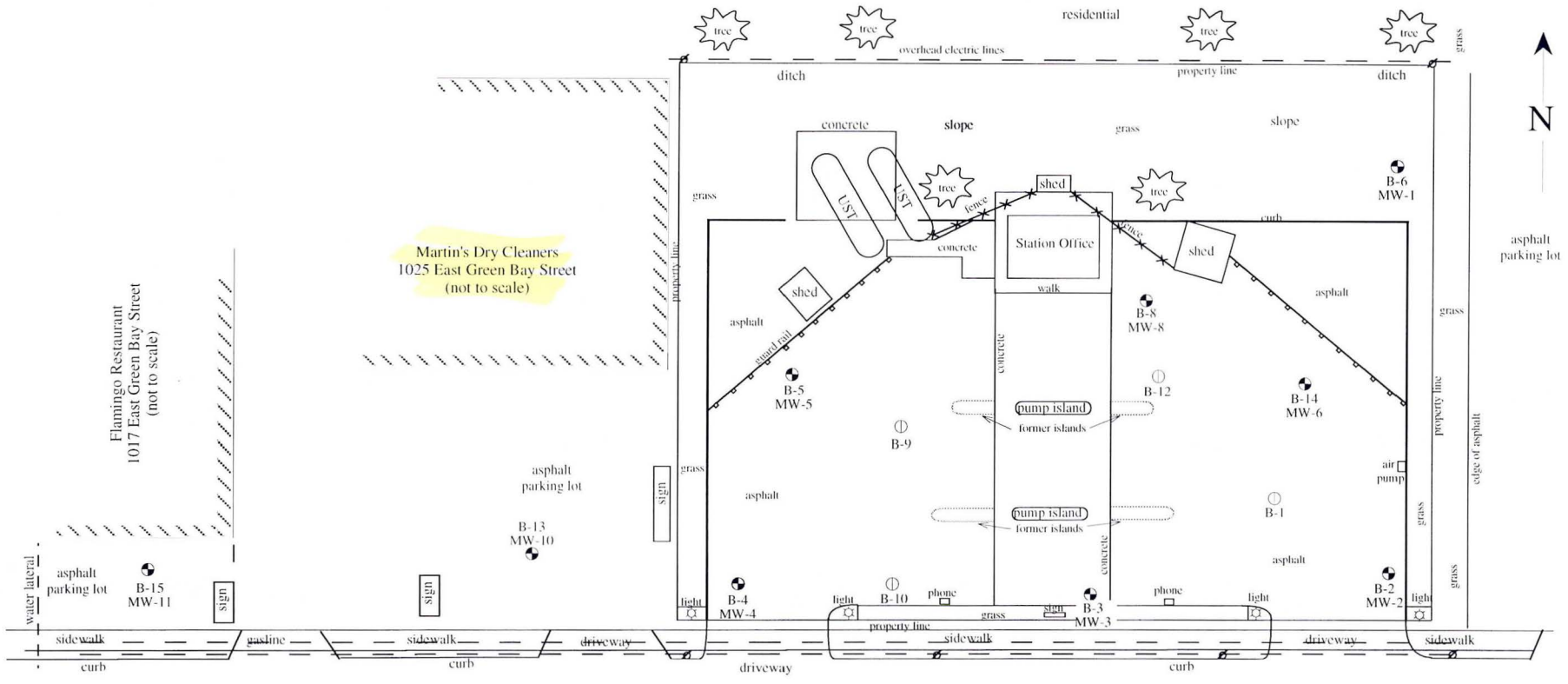
Standard field sampling techniques, in accordance with ASTM D420, D1452, and D1586, were employed in this investigation to obtain the data presented on the boring logs. Sampling in cohesive and cohesionless soils was performed by driving a standard split spoon with a 140 pound weight falling 30 inches. The sum of the number of blows required to advance the tool in two 6 inch increments following 6 inches of seating is recorded on the final boring logs under the "N" column, referring to the Standard Penetration Resistance Test, ASTM D1586.

Recovered samples were brought to the surface, examined by the field crew and placed in sealed containers to prevent loss of contaminant mass. Field samples were transported to our office for final classification per ASTM D2487-69 methods. A field log was prepared by our staff during on-site operations to record field occurrences, sampling intervals, and groundwater observations.

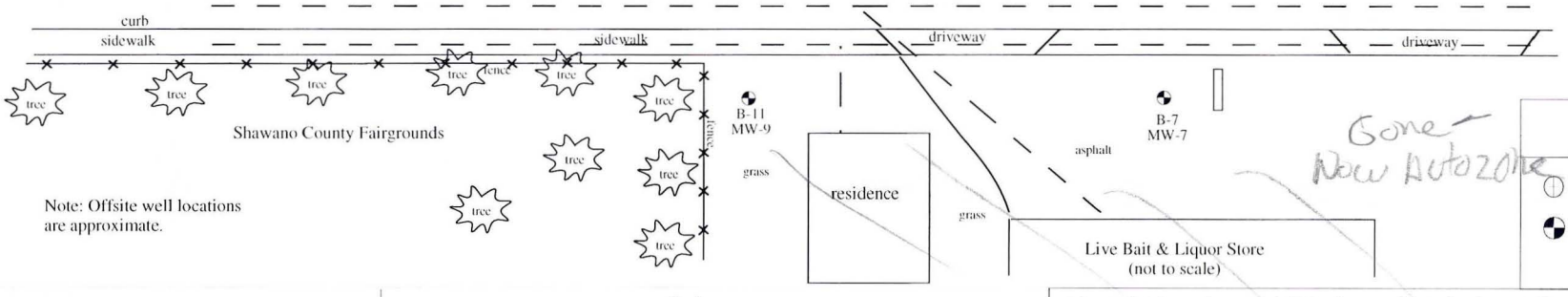
Why Not VOC → There is a Dry Cleaner Next Door

Soil samples were tested for GRO, PVOCs, and total lead concentrations. Test results are shown on the boring logs in Appendix D. These results confirm the presence of petroleum products in the near-surface soils.

Considering the test results and visual classification of the soils in the laboratory, a final boring log for each test boring was prepared for this report. The final boring logs portray boring methods, sampling methods, depth of sample, amount of sample recovered, an indication of subsoil types, and groundwater level observations (refer to Appendix D). Borehole abandonment forms are included in Appendix E.



Green Bay Street (S.T.H. 29)



Clark Oil #118
Owner
National Investments, LLC
1037 East Green Bay Street
Shawano, WI 53142

Engineer
K. SINGH & ASSOCIATES, INC.,
Engineers & Environmental Management Consultants
1135 Legion Drive, Elm Grove, Wisconsin 53122, (414) 821-1171

Figure 3.1 Locations of Soil Borings and Monitoring Wells

DATE	DRAWN BY	REVISIONS BY	DATE	PROJECT NO.
October 26, 1998	A.S.M.			4291
SCALE	CHECKED BY			SHEET NO.
0' 40'	D.K.S.			ONE OF ONE

3.3 Monitoring Well Installation and Development

Eleven of the fifteen soil borings were converted into groundwater monitoring wells. Nomenclature for the wells is summarized in Table 3.1. The locations of the wells are shown on Figure 3.1.

The wells were installed by Boart Longyear of Schofield, Wisconsin in accordance with NR 141 (3). Monitoring wells MW-1 through MW-6 and MW-8 were installed on June 2 and 3, 1998. Monitoring wells MW-7, MW-9, and MW-10 were installed on January 14, 1999. Monitoring well MW-11 was installed on August 19, 1999. All wells were installed as water table observation wells. Well depths at the site are at 13 to 14 feet below ground surface.

Monitoring wells MW-1 through MW-6 and MW-8 were developed on June 10, 1998. Monitoring wells MW-7, MW-9, and MW-10 were developed on January 15, 1999. Monitoring well MW-11 was developed on September 1, 1999. A submersible purge pump, (Whaler 920) or a bailer was used to develop the wells. Depth to water was measured prior to and following well development.

The total volume of water discharged from each well was measured. Well installation and development details are included in Appendix F.

3.4 Hydraulic Conductivity Testing

A limited in-situ hydraulic conductivity test was planned to determine the transport characteristics of the porous medium. However, the recharge rate for the monitoring wells was faster than data recording, therefore Hvorslev's method (4) could not be used.

3.5 Grain Size Analysis

In June of 1998, a total of three soil samples were collected and delivered to Wisconsin Testing Laboratories of Menomonee Falls, Wisconsin, for grain size analysis. Selected samples were collected from test borings B-1, B-2, and B-5. These samples were collected at depths ranging from 6 to 7.5 feet below the ground surface, and are representative of the major formation surrounding the screen for each well.

The particle size distribution to #200 sieve was determined in accordance with ASTM D421 and D422. Soils were classified using the Unified Classification System, in accordance with ASTM D2487. Test results were used to prepare the final boring logs and to estimate hydraulic conductivity using Hazen's method (5). Test results of grain size analyses are included in Appendix G. Hydraulic conductivity values pertaining to selected wells at the site are summarized in Section IV. Calculations are included in Appendix H.

3.6 Soil Quality Testing

Based on PID meter readings, sixteen samples were selected for analytical testing for GRO and PVOCs, with twelve samples being tested for total lead. Selected samples were also tested for a natural attenuation parameter, total organic carbon. Testing of soil samples was conducted in accordance with the procedures outlined by WDNR in the Site Assessment Guidelines (6). Soil

Table 3.1
Summary of Soil Boring/Monitoring Well Nomenclature and Elevations

Soil Boring	Monitoring Well	Surface Elevation	PVC Elevation
B-1	NA		
B-2	MW-2	97.76	97.48
B-3	MW-3	98.2	97.91
B-4	MW-4	97.89	97.67
B-5	MW-5	98.87	98.64
B-6	MW-1	98.06	97.64
B-7	MW-7		99.24
B-8	MW-8	99.19	98.94
B-9	NA		
B-10	NA		
B-11	MW-9		98.54
B-12	NA		
B-13	MW-10		98.16
B-14	MW-6	98.42	98.24
B-15	MW-11		98.03

Note:
All elevations are given in feet, MSL.
NA denotes not applicable
NS denotes not surveyed

samples were sent to Great Lakes Analytical of Buffalo Grove, Illinois for analytical testing (WDNR Cert. #999917160). Samples were analyzed for GRO by the WDNR Modified method. The samples tested for PVOC's were analyzed according to EPA method 5030/8021. Samples tested for total lead were analyzed according to EPA method 3050/7421. Soil quality test results are included in Appendix I.

3.7 Groundwater Quality Testing

Groundwater sampling was conducted for monitoring wells MW-1 through MW-6, and MW-8 on June 10, 1998, November 3, 1998, September 1, 1999, May 3, 2000, and February 8, 2001. Groundwater sampling was conducted for monitoring wells MW-7 and MW-10 on January 15, 1999, April 14, 1999, September 1, 1999, and May 3, 2000, and February 8, 2001. Groundwater sampling for monitoring well MW-9 was conducated on January 15, 1999, April 14, 1999, September 1, 1999, and May 3, 2000. Groundwater sampling was conducted for monitoring well MW-11 on September 1, 1999, May 3, 2000, and February 8, 2001. Samples were delivered to Great Lakes Analytical for sampling events prior to 2000, and to Test America (WDNR Cert. #128053530) for sampling events in 2000 using chain of custody records. All groundwater samples were collected after the wells were purged in accordance with WDNR guidelines (7).

Samples were tested for VOCs (EPA Method 8021) or PVOCs (EPA Method 8020), GRO (Modified WDNR Method), and dissolved lead (EPA Method 7420). The wells were also tested for natural attenuation parameters. Chain of Custody records and groundwater test results are included in Appendix J.

3.8 Engineering Survey

An engineering survey was conducted by McClone Land Surveying of Hortonville, Wisconsin. The purpose of the survey was to prepare a base map showing the location of soil borings, monitoring wells, buildings, and other pertinent features such as streets, and topographic features of the site. A base map of the area, including the site, is shown on Figure 3.1

The engineering survey also determined the ground elevation and PVC pipe elevation for all the wells and borings at the project site. However, there was an error is the calculation of PVC elevations. Therefore, a site benchmark was used when PVC elevations were resurveyed. These elevations are used for groundwater elevation calculations. Table 3.1 shows the nomenclature of test borings, corresponding wells if any, ground elevations and PVC pipe elevations.

SECTION IV. SITE CHARACTERIZATION

4.1 Climate and Meteorology

The average annual precipitation in the City of Shawano is approximately 31.57 inches with a slight seasonal influence on monthly precipitation. Average monthly precipitation ranges from 1.08 inches in February to 3.97 inches in September. Average annual snowfall is 47.7 inches with a monthly variation of zero in the summer months to 12.8 inches in December.

The mean monthly temperature is 43.0 °F with a monthly temperature range from 12.9 °F in January to 69.8 °F in July. The lowest recorded temperature was 35 °F below zero in January 1982. The highest recorded temperature was 104 °F in July of 1995.

The prevailing wind direction of the region is from the southwest. The information on temperature and precipitation was obtained from a computer database maintained by the Midwestern Climate Center (8).

4.2 Demography

The City of Shawano is located in Shawano County. The population of the city is approximately 7,919. The potable water supply needs of the City of Shawano are met by municipal wells.

4.3 Underground Utilities

Underground gas and water lines are noted beneath Green Bay Street, with the gas line being under the sidewalk on the north side of the street and the water line being under the sidewalk on the south side of the street. Electrical service to the site is provided by overhead lines.

4.4 Topography and Surface Water Drainage

The site lies in a relatively flat area. Surface elevation at the site averages 815 feet, MSL. Surface water drainage appears to be to the north and west.

4.5 Regional Geology

Geologic units that control the movement and storage of groundwater in Shawano County range from basement rocks of Precambrian age to unconsolidated glacial deposits, alluvium, and soils of Pleistocene and Holocene ages. The entire county is overlain by glacial drift. In the northeastern portion of the county, glacial deposits lie directly upon the Precambrian surface. These deposits are underlain by Cambrian sandstones and Ordovician dolomites throughout the rest of the county. A description of the bedrock (consolidated) and quarternary (unconsolidated) geology is included below (9).

4.5.1 Geology of Consolidated Sediments

The bedrock, from oldest to youngest, includes Precambrian crystalline rocks, Cambrian sandstone, Ordovician dolomite, sandstone, and shale, and Silurian Dolomite. Precambrian crystalline rocks underlie all of Shawano County. These rocks are coarse grained, pink to red granites as they have been encountered in wells and roadcuts throughout the county. Precambrian granites are essentially impermeable, however they may yield small amounts of water from channeled and cracked surfaces, as well as from fractures within.

Cambrian rocks in Shawano County are mostly sandstone and interbedded shale, siltstone and dolomite. They are separated from bottom to top into the Mount Simon Sandstone, the Eau Claire Sandstone, the Galesville and Franconia Sandstones undifferentiated, and the Trempaleau Formation. Cambrian rocks include the most consistently productive water bearing zones in the area and are tapped by wells for industrial and public water supplies.

Ordovician sedimentary rocks include the Prairie du Chien Group, St. Peter Sandstone, the Platteville and Decorah Formations, and the Galena Dolomite. The St. Peter Sandstone is mostly sandstone, although it also contains a variety of rock types ranging from conglomerate to shale. The St. Peter Sandstone is the only Ordovician rock that yields water in significant amounts in the area. However, it is less productive than the sandstones of Cambrian age.

Based on the logs of private wells in the Shawano area, the precambrian granite is the uppermost layer of bedrock in the project area. The top of the granite was noted at depths ranging from 140 to 160 feet below ground surface.

4.5.2 Geology of Unconsolidated Sediments

Evidence in the northern United States has indicated that there has been an advance and retreat of at least four major ice sheets. All four glacial episodes overrode the Shawano County area, the most recent one is designated as the Wisconsinan Stage. This stage of ice generally flowed south through Wisconsin and neighboring states and deposited lithologically uniform sheets of till separated by discontinuous lacustrine and outwash deposits. The tills were deposited beneath the ice sheets and are classified as lodgement tills. The outwash and lacustrine sediments were deposited in proglacial lakes.

4.5.3 Site Geology

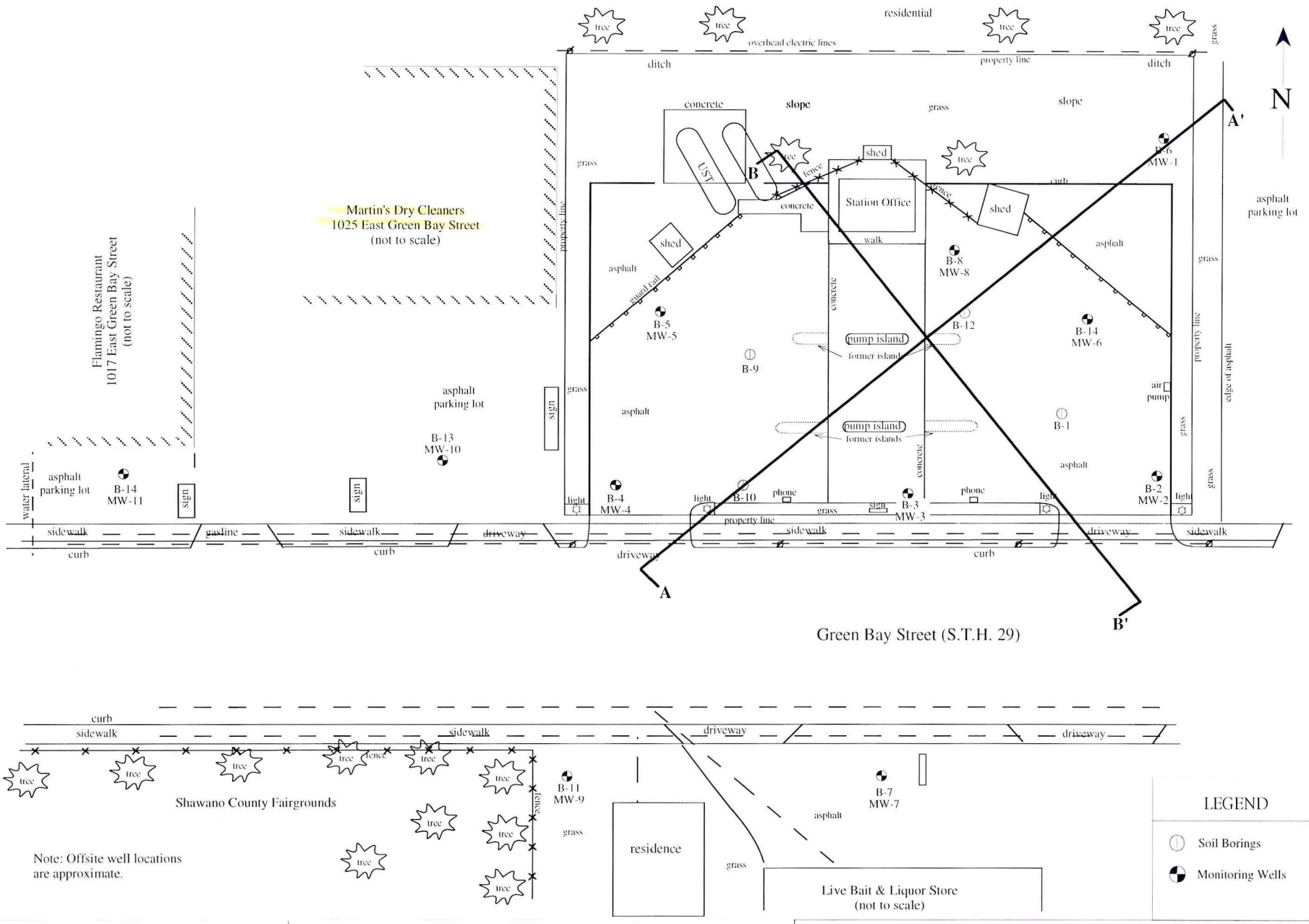
The geology of the site is described using geologic data gathered from soil borings performed at the site. Geologic sections were prepared, in order to illustrate subsurface soil conditions in the vicinity of the project site. The locations of the geologic sections are shown on Figure 4.1. Geologic Sections A-A' and B-B' are shown in Figures 4.2 and 4.3, respectively. The following observations are made as a result of the examination of the soil profiles:

1) Construction of buildings and utilities have changed the uppermost subsurface soils at the site. Fill consisting of a mixture of sand, silt, and gravel generally extends from the surface to a depth of 1 to 2 feet below grade. Fill is expected to extend to a depth of 10 to 15 feet below grade in the UST areas.

2) Underlying the fill is a layer of poorly graded sand. The sand is generally medium dense, reddish-brown, fine grained, and contains little silt. The silt content of the sand appears to increase towards the north of the site. The sand extends from the base of the fill to the bottom of the boreholes, approximately 15 feet below grade.

4.6 Regional Hydrogeology

A significant portion of the population in Shawano County depends on groundwater for potable water supplies. Three aquifers in the area, the sandstone, the Niagara and the sand and gravel, yield water to wells, springs, lakes and streams. The deepest aquifer is made of sandstone and lies beneath the semipermeable Maquoketa Shale. The shallow aquifers are the Niagara and the sand and gravel layers, which lie above the Maquoketa Shale. The Precambrian granite may yield water



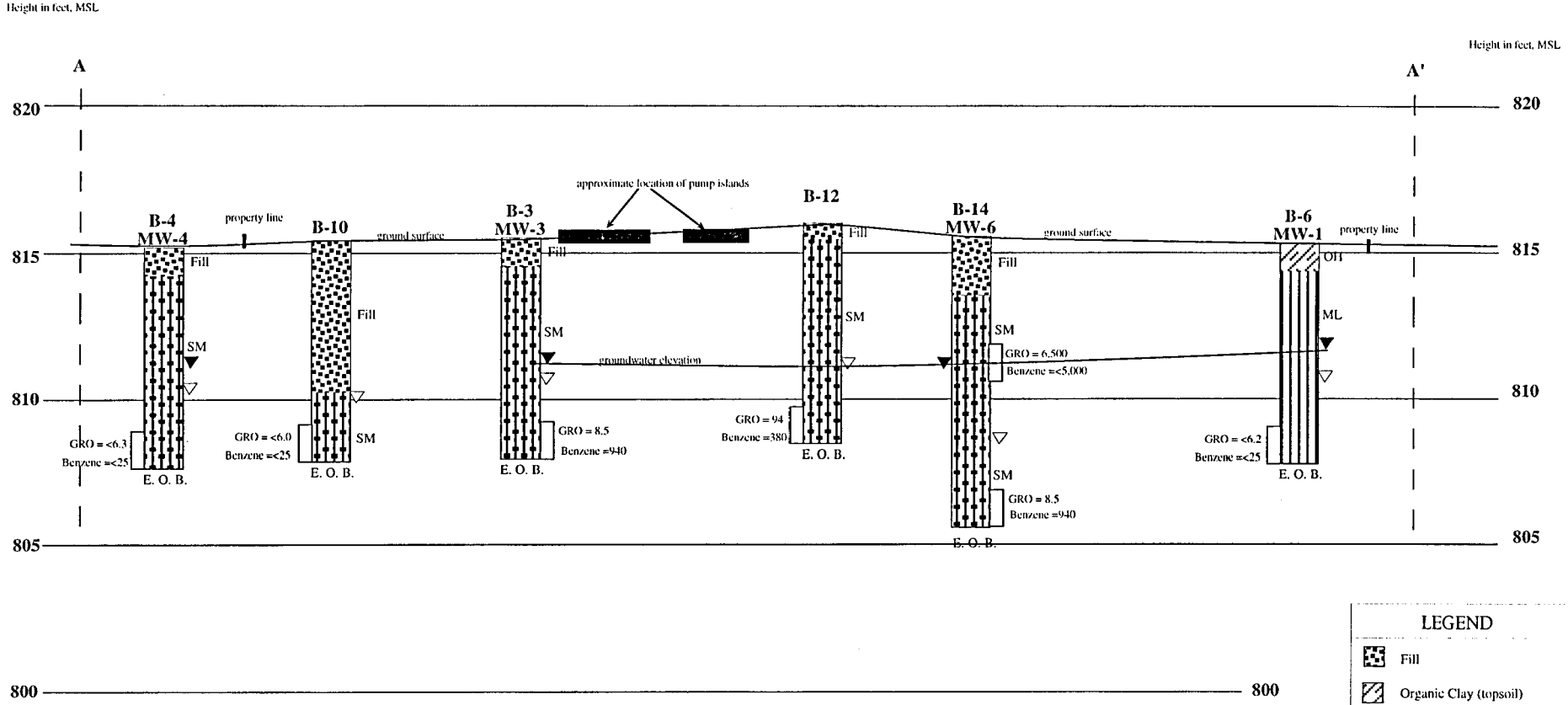
IV-3

Clark Oil #118
Owner
National Investments, LLC
1037 East Green Bay Street
Shawano, WI 53142

Engineer
K. SINGH & ASSOCIATES, INC.,
Engineers & Environmental Management Consultants
1135 Legion Drive, Elm Grove, Wisconsin 53122, (414) 821-1171

Figure 4.1 Map of Geologic Cross-Section Locations

DATE	DRAWN BY	REVISIONS BY	DATE	PROJECT NO.
October 26, 1998	A.S.M.			4291
SCALE 0' 40'	CHECKED BY D.K.S.			SHEET NO. ONE OF ONE



LEGEND

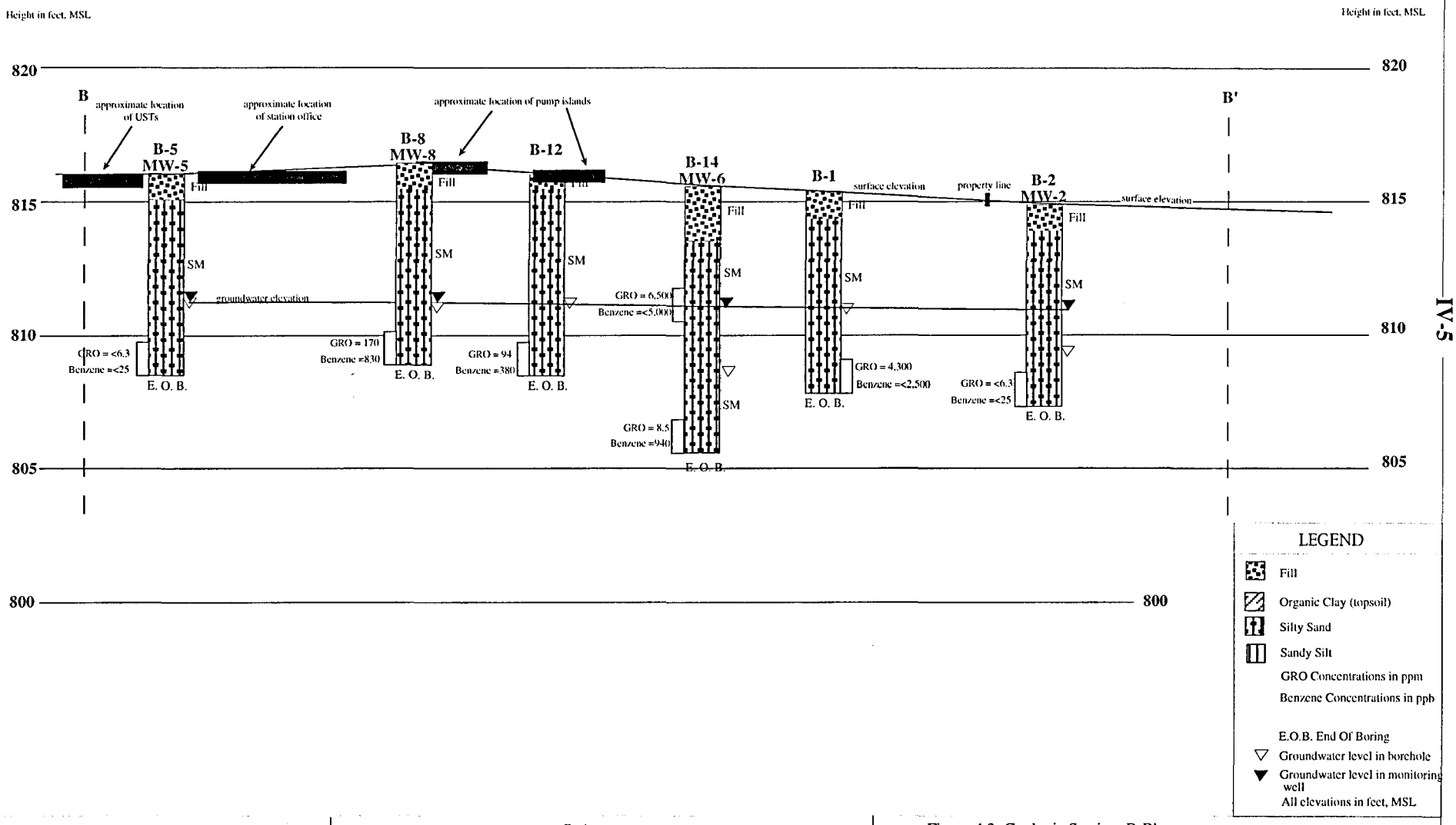
- Fill
- Organic Clay (topsoil)
- Silty Sand
- Sandy Silt
- GRO Concentrations in ppm
- Benzene Concentrations in ppb
- E.O.B. End Of Boring
- ▽ Groundwater level in borehole
- ▼ Groundwater level in monitoring well
- All elevations in feet, MSL

Clark Oil #118
Owner
National Investments, LLC
1037 East Green Bay Street
Shawano, WI 53142

Engineer
K. SINGH & ASSOCIATES, INC.,
Engineers & Environmental Management Consultants
1135 Legion Drive, Elm Grove, Wisconsin 53122, (414) 821-1171

Figure 4.2: Geologic Section A-A'

DATE	DRAWN BY	REVISIONS BY	DATE	PROJECT NO.
October 27, 1998	A.S.M.			4291
HORIZONTAL SCALE 0' 25'	CHECKED BY D.K.S.			SHEET NO. ONE OF ONE



IV-5

Clark Oil #118
Owner
National Investments, LLC
1037 East Green Bay Street
Shawano, WI 53142

Engineer
K. SINGH & ASSOCIATES, INC.,
Engineers & Environmental Management Consultants
1135 Legion Drive, Elm Grove, Wisconsin 53122, (414) 821-1171

Figure 4.3: Geologic Section B-B'

DATE	DRAWN BY	REVISIONS BY	DATE	PROJECT NO.
October 27, 1998	A.S.M.			4291
HORIZONTAL SCALE 0' 25'	CHECKED BY D.K.S.			SHEET NO. ONE OF ONE

in fractured areas. The granite yields small amounts of water to private wells in Shawano County.

The sandstone aquifer lies directly above the Precambrian bedrock surface and is comprised of Cambrian age sandstones. This aquifer yields large amounts of water for municipal and industrial supplies.

The Niagara aquifer is made up primarily of Ordovician age dolomites. This aquifer yields small to moderate amounts of water to many domestic wells. The sandstone and Niagara aquifers are not continuous in the Shawano area.

The sand and gravel aquifer is composed of glacial drift. Good yields of water are found where deposits are significantly thick.

4.6.1 Site Hydrogeology

Hydrogeology of the site is assessed using the geologic data gathered from June of 1998 to February of 2001. Also, monitoring well data was used to develop an understanding of groundwater flow characteristics of the site.

Groundwater elevation was measured in the monitoring wells from June 10, 1998 through February 1, 2001. Groundwater elevation data are included in Table 4.1. The data gathered on May 3, 2000 was used to plot the groundwater elevation contours shown on Figure 4.4 of this report. The elevation data indicates that the water table averages 4 feet below grade for all the sampling rounds data was taken, varying from slightly less than four feet to five feet below grade seasonally. PVC elevations of the monitoring wells on-site were surveyed using a 100 foot site benchmark due to an error in the original site survey measurement in feet, MSL. Therefore, the table of groundwater elevations and subsequent groundwater flow maps use the data relative to the 100 foot site benckmark.

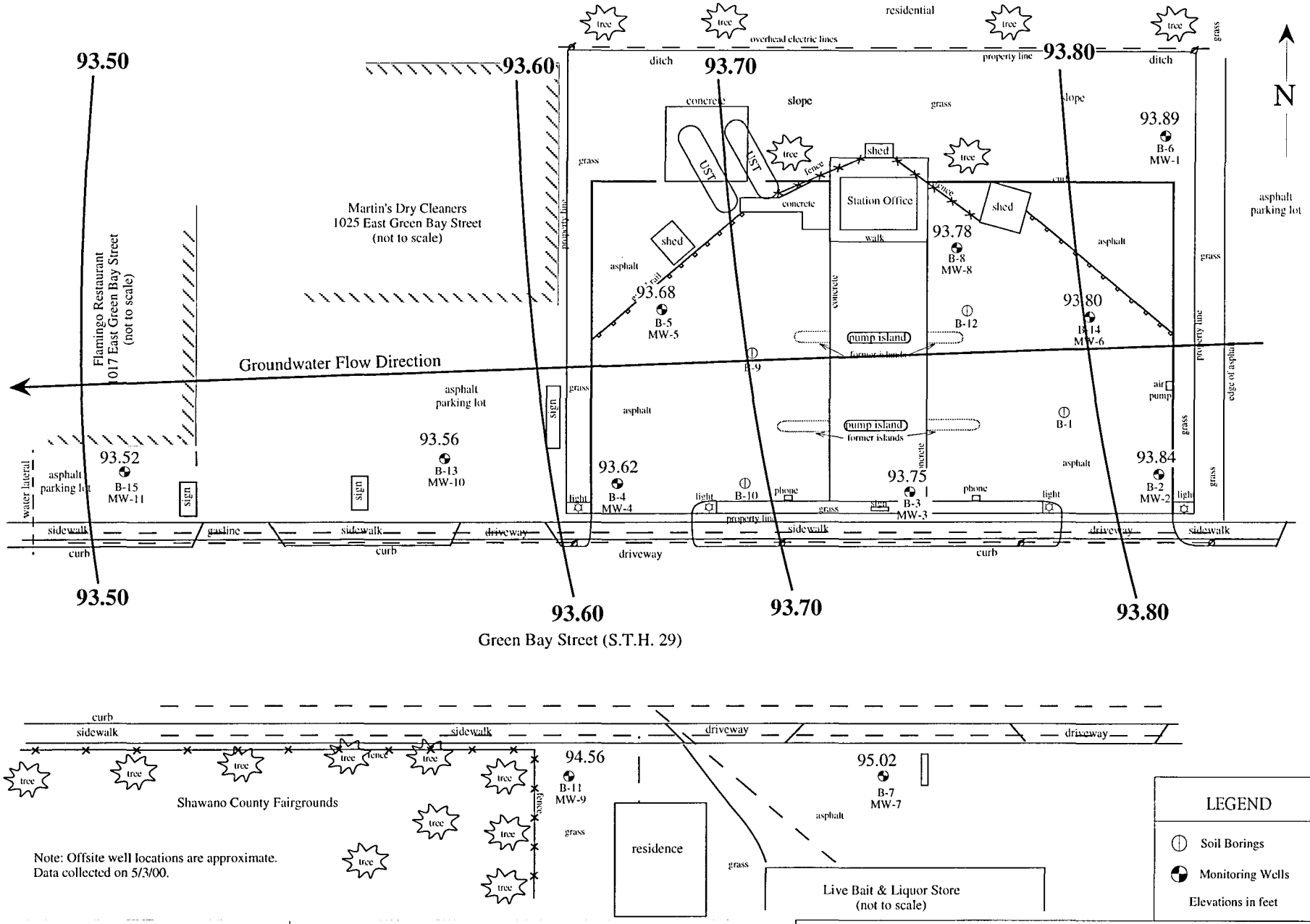
An examination of the groundwater contours indicates that the groundwater surface at the site is relatively flat. Water elevations had a range of 0.37 feet during the May 3, 2000 collection, excluding MW-7 and MW-9, with the higher elevation on the eastern side of the property and the lower elevation on the western side of the property. Groundwater flow direction changes with the seasons as seen in Figure 4.5 which plots measurements made in winter, but the predominant direction is to the west. The groundwater levels in monitoring wells MW-7 and MW-9 have been consistently higher than those in other wells. MW-7 and MW-9 are located on a gravel parking lot to the south of Green Bay Street. It appears that the higher infiltration of surface water through the gravel parking lot versus the asphalt covered gas station property may be affecting groundwater elevation for these two wells. It should be noted that by themselves, the groundwater gradient of the two wells is also east to west.

Using Hazen's method, hydraulic conductivity values in the range of 3×10^{-3} cm/second to 5×10^{-3} cm/second were obtained for the water bearing units existing at the site. Hydraulic conductivity estimates are presented in Table 4.2. The hydraulic gradient at the project site in the direction of predominant groundwater flow is approximately 0.0001. Using a hydraulic gradient of 0.0001, an effective porosity of 0.30 and a mean hydraulic conductivity value of 4×10^{-3} cm/second, the velocity of groundwater flow in a westerly direction is estimated to be less than 2 feet per year.

Table 4.1
Summary of Groundwater Elevation Data
Former Clark Oil Gas Station # 118, 1037 E. Green Bay St., Shawano, WI

Boring/Well Number	Surface Elevation	PVC Elevation	Depth to G.W. 6/10/98	G.W. Elev. 6/10/98	Depth to G.W. 11/3/98	G.W. Elev. 11/3/98	Depth to G.W. 4/14/99	G.W. Elev. 4/14/99	Depth to G.W. 9/1/99	G.W. Elev. 9/1/99	Depth to G.W. 5/3/00	G.W. Elev. 5/3/00	Depth to G.W. 2/8/01	G.W. Elev. 2/8/01
MW-1	815.24	97.64	3.65	93.99	4.18	93.46	3.44	94.20	4.48	93.16	3.75	93.89	4.62	93.02
MW-2	814.95	97.48	3.60	93.88	3.99	93.49	3.30	94.18	4.27	93.21	3.64	93.84	4.40	93.08
MW-3	815.41	97.91	4.13	93.78	4.42	93.49	3.83	94.08	4.75	93.16	4.16	93.75	4.93	92.98
MW-4	815.17	97.67	4.07	93.60	4.34	93.33	3.72	93.95	5.63	92.04	4.05	93.62	4.70	92.97
MW-5	816.03	98.64	4.84	93.80	5.21	93.43	4.59	94.05	5.58	93.06	4.96	93.68	5.72	92.92
MW-6	815.60	98.24	4.33	93.91	4.76	93.48	4.07	94.17	5.08	93.16	4.44	93.80	5.25	92.99
MW-7	NS	99.24	NA	NA	NA	NA	3.68	95.56	4.79	94.45	4.22	95.02	NM	NM
MW-8	816.40	98.94	5.09	93.85	5.51	93.43	4.82	94.12	5.83	93.11	5.16	93.78	5.72	93.22
MW-9	NS	98.54	NA	NA	NA	NA	3.63	94.91	4.59	93.95	3.98	94.56	NM	NM
MW-10	NS	98.16	NA	NA	NA	NA	3.48	94.68	5.18	92.98	4.60	93.56	5.26	92.90
MW-11	NS	98.03	NA	NA	NA	NA	NA	NA	5.18	92.85	4.51	93.52	5.30	92.73

Note:
Surface elevations are given in feet, MSL.
PVC elevations based on 100 ft. site benchmark
NA- well not installed at time of sampling
NS- not surveyed
NM- not measured

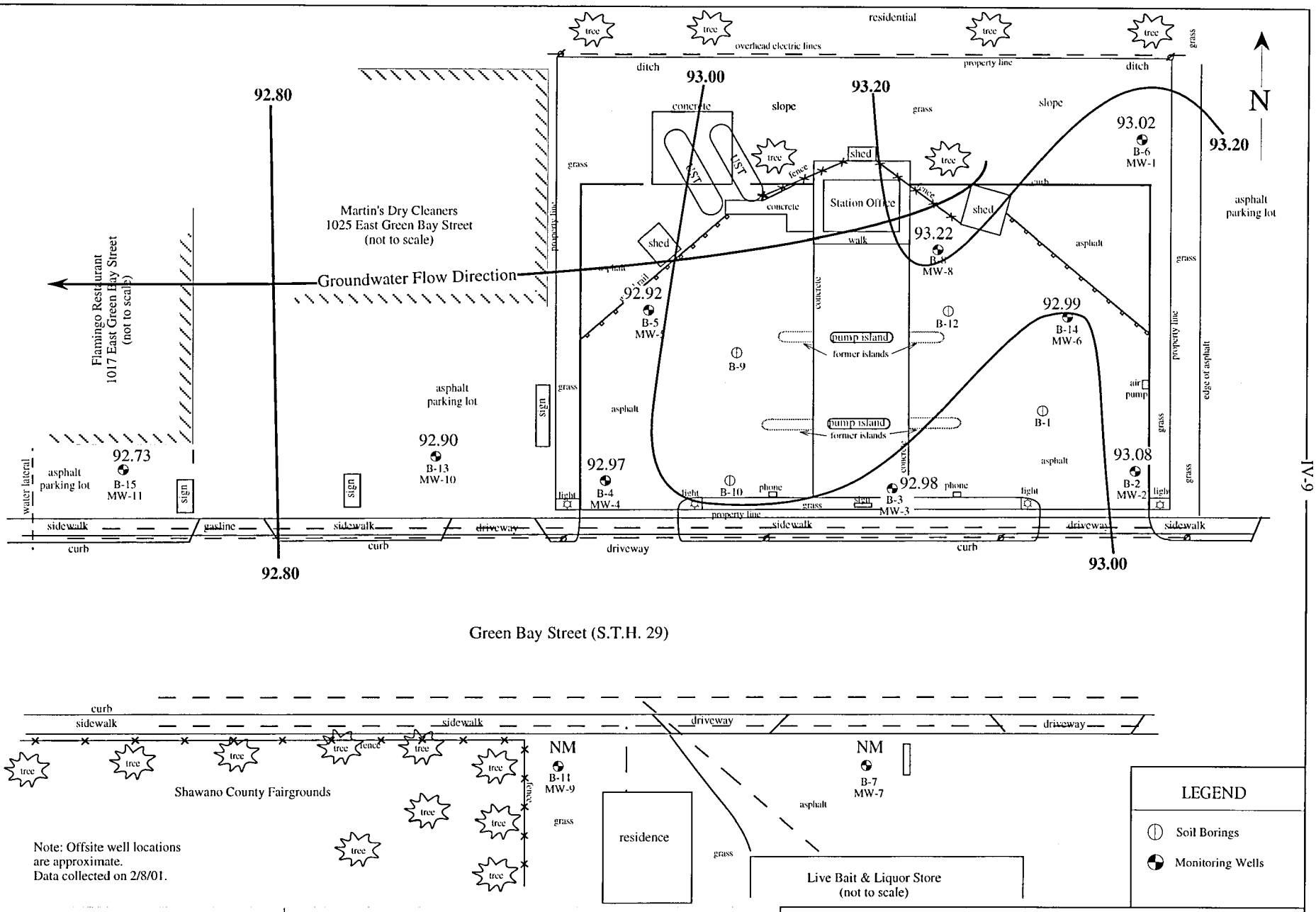


Clark Oil #118
Owner
National Investments, LLC
1037 East Green Bay Street
Shawano, WI 53142

Engineer
K. SINGH & ASSOCIATES, INC.,
Engineers & Environmental Management Consultants
1135 Legion Drive, Elm Grove, Wisconsin 53122, (414) 821-1171

Figure 4.4 Groundwater Elevation Contour Map in Spring

DATE	DRAWN BY	REVISIONS BY	DATE	PROJECT NO.
October 26, 1998	A.S.M.			4291
SCALE	CHECKED BY			SHEET NO.
0' 40'	D.K.S.			ONE OF ONE



Green Bay Street (S.T.H. 29)

Note: Offsite well locations
are approximate.
Data collected on 2/8/01.

LEGEND

- Soil Borings
- Monitoring Wells

Clark Oil #118
Owner
National Investments, LLC
1037 East Green Bay Street
Shawano, WI 53142

Engineer
K. SINGH & ASSOCIATES, INC.,
Engineers & Environmental Management Consultants
1135 Legion Drive, Elm Grove, Wisconsin 53122, (414) 821-1171

Figure 4.5 Groundwater Elevation Contour Map in Winter

DATE	DRAWN BY	REVISIONS BY	DATE	PROJECT NO.
OCTOBER 26, 1998	A.S.M.	K.A.S.	3/5/01	4291
SCALE	CHECKED BY			SHEET NO.
0' 40'	R.B.S			ONE OF ONE

Table 4.2
Estimates of Hydraulic Conductivities

Soil Boring Designation	Monitoring Well Designation	Hazen's Method (cm/second)
B-1	-------	5.1×10^{-3}
B-2	MW-2	4.5×10^{-3}
B-5	MW-5	3.3×10^{-3}

SECTION V. CONTAMINATION ASSESSMENT

5.1 Fate and Transport of Gasoline in the Subsurface

The fate and transport of gasoline in the subsurface is complex. The behavior of the gasoline is governed not only by its physical and chemical properties, but also by the characteristics of the soil through which gasoline moves. Soil types, permeability, moisture contents, and density play important roles in developing an understanding of the behavior of gasoline in the soil.

Analyzing the fate and transport of gasoline in the subsurface is a particularly complicated problem because gasoline is a mixture of chemicals. Each of the compounds used in commercial gasoline has a unique set of physical and chemical properties, which determines its multi-phase flow characteristics. It is often difficult to predict how each gasoline component will behave and the extent to which it will migrate in the soil. A brief discussion of the understanding of the fate and transport of gasoline and its components in the subsurface is presented below.

The relevant characteristics of gasoline are:

1) Gasoline ranges in density from 0.72 to 0.78 g/cc and is less viscous than water. Low viscosity makes gasoline more mobile than water in a soil medium.

2) Gasoline is immiscible in water, i.e. gasoline displaces water without mixing. However, there are many components of gasoline which readily dissolve upon contact with water.

3) Some gasoline constituents are highly volatile.

4) Some compounds are readily biodegraded in the presence of soil bacteria and oxygen.

A typical blend of gasoline contains nearly two hundred different hydrocarbons in addition to additives which serve as anti-knock agents, anti-oxidants and sweetening inhibitors, corrosion inhibitors, preignition preventors, and upper cylinder lubricants.

Thirteen chemicals commonly found in gasoline (nine hydrocarbons and four additives) are regulated as hazardous substances under the Comprehensive Emergency Response, Compensation and Liability Act (CERCLA). This group includes benzene, toluene, and xylenes and additives such as ethylene dibromide and tetraethyl lead.

Transport of gasoline in the subsurface takes place in three zones: the unsaturated zone, the capillary zone, and the saturated zone. Because of the composition of gasoline, its movement in the subsurface occurs in more than one phase. Gasoline components move as solutes in the water phase, free product in the admissible phase and vapor in the air phase.

The transport of gasoline in the unsaturated zone takes place by a combination of forces consisting of capillary forces, adsorption, volatilization and dissolution. The extent to which gasoline compounds adsorb to a specific soil particle depends on the sorption potential of the chemicals, the organic carbon content of the particles, the texture, structure, and bulk density of the particles, clay content, moisture content, cation exchange capacity, and pH.

Of the toxic gasoline compounds listed, naphthalene and tetraethyl lead have relatively low mobility values and are likely to be adsorbed to the soil; benzene, toluene, the xylenes, and phenol have high mobility values, and therefore, are more likely to appear in either the dissolved or gaseous phase.

As in the unsaturated zone, transport of gasoline in the capillary zone is governed by multi-phase flow phenomena. However, the increased water content in the zone affects the rates of volatilization and dissolution. As soil water content increases, volatilization and vapor transport generally decrease, while dissolution and solute transport generally increase. Free product migration occurs on top of the water table, and as the gasoline continues to spread it is held by capillary forces in the soil matrix.

Transport of gasoline in the saturated zone is governed by two transport mechanisms: advection and dispersion. Advection is the movement of dissolved contaminants with the mean groundwater gradient. Dispersion describes how dissolved contaminants spread out and are diluted as they move. Often, contaminants occupy more of the saturated zone than can be explained by advection. This is due to dispersion.

5.2 Soil Contamination

Soil quality test results are included in Appendix I and summarized in Table 5.1. Benzene concentrations were above the 25 ppb detection limit in six of the soil samples submitted. The highest documented concentration of benzene, 940 ppb, was encountered in soil boring B-3 at a depth of 6 to 7.5 feet below grade. However it is noted that a concentration of benzene reported at less than 5,000 ppb, was encountered in a sample taken from soil boring B-14 at a depth of 3.5' to 5.0' below grade. This boring is east of the pump island area. Due to the high levels of contaminants in this sample, the detection limit was raised to 5,000 ppb. Ethylbenzene, toluene, trimethylbenzenes, and xylenes were also at elevated levels. A map of benzene concentrations in soil greater than 25 ppb is shown in Figure 5.1.

Test results indicate that the concentrations for gasoline range organics (GRO) range from less than 6.0 ppm to 6,500 ppm. The highest GRO concentration was noted in a sample taken from B-14 at a depth of 3.5' to 5.0' feet below grade. A contour map of GRO concentrations in soil is included in Figure 5.2.

Concentrations of BETX parameters are above NR 720 cleanup goal levels for soil. However, following an evaluation of environmental factors and risk criteria a corrective action plan to restore the site does not appear to be warranted.

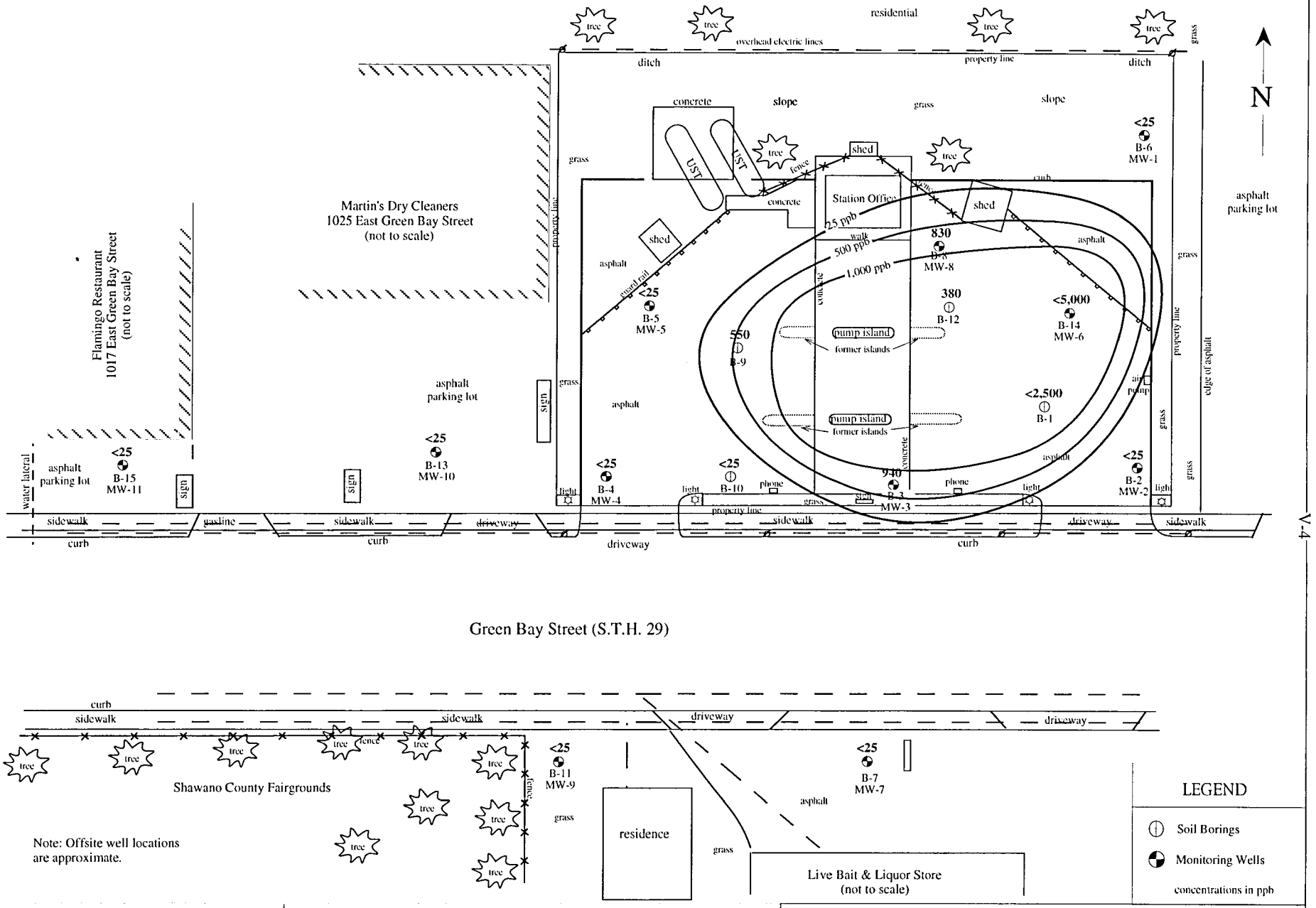
5.2.1 Estimated Volume of Soil Contamination

A summary of the estimated volume and depth of contaminated soils exceeding 25 ppb benzene is included in Table 5.2. Area A-1 is the estimated area of soil contamination greater than 25 ppb to the water table, a depth of approximately 5 feet below grade. The area of contamination is shown in Figure 5.3. The total volume of contaminated soil is estimated to be around 3,570 tons (2,380 cubic yards). A map showing the area of contaminated soil greater than 25 ppb benzene is included in Figure 5.4.

Table 5.1
Summary of Soil Quality Test Results

Date Collected	Sample No.	HNU Reading	Benzene	Ethylbenzene	Methyl-t-butyl ether	Toluene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Xylenes, Total	GRO	Total Lead
		ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppm
6/3/98	B-1, S-2, 3.5'-5.0'	>200	<2,500	41,000	<2,500	52,000	150,000	44,000	270,000	4,300	3.4
6/2/98	B-2, S-3, 6'-7.5'	BK	<25	<25	<25	<25	93	50	62	<6.3	1.2
6/2/98	B-3, S-3, 6'-7.5'	32	940	190	<25	140	360	140	1,100	8.5	0.86
6/2/98	B-4, S-3, 6'-7.5'	BK	<25	<25	<25	<25	<25	<25	<25	<6.3	1
6/2/98	B-5, S-3, 6'-7.5'	BK	<25	<25	<25	<25	<25	<25	<25	<6.3	1.6
6/3/98	B-6, S-3, 6'-7.5'	BK	<25	<25	<25	<25	100	49	100	<6.2	1.9
1/14/99	B-7, S-3, 6'-7.5'	BK	<25	<25	<25	<25	<25	<25	<25	<6.3	NT
6/3/98	B-8, S-3, 6'-7.5'	>200	830	1,500	<170	8,800	8,400	2,600	20,000	170	4.4
6/3/98	B-9, S-3, 6'-7.5'	>200	550	900	<25	1,900	2,900	850	6,000	71	1.5
6/3/98	B-10, S-3, 6'-7.5'	BK	<25	<25	<25	<25	93	<25	64	<6.0	1.4
1/14/99	B-11, S-3, 6'-7.5'	BK	<25	<25	<25	<25	<25	<25	<25	<6.3	NT
6/3/98	B-12, S-3, 6'-7.5'	>200	380	370	<50	1,800	3,300	1,100	5,600	94	1.6
1/14/99	B-13, S-3, 6'-7.5'	BK	<25	<25	<25	<25	<25	<25	<25	<6.0	NT
6/2/98	B-14, S-2, 3.5'-5.0'	180	<5,000	90,000	<5,000	110,000	300,000	88,000	510,000	6,500	4.7
6/2/98	B-14, S-4, 8.5'-10.0'	40	<25	340	<25	430	540	150	1,900	9.3	1.4
8/19/99	B-14(15), S-3, 6'-7.5'	BK	<25	<25	<25	84	<25	<25	200	<8.5	NT
6/2/98	Field Blank		<25	<25	<25	<25	<25	<25	<25	<5	NT
1/14/99	Field Blank		<25	<25	<25	<25	<25	<25	<25	<5	NT
	Cleanup Goal		25	2,900	*	1,500	*	*	4,100	*	*

* Denotes no established standard BK Background reading NT Nót tested



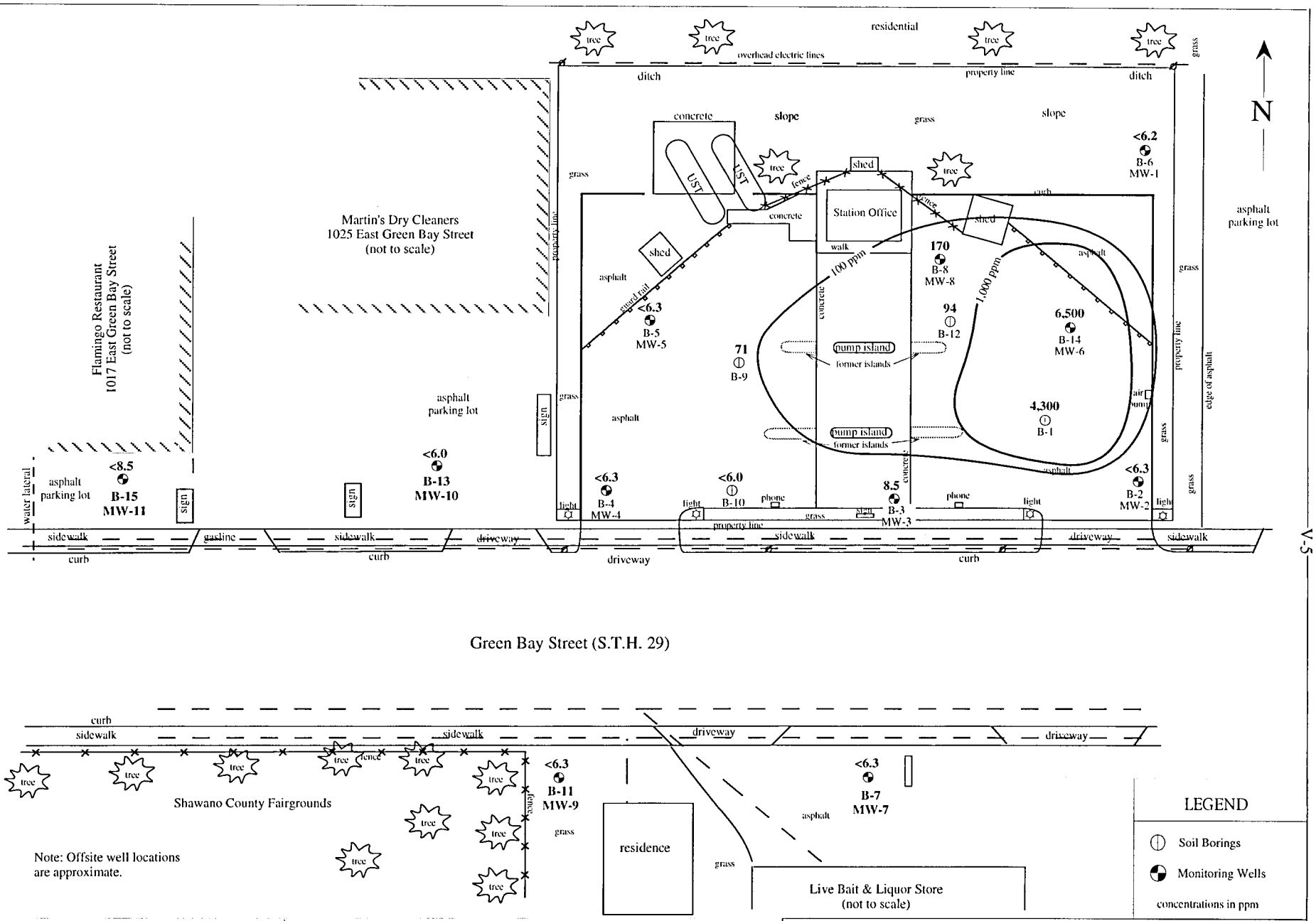
Clark Oil #118
Owner
National Investments, LLC
1037 East Green Bay Street
Shawano, WI 53142

Engineer
K. SINGH & ASSOCIATES, INC.,
Engineers & Environmental Management Consultants
1135 Legion Drive, Elm Grove, Wisconsin 53122, (414) 821-1171

Figure 5.1 Contour Map of Benzene Concentrations in Soil

DATE	DRAWN BY	REVISIONS BY	DATE	PROJECT NO.
October 26, 1998	A.S.M.			4291
SCALE 0' 40'	CHECKED BY D.K.S.			SHEET NO. ONE OF ONE

V-4



Green Bay Street (S.T.H. 29)

LEGEND

- Soil Borings
- Monitoring Wells

concentrations in ppm

Clark Oil #118
Owner
National Investments, LLC
1037 East Green Bay Street
Shawano, WI 53142

Engineer
K. SINGH & ASSOCIATES, INC.,
Engineers & Environmental Management Consultants
1135 Legion Drive, Elm Grove, Wisconsin 53122, (414) 821-1171

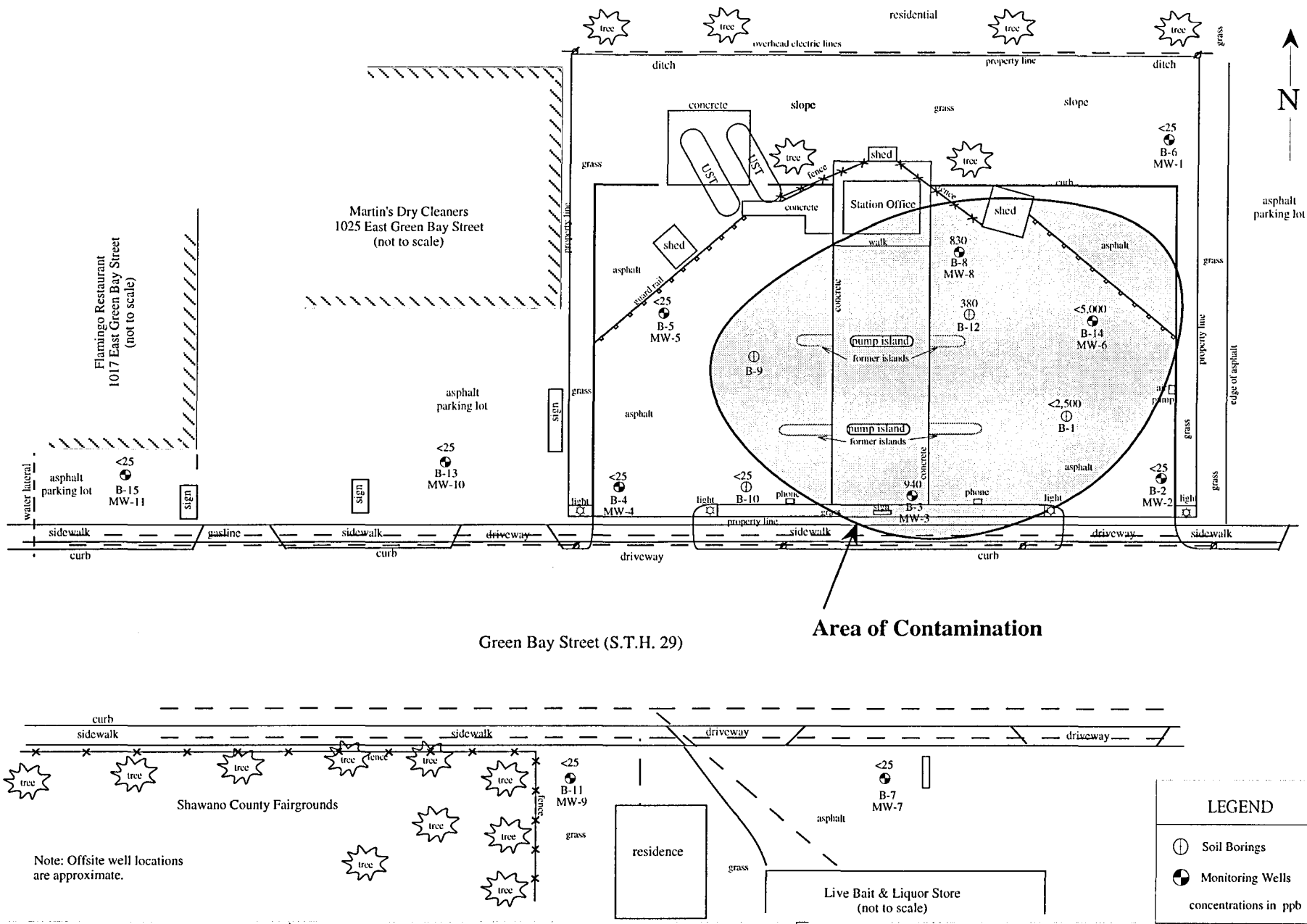
Figure 5.2 Contour Map of GRO Concentrations in Soil

DATE	DRAWN BY	REVISIONS BY	DATE	PROJECT NO.
October 26, 1998	A.S.M.			4291
SCALE 0' 40'	CHECKED BY D.K.S.			SHEET NO. ONE OF ONE

Table 5.2
Volume and Location of Contaminated Soil, Area A-1

>25 ppb Benzene				
Location	Area	Depth	Volume*	Amount
	sq. ft.	ft.	cu. yd.	tons
A-1	10,709	5.0	2,380	3,570
TOTAL/AVG	10,709	5.0	2,380	3,570
>500 ppb Benzene				
Location	Area	Depth	Volume*	Amount
	sq. ft.	ft.	cu. yd.	tons
A-1	8,157	5.0	1,813	2,719
TOTAL/AVG	8,157	5.0	1,813	2,719
>1,000 ppb Benzene				
Location	Area	Depth	Volume*	Amount
	sq. ft.	ft.	cu. yd.	tons
A-1	5,831	5.0	1,296	1,944
TOTAL/AVG	5,831	5.0	1,296	1,944

* Volume includes soil expansion factor



V-7

Clark Oil #118
Owner
National Investments, LLC
1037 East Green Bay Street
Shawano, WI 53142

Engineer
K. SINGH & ASSOCIATES, INC.,
Engineers & Environmental Management Consultants
1135 Legion Drive, Elm Grove, Wisconsin 53122, (414) 821-1171

Figure 5.3 Area of Contamination Greater Than 25 ppb Benzene

DATE	DRAWN BY	REVISIONS BY	DATE	PROJECT NO.
October 26, 1998	A.S.M.			4291
SCALE 0' 40'	CHECKED BY D.K.S.			SHEET NO. ONE OF ONE

5.2.2 Estimate of Contaminant Mass

Contaminant mass of GRO, DRO, and benzene was estimated by multiplying the average contaminant concentration of soil samples in a given area by the volume of soil in that area. Estimation of contaminant mass in soil is summarized in Table 5.2. Approximately 10 pounds of benzene, and 10,947 pounds of GRO are present in soil at the site.

5.3 Groundwater Contamination

Water quality test results are included in Appendix J, and summarized in Table 5.3. Five rounds of groundwater sampling have been performed for all monitoring wells except MW-9 and MW-11. At the writing of this report only four rounds of groundwater sampling have been performed at MW-9 and three rounds at MW-11. Concentrations of benzene in groundwater were above the enforcement standard for monitoring wells MW-3, MW-4, MW-5, MW-6, MW-8, and MW-10. The highest concentration of benzene at 3,300 ppb was in MW-5. One well, MW-5, had a MTBE concentration above the ES at 320 ppb. One well, MW-6, had an ethylbenzene concentration above the ES at 1,100 ppb. Two wells, MW-6 and MW-8, had toluene concentrations above the ES at 2,200 ppb and 1,300 ppb, respectively. Three wells, MW-5, MW-6 and MW-8, had trimethylbenzenes concentrations above the ES at 950 ppb, 1,760 ppb, and 670 ppb, respectively. The same three wells, MW-5, MW-6 and MW-8, had xylenes concentrations above the ES at 3,100 ppb, 6,400 ppb, and 3,100 ppb, respectively.

Contaminant levels are stable or declining in all of the affected wells except MW-3, MW-4, and MW-5, based upon the results of Mann-Kendall statistical analysis. Contaminant concentrations in these monitoring wells appear to be fluctuating and further sampling is necessary to determine an overall trend. Results of the Mann-Kendall analyses are included in Appendix K. A map of benzene concentrations in groundwater for the May 3, 2000 sampling is included in Figure 5.4.

The intrinsic biodegradation parameters (pH, dissolved oxygen, redox potential, temperature, total nitrite, sulfate, and iron) are summarized in Table 5.5. An analysis of the data was made and some general conclusions can be drawn concerning biodegradation potential. Biodegradation reactions may use dissolved oxygen, nitrate/nitrite, sulfate, and ferric ion as the reactants. Biodegradation in contaminated groundwater will result in lower dissolved oxygen, nitrate/nitrite, and sulfate values as compared to the respective values in non-contaminated groundwater. Ferrous ion concentrations would be higher than surrounding non-contaminated groundwater as a result of biodegradation. It appears that nitrate/nitrite and ferric ion pathways for degradation are favored, whereas aerobic and anaerobic using sulfate ion are not preferred pathways for biodegradation. In analyzing the data collected for the site, biodegradation appears to be taking place. In petroleum contaminated monitoring wells nitrate/nitrite values are generally lower than corresponding clean wells, with the iron concentrations being higher in these wells than in the clean monitoring wells.

5.4 Contamination Migration, Receptors and Impacted Areas

Testing of soil and groundwater has confirmed the presence of petroleum products in the subsurface environment. A corrective action plan is warranted to restore the quality of near-surface soil and groundwater in the proximity of the site.

Table 5.3
Estimation of Contaminant Mass

Contaminant	Area #	Area (A) (sq. feet)	Ave. Conc. (ppm)	Depth (feet)	Volume (cub. yards)	Tons (Yards*1.5)	Contaminant Mass (Pounds)
Benzene	A-1	10,709	1.7	5	1983.15	2974.72	10.01
				Total Benzene Mass (lb)			**10.01**
GRO	A-1	10,709	1,857	5	1983.15	2974.72	10937.64
				Total GRO Mass (lb)			**10937.64**

Note:

Contaminant Mass = Weight of Contaminated Soil (tons) x 2,000 lb/ton) x contaminant concentration (1E-06 lb/lb)

Table 5.4
Summary of Groundwater Quality Test Results

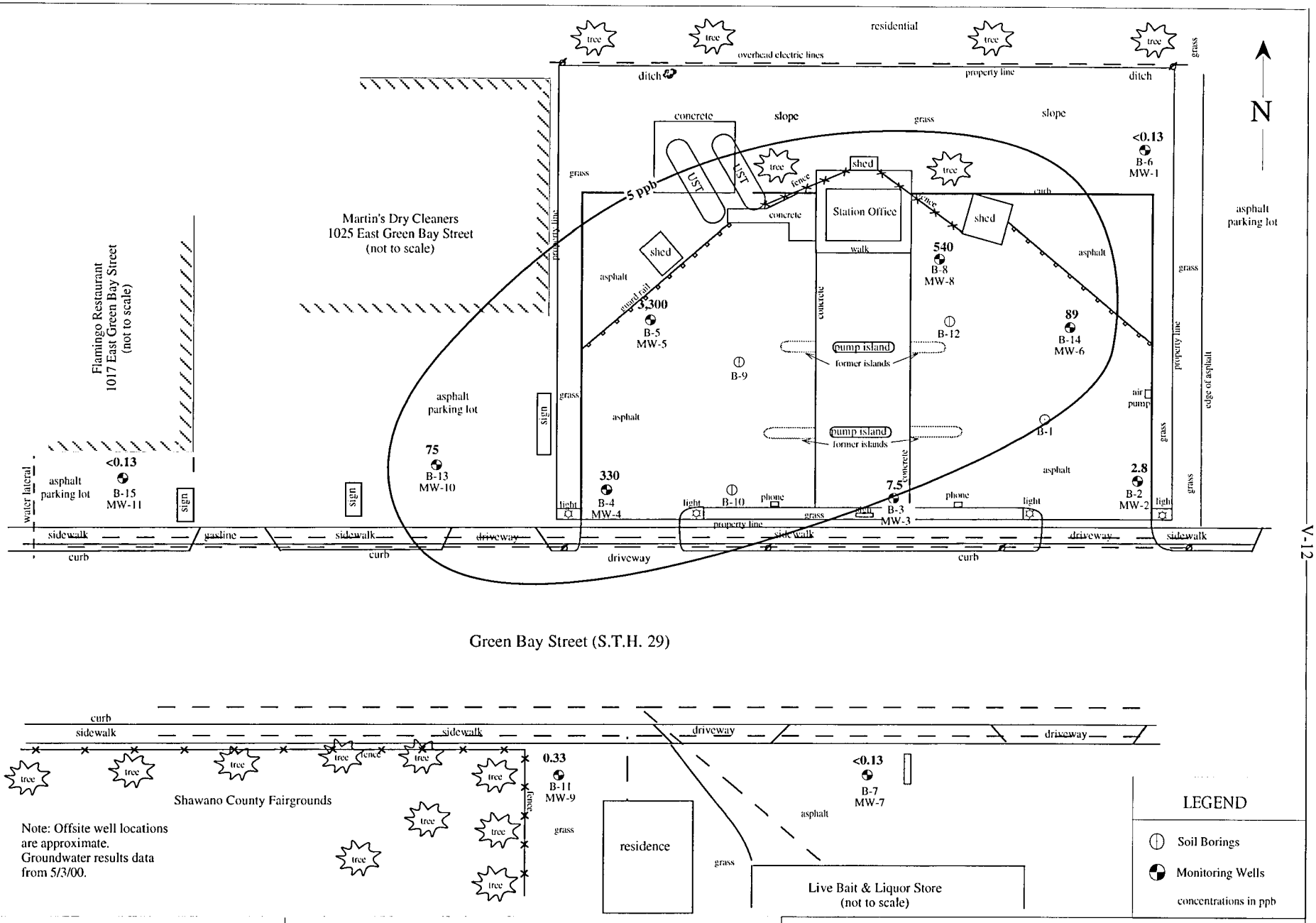
Date Collected	Sample No.	Dissolved Lead	Benzene	Ethylbenzene	Methyl-t-butyl-ether	Toluene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Xylenes	Nathalene	GRO
		ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppm
6/10/98	MW-1	<0.005	2.0	2.4	<0.2	0.84	4.7	1.9	16	<8.0	<0.05
11/3/98		NT	<0.5	<0.5	0.65	<0.5	<1.0	<1.0	0.6	NT	<0.05
9/1/99		NT	<0.5	<0.5	<0.2	<0.5	<1.0	<1.0	<0.5	NT	0.18
5/3/00		NT	<0.13	<0.22	<0.16	<0.20	<0.29		<0.23	NT	<0.05
5/3/00		NT	<0.13	<0.22	<0.16	<0.20	<0.29		<0.23	NT	<0.05
2/8/01		NT	<0.13	<0.22	<0.16	<0.20	<0.22	<0.29	<0.23	NT	NT
6/10/98	MW-2	<0.005	0.85	1.8	<0.2	2.0	2.5	<1.0	8.0	<8.0	<0.05
11/3/98		NT	<0.5	<0.5	2.4	<0.5	<1.0	<1.0	0.63	NT	<0.05
9/1/99		NT	<0.5	<0.5	<0.2	<0.5	<1.0	<1.0	<0.5	NT	0.11
5/3/00		NT	2.8	<0.22	<0.16	<0.20	<0.29		<0.23	NT	<0.05
2/8/01		NT	<0.13	<0.22	<0.16	<0.20	<0.22	<0.29	<0.23	NT	NT
6/10/98	MW-3	<0.005	300	660	<10	2,700	480	150	3,200	<400	5.0
11/3/98		NT	2,800	180	120	<25	680	190	2,600	NT	8.9
9/1/99		NT	150	100	7.6	9.5	520	82	1,600	NT	4.7
5/3/00		NT	7.5	0.69	<0.18	0.77	13		5	NT	0.3
2/8/01		NT	120	13	<0.68	1	97	17	260	NT	NT
6/10/98	MW-4	<0.005	1,900	180	70	41	580	160	2,300	<200	7.0
11/3/98		NT	6,600	120	300	78	950	280	3,900	NT	3.6
9/1/99		NT	2,800	63	140	44	7	82	1,600	NT	7.0
5/3/00		NT	330	2.2	<1.1	2.2	100		250	NT	0.98
2/8/01		NT	3,100	41	77	21	360	70	1,800	NT	NT
6/10/98	MW-5	<0.005	810	230	330	<25	320	100	1,300	<400	4.2
11/3/98		NT	10,000	1,200	8,600	140	2,100	620	8,200	NT	6.7
9/1/99		NT	550	98	180	9.2	5	16	780	NT	1.8
5/3/00		NT	3,300	74	320	36	950		3,100	NT	12.0
2/8/01		NT	2,300	140	510	33	520	120	2,600	NT	NT
6/10/98	MW-6	<0.005	30	920	<10	2,700	1,000	330	5,300	<400	29.0
11/3/98		NT	94	530	19	440	490	170	2,300	NT	7.6
9/1/99		NT	39	1,100	6.3	1,000	1,100	160	4,800	NT	12.0
5/3/00		NT	89	1,100	<3.2	2,200	1,760		6,400	NT	19.0
2/8/01		NT	19	470	<3.2	110	750	190	2,000	NT	NT

Table 5.4

Summary of Groundwater Quality Test Results

Date Collected	Sample No.	Dissolved Lead	Benzene	Ethylbenzene	Methyl-t-butyl-ether	Toluene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Xylenes	Nathalene	GRO
		ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppm
1/15/99	MW-7	NT	<0.5	<0.5	<0.2	<0.5	<1.0	<1.0	<0.5	<2.0	0.1
4/14/99		NT	<0.5	<0.5	<0.2	<0.5	<1.0	<1.0	<0.5	NT	<0.05
9/1/99		NT	<0.5	<0.5	<0.2	<0.5	1	<1.0	1.7	NT	0.05
5/3/00		NT	<0.13	<0.22	<0.16	<0.20	<0.29		<0.23	NT	<0.05
2/8/01		NT	<0.13	<0.22	<0.16	<0.20	<0.29		<0.23	NT	<0.6
6/10/98	MW-8	<0.005	1,200	520	<10	5,300	780	270	4,400	<400	16.0
11/3/98		NT	2,200	930	360	8,800	1,600	600	9,100	NT	34
9/1/99		NT	490	160	11	1,900	7.8	52	3,200	NT	8.1
5/3/00		NT	540	370	<3.2	1,300	670		3,100	NT	8.5
2/8/01		NT	200	190	<2.6	350	1,000	310	2,800	NT	NT
1/15/99	MW-9	NT	<0.5	<0.5	<0.2	<0.5	<1.0	<1.0	<0.5	<2.0	<0.05
4/14/99		NT	<0.5	<0.5	<0.2	<0.5	<1.0	<1.0	<0.5	NT	<0.05
9/1/99		NT	4.3	1.9	0.51	14	3.6	<1.0	21	NT	0.09
5/3/00		NT	0.33	0.33	<0.16	<0.20	<0.29		<0.23	NT	0.052
1/15/99	MW-10	NT	520	<0.5	73	<0.5	<1.0	<1.0	<0.5	110	1.4
4/14/99		NT	1,400	68	210	21	160	50	550	NT	3.8
9/1/99		NT	410	3	67	4.3	1.5	<1.0	<0.5	NT	1.6
5/3/00		NT	75	<1.0	<1.0	1.1	22		69	NT	0.5
2/8/01		NT	710	6.4	41	5.5	180	38	730	NT	NT
9/1/99	MW-11	0.2	<0.5	<0.5	<0.2	<0.5	<1.0	<1.0	<0.5	<2.0	0.05
5/3/00		NT	<0.13	<0.22	<0.16	<0.20	<0.29		0.5	NT	<0.05
2/8/01		NT	<0.13	<0.22	<0.16	<0.20	<0.22	<0.29	<0.23	NT	NT
6/10/98	Field	NT	<0.5	<0.5	<0.2	<0.5	<1.0	<1.0	<0.5	NT	<0.05
11/3/98	Blank	NT	<0.5	<0.5	<0.2	<0.5	<1.0	<1.0	<0.5	NT	<0.05
1/15/99		NT	<50	<50	<20	<50	<100	<100	<50	NT	<0.05
4/14/99		NT	<0.5	<0.5	<0.2	0.65	<1.0	<1.0	<0.5	NT	<0.05
9/1/99		NT	<0.5	<0.5	<0.2	<0.5	<1.0	<1.0	<0.5	NT	<0.05
5/3/00		NT	<0.13	<0.22	<0.16	<0.20	<0.29		<0.23	NT	<0.05
2/8/01		NT	<0.13	<0.22	<0.16	<0.20	<0.22	<0.29	<0.23	NT	NT
	PAL	0.0015	0.5	140	12	69	NA	NA	124	8	NA
	ES	0.015	5.0	700	60	343	NA	NA	620	40	NA

NA--Not Applicable NT--Not Tested



Green Bay Street (S.T.H. 29)

Clark Oil #118
Owner
National Investments, LLC
1037 East Green Bay Street
Shawano, WI 53142

Engineer
K. SINGH & ASSOCIATES, INC.,
Engineers & Environmental Management Consultants
1135 Legion Drive, Elm Grove, Wisconsin 53122, (414) 821-1171

Figure 5.4 Contour Map of Benzene Concentrations in Groundwater

DATE	DRAWN BY	REVISIONS BY	DATE	PROJECT NO.
October 26, 1998	A.S.M.			4291
SCALE 0' 40'	CHECKED BY D.K.S.			SHEET NO. ONE OF ONE

Table 5.5
Groundwater Quality: Intrinsic Biodegradation Parameters

Date	Location	pH	D.O.	ORP	Temp	Total Nitrate / Nitrite	Sulfate	Iron
			mg/L	mV	deg, C.	mg/L	mg/L	mg/L
6/10/98	MW-1	6.62	1.35	019	10.20	0.96	26	1.90
6/10/98	MW-2	6.62	1.60	013	13.80	0.38	40	0.12
6/10/98	MW-3	6.94	1.22	001	13.40	<0.05	19	3.50
6/10/98	MW-4	6.70	1.50	015	13.50	0.35	21	5.10
6/10/98	MW-5	6.67	2.72	016	12.6	<0.05	17	8.4
6/10/98	MW-6	6.89	1.11	004	12.7	0.58	47	9.3
6/10/98	MW-8	6.78	2.15	011	12.3	0.53	51	6.4

NT = not tested

Off-site migration of contaminants is noted in the groundwater to the west of the site. To evaluate the carcinogenic and systemic health effect risks posed by contaminants in soil and groundwater, the U.S. EPA has established health based exposure limits. Based on these limits, public health risks appear to be minimal based on the concentrations of contaminants in the groundwater.

5.5 Evaluation of Environmental Factors

Five environmental factors, stated in COMM 47(10), are evaluated as follows:

- Groundwater is impacted by petroleum contamination and has migrated from the source area. However, the plume appears to be stable except for the area near MW-5. Additional monitoring of MW-5 is needed to confirm contaminant trends in this monitoring well.
- Impact to potable wells does not appear to be a concern at the site.
- Impact to bedrock does not appear to be a concern at the site.
- Free product was not encountered in any of the monitoring wells onsite.
- There is no evidence of any impact to surface water at the site.

Based on this analysis, it does not appear that any of the environmental factors are present at this time.

SECTION VI. EVALUATION OF RISK CRITERIA

6.1 COMM 46 Risk Criteria

In accordance with COMM 46(11) rules and protocols regarding risk assessment for sites with petroleum contamination, the application of certain criteria is needed to determine risks associated with contamination at these sites and the degree of remediation necessary to restore the site to applicable standards.

The factors addressed are as follows:

- The presence or absence of environmental factors, as defined in COMM 47(10);
- If soil contamination on-site is above levels set forth in COMM 46.06 Table 1;
- If soil contamination is above levels set forth in COMM 46.06 Table 2 within 4 feet of the ground surface;
- That the direct contact risk from any contaminant of concern present within 4 feet of the ground surface has been addressed;
- If there are any petroleum-product contaminants in soil or groundwater, the most recent release that caused or contributed to the contamination is more than 10 years old;
- There is no evidence of the migration of petroleum product contamination along a utility corridor;
- There is no evidence of the migration of petroleum product contamination to a place where vapors may accumulate and pose an explosion hazard;
- There is no enforcement standard exceedance in any groundwater within 1000 feet of a public well;
- There is no enforcement standard exceedance in any groundwater within 100 feet of a private well.

6.2 Risk Criteria Evaluation

As part of the risk criteria assessment, the presence of environmental factors on-site was reviewed. There is no free product on-site, no on-site private well, no bedrock encountered on-site, and no discharges to surface water. Groundwater quality test results of the monitoring wells on-site have delineated the plume of contamination in the groundwater. It appears that the plume of contamination in groundwater is stable or declining. Since this is the case, at the present time no environmental factors appear to exist at this site.

Soil contamination is documented in samples taken above 4 feet below grade on-site. Concentrations of ethylbenzene, toluene, xylene, and trimethylbenzenes are above the soil screening levels listed in Table 1 of COMM 46.06. in soil samples taken from B-1, S-2 (3.5ft-5.0ft) and B-14, S-2 (3.5ft-5.0ft). Although contaminant levels exceed Table 1 values, the presence of free product is not noted in any of the monitoring wells. Approximately 1,847 tons of soil are present above the screening criteria levels listed in Table 1 of COMM 46.06. A benzene concentration of less than 5 ppm is noted in sample B-14, S-2 (3.5ft-5.0ft). This is above the level of benzene (1.10 ppm) indicated in Table 2 of COMM 46.06 Appendix A. Therefore, the risk of direct contact with contaminated soil is a concern.

Due to the age of the tanks in use at the site and the nature of the contaminants present, it appears that the plume of contamination at the site is more than ten years old. Based on the permeable type of soil encountered on-site and the concentrations of contaminants, there is no evidence of the migration of petroleum contamination through preferential pathways such as utility corridors. Also, due to the location of the plume in relation to buildings in the surrounding area of the site, there is no evidence of the migration or collection of potentially explosive petroleum vapors.

There is no known public well within 1,000 feet of the site. There is no known private well within 100 feet of the site.

SECTION VII. CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

A remedial investigation has been conducted in order to determine the nature and extent of on-site and off-site petroleum contamination. Elevated levels of petroleum hydrocarbons were confirmed in the near-surface soils and groundwater. Geologic and hydrogeologic data have been gathered and detailed investigations have been conducted. Conclusions are presented below.

7.1.1 On-Site Contamination

The presence of underground storage tanks has resulted in the petroleum contamination of soil and groundwater at the site. The highest concentration of benzene in soil (less than 5,000 ppb) was determined to be present in boring B-14 at 3.5 to 5.0 feet below grade. Soil is contaminated to the water table, a depth of approximately 5 feet below grade. It appears that contaminants in soil are primarily in the tank and pump island areas and to the west of the lot.

Approximately 3,570 tons of soil appear to be impacted by petroleum hydrocarbons. Approximately 10 pounds of benzene and 10,900 pounds of GRO appear to be present in the contamination plume.

Groundwater quality was assessed in order to evaluate the potential for petroleum contamination of near-surface groundwater. Analytical testing was conducted on samples that were collected from eleven monitoring wells at the site. Concentrations of benzene in groundwater were above the enforcement standard for six monitoring wells. Other BETX parameters, including trimethylbenzenes and MTBE, were above their respective ES in at least one of the six wells with benzene impacts. Contaminant levels are stable or declining in all of the affected wells except MW-3, MW-4, and MW-5, based upon the results of Mann-Kendall statistical analysis. Contaminant concentrations in these monitoring wells appear to be fluctuating and further sampling is necessary to determine an overall trend.

An examination of the risk criteria concludes that not all of the risk criteria have been met for this site. Specifically, soil within 4 feet of the ground surface has levels of petroleum constituents above levels indicated in Table 2 of COMM 46.06. Although contaminant levels exceed Table 1 values, the presence of free product is not noted in any of the monitoring wells.

7.1.2 Off-Site Contamination

Investigation of the soil and groundwater has indicated that contaminants in groundwater have migrated offsite to the west and south which necessitated offsite soil borings and monitoring wells. The plume in soil and groundwater has been delineated in all directions to the extent practicable.

7.2 Recommendations

Additional rounds of groundwater sampling are proposed to be performed, to determine trends of groundwater contaminants in MW-5 and confirm the stability of contaminants in the remaining monitoring wells. At the time of closure a groundwater use restriction would need to be placed on the property to address levels of contaminants in the groundwater above enforcement standards. To address residual soil contamination at the site, it is likely that at the time of closure a deed restriction will need to be placed on the property. The restriction would require a barrier such as the type currently in use (asphalt pavement) to remain in place over the contaminated soil.

7.3 Limitations of Data

The remedial investigation was based on conditions known to exist prior to and encountered during field exploration. The investigation has identified the direction of groundwater flow, and has confirmed the existence of contamination within near-surface soil at the site. Additional exploratory work could be performed, but would not be expected to significantly alter the conditions reported herein or the scope of the remedial alternative recommended. This report has been prepared exclusively for use by National Investments, LLC. It may not be altered or changed in any manner without expressed written consent from K. Singh & Associates, Inc.

SECTION VIII. REFERENCES

1. Remedial Investigation Work Plan for Clark Oil #118, 1037 East Green Bay Street, Shawano, Wisconsin, prepared by K. Singh and Associates, Inc.

2. Quality Assurance / Quality Control Procedures as prepared by K. Singh and Associates, Inc.

3. Monitoring Well Installation Guidelines, Wisconsin Administrative Code, 1990.

4. Freeze, R. A., Cherry, J. A., 1979, Groundwater, Prentice Hill, Inc., Englewood Cliffs, NJ.

5. Terzaghi, K. Peck, R.B., 1967, Soil Mechanics in Engineering Practice, John Wiley & Sons, Inc.

6. Site Assessment Guidelines, Prepared by Wisconsin Department of Natural Resources.

7. Monitoring Well Development Guidelines, Wisconsin Administrative Code, 1990.

8. Computer database, maintained by Midwestern Climate Center, Champaign, IL. Via website http://mcc.sws.uiuc.edu/Summary/Data/476922.txt

9. E.F. LeRoux, 1957, Geology and Groundwater Resources of Outagamie County, Wisconsin. USGS water supply paper no. 1421.

10. Chapter Comm 47 Petroleum Environmental Cleanup Fund Interagency Responsibilities, February, 1999.

11. Chapter Comm 46 Petroleum Environmental Cleanup Fund Interagency Responsibilities, February, 1999.

SECTION X. APPENDICES

APPENDIX A

Tank Registration Forms

State of Wisconsin
Department of Commerce

WI Tank ID#: 581000018

UNDERGROUND PETROLEUM PRODUCT TANK INVENTORY

Information Required By Section 101.142, Wis. Stats.

Send Completed Form To:
Storage Tank, Permitting and Registration Section
P.O. Box 7969, Madison, WI 53707

Underground tanks in Wisconsin that have stored or currently store petroleum or regulated substances must be registered. Please see the reverse side for additional information on this program. An underground storage tank is defined as any tank with at least 10 percent of its total volume (including piping) located below ground level. A separate form is needed for each tank. Send each completed form to the agency designated in the top right corner. Have you previously registered this tank by submitting a form? ☒ Yes ☐ No If yes, are you correcting/updating information only? ☒ Yes ☐ No
Personal information you provide may be used for secondary purposes. [Privacy Law, s. 15.04 (1)(m)]

This registration applies to a tank that is (check one):
1A. ☐ In Use or
1B. ☐ Newly Installed
2. ☐ Abandoned with Product
3. ☐ Abandoned No Product (empty) or with Water
4. ☐ Closed - Tank Removed
6. ☐ Closed - Filled with Inert Materials
7. ☐ Out of Service - Provide Date: _____
8. ☒ Ownership Change (Indicate new owner name in block 2)

Fire Department providing fire coverage where tank is located:
☒ City ☐ Village
☐ Town of Shawano

A. IDENTIFICATION (Please Print)

1. Tank Site Name	Site Address	Site Telephone Number
Clark Oil #118	1037 E. Green Bay Street	( )
☒ City ☐ Village ☐ Town of: Shawano	State: Wisconsin	Zip Code: 54166
	County: Shawano	
2. Tank Owner Name: National Investments, LLC	Mailing Address: 6621 39th Avenue	Telephone Number: 414/652-4100
☒ City ☐ Village ☐ Town of: Kenosha	State: Wisconsin	Zip Code: 53142
	County: Kenosha	
3. Previous Name: Clark Refining & Marketing	Previous site address if different than #1	
4. Tank Age (date installed, if known or years old): 06/01/63	5. Tank Capacity (gallons): 8,000	6. If more than one tank is located at facility, please provide tank #: #1

B. TYPE OF USER (check one)
1. ☒ Gas/Retail Sales 2. ☐ Bulk Storage 3. ☐ Utility 4. ☐ Mercantile/Commercial 5. ☐ Industrial
6. ☐ Government 7. ☐ School 8. ☐ Residential 9. ☐ Agricultural 10. ☐ Other (specify):
11. ☐ Tribal Nation 12. ☐ Federal Property 13. ☐ Backup Generator

C. TANK CONSTRUCTION (check one)
1. ☒ Bare Steel 2. ☐ Cathodically Protected & Coated Steel (Check one: A. ☐ Sacrificial Anodes or B. ☐ Impressed Current)
3. ☐ Coated Steel 4. ☐ Fiberglass 5. ☐ Other (specify): _____
6. ☐ Lined - Date: _____ 7. ☐ Steel - Fiberglass Reinforced Plastic Composite 9. ☐ Unknown

Approval: 1. ☐ Nat'l Std. 2. ☐ UL 3. ☐ Other: | Is tank double walled? ☐ Yes ☒ No
Overfill Protection Provided? ☐ Yes ☒ No If yes, identify type: | Spill Containment? ☐ Yes ☒ No

Tank leak detection method:
1. ☐ Automatic tank gauging 2. ☐ Vapor monitoring 3. ☐ Groundwater monitoring
4. ☒ Inventory control and tightness testing 5. ☐ Interstitial monitoring
7. ☐ Manual tank gauging (only for tanks of 1,000 gallons or less) 8. ☐ Statistical Inventory Reconciliation (SIR)

D. PIPING CONSTRUCTION
1. ☒ Bare Steel 2. ☐ Cathodically Protected & Coated Steel (Check one: A. ☐ Sacrificial Anodes or B. ☐ Impressed Current)
3. ☐ Coated Steel 4. ☐ Fiberglass 5. ☐ Other (Specify): 9. ☐ Unknown

Vapor Recovery/Stage II
4. ☐ Fiberglass 6. ☐ Flexible 5. ☐ Other (specify): ☐ CARB #: _____ ☐ Operational - Provide Date (mo/day/yr):

Piping System Type: 1. ☒ Pressurized piping with A. ☐ auto shutoff; B. ☐ alarm or C. ☒ flow restrictor
2. ☐ Suction piping with check valve at tank 3. ☐ Suction piping with check valve at pump and inspectable 4. ☐ Not needed if waste oil

Piping leak detection method: used if pressurized or check valve at tank: 1. ☐ Vapor monitoring 2. ☐ Interstitial monitoring
3. ☐ Groundwater monitoring 4. ☒ Tightness testing 5. ☐ Line leak detector 6. ☐ Not required 8. ☐ SIR

Approval: 1. ☐ Nat'l Std. 2. ☐ UL 3. ☐ Other: | Is pipe double walled? ☐ Yes ☐ No

E. TANK CONTENTS
1. ☐ Diesel 2. ☐ Leaded 3. ☒ Unleaded 4. ☐ Fuel Oil 5. ☐ Gasohol
6. ☐ Other (Specify): _____ 7. ☐ Empty* 8. ☐ Sand/Gravel/Slurry* 9. ☐ Unknown* 10. ☐ Premix
11. ☐ Waste/Used Motor Oil 13. ☐ Chemical _____ (Indicate chemical name and number) 14. ☐ Kerosene 15. ☐ Aviation

* If 7, 8, or 9 is chosen, this tank is NOT PECFA eligible.

If Tank Closed, Abandoned or Out of Service, give date (mo/day/yr):	Has a site assessment been completed (see reverse side for details) ☐ Yes ☒ No
Owner or Operator Name (please print): National Investments - Yogi Bhardwaj	Indicate whether: ☒ Owner or ☐ Operator
Owner or Operator Signature:	Date Signed

IMPORTANT: Failure to provide sufficient information may cause you to fall under additional regulations, and may delay PECFA eligibility determination. It is necessary to complete ALL shaded areas and as many other items as possible

SBD-7437 (R. 05/96)

State of Wisconsin
Department of Commerce

WI Tank ID#: 581000019

UNDERGROUND PETROLEUM PRODUCT TANK INVENTORY

Information Required By Section 101.142, Wis. Stats.

Send Completed Form To:
Storage Tank, Permitting and Registration Section
P.O. Box 7969, Madison, WI 53707

Underground tanks in Wisconsin that have stored or currently store petroleum or regulated substances must be registered. Please see the reverse side for additional information on this program. An underground storage tank is defined as any tank with at least 10 percent of its total volume (including piping) located below ground level. A separate form is needed for each tank. Send each completed form to the agency designated in the top right corner. Have you previously registered this tank by submitting a form? ☒ Yes ☐ No If yes, are you correcting/updating information only? ☒ Yes ☐ No
Personal information you provide may be used for secondary purposes. [Privacy Law, s. 15.04 (1)(m)]

This registration applies to a tank that is (check one):
1A. ☐ In Use or
1B. ☐ Newly Installed
2. ☐ Abandoned with Product
3. ☐ Abandoned No Product (empty) or with Water
4. ☐ Closed - Tank Removed
6. ☐ Closed - Filled with Inert Materials
7. ☐ Out of Service - Provide Date: _____
8. ☒ Ownership Change (Indicate new owner name in block 2)

Fire Department providing fire coverage where tank is located:
☒ City ☐ Village
☐ Town of Shawano

A. IDENTIFICATION (Please Print)

1. Tank Site Name	Site Address	Site Telephone Number
Clark Oil #118	1037 E. Green Bay Street	( )
☒ City ☐ Village ☐ Town of:	State	Zip Code	County
Shawano	Wisconsin	54166	Shawano
2. Tank Owner Name	Mailing Address	Telephone Number
National Investments, LLC	6621 39th Avenue	414/652-4100
☒ City ☐ Village ☐ Town of:	State	Zip Code	County
Kenosha	Wisconsin	53142	Kenosha
3. Previous Name	Previous site address if different than #1	
Clark Oil & Refining		
4. Tank Age (date installed, if known or years old)	5. Tank Capacity (gallons)	6. If more than one tank is located at facility, please provide tank #
01/01/70	7,500	#2

B. TYPE OF USER (check one)
1. ☒ Gas/Retail Sales 2. ☐ Bulk Storage 3. ☐ Utility 4. ☐ Mercantile/Commercial 5. ☐ Industrial
6. ☐ Government 7. ☐ School 8. ☐ Residential 9. ☐ Agricultural 10. ☐ Other (specify):
11. ☐ Tribal Nation 12. ☐ Federal Property 13. ☐ Backup Generator

C. TANK CONSTRUCTION (check one)
1. ☒ Bare Steel 2. ☐ Cathodically Protected & Coated Steel (Check one: A. ☐ Sacrificial Anodes or B. ☐ Impressed Current)
3. ☐ Coated Steel 4. ☐ Fiberglass 5. ☐ Other (specify): _____
6. ☐ Lined - Date: _____ 7. ☐ Steel - Fiberglass Reinforced Plastic Composite 9. ☐ Unknown

Approval: 1. ☐ Nat'l Std. 2. ☐ UL 3. ☐ Other: | Is tank double walled? ☐ Yes ☐ No
Overfill Protection Provided? ☐ Yes ☒ No If yes, identify type: | Spill Containment? ☐ Yes ☒ No
Tank leak detection method: 1. ☐ Automatic tank gauging 2. ☐ Vapor monitoring 3. ☐ Groundwater monitoring
4. ☒ Inventory control and tightness testing 5. ☐ Interstitial monitoring
7. ☐ Manual tank gauging (only for tanks of 1,000 gallons or less) 8. ☐ Statistical Inventory Reconciliation (SIR)

D. PIPING CONSTRUCTION
1. ☒ Bare Steel 2. ☐ Cathodically Protected & Coated Steel (Check one: A. ☐ Sacrificial Anodes or B. ☐ Impressed Current)
3. ☐ Coated Steel 4. ☐ Fiberglass 5. ☐ Other (Specify): 9. ☐ Unknown

Vapor Recovery/Stage II
4. ☐ Fiberglass 6. ☐ Flexible 5. ☐ Other (specify): ☐ CARB #: _____ ☐ Operational - Provide Date (mo/day/yr):
Piping System Type: 1. ☒ Pressurized piping with A. ☐ auto shutoff; B. ☐ alarm or C. ☒ flow restrictor
2. ☐ Suction piping with check valve at tank 3. ☐ Suction piping with check valve at pump and inspectable 4. ☐ Not needed if waste oil
Piping leak detection method: used if pressurized or check valve at tank: 1. ☐ Vapor monitoring 2. ☐ Interstitial monitoring
3. ☐ Groundwater monitoring 4. ☒ Tightness testing 5. ☐ Line leak detector 6. ☐ Not required 8. ☐ SIR
Approval: 1. ☐ Nat'l Std. 2. ☐ UL 3. ☐ Other: | Is pipe double walled? ☐ Yes ☐ No

E. TANK CONTENTS
1. ☐ Diesel 2. ☐ Leaded 3. ☒ Unleaded 4. ☐ Fuel Oil 5. ☐ Gasohol
6. ☐ Other (Specify): _____ 7. ☐ Empty* 8. ☐ Sand/Gravel/Slurry* 9. ☐ Unknown* 10. ☐ Premix
11. ☐ Waste/Used Motor Oil 13. ☐ Chemical _____ (Indicate chemical name and number) 14. ☐ Kerosene 15. ☐ Aviation

* If 7, 8, or 9 is chosen, this tank is NOT PECFA eligible.

If Tank Closed, Abandoned or Out of Service, give date (mo/day/yr):	Has a site assessment been completed (see reverse side for details) ☐ Yes ☒ No
Owner or Operator Name (please print): National Investments - Yogi Bhardwaj	Indicate whether: ☒ Owner or ☐ Operator
Owner or Operator Signature:	Date Signed

IMPORTANT: Failure to provide sufficient information may cause you to fail under additional regulations, and may delay PECFA eligibility determination. It is necessary to complete ALL shaded areas and as many other items as possible

SBD-7437 (R. 05/96)

State of Wisconsin
Department of Commerce

WI Tank ID#: 581000058

UNDERGROUND PETROLEUM PRODUCT TANK INVENTORY

Information Required By Section 101.142, Wis. Stats.

Send Completed Form To:
Storage Tank, Permitting and Registration Section
P.O. Box 7969, Madison, WI 53707

Underground tanks in Wisconsin that have stored or currently store petroleum or regulated substances must be registered. Please see the reverse side for additional information on this program. An underground storage tank is defined as any tank with at least 10 percent of its total volume (including piping) located below ground level. A separate form is needed for each tank. Send each completed form to the agency designated in the top right corner. Have you previously registered this tank by submitting a form? ☒ Yes ☐ No If yes, are you correcting/updating information only? ☒ Yes ☐ No
Personal information you provide may be used for secondary purposes. [Privacy Law, s. 15.04 (1)(m)]

This registration applies to a tank that is (check one):
A. ☐ In Use or
B. ☐ Newly Installed
2. ☐ Abandoned with Product
3. ☐ Abandoned No Product (empty) or with Water
4. ☐ Closed - Tank Removed
6. ☐ Closed - Filled with Inert Materials
7. ☐ Out of Service - Provide Date: _____
8. ☒ Ownership Change (Indicate new owner name in block 2)

Fire Department providing fire coverage where tank is located:
☒ City ☐ Village ☐ Town of Shawano

A. IDENTIFICATION (Please Print)

1. Tank Site Name	Site Address	Site Telephone Number
Clark #118	1037 E. Green Bay Street	( )

☒ City ☐ Village ☐ Town of:	State	Zip Code	County
Shawano	Wisconsin	54166	Shawano

2. Tank Owner Name	Mailing Address	Telephone Number
National Investments, LLC	6621 39th Avenue	414/652-4100

☒ City ☐ Village ☐ Town of:	State	Zip Code	County
Shawano	Wisconsin	53142	Kenosha

3. Previous Name	Previous site address if different than #1
Clark Oil & Refining	

4. Tank Age (date installed, if known or years old)	5. Tank Capacity (gallons)	6. If more than one tank is located at facility, please provide tank #
unknown	99	#3

B. TYPE OF USER (check one)
1. ☒ Gas/Retail Sales 2. ☐ Bulk Storage 3. ☐ Utility 4. ☐ Mercantile/Commercial 5. ☐ Industrial
6. ☐ Government 7. ☐ School 8. ☐ Residential 9. ☐ Agricultural 10. ☐ Other (specify):
11. ☐ Tribal Nation 12. ☐ Federal Property 13. ☐ Backup Generator

C. TANK CONSTRUCTION (check one)
1. ☐ Bare Steel 2. ☐ Cathodically Protected & Coated Steel (Check one: A. ☐ Sacrificial Anodes or B. ☐ Impressed Current)
3. ☒ Coated Steel 4. ☐ Fiberglass 5. ☐ Other (specify): _____
6. ☐ Lined - Date: _____ 7. ☐ Steel - Fiberglass Reinforced Plastic Composite 9. ☐ Unknown

Approval: 1. ☐ Nat'l Std. 2. ☐ UL 3. ☐ Other: | Is tank double walled? ☐ Yes ☒ No
Overfill Protection Provided? ☐ Yes ☒ No If yes, identify type: | Spill Containment? ☐ Yes ☒ No
Tank leak detection method: 1. ☐ Automatic tank gauging 2. ☐ Vapor monitoring 3. ☐ Groundwater monitoring
4. ☐ Inventory control and tightness testing 5. ☐ Interstitial monitoring
7. ☐ Manual tank gauging (only for tanks of 1,000 gallons or less) 8. ☐ Statistical Inventory Reconciliation (SIR)

D. PIPING CONSTRUCTION
1. ☐ Bare Steel 2. ☐ Cathodically Protected & Coated Steel (Check one: A. ☐ Sacrificial Anodes or B. ☐ Impressed Current)
3. ☐ Coated Steel 4. ☐ Fiberglass 5. ☐ Other (Specify): 9. ☒ Unknown

Vapor Recovery/Stage II ☐ CARB #: _____
4. ☐ Fiberglass 6. ☐ Flexible 5. ☐ Other (specify): ☐ Operational - Provide Date (mo/day/yr):
Piping System Type: 1. ☐ Pressurized piping with A. ☐ auto shutoff; B. ☐ alarm or C. ☐ flow restrictor
2. ☐ Suction piping with check valve at tank 3. ☐ Suction piping with check valve at pump and inspectable 4. ☐ Not needed if waste oil
Piping leak detection method: used if pressurized or check valve at tank: 1. ☐ Vapor monitoring 2. ☐ Interstitial monitoring
3. ☐ Groundwater monitoring 4. ☐ Tightness testing 5. ☐ Line leak detector 6. ☐ Not required 8. ☐ SIR

Approval: 1. ☐ Nat'l Std. 2. ☐ UL 3. ☐ Other: | Is pipe double walled? ☐ Yes ☐ No

E. TANK CONTENTS
1. ☐ Diesel 2. ☒ Leaded 3. ☐ Unleaded 4. ☐ Fuel Oil 5. ☐ Gasohol
6. ☐ Other (Specify): _____ 7. ☐ Empty* 8. ☐ Sand/Gravel/Slurry* 9. ☐ Unknown* 10. ☐ Premix
11. ☐ Waste/Used Motor Oil 13. ☐ Chemical _____ 14. ☐ Kerosene 15. ☐ Aviation
(Indicate chemical name and number)

* If 7, 8, or 9 is chosen, this tank is NOT PECFA eligible.

If Tank Closed, Abandoned or Out of Service, give date (mo/day/yr):	Has a site assessment been completed (see reverse side for details)
1993	☐ Yes ☒ No

Owner or Operator Name (please print):	Indicate whether:
National Investments - Yogi Bhardwaj	☒ Owner or ☐ Operator

Owner or Operator Signature:	Date Signed

IMPORTANT: Failure to provide sufficient information may cause you to fail under additional regulations, and may delay PECFA eligibility determination. It is necessary to complete ALL shaded areas and as many other items as possible.

SBD-7437 (R. 05/96)

State of Wisconsin
Department of Commerce

WI Tank ID#: 581000059

UNDERGROUND PETROLEUM PRODUCT TANK INVENTORY

Information Required By Section 101.142, Wis. Stats.

Send Completed Form To:
Storage Tank, Permitting and Registration Section
P.O. Box 7969, Madison, WI 53707

Underground tanks in Wisconsin that have stored or currently store petroleum or regulated substances must be registered. Please see the reverse side for additional information on this program. An underground storage tank is defined as any tank with at least 10 percent of its total volume (including piping) located below ground level. A separate form is needed for each tank. Send each completed form to the agency designated in the top right corner. Have you previously registered this tank by submitting a form? ☒ Yes ☐ No If yes, are you correcting/updating information only? ☒ Yes ☐ No

Personal information you provide may be used for secondary purposes. [Privacy Law, s. 15.04 (1)(m)]

This registration applies to a tank that is (check one):
A. ☐ In Use on
B. ☐ Newly Installed
2. ☐ Abandoned with Product
3. ☐ Abandoned No Product (empty) or with Water
4. ☐ Closed - Tank Removed
6. ☐ Closed - Filled with Inert Materials
7. ☐ Out of Service - Provide Date: _____
8. ☒ Ownership Change (Indicate new owner name in block 2)

Fire Department providing fire coverage where tank is located:
☒ City ☐ Village ☐ Town of Shawano

A. IDENTIFICATION (Please Print)

1. Tank Site Name	Site Address	Site Telephone Number
Clark Oil #118	1037 E. Green Bay Street	( )

☒ City ☐ Village ☐ Town of:	State	Zip Code	County
Shawano	Wisconsin	54166	Shawano

2. Tank Owner Name	Mailing Address	Telephone Number
National Investments, LLV	6621 39th Avenue	414/652-4100

☒ City ☐ Village ☐ Town of:	State	Zip Code	County
Kenosha	Wisconsin	53142	Kenosha

3. Previous Name	Previous site address if different than #1
Clark Oil & Refining	

4. Tank Age (date installed, if known or years old)	5. Tank Capacity (gallons)	6. If more than one tank is located at facility, please provide tank #
unknown	99	#4

B. TYPE OF USER (check one)

1. ☒ Gas/Retail Sales 2. ☐ Bulk Storage 3. ☐ Utility 4. ☐ Mercantile/Commercial 5. ☐ Industrial
6. ☐ Government 7. ☐ School 8. ☐ Residential 9. ☐ Agricultural 10. ☐ Other (specify):
11. ☐ Tribal Nation 12. ☐ Federal Property 13. ☐ Backup Generator

C. TANK CONSTRUCTION (check one)

1. ☐ Bare Steel 2. ☐ Cathodically Protected & Coated Steel (Check one: A. ☐ Sacrificial Anodes or B. ☐ Impressed Current)
3. ☒ Coated Steel 4. ☐ Fiberglass 5. ☐ Other (specify): _____
6. ☐ Lined - Date: _____ 7. ☐ Steel - Fiberglass Reinforced Plastic Composite 9. ☐ Unknown

Approval: 1. ☐ Nat'l Std. 2. ☐ UL 3. ☐ Other: | Is tank double walled? ☐ Yes ☒ No

Overfill Protection Provided? ☐ Yes ☒ No If yes, identify type: | Spill Containment? ☐ Yes ☒ No

Tank leak detection method:
1. ☐ Automatic tank gauging 2. ☐ Vapor monitoring 3. ☐ Groundwater monitoring
4. ☐ Inventory control and tightness testing 5. ☐ Interstitial monitoring
7. ☐ Manual tank gauging (only for tanks of 1,000 gallons or less) 8. ☐ Statistical Inventory Reconciliation (SIR)

D. PIPING CONSTRUCTION

1. ☐ Bare Steel 2. ☐ Cathodically Protected & Coated Steel (Check one: A. ☐ Sacrificial Anodes or B. ☐ Impressed Current)
3. ☐ Coated Steel 4. ☐ Fiberglass 5. ☐ Other (Specify): 9. ☒ Unknown

Vapor Recovery/Stage II
4. ☐ Fiberglass 6. ☐ Flexible 5. ☐ Other (specify): ☐ CARB #: _____ ☐ Operational - Provide Date (mo/day/yr):

Piping System Type: 1. ☐ Pressurized piping with A. ☐ auto shutoff; B. ☐ alarm or C. ☐ flow restrictor
2. ☐ Suction piping with check valve at tank 3. ☐ Suction piping with check valve at pump and inspectable 4. ☐ Not needed if waste oil

Piping leak detection method: used if pressurized or check valve at tank: 1. ☐ Vapor monitoring 2. ☐ Interstitial monitoring
3. ☐ Groundwater monitoring 4. ☐ Tightness testing 5. ☐ Line leak detector 6. ☐ Not required 8. ☐ SIR

Approval: 1. ☐ Nat'l Std. 2. ☐ UL 3. ☐ Other: | Is pipe double walled? ☐ Yes ☐ No

E. TANK CONTENTS

1. ☐ Diesel 2. ☒ Leaded 3. ☐ Unleaded 4. ☐ Fuel Oil 5. ☐ Gasohol
6. ☐ Other (Specify): _____ 7. ☐ Empty* 8. ☐ Sand/Gravel/Slurry* 9. ☐ Unknown* 10. ☐ Premix
11. ☐ Waste/Used Motor Oil 13. ☐ Chemical _____ (Indicate chemical name and number) 14. ☐ Kerosene 15. ☐ Aviation

* If 7, 8, or 9 is chosen, this tank is NOT PECFA eligible.

If Tank Closed, Abandoned or Out of Service, give date (mo/day/yr):	Has a site assessment been completed (see reverse side for details)
1993	☐ Yes ☒ No

Owner or Operator Name (please print):	Indicate whether:
National Investments - Yogi Bhardwaj	☒ Owner or ☐ Operator
Owner or Operator Signature:	**Date Signed**

IMPORTANT: Failure to provide sufficient information may cause you to fall under additional regulations, and may delay PECFA eligibility determination. It is necessary to complete ALL shaded areas and as many other items as possible

SBD-7437 (R. 05/96)

APPENDIX B

WDNR Correspondence

MAY 2 0 1998

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
William R. Selbig, Regional Director

Northeast Region
Remediation & Redevelopment
PO Box 10448, 1125 N. Military Avenue
Green Bay, WI 54307-0448
TELEPHONE 920-492-5916
TELEFAX 920-492-5859

May 18, 1998

National Investments LLC
Attn: Yogi Bhardwaj
6621 39th Avenue
Kenosha, WI 53142

#4291
Raafue

SUBJECT: Petroleum Contamination from Underground Storage Tank System
Former Clark Oil #118, 1037 E. Green Bay Street, City of Shawano
WDNR LUST ID #03-59-186613

Dear Mr. Bhardwaj:

On April 30, 1998, the Department of Natural Resources (DNR) received notification from Mark Peters of K. Singh & Associates that petroleum contamination was discovered on April 29, 1998, at the above-referenced location.

Based on the information received by the DNR, we believe that National Investments LLC is responsible for restoring the environment at this site under Section 292.11, Wisconsin Statutes (hazardous substances spills law). This responsibility includes first investigating the extent of the contamination, then selecting and implementing the most appropriate remedial action. Enclosed is information to help you understand what you need to do to ensure your compliance with the spills law.

The purpose of this letter is threefold: (1) to describe your legal responsibilities; (2) to explain what you need to do to investigate and clean up the contamination; and (3) to provide you with information about cleanups, environmental consultants, and working cooperatively with the DNR.

Legal Responsibilities

Your legal responsibilities are defined both in statute and administrative code. The hazardous substances spill law, Section 292.11(3) Wisconsin Statutes, states:

> RESPONSIBILITY. A person who possesses or controls a hazardous substance which is discharged or who causes the discharge of a hazardous substance shall take the actions necessary to restore the environment to the extent practicable and minimize the harmful effects from the discharge to the air, lands, or waters of the state.

Wisconsin Administrative Codes NR 700 through NR 728 establish requirements for emergency and interim actions, public information, site investigations, design and operation of remedial action systems, and case closure. Chapter NR 708 includes provisions for immediate actions in response to limited contamination. Wisconsin Administrative Code NR 140 establishes groundwater standards for contaminants that reach groundwater.

Steps to Take

The longer contamination is left in the environment, the farther it can spread and the more it may cost to clean up. Quick action may lessen damage to your property and to neighboring properties and reduce your costs in investigating and cleaning up the contamination. To ensure that your cleanup complies with Wisconsin's laws and administrative codes, you should hire a professional environmental consultant who understands what needs to be done. These are the first four steps to take:

1. **By June 25, 1998,** please submit written verification (such as a letter from the consultant) that you have hired an environmental consultant (we would like a contact name, mailing address and phone number). If you cannot meet this timeline, please send a request for an extension, in writing, to the name listed at the bottom of this page, indicating the reason why the timeline cannot be met and when you expect to be able to meet this requirement.

2. **By July 25, 1998,** your consultant must submit a workplan and a schedule for conducting the investigation. The consultant must follow the Department's administrative codes and our technical guidance documents. Please include with the workplan a copy of any previous information that has been completed for your site (such as an underground tank removal report or a preliminary soil excavation report).

3. Please keep us informed of what is being done at your site. You or your consultant must provide us with a brief report at least every 90 days starting after your workplan is submitted. These quarterly reports should summarize the work completed since the last report. Quarterly reports need only include one or two pages of text, plus any relevant maps and tables. Should conditions at your site warrant, you may receive a letter requiring more frequent contacts with the Department.

4. When the site investigation is complete, your consultant must submit a full report on the extent and degree of soil and groundwater contamination and a proposal for cleaning up the contamination.

Due to the number of contaminated sites and our staffing levels, we will be unable to respond to each report. To maintain your compliance with the spills law and chapters NR 700 through NR 728, do not delay the investigation and cleanup by waiting for DNR responses. We have provided detailed technical guidance to environmental consultants. Your consultant is expected to be familiar with our technical procedures and administrative codes and should be able to answer your questions on meeting Wisconsin's cleanup requirements.

Though a WDNR project manager has not been assigned to this case, your correspondence and reports regarding this site should be sent to the Department at the following address:

Wisconsin Department of Natural Resources
Attn: Thomas Sturm (715-526-4230)
647 Lakeland Road
Shawano, WI 54166

If the contamination doesn't include groundwater contamination, the responsibility for governmental oversight of this site will be transferred to the Wisconsin Department of Commerce in accordance with Wisconsin Act 27.

Unless otherwise requested, please send only one duplexed copy of all plans and reports. Correspondence and reports should be identified with the assigned WDNR ID number and name of the site, which can be found on the first page of this letter.

Information for Site Owners

Enclosed is a list of environmental consultants and some important tips on selecting a consultant. If you are eligible for reimbursement of costs under Wisconsin's PECFA program (see last paragraph), you will need to compare at least three consultants' proposals before hiring a consultant. Consultants and laboratories working in the PECFA program are required to carry errors and omissions insurance to help protect you against unsuitable work. Also enclosed are materials on controlling costs, understanding the cleanup process, and choosing a site cleanup method. This information has been prepared to help you understand your responsibilities and what your environmental consultant needs to do. Please read this information carefully.

Financial Information

Reimbursement from the Petroleum Environmental Cleanup Fund (PECFA) is available for the costs of cleaning up contamination from eligible petroleum storage tanks. The fund is administered by the Wisconsin Department of Commerce (DCOM). Please contact DCOM at (608) 266-2424 for more information on eligibility and regulations for this program.

Thank you for your cooperation.

Sincerely,

Janis DeBrock

Janis DeBrock, Program Assistant
(920-492-5878)

Enc: Selecting An Environmental Consultant; Consultant List
Controlling UST Cleanup Costs Factsheets
Quarterly Updates for Cleanup of Contaminated Properties
Cleanup Process for Emergency & Remedial Response Program
Cleanup Methods for Petroleum Contaminated Soil & Groundwater

cc: Mark Peters, K. Singh & Associates, 1135 Legion Drive, Elm Grove, WI 53122

APPENDIX C

General Conditions for Data Collection

GENERAL CONDITIONS -- DATA COLLECTIONS

Field sampling techniques were employed in this investigation to obtain the data presented in the final boring logs and in the report in accordance with ASTM, D420, D1452 and D1586 (where applicable).

The drilling method utilized in the borings is a dry process, machine rotary auger type, which advances hollow threaded steel auger flights in five foot lengths. This method creates a continuously cased test hole that prevents the boring from caving in above each level of substrata to be tested. Sampling tools are lowered inside the hollow shaft for testing in the relatively undisturbed soils below the lead auger.

Sampling in the cohesionless (granular) soils is accomplished by driving a standard split-barrel tool (split-spoon) with a 140 pound weight falling thirty inches. The number of blows required to advance the tool in two, six-inch increments following six inches of seating were recorded on the final boring logs under the "N" column, referring to the standard penetration test (ASTM D1586).

Sampling in the cohesive soils is performed by hydraulically pushing steel sharpened edge, thin wall tube samplers at a uniform rate. Tubes are advanced below the tip of the lead auger at least thirty inches, to retrieve a sample, in accordance with ASTM D1587. The tubes are equipped with pressure releasing ports to allow water to escape as the tube is advanced.

Samples were brought to the surface, examined by the field staff and sealed in containers (or sealed in the tubes) to reduce loss of moisture. They were returned to laboratory for final classification per ASTM D2437-69 methods. Some samples were subjected to tests as described in the text of the report.

A field log was prepared for each boring by the field staff during on-site operations in order to record field occurrences, sampling intervals and groundwater observations. The field logs and laboratory test data sheets are available for inspection at the Engineer's office. They are not included in the report because they do not represent the Engineer's final opinions or interpretations.

A final log of each test pit or boring was prepared by the writer of the report or the Engineer's staff. Each final log contains the writers' interpretation of the field conditions or changes in substrata between recovered samples based on the field data received along with the laboratory test data obtained following the field work or on subsequent site observations. The final logs were prepared by assembling and analyzing field and laboratory data. Therefore, the final logs contain both factual and interpretive information. Our opinions are based on final logs, not the field logs.

The final logs list boring methods, sampling methods, depths sampled, amounts of recovery in sampling tools, indications of the presence of subsoil types and groundwater level observations. Results of laboratory tests are recorded in the final logs at the appropriate depths below grade. The horizontal lines on the final logs which designate the interface between successive layers represent approximate boundaries. The transition between strata was typically gradual.

We caution that the final boring logs alone do not constitute the report, and as such they should not be excerpted from the other appendix exhibits nor from any of the written text. Without the written report it is possible to misinterpret the meaning of the information reported on the final logs. If the reports are to be reproduced for bidding or reference purposes, the entire numbered report and appendix exhibits should be bound together as a separate document or as a section of a specification booklet, including all maps.

Pocket penetration tests taken in the field or on samples examined in the laboratory are listed on the final boring logs in a column marked "pp". These tests were performed only to indicate relative stiffness in consistency between successive layers of cohesive soil. It is not recommended that the listed values be used to determine allowable bearing capacities. Bearing capacities of soils are determined by the Engineer using laboratory testing methods as described in the text of the report.

Groundwater observations were made with cloth-tape measurements in the open drill holes by field personnel at the times and dates stated on the final logs. It must be noted that fluctuations may occur in the groundwater level due to variations in rainfall, seasonal temperature, nearby site improvements, underdrainage, wells, severity of winter frosts, overburden weights and permeability of the subsoils. Because variations may be expected, final designs and construction planning should allow for the need to be temporarily dewater excavations or subsoils.

LOG OF TEST BORING

GENERAL NOTES

Descriptive Soil Classification

GRAIN SIZE TERMINOLOGY

Soil Fraction	Particle Size	U.S. Standard Sieve Size
Boulders	Larger than 12"	
Cobbles	3" to 12"	
Gravel: Coarse	3/4" to 3"	
Fine	4.78mm to 3/4"	#4 to 3/4"
Sand: Coarse	2.00mm to 4.78mm	#10 to #4
Medium	0.42mm to 2.00mm	#40 to #10
Fine	0.074mm to 0.42mm	#200 to #40
Silt	0.005mm to 0.074mm	Smaller than #200
Clay	Smaller than 0.005mm	Smaller than #200

*Plasticity characteristics differentiate between silts and clay.

GENERAL TERMINOLOGY

Physical Characteristics:
Color, moisture, grain shape, fineness, etc.
Major Constituents:
Clay, silt, sand, gravel
Structure:
Laminated, varved, fibrous, stratified, cemented, fissured, etc.
Geologic Origin:
Glacial, alluvial, solian, residual, etc.

ORGANIC CONTENT BY COMBUSTION METHOD

Soil Description	Loss on Ignition
Non Organic	Less than 4%
Organic Silt/Clay	4-12%
Sedimentary Peat	12-50%
Fibrous and Woody Peat	More than 50%

CONSISTENCY

Term	q tons/sq. ft.
Very Soft	0.0 to 0.25
Soft	0.25 to 0.50
Medium	0.50 to 1.0
Stiff	1.0 to 2.0
Very Stiff	2.0 to 4.0
Hard	Over 4.0

PLASTICITY

Term	Plastic Index
None to Slight	0-4
Slight	5-7
Medium	8-22
High to Very High	Over 22

RELATIVE PROPORTIONS OF COHESIONLESS SOILS

Proportional Term	Defining Range By Percentage of Weight
Trace	0% - 5%
Little	5% - 12%
Some	12% - 35%
And	35% - 50%

RELATIVE DENSITY

Term	"N" Value
Very Loose	0-4
Loose	4-10
Medium Dense	10-30
Dense	30-50
Very Dense	Over 50

Symbols

DRILLING AND SAMPLING

CS-Continuous Sampling
RC-Rock Coring: Size AW, BW, NW, 2"W
RQD-Rock Quality Designator
RB-Rock Bit
FT-Fish Tail
DC-Drove Casing
C-Casing: Size 2.5", NW, 4", HW
CW-Clear Water
DM-Drilling Mud
HSA-Hollow Stem Auger
FA-Flight Auger
HA-Hand Auger
COA-Clean-Out Auger
SS-2" Diameter Split-Barrel Sample
ST2-2" Diameter Thin-Walled Tube Sample
ST-3" Diameter Thin-Walled Tube Sample
PT-3" Diameter Piston Tube Sample
AS-Auger Sample
WS-Wash Sample
PTS-Peat Sample
PS-Pitcher Sample
GRAB-Grab Sample
NR-No Recovery
M- Observed Moist Soil Conditions
S- Observed Saturated Soil Conditions
W- Observed Wet Soil Conditions
SO-Sounding
PMT-Borehole Pressuremeter Test
VS-Vane Shear Test
WPT-Water Pressure Test

LABORATORY TESTS

qu -Penetrometer Reading, tons/sq. ft.
Qu -Unconfined Strength, tons/sq. ft.
W-Moisture Content, %
LL-Liquid Limit, %
PL-Plastic Limit. %
SL-Shrinkage Limit, %
LI-Loss on Ignition, %
D-Dry Unit Weight, lbs./cu. ft.
pH-Measure of Soil Alkalinity or Acidity
FS-Free Swell, %
C_u = coefficient of uniformity
C_c = coefficient of curvature

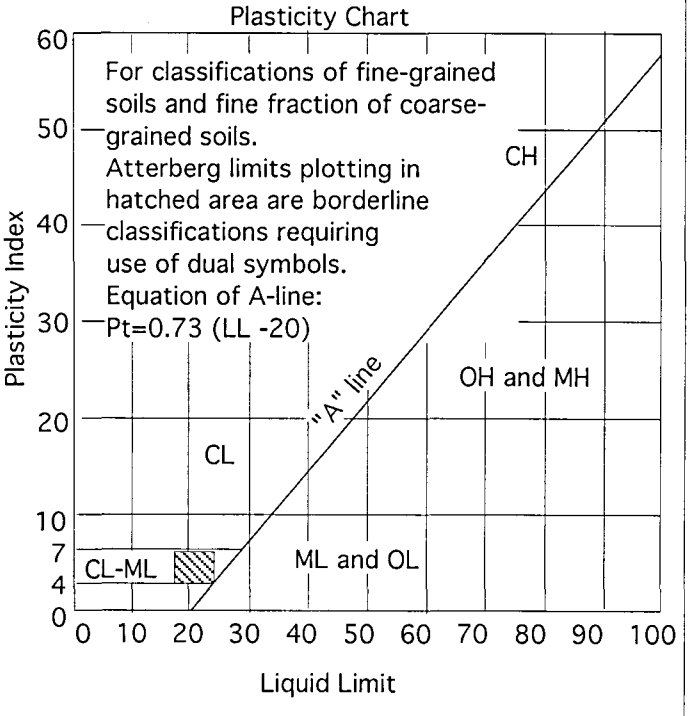
WATER LEVEL MEASUREMENT

-Water Level at time shown
NW-No Water Encountered
WD-While Drilling
BCR-Before Casing Removal
ACR-After Casing Removal
CW-Caved and Wet
CM-Caved and Moist

CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES

ASTM Designation: D 2487 - 93 AND D 2488 - 93
(Unified Soil Classification System)

Major divisions			Group symbols	Typical names	Laboratory classification criteria	
Coarse-grained soils: More than 50% is larger than No. 200 sieve*	GRAVELS -- 50% or more of coarse fraction retained on No. 4 sieve	Clean gravels	GW	Well-graded gravels and gravel-sand mixtures, little or no fines	Classification on basis of percentages of fines Less than 5% pass No. 200 sieve.....GW, GP, SW, SP More than 12% pass No. 200 sieve....GM, GC, SM, SC 5 to 12% pass No. 200 sieve.....Borderline classifications requiring use of dual symbols	$C_u = \frac{D60}{D10}$ greater than 4: $C_c = \frac{(D30)^2}{D10 \times D60}$ between 1 and 3
			GP	Poorly graded gravels and gravel-sand mixtures, little or no fines		Not meeting both criteria for GW
		Gravels with fines	GM	Silty gravels, gravel-sand-silt mixtures	Atterberg limits below "A" line or P.I. less than 4	Atterberg limits plotting in hatched area are borderline classifications requiring use of dual symbols
			GC	Clayey gravels, gravel-sand-clay mixtures	Atterberg limits above "A" line with P.I. greater than 7	
	SANDS -- More than 50% of coarse fraction passes No. 4 sieve	Clean sands	SW	Well-graded sands and gravelly sands, little or no fines		$C_u = \frac{D60}{D10}$ greater than 6: $C_c = \frac{(D30)^2}{D10 \times D60}$ between 1 and 3
			SP	Poorly graded sands and gravelly sands, little or no fines		Not meeting both criteria for SW
		Sands with fines	SM	Silty sands, sand-silt mixtures	Atterberg limits below "A" line or P.I. less than 4	Atterberg limits plotting in hatched area are borderline classifications requiring use of dual symbols
			SC	Clayey sands, sand-clay mixtures	Atterberg limits above "A" line with P.I. greater than 7	
Fine-grained soils: 50% or more is smaller than No. 200 sieve*	Silts and clays: Liquid limit 50% or less		ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands	Plasticity Chart	
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays silty clays, lean clays		
			OL	Organic silts and organic silty clays of low plasticity		
	Silts and clays: Liquid limit greater than 50%		MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts		
			CH	Inorganic clays of high plasticity, fat clays		
			OH	Organic clays of medium to high plasticity		
	Highly organic soils		Pt	Peat, muck and other highly organic soils		



*No. 200 sieve is screened with 0.074mm openings.

APPENDIX D

Soil Boring Logs

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment [x] Other ☐ _____

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Clark Oil #118 (4291)		B-1

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Shawn Last Name: Abel Firm: Boart Longyear	06 / 03 / 1998 (m m / d d / y y y y)	06 / 03 / 1998 (m m / d d / y y y y)	HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _		6 Feet MSL	0 Feet MSL	8 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location x
State Plane 0 N, 0 E
SW 1/4 of SW 1/4 of Section 30, T 27 N, R 16 E

Lat 0 ° 0 ' 0 "
Long 0 ° 0 ' 0 "

Local Grid Location
0 Feet ☐ N ☐ S 0 Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
359186613	SHAWANO	59	City of Shawano

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	18/18	8,7,8	2.5	FILL(FI) mixture of sand and gravel. Top 3" asphalt.	FI			90						
2 SS	18/18	7,9, 12	5	SILTY SAND (SM) medium dense, brown, moist to saturated, fine grained.	SM			>200						Benz = <2.500 GRO = 4,300
3 SS	18/18	10,11 , 18	7.5	saturated	SM			150						
			10	End of boring at 7.5 feet below grade. Borehole abandoned in accordance with NR 141.25.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
Adam S. McDermott	K. Singh & Associates

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment [x] Other ☐ _____

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Clark Oil #118 (4291)		B-2

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Shawn Last Name: Abel Firm: Boart Longyear	06 / 02 / 1998 (m m / d d / y y y y)	06 / 02 / 1998 (m m / d d / y y y y)	HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _	MW-2	6 Feet MSL	0 Feet MSL	8 inches

Local Grid Origin ☐ (estimated: [x]) or Boring Location [x]
State Plane 0 N, 0 E
SW 1/4 of SW 1/4 of Section 30, T 27 N, R 16 E

Lat 0 ° 0 ' 0 "
Long 0 ° 0 ' 0 "

Local Grid Location
0 Feet ☐ N ☐ S 0 Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
359186613	SHAWANO	59	City of Shawano

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	-	-	2.5	FILL(FI) mixture of sand and gravel. Top 3" asphalt. Hand dug to 3' bg.	FI			-						
2 SS	18/18	5,7, 15	5	SILTY SAND (SM) medium dense, brown, moist to saturated, fine grained sand.	SM			BK						
3 SS	18/18	10,12 , 10	7.5		SM			BK						Benz = <25 GRO = <6.3
			10	End of boring at 7.5 feet below grade. Monitoring well MW-2 installed.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Adam S. McAllaster | Firm K. Singh & Associates

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment [x] Other ☐ _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Clark Oil #118 (4291)		B-3

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Shawn Last Name: Abel Firm: Boart Longyear	06 / 02 / 1998 (m m / d d / y y y y)	06 / 02 / 1998 (m m / d d / y y y y)	HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _ _	MW-3	6 Feet MSL	0 Feet MSL	8 inches

Local Grid Origin ☐ (estimated: [x]) or Boring Location [x]
State Plane 0 N, 0 E
SW 1/4 of SW 1/4 of Section 30, T 27 N, R 16 E

Lat 0 ° 0 ' 0 "
Long 0 ° 0 ' 0 "

Local Grid Location
0 Feet ☐ N ☐ S 0 Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
359186613	SHAWANO	59	City of Shawano

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	18/12	3,4,7	2.5	FILL(FI) mixture of sand and gravel. Top 6" concrete.	FI			BK						
2 SS	18/18	11,18 ,24	5	SILTY SAND (SM) medium dense, brown, moist to saturated, fine grained sand.	SM			BK						
3 SS	18/18	14,12 ,13	7.5		SM			32						Benz = 940 GRO = 8.5
			10	End of boring at 7.5 feet below grade. Monitoring well MW-3 installed.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Adam S. McAllen Firm K. Singh & Associates

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment [x] Other ☐ _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Clark Oil #118 (4291)		B-4

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Shawn Last Name: Abel Firm: Boart Longyear	06 / 02 / 1998 (m m d d y y y y)	06 / 02 / 1998 (m m d d y y y y)	HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _ _	MW4	6 Feet MSL	0 Feet MSL	8 inches

Local Grid Origin ☐ (estimated: [x]) or Boring Location [x]
State Plane 0 N, 0 E
SW 1/4 of SW 1/4 of Section 30, T 27 N, R 16 E

Lat 0 ° 0 ' 0 "
Long 0 ° 0 ' 0 "

Local Grid Location
☐ N ☐ E
0 Feet ☐ S 0 Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
359186613	SHAWANO	59	City of Shawano

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	18/18	5,8, 13	2.5	FILL(FI) mixture of gravel and sand. Top 2" asphalt.	FI			BK						
2 SS	18/18	11,13 , 14	5	SILTY SAND (SM) medium dense, brown, moist to saturated.	SM			BK						
3 SS	18/18	11,15 , 14	7.5		SM			BK						
			10	End of Boring at 7.5 feet below grade. Monitoring well MW-4 installed.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
Adam S. McWilliams	K. Singh & Associates

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment [x] Other ☐ _____

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Clark Oil #118 (4291)		B-5

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Shawn Last Name: Abel Firm: Boart Longyear	06 / 02 / 1998 (m m d d y y y y)	06 / 02 / 1998 (m m d d y y y y)	HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _ _	MW-5	6 Feet MSL	0 Feet MSL	8 inches

Local Grid Origin ☐ (estimated: [x]) or Boring Location [x]
State Plane 0 N, 0 E
SW 1/4 of SW 1/4 of Section 30, T 27 N, R 16 E

Lat 0 ° 0 ' 0 "
Long 0 ° 0 ' 0 "

Local Grid Location
0 Feet ☐ N ☐ S 0 Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
359186613	SHAWANO	59	City of Shawano

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	18/10	6,9, 13	2.5	FILL(FI) mixture of gravel and sand. Top 3" asphalt.	FI			BK						
2 SS	18/18	8,11, 13	5	SILTY SAND(SM) medium dense, brown, moist to saturated, fine grained sand.	SM			BK						
3 SS	18/18	10,13 , 18	7.5		SM			BK						Benz = <25 GRO = <6.3
			10	End of Boring at 7.5 feet below grade. Monitoring well MW-5 installed.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Helen B. McAllen Firm K. Singh & Associates

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment [x] Other ☐ _____

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Clark Oil #118 (4291)		B-6

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Shawn Last Name: Abel Firm: Boart Longyear	06 / 03 / 1998 (m m d d y y y y)	06 / 03 / 1998 (m m d d y y y y)	HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _ _	MW-1	6 Feet MSL	0 Feet MSL	8 inches

Local Grid Origin ☐ (estimated: [x]) or Boring Location [x]
State Plane 0 N, 0 E
SW 1/4 of SW 1/4 of Section 30, T 27 N, R 16 E

Lat 0 ° 0 ' 0 "
Long 0 ° 0 ' 0 "

Local Grid Location
0 Feet ☐ N ☐ S 0 Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
359186613	SHAWANO	59	City of Shawano

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	18/18	1,5,9	2.5	ORGANIC CLAY (OH) stiff. black, moist, topsoil with some sand.	OH			BK						
2 SS	18/18	6,8, 12	5	SANDY SILT (SM) medium dense, brown, moist to saturated, fine grained sand.	SM			BK						
3 SS	18/18	7,12, 18	7.5		SM			BK						Benz = <25 GRO = <6.2
			10	End of Boring at 7.5 feet below grade. Monitoring well MW-1 installed.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
Adam D. McAllen	K. Singh & Associates

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment [x] Other ☐ _____

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Clark Oil #118 (4291)		B-7

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Shawn Last Name: Abel Firm: Boart Longyear	01 / 14 / 1999 (m m / d d / y y y y)	01 / 14 / 1999 (m m / d d / y y y y)	HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _ _	MW-7	6 Feet MSL	0 Feet MSL	8 inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☒
State Plane 0 N, 0 E
SW 1/4 of SW 1/4 of Section 30, T 27 N, R 16 E

Lat 0 ° 0 ' 0 "
Long 0 ° 0 ' 0 "

Local Grid Location
0 Feet ☐ N ☐ S ☐ E 0 Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
359186613	SHAWANO	59	City of Shawano

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	-	-	2.5	No sample due to frozen ground.				-						
2 SS	18/18	7,6,6	5	SILTY SAND(SM) medium dense, brown, moist to saturated, fine grained sand.	SM			BK						
3 SS	18/18	4,4,5	7.5		SM			BK						Benz = <25 GRO = <6.3
			10	End of Boring at 7.5 feet below grade. Monitoring well MW-7 installed.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
Allan D. McAllister	K. Singh & Associates

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment [x] Other ☐ _____

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Clark Oil #118 (4291)		B-8

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Shawn Last Name: Abel Firm: Boart Longyear	06 / 03 / 1998 (m m d d y y y y)	06 / 03 / 1998 (m m d d y y y y)	HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _ _	MW-8	6 Feet MSL	0 Feet MSL	8 inches

Local Grid Origin ☐ (estimated: [x]) or Boring Location [x]
State Plane 0 N, 0 E
SW 1/4 of SW 1/4 of Section 30, T 27 N, R 16 E

Lat 0 ° 0 ' 0 "
Long 0 ° 0 ' 0 "

Local Grid Location
0 Feet ☐ N ☐ S 0 Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
359186613	SHAWANO	59	City of Shawano

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	18/15	4,7,9	2.5	FILL(FI) mixture of gravel and sand. Top 2" asphalt.	FI			>200						
2 SS	18/18	4,7, 13	5	SILTY SAND(SM) medium dense, brown, moist to saturated, fine grained sand.	SM			>200						
3 SS	18/18	7,15, 32	7.5		SM			>200						Benz = 830 GRO = 170
			10	End of Boring at 7.5 feet below grade. Monitoring well MW-8 installed.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
Adam S. McAllen	K. Singh & Associates

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment [x] Other ☐ _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Clark Oil #118 (4291)		B-9

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Shawn Last Name: Abel Firm: Boart Longyear	06 / 03 / 1998 (m m / d d / y y y y)	06 / 03 / 1998 (m m / d d / y y y y)	HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _ _		6 Feet MSL	0 Feet MSL	8 inches

Local Grid Origin ☐ (estimated: [x]) or Boring Location [x]
State Plane 0 N, 0 E
SW 1/4 of SW 1/4 of Section 30, T 27 N, R 16 E

Lat 0 ° 0 ' 0 "
Long 0 ° 0 ' 0 "

Local Grid Location
0 Feet ☐ N ☐ S 0 Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
359186613	SHAWANO	59	City of Shawano

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	18/15	7,7, 10	2.5	FILL(FI) mixture of sand and gravel. Top 2" asphalt.	FI			15						
2 SS	18/18	7,9, 14	5	SILTY SAND(SM) medium dense, brown, moist to saturated, fine grained.	SM			>200						
3 SS	18/18	9,8, 10	7.5		SM			>200						Benz = 550 GRO = 71
			10	End of boring at 7.5 feet below grade. Borehole abandoned in accordance with NR 141.25.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature _____ Firm K. Singh & Associates

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment [x] Other ☐ _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Clark Oil #118 (4291)		B-10

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Shawn Last Name: Abel Firm: Boart Longyear	06 / 03 / 1998 (m m d d y y y y)	06 / 03 / 1998 (m m d d y y y y)	HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _ _		6 Feet MSL	0 Feet MSL	8 inches

Local Grid Origin ☐ (estimated: [X]) or Boring Location [X]
State Plane 0 N, 0 E
SW 1/4 of SW 1/4 of Section 30, T 27 N, R 16 E

Lat 0 ° 0 ' 0 "
Long 0 ° 0 ' 0 "

Local Grid Location
0 Feet ☐ N ☐ S 0 Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
359186613	SHAWANO	59	City of Shawano

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	18/15	7,5,8	2.5	FILL(FI) mixture of sand and gravel. Top 2" asphalt.	FI			BK						
2 SS	18/18	9,11, 13	5	SILTY SAND(SM) medium dense, brown, moist to saturated, fine grained sand.	SM			BK						
3 SS	18/18	9,8, 11	7.5		SM			BK						Benz = <25 GRO = <6.0
			10	End of boring at 7.5 feet below grade. Borehole abandoned in accordance with NR 141.25.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
Adam D. McAllen	K. Singh & Associates

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment [x] Other ☐ _____

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Clark Oil #118 (4291)		B-11

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Jeff Last Name: Flaminio Firm: Boart Longyear	01/14/1999	01/14/1999	HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-9	6 Feet MSL	0 Feet MSL	8 inches

Local Grid Origin ☐ (estimated: [x]) or Boring Location [x]
State Plane 0 N, 0 E
SW 1/4 of SW 1/4 of Section 30, T 27 N, R 16 E

Lat 0 ° 0 ' 0 "
Long 0 ° 0 ' 0 "

Local Grid Location
0 Feet ☐ N ☐ S 0 Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
359186613	SHAWANO	59	City of Shawano

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	-	-	2.5	No sample due to frozen ground.				-						
2 SS	18/18	2,3,3	5	SILTY SAND(SM) loose, brown, moist to saturated, fine grained sand.	SM			BK						
3 SS	18/18	3,2,3	7.5		SM			BK						Benz = <25 GRO = <6.3
			10	End of boring at 7.5 feet below grade. Monitoring well MW-9 installed.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
Adam S. McAllen	K. Singh & Associates

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment [x] Other ☐ _____

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Clark Oil #118 (4291)		B-12

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Shawn Last Name: Abel Firm: Boart Longyear	06 / 03 / 1998 (m m / d d / y y y y)	06 / 03 / 1998 (m m / d d / y y y y)	HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _ _		6 Feet MSL	0 Feet MSL	8 inches

Local Grid Origin ☐ (estimated: [X]) or Boring Location [X]
State Plane 0 N, 0 E
Lat 0 ° 0 ' 0 "
Long 0 ° 0 ' 0 "
Local Grid Location ☐ N ☐ E
0 Feet ☐ S 0 Feet ☐ W
SW 1/4 of SW 1/4 of Section 30, T 27 N, R 16 E

Facility ID	County	County Code	Civil Town/City/ or Village
359186613	SHAWANO	59	City of Shawano

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	18/18	7,12, 10	2.5	FILL(FI) mixture of sand and gravel. Top 3" asphalt.	FI			>200						
2 SS	18/18	10,10 , 8	5	SILTY SAND(SM) medium dense, brown, moist to saturated, fine grained sand.	SM			>200						
3 SS	18/18	10,17 ,21	7.5		SM			>200						Benz = 380 GRO = 94
			10	End of Boring as 7.5 feet below grade. Borehole abandoned in accordance with NR 141.25										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
Adam S. McAllen	K. Singh & Associates

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment [X] Other ☐ _____

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Clark Oil #118 (4291)		B-13

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Jeff Last Name: Flaminio Firm: Boart Longyear	01 / 14 / 1999 (m m / d d / y y y y)	01 / 14 / 1999 (m m / d d / y y y y)	HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _	MW-10	6 Feet MSL	0 Feet MSL	8 inches

Local Grid Origin ☐ (estimated: [X]) or Boring Location [X]
State Plane 0 N, 0 E
SW 1/4 of SW 1/4 of Section 30, T 27 N, R 16 E
Lat 0 0 0 ' 0 "
Long 0 0 0 ' 0 "
Local Grid Location 0 Feet ☐ N ☐ S 0 Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
359186613	SHAWANO	59	City of Shawano

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	-	-	2.5	No sample due to frozen ground.				-						
2 AS	-	-	5	SILTY SAND (SM) loose, brown, moist to saturated, fine grained sand.	SM			BK						
3 SS	18/18	6,4,3	7.5		SM			BK						Benz = <25 GRO = <6.0
			10	End of boring at 7.5 feet below grade. Monitoring well MW-10 installed.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	K. Singh & Associates

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment [x] Other ☐ _____

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Clark Oil #118 (4291)		B-14

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Shawn Last Name: Abel Firm: Boart Longyear	06 / 02 / 1998 (m m d d y y y y)	06 / 02 / 1998 (m m d d y y y y)	HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _ _	MW-6	6 Feet MSL	0 Feet MSL	8 inches

Local Grid Origin ☐ (estimated: [x]) or Boring Location [x]
State Plane 0 N, 0 E
SW 1/4 of SW 1/4 of Section 30, T 27 N, R 16 E

Lat 0 ° 0 ' 0 "
Long 0 ° 0 ' 0 "

Local Grid Location
0 Feet ☐ N ☐ S 0 Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
359186613	SHAWANO	59	City of Shawano

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	18/15	3,4,4	2.5	FILL(FI) mixture of sand and gravel. Top 3" asphalt.	FI			6						
2 SS	18/18	3,2,6	5	SILTY SAND(SM) medium dense, black to grey, moist saturated, fine grained sand.	SM			180						Benz = <5.000 GRO = 6,500
3 SS	18/12	10,10 ,18	7.5		SM			95						
4 SS	18/18	4,5,8	10		SM			40						Benz = <25 GRO = 9.3
			12.5	End of Boring at 10 feet below grade. Monitoring well MW-6 installed.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
Adam D. McAllister	K. Singh & Associates

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment [x] Other ☐ _____

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former Clark Oil #118 (4291)		B-15

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Jeff Last Name: Flaminio Firm: Boart Longyear	08/19/1999	08/19/1999	HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _ _	MW-11	6 Feet MSL	0 Feet MSL	8 inches

Local Grid Origin ☐ (estimated: [X]) or Boring Location [X]
State Plane 0 N, 0 E
SW 1/4 of SW 1/4 of Section 30, T 27 N, R 16 E

Lat 0 ° 0 ' 0 "
Long 0 ° 0 ' 0 "

Local Grid Location
0 Feet ☐ N ☐ S 0 Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
359186613	SHAWANO	59	City of Shawano

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	18/15	4,3,3	2.5	FILL(FI) mixture of sand and gravel. Top 3" asphalt.	FI			BK						
2 SS	18/12	8,6, 10	5	SAND(SM) medium dense, light brown, moist to saturated, fine to medium grained sand.	SM			BK						
3 SS	18/15	10,8 ,11	7.5		SM			BK						Benz = <25 GRO = <6.3
			10	End of boring at 7.5 feet below grade. Monitoring well MW-11 installed.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Adam D. McAllen Firm K. Singh & Associates

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

APPENDIX E

Borehole Abandonment Forms

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B
Rev. 8-89

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location

County: Shawano

SW 1/4 of SW 1/4 of Sec. 30 ; T. 27 N. R. 16 [X] E [ ] W

(If applicable) _____ Gov't Lot _____ Grid Number

Grid Location _____ ft. [ ] N. [ ] S., _____ ft. [ ] E. [ ] W.

Civil Town Name

Street Address of Well

City, Village

(2) FACILITY NAME

Original Well Owner (If Known)

Present Well Owner: National Investments, LLC

Street or Route: 1037 East Green Bay Street

City, State, Zip Code: Shawano, WI 54166

Facility Well No. and/or Name (If Applicable): B-1

WI Unique Well No.: _____

Reason For Abandonment: test boring

Date of Abandonment: 6/3/98

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date): 6/3/98

[ ] Monitoring Well
[ ] Water Well
[ ] Drillhole
[X] Borehole

Construction Report Available? [ ] Yes [ ] No

Construction Type:
[X] Drilled [ ] Driven (Sandpoint) [ ] Dug
[ ] Other (Specify) _____

Formation Type:
[X] Unconsolidated Formation [ ] Bedrock

Total Well Depth (ft.) _____ Casing Diameter (ins.) _____
(From groundsurface)

Casing Depth (ft.) _____

Was Well Annular Space Grouted? [ ] Yes [ ] No [ ] Unknown
If Yes, To What Depth? _____ Feet

(4) Depth to Water: (Feet) _____

Pump & Piping Removed?	[ ] Yes	[ ] No	[X] Not Applicable
Liner(s) Removed?	[ ] Yes	[ ] No	[X] Not Applicable
Screen Removed?	[ ] Yes	[ ] No	[X] Not Applicable
Casing Left in Place?	[ ] Yes	[ ] No	

If No, Explain _____

Was Casing Cut Off Below Surface?	[ ] Yes	[ ] No
Did Sealing Material Rise to Surface?	[ ] Yes	[ ] No
Did Material Settle After 24 Hours?	[ ] Yes	[ ] No
If Yes, Was Hole Retopped?	[ ] Yes	[ ] No

(5) Required Method of Placing Sealing Material
[X] Conductor Pipe-Gravity [ ] Conductor Pipe-Pumped
[ ] Dump Bailer [ ] Other (Explain)

(6) Sealing Materials
[ ] Neat Cement Grout
[ ] Sand-Cement (Concrete) Grout
[ ] Concrete
[ ] Clay-Sand Slurry
[ ] Bentonite-Sand Slurry
[X] Chipped Bentonite

For monitoring wells and monitoring well boreholes only
[ ] Bentonite Pellets
[ ] Granular Bentonite
[ ] Bentonite - Cement Grout

(7)

Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
Chipped Bentonite	Surface	7.5	2 sacks	

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work: Adam McElheran, Supervisor

Signature of Person Doing Work: Adam S. McElheran
Date Signed: 6/3/98

Street or Route: 135 Legion Dr.
Telephone Number: (414) 821-1171

City, State, Zip Code: Elm Grove, WI 53122

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected
District/County
Reviewer/Inspector
Follow-up Necessary

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B
Rev. 8-89

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location

County: Shawano

SW 1/4 of SW 1/4 of Sec. 30 ; T. 27 N; R. 16 ☒ E ☐ W

(If applicable) _____ Gov't Lot _____ Grid Number

Grid Location _____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Civil Town Name

Street Address of Well

City, Village

(2) FACILITY NAME

Original Well Owner (If Known)

Present Well Owner: National Investments, LLC

Street or Route: 1037 East Green Bay Street

City, State, Zip Code: Shawano, WI 54166

Facility Well No. and/or Name (If Applicable): B-9

WI Unique Well No.: _ _ _ _ _ _

Reason For Abandonment: test boring

Date of Abandonment: 6/3/98

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On

(Date) 6/3/98

☐ Monitoring Well
☐ Water Well
☐ Drillhole
☒ Borehole

Construction Report Available? ☐ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) _____ Casing Diameter (ins.) _____
(From groundsurface)

Casing Depth (ft.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown
If Yes, To What Depth? _____ Feet

(4) Depth to Water (Feet) _____

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	

If No, Explain _____

Was Casing Cut Off Below Surface?	☐ Yes	☐ No
Did Sealing Material Rise to Surface?	☐ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	☐ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing Sealing Material
☒ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Dump Bailer ☐ Other (Explain)

(6) Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Pellets
☐ Granular Bentonite
☐ Bentonite - Cement Grout

(7)

Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
Chipped Bentonite	Surface	7.5	2 sacks	

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work: Adam McElheran, Supervisor

Signature of Person Doing Work: Adam S. McElheran — Date Signed: 6/3/98

Street or Route: 135 Legion Dr. — Telephone Number: (414) 821-1171

City, State, Zip Code: Elm Grove, WI 53122

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected | District/County

Reviewer/Inspector

Follow-up Necessary

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B
Rev. 8-89

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location

County: Shawano

SW 1/4 of SW 1/4 of Sec. 30 ; T. 28 N R. 16 [X] E [ ] W

(If applicable) _____ Gov't Lot _____ Grid Number

Grid Location _____ ft. [ ] N. [ ] S., _____ ft. [ ] E. [ ] W.

Civil Town Name

Street Address of Well

City, Village

(2) FACILITY NAME

Original Well Owner (If Known)

Present Well Owner: National Investments, LLC

Street or Route: 1037 East Green Bay Street

City, State, Zip Code: Shawano, WI 54166

Facility Well No. and/or Name (If Applicable): B-10

WI Unique Well No.: _ _ _ _ _ _

Reason For Abandonment: test boring

Date of Abandonment: 6/3/98

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On

(Date) 6/ /98

[ ] Monitoring Well
[ ] Water Well
[ ] Drillhole
[X] Borehole

Construction Report Available? [ ] Yes [ ] No

Construction Type:
[X] Drilled [ ] Driven (Sandpoint) [ ] Dug
[ ] Other (Specify)

Formation Type:
[X] Unconsolidated Formation [ ] Bedrock

Total Well Depth (ft.) _____ Casing Diameter (ins.) _____
(From groundsurface)

Casing Depth (ft.) _____

Was Well Annular Space Grouted? [ ] Yes [ ] No [ ] Unknown
If Yes, To What Depth? _____ Feet

(4) Depth to Water (Feet) _____

Pump & Piping Removed?	[ ] Yes	[ ] No	[X] Not Applicable
Liner(s) Removed?	[ ] Yes	[ ] No	[X] Not Applicable
Screen Removed?	[ ] Yes	[ ] No	[X] Not Applicable
Casing Left in Place?	[ ] Yes	[ ] No	

If No, Explain _____

Was Casing Cut Off Below Surface?	[ ] Yes	[ ] No
Did Sealing Material Rise to Surface?	[ ] Yes	[ ] No
Did Material Settle After 24 Hours?	[ ] Yes	[ ] No
If Yes, Was Hole Retopped?	[ ] Yes	[ ] No

(5) Required Method of Placing Sealing Material
[X] Conductor Pipe-Gravity [ ] Conductor Pipe-Pumped
[ ] Dump Bailer [ ] Other (Explain)

(6) Sealing Materials
[ ] Neat Cement Grout
[ ] Sand-Cement (Concrete) Grout
[ ] Concrete
[ ] Clay-Sand Slurry
[ ] Bentonite-Sand Slurry
[X] Chipped Bentonite

For monitoring wells and monitoring well boreholes only
[ ] Bentonite Pellets
[ ] Granular Bentonite
[ ] Bentonite - Cement Grout

(7)

Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
Chipped Bentonite	Surface	7.5	2 sacks	

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work: Adam McIlheran, Supervisor

Signature of Person Doing Work: Adam S. McIlheran — Date Signed: 6/3/98

Street or Route: 135 Legion Dr. — Telephone Number: (414) 821-1171

City, State, Zip Code: Elm Grove, WI 53122

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected | District/County

Reviewer/Inspector

Follow-up Necessary

tate o isconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B
Rev. 8-89

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location

County: Shawano

SW 1/4 of SW 1/4 of Sec. 30 ; T. 27 N; R. 16 [X] E [ ] W

(If applicable) _____ Gov't Lot _____ Grid Number

Grid Location _____ ft. [ ] N. [ ] S., _____ ft. [ ] E. [ ] W.

Civil Town Name

Street Address of Well

City, Village

(2) FACILITY NAME

Original Well Owner (If Known)

Present Well Owner: National Investments, LLC

Street or Route: 1037 East Green Bay Street

City, State, Zip Code: Shawano, WI 54166

Facility Well No. and/or Name (If Applicable): B-12

WI Unique Well No.: _ _ _ _ _ _

Reason For Abandonment: test boring

Date of Abandonment: 6/3/98

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On

(Date) 6/3/98

[ ] Monitoring Well
[ ] Water Well
[ ] Drillhole
[X] Borehole

Construction Report Available? [ ] Yes [ ] No

Construction Type:
[X] Drilled [ ] Driven (Sandpoint) [ ] Dug
[ ] Other (Specify)

Formation Type:
[X] Unconsolidated Formation [ ] Bedrock

Total Well Depth (ft.) _____ Casing Diameter (ins.) _____
(From groundsurface)

Casing Depth (ft.) _____

Was Well Annular Space Grouted? [ ] Yes [ ] No [ ] Unknown
If Yes, To What Depth? _____ Feet

(4) Depth to Water (Feet) _____

Pump & Piping Removed?	[ ] Yes	[ ] No	[X] Not Applicable
Liner(s) Removed?	[ ] Yes	[ ] No	[X] Not Applicable
Screen Removed?	[ ] Yes	[ ] No	[X] Not Applicable
Casing Left in Place?	[ ] Yes	[ ] No	

If No, Explain _____

Was Casing Cut Off Below Surface?	[ ] Yes	[ ] No
Did Sealing Material Rise to Surface?	[ ] Yes	[ ] No
Did Material Settle After 24 Hours?	[ ] Yes	[ ] No
If Yes, Was Hole Retopped?	[ ] Yes	[ ] No

(5) Required Method of Placing Sealing Material
[X] Conductor Pipe-Gravity [ ] Conductor Pipe-Pumped
[ ] Dump Bailer [ ] Other (Explain)

(6) Sealing Materials
[ ] Neat Cement Grout
[ ] Sand-Cement (Concrete) Grout
[ ] Concrete
[ ] Clay-Sand Slurry
[ ] Bentonite-Sand Slurry
[X] Chipped Bentonite

For monitoring wells and monitoring well boreholes only
[ ] Bentonite Pellets
[ ] Granular Bentonite
[ ] Bentonite - Cement Grout

(7)

Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
Chipped Bentonite	Surface	7.5	2 sacks	

(8) Comments: _____

Name of Person or Firm Doing Sealing Work
Dan McElheran, Supervisor

Signature of Person Doing Work: Dan S. McElheran
Date Signed: 6/3/98

Street or Route: 35 Legion Dr.
Telephone Number: (414) 821-1171

City, State, Zip Code: Elm Grove, WI 53122

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

APPENDIX F

Monitoring Well Construction and Well Development Forms

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment [X] Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name Clark Oil #118 4291	Local Grid Location of Well 0 ft. ☐N. ☐S. 0 ft. ☐E. ☐W.	Well Name MW-1
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: [X]) or Well Location [X] Lat. 0 ° 0 ' 0 " Long. 0 ° 0 ' 0 " or	Wis. Unique Well No. JZ391 / DNR Well ID No.
Facility ID 359186613	St. Plane 0 ft N, 0 ft. E. S/C/N	Date Well Installed 06 / 02 / 98 (m m d d y y y y)
Type of Well Well Code 11 / mw	Section Location of Waste/Source SW 1/4 of SW 1/4 of Sec. 21, T. 2 N, R. 21 [X] E ☐ W	Well Installed By: Name (first, last) and Firm Shawn Abel Boart Longyear
Distance from Waste/Source 0 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number 0

A. Protective pipe, top elevation 0 ft. MSL

B. Well casing, top elevation 0 ft. MSL

C. Land surface elevation 0 ft. MSL

D. Surface seal, bottom 0 ft. MSL or 1 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM [X] SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes [X] No

14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger [X] 41
Other ☐ _____

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None [X] 99

16. Drilling additives used? ☐ Yes [X] No
Describe _____

17. Source of water (attach analysis, if required):
N.A.

E. Bentonite seal, top 0 ft. MSL or 1 ft.

F. Fine sand, top 0 ft. MSL or 2 ft.

G. Filter pack, top 0 ft. MSL or 2.5 ft.

H. Screen joint, top 0 ft. MSL or 3 ft.

I. Well bottom 0 ft. MSL or 13 ft.

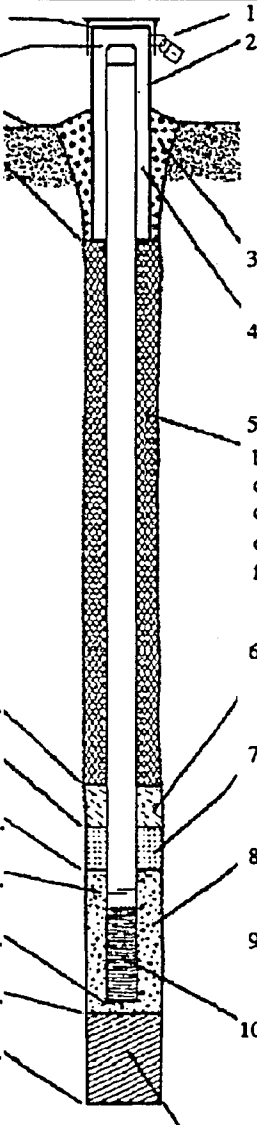
J. Filter pack, bottom 0 ft. MSL or 14 ft.

K. Borehole, bottom 0 ft. MSL or 14 ft.

L. Borehole, diameter 8 in.

M. O.D. well casing 2.37 in.

N. I.D. well casing 2.06 in.



1. Cap and lock? [X] Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 9 in.
b. Length: 1 ft.
c. Material: Steel [X] 04 Other ☐ _____
d. Additional protection? ☐ Yes [X] No
If yes, describe: _____

3. Surface seal: Bentonite ☐ 30 Concrete [X] 01 Other ☐ _____

4. Material between well casing and protective pipe: Bentonite [X] 30 Other ☐ _____

5. Annular space seal: a. Granular/Chipped Bentonite [X] 33
b. 0 Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. 0 Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. 0 % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. .02 sack Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity [X] 08

6. Bentonite seal: a. Bentonite granules [X] 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐ _____

7. Fine sand material: Manufacturer, product name & mesh size
a. #7 Badger
b. Volume added 0.5 sack ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. #30 Badger
b. Volume added 6 sack ft^3

9. Well casing: Flush threaded PVC schedule 40 [X] 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐ _____

10. Screen material: PVC
a. Screen type: Factory cut [X] 11 Continuous slot ☐ 01 Other ☐ _____
b. Manufacturer Boart Longyear
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.

11. Backfill material (below filter pack): None [X] 14 Other ☐ _____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
Shawn S McAllen	K. Singh & Associates

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B 8-89

Facility/Project Name: Clark Oil #118 4291

Well Name: MW-1

License, Permit or Monitoring Number: _____

Wis. Unique Well Number: _____ DNR Well Number: ___

1. Can this well be purged dry? ☐ Yes ■ No

2. Well development method

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	■	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
Other _____	☐	

3. Time spent developing well: 30 min.

4. Depth of well (from top of well casisng): 13.3 ft.

5. Inside diameter of well: 2.08 in.

6. Volume of water in filter pack and well casing: ____.__ gal.

7. Volume of water removed from well: 40.0 gal.

8. Volume of water added (if any): ____.__ gal.

9. Source of water added: _____

10. Analysis performed on water added? ☐ Yes ☐ No (If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	3.65 ft.	3.90 ft.
Date	06/10/98 (m m d d y y)	06/10/98 (m m d d y y)
Time	12:00 ■ a.m. ☐ p.m.	12:30 ☐ a.m. ■ p.m.
12. Sediment in well bottom	0.1 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ■ 15 (Describe)	Clear ■ 20 Turbid ☐ 25 (Describe)
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

Additional comments on development: Pumped until clear of all sediment

Well developed by: Person's Name and Firm

Name: Adam McIlheran

Firm: K. Singh & Associates

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: Adam S. McIlheran

Firm: same

NOTE: Shaded areas are for DNR use only. See instructions for more information.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment [X] Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Clark Oil #118 4291	Local Grid Location of Well: 0 ft. ☐N. ☐S. 0 ft. ☐E. ☐W.	Well Name: MW-2
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: [X]) or Well Location [X] Lat. 0 ° 0 ' 0 " Long. 0 ° 0 ' 0 " or	Wis. Unique Well No.: JZ392 / DNR Well ID No.:
Facility ID: 359186613	St. Plane 0 ft. N, 0 ft. E. S/C/N	Date Well Installed: 06 / 02 / 1998 (m m d d y y y y)
Type of Well: Well Code 11 / mw	Section Location of Waste/Source: SW 1/4 of SW 1/4 of Sec. 21 T. 2 N. R. 21 [X] E ☐ W	Well Installed By: Name (first, last) and Firm: Shawn Abel; Boart Longyear
Distance from Waste/Source: 0 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: 0

A. Protective pipe, top elevation 0 ft. MSL
B. Well casing, top elevation 0 ft. MSL
C. Land surface elevation 0 ft. MSL
D. Surface seal, bottom 0 ft. MSL or 1 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM [X] SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes [X] No

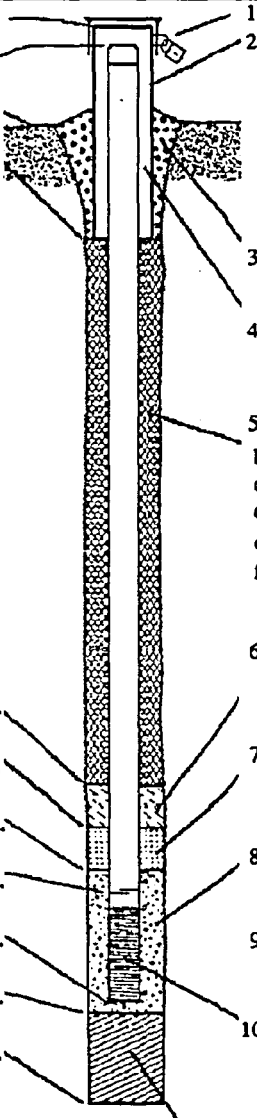
14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger [X] 41; Other ☐

15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None [X] 99

16. Drilling additives used? ☐ Yes [X] No
Describe _____

17. Source of water (attach analysis, if required):
N.A.

E. Bentonite seal, top 0 ft. MSL or 1 ft.
F. Fine sand, top 0 ft. MSL or 2 ft.
G. Filter pack, top 0 ft. MSL or 2.5 ft.
H. Screen joint, top 0 ft. MSL or 3 ft.
I. Well bottom 0 ft. MSL or 13 ft.
J. Filter pack, bottom 0 ft. MSL or 14 ft.
K. Borehole, bottom 0 ft. MSL or 14 ft.
L. Borehole, diameter 8 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.06 in.



1. Cap and lock? [X] Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 9 in.
b. Length: 1 ft.
c. Material: Steel [X] 04; Other ☐
d. Additional protection? ☐ Yes [X] No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 30; Concrete [X] 01; Other ☐
4. Material between well casing and protective pipe: Bentonite [X] 30; Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite [X] 33
b. 0 Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. 0 Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. 0 % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. .02 Sack Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity [X] 08
6. Bentonite seal: a. Bentonite granules [X] 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. #7 Badger
b. Volume added 0.5 Sack ft³
8. Filter pack material: Manufacturer, product name & mesh size
a. #30 Badger
b. Volume added 6 Sack ft³
9. Well casing: Flush threaded PVC schedule 40 [X] 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐
10. Screen material: PVC
a. Screen type: Factory cut [X] 11; Continuous slot ☐ 01; Other ☐
b. Manufacturer Boart Longyear
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None [X] 14; Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Edward S. McAllen | Firm: K. Singh & Associates

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT
Form 4400-113B 8-89

Facility/Project Name: Clark Oil #118 4291
Well Name: MW-2
License, Permit or Monitoring Number: _____
Wis. Unique Well Number: _____ DNR Well Number: _____

1. Can this well be purged dry? ☐ Yes ■ No

2. Well development method

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
Other _____	☐	

3. Time spent developing well: 30 min.

4. Depth of well (from top of well casisng): 12.2 ft.

5. Inside diameter of well: 2.08 in.

6. Volume of water in filter pack and well casing: ____.__ gal.

7. Volume of water removed from well: 35.__ gal.

8. Volume of water added (if any): ____.__ gal.

9. Source of water added: _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	3.60 ft.	3.80 ft.
Date	06/10/98 (m m d d y y)	06/10/98 (m m d d y y)
Time	9:00 ☐ a.m. ☐ p.m.	9:30 ☐ a.m. ☐ p.m.
12. Sediment in well bottom	0.0 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ■ 15 (Describe)	Clear ■ 20 Turbid ☐ 25 (Describe)
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

Additional comments on development: Pumped until clear of all sediment.

Well developed by: Person's Name and Firm

Name: Raghu B. Singh

Firm: K. Singh & Associates

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: Raghu B Singh

Firm: same

NOTE: Shaded areas are for DNR use only. See instructions for more information.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment [X] Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Clark Oil #118 4291	Local Grid Location of Well: 0 ft. ☐N. ☐S. 0 ft. ☐E. ☐W.	Well Name: MW-3
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: [X]) or Well Location [X]: Lat. 0 ° 0 ' 0 " Long. 0 ° 0 ' 0 " or	Wis. Unique Well No.: JZ393 / DNR Well ID No.:
Facility ID: 359186613	St. Plane 0 ft. N, 0 ft. E. S/C/N	Date Well Installed: 06 / 02 / 1998 (m m d d y y y y)
Type of Well: Well Code 11 / mw	Section Location of Waste/Source: SW 1/4 of SW 1/4 of Sec. 21 T. 2 N, R. 21 [X] E. ☐ W.	Well Installed By: Name (first, last) and Firm: Shawn Abel; Boart Longyear
Distance from Waste/Source 0 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: 0

A. Protective pipe, top elevation 0 ft. MSL

B. Well casing, top elevation 0 ft. MSL

C. Land surface elevation 0 ft. MSL

D. Surface seal, bottom 0 ft. MSL or 1 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM [X] SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes [X] No

14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger [X] 41
Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None [X] 99

16. Drilling additives used? ☐ Yes [X] No

Describe _____

17. Source of water (attach analysis, if required):
N.A.

E. Bentonite seal, top 0 ft. MSL or 1 ft.

F. Fine sand, top 0 ft. MSL or 2.5 ft.

G. Filter pack, top 0 ft. MSL or 3 ft.

H. Screen joint, top 0 ft. MSL or 4 ft.

I. Well bottom 0 ft. MSL or 14 ft.

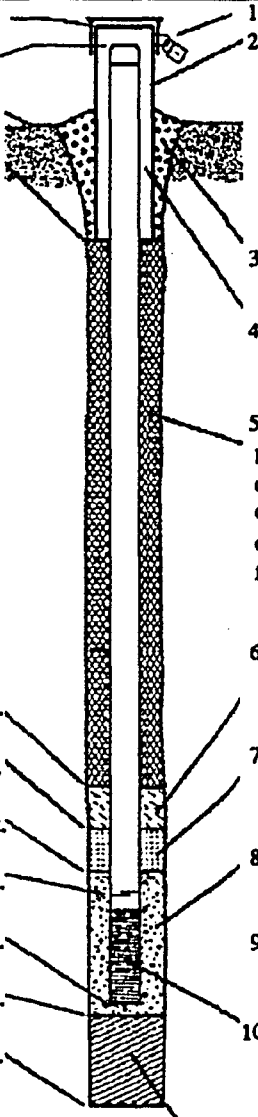
J. Filter pack, bottom 0 ft. MSL or 15 ft.

K. Borehole, bottom 0 ft. MSL or 0 ft.

L. Borehole, diameter 8 in.

M. O.D. well casing 2.37 in.

N. I.D. well casing 2.06 in.



1. Cap and lock? [X] Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 9 in.
b. Length: 1 ft.
c. Material: Steel [X] 04
Other ☐
d. Additional protection? ☐ Yes [X] No
If yes, describe: _____

3. Surface seal: Bentonite ☐ 30
Concrete [X] 01
Other ☐

4. Material between well casing and protective pipe:
Bentonite [X] 30
Other ☐

5. Annular space seal: a. Granular/Chipped Bentonite [X] 33
b. 0 Lbs/gal mud weight... Bentonite-sand slurry ☐ 35
c. 0 Lbs/gal mud weight..... Bentonite slurry ☐ 31
d. 0 % Bentonite ..... Bentonite-cement grout ☐ 50
e. 2 sack Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01
Tremie pumped ☐ 02
Gravity [X] 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐

7. Fine sand material: Manufacturer, product name & mesh size
a. #7 Badger
b. Volume added 0.5 sack ft³

8. Filter pack material: Manufacturer, product name & mesh size
a. #30 Badger
b. Volume added 6 sack ft³

9. Well casing: Flush threaded PVC schedule 40 [X] 23
Flush threaded PVC schedule 80 ☐ 24
Other ☐

10. Screen material: PVC
a. Screen type: Factory cut [X] 11
Continuous slot ☐ 01
Other ☐
b. Manufacturer Boart Longyear
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.

11. Backfill material (below filter pack): None [X] 14
Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Edward S. McAllen | Firm: K. Singh & Associates

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B 8-89

Facility/Project Name: Clark Oil #118

Well Name: MW-3

License, Permit or Monitoring Number: _____

Wis. Unique Well Number: _____ DNR Well Number: _____

1. Can this well be purged dry? ☐ Yes ■ No

2. Well development method

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	■	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
Other _____	☐	

3. Time spent developing well: 30 min.

4. Depth of well (from top of well casisng): 13.2 ft.

5. Inside diameter of well: 2.08 in.

6. Volume of water in filter pack and well casing: ____.__ gal.

7. Volume of water removed from well: 50.__ gal.

8. Volume of water added (if any): ____.__ gal.

9. Source of water added: _____

10. Analysis performed on water added? ☐ Yes ☐ No (If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	4.13 ft.	4.20 ft.
Date	06/10/98 (m m d d y y)	06/10/98 (m m d d y y)
Time	1:15 ☐ a.m. ■ p.m.	1:45 ☐ a.m. ■ p.m.
12. Sediment in well bottom	0.0 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ■ 15 (Describe)	Clear ■ 20 Turbid ☐ 25 (Describe)
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

Additional comments on development: Pumped until clear of all sediment

Well developed by: Person's Name and Firm

Name: Adam S. McIlheran

Firm: K. Singh & Associates

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: Adam S. McIlheran

Firm: Same

NOTE: Shaded areas are for DNR use only. See instructions for more information.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment [X] Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Clark Oil #118 4291	Local Grid Location of Well: 0 ft. ☐N. ☐S. 0 ft. ☐E. ☐W.	Well Name: MW-4
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: [X]) or Well Location [X]; Lat. 0 ° 0 ' 0 " Long. 0 ° 0 ' 0 " or	Wis. Unique Well No.: JZ394 / DNR Well ID No.:
Facility ID: 359186613	St. Plane 0 ft. N, 0 ft. E. S/C/N	Date Well Installed: 06 / 02 / 1998 (m m d d y y y y)
Type of Well: Well Code 11 / mw	Section Location of Waste/Source: SW 1/4 of SW 1/4 of Sec. 21, T. 2 N, R. 21 [X] E ☐ W	Well Installed By: Name (first, last) and Firm: Shawn Abel; Boart Longyear
Distance from Waste/Source: 0 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: 0

A. Protective pipe, top elevation 0 ft. MSL

B. Well casing, top elevation 0 ft. MSL

C. Land surface elevation 0 ft. MSL

D. Surface seal, bottom 0 ft. MSL or 1 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM [X] SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes [X] No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger [X] 41; Other ☐ _____

15. Drilling fluid used: Water ☐ 02 Air ☐ 01; Drilling Mud ☐ 03 None [X] 99

16. Drilling additives used? ☐ Yes [X] No

Describe _____

17. Source of water (attach analysis, if required):
N.A.

E. Bentonite seal, top 0 ft. MSL or 1 ft.

F. Fine sand, top 0 ft. MSL or 2 ft.

G. Filter pack, top 0 ft. MSL or 2.5 ft.

H. Screen joint, top 0 ft. MSL or 3.5 ft.

I. Well bottom 0 ft. MSL or 13.5 ft.

J. Filter pack, bottom 0 ft. MSL or 15 ft.

K. Borehole, bottom 0 ft. MSL or 15 ft.

L. Borehole, diameter 8 in.

M. O.D. well casing 2.37 in.

N. I.D. well casing 2.06 in.

1. Cap and lock? [X] Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 9 in.
b. Length: 1 ft.
c. Material: Steel [X] 04; Other ☐ _____
d. Additional protection? ☐ Yes [X] No
If yes, describe: _____

3. Surface seal: Bentonite ☐ 30; Concrete [X] 01; Other ☐ _____

4. Material between well casing and protective pipe:
Bentonite [X] 30; Other ☐ _____

5. Annular space seal: a. Granular/Chipped Bentonite [X] 33
b. 0 Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
c. 0 Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. 0 % Bentonite ..... Bentonite-cement grout ☐ 50
e. 2 sack Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity [X] 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐ _____

7. Fine sand material: Manufacturer, product name & mesh size
a. #7 Badger
b. Volume added 0.5 sack ft³

8. Filter pack material: Manufacturer, product name & mesh size
a. #30 American Material
b. Volume added 7 sack ft³

9. Well casing: Flush threaded PVC schedule 40 [X] 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ _____

10. Screen material: PVC
a. Screen type: Factory cut [X] 11; Continuous slot ☐ 01; Other ☐ _____
b. Manufacturer Boart Longyear
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.

11. Backfill material (below filter pack): None [X] 14; Other ☐ _____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Adan S. McAllen | Firm: K. Singh & Associates

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT
Form 4400-113B 8-89

Facility/Project Name: Clark Oil #118 4291
License, Permit or Monitoring Number: _____

Well Name: MW-4
Wis. Unique Well Number: _____ DNR Well Number: _____

1. Can this well be purged dry? ☐ Yes ■ No

2. Well development method

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☑	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
Other _____	☐	

3. Time spent developing well: 30 min.

4. Depth of well (from top of well casisng): 12.0 ft.

5. Inside diameter of well: 2.08 in.

6. Volume of water in filter pack and well casing: ____.__ gal.

7. Volume of water removed from well: 35.0 gal.

8. Volume of water added (if any): ____.__ gal.

9. Source of water added: _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	4.07 ft.	4.16 ft.
Date	06/10/98 (m m d d y y)	06/10/98 (m m d d y y)
Time	9:45 ■ a.m. ☐ p.m.	10:15 ■ a.m. ☐ p.m.
12. Sediment in well bottom	0.0 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ■ 15 (Describe)	Clear ■ 20 Turbid ☐ 25 (Describe)
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

Additional comments on development: Pumped until clear of all sediment

Well developed by: Person's Name and Firm

Name: Raghu B. Singh

Firm: K. Singh & Associates

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: Raghu B. Singh

Firm: Same

NOTE: Shaded areas are for DNR use only. See instructions for more information.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment [X] Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Clark Oil #118 4291	Local Grid Location of Well: 0 ft. ☐N. ☐S. 0 ft. ☐E. ☐W.	Well Name: MW-5
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: [X]) or Well Location [X]; Lat. 0 ° 0 ' 0 " Long. 0 ° 0 ' 0 " or	Wis. Unique Well No.: JZ395 / DNR Well ID No.
Facility ID: 359186613	St. Plane 0 ft. N, 0 ft. E. S/C/N	Date Well Installed: 06 / 02 / 1998 (m m d d y y y y)
Type of Well: Well Code 11 / mw	Section Location of Waste/Source: SW 1/4 of SW 1/4 of Sec. 21 T. 2 N, R. 21 [X] E. ☐ W.	Well Installed By: Name (first, last) and Firm: Shawn Abel; Boart Longyear
Distance from Waste/Source 0 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: 0

A. Protective pipe, top elevation 0 ft. MSL

B. Well casing, top elevation 0 ft. MSL

C. Land surface elevation 0 ft. MSL

D. Surface seal, bottom 0 ft. MSL or 1 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM [X] SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes [X] No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger [X] 41; Other ☐ _____

15. Drilling fluid used: Water ☐ 02 Air ☐ 01 Drilling Mud ☐ 03 None [X] 99

16. Drilling additives used? ☐ Yes [X] No

Describe _____

17. Source of water (attach analysis, if required):
N.A.

E. Bentonite seal, top 0 ft. MSL or 1 ft.

F. Fine sand, top 0 ft. MSL or 2.5 ft.

G. Filter pack, top 0 ft. MSL or 3 ft.

H. Screen joint, top 0 ft. MSL or 4 ft.

I. Well bottom 0 ft. MSL or 14 ft.

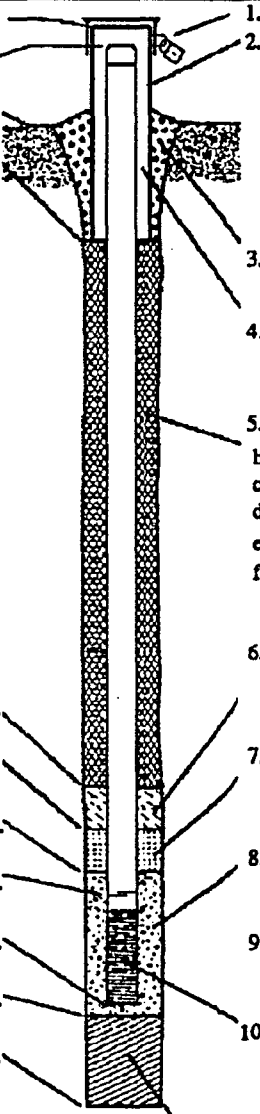
J. Filter pack, bottom 0 ft. MSL or 15 ft.

K. Borehole, bottom 0 ft. MSL or 15 ft.

L. Borehole, diameter 8 in.

M. O.D. well casing 2.37 in.

N. I.D. well casing 2.06 in.



1. Cap and lock? [X] Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 9 in.
b. Length: 1 ft.
c. Material: Steel [X] 04; Other ☐ _____
d. Additional protection? ☐ Yes [X] No
If yes, describe: _____

3. Surface seal: Bentonite ☐ 30; Concrete [X] 01; Other ☐ _____

4. Material between well casing and protective pipe: Bentonite [X] 30; Other ☐ _____

5. Annular space seal: a. Granular/Chipped Bentonite [X] 33
b. 0 Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. 0 Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. 0 % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. 2 sack Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity [X] 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐ _____

7. Fine sand material: Manufacturer, product name & mesh size
a. # 7 Badger
b. Volume added 0.5 sack ft³

8. Filter pack material: Manufacturer, product name & mesh size
a. #30 American Material
b. Volume added 7 sack ft³

9. Well casing: Flush threaded PVC schedule 40 [X] 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ _____

10. Screen material: PVC
a. Screen type: Factory cut [X] 11; Continuous slot ☐ 01; Other ☐ _____
b. Manufacturer Boart Longyear
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.

11. Backfill material (below filter pack): None ☐ 14; Other ☐ _____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Adam S. McAllen | Firm: K. Singh & Associates

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT
Form 4400-113B 8-89

Facility/Project Name: Clark Oil #118 4291
License, Permit or Monitoring Number: _____

Well Name: MW-5
Wis. Unique Well Number: _____ DNR Well Number: _____

1. Can this well be purged dry? ☐ Yes ■ No

2. Well development method

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
Other _____	☐	

3. Time spent developing well: 30 min.

4. Depth of well (from top of well casisng): 12.8 ft.

5. Inside diameter of well: 2.08 in.

6. Volume of water in filter pack and well casing: ____.__ gal.

7. Volume of water removed from well: 45.__ gal.

8. Volume of water added (if any): ____.__ gal.

9. Source of water added: _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	4.84 ft.	4.90 ft.
Date	06/10/98 (m m d d y y)	06/10/98 (m m d d y y)
Time	10:15 ■ a.m. ☐ p.m.	11:45 ■ a.m. ☐ p.m.
12. Sediment in well bottom	0.0 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ■ 15 (Describe)	Clear ■ 20 Turbid ☐ 25 (Describe)
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

Additional comments on development: Pumped until clear of all sediment

Well developed by: Person's Name and Firm

Name: Raghu B. Singh

Firm: K. Singh & Associates

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: Raghu B. Singh

Firm: same

NOTE: Shaded areas are for DNR use only. See instructions for more information.

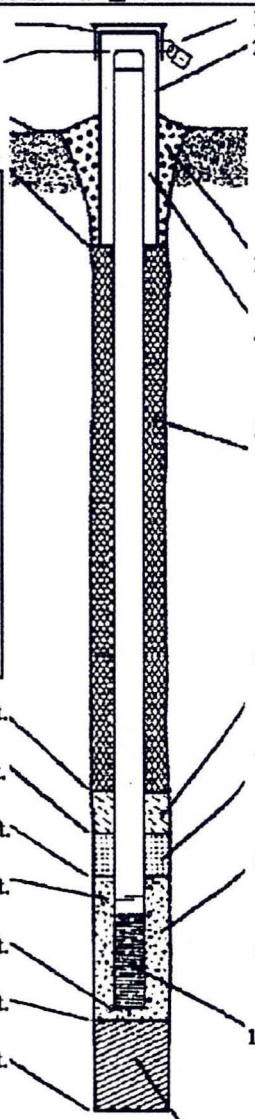
State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment [X] Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Clark Oil #118 4291	Local Grid Location of Well: 0 ft. ☐N. ☐S. 0 ft. ☐E. ☐W.	Well Name: MW-6
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: [X]) or Well Location [X]: Lat. 0 ° 0 ' 0 " Long. 0 ° 0 ' 0 " or	Wis. Unique Well No.: JZ396 / DNR Well ID No.:
Facility ID: 359186613	St. Plane 0 ft. N, 0 ft. E. S/C/N	Date Well Installed: 06 / 02 / 1998 (m m d d y y y y)
Type of Well: Well Code 11 / mw	Section Location of Waste/Source: SW 1/4 of SW 1/4 of Sec. 21, T. 2 N, R. 21 [X] E ☐ W	Well Installed By: Name (first, last) and Firm: Shawn Abel; Boart Longyear
Distance from Waste/Source: 0 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: 0



A. Protective pipe, top elevation 0 ft. MSL
B. Well casing, top elevation 0 ft. MSL
C. Land surface elevation 0 ft. MSL
D. Surface seal, bottom 0 ft. MSL or 1 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM [X] SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes [X] No

14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger [X] 41 / Other ☐

15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None [X] 99

16. Drilling additives used? ☐ Yes [X] No
Describe _____

17. Source of water (attach analysis, if required):
N.A.

E. Bentonite seal, top 0 ft. MSL or 1 ft.
F. Fine sand, top 0 ft. MSL or 2.5 ft.
G. Filter pack, top 0 ft. MSL or 3 ft.
H. Screen joint, top 0 ft. MSL or 4 ft.
I. Well bottom 0 ft. MSL or 14 ft.
J. Filter pack, bottom 0 ft. MSL or 15 ft.
K. Borehole, bottom 0 ft. MSL or 15 ft.
L. Borehole, diameter 8 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.06 in.

1. Cap and lock? [X] Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 9 in.
b. Length: 1 ft.
c. Material: Steel [X] 04 / Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 30 / Concrete [X] 01 / Other ☐
4. Material between well casing and protective pipe: Bentonite [X] 30 / Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite [X] 33
b. 0 Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. 0 Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. 0 % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. 2 sack Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity [X] 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. #7 Badger
b. Volume added 0.5 sack ft³
8. Filter pack material: Manufacturer, product name & mesh size
a. #30 American Material
b. Volume added 6 sack ft³
9. Well casing: Flush threaded PVC schedule 40 [X] 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐
10. Screen material: PVC
a. Screen type: Factory cut [X] 11 / Continuous slot ☐ 01 / Other ☐
b. Manufacturer Boart Longyear
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☐ 14 / Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: K. Singh & Associates

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT
Form 4400-113B 8-89

Facility/Project Name: Clark Oil #118 4291
License, Permit or Monitoring Number: _____

Well Name: MW-6
Wis. Unique Well Number: _____ DNR Well Number: _____

1. Can this well be purged dry? ☐ Yes ■ No

2. Well development method

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
Other _____	☐	

3. Time spent developing well: 30 min.

4. Depth of well (from top of well casisng): 12.9 ft.

5. Inside diameter of well: 2.08 in.

6. Volume of water in filter pack and well casing: ____.__ gal.

7. Volume of water removed from well: 50.__ gal.

8. Volume of water added (if any): ____.__ gal.

9. Source of water added: _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	4.33 ft.	4.44 ft.
Date	06/10/98 (m m d d y y)	06/10/98 (m m d d y y)
Time	1:45 ☐ a.m. ■ p.m.	2:15 ☐ a.m. ■ p.m.
12. Sediment in well bottom	0.0 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ■ 15 (Describe)	Clear ■ 20 Turbid ☐ 25 (Describe)
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

Additional comments on development: Pumped until clear of all sediment

Well developed by: Person's Name and Firm

Name: Adam S. McIlheran

Firm: K. Singh & Associates

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: Adam S. McIlheran

Firm: Same

NOTE: Shaded areas are for DNR use only. See instructions for more information.

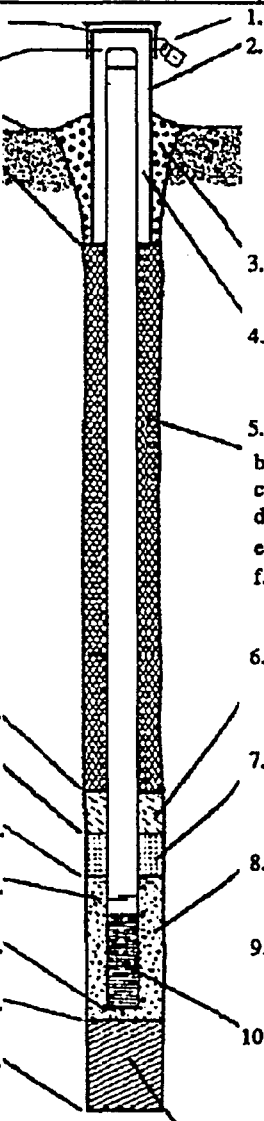
State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment [X] Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Clark Oil #118 4291	Local Grid Location of Well: 0 ft. ☐N. ☐S. 0 ft. ☐E. ☐W.	Well Name: MW-7
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: [X]) or Well Location [X]: Lat. 0 ° 0 ' 0 " Long. 0 ° 0 ' 0 " or	Wis. Unique Well No.: JZ397 / DNR Well ID No.:
Facility ID: 359186613	St. Plane 0 ft. N, 0 ft. E. S/C/N	Date Well Installed: 01 / 14 / 1999 (m m d d y y y y)
Type of Well: Well Code 11 / mw	Section Location of Waste/Source: SW 1/4 of SW 1/4 of Sec. 21 T. 2 N, R. 21 [X] E ☐ W	Well Installed By: Name (first, last) and Firm: Shawn Abel; Boart Longyear
Distance from Waste/Source 0 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known / Gov. Lot Number: 0	



A. Protective pipe, top elevation 0 ft. MSL
B. Well casing, top elevation 0 ft. MSL
C. Land surface elevation 0 ft. MSL
D. Surface seal, bottom 0 ft. MSL or 1 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM [X] SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes [X] No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger [X] 41; Other ☐

15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None [X] 99

16. Drilling additives used? ☐ Yes [X] No
Describe _____

17. Source of water (attach analysis, if required):
N.A.

E. Bentonite seal, top 0 ft. MSL or 1 ft.
F. Fine sand, top 0 ft. MSL or 0 ft.
G. Filter pack, top 0 ft. MSL or 2 ft.
H. Screen joint, top 0 ft. MSL or 3 ft.
I. Well bottom 0 ft. MSL or 13 ft.
J. Filter pack, bottom 0 ft. MSL or 15 ft.
K. Borehole, bottom 0 ft. MSL or 15 ft.
L. Borehole, diameter 8 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.06 in.

1. Cap and lock? [X] Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 9 in.
b. Length: 1 ft.
c. Material: Steel [X] 04; Other ☐
d. Additional protection? ☐ Yes [X] No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 30; Concrete [X] 01; Other ☐
4. Material between well casing and protective pipe: Bentonite [X] 30; Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite [X] 33
b. 0 Lbs/gal mud weight... Bentonite-sand slurry ☐ 35
c. 0 Lbs/gal mud weight..... Bentonite slurry ☐ 31
d. 0 % Bentonite ..... Bentonite-cement grout ☐ 50
e. 2 sack Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity [X] 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. NA
b. Volume added 0.5 sack ft³
8. Filter pack material: Manufacturer, product name & mesh size
a. # 30 American Material
b. Volume added 6 sack ft³
9. Well casing: Flush threaded PVC schedule 40 [X] 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐
10. Screen material: PVC
a. Screen type: Factory cut [X] 11; Continuous slot ☐ 01; Other ☐
b. Manufacturer Boart Longyear
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☐ 14; Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: John S. McMillan | Firm: K. Singh & Associates

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment [X] Other ☐ _____

Facility/Project Name	County Name	Well Name
Clark Oil #118 4291	Shawano	MW-7

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	59	JZ397	

1. Can this well be purged dry? ☐ Yes [X] No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☑ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐ __

3. Time spent developing well: 45 min.

4. Depth of well (from top of well casisng): 12.7 ft.

5. Inside diameter of well: 2.06 in.

6. Volume of water in filter pack and well casing: 0 gal.

7. Volume of water removed from well: 80 gal.

8. Volume of water added (if any): 0 gal.

9. Source of water added _____

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☐ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 5.42 ft.	5.42 ft.
Date	b. 01 / 15 / 1999 (m m / d d / y y y y)	01 / 15 / 1999
Time	c. 11 : 00 [X] a.m. ☐ p.m.	11 : 45 [X] a.m. ☐ p.m.
12. Sediment in well bottom	0 inches	0 inches
13. Water clarity	Clear ☐ 10 Turbid [X] 15 (Describe)	Clear [X] 20 Turbid ☐ 25 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	0 mg/l	0 mg/l
15. COD	0 mg/l	0 mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Mark Last Name: Peters
Firm: K. Singh & Associates

17. Additional comments on development:
Pumped until free of all sediment.

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Yogi Last Name: Bhardwaj
Facility/Firm: National Investments
Street: 6621 39th Avenue
City/State/Zip: Kenosha WI 53142-

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: Adam S. McIlheran
Print Name: Adam McIlheran
Firm: K. Singh & Associates

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment [X] Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Clark Oil #118 4291	Local Grid Location of Well: 0 ft. ☐N. ☐S. 0 ft. ☐E. ☐W.	Well Name: MW-8
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: [X]) or Well Location [X]: Lat. 0 ° 0 ' 0 " Long. 0 ° 0 ' 0 " or	Wis. Unique Well No.: JZ398 / DNR Well ID No.:
Facility ID: 359186613	St. Plane 0 ft. N, 0 ft. E. S/C/N	Date Well Installed: 06 / 03 / 1998 (m m d d y y y y)
Type of Well: Well Code 11 / mw	Section Location of Waste/Source: SW 1/4 of SW 1/4 of Sec. 21 T. 2 N, R. 21 [X] E. ☐ W.	Well Installed By: Name (first, last) and Firm: Shawn Abel; Boart Longyear
Distance from Waste/Source: 0 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: 0

A. Protective pipe, top elevation 0 ft. MSL
B. Well casing, top elevation 0 ft. MSL
C. Land surface elevation 0 ft. MSL
D. Surface seal, bottom 0 ft. MSL or 1 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM [X] SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes [X] No

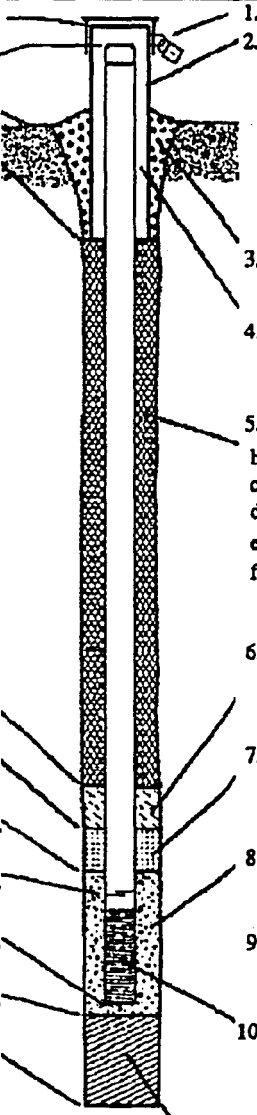
14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger [X] 41; Other ☐ _____

15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None [X] 99

16. Drilling additives used? ☐ Yes [X] No
Describe _____

17. Source of water (attach analysis, if required):
N.A.

E. Bentonite seal, top 0 ft. MSL or 1 ft.
F. Fine sand, top 0 ft. MSL or 2.5 ft.
G. Filter pack, top 0 ft. MSL or 3 ft.
H. Screen joint, top 0 ft. MSL or 4 ft.
I. Well bottom 0 ft. MSL or 14 ft.
J. Filter pack, bottom 0 ft. MSL or 15 ft.
K. Borehole, bottom 0 ft. MSL or 15 ft.
L. Borehole, diameter 8 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.06 in.



1. Cap and lock? [X] Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 9 in.
b. Length: 1 ft.
c. Material: Steel [X] 04; Other ☐ _____
d. Additional protection? ☐ Yes [X] No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 30; Concrete [X] 01; Other ☐ _____
4. Material between well casing and protective pipe: Bentonite [X] 30; Other ☐ _____
5. Annular space seal: a. Granular/Chipped Bentonite [X] 33
b. 0 Lbs/gal mud weight... Bentonite-sand slurry ☐ 35
c. 0 Lbs/gal mud weight..... Bentonite slurry ☐ 31
d. 0 % Bentonite ..... Bentonite-cement grout ☐ 50
e. 2 sack Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity [X] 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. # 7 Badger
b. Volume added 0.5 sack ft³
8. Filter pack material: Manufacturer, product name & mesh size
a. # 30 American Material
b. Volume added 6 sack ft³
9. Well casing: Flush threaded PVC schedule 40 [X] 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ _____
10. Screen material: PVC
a. Screen type: Factory cut [X] 11; Continuous slot ☐ 01; Other ☐ _____
b. Manufacturer Boart Longyear
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None [X] 14; Other ☐ _____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Stan S. McAllen | Firm: K. Singh & Associates

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B 8-89

Facility/Project Name: Clark Oil #118 4291

Well Name: MW-8

License, Permit or Monitoring Number: _____

Wis. Unique Well Number: _____ DNR Well Number: _____

1. Can this well be purged dry? ☐ Yes ■ No

2. Well development method

surged with bailer and bailed	☐	41
surged with bailer and pumped	☒	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☒	51
pumped slowly	☐	50
Other _____	☐	

3. Time spent developing well: 30 min.

4. Depth of well (from top of well casisng): 128 ft.

5. Inside diameter of well: 2.08 in.

6. Volume of water in filter pack and well casing: ____.__ gal.

7. Volume of water removed from well: 45.__ gal.

8. Volume of water added (if any): ____.__ gal.

9. Source of water added: _____

10. Analysis performed on water added? ☐ Yes ☐ No (If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	5.09 ft.	5.15 ft.
Date (m m d d y y)	06, 10, 98	06, 10, 98
Time	2:25 ☐ a.m. ■ p.m.	2:55 ☐ a.m. ■ p.m.
12. Sediment in well bottom	0.0 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ■ 15 (Describe)	Clear ■ 20 Turbid ☐ 25 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

Additional comments on development: pumped until clear of all sediment

Well developed by: Person's Name and Firm

Name: Raghu B. Singh

Firm: K. Singh & Associates

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: Raghu B. Singh

Firm: same

NOTE: Shaded areas are for DNR use only. See instructions for more information.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment [X] Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Clark Oil #118 4291	Local Grid Location of Well: 0 ft. ☐ N. ☐ S. 0 ft. ☐ E. ☐ W.	Well Name: MW-9
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: [X]) or Well Location [X] Lat. 0 ° 0 ' 0 " Long. 0 ° 0 ' 0 " or	Wis. Unique Well No.: JZ399 / DNR Well ID No.:
Facility ID: 359186613	St. Plane 0 ft. N, 0 ft. E. S/C/N	Date Well Installed: 01 / 14 / 1999 (m m d d y y y y)
Type of Well: Well Code 11 / mw	Section Location of Waste/Source: SW 1/4 of SW 1/4 of Sec. 21 T. 2 N. R. 21 [X] E ☐ W	Well Installed By: Name (first, last) and Firm: Jeff Flaminio / Boart Longyear
Distance from Waste/Source 0 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: 0

A. Protective pipe, top elevation 0 ft. MSL
B. Well casing, top elevation 0 ft. MSL
C. Land surface elevation 0 ft. MSL
D. Surface seal, bottom 0 ft. MSL or 0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM [X] SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes [X] No

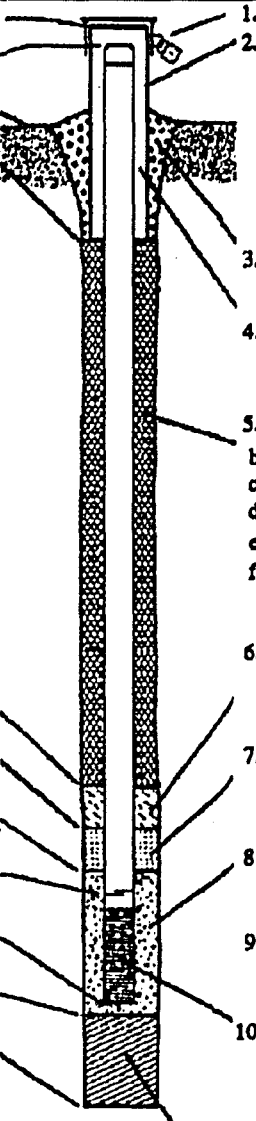
14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger [X] 41
Other ☐ _____

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None [X] 99

16. Drilling additives used? ☐ Yes [X] No
Describe _____

17. Source of water (attach analysis, if required):
N.A.

E. Bentonite seal, top 0 ft. MSL or 1 ft.
F. Fine sand, top 0 ft. MSL or 2 ft.
G. Filter pack, top 0 ft. MSL or 2.5 ft.
H. Screen joint, top 0 ft. MSL or 3 ft.
I. Well bottom 0 ft. MSL or 13 ft.
J. Filter pack, bottom 0 ft. MSL or 14 ft.
K. Borehole, bottom 0 ft. MSL or 14 ft.
L. Borehole, diameter 8 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.06 in.



1. Cap and lock? [X] Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 9 in.
b. Length: 1 ft.
c. Material: Steel [X] 04
Other ☐ _____
d. Additional protection? ☐ Yes [X] No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 30
Concrete [X] 01
Other ☐ _____
4. Material between well casing and protective pipe:
Bentonite [X] 30
Other ☐ _____
5. Annular space seal: a. Granular/Chipped Bentonite [X] 33
b. 0 Lbs/gal mud weight... Bentonite-sand slurry ☐ 35
c. 0 Lbs/gal mud weight..... Bentonite slurry ☐ 31
d. 0 % Bentonite ..... Bentonite-cement grout ☐ 50
e. 2 sack Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01
Tremie pumped ☐ 02
Gravity [X] 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. # 7 Badger
b. Volume added 0.5 sack ft³
8. Filter pack material: Manufacturer, product name & mesh size
a. #30 American Material
b. Volume added 7 sack ft³
9. Well casing: Flush threaded PVC schedule 40 [X] 23
Flush threaded PVC schedule 80 ☐ 24
Other ☐ _____
10. Screen material: PVC
a. Screen type: Factory cut [X] 11
Continuous slot ☐ 01
Other ☐ _____
b. Manufacturer Boart Longyear
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None [X] 14
Other ☐ _____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Adam D. McAllen | Firm: K. Singh & Associates

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment [X] Other ☐ _____

Facility/Project Name	County Name	Well Name
Clark Oil #118 4291	Shawano	MW-9

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	59	JZ399	

1. Can this well be purged dry? ☐ Yes [X] No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☒ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 75 min.

4. Depth of well (from top of well casing) 12.4 ft.

5. Inside diameter of well 2.06 in.

6. Volume of water in filter pack and well casing 0 gal.

7. Volume of water removed from well 118 gal.

8. Volume of water added (if any) 0 gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 5.11 ft.	5.11 ft.
Date	b. 01 / 15 / 1999 (m m / d d / y y y y)	01 / 15 / 1999 (m m / d d / y y y y)
Time	c. 01 : 00 ☐ a.m. [X] p.m.	02 : 15 [X] a.m. ☐ p.m.
12. Sediment in well bottom	0 inches	0 inches
13. Water clarity	Clear ☐ 10 Turbid [X] 15 (Describe)	Clear [X] 20 Turbid ☐ 25 (Describe)
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	0 mg/l	0 mg/l
15. COD	0 mg/l	0 mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Mark Last Name: Peters
Firm: K. Singh & Associates

17. Additional comments on development:
Pumped until free of all sediment.

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Yogi Last Name: Bhardwaj
Facility/Firm: National Investments
Street: 6621 39th Avenue
City/State/Zip: Kenosha WI 53142-

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: Adam D. McIlheran
Print Name: Adam McIlheran
Firm: K. Singh & Associates

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment [X] Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Clark Oil #118 4291	Local Grid Location of Well: 0 ft. ☐N. ☐S. 0 ft. ☐E. ☐W.	Well Name: MW-10
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: [X]) or Well Location [X]: Lat. 0 ° 0 ' 0 " Long. 0 ° 0 ' 0 " or	Wis. Unique Well No.: JZ400 / DNR Well ID No.:
Facility ID: 359186613	St. Plane 0 ft. N, 0 ft. E. S/C/N	Date Well Installed: 01 / 14 / 1999 (m m d d y y y y)
Type of Well: Well Code 11 / mw	Section Location of Waste/Source: SW 1/4 of SW 1/4 of Sec. 21 T. 2 N. R. 21 [X]E ☐W	Well Installed By: Name (first, last) and Firm: Jeff Flaminio / Boart Longyear
Distance from Waste/Source 0 ft.	Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known
		Gov. Lot Number: 0

A. Protective pipe, top elevation 0 ft. MSL
B. Well casing, top elevation 0 ft. MSL
C. Land surface elevation 0 ft. MSL
D. Surface seal, bottom 0 ft. MSL or 1 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM [X] SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes [X] No

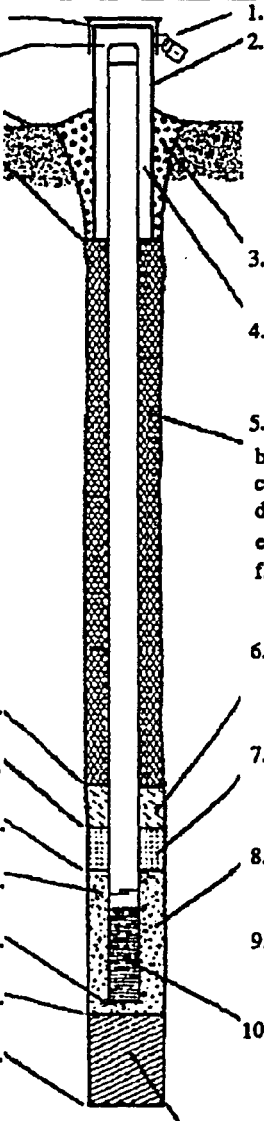
14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger [X] 41
Other ☐ _____

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None [X] 99

16. Drilling additives used? ☐ Yes [X] No
Describe _____

17. Source of water (attach analysis, if required):
N.A.

E. Bentonite seal, top 0 ft. MSL or 1 ft.
F. Fine sand, top 0 ft. MSL or 0 ft.
G. Filter pack, top 0 ft. MSL or 3 ft.
H. Screen joint, top 0 ft. MSL or 3 ft.
I. Well bottom 0 ft. MSL or 13 ft.
J. Filter pack, bottom 0 ft. MSL or 14 ft.
K. Borehole, bottom 0 ft. MSL or 14 ft.
L. Borehole, diameter 8 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.06 in.



1. Cap and lock? [X] Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 9 in.
b. Length: 1 ft.
c. Material: Steel [X] 04
Other ☐ _____
d. Additional protection? ☐ Yes [X] No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 30
Concrete [X] 01
Other ☐ _____
4. Material between well casing and protective pipe:
Bentonite [X] 30
Other ☐ _____
5. Annular space seal: a. Granular/Chipped Bentonite [X] 33
b. 0 Lbs/gal mud weight... Bentonite-sand slurry ☐ 35
c. 0 Lbs/gal mud weight..... Bentonite slurry ☐ 31
d. 0 % Bentonite ..... Bentonite-cement grout ☐ 50
e. 2 sack Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01
Tremie pumped ☐ 02
Gravity [X] 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. _____
b. Volume added 0 ft³
8. Filter pack material: Manufacturer, product name & mesh size
a. # 30 American Material
b. Volume added 6 sack ft³
9. Well casing: Flush threaded PVC schedule 40 [X] 23
Flush threaded PVC schedule 80 ☐ 24
Other ☐ _____
10. Screen material: PVC
a. Screen type: Factory cut [X] 11
Continuous slot ☐ 01
Other ☐ _____
b. Manufacturer Boart Longyear
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None [X] 14
Other ☐ _____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Adam S. McAllen
Firm: K. Singh & Associates

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment [X] Other ☐ _____

Facility/Project Name	County Name	Well Name
Clark Oil #118 4291	Shawano	MW-10

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	59	JZ400	

1. Can this well be purged dry? ☐ Yes [X] No

2. Well development method

surged with bailer and bailed	☐	41
surged with bailer and pumped	■	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	[X]	51
pumped slowly	☐	50
Other _____	☐	▒

3. Time spent developing well: 60 min.

4. Depth of well (from top of well casing): 12.7 ft.

5. Inside diameter of well: 2.06 in.

6. Volume of water in filter pack and well casing: 0 gal.

7. Volume of water removed from well: 60 gal.

8. Volume of water added (if any): 0 gal.

9. Source of water added: _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 5.69 ft.	5.72 ft.
Date	b. 01 / 15 / 1999 (m m / d d / y y y y)	01 / 15 / 1999 (m m / d d / y y y y)
Time	c. 02 : 30 ☐ a.m. [X] p.m.	03 : 30 ☐ a.m. [X] p.m.
12. Sediment in well bottom	0 inches	0 inches
13. Water clarity	Clear ☐ 10 Turbid [X] 15 (Describe)	Clear [X] 20 Turbid ☐ 25 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	0 mg/l	0 mg/l
15. COD	0 mg/l	0 mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Mark Last Name: Peters
Firm: K. Singh & Associates

17. Additional comments on development:
Pumped until free of all sediment.

Name and Address of Facility Contact/Owner/Responsible Party
First Name: Yogi Last Name: Bhardwaj
Facility/Firm: National Investments
Street: 6621 39th Avenue
City/State/Zip: Kenosha WI 53142-

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: Adam D. McIlheran
Print Name: Adam McIlheran
Firm: K. Singh & Associates

NOTE: See instructions for more information including a list of county codes and well type codes.

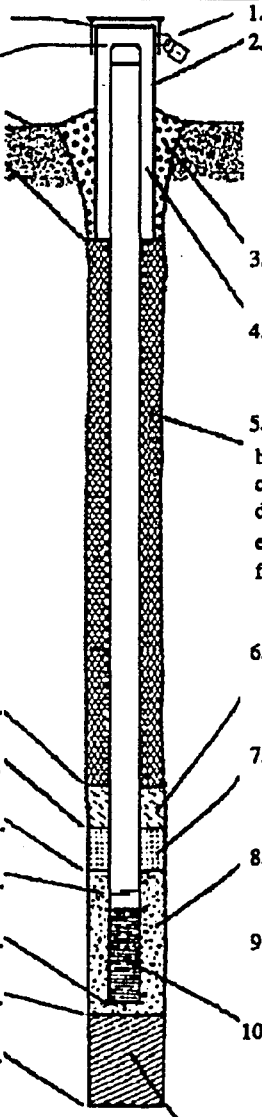
State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Clark Oil #118 4291	Local Grid Location of Well: 0 ft. ☐N. ☐S. 0 ft. ☐E. ☐W	Well Name: MW-11
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☒) or Well Location ☒ Lat. 0 ° 0 ' 0 " Long. 0 ° 0 ' 0 " or	Wis. Unique Well No.: JZ401 / DNR Well ID No.:
Facility ID: 359186613	St. Plane 0 ft. N, 0 ft. E. S/C/N	Date Well Installed: 08 / 19 / 1999 (m m d d y y y y)
Type of Well: Well Code 11 / mw	Section Location of Waste/Source: SW 1/4 of SW 1/4 of Sec. 21 T. 2 N, R. 21 ☒E ☐W	Well Installed By: Name (first, last) and Firm: Jeff Flaminio; Boart Longyear
Distance from Waste/Source 0 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: 0



A. Protective pipe, top elevation 0 ft. MSL
B. Well casing, top elevation 0 ft. MSL
C. Land surface elevation 0 ft. MSL
D. Surface seal, bottom 0 ft. MSL or 1 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐

15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe

17. Source of water (attach analysis, if required):
NA

E. Bentonite seal, top 0 ft. MSL or 1 ft.
F. Fine sand, top 0 ft. MSL or 0 ft.
G. Filter pack, top 0 ft. MSL or 2 ft.
H. Screen joint, top 0 ft. MSL or 3 ft.
I. Well bottom 0 ft. MSL or 13 ft.
J. Filter pack, bottom 0 ft. MSL or 14 ft.
K. Borehole, bottom 0 ft. MSL or 14 ft.
L. Borehole, diameter 8 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.06 in.

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 9 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04 / Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe:
3. Surface seal: Bentonite ☐ 30 / Concrete ☒ 01 / Other ☐
4. Material between well casing and protective pipe: Bentonite ☒ 30 / Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. 0 Lbs/gal mud weight... Bentonite-sand slurry ☐ 35
c. 0 Lbs/gal mud weight..... Bentonite slurry ☐ 31
d. 0 % Bentonite ..... Bentonite-cement grout ☐ 50
e. 2 sack Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. NA
b. Volume added 0 ft³
8. Filter pack material: Manufacturer, product name & mesh size
a. # 30 American Material
b. Volume added 6 sack ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐
b. Manufacturer Boart Longyear
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☒ 14 / Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
Adam S. McAllen	K. Singh & Associates

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment [X] Other ☐ _____

Facility/Project Name	County Name	Well Name
Clark Oil #118 4291	Shawano	MW-11

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	59	JQ821	

1. Can this well be purged dry? ☐ Yes [X] No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☒ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	[X] 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well: 60 min.

4. Depth of well (from top of well casing): 13.7 ft.

5. Inside diameter of well: 2.06 in.

6. Volume of water in filter pack and well casing: 0 gal.

7. Volume of water removed from well: 60 gal.

8. Volume of water added (if any): 0 gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No (If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 5.18 ft.	5.19 ft.
Date	b. 09 / 01 / 1999 (m m / d d / y y y y)	09 / 01 / 1999
Time	c. 03 : 00 ☐ a.m. [X] p.m.	04 : 00 [X] a.m. ☐ p.m.
12. Sediment in well bottom	0 inches	0 inches
13. Water clarity	Clear ☐ 10 Turbid [X] 15 (Describe)	Clear [X] 20 Turbid ☐ 25 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	0 mg/l	0 mg/l
15. COD	0 mg/l	0 mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Mark Last Name: Peters
Firm: K. Singh & Associates

17. Additional comments on development:
Purged until free of sediment.

Name and Address of Facility Contact/Owner/Responsible Party
First Name: Yogi Last Name: Bhardwaj
Facility/Firm: National Investments
Street: 6621 39th Avenue
City/State/Zip: Kenosha WI 53142-

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: Adam S. McIlheran
Print Name: Adam McIlheran
Firm: K. Singh & Associates

NOTE: See instructions for more information including a list of county codes and well type codes.

APPENDIX G

Test Results for Grain Size Analyses

K. SINGH & ASSOCIATES, INC.

Engineering and Environmental Management Consultants

1135 Legion Drive, Elm Grove, Wisconsin 53122 (414) 821-1171 Fax (414) 821-1174

1 6 1 1

State of Wisconsin
Department of Natural Resources

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151

Note: This form is required by the Department of Natural Resources for LUST sites in compliance with ch. NR 500-540, NR 158 and NR 419, Wis. Adm. Code

Sample Collector(s)	Title	Telephone # (including Area Code)	Report To
Adam McIlheran	Staff Hydrogeologist	414-821-1171	Adam McIlheran

Property Owner	Property Address	Telephone # (including Area Code)	Project #
National Properties LLC	1037 Green Bay Road, Shawano, WI		4291 RI

I hereby certify that I received, properly, and disposed of these samples as noted below:

Lab. Name Wisconsin Testing Labs

Relinquished By (Signature)	Date/Time	Received By (Signature)
Adam S. McIlheran	6/12/98 3:05 PM	
[signature]	6/12/98 3:05 PM	

Temperature of temperature blank: ______

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for the temperature blank.

Field I.D. Number	Date Collected	Time Collected	Samples Type(1)	Samples Device	Location/Description (see footnote2)	Sieve #28								# / Type of Container HNO3	HCl	H2SO4	Unpres.	Lab ID No.	Sample Condition Cracked /Broken	Improperly Sealed	Good Condition	Other Comment
	6/3/98		S	SS	B-1, S-3 6.0'-7.5'	V											1					
	6/2/98		"	"	B-2, S-3 6.0'-7.5'	V											1					
	6/2/98		"	"	B-5, S-3 6.0'-7.5'	V											1					

1 Specify Groundwater (GW), Surface Water (SW), Soil (S), Sludge (SL), Air (A), etc.
2 Sample description must clearly correlate the sample ID. to the sampling location.

DEPARTMENT USE / OPTIONAL FOR SOIL SAMPLES

Disposition of unused portion of sample
Laboratory shouls:

☐ Dispose ☐ Retain for ______ day
☐ Return ☐ Other

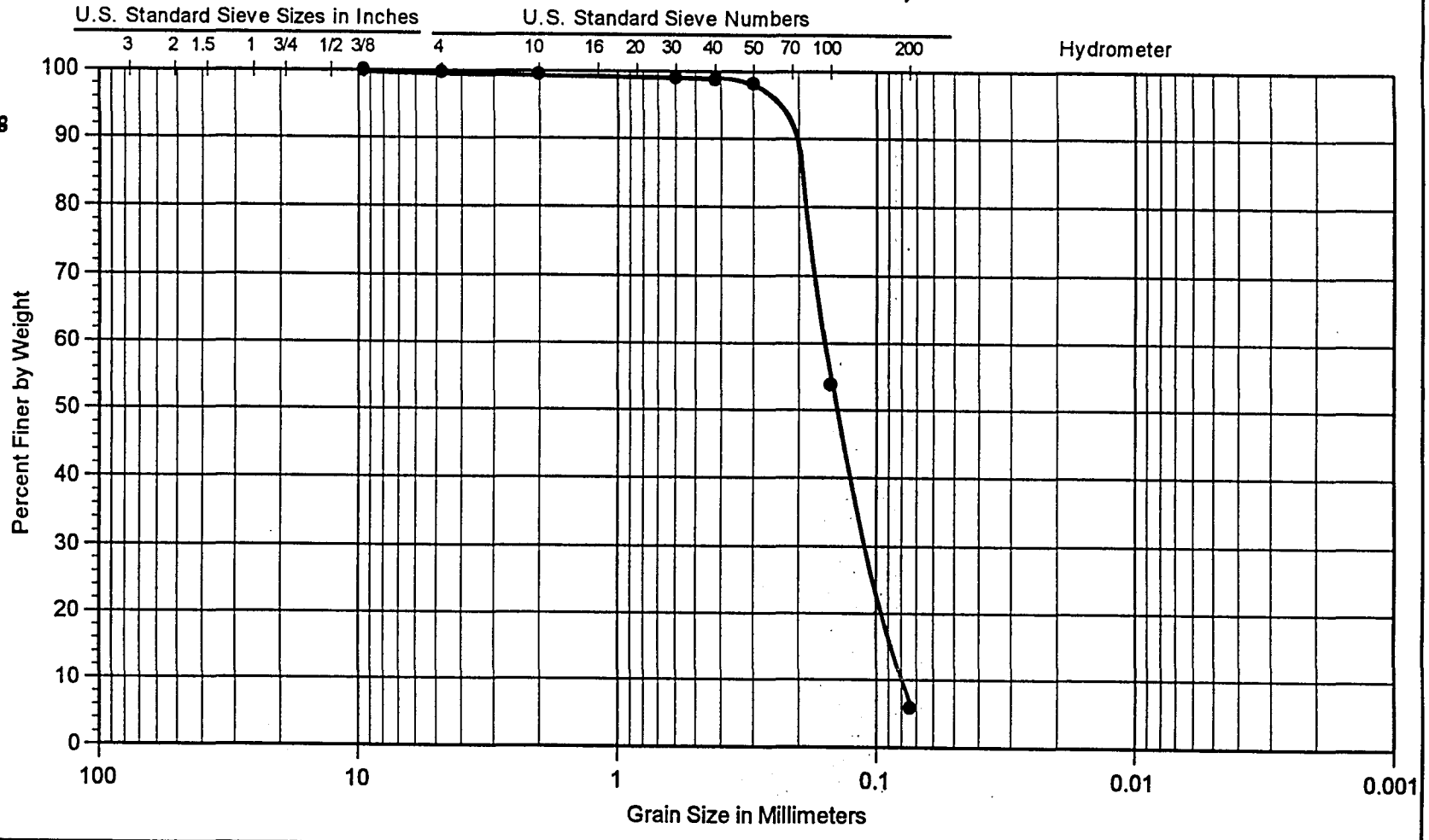
DEPARTMENT USE ONLY

Split samples: Offered ? ☐ Yes ☐ No
Accepted ? ☐ Yes ☐ No

Accepted By: ______________________
Signature

Wisconsin TESTING LABORATORIES

GRAIN SIZE ANALYSIS



Sieve Size	Percent Passing
3"	–
2"	–
1.5"	–
1"	–
3/4"	–
1/2"	–
3/8"	100.0
No.4	99.8
No. 10	99.5
No. 30	99.0
No. 40	98.8
No. 50	98.2
No. 100	53.8
No. 200	5.9

UNIFIED	GRAVEL	SAND	SILT AND CLAY
AASHTO	GRAVEL	SAND	SILT AND CLAY

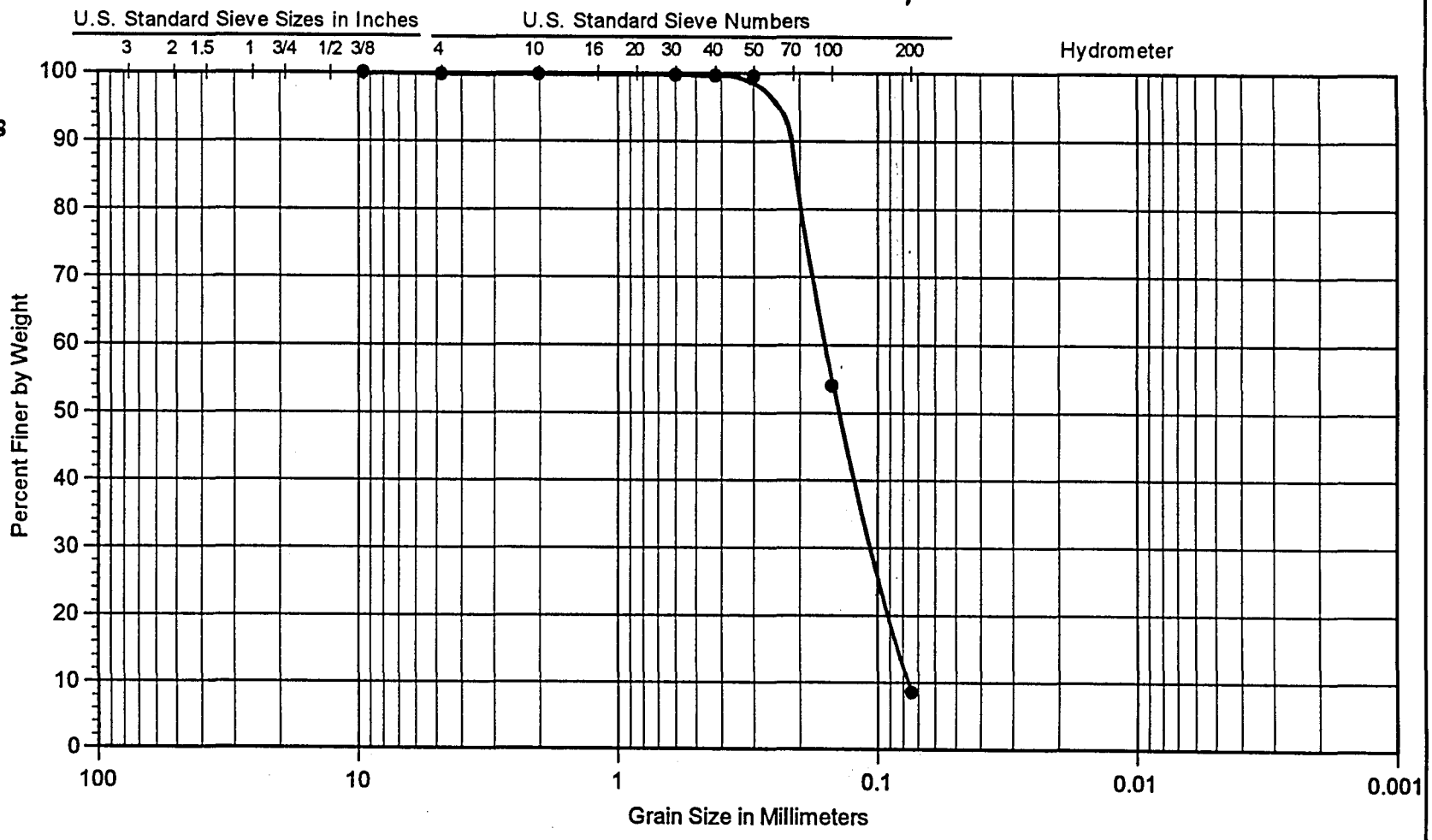
NUMBER	DEPTH	W	W_L	W_P		CLASSIFICATION
B-1 S-3	6'-7.5'					Poorly Graded Sand with silt/clay (SP-SM / SP-SC)

Project: National Properties, LLC
1037 Green Bay Road, Shawno, WI
Client Project No.: 4291 RI
WTL Job No.: L-9835
Client: K. Singh & Associates, Inc.
Date: June 2, 1998

[redacted] [redacted]

Wisconsin TESTING LABORATORIES

GRAIN SIZE ANALYSIS



Sieve Size	Percent Passing
3"	–
2"	–
1.5"	–
1"	–
3/4"	–
1/2"	–
3/8"	100.0
No.4	99.8
No. 10	99.8
No. 30	99.7
No. 40	99.6
No. 50	99.5
No. 100	54.0
No. 200	8.6

UNIFIED	GRAVEL	SAND	SILT AND CLAY
AASHTO	GRAVEL	SAND	SILT AND CLAY

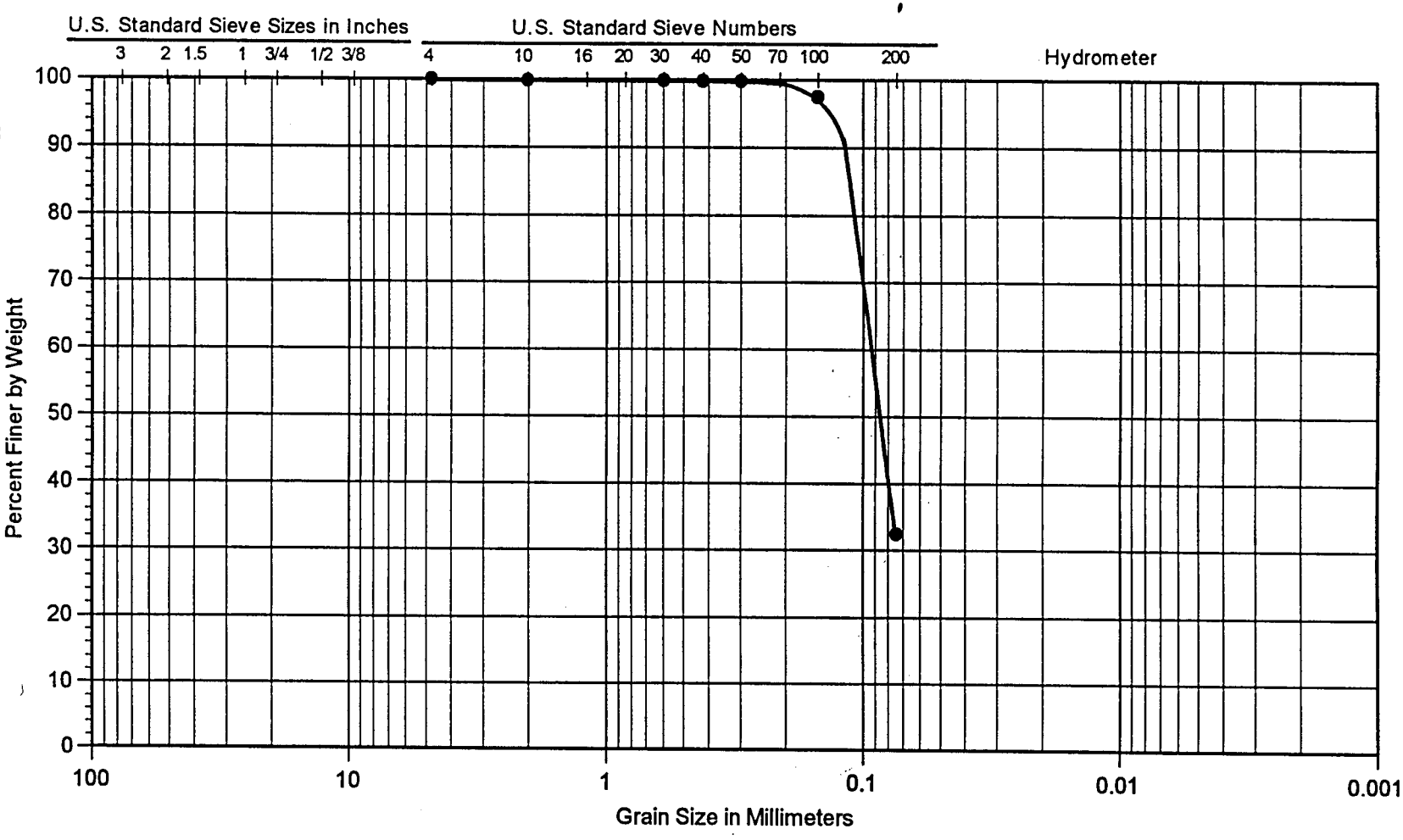
NUMBER	DEPTH	W	W_L	W_P		CLASSIFICATION
B-2 S-3	6'-7.5'					Poorly Graded Sand with silt/clay (SP-SM / SP-SC)

Project: National Properties, LLC
1037 Green Bay Road, Shawno, WI
Client Project No.: 4291 RI
WTL Job No.: L-9835
Client: K. Singh & Associates, Inc.
Date: June 2, 1998

[redacted]

Wisconsin TESTING LABORATORIES

GRAIN SIZE ANALYSIS



Sieve Size	Percent Passing
3"	–
2"	–
1.5"	–
1"	–
3/4"	–
1/2"	–
3/8"	–
No.4	100.0
No. 10	99.9
No. 30	99.9
No. 40	99.8
No. 50	99.8
No. 100	97.5
No. 200	32.4

UNIFIED	GRAVEL	SAND	SILT AND CLAY
AASHTO	GRAVEL	SAND	SILT AND CLAY

NUMBER	DEPTH	W	W_L	W_P		CLASSIFICATION
B-5 S-3	6'-7.5'					Silty/Clayey Sand (SM / SC-SM / SC)

Project: National Properties, LLC
1037 Green Bay Road, Shawno, WI
Client Project No.: 4291 RI
WTL Job No.: L-9835
Client: K. Singh & Associates, Inc.
Date: June 2, 1998

APPENDIX H

Calculations for Hydraulic Conductivity

Calculations for Hydraulic Conductivity
Hazen Method
Former Clark Oil Gas Station #118
Shawano, WI
Project 4291

B-1

Gradient = $i = \frac{dh}{dl} = \frac{\text{(MW-1) - (MW-11)}}{\text{distance between wells}}$

$i = \frac{0.37 \text{ feet}}{315 \text{ feet}}$

$i = 0.0001$ ft/ft

$K = C(d_{10})^2$

$K = 80(0.008)^2$

$K = 0.00512$ cm/s

$K = 5.1 \times 10^{-3}$ cm/s

$K = (5.1 \times 10^{-3} \text{ cm/s})(31{,}536{,}000 \text{ s})$

$K = 160{,}833$ cm/yr

$K = (160{,}833 \text{ cm/yr})(0.0328 \text{ ft/cm})$

$K = 5{,}275$ ft/yr

Groundwater velocity = $v = \frac{Ki}{n}$

$K = 5{,}275$ ft/yr

$i = 0.0001$ ft/ft

n = porosity = 0.30

$v = \frac{(5{,}275 \text{ ft/yr})(0.0001)}{0.30}$

$v = 1.74$ ft/yr

Notation

dh = change in hydraulic head (feet)

dl = distance between wells (feet)

K = hydraulic conductivity (cm/s)

d_{10} = the effective grain size (cm)

C = coefficient based on grain size

Calculations for Hydraulic Conductivity
Hazen Method
Former Clark Oil Gas Station #118
Shawano, WI
Project 4291

B-2

Gradient = $i = \frac{dh}{dl} = \frac{(MW\text{-}1) - (MW\text{-}11)}{\text{distance between wells}}$

$i = \frac{0.37 \text{ feet}}{315 \text{ feet}}$

$i = 0.0001$ ft/ft

$K = C(d_{10})^2$

$K = 80(0.0075)^2$

$K = 0.0045$ cm/s

$K = 4.5 \times 10^{-3}$ cm/s

$K = (4.5 \times 10^{-3} \text{ cm/s})(31{,}536{,}000 \text{ s})$

$K = 141{,}912$ cm/yr

$K = (141{,}912 \text{ cm/yr})(0.0328 \text{ ft/cm})$

$K = 4{,}655$ ft/yr

Groundwater velocity = $v = \frac{Ki}{n}$

$K = 4{,}655$ ft/yr

$i = 0.0001$ ft/ft

n = porosity = 0.30

$v = \frac{(4.655 \text{ ft/yr})(0.0001)}{0.30}$

$v = 1.54$ ft/yr

Notation

dh = change in hydraulic head (feet)

dl = distance between wells (feet)

K = hydraulic conductivity (cm/s)

d_{10} = the effective grain size (cm)

C = coefficient based on grain size

Calculations for Hydraulic Conductivity
Hazen Method
Former Clark Oil Gas Station #118
Shawano, WI
Project 4291

B-5

Gradient = $i = \frac{dh}{dl} = \frac{(MW\text{-}1) - (MW\text{-}11)}{\text{distance between wells}}$

$i = \frac{0.37 \text{ feet}}{315 \text{ feet}}$

$i = 0.0001$ ft/ft

$K = C(d_{10})^2$

$K = 80(0.0065)^2$

$K = 0.0033$ cm/s

$K = 3.3 \times 10^{-3}$ cm/s

$K = (3.3 \times 10^{-3} \text{ cm/s})(31{,}536{,}000 \text{ s})$

$K = 104{,}069$ cm/yr

$K = (104{,}069 \text{ cm/yr})(0.0328 \text{ ft/cm})$

$K = 3{,}413$ ft/yr

Groundwater velocity = $v = \frac{Ki}{n}$

$K = 3{,}143$ ft/yr

$i = 0.0001$ ft/ft

n = porosity = 0.30

$v = \frac{(5{,}275 \text{ ft/yr})(0.0001)}{0.30}$

$v = 1.13$ ft/yr

Notation

dh = change in hydraulic head (feet)

dl = distance between wells (feet)

K = hydraulic conductivity (cm/s)

d_{10} = the effective grain size (cm)

C = coefficient based on grain size

APPENDIX I

Chain of Custody Records and Soil Quality Test Results

K. SINGH & ASSOCIATES, INC.

Engineering and Environmental Management Consultants

1135 Legion Drive, Elm Grove, Wisconsin 53122 (414) 821-1171 Fax (414) 821-1174

1 of 2

State of Wisconsin
Department of Natural Resources

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151

Note: This form is required by the Department of Natural Resources for LUST sites in compliance with ch. NR 500-540, NR 158 and NR 419, Wis. Adm. Code

Sample Collector(s)	Title	Telephone # (including Area Code)	Report To
Adam McIlheran	Staff Hydrogeologist	414-821-1171	Adam McIlheran

Property Owner	Property Address	Telephone # (including Area Code)	Project #
National Investments, LLC	1037 E. Green Bay Road, Shawano, WI		4291 RJ

I hereby certify that I received, properly, and disposed of these samples as noted below:

Lab. Name: Great Lakes Analytical

Relinquished By (Signature)	Date/Time	Received By (Signature)
Lynn Kapinski	6/4/98/9:20	Kim Cullman 06/04/98
Relinquished By (Signature)	Date/Time	Received By (Signature)
Kim Cullman	06/04/98	K. Kuehl 6/4/98 1430
Relinquished By (Signature)	Date/Time	Received By (Signature)

Temperature of temperature blank: 40 a

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for the temperature blank.

Field I.D. Number	Date Collected	Time Collected	Samples Type(1)	Samples Device	Location/Description (see footnote2)	PVOCs	GRO	Lead	# / Type of Container HNO3/MeOH	HCl	H2SO4	Unpres.	Lab ID No.	Sample Condition: Cracked /Broken	Improperly Sealed	Good Condition	Other Comment
	6/2/98	10:30	S	SS	B-14,S-2	V	V	V	1			1		8060885		—	
	"	11:00	"	"	B-14,S-4	V	V	V	1			1		8060886		—	
	"	12:30	"	"	B-2,S-3	V	V	V	1			1		8060887		✓	
	"	2:00	"	"	B-3,S-3	V	V	V	1			1		8060888		✓	
	"	3:30	"	"	B-4,S-3	V	V	V	1			1		8060889		✓	
	"	5:30	"	"	B-5,S-3	V	V	V	1			1		8060890		✓	

1-Specify Groundwater (GW), Surface Water (SW), Soil (S), Sludge (SL), Air (A), etc.
2-Sample description must clearly correlate the sample ID. to the sampling location.

DEPARTMENT USE / OPTIONAL FOR SOIL SAMPLES

Disposition of unused portion of sample
Laboratory shouls:

☐ Dispose ☐ Retain for _____ day
☐ Return ☐ Other

DEPARTMENT USE ONLY

Split samples: Offered ? ☐ Yes ☐ No
Accepted ? ☐ Yes ☐ No
Accepted By: _____
Signature

K. SINGH & ASSOCIATES, INC.

Engineering and Environmental Management Consultants

1135 Legion Drive, Elm Grove, Wisconsin 53122 (414) 821-1171 Fax (414) 821-1174

State of Wisconsin
Department of Natural Resources

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151

Note: This form is required by the Department of Natural Resources for LUST sites in compliance with ch. NR 500-540, NR 158 and NR 419, Wis. Adm. Code

Sample Collector(s)	Title	Telephone # (including Area Code)	Report To
Adam McIlheran	Staff Hydrogeologist	414-821-1171	Adam McIlheran

Property Owner	Property Address	Telephone # (including Area Code)	Project #
National Investments, LLC	1037 E. Greenbay Road, Shawano, WI		4291 RI

I hereby certify that I received, properly, and disposed of these samples as noted below:

Lab. Name: Great Lakes Analytical

Relinquished By (Signature)	Date/Time	Received By (Signature)
Lynn Kazmierski	6/4/98 / 9:20	Kim Ortman 06/04/98
Kim Ortman	06/04/98	K. Knoll 6/4/98 1430

Temperature of temperature blank: 4°C

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for the temperature blank.

Field I.D. Number	Date Collected	Time Collected	Samples Type(1)	Samples Device	Location/Description (see footnote2)	GRO	PVOCs						# / Type of Container HNO₃ MeOH	HCl	H_2SO_4	Unpres.	Lab ID No.	Sample Condition: Cracked /Broken	Improperly Sealed	Good Condition	Other Comment
	6/2/98	5:30	S	SS	Field Blank	V	V						1				8060891			✓	

1-Specify Groundwater (GW), Surface Water (SW), Soil (S), Sludge (SL), Air (A), etc.
2-Sample description must clearly correlate the sample ID. to the sampling location.

DEPARTMENT USE / OPTIONAL FOR SOIL SAMPLES

Disposition of unused portion of sample
Laboratory shouls:

- ☐ Dispose
- ☐ Return
- ☐ Retain for ______ day
- ☐ Other

DEPARTMENT USE ONLY

Split samples: Offered ? ☐ Yes ☐ No

Accepted ? ☐ Yes ☐ No

Accepted By: ______________________
Signature

GREAT LAKES ANALYTICAL

JUN 2 6 1998

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

Date: June 22, 1998

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Adam McIlheran

Project: 4291RI, National Investments

Enclosed are the results from 6 soil samples and 1 liquid sample received at Great Lakes Analytical on Jun 4, 1998. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
8060885	Soil: B-14, S-2	6/2/98	PVOC, EPA 5030/8021 Lead, EPA 3050/7421 Percent Solids, EPA 7.3.3.1.5 WDNR GRO
8060886	Soil: B-14, S-4	6/2/98	PVOC, EPA 5030/8021 Lead, EPA 3050/7421 Percent Solids, EPA 7.3.3.1.5 WDNR GRO
8060887	Soil: B-2, S-3	6/2/98	PVOC, EPA 5030/8021 Lead, EPA 3050/7421 Percent Solids, EPA 7.3.3.1.5 WDNR GRO
8060888	Soil: B-3, S-3	6/2/98	PVOC, EPA 5030/8021 Lead, EPA 3050/7421 Percent Solids, EPA 7.3.3.1.5 WDNR GRO
8060889	Soil: B-4, S-3	6/2/98	PVOC, EPA 5030/8021 Lead, EPA 3050/7421 Percent Solids, EPA 7.3.3.1.5 WDNR GRO
8060890	Soil: B-5, S-3	6/2/98	PVOC, EPA 5030/8021 Lead, EPA 3050/7421 Percent Solids, EPA 7.3.3.1.5 WDNR GRO
8060891	Liquid: Field Blank	6/2/98	PVOC, EPA 5030/8021 WDNR GRO

This report may not be reproduced, except in full, without the written approval of the laboratory.

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291RI, National Investments	Sampled:	Jun 2, 1998
1135 Legion Drive	Sample Descript:	Soil	Received:	Jun 4, 1998
Elm Grove, WI 53122	Analysis for:	Percent Solids, EPA 7.3.3.1.5		
Attention: Adam McIlheran	First Sample #:	806-0885	Analyzed:	Jun 7-8, 1998
			Reported:	Jun 22, 1998

LABORATORY ANALYSIS FOR: Percent Solids, EPA 7.3.3.1.5

Sample Number	Sample Description	Detection Limit %	Sample Result %
806-0885	B-14, S-2	0.10	80
806-0886	B-14, S-4	0.10	80
806-0887	B-2, S-3	0.10	80
806-0888	B-3, S-3	0.10	80
806-0889	B-4, S-3	0.10	80
806-0890	B-5, S-3	0.10	79

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291RI, National Investments	Sampled:	Jun 2, 1998
1135 Legion Drive	Sample Descript:	Soil	Received:	Jun 4, 1998
Elm Grove, WI 53122	Analysis for:	Lead, EPA 3050/7421		
Attention: Adam McIlheran	First Sample #:	806-0885	Analyzed:	Jun 16, 1998
			Reported:	Jun 22, 1998

LABORATORY ANALYSIS FOR: Lead, EPA 3050/7421

Sample Number	Sample Description	Detection Limit mg/kg Dry Weight	Sample Result mg/kg Dry Weight
806-0885	B-14, S-2	0.30	4.7
806-0886	B-14, S-4	0.30	1.4
806-0887	B-2, S-3	0.30	1.2
806-0888	B-3, S-3	0.30	0.86
806-0889	B-4, S-3	0.30	1.0
806-0890	B-5, S-3	0.32	1.6

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8060885.ksa <2>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291RI, National Investments	Sampled:	Jun 2, 1998
1135 Legion Drive	Matrix Descript:	Soil	Received:	Jun 4, 1998
Elm Grove, WI 53122	Analysis Method:	WDNR GRO		
Attention: Adam McIlheran	First Sample #:	806-0885	Analyzed:	Jun 15, 1998
			Reported:	Jun 22, 1998

GASOLINE RANGE ORGANICS

Sample Number	Sample Description	Detection Limit mg/kg, Dry Weight (ppm)	Low/Medium B.P. Hydrocarbons mg/kg, Dry Weight (ppm)	Chromatogram Description
806-0885	B-14, S-2	1,300	6,500	Gas Range, Late Peaks
806-0886	B-14, S-4	6.3	9.3	Gas Pattern
806-0887	B-2, S-3	6.3	N.D.	---
806-0888	B-3, S-3	6.3	8.5	Gas Range, Late Peaks, Elevated Baseline
806-0889	B-4, S-3	6.3	N.D.	---
806-0890	B-5, S-3	6.3	N.D.	---

Low to Medium Boiling Point Hydrocarbons is performed as described in Leaking Undergound Storage Tank Analytical Guidance July 1993 WDNR SW 130 93 REV. Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8060885.ksa <3>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291RI, National Investments	Sampled:	Jun 2, 1998
1135 Legion Drive	Matrix Descript:	Liquid	Received:	Jun 4, 1998
Elm Grove, WI 53122	Analysis Method:	WDNR GRO		
Attention: Adam McIlheran	First Sample #:	806-0891	Analyzed:	Jun 15, 1998
			Reported:	Jun 22, 1998

GASOLINE RANGE ORGANICS

Sample Number	Sample Description	Detection Limit µg/L (ppb)	Low/Medium B.P. Hydrocarbons µg/L (ppb)	Chromatogram Description
806-0891	Field Blank	5,000	N.D.	---

Low to Medium Boiling Point Hydrocarbons is performed as described in Leaking Undergound Storage Tank Analytical Guidance July 1993 WDNR SW 130 93 REV. Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8060885.ksa <4>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291RI, National Investments	Sampled:	Jun 2, 1998
1135 Legion Drive	Sample Descript:	Soil: B-14, S-2	Received:	Jun 4, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	806-0885	Analyzed:	Jun 15, 1998
			Reported:	Jun 22, 1998

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
Benzene	4.8	15	5,000	N.D.
Ethyl Benzene	5.0	16	5,000	90,000
Methyl-t-Butyl Ether	12	37	5,000	N.D.
Toluene	7.0	22	5,000	110,000
124 Trimethylbenzene	8.9	28	5,000	300,000
135 Trimethylbenzene	8.2	26	5,000	88,000
Xylene	4.9	16	5,000	510,000

Analytes reported as N.D. were not present above the stated limit of reporting. Because matrix effects and/or other factors required additional sample dilution, reporting limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Adam McIlheran

Client Project ID: 4291RI, National Investments
Sample Descript: Soil: B-14, S-4
Analysis Method: EPA 5030/8021
Lab Number: 806-0886

Sampled: Jun 2, 1998
Received: Jun 4, 1998
Analyzed: Jun 15, 1998
Reported: Jun 22, 1998

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
Benzene	4.8	15	25	N.D.
Ethyl Benzene	5.0	16	25	340
Methyl-t-Butyl Ether	12	37	25	N.D.
Toluene	7.0	22	25	430
124 Trimethylbenzene	8.9	28	25	540
135 Trimethylbenzene	8.2	26	25	150
Xylene	4.9	16	25	1,900

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8060885.ksa <6>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Adam McIlheran

Client Project ID: 4291RI, National Investments
Sample Descript: Soil: B-2, S-3
Analysis Method: EPA 5030/8021
Lab Number: 806-0887

Sampled: Jun 2, 1998
Received: Jun 4, 1998

Analyzed: Jun 15, 1998
Reported: Jun 22, 1998

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
Benzene	4.8	15	25	N.D.
Ethyl Benzene	5.0	16	25	N.D.
Methyl-t-Butyl Ether	12	37	25	N.D.
Toluene	7.0	22	25	N.D.
124 Trimethylbenzene	8.9	28	25	93
135 Trimethylbenzene	8.2	26	25	50
Xylene	4.9	16	25	62

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8060885.ksa <7>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291RI, National Investments	Sampled:	Jun 2, 1998
1135 Legion Drive	Sample Descript:	Soil: B-3, S-3	Received:	Jun 4, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	806-0888	Analyzed:	Jun 15, 1998
			Reported:	Jun 22, 1998

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
Benzene	4.8	15	25	940
Ethyl Benzene	5.0	16	25	190
Methyl-t-Butyl Ether	12	37	25	N.D.
Toluene	7.0	22	25	140
124 Trimethylbenzene	8.9	28	25	360
135 Trimethylbenzene	8.2	26	25	140
Xylene	4.9	16	25	1,100

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8060885.ksa <8>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Adam McIlheran

Client Project ID: 4291RI, National Investments
Sample Descript: Soil: B-4, S-3
Analysis Method: EPA 5030/8021
Lab Number: 806-0889

Sampled: Jun 2, 1998
Received: Jun 4, 1998

Analyzed: Jun 15, 1998
Reported: Jun 22, 1998

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
Benzene	4.8	15	25	N.D.
Ethyl Benzene	5.0	16	25	N.D.
Methyl-t-Butyl Ether	12	37	25	N.D.
Toluene	7.0	22	25	N.D.
124 Trimethylbenzene	8.9	28	25	N.D.
135 Trimethylbenzene	8.2	26	25	N.D.
Xylene	4.9	16	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8060885.ksa <9>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Adam McIlheran

Client Project ID: 4291RI, National Investments
Sample Descript: Soil: B-5, S-3
Analysis Method: EPA 5030/8021
Lab Number: 806-0890

Sampled: Jun 2, 1998
Received: Jun 4, 1998

Analyzed: Jun 15, 1998
Reported: Jun 22, 1998

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
Benzene	4.8	15	25	N.D.
Ethyl Benzene	5.0	16	25	N.D.
Methyl-t-Butyl Ether	12	37	25	N.D.
Toluene	7.0	22	25	N.D.
124 Trimethylbenzene	8.9	28	25	N.D.
135 Trimethylbenzene	8.2	26	25	N.D.
Xylene	4.9	16	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8060885.ksa <10>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Adam McIlheran

Client Project ID: 4291RI, National Investments
Sample Descript: Liquid: Field Blank
Analysis Method: EPA 5030/8021
Lab Number: 806-0891

Sampled: Jun 2, 1998
Received: Jun 4, 1998

Analyzed: Jun 15, 1998
Reported: Jun 22, 1998

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/L	Practical Quanitation Limit µg/L	WDNR Reporting Limit µg/L	Sample Results µg/L
Benzene	4.8	15	25	N.D.
Ethyl Benzene	5.0	16	25	N.D.
Methyl-t-Butyl Ether	12	37	25	N.D.
Toluene	7.0	22	25	N.D.
124 Trimethylbenzene	8.9	28	25	N.D.
135 Trimethylbenzene	8.2	26	25	N.D.
Xylene	4.9	16	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8060885.ksa <11>

K. SINGH & ASSOCIATES, INC.

Engineering and Environmental Management Consultants

1135 Legion Drive, Elm Grove, Wisconsin 53122 (414) 821-1171 Fax (414) 821-1174

State of Wisconsin
Department of Natural Resources

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151

11

Note: This form is required by the Department of Natural Resources for LUST sites in compliance with ch. NR 500-540, NR 158 and NR 419, Wis. Adm. Code

Sample Collector(s)	Title	Telephone # (including Area Code)	Report To
Adam McIlveran	Staff Hydrogeologist	414-821-1171	Adam McIlveran

Property Owner	Property Address	Telephone # (including Area Code)	Project #
National Investments, LLC	1037 E. Greenbay Road, Shawano, WI		4291 RJ

I hereby certify that I received, properly, and disposed of these samples as noted below:

Lab. Name: Great Lakes Analytical

Relinquished By (Signature)	Date/Time	Received By (Signature)
Glynn Kanzuski	6/4/98 9:20	Kim Uptman 6/4/98
Kim Uptman	6/4/98	K. Ell 6/4/98 1430
Relinquished By (Signature)	Date/Time	Received By (Signature)

Temperature of temperature blank: 4°C

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for the temperature blank.

Field I.D. Number	Date Collected	Time Collected	Samples Type(1)	Samples Device	Location/Description (see footnote2)	6 RO	PVOCs	Lead	Total Organic Lead				# / Type of Container HNO3 MeOH	HCl	H2SO4	Unpres.	Lab ID No.	Sample Condition Cracked /Broken	Improperly Sealed	Good Condition	Other Comment
	6/3/98	8:00	S	SS	B-8, S-3	V	V	V	—				1			1		8060874		✓	
	"	9:00	"	"	B-1, S-2	V	V	V	—				1			1		8060875		✓	
	"	10:30	"	"	B-10, S-3	V	V	V	—				1			1		8060876		✓	
	"	12:00	"	"	B-12, S-3	V	V	V	—				1			1		8060877		✓	
	"	1:30	"	"	B-6, S-3	V	V	V	—				1			1		8060878		✓	
	"	2:00	"	"	BioDirty 3.5'-5'	—	—	—	V							1		8060879		✓	

1-Specify Groundwater (GW), Surface Water (SW), Soil (S), Sludge (SL), Air (A), etc.
2-Sample description must clearly correlate the sample ID. to the sampling location.

DEPARTMENT USE / OPTIONAL FOR SOIL SAMPLES

Disposition of unused portion of sample.
Laboratory shouls:

☐ Dispose ☐ Retain for _____ day
☐ Return ☐ Other

DEPARTMENT USE ONLY

Split samples: Offered ? ☐ Yes ☐ No
Accepted ? ☐ Yes ☐ No

Accepted By: _____
Signature

K. SINGH & ASSOCIATES, INC.

Engineering and Environmental Management Consultants

1135 Legion Drive, Elm Grove, Wisconsin 53122 (414) 821-1171 Fax (414) 821-1174

2 of [redacted]

State of Wisconsin
Department of Natural Resources

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151

(4)

Note: This form is required by the Department of Natural Resources for LUST sites in compliance with ch. NR 500-540, NR 158 and NR 419, Wis. Adm. Code

Sample Collector(s)	Title	Telephone # (including Area Code)	Report To
Adam McIlheran	Staff Hydrogeologist	414-821-1171	Adam McIlheran

Property Owner	Property Address	Telephone # (including Area Code)	Project #
National Investments, LLC	1037 E. Greenbay Road, Shawano, WI		4291 R5

I hereby certify that I received, properly, and disposed of these samples as noted below:

Lab. Name: Great Lakes Analytical

Relinquished By (Signature)	Date/Time	Received By (Signature)
Lynn Karpinski	6/4/98/9:20	Kim Ortman 06/04/98
Kim Ortman	06/04/98	K. Kell 6/4/98 1430

Temperature of temperature blank: 4°C

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for the temperature blank.

Field I.D. Number	Date Collected	Time Collected	Samples Type(1)	Samples Device	Location/Description (see footnote2)	PVOCs	GRO	Total Organic Carbon	Lead					# / Type of Container HNO3 MeOH	HCl	H2SO4	Unpres.	Lab ID No.	Sample Condition: Cracked /Broken	Improperly Sealed	Good Condition	Other Comment
	6/3/98	2:00	"	"	Bio Clean 3.5'-5'	–	–	V	–								1		8060880		✓	
	"	2:00	"	"	Field Blank	V	V	–	–					1					8060881		✓	
	"	"	"	"	B-9, S-3	V	V	–	V					1			1		8060882		✓	

1-Specify Groundwater (GW), Surface Water (SW), Soil (S), Sludge (SL), Air (A), etc.
2-Sample description must clearly correlate the sample ID. to the sampling location.

DEPARTMENT USE / OPTIONAL FOR SOIL SAMPLES

Disposition of unused portion of sample:
Laboratory shouls:

☐ Dispose ☐ Retain for ______ day
☐ Return ☐ Other

DEPARTMENT USE ONLY

Split samples: Offered ? ☐ Yes ☐ No

Accepted ? ☐ Yes ☐ No

Accepted By: ______________________
Signature

GREAT LAKES ANALYTICAL

JUN 2 3 1998

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

Date: June 18, 1998

[redacted]. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Adam McIlheran

Project: 4291RI, National Investments

Enclosed are the results from 8 soil samples and 1 liquid sample received at Great Lakes Analytical on Jun 4, 1998. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
8060874	Soil: B-8, S-3	6/3/98	PVOC, EPA 5030/8021 Lead, EPA 3050/7421 Percent Solids, EPA 7.3.3.1.5 WDNR GRO
8060875	Soil: B-1, S-2	6/3/98	PVOC, EPA 5030/8021 Lead, EPA 3050/7421 Percent Solids, EPA 7.3.3.1.5 WDNR GRO
8060876	Soil: B-10, S-3	6/3/98	PVOC, EPA 5030/8021 Lead, EPA 3050/7421 Percent Solids, EPA 7.3.3.1.5 WDNR GRO
8060877	Soil: B-12, S-3	6/3/98	PVOC, EPA 5030/8021 Lead, EPA 3050/7421 Percent Solids, EPA 7.3.3.1.5 WDNR GRO
8060878	Soil: B-6, S-3	6/3/98	PVOC, EPA 5030/8021 Lead, EPA 3050/7421 Percent Solids, EPA 7.3.3.1.5 WDNR GRO
8060879	Soil, Bio Dirty	6/3/98	Percent Solids, EPA 7.3.3.1.5 Total Organic Carbon, EPA 90
8060880	Soil, Bio Clean	6/3/98	Percent Solids, EPA 7.3.3.1.5 Total Organic Carbon, EPA 90
8060881	Liquid: Field Blank	6/3/98	PVOC, EPA 5030/8021 WDNR GRO

⊐60882	Soil: B-9, S-3	6/3/98	PVOC, EPA 5030/8021 Lead, EPA 3050/7421 Percent Solids, EPA 7.3.3.1.5 WDNR GRO

▮ease contact me if you have any questions. In the meantime, thank you for the opportunity to work with you ▪n this project.

▮ery truly yours,

GREAT LAKES ANALYTICAL

▮evin W. Keeley
▮aboratory Director

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

Singh & Associates, Inc.	Client Project ID:	4291RI, National Investments	Sampled:	Jun 3, 1998
1135 Legion Drive	Sample Descript:	Soil	Received:	Jun 4, 1998
m Grove, WI 53122	Analysis for:	Percent Solids, EPA 7.3.3.1.5		
ttention: Adam McIlheran	First Sample #:	806-0874	Analyzed:	Jun 7-8, 1998
			Reported:	Jun 18, 1998

LABORATORY ANALYSIS FOR: Percent Solids, EPA 7.3.3.1.5

Sample Number	Sample Description	Detection Limit %	Sample Result %
806-0874	B-8, S-3	0.10	81
806-0875	B-1, S-2	0.10	81
806-0876	B-10, S-3	0.10	84
806-0877	B-12, S-3	0.10	82
806-0878	B-6, S-3	0.10	81
806-0879	Bio Dirty	0.10	83
806-0880	Bio Clean	0.10	80
806-0882	B-9, S-3	0.10	80

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8060874.ksa <1>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

Singh & Associates, Inc.	Client Project ID:	4291RI, National Investments	Sampled:	Jun 3, 1998
1135 Legion Drive	Sample Descript:	Soil	Received:	Jun 4, 1998
Elm Grove, WI 53122	Analysis for:	Lead, EPA 3050/7421		
Attention: Adam McIlheran	First Sample #:	806-0874	Analyzed:	Jun 16, 1998
			Reported:	Jun 18, 1998

LABORATORY ANALYSIS FOR: Lead, EPA 3050/7421

Sample Number	Sample Description	Detection Limit mg/kg Dry Weight	Sample Result mg/kg Dry Weight
806-0874	B-8, S-3	0.31	4.4
806-0875	B-1, S-2	0.31	3.4
806-0876	B-10, S-3	0.30	1.4
806-0877	B-12, S-3	0.30	1.6
806-0878	B-6, S-3	0.31	1.9
806-0882	B-9, S-3	0.31	1.5

Because matrix effects and/or other factors required additional dilution, detection limits for these samples have been raised

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8060874.ksa <2>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

[redacted] Singh & Associates, Inc.	Client Project ID:	4291RI, National Investments	Sampled:	Jun 3, 1998
1135 Legion Drive	Sample Descript:	Soil	Received:	Jun 4, 1998
Elm Grove, WI 53122	Analysis for:	Total Organic Carbon, EPA 9060		
Attention: Adam McIlheran	First Sample #:	806-0879	Analyzed:	Jun 9, 1998
			Reported:	Jun 18, 1998

LABORATORY ANALYSIS FOR: Total Organic Carbon, EPA 9060

Sample Number	Sample Description	Detection Limit mg/kg Dry Weight	Sample Result mg/kg Dry Weight
806-0879	Bio Dirty	1.2	3,000
806-0880	Bio Clean	1.3	5,200

Because matrix effects and/or other factors required additional dilution, detection limits for these samples have been raised

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:
TOC analysis was performed at EMT in Morton Grove, IL.

8060874.ksa <3>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

. Singh & Associates, Inc.	Client Project ID:	4291RI, National Investments	Sampled:	Jun 3, 1998
1135 Legion Drive	Matrix Descript:	Soil	Received:	Jun 4, 1998
lm Grove, WI 53122	Analysis Method:	WDNR GRO		
ttention: Adam McIlheran	First Sample #:	806-0874	Analyzed:	Jun 14-15, 1998
			Reported:	Jun 18, 1998

GASOLINE RANGE ORGANICS

Sample Number	Sample Description	Detection Limit mg/kg, Dry Weight (ppm)	Low/Medium B.P. Hydrocarbons mg/kg, Dry Weight (ppm)	Chromatogram Description
806-0874	B-8, S-3	41	170	Gas Range, Late Peaks
806-0875	B-1, S-2	3,100	4,300	Gas Range, Late Peaks, Elevated Baseline
806-0876	B-10, S-3	6.0	N.D.	---
806-0877	B-12, S-3	12	94	Gas Range, Late Peaks, Elevated Baseline
806-0878	B-6, S-3	6.2	N.D.	---
806-0882	B-9, S-3	13	71	Gas Range, Late Peaks, Elevated Baseline

ow to Medium Boiling Point Hydrocarbons is performed as described in Leaking Undergound Storage Tank nalytical Guidance July 1993 WDNR SW 130 93 REV. Analytes reported as N.D. were not present bove the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

REAT LAKES ANALYTICAL

evin W. Keeley
aboratory Director

8060874.ksa <4>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

..Singh & Associates, Inc.	Client Project ID:	4291RI, National Investments	Sampled: Jun 3, 1998
1135 Legion Drive	Matrix Descript:	Liquid	Received: Jun 4, 1998
Elm Grove, WI 53122	Analysis Method:	WDNR GRO	
Attention: Adam McIlheran	First Sample #:	806-0881	Analyzed: Jun 14-15, 1998
			Reported: Jun 18, 1998

GASOLINE RANGE ORGANICS

Sample Number	Sample Description	Detection Limit µg/L (ppb)	Low/Medium B.P. Hydrocarbons µg/L (ppb)	Chromatogram Description
806-0881	Field Blank	5,000	N.D.	----

Low to Medium Boiling Point Hydrocarbons is performed as described in Leaking Undergound Storage Tank Analytical Guidance July 1993 WDNR SW 130 93 REV. Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8060874.ksa <5>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

_ Singh & Associates, Inc.	Client Project ID:	4291RI, National Investments	Sampled: Jun 3, 1998
1135 Legion Drive	Sample Descript:	Soil: B-8, S-3	Received: Jun 4, 1998
lm Grove, WI 53122	Analysis Method:	EPA 5030/8021	
ttention: Adam McIlheran	Lab Number:	806-0874	Analyzed: Jun 14-15, 1998
			Reported: Jun 18, 1998

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
enzene	4.8	15	170	830
thyl Benzene	5.0	16	170	1,500
Methyl-t-Butyl Ether	12	37	170	N.D.
oluene	7.0	22	170	8,800
24 Trimethylbenzene	8.9	28	170	8,400
135 Trimethylbenzene	8.2	26	170	2,600
ylene	4.9	16	170	20,000

Analytes reported as N.D. were not present above the stated limit of reporting. Because matrix effects and/or other factors required additional sample dilution, reporting limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8060874.ksa <6>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

Singh & Associates, Inc.	Client Project ID:	4291RI, National Investments	Sampled: Jun 3, 1998
1135 Legion Drive	Sample Descript:	Soil: B-1, S-2	Received: Jun 4, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021	
Attention: Adam McIlheran	Lab Number:	806-0875	Analyzed: Jun 14-15, 1998
			Reported: Jun 18, 1998

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
Benzene	4.8	15	2,500	N.D.
Ethyl Benzene	5.0	16	2,500	41,000
Methyl-t-Butyl Ether	12	37	2,500	N.D.
Toluene	7.0	22	2,500	52,000
1,2,4 Trimethylbenzene	8.9	28	2,500	150,000
1,3,5 Trimethylbenzene	8.2	26	2,500	44,000
Xylene	4.9	16	2,500	270,000

Analytes reported as N.D. were not present above the stated limit of reporting. Because matrix effects and/or other factors required additional sample dilution, reporting limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8060874.ksa <7>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

. Singh & Associates, Inc.	Client Project ID:	4291RI, National Investments	Sampled: Jun 3, 1998
135 Legion Drive	Sample Descript:	Soil: B-10, S-3	Received: Jun 4, 1998
lm Grove, WI 53122	Analysis Method:	EPA 5030/8021	
ttention: Adam McIlheran	Lab Number:	806-0876	Analyzed: Jun 14-15, 1998
			Reported: Jun 18, 1998

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
enzene	4.8	15	25	N.D.
thyl Benzene	5.0	16	25	N.D.
Methyl-t-Butyl Ether	12	37	25	N.D.
oluene	7.0	22	25	N.D.
24 Trimethylbenzene	8.9	28	25	93
35 Trimethylbenzene	8.2	26	25	N.D.
Xylene	4.9	16	25	64

nalytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in elease News, Volume 4, Number 3, July 1994.

REAT LAKES ANALYTICAL

evin W. Keeley
Laboratory Director

8060874.ksa <8>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

[redacted]. Singh & Associates, Inc.	Client Project ID:	4291RI, National Investments	Sampled:	Jun 3, 1998
1135 Legion Drive	Sample Descript:	Soil: B-12, S-3	Received:	Jun 4, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
[redacted]ttention: Adam McIlheran	Lab Number:	806-0877	Analyzed:	Jun 14-15, 1998
			Reported:	Jun 18, 1998

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
[redacted]enzene	4.8	15	50	380
[redacted]thyl Benzene	5.0	16	50	370
Methyl-t-Butyl Ether	12	37	50	N.D.
[redacted]oluene	7.0	22	50	1,800
[redacted]24 Trimethylbenzene	8.9	28	50	3,300
[redacted]35 Trimethylbenzene	8.2	26	50	1,100
[redacted]Xylene	4.9	16	50	5,600

[redacted]nalytes reported as N.D. were not present above the stated limit of reporting. Because matrix effects and/or other factors required additional sample dilution, reporting limits for this sample have been raised.

[redacted]REAT LAKES ANALYTICAL

[redacted]evin W. Keeley
[redacted]aboratory Director

8060874.ksa <9>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

Singh & Associates, Inc.	Client Project ID:	4291RI, National Investments	Sampled: Jun 3, 1998
1135 Legion Drive	Sample Descript:	Soil: B-6, S-3	Received: Jun 4, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021	
Attention: Adam McIlheran	Lab Number:	806-0878	Analyzed: Jun 14-15, 1998
			Reported: Jun 18, 1998

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
Benzene	4.8	15	25	N.D.
Ethyl Benzene	5.0	16	25	N.D.
Methyl-t-Butyl Ether	12	37	25	N.D.
Toluene	7.0	22	25	N.D.
1,2,4 Trimethylbenzene	8.9	28	25	100
1,3,5 Trimethylbenzene	8.2	26	25	49
Xylene	4.9	16	25	100

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8060874.ksa <10>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

Singh & Associates, Inc.	Client Project ID:	4291RI, National Investments	Sampled:	Jun 3, 1998
1135 Legion Drive	Sample Descript:	Liquid: Field Blank	Received:	Jun 4, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	806-0881	Analyzed:	Jun 17, 1998
			Reported:	Jun 18, 1998

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/L	Practical Quanitation Limit µg/L	WDNR Reporting Limit µg/L	Sample Results µg/L
Benzene	4.8	15	25	N.D.
Ethyl Benzene	5.0	16	25	N.D.
Methyl-t-Butyl Ether	12	37	25	N.D.
Toluene	7.0	22	25	N.D.
1,2,4 Trimethylbenzene	8.9	28	25	N.D.
1,3,5 Trimethylbenzene	8.2	26	25	N.D.
Xylene	4.9	16	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8060874.ksa <11>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

[redacted]. Singh & Associates, Inc.	Client Project ID:	4291RI, National Investments	Sampled:	Jun 3, 1998
1135 Legion Drive	Sample Descript:	Soil: B-9, S-3	Received:	Jun 4, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	806-0882	Analyzed:	Jun 17, 1998
			Reported:	Jun 18, 1998

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
[redacted]enzene	4.8	15	25	550
[redacted]thyl Benzene	5.0	16	25	900
Methyl-t-Butyl Ether	12	37	25	N.D.
[redacted]oluene	7.0	22	25	1,900
[redacted]24 Trimethylbenzene	8.9	28	25	2,900
[redacted]35 Trimethylbenzene	8.2	26	25	850
Xylene	4.9	16	25	6,000

[redacted]nalytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in [redacted]elease News, Volume 4, Number 3, July 1994.

[redacted]REAT LAKES ANALYTICAL

[redacted]evin W. Keeley
Laboratory Director

8060874.ksa <12>

GT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, IL 60089
(847) 808-7766
FAX (847) 808-7772

20725 Watertown Road
Brookfield, WI 53186
(414) 798-1030
FAX (414) 798-1065

CHAIN OF CUSTODY REPORT

Sub coc
To: EMT

Client: GREAT LAKES ANALYTICAL	Bill To:	TAT: 5 DAY (4 DAY) 3 DAY 2 DAY 1 DAY < 24 HRS.	
Address: 1380 BUSCH PARKWAY BUFFALO GROVE, IL 60089-4505	Address:	DATE RESULTS NEEDED: 6-12-98	
		TEMPERATURE UPON RECEIPT:	
Report to: D. DiBrizzi / Phone #: ( ) Fax #: ( )	State & Program: / Phone #: ( ) Fax #: ( )	AIR BILL NO.	

Project: KSingh
Sampler:
PO/Quote #: Sub-0265

	FIELD ID, LOCATION	DATE COLLECTED	TIME COLLECTED	SAMPLE MATRIX	PRESERVATIVES	NO. CONTAINERS	TYPE CONTAINERS	TOC	SAMPLE CONTROL: CRACKED/BROKEN	SAMPLE CONTROL: IMPROPERLY SEALED	SAMPLE CONTROL: GOOD CONDITION	LABORATORY ID NUMBER
1	8060879	6/3		Soil		1	2oz	X				
2	8060880	"		"		1	"	X				
3												
4												
5												
6												
7												
8												
9												
10												

RELINQUISHED	DATE	RECEIVED	DATE	RELINQUISHED	RECEIVED
K. Kll	6-8-98 1000				
RELINQUISHED	DATE	RECEIVED	DATE	RELINQUISHED	RECEIVED
			TIME		

COMMENTS:

PAGE OF

JG958196

ENVIRONMENTAL MONITORING AND TECHNOLOGIES, INC.

8100 North Austin Avenue
Morton Grove, Illinois 60053-3203
847-967-6666
FAX: 847-967-6735

LABORATORY REPORT

182073

Great Lakes Analytical
1380 Busch Parkway
Buffalo Grove, IL 60089-4505

Report Date: 6/9/98
Sample Received: As Listed

Project Name: Ksingh
Sample Description: Soil Grab

Date Sampled	Sample No.	Location	Total Organic Carbon Method 9060(6)	Method Detection Limit
6/2	042876	8060879	3000 ~~2540~~ 1.2	~~<10~~ 12
6/2	042877	8060880	5200 ~~4160~~ 1.25	~~<10~~ 13

All results expressed as ppm unless otherwise indicated

(6) Methods performed according to SW-846 "Test Methods for Evaluating Solid Waste"

Dawn W. Wright

LABORATORY DIRECTOR

K SINGH & ASSOCIATES, INC. KS6414 1 of 1

Engineering and Environmental Management Consultants

1135 Legion Drive, Elm Grove, Wisconsin 53122 (414) 821-1171 Fax (414) 821-1174

State of Wisconsin
Department of Natural Resources

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151

Note: This form is required by the Department of Natural Resources for LUST sites in compliance with ch. NR 500-540, NR 158 and NR 419, Wis. Adm. Code

Sample Collector(s)	Title	Telephone # (including Area Code)	Report To
Adam McIlheran	staff Hydrogeologist	414-821-1171	Adam McIlheran

Property Owner	Property Address	Telephone # (including Area Code)	Project #
National ~~Food~~ Investments	1037 E. Green Bay St, Shawano, WI		4291

I hereby certify that I received, properly, and disposed of these samples as noted below:

Lab. Name: Great Lakes Analytical

Relinquished By (Signature)	Date/Time	Received By (Signature)
John Tomdel	1-15-99 8:50	
K Hydman	01/15/99	1/15
Relinquished By (Signature)	Date/Time	Received By (Signature)

Temperature of temperature blank: ouco

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for the temperature blank.

Field I.D Number	Date Collected	Time Collected	Samples Type(1)	Samples Device	Location/Description (see footnote2)	6RO	PVOCs	# / Type of Container HNO3 MeOH	HCl	H2SO4	Unpres.	Lab ID No.	Sample Condition: Cracked /Broken	Improperly Sealed	Good Condition	Other Comment
	1/14/99	12:30	S	SS	B-7 S-3	✓	✓	1			1	90101601			✓	
	"	2:30	"	"	B-11, S-3	✓	✓	1			1	90101602			✓	
	"	3:30	"	"	B-13, S-3	✓	✓	1			1	90101603			✓	
	"	4:00	"	"	Field Blank	✓	✓	1				90101604			✓	

1-Specify Groundwater (GW), Surface Water (SW), Soil (S), Sludge (SL), Air (A), etc.
2-Sample description must clearly correlate the sample ID. to the sampling location.

DEPARTMENT USE / OPTIONAL FOR SOIL SAMPLES

Disposition of unused portion of sample
Laboratory should:

☐ Dispose ☐ Retain for _____ day
☐ Return ☐ Other

DEPARTMENT USE ONLY

Split samples: Offered? ☐ Yes ☐ No
Accepted? ☐ Yes ☐ No
Accepted By: _____

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

JAN 2 7 1999

Date: January 24, 1999

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Adam McIlheran

Project: 4291, National Investments

Enclosed are the results from 3 soil samples and1 liquid sample received at Great Lakes Analytical on January 15, 1999. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
9010166-01	Soil: B-7, S-3	1/14/99	PVOC, EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5 WDNR GRO
9010166-02	Soil: B-11, S-3	1/14/99	PVOC, EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5 WDNR GRO
9010166-03	Soil: B-13, S-3	1/14/99	PVOC, EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5 WDNR GRO
9010166-04	Liquid: Field Blank	1/14/99	PVOC, EPA 5030/8021 WDNR GRO

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Delaware IL 069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Tennessee DOH-02804; Tennessee DEC; USACE; Virginia 00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled: Jan 14, 1999
1135 Legion Drive	Sample Descript:	Soil	Received: Jan 15, 1999
Elm Grove, WI 53122	Analysis for:	Percent Solids, EPA 7.3.3.1.5	
Attention: Adam McIlheran	First Sample #:	9010166-01	Analyzed: Jan 19-20, 1999
			Reported: Jan 24, 1999

LABORATORY ANALYSIS FOR: Percent Solids, EPA 7.3.3.1.5

Sample Number	Sample Description	Detection Limit %	Sample Result %
9010166-01	B-7, S-3	0.10	80
9010166-02	B-11, S-3	0.10	80
9010166-03	B-13, S-3	0.10	83

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

9010166-01.KSA <1>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Jan 14, 1999
1135 Legion Drive	Matrix Descript:	Soil	Received:	Jan 15, 1999
Elm Grove, WI 53122	Analysis Method:	WDNR GRO		
Attention: Adam McIlheran	First Sample #:	9010166-01	Analyzed:	Jan 21, 1999
			Reported:	Jan 24, 1999

GASOLINE RANGE ORGANICS

Sample Number	Sample Description	Detection Limit mg/kg, Dry Weight (ppm)	Low/Medium B.P. Hydrocarbons mg/kg, Dry Weight (ppm)	Chromatogram Description
9010166-01	B-7, S-3	6.3	N.D.	---
9010166-02	B-11, S-3	6.3	N.D.	---
9010166-03	B-13, S-3	6.0	N.D.	---

Low to Medium Boiling Point Hydrocarbons is performed as described in Leaking Undergound Storage Tank Analytical Guidance July 1993 WDNR SW 130 93 REV. Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Jan 14, 1999
1135 Legion Drive	Matrix Descript:	Liquid	Received:	Jan 15, 1999
Elm Grove, WI 53122	Analysis Method:	WDNR GRO		
Attention: Adam McIlheran	First Sample #:	9010166-04	Analyzed:	Jan 21, 1999
			Reported:	Jan 24, 1999

GASOLINE RANGE ORGANICS

Sample Number	Sample Description	Detection Limit µg/L (ppb)	Low/Medium B.P. Hydrocarbons µg/L (ppb)	Chromatogram Description
9010166-04	Field Blank	5,000	N.D.	—

Low to Medium Boiling Point Hydrocarbons is performed as described in Leaking Undergound Storage Tank Analytical Guidance July 1993 WDNR SW 130 93 REV. Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Jan 14, 1999
1135 Legion Drive	Sample Descript:	Soil: B-7, S-3	Received:	Jan 15, 1999
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	9010166-01	Analyzed:	Jan 21, 1999
			Reported:	Jan 24, 1999

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
Benzene	4.8	15	25	N.D.
Ethyl Benzene	5.0	16	25	N.D.
Methyl-t-Butyl Ether	12	37	25	N.D.
Toluene	7.0	22	25	N.D.
124 Trimethylbenzene	8.9	28	25	N.D.
135 Trimethylbenzene	8.2	26	25	N.D.
Xylene	4.9	16	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Delaware IL 069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Tennessee DOH-02804; Tennessee DEC; USACE; Virginia 00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Jan 14, 1999
1135 Legion Drive	Sample Descript:	Soil: B-11, S-3	Received:	Jan 15, 1999
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	9010166-02	Analyzed:	Jan 21, 1999
			Reported:	Jan 24, 1999

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
Benzene	4.8	15	25	N.D.
Ethyl Benzene	5.0	16	25	N.D.
Methyl-t-Butyl Ether	12	37	25	N.D.
Toluene	7.0	22	25	N.D.
124 Trimethylbenzene	8.9	28	25	N.D.
135 Trimethylbenzene	8.2	26	25	N.D.
Xylene	4.9	16	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

9010166-01.KSA <5>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Jan 14, 1999
1135 Legion Drive	Sample Descript:	Liquid: Field Blank	Received:	Jan 15, 1999
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	9010166-04	Analyzed:	Jan 21, 1999
			Reported:	Jan 24, 1999

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/L	Practical Quanitation Limit µg/L	WDNR Reporting Limit µg/L	Sample Results µg/L
Benzene	4.8	15	25	N.D.
Ethyl Benzene	5.0	16	25	N.D.
Methyl-t-Butyl Ether	12	37	25	N.D.
Toluene	7.0	22	25	N.D.
124 Trimethylbenzene	8.9	28	25	N.D.
135 Trimethylbenzene	8.2	26	25	N.D.
Xylene	4.9	16	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

9010166-01.KSA <7>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Jan 14, 1999
1135 Legion Drive	Sample Descript:	Soil: B-13, S-3	Received:	Jan 15, 1999
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	9010166-03	Analyzed:	Jan 21, 1999
			Reported:	Jan 24, 1999

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
Benzene	4.8	15	25	N.D.
Ethyl Benzene	5.0	16	25	N.D.
Methyl-t-Butyl Ether	12	37	25	N.D.
Toluene	7.0	22	25	N.D.
124 Trimethylbenzene	8.9	28	25	N.D.
135 Trimethylbenzene	8.2	26	25	N.D.
Xylene	4.9	16	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

9010166-01.KSA <6>

R. [redacted] & ASSOCIATES INC.

Engineering and Environmental Management Consultants

1135 Legion Drive, Elm Grove, Wisconsin 53122 (414) 821-1171 Fax (414) 821-1174

State of Wisconsin
Department of Natural Resources

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151

Note: This form is required by the Department of Natural Resources for LUST sites in compliance with ch. NR 500-540, NR 158 and NR 419, Wis. Adm. Code

Sample Collector(s)	Title	Telephone # (including Area Code)	Report To
Adam McIlheran	Staff Hydrogeologist	414-821-1171	Adam McIlheran

Property Owner	Property Address	Telephone # (including Area Code)	Project #
National Investments	1037 E. Green Bay St. Shawano, WI		2291

I hereby certify that I received, properly, and disposed of these samples as noted below:

Lab. Name: Great Lakes Analytical

Relinquished By (Signature)	Date/Time	Received By (Signature)
Doug Miller	8/20/99 8:15AM	K Ostman 08/20/99
K Ostman	08/20/99	Amy Leonard
Relinquished By (Signature)	Date/Time	Received By (Signature)

Temperature of temperature blank: _____

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for the temperature blank.

Field I.D. Number	Date Collected	Time Collected	Samples Type(1)	Samples Device	Location/Description (see footnote2)	GRO	PVOCs	# / Type of Contuiner HNO_3 MeOH	HCl	H_2SO_4	Unpres.	Lab ID No.	Sample Condition: Cracked /Broken	Improperly Sealed	Good Condition	Other Comment
	8/19/99	11:30	S	SS	B-14,5-3	V	V	1			1	B908331-01			X	
	"	"	"	"	Field Blank	V	V	1						-02	X	

1-Specify Groundwater (GW), Surface Water (SW), Soil (S), Sludge (SL), Air (A), etc.
2-Sample description must clearly correlate the sample ID. to the sampling location.

DEPARTMENT USE / OPTIONAL FOR SOIL SAMPLES

Disposition of unused portion of sample
Laboratory shouls:

☐ Dispose ☐ Retain for _____ day
☐ Return ☐ Other

DEPARTMENT USE ONLY

Split samples: Offered ? ☐ Yes ☐ No
Accepted ? ☐ Yes ☐ No

Accepted By: _____
Signature

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

1 1999

Date: August 27, 1999

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Adam McIlheran

Project: 1037 E. Green Bay

Enclosed are the results from 1 soil sample and 1 liquid sample received at Great Lakes Analytical on August20, 1999. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
B908331-01	Soil: B-14	8/19/99	PVOC, EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5 WDNR GRO
B908331-02	Liquid: MeOH Blank	8/19/99	PVOC, EPA 5030/8021 WDNR GRO

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Illinois EPA-100261; New Jersey DEP-54001;
USACE; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 E. Green Bay	Sampled:	Aug 19, 1999
1135 Legion Drive	Sample Descript:	Soil	Received:	Aug 20, 1999
Elm Grove, WI 53122	Analysis for:	Percent Solids, EPA 7.3.3.1.5		
Attention: Adam McIlheran	First Sample #:	B908331-01	Analyzed:	Aug 26, 1999
			Reported:	Aug 27, 1999

LABORATORY ANALYSIS FOR: Percent Solids, EPA 7.3.3.1.5

Sample Number	Sample Description	Detection Limit %	Sample Result %
B908331-01	B-14	0.10	59

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Illinois EPA-100261; New Jersey DEP-54001;
USACE; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 E. Green Bay	Sampled:	Aug 19, 1999
1135 Legion Drive	Matrix Descript:	Soil	Received:	Aug 20, 1999
Elm Grove, WI 53122	Analysis Method:	WDNR GRO		
Attention: Adam McIlheran	First Sample #:	B908331-01	Analyzed:	Aug 25, 1999
			Reported:	Aug 27, 1999

GASOLINE RANGE ORGANICS

Sample Number	Sample Description	Detection Limit mg/kg, Dry Weight (ppm)	Low/Medium B.P. Hydrocarbons mg/kg, Dry Weight (ppm)	Chromatogram Description
B908331-01	B-14	8.5	N.D.	----

Low to Medium Boiling Point Hydrocarbons is performed as described in Leaking Underground Storage Tank Analytical Guidance July 1993 WDNR SW 130 93 REV. Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

B908331-01.KSA <2>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 E. Green Bay	Sampled:	Aug 19, 1999
1135 Legion Drive	Matrix Descript:	Liquid	Received:	Aug 20, 1999
Elm Grove, WI 53122	Analysis Method:	WDNR GRO		
Attention: Adam McIlheran	First Sample #:	B908331-02	Analyzed:	Aug 26, 1999
			Reported:	Aug 27, 1999

GASOLINE RANGE ORGANICS

Sample Number	Sample Description	Detection Limit µg/L (ppb)	Low/Medium B.P. Hydrocarbons µg/L (ppb)	Chromatogram Description
B908331-02	Methanol Blank	5,000	N.D.	----

Low to Medium Boiling Point Hydrocarbons is performed as described in Leaking Undergound Storage Tank Analytical Guidance July 1993 WDNR SW 130 93 REV. Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

B908331-01.KSA <3>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 E. Green Bay	Sampled:	Aug 19, 1999
1135 Legion Drive	Sample Descript:	Soil: B-14	Received:	Aug 20, 1999
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	B908331-01	Analyzed:	Aug 25, 1999
			Reported:	Aug 27, 1999

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
Benzene	4.8	15	25	N.D.
Ethyl Benzene	5.0	16	25	N.D.
Methyl-t-Butyl Ether	12	37	25	N.D.
Toluene	7.0	22	25	84
124 Trimethylbenzene	8.9	28	25	N.D.
135 Trimethylbenzene	8.2	26	25	N.D.
Xylene	4.9	16	25	200

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

B908331-01.KSA <4>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 E. Green Bay	Sampled:	Aug 19, 1999
1135 Legion Drive	Sample Descript:	Liquid: MeOH Blank	Received:	Aug 20, 1999
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	B908331-02	Analyzed:	Aug 25, 1999
			Reported:	Aug 27, 1999

WDNR PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Method Detection Limit µg/L	Practical Quanitation Limit µg/L	WDNR Reporting Limit µg/L	Sample Results µg/L
Benzene	4.8	15	25	N.D.
Ethyl Benzene	5.0	16	25	N.D.
Methyl-t-Butyl Ether	12	37	25	N.D.
Toluene	7.0	22	25	N.D.
124 Trimethylbenzene	8.9	28	25	N.D.
135 Trimethylbenzene	8.2	26	25	N.D.
Xylene	4.9	16	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

B908331-01.KSA <5>

APPENDIX J

Chain of Custody Records and Groundwater Quality Test Results

K. SINGH & ASSOCIATES, INC.

Engineering and Environmental Management Consultants

1135 Legion Drive, Elm Grove, Wisconsin 53122 (414) 821-1171 Fax (414) 821-1174

1 of 2 (30)

State of Wisconsin
Department of Natural Resources

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151

Note: This form is required by the Department of Natural Resources for LUST sites in compliance with ch. NR 500-540, NR 158 and NR 419, Wis. Adm. Code

KS643

Sample Collector(s)	Title	Telephone # (including Area Code)	Report To
Adam McIlheran Raghu Singh	Staff Hydrogeologist Project Scientist	(414) 821-1171	Raghu Singh

Property Owner	Property Address	Telephone # (including Area Code)	Project #
National Investments, LLC.	1037 E. Green Bay Street Shawano, WI 54166		4291

I hereby certify that I received, properly, and disposed of these samples as noted below:

Lab. Name Great Lakes Analytical, Buffalo Grove, IL

Relinquished By (Signature)	Date/Time	Received By (Signature)
Raghu Singh	6/11/98 / 8:48	Kim Cutman 06/11/98
Relinquished By (Signature)	Date/Time	Received By (Signature)
Kim Cutman	06/11/98	K. Fell 6-11-98 1525
Relinquished By (Signature)	Date/Time	Received By (Signature)

Temperature of temperature blank: 4°C ON ICE

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for the temperature blank.

Field I.D. Number	Date Collected	Time Collected	Samples Type(1)	Samples Device	Location/Description (see footnote2)	VOCs	PVOCs	GRO	Diss. Lead	Diss. Iron	Diss. Barium	Diss. Nickel		# / Type of Container HNO3	HCl	H2SO4	Unpres.	Lab ID No.	Sample Condition Cracked /Broken	Improperly Sealed	Good Condition	Other Comment
	6/10/98	9.30 a.m.	GW	Bailer	MW-2	✓	–	✓	✓	✓	✓	✓		1	3	–	1		8062343		✓	Bill #
	6/10/98	10.15 a.m.	GW	Bailer	MW-4	✓	–	✓	✓	✓	✓	✓		1	3	–	1		8062344		✓	KS-643
	6/10/98	11.45 a.m.	GW	Bailer	MW-5	✓	–	✓	✓	✓	✓	✓		1	3	–	1		8062345		✓	7-5/14/98
	6/10/98	12.30 p.m.	GW	Bailer	MW-1	✓	–	✓	✓	✓	✓	✓		1	3	–	1		8062346		✓	
	6/10/98	1.45 p.m.	GW	Bailer	MW-3	✓	–	✓	✓	✓	✓	✓		1	3	–	1		8062347		✓	
	6/10/98	2.15 p.m.	GW	Bailer	MW-6	✓	–	✓	✓	✓	✓	✓		1	3	–	1		8062348		✓	

1-Specify Groundwater (GW), Surface Water (SW), Soil (S), Sludge (SL), Air (A), etc.
2-Sample description must clearly correlate the sample ID. to the sampling location.

DEPARTMENT USE / OPTIONAL FOR SOIL SAMPLES

Disposition of unused portion of sample
Laboratory should:

☐ Dispose ☐ Retain for _____ day
☐ Return ☐ Other

DEPARTMENT USE ONLY

Split samples: Offered ? ☐ Yes ☐ No
Accepted ? ☐ Yes ☐ No
Accepted By: _____
Signature

K. SINGH & ASSOCIATES, INC.

Engineering and Environmental Management Consultants

1135 Legion Drive, Elm Grove, Wisconsin 53122 (414) 821-1171 Fax (414) 821-1174

State of Wisconsin
Department of Natural Resources

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151

Note: This form is required by the Department of Natural Resources for LUST sites in compliance with ch. NR 500-540, NR 158 and NR 419, Wis. Adm. Code

KS643

Sample Collector(s)	Title	Telephone # (including Area Code)	Report To
Adam McElheran Raghu Singh	Staff Hydrogeologist Project Scientist	(414) 821-1171	Raghu Singh

Property Owner	Property Address	Telephone # (including Area Code)	Project #
National Investments LLC	1030 E. Green Bay Street Shawano WI 54166		4291

I hereby certify that I received, properly, and disposed of these samples as noted below:

Lab Name Great Lakes Analytical, Buffalo Grove IL

Relinquished By (Signature)	Date/Time	Received By (Signature)
Adam McElheran	6/11/98 8:48	Kim Ostman 06/11/98
Kim Ostman	06/11/98	K. Ell 6/11/98 1515
Relinquished By (Signature)	Date/Time	Received By (Signature)

Temperature of temperature blank: 4°C

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for the temperature blank.

Field I.D. Number	Date Collected	Time Collected	Samples Type(1)	Samples Device	Location/Description (see footnote2)	VOCs	PVOCs	GRO	Dissolved Lead	Dissolved Iron	Dissolved Sulfide	Dissolved Nickel	# / Type of Container HNO3	HCl	H2SO4	Unpres.	Lab ID No.	Sample Condition Cracked /Broken	Improperly Sealed	Good Condition	Other Comment
	6/10/98	2:55 p.m.	GW	Bailer	MW-8	✓	—	✓	✓	✓	✓	✓	1	3	—	1		8062349		✓	Bill #KS-643
	6/10/98	3:30 p.m.	—	Bailer	Field Blank	—	✓	✓	—	—	—	—	—	3	—	—		8062350		✓	of 5/14/98

1-Specify Groundwater (GW), Surface Water (SW), Soil (S), Sludge (SL), Air (A), etc.
2-Sample description must clearly correlate the sample ID. to the sampling location.

DEPARTMENT USE / OPTIONAL FOR SOIL SAMPLES

Disposition of unused portion of sample
Laboratory shouls:

☐ Dispose ☐ Retain for _____ day
☐ Return ☐ Other

DEPARTMENT USE ONLY

Split samples: Offered ? ☐ Yes ☐ No
Accepted ? ☐ Yes ☐ No
Accepted By: _____
Signature

GREAT LAKES ANALYTICAL

JUL 0 1 1998

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

Date: June 29, 1998

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Raghu Singh

Project: 4291, National Investments, LLC

Enclosed are the results from 8 water samples received at Great Lakes Analytical on June 11, 1998. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
8062343	Water: MW-2	6/10/98	VOC, EPA 5030/8021 Iron, EPA 3015/6010 Lead, EPA 3015/7421 Nitrate, EPA 353.2 Sulfate, EPA 375.2 WDNR GRO
8062344	Water: MW-4	6/10/98	VOC, EPA 5030/8021 Iron, EPA 3015/6010 Lead, EPA 3015/7421 Nitrate, EPA 353.2 Sulfate, EPA 375.2 WDNR GRO
8062345	Water, MW-5	6/10/98	VOC, EPA 5030/8021 Iron, EPA 3015/6010 Lead, EPA 3015/7421 Nitrate, EPA 353.2 Sulfate, EPA 375.2 WDNR GRO
8062346	Water: MW-1	6/10/98	VOC, EPA 5030/8021 Iron, EPA 3015/6010 Lead, EPA 3015/7421 Nitrate, EPA 353.2 Sulfate, EPA 375.2 WDNR GRO
8062347	Water: MW-3	6/10/98	VOC, EPA 5030/8021 Iron, EPA 3015/6010 Lead, EPA 3015/7421 Nitrate, EPA 353.2 Sulfate, EPA 375.2 WDNR GRO

Accreditations/Certifications: Delaware IL 069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; USACE; Virginia 00164; Wisconsin DNR-999917160

8062348	Water, MW-6	6/10/98	VOC, EPA 5030/8021 Iron, EPA 3015/6010 Lead, EPA 3015/7421 Nitrate, EPA 353.2 Sulfate, EPA 375.2 WDNR GRO
8062349	Water: MW-8	6/10/98	VOC, EPA 5030/8021 Iron, EPA 3015/6010 Lead, EPA 3015/7421 Nitrate, EPA 353.2 Sulfate, EPA 375.2 WDNR GRO
8062350	Water, Field Blank	6/10/98	PVOC, EPA 5030/8021 WDNR GRO

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments, LLC	Sampled:	Jun 10, 1998
1135 Legion Drive	Sample Descript:	Water	Received:	Jun 11, 1998
Elm Grove, WI 53122	Analysis for:	Iron, EPA 3015/6010		
Attention: Raghu Singh	First Sample #:	806-2343	Analyzed:	Jun 17, 1998
			Reported:	Jun 29, 1998

LABORATORY ANALYSIS FOR: Iron, EPA 3015/6010

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
806-2343	MW-2	0.050	0.12
806-2344	MW-4	0.050	5.1
806-2345	MW-5	0.050	8.4
806-2346	MW-1	0.050	1.9
806-2347	MW-3	0.050	3.5
806-2348	MW-6	0.050	9.3
806-2349	MW-8	0.050	6.4

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8062343.ksa <1>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments, LLC	Sampled:	Jun 10, 1998
1135 Legion Drive	Sample Descript:	Water	Received:	Jun 11, 1998
Elm Grove, WI 53122	Analysis for:	Lead, EPA 3015/7421		
Attention: Raghu Singh	First Sample #:	806-2343	Analyzed:	Jun 16, 1998
			Reported:	Jun 29, 1998

LABORATORY ANALYSIS FOR: Lead, EPA 3015/7421

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
806-2343	MW-2	0.0050	N.D.
806-2344	MW-4	0.0050	N.D.
806-2345	MW-5	0.0050	N.D.
806-2346	MW-1	0.0050	N.D.
806-2347	MW-3	0.0050	N.D.
806-2348	MW-6	0.0050	N.D.
806-2349	MW-8	0.0050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8062343.ksa <2>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments, LLC	Sampled:	Jun 10, 1998
1135 Legion Drive	Sample Descript:	Water	Received:	Jun 11, 1998
Elm Grove, WI 53122	Analysis for:	Nitrate, EPA 353.2		
Attention: Raghu Singh	First Sample #:	806-2343	Analyzed:	Jun 12, 1998
			Reported:	Jun 29, 1998

LABORATORY ANALYSIS FOR: Nitrate, EPA 353.2

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
806-2343	MW-2	0.050	0.38
806-2344	MW-4	0.050	0.35
806-2345	MW-5	0.050	N.D.
806-2346	MW-1	0.050	0.96
806-2347	MW-3	0.050	N.D.
806-2348	MW-6	0.050	0.58
806-2349	MW-8	0.050	0.53

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8062343.ksa <3>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments, LLC	Sampled:	Jun 10, 1998
1135 Legion Drive	Sample Descript:	Water	Received:	Jun 11, 1998
Elm Grove, WI 53122	Analysis for:	Sulfate, EPA 375.2		
Attention: Raghu Singh	First Sample #:	806-2343	Analyzed:	Jun 16, 1998
			Reported:	Jun 29, 1998

LABORATORY ANALYSIS FOR: Sulfate, EPA 375.2

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
806-2343	MW-2	10	40
806-2344	MW-4	10	21
806-2345	MW-5	10	17
806-2346	MW-1	10	26
806-2347	MW-3	10	19
806-2348	MW-6	10	47
806-2349	MW-8	10	51

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8062343.ksa <4>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Raghu Singh

Client Project ID: 4291, National Investments, LLC
Matrix Descript: Water
Analysis Method: WDNR GRO
First Sample #: 806-2343

Sampled: Jun 10, 1998
Received: Jun 11, 1998
Analyzed: Jun 16, 1998
Reported: Jun 29, 1998

GASOLINE RANGE ORGANICS

Sample Number	Sample Description	Detection Limit µg/L (ppb)	Low/Medium B.P. Hydrocarbons µg/L (ppb)	Chromatogram Description
806-2343	MW-2	50	N.D.	—
806-2344	MW-4	2,500	7,000	Gas Range
806-2345	MW-5	2,500	4,200	Gas Range
806-2346	MW-1	50	N.D.	—
806-2347	MW-3	2,500	5,000	Gas Range
806-2348	MW-6	2,500	29,000	Gas Range, Elevated Baseline, Late Peaks
806-2349	MW-8	2,500	16,000	Gas Range, Elevated Baseline, Late Peaks
806-2350	Field Blank	50	N.D.	—

Low to Medium Boiling Point Hydrocarbons is performed as described in Leaking Undergound Storage Tank Analytical Guidance July 1993 WDNR SW 130 93 REV. Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8062343.ksa <5>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Raghu Singh

Client Project ID: 4291, National Investments, LLC
Sample Descript: Water: MW-2
Analysis Method: EPA 5030/8021
Lab Number: 806-2343

Sampled: Jun 10, 1998
Received: Jun 11, 1998
Analyzed: Jun 16, 1998
Reported: Jun 29, 1998

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	0.85
Bromobenzene	0.50	N.D.
Bromodichloromethane	0.50	N.D.
n-Butylbenzene	0.50	N.D.
sec-Butylbenzene	0.50	N.D.
tert-Butylbenzene	0.50	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	0.50	N.D.
Chloroform	0.14	N.D.
Chloromethane	0.60	N.D.
2-Chlorotoluene	0.50	N.D.
4-Chlorotoluene	0.50	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dibromo-3-chloropropane	0.39	N.D.
1,2-Dibromoethane	0.38	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Dichlorodifluoromethane	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
1,3-Dichloropropane	0.50	N.D.
2,2-Dichloropropane	0.50	N.D.
Di-Isopropyl-Ether	5.0	N.D.
Ethyl Benzene	0.50	1.8
Hexachlorobutadiene	5.0	N.D.
Isopropylbenzene	0.50	N.D.
p-Isopropyltoluene	0.50	N.D.
Methylene chloride	0.53	N.D.
Methyl-tert-Butylether	0.20	N.D.

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments, LLC	Sampled:	Jun 10, 1998
1135 Legion Drive	Sample Descript:	Water: MW-2	Received:	Jun 11, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Raghu Singh	Lab Number:	806-2343	Analyzed:	Jun 16, 1998
			Reported:	Jun 29, 1998

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Naphthalene	8.0	N.D.
n-Propylbenzene	0.50	N.D.
1,1,2,2-Tetrachloroethane	0.35	N.D.
Tetrachloroethene	0.50	N.D.
Toluene	0.50	2.0
1,2,3-Trichlorobenzene	2.0	N.D.
1,2,4-Trichlorobenzene	2.0	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.16	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
1,2,4-Trimethylbenzene	1.0	2.5
1,3,5-Trimethylbenzene	1.0	N.D.
Vinyl chloride	0.17	N.D.
Total Xylenes	0.50	8.0

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8062343.ksa <7>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments, LLC	Sampled:	Jun 10, 1998
1135 Legion Drive	Sample Descript:	Water: MW-4	Received:	Jun 11, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Raghu Singh	Lab Number:	806-2344	Analyzed:	Jun 16, 1998
			Reported:	Jun 29, 1998

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	13	1,900
Bromobenzene	13	N.D.
Bromodichloromethane	13	N.D.
n-Butylbenzene	13	47
sec-Butylbenzene	13	N.D.
tert-Butylbenzene	13	N.D.
Carbon tetrachloride	13	N.D.
Chlorobenzene	13	N.D.
Chloroethane	13	N.D.
Chloroform	3.5	N.D.
Chloromethane	15	N.D.
2-Chlorotoluene	13	N.D.
4-Chlorotoluene	13	N.D.
Dibromochloromethane	13	N.D.
1,2-Dibromo-3-chloropropane	9.8	N.D.
1,2-Dibromoethane	9.5	N.D.
1,2-Dichlorobenzene	13	N.D.
1,3-Dichlorobenzene	13	N.D.
1,4-Dichlorobenzene	13	N.D.
Dichlorodifluoromethane	13	N.D.
1,1-Dichloroethane	13	N.D.
1,2-Dichloroethane	13	N.D.
1,1-Dichloroethene	13	N.D.
cis-1,2-Dichloroethene	13	N.D.
trans-1,2-Dichloroethene	13	N.D.
1,2-Dichloropropane	13	N.D.
1,3-Dichloropropane	13	N.D.
2,2-Dichloropropane	13	N.D.
Di-Isopropyl-Ether	130	N.D.
Ethyl Benzene	13	180
Hexachlorobutadiene	130	N.D.
Isopropylbenzene	13	25
p-Isopropyltoluene	13	N.D.
Methylene chloride	13	32A
Methyl-tert-Butylether	5.0	70

GREAT LAKES ANALYTICAL
1380 Busch Parkway
Buffalo Grove, Illinois 60089
Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments, LLC	Sampled:	Jun 10, 1998
Please contact me if you have any	Sample Descript:	Water: MW-4	Received:	Jun 11, 1998
on this project.	Analysis Method:	EPA 5030/8021		
Attention: Raghu Singh	Lab Number:	806-2344	Analyzed:	Jun 16, 1998
Very truly yours,			Reported:	Jun 29, 1998

GREAT LAKES ANALYTICAL

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Kevin W. Keeley		
Laboratory Director		
Naphthalene	200	N.D.
n-Propylbenzene	13	66
1,1,2,2-Tetrachloroethane	8.8	N.D.
Tetrachloroethene	13	N.D.
Toluene	13	41
1,2,3-Trichlorobenzene	50	N.D.
1,2,4-Trichlorobenzene	50	N.D.
1,1,1-Trichloroethane	13	N.D.
1,1,2-Trichloroethane	4.0	N.D.
Trichloroethene	13	N.D.
Trichlorofluoromethane	13	N.D.
1,2,4-Trimethylbenzene	25	580
1,3,5-Trimethylbenzene	25	160
Vinyl chloride	4.3	N.D.
Total Xylenes	13	2,300

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:
A= Laboratory artifact - concentrations found of this analyte are characteristic of laboratory artifact.

8062343.ksa <9>

Accreditations/Certifications: Delaware IL 069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; USACE; Virginia 00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Raghu Singh

Client Project ID: 4291, National Investments, LLC
Sample Descript: Water: MW-5
Analysis Method: EPA 5030/8021
Lab Number: 806-2345

Sampled: Jun 10, 1998
Received: Jun 11, 1998
Analyzed: Jun 16, 1998
Reported: Jun 29, 1998

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	25	810
Bromobenzene	25	N.D.
Bromodichloromethane	25	N.D.
n-Butylbenzene	25	29
sec-Butylbenzene	25	N.D.
tert-Butylbenzene	25	N.D.
Carbon tetrachloride	25	N.D.
Chlorobenzene	25	N.D.
Chloroethane	25	N.D.
Chloroform	7.0	N.D.
Chloromethane	30	N.D.
2-Chlorotoluene	25	N.D.
4-Chlorotoluene	25	N.D.
Dibromochloromethane	25	N.D.
1,2-Dibromo-3-chloropropane	20	N.D.
1,2-Dibromoethane	19	N.D.
1,2-Dichlorobenzene	25	N.D.
1,3-Dichlorobenzene	25	N.D.
1,4-Dichlorobenzene	25	N.D.
Dichlorodifluoromethane	25	N.D.
1,1-Dichloroethane	25	N.D.
1,2-Dichloroethane	25	N.D.
1,1-Dichloroethene	25	N.D.
cis-1,2-Dichloroethene	25	N.D.
trans-1,2-Dichloroethene	25	N.D.
1,2-Dichloropropane	25	N.D.
1,3-Dichloropropane	25	N.D.
2,2-Dichloropropane	25	N.D.
Di-Isopropyl-Ether	250	N.D.
Ethyl Benzene	25	230
Hexachlorobutadiene	250	N.D.
Isopropylbenzene	25	N.D.
p-Isopropyltoluene	25	N.D.
Methylene chloride	27	N.D.
Methyl-tert-Butylether	10	330

Accreditations/Certifications: Delaware IL 069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; USACE; Virginia 00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments, LLC	Sampled:	Jun 10, 1998
1135 Legion Drive	Sample Descript:	Water: MW-5	Received:	Jun 11, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Raghu Singh	Lab Number:	806-2345	Analyzed:	Jun 16, 1998
			Reported:	Jun 29, 1998

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Naphthalene	400	N.D.
n-Propylbenzene	25	36
1,1,2,2-Tetrachloroethane	18	N.D.
Tetrachloroethene	25	N.D.
Toluene	25	N.D.
1,2,3-Trichlorobenzene	100	N.D.
1,2,4-Trichlorobenzene	100	N.D.
1,1,1-Trichloroethane	25	N.D.
1,1,2-Trichloroethane	8.0	N.D.
Trichloroethene	25	N.D.
Trichlorofluoromethane	25	N.D.
1,2,4-Trimethylbenzene	50	320
1,3,5-Trimethylbenzene	50	100
Vinyl chloride	8.5	N.D.
Total Xylenes	25	1,300

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Delaware IL 069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; USACE; Virginia 00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Raghu Singh

Client Project ID: 4291, National Investments, LLC
Sample Descript: Water: MW-1
Analysis Method: EPA 5030/8021
Lab Number: 806-2346

Sampled: Jun 10, 1998
Received: Jun 11, 1998
Analyzed: Jun 16, 1998
Reported: Jun 29, 1998

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	2.0
Bromobenzene	0.50	N.D.
Bromodichloromethane	0.50	N.D.
n-Butylbenzene	0.50	0.78
sec-Butylbenzene	0.50	N.D.
tert-Butylbenzene	0.50	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	0.50	N.D.
Chloroform	0.14	N.D.
Chloromethane	0.60	N.D.
2-Chlorotoluene	0.50	N.D.
4-Chlorotoluene	0.50	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dibromo-3-chloropropane	0.39	N.D.
1,2-Dibromoethane	0.38	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Dichlorodifluoromethane	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
1,3-Dichloropropane	0.50	N.D.
2,2-Dichloropropane	0.50	N.D.
Di-Isopropyl-Ether	5.0	N.D.
Ethyl Benzene	0.50	2.4
Hexachlorobutadiene	5.0	N.D.
Isopropylbenzene	0.50	N.D.
p-Isopropyltoluene	0.50	0.56
Methylene chloride	0.53	N.D.
Methyl-tert-Butylether	0.20	N.D.

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments, LLC	Sampled:	Jun 10, 1998
1135 Legion Drive	Sample Descript:	Water: MW-1	Received:	Jun 11, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Raghu Singh	Lab Number:	806-2346	Analyzed:	Jun 16, 1998
			Reported:	Jun 29, 1998

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Naphthalene	8.0	N.D.
n-Propylbenzene	0.50	0.74
1,1,2,2-Tetrachloroethane	0.35	N.D.
Tetrachloroethene	0.50	N.D.
Toluene	0.50	0.84
1,2,3-Trichlorobenzene	2.0	N.D.
1,2,4-Trichlorobenzene	2.0	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.16	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
1,2,4-Trimethylbenzene	1.0	4.7
1,3,5-Trimethylbenzene	1.0	1.9
Vinyl chloride	0.17	N.D.
Total Xylenes	0.50	16

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Delaware IL 069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; USACE; Virginia 00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Raghu Singh

Client Project ID: 4291, National Investments, LLC
Sample Descript: Water: MW-3
Analysis Method: EPA 5030/8021
Lab Number: 806-2347

Sampled: Jun 10, 1998
Received: Jun 11, 1998
Analyzed: Jun 16, 1998
Reported: Jun 29, 1998

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	25	300
Bromobenzene	25	N.D.
Bromodichloromethane	25	N.D.
n-Butylbenzene	25	44
sec-Butylbenzene	25	N.D.
tert-Butylbenzene	25	N.D.
Carbon tetrachloride	25	N.D.
Chlorobenzene	25	N.D.
Chloroethane	25	N.D.
Chloroform	7.0	N.D.
Chloromethane	30	N.D.
2-Chlorotoluene	25	N.D.
4-Chlorotoluene	25	N.D.
Dibromochloromethane	25	N.D.
1,2-Dibromo-3-chloropropane	20	N.D.
1,2-Dibromoethane	19	N.D.
1,2-Dichlorobenzene	25	N.D.
1,3-Dichlorobenzene	25	N.D.
1,4-Dichlorobenzene	25	N.D.
Dichlorodifluoromethane	25	N.D.
1,1-Dichloroethane	25	N.D.
1,2-Dichloroethane	25	N.D.
1,1-Dichloroethene	25	N.D.
cis-1,2-Dichloroethene	25	N.D.
trans-1,2-Dichloroethene	25	N.D.
1,2-Dichloropropane	25	N.D.
1,3-Dichloropropane	25	N.D.
2,2-Dichloropropane	25	N.D.
Di-Isopropyl-Ether	250	N.D.
Ethyl Benzene	25	660
Hexachlorobutadiene	250	N.D.
Isopropylbenzene	25	30
p-Isopropyltoluene	25	N.D.
Methylene chloride	27	N.D.
Methyl-tert-Butylether	10	N.D.

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments, LLC	Sampled:	Jun 10, 1998
1135 Legion Drive	Sample Descript:	Water: MW-3	Received:	Jun 11, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Raghu Singh	Lab Number:	806-2347	Analyzed:	Jun 16, 1998
			Reported:	Jun 29, 1998

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Naphthalene	400	N.D.
n-Propylbenzene	25	63
1,1,2,2-Tetrachloroethane	18	N.D.
Tetrachloroethene	25	N.D.
Toluene	25	2,700
1,2,3-Trichlorobenzene	100	N.D.
1,2,4-Trichlorobenzene	100	N.D.
1,1,1-Trichloroethane	25	N.D.
1,1,2-Trichloroethane	8.0	N.D.
Trichloroethene	25	N.D.
Trichlorofluoromethane	25	N.D.
1,2,4-Trimethylbenzene	50	480
1,3,5-Trimethylbenzene	50	150
Vinyl chloride	8.5	N.D.
Total Xylenes	25	3,200

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8062343.ksa <15>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments, LLC	Sampled:	Jun 10, 1998
1135 Legion Drive	Sample Descript:	Water: MW-6	Received:	Jun 11, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Raghu Singh	Lab Number:	806-2348	Analyzed:	Jun 16, 1998
			Reported:	Jun 29, 1998

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	25	30
Bromobenzene	25	N.D.
Bromodichloromethane	25	N.D.
n-Butylbenzene	25	110
sec-Butylbenzene	25	N.D.
tert-Butylbenzene	25	N.D.
Carbon tetrachloride	25	N.D.
Chlorobenzene	25	N.D.
Chloroethane	25	N.D.
Chloroform	7.0	N.D.
Chloromethane	30	N.D.
2-Chlorotoluene	25	N.D.
4-Chlorotoluene	25	N.D.
Dibromochloromethane	25	N.D.
1,2-Dibromo-3-chloropropane	20	N.D.
1,2-Dibromoethane	19	N.D.
1,2-Dichlorobenzene	25	N.D.
1,3-Dichlorobenzene	25	N.D.
1,4-Dichlorobenzene	25	N.D.
Dichlorodifluoromethane	25	N.D.
1,1-Dichloroethane	25	N.D.
1,2-Dichloroethane	25	N.D.
1,1-Dichloroethene	25	N.D.
cis-1,2-Dichloroethene	25	N.D.
trans-1,2-Dichloroethene	25	N.D.
1,2-Dichloropropane	25	N.D.
1,3-Dichloropropane	25	N.D.
2,2-Dichloropropane	25	N.D.
Di-Isopropyl-Ether	250	N.D.
Ethyl Benzene	25	920
Hexachlorobutadiene	250	N.D.
Isopropylbenzene	25	39
p-Isopropyltoluene	25	N.D.
Methylene chloride	27	N.D.
Methyl-tert-Butylether	10	N.D.

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments, LLC	Sampled:	Jun 10, 1998
1135 Legion Drive	Sample Descript:	Water: MW-6	Received:	Jun 11, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Raghu Singh	Lab Number:	806-2348	Analyzed:	Jun 16, 1998
			Reported:	Jun 29, 1998

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Naphthalene	400	N.D.
n-Propylbenzene	25	120
1,1,2,2-Tetrachloroethane	18	N.D.
Tetrachloroethene	25	N.D.
Toluene	25	2,700
1,2,3-Trichlorobenzene	100	N.D.
1,2,4-Trichlorobenzene	100	N.D.
1,1,1-Trichloroethane	25	N.D.
1,1,2-Trichloroethane	8.0	N.D.
Trichloroethene	25	N.D.
Trichlorofluoromethane	25	N.D.
1,2,4-Trimethylbenzene	50	1,000
1,3,5-Trimethylbenzene	50	330
Vinyl chloride	8.5	N.D.
Total Xylenes	25	5,300

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Delaware IL 069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Pennsylvania DEP-68-500; Tennessee DOH-02804; Tennessee DEC; USACE; Virginia 00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Raghu Singh

Client Project ID: 4291, National Investments, LLC
Sample Descript: Water: MW-8
Analysis Method: EPA 5030/8021
Lab Number: 806-2349

Sampled: Jun 10, 1998
Received: Jun 11, 1998

Analyzed: Jun 16, 1998
Reported: Jun 29, 1998

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	25	1,200
Bromobenzene	25	N.D.
Bromodichloromethane	25	N.D.
n-Butylbenzene	25	94
sec-Butylbenzene	25	N.D.
tert-Butylbenzene	25	N.D.
Carbon tetrachloride	25	N.D.
Chlorobenzene	25	N.D.
Chloroethane	25	N.D.
Chloroform	7.0	N.D.
Chloromethane	30	N.D.
2-Chlorotoluene	25	N.D.
4-Chlorotoluene	25	N.D.
Dibromochloromethane	25	N.D.
1,2-Dibromo-3-chloropropane	20	N.D.
1,2-Dibromoethane	19	N.D.
1,2-Dichlorobenzene	25	N.D.
1,3-Dichlorobenzene	25	N.D.
1,4-Dichlorobenzene	25	N.D.
Dichlorodifluoromethane	25	N.D.
1,1-Dichloroethane	25	N.D.
1,2-Dichloroethane	25	46
1,1-Dichloroethene	25	N.D.
cis-1,2-Dichloroethene	25	N.D.
trans-1,2-Dichloroethene	25	N.D.
1,2-Dichloropropane	25	N.D.
1,3-Dichloropropane	25	N.D.
2,2-Dichloropropane	25	N.D.
Di-Isopropyl-Ether	250	N.D.
Ethyl Benzene	25	520
Hexachlorobutadiene	250	N.D.
Isopropylbenzene	25	N.D.
p-Isopropyltoluene	25	N.D.
Methylene chloride	27	N.D.
Methyl-tert-Butylether	10	N.D.

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments, LLC	Sampled:	Jun 10, 1998
1135 Legion Drive	Sample Descript:	Water: MW-8	Received:	Jun 11, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Raghu Singh	Lab Number:	806-2349	Analyzed:	Jun 16, 1998
			Reported:	Jun 29, 1998

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Naphthalene	400	N.D.
n-Propylbenzene	25	83
1,1,2,2-Tetrachloroethane	18	N.D.
Tetrachloroethene	25	N.D.
Toluene	25	5,300
1,2,3-Trichlorobenzene	100	N.D.
1,2,4-Trichlorobenzene	100	N.D.
1,1,1-Trichloroethane	25	N.D.
1,1,2-Trichloroethane	8.0	N.D.
Trichloroethene	25	N.D.
Trichlorofluoromethane	25	N.D.
1,2,4-Trimethylbenzene	50	780
1,3,5-Trimethylbenzene	50	270
Vinyl chloride	8.5	N.D.
Total Xylenes	25	4,400

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments, LLC	Sampled: Jun 10, 1998
1135 Legion Drive	Sample Descript:	Water: Field Blank	Received: Jun 11, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021	
Attention: Raghu Singh	Lab Number:	806-2350	Analyzed: Jun 16, 1998
			Reported: Jun 29, 1998

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Methyl-T-Butyl Ether	0.20	N.D.
Toluene	0.50	N.D.
124 Trimethylbenzene	1.0	N.D.
135 Trimethylbenzene	1.0	N.D.
Xylene	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8062343.ksa <20>

[redacted] & ASSOCIATES, INC.

Engineering and Environmental Management Consultants

1135 Legion Drive, Elm Grove, Wisconsin 53122 (414) 821-1171 Fax (414) 821-1174

lot 2 (10) KS 643

Wisconsin Department of Natural Resources

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151

This form is required by the Department of Natural Resources for LUST sites in compliance with ch. NR 500-540, NR 158 and NR 419, Wis. Adm. Code

Sample Collector(s)	Title	Telephone # (including Area Code)	Report To
Adam McIlheran	staff Hydrogeologist	414-821-1171	Adam McIlheran

Property Owner	Property Address	Telephone # (including Area Code)	Project #
Lionel Investments	1037 E Green Bay ST, Shawano WI		4291

I hereby certify that I received, properly, and disposed of these samples as noted below:

Lab. Name: Great Lakes Analytical

Relinquished By (Signature)	Date/Time	Received By (Signature)
Zone Tomorrow	11-5-98 11:30	K Uttman 11/05/98
K Uttman	11/05/98	K. Ell 11/5/98
Relinquished By (Signature)	Date/Time	Received By (Signature)

Temperature of temperature blank: on ice 0

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for the temperature blank.

ID Number	Date Collected	Time Collected	Samples Type(1)	Samples Device	Location/Description (see footnote2)	6NO	PVOCs	# / Type of Container HNO3	HCl	H2SO4	Unpres.	Lab ID No.	Sample Condition Cracked /Broken	Improperly Sealed	Good Condition	Other Comment
	11/3/98	11:00	GW	bailer	MW-1	V	V		3				8111020		✓	
	"	11:45	"	"	MW-2	V	V		3				8111021		✓	
	"	12:30	"	"	MW-3	V	V		3				8111022		✓	
	"	1:15	"	"	MW-4	V	V		3				8111023		✓	
	"	2:00	"	"	MW-5	V	V		3				8111024		✓	
	"	2:45	"	"	MW-6	V	V		3				8111025		✓	

1-Specify Groundwater (GW), Surface Water (SW), Soil (S), Sludge (SL), Air (A), etc.
2-Sample description must clearly correlate the sample ID. to the sampling location.

DEPARTMENT USE / OPTIONAL FOR SOIL SAMPLES

Disposition of unused portion of sample
Laboratory should:

☐ Dispose ☐ Retain for _____ day
☐ Return ☐ Other

DEPARTMENT USE ONLY

Split samples: Offered ? ☐ Yes ☐ No
Accepted ? ☐ Yes ☐ No
Accepted By: _____

K. SINGH & ASSOCIATES, INC.

Engineering and Environmental Management Consultants

1135 Legion Drive, Elm Grove, Wisconsin 53122 (414) 821-1171 Fax (414) 821-1174

State of Wisconsin
Department of Natural Resources

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151

Note: This form is required by the Department of Natural Resources for LUST sites in compliance with ch. NR 500-540, NR 158 and NR 419, Wis. Adm. Code

Sample Collector(s)	Title	Telephone # (including Area Code)	Report To
Ian McIlheran	Staff Hydrogeologist	414-821-1171	Adam McIlheran

Property Owner	Property Address	Telephone # (including Area Code)	Project #
National Investments	1037 E Green Bay ST., Shawano WI		4291

I hereby certify that I received, properly, and disposed of these samples as noted below:

Lab. Name: Great Lakes Analytical

Relinquished By (Signature)	Date/Time	Received By (Signature)
Ian Tomorek	11/5/98 11:30	K Cutman 11/05/98
K Cutman	11/05/98	IC. Kuell 11/5/98
Relinquished By (Signature)	Date/Time	Received By (Signature)

Temperature of temperature blank: ON ICE

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for the temperature blank.

Field I.D Number	Date Collected	Time Collected	Samples Type(1)	Samples Device	Location/Description (see footnote2)	6 VOCs	PVOCs	# / Type of Container HNO3	HCl	H2SO4	Unpres.	Lab ID No.	Sample Condition: Cracked /Broken	Improperly Sealed	Good Condition	Other Comment
	11/5/98	3:30	GW	bailer	MW-8	✓	✓		3				8111026		–	
	"	4:00	"	"	Field Blank	✓	✓		3				8111027		✓	

1-Specify Groundwater (GW), Surface Water (SW), Soil (S), Sludge (SL), Air (A), etc.
2-Sample description must clearly correlate the sample ID. to the sampling location.

DEPARTMENT USE / OPTIONAL FOR SOIL SAMPLES

Disposition of unused portion of sample
Laboratory should:

☐ Dispose ☐ Retain for _____ day
☐ Return ☐ Other

DEPARTMENT USE ONLY

Split samples: Offered ? ☐ Yes ☐ No
Accepted ? ☐ Yes ☐ No
Accepted By:

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

NOV 2 3 1998

Date: November 18, 1998

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Adam McIlheran

NOV 2 3 1998

Project: 4291, National Investments

Enclosed are the results from 8 water samples received at Great Lakes Analytical on November 5, 1998. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
8111020	Water: MW-1	11/3/98	PVOC, EPA 5030/8021 WDNR GRO
8111021	Water: MW-2	11/3/98	PVOC, EPA 5030/8021 WDNR GRO
8111022	Water: MW-3	11/3/98	PVOC, EPA 5030/8021 WDNR GRO
8111023	Water: MW-4	11/3/98	PVOC, EPA 5030/8021 WDNR GRO
8111024	Water: MW-5	11/3/98	PVOC, EPA 5030/8021 WDNR GRO
8111025	Water: MW-6	11/3/98	PVOC, EPA 5030/8021 WDNR GRO
8111026	Water: MW-8	11/3/98	PVOC, EPA 5030/8021 WDNR GRO
8111027	Water: Field Blank	11/3/98	PVOC, EPA 5030/8021 WDNR GRO

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8111020.ksa <1>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Adam McIlheran

Client Project ID: 4291, National Investments
Matrix Descript: Water
Analysis Method: WDNR GRO
First Sample #: 811-1020

Sampled: Nov 3, 1998
Received: Nov 5, 1998

Analyzed: Nov 15-16, 1998
Reported: Nov 18, 1998

GASOLINE RANGE ORGANICS

Sample Number	Sample Description	Detection Limit µg/L (ppb)	Low/Medium B.P. Hydrocarbons µg/L (ppb)	Chromatogram Description
811-1020	MW-1	50	N.D.	—
811-1021	MW-2	50	N.D.	—
811-1022	MW-3	500	8,900	Gas Range
811-1023	MW-4	250	3,600	Gas Range
811-1024	MW-5	250	6,700	Gas Range
811-1025	MW-6	250	7,600	Gas Range
811-1026	MW-8	5,000	34,000	Gas Range, Elevated Baseline
811-1027	Field Blank	50	N.D.	—

Low to Medium Boiling Point Hydrocarbons is performed as described in Leaking Undergound Storage Tank Analytical Guidance July 1993 WDNR SW 130 93 REV. Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8111020.ksa <1>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Nov 3, 1998
1135 Legion Drive	Sample Descript:	Water: MW-1	Received:	Nov 5, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	811-1020	Analyzed:	Nov 15, 1998
			Reported:	Nov 18, 1998

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Methyl-T-Butyl Ether	0.20	0.65
Toluene	0.50	N.D.
124 Trimethylbenzene	1.0	N.D.
135 Trimethylbenzene	1.0	N.D.
Xylene	0.50	0.60

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:
Methyl-T-Butyl Ether check standard recovery is below established control limits.

8111020.ksa <2>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Nov 3, 1998
1135 Legion Drive	Sample Descript:	Water: MW-2	Received:	Nov 5, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	811-1021	Analyzed:	Nov 15, 1998
			Reported:	Nov 18, 1998

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Methyl-T-Butyl Ether	**0.20**	**2.4**
Toluene	0.50	N.D.
124 Trimethylbenzene	1.0	N.D.
135 Trimethylbenzene	1.0	N.D.
Xylene	**0.50**	**0.63**

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:
Methyl-T-Butyl Ether check standard recovery is below established control limits.

8111020.ksa <3>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Nov 3, 1998
1135 Legion Drive	Sample Descript:	Water: MW-3	Received:	Nov 5, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	811-1022	Analyzed:	Nov 16, 1998
			Reported:	Nov 18, 1998

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	25	2,800
Ethyl Benzene	25	180
Methyl-T-Butyl Ether	10	120
Toluene	25	N.D.
124 Trimethylbenzene	50	680
135 Trimethylbenzene	50	190
Xylene	25	2,600

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:
Methyl-T-Butyl Ether check standard recovery is below established control limits.

8111020.ksa <4>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Nov 3, 1998
1135 Legion Drive	Sample Descript:	Water: MW-4	Received:	Nov 5, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	811-1023	Analyzed:	Nov 16, 1998
			Reported:	Nov 18, 1998

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	6,600
Ethyl Benzene	0.50	120
Methyl-T-Butyl Ether	0.20	300
Toluene	0.50	78
124 Trimethylbenzene	1.0	950
135 Trimethylbenzene	1.0	280
Xylene	0.50	3,900

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:
Methyl-T-Butyl Ether check standard recovery is below established control limits.

8111020.ksa <5>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Nov 3, 1998
1135 Legion Drive	Sample Descript:	Water: Field Blank	Received:	Nov 5, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	811-1027	Analyzed:	
			Reported:	

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Methyl-T-Butyl Ether	0.20	N.D.
Toluene	0.50	N.D.
124 Trimethylbenzene	1.0	N.D.
135 Trimethylbenzene	1.0	N.D.
Xylene	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8111020.ksa <9>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Nov 3, 1998
1135 Legion Drive	Sample Descript:	Water: MW-6	Received:	Nov 5, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	811-1025	Analyzed:	Nov 16, 1998
			Reported:	Nov 18, 1998

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	94
Ethyl Benzene	0.50	530
Methyl-T-Butyl Ether	0.20	19
Toluene	0.50	440
124 Trimethylbenzene	1.0	490
135 Trimethylbenzene	1.0	170
Xylene	0.50	2,300

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8111020.ksa <7>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Nov 3, 1998
1135 Legion Drive	Sample Descript:	Water: MW-8	Received:	Nov 5, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	811-1026	Analyzed:	Jan 16, 1998
			Reported:	Nov 18, 1998

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	2,200
Ethyl Benzene	0.50	930
Methyl-T-Butyl Ether	0.20	360
Toluene	0.50	8,800
124 Trimethylbenzene	1.0	1,600
135 Trimethylbenzene	1.0	600
Xylene	0.50	9,100

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Please Note:
Methyl-T-Butyl Ether check standard recovery is below established control limits.

Kevin W. Keeley
Laboratory Director

8111020.ksa <8>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Nov 3, 1998
1135 Legion Drive	Sample Descript:	Water: MW-5	Received:	Nov 5, 1998
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	811-1024	Analyzed:	Nov 16, 1998
			Reported:	Nov 18, 1998

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	10,000
Ethyl Benzene	0.50	1,200
Methyl-T-Butyl Ether	0.20	8,600
Toluene	0.50	140
124 Trimethylbenzene	1.0	2,100
135 Trimethylbenzene	1.0	620
Xylene	0.50	8,200

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8111020.ksa <6>

K. SINGH & ASSOCIATES, INC.

Engineering and Environmental Management Consultants

1135 Legion Drive, Elm Grove, Wisconsin 53122 (414) 821-1171 Fax (414) 821-1174

XS-643

State of Wisconsin
Department of Natural Resources

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151

Note: This form is required by the Department of Natural Resources for LUST sites in compliance with ch. NR 500-540, NR 158 and NR 419, Wis. Adm. Code

Sample Collector(s)	Title	Telephone # (including Area Code)	Report To
Mark Peters / Matt Hobson	Staff Hydrogeologist / Project Hydrogeologist	(414) 821-1171	Adam McIlhenan

Property Owner	Property Address	Telephone # (including Area Code)	Project #
National Investments, LLC	1037 East Green Bay Road, Shawano, WI		4291

I hereby certify that I received, properly, and disposed of these samples as noted below:

Lab. Name: Great Lakes Analytical

Relinquished By (Signature)	Date/Time	Received By (Signature)
[signature]	1-18-99 10:30	[signature]
[signature]	1-18-99 5:00	K Autman 01/19/99
K Autman	01/19/99	[signature] 1/19

Temperature of temperature blank: on ice

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for the temperature blank.

Field I.D. Number	Date Collected	Time Collected	Samples Type(1)	Samples Device	Location/Description (see footnote2)	VOC	GRO							HNO₃	HCl	H₂SO₄	Unpres.	Lab ID No.	Cracked /Broken	Improperly Sealed	Good Condition	Other Comment
	1/15/99	2:50pm	GW	Bailer	MW-7	✓	✓							–	3	–	–	90102130l			✓	
	1/15/99	2:30pm	GW	Bailer	MW-9	✓	✓							–	3	–	–	901021302			✓	
	1/15/99	1:40pm	GW	Bailer	MW-10	✓	✓							–	3	–	–	901021303			✓	
	1/15/99	3:05pm	DW	Bailer	Field Blank	✓	✓							–	3	–	–	901021304			✓	

1-Specify Groundwater (GW), Surface Water (SW), Soil (S), Sludge (SL), Air (A), etc.
2-Sample description must clearly correlate the sample ID. to the sampling location.

DEPARTMENT USE / OPTIONAL FOR SOIL SAMPLES

Disposition of unused portion of sample
Laboratory shouls:

- ☐ Dispose
- ☐ Return
- ☐ Retain for ______ day
- ☐ Other

DEPARTMENT USE ONLY

Split samples: Offered ? ☐ Yes ☐ No

Accepted ? ☐ Yes ☑ No

Accepted By: ______________________________
Signature

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

FEB 3 - 1999

Date: January 29, 1999

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Adam McIlheran

Project: 4291, National Investments

Enclosed are the results from 4 water samples received at Great Lakes Analytical on January 19, 1999. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
9010213-01	Water: MW-7	1/15/99	VOC, EPA 5030/8021 WDNR GRO
9010213-02	Water: MW-9	1/15/99	VOC, EPA 5030/8021 WDNR GRO
9010213-03	Water, MW-10	1/15/99	VOC, EPA 5030/8021 WDNR GRO
9010213-04	Water: Field Blank	1/15/99	VOC, EPA 5030/8021 WDNR GRO

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Delaware IL 069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Tennessee DOH-02834; Tennessee DEC; USACE; Virginia 00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Jan 15, 1999
1135 Legion Drive	Sample Descript:	Water: MW-7	Received:	Jan 19, 1999
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	9010213-01	Analyzed:	Jan 27, 1999
			Reported:	Jan 29, 1999

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Bromobenzene	0.50	N.D.
Bromodichloromethane	0.50	N.D.
n-Butylbenzene	0.50	N.D.
sec-Butylbenzene	0.50	N.D.
tert-Butylbenzene	0.50	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	0.50	N.D.
Chloroform	0.14	N.D.
Chloromethane	0.60	N.D.
2-Chlorotoluene	0.50	N.D.
4-Chlorotoluene	0.50	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dibromo-3-chloropropane	0.39	N.D.
1,2-Dibromoethane	0.38	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Dichlorodifluoromethane	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
1,3-Dichloropropane	0.50	N.D.
2,2-Dichloropropane	0.50	N.D.
Di-Isopropyl-Ether	5.0	N.D.
Ethyl Benzene	0.50	N.D.
Hexachlorobutadiene	5.0	N.D.
Isopropylbenzene	0.50	N.D.
p-Isopropyltoluene	0.50	N.D.
Methylene chloride	0.53	N.D.
Methyl-tert-Butylether	0.20	N.D.

Accreditations/Certifications: Delaware IL 069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Tennessee DOH-02834; Tennessee DEC, USACE; Virginia 00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Jan 15, 1999
1135 Legion Drive	Sample Descript:	Water: MW-7	Received:	Jan 19, 1999
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	9010213-01	Analyzed:	Jan 27, 1999
			Reported:	Jan 29, 1999

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Naphthalene	2.0	N.D.
n-Propylbenzene	0.50	N.D.
1,1,2,2-Tetrachloroethane	0.35	N.D.
Tetrachloroethene	0.50	N.D.
Toluene	0.50	N.D.
1,2,3-Trichlorobenzene	2.0	N.D.
1,2,4-Trichlorobenzene	2.0	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.16	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
1,2,4-Trimethylbenzene	1.0	N.D.
1,3,5-Trimethylbenzene	1.0	N.D.
Vinyl chloride	0.17	N.D.
Total Xylenes	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Delaware IL 069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487;
Tennessee DOH-02804; Tennessee DEC; USACE; Virginia 00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled: Jan 15, 1999
1135 Legion Drive	Matrix Descript:	Water	Received: Jan 19, 1999
Elm Grove, WI 53122	Analysis Method:	WDNR GRO	
Attention: Adam McIlheran	First Sample #:	9010213-01	Analyzed: Jan 21-22, 1999
			Reported: Jan 29, 1999

GASOLINE RANGE ORGANICS

Sample Number	Sample Description	Detection Limit µg/L (ppb)	Low/Medium B.P. Hydrocarbons µg/L (ppb)	Chromatogram Description
9010213-01	MW-7	50	110	Gas Pattern, Gas Range
9010213-02	MW-9	50	N.D.	—
9010213-03	MW-10	250	1,400	Gas Pattern, Gas Range, Early Peaks, Several Large Peaks
9010213-04	Field Blank	50	N.D.	—

Low to Medium Boiling Point Hydrocarbons is performed as described in Leaking Undergound Storage Tank Analytical Guidance July 1993 WDNR SW 130 93 REV. Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

9010213-01.KSA <1>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Jan 15, 1999
1135 Legion Drive	Sample Descript:	Water: MW-9	Received:	Jan 19, 1999
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	9010213-02	Analyzed:	Jan 27, 1999
			Reported:	Jan 29, 1999

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Bromobenzene	0.50	N.D.
Bromodichloromethane	0.50	N.D.
n-Butylbenzene	0.50	N.D.
sec-Butylbenzene	0.50	N.D.
tert-Butylbenzene	0.50	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	0.50	N.D.
Chloroform	0.14	N.D.
Chloromethane	0.60	N.D.
2-Chlorotoluene	0.50	N.D.
4-Chlorotoluene	0.50	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dibromo-3-chloropropane	0.39	N.D.
1,2-Dibromoethane	0.38	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Dichlorodifluoromethane	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
1,3-Dichloropropane	0.50	N.D.
2,2-Dichloropropane	0.50	N.D.
Di-Isopropyl-Ether	5.0	N.D.
Ethyl Benzene	0.50	N.D.
Hexachlorobutadiene	5.0	N.D.
Isopropylbenzene	0.50	N.D.
p-Isopropyltoluene	0.50	N.D.
Methylene chloride	0.53	N.D.
Methyl-tert-Butylether	0.20	N.D.

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Jan 15, 1999
1135 Legion Drive	Sample Descript:	Water: MW-9	Received:	Jan 19, 1999
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	9010213-02	Analyzed:	Jan 27, 1999
			Reported:	Jan 29, 1999

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Naphthalene	2.0	N.D.
n-Propylbenzene	0.50	N.D.
1,1,2,2-Tetrachloroethane	0.35	N.D.
Tetrachloroethene	0.50	0.57
Toluene	0.50	N.D.
1,2,3-Trichlorobenzene	2.0	N.D.
1,2,4-Trichlorobenzene	2.0	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.16	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
1,2,4-Trimethylbenzene	1.0	N.D.
1,3,5-Trimethylbenzene	1.0	N.D.
Vinyl chloride	0.17	N.D.
Total Xylenes	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

9010213-01.KSA <5>

Accreditations/Certifications: Delaware IL 069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Tennessee DOH-02804; Tennessee DEC; USACE; Virginia 00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Jan 15, 1999
1135 Legion Drive	Sample Descript:	Water: MW-10	Received:	Jan 19, 1999
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	9010213-03	Analyzed:	Jan 27, 1999
			Reported:	Jan 29, 1999

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	**50**	**520**
Bromobenzene	50	N.D.
Bromodichloromethane	50	N.D.
n-Butylbenzene	50	N.D.
sec-Butylbenzene	50	N.D.
tert-Butylbenzene	50	N.D.
Carbon tetrachloride	50	N.D.
Chlorobenzene	50	N.D.
Chloroethane	50	N.D.
Chloroform	14	N.D.
Chloromethane	60	N.D.
2-Chlorotoluene	50	N.D.
4-Chlorotoluene	50	N.D.
Dibromochloromethane	50	N.D.
1,2-Dibromo-3-chloropropane	39	N.D.
1,2-Dibromoethane	38	N.D.
1,2-Dichlorobenzene	50	N.D.
1,3-Dichlorobenzene	50	N.D.
1,4-Dichlorobenzene	50	N.D.
Dichlorodifluoromethane	50	N.D.
1,1-Dichloroethane	50	N.D.
1,2-Dichloroethane	50	N.D.
1,1-Dichloroethene	50	N.D.
cis-1,2-Dichloroethene	**50**	**280**
trans-1,2-Dichloroethene	50	N.D.
1,2-Dichloropropane	50	N.D.
1,3-Dichloropropane	50	N.D.
2,2-Dichloropropane	50	N.D.
Di-Isopropyl-Ether	500	N.D.
Ethyl Benzene	50	N.D.
Hexachlorobutadiene	500	N.D.
Isopropylbenzene	50	N.D.
p-Isopropyltoluene	50	N.D.
Methylene chloride	**53**	**98B**
Methyl-tert-Butylether	**20**	**73**

Accreditations/Certifications: Delaware IL 069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Tennessee DOH-02834; Tennessee DEC, USACE; Virginia 00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Jan 15, 1999
1135 Legion Drive	Sample Descript:	Water: MW-10	Received:	Jan 19, 1999
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	9010213-03	Analyzed:	Jan 27, 1999
			Reported:	Jan 29, 1999

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Naphthalene	200	N.D.
n-Propylbenzene	50	N.D.
1,1,2,2-Tetrachloroethane	35	N.D.
Tetrachloroethene	**50**	**2,100**
Toluene	50	N.D.
1,2,3-Trichlorobenzene	200	N.D.
1,2,4-Trichlorobenzene	200	N.D.
1,1,1-Trichloroethane	50	N.D.
1,1,2-Trichloroethane	16	N.D.
Trichloroethene	**50**	**88**
Trichlorofluoromethane	50	N.D.
1,2,4-Trimethylbenzene	100	N.D.
1,3,5-Trimethylbenzene	100	N.D.
Vinyl chloride	17	N.D.
Total Xylenes	**50**	**110**

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:
B = The Blank associated with this sample contained 1.9 ug/L of Methylene Chloride.

9010213-01.KSA <7>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Jan 15, 1999
1135 Legion Drive	Sample Descript:	Water: Field Blank	Received:	Jan 19, 1999
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	9010213-04	Analyzed:	Jan 28, 1999
			Reported:	Jan 29, 1999

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	50	N.D.
Bromobenzene	50	N.D.
Bromodichloromethane	50	N.D.
n-Butylbenzene	50	N.D.
sec-Butylbenzene	50	N.D.
tert-Butylbenzene	50	N.D.
Carbon tetrachloride	50	N.D.
Chlorobenzene	50	N.D.
Chloroethane	50	N.D.
Chloroform	14	N.D.
Chloromethane	60	N.D.
2-Chlorotoluene	50	N.D.
4-Chlorotoluene	50	N.D.
Dibromochloromethane	50	N.D.
1,2-Dibromo-3-chloropropane	39	N.D.
1,2-Dibromoethane	38	N.D.
1,2-Dichlorobenzene	50	N.D.
1,3-Dichlorobenzene	50	N.D.
1,4-Dichlorobenzene	50	N.D.
Dichlorodifluoromethane	50	N.D.
1,1-Dichloroethane	50	N.D.
1,2-Dichloroethane	50	N.D.
1,1-Dichloroethene	50	N.D.
cis-1,2-Dichloroethene	50	N.D.
trans-1,2-Dichloroethene	50	N.D.
1,2-Dichloropropane	50	N.D.
1,3-Dichloropropane	50	N.D.
2,2-Dichloropropane	50	N.D.
Di-Isopropyl-Ether	500	N.D.
Ethyl Benzene	50	N.D.
Hexachlorobutadiene	500	N.D.
Isopropylbenzene	50	N.D.
p-Isopropyltoluene	50	N.D.
Methylene chloride	**53**	**0.85B**
Methyl-tert-Butylether	20	N.D.

Accreditations/Certifications: Delaware IL 069; Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; Tennessee DOH-02804; Tennessee DEC; USACE; Virginia 00164; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291, National Investments	Sampled:	Jan 15, 1999
1135 Legion Drive	Sample Descript:	Water: Field Blank	Received:	Jan 19, 1999
Elm Grove, WI 53122	Analysis Method:	EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	9010213-04	Analyzed:	Jan 28, 1999
			Reported:	Jan 29, 1999

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Naphthalene	200	N.D.
n-Propylbenzene	50	N.D.
1,1,2,2-Tetrachloroethane	35	N.D.
Tetrachloroethene	50	N.D.
Toluene	50	N.D.
1,2,3-Trichlorobenzene	200	N.D.
1,2,4-Trichlorobenzene	200	N.D.
1,1,1-Trichloroethane	50	N.D.
1,1,2-Trichloroethane	16	N.D.
Trichloroethene	50	N.D.
Trichlorofluoromethane	50	N.D.
1,2,4-Trimethylbenzene	100	N.D.
1,3,5-Trimethylbenzene	100	N.D.
Vinyl chloride	17	N.D.
Total Xylenes	50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:
B = The Blank associated with this sample contained 1.9 ug/L of Methylene Chloride.

9010213-01.KSA <9>

[redacted] ASSOCIATES, INC.

Engineering and Environmental Management Consultants

1135 Legion Drive, Elm Grove, Wisconsin 53122 (414) 821-1171 Fax (414) 821-1174

RS-645 1 of 1 (11)

State of Wisconsin
Department of Natural Resources

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151

Note: This form is required by the Department of Natural Resources for LUST sites in compliance with ch. NR 500-540, NR 158 and NR 419, Wis. Adm. Code

Sample Collector(s)	Title	Telephone # (including Area Code)	Report To
Adam McIlheran	Staff Hydrogeologist	414-821-1171	Adam McIlheran

Property Owner	Property Address	Telephone # (including Area Code)	Project #
National Investments	1037 E. Green Bay St., Shawano, WI		9291 RJ

I hereby certify that I received, properly, and disposed of these samples as noted below:

Lab. Name: Great Lakes Analytical

Relinquished By (Signature)	Date/Time	Received By (Signature)
Tonya Tomsek	4-15-99 9:15	[signature] 4/15/99
[signature]	4/15/99	[signature] 4/15
Relinquished By (Signature)	Date/Time	Received By (Signature)

Temperature of temperature blank: ON ICE

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for the temperature blank.

Field I.D. Number	Date Collected	Time Collected	Samples Type(1)	Samples Device	Location/Description (see footnote2)	PVOCs	6RO									# / Type of Container HNO3	HCl	H2SO4	Unpres.	Lab ID No.	Sample Condition: Cracked /Broken	Improperly Sealed	Good Condition	Other Comment
	4/14/99	1:00	GW	bailer	MW-7	✓	✓	9	0	4	0	2	9	4	01		3						✓	
	"	1:30	"	"	MW-9	✓	✓	9	0	4	0	2	9	4	02		3						✓	
	"	2:00	"	"	MW-10	✓	✓	9	0	4	0	2	9	4	03		3						✓	
	"	2:30	dist water	"	Field Blank	✓	✓	9	0	4	0	2	9	4	04		3						✓	

1-Specify Groundwater (GW), Surface Water (SW), Soil (S), Sludge (SL), Air (A), etc.
2-Sample description must clearly correlate the sample ID. to the sampling location.

DEPARTMENT USE / OPTIONAL FOR SOIL SAMPLES

Disposition of unused portion of sample
Laboratory shouls:

☐ Dispose ☐ Retain for _____ day
☐ Return ☐ Other

DEPARTMENT USE ONLY

Split samples: Offered ? ☐ Yes ☐ No
Accepted ? ☐ Yes ☐ No
Accepted By: _____
Signature

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

APR 2 8 1999

Date: April 23, 1999

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Adam McIlheran

Project: 4291 1037 E. Greenbay St.

Enclosed are the results from 4 water samples received at Great Lakes Analytical on April 15, 1999. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
9040294-01	Water: MW7	4/14/99	PVOC, EPA 5030/8021 WDNR GRO
9040294-02	Water: MW9	4/14/99	PVOC, EPA 5030/8021 WDNR GRO
9040294-03	Water: MW10	4/14/99	PVOC, EPA 5030/8021 WDNR GRO
9040294-04	Water: Field Blank	4/14/99	PVOC, EPA 5030/8021 WDNR GRO

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487;
USACE; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Adam McIlheran

Client Project ID: 4291 1037 E. Greenbay St.
Sample Descript: Water: MW7
Analysis Method: PVOC's, EPA 5030/8021
Lab Number: 9040294-01

Sampled: Apr 14, 1999
Received: Apr 15, 1999

Analyzed: Apr 22-23, 1999
Reported: Apr 23, 1999

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Methyl-T-Butyl Ether	0.20	N.D.
Toluene	0.50	N.D.
124 Trimethylbenzene	1.0	N.D.
135 Trimethylbenzene	1.0	N.D.
Xylene	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; USACE; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Adam McIlheran

Client Project ID: 4291 1037 E. Greenbay St.
Sample Descript: Water: MW9
Analysis Method: PVOC's, EPA 5030/8021
Lab Number: 9040294-02

Sampled: Apr 14, 1999
Received: Apr 15, 1999

Analyzed: Apr 22-23, 1999
Reported: Apr 23, 1999

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Methyl-T-Butyl Ether	0.20	N.D.
Toluene	0.50	N.D.
124 Trimethylbenzene	1.0	N.D.
135 Trimethylbenzene	1.0	N.D.
Xylene	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; USACE; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291 1037 E. Greenbay St.	Sampled:	Apr 14, 1999
1135 Legion Drive	Matrix Descript:	Water	Received:	Apr 15, 1999
Elm Grove, WI 53122	Analysis Method:	WDNR GRO		
Attention: Adam McIlheran	First Sample #:	9040294-01	Analyzed:	Apr 22-23, 1999
			Reported:	Apr 23, 1999

GASOLINE RANGE ORGANICS

Sample Number	Sample Description	Detection Limit µg/L (ppb)	Low/Medium B.P. Hydrocarbons µg/L (ppb)	Chromatogram Description
9040294-01	MW7	50	N.D.	—
9040294-02	MW9	50	N.D.	—
9040294-03	MW10	500	3,800	Gas Range, Several Large Peaks
9040294-04	Field Blank	50	N.D.	—

Low to Medium Boiling Point Hydrocarbons is performed as described in Leaking Undergound Storage Tank Analytical Guidance July 1993 WDNR SW 130 93 REV. Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

904029401.KSA <5>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	4291 1037 E. Greenbay St.	Sampled:	Apr 14, 1999
1135 Legion Drive	Sample Descript:	Water: MW10	Received:	Apr 15, 1999
Elm Grove, WI 53122	Analysis Method:	PVOC's, EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	9040294-03	Analyzed:	Apr 22-23, 1999
			Reported:	Apr 23, 1999

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	1,400
Ethyl Benzene	0.50	68
Methyl-T-Butyl Ether	0.20	210
Toluene	0.50	21
124 Trimethylbenzene	1.0	160
135 Trimethylbenzene	1.0	50
Xylene	0.50	550

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

904029401.KSA <3>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Adam McIlheran

Client Project ID: 4291 1037 E. Greenbay St.
Sample Descript: Water: Field Blank
Analysis Method: PVOC's, EPA 5030/8021
Lab Number: 9040294-04

Sampled: Apr 14, 1999
Received: Apr 15, 1999

Analyzed: Apr 22-23, 1999
Reported: Apr 23, 1999

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Methyl-T-Butyl Ether	0.20	N.D.
Toluene	**0.50**	**0.65**
124 Trimethylbenzene	1.0	N.D.
135 Trimethylbenzene	1.0	N.D.
Xylene	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Illinois EPA-100261; New Jersey DEP-54001; New York DOH-11487; USACE; Wisconsin DNR-999917160

1 of 2

K. SINGH & ASSOCIATES, INC.

Engineering and Environmental Management Consultants

1135 Legion Drive, Elm Grove, Wisconsin 53122 (414) 821-1171 Fax (414) 821-1174

State of Wisconsin
Department of Natural Resources

9-13-99

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151

18

Note: This form is required by the Department of Natural Resources for LUST sites in compliance with ch. NR 500-540, NR 158 and NR 419, Wis. Adm. Code

Sample Collector(s)	Title	Telephone # (including Area Code)	Report To
Adam McIlheran	Staff Hydrogeologist	414-821-1171	Adam McIlheran

Property Owner	Property Address	Telephone # (including Area Code)	Project #
National Investments	1037 E Greenbay St, Shawano, WI		4291

I hereby certify that I received, properly, and disposed of these samples as noted below:

Lab. Name Great Lakes Analytical

Relinquished By (Signature)	Date/Time	Received By (Signature)
[signature]	9/3 1115	[signature]
Relinquished By (Signature)	Date/Time	Received By (Signature)
[signature]		[signature]
Relinquished By (Signature)	Date/Time	Received By (Signature)

Temperature of temperature blank: _____

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for the temperature blank.

Field I.D. Number	Date Collected	Time Collected	Samples Type(1)	Samples Device	Location/Description (see footnote2)	GRO	PVOCs	# / Type of Container HNO3	HCl	H2SO4	Unpres.	Lab ID No.	Sample Condition: Cracked /Broken	Improperly Sealed	Good Condition	Other Comment
	9/1/99	11:00	GW	bailer	MW-1	V	V		3			990908497			X	
	"	12:00	"	"	MW-2	V	V		3					2	X	
	"	1:30	"	"	MW-3	V	V		3					3	X	
	"	2:30	"	"	MW-4	V	V		3					4	X	
	"	3:30	"	"	MW-5	V	V		3					5	X	
	"	4:30	"	"	MW-6	V	V		3					6	X	

1-Specify Groundwater (GW), Surface Water (SW), Soil (S), Sludge (SL), Air (A), etc.
2-Sample description must clearly correlate the sample ID. to the sampling location.

DEPARTMENT USE / OPTIONAL FOR SOIL SAMPLES

Disposition of unused portion of sample
Laboratory shouls:

☐ Dispose ☐ Retain for _____ day
☐ Return ☐ Other

DEPARTMENT USE ONLY

Split samples: Offered ? ☐ Yes ☐ No
Accepted ? ☐ Yes ☐ No

Accepted By: _____
Signature

K. SINGH & ASSOCIATES, INC.

Engineering and Environmental Management Consultants

1135 Legion Drive, Elm Grove, Wisconsin 53122 (414) 821-1171 Fax (414) 821-1174

State of Wisconsin
Department of Natural Resources

9-13-99

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151

(20)

Note: This form is required by the Department of Natural Resources for LUST sites in compliance with ch. NR 500-540, NR 158 and NR 419, Wis. Adm. Code

Sample Collector(s)	Title	Telephone # (including Area Code)	Report To
Adam McIlheran	Staff Hydrogeologist	414-821-1171	Adam McIlheran

Property Owner	Property Address	Telephone # (including Area Code)	Project #
National Investments	1037 E Green Bay St. Shawano, WI		4291

I hereby certify that I received, properly, and disposed of these samples as noted below:

Lab. Name Great Lakes Analytical

Relinquished By (Signature)	Date/Time	Received By (Signature)
Tom Tomasek	9-3 11:15	
Relinquished By (Signature)	Date/Time	Received By (Signature)
		Amy Lisoney
Relinquished By (Signature)	Date/Time	Received By (Signature)
		9-8

Temperature of temperature blank: _____

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for the temperature blank.

Field I.D. Number	Date Collected	Time Collected	Samples Type(1)	Samples Device	Location/Description (see footnote2)	GRO	PVOCs	VOCs	dissolved Arsenic	dissolved Iron	dissolved Lead	# / Type of Container HNO3	HCl	H2SO4	Unpres.	Lab ID No.	Sample Condition: Cracked /Broken	Improperly Sealed	Good Condition	Other Comment
	9/1/99	5:30	GW	bailer	MW-7	V	V	-	-	-	-	-			3			B909084-7		
	"	8:00	"	"	MW-8	V	V	-	-	-	-	-			3			8		
	9/2/99	9:00	"	"	MW-9	V	V	-	-	-	-	-			3			9		
	9/1/99	6:00	"	"	MW-10	V	V	-	-	-	-	-			3			10		
	9/2/99	10:45	"	"	MW-11	V	-	V	V	V	V	V		1	3		1		11		
	9/1/99	6:15	dist H2O	bailer	Field Blank	V	V	-	-	-	-	-			3				10	

1-Specify Groundwater (GW), Surface Water (SW), Soil (S), Sludge (SL), Air (A), etc.
2-Sample description must clearly correlate the sample ID. to the sampling location.

DEPARTMENT USE / OPTIONAL FOR SOIL SAMPLES

Disposition of unused portion of sample
Laboratory shouls:

☐ Dispose ☐ Retain for _____ day
☐ Return ☐ Other

DEPARTMENT USE ONLY

Split samples: Offered ? ☐ Yes ☐ No
Accepted ? ☐ Yes ☐ No
Accepted By: _____
Signature

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

SEP 20 '99

Date: September 15, 1999

K. Singh & Associates, Inc.
1135 Legion Drive
Elm Grove, WI 53122
Attention: Adam McIlheran

Project: 1037 GreenBay St.

Enclosed are the results from 12 water samples received at Great Lakes Analytical on September 3, 1999. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
B909084-01	Water: MW-1	9/1/99	PVOC's, EPA 5030/8021 WDNR GRO
B909084-02	Water: MW-2	9/1/99	PVOC's, EPA 5030/8021 WDNR GRO
B909084-03	Water: MW-3	9/1/99	PVOC's, EPA 5030/8021 WDNR GRO
B909084-04	Water: MW-4	9/1/99	PVOC's, EPA 5030/8021 WDNR GRO
B909084-05	Water: MW-5	9/1/99	PVOC's, EPA 5030/8021 WDNR GRO
B909084-06	Water: MW-6	9/1/99	PVOC's, EPA 5030/8021 WDNR GRO
B909084-07	Water: MW-7	9/1/99	PVOC's, EPA 5030/8021 WDNR GRO
B909084-08	Water: MW-8	9/1/99	PVOC's, EPA 5030/8021 WDNR GRO
B909084-09	Water: MW-9	9/2/99	PVOC's, EPA 5030/8021 WDNR GRO
B909084-10	Water: MW-10	9/1/99	PVOC's, EPA 5030/8021 WDNR GRO
B909084-11	Water, MW-11	9/2/99	Iron, EPA 3015/6010 Lead, EPA 3015/7421 Nitrate, EPA 353.2 Sulfate, EPA 375.2 VOC's, EPA 5030/8021 WDNR GRO
B909084-12	Water: Field Blank	9/1/99	PVOC's, EPA 5030/8021 WDNR GRO

Accreditations/Certifications: Illinois EPA-100261; New Jersey DEP-54001;
USACE; Wisconsin DNR-999917160

This report may not be reproduced, except in full, without the written approval of the laboratory.

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 1-2, 1999
1135 Legion Drive	Matrix Descript:	Water	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis Method:	WDNR GRO		
Attention: Adam McIlheran	First Sample #:	B909084-01	Analyzed:	Sep 13, 1999
			Reported:	Sep 15, 1999

GASOLINE RANGE ORGANICS

Sample Number	Sample Description	Detection Limit ug/L (ppb)	Low/Medium B.P. Hydrocarbons ug/L (ppb)	Chromatogram Description
B909084-01	MW-1	50	180	Late Peaks
B909084-02	MW-2	50	110	Late Peaks
B909084-03	MW-3	50	4,700	Several Large Peaks, Gas Range, Late Peaks
B909084-04	MW-4	50	7,000	Several Large Peaks, Gas Range, Late Peaks
B909084-05	MW-5	50	1,800	Several Large Peaks. Late Peaks, Gas Range
B909084-06	MW-6	50	12,000	Several Large Peaks, Gas Range
B909084-07	MW-7	50	51	Several Large Peaks, Gas Range, Late Peaks, Late Elevated Baseline
B909084-08	MW-8	50	8,100	Elevated Baseline, SeveralLarge Peaks, Gas Range
B909084-09	MW-9	50	94	Gas Range, Several Large Peaks, Late Elevated Baseline
B909084-10	MW-10	50	1,600	Single Large Peak, Gas Range

Low to Medium Boiling Point Hydrocarbons is performed as described in Leaking Undergound Storage Tank Analytical Guidance July 1993 WDNR SW 130 93 REV. Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations-Certifications: Illinois EPA-100261; New Jersey DEP-54001;
USACE; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 1-2, 1999
1135 Legion Drive	Matrix Descript:	Water	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis Method:	WDNR GRO		
Attention: Adam McIlheran	First Sample #:	B909084-11	Analyzed:	Sep 13, 1999
			Reported:	Sep 15, 1999

GASOLINE RANGE ORGANICS

Sample Number	Sample Description	Detection Limit ug/L (ppb)	Low/Medium B.P. Hydrocarbons ug/L (ppb)	Chromatogram Description
B909084-11	MW-11	50	51	Late Elevated Baseline, Single Large Peaks, Gas Range
B909084-12	Field Blank	50	N.D.	---

Low to Medium Boiling Point Hydrocarbons is performed as described in Leaking Undergound Storage Tank Analytical Guidance July 1993 WDNR SW 130 93 REV. Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations Certifications: Illinois EPA-100261; New Jersey DEP-54001;
USACE; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 2, 1999
1135 Legion Drive	Sample Descript:	Water	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis for:	Iron, EPA 3015/6010		
Attention: Adam McIlheran	First Sample #:	B909084-11	Analyzed:	Sep 9, 1999
			Reported:	Sep 15, 1999

LABORATORY ANALYSIS FOR: Iron, EPA 3015/6010

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
B909084-11	MW-11	0.050	0.35

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Illinois EPA-100261; New Jersey DEP-54001;
USACE; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 2, 1999
1135 Legion Drive	Sample Descript:	Water	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis for:	Lead, EPA 3015/7421		
Attention: Adam McIlheran	First Sample #:	B909084-11	Analyzed:	Sep 9, 1999
			Reported:	Sep 15, 1999

LABORATORY ANALYSIS FOR: Lead, EPA 3015/7421

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
B909084-11	MW-11	0.0015	0.20

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Please Note:
The matrix QC recoveries associated with this sample were above the laboratory's established acceptance criteria.

Accreditations/Certifications: Illinois EPA-100261; New Jersey DEP-54001;
USACE; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 2, 1999
1135 Legion Drive	Sample Descript:	Water	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis for:	Nitrate, EPA 353.2		
Attention: Adam McIlheran	First Sample #:	B909084-11	Analyzed:	Sept 3-8, 1999
			Reported:	Sep 15, 1999

LABORATORY ANALYSIS FOR: Nitrate, EPA 353.2

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
B909084-11	MW-11	0.050	0.23

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

B909084-01.KSA <5>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 2, 1999
1135 Legion Drive	Sample Descript:	Water	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis for:	Sulfate, EPA 375.2		
Attention: Adam McIlheran	First Sample #:	B909084-11	Analyzed:	Sep 10, 1999
			Reported:	Sep 15, 1999

LABORATORY ANALYSIS FOR: Sulfate, EPA 375.2

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
B909084-11	MW-11	10	20

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

B909084-01.KSA <6>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 1, 1999
1135 Legion Drive	Sample Descript:	Water: MW-1	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis Method:	PVOC's, EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	B909084-01	Analyzed:	Sep 13, 1999
			Reported:	Sep 15, 1999

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Methyl-T-Butyl Ether	0.20	N.D.
Toluene	0.50	N.D.
124 Trimethylbenzene	1.0	N.D.
135 Trimethylbenzene	1.0	N.D.
Xylene	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

B909084-01.KSA <7>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 1, 1999
1135 Legion Drive	Sample Descript:	Water: MW-2	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis Method:	PVOC's, EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	B909084-02	Analyzed:	Sep 13, 1999
			Reported:	Sep 15, 1999

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Methyl-T-Butyl Ether	0.20	N.D.
Toluene	0.50	N.D.
124 Trimethylbenzene	1.0	N.D.
135 Trimethylbenzene	1.0	N.D.
Xylene	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Illinois EPA-100261; New Jersey DEP-54001;
USACE; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 1, 1999
1135 Legion Drive	Sample Descript:	Water: MW-3	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis Method:	PVOC's, EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	B909084-03	Analyzed:	Sep 13, 1999
			Reported:	Sep 15, 1999

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	150
Ethyl Benzene	0.50	100
Methyl-T-Butyl Ether	0.20	7.6
Toluene	0.50	9.5
124 Trimethylbenzene	1.0	520
135 Trimethylbenzene	1.0	82
Xylene	0.50	1,600

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Illinois EPA-100261; New Jersey DEP-54001;
USACE; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 1, 1999
1135 Legion Drive	Sample Descript:	Water: MW-4	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis Method:	PVOC's, EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	B909084-04	Analyzed:	Sep 13, 1999
			Reported:	Sep 15, 1999

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	2,800
Ethyl Benzene	0.50	63
Methyl-T-Butyl Ether	0.20	140
Toluene	0.50	44
124 Trimethylbenzene	1.0	7.0
135 Trimethylbenzene	1.0	82
Xylene	0.50	1,600

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

B909084-01.KSA <10>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 1, 1999
1135 Legion Drive	Sample Descript:	Water: MW-5	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis Method:	PVOC's, EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	B909084-05	Analyzed:	Sep 13, 1999
			Reported:	Sep 15, 1999

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	550
Ethyl Benzene	0.50	98
Methyl-T-Butyl Ether	0.20	180
Toluene	0.50	9.2
124 Trimethylbenzene	1.0	5.1
135 Trimethylbenzene	1.0	16
Xylene	0.50	780

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

B909084-01.KSA <11>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 1, 1999
1135 Legion Drive	Sample Descript:	Water: MW-6	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis Method:	PVOC's, EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	B909084-06	Analyzed:	Sep 13, 1999
			Reported:	Sep 15, 1999

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	39
Ethyl Benzene	0.50	1,100
Methyl-T-Butyl Ether	0.20	6.3
Toluene	0.50	1,000
124 Trimethylbenzene	1.0	1,100
135 Trimethylbenzene	1.0	160
Xylene	0.50	4,800

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

B909084-01.KSA <12>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 1, 1999
1135 Legion Drive	Sample Descript:	Water: MW-7	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis Method:	PVOC's, EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	B909084-07	Analyzed:	Sep 13, 1999
			Reported:	Sep 15, 1999

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Methyl-T-Butyl Ether	0.20	N.D.
Toluene	0.50	N.D.
124 Trimethylbenzene	1.0	1.0
135 Trimethylbenzene	1.0	N.D.
Xylene	0.50	1.7

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Illinois EPA-100261; New Jersey DEP-54001;
USACE; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 1, 1999
1135 Legion Drive	Sample Descript:	Water: MW-8	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis Method:	PVOC's, EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	B909084-08	Analyzed:	Sep 13, 1999
			Reported:	Sep 15, 1999

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	490
Ethyl Benzene	0.50	160
Methyl-T-Butyl Ether	0.20	11
Toluene	0.50	1,900
124 Trimethylbenzene	1.0	7.8
135 Trimethylbenzene	1.0	52
Xylene	0.50	3,200

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations Certifications: Illinois EPA-100261; New Jersey DEP-54001;
USACE; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 2, 1999
1135 Legion Drive	Sample Descript:	Water: MW-9	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis Method:	PVOC's, EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	B909084-09	Analyzed:	Sep 13, 1999
			Reported:	Sep 15, 1999

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	4.3
Ethyl Benzene	0.50	1.9
Methyl-T-Butyl Ether	0.20	0.51
Toluene	0.50	14
124 Trimethylbenzene	1.0	3.6
135 Trimethylbenzene	1.0	N.D.
Xylene	0.50	21

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

B909084-01.KSA <15>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 1, 1999
1135 Legion Drive	Sample Descript:	Water: MW-10	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis Method:	PVOC's, EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	B909084-10	Analyzed:	Sep 13, 1999
			Reported:	Sep 15, 1999

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	**0.50**	**410**
Ethyl Benzene	**0.50**	**3.0**
Methyl-T-Butyl Ether	**0.20**	**67**
Toluene	**0.50**	**4.3**
124 Trimethylbenzene	**1.0**	**1.5**
135 Trimethylbenzene	1.0	N.D.
Xylene	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

B909084-01.KSA <16>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 1, 1999
1135 Legion Drive	Sample Descript:	Water: Field Blank	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis Method:	PVOC's, EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	B909084-12	Analyzed:	Sep 13, 1999
			Reported:	Sep 15, 1999

PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Methyl-T-Butyl Ether	0.20	N.D.
Toluene	0.50	N.D.
124 Trimethylbenzene	1.0	N.D.
135 Trimethylbenzene	1.0	N.D.
Xylene	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Illinois EPA-100261; New Jersey DEP-54001;
USACE; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 2, 1999
1135 Legion Drive	Sample Descript:	Water: MW-11	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis Method:	VOC's, EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	B909084-11	Analyzed:	Sep 9, 1999
			Reported:	Sep 15, 1999

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	N.D.
Bromobenzene	0.50	N.D.
Bromodichloromethane	0.50	N.D.
n-Butylbenzene	0.50	N.D.
sec-Butylbenzene	0.50	N.D.
tert-Butylbenzene	0.50	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	0.50	N.D.
Chloroform	0.14	N.D.
Chloromethane	0.60	N.D.
2-Chlorotoluene	0.50	N.D.
4-Chlorotoluene	0.50	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dibromo-3-chloropropane	0.39	N.D.
1,2-Dibromoethane	0.38	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Dichlorodifluoromethane	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
1,3-Dichloropropane	0.50	N.D.
2,2-Dichloropropane	0.50	0.77
Di-Isopropyl-Ether	5.0	N.D.
Ethyl Benzene	0.50	N.D.
Hexachlorobutadiene	5.0	N.D.
Isopropylbenzene	0.50	N.D.
p-Isopropyltoluene	0.50	N.D.
Methylene chloride	0.53	N.D.
Methyl-tert-Butylether	0.20	N.D.

Accreditations Certifications: Illinois EPA-100261; New Jersey DEP-54001;
USACE; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

K. Singh & Associates, Inc.	Client Project ID:	1037 GreenBay St.	Sampled:	Sep 2, 1999
1135 Legion Drive	Sample Descript:	Water: MW-11	Received:	Sep 3, 1999
Elm Grove, WI 53122	Analysis Method:	VOC's, EPA 5030/8021		
Attention: Adam McIlheran	Lab Number:	B909084-11	Analyzed:	Sep 9, 1999
			Reported:	Sep 15, 1999

VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Detection Limit µg/L	Sample Results µg/L
Naphthalene	2.0	N.D.
n-Propylbenzene	0.50	N.D.
1,1,2,2-Tetrachloroethane	0.35	N.D.
Tetrachloroethene	0.50	N.D.
Toluene	0.50	N.D.
1,2,3-Trichlorobenzene	2.0	N.D.
1,2,4-Trichlorobenzene	2.0	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.16	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
1,2,4-Trimethylbenzene	1.0	N.D.
1,3,5-Trimethylbenzene	1.0	N.D.
Vinyl chloride	0.17	N.D.
Total Xylenes	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

B909084-01.KSA <19>

Accreditations Certifications: Illinois EPA-100261; New Jersey DEP-54001;
USACE; Wisconsin DNR-999917160

00.03731

K. SINGH & ASSOCIATES, INC.

Engineering and Environmental Management Consultants
1135 Legion Drive, Elm Grove, Wisconsin 53122 (414) 821-1171 Fax (414) 821-1174

State of Wisconsin
Department of Natural Resources

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151

Note: This form is required by the Department of Natural Resources for LUST sites in compliance with ch. NR 500-540, NR 158 and NR 419, Wis. Adm. Code

Sample Collector(s)	Title	Telephone # (including Area Code)	Report To
Adam McIlheran	Staff Hydrogeologist	262-821-1171	Adam McIlheran

Property Owner	Property Address	Telephone # (including Area Code)	Project #
National Investments	1037 East Green Bay St, Shawano, WI		

I hereby certify that I received, properly, and disposed of these samples as noted below:

Lab. Name: Test America

Relinquished By (Signature)	Date/Time	Received By (Signature)
[signature]	5-5-2000 8:25	[signature] 8:25 5/5/00
[signature]	5/5	
	5/5/02 16:30	[signature]

Temperature of temperature blank: ~~Iced~~ 4

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for the temperature blank.

Field I.D. Number	Date Collected	Time Collected	Samples Type(1)	Samples Device	Location/Description (see footnote2)	GRO	VOCs						HNO₃	HCl	H₂SO₄	Unpres.	Lab ID No.	Cracked /Broken	Improperly Sealed	Good Condition	Other Comment
	5/3/00	11:45	GW	bailer	MW-1	√	√							3							
	"	12:15	"	"	MW-2	√	√							3							
	"	2:45	"	"	MW-3	√	√							3							
	"	4:45	"	"	MW-4	√	√							3							
	"	4:15	"	"	MW-5	√	√							3							
	"	2:15	"	"	MW-6	√	√							3							

1-Specify Groundwater (GW), Surface Water (SW), Soil (S), Sludge (SL), Air (A), etc.
2-Sample description must clearly correlate the sample ID. to the sampling location.

DEPARTMENT USE / OPTIONAL FOR SOIL SAMPLES

Disposition of unused portion of sample
Laboratory shouls:

☐ Dispose ☐ Retain for ______ day
☐ Return ☐ Other

DEPARTMENT USE ONLY

Shelley Woomis 5/8/00

Split samples: Offered ? ☐ Yes ☐ No
Accepted ? ☐ Yes ☐ No

Accepted By: ______________

2 of 2

K. SINGH & ASSOCIATES, INC.

Engineering and Environmental Management Consultants

1135 Legion Drive, Elm Grove, Wisconsin 53122 (414) 821-1171 Fax (414) 821-1174

00.03731

State of Wisconsin
Department of Natural Resources

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151

Note: This form is required by the Department of Natural Resources for LUST sites in compliance with ch. NR 500-540, NR 158 and NR 419, Wis. Adm. Code

Sample Collector(s)	Title	Telephone # (including Area Code)	Report To
Adam McIlheran	Staff Hydrogeologist	262-821-1171	Adam McIlheran

Property Owner	Property Address	Telephone # (including Area Code)	Project #
National Investments	1037 East Green Bay St. Shawano, WI		

I hereby certify that I received, properly, and disposed of these samples as noted below:

Lab. Name: Test America

Relinquished By (Signature)	Date/Time	Received By (Signature)
[illegible]	5-5-2000 8:24	[illegible] 5-5
Relinquished By (Signature)	Date/Time	Received By (Signature)
[illegible]	5/5	
Relinquished By (Signature)	Date/Time	Received By (Signature)
	5/5/00 16:30	[illegible]

Temperature of temperature blank: 4

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for the temperature blank.

Field I.D. Number	Date Collected	Time Collected	Samples Type(1)	Samples Device	Location/Description (see footnote2)	GRO	PVOCs	VOCs	# / Type of Container HNO3	HCl	H2SO4	Unpres.	Lab ID No.	Sample Condition: Cracked /Broken	Improperly Sealed	Good Condition	Other Comment
	5/3/00	12:45	GW	bailer	MW-7	V	V	-									
	"	3:45	"	"	MW-8	V	V	-									
	"	1:15	"	"	MW-9	V	V	-									
	"	3:15	"	"	MW-10	V	-	V									
	"	1:45	"	"	MW-11	V	V	-									
	"	5:00	DW	"	Field Blank	V	V	-									

1-Specify Groundwater (GW), Surface Water (SW), Soil (S), Sludge (SL), Air (A), etc.
2-Sample description must clearly correlate the sample ID. to the sampling location.

DEPARTMENT USE / OPTIONAL FOR SOIL SAMPLES

Disposition of unused portion of sample
Laboratory shouls:

☐ Dispose ☐ Retain for _____ day
☐ Return ☐ Other

DEPARTMENT USE ONLY

Sheena Looms 5/8/00

Split samples: Offered ? ☐ Yes ☐ No
Accepted ? ☐ Yes ☐ No
Accepted By:

5-12-2000

TestAmerica
INCORPORATED

ANALYTICAL AND QUALITY CONTROL REPORT

Mr. Adam McIlheran
K. SINGH & ASSOCIATES, INC
1135 Legion Drive
Elm Grove, WI 53122

05/11/2000

Job No: 00.03731

Enclosed are the Analytical and Quality Control reports for the following samples submitted for analysis:

Sample Number	Sample Description	Date Taken	Date Received
394508	MW-1 National Investments	05/03/2000	05/05/2000
394509	MW-2 National Investments	05/03/2000	05/05/2000
394510	MW-3 National Investments	05/03/2000	05/05/2000
394511	MW-4 National Investments	05/03/2000	05/05/2000
394512	MW-5 National Investments	05/03/2000	05/05/2000
394513	MW-6 National Investments	05/03/2000	05/05/2000
394514	MW-7 National Investments	05/03/2000	05/05/2000
394515	MW-8 National Investments	05/03/2000	05/05/2000
394516	MW-9 National Investments	05/03/2000	05/05/2000
394517	MW-10 National Investments	05/03/2000	05/05/2000
394518	MW-11 National Investments	05/03/2000	05/05/2000
394519	Field Blank National Investment	05/03/2000	05/05/2000

Soil results are reported on a dry weight basis. The above sample(s) may have a result flag shown on the report. The following are the result flag definitions:

A = Analyzed/extracted past hold time
B = Blank is contaminated
C = Standard outside of control limits
D = Diluted for analysis
F = Sample filtered in lab
G = Received past hold time
H = Late eluting hydrocarbons present
I = Improperly handled sample
J = Estimated concentration
L = Common lab solvent and contaminant
M = Matrix interference
P = Improperly preserved sample
Q = Result confirmed via re-analysis
S = Sediment present
T = Does not match typical pattern
W = BOD re-set due to missed dilution
X = Unidentified compound(s) present
Z = Internal standard outside limits

Brian D. DeJong
Organic Operations Manager

602 COMMERCE DRIVE / WATERTOWN, WI 53094 / 920-261-1660 / FAX: 920-261-8120
WDNR NO. 128053530

ANALYTICAL REPORT

Mr. Adam McIlheran
K. SINGH & ASSOCIATES, INC
1135 Legion Drive
Elm Grove, WI 53122

05/11/2000
Job No: 00.03731
Sample No: 394508
Account No: 43125

JOB DESCRIPTION: National Investments
PROJECT DESCRIPTION: Groundwater Analysis
SAMPLE DESCRIPTION: MW-1 National Investments
Rec'd at 4 degrees C

Date/Time Taken: 05/03/2000 11:45 Date Received: 05/05/2000

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	05/09/2000	6271
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	05/09/2000	6271
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	05/09/2000	6271
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	05/09/2000	6271
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	05/09/2000	6271
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	05/09/2000	6271
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	05/09/2000	6271
GRO	<50	ug/L	50	50	WDNR	05/09/2000	6271
Surr: Bromofluorobenzene	103.0	%	n/a	n/a	SW 8020	05/09/2000	6271

ANALYTICAL REPORT

Mr. Adam McIlheran
K. SINGH & ASSOCIATES, INC
1135 Legion Drive
Elm Grove, WI 53122

05/11/2000
Job No: 00.03731
Sample No: 394509
Account No: 43125

JOB DESCRIPTION: National Investments
PROJECT DESCRIPTION: Groundwater Analysis
SAMPLE DESCRIPTION: MW-2 National Investments
Rec'd at 4 degrees C

Date/Time Taken: 05/03/2000 12:15 Date Received: 05/05/2000

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	2.8	ug/L	0.13	0.44	SW 8020	05/09/2000	6271
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	05/09/2000	6271
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	05/09/2000	6271
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	05/09/2000	6271
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	05/09/2000	6271
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	05/09/2000	6271
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	05/09/2000	6271
GRO	<50	ug/L	50	50	WDNR	05/09/2000	6271
Surr: Bromofluorobenzene	102.5	%	n/a	n/a	SW 8020	05/09/2000	6271

ANALYTICAL REPORT

Mr. Adam McIlheran
K. SINGH & ASSOCIATES, INC
1135 Legion Drive
Elm Grove, WI 53122

05/11/2000
Job No: 00.03731
Sample No: 394510
Account No: 43125

JOB DESCRIPTION: National Investments
PROJECT DESCRIPTION: Groundwater Analysis
SAMPLE DESCRIPTION: MW-3 National Investments
Rec'd at 4 degrees C

Date/Time Taken: 05/03/2000 14:45 Date Received: 05/05/2000

Parameter		Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS								
Benzene		7.5	ug/L	0.13	0.44	SW 8020	05/09/2000	6271
Ethylbenzene		0.69	ug/L	0.22	0.70	SW 8020	05/09/2000	6271
Methyl-t-butyl ether	M	<0.18	ug/L	0.16	0.53	SW 8020	05/09/2000	6271
Toluene		0.77	ug/L	0.20	0.64	SW 8020	05/09/2000	6271
1,2,4-Trimethylbenzene		13	ug/L	0.22	0.71	SW 8020	05/09/2000	6271
1,3,5-Trimethylbenzene		1.0	ug/L	0.29	0.92	SW 8020	05/09/2000	6271
Xylenes, Total		5.4	ug/L	0.23	0.82	SW 8020	05/09/2000	6271
GRO		330	ug/L	50	50	WDNR	05/09/2000	6271
Surr: Bromofluorobenzene		94.0	%	n/a	n/a	SW 8020	05/09/2000	6271

ANALYTICAL REPORT

Mr. Adam McIlheran
K. SINGH & ASSOCIATES, INC
1135 Legion Drive
Elm Grove, WI 53122

05/11/2000
Job No: 00.03731
Sample No: 394511
Account No: 43125

JOB DESCRIPTION: National Investments
PROJECT DESCRIPTION: Groundwater Analysis
SAMPLE DESCRIPTION: MW-4 National Investments
Rec'd at 4 degrees C

Date/Time Taken: 05/03/2000 16:45 Date Received: 05/05/2000

Parameter		Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS								
Benzene		330	ug/L	0.13	0.44	SW 8020	05/10/2000	6274
Ethylbenzene		2.2	ug/L	0.22	0.70	SW 8020	05/09/2000	6271
Methyl-t-butyl ether	M	<1.1	ug/L	0.16	0.53	SW 8020	05/09/2000	6271
Toluene		2.2	ug/L	0.20	0.64	SW 8020	05/09/2000	6271
1,2,4-Trimethylbenzene		82	ug/L	0.22	0.71	SW 8020	05/09/2000	6271
1,3,5-Trimethylbenzene		18	ug/L	0.29	0.92	SW 8020	05/09/2000	6271
Xylenes, Total		250	ug/L	0.23	0.82	SW 8020	05/09/2000	6271
GRO		980	ug/L	50	50	WDNR	05/09/2000	6271
Surr: Bromofluorobenzene		94.5	%	n/a	n/a	SW 8020	05/09/2000	6271

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Adam McIlheran
K. SINGH & ASSOCIATES, INC
1135 Legion Drive
Elm Grove, WI 53122

05/11/2000
Job No: 00.03731
Sample No: 394512
Account No: 43125

JOB DESCRIPTION: National Investments
PROJECT DESCRIPTION: Groundwater Analysis
SAMPLE DESCRIPTION: MW-5 National Investments
Rec'd at 4 degrees C

Date/Time Taken: 05/03/2000 16:15 Date Received: 05/05/2000

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	3,300	ug/L	0.13	0.44	SW 8020	05/10/2000	6271
Ethylbenzene	74	ug/L	0.22	0.70	SW 8020	05/10/2000	6271
Methyl-t-butyl ether	320	ug/L	0.16	0.53	SW 8020	05/10/2000	6271
Toluene	36	ug/L	0.20	0.64	SW 8020	05/10/2000	6271
1,2,4-Trimethylbenzene	770	ug/L	0.22	0.71	SW 8020	05/10/2000	6271
1,3,5-Trimethylbenzene	180	ug/L	0.29	0.92	SW 8020	05/10/2000	6271
Xylenes, Total	3,100	ug/L	0.23	0.82	SW 8020	05/10/2000	6271
GRO	12,000	ug/L	50	50	WDNR	05/10/2000	6271
Surr: Bromofluorobenzene	95.0	%	n/a	n/a	SW 8020	05/10/2000	6271

ANALYTICAL REPORT

Mr. Adam McIlheran
K. SINGH & ASSOCIATES, INC
1135 Legion Drive
Elm Grove, WI 53122

05/11/2000
Job No: 00.03731
Sample No: 394513
Account No: 43125

JOB DESCRIPTION: National Investments
PROJECT DESCRIPTION: Groundwater Analysis
SAMPLE DESCRIPTION: MW-6 National Investments
Rec'd at 4 degrees C

Date/Time Taken: 05/03/2000 14:15 Date Received: 05/05/2000

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	89	ug/L	0.13	0.44	SW 8020	05/10/2000	6271
Ethylbenzene	1,100	ug/L	0.22	0.70	SW 8020	05/10/2000	6271
Methyl-t-butyl ether	<3.2	ug/L	0.16	0.53	SW 8020	05/10/2000	6271
Toluene	2,200	ug/L	0.20	0.64	SW 8020	05/10/2000	6271
1,2,4-Trimethylbenzene	1,400	ug/L	0.22	0.71	SW 8020	05/10/2000	6271
1,3,5-Trimethylbenzene	360	ug/L	0.29	0.92	SW 8020	05/10/2000	6271
Xylenes, Total	6,400	ug/L	0.23	0.82	SW 8020	05/10/2000	6271
GRO	19,000	ug/L	50	50	WDNR	05/10/2000	6271
Surr: Bromofluorobenzene	91.0	%	n/a	n/a	SW 8020	05/10/2000	6271

ANALYTICAL REPORT

Mr. Adam McIlheran
K. SINGH & ASSOCIATES, INC
1135 Legion Drive
Elm Grove, WI 53122

05/11/2000
Job No: 00.03731
Sample No: 394514
Account No: 43125

JOB DESCRIPTION: National Investments
PROJECT DESCRIPTION: Groundwater Analysis
SAMPLE DESCRIPTION: MW-7 National Investments
Rec'd at 4 degrees C

Date/Time Taken: 05/03/2000 12:45 Date Received: 05/05/2000

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	05/09/2000	6271
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	05/09/2000	6271
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	05/09/2000	6271
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	05/09/2000	6271
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	05/09/2000	6271
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	05/09/2000	6271
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	05/09/2000	6271
GRO	<50	ug/L	50	50	WDNR	05/09/2000	6271
Surr: Bromofluorobenzene	101.5	%	n/a	n/a	SW 8020	05/09/2000	6271

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Adam McIlheran
K. SINGH & ASSOCIATES, INC
1135 Legion Drive
Elm Grove, WI 53122

05/11/2000
Job No: 00.03731
Sample No: 394515
Account No: 43125

JOB DESCRIPTION: National Investments
PROJECT DESCRIPTION: Groundwater Analysis
SAMPLE DESCRIPTION: MW-8 National Investments
Rec'd at 4 degrees C

Date/Time Taken: 05/03/2000 15:45 Date Received: 05/05/2000

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	540	ug/L	0.13	0.44	SW 8020	05/10/2000	6271
Ethylbenzene	370	ug/L	0.22	0.70	SW 8020	05/10/2000	6271
Methyl-t-butyl ether	<3.2	ug/L	0.16	0.53	SW 8020	05/10/2000	6271
Toluene	1,300	ug/L	0.20	0.64	SW 8020	05/10/2000	6271
1,2,4-Trimethylbenzene	530	ug/L	0.22	0.71	SW 8020	05/10/2000	6271
1,3,5-Trimethylbenzene	140	ug/L	0.29	0.92	SW 8020	05/10/2000	6271
Xylenes, Total	3,100	ug/L	0.23	0.82	SW 8020	05/10/2000	6271
GRO	8,500	ug/L	50	50	WDNR	05/10/2000	6271
Surr: Bromofluorobenzene	98.5	%	n/a	n/a	SW 8020	05/10/2000	6271

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Adam McIlheran
K. SINGH & ASSOCIATES, INC
1135 Legion Drive
Elm Grove, WI 53122

05/11/2000
Job No: 00.03731
Sample No: 394516
Account No: 43125

JOB DESCRIPTION: National Investments
PROJECT DESCRIPTION: Groundwater Analysis
SAMPLE DESCRIPTION: MW-9 National Investments
Rec'd at 4 degrees C

Date/Time Taken: 05/03/2000 13:15 Date Received: 05/05/2000

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	0.33	ug/L	0.13	0.44	SW 8020	05/09/2000	6271
Ethylbenzene	0.33	ug/L	0.22	0.70	SW 8020	05/09/2000	6271
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	05/09/2000	6271
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	05/09/2000	6271
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	05/09/2000	6271
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	05/09/2000	6271
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	05/09/2000	6271
GRO	52	ug/L	50	50	WDNR	05/09/2000	6271
Surr: Bromofluorobenzene	103.5	%	n/a	n/a	SW 8020	05/09/2000	6271

ANALYTICAL REPORT

Mr. Adam McIlheran
K. SINGH & ASSOCIATES, INC
1135 Legion Drive
Elm Grove, WI 53122

05/11/2000
Job No: 00.03731
Sample No: 394517
Account No: 43125

JOB DESCRIPTION: National Investments
PROJECT DESCRIPTION: Groundwater Analysis
SAMPLE DESCRIPTION: MW-10 National Investments
Rec'd at 4 degrees C

Date/Time Taken: 05/03/2000 15:15 Date Received: 05/05/2000

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
GRO - AQUEOUS	510	ug/L	50	50	WDNR	05/09/2000	2113
VOC - AQUEOUS - EPA 8260B							
Benzene	75	ug/L	0.10	0.33	SW 8260B	05/10/2000	1908
Bromobenzene	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Bromochloromethane	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Bromodichloromethane	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Bromoform	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Bromomethane	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
n-Butylbenzene	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
sec-Butylbenzene	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
tert-Butylbenzene	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Carbon Tetrachloride	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Chlorobenzene	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Chlorodibromomethane	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Chloroethane	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Chloroform	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Chloromethane	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
2-Chlorotoluene	<0.40	ug/L	0.10	0.33	SW 8260B	05/10/2000	1908
4-Chlorotoluene	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
1,2-Dibromo-3-Chloropropane	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
1,2-Dibromoethane (EDB)	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Dibromomethane	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
1,2-Dichlorobenzene	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
1,3-Dichlorobenzene	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
1,4-Dichlorobenzene	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Dichlorodifluoromethane	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
1,1-Dichloroethane	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
1,2-Dichloroethane	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
1,1-Dichloroethene	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
cis-1,2-Dichloroethene	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
trans-1,2-Dichloroethene	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
1,2-Dichloropropane	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
1,3-Dichloropropane	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
2,2-Dichloropropane	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
1,1-Dichloropropene	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
cis-1,3-Dichloropropene	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
trans-1,3-Dichloropropene	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Di-isopropyl ether	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Ethylbenzene	<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908

ANALYTICAL REPORT

Mr. Adam McIlheran
K. SINGH & ASSOCIATES, INC
1135 Legion Drive
Elm Grove, WI 53122

05/11/2000
Job No: 00.03731
Sample No: 394517
Account No: 43125

JOB DESCRIPTION: National Investments
PROJECT DESCRIPTION: Groundwater Analysis
SAMPLE DESCRIPTION: MW-10 National Investments
Rec'd at 4 degrees C

Date/Time Taken: 05/03/2000 15:15 Date Received: 05/05/2000

Parameter		Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
Hexachlorobutadiene		<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Isopropylbenzene		2.4	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
p-Isopropyltoluene		<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Methylene Chloride	L	2.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Methyl-t-butyl ether		<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Naphthalene		2.5	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
n-Propylbenzene		4.4	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Styrene		<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
1,1,1,2-Tetrachloroethane		<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
1,1,2,2-Tetrachloroethane		<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Tetrachloroethene		190	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Toluene		1.1	ug/L	0.10	0.33	SW 8260B	05/10/2000	1908
1,2,3-Trichlorobenzene		<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
1,2,4-Trichlorobenzene		<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
1,1,1-Trichloroethane		<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
1,1,2-Trichloroethane		<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Trichloroethene		2.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Trichlorofluoromethane		<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
1,2,3-Trichloropropane		<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
1,2,4-Trimethylbenzene		19	ug/L	0.10	0.33	SW 8260B	05/10/2000	1908
1,3,5-Trimethylbenzene		3.0	ug/L	0.10	0.33	SW 8260B	05/10/2000	1908
Vinyl Chloride		<1.0	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Xylenes, Total		69	ug/L	0.25	0.83	SW 8260B	05/10/2000	1908
Surr: Dibromofluoromethane		100.2	%		88-116	SW 8260B	05/10/2000	1908
Surr: Toluene-d8		104.4	%		88-113	SW 8260B	05/10/2000	1908
Surr: Bromofluorobenzene		97.6	%		91-111	SW 8260B	05/10/2000	1908

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Adam McIlheran
K. SINGH & ASSOCIATES, INC
1135 Legion Drive
Elm Grove, WI 53122

05/11/2000
Job No: 00.03731
Sample No: 394518
Account No: 43125

JOB DESCRIPTION: National Investments
PROJECT DESCRIPTION: Groundwater Analysis
SAMPLE DESCRIPTION: MW-11 National Investments
Rec'd at 4 degrees C

Date/Time Taken: 05/03/2000 13:45 Date Received: 05/05/2000

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	05/09/2000	6271
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	05/09/2000	6271
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	05/09/2000	6271
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	05/09/2000	6271
1,2,4-Trimethylbenzene	0.23	ug/L	0.22	0.71	SW 8020	05/09/2000	6271
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	05/09/2000	6271
Xylenes, Total	0.50	ug/L	0.23	0.82	SW 8020	05/09/2000	6271
GRO	<50	ug/L	50	50	WDNR	05/09/2000	6271
Surr: Bromofluorobenzene	100.5	%	n/a	n/a	SW 8020	05/09/2000	6271

ANALYTICAL REPORT

Mr. Adam McIlheran
K. SINGH & ASSOCIATES, INC
1135 Legion Drive
Elm Grove, WI 53122

05/11/2000
Job No: 00.03731
Sample No: 394519
Account No: 43125

JOB DESCRIPTION: National Investments
PROJECT DESCRIPTION: Groundwater Analysis
SAMPLE DESCRIPTION: Field Blank National Investments
Rec'd at 4 degrees C

Date/Time Taken: 05/03/2000 17:00 Date Received: 05/05/2000

Parameter	Results	Units	MDL	LOQ	Method	Date Analyzed	Prep/Run Batch
PVOC - AQUEOUS							
Benzene	<0.13	ug/L	0.13	0.44	SW 8020	05/09/2000	6271
Ethylbenzene	<0.22	ug/L	0.22	0.70	SW 8020	05/09/2000	6271
Methyl-t-butyl ether	<0.16	ug/L	0.16	0.53	SW 8020	05/09/2000	6271
Toluene	<0.20	ug/L	0.20	0.64	SW 8020	05/09/2000	6271
1,2,4-Trimethylbenzene	<0.22	ug/L	0.22	0.71	SW 8020	05/09/2000	6271
1,3,5-Trimethylbenzene	<0.29	ug/L	0.29	0.92	SW 8020	05/09/2000	6271
Xylenes, Total	<0.23	ug/L	0.23	0.82	SW 8020	05/09/2000	6271
GRO	<50	ug/L	50	50	WDNR	05/09/2000	6271
Surr: Bromofluorobenzene	99.5	%	n/a	n/a	SW 8020	05/09/2000	6271

TestAmerica
INCORPORATED

QUALITY CONTROL REPORT

BLANKS

05/11/2000

Mr. Adam McIlheran
K. SINGH & ASSOCIATES, INC
1135 Legion Drive
Elm Grove, WI 53122

Job No: 00.03731
Account No: 43125

Job Description: National Investments

Parameter	Prep Batch	Run Batch	Blank Result	MDL	LOQ	Units
PVOC - AQUEOUS						
Benzene		6271	<0.13	0.13	0.44	ug/L
Ethylbenzene		6271	<0.22	0.22	0.70	ug/L
Methyl-t-butyl ether		6271	<0.16	0.16	0.53	ug/L
Toluene		6271	<0.20	0.20	0.64	ug/L
1,2,4-Trimethylbenzene		6271	<0.22	0.22	0.71	ug/L
1,3,5-Trimethylbenzene		6271	<0.29	0.29	0.92	ug/L
Xylenes, Total		6271	<0.23	0.23	0.82	ug/L
GRO		6271	<50	50	50	ug/L
Surr: Bromofluorobenzene		6271	99.0	n/a	n/a	%
PVOC - AQUEOUS						
Benzene		6274	<0.13	0.13	0.44	ug/L
GRO - AQUEOUS		2113	<50	50	50	ug/L
VOC - AQUEOUS - EPA 8260B						
Benzene		1908	<0.10	0.10	0.33	ug/L
Bromobenzene		1908	<0.25	0.25	0.83	ug/L
Bromochloromethane		1908	<0.25	0.25	0.83	ug/L
Bromodichloromethane		1908	<0.25	0.25	0.83	ug/L
Bromoform		1908	<0.25	0.25	0.83	ug/L
Bromomethane		1908	<0.25	0.25	0.83	ug/L
n-Butylbenzene		1908	<0.25	0.25	0.83	ug/L
sec-Butylbenzene		1908	<0.25	0.25	0.83	ug/L
tert-Butylbenzene		1908	<0.25	0.25	0.83	ug/L
Carbon Tetrachloride		1908	<0.25	0.25	0.83	ug/L
Chlorobenzene		1908	<0.25	0.25	0.83	ug/L
Chlorodibromomethane		1908	<0.25	0.25	0.83	ug/L
Chloroethane		1908	<0.25	0.25	0.83	ug/L
Chloroform		1908	<0.25	0.25	0.83	ug/L
Chloromethane		1908	<0.25	0.25	0.83	ug/L
2-Chlorotoluene		1908	<0.10	0.10	0.33	ug/L
4-Chlorotoluene		1908	<0.25	0.25	0.83	ug/L
1,2-Dibromo-3-Chloropropane		1908	<0.25	0.25	0.83	ug/L
1,2-Dibromoethane (EDB)		1908	<0.25	0.25	0.83	ug/L
Dibromomethane		1908	<0.25	0.25	0.83	ug/L
1,2-Dichlorobenzene		1908	<0.25	0.25	0.83	ug/L
1,3-Dichlorobenzene		1908	<0.25	0.25	0.83	ug/L
1,4-Dichlorobenzene		1908	<0.25	0.25	0.83	ug/L

Method blank results exceed control limits when results are higher than the highest of any of the following: 1 - The limit of detection; 2 - Five percent of the regulatory limit for that analyte; 3 - Five percent of the measured concentration in the sample. NR149.14 (3)d

QUALITY CONTROL REPORT
BLANKS

05/11/2000

Mr. Adam McIlheran
K. SINGH & ASSOCIATES, INC
1135 Legion Drive
Elm Grove, WI 53122

Job No: 00.03731
Account No: 43125

Job Description: National Investments

Parameter	Prep Batch	Run Batch	Blank Result	MDL	LOQ	Units
Dichlorodifluoromethane		1908	<0.25	0.25	0.83	ug/L
1,1-Dichloroethane		1908	<0.25	0.25	0.83	ug/L
1,2-Dichloroethane		1908	<0.25	0.25	0.83	ug/L
1,1-Dichloroethene		1908	<0.25	0.25	0.83	ug/L
cis-1,2-Dichloroethene		1908	<0.25	0.25	0.83	ug/L
trans-1,2-Dichloroethene		1908	<0.25	0.25	0.83	ug/L
1,2-Dichloropropane		1908	<0.25	0.25	0.83	ug/L
1,3-Dichloropropane		1908	<0.25	0.25	0.83	ug/L
2,2-Dichloropropane		1908	<0.25	0.25	0.83	ug/L
1,1-Dichloropropene		1908	<0.25	0.25	0.83	ug/L
cis-1,3-Dichloropropene		1908	<0.25	0.25	0.83	ug/L
trans-1,3-Dichloropropene		1908	<0.25	0.25	0.83	ug/L
Di-isopropyl ether		1908	<0.25	0.25	0.83	ug/L
Ethylbenzene		1908	<0.25	0.25	0.83	ug/L
Hexachlorobutadiene		1908	<0.25	0.25	0.83	ug/L
Isopropylbenzene		1908	<0.25	0.25	0.83	ug/L
p-Isopropyltoluene		1908	<0.25	0.25	0.83	ug/L
Methylene Chloride		1908	<0.25	0.25	0.83	ug/L
Methyl-t-butyl ether		1908	<0.25	0.25	0.83	ug/L
Naphthalene		1908	<0.25	0.25	0.83	ug/L
n-Propylbenzene		1908	<0.25	0.25	0.83	ug/L
Styrene		1908	<0.25	0.25	0.83	ug/L
1,1,1,2-Tetrachloroethane		1908	<0.25	0.25	0.83	ug/L
1,1,2,2-Tetrachloroethane		1908	<0.25	0.25	0.83	ug/L
Tetrachloroethene		1908	<0.25	0.25	0.83	ug/L
Toluene		1908	<0.10	0.10	0.33	ug/L
1,2,3-Trichlorobenzene		1908	<0.25	0.25	0.83	ug/L
1,2,4-Trichlorobenzene		1908	<0.25	0.25	0.83	ug/L
1,1,1-Trichloroethane		1908	<0.25	0.25	0.83	ug/L
1,1,2-Trichloroethane		1908	<0.25	0.25	0.83	ug/L
Trichloroethene		1908	<0.25	0.25	0.83	ug/L
Trichlorofluoromethane		1908	<0.25	0.25	0.83	ug/L
1,2,3-Trichloropropane		1908	<0.25	0.25	0.83	ug/L
1,2,4-Trimethylbenzene		1908	<0.10	0.10	0.33	ug/L
1,3,5-Trimethylbenzene		1908	<0.10	0.10	0.33	ug/L
Vinyl Chloride		1908	<0.25	0.25	0.83	ug/L
Xylenes, Total		1908	<0.25	0.25	0.83	ug/L

Method blank results exceed control limits when results are higher than the highest of any of the following: 1 - The limit of detection; 2 - Five percent of the regulatory limit for that analyte; 3 - Five percent of the measured concentration in the sample. NR149.14 (3)d

TestAmerica
INCORPORATED

QUALITY CONTROL REPORT

BLANKS

05/11/2000

Mr. Adam McIlheran
K. SINGH & ASSOCIATES, INC
1135 Legion Drive
Elm Grove, WI 53122

Job No: 00.03731
Account No: 43125

Job Description: National Investments

Parameter	Prep Batch	Run Batch	Blank Result	MDL	LOQ	Units
Surr: Dibromofluoromethane		1908	98.4		88-116	%
Surr: Toluene-d8		1908	102.0		88-113	%
Surr: Bromofluorobenzene		1908	96.6		91-111	%

Method blank results exceed control limits when results are higher than the highest of any of the following: 1 - The limit of detection; 2 - Five percent of the regulatory limit for that analyte; 3 - Five percent of the measured concentration in the sample. NR149.14 (3)d

APPENDIX K

Results of Mann-Kendall Analyses

Mann-Kendall Analysis Spreadsheet, Wisconsin DNR Remediation and Redevelopment Program

This spreadsheet is used to test for increasing, decreasing or stable trends, based on the Mann-Kendall statistical test. Refer to guidance titled *Interim Guidance on Natural Attenuation for Petroleum Releases* dated October 1999 for more information.
Spreadsheet version 1.0 prepared by George Mickelson, June 9, 1999. Spreadsheet QA/QC check by Resty Pelayo, June and July 1999.

Site Name = Former Clark Oil #118	Shawano	Wisconsin	BRRTS No. =	Well Number = MW-3

Event Number	Sampling Date (most recent last)	Benzene Concentration (leave blank if no data)	Toluene Concentration (leave blank if no data)	Ethylbenzene Concentration (leave blank if no data)	Total Xylenes Concentration (leave blank if no data)	Total TMB Concentration (leave blank if no data)	MTBE Concentration (leave blank if no data)
	Compound						
1	10-Jun-98	300.00	2,700.00	660.00	3,200.00	633.00	10.00
2	3-Nov-98	2,800.00	25.00	180.00	2,600.00	870.00	120.00
3	1-Sep-99	150.00	9.50	100.00	1,600.00	602.00	7.60
4	3-May-00	7.50	0.77	0.69	5.00	13.00	0.18
5	8-Feb-01	120.00	1.00	13.00	260.00	114.00	0.68
6							
7							
8							
	S =	0	0	0	0	0	0
	n =	5	5	5	5	5	5
	Average =	769.375	9.0675	73.4225	1116.25	399.75	32.115
	St. Dev. =	1192.209608	1203.461896	272.1509475	1403.315716	366.3308614	51.77842331
	CV =	1.549581944	132.7225692	3.706642344	1.257169735	0.916399903	1.612281591
Increasing Trend (90% Confidence)		NO	NO	NO	NO	NO	NO
Decreasing Trend (90% Confidence)		NO	NO	NO	NO	NO	NO
Undetermed Trend, CV <=1		NO	NO	NO	NO	YES	NO
Undetermined Trend, CV>1		YES	YES	YES	YES	NO	YES
Increasing Trend (80% Confidence)		NO	NO	NO	NO	NO	NO
Decreasing Trend (80% Confidence)		NO	NO	NO	NO	NO	NO
Undetermined Stable Trend, CV<=1		NO	NO	NO	NO	YES	NO
Undetermined Non-Stable Trend, CV>1		YES	YES	YES	YES	NO	YES
Error Check, OK if Blank							
Stable or Decreasing Trend at 80% Confidence Level		**NO**	**NO**	**NO**	**NO**	YES	**NO**

Data Entry By = K.A.S.	Date = 5-Mar-01	Checked By =

Mann-Kendall Analysis Spreadsheet, Wisconsin DNR Remediation and Redevelopment Program

This spreadsheet is used to test for increasing, decreasing or stable trends, based on the Mann-Kendall statistical test. Refer to guidance titled *Interim Guidance on Natural Attenuation for Petroleum Releases* dated October 1999 for more information.
Spreadsheet version 1.0 prepared by George Mickelson, June 9, 1999. Spreadsheet QA/QC check by Resty Pelayo, June and July 1999.

Site Name =	Former Clark Oil #118	Shawano	Wisconsin	BRRTS No. =		Well Number =	MW-4

	Compound	Benzene Concentration (leave blank if no data)	Toluene Concentration (leave blank if no data)	Ethylbenzene Concentration (leave blank if no data)	Total Xylenes Concentration (leave blank if no data)	Total TMB Concentration (leave blank if no data)	MTBE Concentration (leave blank if no data)
Event Number	Sampling Date (most recent last)						
1	10-Jun-98	1,900.00	41.00	180.00	2,300.00	740.00	70.00
2	3-Nov-98	6,600.00	78.00	120.00	3,900.00	1,230.00	300.00
3	1-Sep-99	2,800.00	44.00	63.00	1,600.00	89.00	140.00
4	3-May-00	330.00	2.20	2.20	5.00	100.00	1.10
5	8-Feb-01	3,100.00	21.00	41.00	1,800.00	430.00	77.00
6							
7							
8							
	S =	0	0	0	0	0	0
	n =	5	5	5	5	5	5
	Average =	3207.5	36.3	56.55	1826.25	462.25	129.525
	St. Dev. =	2309.454481	28.34057162	69.7408632	1400.787279	480.2959504	113.2010247
	CV =	0.720016986	0.780732001	1.23326018	0.767029311	1.039039374	0.873970467
Increasing Trend (90% Confidence)		NO	NO	NO	NO	NO	NO
Decreasing Trend (90% Confidence)		NO	NO	NO	NO	NO	NO
Undetermed Trend, CV <=1		YES	YES	NO	YES	NO	YES
Undetermined Trend, CV>1		NO	NO	YES	NO	YES	NO
Increasing Trend (80% Confidence)		NO	NO	NO	NO	NO	NO
Decreasing Trend (80% Confidence)		NO	NO	NO	NO	NO	NO
Undetermined Stable Trend, CV<=1		YES	YES	NO	YES	NO	YES
Undetermined Non-Stable Trend, CV>1		NO	NO	YES	NO	YES	NO
Error Check, OK if Blank							
Stable or Decreasing Trend at 80% Confidence Level		YES	YES	**NO**	YES	**NO**	YES

Data Entry By =	K.A.S.	Date =	5-Mar-01	Checked By =	

Mann-Kendall Analysis Spreadsheet, Wisconsin DNR Remediation and Redevelopment Program

This spreadsheet is used to test for increasing, decreasing or stable trends, based on the Mann-Kendall statistical test. Refer to guidance titled *Interim Guidance on Natural Attenuation for Petroleum Releases* dated October 1999 for more information.
Spreadsheet version 1.0 prepared by George Mickelson, June 9, 1999. Spreadsheet QA/QC check by Resty Pelayo, June and July 1999.

Site Name = Former Clark Oil #118	Shawano	Wisconsin	BRRTS No. =	Well Number = MW-5

Event Number	Sampling Date (most recent last)	Compound: Benzene Concentration (leave blank if no data)	Toluene Concentration (leave blank if no data)	Ethylbenzene Concentration (leave blank if no data)	Total Xylenes Concentration (leave blank if no data)	Total TMB Concentration (leave blank if no data)	MTBE Concentration (leave blank if no data)
1	10-Jun-98	810.00	25.00	230.00	1,300.00	420.00	330.00
2	3-Nov-98	10,000.00	140.00	1,200.00	8,200.00	2,720.00	8,600.00
3	1-Sep-99	550.00	9.20	98.00	780.00	21.00	180.00
4	3-May-00	3,300.00	36.00	74.00	3,100.00	950.00	320.00
5	8-Feb-01	2,300.00	33.00	140.00	2,600.00	640.00	510.00
6							
7							
8							
	S =	0	0	0	0	0	0
	n =	5	5	5	5	5	5
	Average =	4037.5	54.55	378	3670	1082.75	2402.5
	St. Dev. =	3860.384696	52.11859553	479.7570218	2951.115044	1045.578883	3698.076527
	CV =	0.956132432	0.955427966	1.26919847	0.80411854	0.965669714	1.539261822
Increasing Trend (90% Confidence)		NO	NO	NO	NO	NO	NO
Decreasing Trend (90% Confidence)		NO	NO	NO	NO	NO	NO
Undetermed Trend, CV <=1		YES	YES	NO	YES	YES	NO
Undetermined Trend, CV>1		NO	NO	YES	NO	NO	YES
Increasing Trend (80% Confidence)		NO	NO	NO	NO	NO	NO
Decreasing Trend (80% Confidence)		NO	NO	NO	NO	NO	NO
Undetermined Stable Trend, CV<=1		YES	YES	NO	YES	YES	NO
Undetermined Non-Stable Trend, CV>1		NO	NO	YES	NO	NO	YES
Error Check, OK if Blank							
Stable or Decreasing Trend at 80% Confidence Level		YES	YES	**NO**	YES	YES	**NO**

Data Entry By = K.A.S.	Date = 5-Mar-01	Checked By =

Mann-Kendall Analysis Spreadsheet, Wisconsin DNR Remediation and Redevelopment Program

This spreadsheet is used to test for increasing, decreasing or stable trends, based on the Mann-Kendall statistical test. Refer to guidance titled *Interim Guidance on Natural Attenuation for Petroleum Releases* dated October 1999 for more information.
Spreadsheet version 1.0 prepared by George Mickelson, June 9, 1999. Spreadsheet QA/QC check by Resty Pelayo, June and July 1999.

Site Name = Former Clark Oil #118	Shawano	Wisconsin	BRRTS No. =	Well Number = MW-6

	Compound	Benzene Concentration (leave blank if no data)	Toluene Concentration (leave blank if no data)	Ethylbenzene Concentration (leave blank if no data)	Total Xylenes Concentration (leave blank if no data)	Total TMB Concentration (leave blank if no data)	MTBE Concentration (leave blank if no data)
Event Number	Sampling Date (most recent last)						
1	10-Jun-98	30.00	2,700.00	920.00	5,300.00	1,330.00	10.00
2	3-Nov-98	94.00	440.00	530.00	2,300.00	660.00	19.00
3	1-Sep-99	39.00	1,000.00	1,100.00	4,800.00	1,260.00	6.30
4	3-May-00	89.00	2,200.00	1,100.00	6,400.00	1,760.00	3.20
5	8-Feb-01	19.00	110.00	470.00	2,000.00	940.00	110.00
6							
7							
8							
	S =	0	0	0	0	0	0
	n =	5	5	5	5	5	5
	Average =	60.25	937.5	800	3875	1155	34.625
	St. Dev. =	34.82384241	1119.732111	305.4995908	1926.914632	416.1730409	45.27825085
	CV =	0.577989086	1.194380918	0.381874489	0.497268292	0.360322979	1.307675115
Increasing Trend (90% Confidence)		NO	NO	NO	NO	NO	NO
Decreasing Trend (90% Confidence)		NO	NO	NO	NO	NO	NO
Undetermed Trend, CV <=1		YES	NO	YES	YES	YES	NO
Undetermined Trend, CV>1		NO	YES	NO	NO	NO	YES
Increasing Trend (80% Confidence)		NO	NO	NO	NO	NO	NO
Decreasing Trend (80% Confidence)		NO	NO	NO	NO	NO	NO
Undetermined Stable Trend, CV<=1		YES	NO	YES	YES	YES	NO
Undetermined Non-Stable Trend, CV>1		NO	YES	NO	NO	NO	YES
Error Check, OK if Blank							
Stable or Decreasing Trend at 80% Confidence Level		YES	**NO**	YES	YES	YES	**NO**

Data Entry By = K.A.S.	Date = 5-Mar-01	Checked By =

Mann-Kendall Analysis Spreadsheet, Wisconsin DNR Remediation and Redevelopment Program

This spreadsheet is used to test for increasing, decreasing or stable trends, based on the Mann-Kendall statistical test. Refer to guidance titled *Interim Guidance on Natural Attenuation for Petroleum Releases* dated October 1999 for more information.
Spreadsheet version 1.0 prepared by George Mickelson, June 9, 1999. Spreadsheet QA/QC check by Resty Pelayo, June and July 1999.

Site Name = Former Clark Oil #118	Shawano	Wisconsin	BRRTS No. =	Well Number = MW-8

	Compound	Benzene Concentration (leave blank if no data)	Toluene Concentration (leave blank if no data)	Ethylbenzene Concentration (leave blank if no data)	Total Xylenes Concentration (leave blank if no data)	Total TMB Concentration (leave blank if no data)	MTBE Concentration (leave blank if no data)
Event Number	Sampling Date (most recent last)						
1	10-Jun-98	1,200.00	5,300.00	520.00	4,400.00	1,050.00	10.00
2	3-Nov-98	2,200.00	8,800.00	930.00	9,100.00	2,200.00	360.00
3	1-Sep-99	490.00	1,900.00	160.00	3,200.00	59.80	11.00
4	3-May-00	540.00	1,300.00	370.00	3,100.00	670.00	10.00
5	8-Feb-01	200.00	350.00	190.00	2,800.00	1,310.00	2.60
6							
7							
8							
	S =	0	0	0	0	0	0
	n =	5	5	5	5	5	5
	Average =	857.5	3087.5	412.5	4550	1059.95	95.9
	St. Dev. =	800.6747155	3487.405913	313.0974289	2631.919452	792.8870083	157.2764827
	CV =	0.933731447	1.129524182	0.75902407	0.578443836	0.748041897	1.640005033
Increasing Trend (90% Confidence)		NO	NO	NO	NO	NO	NO
Decreasing Trend (90% Confidence)		NO	NO	NO	NO	NO	NO
Undetermed Trend, CV <=1		YES	NO	YES	YES	YES	NO
Undetermined Trend, CV>1		NO	YES	NO	NO	NO	YES
Increasing Trend (80% Confidence)		NO	NO	NO	NO	NO	NO
Decreasing Trend (80% Confidence)		NO	NO	NO	NO	NO	NO
Undetermined Stable Trend, CV<=1		YES	NO	YES	YES	YES	NO
Undetermined Non-Stable Trend, CV>1		NO	YES	NO	NO	NO	YES
Error Check, OK if Blank							
Stable or Decreasing Trend at 80% Confidence Level		YES	**NO**	YES	YES	YES	**NO**

Data Entry By = K.A.S.	Date = 5-Mar-01	Checked By =

Mann-Kendall Analysis Spreadsheet, Wisconsin DNR Remediation and Redevelopment Program

This spreadsheet is used to test for increasing, decreasing or stable trends, based on the Mann-Kendall statistical test. Refer to guidance titled *Interim Guidance on Natural Attenuation for Petroleum Releases* dated October 1999 for more information.
Spreadsheet version 1.0 prepared by George Mickelson, June 9, 1999. Spreadsheet QA/QC check by Resty Pelayo, June and July 1999.

Site Name = Former Clark Oil #118	Shawano	Wisconsin	BRRTS No. =	Well Number = MW-10

Event Number	Sampling Date (most recent last)	Benzene Concentration (leave blank if no data)	Toluene Concentration (leave blank if no data)	Ethylbenzene Concentration (leave blank if no data)	Total Xylenes Concentration (leave blank if no data)	Total TMB Concentration (leave blank if no data)	MTBE Concentration (leave blank if no data)
	Compound						
1	10-Jun-98	520.00	0.50	1.00	0.50	1.00	73.00
2	3-Nov-98	1,400.00	21.00	68.00	550.00	210.00	210.00
3	1-Sep-99	410.00	4.30	3.00	0.50	1.50	67.00
4	3-May-00	75.00	1.10	1.00	69.00	22.00	1.00
5	8-Feb-01	710.00	5.50	6.40	730.00	218.00	41.00
6							
7							
8							
	S =	0	0	0	0	0	0
	n =	5	5	5	5	5	5
	Average =	648.75	7.975	19.6	337.375	112.875	79.75
	St. Dev. =	491.828222	8.385225101	29.21937713	344.8410866	113.0928822	78.84668668
	CV =	0.75811672	1.051438884	1.490784548	1.022129934	1.001930296	0.988673187
Increasing Trend (90% Confidence)		NO	NO	NO	NO	NO	NO
Decreasing Trend (90% Confidence)		NO	NO	NO	NO	NO	NO
Undetermed Trend, CV <=1		YES	NO	NO	NO	NO	YES
Undetermined Trend, CV>1		NO	YES	YES	YES	YES	NO
Increasing Trend (80% Confidence)		NO	NO	NO	NO	NO	NO
Decreasing Trend (80% Confidence)		NO	NO	NO	NO	NO	NO
Undetermined Stable Trend, CV<=1		YES	NO	NO	NO	NO	YES
Undetermined Non-Stable Trend, CV>1		NO	YES	YES	YES	YES	NO
Error Check, OK if Blank							
Stable or Decreasing Trend at 80% Confidence Level		YES	**NO**	**NO**	**NO**	**NO**	YES

Data Entry By = K.A.S.	Date = 5-Mar-01	Checked By =