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LETTER OF TRANSMITTAL

TO: **David Brownlee**
Unit Coordinator – Response and Remediation Program
Georgia Environmental Protection Division
2 Martin Luther King, Jr. Drive, S.E.
East Tower, Suite 1052
Atlanta, Georgia 30334

DATE: **12/18/2014**

RE: **Roper Pump Company**
Voluntary Remediation Program Application

WE ARE SENDING YOU: **X** Attached ___ Under separate cover via _____ the following items:

___ Letter ___ Drawings ___ Report ___ Specifications ___ Certificate of Analysis

___ Other _____

NO.	DESCRIPTION
1	One hardbound VRP Application
2	One compact disks of the VRP Application

THESEARE TRANSMITTED AS:

_____ As requested _____ Final issue _____

_____ For your use _____ Returned for corrections _____

_____ For review and comment _____ For bids due: _____

REMARKS: _____

CC: _____

SIGNED BY: **Justin Vickery**

TITLE: Associate

Prepared for:

ROPER PUMP COMPANY
3475 Old Maysville Road
Commerce, GA 30529

VOLUNTARY REMEDIATION PROGRAM APPLICATION
Roper Pump Company
Commerce, Georgia

Prepared by:

1050 Crown Pointe Parkway, Suite 550
Atlanta, Georgia 30338
Tel: 404-315-9113

December 2014

VOLUNTARY REMEDIATION PROGRAM APPLICATION

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EPS

VOLUNTARY REMEDIATION PROGRAM APPLICAITON
ROPER PUMP COMPANY
COMMERCE, GEORGIA

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APPENDICES

1 INTRODUCTION

1.1 Background

This Voluntary Investigation and Remediation Plan (VIRP) is being submitted on behalf of Roper Pump Company (Roper) regarding Roper's facility located at 3475 Old Maysville Road in Commerce, Georgia (Site). The purpose of this document is to support application for enrollment into the Voluntary Remediation Program (VRP) by presenting a current understanding of conditions at the Property, based on existing environmental data and a preliminary Conceptual Site Model (CSM), and potential remedial options for the Site. A completed VRP Application Form and Checklist is included in Appendix A. Tax map and warranty deed information for the Roper property are included in Appendix B.

1.2 Release Notification

In May 2009 during construction activities associated with a facility expansion, soils and groundwater adjacent to an abandoned storm sewer line were found to have elevated concentrations of volatile organic compounds (VOCs), primarily tetrachloroethene (PCE). Accordingly, a Release Notification was submitted to the Georgia Environmental Protection Division (EPD) pursuant to the Hazardous Site Response Act (HSRA) on July 13, 2009. On November 23, 2009, EPD informed Roper that the Site was listed on the Georgia Hazardous Site Inventory (HSI), HSI #10901. The *Report of Site Characterization and Remedial Action* (EPS, 2014a) was submitted to the EPD in response to the listing. In a letter dated August 22, 2014, the EPD requested that Roper submit either a Voluntary Remediation Program (VRP) Application or a Compliance Status Report by December 31, 2014.

1.3 Property Eligibility

The Site meets the eligibility criteria for the VRP. A release of regulated substances on the Site has been confirmed. The Site is not listed on the National Priorities List, is not currently undergoing response activities required by an order of the Regional Administrator of the United States Environmental Protection Agency (EPA), and is not required to have a permit under Code Section 12-8-66. Qualifying the Site under this VRP would not violate the terms and conditions under which the division operates and administers remedial programs by delegation or by similar authorization from the EPA. There are no, and never have been any, outstanding liens filed against the Roper property pursuant to Code Sections 12-8-96 and 12-13-12.

1.4 Participant Eligibility

Roper is both the owner of the property and the VRP applicant. Furthermore, Roper is not in violation of any order, judgment, statute, rule, or regulation subject to the enforcement authority of the Director of the EPD.

1.5 Document Organization

This document is organized into three sections, following this introduction:

- Section 2.0 presents an overview of the Site including the Site setting, the regulated constituents detected at the Site, and corrective action performed to date at the Site;
- Section 3.0 presents the CSM;
- Section 4.0 presents preliminary remedial options for the Site;
- Section 5.0 presents a milestone schedule; and
- Section 6.0 provides document references.

2 SITE OVERVIEW

2.1 Site Setting

2.1.1 Site Location and Local Area Setting

The Site is situated on a 9.35-acre parcel (Jackson County Parcel ID 034-032), which is improved with one main building referred to as the Gear Pump building. A Site Location Map is included as Figure 1 (all figures are included in Appendix C). This parcel is covered with concrete/asphalt with the exception of a grassed area to the northeast of the main building, grassed islands in the northern parking lot, and a grassed area around the water holding tank as shown on the Site Plan included as Figure 2.

The Gear Pump Building (720,000 sq.-ft.) includes manufacturing, maintenance, and administration operations. Gear pumps are used in a variety of industries primarily to transfer petroleum products (e.g., from tankers or railcars to storage tanks). Unloading of raw materials is conducted mainly on the west side of the Gear Pump Building at loading/unloading bays. Operations include the use of a self-contained cold cleaning machine.

2.1.2 Local Area Setting

Figure 1 shows the Site in the context of the local area setting. The immediate surrounding land use is primarily industrial with the adjacent property to the northwest being residential. Land use further to the north, west, and south is mostly agricultural. Land use to the east is industrial, changing to residential with decreasing distance to downtown Commerce, Georgia, which is approximately 1.5 miles east of the Site.

2.2 Regulated Constituents of Interest and Delineation Criteria

A significant amount of soil, groundwater and sub-slab soil gas data have been collected from the Site since 2009. (Appendix F provides a complete summary of sampling results to date and set of drawings depicting sample location identification.) This historical data was used to determine the list of regulated constituents of interest (COI) at the Site and the corresponding delineation criteria.

Twenty-three constituents regulated under Georgia's HSRA program have been detected in soil, groundwater, or sub-slab soil gas at the Site. Delineation criteria for soil and groundwater are based on Risk Reduction Standards (RRSs). Type 1 and Type 2 RRSs are based on a residential scenario and Type 3 and Type 4 RRSs are based on a non-residential scenario. A memo summarizing the RRS calculations was submitted to the EPD on October 31, 2014 (EPS, 2014b). The EPD has not yet commented on the RRS calculations submitted by EPS for this Site on behalf of Roper.

According to the HSRA Rules, delineation of soil is to higher of the Type 1 or Type 2 RRSs (referred to herein as the Residential RRS) and delineation of groundwater is to Table 1 of Appendix III of the HSRA Rules, which is also the Type 1 RRS. Accordingly, the delineation criteria for soil for this Site are the Residential RRSs as shown on Table 1 (all tables are provided in Appendix D) and the delineation criteria for groundwater is the Type 1 RRS as shown on Table 2. These tables also show some basic statistical information about each constituent, such as the minimum, maximum, and average concentrations observed at the Site. These tables also show how many of the results exceeded the delineation criteria. The COI for soil and groundwater are those constituents that have more than one result that exceeds the delineation criteria and have greater than 1% of results exceeding the criteria. Of the twenty regulated constituents detected in soil, only two are COIs: PCE and TCE. Of the eleven regulated constituents detected in groundwater, only five are COIs: 1,1,2,2-tetrachloroethane (1122-TCA), benzene, cis-1,2-dichloroethene (cDCE), PCE, and TCE.

Delineation is not required under HSRA or the VRP for sub-slab soil gas. In order to determine the COI in soil gas for the Site, the sub-slab soil gas data was compared to the EPA's Regional Screening Levels (RSLs) for residential air and industrial air (EPA, 2014). This comparison is shown on Table 3. The EPA's Vapor Intrusion Screening Level calculator assumes that indoor air concentrations are one tenth of the sub-slab concentrations. Accordingly, the sub-slab soil gas results are compared to ten times the Residential RSL. Of the ten regulated constituents detected in the sub-slab soil gas, five have more than 1% exceedances of the adjusted Residential RSL: benzene, chloroform, o-xylene, PCE, and TCE.

In summary, the COI at the Site are as follows:

	Soil COI	**Groundwater COI**	**Soil Gas COI**
1,1,2,2-Tetrachloroethane		X	
Benzene		X	X
Chloroform			X
cis-1,2-Dichloroethene		X	
o-Xylene			X
Tetrachloroethene	X	X	X
Trichloroethene	X	X	X

2.3 Corrective Actions Performed To Date

2.3.1 Soil Removal

2.3.1.1 May 2009 Soil Excavation

The historical release at the Site was discovered during construction activities in the Spring of 2009, when grading and area west of the building complex. Surficial soil samples taken across the

footprint of the graded area exhibited elevated concentrations of VOCs, primarily PCE, leading to the removal of approximately 1 feet (ft.) of soil across an area covering approximately 2,240 square feet (Figure 3). This activity also unearthed an abandoned storm sewer pipe segment at the southwest corner of the excavation area, where more significant staining and odor were observed. Also during excavation for the loading dock ramp, the active storm sewer was unearthed and a decision was made to excavate and replace a long segment of this line, in part because of excessive sediment buildup in the pipeline. Some staining was observed during this excavation and when encountered, the area was over-excavated to remove visibly stained soil and then soil samples were collected systematically along the base of the excavation (Figure 3).

2.3.1.2 Outfall 2 Soil Excavation

On April 19, 2010, all stained soil and sediment, approximately 30 cubic yards, was excavated from the outfalls area (Figure 3). The excavation extended to a depth of 4 feet below grade. In addition, 2 inches of surficial soil were scraped from an overflow area northwest of the outfall.

On April 20, 2010, confirmation samples (OU-1 through OU-6) were collected from the excavation bottom and sidewalls and analyzed for RCRA metals to determine whether the impacted soils had been removed. RCRA metals were not detected above the Type 1 RRSs from samples OU-1 through OU-5 collected within the outfall. Lead was detected above its Type 1 RRS in OU-6, which was collected from the scrape area. Outfall 2 was then backfilled with gravel.

Since lead was detected above its Type 1 RRS in the scrape area, on April 23, 2010, an additional 2 inches of soil (1 cubic yard) were scraped from the area. Additional confirmation samples (OU-7 through OU-9) were collected on April 23, 2010 for RCRA metals analysis, and arsenic, chromium, and lead were detected above the Type 1 RRSs.

On April 27, 2010, 1 cubic yard of additional soil was scraped from this area. Additional confirmation samples (OU-10 and OU-11) were collected for RCRA metals analysis, and all of the results were all below the Type 1 RRSs.

2.3.2 Soil Vapor Extraction

2.3.2.1 Soil Vapor Extraction System Installation

A significant portion of the PCE contaminated soils was within the footprint of the planned building expansion and loading dock ramp. In order to proceed with the construction activities, Roper elected to voluntarily install a soil vapor extraction (SVE) system to remediate the PCE contaminated soils. The SVE system layout is shown on Figure 4. The work was conducted in three phases as described below.

Phase I

Phase I of the SVE system installation was conducted in June - August 2009 and included the installation of 70, two-inch SVE wells and associated piping (Lines A through L) in the footprint of the planned expansion and loading dock ramp. All of the SVE wells were installed to an approximate depth of 19 ft. below original grade, and the screen interval extended to approximately

3 ft. below the final grade. One horizontal SVE well (Line G) was installed on top of the abandoned sewer line at a depth of 1 ft. The entire length of the horizontal SVE well was screened.

A series of 7 horizontal passive vent lines were installed beneath the planned building footprint to allow "make-up" air to enter the subsurface. The vent lines were connected to passive intakes near the building roof line.

Phase II

Phase II of the SVE system installation was conducted in April 2010 after soil assessment activities were completed in the area. Phase II included the installation of 49 SVE wells and the associated piping (Lines M through S), in the area to the west of the new building and loading dock ramp. These SVE wells were screened from 5 feet to 17.5 ft. below grade.

Phase III

Phase III of the SVE system installation included the SVE equipment design and installation. A 24-hour pilot test was conducted on May 24, 2010 to collect air flow rate and VOC concentration data from the SVE wells. In October 2010, EPS installed a turnkey system, including a manifold, extraction blower, and knockout tank. The blower discharge was connected to two 2,000-lb activated carbon-containing vessels for off-gas treatment.

2.3.2.2 SVE Operation

The complete SVE system began operation in October 2010 and the system has been operating ever since, with the exception of minor maintenance and shutdowns for carbon change-out. As of September 2013, approximately 8,300 lbs. of VOCs (PCE and minor amounts of moisture) have been removed from the soils as shown in the following table.

Spent Carbon Shipment Date	Initial Weight of Fresh Carbon (lbs.)	Final Weight of Spent Carbon (lbs.)	PCE/Moisture Weight (lbs.)
16-Sep-13	4,000	5,418	1,418
19-Sep-12	4,000	5,734	1,734
01-Mar-12	4,000	5,930	1,930
29-Jul-11	4,000	5,407	1,407
20-Jan-11	4,000	5,870	1,870
		Total	**8,359**

2.3.3 Vapor Barrier Installation

Following the installation of the SVE wells, a 60 mil HDPE vapor barrier was installed beneath the office portion of the building expansion. Three of the SVE vent lines were installed beneath the vapor barrier to allow for venting of VOCs beneath the vapor barrier. As an added precaution, a 6 mil HDPE liner was installed beneath the remainder of the building expansion footprint, even though this area was designed to continuously leave the loading dock bay doors open.

3 PRELIMINARY CSM

3.1 Overview

The CSM is intended to establish a common knowledge base about the Site and its environmental condition, to facilitate the development of remedial action objectives, and to allow an informed decision regarding possible remedial action measures. The CSM discusses: (i) the surface and subsurface features at the Site, (ii) nature and extent of the environmental condition, (iii) fate and transport characteristics of chemicals of concern at the Site, and (iv) potential receptors and exposure pathways.

3.2 Ground Surface Features

3.2.1 Regional Surface Features

The Site is located in Jackson County, which falls in the Winder Slope District of the Piedmont Physiographic Province (Piedmont Province) in Georgia. The Winder Slope District is characterized by gently rolling topography sloping gradually from an elevation of approximately 1000 ft. above mean sea level (amsl) in the north to 700 ft. amsl in the south. The western boundary of the district follows the drainage divide that separates streams draining to the Atlantic Ocean or to the Gulf of Mexico. Headwater tributaries of major streams draining to the Atlantic Ocean flow through the district. Granitic mountains are located on the interfluves in the southern and western portion of the district.

3.2.2 Site Surface Features

The Site sits on a topographic ridge and is generally flat (slopes ranging from 2 to 6 percent according to National Resources Conservation Service's (NRCS) web Soil Survey), with topography sloping downwards to the east and west. A United States Geological Survey (USGS) Light Detection and Ranging (LIDAR) topographic map is included in Figure 5. The local area-high elevation is 920 ft. amsl north of Old Maysville Road. Elevation decreases to approximately 906 ft. amsl across Old Maysville Road. The Roper manufacturing plant is southwest of Old Maysville Road and is approximately 900 ft. amsl. The southwestern boundary of the Site is approximately 894 ft. amsl.

The majority of the Site is covered by impermeable surfaces (paved parking lot and buildings) with the exception of a grassed areas to the northeast of the main building, in the northern parking lot, and around the water holding tank. Storm water is directed to two outfalls, Outfall 1 and Outfall 2, located across the railroad tracks at the southwestern boundary via two storm water ditches and an underground storm water system. The outfalls converge into a drainage ditch, which eventually flows to a storm water channel located west of the Site. The channel becomes an intermittent

stream approximately 1.5 to 2 miles west of the Site, which flows into Gravelly Creek and eventually into the North Oconee River.

3.3 Site Subsurface Composition

3.3.1 Site Geologic and Hydrogeologic Setting

Soils in the Piedmont, such as at the Site, are derived from underlying metamorphic rocks through weathering, disintegration, and decay where the predominant metamorphic rocks are gneisses and schists. According to the NRSC Soil Survey available via the internet, the Site contains predominantly Cecil sandy loam derived primarily from fine to coarse grained gneisses followed by hornblende and tale schists.

Soil borings advanced across the Site provide additional information regarding the Site's subsurface composition; boring logs generated from soil borings conducted from May 2009 to November 2014 are presented in Appendix E. The investigations from the May 2009 soil delineation revealed that residuum beneath the area in and around the abandoned storm sewer line is characterized by a predominantly clay soil texture with traces of sand, silt, and/or mica to approximately 16 to 24 ft. below ground surface (bgs). A few of the May 2009 boring logs revealed partially weathered rock (PWR), some with traces of coarse grain sand and/or clay, from approximately 16 to 20 ft. bgs. The investigations from the April 2010 soil delineation revealed that residuum beneath the surface in the area west of the abandoned storm sewer line is characterized by predominantly clay soil texture to 17 ft. bgs. Borings advanced during the February 2014 and November 2014 monitoring well installations revealed the following: (i) residuum beneath the asphalt surrounding the main facility is predominantly characterized by clayey silty sand to approximately 15 ft. bgs followed by silty sand to 25 ft. bgs; (ii) residuum beneath the asphalt at the center of the alley located north of the main facility is characterized by clay to approximately 35 ft. bgs followed by PWR and eventually bedrock at 70 ft. bgs; and (iii) residuum beneath the asphalt at the eastern end of the alley is predominantly characterized by silty sand to approximately 25 ft. bgs.

The November 2014 monitoring well installations also provided information regarding the subsurface composition of the properties east of the Site along Old Maysville Road. To the northeast, the subsurface is characterized by clay to approximately 16 ft. bgs followed by PWR to 35 ft. bgs. To the southeast, the subsurface is characterized by clay to approximately 40 ft. bgs (PWR was not yet encountered).

To date, no investigation has produced data to characterize the bedrock at the Site. The Piedmont Province typically consists of crystalline bedrock with discontinuous fractures containing water, which are hydraulically connected to saprolite (weathered bedrock and soil or residuum) above. The degree of fracturing and size of the fracture apertures (openings) tends to decrease with depth.

Hydrogeological cross sections are presented on Figure 6A (plan view showing cross section lines) and Figures 6B and 6C (west-east and north-south cross sections, respectively). Monitoring well installation details (i.e., screened intervals) and COI detections are also shown on the cross sections.

Groundwater in the Piedmont Province occurs under unconfined conditions where the potentiometric surface mimics the ground surface topography. Along topographically low areas, the water table typically occurs within the soil to saprolite portions of the hydrogeological profile. Along topographically high areas, the water table often occurs in underlying crystalline bedrock. The saprolite portion of the hydrogeological system generally contains significantly more fluid compared to the same volume of bedrock. The crystalline bedrock exhibits essentially no primary porosity/permeability and relies upon secondary permeability features such as fractures and faults for the transmission and storage of groundwater. These secondary permeability features generally are not abundant and of a relatively small apertures, which limits the amount of fluid flowing through the bedrock.

3.3.2 Groundwater Direction and Flow Velocity

The depth to the water table and groundwater flow direction at the Site was determined in four separate investigations. During the first three events, wells were surveyed relative to a site vertical datum (100 ft.), groundwater depths were measured, and a potentiometric surface map was generated. The first potentiometric surface map was generated during the installation of temporary and direct point wells in May 2009. Depth to groundwater ranged from 18.04 ft. (B-11) to 22.7 ft. (SB-9) bgs. The groundwater flow direction was to the east. Subsequent measurements of depth to water show a similar pattern to the groundwater flow (to the east), with similar depth to water measurements suggesting minimal fluctuation of the water table. Figure 7 is a potentiometric surface map generated from the most recent (November 2014) water level measurements, showing true elevation of the potentiometric surface (according to the North American Vertical Datum (NAVD) of 1988). The groundwater flow direction is to the east/southeast with a hydraulic gradient of approximately 0.015 ft./ft.

In April 2014, EPS performed slug testing on wells MW-1, MW-2, MW-5, and MW-6 to determine the hydraulic conductivity of the Site's aquifer material. MW-3 and MW-4 did not have sufficient water to perform the tests. The data was analyzed using the Bouwer and Rice graphical method (Bouwer, 1988). The calculated hydraulic conductivities were as follows: 1.3×10^{-4} cm/s (MW-1); 1.5×10^{-4} (MW-2); 3.3×10^{-5} (MW-5); and 2.1×10^{-4} cm/s (MW-6). These values are typical of Piedmont residuum.

Groundwater velocity at the Site was calculated using the range of hydraulic conductivity from the slug test results (2.1×10^{-4} cm/s to 1.5×10^{-4}) and the average hydraulic gradient (0.015 ft./ft.). Effective porosity was assumed to be 20%. Groundwater velocity is calculated to range from 2.5 to 16 ft./year.

3.4 Environmental Conditions On- and Off-Site

3.4.1 Overview

As requested in the General comments (general comment #3) in EPD's letter dated August 22, 2014, EPS has compiled all available environmental data records pertaining to the Site. The primary focuses of the investigations to date have been the characterization of groundwater for

VOCs and on-Site soil for metals and VOCs. A summary of all groundwater and soil data is provided in Appendix F. The discussion that follows below is limited to the COI for each media type (soil; groundwater; soil gas).

3.4.2 Nature and Extent of Environmental Conditions

3.4.2.1 Constituents of Interest for the Site

PCE and TCE have been determined to be COI in soils. Each of these COI are depicted on a series of figures according to the following depth intervals across the Site: (i) 0 to 2 ft. bgs; (ii) 2 to 5 ft. bgs; (iii) 5 to 10 ft. bgs; (iv) 10 to 15 ft. bgs; and (v) 15-20 ft. bgs. Soil sampling results for PCE and TCE in soils at the facility proper are presented in Table 4.

PCE, TCE, cDCE, 1122-TCA, 112-TCA, and benzene have been determined to be COI in groundwater. Groundwater sampling results from the May 2009, February 2014, and November 2014 investigations for the groundwater COI are presented in Table 5.

PCE, TCE, benzene, chloroform, and o-xylene have been determined to be COI for sub-slab soil vapor. Sub-slab soil vapor sampling results for these COI are presented in Table 6.

3.4.2.2 Area of Release for VOCs and Metals

Based on historical information and sampling conducted to date, the cause of VOCs released to the subsurface was from a spill(s) that occurred in the vicinity of the abandoned storm sewer located near the overhang storage and hazardous waste storage area (HWSA). The abandoned storm sewer extends underground from the inlet located under Loading Dock #1, northwest to the storm drain that extends north of the HWSA. Stained soils observed in the vicinity of the abandoned storm sewer and the data compiled from the subsequent soil, groundwater, and soil gas sampling support this conclusion. First, the highest VOC concentrations (dominated by the presence of PCE and to a lesser extent TCE) were detected in soils adjacent and in close proximity to the abandoned storm sewer. The highest concentrations of VOC in groundwater (dominated by PCE) were also detected near the abandoned storm sewer. The PCE concentration in groundwater decreases along a gradient with increasing distance down-gradient of the abandoned storm sewer. The highest VOC concentrations in sub-slab soil gas (also dominated by PCE) were detected beneath the buildings near the abandoned storm sewer.

The source of metals released to the outfall area appears to be the former active storm drain (this drain pipe was replaced due to sediment building up, during the 2009 construction activities) that runs from the alley north of the facility to the HWSA and then southwest offsite to the outfall located across the railroad tracks. Chromium and lead were detected in the pipe sediment sample collected directly from the storm drain. Chromium and lead were also detected at concentrations exceeding their respective HSRA Notification Criteria in the stained soils that were observed (prior to excavation) in the outfall area. This condition has already been abated and post-excavation soil sampling shows the condition is now below Residential RRS. Thus, metals are no longer COI for the Site.

3.4.2.3 Source Area Characteristics

Many organic chemical products such as PCE, are nearly immiscible in water and as such, occur as non-aqueous phase liquid (NAPL) in the subsurface environment. PCE has a higher specific gravity than water, and often appears as DNAPL (dense NAPL). The volume of mobile DNAPL depletes as immobile residual product is left behind through the soil column as the product descends. USEPA (1996) defines a mathematical formulation for the soil saturation limit for a chemical, a term abbreviated as C_{sat}, which is based on the following properties:

- chemical solubility limit;
- soil water content;
- organic carbon/water partition coefficient for the chemical;
- dry soil bulk density;
- Henry's law coefficient for the chemical; and
- soil air content.

In practical terms, C_{sat} is the value above which the chemical is present in soil pore water at its aqueous solubility limit. EPA (2014) posts the C_{sat} value for PCE as 166 mg/kg (for typical soil types). There is a different derivation for the soil concentration below which the NAPL, if present, will not migrate under the typical forces of convection or gravity, a concept referred to as the residual NAPL saturation. The residual NAPL concentration, or C_{res}, is based on the following properties (Brost et. al, 2000):

- residual non-aqueous phase volume fraction;
- density of chemical residual non-aqueous phase liquid;
- dry soil bulk density;
- soil porosity; and
- fraction of residual non-aqueous phase filled void.

The concentration value of C_{res} is generally much higher that the C_{sat} value (Brost et. al, 2000). The value C_{sat} specifies the presence or absence of residual phase NAPL, whereas the value C_{res} specifies the threshold value for NAPL mobility. Table 2 in Brost et. al 2000 provides a summary of these values for various NAPL types and soil types: for PCE the table shows values for a fine/medium beach sand with C_{res} ranging from 830-83,025 mg/kg (depending on the fraction of NAPL-filled void) in comparison to a C_{sat} value of 195 mg/kg. The only other PCE value shown on this table is for a sandy loam soil type, with a C_{res} value of 413,000 mg/kg (a corresponding C_{sat} value is not provided).

The numerous soil samples characterized for PCE in the area of the abandoned storm sewer provide a means of assessing the area as a "source" of contamination (e.g., transfer of PCE from soil to groundwater) and whether the condition exists as a residual NAPL or as a mobile NAPL. Figure 8 shows the soil PCE concentration according to multiples of the C_{sat} value provided by EPA 2014 (166 mg/kg), with 34 of the soil sample locations exceeding this value and which are clustered together in the areas of the suspected release (abandoned storm drain). Notice also the abrupt concentration decrease outside of this zone, characteristic of vertical migration of a

localized PCE NAPL release from the drain area (and not a broad-based spill or multiples spills across the facility). The highest PCE concentration in soil is 12,000 mg/kg. Based on the C_{res} discussion above, we conclude that a mobile PCE DNAPL condition does not exist for the Site.

Another line of evidence commonly used in DNAPL assessment is the "1% solubility rule of thumb," where case history has shown that a DNAPL source may be present up-gradient of a monitoring well if the groundwater concentration exceeds 1% of the effective solubility of the chemical (USEPA, 1992). The 2009 groundwater investigation was limited to characterization of the upper portion of the surficial aquifer (i.e., wells screened at or just below the water table). Concentrations of PCE exceeded the 1% product solubility for PCE (2,060 µg/L) at one location (B-10 at 93,000 µg/L), indicating the possibility of PCE DNAPL at this location. The 2014 investigations involved installation of clustered monitoring wells to asses for the presence and vertical extent of PCE DNAPL. Groundwater sampling results from the MW-6 well cluster located slightly to the north (side-gradient) of the release area, and well cluster MW-9 located down-gradient of the release area in the center of the alley, were below 1% PCE solubility. Furthermore, the PCE concentration decreases with depth in the two separate well clusters, supporting that PCE DNAPL does not exist deeper in the surficial aquifer. The screened interval of the well clusters and the depth to water for well clusters MW-6 and MW-9 are listed in the following table below:

Well ID	Screened Interval (ft. bgs)	PCE Feb 2014 (µg/L)	PCE Nov 2014 (µg/L)
MW-6	9.2 - 24.2	930	110
MW-6DS	36.5 – 46.5	100	14
MW-6D	61.5 – 66.5	20	17
MW-7	9.4 – 24.4	1,900	14,000
MW-9S	16 - 26		1,600
MW-9D	63.5 - 68.5		ND

Well MW-7 is also shown in the above table because of the high PCE concentration reported during the November 2014 sampling event. PCE was detected at 14,000 µg/L, in excess of 1% PCE solubility. A similar PCE concentration was detected in this area in 2009 (well SB-9 at 4,900 µg/L). As shown in Figure 8, this condition supports a conclusion that a source condition is limited to the region of soil exceeding the C_{sat} value, and a broader groundwater condition results from down-gradient transport away from this source area (i.e., location such as SB-9 is in the vicinity of a source).

3.4.2.4 Stability, Extent, and Degradation of the Plume

The plume associated with the abandoned storm sewer was initially characterized in May 2009, and further characterized in February and November 2014. Based on the May 2009 and collective 2014 (February and November) groundwater sampling results, the aqueous plume appears to be stable. The following indicates that the plume is stable: (i) the concentration of PCE at the eastern and southern boundaries of the Site in February/November 2014 are consistent with concentrations in May 2009; (ii) data from temporary wells in 2009 and co-located monitoring wells installed and

sampled by GEC in February 2014 show comparable VOC detections and concentrations; and (iii) PCE and TCE were not detected in samples up-gradient of the release area. The sampling results from three new down-gradient property line wells, which were installed during the November 2014 investigation, indicate that the plume extends east-southeast of the Site towards Skaps Industries. The wells were installed, following coordination with EPD, at the following locations: (i) northeast of the facility across Old Maysville Road near the Old Maysville Road-Mount Olive Road intersection (MW-10); (ii) east of the facility across Old Maysville Road (MW-8); and (iii) at the eastern end of the parking lot located southeast of the main building (MW-11).

Intrinsic degradation of PCE is occurring as evidenced by the presence of daughter products produced during reductive dechlorination. The dechlorination sequence is from PCE to TCE to cDCE to vinyl chloride, and finally to non-toxic end products (ethene/ethane). TCE and cDCE are present at many of the monitoring well locations also reporting PCE. Vinyl chloride was not detected in any of the wells, suggesting that the degradation process is stalling at cDCE. This is a common phenomenon at sites with chlorinated ethene groundwater contamination.

3.4.2.5 PCE

Extent of PCE in Soil

The table below presents the frequency at which PCE was detected at concentrations exceeding the Residential RRS in soil samples collected in May 2009 and April 2010, and the depth intervals at which the samples were collected. The vast majority of these detections were in close proximity to the abandoned storm drain (i.e., targeted or biased sampling) where stained soils were observed. PCE was not detected at concentrations exceeding the Residential RRS in any of the soil samples collected at the outfall.

Depth Interval (ft. bgs)	Frequency of Exceedance
0-2	10/13 (77%)
2-5	24/30 (80%)
5-10	36/43 (84%)
10-15	38/43 (88%)
15-20	22/33 (67%)

PCE concentrations decrease with increasing distance from the area of release. Figures 9A to 9E show the PCE concentration in soil segregated into the following depth intervals: 0-2 ft. bgs; 2-5 ft. bgs; 5-10 ft. bgs; 10-15 ft. bgs; and 15-20 ft. bgs. This depth progression shows that the PCE condition in soil is essentially confined to the interior of the facility in the area of the release and that horizontal delineation is demonstrated within the Site.

Extent of PCE in Groundwater

The PCE distribution in groundwater shows lateral transport down-gradient to the east away from the area of highest concentration in soil, along the direction of groundwater flow. Figures 10A through 10C show the PCE concentration in groundwater for the three sampling events (2009; February 2014; November 2014). The full down-gradient extent of PCE in groundwater was not bounded by the November 2014 monitoring well installation conducted off-property; well MW-8 reported a PCE concentration of 70 µg/L (well is located in the right-of-way east of Old Maysville

Rd) as shown in Figure 10C. PCE was not detected up-gradient of the abandoned storm sewer west of the facility (MW-1, MW-5), southwest of the facility (MW-2), or north-northeast of the Site across Old Maysville Road (MW-10).

Additionally, the PCE concentration in the vertical dimension decreases along a sharp concentration gradient. PCE has been reported in excess of 10,000 µg/L in the shallow wells in the release area whereas concentrations deeper in the aquifer (in the PWR) are orders of magnitude lower, typically around 10 µg/L or less.

Extent of PCE in Sub-slab Vapor

The highest sub-slab vapor PCE concentrations were detected beneath the engineering facilities and main facility near the alley, which is in close proximity to the core of the aqueous plume. The concentration of PCE in sub-slab vapor samples generally decreases away from the plume's core, however this association is not as apparent at the southern end of the facility (Figure 11). This may be a result of lateral spreading of the soil vapor along the base of the building slab (either in bedding material or simply the interface between the native soil and overlying concrete. Twelve of the 41 sample locations were in excess of 50,000 µg/m^3. PCE was detected in all of the 41 sub-slab sample locations, with the lowest reported result at 1,100 µg/m^3.

3.4.2.6 TCE

Extent of TCE in Soil

The table below presents the frequency at which TCE was detected at concentrations exceeding its Residential RRS in soil samples collected in May 2009 and April 2010, and the depth intervals at which the samples were collected. TCE was not detected at concentrations exceeding the Residential RRS in any of the surficial soil samples collected. The frequency of Residential RRS Exceedance for TCE in subsurface soil was noticeably lower compared to PCE, as shown in the table below.

Depth Interval (ft. bgs)	Frequency of Exceedance
0-2	0/12 (0%)
2-5	3/30 (10%)
5-10	2/43 (5%)
10-15	9/43 (21%)
15-20	5/33 (15%)

Figures 12A through 12E map the lateral distribution of TCE in soil according to the depth intervals listed on the table above, which helps to visualize the lesser degree of contamination exhibited by TCE compared to PCE in soil. The maps also illustrate the horizontal extent of TCE in soil is adequately bounded by the current data set.

Extent of TCE in Groundwater

Figures 13A through 13C show the TCE concentration in groundwater for the three sampling events (2009; February 2014; November 2014). The relative magnitude of the TCE condition in groundwater (i.e., the concentration expressed as a multiple of its Residential RRS) is higher compared to PCE, as best illustrated by comparison of Figure 13C (TCE in November 2014) with

Figure 10C (PCE in November 2014). Figure 13C shows however that the TCE condition is not bounded to the east and south of the facility.

As with the PCE condition, the TCE condition in groundwater exhibits a sharp vertical concentration gradient. TCE conditions in the shallow wells in the release area are around 100 μg/L or more, whereas the condition in the deeper wells is about an order of magnitude lower.

Extent of TCE in Sub-slab Vapor

This TCE sub-slab soil vapor distribution pattern is quite similar to PCE, with perhaps a more focused region of the more elevated condition present in the north-northwest portion of the facility (Figure 14). The western margin of the facility exhibits a much lower TCE vapor condition. Also similar to the PCE distribution, the TCE concentration appears to diminish away from the release areas across the facility in a southerly direction, then increases somewhat near the southernmost portion of the facility. Seven sample locations were in excess of 50,000 $\mu g/m^3$. Two of the 41 sub-slab sample locations were non-detect for TCE.

3.4.2.7 cDCE

Extent of cDCE in Groundwater

Figures 15A through 15C present the cDCE distribution in groundwater for the three assessment events (2009, February 2014, and November 2014). The lateral extent of cDCE is limited to the interior region of the Site, exceeding its Residential RRS in 2 of 9 monitoring well locations during the November 2014 event (Figure 15C). cDCE was not detected in the deeper monitoring wells. Thus, the lateral and vertical extent of cDCE is fully bounded.

Extent of 1122-TCA in Groundwater

Figures 16A through 16C present the 1122-TCA distribution in groundwater for the three assessment events (2009, February 2014, and November 2014). 1122-TCA was detected during the November 2014 investigation at concentrations exceeding the Residential RRS in only one shallow monitoring well, MW-7, located at the eastern end of the alley (Figure 16C). Figure 16C shows that the horizontal extent of 1122-TCA is bounded. Both of the deeper wells are non-detect for 1122TCA thus is it bounded in the vertical dimension as well.

3.4.2.8 Benzene

Extent of Benzene in Groundwater

Figures 17A through 17C present the benzene distribution in groundwater for the three assessment events (2009, February 2014, and November 2014). In February 2009, benzene was detected at a concentration of 130 μg/L in a temporary well located in the parking lot at the south end of the facility (Figure 17A). Benzene was not detected in samples from any of the monitoring wells installed and sampled by GEC in February 2014. However because of the 2009 detection, a new groundwater monitoring well, MW-11, was installed east (down-gradient) of the temporary well location and sampled as part of the November 2014 investigation. Benzene was detected at a concentration of 44 μg/L in MW-11, while all other monitoring wells were once again non-detect

for benzene. Although benzene does not appear to be a major COI in groundwater for this Site, its lateral extent is not yet bounded to the south or east of the facility.

Extent of Benzene in Sub-slab Vapor

Benzene detections in sub-slab soil vapor samples were limited to three sample locations near the alley adjacent to the abandoned storm sewer (Figure 18). Groundwater and soil sampling results indicate that benzene is not the dominant constituent associated with the release at the abandoned storm sewer. One sample result was in excess of 50,000 $\mu g/m^3$, while the other two results were in the range of 2,000-5,000 $\mu g/m^3$.

3.4.2.9 Chloroform

Extent of Chloroform in Sub-slab Vapor

Chloroform detections in sub-slab soil vapor samples were limited to three sample locations near the alley adjacent to the abandoned storm sewer (Figure 19). One sample result was in the range of 2,000-5,000 $\mu g/m^3$, while the other two results were < 2,000 $\mu g/m^3$.

3.4.2.10 o-Xylene

Extent of o-Xylene in Sub-slab Vapor

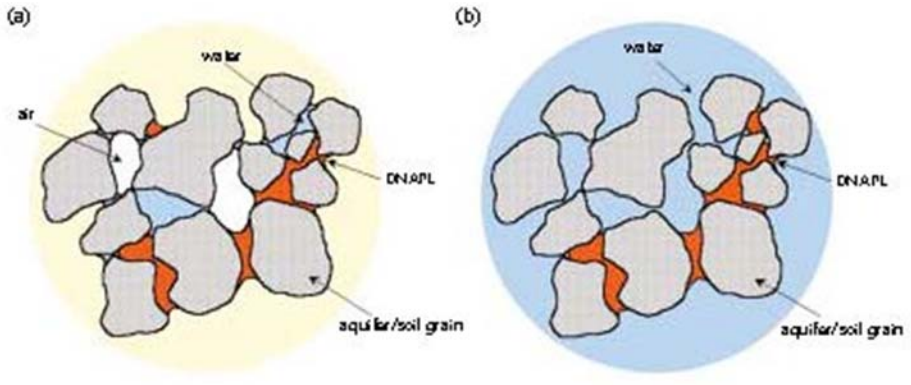
o-Xylene detections in sub-slab soil vapor samples were limited to five sample locations somewhat randomly distributed in the northern portion of the facility (Figure 20). One sample result was in the range of 2,000-5,000 $\mu g/m^3$, while the other three results were < 2,000 $\mu g/m^3$.

3.4.3 Fate and Transport of COI

3.4.3.1 General Physical-Chemical Properties of the COI Products

The COI at this Site are the chlorinated ethenes (PCE, TCE and cis-DCE), and to a lesser extent the chlorinated ethane 1122-TCA and the hydrocarbon benzene. In their product state, these COI are present as NAPL, with all but benzene classified as a DNAPL. Benzene is the sole light non-aqueous phase liquid (LNAPL). With respect to fate and transport, these NAPLs can be classified as either mobile, immobile, or dissolved. Thus, there are three states of interest: mobile NAPL, immobile NAPL and dissolved-phase NAPL constituents. Following release at the soil surface, NAPLs actively spread vertically primarily due to gravity. Vertical migration of NAPLs in soil continues through the vadose zone (through the most permeable soil layers) and if its specific gravity is lighter than water, the NAPL spreads as a lens atop the water table (i.e., LNAPL), or if its specific gravity is greater than water, it continues to migrate vertically into the saturated zone (i.e., DNAPL) until the NAPL either loses continuity and becomes dispersed into isolated bodies (referred to as ganglia or globules) or reaches a less permeable layer where it either accumulates as a “pool” or flows laterally along the less permeable layer. During downward migration in the vadose zone, a globule trail of residual or immobile NAPL product and sorbed-phase contamination is left. The NAPL globules in this trail are incapable of further migration under most circumstances; this is a condition known as “residual saturation. In some scenarios, the entire NAPL may become immobile before reaching groundwater as product is lost to these processes.

The specific gravity (density) of the COI products is listed in the embedded table below, along with other physical-chemical properties described herein.



Residual DNAPL saturation in (a) vadose zone porous media and (b) saturated porous media; Figure 3 in *An illustrated handbook of DNAPL transport and fate in the subsurface* (Kueper et. al, 2003).

The presence of residual free-phase NAPL (mobile or immobile) and sorbed-phase NAPL in the vadose and/or saturated zones provides a long-term source of dissolved-phase COI to groundwater. The dissolved-phase concentration in the area of the NAPL is limited by the COI's solubility. Once in a dissolved-phase state, the NAPL constituents are transported by groundwater primarily along the direction of the groundwater flow (a term known as "advection"), and to some extent horizontally (cross- or up-gradient) due to dispersion and diffusion. The aqueous phase plume is subject to attenuation processes such as diffusion, adsorption, volatilization and degradation. These attenuation processes result in a gradational decrease in the COI concentration along the groundwater flow path. All aqueous plumes will eventually reach a steady-state condition where the plume edges no longer expand due to these processes.

Two attenuation processes, adsorption and volatilization, are highly dependent on individual COI physical-chemical properties. Adsorption onto aquifer materials (e.g. clay minerals, iron and manganese oxides, organic matter, etc.) slows (retards) the migration of COI along the groundwater flow path. The extent of retardation is a function of the constituent's affinity for the aquifer solids relative to groundwater, which is quantified by a soil-water partition coefficient (K_{oc}). COI that exhibit a K_{oc} value of less than 100 L/kg, applicable to all COI except for benzene, weakly to moderately partition to soil. Benzene exhibits a slightly higher tendency to adsorb to soil and aquifer media. The final physical chemical property, volatilization, is a function of a compounds affinity for water or soil relative to air and is quantified by the Henry's constant (H_{cc}). All Site COI are highly to moderately volatile based on their reported H_{cc}. If a volatile COI occurs in groundwater beneath a building, volatilization may result in the accumulation of vapor-phase COI within the soil matrix beneath the building footprint (i.e., sub-slab soil vapor).

Physical-Chemical Properties of Site COI

Constituent	Density (mg/L)	Solubility (mg/L)	H_{cc} ($atm \cdot m^3 \cdot mol^{-1}$)	K_{oc} (L/kg)
PCE	1.623	206	$1.77 \cdot 10^{-2}$	94.94
TCE	1.464	1280	$9.85 \cdot 10^{-3}$	60.7
cis-DCE	1.284	6410	$4.08 \cdot 10^{-3}$	39.6
1122-TCA	1.595	2830	$3.67 \cdot 10^{-4}$	94.94
Benzene	0.877	1790	$5.55 \cdot 10^{-3}$	145.8

3.4.4 Degradation Processes of the COI

3.4.4.1 Choroethenes (PCE, TCE, cis-DCE)

In the event of a release to the environment, PCE (parent) product and its degradation (daughter) products, TCE, cis-DCE and VC are subject to abiotic and biotic degradation pathways. PCE and TCE undergo biotic reductive dechlorination primarily to cis-DCE and VC by several microorganisms under reducing conditions, however only one microorganism, *Dehalococcoides sp*., is known to completely dechlorinate PCE and TCE to ethene or ethane under reducing conditions. In the majority of groundwater systems, reductive dechlorination stops at cis-DCE or VC indicating geochemical conditions or the appropriate microorganisms are not available for complete degradation. Alternate pathways to complete degradation however, are known. Several investigations conducted by the USGS with aquifer and streambed sediments have demonstrated that microbial oxidation of the daughter products cis-DCE and VC, is significant and results in complete dechlorination of PCE/TCE (USGS, 2014). The combination of reductive dechlorination under anaerobic conditions followed by aerobic microbial oxidation of the daughter products provides a second possible pathway for complete degradation of PCE to ethene in groundwater plumes. PCE may also may also be degraded abiotically by reduced mineral surfaces such as iron sulfides and adsorbed ferrous iron (Lee and Batchelor, 2002).

As discussed in earlier in Section 3, the presence of TCE and cis-DCE further along the flow path of the aqueous plume indicates that reductive chlorination is occurring at the Site. However, the degradation process appears to have stalled, as VC has not been detected along the flow path of the plume. Thus, Site conditions may be limiting for complete reductive dechlorination (e.g. substrate or microorganism limited) or microbial oxidation is not occurring at the Site.

3.4.4.2 1122-TCA

In the environment, 1122-TCA degradation processes include several abiotic pathways (hydrolysis, dichloroelimination and dehydrochlorination) and biodegradation through cometabolism. The abiotic pathways can result in several daughter or intermediate products including: (i) hydrogenolysis of 1122-TCA to 112-TCA and subsequent degradation to VC or ethane via dichloroelimination in strong reducing environments; (ii) dichloroelimination of 1122-TCA to form cis- and trans-1,2-DCE; and (iii) dehydrochlorination of 1122-TCA to form TCE (Lorah and Voytek 2004). 1122-TCA has only been detected in the core of the groundwater plume (in the area of the PCE release), which suggests either 1122-TCA was only a minor component of the release, or that significant degradation of 1122-TCA has occurred.

3.4.4.3 Benzene

Unlike the chlorinated COI, benzene is generally considered recalcitrant under reducing condition or in the absence of oxygen. In the presence of oxygen, benzene is typically degraded by numerous microorganism species at moderate to high rates. In the absence of oxygen, limited microorganisms may be capable of degrading benzene, but the process is less well understood. Potential factors that may limit benzene biodegradation include: (i) inhibitory effects from co-contaminants; (ii) lack of anaerobic benzene degraders in subsurface sediments; and (iii) anaerobic microorganisms that degrade benzene may require narrow environmental conditions for optimal functioning (Vogt et al 2011). To date, benzene has been reported in only one temporary well located in the south-central portion of the facility and at a lesser concentration at a single monitoring well down-gradient of this location (near the Site property boundary), indicating the release was limited or transport is limited due to subsurface conditions and/or biodegradation.

3.4.5 Volatilization of Groundwater COI

There is a noticeable shift in the relative concentration of TCE to PCE between soil and groundwater. In soil, it is a PCE-dominated condition reflective of a PCE source product release (minimal biodegradation occurs in the soil thus the soil TCE concentration is relatively low). However in groundwater the two COI are more similar in concentration, due to biologically-induced degradation of PCE to TCE. Both of these constituents are similar in their volatilization potential, and the sub-slab soil vapor data also shows a generally similar condition between PCE and TCE suggesting that volatilization from groundwater is the mechanism for the soil gas condition.

3.5 Potential Receptors and Exposure Pathways

3.5.1 On-Site Receptors and Exposure Pathways

On-Site receptors (current and potential future) include Site Workers, Trespassers, and Construction Workers. Media of potential exposure include contaminated soil (dermal exposure, ingestion, inhalation), groundwater (dermal exposure, ingestion), and sub-slab soil gas (leading to possible indoor air exposure/inhalation). Figure 21 is a conceptualization of Site conditions, exposure pathways, and receptors.

Soil contamination is concentrated in proximity to the abandoned storm sewer line. The current and/or potential future human receptors to the soil condition are listed below along with a discussion of the rationale behind their identification and the pathways through which they could potentially be exposed.

- Current/Future Site Worker: It is anticipated that the facility will continue to operate in its current capacity for the foreseeable future. Receptors associated with this type of land use can potentially have long-term exposure to site-related chemicals in surface soil via ingestion and dermal contact. However, the on-Site areas impacted by the release of regulated substances are covered by concrete or asphalt, which prevents worker exposure

to the underlying soil. Exposure to site workers is more likely to occur via the inhalation of volatiles in indoor air. Based on June 2009 sub-slab vapor results, the primary potential indoor air contaminants are PCE and TCE. The Occupational Health and Safety Administration (OSHA) permissible exposure limit (PEL) based on an 8-hr time weighted average (TWA) is 100 ppmv for PCE (~678 mg/m^3 air) and 100 ppmv for TCE (537 mg/m^3). In November 2009, EPS collected 16 indoor air quality samples from various locations inside multiple manufacturing areas for VOC analysis. No VOCs were detected in the samples, with laboratory detection limits below the OSHA PELs. If such vapor migration is occurring, it is very likely that the concentrations of these chemicals in indoor air would be well below the applicable OSHA standards. Additionally, the sub-slab vapor and indoor air investigations were conducted prior to the installation of the SVE system, which has been operational since October 2010. Current indoor air conditions are expected to be better than the conditions in 2009.

- Current/Future Construction Worker: Construction workers could potentially have short-term (<1 year) exposure to chemicals in mixed surface and subsurface soil (0-10 ft. bgs) via ingestion, dermal contact, and inhalation of volatiles and particulates. The distribution of soil contamination is well understood for the Site, and with a robust health and safety program in place, exposure to construction workers can be managed according to OSHA Hazardous Waste Operations (Hazwoper) protocols.

3.5.2 Off-Site Receptors and Exposure Pathways

The Roper facility is part of an industrial park area within the western portion of the limits of the City of Commerce, Georgia. Land use in vicinity of the Site includes a mixture of primarily agricultural land use to the northwest, west, and southwest and residential development to the north, east and south (Figure 22). The area is currently served by the City of Commerce public water supply. However, a number of residences within the area utilize domestic water supply wells for water supply. This is the primary receptor for the area away from the Site.

EPS performed an initial potable water well survey in 2009 and updated it in October 2014. The 2014 water well survey was conducted in four stages: 1) a desktop analysis; 2) a review of City of Commerce Water Department records; 3) field verification; and 4) final analysis. During the desktop analysis, locations for possible water wells were initially developed from the 2009 survey and further researched using various mapping software (ArcGIS, Google Earth). A list of addresses was developed and submitted to the City of Commerce Utilities Department in order to determine which addresses were utilizing the City's potable water supply. Customers of the City's Utilities Department were then omitted from the field investigation stage, unless prior notes from 2009 showed evidence of continued use of a drinking water well. EPS personnel conducted door-to-door interviews with residences that did not have records associated with the City of Commerce Utilities Department. Data was compiled on a survey form that was filled out by field personnel and/or residents (Appendix G).

In total, 22 drinking water wells are located within 0.5-miles of the Site. Of the 22 addresses with known water wells, four have both a water well and a connection to City water; however, their primary source of drinking water was determined to be from the City. The locations of residences with known water wells can is shown on Figure 22. Also shown on Figure 22 are the land parcel boundaries and the configuration of the City's water supply pipeline. A number of residences were either not available or unwilling to disclose information pertaining to their primary source of drinking water. EPS inferred from the presence of visible well pump houses or discussions with neighboring residences that four of these locations within a 0.5-mile radius of the Site potentially have water wells. These potential water well locations are also shown on Figure 22. Given that the VOC concentrations at the property line of the Site are quite low, and the fact that there does not appear to be a deep groundwater contamination problem at the Site, the likelihood of any issues with off-Site water supply wells is deemed negligible.

4 POTENTIAL REMEDIAL OPTIONS

4.1 Overview

Preliminary evaluations of potential remedial options for soil, groundwater, and soil vapor are provided in this section, developed from the existing CSM and the distribution of COI as described in Section 3.

4.2 Evaluation of Remedial Options for Soil

4.2.1 Screening of Remedial Options

As provided in Section 3, two soil VOCs (PCE, and TCE) are identified for the Site. Soil detections reported above RRS are laterally delineated to areas currently capped with concrete; therefore, a pathway of direct exposure to contaminated soil for Site workers or trespassers has been removed. Based on this Site-specific condition, the following remedial options are developed for the soil:

1. no action/natural attenuation;
2. preserved capping; and
3. continued SVE.

Excavation (removal) remedial approach is cost prohibitive and, moreover, not a viable option given that the facility is currently being operated. Bioremediation was considered and deemed inviable because of difficulty in maintaining soil moisture (necessary for active microbial activity) beneath the concrete and asphalt surface layer.

4.2.2 Description of Remedial Options

4.2.2.1 No Action/Natural Attenuation

A no action/natural attenuation approach is not favored until operation of the SVE system has removed VOCs to a point that continued operation of the SVE system would have little additional benefit. Effectiveness of the SVE system would be gauged by monitoring the mass of VOCs removed per unit time. Subsurface soil conditions would have to be re-characterized at that time to assess compliance with RRS.

4.2.2.2 Preserved Capping

As noted, the area of the Site with subsurface soil contamination is currently capped with concrete or building foundations, or asphalt parking. As such, a capping approach would preserve the current cap infrastructure to prevent direct exposure to soil by Site workers or trespassers. An Operations, Monitoring and Maintenance (OM&M) program would be instituted to ensure long-

term function of the cap. Furthermore, a Health and Safety Plan (HASP) would be developed to ensure safety involving future intrusive construction work.

4.2.2.3 Continued SVE

Prior remedial action to address soil VOCs was implemented in October 2010 as described in Section 2.2 of this document, and included installation of a SVE system comprised of 71 two-inch SVE vertical wells and several lateral wells. This option will continue operation of the existing SVE system to a point that continued operation of the SVE system would have little additional benefit.

4.3 Evaluation of Potential Remedial Options for Groundwater

4.3.1 Screening of Remedial Options

As illustrated in Section 3, the chlorinated ethene group of VOCs is the dominant component of the groundwater plume at the Site (primarily PCE and TCE). Transport of dissolved VOCs to the down-gradient (eastern) property boundary is limited to chlorinated ethenes (PCE, TCE and cis-DCE), whereas chlorinated ethanes (e.g., 1122-TCA) only occur near the release area, possibly due to preferential degradation of chlorinated ethanes by intrinsic microbial communities. The presence of TCE and cis-DCE also indicate degradation of chlorinated ethenes is occurring, with daughter products reported at higher concentrations compared to PCE in some wells. Based on these site-specific conditions, the following remedial options are presented for the groundwater:

1. no action;
2. monitoring natural attenuation;
3. enhance in-situ bioremediation;
4. in-situ chemical oxidation (ISCO); and
5. combination of the above.

4.3.2 Description of Remedial Options

4.3.2.1 No Action

A no action approach is not practical at this time as delineation of VOC in groundwater to the east has not been completed.

4.3.2.2 Monitored Natural Attenuation

A monitored natural attenuation (MNA) approach may be a viable option subject to demonstrating through continued monitoring and/or modeling that natural processes, e.g., sorption, dispersion, volatilization, abiotic degradation and biodegradation, results in the degradation of VOCs. Degradation through MNA processes must be sufficient to reduce VOC concentrations to RRS at a to-be-determined Point of Exposure.

Data gaps that must be addressed under an MNA approach include:

1. obtaining additional data on MNA indicator geochemical parameters in support of a more formal evaluation for the feasibility of MNA (according to an EPA scoring matrix);
2. completing off-Site delineation of groundwater COI;
3. establishing the appropriate Point of Exposure;
4. performing additional groundwater monitoring over time to assess VOC degradation rates and data trends; and
5. completing a groundwater flow/solute transport model to predict the COI condition at the Point of Exposure.

4.3.2.3 Enhance In-situ Bioremediation

Enhanced in-situ bioremediation is considered a viable approach to reduced groundwater VOC concentrations if Site conditions are favorable for supporting microorganisms capable of degrading the VOC, and a long-term management strategy is reasonable for the Site. Bioremediation of chlorinated solvents, i.e. reductive dechlorination, is a well-understood degradation process that is fully capable of complete conversion of PCE and TCE to benign ethene/ethane. In the event Site conditions are limited by either a lack of appropriate indigenous microorganisms or appropriate substrates to maintain microbial growth, several engineered approaches are feasible to stimulate bioremediation. These may include introduction of a suitable electron donor substrate to increase the activity of indigenous microorganisms, or in the event appropriate microorganisms are not present, the aquifer can be bioaugmented with appropriate microbial populations. The resources to assess possible limitations to bioremediation are commercially available as are the resources to implement enhanced bioremediation.

Data gaps that must be addressed under an enhanced in-situ bioremediation approach include:

1. performing a preliminary evaluation for the feasibility of enhanced bioremediation, i.e. assess Site geochemistry and current VOC data;
2. testing for the presence of indigenous microorganism capable of degrading chlorinated solvents; and
3. testing for aquifer parameters that may be limiting to an enhanced bioremediation approach (e.g., electron donor concentrations).

4.3.2.4 In-Situ Chemical Oxidation

In-situ chemical oxidation (ISCO) treatment is generally considered a viable remediation method for chlorinated VOCs dissolved in groundwater. The appropriateness of ISCO technology depends on matching the oxidant and delivery system to the Site-specific contaminants and conditions. Based on the contaminants and conditions at the Site, the potential chemical oxidants considered include permanganate and persulfate. Although permanganate will not address dissolved chlorinated ethanes, permanganate is still considered applicable, as the chlorinated ethanes do not appear to be migrating from the release area, possibly due to intrinsic degradation by microbial communities. Persulfate, which exhibits a higher oxidation potential than permanganate, is also applicable and could be utilized to address all groundwater VOCs.

Data gaps that must be addressed under an ISCO approach include:

1. collecting additional Site-specific data to design an ISCO approach, e.g. geochemical parameters; and
2. performing treatability studies for ISCO options to determine application rates and product loss to natural oxidant demand (NOD) in the soil.

4.3.2.5 Combination Remedy

Several of the remedial options above could be used in combination to create an efficient, cost-effective remedy.

4.4 Evaluation of Remedial Options for Sub-slab Vapor Mitigation

4.4.1 Screening of Remedial Options

The sub-slab soil gas sampling performed in 2009 preceded the installation of the SVE system. Operation of the SVE system has likely altered the sub-slab soil gas condition and possibly mitigated the vapor accumulation characterized in 2009. Accordingly, it is prudent to re-characterize the sub-slab soil gas condition prior to making a decision whether remedial action is necessary, and if so, which remedial option is preferred.

Potential remedial options include:

1. modifying the building HVAC system to alter airflow exchange and cycling;
2. sealing facility foundation (gaps and/or cracks) to prevent vapor migration into occupied areas; and
3. installing an active sub-slab depressurization system.

4.4.2 Description of Remedial Options

4.4.2.1 Modify Building HVAC System

The option to modify the facility HVAC system may be viable based on an assessment of the current HVAC system and options to change airflow patterns and exchange rates. Increased ventilation (i.e., increasing the rate at which indoor air is replaced with outdoor air) can reduce the buildup of indoor air contaminants within a structure. This option may be achieved with natural ventilation depending on area use, or forced air replacement in climate-controlled areas.

4.4.2.2 Seal Facility Foundation

Vapor intrusion into the facility may be reduced by sealing foundational openings (cracks or gaps) or by coating foundation floors with specialty coatings designed to mitigate vapor intrusion. Sealing of gaps and crack is among the easiest and least expensive to implement if accessible.

4.4.2.3 Active Sub-Slab Depressurization

Active depressurization technologies are a viable option to address vapor intrusion issues and are widely considered the most practical vapor intrusion mitigation strategy for existing buildings. Active depressurization systems function by creating a pressure differential across the building slab to prevent soil gas entry into the building. The depressurization is accomplished by extracting soil gas from beneath the slab and venting it to the atmosphere with low vacuum fans. Retrofitting existing buildings for active sub-slab depressurization is a relatively low cost approach, but requires breaching the foundation slab and installing small sumps that a vacuum can be applied to.

5 PROJECTED MILESTONE SCHEDULE

Appendix H provides the projected milestone schedule for the Site activities. Following are the key milestones (based upon approval of the VIRP first quarter 2015):

- Horizontal delineation of VOCs in groundwater (offsite) one (1) year from the date of approval of the VRP application by EPD;
- Securing offsite properties as Site participants (i.e., "eligible properties") two (2) years from the date of approval of the VRP application by EPD;
- Final remediation plan thirty (30) months from the date of approval of the VRP application by EPD; and
- Completion of remedial action and the Compliance Status Report five (5) years from the date of approval of the VRP application by EPD.

6 REFERENCES

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APPENDIX A

Voluntary Remediation Program Application and Checklist

Voluntary Investigation and Remediation Plan Application Form and Checklist

VRP APPLICANT INFORMATION					
COMPANY NAME	Roper Pump Company				
CONTACT PERSON/TITLE	Joe Renzetti				
ADDRESS	3475 Old Maysville Road Commerce, GA 30529				
PHONE	706-335-5551	**FAX**	706-335-5490	**E-MAIL**	jrenzetti@roperpumps.com

GEORGIA CERTIFIED PROFESSIONAL GEOLOGIST OR PROFESSIONAL ENGINEER OVERSEEING CLEANUP					
NAME	Justin Vickery			**GA PE/PG NUMBER**	PG# 1745
COMPANY	Environmental Planning Specialists, Inc.				
ADDRESS	1050 Crown Pointe Parkway, Ste 550				
PHONE	404-315-9113	**FAX**	404-315-8509	**E-MAIL**	jvickery@envplanning.com

APPLICANT'S CERTIFICATION

In order to be considered a qualifying property for the VRP:

(1) The property must have a release of regulated substances into the environment;
(2) The property shall not be:
- (A) Listed on the federal National Priorities List pursuant to the federal Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601.
- (B) Currently undergoing response activities required by an order of the regional administrator of the federal Environmental Protection Agency; or
- (C) A facility required to have a permit under Code Section 12-8-66.

(3) Qualifying the property under this part would not violate the terms and conditions under which the division operates and administers remedial programs by delegation or similar authorization from the United States Environmental Protection Agency.
(4) Any lien filed under subsection (e) of Code Section 12-8-96 or subsection (b) of Code Section 12-13-12 against the property shall be satisfied or settled and released by the director pursuant to Code Section 12-8-94 or Code Section 12-13-6.

In order to be considered a participant under the VRP:
- (1) The participant must be the property owner of the voluntary remediation property or have express permission to enter another's property to perform corrective action.
- (2) The participant must not be in violation of any order, judgment, statute, rule, or regulation subject to the enforcement authority of the director.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also certify that this property is eligible for the Voluntary Remediation Program (VRP) as defined in Code Section 12-8-105 and I am eligible as a participant as defined in Code Section 12-8-106.

APPLICANT'S SIGNATURE	Joe Renzetti		
APPLICANT'S NAME/TITLE (PRINT)	**Joe Renzetti, President**	**DATE**	12/12/2014

QUALIFYING PROPERTY INFORMATION (For additional qualifying properties, please refer to the last page of application form)			
HAZARDOUS SITE INVENTORY INFORMATION (if applicable)			
HSI Number	10901	Date HSI Site listed	9-23-2009
HSI Facility Name	Roper Pump Company	NAICS CODE	333911
PROPERTY INFORMATION			
TAX PARCEL ID	Jackson County-034 032	PROPERTY SIZE (ACRES)	9.35
PROPERTY ADDRESS	3475 Old Maysville Road		
CITY	Commerce	COUNTY	Jackson
STATE	Georgia	ZIPCODE	30529
LATITUDE (decimal format)	34.213889	LONGITUDE (decimal format)	83.482778
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	Roper Pump Company	PHONE #	706-336-3300
MAILING ADDRESS	P.O. Box 269		
CITY	Commerce	STATE/ZIPCODE	GA 30529

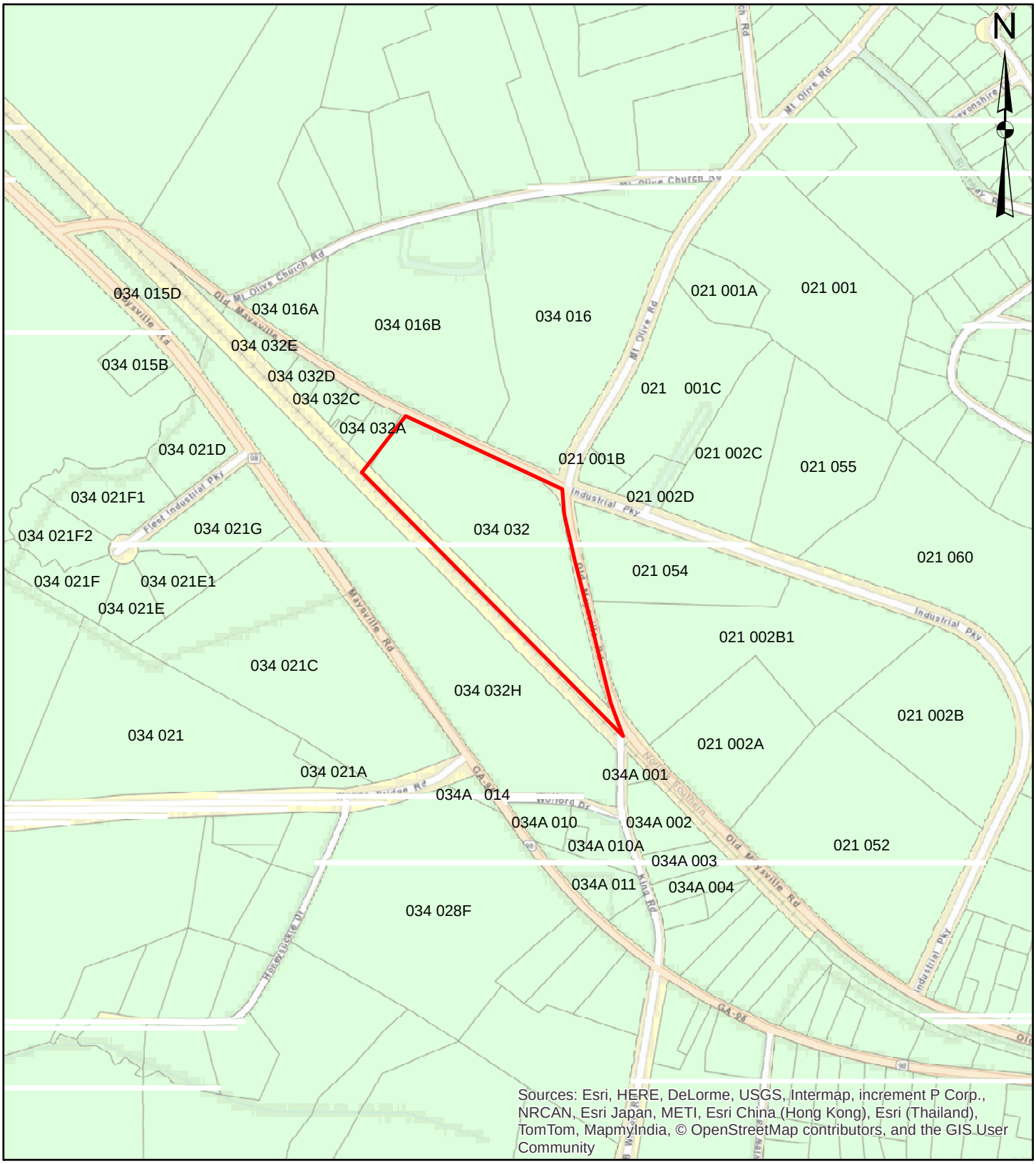
ITEM #	DESCRIPTION OF REQUIREMENT	Location in VRP (i.e. pg., Table #, Figure #, etc.)	For EPD Comment Only (Leave Blank)
1.	**$5,000 APPLICATION FEE** IN THE FORM OF A CHECK PAYABLE TO THE GEORGIA DEPARTMENT OF NATURAL RESOURCES. (PLEASE LIST CHECK DATE AND CHECK NUMBER IN COLUMN TITLED "LOCATION IN VRP." PLEASE DO NOT INCLUDE A SCANNED COPY OF CHECK IN ELECTRONIC COPY OF APPLICATION.)	Attached to front Chk Date 12/15/14 Chk # 219446	
2.	**WARRANTY DEED(S)** FOR QUALIFYING PROPERTY.	Appendix B	
3.	**TAX PLAT** OR OTHER FIGURE INCLUDING QUALIFYING PROPERTY BOUNDARIES, ABUTTING PROPERTIES, AND TAX PARCEL IDENTIFICATION NUMBER(S).	Appendix B	
4.	**ONE (1) PAPER COPY AND TWO (2) COMPACT DISC (CD) COPIES** OF THE VOLUNTARY REMEDIATION PLAN IN A SEARCHABLE PORTABLE DOCUMENT FORMAT (PDF).		
5.	The VRP participant's initial plan and application must include, using all reasonably available current information to the extent known at the time of application, a graphic three-dimensional preliminary conceptual site model (CSM) including a preliminary remediation plan with a table of delineation standards, brief supporting text, charts, and figures (no more than 10 pages, total) that illustrates the site's surface and subsurface setting, the known or suspected source(s) of contamination, how contamination might move within the environment, the potential human health and ecological receptors, and the complete or incomplete exposure pathways that may exist at the site; the preliminary CSM must be updated as the investigation and remediation progresses and an up-to-date CSM must be included in each semi-annual status report submitted to the director by the participant; a **PROJECTED MILESTONE SCHEDULE** for investigation and remediation of the site, and after enrollment as a participant, must update the schedule in each semi-annual status report to the director describing implementation of the plan	Body of Text and Appendices C through H	

	milestone schedule. The following four (4) generic milestones are required in all initial plans with the results reported in the participant's next applicable semi-annual reports to the director. The director may extend the time for or waive these or other milestones in the participant's plan where the director determines, based on a showing by the participant, that a longer time period is reasonably necessary:		
5.a.	Within the first 12 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern on property where access is available at the time of enrollment;	Appendix H	
5.b.	Within the first 24 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern extending onto property for which access was not available at the time of enrollment;	Appendix H	
5.c.	Within 30 months after enrollment, the participant must update the site CSM to include vertical delineation, finalize the remediation plan and provide a preliminary cost estimate for implementation of remediation and associated continuing actions; and	Appendix H	
5.d.	Within 60 months after enrollment, the participant must submit the compliance status report required under the VRP, including the requisite certifications.	Appendix H	
6.	**SIGNED AND SEALED PE/PG CERTIFICATION** AND SUPPORTING DOCUMENTATION: "I certify under penalty of law that this report and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, et seq.). I am a professional engineer/professional geologist who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors/Georgia State Board of Registration for Professional Geologists and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances. Furthermore, to document my direct oversight of the Voluntary Remediation Plan development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." Justin Vickery, GA PG # 1745 Printed Name and GA PE/PG Number 12-18-14 Date Signature and Stamp		

APPENDIX B

Tax Map and Warranty Deed

Tax Parcel Identification Map
Roper Pump Company



0 275 550 1,100
Feet

Legend

Tax Parcel

Property Boundary

WARRANTY DEED.

State of Georgia, Jackson County.

THIS INDENTURE, Made this 28th day of October in the year of our Lord One Thousand Nine Hundred and Sixty Five, between Commerce and jackson County Industrial Development Corp., a Georgia Corporation of the State of Georgia and County of Jackson, of the first part, and Roper Industries, Inc., an Illinois Corporation of the State of Illinois and County of Winnebaga of the second part.

WITNESSETH: That the said party of the first part, for and in consideration of the sum of Four Hundred Fifty Thousand and no/100 ($ 450,000.00) DOLLARS in hand paid at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged, has granted, bargained, sold and conveyed, and by these presents do es grant, bargain, sell and convey unto the said party of the second part, its successors ~~heirs and assigns, all that tract or parcel of land lying and being in~~

All those tracts or parcels of improved real property as follows:

Parcel No.1

All that tract or parcel of land lying andbeing in Jackson County, Georgia, Minish District, about one-half mile north of the City of Commerce, Georgia, containing 9.311 acres of land, more or less, as shown by plat and survey of same by C.C. Hawken, Registered Surveyor, No.566, dated June 11, 1954, and recorded in the office of the Clerk of Superior Court of Jackson County, Georgia, in Plat Book 3, page 36 to which reference is hereby made for a more complete description, said property being bounded by the Southern Railway Company on the southwest and by a paved road on two sides and by other land on the northwest owned by Clyde Watson, Formerly owned by Mose Gordon.

Parcel No. 2

All that tract or parcel of land situated, lying and being in Minish District of Jackson County, Georgia, located about three-fourths of a mile northwest of the city limits of Commerce, Georgia, containing 15.329 acres, more or less, as shown by plat of survey of same entitled "Land of Sam Hood being 15.329 acres West side of Southern R. R. Co. and N. E. side Rt. 52 about 3/4 miles N.W, of City Limits of Commerce, Jackson Co., Georgia, Minish 255 District, G.M." dated June 9, 1954 by C.C.Hawken, Registered Engineer No. 566, and more particularly described as follows: BEGINNING at the iron pin corner with the land of Mrs. Cox at a point on the northeast side of State Route 52; thence north 28 degrees 24 minutes east 110.85 feet to an iron pin corner on the right of way of Southern Railway Company; thence south 45 degrees 11 minutes east 2328.50 feet along the right of way of Southern Railway Company to an iron pin on a dirt road; thence south 0 degrees 14 minutes west 215.82 feet along the road to an iron pin corner near the junction with another road; thence south 69 degrees 16 minutes west 42.24 feet to an iron pin on a dirt road; thence north 75 degrees 55 minutes west 176.80 feet to an iron pin; thence north 86 degrees 23 minutes west 243.42 feet to an iron pin corner on the right of way of State Route 52; thence north 35 degrees 51 minutes west 413.95 feet to an iron pin; thence north 36 degrees 00 minutes west 1430 feet to an iron pin; thence north 36 degrees 34 minutes west 279.20 feet to the beginning corner. The same being bounded on the west and northwest by the right of way of State Route #52 and lands of Mrs. Cox; on the northeast by right of way of Southern Railway Company and on the South and Southeast by a dirt road.

REFERENCE : Plat of Parcel No. 2 recorded in Plat Book 3, page 50, public Records, Jackson county, Georgia.

For RWD see IHL pg. 307

U. S. REVENUE STAMP $495.00 PAID & CANCELLED

TO HAVE AND TO HOLD the said bargained premises, together with all and singular the rights, members and appurtenances thereof, to the same being, belonging or in any wise appertaining, to the only proper use, benefit and behoof of it, the said party of the second part, its successors ~~heirs~~ and assigns, forever, IN FEE SIMPLE.

And the said party of the first part, for its/successors ~~heirs, executors~~ and administrators, will warrant and forever defend the right and title to the above described property unto the said party of the second part, its successors ~~heirs~~ and assigns, against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, The said party of the first part has hereunto set its hands and affixed its seals the day and year first above written.

Signed, sealed and delivered in the presence of:

s/ J. Grant New

s/ John A. Darsey, Notary SEal
Notary Public, Georgia, State at Large
My Commission Expires Feb. 8, 1967

Commerce and JacksonCounty Industrial Development Corp. (SEAL)

By? s/ W. N. Harden (SEAL)
President

Attest: (SEAL)
s/ Joe Li Wehunt/or Hurst unreadible

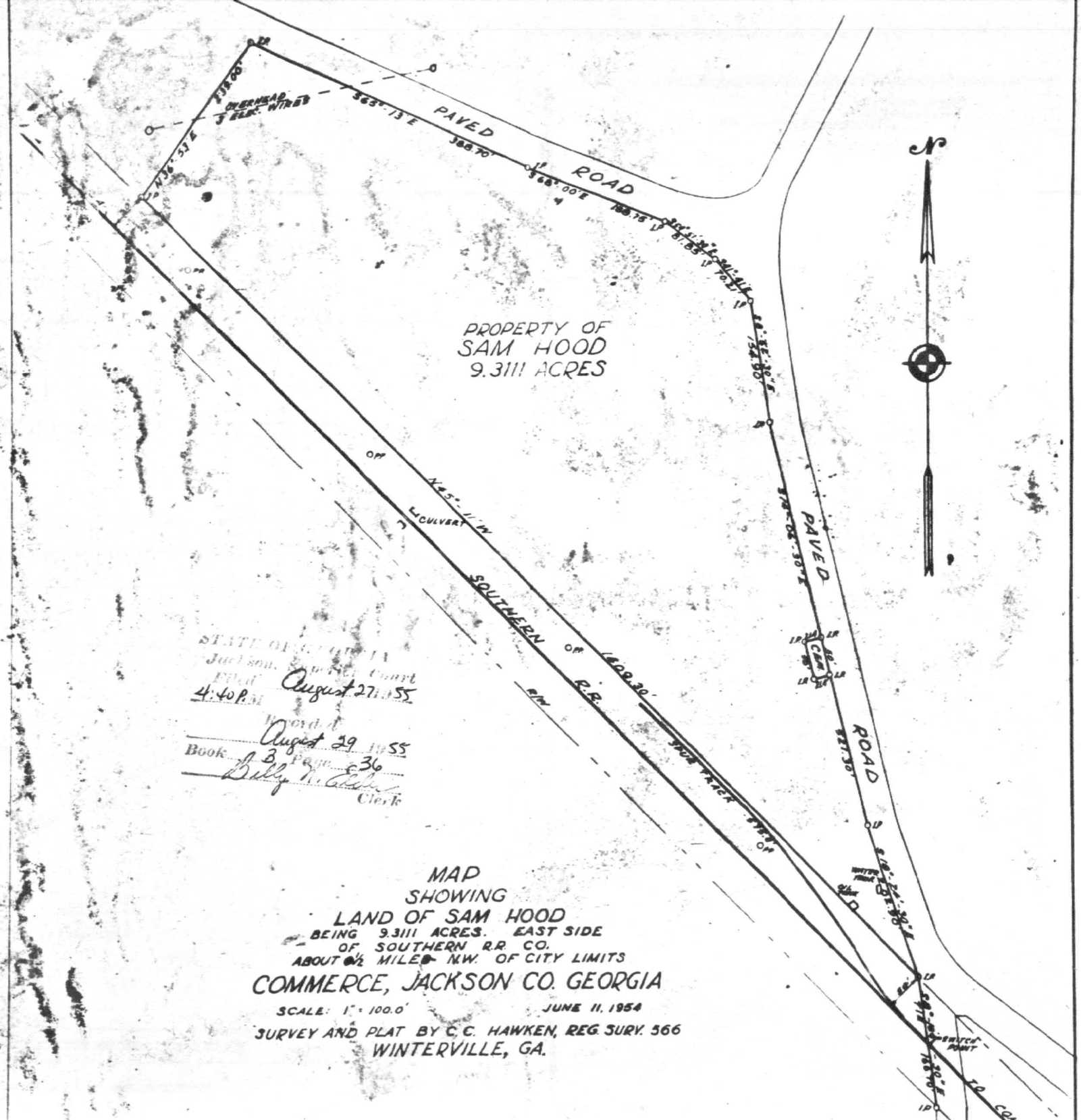
Corp. Seal (SEAL)

(SEAL)

Filed this 4 day of November, 1965, at 3:00 o'clock P. M. Recorded this 6 day of November, 1965

/jf/

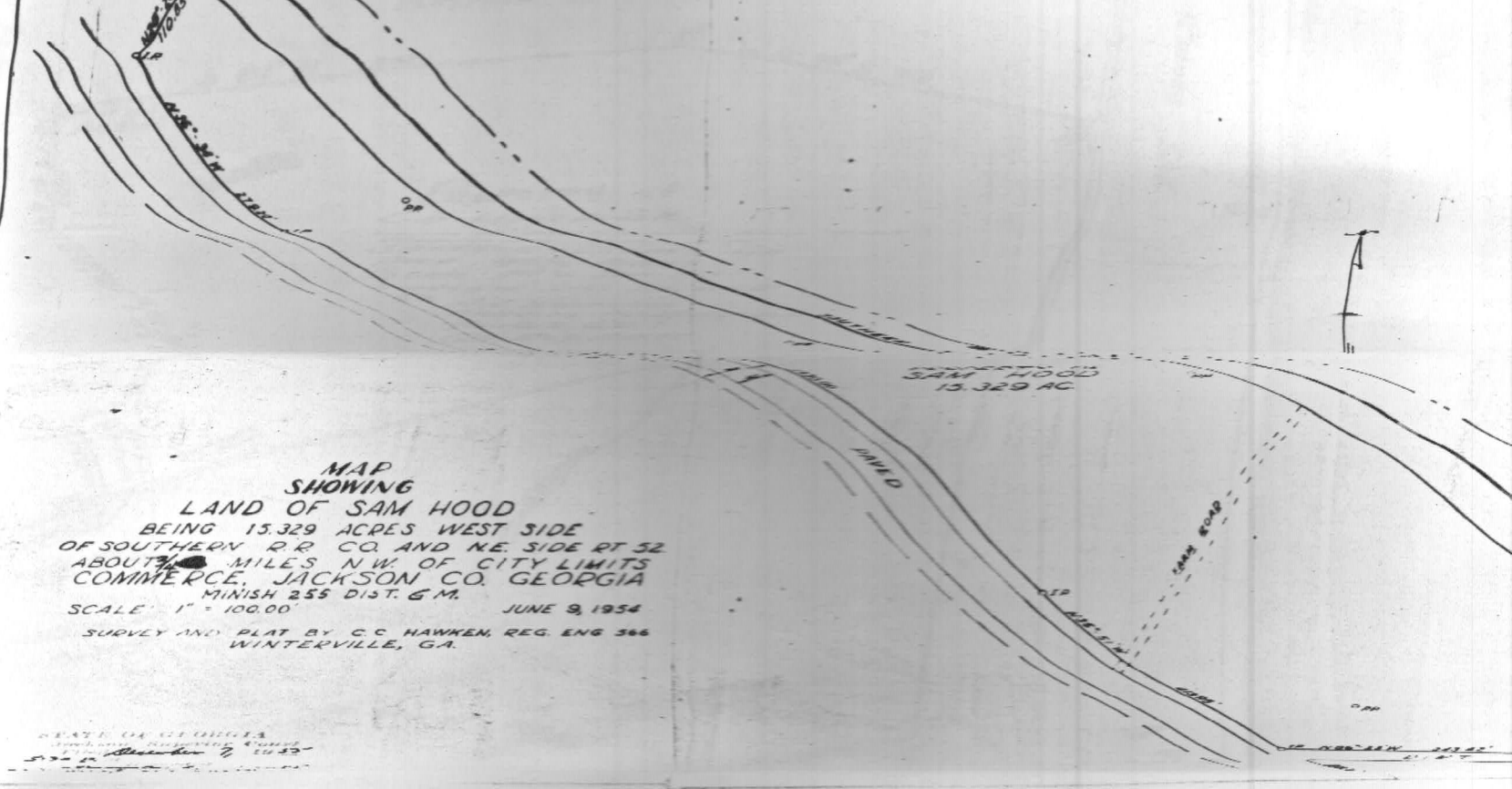
s/ Billy N. Elder
Clerk Superior Court.



MAP
SHOWING
LAND OF SAM HOOD
BEING 9.3111 ACRES. EAST SIDE
OF SOUTHERN R.R. CO.
ABOUT ½ MILE N.W. OF CITY LIMITS
COMMERCE, JACKSON CO. GEORGIA

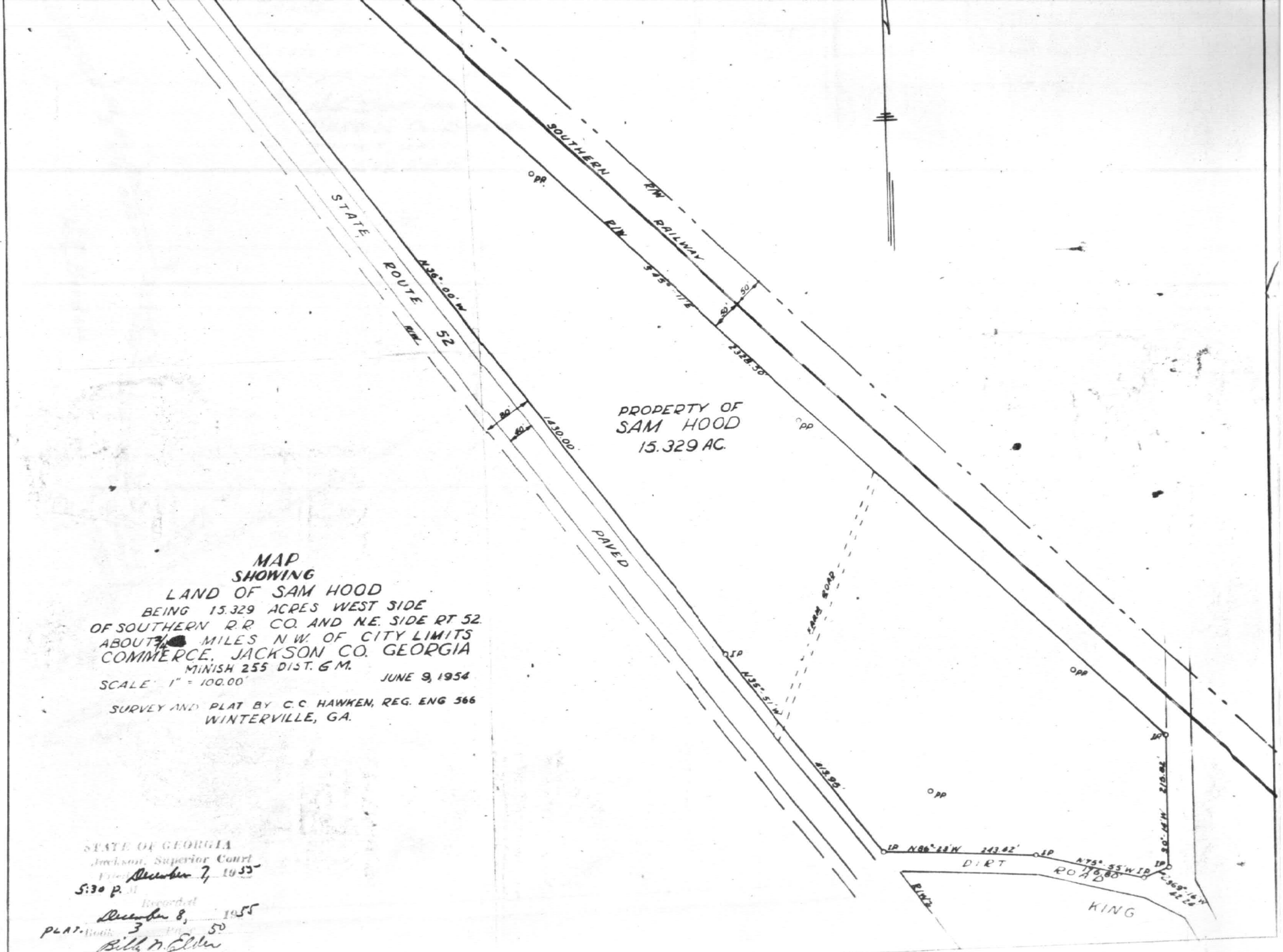
SCALE: 1" = 100.0' JUNE 11, 1954

SURVEY AND PLAT BY C. C. HAWKEN, REG. SURV. 566
WINTERVILLE, GA.



MAP
SHOWING
LAND OF SAM HOOD
BEING 13.329 ACRES WEST SIDE
OF SOUTHERN R.R. CO. AND N.E. SIDE PT 52
ABOUT ¾ MILES N.W. OF CITY LIMITS
COMMERCE, JACKSON CO. GEORGIA
MINISH 255 DIST. G.M.
SCALE: 1" = 100.00' JUNE 9, 1954
SURVEY AND PLAT BY C.C. HAWKEN, REG. ENG 366
WINTERVILLE, GA.

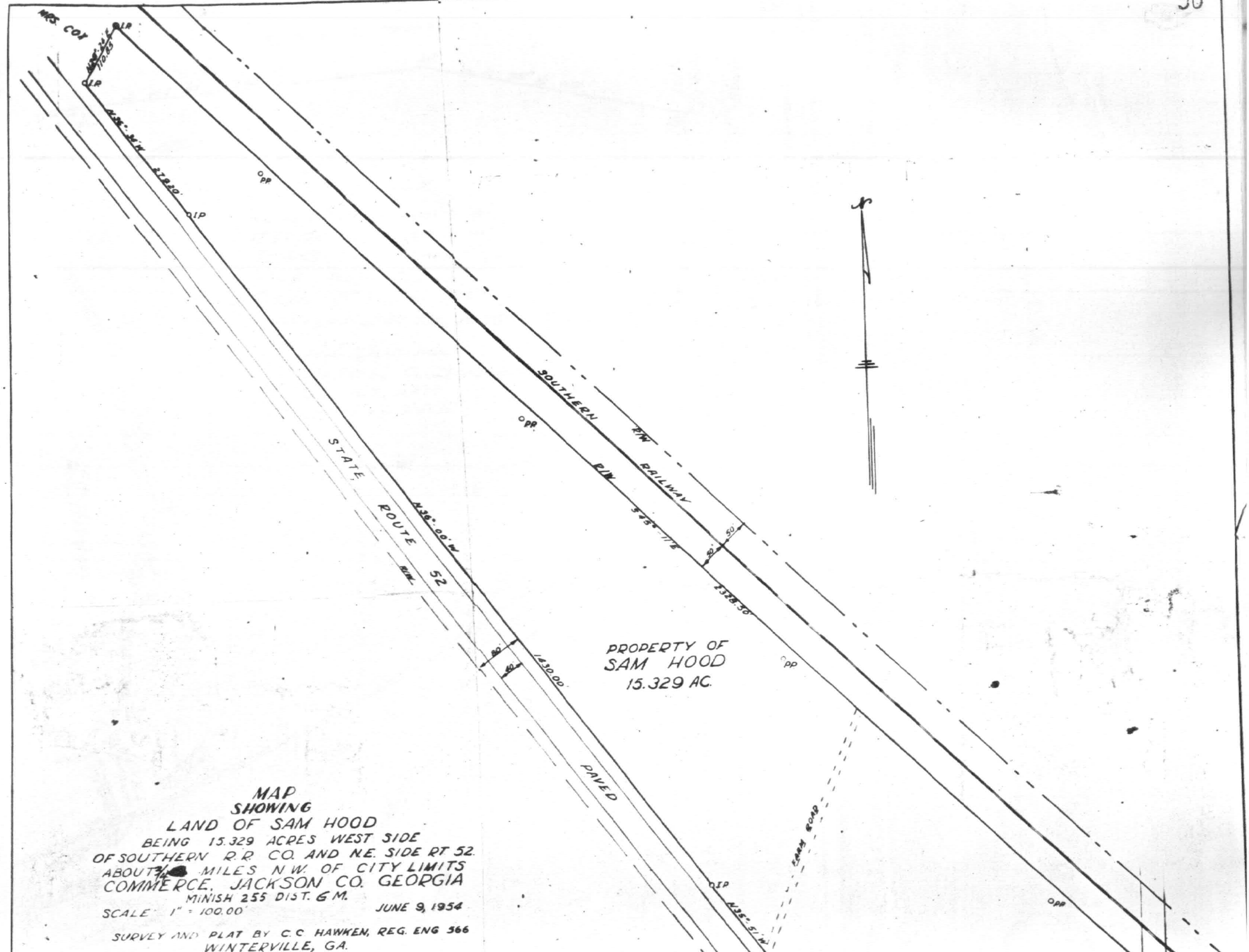
STATE OF GEORGIA



MAP
SHOWING
LAND OF SAM HOOD
BEING 15.329 ACRES WEST SIDE
OF SOUTHERN R.R. CO. AND N.E. SIDE RT. 52
ABOUT 3/4 MILES N.W. OF CITY LIMITS
COMMERCE, JACKSON CO. GEORGIA
MINISH 255 DIST. G.M.
SCALE 1" = 100.00' JUNE 9, 1954

SURVEY AND PLAT BY C.C. HAWKEN, REG. ENG 566
WINTERVILLE, GA.

STATE OF GEORGIA
Jackson, Superior Court
Filed December 7, 1955
5:30 P.M.
Recorded
December 8, 1955
PLAT Book 3 Page 50
Billy N. Elder



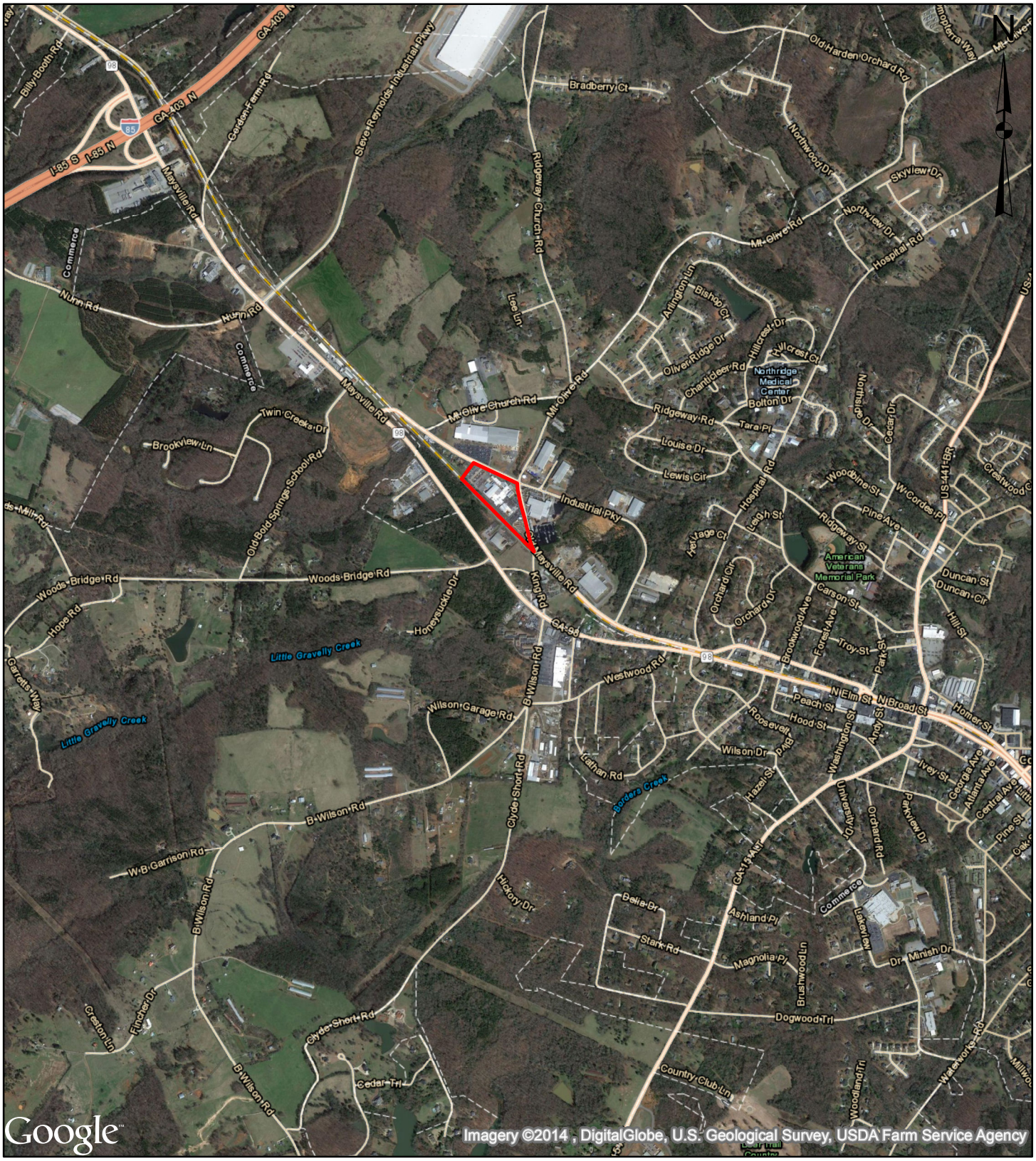
MAP
SHOWING
LAND OF SAM HOOD
BEING 15.329 ACRES WEST SIDE
OF SOUTHERN R.R. CO. AND N.E. SIDE RT 52.
ABOUT ¾ MILES N.W. OF CITY LIMITS
COMMERCE, JACKSON CO. GEORGIA
MINISH 255 DIST. G.M.
SCALE 1" = 100.00' JUNE 9, 1954

SURVEY AND PLAT BY C.C. HAWKEN, REG. ENG 366
WINTERVILLE, GA.

APPENDIX C

Figures

Roper Pump Company
Site Location Map



Environmental Planning Specialists, Inc.

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Figure No. 1

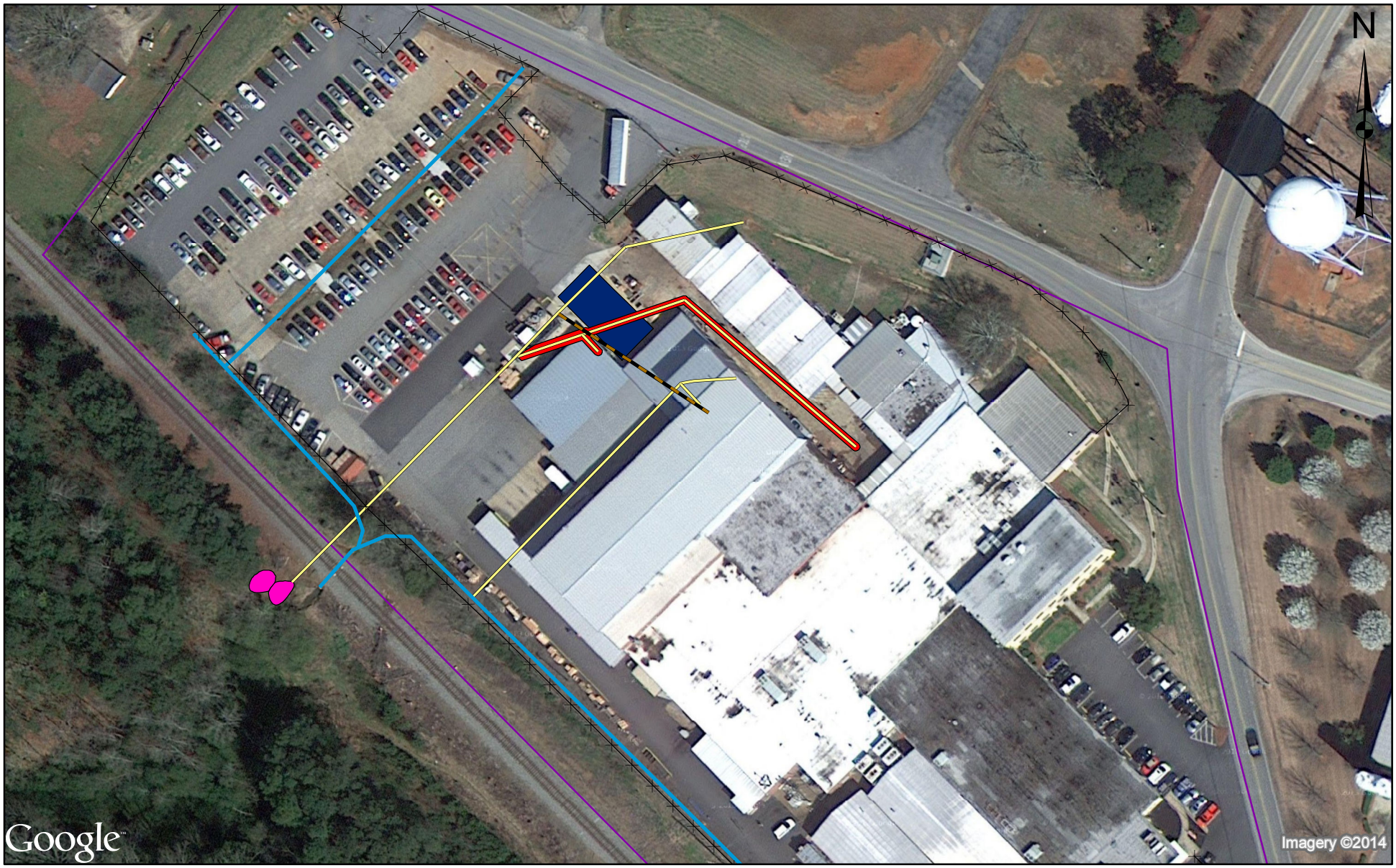
Roper Pump Company
Site Plan

0 50 100 200
Feet

Legend

- Fence
- Active Storm Drain
- 1960's Drum and Equipment Storage
- Drainage Ditch
- Abandoned Storm Sewer

Roper Pump Company
2009 Soil Removal Areas

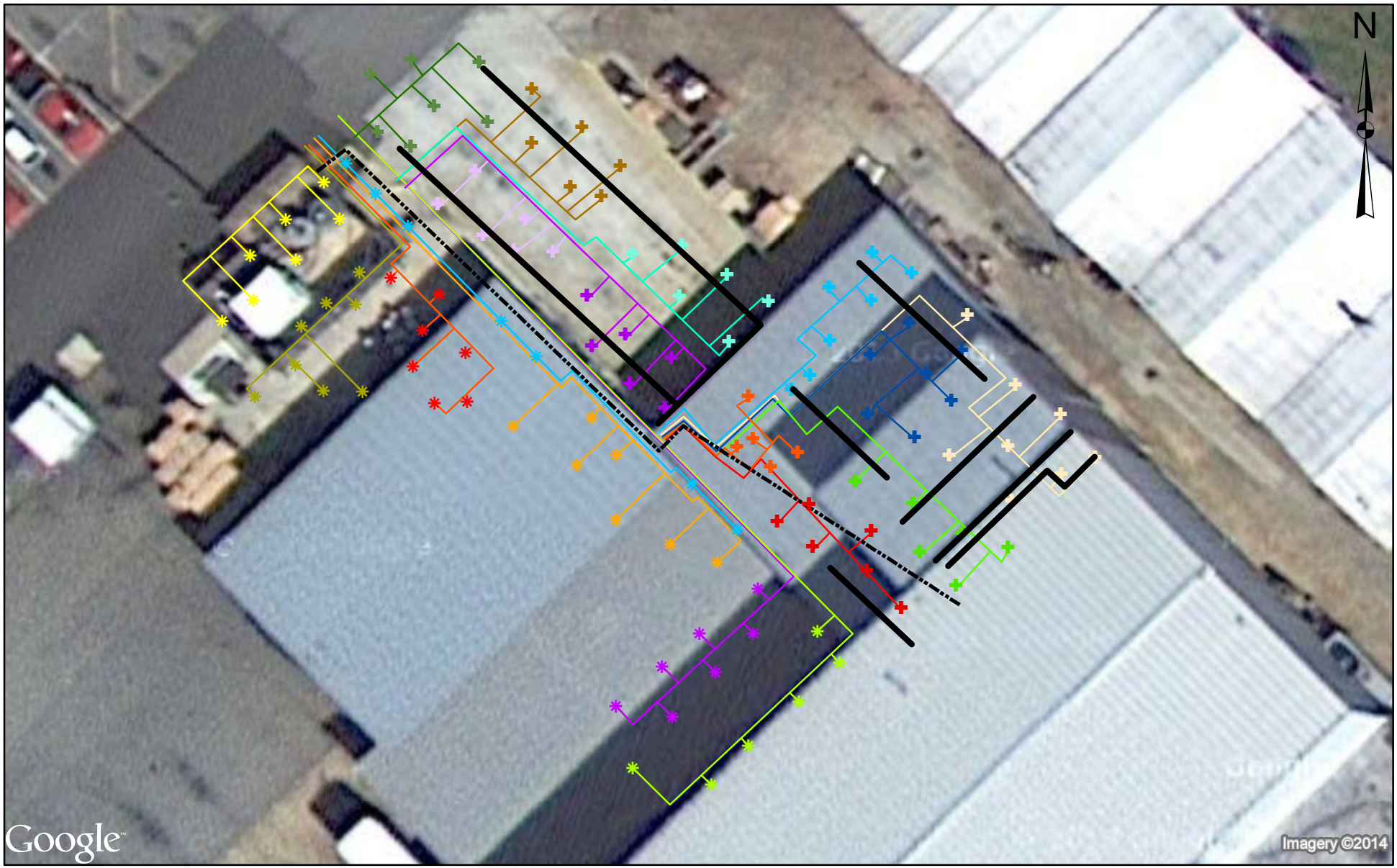


0 50 100 200
Feet

Legend

- Fence
- Abandoned Storm Sewer
- Drainage Ditch
- Active Storm Drain
- Roper Property Line
- OU Excavation
- Storm Drain Excavation
- Excavated 1 ft

Roper Pump Company
SVE System Layout



0 12.5 25 50
Feet

Legend

- Passive Vented Horizontal Well
- SVE Horizontal Well

SVE Wells Phase I

- Line A
- Line B
- Line C
- Line D
- Line E
- Line F
- Line H
- Line I
- Line J
- Line K
- Line L

SVE Wells Phase II

- Line M
- Line N
- Line O
- Line P
- Line Q
- Line R
- Line S

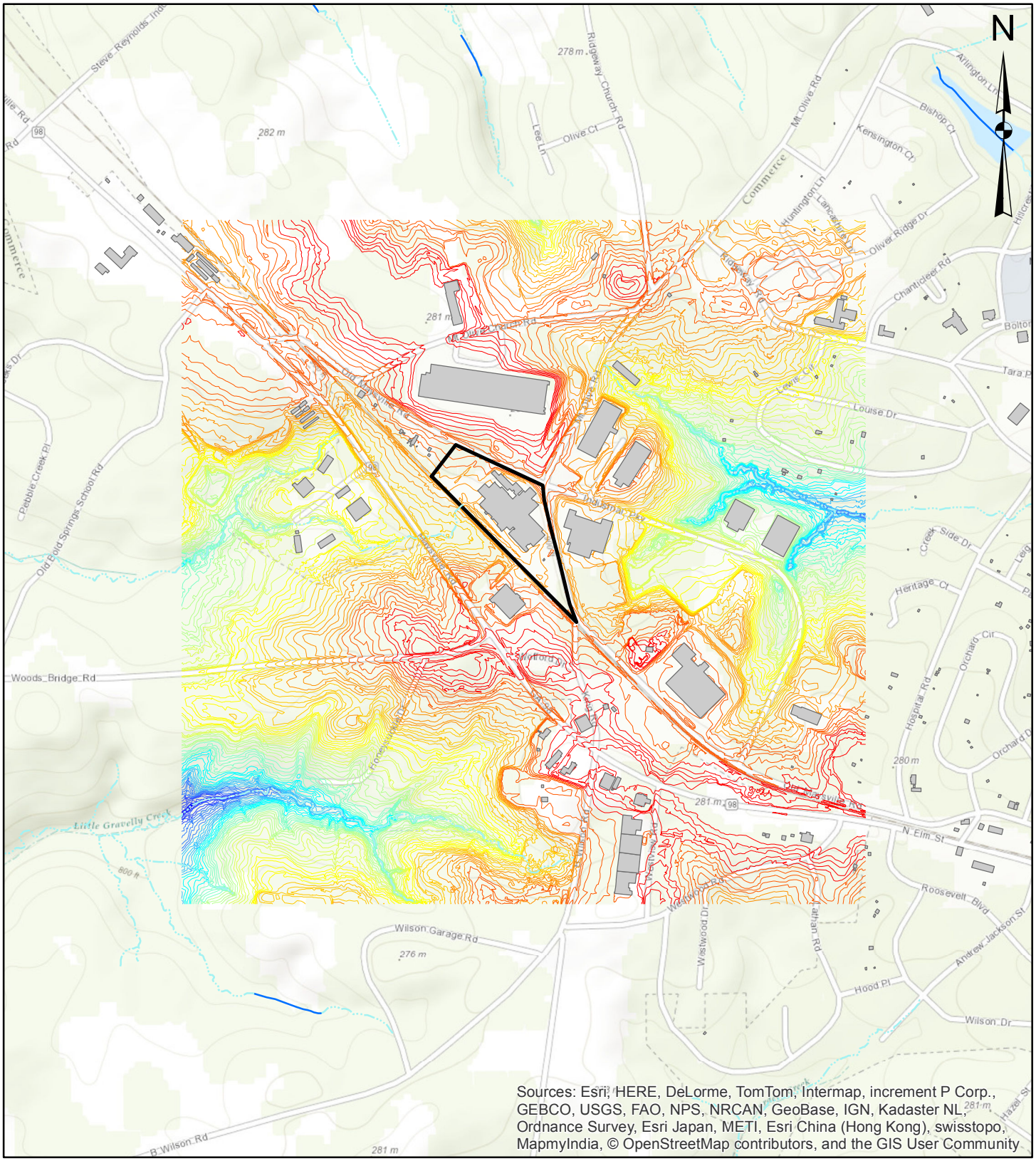
Phase I SVE System

- Line A
- Line B
- Line C
- Line D
- Line E
- Line F
- Line H
- Line I
- Line J
- Line K
- Line L

Phase II SVE System

- M Line
- N Line
- O Line
- P Line
- Q Line
- R Line
- S Line

Roper Pump Company
USGS LIDAR Map



0 500 1,000
Feet

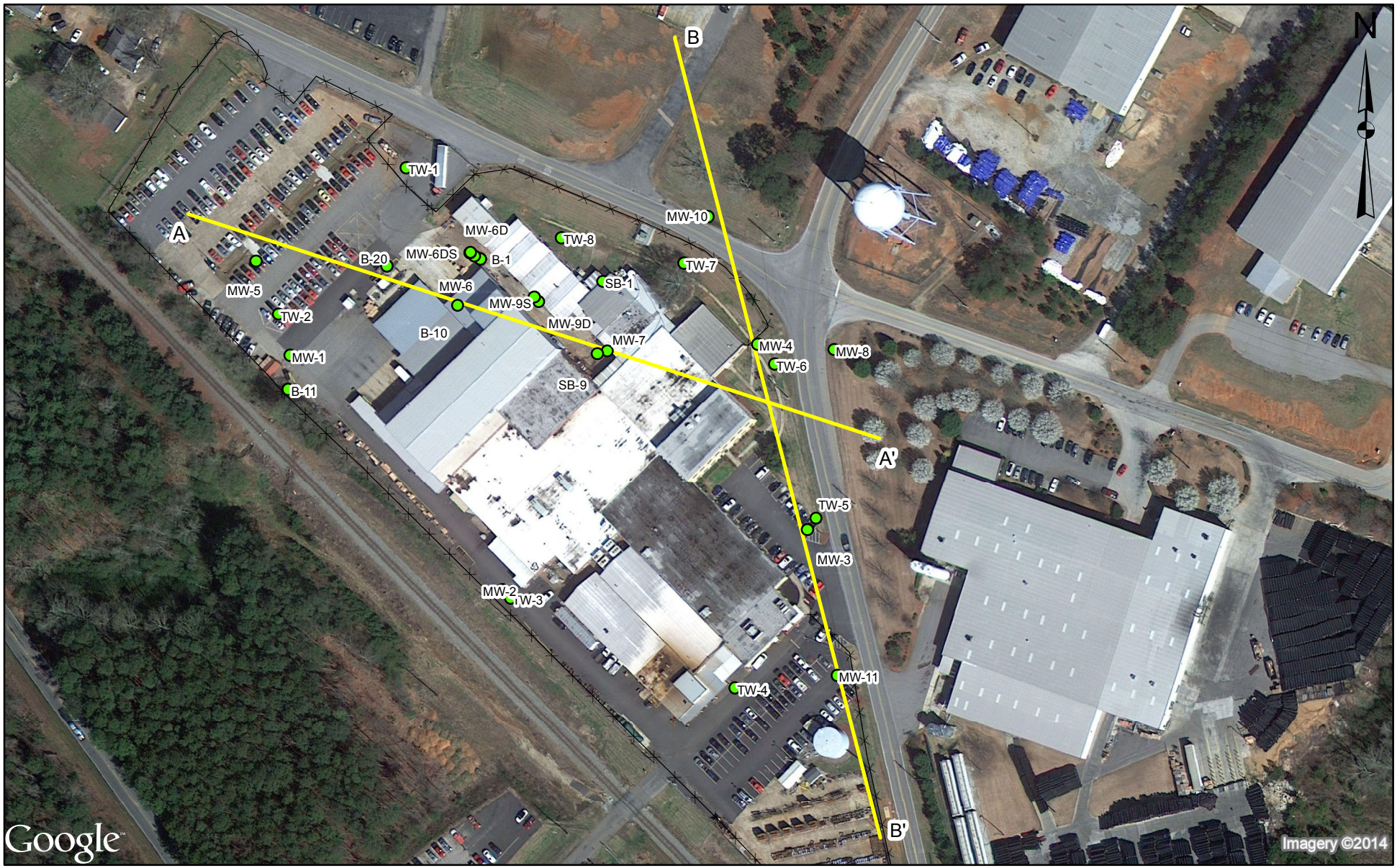
Legend

- Site Boundary
- Buildings
- Intermittent Stream
- Perennial Stream

ELEVATION (ft bgs)

800 810 820 830 840 850 860 870 880 890 900 910 920

Plan View Layout
Cross Section Locations



0 75 150 300
Feet

Legend

- Well Locations
- Cross sections
- Fence

A (West)

A' (East)

MW-5 (Projected)

TW-2 (Projected)

MW-1 (Projected)

B-20

MW-6 & MW-6DS &MW-6D (Projected)

B-10

B-1 (Projected)

MW-9D (Projected)

MW-9S (Projected)

SB-9

MW-7

MW-4 (Projected)

TW-6 (Projected)

MW-8 (Projected)

900

890

880

870

860

850

840

MW-5	
PCE	ND
TCE	ND
cDCE	ND

TW-2	
PCE	ND
TCE	ND
cDCE	ND

MW-1	
PCE	ND
TCE	ND
cDCE	ND

B-20	
PCE	530
TCE	7.4
cDCE	8.5

MW-6	
PCE	110
TCE	95
cDCE	190

B-10	
PCE	93,000
TCE	1,400
cDCE	4,500
1122TCA	100
112TCA	86

B-1	
PCE	600
TCE	2500
cDCE	2300

MW-6DS	
PCE	14
TCE	110
cDCE	ND

MW-6D	
PCE	17
TCE	29
cDCE	ND

MW-9S	
PCE	1,600
TCE	600
cDCE	240

MW-9D	
PCE	ND
TCE	7.8
cDCE	ND

SB-9	
PCE	4,900
TCE	1,400
cDCE	90

MW-7	
PCE	1,900
TCE	240
cDCE	124
1122TCA	3.8

MW-4	
PCE	170
TCE	98
cDCE	10

TW-6	
PCE	19
TCE	6
cDCE	ND

MW-8	
PCE	70
TCE	12
cDCE	ND

VERT. SCALE (FT) 0 10 20

HORIZ. SCALE (FEET) 0 30 60 120

EPS

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LEGEND

Residuum (Soil)

PARTIALLY WEATHERED ROCK

BEDROCK

WATER TABLE ELEVATION November 2014

Projected WELL PROJECTED INTO PLANE OF CROSS-SECTION

APPROXIMATE GROUNDWATER PLUME

APPROXIMATE EXTENT OF SOILS ABOVE PCE CSAT (110 mg/kg)

SCREENED INTERVAL

Well ID	
PCE	17
TCE	29
cDCE	ND

Sample results (ppb) In May 2009
ND = Non-detect

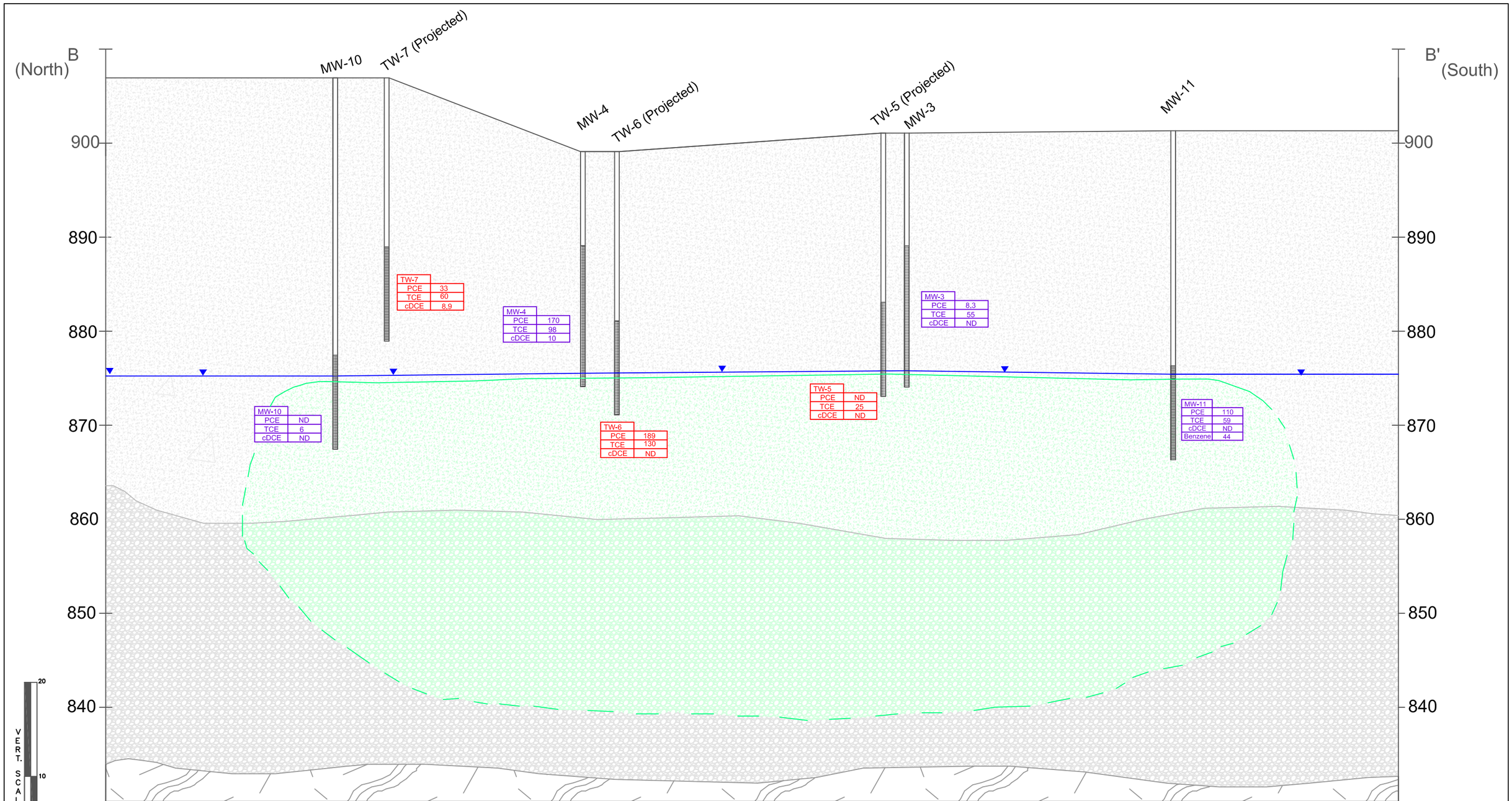
Well ID	
PCE	17
TCE	29
cDCE	ND

Sample Results (ppb) In November 2014
ND = Non-detect

Hydrogeologic Profile A - A'

Roper Pump Company
Commerce, GA

Figure No. 6B



EPS

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LEGEND

- Residuum (Soil)
- PARTIALLY WEATHERED ROCK
- BEDROCK
- WATER TABLE ELEVATION November 2014
- APPROXIMATE GROUNDWATER PLUME
- APPROXIMATE EXTENT OF SOILS ABOVE PCE CSAT (110 mg/kg)
- SCREENED INTERVAL

Well ID
PCE 17
TCE 29
cDCE ND

Sample results (ppb) in May 2009
ND = Non-detect

Well ID
PCE 17
TCE 29
cDCE ND

Sample Results (ppb) In November 2014
ND = Non-detect

Projected WELL PROJECTED INTO PLANE OF CROSS-SECTION

Hydrogeologic Profile B - B'

Roper Pump Company
Commerce, GA

Figure No. 6C

Roper Pump Company
Potentiometric Surface Map, November 2014

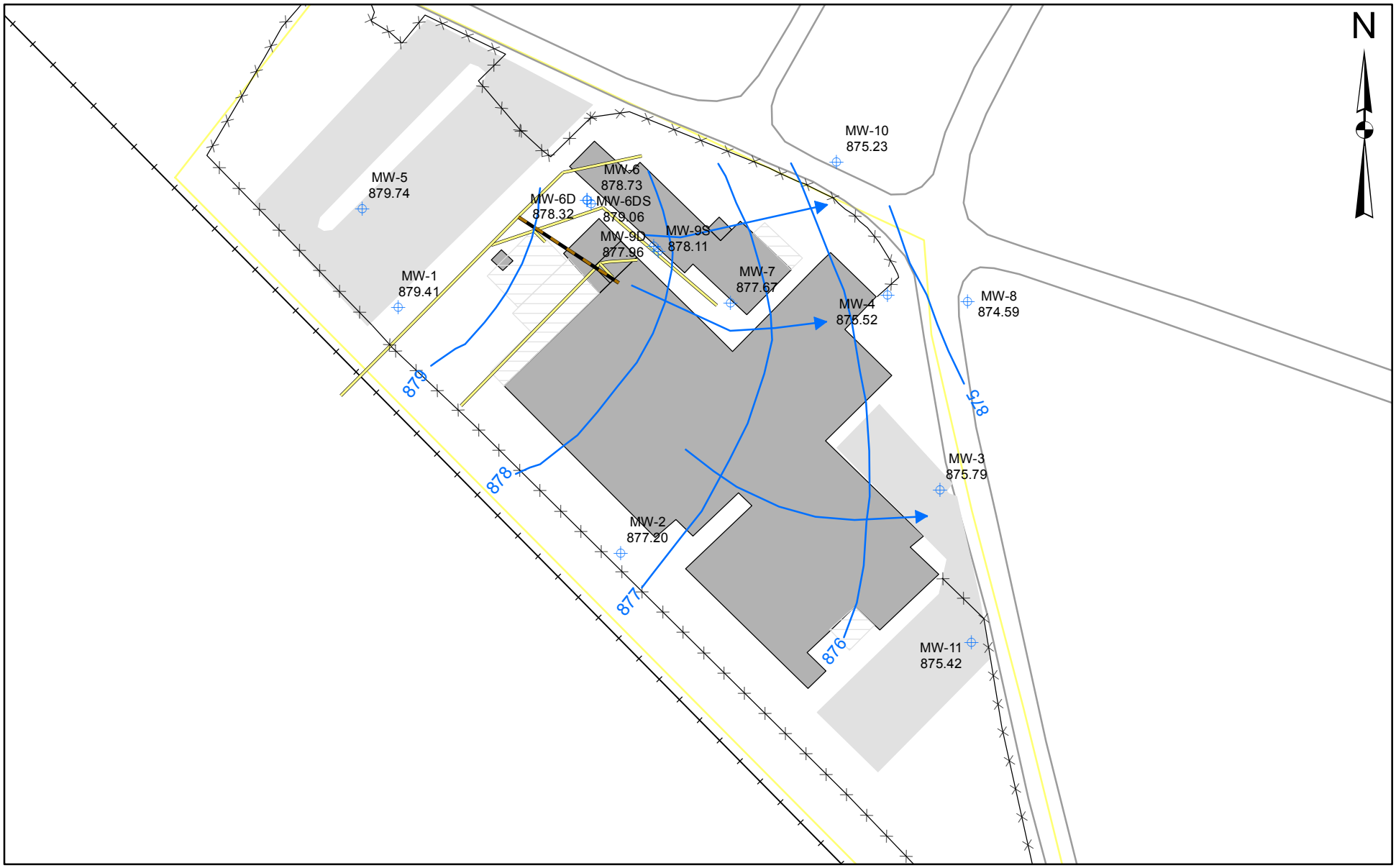

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Figure No. 7

PCE Source Delineation
Roper Pump Company

0 75 150 300
Feet

Legend

PCE in Soil
- < 0.2 ppm
- 0.2 - 2 ppm
- > 2 ppm

PCE in Groundwater
- < 16 ppm
- 16 - 160 ppm
- > 160 ppm

- Soil Condition Exceeding PCE Csat Concetration (Source)
- Groundwater Condition Exceeding 1% PCE Solubility
- Abandoned Storm Sewer
- Drainage Ditch
- Storm Drain
- Roper Property Line

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F:\Roper_Pump\GIS_Projects\VRP_Application\PCE_source_delineation

Figure No. 8

Roper Pump Company
Soil PCE as Multiple of Residential RRS (0 to 2 ft bgs)

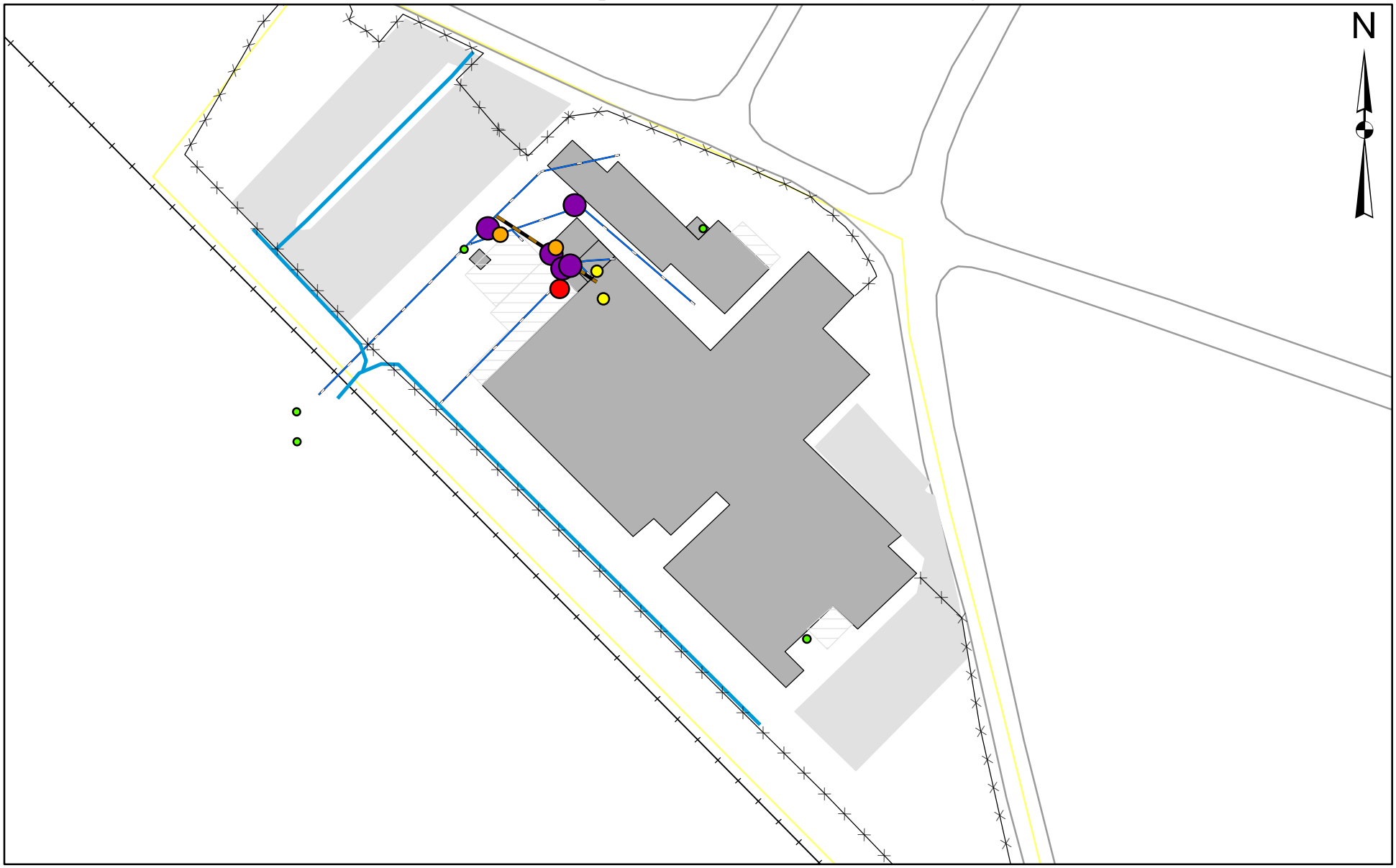

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Figure No. 9A

Roper Pump Company
Soil PCE as Multiple of Residential RRS (2 to 5 ft bgs)

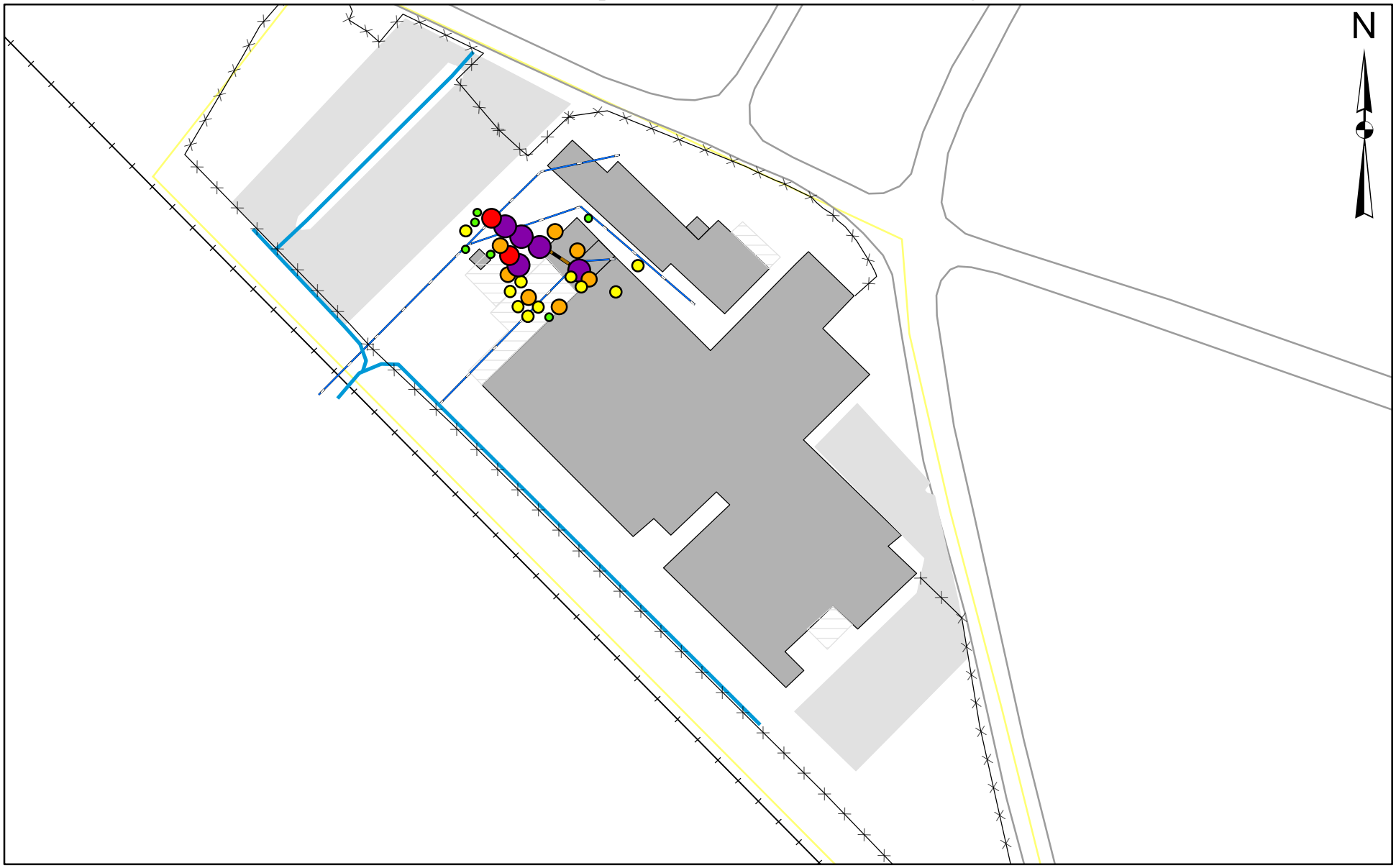

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Figure No. 9B

Roper Pump Company
Soil PCE as Multiple of Residential RRS (5 to 10 ft bgs)

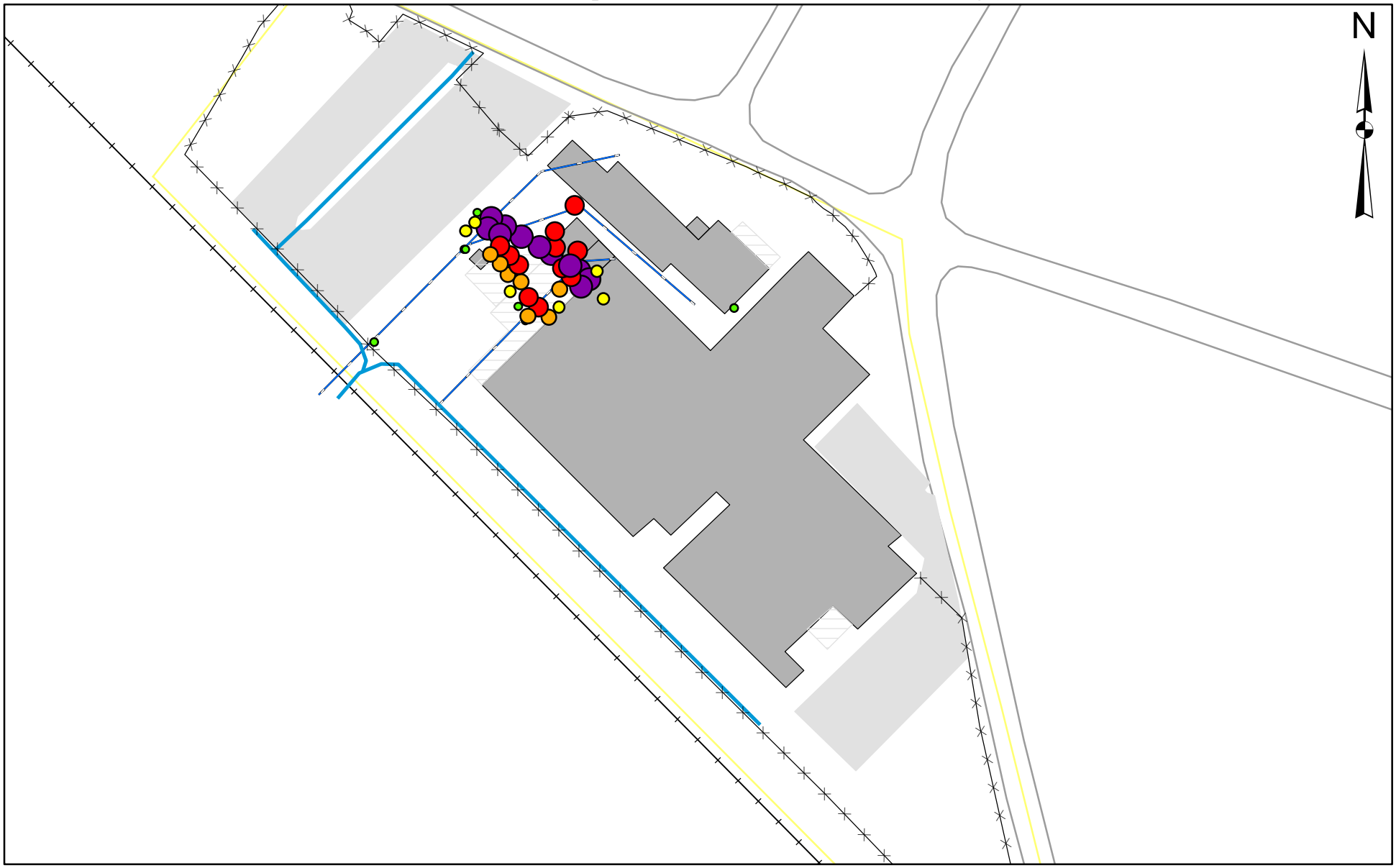

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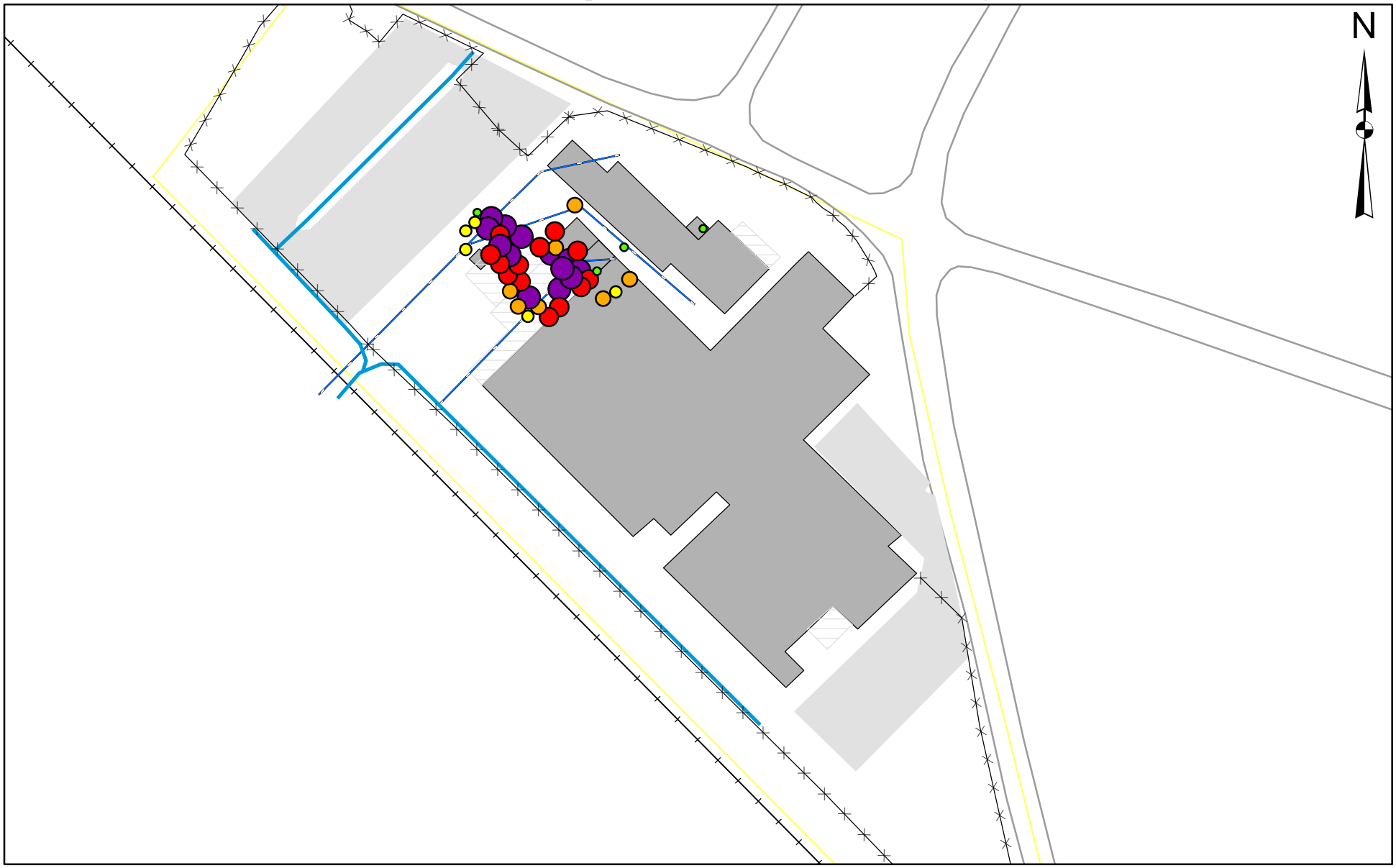
Figure No. 9C

Roper Pump Company
Soil PCE as Multiple of Residential RRS (10 to 15 ft bgs)



0 75 150 300
Feet

Legend

- Fence
- Abandoned Storm Sewer
- Drainage Ditch
- Storm Drain
- Parking Lot
- Roads
- Railroad
- Overhang
- Roper Property Line
- Building

Multiple of Residential RRS

- < 1x
- 1 - 5x
- 5 - 10x
- 10 - 100x
- >100x

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Figure No. 9D

Roper Pump Company
Soil PCE as Multiple of Residential RRS (15 to 20 ft bgs)

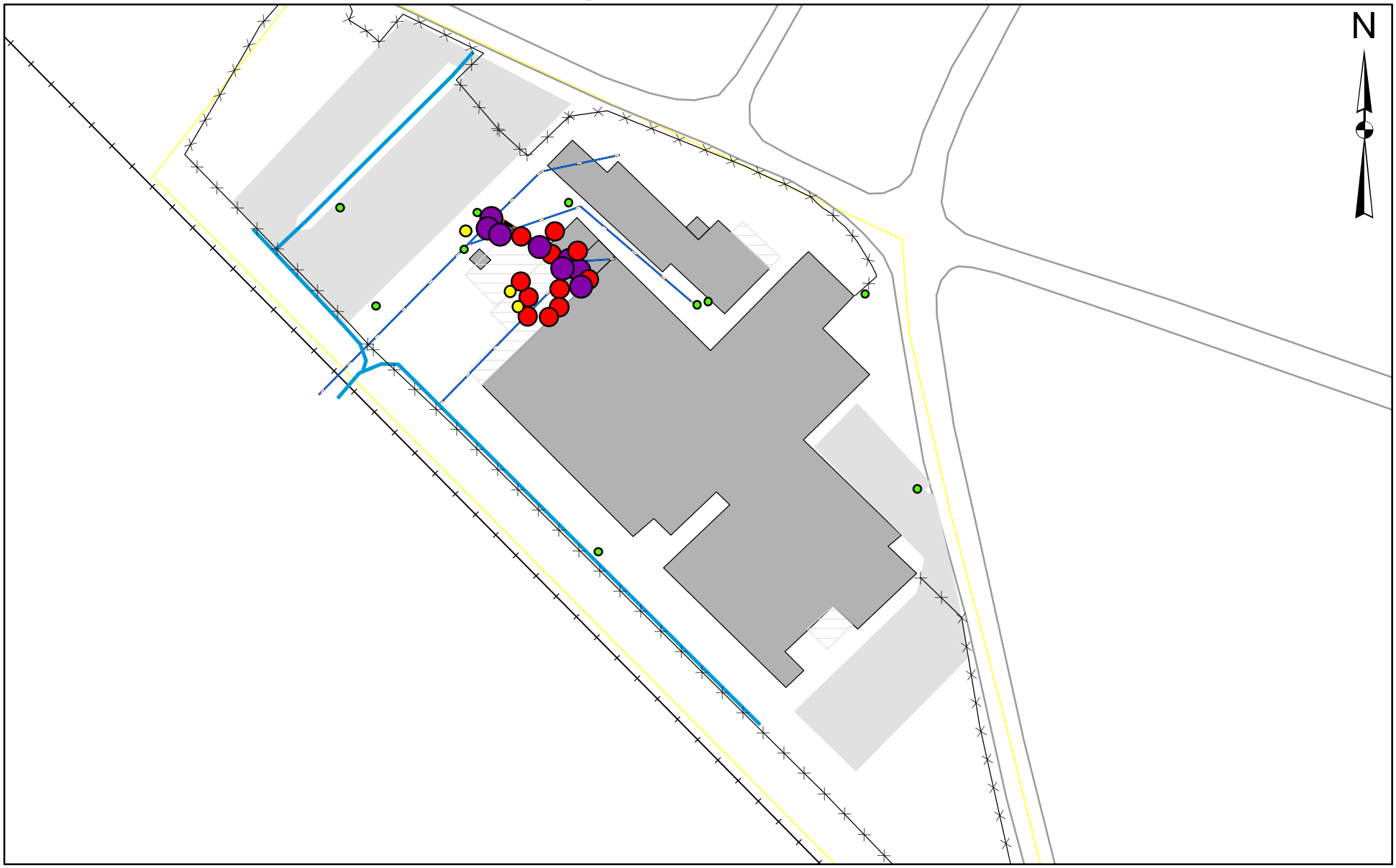

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Figure No. 9E

Roper Pump Company
Groundwater PCE as Multiple of Residential RRS (Sampled May 2009)

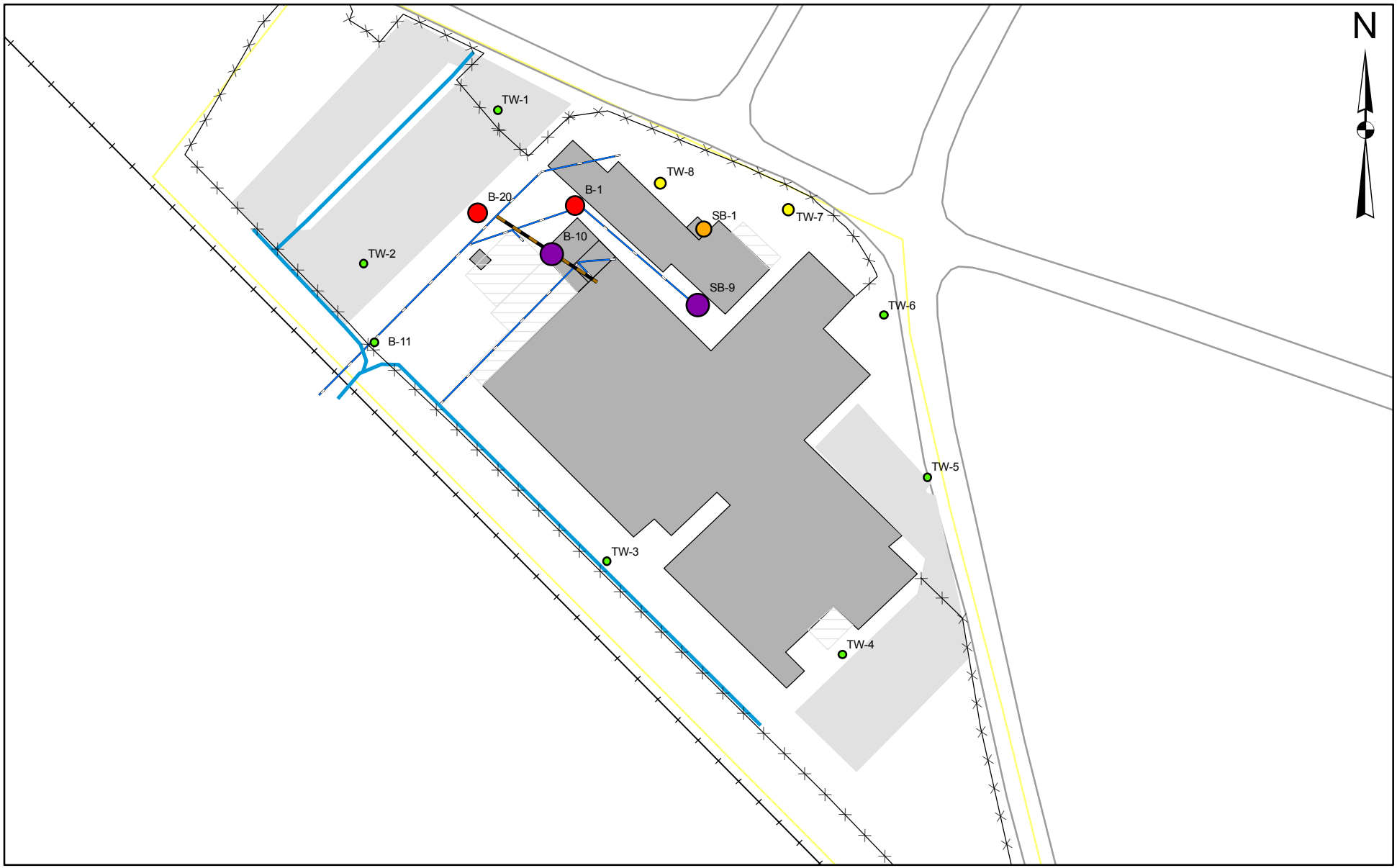

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Figure No. 10A

Roper Pump Company
Groundwater PCE as Multiple of Residential RRS (Sampled February 2014)

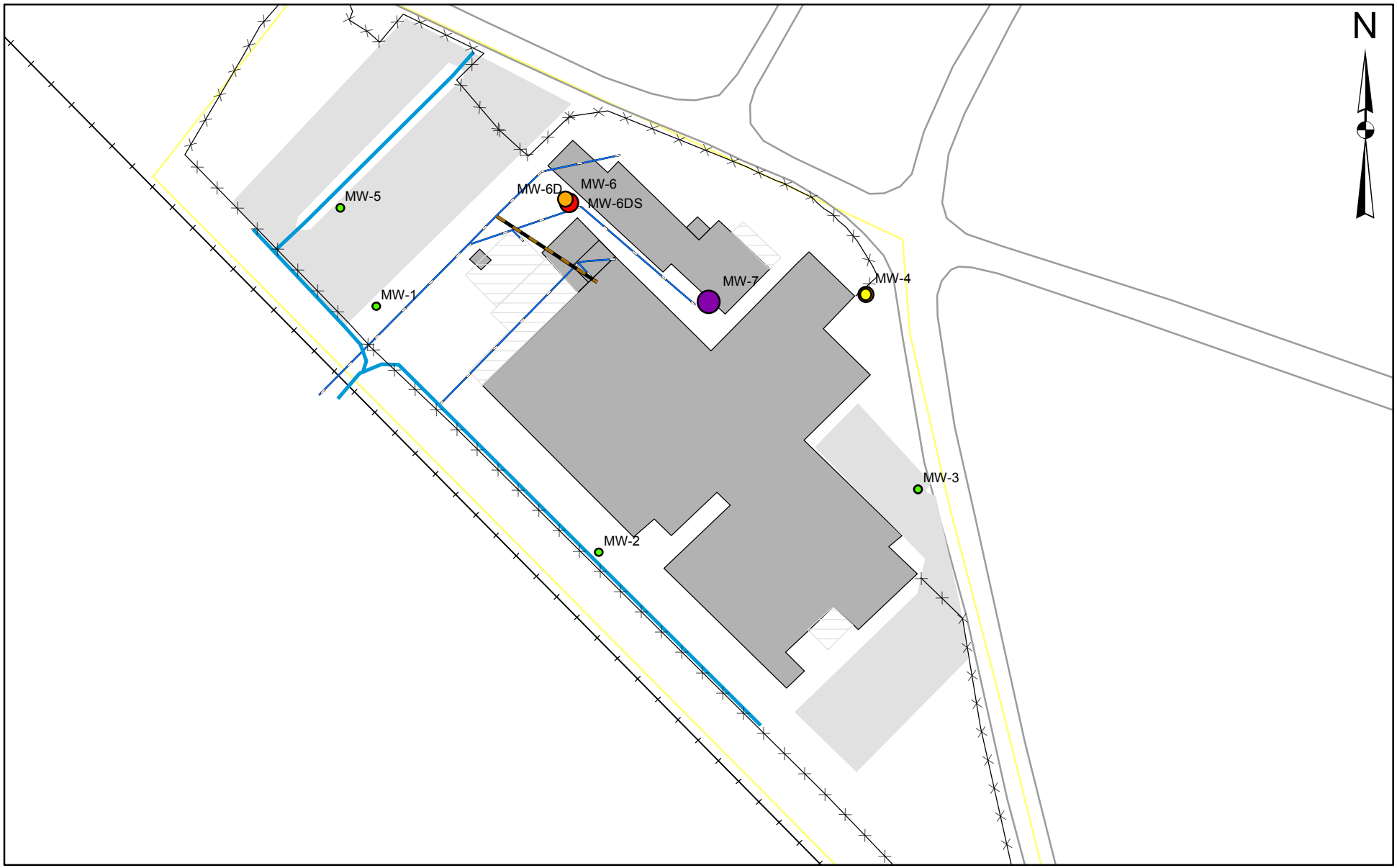

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Figure No. 10B

Roper Pump Company
Groundwater PCE as Multiple of Residential RRS (Sampled November 2014)

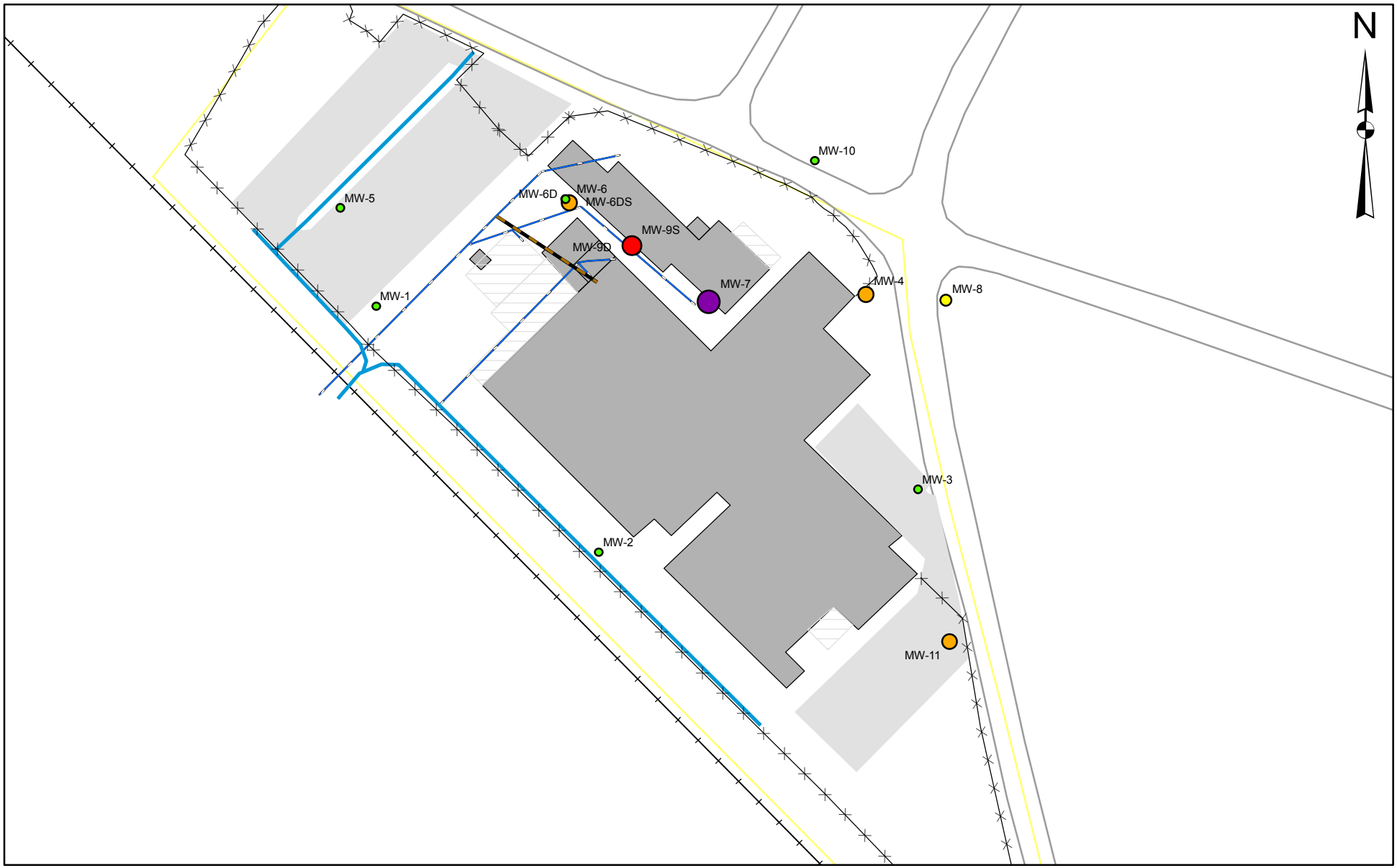

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Figure No. 10C

Roper Pump Company
Sub-Slab Vapor PCE Concentration

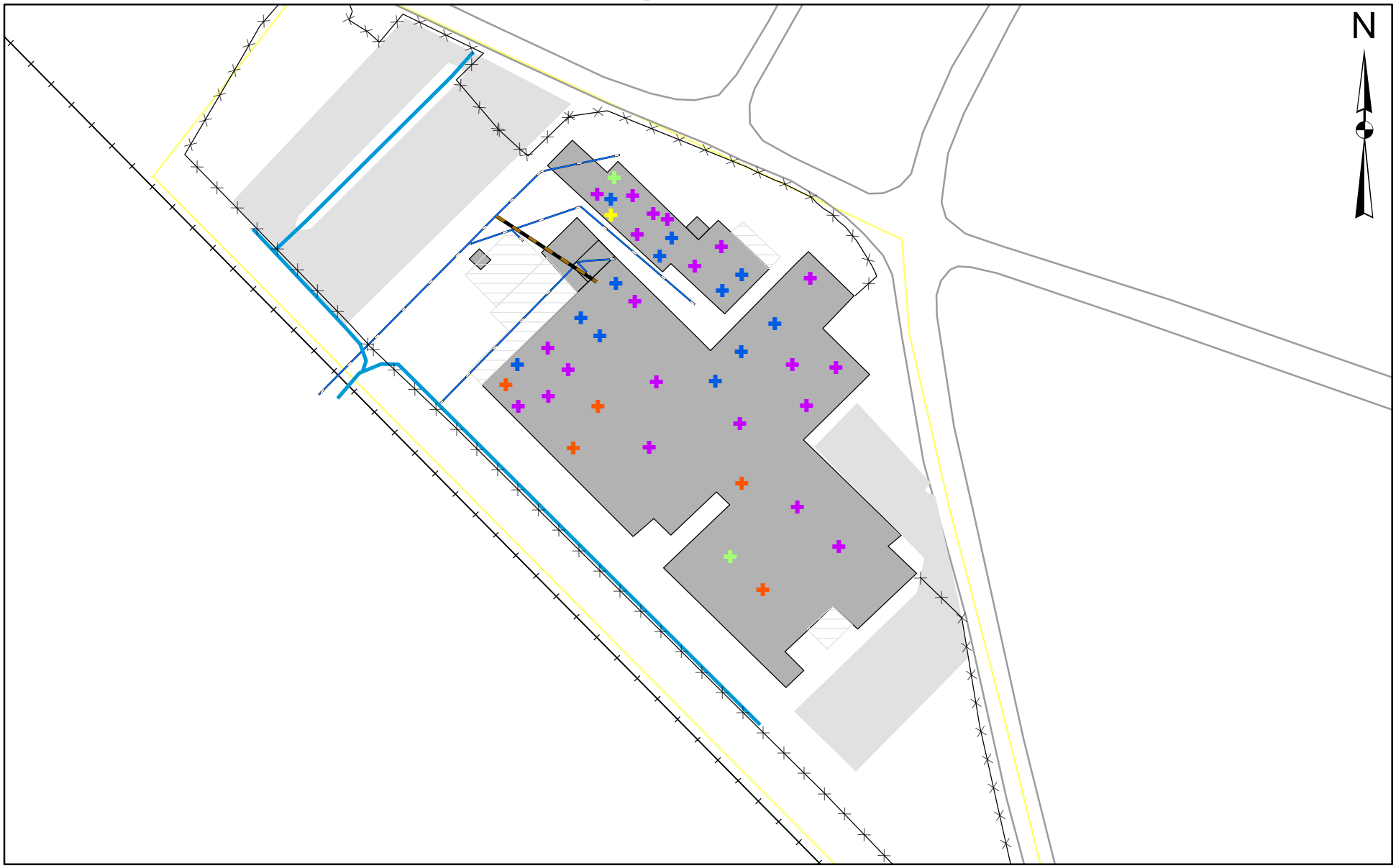

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Figure No. 11

Roper Pump Company
Soil TCE as Multiple of Residential RRS (0 to 2 ft bgs)

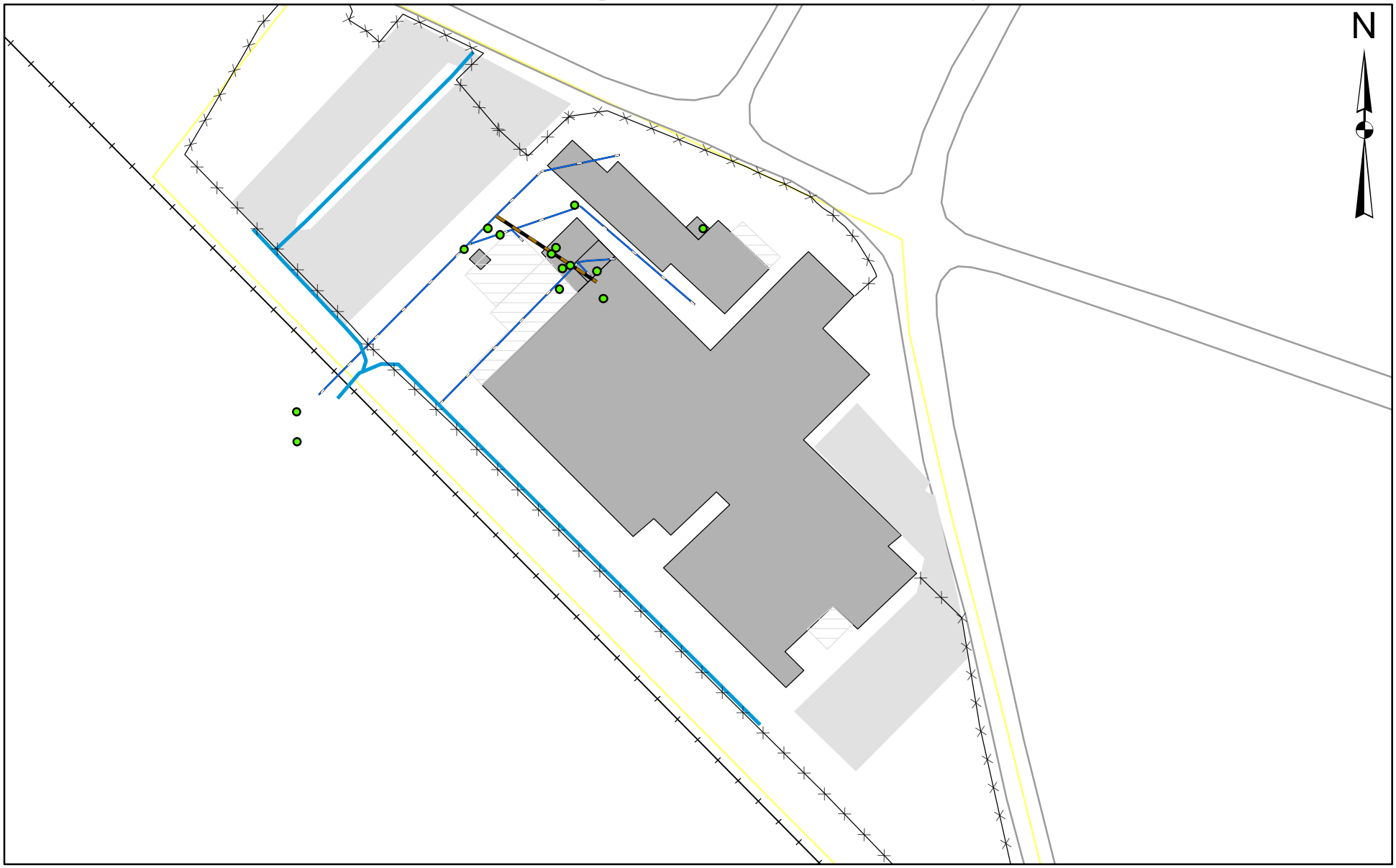

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Figure No. 12A

Roper Pump Company
Soil TCE as Multiple of Residential RRS (2 to 5 ft bgs)

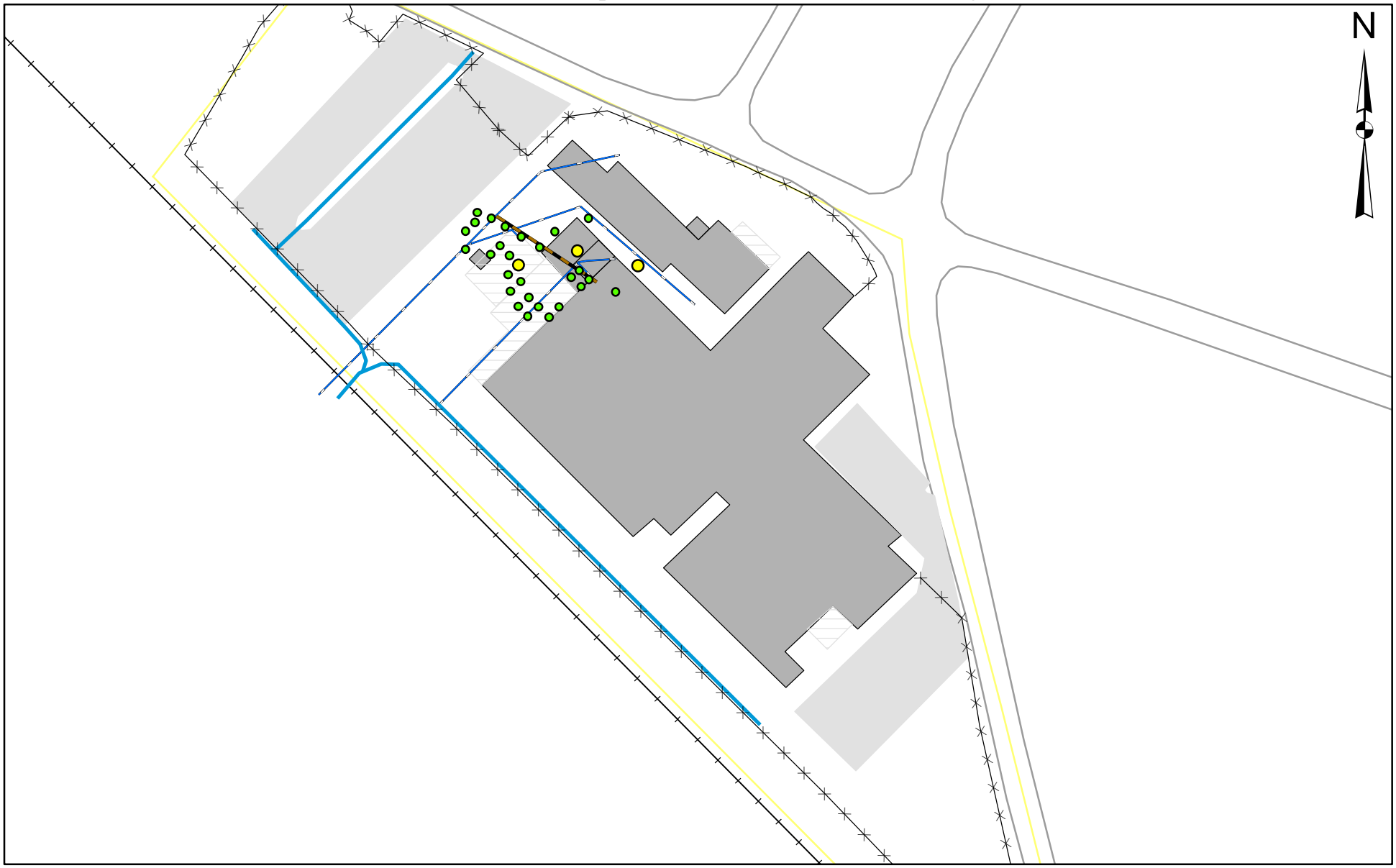

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Figure No. 12B

Roper Pump Company
Soil TCE as Multiple of Residential RRS (5 to 10 ft bgs)

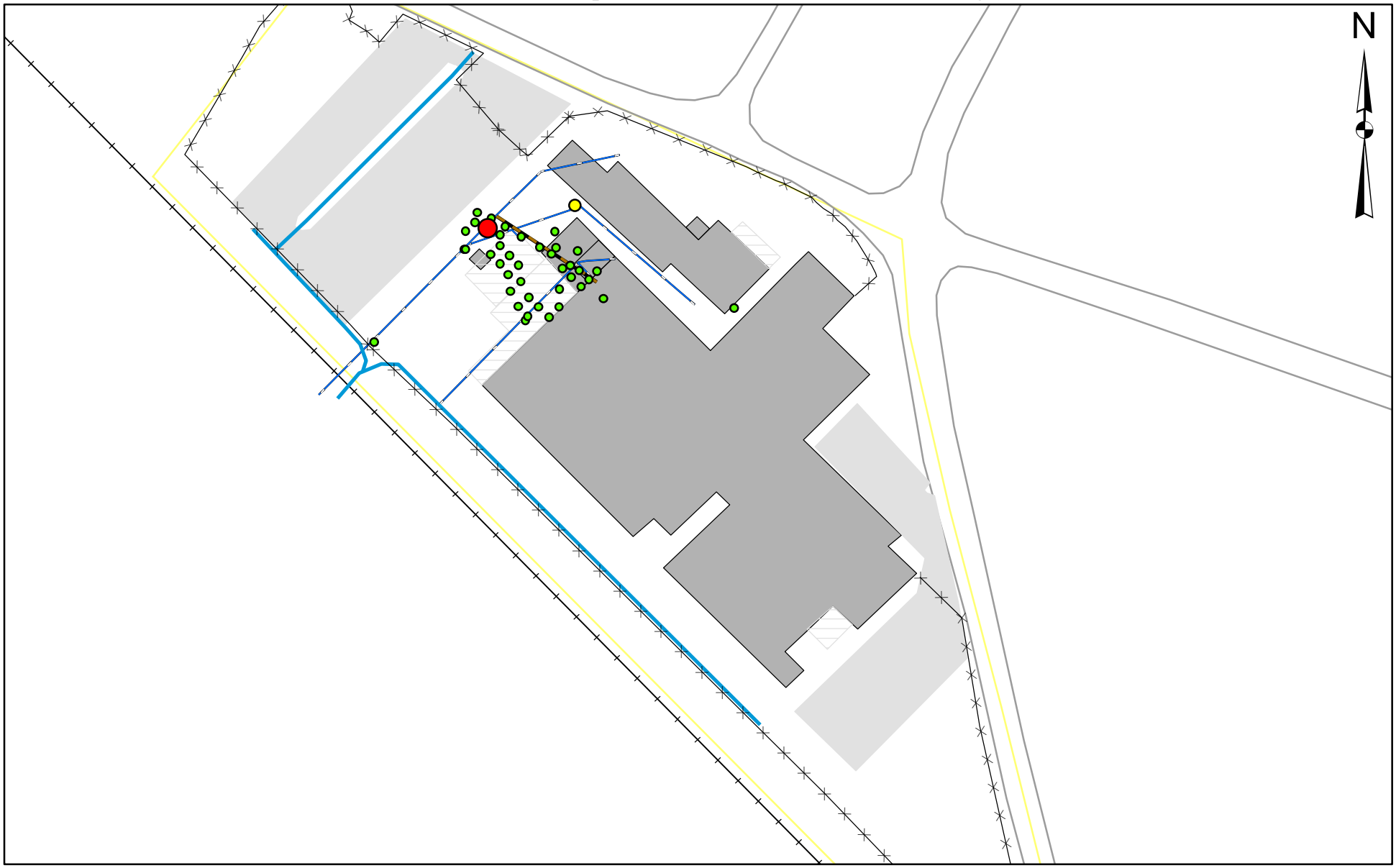

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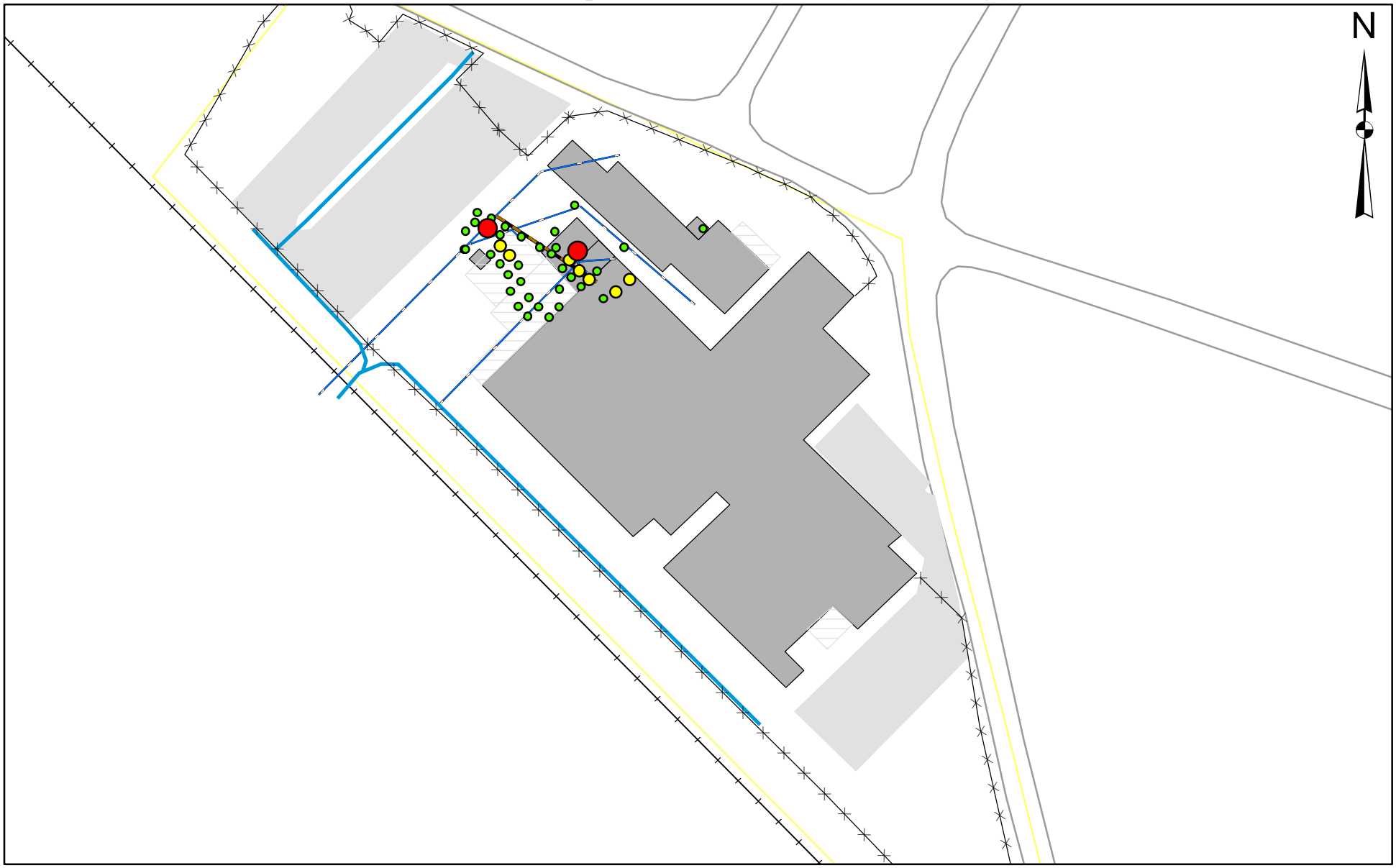
Figure No. 12C

Roper Pump Company
Soil TCE as Multiple of Residential RRS (10 to 15 ft bgs)



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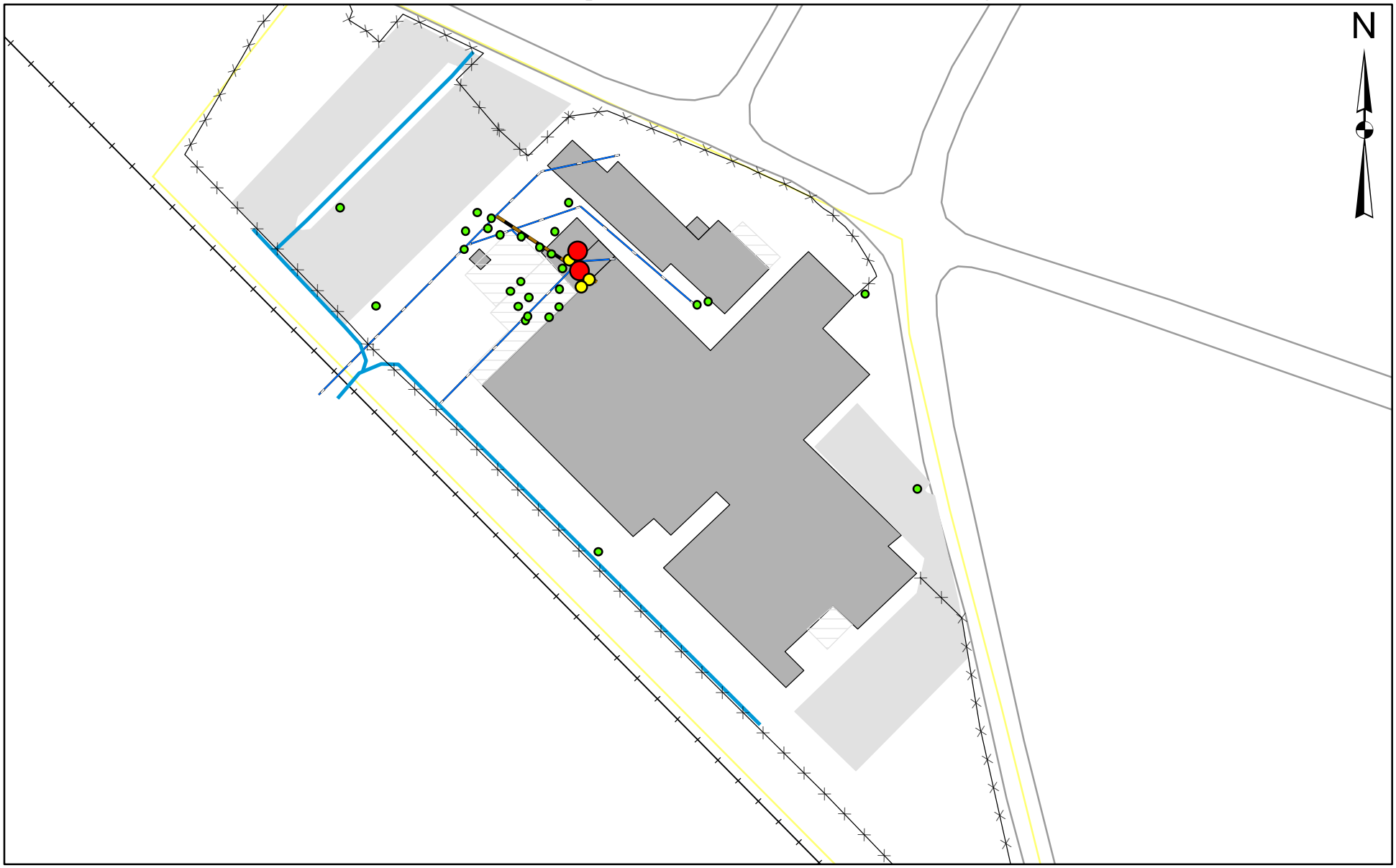
F:\Roper_Pump\GIS_Projects\VRP_Application

Figure No. 12D

Roper Pump Company
Soil TCE as Multiple of Residential RRS (15 to 20 ft bgs)



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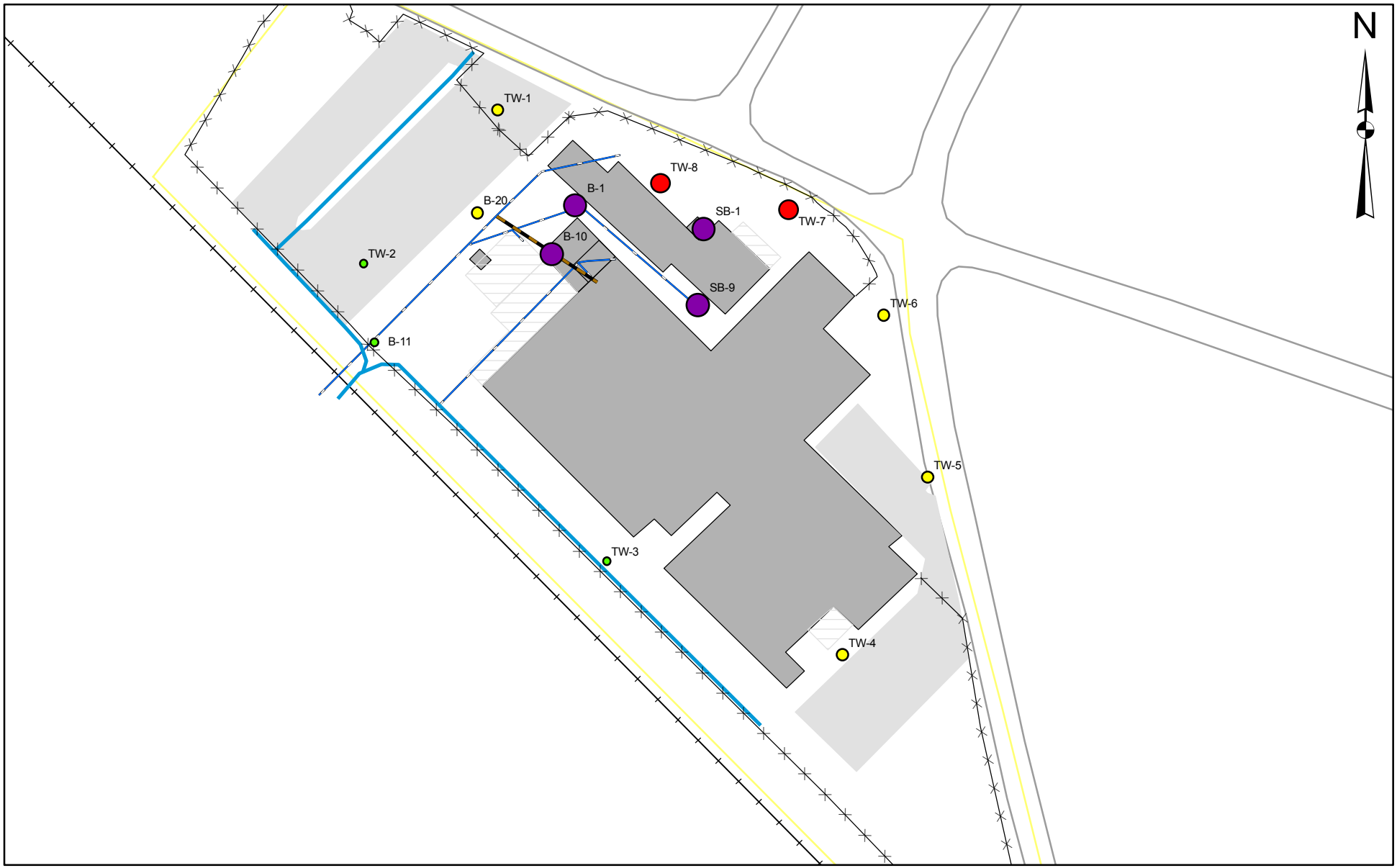
F:\Roper_Pump\GIS_Projects\VRP_Application

Figure No. 12E

Roper Pump Company
Groundwater TCE as Multiple of Residential RRS (Sampled May 2009)



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F:\Roper_Pump\GIS_Projects\VRP_Application

Figure No. 13A

Roper Pump Company
Groundwater TCE as Multiple of Residential RRS (Sampled February 2014)

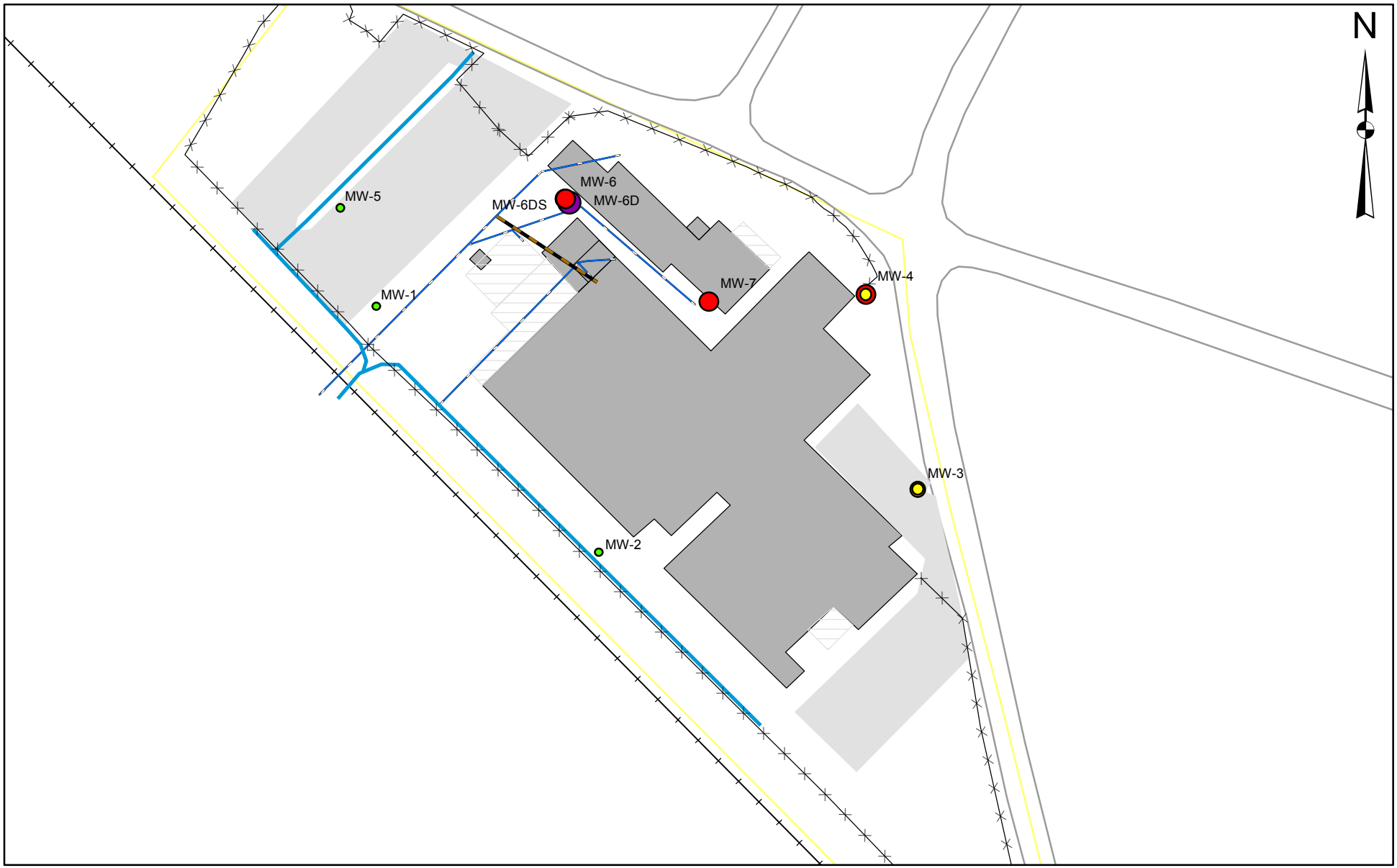

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Figure No. 13B

Roper Pump Company
Groundwater TCE as Multiple of Residential RRS (Sampled November 2014)

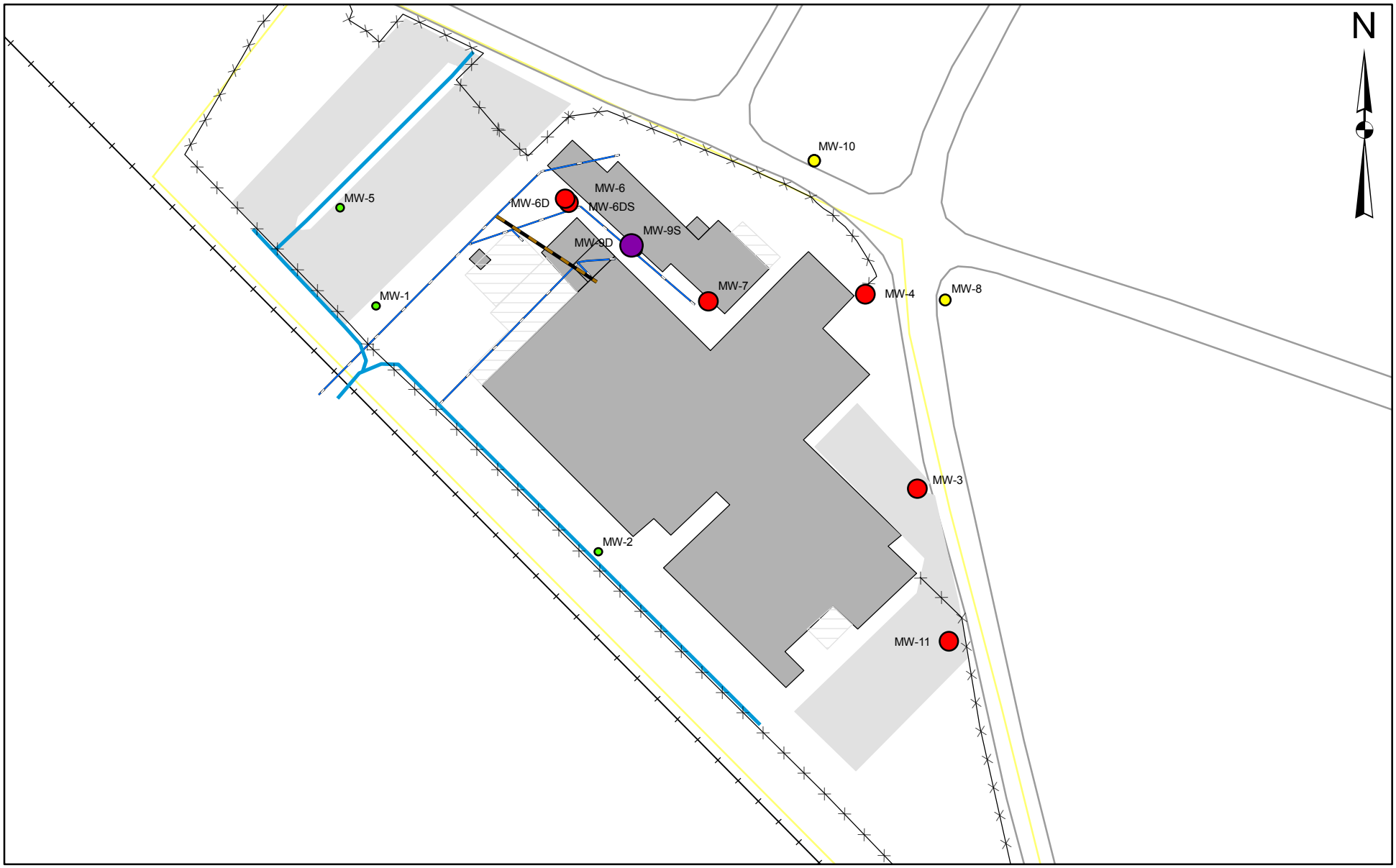

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Figure No. 13C

Roper Pump Company
Sub-Slab Vapor TCE Concentration

Environmental Planning Specialists, Inc.
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Figure No. 14

Roper Pump Company
Groundwater cDCE as Multiple of Residential RRS (Sampled May 2009)

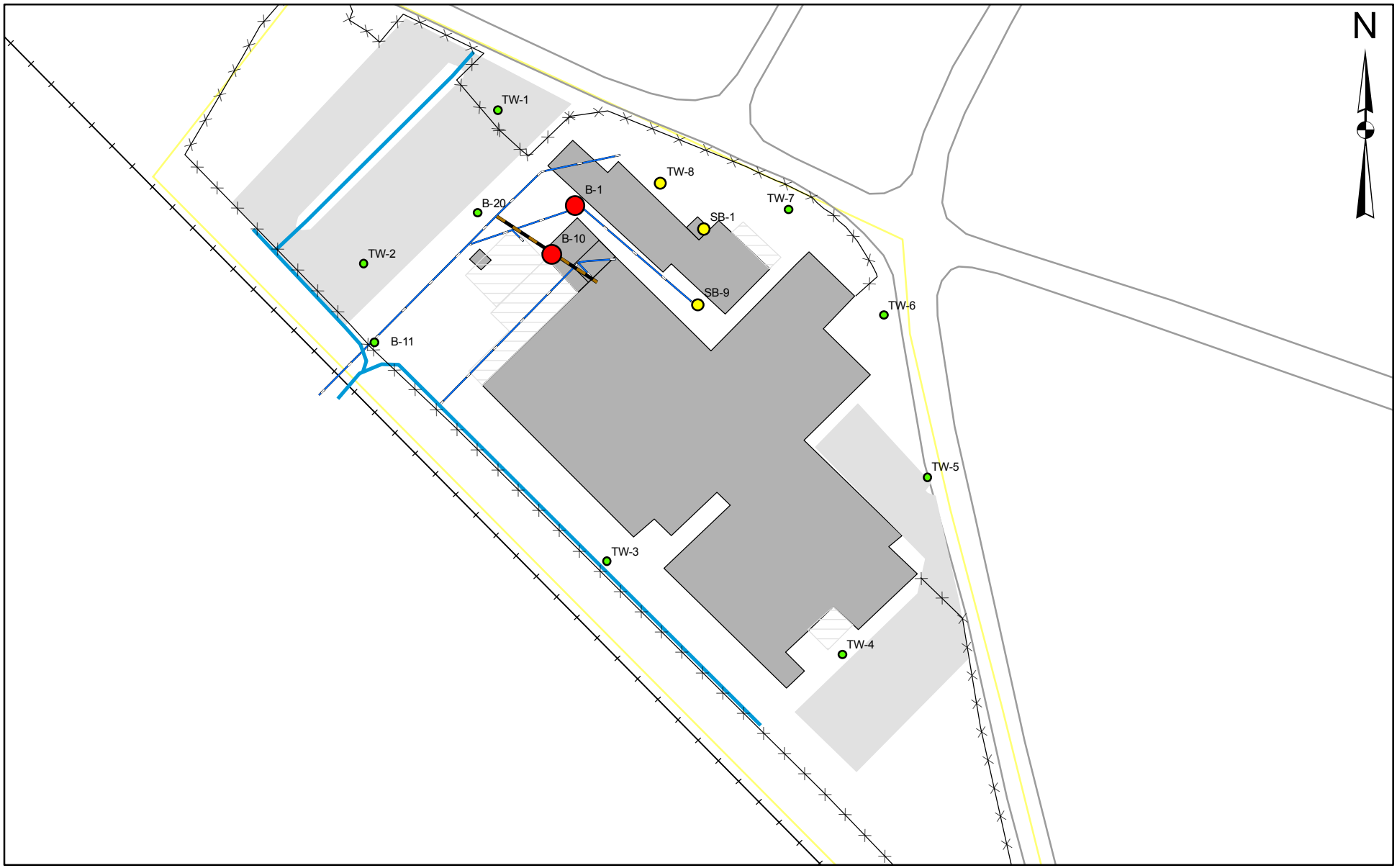

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Figure No. 15A

Roper Pump Company
Groundwater cDCE as Multiple of Residential RRS (Sampled February 2014)

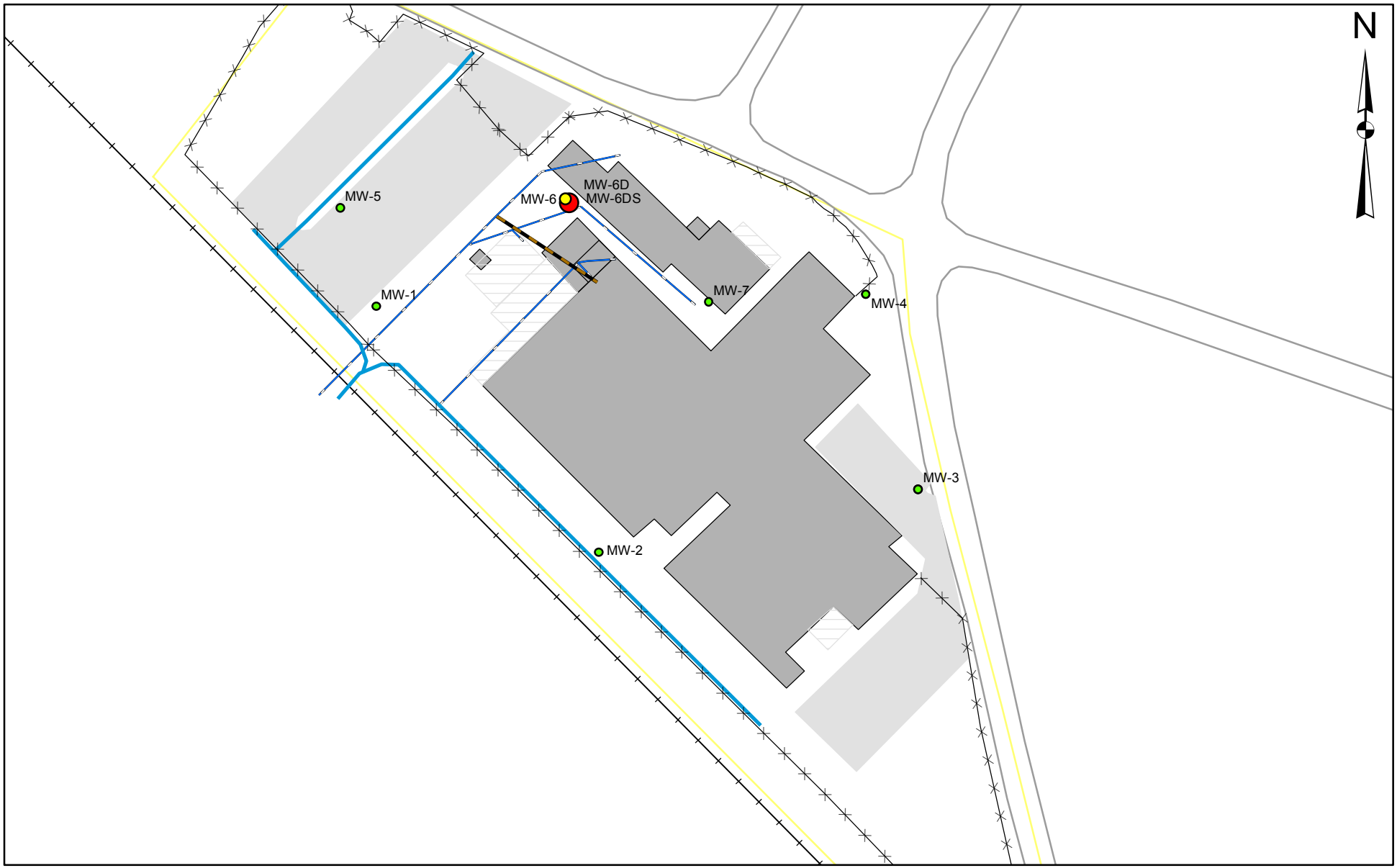

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Figure No. 15B

Roper Pump Company
Groundwater cDCE as Multiple of Residential RRS (Sampled November 2014)

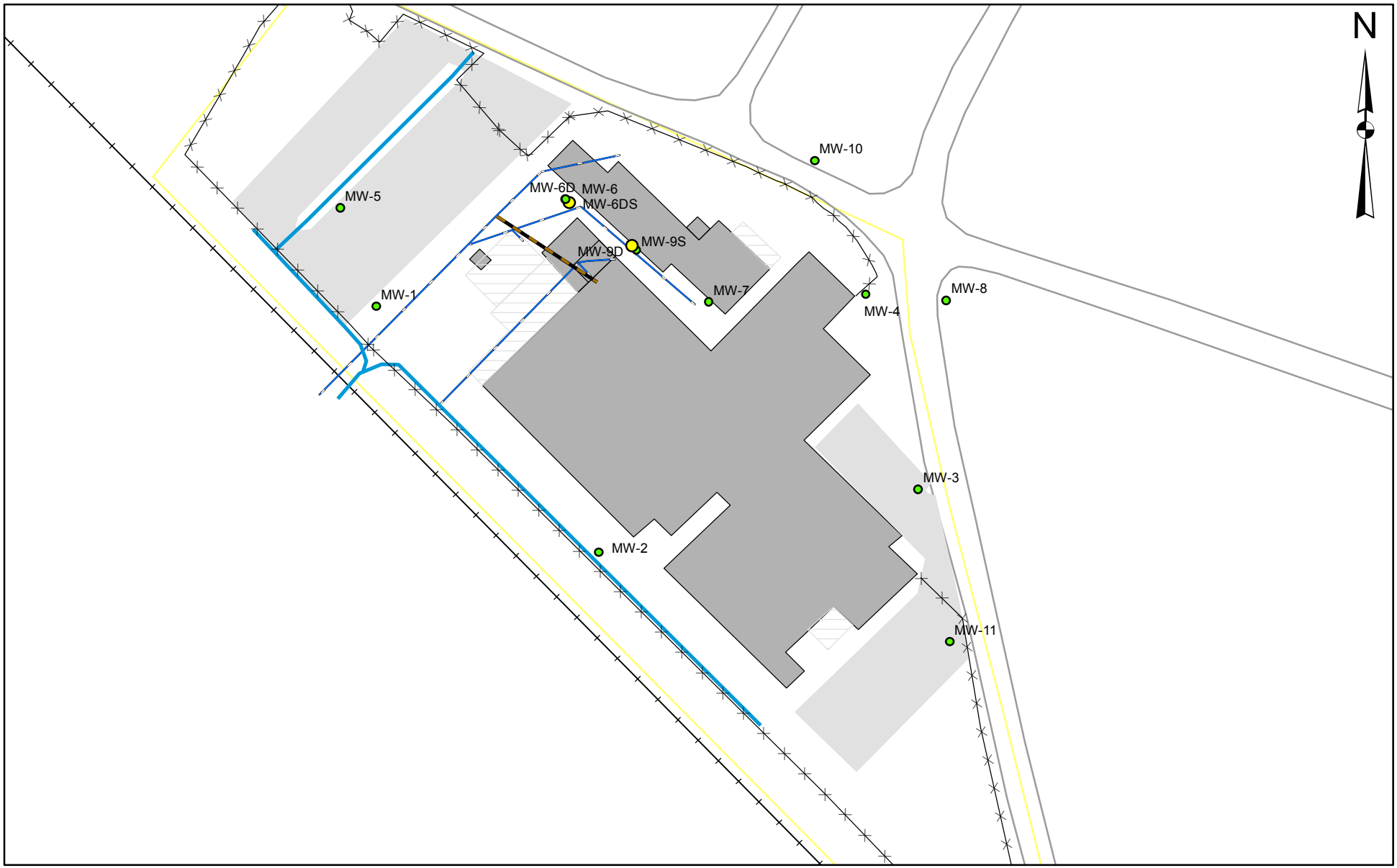

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Figure No. 15C

Roper Pump Company
Groundwater 1122TCA as Multiple of Residential RRS (Sampled May 2009)

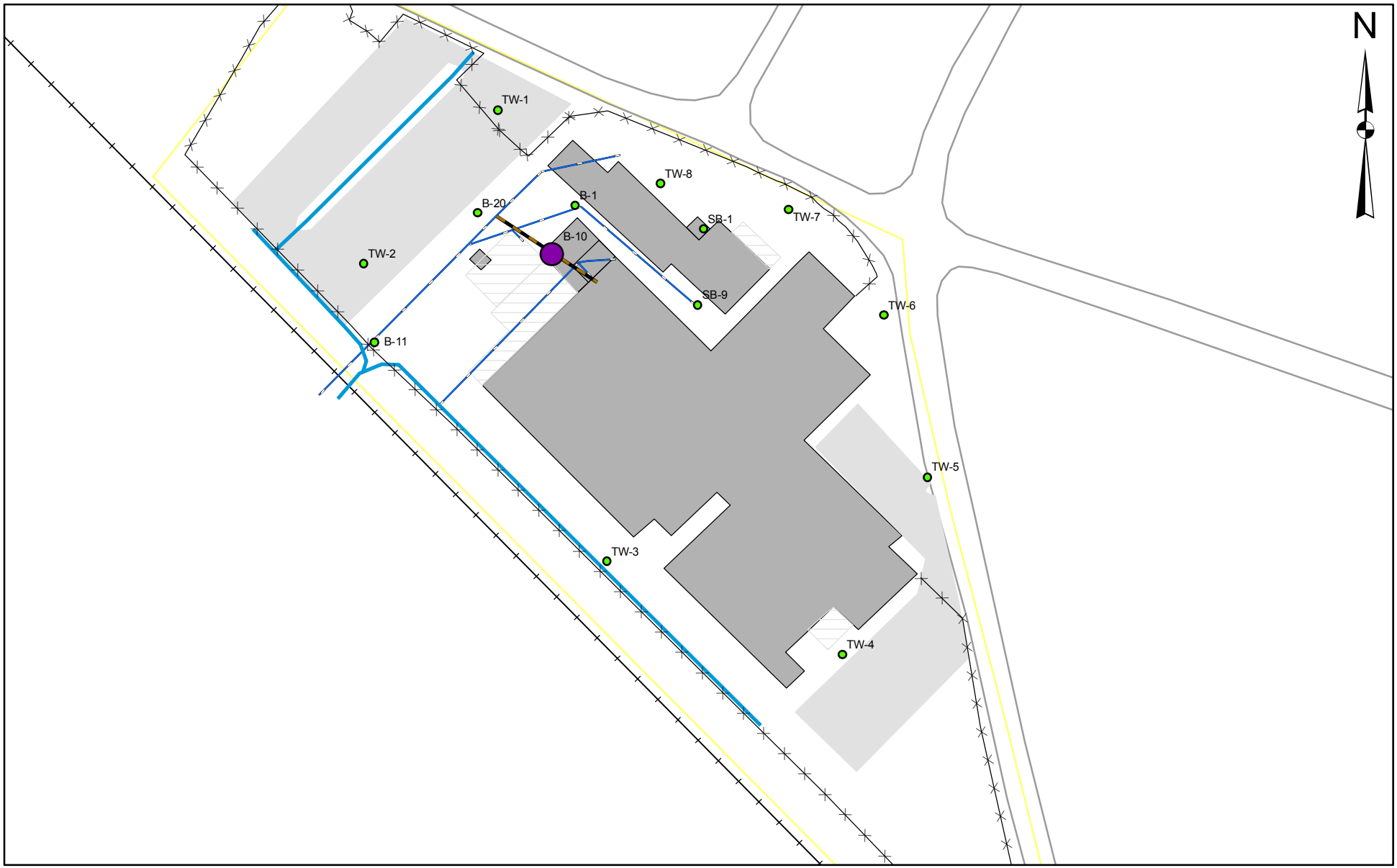

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Figure No. 16A

Roper Pump Company
Groundwater 1122TCA as Multiple of Residential RRS (Sampled February 2014)

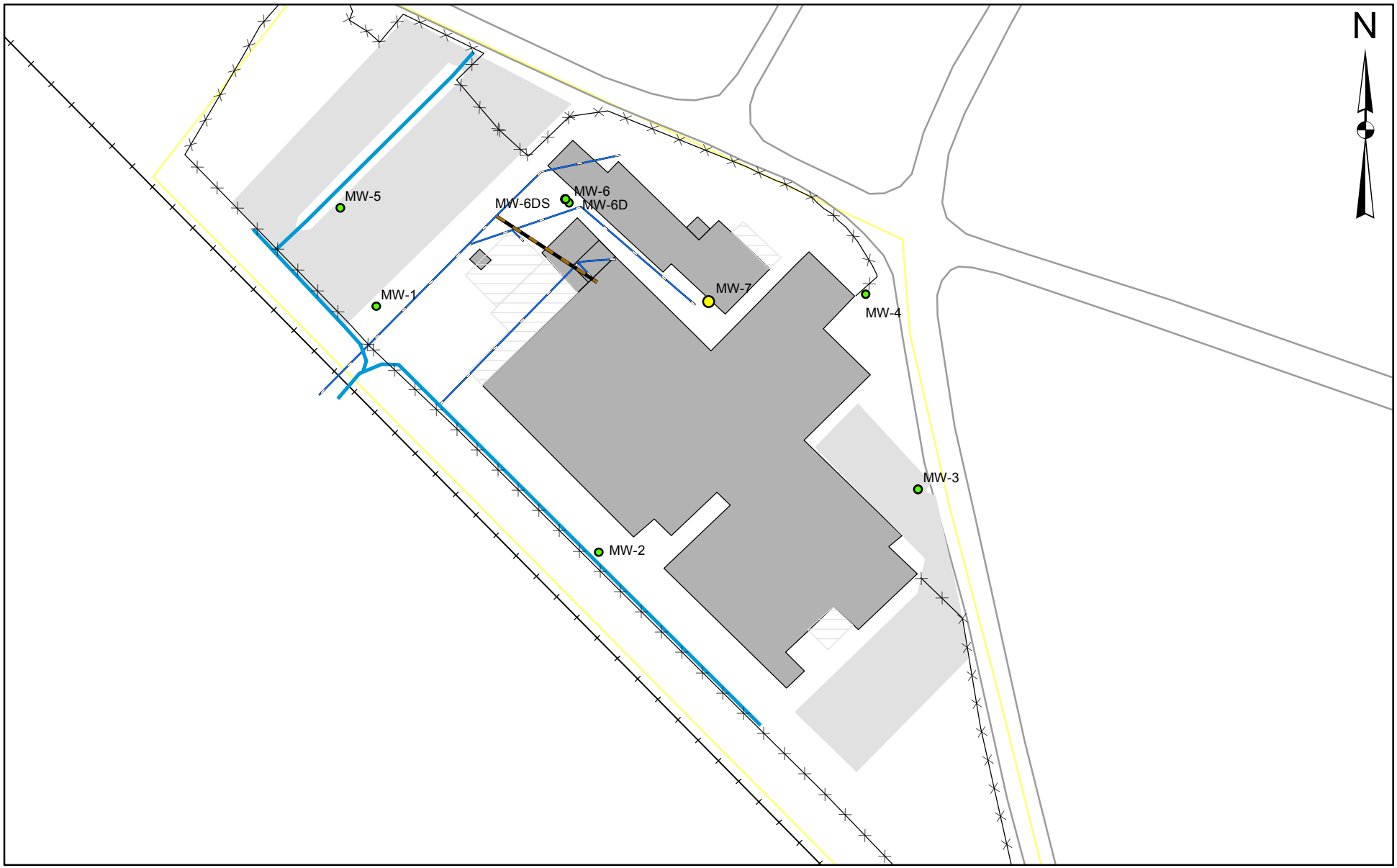

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Figure No. 16B

Roper Pump Company
Groundwater 1122TCA as Multiple of Residential RRS (Sampled November 2014)

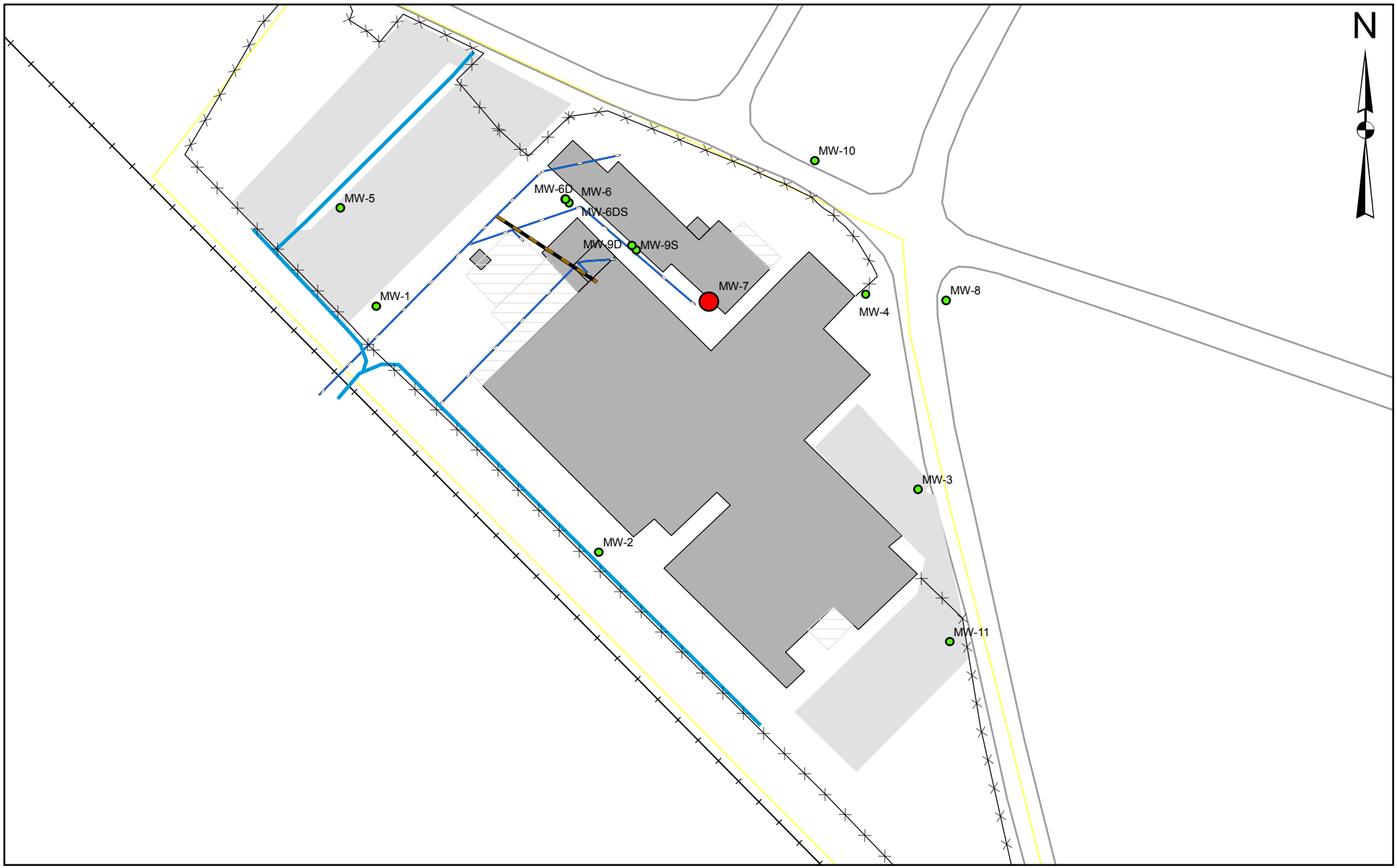

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Figure No. 16C

Roper Pump Company
Groundwater Benzene as Multiple of Residential RRS (Sampled May 2009)

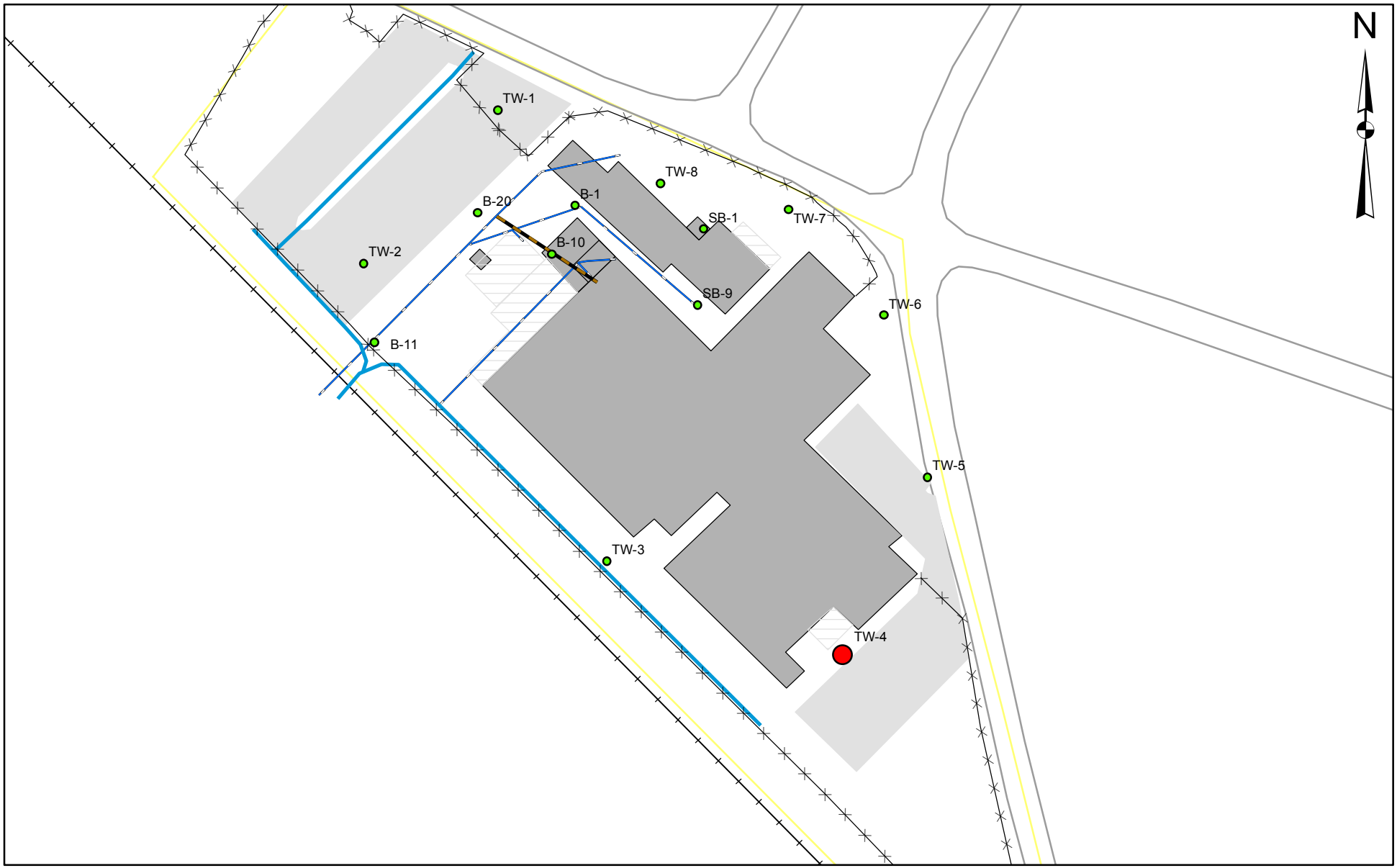

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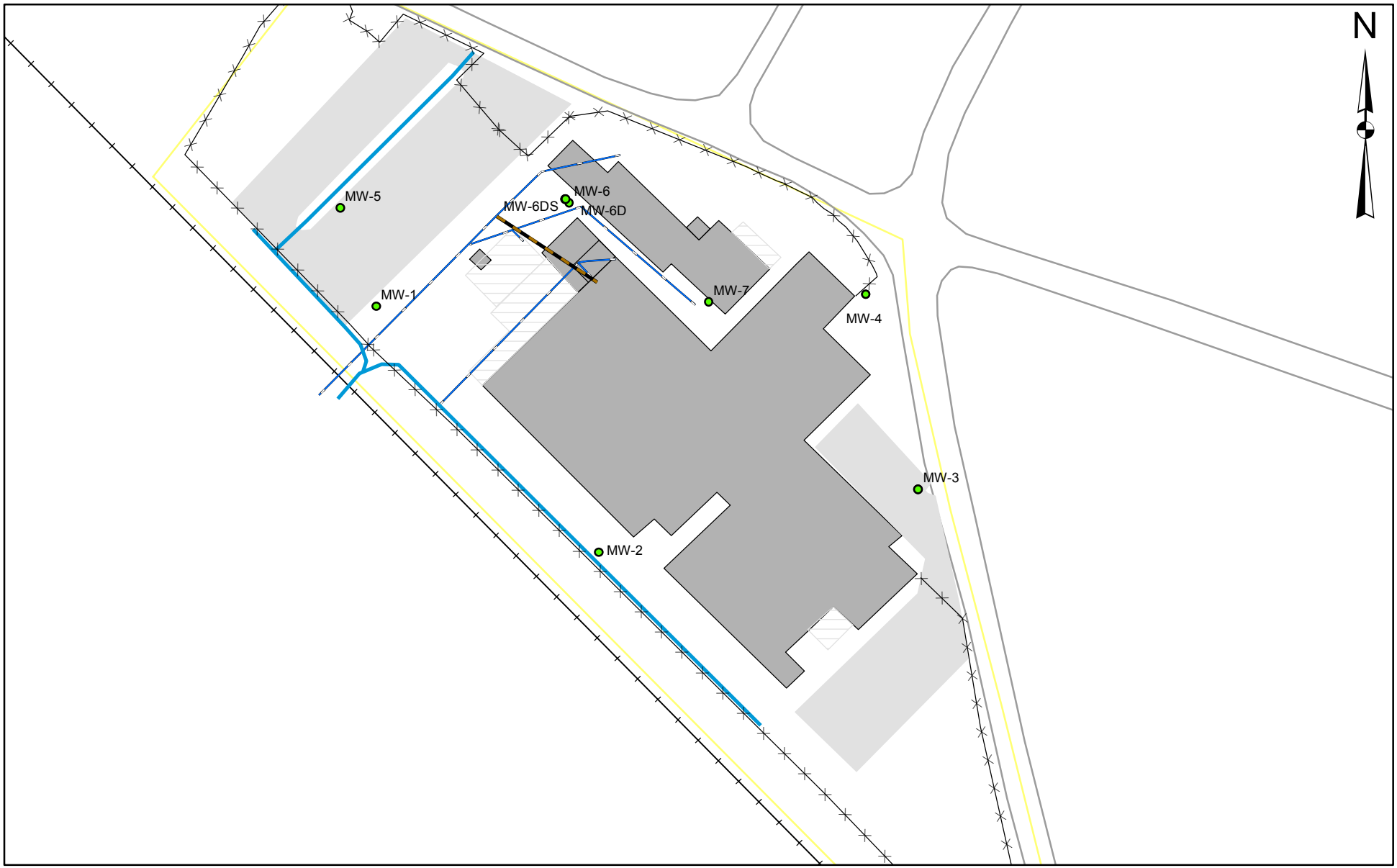
Figure No. 17A

Roper Pump Company
Groundwater Benzene as Multiple of Residential RRS (Sampled February 2014)



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F:\Roper_Pump\GIS_Projects\VRP_Application

Figure No. 17B

Roper Pump Company
Groundwater Benzene as Multiple of Residential RRS (Sampled November 2014)

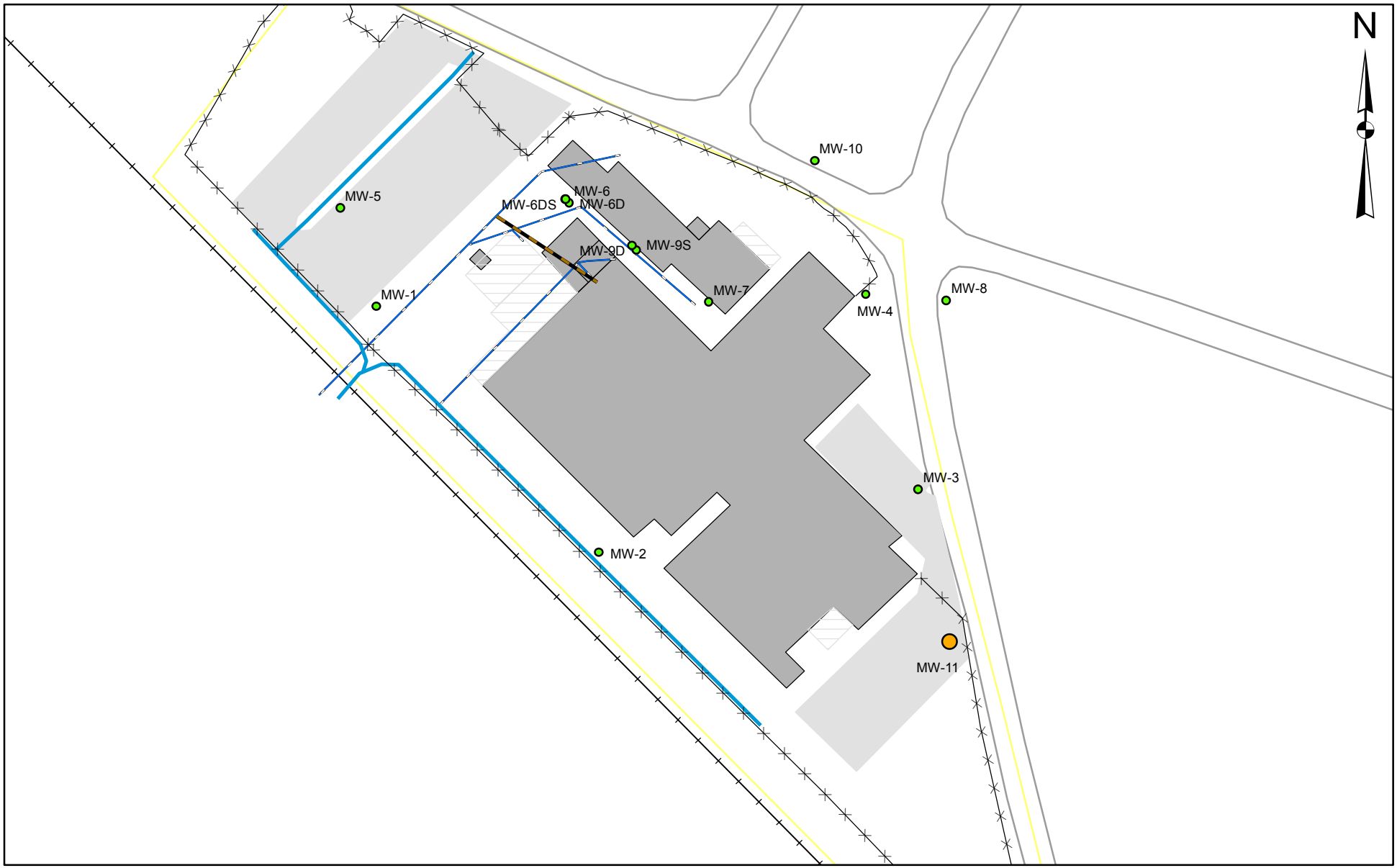

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Figure No. 17C

Roper Pump Company
Sub-Slab Vapor Benzene Concentration

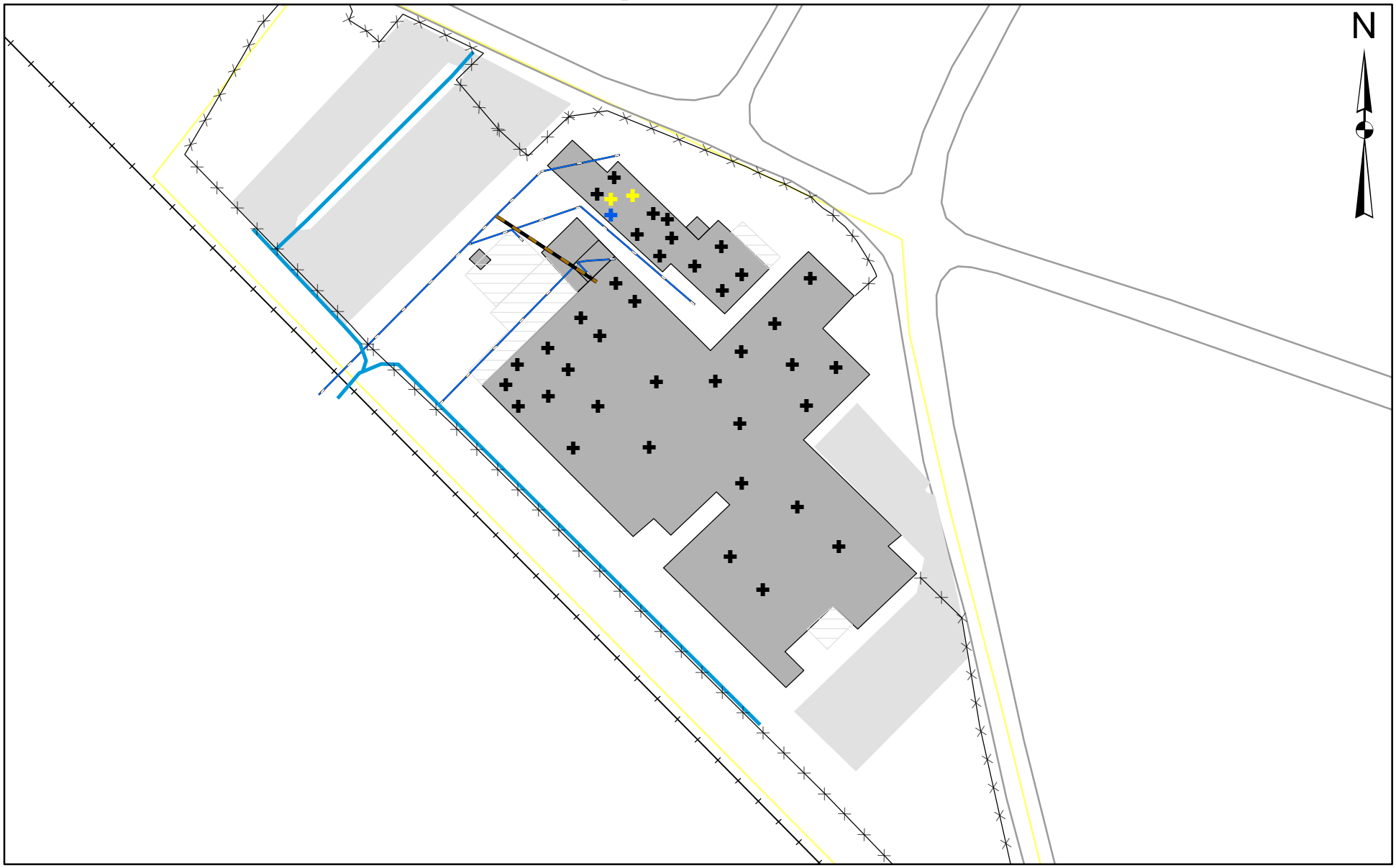

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Figure No. 18

Roper Pump Company
Sub-Slab Vapor Chloroform Concentration

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Figure No. 19

Roper Pump Company
Sub-Slab Vapor o-Xylene Concentration

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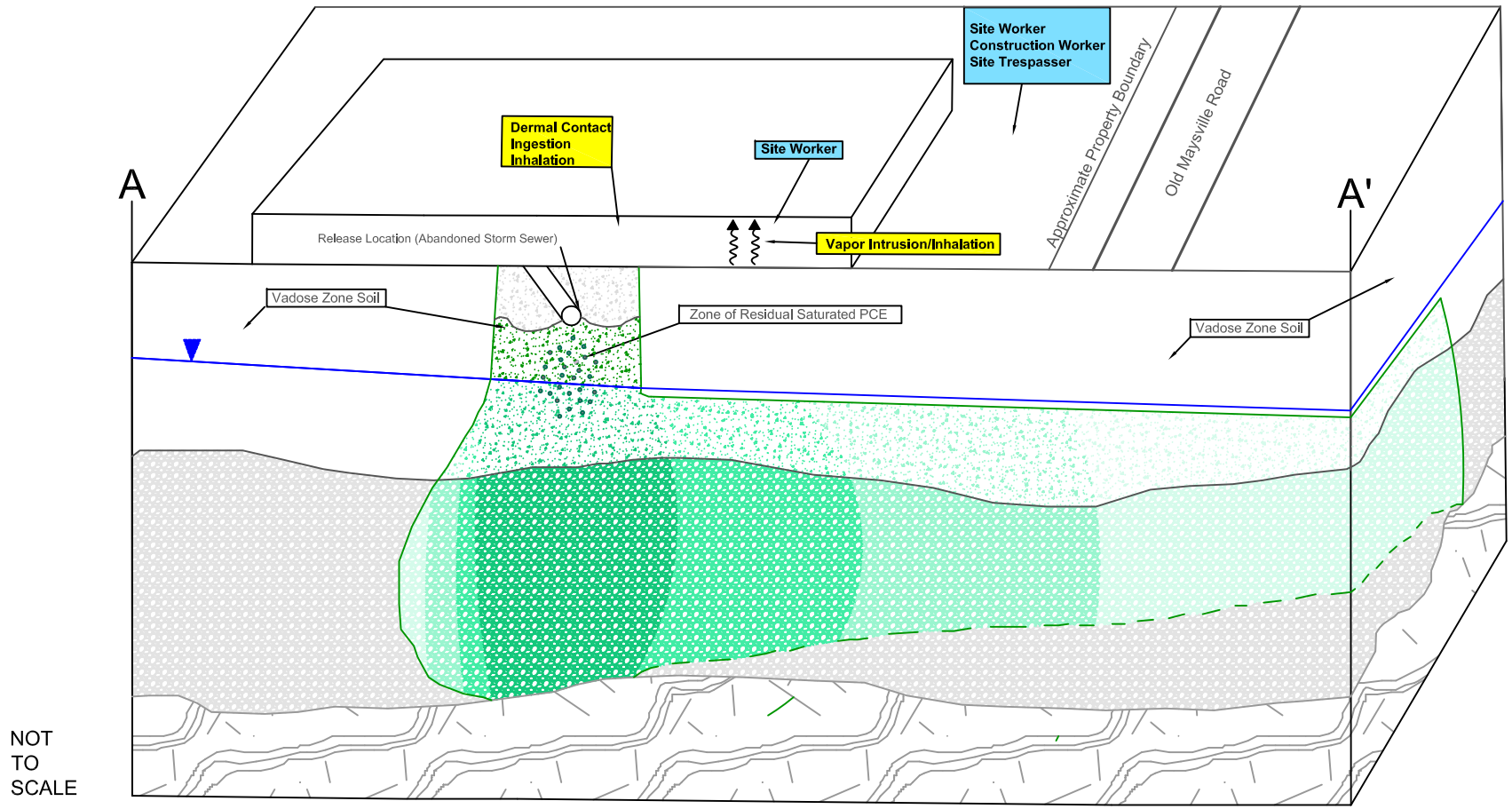
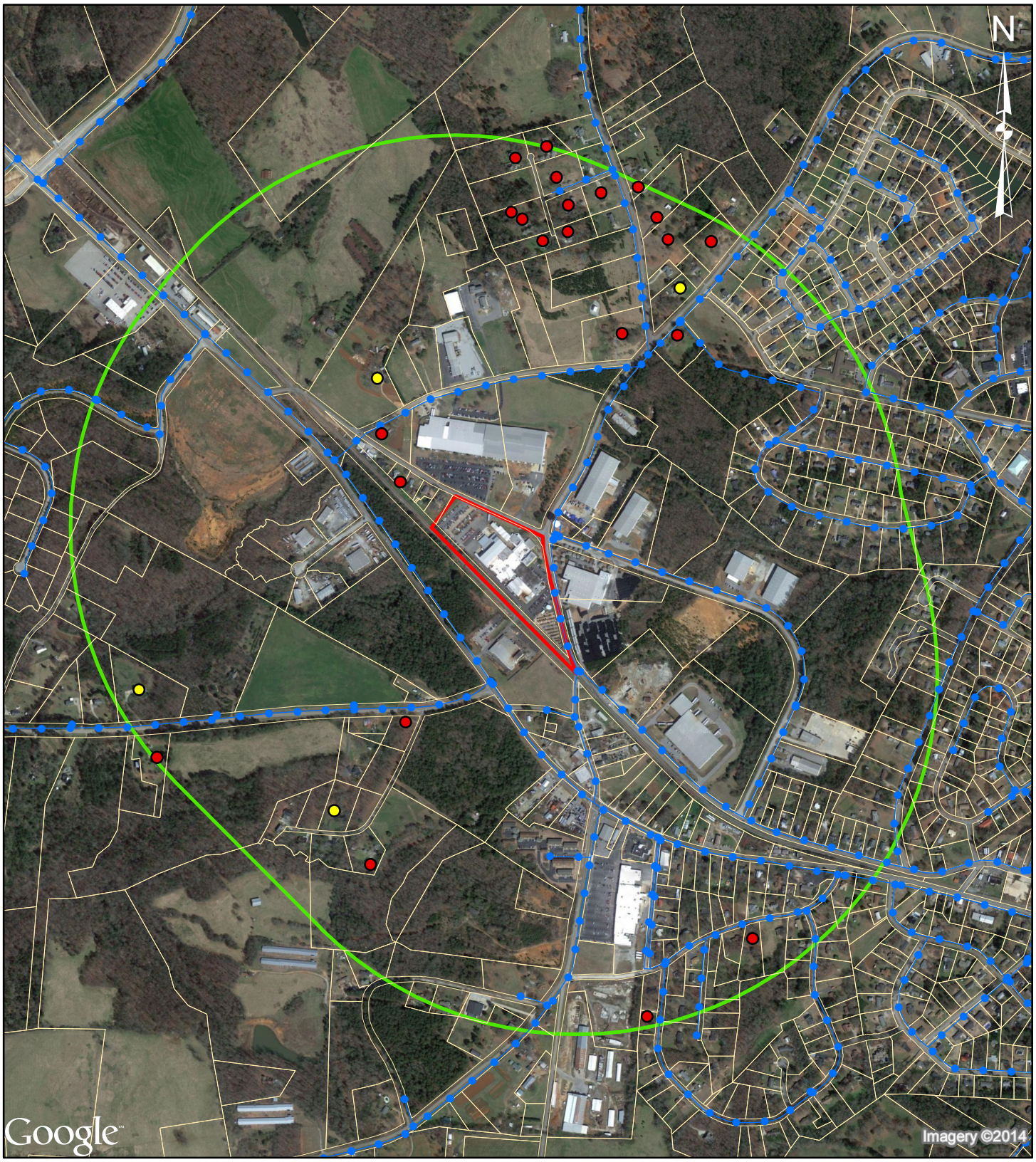
Figure No. 20


A
A'
Site Worker
Construction Worker
Site Trespasser
Dermal Contact
Ingestion
Inhalation
Site Worker
Approximate Property Boundary
Old Maysville Road
Release Location (Abandoned Storm Sewer)
Vapor Intrusion/Inhalation
Vadose Zone Soil
Zone of Residual Saturated PCE
Vadose Zone Soil
NOT
TO
SCALE
APPROXIMATE WATER TABLE
POTENTIAL EXPOSURE RECEPTOR
POTENTIAL EXPOSURE PATHWAY
APPROXIMATE POTENTIOMETRIC SURFACE
RESIDUUM (SOIL)
PARTIALLY WEATHERED ROCK
BEDROCK
INTENSITY OF AQUEOUS PLUME
HIGHER CONCENTRATION
TRACE CONCENTRATION
CONTAMINATED VADOSE ZONE SOIL

Roper Pump Company
2014 Drinking Water Well Survey



0 500 1,000
Feet

Legend

- Site Boundary
- 0.5-Mile Buffer
- City Water Lines
- Known Well Locations
- Possible Well Locations
- Tax Parcel Boundary

Environmental Planning Specialists, Inc.

F:\Roper_Pump\GIS_Projects\VRP_Application\Figure_DrinkingWater_Well_Survey.mxd

Figure No. 22

APPENDIX D

Tables

Table 1
Soil Delineation Criterion and Constituents of Interest

Constituent	Number of Samples	Minimum Concentration mg/kg	Maximum Concentration mg/kg	Percent Detections	Average* Concentration mg/kg	Type 1 RRS mg/kg	Type 2 RRS** mg/kg	Delineation Criterion: Residential RRS mg/kg	Frequency of Residential RRS Exceedance	Percent Exceedance
1,1,2,2-Tetrachloroethane	162	ND	0.69	1%	3.5	0.13	0.0069	**0.13**	2/162	1%
1,1,2-Trichloroethane	162	ND	0.93	4%	3.5	0.5	0.032	**0.50**	1/162	1%
Acetone	162	ND	0.12	1%	70.1	400	33	**400**	0/162	0%
Arsenic	29	ND	19.8	10%	4.4	20	5.8	**20**	0/29	0%
Barium	29	12.3	76.1	100%	27.6	1000	2578	**2578**	0/29	0%
Chloroform	163	ND	0.011	2%	3.5	3.9	0.44	**3.9**	0/163	0%
Chromium (total)	29	8.8	109	100%	32.9	100	1700	**1700**	0/29	0%
Chromium VI	1	4.8	4.8	100%	4.8	29	0.65	**29**	0/1	0%
cis-1,2-Dichloroethene	162	ND	3.2	19%	3.6	7	0.41	**7**	0/162	0%
Dichloromethane (Methylene chloride)	162	ND	0.0065	2%	3.5	0.5	0.38	**0.50**	0/162	0%
Ethyl benzene	162	ND	0.005	1%	3.5	70	16.0	**70**	0/162	0%
Isopropylbenzene	162	ND	0.0074	1%	3.5	22	6.8	**22**	0/162	0%
Lead	29	9.4	76.3	100%	26.1	75	270	**270**	0/29	0%
Mercury	29	ND	0.23	10%	0.1	0.5	2.1	**2.1**	0/29	0%
o-Xylene	162	ND	0.0099	1%	3.5	20	1.2	**20**	0/162	0%
Tetrachloroethene	164	ND	12000	93%	528	0.5	0.170	**0.50**	130/164	79%
Toluene	162	ND	0.16	1%	3.5	100	14.0	**100**	0/162	0%
trans-1,2-Dichloroethene	162	ND	0.015	5%	3.5	10	1.80	**10**	0/162	0%
Trichloroethene	163	ND	24	31%	3.9	0.5	0.036	**0.50**	19/163	12%
Vinyl chloride	163	ND	0.011	1%	7.0	0.2	0.0140	**0.20**	0/163	0%

Constituent of interest (more than 1 result above RRS and more than 1% frequency of exceedance)

* Average calculated using 1/2 the detection limit for non-detects

** Using a dilution attenuation factor of 20

Table 2
Groundwater Delineation Criterion and Constituents of Interest

Constituent	Number of Samples	Minimum Concentration mg/L	Maximum Concentration mg/L	Percent Detections	Average* Concentration mg/L	Delineation Criterion: Type 1 RRS mg/L	Type 2 RRS mg/L	Frequency of Type 1 RRS Exceedance	Percent Exceedance
1,1,2,2-Tetrachloroethane	42	ND	0.10	7%	0.0047	**0.0002**	0.00089	3/42	7%
1,1,2-Trichloroethane	40	ND	0.086	3%	0.0041	**0.005**	0.00012	1/40	3%
1,1-Dichloroethene	40	ND	0.037	3%	0.0029	**0.007**	0.10	1/40	3%
Acetone	42	ND	0.011	2%	0.020	**4**	8.0	0/42	0%
Benzene	40	ND	0.13	5%	0.0062	**0.005**	0.0054	2/40	5%
Chloroform	42	ND	0.038	21%	0.0046	**0.08**	0.0026	0/42	0%
cis-1,2-Dichloroethene	44	ND	4.5	43%	0.21	**0.07**	0.031	9/44	20%
Tetrachloroethene	44	ND	93	68%	2.7	**0.005**	0.019	29/44	66%
Toluene	40	ND	0.13	3%	0.0052	**1.0**	0.88	0/40	0%
trans-1,2-Dichloroethene	42	ND	0.047	7%	0.0038	**0.1**	0.31	0/42	0%
Trichloroethene	45	ND	2.5	80%	0.20	**0.005**	0.0010	36/45	80%

Constituent of interest (more than 1 result above RRS and more than 1% frequency of exceedance)

Table 3
Soil Vapor Constituents of Interest

Constituent	Number of Samples	Minimum Sub-Slab Vapor Concentration ($\mu g/m^3$)	Maximum Sub-Slab Vapor Concentration ($\mu g/m^3$)	Percent Detections	Average* Concentration ($\mu g/m3$)	RSL Residential Air ($\mu g/m^3$)	RSL Industrial Air ($\mu g/m^3$)	Frequency of 10 x Residential RSL Exceedance	Percent Exceedance
2-Butanone (MEK)	43	ND	720	2%	114	520	2200	0/43	0%
Acetone	43	ND	1500	7%	467	3200	14000	0/43	0%
Benzene	43	ND	92000	7%	2372	0.36	1.6	3/43	7%
Chloroform	43	ND	2600	9%	201	0.12	0.53	4/43	9%
cis-1,2-Dichloroethene	43	ND	41000	28%	2858			0/43	0%
m&p-Xylene	43	ND	18000	16%	686			0/43	0%
o-Xylene	43	ND	3500	14%	216	10	44	4/43	9%
Tetrachloroethene	43	1000	1000000	100%	115212	4.2	18	43/43	100%
Toluene	43	ND	710	49%	226	520	2200	0/43	0%
Trichloroethene	43	ND	1100000	95%	60205	0.21	0.88	41/43	95%

Constituent of interest (more than 1 result above RRS and more than 1% frequency of exceedance)

Table 4
Soil Sampling Results for PCE and TCE (COIs)

Sample Location	Depth (ft bgs)	Date Sampled	Tetrachloroethene mg/kg	Trichloroethene mg/kg
On-Site Surface Soil (0-2 ft)				
HA-2	0.5	5/18/2009	ND	
B-1	2	5/20/2009	58	ND
B-10	2	5/21/2009	2900	ND
B-12	2	5/21/2009	4.6	ND
B-18	2	5/22/2009	95	ND
B-19	2	5/22/2009	0.097	ND
B-21	2	5/22/2009	4.9	0.041
B-22	2	5/22/2009	38	ND
B-7	2	5/20/2009	70	ND
B-8	2	5/20/2009	1.2	ND
Piperun1&2	2	5/13/2009	6300	ND
SB-1	2	5/21/2009	ND	ND
SB-5	2	5/22/2009	1.7	0.078
On-Site Subsurface Soil (>2 ft)				
B-14	4	5/21/2009	450	ND
B-15	4	5/21/2009	1300	ND
B-16	4	5/21/2009	250	ND
B-17	4	5/21/2009	46	ND
B-20	4	5/22/2009	0.058	ND
B-3	4	5/20/2009	610	ND
B-4	4	5/20/2009	4.3	ND
B-5	4	5/20/2009	0.6	ND
B-6	4	5/20/2009	1.8	ND
B-9	4	5/21/2009	4.8	1.6
SB-100	4	4/5/2010	3.8	ND
SB-101	4	4/5/2010	0.45	ND
SB-103	4	4/5/2010	2.1	ND
SB-104	4	4/5/2010	0.53	ND
SB-107	4	4/5/2010	3.2	ND
SB-108	4	4/5/2010	0.63	ND
SB-110	4	4/5/2010	2.1	ND
SB-111	4	4/5/2010	0.95	ND
SB-112	4	4/6/2010	3.6	0.13
SB-114	4	4/6/2010	290	1.9
SB-115	4	4/6/2010	7.7	0.11
SB-117	4	4/6/2010	3.5	0.041
SB-118	4	4/6/2010	0.38	0.0074
SB-119	4	4/6/2010	0.11	ND
SB-121	4	4/6/2010	0.75	ND
SB-122	4	4/6/2010	0.1	ND
SB-6	4	5/22/2009	0.82	0.32
SB-2	5	5/21/2009	0.11	0.017
SB-4	5	5/21/2009	0.83	0.63
B-1	6	5/20/2009	13	0.95
B-10	6	5/21/2009	1900	ND
B-14	6	5/21/2009	2400	ND
B-23	6	5/22/2009	0.064	ND
SB-108	6	4/5/2010	0.39	ND
SB-119	6	4/6/2010	0.024	ND
B-11	8	5/21/2009	ND	ND
B-12	8	5/21/2009	24	ND
B-15	8	5/21/2009	10000	ND
B-16	8	5/21/2009	6600	ND
B-19	8	5/22/2009	0.14	0.0092
B-21	8	5/22/2009	180	ND
B-22	8	5/22/2009	4.3	0.022
B-3	8	5/20/2009	3400	ND
B-6	8	5/20/2009	29	ND
B-7	8	5/20/2009	39	ND
SB-100	8	4/5/2010	2.5	ND
SB-110	8	4/5/2010	2.9	ND
SB-111	8	4/5/2010	1.3	ND
SB-112	8	4/6/2010	3.9	0.062
SB-114	8	4/6/2010	7.3	0.1
SB-116	8	4/6/2010	2.9	0.083
SB-118	8	4/6/2010	3.4	0.05
B-13	10	5/21/2009	12	ND
B-17	10	5/21/2009	120	ND
B-18	10	5/22/2009	5800	24
B-20	10	5/22/2009	0.29	ND
B-4	10	5/20/2009	56	0.42
B-5	10	5/20/2009	250	0.24

Table 4
Soil Sampling Results for PCE and TCE (COIs)

Sample Location	Depth (ft bgs)	Date Sampled	Tetrachloroethene mg/kg	Trichloroethene mg/kg
B-8	10	5/20/2009	1.2	ND
B-9	10	5/21/2009	37	ND
Piperun1&2	10	5/14/2009	39	ND
SB-101	10	4/5/2010	3.6	ND
SB-103	10	4/5/2010	5.2	ND
SB-104	10	4/5/2010	3	ND
SB-107	10	4/5/2010	7.9	ND
SB-115	10	4/6/2010	12	0.21
SB-117	10	4/6/2010	18	0.27
SB-121	10	4/6/2010	1.2	0.0074
SB-122	10	4/6/2010	0.95	ND
SB-5	10	5/22/2009	0.8	0.012
SB-8	10	5/22/2009	0.14	0.088
SB-3	11	5/21/2009	0.033	0.052
B-10	12	5/21/2009	800	ND
B-14	12	5/21/2009	12	ND
B-15	12	5/21/2009	140	ND
B-16	12	5/21/2009	7000	ND
B-3	12	5/20/2009	1800	1.2
SB-100	12	4/5/2010	7.7	ND
SB-101	12	4/5/2010	5.1	ND
SB-103	12	4/5/2010	4.3	ND
SB-104	12	4/5/2010	2.4	ND
SB-107	12	4/5/2010	59	ND
SB-108	12	4/5/2010	4.6	ND
SB-110	12	4/5/2010	14	ND
SB-111	12	4/5/2010	4	ND
SB-115	12	4/6/2010	230	0.67
SB-117	12	4/6/2010	310	1.2
SB-118	12	4/6/2010	11	0.15
SB-121	12	4/6/2010	1.5	ND
SB-122	12	4/6/2010	1.1	0.0041
SB-6	12	5/22/2009	1.9	0.84
SB-7	12	5/22/2009	2.7	2.1
SB-1	13	5/21/2009	ND	ND
B-1	14	5/20/2009	4.6	0.21
B-12	14	5/21/2009	4.9	ND
B-13	14	5/21/2009	20	ND
B-17	14	5/21/2009	4400	ND
B-18	14	5/22/2009	5500	17
B-19	14	5/22/2009	0.23	0.0075
B-2	14	5/20/2009	1400	0.84
B-20	14	5/22/2009	0.17	ND
B-21	14	5/22/2009	39	ND
B-22	14	5/22/2009	210	ND
B-4	14	5/20/2009	8	0.65
B-5	14	5/20/2009	15	ND
B-6	14	5/20/2009	12000	ND
B-7	14	5/20/2009	530	ND
B-8	14	5/20/2009	0.021	ND
B-9	14	5/21/2009	16	9.2
SB-112	14	4/6/2010	17	0.39
SB-114	14	4/6/2010	14	0.13
SB-116	14	4/6/2010	6.1	0.17
SB-119	14	4/6/2010	0.52	ND
SB-5	15	5/22/2009	2.8	0.3
B-10	16	5/21/2009	27	ND
B-22	16	5/22/2009	43	ND
B-23	16	5/22/2009	0.087	ND
B-3	16	5/20/2009	4700	6.8
B-4	16	5/20/2009	20	1.7
B-7	16	5/20/2009	220	ND
SB-101	16	4/5/2010	9.2	ND
SB-104	16	4/5/2010	47	ND
SB-107	16	4/5/2010	16	ND
SB-108	16	4/5/2010	1.1	ND
SB-110	16	4/5/2010	8.3	ND
SB-111	16	4/5/2010	1.8	ND
SB-121	16	4/6/2010	1.3	0.0044
SB-9	16	5/22/2009	0.07	ND
B-13	18	5/21/2009	6.3	ND
B-14	18	5/21/2009	62	ND
B-15	18	5/21/2009	34	ND

Table 4
Soil Sampling Results for PCE and TCE (COIs)

Sample Location	Depth (ft bgs)	Date Sampled	Tetrachloroethene mg/kg	Trichloroethene mg/kg
B-17	18	5/21/2009	360	ND
B-18	18	5/22/2009	300	ND
B-19	18	5/22/2009	0.27	0.015
B-2	18	5/20/2009	920	0.72
B-20	18	5/22/2009	0.22	ND
B-21	18	5/22/2009	200	ND
B-5	18	5/20/2009	300	0.61
B-9	18	5/21/2009	15	5.7
SB-100	18	4/5/2010	22	ND
MW-1	20	2/10/2014	ND	ND
MW-2	20	2/10/2014	ND	ND
MW-3	20	2/17/2014	ND	ND
MW-4	20	2/18/2014	ND	ND
MW-5	20	2/18/2014	ND	ND
MW-6	20	2/17/2014	0.0103	ND
MW-7	20	2/18/2014	ND	ND
Outfall Surface Soil (0-2 ft)				
SS-1	1	5/27/2009	ND	ND
SS-2	2	5/27/2009	ND	ND

Table 5
Groundwater Sampling Results for COIs

Location	Date Sampled	1,1,2,2-Tetrachloroethane (µg/L)	Benzene (µg/L)	cis-1,2-Dichloroethene (µg/L)	Tetrachloroethene (µg/L)	Trichloroethene (µg/L)
B-10	5/21/2009	100	ND	4500	93000	1400
B-11	5/21/2009	ND	ND	ND	ND	ND
SB-1	5/21/2009	ND	ND	250	190	810
B-1	5/22/2009	ND	ND	2300	600	2500
B-20	5/22/2009	ND	ND	8.5	530	7.4
SB-9	5/22/2009	ND	ND	90	4900	1400
TW-1	5/27/2009	ND	ND	ND	ND	14
TW-2	5/27/2009	ND	ND	ND	ND	ND
TW-3	5/27/2009	ND	ND	ND	ND	ND
TW-4	5/27/2009	ND	130	ND	9	6.7
TW-5	5/27/2009	ND	ND	ND	ND	25
TW-6	5/27/2009	ND	ND	ND	19	6
TW-7	5/27/2009	ND	ND	8.9	33	60
TW-8	5/27/2009	ND	ND	230	37	180
MW-6D	2/14/2014	ND	ND	12.9	8.79	73
MW-1	2/24/2014	ND	ND	ND	ND	ND
MW-2	2/24/2014	ND	ND	ND	ND	ND
MW-3	2/24/2014	ND	ND	ND	4.45	35.2
MW-4	2/24/2014	ND	ND	14.1	189	130
MW-5	2/24/2014	ND	ND	ND	ND	ND
MW-6	2/24/2014	ND	ND	1100	930	630
MW-6D	2/24/2014	ND	ND	14.5	20.3	86.8
MW-6DS	2/24/2014	ND	ND	124	100	133
MW-7	2/24/2014	3.8	ND	24.7	2400	170
MW-3	5/19/2014	ND	ND	ND	ND	23
MW-4	5/19/2014	ND	ND	ND	24	11
MW-3	11/5/2014	ND	ND	ND	8.3	55
MW-4	11/5/2014	ND	ND	10	170	98
MW-6	11/5/2014	ND	ND	190	110	95
MW-5	11/6/2014	ND	ND	ND	ND	ND
MW-6D	11/6/2014	ND	ND	ND	17	29
MW-6DS	11/6/2014	ND	ND	ND	14	110
MW-7	11/6/2014	9.2	ND	27	14000	180
MW-9D	11/6/2014	ND	ND	ND	ND	7.8
MW-1	11/7/2014	ND	ND	ND	ND	ND
MW-2	11/7/2014	ND	ND	ND	ND	ND
MW-8	11/7/2014	ND	ND	ND	70	12
MW-9S	11/7/2014	ND	ND	240	1600	600
MW-10	11/7/2014	ND	ND	ND	ND	6.1
MW-11	11/7/2014	ND	44	ND	110	59

Table 6
Sub-slab Soil Vapor Sampling Results (COIs)

Location	Date Sampled	Benzene µg/m^3	Chloroform µg/m^3	o-Xylene µg/m^3	Tetrachloroethene µg/m^3	Trichloroethene µg/m^3
VI-1	7/1/2009	ND	ND	ND	13,000	29,000
VI-2	7/1/2009	ND	ND	53	1,600	1,800
VI-3	7/1/2009	2,900	ND	ND	58,000	64,000
VI-4	7/1/2009	92,000	ND	ND	3,100	3,500
VI-5	7/1/2009	3,400	ND	ND	39,000	12,000
VI-6	7/2/2009	ND	570	ND	37,000	35,000
VI-7	7/2/2009	ND	ND	ND	12,000	4,600
VI-8	7/2/2009	ND	140	ND	21,000	35,000
VI-9	7/2/2009	ND	2,600	ND	940,000	1,100,000
VI-10	7/2/2009	ND	ND	ND	390,000	430,000
VI-11	7/3/2009	ND	ND	ND	30,000	41,000
VI-12	7/2/2009	ND	ND	ND	300,000	270,000
VI-13	7/3/2009	ND	ND	440	18,000	27,000
VI-14	7/2/2009	ND	ND	ND	200,000	220,000
VI-15	7/3/2009	ND	ND	ND	44,000	21,000
VI-16	7/3/2009	ND	ND	260	120,000	53,000
VI-17	7/3/2009	ND	ND	ND	130,000	1,100
VI-18	7/9/2009	ND	ND	3,500	1,000,000	ND
VI-19	7/3/2009	ND	ND	ND	26,000	2,900
VI-20	7/3/2009	ND	ND	ND	19,000	3,500
VI-21	7/3/2009	ND	ND	ND	27,000	520
VI-22	7/9/2009	ND	ND	820	150,000	ND
VI-23	7/3/2009	ND	ND	ND	16,000	290
VI-24	7/3/2009	ND	ND	ND	10,000	330
VI-25	7/2/2009	ND	ND	ND	11,000	1,800
VI-26	7/2/2009	ND	ND	ND	13,000	3,700
VI-27	7/2/2009	ND	ND	ND	12,000	3,800
VI-28	7/2/2009	ND	ND	89	27,000	3,800
VI-29	7/2/2009	ND	ND	ND	6,300	1,500
VI-30	7/2/2009	ND	ND	ND	7,100	2,500
VI-31	7/2/2009	ND	ND	ND	21,000	2,400
VI-32	7/2/2009	ND	ND	ND	14,000	3,900
VI-33	7/2/2009	ND	ND	ND	240,000	7,300
VI-34	7/2/2009	ND	ND	ND	630,000	75,000
VI-35	7/2/2009	ND	ND	ND	160,000	47,000
VI-36	7/2/2009	ND	ND	ND	5,800	880
VI-37	7/2/2009	ND	ND	ND	19,000	1,200
VI-38	7/2/2009	ND	ND	ND	12,000	3,800
VI-39	7/2/2009	ND	ND	ND	12,000	2,100
VI-40	7/2/2009	ND	ND	ND	1,100	200
VI-41	7/2/2009	ND	ND	ND	7,100	4,900

APPENDIX E

Boring Logs

EPS Boring Logs (2009 and 2014)

EPS

Project:	Roper Pump	Log of Boring No.	B-1
SITE LOCATION:	3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 5/20/09	DATE FINISHED: 5/20/09
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 24	SCREEN INTERVAL (ft.): 14-24
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~20	CASING (ft.): 0-14
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	G. Henry

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Asphalt and gravel	
2		72	Red-orange clay	
4		66		
6		22	Red-orange clay with trace mica	
8		3.5		
10		14	Red-orange clay with trace mica and black organic mottles	
12		22		
14		31	White/orange partially weathered rock	
16		22		
18		43	White/orange partially weathered rock with coarse grain mica sand with clay	
20		25		
22				
24				
26				

Installed 1-inch pvc well using 10 ft. of 0.010 inch screen in order to collect potentiometric surface elevation data. Well was then removed and the borehole was plugged.

Boring terminated at 24 ft-bls

EPS

Project:	Roper Pump	Log of Boring No.	B-2
SITE LOCATION:	3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 5/20/09	DATE FINISHED: 5/20/09
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	G. Henry

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Backfill (From collection of Piperun 2 vertical delineation)	
10			Orange-tan clay with trace sand	
12		>15,000		
14		>15,000	Orange-tan clay with trace course sand	
16		>15,000	Orange/white partially weathered rock with fine to course sand and clay	
18		>15,000	Dark Red clay with mica and trace sand	
20		>15,000		Boring terminated at 20 ft-bls
22				
24				
26				

EPS

Project: Roper Pump	**Log of Boring No.** B-3
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/20/09 / DATE FINISHED: 5/20/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 16 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: G. Henry

Ground Surface Elevation: N/A

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Gravel	
2		2,540	Dark orange clay with trace sand	
4		>15,000		
6		>15,000		
8		>15,000		
10		>15,000	Orange and tan mottled clay with trace sand	
12		>15,000		
14		>15,000		
16		3,380		Direct push refusal at 16 ft-bls
18				
20				
22				
24				
26				

EPS

Project: Roper Pump	**Log of Boring No.** B-4
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/20/09 / DATE FINISHED: 5/20/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 20 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~18 / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: G. Henry

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0			Orange clay - concrete pipe	
2		1,300		
4		2,950		
6		32		
8		43.6		
10		79	Orange clay with trace sand	
12		56		
14		68		
16		132		
18		83		
20		91		Boring terminated at 20 ft-bls
22				
24				
26				

EPS

Project: Roper Pump	**Log of Boring No.** B-5
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/20/09 / DATE FINISHED: 5/20/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 20 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~18 / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: G. Henry

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0			Gravel	
2		10.7		
4		16.1		
6		9.2	Dark red clay with trace sand	
8		101		
10		280		
12		2,190		
14		1,540	Orange and tan clay with trace sand and mica	
16		64		
18		4,588		
20		73	Orange and tan clay with trace sand and coarse mica	Boring terminated at 20 ft-bls
22				
24				
26				

EPS

Project: Roper Pump	**Log of Boring No.** B-6
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/20/09 / DATE FINISHED: 5/20/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 15 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: G. Henry

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0			Gravel	
2		39.4		
4		51	Dark red/orange clay with trace sand	
6		106		
8		238		
10		122		
12		>15,000	Light orange clay	
14		>15,000		Direct push refusal at 15 ft-bls
16				
18				
20				
22				
24				
26				

EPS

Project: Roper Pump	**Log of Boring No.** B-7
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/20/09 / DATE FINISHED: 5/20/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 20 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~20 / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: G. Henry

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Gravel	
2		250	Brown/red clay with trace sand	
4		63.7		
6		55.5		
8		180	No sample (stuck in tooling)	
10				
12			Brown-orange clay with sand	
14		>15,000		
16		>15,000	White/orange partially weathered rock with coarse sand and clay	
18		1,021		
20		354		Boring terminated at 20 ft-bls
22				
24				
26				

EPS

Project:	Roper Pump	Log of Boring No.	B-8
SITE LOCATION:	3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 5/20/09	DATE FINISHED: 5/20/09
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	G. Henry

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0			Gravel	
2		12.5		
4		10.5		
6		10	Dark brown/red clay with trace sand (50% recovery after 4 ft)	
8		7		
10		7.4		
12		48		
14		96		Boring terminated at 14 ft-bls
16				
18				
20				
22				
24				
26				

EPS

Project:	Roper Pump	Log of Boring No.	B-9
SITE LOCATION:	3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 5/21/09	DATE FINISHED: 5/21/09
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	G. Henry

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0		42	Brown-orange clay with trace sand	
2		75		
4		113		
6		141		
8		180	Orange-tan clay with trace sand and mica	
10		203		
12		251		
14		374	Dark red clay with mica	
16		273		
18		379		
20		243		Terminate boring at 20 ft-bls
22				
24				
26				

EPS

Project:	Roper Pump	Log of Boring No.	B-10
SITE LOCATION:	3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 5/21/09	DATE FINISHED: 5/21/09
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): `17	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	G. Henry

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0		985		
2		>15,000		
4		218	Red-orange clay with trace sand	
6		>15,000		
8		3,650		
10		1,380	Orange-tan clay with trace sand	
12		1,295		
14		311		
16		375	Orange-tan clay with trace sand and mica (wet @ 17')	
18		379		
20		147		Terminate boring at 20 ft-bls
22				
24				
26				

Project: Roper Pump	**Log of Boring No.** B-11
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/21/09 / DATE FINISHED: 5/21/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 24 / SCREEN INTERVAL (ft.): 14-24
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~18 / CASING (ft.): 0-14
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: G. Henry

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)
0			Topsoil
2		10.8	Dark brown sandy clay
4		5.9	
6		8.9	Red-orange clay with trace sand
8		12.1	
10		4.7	
12		7	Orange-yellow clay
14		3.1	
16		7	Red-orange clay with some mica
18		2.8	Partially weathered rock (white and orange clay with coarse sand)
			Yellow, tan and dark red mottled clay with mica
20		4.5	
22			Very wet red and tan clay
24			
26			

WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS

Installed 1-inch pvc well using 10 ft. of 0.010 inch screen in order to collect potentiometric surface elevation data. Well was then removed and the borehole was plugged.

Terminate boring at 24 ft-bls

EPS

Project: Roper Pump	**Log of Boring No.** B-12
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/21/09 / DATE FINISHED: 5/21/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 20 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: G. Henry

DEPTH (feet)	SAMPLES: Sample No. / Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0				
2		101	Red-orange clay with trace sand	
4		47		
6		104		
8		105		
10		85	Orange-yellow clay with trace sand	
12		70		
14		275		Direct push refusal at 15 ft-bls
16				
18				
20				
22				
24				
26				

EPS

Project: Roper Pump	**Log of Boring No.** B-13
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/21/09 / DATE FINISHED: 5/21/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 20 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: G. Henry

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0				
2		76		
4		77	Red-orange clay with trace sand	
6		47		
8		92		
10		130	Orange-tan clay with trace sand and mica	
12		144		
14		176	Dark red clay with trace sand and mica	
16		154		
18		166	Pink and tan partially weathered rock (coarse sand)	
20		202		Terminate boring at 20 ft-bls
22				
24				
26				

EPS

Project:	Roper Pump	Log of Boring No.	B-14
SITE LOCATION:	3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 5/21/09	DATE FINISHED: 5/21/09
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	G. Henry

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0				
2		1,346		
4		4,284	Dark brown-orange clay	
6		>15,000		
8		5,326		
10		138		
12		346	Brown-orange clay with trace sand	
14		301		
16		72		
18		151	Orange-yellow clay wih trace of coarse sand	
20		167		Terminate boring at 20 ft-bls
22				
24				
26				

EPS

Project:	Roper Pump	Log of Boring No.	B-15
SITE LOCATION:	3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 5/21/09	DATE FINISHED: 5/21/09
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	G. Henry

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Asphalt	
2		1,345	Red-brown clay	
4		>15,000		
6		>15,000	Red clay	
8		>15,000		
10		>15,000	Red-yellow clay	
12		>15,000		
14		4,089	Orange sandy clay	
16		209		
18		239	Yellow-orange sandy clay	
20		190		Terminate boring at 20 ft-bls
22				
24				
26				

EPS

Project:	Roper Pump	Log of Boring No.	B-16
SITE LOCATION:	3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 5/21/09	DATE FINISHED: 5/21/09
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	G. Henry

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0				
2		195	Dark red clay with trace sand	
4		5,020		
6		>15,000	Dark red clay	
8		>15,000		
10		>15,000		
12		>15,000		
14			Core stuck in rod - No sample - boring terminated	Direct push refusal at 16 ft-bls
16		113		
18				
20				
22				
24				
26				

EPS

Project:	Roper Pump	Log of Boring No.	B-17
SITE LOCATION:	3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 5/21/09	DATE FINISHED: 5/21/09
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	G. Henry

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0–4			Dark red-brown clay with trace sand (50% recovery)	
4		53.3		
6		1,095		
8		916		
8–12			Red-tan clay	
10		2,753		
12		10,981		
12–16			Red-orange sandy clay	
14		>15,000		
16		>15,000		
16–20			White-orange partially weathered rock (clay with coarse sand and gravels)	
18		>15,000		
20		>15,000		Terminate boring at 20 ft-bls
22				
24				
26				

EPS

Project: Roper Pump	**Log of Boring No.** B-18
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/22/09 / DATE FINISHED: 5/22/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 20 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: G. Henry

DEPTH (feet)	SAMPLES: Sample No. / Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Concrete	
2		58		
4		41		
6		1,555	Orange-brown clay with trace sand	
8		>15,000		
10		>15,000		
12		7,525		
14		>15,000		
16		>15,000	Orange-tan sandy clay	
18		>15,000		
20		>15,000		Boring terminated at 20 ft-bls
22				
24				
26				

EPS

Project: Roper Pump	**Log of Boring No.** B-19
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/22/09 / DATE FINISHED: 5/22/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 20 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: G. Henry

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0			Topsoil	
2		0.5		
4		0	Dark red clay	
6		0.2		
8		1.2		
10		0.7		
12		0.7	Orange-yellow sandy clay	
14		3		
16		3.9		
18		7.3	Tan to yellow sandy clay	
20		7.4		Boring terminated at 20 ft-bls
22				
24				
26				

EPS

Project: Roper Pump	**Log of Boring No.** B-20
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/22/09 / DATE FINISHED: 5/22/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 24 / SCREEN INTERVAL (ft.): 14-24
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~23 / CASING (ft.): 0-14
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: G. Henry

Ground Surface Elevation: N/A

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Topsoil	
2		0	Brown/red clay with trace sand	
4		0.4		
6		0.5	Brown/red clay	
8		5.3		
10		7.2		
12		0.5	Tan orange clay with sand	
14		3.4		
16		2.8		
18		3.4		
20		1.8		
22				
24				Boring terminated at 24 ft-bls
26				

Installed 1-inch pvc well using 10 ft. of 0.010 inch screen in order to collect potentiometric surface elevation data. Well was then removed and the borehole was plugged.

EPS

Project:	Roper Pump	Log of Boring No.	B-21
SITE LOCATION:	3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 5/22/09	DATE FINISHED: 5/22/09
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	G. Henry

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0				
2		63	Dark brown/red clay with trace sand	
4		39.5		
6		32.5	Brown red clay	
8		3,640		
10		1,240		
12		153	Yellow and red clay with trace sand	
14		1,327		
16		>15,000	Yellow and red sandy clay	
18		>15,000	Tan sandy clay	Boring terminated at 20 ft-bls
20		170		
22				
24				
26				

EPS

Project: Roper Pump	**Log of Boring No.** B-22
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/22/09 / DATE FINISHED: 5/22/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 20 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: G. Henry

DEPTH (feet)	SAMPLES: Sample No. / Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Asphalt	
2		71.7	Red/brown clay with trace sand	
4		41.5		
6		62.2		
8		97	Red/yellow sandy clay	
10		86		
12		233		
14		2,663		
16		>15,000	Tan clayey sand	
18		4,200		
20		6,950		Boring terminated at 20 ft-bls
22				
24				
26				

EPS

Project: Roper Pump	**Log of Boring No.** B-23
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/22/09 / DATE FINISHED: 5/22/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 20 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: G. Henry

DEPTH (feet)	SAMPLES: Sample No. / Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Asphalt	
2		11.4	Dark red clay with trace sand	
4		20.8		
6		13.7		
8		11.8		
10		9.4		
12		16.7	Dark red clay with sand	
14		15.2		
16		14.3		
18		6.7		
20		5.7		Boring terminated at 20 ft-bls
22				
24				
26				

EPS

Project: Roper Pump	**Log of Boring No.** SB-1
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/21/09 / DATE FINISHED: 5/21/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 24 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: J. Vickery

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0–2		4.4	Red brown clay with high plasticity	
2–4		7.5	Red brown clay with medium plasticity	
4–6		6.2	Brown fine to coarse grain sand with silt	
6–8		5.8	Brown fine to medium grain sand with silt	
8–10		8.3	White fine to coarse grain sand with partially weathered rock	
10–12		11	White sand and clay with layers of coarse sand	
12–14		12		
14–16		8.6		
16–18		13		
18–20		7.2		
20–22				
22–24				Boring terminated at 24 ft-bls. Groundwater sample collected with a screen point sampler.
24–26				
26–28				
28–30				

EPS

Project: Roper Pump	**Log of Boring No.** SB-2
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/21/09 / DATE FINISHED: 5/21/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 12 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: J. Vickery

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0				
2		11		
4		5.1		
6		54	Red clay	
8		20		
10		19		
12		27		Boring terminated at 12 ft-bls.
14				
16				
18				
20				
22				
24				
26				
28				
30				

EPS

Project: Roper Pump	**Log of Boring No.** SB-3
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/21/09 / DATE FINISHED: 5/21/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 12 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: J. Vickery

DEPTH (feet)	SAMPLES: Sample No. / Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0				
2		5.6	Red clay with silt	
4		7.9		
6		13		
8		15	Red silty clay	
10		19		
12		33	Brown fine grain sand & silt with mica	Boring terminated at 12 ft-bls.
14				
16				
18				
20				
22				
24				
26				
28				
30				

EPS

Project: Roper Pump	**Log of Boring No.** SB-4
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/21/09 / DATE FINISHED: 5/21/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 24 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: J. Vickery

DEPTH (feet)	SAMPLES: Sample No. / Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0				
2		16		
4		15	Red clay	
6		34		
8		27		
10		32	Redish tan silty clay	
12		13	Tan sand with silt	Boring terminated at 12 ft-bls.
14				
16				
18				
20				
22				
24				
26				
28				
30				

EPS

Project: Roper Pump	**Log of Boring No.** SB-5
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/21/09 / DATE FINISHED: 5/21/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 15 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: J. Vickery

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0				
2		26		
4		14		
6		14	Red clay	
8		14		
10		13		
12		20		
14		23		
		98	Red-orange silty clay	Direct push refusal at 15 ft-bls.
16				
18				
20				
22				
24				
26				
28				
30				

EPS

Project: Roper Pump	**Log of Boring No.** SB-6
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/21/09 / DATE FINISHED: 5/21/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 12 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: J. Vickery

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0				
2		21		
4		22		
6		22	Red clay with silt	
8		25		
10		54		
12		130		Direct push refusal at 12 ft-bls.
14				
16				
18				
20				
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-7
SITE LOCATION:	3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 5/21/09	DATE FINISHED: 5/21/09
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Vickery

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0				
2		14		
4		8		
6		9	Red-orange clay	
8		14		
10		53		
12		62		
14		23		
16		3	Brown fine to medium grain sand with silt	
18		6		
20		13		Boring terminated at 20 ft-bls.
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-8
SITE LOCATION:	3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 5/21/09	DATE FINISHED: 5/21/09
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 24	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Vickery

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0				
2		2.2	Red clay	
4		5.8		
6		2.9	Red-orange silty clay	
8		4.9		
10		9	Brown fine sandy silt with layers of quartz gravel	
12		6		
14		5.3		
16		4.8		
18		9.5		
20		14		
22			White fine to coarse grain weathered rock with sand	
24				Boring terminated at 24 ft-bls.
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-9
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 5/21/09	DATE FINISHED: 5/21/09
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 28	SCREEN INTERVAL (ft.): 18-28
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~20	CASING (ft.): 0-18
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Vickery

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0–10		30	Red-orange silty clay	
10–12		25		
12–14		32		
14–16		25	Gray fine grain sandy clay	
16–18		16		
18–20		22		
20–22		67		
22–24		75	Orange-red silty clay	
24–26		53	Gray fine to medium grain sand	
26–28		17		
28–30				

Installed 1-inch pvc well using 10 ft. of 0.010 inch screen in order to collect potentiometric surface elevation data. Well was then removed and the borehole was plugged.

Boring terminated at 28 ft-bls.

EPS

Project: Roper Pump	**Log of Boring No.** SB-100
SITE LOCATION: 3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 4/5/10 / DATE FINISHED: 4/5/10
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 24 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~20 / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Asphalt	
0			Crusher run with gravel	
4		26	Dark red-brown clay	
6		13.2		
8		55.2		
10		20.4		
12		187		
14		138	Light brown clay with sand	
16		205		
18		274	Red-orange clay	
20		263		
22		260	Dark red clay	
24		49.3		Boring terminated at 24 ft-bls.
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-101
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/5/10	DATE FINISHED: 4/5/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~20	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0			Asphalt	
2			Crusher run with gravel	
4		7.1	Dark red clay	
6		3.2		
8		37.1		
10		71	Black sand	
12		51	Orange clay with trace sand	
14		43		
16		194		
18		2,204	Orange-white weathered rock	
20				Boring terminated at 20 ft-bls.
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-102
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/5/10	DATE FINISHED: 4/5/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 16	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0			Asphalt	
			Crusher run with gravel	
2			Dark red clay	
4			Brown-dark red clay	
6				
8				
10			Dark red-orange-tan clay	Strong odors from soil cores. Move to next location.
12				
14				
16				Boring terminated at 16 ft-bls.
18				
20				
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-103
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/5/10	DATE FINISHED: 4/5/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~18	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Asphalt	
0			Crusher run with gravel	
2			Brown-dark red clay	
4		21		
6		26	Dark red-orange clay	
8		33		
10		69		
12		109	Orange-tan clay	
14		63		
16		802		
18		3008		
20		428	Red-tan-white weathered rock	Boring terminated at 20 ft-bls.
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-104
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/5/10	DATE FINISHED: 4/5/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 16	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0			Asphalt	
			Crusher run with gravel	
4		13	Dark red clay	
6		16		
8		21		
10		36	Light brown-tan clay with sand	
12		68		
14		63		
16		411		Boring terminated at 16 ft-bls.
18				
20				
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-105
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/5/10	DATE FINISHED: 4/5/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 16	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES: Sample No. / Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Asphalt	
0–2			Crusher run with gravel	
2–10			Dark red-brown clay	
10–16			Light brown-tan clay	Strong odors from soil cores. Move to next location.
16				Boring terminated at 16 ft-bls.
18				
20				
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-106
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/5/10	DATE FINISHED: 4/5/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 16	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES: Sample No. / Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Asphalt	
0–2			Crusher run with gravel	
2–8			Dark red-brown clay	
8–14			Red-tan clay	Strong odors from soil cores. Move to next location.
14–16			Tan clay	Boring terminated at 16 ft-bls.
16–30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-107
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/5/10	DATE FINISHED: 4/5/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~18	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Asphalt	
1			Crusher run with gravel	
2				
4		64	Dark red-brown clay	
6		28		
8		64		
10		66		
12		687	Orange-tan clay	
14		120		
16		312		
18		611		
20		184	Dark red-brown clay	Boring terminated at 20 ft-bls.
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-108
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/5/10	DATE FINISHED: 4/5/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~18	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0			Asphalt	
			Crusher run with gravel	
2			Dark red clay	
4		11		
6		22	Dark red-brown clay	
8		8.7		
10		20	Orange-tan clay	
12		26		
14		24		
16		37	Yellow-orange weathered rock	
18				
20				Boring terminated at 20 ft-bls.
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-109
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/5/10	DATE FINISHED: 4/5/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 16	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0			Asphalt	
			Crusher run with gravel	
2				
4			Dark red-brown clay	
6				
8				
10			Orange-brown clay	Strong odors from soil cores. Move to next location.
12				
14				
16				Boring terminated at 16 ft-bls.
18				
20				
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-110
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/5/10	DATE FINISHED: 4/5/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~17	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0			Asphalt	
1			Crusher run with gravel	
4		56	Dark red-brown clay	
6		59		
8		57		
10		36	Light red-orange clay	
12		80	Orange-red clay	
14		77	Light brown-tan weathered rock	
16		283		
18			White-orange-brown weathered rock	
20				Boring terminated at 20 ft-bls.

EPS

Project:	Roper Pump	Log of Boring No.	SB-111
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/5/10	DATE FINISHED: 4/5/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0			Asphalt	
0			Crusher run with gravel	
2			Dark red clay	
4		39		
6		35	Red-orange clay	
8		47		
10		36	Tan-orange clay	
12		35		
14		25		
16		65	Tan weathered rock	
18		60	Red-white-tan weathered rock	
20		48		Boring terminated at 20 ft-bls.
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-112
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/6/10	DATE FINISHED: 4/6/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~18	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Asphalt	
			Crusher run with gravel	
2				
4		26	Dark red-brown clay	
6		47		
			Orange-red clay	
8		72		
10		32	Orange-tan clay	
12		79		
14		220		
			Orange-tan sandy clay	
16		378	Tan-white weathered rock	
18			White-orange weathered rock	
20				Boring terminated at 20 ft-bls.
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-113
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/6/10	DATE FINISHED: 4/6/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 16	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0			Asphalt	
			Crusher run with gravel	
2				
			Dark red-brown clay	
4				
6				
			Orange-tan clay	
8				
10				
12				
			Orange clay with trace sand	
14				
			Orange-tan clay with sand	
16				Boring terminated at 16 ft-bls.
18				
20				
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-114
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/6/10	DATE FINISHED: 4/6/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~18	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Asphalt	
1			Crusher run with gravel	
2				
3				
4		46	Dark red-brown clay	
5				
6		30		
7				
8		81		
9			No recovery	
10				
11				
12			Tan-orange clay	
13				
14		113		
15			Tan sandy clay	
16		12,895	White-tan weathered rock	
17				
18			Orange-white weathered rock	
19				
20				Boring terminated at 20 ft-bls.
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-115
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/6/10	DATE FINISHED: 4/6/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Asphalt	
			Crusher run with gravel	
2				
4		91	Dark red-brown clay	
6		92		
8		147		
10		160	Red-orange clay	
12		1,634		
14		207		
16		>15,000	Tan-red sandy clay	
18		224	White weathered rock	
20				Boring terminated at 20 ft-bls.
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-116
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/6/10	DATE FINISHED: 4/6/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 16	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~12	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0			Asphalt	
1			Crusher run with gravel	
4		29	Dark red-brown clay	
6		45		
8		73		
10		41	Orange-brown clay	
12		42		
14		51	Light brown sandy clay	
15			Orange brown clay	
16		57		Boring terminated at 16 ft-bls.
18				
20				
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-117
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/6/10	DATE FINISHED: 4/6/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~16	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0			Concrete	
0			Crusher run with gravel	
4		31	Dark red-brown clay	
6		57		
8		110		
10		199		
12		1,698	Orange-tan clay	
14		122		
16		>15,000	Orange-tan weathered rock	
18				
20				Boring terminated at 20 ft-bls.
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-118
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/6/10	DATE FINISHED: 4/6/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~18	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0			Concrete	
2			Dark red-brown clay	
4		38		
6		18	Red-orange clay	
8		53		
10		33	Red-orange clay with sand	
12		114		
14		99		
16		384	Tan-orange weathered rock	
18				
20				Boring terminated at 20 ft-bls.
22				
24				
26				
28				
30				

EPS

Project: Roper Pump	**Log of Boring No.** SB-119
SITE LOCATION: 3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 4/6/10 / DATE FINISHED: 4/6/10
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 20 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): ~18 / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: J. Dennis

DEPTH (feet)	SAMPLES: Sample No. / Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Topsoil	
0			Gray clay	
2			Red-gray clay	
4		2.6		
6		5.3		
8		4.2	Red-orange clay	
10		5.0		
12		2.5		
14		5.5		
16		4.9	Red-orange sandy clay	
18			White weathered rock	
20				Boring terminated at 20 ft-bls.
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-120
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/6/10	DATE FINISHED: 4/6/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 12	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0			Concrete	
2				
4				
6		2,620	Red-orange clay	
8		6,812		Strong odors from soil cores. Move to next location.
10				
12				Boring terminated at 12 ft-bls.
14				
16				
18				
20				
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-121
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/6/10	DATE FINISHED: 4/6/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 18	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0			Concrete	
4		12	Dark red-brown clay	
6		12		
8		13		
10		23	Red-tan clay	
12		26		
14		14		
16		4.6		
18		3.6		Boring terminated at 18 ft-bls.
20				
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	SB-122
SITE LOCATION:	3475 Old Maysville Rd., Commerce, GA	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 4/6/10	DATE FINISHED: 4/6/10
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 20	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Sample No. Location	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Topsoil	
			Red sandy clay	
2		4.1		
4		8.0	Dark red-brown clay	
6		12		
8		12		
10		13	Red-tan clay	
12		12		
14		7.4		
16		12.	Orange-tan clay	
18				
20			White-brown weathered rock	Boring terminated at 20 ft-bls.
22				
24				
26				
28				
30				

EPS

Project:	Roper Pump	Log of Boring No.	TW-1
SITE LOCATION:	3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 5/27/09	DATE FINISHED: 5/27/09
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 28	SCREEN INTERVAL (ft.): 18-28
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	G.Henry

DEPTH (feet)	SAMPLES: Sample No. / Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0–30			No lithology collected	Boring terminated at 28 ft-bls. Groundwater sample collected from 1" temporary well.

Project: Roper Pump	**Log of Boring No.** TW-2
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/27/09 / DATE FINISHED: 5/27/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 24 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: G.Henry

DEPTH (feet)	SAMPLES: Sample No. / Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0–30			No lithology collected	Boring terminated at 24 ft-bls. Groundwater sample collected with a screen point sampler.

EPS

Project: Roper Pump	**Log of Boring No.** TW-3
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/27/09 / DATE FINISHED: 5/27/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 24 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: G.Henry

DEPTH (feet)	SAMPLES: Sample No. / Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Ground Surface Elevation: N/A	
2				
4				
6				
8				
10				
12				
14			No lithology collected	
16				
18				
20				
22				Boring terminated at 24 ft-bls. Groundwater sample collected with a screen point sampler.
24				
26				
28				
30				

EPS

Project: Roper Pump	**Log of Boring No.** TW-4
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: 5/27/09 / DATE FINISHED: 5/27/09
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 24 / SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A / CASING (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner	LOGGED BY: G.Henry

DEPTH (feet)	SAMPLES: Sample No. / Location	PID Reading	DESCRIPTION Ground Surface Elevation: N/A	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0–30			No lithology collected	Boring terminated at 24 ft-bls. Groundwater sample collected with a screen point sampler.

EPS

Project:	Roper Pump	Log of Boring No.	TW-5
SITE LOCATION:	3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 5/27/09	DATE FINISHED: 5/27/09
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 28	SCREEN INTERVAL (ft.): 18-28
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	G.Henry

DEPTH (feet)	SAMPLES: Sample No. / Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0–30			No lithology collected	Boring terminated at 28 ft-bls. Groundwater sample collected from 1" temporary well.

EPS

Project:	Roper Pump	Log of Boring No.	TW-6
SITE LOCATION:	3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 5/27/09	DATE FINISHED: 5/27/09
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 28	SCREEN INTERVAL (ft.): 18-28
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	G.Henry

DEPTH (feet)	SAMPLES: Sample No. / Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0–30			No lithology collected	Boring terminated at 28 ft-bls. Groundwater sample collected from 1" temporary well.

EPS

Project:	Roper Pump	Log of Boring No.	TW-7
SITE LOCATION:	3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 5/27/09	DATE FINISHED: 5/27/09
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 28	SCREEN INTERVAL (ft.): 18-28
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	G.Henry

DEPTH (feet)	SAMPLES: Sample No. / Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0–30			No lithology collected	Boring terminated at 28 ft-bls. Groundwater sample collected from 1" temporary well.

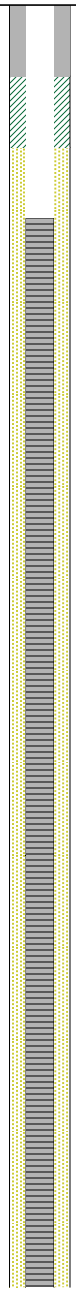
EPS

Project:	Roper Pump	Log of Boring No.	TW-8
SITE LOCATION:	3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Atlas Geo-Sampling	DATE STARTED: 5/27/09	DATE FINISHED: 5/27/09
DRILLING METHOD:	Direct Push	TOTAL DEPTH (ft.): 28	SCREEN INTERVAL (ft.): N/A
DRILLING EQUIPMENT:	AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): N/A
SAMPLING METHOD:	Macrocore w/ Acetate Liner	LOGGED BY:	G.Henry

DEPTH (feet)	SAMPLES: Sample No. / Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0–30			No lithology collected	Boring terminated at 28 ft-bls. Groundwater sample collected with a screen point sampler.

Project: Roper Pump	**Log of Boring No. SVE Well**
SITE LOCATION: 3475 Old Maysville Rd.	TOP OF CASING ELEVATION (ft): N/A
DRILLING CONTRACTOR: Atlas Geo-Sampling	DATE STARTED: Varies / DATE FINISHED: Varies
DRILLING METHOD: Hollow Stem Auger	TOTAL DEPTH (ft.): Varies / SCREEN INTERVAL (ft.): Varies
DRILLING EQUIPMENT: AMS Power Probe	DEPTH TO WATER AT TIME OF BORING (ft.): N/A / CASING (ft.): Varies
SAMPLING METHOD: N/A	LOGGED BY: J. Dennis

DEPTH (feet)	SAMPLES: Sample No. / Location	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
			Ground Surface Elevation: N/A	
0–19			No lithology collected	Typical SVE Well Boring terminated at various depths bls.

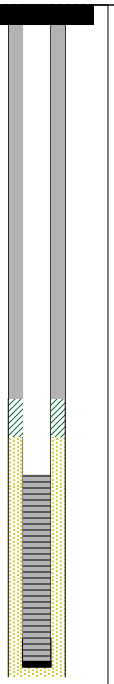


EPS

Project:	Roper Pump	Log of Boring No.	MW-8
SITE LOCATION:	Roper Pump	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Geo-Lab	DATE STARTED: 10/27/14	DATE FINISHED: 10/28/14
DRILLING METHOD:	Hollow Stem Auger	TOTAL DEPTH (ft.): 34.5	SCREEN INTERVAL (ft.): 24.5-34.5
DRILLING EQUIPMENT:	CME	DEPTH TO WATER AT TIME OF BORING (ft.): 27	CASING (ft.): 0-24.5
SAMPLING METHOD:	Split Spoon	LOGGED BY:	J. Dennis

Ground Surface Elevation: N/A

DEPTH (feet)	SAMPLES Blows/ Foot	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0–4	1-2-1-2	0	Red, orange clay	
4–8		0		
8–12	2-2-5-7	0.1		
12–16	1-3-3-3	0.5		
16–20	1-2-3-4	0.1	White, orange fine grained weathered rock	
20–24				
24–28	1-2-3-4	0.1		
28–32	1-2-5-5	0.3	White, pink, orange fine grained weathered rock	
32–36				Boring terminated at 35 ft bgs.
36–40				
40–44				
44–48				
48–52				
52–56				
56–60				
60–64				
64–68				

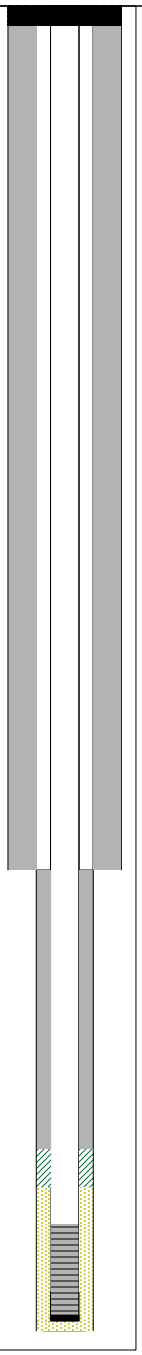


EPS

Project:	Roper Pump	Log of Boring No.	MW-9D
SITE LOCATION:	Roper Pump	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Geo-Lab	DATE STARTED: 10/27/14	DATE FINISHED: 10/29/14
DRILLING METHOD:	Hollow Stem Auger/Mud Rotary	TOTAL DEPTH (ft.): 68.5	SCREEN INTERVAL (ft.): 63.5-68.5
DRILLING EQUIPMENT:	CME	DEPTH TO WATER AT TIME OF BORING (ft.): 20	CASING (ft.): 0-63.5
SAMPLING METHOD:	Split Spoon	LOGGED BY:	J. Dennis

Ground Surface Elevation: N/A

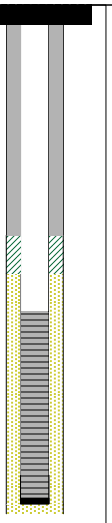
DEPTH (feet)	SAMPLES Blows/Foot	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0				
4	4-5-7-9	0.2		
		0.1		
8	1-2-1-1		Red,orange clay	
12		0		
16	1-4-5-5	0.2		
20	2-1-1-1	7.3	Orange, tan clay	
24	2-3-3-4	26.6	Tan, red micaceous clay	
28				
32	1-2-4-9	34.1	Brown, red micaceous clay	
36	2-3-7-7	0.9	White, gray coarse grain weathered rock	
40	2-4-6-7	1		
44	1-5-3-9	5.8	Tan medium grain weathered rock	
48				
52				
56	17-19-26-43	0.1	Gray, white striated weathered rock	
60	5-12-19-22	0.3	Gray, white, brown striated micaceous fine grain weathered rock	
64	32-42->50			
68		0.1		



Boring terminated at 69 ft bgs.

Project:	Roper Pump	Log of Boring No.	MW-9S
SITE LOCATION:	Roper Pump	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Geo-Lab	DATE STARTED: 10/28/14	DATE FINISHED: 10/29/14
DRILLING METHOD:	Hollow Stem Auger	TOTAL DEPTH (ft.): 26	SCREEN INTERVAL (ft.): 16-26
DRILLING EQUIPMENT:	CME	DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): 0-16
SAMPLING METHOD:	Split Spoon	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Blows/ Foot	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Ground Surface Elevation: N/A	
4				
8				
12			See MW-9D for lithology	
16				
20				
24				Boring terminated at 26.5 ft bgs.
28				
32				
36				
40				
44				
48				
52				
56				
60				
64				
68				

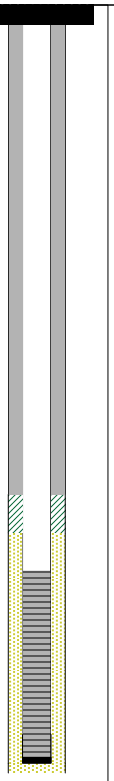


EPS

Project:	Roper Pump	Log of Boring No.	MW-10
SITE LOCATION:	Roper Pump	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Geo-Lab	DATE STARTED: 10/28/14	DATE FINISHED: 10/29/14
DRILLING METHOD:	Hollow Stem Auger	TOTAL DEPTH (ft.): 39.5	SCREEN INTERVAL (ft.): 29.5-39.5
DRILLING EQUIPMENT:	CME	DEPTH TO WATER AT TIME OF BORING (ft.): 32	CASING (ft.): 0-29.5
SAMPLING METHOD:	Split Spoon	LOGGED BY:	J. Dennis

Ground Surface Elevation: N/A

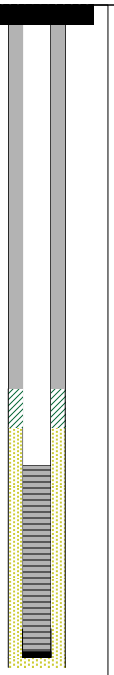
DEPTH (feet)	SAMPLES Blows/ Foot	PID Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0–4	1-1-1-2	0.1	Red, orange clay	
4–8		0.2		
8–12	1-1-2-3	0.1		
12–16	2-2-5-7	0.2	Orange, white clay with weathered rock	
16–20				
20–24	2-2-6-7	0.3	Orange, red, tan clay with weathered rock	
24–28	1-4-5-5	0.1		
28–32	3-4-12-12	0.2	Red, orange micaceous clay	
32–36	3-2-6-5	0.2		
36–40	1-6-10-5	0.2		Boring terminated at 40 ft bgs.
40–44				
44–48				
48–52				
52–56				
56–60				
60–64				
64–68				



EPS

Project:	Roper Pump	Log of Boring No.	MW-11
SITE LOCATION:	Roper Pump	TOP OF CASING ELEVATION (ft):	N/A
DRILLING CONTRACTOR:	Geo-Lab	DATE STARTED: 10/29/14	DATE FINISHED: 10/29/14
DRILLING METHOD:	Hollow Stem Auger	TOTAL DEPTH (ft.): 34	SCREEN INTERVAL (ft.): 24-34
DRILLING EQUIPMENT:	CME	DEPTH TO WATER AT TIME OF BORING (ft.): 27	CASING (ft.): 0-24
SAMPLING METHOD:	Split Spoon	LOGGED BY:	J. Dennis

DEPTH (feet)	SAMPLES Blows/ Foot	PID Reading	DESCRIPTION (Ground Surface Elevation: N/A)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0			Asphalt	
4	2-4-7-9	11.3	Red, orange clay	
8		1.1		
12	2-2-3-3	0.9	White, orange coarse grained weathered rock	
16	2-2-2-2	0.9	Red, orange sandy clay White, tan sandy clay Orange, tan sandy clay	
20	1-2-3-3	0.4	Orange, tan sandy clay with weathered rock	
24	2-3-2-3	0.6	White coarse grain weathered rock	
28				
32	1-3-2-2	1.8	Tan, orange sandy clay	Boring terminated at 34.5 ft bgs.
36				
40				
44				
48				
52				
56				
60				
64				
68				

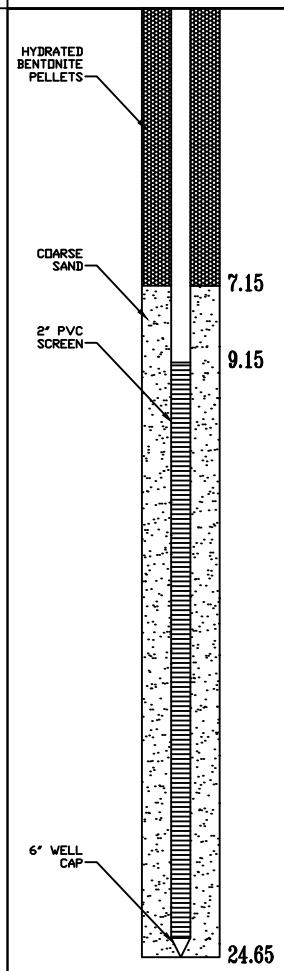


GEC Boring Logs (2014)

SOIL BORING RECORD

Project: Roper Pumps Facility Commerce, Georgia	Boring No: MW-1 Project No: 140056.340
Location: See Soil/Groundwater Quality Map	Elevation: 96.31'
Driller/Equipment: J. Waddell/ CME 55 Truck	Drilling Date: February 10, 2014
Water Level: 20.0 ft at time of boring	Engineer/Geologist:

Depth (ft)	Soil Description	Sample Type	N-Value	PID (ppm)
	ASPHALT			
	brownish-orange, medium to fine, silty SAND (SM); clayey	SS-1		0.0
5	tan-orange, medium to fine, silty SAND (SM); clayey	SS-2		0.0
10	orange-brown, medium to fine, silty SAND (SM); micaceous	SS-3		0.0
15	yellowish-tan, coarse to fine, silty SAND (SM)	SS-4		0.0
▽ 20				
25	BORING TERMINATED AT 24.65 ft			
30				



? Boring and sampling performed in accordance with ASTM D 1586.
? Depths are measured from existing ground surface at time of drilling.
? Depths are shown to illustrate general arrangements of the strata encountered at the boring location.
? Do not use depths for determinations of quantities or distances.

NOTES: WELL ELEVATIONS RELATIVE TO BENCHMARK ELEVATION OF 100' AS SHOWN ON THE MONITORING WELL LOCATION MAP.

ENVIRONMENTAL 140056.210 ROPER PUMPS.GPJ GEC.GDT 2/28/14

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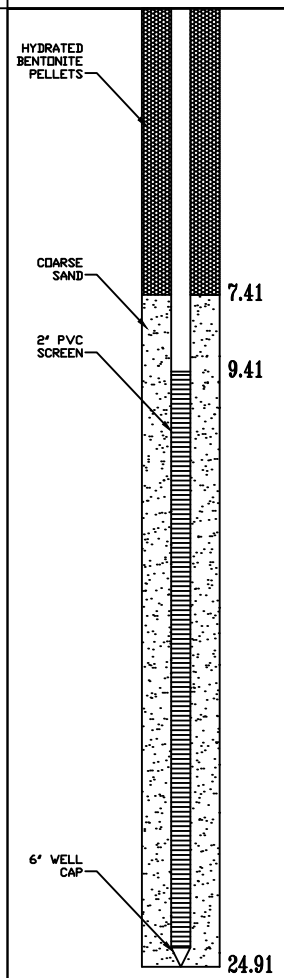
SOIL BORING RECORD

Project: Roper Pumps Facility Commerce, Georgia	Boring No: MW-2 Project No: 140056.340
Location: See Soil/Groundwater Quality Map	Elevation: 97.24'
Driller/Equipment: J. Waddell/ CME 55 Truck	Drilling Date: February 10, 2014
Water Level: 20.0 ft at time of boring	Engineer/Geologist:

Depth (ft)	Soil Description	Sample Type	N-Value	PID (ppm)
	ASPHALT			
	tan-brown, medium to fine, silty SAND (SC-SM); clayey	SS-1		0.0
5	reddish-tan, fine, silty SAND (SM); micaceous			
		SS-2		0.0
10				
		SS-3		0.0
15	light tan-gray, coarse to fine, silty SAND (SM)			
		SS-4		0.0
20 ▽				
25	BORING TERMINATED AT 24.9 ft			
30				



? Boring and sampling performed in accordance with ASTM D 1586.
? Depths are measured from existing ground surface at time of drilling.
? Depths are shown to illustrate general arrangements of the strata encountered at the boring location.
? Do not use depths for determinations of quantities or distances.

NOTES: WELL ELEVATIONS RELATIVE TO BENCHMARK ELEVATION OF 100' AS SHOWN ON THE MONITORING WELL LOCATION MAP.

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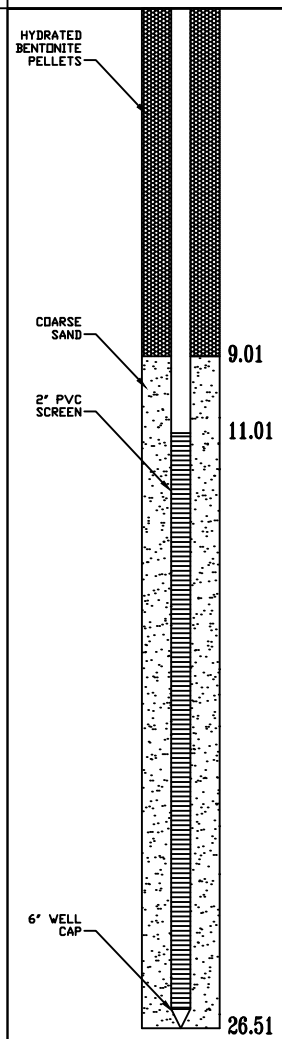
SOIL BORING RECORD

Project: Roper Pumps Facility Commerce, Georgia	Boring No: MW-3 Project No: 140056.340
Location: See Soil/Groundwater Quality Map	Elevation: 101.78'
Driller/Equipment: J. Waddell/ CME 55 Truck	Drilling Date: February 17, 2014
Water Level: 25.0 ft at time of boring	Engineer/Geologist:

Depth (ft)	Soil Description	Sample Type	N-Value	PID (ppm)
	ASPHALT			
	tan-brown, medium to fine, silty SAND (SM)	SS-1		0.0
5	reddish-orange, medium to fine, silty SAND (SC-SM); clayey	SS-2		0.0
10	light tan-orange, medium to fine, silty SAND (SM)	SS-3		0.0
15	light whitish-tan, medium to fine, silty SAND (SM)	SS-4		0.0
20				
25 (▽)				
	BORING TERMINATED AT 26.51 ft			
30				



? Boring and sampling performed in accordance with ASTM D 1586.
? Depths are measured from existing ground surface at time of drilling.
? Depths are shown to illustrate general arrangements of the strata encountered at the boring location.
? Do not use depths for determinations of quantities or distances.

NOTES: WELL ELEVATIONS RELATIVE TO BENCHMARK ELEVATION OF 100' AS SHOWN ON THE MONITORING WELL LOCATION MAP.

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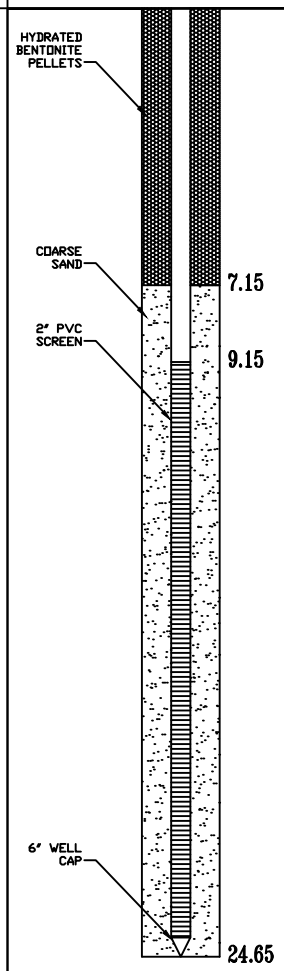
SOIL BORING RECORD

Project: Roper Pumps Facility Commerce, Georgia	Boring No: MW-4 Project No: 140056.340
Location: See Soil/Groundwater Quality Map	Elevation: 99.81'
Driller/Equipment: J. Waddell/ CME 55 Truck	Drilling Date: February 18, 2014
Water Level: 17.0 ft at time of boring	Engineer/Geologist:

Water Level (ft)	Depth (ft)	Soil Symbol	Soil Description	Sample Type	N-Value	PID (ppm)
			TOPSOIL			
			brownish-red, medium to fine, silty SAND (SC-SM); clayey			
	5			SS-1		0.0
	10			SS-2		0.0
	15			SS-3		0.0
▽			tan-white, coarse to fine, silty SAND (SM)			
				SS-4		0.0
	20		brownish-purple, fine, silty SAND (SM)			
	25		BORING TERMINATED AT 24.65 ft			
	30					



? Boring and sampling performed in accordance with ASTM D 1586.
? Depths are measured from existing ground surface at time of drilling.
? Depths are shown to illustrate general arrangements of the strata encountered at the boring location.
? Do not use depths for determinations of quantities or distances.

NOTES: WELL ELEVATIONS RELATIVE TO BENCHMARK ELEVATION OF 100' AS SHOWN ON THE MONITORING WELL LOCATION MAP.

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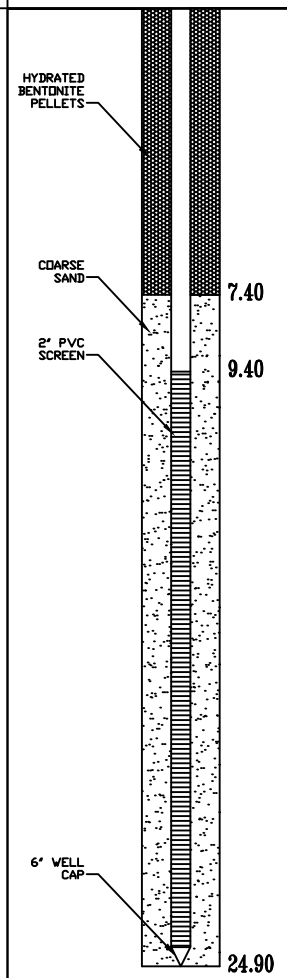
SOIL BORING RECORD

Project: Roper Pumps Facility Commerce, Georgia	Boring No: MW-5 Project No: 140056.340
Location: See Soil/Groundwater Quality Map	Elevation: 99.52'
Driller/Equipment: J. Waddell/ CME 55 Truck	Drilling Date: February 18, 2014
Water Level: 22.0 ft at time of boring	Engineer/Geologist:

Depth (ft)	Soil Description	Sample Type	N-Value	PID (ppm)
	ASPHALT			
	tan-red, medium to fine, clayey SAND (SC); silty	SS-1		0.0
5	brownish-tan, medium to fine, silty SAND (SC-SM); clayey	SS-2		0.0
10		SS-3		0.0
15	reddish-brown	SS-4		0.0
20	white-tan, CLAY (CH)	SS-5		0.0
25	BORING TERMINATED AT 24.9 ft			
30				



? Boring and sampling performed in accordance with ASTM D 1586.
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NOTES: WELL ELEVATIONS RELATIVE TO BENCHMARK ELEVATION OF 100' AS SHOWN ON THE MONITORING WELL LOCATION MAP.

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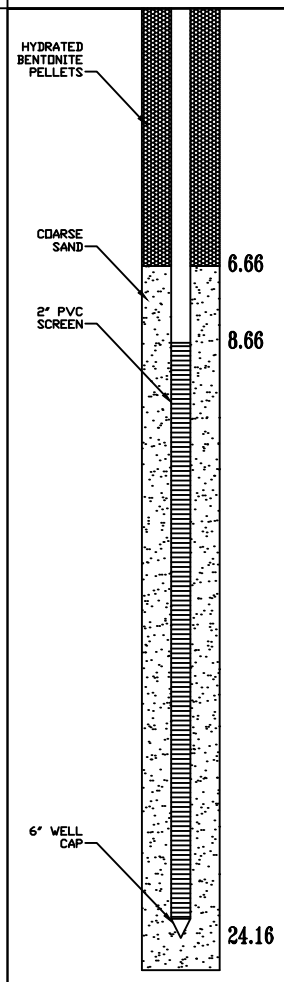
SOIL BORING RECORD

Project: Roper Pumps Facility Commerce, Georgia	Boring No: MW-6 Project No: 140056.340
Location: See Soil/Groundwater Quality Map	Elevation: 98.98'
Driller/Equipment: J. Waddell/ CME 55 Truck	Drilling Date: February 17, 2014
Water Level: 25.0 ft at time of boring	Engineer/Geologist:

Depth (ft)	Soil Symbol	Soil Description	Sample Type	N-Value	PID (ppm)
		CONCRETE			
		brownish-orange, medium to fine, silty SAND (SM); clayey	SS-1		0.0
5		tan-brown, coarse to fine, silty SAND (SM)	SS-2		0.0
10		purplish-brown, fine, sandy SILT (ML); micaceous	SS-3		0.0
15			SS-4		0.0
20		brownish-tan, fine, sandy SILT (ML); micaceous	SS-5		0.0
25		BORING TERMINATED AT 25.0 ft			
30					



- ? Boring and sampling performed in accordance with ASTM D 1586.
- ? Depths are measured from existing ground surface at time of drilling.
- ? Depths are shown to illustrate general arrangements of the strata encountered at the boring location.
- ? Do not use depths for determinations of quantities or distances.

NOTES: WELL ELEVATIONS RELATIVE TO BENCHMARK ELEVATION OF 100' AS SHOWN ON THE MONITORING WELL LOCATION MAP.

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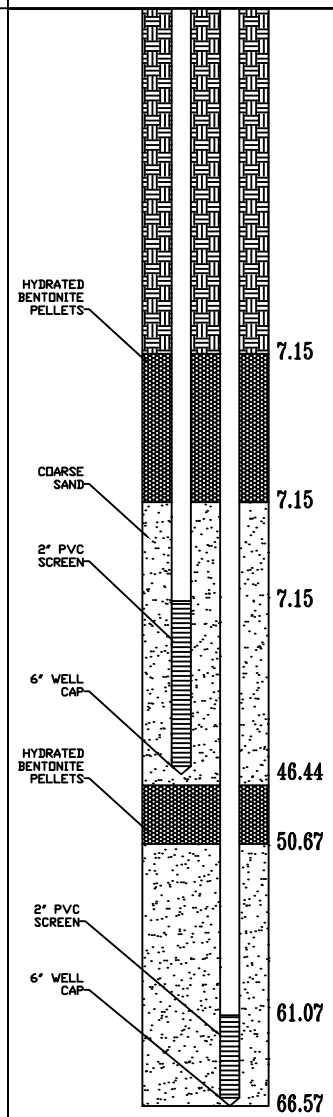
SOIL BORING RECORD

Project: Roper Pumps Facility Commerce, Georgia	Boring No: MW-6D Project No: 140056.340
Location: See Soil/Groundwater Quality Map	Elevation: 98.93' (6D) / 98.85' (6DS)
Driller/Equipment: J. Waddell/ CME 55 Truck	Drilling Date: February 14, 2014
Water Level: 24.0 ft at time of boring	Engineer/Geologist:

Water Level (ft)	Depth (ft)	Soil Symbol	Soil Description	Sample Type	N-Value	PID (ppm)
▽	10 20 30 40 50 60					
	70		BORING TERMINATED AT 66.57 ft			



? Boring and sampling performed in accordance with ASTM D 1586.
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NOTES: WELL ELEVATIONS RELATIVE TO BENCHMARK ELEVATION OF 100' AS SHOWN ON THE MONITORING WELL LOCATION MAP.

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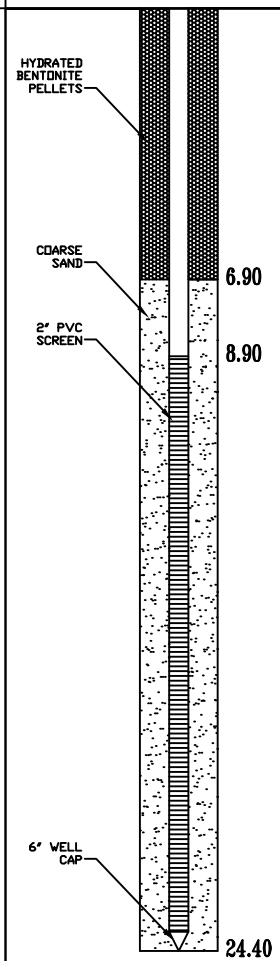
SOIL BORING RECORD

Project: Roper Pumps Facility Commerce, Georgia	Boring No: MW-7 Project No: 140056.340
Location: See Soil/Groundwater Quality Map	Elevation: 98.78'
Driller/Equipment: J. Waddell/ CME 55 Truck	Drilling Date: February 18, 2014
Water Level: 16.0 ft at time of boring	Engineer/Geologist:

Depth (ft)	Soil Description	Sample Type	N-Value	PID (ppm)
	CONCRETE			
	orange, medium to fine, silty SAND (SC-SM); clayey	SS-1		0.0
5	tan-orange, medium to fine, silty SAND (SM)	SS-2		0.0
10	whitish-green, medium to fine, silty SAND (SM); saprolitic	SS-3		0.0
15				
		SS-4		0.0
20				
25	BORING TERMINATED AT 24.4 ft			
30				



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? Depths are measured from existing ground surface at time of drilling.
? Depths are shown to illustrate general arrangements of the strata encountered at the boring location.
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NOTES: WELL ELEVATIONS RELATIVE TO BENCHMARK ELEVATION OF 100' AS SHOWN ON THE MONITORING WELL LOCATION MAP.

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APPENDIX F

Summary of Sampling Results to Date

Table F-1A. Soil Sampling Results- Organic Constituents
Roper Pump Company

Sample Location	Depth (ft bgs)	Date Sampled	1,1,1-Trichloroethane (mg/kg)	1,1,2,2-Tetrachloroethane (mg/kg)	1,1,2-Trichloroethane (mg/kg)	1,1-Dichloroethane (mg/kg)	1,1-Dichloroethene (mg/kg)	1,2-Dibromo-3-chloropropane (mg/kg)	1,2-Dibromoethane (mg/kg)	1,2-Dichloroethane (mg/kg)	1,2-Dichloropropane (mg/kg)	2-Butanone (MEK) (mg/kg)	2-Hexanone (mg/kg)	4-Methyl-2-pentanone (mg/kg)	Acetone (mg/kg)	Benzene (mg/kg)	Bromochloromethane (mg/kg)	Bromoform (mg/kg)	Bromomethane (mg/kg)	Carbon disulfide (mg/kg)	Carbon tetrachloride (mg/kg)	Chlorobenzene (mg/kg)	Chloroethane (mg/kg)	Chloroform (mg/kg)	Chloromethane (mg/kg)	cis-1,2-Dichloroethene (mg/kg)	cis-1,3-Dichloropropene (mg/kg)	Cyclohexane (mg/kg)	Dibromochloromethane (mg/kg)	Dichlorobromomethane (mg/kg)
Main Facility																														
B-1	2	5/20/2009	<18	<18	<18	<18	<18	<18	<18	<18	<18	<180	<35	<35	<350	<18		<18	<18	<35	<18	<18	<35	<18	<35	<18	<18	<18	<18	<18
B-1	6	5/20/2009	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.4	<0.4	<4	<0.2		<0.2	<0.2	<0.4	<0.2	<0.2	<0.4	<0.2	<0.4	0.21	<0.2	<0.2	<0.2	<0.2
B-1	14	5/20/2009	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<1.3	<0.25	<0.25	<2.5	<0.13		<0.13	<0.13	<0.25	<0.13	<0.13	<0.25	<0.13	<0.25	<0.13	<0.13	<0.13	<0.13	<0.13
B-10	2	5/21/2009	<170	<170	<170	<170	<170	<170	<170	<170	<170	<1700	<330	<330	<3300	<170		<170	<170	<330	<170	<170	<330	<170	<330	<170	<170	<170	<170	<170
B-10	6	5/21/2009	<19	<19	<19	<19	<19	<19	<19	<19	<19	<190	<38	<38	<380	<19		<19	<19	<38	<19	<19	<38	<19	<38	<19	<19	<19	<19	<19
B-10	12	5/21/2009	<14	<14	<14	<14	<14	<14	<14	<14	<14	<140	<28	<28	<280	<14		<14	<14	<28	<14	<14	<28	<14	<28	<14	<14	<14	<14	<14
B-10	16	5/21/2009	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<16	<3.3	<3.3	<33	<1.6		<1.6	<1.6	<3.3	<1.6	<1.6	<3.3	<1.6	<3.3	<1.6	<1.6	<1.6	<1.6	<1.6
B-11	8	5/21/2009	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.027	<0.0055	<0.0055	<0.055	<0.0027		<0.0027	<0.0027	<0.0055	<0.0027	<0.0027	<0.0055	<0.0027	<0.0055	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027
B-12	2	5/21/2009	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<1.6	<0.31	<0.31	<3.1	<0.16		<0.16	<0.16	<0.31	<0.16	<0.16	<0.31	<0.16	<0.31	<0.16	<0.16	<0.16	<0.16	<0.16
B-12	8	5/21/2009	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<4.1	<4.1	<41	<2		<2	<2	<4.1	<2	<2	<4.1	<2	<4.1	<2	<2	<2	<2	<2
B-12	14	5/21/2009	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<1.9	<0.38	<0.38	<3.8	<0.19		<0.19	<0.19	<0.38	<0.19	<0.19	<0.38	<0.19	<0.38	<0.19	<0.19	<0.19	<0.19	<0.19
B-13	4	5/21/2009	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<3.1	<0.61	<0.61	<6.1	<0.31		<0.31	<0.31	<0.61	<0.31	<0.31	<0.61	<0.31	<0.61	<0.31	<0.31	<0.31	<0.31	<0.31
B-13	10	5/21/2009	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<15	<3	<3	<30	<1.5		<1.5	<1.5	<3	<1.5	<1.5	<3	<1.5	<3	<1.5	<1.5	<1.5	<1.5	<1.5
B-13	14	5/21/2009	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<18	<3.6	<3.6	<36	<1.8		<1.8	<1.8	<3.6	<1.8	<1.8	<3.6	<1.8	<3.6	<1.8	<1.8	<1.8	<1.8	<1.8
B-13	18	5/21/2009	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<3.7	<0.75	<0.75	<7.5	<0.37		<0.37	<0.37	<0.75	<0.37	<0.37	<0.75	<0.37	<0.75	<0.37	<0.37	<0.37	<0.37	<0.37
B-14	4	5/21/2009	<14	<14	<14	<14	<14	<14	<14	<14	<14	<140	<28	<28	<280	<14		<14	<14	<28	<14	<14	<28	<14	<28	<14	<14	<14	<14	<14
B-14	6	5/21/2009	<17	<17	<17	<17	<17	<17	<17	<17	<17	<170	<34	<34	<340	<17		<17	<17	<34	<17	<17	<34	<17	<34	<17	<17	<17	<17	<17
B-14	12	5/21/2009	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<8.3	<1.7	<1.7	<17	<0.83		<0.83	<0.83	<1.7	<0.83	<0.83	<1.7	<0.83	<1.7	<0.83	<0.83	<0.83	<0.83	<0.83
B-14	18	5/21/2009	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<22	<4.4	<4.4	<44	<2.2		<2.2	<2.2	<4.4	<2.2	<2.2	<4.4	<2.2	<4.4	<2.2	<2.2	<2.2	<2.2	<2.2
B-15	4	5/21/2009	<14	<14	<14	<14	<14	<14	<14	<14	<14	<140	<28	<28	<280	<14		<14	<14	<28	<14	<14	<28	<14	<28	<14	<14	<14	<14	<14
B-15	8	5/21/2009	<16	<16	<16	<16	<16	<16	<16	<16	<16	<160	<32	<32	<320	<16		<16	<16	<32	<16	<16	<32	<16	<32	<16	<16	<16	<16	<16
B-15	12	5/21/2009	<17	<17	<17	<17	<17	<17	<17	<17	<17	<170	<34	<34	<340	<17		<17	<17	<34	<17	<17	<34	<17	<34	<17	<17	<17	<17	<17
B-15	18	5/21/2009	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<15	<3.1	<3.1	<31	<1.5		<1.5	<1.5	<3.1	<1.5	<1.5	<3.1	<1.5	<3.1	<1.5	<1.5	<1.5	<1.5	<1.5
B-16	4	5/21/2009	<14	<14	<14	<14	<14	<14	<14	<14	<14	<140	<28	<28	<280	<14		<14	<14	<28	<14	<14	<28	<14	<28	<14	<14	<14	<14	<14
B-16	8	5/21/2009	<13	<13	<13	<13	<13	<13	<13	<13	<13	<130	<26	<26	<260	<13		<13	<13	<26	<13	<13	<26	<13	<26	<13	<13	<13	<13	<13
B-16	12	5/21/2009	<13	<13	<13	<13	<13	<13	<13	<13	<13	<130	<25	<25	<250	<13		<13	<13	<25	<13	<13	<25	<13	<25	<13	<13	<13	<13	<13
B-17	4	5/21/2009	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<13	<2.7	<2.7	<27	<1.3		<1.3	<1.3	<2.7	<1.3	<1.3	<2.7	<1.3	<2.7	<1.3	<1.3	<1.3	<1.3	<1.3
B-17	10	5/21/2009	<18	<18	<18	<18	<18	<18	<18	<18	<18	<180	<36	<36	<360	<18		<18	<18	<36	<18	<18	<36	<18	<36	<18	<18	<18	<18	<18
B-17	14	5/21/2009	<19	<19	<19	<19	<19	<19	<19	<19	<19	<190	<39	<39	<390	<19		<19	<19	<39	<19	<19	<39	<19	<39	<19	<19	<19	<19	<19
B-17	18	5/21/2009	<18	<18	<18	<18	<18	<18	<18	<18	<18	<180	<35	<35	<350	<18		<18	<18	<35	<18	<18	<35	<18	<35	<18	<18	<18	<18	<18
B-18	2	5/22/2009	<15	<15	<15	<15	<15	<15	<15	<15	<15	<150	<30	<30	<300	<15		<15	<15	<30	<15	<15	<30	<15	<30	<15	<15	<15	<15	<15
B-18	10	5/22/2009	<14	<14	<14	<14	<14	<14	<14	<14	<14	<140	<28	<28	<280	<14		<14	<14	<28	<14	<14	<28	<14	<28	<14	<14	<14	<14	<14
B-18	14	5/22/2009	<14	<14	<14	<14	<14	<14	<14	<14	<14	<140	<28	<28	<280	<14		<14	<14	<28	<14	<14	<28	<14	<28	<14	<14	<14	<14	<14
B-18	18	5/22/2009	<16	<16	<16	<16	<16	<16	<16	<16	<16	<160	<31	<31	<310	<16		<16	<16	<31	<16	<16	<31	<16	<31	<16	<16	<16	<16	<16
B-19	2	5/22/2009	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.036	<0.0073	<0.0073	<0.073	<0.0036		<0.0036	<0.0036	<0.0073	<0.0036	<0.0036	<0.0073	<0.0036	<0.0073	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036
B-19	8	5/22/2009	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.038	<0.0075	<0.0075	<0.075	<0.0038		<0.0038	<0.0038	<0.0075	<0.0038	<0.0038	<0.0075	<0.0038	<0.0075	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038
B-19	14	5/22/2009	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.033	<0.0066	<0.0066	<0.066	<0.0033		<0.0033	<0.0033	<0.0066	<0.0033	<0.0033	<0.0066	<0.0033	<0.0066	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033
B-19	18	5/22/2009	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	<0.029	<0.0059	<0.0059	<0.059	<0.0029		<0.0029	<0.0029	<0.0059	<0.0029	<0.0029	<0.0059	<0.0029	<0.0059	0.0087	<0.0029	<0.0029	<0.0029	<0.0029
B-19 (Dup)	18	5/22/2009	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.032	<0.0064	<0.0064	<0.064	<0.0032		<0.0032	<0.0032	<0.0064	<0.0032	<0.0032	<0.0064	<0.0032	<0.0064	0.0093	<0.0032	<0.0032	<0.0032	<0.0032
B-2	14	5/20/2009	<0.25	0.57	0.44	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<2.5	<0.5	<0.5	<5	<0.25		<0.25	<0.25	<0.5	<0.25	<0.25	<0.5	<0.25	<0.5	<0.25	<0.25	<0.25	<0.25	<0.25
B-2	18	5/20/2009	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.41	<0.41	<4.1	<0.2		<0.2	<0.2	<0.41	<0.2	<0.2	<0.41	<0.2	<0.41	<0.2	<0.2	<0.2	<0.2	<0.2
B-20	4	5/22/2009	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.034	<0.0068	<0.0068	<0.068	<0.0034		<0.0034	<0.0034	<0.0068	<0.0034	<0.0034	<0.0068	<0.0034	<0.0068	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034
B-20	10	5/22/2009	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.031	<0.0063	<0.0063	<0.063	<0.0031		<0.0031	<0.0031	<0.0063	<0.0031	<0.0031	<0.0063	<0.0031	<0.0063	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031
B-20	14	5/22/2009	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.032	<0.0064	<0.0064	<0.064	<0.0032		<0.0032	<0.0032	<0.0064	<0.0032	<0.0032	<0.0064	<0.0032	<0.0064	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
B-20	18	5/22/2009	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.032	<0.0063	<0.0063	<0.063	<0.0032		<0.0032	<0.0032	<0.0063	<0.0032	<0.0032	<0.0063	<0.0032	<0.0063	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
B-21	2	5/22/2009	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.021	<0.0043	<0.0043	<0.043	<0.0021		<0.0021	<0.0021	<0.0043	<0.0021	<0.0021	<0.0043	<0.0021	<0.0043	0.026	<0.0021	<0.0021	<0.0021	<0.0021
B-21	8	5/22/2009	<13	<13	<13	<13	<13	<13	<13	<13	<13	<130	<27	<27	<270	<13		<13	<13	<27	<13	<13	<27	<13	<27	<13	<13	<13	<13	<13
B-21	14	5/22/2009	<14	<14	<14	<14	<14	<14	<14	<14	<14	<140	<28	<28	<280	<14		<14	<14	<28	<14	<14	<28	<14	<28	<14	<14	<14	<14	<14
B-21	18	5/22/2009	<16	<16	<16	<16	<16	<16	<16	<16	<16	<160	<32	<32	<320	<16		<16	<16	<32	<16	<16	<32	<16	<32	<16	<16	<16	<16	<16
B-22	2	5/22/2009	<16	<16	<16	<16	<16	<16	<16	<16	<16	<160	<31	<31	<310	<16		<16	<16	<31	<16	<16	<31	<16	<31	<16	<16	<16	<16	<16
B-22	8	5/22/2009	<0.0033	<0.0033	0.0048	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.033	<0.0067	<0.0067	<0.067	<0.0033		<0.0033	<0.0033	<0.0067	<0.0033	<0.0033	<0.0067	<0.0033	<0.0067	0.0094	<0.0033	<0.0033	<0.0033	<0.0033
B-22	14	5/22/2009	<17	<17	<17	<17	<17	<17	<17	<17	<17	<170	<34	<34	<340	<17		<17	<17	<34	<17	<17	<34	<17	<34	<17	<17	<17	<17	<17
B-22	16	5/22/2009	<18	<18	<18	<18	<18	<18	<18	<18	<18	<180	<36	<36	<360	<18		<18	<18	<36	<18	<18	<36	<18	<36	<18	<18	<18	<18	<18
B-23	6	5/22/2009	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.033	<0.0065	<0.0065	<0.065	<0.0033		<0.0033	<0.0033	<0.0065	<0.0033	<0.0033	<0.0065	<0.0033	<0.0065	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033
B-23	16	5/22/2009	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.04	<0.0079	<0.0079	<0.079	<0.004		<0.004	<0.004	<0.0079	<0.004	<0.004	<0.0079	<0.004	<0.0079	<0.004	<0.004	<0.004	<0.004	<0.004
B-23 (Dup)	16	5/22/2009	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.047	<0.0093	<0.0093	<0.093	<0.0047		<0.0047	<0.0047	<0.0093	<0.0047	<0.0047	<0.0093	<0.0047	<0.0093	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047

Table F-1A. Soil Sampling Results- Organic Constituents
Roper Pump Company

Sample Location	Depth (ft bgs)	Date Sampled	1,1,1-Trichloroethane (mg/kg)	1,1,2,2-Tetrachloroethane (mg/kg)	1,1,2-Trichloroethane (mg/kg)	1,1-Dichloroethane (mg/kg)	1,1-Dichloroethene (mg/kg)	1,2-Dibromo-3-chloropropane (mg/kg)	1,2-Dibromoethane (mg/kg)	1,2-Dichloroethane (mg/kg)	1,2-Dichloropropane (mg/kg)	2-Butanone (MEK) (mg/kg)	2-Hexanone (mg/kg)	4-Methyl-2-pentanone (mg/kg)	Acetone (mg/kg)	Benzene (mg/kg)	Bromochloromethane (mg/kg)	Bromoform (mg/kg)	Bromomethane (mg/kg)	Carbon disulfide (mg/kg)	Carbon tetrachloride (mg/kg)	Chlorobenzene (mg/kg)	Chloroethane (mg/kg)	Chloroform (mg/kg)	Chloromethane (mg/kg)	cis-1,2-Dichloroethene (mg/kg)	cis-1,3-Dichloropropene (mg/kg)	Cyclohexane (mg/kg)	Dibromochloromethane (mg/kg)	Dichlorobromomethane (mg/kg)
B-3	4	5/20/2009	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<15	<3	<3	<30	<1.5		<1.5	<1.5	<3	<1.5	<1.5	<3	<1.5	<3	<1.5	<1.5	<1.5	<1.5	<1.5
B-3	8	5/20/2009	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<27	<5.5	<5.5	<55	<2.7		<2.7	<2.7	<5.5	<2.7	<2.7	<5.5	<2.7	<5.5	<2.7	<2.7	<2.7	<2.7	<2.7
B-3	12	5/20/2009	<0.15	0.69	0.93	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<1.5	<0.3	<0.3	<3	<0.15		<0.15	<0.15	<0.3	<0.15	<0.15	<0.3	<0.15	<0.3	<0.15	<0.15	<0.15	<0.15	<0.15
B-3	16	5/20/2009	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<21	<4.3	<4.3	<43	<2.1		<2.1	<2.1	<4.3	<2.1	<2.1	<4.3	<2.1	<4.3	<2.1	<2.1	<2.1	<2.1	<2.1
B-4	4	5/20/2009	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<2.1	<0.42	<0.42	<4.2	<0.21		<0.21	<0.21	<0.42	<0.21	<0.21	<0.42	<0.21	<0.42	<0.21	<0.21	<0.21	<0.21	<0.21
B-4	10	5/20/2009	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<2.1	<0.41	<0.41	<4.1	<0.21		<0.21	<0.21	<0.41	<0.21	<0.21	<0.41	<0.21	<0.41	<0.21	<0.21	<0.21	<0.21	<0.21
B-4	14	5/20/2009	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<1.5	<0.3	<0.3	<3	<0.15		<0.15	<0.15	<0.3	<0.15	<0.15	<0.3	<0.15	<0.3	<0.15	<0.15	<0.15	<0.15	<0.15
B-4	16	5/20/2009	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<2.5	<0.49	<0.49	<4.9	<0.25		<0.25	<0.25	<0.49	<0.25	<0.25	<0.49	<0.25	<0.49	<0.25	<0.25	<0.25	<0.25	<0.25
B-5	4	5/20/2009	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<1.4	<0.28	<0.28	<2.8	<0.14		<0.14	<0.14	<0.28	<0.14	<0.14	<0.28	<0.14	<0.28	<0.14	<0.14	<0.14	<0.14	<0.14
B-5	10	5/20/2009	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.4	<0.4	<4	<0.2		<0.2	<0.2	<0.4	<0.2	<0.2	<0.4	<0.2	<0.4	0.24	<0.2	<0.2	<0.2	<0.2
B-5	14	5/20/2009	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<1.6	<0.31	<0.31	<3.1	<0.16		<0.16	<0.16	<0.31	<0.16	<0.16	<0.31	<0.16	<0.31	<0.16	<0.16	<0.16	<0.16	<0.16
B-5	18	5/20/2009	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<2.1	<0.42	<0.42	<4.2	<0.21		<0.21	<0.21	<0.42	<0.21	<0.21	<0.42	<0.21	<0.42	<0.21	<0.21	<0.21	<0.21	<0.21
B-5 (Dup)	18	5/20/2009	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<4	<4	<40	<2		<2	<2	<4	<2	<2	<4	<2	<4	<2	<2	<2	<2	<2
B-6	4	5/20/2009	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<1.7	<0.34	<0.34	<3.4	<0.17		<0.17	<0.17	<0.34	<0.17	<0.17	<0.34	<0.17	<0.34	<0.17	<0.17	<0.17	<0.17	<0.17
B-6	8	5/20/2009	<0.2	<0.2	0.24	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.39	<0.39	<3.9	<0.2		<0.2	<0.2	<0.39	<0.2	<0.2	<0.39	<0.2	<0.39	<0.2	<0.2	<0.2	<0.2	<0.2
B-6	14	5/20/2009	<15	<15	<15	<15	<15	<15	<15	<15	<15	<150	<31	<31	<310	<15		<15	<15	<31	<15	<15	<31	<15	<31	<15	<15	<15	<15	<15
B-7	2	5/20/2009	<11	<11	<11	<11	<11	<11	<11	<11	<11	<110	<23	<23	<230	<11		<11	<11	<23	<11	<11	<23	<11	<23	<11	<11	<11	<11	<11
B-7	8	5/20/2009	<21	<21	<21	<21	<21	<21	<21	<21	<21	<210	<41	<41	<410	<21		<21	<21	<41	<21	<21	<41	<21	<41	<21	<21	<21	<21	<21
B-7	14	5/20/2009	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<98	<20	<20	<200	<9.8		<9.8	<9.8	<20	<9.8	<9.8	<20	<9.8	<20	<9.8	<9.8	<9.8	<9.8	<9.8
B-7	16	5/20/2009	<18	<18	<18	<18	<18	<18	<18	<18	<18	<180	<36	<36	<360	<18		<18	<18	<36	<18	<18	<36	<18	<36	<18	<18	<18	<18	<18
B-8	2	5/20/2009	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<1.4	<0.28	<0.28	<2.8	<0.14		<0.14	<0.14	<0.28	<0.14	<0.14	<0.28	<0.14	<0.28	<0.14	<0.14	<0.14	<0.14	<0.14
B-8	10	5/20/2009	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<1.1	<0.23	<0.23	<2.3	<0.11		<0.11	<0.11	<0.23	<0.11	<0.11	<0.23	<0.11	<0.23	<0.11	<0.11	<0.11	<0.11	<0.11
B-8	14	5/20/2009	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.045	<0.009	<0.009	<0.09	<0.0045		<0.0045	<0.0045	<0.009	<0.0045	<0.0045	<0.009	<0.0045	<0.009	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045
B-9	4	5/21/2009	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<2.3	<0.45	<0.45	<4.5	<0.23		<0.23	<0.23	<0.45	<0.23	<0.23	<0.45	<0.23	<0.45	0.31	<0.23	<0.23	<0.23	<0.23
B-9	10	5/21/2009	<20	<20	<20	<20	<20	<20	<20	<20	<20	<200	<39	<39	<390	<20		<20	<20	<39	<20	<20	<39	<20	<39	<20	<20	<20	<20	<20
B-9	14	5/21/2009	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<24	<4.9	<4.9	<49	<2.4		<2.4	<2.4	<4.9	<2.4	<2.4	<4.9	<2.4	<4.9	<2.4	<2.4	<2.4	<2.4	<2.4
B-9	18	5/21/2009	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<25	<5	<5	<50	<2.5		<2.5	<2.5	<5	<2.5	<2.5	<5	<2.5	<5	<2.5	<2.5	<2.5	<2.5	<2.5
HA-2	0.5	5/18/2009																												
MW-1	20	2/10/2014	<0.00554	<0.00554	<0.00554	<0.00554	<0.00554	<0.00554	<0.00554	<0.00554	<0.00554	<0.0554	<0.00554	<0.00554	<0.111	<0.00554	<0.00554	<0.00554	<0.00554	<0.0554	<0.00554	<0.00554	<0.0111	<0.111	<0.00554	<0.0111	<0.00554	<0.00554	<0.00554	<0.00554
MW-2	20	2/10/2014	<0.00723	<0.00723	<0.00723	<0.00723	<0.00723	<0.00723	<0.00723	<0.00723	<0.00723	<0.0723	<0.00723	<0.00723	<0.145	<0.00723	<0.00723	<0.00723	<0.00723	<0.0723	<0.00723	<0.00723	<0.0145	<0.00723	<0.0145	<0.00723	<0.00723	<0.00723	<0.00723	<0.00723
MW-3	20	2/17/2014	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.103	<0.103	<0.103	<0.103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0823	<0.0103	<0.0103	<0.0103	<0.0103	<0.0206	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103
MW-4	20	2/18/2014	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719	<0.0719	<0.0719	<0.0719	<0.0719	<0.00719	<0.00719	<0.00719	<0.00719	<0.0576	<0.00719	<0.00719	<0.00719	<0.00719	<0.0144	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719
MW-5	20	2/18/2014	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573	<0.0573	<0.0573	<0.0573	<0.0573	<0.00573	<0.00573	<0.00573	<0.00573	<0.0459	<0.00573	<0.00573	<0.00573	<0.00573	<0.0115	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573
MW-6	20	2/17/2014	<0.00689	<0.00689	<0.00689	<0.00689	<0.00689	<0.00689	<0.00689	<0.00689	<0.00689	<0.0689	<0.0689	<0.0689	<0.0689	<0.00689	<0.00689	<0.00689	<0.00689	<0.0551	<0.00689	<0.00689	<0.00689	<0.00689	<0.0138	0.0455	<0.00689	<0.00689	<0.00689	<0.00689
MW-7	20	2/18/2014	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766	<0.0766	<0.0766	<0.0766	<0.0766	<0.00766	<0.00766	<0.00766	<0.00766	<0.0613	<0.00766	<0.00766	<0.00766	<0.00766	<0.0153	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766
Piperun1&2	2	5/13/2009	<160	<160	<160	<160	<160	<160	<160	<160	<160	<1600	<310	<310	<3100	<160		<160	<160	<310	<160	<160	<310	<160	<310	<160	<160	<160	<160	<160
Piperun1&2	10	5/14/2009	<290	<290	<290	<290	<290	<290	<290	<290	<290	<2900	<590	<590	<5900	<290		<290	<290	<590	<290	<290	<590	<290	<590	<290	<290	<290	<290	<290
SB-1	2	5/21/2009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.01	<0.1	<0.005		<0.005	<0.005	<0.01	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005
SB-1	13	5/21/2009	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.049	<0.0098	<0.0098	<0.098	<0.0049		<0.0049	<0.0049	<0.0098	<0.0049	<0.0049	<0.0098	<0.0049	<0.0098	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
SB-100	4	4/5/2010	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.41	<0.41	<4.1	<0.2		<0.2	<0.2	<0.41	<0.2	<0.2	<0.41	<0.2	<0.41	<0.2	<0.2	<0.2	<0.2	<0.2
SB-100	8	4/5/2010	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.4	<0.4	<4	<0.2		<0.2	<0.2	<0.4	<0.2	<0.2	<0.4	<0.2	<0.4	<0.2	<0.2	<0.2	<0.2	<0.2
SB-100	12	4/5/2010	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<16	<3.3	<3.3	<33	<1.6		<1.6	<1.6	<3.3	<1.6	<1.6	<3.3	<1.6	<3.3	<1.6	<1.6	<1.6	<1.6	<1.6
SB-100	18	4/5/2010	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<14	<2.8	<2.8	<28	<1.4		<1.4	<1.4	<2.8	<1.4	<1.4	<2.8	<1.4	<2.8	<1.4	<1.4	<1.4	<1.4	<1.4
SB-101	4	4/5/2010	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<2.3	<0.46	<0.46	<4.6	<0.23		<0.23	<0.23	<0.46	<0.23	<0.23	<0.46	<0.23	<0.46	<0.23	<0.23	<0.23	<0.23	<0.23
SB-101	10	4/5/2010	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<1.8	<0.37	<0.37	<3.7	<0.18		<0.18	<0.18	<0.37	<0.18	<0.18	<0.37	<0.18	<0.37	<0.18	<0.18	<0.18	<0.18	<0.18
SB-101	12	4/5/2010	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<1.5	<0.3	<0.3	<3	<0.15		<0.15	<0.15	<0.3	<0.15	<0.15	<0.3	<0.15	<0.3	<0.15	<0.15	<0.15	<0.15	<0.15
SB-101	16	4/5/2010	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<3.3	<0.65	<0.65	<6.5	<0.33		<0.33	<0.33	<0.65	<0.33	<0.33	<0.65	<0.33	<0.65	<0.33	<0.33	<0.33	<0.33	<0.33
SB-103	4	4/5/2010	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<2.3	<0.45	<0.45	<4.5	<0.23		<0.23	<0.23	<0.45	<0.23	<0.23	<0.45	<0.23	<0.45	<0.23	<0.23	<0.23	<0.23	<0.23
SB-103	10	4/5/2010	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<18	<3.5	<3.5	<35	<1.8		<1.8	<1.8	<3.5	<1.8	<1.8	<3.5	<1.8	<3.5	<1.8	<1.8	<1.8	<1.8	<1.8
SB-103	12	4/5/2010	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<1.6	<0.33	<0.33	<3.3	<0.16		<0.16	<0.16	<0.33	<0.16	<0.16	<0.33	<0.16	<0.33	<0.16	<0.16	<0.16	<0.16	<0.16
SB-104	4	4/5/2010	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<1.6	<0.31	<0.31	<3.1	<0.16		<0.16	<0.16	<0.31	<0.16	<0.16	<0.31	<0.16	<0.31	<0.16	<0.16	<0.16	<0.16	<0.16
SB-104	10	4/5/2010	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<2.2	<0.44	<0.44	<4.4	<0.22		<0.22	<0.22	<0.44	<0.22	<0.22	<0.44	<0.22	<0.44	<0.22	<0.22	<0.22	<0.22	<0.22
SB-104	12	4/5/2010	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<1.6	<0.31	<0.31	<3.1	<0.16		<0.16	<0.16	<0.31	<0.16	<0.16	<0.31	<0.16	<0.31	<0.16	<0.16	<0.16	<0.16	<0.16
SB-104	16	4/5/2010	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<26	<5.2	<5.2	<52	<2.6		<2.6	<2.6	<5.2	<2.6	<2.6	<5.2	<2.6	<5.2	<2.6	<2.6	<2.6	<2.6	<2.6
SB-107	4	4/5/2010	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<1.7	<0.34	<0.34	<3.4	<0.17		<0.17	<0.17	<0.34	<0.17	<0.17	<0.34	<0.17	<0.34	<0.17	<0.17	<0.17	<0.17	<0.17
SB-107	10	4/5/2010	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<3.9	<3.9	<39	<2		<2	<2	<3.9	<2	<2	<3.9	<2	<3.9	<2	<2	<2	<2	<2
SB-107	12	4/5/2010	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<22	<4.4	<4.4	<44	<2.2		<2.2	<2.2	<4.4	<2.2	<2.2	<4.4	<2.2	<4.4	<2.2	<2.2	<2.2	<2.2	<2.2

Table F-1A. Soil Sampling Results- Organic Constituents
Roper Pump Company

Sample Location	Depth (ft bgs)	Date Sampled	1,1,1-Trichloroethane (mg/kg)	1,1,2,2-Tetrachloroethane (mg/kg)	1,1,2-Trichloroethane (mg/kg)	1,1-Dichloroethane (mg/kg)	1,1-Dichloroethene (mg/kg)	1,2-Dibromo-3-chloropropane (mg/kg)	1,2-Dibromoethane (mg/kg)	1,2-Dichloroethane (mg/kg)	1,2-Dichloropropane (mg/kg)	2-Butanone (MEK) (mg/kg)	2-Hexanone (mg/kg)	4-Methyl-2-pentanone (mg/kg)	Acetone (mg/kg)	Benzene (mg/kg)	Bromochloromethane (mg/kg)	Bromoform (mg/kg)	Bromomethane (mg/kg)	Carbon disulfide (mg/kg)	Carbon tetrachloride (mg/kg)	Chlorobenzene (mg/kg)	Chloroethane (mg/kg)	Chloroform (mg/kg)	Chloromethane (mg/kg)	cis-1,2-Dichloroethene (mg/kg)	cis-1,3-Dichloropropene (mg/kg)	Cyclohexane (mg/kg)	Dibromochloromethane (mg/kg)	Dichlorobromomethane (mg/kg)
SB-107	16	4/5/2010	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<14	<2.8	<2.8	<28	<1.4		<1.4	<1.4	<2.8	<1.4	<1.4	<2.8	<1.4	<2.8	<1.4	<1.4	<1.4	<1.4	<1.4
SB-108	4	4/5/2010	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<2.1	<0.41	<0.41	<4.1	<0.21		<0.21	<0.21	<0.41	<0.21	<0.21	<0.41	<0.21	<0.41	<0.21	<0.21	<0.21	<0.21	<0.21
SB-108	6	4/5/2010	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<1.9	<0.37	<0.37	<3.7	<0.19		<0.19	<0.19	<0.37	<0.19	<0.19	<0.37	<0.19	<0.37	<0.19	<0.19	<0.19	<0.19	<0.19
SB-108	12	4/5/2010	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<1.9	<0.39	<0.39	<3.9	<0.19		<0.19	<0.19	<0.39	<0.19	<0.19	<0.39	<0.19	<0.39	<0.19	<0.19	<0.19	<0.19	<0.19
SB-108	16	4/5/2010	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<1.7	<0.33	<0.33	<3.3	<0.17		<0.17	<0.17	<0.33	<0.17	<0.17	<0.33	<0.17	<0.33	<0.17	<0.17	<0.17	<0.17	<0.17
SB-110	4	4/5/2010	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<1.7	<0.35	<0.35	<3.5	<0.17		<0.17	<0.17	<0.35	<0.17	<0.17	<0.35	<0.17	<0.35	<0.17	<0.17	<0.17	<0.17	<0.17
SB-110	8	4/5/2010	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<1.7	<0.34	<0.34	<3.4	<0.17		<0.17	<0.17	<0.34	<0.17	<0.17	<0.34	<0.17	<0.34	<0.17	<0.17	<0.17	<0.17	<0.17
SB-110	12	4/5/2010	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<4	<4	<40	<2		<2	<2	<4	<2	<2	<4	<2	<4	<2	<2	<2	<2	<2
SB-110	16	4/5/2010	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<15	<3	<3	<30	<1.5		<1.5	<1.5	<3	<1.5	<1.5	<3	<1.5	<3	<1.5	<1.5	<1.5	<1.5	<1.5
SB-111	4	4/5/2010	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<1.9	<0.37	<0.37	<3.7	<0.19		<0.19	<0.19	<0.37	<0.19	<0.19	<0.37	<0.19	<0.37	<0.19	<0.19	<0.19	<0.19	<0.19
SB-111	8	4/5/2010	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<1.5	<0.31	<0.31	<3.1	<0.15		<0.15	<0.15	<0.31	<0.15	<0.15	<0.31	<0.15	<0.31	<0.15	<0.15	<0.15	<0.15	<0.15
SB-111	12	4/5/2010	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<1.7	<0.35	<0.35	<3.5	<0.17		<0.17	<0.17	<0.35	<0.17	<0.17	<0.35	<0.17	<0.35	<0.17	<0.17	<0.17	<0.17	<0.17
SB-111	16	4/5/2010	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<1.6	<0.32	<0.32	<3.2	<0.16		<0.16	<0.16	<0.32	<0.16	<0.16	<0.32	<0.16	<0.32	<0.16	<0.16	<0.16	<0.16	<0.16
SB-112	4	4/6/2010	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.035	<0.007	<0.007	0.12	<0.0035		<0.0035	<0.0035	<0.007	<0.0035	<0.0035	<0.007	0.01	<0.007	0.17	<0.0035	<0.0035	<0.0035	<0.0035
SB-112	8	4/6/2010	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	<0.029	<0.0059	<0.0059	<0.059	<0.0029		<0.0029	<0.0029	<0.0059	<0.0029	<0.0029	<0.0059	<0.0029	<0.0059	0.28	<0.0029	<0.0029	<0.0029	<0.0029
SB-112	14	4/6/2010	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.043	<0.0085	<0.0085	<0.085	<0.0043		<0.0043	<0.0043	<0.0085	<0.0043	<0.0043	<0.0085	0.011	<0.0085	1	<0.0043	<0.0043	<0.0043	<0.0043
SB-114	4	4/6/2010	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<3.2	<0.65	<0.65	<6.5	<0.32		<0.32	<0.32	<0.65	<0.32	<0.32	<0.65	<0.32	<0.65	0.64	<0.32	<0.32	<0.32	<0.32
SB-114	8	4/6/2010	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.042	<0.0084	<0.0084	<0.084	<0.0042		<0.0042	<0.0042	<0.0084	<0.0042	<0.0042	<0.0084	0.0074	<0.0084	0.27	<0.0042	<0.0042	<0.0042	<0.0042
SB-114	14	4/6/2010	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.034	<0.0068	<0.0068	<0.068	<0.0034		<0.0034	<0.0034	<0.0068	<0.0034	<0.0034	<0.0068	<0.0034	<0.0068	0.3	<0.0034	<0.0034	<0.0034	<0.0034
SB-115	4	4/6/2010	<0.0037	<0.0037	0.12	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.037	<0.0075	<0.0075	<0.075	<0.0037		<0.0037	<0.0037	<0.0075	<0.0037	<0.0037	<0.0075	0.0056	<0.0075	0.67	<0.0037	<0.0037	<0.0037	<0.0037
SB-115	10	4/6/2010	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.03	<0.006	<0.006	<0.06	<0.003		<0.003	<0.003	<0.006	<0.003	<0.003	<0.006	<0.003	<0.006	0.72	<0.003	<0.003	<0.003	<0.003
SB-115	12	4/6/2010	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<1.6	<0.33	<0.33	<3.3	<0.16		<0.16	<0.16	<0.33	<0.16	<0.16	<0.33	<0.16	<0.33	0.79	<0.16	<0.16	<0.16	<0.16
SB-116	8	4/6/2010	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.038	<0.0076	<0.0076	<0.076	<0.0038		<0.0038	<0.0038	<0.0076	<0.0038	<0.0038	<0.0076	<0.0038	<0.0076	0.52	<0.0038	<0.0038	<0.0038	<0.0038
SB-116	14	4/6/2010	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.038	<0.0076	<0.0076	<0.076	<0.0038		<0.0038	<0.0038	<0.0076	<0.0038	<0.0038	<0.0076	<0.0038	<0.0076	0.52	<0.0038	<0.0038	<0.0038	<0.0038
SB-117	4	4/6/2010	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.032	<0.0063	<0.0063	<0.063	<0.0032		<0.0032	<0.0032	<0.0063	<0.0032	<0.0032	<0.0063	<0.0032	<0.0063	0.075	<0.0032	<0.0032	<0.0032	<0.0032
SB-117	10	4/6/2010	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.035	<0.0069	<0.0069	<0.069	<0.0035		<0.0035	<0.0035	<0.0069	<0.0035	<0.0035	<0.0069	<0.0035	<0.0069	1.5	<0.0035	<0.0035	<0.0035	<0.0035
SB-117	12	4/6/2010	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<1.8	<0.36	<0.36	<3.6	<0.18		<0.18	<0.18	<0.36	<0.18	<0.18	<0.36	<0.18	<0.36	3.2	<0.18	<0.18	<0.18	<0.18
SB-118	4	4/6/2010	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.032	<0.0064	<0.0064	<0.064	<0.0032		<0.0032	<0.0032	<0.0064	<0.0032	<0.0032	<0.0064	<0.0032	<0.0064	0.41	<0.0032	<0.0032	<0.0032	<0.0032
SB-118	8	4/6/2010	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.036	<0.0072	<0.0072	<0.072	<0.0036		<0.0036	<0.0036	<0.0072	<0.0036	<0.0036	<0.0072	<0.0036	<0.0072	0.086	<0.0036	<0.0036	<0.0036	<0.0036
SB-118	12	4/6/2010	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.032	<0.0064	<0.0064	<0.064	<0.0032		<0.0032	<0.0032	<0.0064	<0.0032	<0.0032	<0.0064	<0.0032	<0.0064	0.15	<0.0032	<0.0032	<0.0032	<0.0032
SB-119	4	4/6/2010	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.055	<0.011	<0.011	<0.11	<0.0055		<0.0055	<0.0055	<0.011	<0.0055	<0.0055	<0.011	<0.0055	<0.011	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055
SB-119	6	4/6/2010	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.033	<0.0066	<0.0066	<0.066	<0.0033		<0.0033	<0.0033	<0.0066	<0.0033	<0.0033	<0.0066	<0.0033	<0.0066	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033
SB-119	14	4/6/2010	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<1.7	<0.34	<0.34	<3.4	<0.17		<0.17	<0.17	<0.34	<0.17	<0.17	<0.34	<0.17	<0.34	<0.17	<0.17	<0.17	<0.17	<0.17
SB-121	4	4/6/2010	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.039	<0.0079	<0.0079	<0.079	<0.0039		<0.0039	<0.0039	<0.0079	<0.0039	<0.0039	<0.0079	<0.0039	<0.0079	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039
SB-121	10	4/6/2010	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.037	<0.0074	<0.0074	<0.074	<0.0037		<0.0037	<0.0037	<0.0074	<0.0037	<0.0037	<0.0074	<0.0037	<0.0074	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037
SB-121	12	4/6/2010	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.037	<0.0073	<0.0073	<0.073	<0.0037		<0.0037	<0.0037	<0.0073	<0.0037	<0.0037	<0.0073	<0.0037	<0.0073	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037
SB-121	16	4/6/2010	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.039	<0.0079	<0.0079	<0.079	<0.0039		<0.0039	<0.0039	<0.0079	<0.0039	<0.0039	<0.0079	<0.0039	<0.0079	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039
SB-122	4	4/6/2010	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.035	<0.0071	<0.0071	<0.071	<0.0035		<0.0035	<0.0035	<0.0071	<0.0035	<0.0035	<0.0071	<0.0035	<0.0071	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035
SB-122	10	4/6/2010	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.034	<0.0068	<0.0068	<0.068	<0.0034		<0.0034	<0.0034	<0.0068	<0.0034	<0.0034	<0.0068	<0.0034	<0.0068	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034
SB-122	12	4/6/2010	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.032	<0.0063	<0.0063	<0.063	<0.0032		<0.0032	<0.0032	<0.0063	<0.0032	<0.0032	<0.0063	<0.0032	<0.0063	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
SB-2	5	5/21/2009	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.041	<0.0083	<0.0083	<0.083	<0.0041		<0.0041	<0.0041	<0.0083	<0.0041	<0.0041	<0.0083	<0.0041	<0.0083	0.011	<0.0041	<0.0041	<0.0041	<0.0041
SB-3	11	5/21/2009	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.049	<0.0097	<0.0097	<0.097	<0.0049		<0.0049	<0.0049	<0.0097	<0.0049	<0.0049	<0.0097	<0.0049	<0.0097	0.0058	<0.0049	<0.0049	<0.0049	<0.0049
SB-4	5	5/21/2009	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<1.9	<0.37	<0.37	<3.7	<0.19		<0.19	<0.19	<0.37	<0.19	<0.19	<0.37	<0.19	<0.37	<0.19	<0.19	<0.19	<0.19	<0.19
SB-5	2	5/22/2009	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.049	<0.0098	<0.0098	<0.098	<0.0049		<0.0049	<0.0049	<0.0098	<0.0049	<0.0049	<0.0098	<0.0049	<0.0098	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
SB-5	10	5/22/2009	<0.0052	<0.0052	0.0069	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.052	<0.01	<0.01	<0.1	<0.0052		<0.0052	<0.0052	<0.01	<0.0052	<0.0052	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052
SB-5	15	5/22/2009	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.057	<0.011	<0.011	<0.11	<0.0057		<0.0057	<0.0057	<0.011	<0.0057	<0.0057	<0.011	<0.0057	<0.011	0.042	<0.0057	<0.0057	<0.0057	<0.0057
SB-6	4	5/22/2009	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.044	<0.0088	<0.0088	<0.088	<0.0044		<0.0044	<0.0044	<0.0088	<0.0044	<0.0044	<0.0088	<0.0044	<0.0088	0.013	<0.0044	<0.0044	<0.0044	<0.0044
SB-6	12	5/22/2009	<0.0052	<0.0052	0.019	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.052	<0.01	<0.01	<0.1	<0.0052		<0.0052	<0.0052	<0.01	<0.0052	<0.0052	<0.01	<0.0052	<0.01	0.19	<0.0052	<0.0052	<0.0052	<0.0052
SB-7	12	5/22/2009	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.038	<0.0076	<0.0076	<0.076	<0.0038		<0.0038	<0.0038	<0.0076	<0.0038	<0.0038	<0.0076	<0.0038	<0.0076	0.26	<0.0038	<0.0038	<0.0038	<0.0038
SB-8	10	5/22/2009	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.033	<0.0067	<0.0067	<0.067	<0.0033		<0.0033	<0.0033	<0.0067	<0.0033	<0.0033	<0.0067	<0.0033	<0.0067	0.0076	<0.0033	<0.0033	<0.0033	<0.0033
SB-9	16	5/22/2009	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.058	<0.012	<0.012	<0.12	<0.0058		<0.0058	<0.0058	<0.012	<0.0058	<0.0058	<0.012	<0.0058	<0.012	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058
Outfall Area																														
SS-1	1	5/27/2009	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.031	<0.0063	<0.0063	<0.063	<0.0031		<0.0031	<0.0031	<0.0063	<0.0031	<0.0031	<0.0063	<0.0031	<0.0063	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031
SS-2	2	5/27/2009	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.034	<0.0069	<0.0069	<0.069	<0.0034		<0.0034	<0.0034	<0.0069	<0.0034	<0.0034	<0.0069	<0.0034	<0.0069	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034

Table F-1A. Soil Sampling Results- Organic Constituents
Roper Pump Company

Sample Location	Depth (ft bgs)	Date Sampled	Dichloromethane (Methylene chloride) (mg/kg)	Ethyl benzene (mg/kg)	Freon-11 (mg/kg)	Freon-113 (mg/kg)	Freon-12 (mg/kg)	Isopropyl benzene (mg/kg)	m&p-Xylene (mg/kg)	Methyl acetate (mg/kg)	Methyl tertbutyl ether (MTBE) (mg/kg)	Methylcyclohexane (mg/kg)	o-Xylene (mg/kg)	Styrene (mg/kg)	Tetrachloroethene (mg/kg)	Toluene (mg/kg)	trans-1,2-Dichloroethene (mg/kg)	trans-1,3-Dichloropropene (mg/kg)	Trichloroethene (mg/kg)	Vinyl chloride (mg/kg)
Main Facility																				
B-1	2	5/20/2009	<18	<18	<18	<35	<35	<18	<35	<18	<18	<18	<18	<18	58	<18	<18	<18	<18	<35
B-1	6	5/20/2009	<0.2	<0.2	<0.2	<0.4	<0.4	<0.2	<0.4	<0.2	<0.2	<0.2	<0.2	<0.2	13	<0.2	<0.2	<0.2	0.95	<0.4
B-1	14	5/20/2009	<0.13	<0.13	<0.13	<0.25	<0.25	<0.13	<0.25	<0.13	<0.13	<0.13	<0.13	<0.13	4.6	<0.13	<0.13	<0.13	0.21	<0.25
B-10	2	5/21/2009	<170	<170	<170	<330	<330	<170	<330	<170	<170	<170	<170	<170	2900	<170	<170	<170	<170	<330
B-10	6	5/21/2009	<19	<19	<19	<38	<38	<19	<38	<19	<19	<19	<19	<19	1900	<19	<19	<19	<19	<38
B-10	12	5/21/2009	<14	<14	<14	<28	<28	<14	<28	<14	<14	<14	<14	<14	800	<14	<14	<14	<14	<28
B-10	16	5/21/2009	<1.6	<1.6	<1.6	<3.3	<3.3	<1.6	<3.3	<1.6	<1.6	<1.6	<1.6	<1.6	27	<1.6	<1.6	<1.6	<1.6	<3.3
B-11	8	5/21/2009	<0.0027	<0.0027	<0.0027	<0.0055	<0.0055	<0.0027	<0.0055	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0055
B-12	2	5/21/2009	<0.16	<0.16	<0.16	<0.31	<0.31	<0.16	<0.31	<0.16	<0.16	<0.16	<0.16	<0.16	4.6	<0.16	<0.16	<0.16	<0.16	<0.31
B-12	8	5/21/2009	<2	<2	<2	<4.1	<4.1	<2	<4.1	<2	<2	<2	<2	<2	24	<2	<2	<2	<2	<4.1
B-12	14	5/21/2009	<0.19	<0.19	<0.19	<0.38	<0.38	<0.19	<0.38	<0.19	<0.19	<0.19	<0.19	<0.19	4.9	<0.19	<0.19	<0.19	<0.19	<0.38
B-13	4	5/21/2009	<0.31	<0.31	<0.31	<0.61	<0.61	<0.31	<0.61	<0.31	<0.31	<0.31	<0.31	<0.31	4.2	<0.31	<0.31	<0.31	<0.31	<0.61
B-13	10	5/21/2009	<1.5	<1.5	<1.5	<3	<3	<1.5	<3	<1.5	<1.5	<1.5	<1.5	<1.5	12	<1.5	<1.5	<1.5	<1.5	<3
B-13	14	5/21/2009	<1.8	<1.8	<1.8	<3.6	<3.6	<1.8	<3.6	<1.8	<1.8	<1.8	<1.8	<1.8	20	<1.8	<1.8	<1.8	<1.8	<3.6
B-13	18	5/21/2009	<0.37	<0.37	<0.37	<0.75	<0.75	<0.37	<0.75	<0.37	<0.37	<0.37	<0.37	<0.37	6.3	<0.37	<0.37	<0.37	<0.37	<0.75
B-14	4	5/21/2009	<14	<14	<14	<28	<28	<14	<28	<14	<14	<14	<14	<14	450	<14	<14	<14	<14	<28
B-14	6	5/21/2009	<17	<17	<17	<34	<34	<17	<34	<17	<17	<17	<17	<17	2400	<17	<17	<17	<17	<34
B-14	12	5/21/2009	<0.83	<0.83	<0.83	<1.7	<1.7	<0.83	<1.7	<0.83	<0.83	<0.83	<0.83	<0.83	12	<0.83	<0.83	<0.83	<0.83	<1.7
B-14	18	5/21/2009	<2.2	<2.2	<2.2	<4.4	<4.4	<2.2	<4.4	<2.2	<2.2	<2.2	<2.2	<2.2	62	<2.2	<2.2	<2.2	<2.2	<4.4
B-15	4	5/21/2009	<14	<14	<14	<28	<28	<14	<28	<14	<14	<14	<14	<14	1300	<14	<14	<14	<14	<28
B-15	8	5/21/2009	<16	<16	<16	<32	<32	<16	<32	<16	<16	<16	<16	<16	10000	<16	<16	<16	<16	<32
B-15	12	5/21/2009	<17	<17	<17	<34	<34	<17	<34	<17	<17	<17	<17	<17	140	<17	<17	<17	<17	<34
B-15	18	5/21/2009	<1.5	<1.5	<1.5	<3.1	<3.1	<1.5	<3.1	<1.5	<1.5	<1.5	<1.5	<1.5	34	<1.5	<1.5	<1.5	<1.5	<3.1
B-16	4	5/21/2009	<14	<14	<14	<28	<28	<14	<28	<14	<14	<14	<14	<14	250	<14	<14	<14	<14	<28
B-16	8	5/21/2009	<13	<13	<13	<26	<26	<13	<26	<13	<13	<13	<13	<13	6600	<13	<13	<13	<13	<26
B-16	12	5/21/2009	<13	<13	<13	<25	<25	<13	<25	<13	<13	<13	<13	<13	7000	<13	<13	<13	<13	<25
B-17	4	5/21/2009	<1.3	<1.3	<1.3	<2.7	<2.7	<1.3	<2.7	<1.3	<1.3	<1.3	<1.3	<1.3	46	<1.3	<1.3	<1.3	<1.3	<2.7
B-17	10	5/21/2009	<18	<18	<18	<36	<36	<18	<36	<18	<18	<18	<18	<18	120	<18	<18	<18	<18	<36
B-17	14	5/21/2009	<19	<19	<19	<39	<39	<19	<39	<19	<19	<19	<19	<19	4400	<19	<19	<19	<19	<39
B-17	18	5/21/2009	<18	<18	<18	<35	<35	<18	<35	<18	<18	<18	<18	<18	360	<18	<18	<18	<18	<35
B-18	2	5/22/2009	<15	<15	<15	<30	<30	<15	<30	<15	<15	<15	<15	<15	95	<15	<15	<15	<15	<30
B-18	10	5/22/2009	<14	<14	<14	<28	<28	<14	<28	<14	<14	<14	<14	<14	5800	<14	<14	<14	24	<28
B-18	14	5/22/2009	<14	<14	<14	<28	<28	<14	<28	<14	<14	<14	<14	<14	5500	<14	<14	<14	17	<28
B-18	18	5/22/2009	<16	<16	<16	<31	<31	<16	<31	<16	<16	<16	<16	<16	300	<16	<16	<16	<16	<31
B-19	2	5/22/2009	<0.0036	<0.0036	<0.0036	<0.0073	<0.0073	<0.0036	<0.0073	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	0.097	<0.0036	<0.0036	<0.0036	<0.0036	<0.0073
B-19	8	5/22/2009	<0.0038	<0.0038	<0.0038	<0.0075	<0.0075	<0.0038	<0.0075	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	0.14	<0.0038	<0.0038	<0.0038	0.0092	<0.0075
B-19	14	5/22/2009	<0.0033	<0.0033	<0.0033	<0.0066	<0.0066	<0.0033	<0.0066	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	0.23	<0.0033	<0.0033	<0.0033	0.0075	<0.0066
B-19	18	5/22/2009	<0.0029	<0.0029	<0.0029	<0.0059	<0.0059	<0.0029	<0.0059	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	0.27	<0.0029	<0.0029	<0.0029	0.015	<0.0059
B-19 (Dup)	18	5/22/2009	<0.0032	<0.0032	<0.0032	<0.0064	<0.0064	<0.0032	<0.0064	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	0.2	<0.0032	<0.0032	<0.0032	0.015	<0.0064
B-2	14	5/20/2009	<0.25	<0.25	<0.25	<0.5	<0.5	<0.25	<0.5	<0.25	<0.25	<0.25	<0.25	<0.25	1400	<0.25	<0.25	<0.25	0.84	<0.5
B-2	18	5/20/2009	<0.2	<0.2	<0.2	<0.41	<0.41	<0.2	<0.41	<0.2	<0.2	<0.2	<0.2	<0.2	920	<0.2	<0.2	<0.2	0.72	<0.41
B-20	4	5/22/2009	<0.0034	<0.0034	<0.0034	<0.0068	<0.0068	<0.0034	<0.0068	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	0.058	<0.0034	<0.0034	<0.0034	<0.0034	<0.0068
B-20	10	5/22/2009	<0.0031	<0.0031	<0.0031	<0.0063	<0.0063	<0.0031	<0.0063	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	0.29	<0.0031	<0.0031	<0.0031	<0.0031	<0.0063
B-20	14	5/22/2009	<0.0032	<0.0032	<0.0032	<0.0064	<0.0064	<0.0032	<0.0064	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	0.17	<0.0032	<0.0032	<0.0032	<0.0032	<0.0064
B-20	18	5/22/2009	<0.0032	<0.0032	<0.0032	<0.0063	<0.0063	<0.0032	<0.0063	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	0.22	<0.0032	<0.0032	<0.0032	<0.0032	<0.0063
B-21	2	5/22/2009	<0.0021	<0.0021	<0.0021	<0.0043	<0.0043	<0.0021	<0.0043	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	4.9	<0.0021	<0.0021	<0.0021	0.041	<0.0043
B-21	8	5/22/2009	<13	<13	<13	<27	<27	<13	<27	<13	<13	<13	<13	<13	180	<13	<13	<13	<13	<27
B-21	14	5/22/2009	<14	<14	<14	<28	<28	<14	<28	<14	<14	<14	<14	<14	39	<14	<14	<14	<14	<28
B-21	18	5/22/2009	<16	<16	<16	<32	<32	<16	<32	<16	<16	<16	<16	<16	200	<16	<16	<16	<16	<32
B-22	2	5/22/2009	<16	<16	<16	<31	<31	<16	<31	<16	<16	<16	<16	<16	38	<16	<16	<16	<16	<31
B-22	8	5/22/2009	<0.0033	<0.0033	<0.0033	<0.0067	<0.0067	<0.0033	<0.0067	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	4.3	<0.0033	<0.0033	<0.0033	0.022	<0.0067
B-22	14	5/22/2009	<17	<17	<17	<34	<34	<17	<34	<17	<17	<17	<17	<17	210	<17	<17	<17	<17	<34
B-22	16	5/22/2009	<18	<18	<18	<36	<36	<18	<36	<18	<18	<18	<18	<18	43	<18	<18	<18	<18	<36
B-23	6	5/22/2009	<0.0033	<0.0033	<0.0033	<0.0065	<0.0065	<0.0033	<0.0065	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	0.064	<0.0033	<0.0033	<0.0033	<0.0033	<0.0065
B-23	16	5/22/2009	<0.004	<0.004	<0.004	<0.0079	<0.0079	<0.004	<0.0079	<0.004	<0.004	<0.004	<0.004	<0.004	0.087	<0.004	<0.004	<0.004	<0.004	<0.0079
B-23 (Dup)	16	5/22/2009	<0.0047	<0.0047	<0.0047	<0.0093	<0.0093	<0.0047	<0.0093	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	0.044	<0.0047	<0.0047	<0.0047	0.0068	<0.0093

Table F-1A. Soil Sampling Results- Organic Constituents
Roper Pump Company

Sample Location	Depth (ft bgs)	Date Sampled	Dichloromethane (Methylene chloride) (mg/kg)	Ethyl benzene (mg/kg)	Freon-11 (mg/kg)	Freon-113 (mg/kg)	Freon-12 (mg/kg)	Isopropyl benzene (mg/kg)	m&p-Xylene (mg/kg)	Methyl acetate (mg/kg)	Methyl tertbutyl ether (MTBE) (mg/kg)	Methylcyclohexane (mg/kg)	o-Xylene (mg/kg)	Styrene (mg/kg)	Tetrachloroethene (mg/kg)	Toluene (mg/kg)	trans-1,2-Dichloroethene (mg/kg)	trans-1,3-Dichloropropene (mg/kg)	Trichloroethene (mg/kg)	Vinyl chloride (mg/kg)
B-3	4	5/20/2009	<1.5	<1.5	<1.5	<3	<3	<1.5	<3	<1.5	<1.5	<1.5	<1.5	<1.5	610	<1.5	<1.5	<1.5	<1.5	<3
B-3	8	5/20/2009	<2.7	<2.7	<2.7	<5.5	<5.5	<2.7	<5.5	<2.7	<2.7	<2.7	<2.7	<2.7	3400	<2.7	<2.7	<2.7	<2.7	<5.5
B-3	12	5/20/2009	<0.15	<0.15	<0.15	<0.3	<0.3	<0.15	<0.3	<0.15	<0.15	<0.15	<0.15	<0.15	1800	0.16	<0.15	<0.15	1.2	<0.3
B-3	16	5/20/2009	<2.1	<2.1	<2.1	<4.3	<4.3	<2.1	<4.3	<2.1	<2.1	<2.1	<2.1	<2.1	4700	<2.1	<2.1	<2.1	6.8	<4.3
B-4	4	5/20/2009	<0.21	<0.21	<0.21	<0.42	<0.42	<0.21	<0.42	<0.21	<0.21	<0.21	<0.21	<0.21	4.3	<0.21	<0.21	<0.21	<0.21	<0.42
B-4	10	5/20/2009	<0.21	<0.21	<0.21	<0.41	<0.41	<0.21	<0.41	<0.21	<0.21	<0.21	<0.21	<0.21	56	<0.21	<0.21	<0.21	0.42	<0.41
B-4	14	5/20/2009	<0.15	<0.15	<0.15	<0.3	<0.3	<0.15	<0.3	<0.15	<0.15	<0.15	<0.15	<0.15	8	<0.15	<0.15	<0.15	0.65	<0.3
B-4	16	5/20/2009	<0.25	<0.25	<0.25	<0.49	<0.49	<0.25	<0.49	<0.25	<0.25	<0.25	<0.25	<0.25	20	<0.25	<0.25	<0.25	1.7	<0.49
B-5	4	5/20/2009	<0.14	<0.14	<0.14	<0.28	<0.28	<0.14	<0.28	<0.14	<0.14	<0.14	<0.14	<0.14	0.6	<0.14	<0.14	<0.14	<0.14	<0.28
B-5	10	5/20/2009	<0.2	<0.2	<0.2	<0.4	<0.4	<0.2	<0.4	<0.2	<0.2	<0.2	<0.2	<0.2	250	<0.2	<0.2	<0.2	0.24	<0.4
B-5	14	5/20/2009	<0.16	<0.16	<0.16	<0.31	<0.31	<0.16	<0.31	<0.16	<0.16	<0.16	<0.16	<0.16	15	<0.16	<0.16	<0.16	<0.16	<0.31
B-5	18	5/20/2009	<0.21	<0.21	<0.21	<0.42	<0.42	<0.21	<0.42	<0.21	<0.21	<0.21	<0.21	<0.21	300	<0.21	<0.21	<0.21	0.61	<0.42
B-5 (Dup)	18	5/20/2009	<2	<2	<2	<4	<4	<2	<4	<2	<2	<2	<2	<2	140	<2	<2	<2	<2	<4
B-6	4	5/20/2009	<0.17	<0.17	<0.17	<0.34	<0.34	<0.17	<0.34	<0.17	<0.17	<0.17	<0.17	<0.17	1.8	<0.17	<0.17	<0.17	<0.17	<0.34
B-6	8	5/20/2009	<0.2	<0.2	<0.2	<0.39	<0.39	<0.2	<0.39	<0.2	<0.2	<0.2	<0.2	<0.2	29	<0.2	<0.2	<0.2	<0.2	<0.39
B-6	14	5/20/2009	<15	<15	<15	<31	<31	<15	<31	<15	<15	<15	<15	<15	12000	<15	<15	<15	<15	<31
B-7	2	5/20/2009	<11	<11	<11	<23	<23	<11	<23	<11	<11	<11	<11	<11	70	<11	<11	<11	<11	<23
B-7	8	5/20/2009	<21	<21	<21	<41	<41	<21	<41	<21	<21	<21	<21	<21	39	<21	<21	<21	<21	<41
B-7	14	5/20/2009	<9.8	<9.8	<9.8	<20	<20	<9.8	<20	<9.8	<9.8	<9.8	<9.8	<9.8	530	<9.8	<9.8	<9.8	<9.8	<20
B-7	16	5/20/2009	<18	<18	<18	<36	<36	<18	<36	<18	<18	<18	<18	<18	220	<18	<18	<18	<18	<36
B-8	2	5/20/2009	<0.14	<0.14	<0.14	<0.28	<0.28	<0.14	<0.28	<0.14	<0.14	<0.14	<0.14	<0.14	1.2	<0.14	<0.14	<0.14	<0.14	<0.28
B-8	10	5/20/2009	<0.11	<0.11	<0.11	<0.23	<0.23	<0.11	<0.23	<0.11	<0.11	<0.11	<0.11	<0.11	1.2	<0.11	<0.11	<0.11	<0.11	<0.23
B-8	14	5/20/2009	<0.0045	<0.0045	<0.0045	<0.009	<0.009	<0.0045	<0.009	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	0.021	<0.0045	<0.0045	<0.0045	<0.0045	<0.009
B-9	4	5/21/2009	<0.23	<0.23	<0.23	<0.45	<0.45	<0.23	<0.45	<0.23	<0.23	<0.23	<0.23	<0.23	4.8	<0.23	<0.23	<0.23	1.6	<0.45
B-9	10	5/21/2009	<20	<20	<20	<39	<39	<20	<39	<20	<20	<20	<20	<20	37	<20	<20	<20	<20	<39
B-9	14	5/21/2009	<2.4	<2.4	<2.4	<4.9	<4.9	<2.4	<4.9	<2.4	<2.4	<2.4	<2.4	<2.4	16	<2.4	<2.4	<2.4	9.2	<4.9
B-9	18	5/21/2009	<2.5	<2.5	<2.5	<5	<5	<2.5	<5	<2.5	<2.5	<2.5	<2.5	<2.5	15	<2.5	<2.5	<2.5	5.7	<5
HA-2	0.5	5/18/2009													<0.0054					
MW-1	20	2/10/2014	<0.0222	<0.00554	<0.00554	<0.0111	<0.00554	<0.00554	<0.0111	<0.0111	<0.00554	<0.0111	<0.00554	<0.00554	<0.00554	<0.00554	<0.00554	<0.00554	<0.00554	<0.00222
MW-2	20	2/10/2014	<0.0289	<0.00723	<0.00723	<0.0145	<0.00723	<0.00723	<0.0145	<0.0145	<0.00723	<0.0145	<0.00723	<0.00723	<0.00723	<0.00723	<0.00723	<0.00723	<0.00723	<0.00289
MW-3	20	2/17/2014	<0.0411	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103	<0.0103
MW-4	20	2/18/2014	<0.0288	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719	<0.00719
MW-5	20	2/18/2014	<0.0229	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573	<0.00573
MW-6	20	2/17/2014	<0.0276	<0.00689	<0.00689	<0.00689	<0.00689	<0.00689	<0.00689	<0.00689	<0.00689	<0.00689	<0.00689	<0.00689	0.0103	<0.00689	<0.00689	<0.00689	<0.00689	<0.00689
MW-7	20	2/18/2014	<0.0306	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766	<0.00766
Piperun1&2	2	5/13/2009	<160	<160	<160	<310	<310	<160	<310	<160	<160	<160	<160	<160	6300	<160	<160	<160	<160	<310
Piperun1&2	10	5/14/2009	<290	<290	<290	<590	<590	<290	<590	<290	<290	<290	<290	<290	39	<290	<290	<290	<290	<590
SB-1	2	5/21/2009	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
SB-1	13	5/21/2009	<0.0049	<0.0049	<0.0049	<0.0098	<0.0098	<0.0049	<0.0098	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0098
SB-100	4	4/5/2010	<0.2	<0.2	<0.2	<0.41	<0.41	<0.2	<0.41	<0.2	<0.2	<0.2	<0.2	<0.2	3.8	<0.2	<0.2	<0.2	<0.2	<0.41
SB-100	8	4/5/2010	<0.2	<0.2	<0.2	<0.4	<0.4	<0.2	<0.4	<0.2	<0.2	<0.2	<0.2	<0.2	2.5	<0.2	<0.2	<0.2	<0.2	<0.4
SB-100	12	4/5/2010	<1.6	<1.6	<1.6	<3.3	<3.3	<1.6	<3.3	<1.6	<1.6	<1.6	<1.6	<1.6	7.7	<1.6	<1.6	<1.6	<1.6	<3.3
SB-100	18	4/5/2010	<1.4	<1.4	<1.4	<2.8	<2.8	<1.4	<2.8	<1.4	<1.4	<1.4	<1.4	<1.4	22	<1.4	<1.4	<1.4	<1.4	<2.8
SB-101	4	4/5/2010	<0.23	<0.23	<0.23	<0.46	<0.46	<0.23	<0.46	<0.23	<0.23	<0.23	<0.23	<0.23	0.45	<0.23	<0.23	<0.23	<0.23	<0.46
SB-101	10	4/5/2010	<0.18	<0.18	<0.18	<0.37	<0.37	<0.18	<0.37	<0.18	<0.18	<0.18	<0.18	<0.18	3.6	<0.18	<0.18	<0.18	<0.18	<0.37
SB-101	12	4/5/2010	<0.15	<0.15	<0.15	<0.3	<0.3	<0.15	<0.3	<0.15	<0.15	<0.15	<0.15	<0.15	5.1	<0.15	<0.15	<0.15	<0.15	<0.3
SB-101	16	4/5/2010	<0.33	<0.33	<0.33	<0.65	<0.65	<0.33	<0.65	<0.33	<0.33	<0.33	<0.33	<0.33	9.2	<0.33	<0.33	<0.33	<0.33	<0.65
SB-103	4	4/5/2010	<0.23	<0.23	<0.23	<0.45	<0.45	<0.23	<0.45	<0.23	<0.23	<0.23	<0.23	<0.23	2.1	<0.23	<0.23	<0.23	<0.23	<0.45
SB-103	10	4/5/2010	<1.8	<1.8	<1.8	<3.5	<3.5	<1.8	<3.5	<1.8	<1.8	<1.8	<1.8	<1.8	5.2	<1.8	<1.8	<1.8	<1.8	<3.5
SB-103	12	4/5/2010	<0.16	<0.16	<0.16	<0.33	<0.33	<0.16	<0.33	<0.16	<0.16	<0.16	<0.16	<0.16	4.3	<0.16	<0.16	<0.16	<0.16	<0.33
SB-104	4	4/5/2010	<0.16	<0.16	<0.16	<0.31	<0.31	<0.16	<0.31	<0.16	<0.16	<0.16	<0.16	<0.16	0.53	<0.16	<0.16	<0.16	<0.16	<0.31
SB-104	10	4/5/2010	<0.22	<0.22	<0.22	<0.44	<0.44	<0.22	<0.44	<0.22	<0.22	<0.22	<0.22	<0.22	3	<0.22	<0.22	<0.22	<0.22	<0.44
SB-104	12	4/5/2010	<0.16	<0.16	<0.16	<0.31	<0.31	<0.16	<0.31	<0.16	<0.16	<0.16	<0.16	<0.16	2.4	<0.16	<0.16	<0.16	<0.16	<0.31
SB-104	16	4/5/2010	<2.6	<2.6	<2.6	<5.2	<5.2	<2.6	<5.2	<2.6	<2.6	<2.6	<2.6	<2.6	47	<2.6	<2.6	<2.6	<2.6	<5.2
SB-107	4	4/5/2010	<0.17	<0.17	<0.17	<0.34	<0.34	<0.17	<0.34	<0.17	<0.17	<0.17	<0.17	<0.17	3.2	<0.17	<0.17	<0.17	<0.17	<0.34
SB-107	10	4/5/2010	<2	<2	<2	<3.9	<3.9	<2	<3.9	<2	<2	<2	<2	<2	7.9	<2	<2	<2	<2	<3.9
SB-107	12	4/5/2010	<2.2	<2.2	<2.2	<4.4	<4.4	<2.2	<4.4	<2.2	<2.2	<2.2	<2.2	<2.2	59	<2.2	<2.2	<2.2	<2.2	<4.4

Table F-1A. Soil Sampling Results- Organic Constituents
Roper Pump Company

Sample Location	Depth (ft bgs)	Date Sampled	Dichloromethane (Methylene chloride) (mg/kg)	Ethyl benzene (mg/kg)	Freon-11 (mg/kg)	Freon-113 (mg/kg)	Freon-12 (mg/kg)	Isopropyl benzene (mg/kg)	m&p-Xylene (mg/kg)	Methyl acetate (mg/kg)	Methyl tertbutyl ether (MTBE) (mg/kg)	Methylcyclohexane (mg/kg)	o-Xylene (mg/kg)	Styrene (mg/kg)	Tetrachloroethene (mg/kg)	Toluene (mg/kg)	trans-1,2-Dichloroethene (mg/kg)	trans-1,3-Dichloropropene (mg/kg)	Trichloroethene (mg/kg)	Vinyl chloride (mg/kg)
SB-107	16	4/5/2010	<1.4	<1.4	<1.4	<2.8	<2.8	<1.4	<2.8	<1.4	<1.4	<1.4	<1.4	<1.4	16	<1.4	<1.4	<1.4	<1.4	<2.8
SB-108	4	4/5/2010	<0.21	<0.21	<0.21	<0.41	<0.41	<0.21	<0.41	<0.21	<0.21	<0.21	<0.21	<0.21	0.63	<0.21	<0.21	<0.21	<0.21	<0.41
SB-108	6	4/5/2010	<0.19	<0.19	<0.19	<0.37	<0.37	<0.19	<0.37	<0.19	<0.19	<0.19	<0.19	<0.19	0.39	<0.19	<0.19	<0.19	<0.19	<0.37
SB-108	12	4/5/2010	<0.19	<0.19	<0.19	<0.39	<0.39	<0.19	<0.39	<0.19	<0.19	<0.19	<0.19	<0.19	4.6	<0.19	<0.19	<0.19	<0.19	<0.39
SB-108	16	4/5/2010	<0.17	<0.17	<0.17	<0.33	<0.33	<0.17	<0.33	<0.17	<0.17	<0.17	<0.17	<0.17	1.1	<0.17	<0.17	<0.17	<0.17	<0.33
SB-110	4	4/5/2010	<0.17	<0.17	<0.17	<0.35	<0.35	<0.17	<0.35	<0.17	<0.17	<0.17	<0.17	<0.17	2.1	<0.17	<0.17	<0.17	<0.17	<0.35
SB-110	8	4/5/2010	<0.17	<0.17	<0.17	<0.34	<0.34	<0.17	<0.34	<0.17	<0.17	<0.17	<0.17	<0.17	2.9	<0.17	<0.17	<0.17	<0.17	<0.34
SB-110	12	4/5/2010	<2	<2	<2	<4	<4	<2	<4	<2	<2	<2	<2	<2	14	<2	<2	<2	<2	<4
SB-110	16	4/5/2010	<1.5	<1.5	<1.5	<3	<3	<1.5	<3	<1.5	<1.5	<1.5	<1.5	<1.5	8.3	<1.5	<1.5	<1.5	<1.5	<3
SB-111	4	4/5/2010	<0.19	<0.19	<0.19	<0.37	<0.37	<0.19	<0.37	<0.19	<0.19	<0.19	<0.19	<0.19	0.95	<0.19	<0.19	<0.19	<0.19	<0.37
SB-111	8	4/5/2010	<0.15	<0.15	<0.15	<0.31	<0.31	<0.15	<0.31	<0.15	<0.15	<0.15	<0.15	<0.15	1.3	<0.15	<0.15	<0.15	<0.15	<0.31
SB-111	12	4/5/2010	<0.17	<0.17	<0.17	<0.35	<0.35	<0.17	<0.35	<0.17	<0.17	<0.17	<0.17	<0.17	4	<0.17	<0.17	<0.17	<0.17	<0.35
SB-111	16	4/5/2010	<0.16	<0.16	<0.16	<0.32	<0.32	<0.16	<0.32	<0.16	<0.16	<0.16	<0.16	<0.16	1.8	<0.16	<0.16	<0.16	<0.16	<0.32
SB-112	4	4/6/2010	<0.0035	<0.0035	<0.0035	<0.007	<0.007	<0.0035	<0.007	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	3.6	<0.0035	0.0056	<0.0035	0.13	<0.007
SB-112	8	4/6/2010	<0.0029	<0.0029	<0.0029	<0.0059	<0.0059	<0.0029	<0.0059	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	3.9	<0.0029	0.0033	<0.0029	0.062	<0.0059
SB-112	14	4/6/2010	<0.0043	<0.0043	<0.0043	<0.0085	<0.0085	<0.0043	<0.0085	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	17	<0.0043	0.011	<0.0043	0.39	<0.0085
SB-114	4	4/6/2010	<0.32	<0.32	<0.32	<0.65	<0.65	<0.32	<0.65	<0.32	<0.32	<0.32	<0.32	<0.32	290	<0.32	<0.32	<0.32	1.9	<0.65
SB-114	8	4/6/2010	<0.0042	<0.0042	<0.0042	<0.0084	<0.0084	<0.0042	<0.0084	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	7.3	<0.0042	<0.0042	<0.0042	0.1	<0.0084
SB-114	14	4/6/2010	0.0065	<0.0034	<0.0034	<0.0068	<0.0068	<0.0034	<0.0068	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	14	<0.0034	<0.0034	<0.0034	0.13	<0.0068
SB-115	4	4/6/2010	<0.0037	<0.0037	<0.0037	<0.0075	<0.0075	<0.0037	<0.0075	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	7.7	<0.0037	0.0047	<0.0037	0.11	<0.0075
SB-115	10	4/6/2010	<0.003	<0.003	<0.003	<0.006	<0.006	<0.003	<0.006	<0.003	<0.003	<0.003	<0.003	<0.003	12	<0.003	0.0059	<0.003	0.21	<0.006
SB-115	12	4/6/2010	<0.16	<0.16	<0.16	<0.33	<0.33	<0.16	<0.33	<0.16	<0.16	<0.16	<0.16	<0.16	230	<0.16	<0.16	<0.16	0.67	<0.33
SB-116	8	4/6/2010	<0.0038	<0.0038	<0.0038	<0.0076	<0.0076	<0.0038	<0.0076	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	2.9	<0.0038	0.0066	<0.0038	0.083	<0.0076
SB-116	14	4/6/2010	0.0053	<0.0038	<0.0038	<0.0076	<0.0076	<0.0038	<0.0076	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	6.1	<0.0038	0.0082	<0.0038	0.17	<0.0076
SB-117	4	4/6/2010	<0.0032	<0.0032	<0.0032	<0.0063	<0.0063	<0.0032	<0.0063	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	3.5	<0.0032	<0.0032	<0.0032	0.041	<0.0063
SB-117	10	4/6/2010	<0.0035	<0.0035	<0.0035	<0.0069	<0.0069	<0.0035	<0.0069	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	18	<0.0035	0.015	<0.0035	0.27	0.011
SB-117	12	4/6/2010	<0.18	<0.18	<0.18	<0.36	<0.36	<0.18	<0.36	<0.18	<0.18	<0.18	<0.18	<0.18	310	<0.18	<0.18	<0.18	1.2	<0.36
SB-118	4	4/6/2010	<0.0032	<0.0032	<0.0032	<0.0064	<0.0064	<0.0032	<0.0064	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	0.38	<0.0032	<0.0032	<0.0032	0.0074	<0.0064
SB-118	8	4/6/2010	<0.0036	<0.0036	<0.0036	<0.0072	<0.0072	<0.0036	<0.0072	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	3.4	<0.0036	<0.0036	<0.0036	0.05	<0.0072
SB-118	12	4/6/2010	<0.0032	<0.0032	<0.0032	<0.0064	<0.0064	<0.0032	<0.0064	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	11	<0.0032	<0.0032	<0.0032	0.15	<0.0064
SB-119	4	4/6/2010	<0.0055	<0.0055	<0.0055	<0.011	<0.011	<0.0055	<0.011	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	0.11	<0.0055	<0.0055	<0.0055	<0.0055	<0.011
SB-119	6	4/6/2010	<0.0033	<0.0033	<0.0033	<0.0066	<0.0066	<0.0033	<0.0066	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	0.024	<0.0033	<0.0033	<0.0033	<0.0033	<0.0066
SB-119	14	4/6/2010	<0.17	<0.17	<0.17	<0.34	<0.34	<0.17	<0.34	<0.17	<0.17	<0.17	<0.17	<0.17	0.52	<0.17	<0.17	<0.17	<0.17	<0.34
SB-121	4	4/6/2010	<0.0039	<0.0039	<0.0039	<0.0079	<0.0079	<0.0039	<0.0079	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	0.75	<0.0039	<0.0039	<0.0039	<0.0039	<0.0079
SB-121	10	4/6/2010	<0.0037	<0.0037	<0.0037	<0.0074	<0.0074	<0.0037	<0.0074	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	1.2	<0.0037	<0.0037	<0.0037	0.0074	<0.0074
SB-121	12	4/6/2010	<0.0037	<0.0037	<0.0037	<0.0073	<0.0073	<0.0037	<0.0073	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	1.5	<0.0037	<0.0037	<0.0037	<0.0037	<0.0073
SB-121	16	4/6/2010	0.0057	<0.0039	<0.0039	<0.0079	<0.0079	<0.0039	<0.0079	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	1.3	<0.0039	<0.0039	<0.0039	0.0044	<0.0079
SB-122	4	4/6/2010	<0.0035	<0.0035	<0.0035	<0.0071	<0.0071	<0.0035	<0.0071	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	0.1	<0.0035	<0.0035	<0.0035	<0.0035	<0.0071
SB-122	10	4/6/2010	<0.0034	<0.0034	<0.0034	<0.0068	<0.0068	<0.0034	<0.0068	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	0.95	<0.0034	<0.0034	<0.0034	<0.0034	<0.0068
SB-122	12	4/6/2010	<0.0032	<0.0032	<0.0032	<0.0063	<0.0063	<0.0032	<0.0063	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	1.1	<0.0032	<0.0032	<0.0032	0.0041	<0.0063
SB-2	5	5/21/2009	<0.0041	0.005	<0.0041	<0.0083	<0.0083	0.0074	0.012	<0.0041	<0.0041	0.016	0.0099	<0.0041	0.11	<0.0041	<0.0041	<0.0041	0.017	<0.0083
SB-3	11	5/21/2009	<0.0049	<0.0049	<0.0049	<0.0097	<0.0097	<0.0049	<0.0097	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	0.033	<0.0049	<0.0049	<0.0049	0.052	<0.0097
SB-4	5	5/21/2009	<0.19	<0.19	<0.19	<0.37	<0.37	<0.19	<0.37	<0.19	<0.19	<0.19	<0.19	<0.19	0.83	<0.19	<0.19	<0.19	0.63	<0.37
SB-5	2	5/22/2009	<0.0049	<0.0049	<0.0049	<0.0098	<0.0098	<0.0049	<0.0098	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	1.7	<0.0049	<0.0049	<0.0049	0.078	<0.0098
SB-5	10	5/22/2009	<0.0052	<0.0052	<0.0052	<0.01	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	0.8	<0.0052	<0.0052	<0.0052	0.012	<0.01
SB-5	15	5/22/2009	<0.0057	<0.0057	<0.0057	<0.011	<0.011	<0.0057	<0.011	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	2.8	<0.0057	<0.0057	<0.0057	0.3	<0.011
SB-6	4	5/22/2009	<0.0044	<0.0044	<0.0044	<0.0088	<0.0088	<0.0044	<0.0088	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	0.82	<0.0044	<0.0044	<0.0044	0.32	<0.0088
SB-6	12	5/22/2009	<0.0052	<0.0052	<0.0052	<0.01	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	1.9	<0.0052	<0.0052	<0.0052	0.84	<0.01
SB-7	12	5/22/2009	<0.0038	<0.0038	<0.0038	<0.0076	<0.0076	<0.0038	<0.0076	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	2.7	<0.0038	<0.0038	<0.0038	2.1	<0.0076
SB-8	10	5/22/2009	<0.0033	<0.0033	<0.0033	<0.0067	<0.0067	<0.0033	<0.0067	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	0.14	<0.0033	<0.0033	<0.0033	0.088	<0.0067
SB-9	16	5/22/2009	<0.0058	<0.0058	<0.0058	<0.012	<0.012	<0.0058	<0.012	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	0.07	<0.0058	<0.0058	<0.0058	<0.0058	<0.012
Outfall Area																				
SS-1	1	5/27/2009	<0.0031	<0.0031	<0.0031	<0.0063	<0.0063	<0.0031	<0.0063	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0063
SS-2	2	5/27/2009	<0.0034	<0.0034	<0.0034	<0.0069	<0.0069	<0.0034	<0.0069	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0069

Table F-1B. Soil Sampling Results - No Longer Representative* - Organic Constituents
Roper Pump Company

Sample Location	Depth (ft bgs)	Date Sampled	1,1,1-Trichloroethane (mg/kg)	1,1,2,2-Tetrachloroethane (mg/kg)	1,1,2-Trichloroethane (mg/kg)	1,1-Dichloroethane (mg/kg)	1,1-Dichloroethene (mg/kg)	1,2-Dibromo-3-chloropropane (mg/kg)	1,2-Dibromoethane (mg/kg)	1,2-Dichloroethane (mg/kg)	1,2-Dichloropropane (mg/kg)	2-Butanone (MEK) (mg/kg)	2-Hexanone (mg/kg)	4-Methyl-2-pentanone (mg/kg)	Acetone (mg/kg)	Benzene (mg/kg)	Bromoform (mg/kg)	Bromomethane (mg/kg)
Main Facility																		
BE-1	1	5/13/2009	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.036	<0.0072	<0.0072	<0.072	<0.0036	<0.0036	<0.0036
BE-10	1	5/13/2009	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.037	<0.0074	<0.0074	<0.074	<0.0037	<0.0037	<0.0037
BE-2	1	5/13/2009	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.039	<0.0078	<0.0078	<0.078	<0.0039	<0.0039	<0.0039
BE-3	1	5/13/2009	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.036	<0.0071	<0.0071	<0.071	<0.0036	<0.0036	<0.0036
BE-4	1	5/13/2009	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<2.2	<0.44	<0.44	<4.4	<0.22	<0.22	<0.22
BE-5	1	5/13/2009	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.042	<0.0084	<0.0084	0.094	<0.0042	<0.0042	<0.0042
BE-6	1	5/13/2009	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.035	<0.007	<0.007	<0.07	<0.0035	<0.0035	<0.0035
BE-7	1	5/13/2009	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.044	<0.0088	<0.0088	<0.088	<0.0044	<0.0044	<0.0044
BE-8	1	5/13/2009	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<1.9	<0.38	<0.38	<3.8	<0.19	<0.19	<0.19
BE-9	1	5/13/2009	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<1.9	<0.39	<0.39	<3.9	<0.19	<0.19	<0.19
HA-1	0.5	5/14/2009	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<3.1	<0.62	<0.62	<6.2	<0.31	<0.31	<0.31
S-1	0.5	5/8/2009	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.036	<0.0072	<0.0072	<0.072	<0.0036	<0.0036	<0.0036
S-2	0.5	5/8/2009	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.038	<0.0077	<0.0077	<0.077	<0.0038	<0.0038	<0.0038
STORM SEWER-1		6/29/2009	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<3	<0.61	<0.61	<6.1	<0.3	<0.3	<0.3
SW-1	1	5/13/2009	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	0.091	<0.0066	<0.0066	<0.066	<0.0033	<0.0033	<0.0033
SW-2	1	5/13/2009	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<1.8	<0.35	<0.35	<3.5	<0.18	<0.18	<0.18
SW-3	1	5/13/2009	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<1.9	<0.39	<0.39	<3.9	<0.19	<0.19	<0.19
SW-4	1	5/13/2009	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	0.046	0.0094	<0.0067	0.16	<0.0034	<0.0034	<0.0034
SW-5	1	5/13/2009	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.037	<0.0073	<0.0073	<0.073	<0.0037	<0.0037	<0.0037
SW-6	1	5/13/2009	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.032	<0.0065	<0.0065	0.12	<0.0032	<0.0032	<0.0032
Outfall Area																		
SS-3	0.5	10/9/2009	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.4	<0.4	<4	<0.2	<0.2	<0.2
SS-4	1	10/9/2009	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.06	<0.012	<0.012	<0.12	0.0088	<0.006	<0.006
SS-5	0.5	10/9/2009	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	0.08	<0.0065	<0.0065	<0.065	<0.0033	<0.0033	<0.0033
SS-6	0.5	10/9/2009	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.03	<0.006	<0.006	<0.06	<0.003	<0.003	<0.003
SS-7	0.5	10/9/2009	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.059	<0.012	<0.012	<0.12	0.009	<0.0059	<0.0059

* The samples are not representative of the current conditions at the site (i.e., they have been excavated or were anomolous results (HA-1) that were re-sampled (HA-2)).

Table F-1B. Soil Sampling Results - No Longer Representative* - Organic Constituents
Roper Pump Company

Sample Location	Depth (ft bgs)	Date Sampled	Carbon disulfide (mg/kg)	Carbon tetra chloride (mg/kg)	Chloro benzene (mg/kg)	Chloro ethane (mg/kg)	Chloro form (mg/kg)	Chloro methane (mg/kg)	cis-1,2-Dichloro ethene (mg/kg)	cis-1,3-Dichloro propene (mg/kg)	Cyclo hexane (mg/kg)	Dibromo chloro methane (mg/kg)	Dichloro bromo methane (mg/kg)	Dichloro methane (Methylene (mg/kg)	Ethyl benzene (mg/kg)	Freon-11 (mg/kg)	Freon-113 (mg/kg)	Freon-12 (mg/kg)
Main Facility																		
BE-1	1	5/13/2009	<0.0072	<0.0036	<0.0036	<0.0072	<0.0036	<0.0072	0.0051	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0072	<0.0072
BE-10	1	5/13/2009	<0.0074	<0.0037	<0.0037	<0.0074	<0.0037	<0.0074	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0074	<0.0074
BE-2	1	5/13/2009	<0.0078	<0.0039	<0.0039	<0.0078	<0.0039	<0.0078	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0078	<0.0078
BE-3	1	5/13/2009	<0.0071	<0.0036	<0.0036	<0.0071	<0.0036	<0.0071	0.71	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0071	<0.0071
BE-4	1	5/13/2009	<0.44	<0.22	<0.22	<0.44	<0.22	<0.44	0.64	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.44	<0.44
BE-5	1	5/13/2009	<0.0084	<0.0042	<0.0042	<0.0084	<0.0042	<0.0084	0.043	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0084	<0.0084
BE-6	1	5/13/2009	<0.007	<0.0035	<0.0035	<0.007	<0.0035	<0.007	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.007	<0.007
BE-7	1	5/13/2009	<0.0088	<0.0044	<0.0044	<0.0088	<0.0044	<0.0088	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0088	<0.0088
BE-8	1	5/13/2009	<0.38	<0.19	<0.19	<0.38	<0.19	<0.38	0.84	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.38	<0.38
BE-9	1	5/13/2009	<0.39	<0.19	<0.19	<0.39	<0.19	<0.39	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.39	<0.39
HA-1	0.5	5/14/2009	<0.62	<0.31	<0.31	<0.62	<0.31	<0.62	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.62	<0.62
S-1	0.5	5/8/2009	<0.0072	<0.0036	<0.0036	<0.0072	<0.0036	<0.0072	1.7	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0072	<0.0072
S-2	0.5	5/8/2009	<0.0077	<0.0038	<0.0038	<0.0077	<0.0038	<0.0077	0.012	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0077	<0.0077
STORM SEWER-1		6/29/2009	<0.61	<0.3	<0.3	<0.61	<0.3	<0.61	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.61	<0.61
SW-1	1	5/13/2009	<0.0066	<0.0033	<0.0033	<0.0066	<0.0033	<0.0066	1.2	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0066	<0.0066
SW-2	1	5/13/2009	<0.35	<0.18	<0.18	<0.35	<0.18	<0.35	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.35	<0.35
SW-3	1	5/13/2009	<0.39	<0.19	<0.19	<0.39	<0.19	<0.39	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.39	<0.39
SW-4	1	5/13/2009	<0.0067	<0.0034	<0.0034	<0.0067	<0.0034	<0.0067	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0067	<0.0067
SW-5	1	5/13/2009	<0.0073	<0.0037	<0.0037	<0.0073	<0.0037	<0.0073	0.14	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0073	<0.0073
SW-6	1	5/13/2009	<0.0065	<0.0032	<0.0032	<0.0065	<0.0032	<0.0065	0.0072	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0065	<0.0065
Outfall Area																		
SS-3	0.5	10/9/2009	<0.4	<0.2	<0.2	<0.4	<0.2	<0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.33	<0.2	<0.4	<0.4
SS-4	1	10/9/2009	0.034	<0.006	<0.006	<0.012	<0.006	<0.012	0.012	<0.006	<0.006	<0.006	<0.006	<0.006	0.57	<0.006	<0.012	<0.012
SS-5	0.5	10/9/2009	0.019	<0.0033	<0.0033	<0.0065	<0.0033	<0.0065	0.0043	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	0.32	<0.0033	<0.0065	<0.0065
SS-6	0.5	10/9/2009	0.0065	<0.003	<0.003	<0.006	<0.003	<0.006	0.0048	<0.003	0.0071	<0.003	<0.003	<0.003	0.095	<0.003	<0.006	<0.006
SS-7	0.5	10/9/2009	0.18	<0.0059	<0.0059	<0.012	<0.0059	<0.012	0.012	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	0.48	<0.0059	<0.012	<0.012

* The samples are not representative of the current conditions at the site (i.e., they have been excavated or were anomolous results (HA-1) that were re-sampled (HA-2)).

Table F-1B. Soil Sampling Results - No Longer Representative* - Organic Constituents
Roper Pump Company

Sample Location	Depth (ft bgs)	Date Sampled	Isopropylbenzene (mg/kg)	m&p-Xylene (mg/kg)	Methyl acetate (mg/kg)	Methyl tertbutyl ether (MTBE) (mg/kg)	Methylcyclohexane (mg/kg)	o-Xylene (mg/kg)	Styrene (mg/kg)	Tetrachloroethene (mg/kg)	Toluene (mg/kg)	trans-1,2-Dichloroethene (mg/kg)	trans-1,3-Dichloropropene (mg/kg)	Trichloroethene (mg/kg)	Vinyl chloride (mg/kg)
Main Facility															
BE-1	1	5/13/2009	<0.0036	<0.0072	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	0.79	<0.0036	<0.0036	<0.0036	<0.0036	<0.0072
BE-10	1	5/13/2009	<0.0037	<0.0074	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	0.1	<0.0037	<0.0037	<0.0037	<0.0037	<0.0074
BE-2	1	5/13/2009	<0.0039	<0.0078	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	0.041	<0.0039	<0.0039	<0.0039	<0.0039	<0.0078
BE-3	1	5/13/2009	<0.0036	<0.0071	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	4.6	<0.0036	0.016	<0.0036	0.13	<0.0071
BE-4	1	5/13/2009	<0.22	<0.44	<0.22	<0.22	<0.22	<0.22	<0.22	8.9	<0.22	<0.22	<0.22	0.22	<0.44
BE-5	1	5/13/2009	<0.0042	<0.0084	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	5.2	<0.0042	<0.0042	<0.0042	0.033	<0.0084
BE-6	1	5/13/2009	<0.0035	<0.007	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	0.052	<0.0035	<0.0035	<0.0035	<0.0035	<0.007
BE-7	1	5/13/2009	<0.0044	<0.0088	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	0.047	<0.0044	<0.0044	<0.0044	0.0059	<0.0088
BE-8	1	5/13/2009	<0.19	<0.38	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.38
BE-9	1	5/13/2009	<0.19	<0.39	<0.19	<0.19	<0.19	<0.19	<0.19	0.81	<0.19	<0.19	<0.19	<0.19	<0.39
HA-1	0.5	5/14/2009	<0.31	<0.62	<0.31	<0.31	<0.31	<0.31	<0.31	2.2	<0.31	<0.31	<0.31	<0.31	<0.62
S-1	0.5	5/8/2009	<0.0036	<0.0072	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	0.1	<0.0036	0.044	<0.0036	0.044	<0.0072
S-2	0.5	5/8/2009	<0.0038	<0.0077	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0077
STORM SEWER-1		6/29/2009	<0.3	<0.61	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.61
SW-1	1	5/13/2009	0.0063	<0.0066	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	0.021	<0.0033	0.037	<0.0033	<0.0033	<0.0066
SW-2	1	5/13/2009	<0.18	<0.35	<0.18	<0.18	<0.18	<0.18	<0.18	0.71	<0.18	<0.18	<0.18	<0.18	<0.35
SW-3	1	5/13/2009	<0.19	<0.39	<0.19	<0.19	<0.19	<0.19	<0.19	0.86	<0.19	<0.19	<0.19	<0.19	<0.39
SW-4	1	5/13/2009	<0.0034	<0.0067	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	0.31	<0.0034	<0.0034	<0.0034	0.0048	<0.0067
SW-5	1	5/13/2009	<0.0037	<0.0073	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	0.0087	<0.0037	<0.0037	<0.0037	<0.0037	<0.0073
SW-6	1	5/13/2009	<0.0032	<0.0065	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	0.21	<0.0032	<0.0032	<0.0032	0.023	<0.0065
Outfall Area															
SS-3	0.5	10/9/2009	<0.2	0.48	<0.2	<0.2	0.24	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4
SS-4	1	10/9/2009	<0.006	0.62	<0.006	<0.006	1.5	1.2	<0.006	<0.006	0.12	<0.006	<0.006	<0.006	<0.012
SS-5	0.5	10/9/2009	0.32	0.37	<0.0033	<0.0033	0.053	0.11	<0.0033	0.012	0.018	<0.0033	<0.0033	<0.0033	<0.0065
SS-6	0.5	10/9/2009	0.021	0.12	<0.003	<0.003	0.021	0.035	<0.003	0.0063	0.01	<0.003	<0.003	0.011	<0.006
SS-7	0.5	10/9/2009	0.48	0.87	<0.0059	<0.0059	0.22	0.23	<0.0059	0.037	0.11	<0.0059	<0.0059	<0.0059	<0.012

* The samples are not representative of the current conditions at the site (i.e., they have been excavated or were anomolous results (HA-1) that were re-sampled (HA-2)).

Table F-2A. Soil Sampling Results- Organic Constituents Analyzed Infrequently
Roper Pump Company

Sample Location		Piperun1&2	SB-1
Depth (ft bgs)		2	1
Date Sampled		5/13/2009	5/21/2009
1,1-Biphenyl	(mg/kg)	<0.37	<0.4
2,4,5-Trichlorophenol	(mg/kg)	<1.9	<2.1
2,4,6-Trichlorophenol	(mg/kg)	<0.37	<0.4
2,4-Dichlorophenol	(mg/kg)	<0.37	<0.4
2,4-Dimethylphenol	(mg/kg)	<0.37	<0.4
2,4-Dinitrophenol	(mg/kg)	<1.9	<2.1
2,4-Dinitrotoluene	(mg/kg)	<0.37	<0.4
2,6-Dinitrotoluene	(mg/kg)	<0.37	<0.4
2-Chloronaphthalene	(mg/kg)	<0.37	<0.4
2-Chlorophenol	(mg/kg)	<0.37	<0.4
2-Methylnaphthalene	(mg/kg)	<0.37	<0.4
2-Methylphenol	(mg/kg)	<0.37	<0.4
2-Nitroaniline	(mg/kg)	<1.9	<2.1
2-Nitrophenol	(mg/kg)	<0.37	<0.4
3,3'-Dichlorobenzidine	(mg/kg)	<0.75	<0.82
3-Nitroaniline	(mg/kg)	<1.9	<2.1
4,6-Dinitro-2-methylphenol	(mg/kg)	<1.9	<2.1
4-Bromophenyl-phenylether	(mg/kg)	<0.37	<0.4
4-Chloro-3-methylphenol	(mg/kg)	<0.37	<0.4
4-Chloroaniline	(mg/kg)	<0.37	<0.4
4-Chlorophenyl-phenylether	(mg/kg)	<0.37	<0.4
4-Methylphenol	(mg/kg)	<0.37	<0.4
4-Nitroaniline	(mg/kg)	<1.9	<2.1
4-Nitrophenol	(mg/kg)	<1.9	<2.1
Acenaphthene	(mg/kg)	<0.37	<0.4
Acenaphthylene	(mg/kg)	<0.37	<0.4
Acetophenone	(mg/kg)	<0.37	<0.4
Anthracene	(mg/kg)	<0.37	<0.4
Atrazine	(mg/kg)	<0.37	<0.4
Benzaldehyde	(mg/kg)	<0.37	<0.4
Benzo(a)anthracene	(mg/kg)	<0.37	<0.4
Benzo(a)pyrene	(mg/kg)	<0.37	<0.4
Benzo(b)fluoranthene	(mg/kg)	<0.37	<0.4
Benzo(g,h,i)perylene	(mg/kg)	<0.37	<0.4
Benzo(k)fluoranthene	(mg/kg)	<0.37	<0.4
Bis(2-Chloro-1-methylethyl)Ether	(mg/kg)	<0.37	<0.4
bis(2-Chloroethoxy) methane	(mg/kg)	<0.37	<0.4
bis(2-Chloroethyl) ether	(mg/kg)	<0.37	<0.4
bis(2-Ethylhexyl) phthalate	(mg/kg)	<0.37	<0.4
Butylbenzylphthalate	(mg/kg)	<0.37	<0.4
Caprolactam	(mg/kg)	<0.37	<0.4
Carbazole	(mg/kg)	<0.37	<0.4
Chrysene	(mg/kg)	<0.37	<0.4
Dibenzo(a,h)anthracene	(mg/kg)	<0.37	<0.4
Dibenzofuran	(mg/kg)	<0.37	<0.4
Diethylphthalate	(mg/kg)	<0.37	<0.4
Dimethylphthalate	(mg/kg)	<0.37	<0.4
Di-n-butylphthalate	(mg/kg)	<0.37	<0.4
Di-n-octylphthalate	(mg/kg)	<0.37	<0.4
Fluoranthene	(mg/kg)	<0.37	<0.4
Fluorene	(mg/kg)	<0.37	<0.4
Hexachlorobenzene	(mg/kg)	<0.37	<0.4
Hexachlorobutadiene	(mg/kg)	<0.37	<0.4
Hexachlorocyclopentadiene	(mg/kg)	<0.74	<0.8
Hexachloroethane	(mg/kg)	<0.37	<0.4

Table F-2A. Soil Sampling Results- Organic Constituents Analyzed Infrequently
Roper Pump Company

Sample Location		Piperun1&2	SB-1
Depth (ft bgs)		2	1
Date Sampled		5/13/2009	5/21/2009
Indeno(1,2,3-cd)pyrene	(mg/kg)	<0.37	<0.4
Isophorone	(mg/kg)	<0.37	<0.4
Naphthalene	(mg/kg)	<0.37	<0.4
Nitrobenzene	(mg/kg)	<0.37	<0.4
N-Nitroso-di-n-propylamine	(mg/kg)	<0.37	<0.4
N-Nitrosodiphenylamine/Diphenylamine	(mg/kg)	<0.37	<0.4
Pentachlorophenol	(mg/kg)	<1.9	<2.1
Phenanthrene	(mg/kg)	<0.37	<0.4
Phenol	(mg/kg)	<0.37	<0.4
Pyrene	(mg/kg)	<0.37	<0.4

Table F-2B. Soil Sampling Results - No Longer Representative* - Organic Constituents Analyzed Infrequently
Roper Pump Company

Sample Location	S-1	S-2	STORM SEWER-1
Depth (ft bgs)	0.5	0.5	
Date Sampled	5/8/2009	5/8/2009	6/29/2009
1,1-Biphenyl	<0.41	<0.39	<0.987
2,4,5-Trichlorophenol	<2.1	<2	<5.1
2,4,6-Trichlorophenol	<0.41	<0.39	<0.99
2,4-Dichlorophenol	<0.41	<0.39	<0.99
2,4-Dimethylphenol	<0.41	<0.39	<0.99
2,4-Dinitrophenol	<2.1	<2	<5.1
2,4-Dinitrotoluene	<0.41	<0.39	<0.99
2,6-Dinitrotoluene	<0.41	<0.39	<0.99
2-Chloronaphthalene	<0.41	<0.39	<0.99
2-Chlorophenol	<0.41	<0.39	<0.99
2-Methylnaphthalene	<0.41	<0.39	5.4
2-Methylphenol	<0.41	<0.39	<0.99
2-Nitroaniline	<2.1	<2	<5.1
2-Nitrophenol	<0.41	<0.39	<0.99
3,3'-Dichlorobenzidine	<0.83	<0.8	<2
3-Nitroaniline	<2.1	<2	<5.1
4,6-Dinitro-2-methylphenol	<2.1	<2	<5.1
4-Bromophenyl-phenylether	<0.41	<0.39	<0.99
4-Chloro-3-methylphenol	<0.41	<0.39	<0.99
4-Chloroaniline	<0.41	<0.39	<0.99
4-Chlorophenyl-phenylether	<0.41	<0.39	<0.99
4-Methylphenol	<0.41	<0.39	<0.99
4-Nitroaniline	<2.1	<2	<5.1
4-Nitrophenol	<2.1	<2	<5.1
Acenaphthene	<0.41	<0.39	1.6
Acenaphthylene	<0.41	<0.39	<0.99
Acetophenone	<0.41	<0.39	<0.99
Anthracene	<0.41	<0.39	<0.99
Atrazine	<0.41	<0.39	<0.99
Benzaldehyde	<0.41	<0.39	<0.99
Benzo(a)anthracene	<0.41	<0.39	<0.99
Benzo(a)pyrene	<0.41	<0.39	<0.99
Benzo(b)fluoranthene	<0.41	<0.39	<0.99
Benzo(g,h,i)perylene	<0.41	<0.39	<0.99
Benzo(k)fluoranthene	<0.41	<0.39	<0.99
Bis(2-Chloro-1-methylethyl)Ether	<0.41	<0.39	<0.99
bis(2-Chloroethoxy) methane	<0.41	<0.39	<0.99
bis(2-Chloroethyl) ether	<0.41	<0.39	<0.99
bis(2-Ethylhexyl) phthalate	<0.41	<0.39	<0.99
Butylbenzylphthalate	<0.41	<0.39	<0.99
Caprolactam	<0.41	<0.39	<0.99
Carbazole	<0.41	<0.39	<0.99
Chrysene	<0.41	<0.39	<0.99
Dibenzo(a,h)anthracene	<0.41	<0.39	<0.99
Dibenzofuran	<0.41	<0.39	<0.99
Diethylphthalate	<0.41	<0.39	<0.99
Dimethylphthalate	<0.41	<0.39	<0.99
Di-n-butylphthalate	<0.41	<0.39	<0.99
Di-n-octylphthalate	<0.41	<0.39	<0.99
Fluoranthene	<0.41	<0.39	<0.99
Fluorene	<0.41	<0.39	<0.99
Hexachlorobenzene	<0.41	<0.39	<0.99
Hexachlorobutadiene	<0.41	<0.39	<0.99
Hexachlorocyclopentadiene	<0.82	<0.79	<2
Hexachloroethane	<0.41	<0.39	<0.99
Indeno(1,2,3-cd)pyrene	<0.41	<0.39	<0.99
Isophorone	<0.41	<0.39	<0.99
Naphthalene	<0.41	<0.39	<0.99
Nitrobenzene	<0.41	<0.39	<0.99
N-Nitroso-di-n-propylamine	<0.41	<0.39	<0.99
N-Nitrosodiphenylamine/Diphenylamine	<0.41	<0.39	<0.99
Pentachlorophenol	<2.1	<2	<5.1
Phenanthrene	<0.41	<0.39	7.6
Phenol	<0.41	<0.39	<0.99
Pyrene	<0.41	<0.39	<0.99

* The samples are not representative of the current conditions at the site (i.e., they have been excavated).

Table F-3A. Soil Sampling Results- Metals
Roper Pump Company

Sample Location	Depth (ft bgs)	Date Sampled	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Chromium, hexavalent (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)
Main Facility											
ALLEYSTSW-100	5	7/23/2009	<5.74	23.7	<2.87	9.93		15.2	<0.12	<11.5	<2.87
ALLEYSTSW-120	5	7/24/2009	<5.42	16.5	<2.71	17.1		12.3	<0.12	<10.8	<2.71
ALLEYSTSW-140 (ALLEYSTSW-140-2)	5	7/27/2009	<6	27.1	<3	8.84		14.4	<0.122	<12	<3
ALLEYSTSW-160 (ALLEYSTSW-160-2)	5	7/27/2009	<5.44	22.2	<2.72	12.6		14	<0.12	<27.2	<2.72
ALLEYSTSW-20	5	7/23/2009	<4.77	72.5	<2.38	10.4		17.2	<0.12	<23.8	<2.38
ALLEYSTSW-40	5	7/23/2009	<5.49	29.7	<2.74	63		29	<0.137	<27.4	<2.74
ALLEYSTSW-60	5	7/23/2009	<5.3	76.1	<2.65	9.88		15.9	<0.12	<10.6	<2.65
ALLEYSTSW-80	5	7/23/2009	<28.8	23.5	<2.88	29.1		28.5	<0.129	<57.6	<2.88
CANOPYSTSW	4.5	7/31/2009	<6.28	45.4	<3.14	38.5		13.9	0.212	<12.6	<3.14
CANOPYSTSW_END	4.5	7/31/2009	<5.79	18.9	<2.89	11		9.38	0.137	<5.79	<2.89
Piperun1&2	2	5/13/2009	<5.13	33.7	<2.56	48.7		56.5	<0.112	<5.13	<2.56
STORM SEWER 10 (STORM SEWER 10-2)	5.5	7/1/2009	<5.95	12.3	<2.98	23.9		15.8	<0.129	<29.8	<2.98
STORM SEWER 20 (STORM SEWER 20-2)	5.5	7/1/2009	<6.74	13.1	<3.37	41		21.7	<0.134	<33.7	<3.37
STORM SEWER 30 (STORM SEWER 30-2)	5.5	7/1/2009	<6.1	15.2	<3.05	28.5		17.9	<0.13	<30.5	<3.05
STORM SEWER 40 (STORM SEWER 40-2)	5.5	7/1/2009	<5.99	16.9	<2.99	29.9		17.9	<0.118	<29.9	<2.99
STORM SEWER 50 (STORM SEWER 50-2)	6.5	7/1/2009	<5.9	21.2	<2.95	26.8		24	<0.121	<29.5	<2.95
STORM SEWER 60 (STORM SEWER 60-1)	6	7/7/2009	<5.51	25	<2.75	18.3		24.4	<0.119	<11	<2.75
STORM SEWER 70 (STORM SEWER 70-1)	6	7/7/2009	<5.65	19.7	<2.82	71.6		23.2	<0.119	<11.3	<2.82
STORM SEWER 80 (STORM SEWER 80-1)	6	7/7/2009	<4.98	23.2	<2.49	109	4.79	23.3	<0.124	<24.9	<2.49
Outfall											
OU-1	0	4/20/2010	<6.37	51.7	<3.18	44.3		24.7	<0.126	<6.37	<3.18
OU-10	0	4/27/2010	19.8	37.2	<2.65	50.2		73.2	0.23	<10.6	<2.65
OU-11	0	4/27/2010	<5.48	20.1	<2.74	24.9		18.9	<0.114	<11	<2.74
OU-2	0	4/20/2010	<6.07	16.7	<3.04	29.2		41.5	<0.126	<6.07	<3.04
OU-3	0	4/20/2010	<5.68	28.8	<2.84	26.2		24.8	<0.124	<5.68	<2.84
OU-4	0	4/20/2010	13.3	29.4	<3.12	31		19.7	<0.126	<6.25	<3.12
OU-5	0	4/20/2010	<6.47	20.4	<3.23	21.6		14.5	<0.142	<6.47	<3.23
OU-8	0	4/23/2010	7.19	20.8	<2.26	29.7		25.2	<0.121	<9.05	<2.26
SS-1	1	10/9/2009	<6.48	24.5	<3.24	53.3		76.3	<0.138	<6.48	<3.24
SS-2	1	10/9/2009	<5.29	15.7	<2.64	35		42.3	<0.123	<10.6	<2.64

Table F-3B. Soil Sampling Results - No Longer Representative* - Metals
Roper Pump Company

Sample Location	Depth (ft bgs)	Date Sampled	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
Main Facility										
ALLEYSTSW-100	4	7/23/2009	<5.54	19.6	<2.77	17.8	15.4	<0.12	<27.7	<2.77
ALLEYSTSW-120	4	7/24/2009	<5.81	27.8	<2.91	11.3	19.2	<0.125	<11.6	<2.91
ALLEYSTSW-140 (ALLEYSTSW-140-1)	4	7/27/2009	<5.85	15.3	<2.92	15.9	14.7	<0.125	<29.2	<2.92
ALLEYSTSW-160 (ALLEYSTSW-160-1)	4	7/27/2009	<5.5	15.5	<2.75	15.5	14	<0.122	<27.5	<2.75
ALLEYSTSW-20	4	7/23/2009	<6.36	49.4	<3.18	21.5	19.8	<0.131	<31.8	<3.18
ALLEYSTSW-40	4	7/23/2009	<6.06	21.9	<3.03	34.6	15.7	<0.135	<30.3	<3.03
ALLEYSTSW-60	4	7/23/2009	<4.91	54.2	<2.46	14.4	17.2	<0.123	<24.6	<2.46
ALLEYSTSW-80	4	7/23/2009	<10.9	30.4	<2.73	38.8	36.5	<0.136	<54.6	<2.73
BE-1	1	5/13/2009	<5.44	15.1	<2.72	23.7	19.2	<0.117	<5.44	<2.72
BE-3	1	5/13/2009	<5.72	25.2	<2.86	39.2	31	<0.119	<5.72	<2.86
BE-5	1	5/13/2009	<5.09	16.2	<2.55	22.5	26.9	<0.119	<5.09	<2.55
BE-7	1	5/13/2009	<5.24	25.2	<2.62	30.3	27.4	<0.116	<5.24	<2.62
BE-9	1	5/13/2009	<5.8	31.6	<2.9	35.6	28.7	<0.116	<5.8	<2.9
CANOPYSTSW	4	7/31/2009	<6.27	24.6	<3.13	35.4	16.9	<0.137	<31.3	<3.13
CANOPYSTSW_END	4	7/31/2009	<5.38	13.2	<2.69	11.6	13	<0.122	<10.8	<2.69
HA-1	0.5	5/14/2009	<5.5	15.8	<2.75	53.6	44.3	<0.125	<5.5	<2.75
S-1	0.5	5/8/2009	<5.7	27.9	<2.85	26.5	31.7	<0.123	<5.7	<2.85
S-2	0.5	5/8/2009	<5.58	28.3	<2.79	26.7	26.8	<0.119	<5.58	<2.79
STORM SEWER 10 (STORM SEWER 10-1)	5	7/1/2009	<5.49	15.6	<2.74	26.9	20.2	<0.117	<27.4	<2.74
STORM SEWER 20 (STORM SEWER 20-1)	5	7/1/2009	<6.45	23.5	<3.23	35	17.3	<0.133	<32.3	<3.23
STORM SEWER 30 (STORM SEWER 30-1)	5	7/1/2009	<6.44	13.7	<3.22	36.4	21.4	<0.13	<32.2	<3.22
STORM SEWER 40 (STORM SEWER 40-1)	5	7/1/2009	<6.09	17.7	<3.04	26	20.2	<0.12	<30.4	<3.04
STORM SEWER 50 (STORM SEWER 50-1)	6	7/1/2009	<5.89	47.4	<2.94	24.4	18.9	<0.119	<29.4	<2.94
STORM SEWER-1		6/29/2009	79.2	70.4	14	723	5210	7.53	<277	<5.55
Outfall										
OU-6	0	4/20/2010	15.4	49.9	<2.91	65.8	102	<0.118	<5.81	<2.91
OU-7	0	4/23/2010	46.8	67	4.87	160	179	0.287	<24.1	<2.41
OU-9	0	4/23/2010	6.86	18.6	<2.3	25.4	125	<0.112	<4.59	<2.3
SS-3	0.5	10/9/2009	30.5	69.5	5.91	480	226	0.214	<53.5	<2.67
SS-4	1	10/9/2009	40.3	107	7.98	332	487	0.621	<36.8	<3.68
SS-5	0.5	10/9/2009	15.4	26.9	<2.43	129	93.8	0.26	<24.3	<2.43
SS-6	0.5	10/9/2009	15.2	33.3	<3.06	77.8	91.4	0.312	<30.6	<3.06
SS-7	0.5	10/9/2009	12.4	129	22.6	265	452	0.939	<41.7	5.03

* The samples are not representative of the current conditions at the site (i.e., they have been excavated or were anomolous results (HA-1) that were re-sampled (HA-2)).

Table F-4. Groundwater Sampling Results- Organic Constituents
Roper Pump Company

Sample Location	Date Sampled	1,1,1-Trichloroethane (µg/L)	1,1,2,2-Tetrachloroethane (µg/L)	1,1,2-Trichloroethane (µg/L)	1,1-Dichloroethane (µg/L)	1,1-Dichloroethene (µg/L)	1,2,3-Trichlorobenzene (µg/L)	1,2,4-Trichlorobenzene (µg/L)	1,2-Dibromo-3-chloropropane (µg/L)	1,2-Dibromoethane (µg/L)	1,2-Dichlorobenzene (µg/L)	1,2-Dichloroethane (µg/L)	1,2-Dichloropropane (µg/L)	1,3-Dichlorobenzene (µg/L)	1,4-Dichlorobenzene (µg/L)	2-Butanone (MEK) (µg/L)	2-Hexanone (µg/L)	4-Methyl-2-pentanone (µg/L)	Acetone (µg/L)	Benzene (µg/L)	Bromochloromethane (µg/L)
B-1	5/22/2009	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
B-10	5/21/2009	<5	100	86	<5	37		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
B-11	5/21/2009	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
B-20	5/22/2009	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
MW-1	2/24/2014	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1
MW-1	11/7/2014	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
MW-10	11/7/2014	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
MW-11	11/7/2014	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	44	
MW-2	2/24/2014	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1
MW-2	11/7/2014	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
MW-3	2/24/2014	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1
MW-3	5/19/2014	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
MW-3	11/5/2014	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
MW-4	2/24/2014	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1
MW-4	5/19/2014	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
MW-4	11/5/2014	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
MW-5	2/24/2014	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	11.2	<1	<1
MW-5	11/6/2014	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
MW-6	2/24/2014	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1
MW-6	11/5/2014	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
MW-6D	2/14/2014	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1
MW-6D	2/24/2014	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1
MW-6D	11/6/2014	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
MW-6D_35	2/24/2014		<																<		
MW-6D_50	2/24/2014		<																<		
MW-6DS	2/24/2014	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1
MW-6DS	11/6/2014	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
MW-7	2/24/2014	<1	3.8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1
MW-7	11/6/2014	<5	9.2	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
MW-8	11/7/2014	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
MW-9D	11/6/2014	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
MW-9S	11/7/2014	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
SB-1	5/21/2009	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
SB-9	5/22/2009	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
TW-1	5/27/2009	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
TW-2	5/27/2009	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
TW-3	5/27/2009	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
TW-4	5/27/2009	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	130	
TW-5	5/27/2009	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
TW-6	5/27/2009	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
TW-7	5/27/2009	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
TW-7 (Dup)	5/27/2009	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	
TW-8	5/27/2009	<5	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<50	<10	<10	<50	<5	

Table F-4. Groundwater Sampling Results- Organic Constituents
Roper Pump Company

Sample Location	Date Sampled	Bromo form (µg/L)	Bromo methane (µg/L)	Carbon disulfide (µg/L)	Carbon tetra chloride (µg/L)	Chloro benzene (µg/L)	Chloro ethane (µg/L)	Chloro form (µg/L)	Chloro methane (µg/L)	cis-1,2-Dichloro ethene (µg/L)	cis-1,3-Dichloro propene (µg/L)	Cyclo hexane (µg/L)	Dibromo chloro methane (µg/L)	Dichloro bromo methane (µg/L)	Dichloro methane (Methylene chloride) (µg/L)	Ethyl benzene (µg/L)	Freon-11 (µg/L)	Freon-113 (µg/L)	Freon-12 (µg/L)	Isopropyl benzene (µg/L)	m&p-Xylene (µg/L)
B-1	5/22/2009	<5	<5	<5	<5	<5	<10	16	<10	2300	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<10
B-10	5/21/2009	<5	<5	<5	<5	<5	<10	23	<10	4500	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<10
B-11	5/21/2009	<5	<5	<5	<5	<5	<10	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<10
B-20	5/22/2009	<5	<5	<5	<5	<5	<10	<5	<10	8.5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<10
MW-1	2/24/2014	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
MW-1	11/7/2014	<5	<5	<5	<5	<5	<10	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<5
MW-10	11/7/2014	<5	<5	<5	<5	<5	<10	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<5
MW-11	11/7/2014	<5	<5	<5	<5	<5	<10	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<5
MW-2	2/24/2014	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
MW-2	11/7/2014	<5	<5	<5	<5	<5	<10	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<5
MW-3	2/24/2014	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
MW-3	5/19/2014	<5	<5	<5	<5	<5	<10	7.1	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<5
MW-3	11/5/2014	<5	<5	<5	<5	<5	<10	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<5
MW-4	2/24/2014	<1	<1	<1	<1	<1	<1	<1	<1	14.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
MW-4	5/19/2014	<5	<5	<5	<5	<5	<10	38	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<5
MW-4	11/5/2014	<5	<5	<5	<5	<5	<10	<5	<10	10	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<5
MW-5	2/24/2014	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
MW-5	11/6/2014	<5	<5	<5	<5	<5	<10	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<5
MW-6	2/24/2014	<1	<1	<1	<1	<1	<1	3.61	<1	1100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
MW-6	11/5/2014	<5	<5	<5	<5	<5	<10	<5	<10	190	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<5
MW-6D	2/14/2014	<1	<1	<1	<1	<1	<1	<1	<1	12.9	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
MW-6D	2/24/2014	<1	<1	<1	<1	<1	<1	2.56	<1	14.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
MW-6D	11/6/2014	<5	<5	<5	<5	<5	<10	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<5
MW-6D_35	2/24/2014							<		12.9											
MW-6D_50	2/24/2014							<		<											
MW-6DS	2/24/2014	<1	<1	<1	<1	<1	<1	4.51	<1	124	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
MW-6DS	11/6/2014	<5	<5	<5	<5	<5	<10	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<5
MW-7	2/24/2014	<1	<1	<1	<1	<1	<1	<1	<1	24.7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
MW-7	11/6/2014	<5	<5	<5	<5	<5	<10	<5	<10	27	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<5
MW-8	11/7/2014	<5	<5	<5	<5	<5	<10	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<5
MW-9D	11/6/2014	<5	<5	<5	<5	<5	<10	16	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<5
MW-9S	11/7/2014	<5	<5	<5	<5	<5	<10	<5	<10	240	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<5
SB-1	5/21/2009	<5	<5	<5	<5	<5	<10	10	<10	250	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<10
SB-9	5/22/2009	<5	<5	<5	<5	<5	<10	<5	<10	90	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<10
TW-1	5/27/2009	<5	<5	<5	<5	<5	<10	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<10
TW-2	5/27/2009	<5	<5	<5	<5	<5	<10	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<10
TW-3	5/27/2009	<5	<5	<5	<5	<5	<10	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<10
TW-4	5/27/2009	<5	<5	<5	<5	<5	<10	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<10
TW-5	5/27/2009	<5	<5	<5	<5	<5	<10	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<10
TW-6	5/27/2009	<5	<5	<5	<5	<5	<10	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<10
TW-7	5/27/2009	<5	<5	<5	<5	<5	<10	<5	<10	8.9	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<10
TW-7 (Dup)	5/27/2009	<5	<5	<5	<5	<5	<10	<5	<10	9.4	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<10
TW-8	5/27/2009	<5	<5	<5	<5	<5	<10	<5	<10	230	<5	<5	<5	<5	<5	<5	<5	<10	<10	<5	<10

Table F-4. Groundwater Sampling Results- Organic Constituents
Roper Pump Company

Sample Location	Date Sampled	Methyl acetate (µg/L)	Methyl tertbutyl ether (MTBE) (µg/L)	Methylcyclo hexane (µg/L)	o-Xylene (µg/L)	Styrene (µg/L)	Tetrachloro ethene (µg/L)	Toluene (µg/L)	trans-1,2-Dichloro ethene (µg/L)	trans-1,3-Dichloro propene (µg/L)	Trichloro ethene (µg/L)	Vinyl chloride (µg/L)
B-1	5/22/2009	<5	<5	<5	<5	<5	600	<5	29	<5	2500	<2
B-10	5/21/2009	<5	<5	<5	<5	<5	93000	130	47	<5	1400	<2
B-11	5/21/2009	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2
B-20	5/22/2009	<5	<5	<5	<5	<5	530	<5	<5	<5	7.4	<2
MW-1	2/24/2014	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW-1	11/7/2014	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2
MW-10	11/7/2014	<5	<5	<5	<5	<5	<5	<5	<5	<5	6.1	<2
MW-11	11/7/2014	<5	<5	<5	<5	<5	110	<5	<5	<5	59	<2
MW-2	2/24/2014	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW-2	11/7/2014	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2
MW-3	2/24/2014	<2	<2	<1	<1	<1	4.45	<1	<1	<1	35.2	<1
MW-3	5/19/2014	<5	<5	<5	<5	<5	<5	<5	<5	<5	23	<2
MW-3	11/5/2014	<5	<5	<5	<5	<5	8.3	<5	<5	<5	55	<2
MW-4	2/24/2014	<2	<2	<1	<1	<1	189	<1	<1	<1	130	<1
MW-4	5/19/2014	<5	<5	<5	<5	<5	24	<5	<5	<5	11	<2
MW-4	11/5/2014	<5	<5	<5	<5	<5	170	<5	<5	<5	98	<2
MW-5	2/24/2014	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW-5	11/6/2014	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2
MW-6	2/24/2014	<2	<2	<1	<1	<1	930	<1	1.94	<1	630	<1
MW-6	11/5/2014	<5	<5	<5	<5	<5	110	<5	<5	<5	95	<2
MW-6D	2/14/2014	<2	<2	<1	<1	<1	8.79	<1	<1	<1	73	<1
MW-6D	2/24/2014	<2	<2	<1	<1	<1	20.3	<1	<1	<1	86.8	<1
MW-6D	11/6/2014	<5	<5	<5	<5	<5	17	<5	<5	<5	29	<2
MW-6D_35	2/24/2014						67.9		<		24.6	
MW-6D_50	2/24/2014						8.79		<		73	
MW-6DS	2/24/2014	<2	<2	<1	<1	<1	100	<1	<1	<1	133	<1
MW-6DS	11/6/2014	<5	<5	<5	<5	<5	14	<5	<5	<5	110	<2
MW-7	2/24/2014	<2	<2	<1	<1	<1	2400	<1	<1	<1	170	<1
MW-7	11/6/2014	<5	<5	<5	<5	<5	14000	<5	<5	<5	180	<2
MW-8	11/7/2014	<5	<5	<5	<5	<5	70	<5	<5	<5	12	<2
MW-9D	11/6/2014	<5	<5	<5	<5	<5	<5	<5	<5	<5	7.8	<2
MW-9S	11/7/2014	<5	<5	<5	<5	<5	1600	<5	<5	<5	600	<2
SB-1	5/21/2009	<5	<5	<5	<5	<5	190	<5	<5	<5	810	<2
SB-9	5/22/2009	<5	<5	<5	<5	<5	4900	<5	<5	<5	1400	<2
TW-1	5/27/2009	<5	<5	<5	<5	<5	<5	<5	<5	<5	14	<2
TW-2	5/27/2009	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2
TW-3	5/27/2009	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2
TW-4	5/27/2009	<5	<5	<5	<5	<5	9	<5	<5	<5	6.7	<2
TW-5	5/27/2009	<5	<5	<5	<5	<5	<5	<5	<5	<5	25	<2
TW-6	5/27/2009	<5	<5	<5	<5	<5	19	<5	<5	<5	6	<2
TW-7	5/27/2009	<5	<5	<5	<5	<5	33	<5	<5	<5	60	<2
TW-7 (Dup)	5/27/2009	<5	<5	<5	<5	<5	30	<5	<5	<5	55	<2
TW-8	5/27/2009	<5	<5	<5	<5	<5	37	<5	<5	<5	180	<2

Table F-5. Sub-Slab Soil Vapor Sampling Results
Roper Pump Company

Location	Date Sampled	1,1,2,2-Tetrachloroethane (mg/m^3)	1,1,2-Trichloroethane (mg/m^3)	1,1-Dichloroethene (mg/m^3)	2-Butanone (MEK) (mg/m^3)	2-Hexanone (mg/m^3)	Acetone (mg/m^3)	Benzene (mg/m^3)	Chloroform (mg/m^3)	cis-1,2-Dichloroethene (mg/m^3)	Isopropylbenzene (mg/m^3)	m&p-Xylene (mg/m^3)	Methylcyclohexane (mg/m^3)	o-Xylene (mg/m^3)	Tetrachloroethene (mg/m^3)	Toluene (mg/m^3)	trans-1,2-Dichloroethene (mg/m^3)	Trichloroethene (mg/m^3)	Vinyl chloride (mg/m^3)
VI-1	7/1/2009	<440	<790	<760	<330	<920	<1400	<330	<440	710	<100	<610	<100	<360	13000	<320	<490	29000	<450
VI-2	7/1/2009	<17	<32	<30	<13	<37	160	<13	<18	<18	<4.2	78	<4.2	53	1600	80	<20	1800	<18
VI-3	7/1/2009	<440	<800	<770	<330	<930	<1400	2900	<450	8100	<110	<620	<110	<360	58000	<320	<500	64000	<450
VI-4	7/1/2009	<430	<780	<750	<330	<920	<1400	92000	<440	38000	<100	<610	15000	<350	3100	<320	<490	3500	<440
VI-5	7/1/2009	<440	<800	<770	<340	<940	<1400	3400	<450	1300	<110	<620	<110	<360	39000	<320	<500	12000	<450
VI-6	7/2/2009	<430	<780	<750	<330	<920	<1400	<330	570	<460	<100	<610	<100	<350	37000	<320	<490	35000	<440
VI-7	7/2/2009	<430	<780	<760	<330	<920	<1400	<330	<440	<460	<100	<610	<100	<360	12000	<320	<490	4600	<440
VI-8	7/2/2009	<44	<79	<76	<33	<92	<140	<33	140	1600	<10	<61	<10	<36	21000	140	<49	35000	<45
VI-9	7/2/2009	<430	<780	<760	<330	<920	<1400	<330	2600	41000	<100	<610	<100	<360	940000	<320	<490	1100000	<440
VI-10	7/2/2009	<440	<790	<760	<330	<920	<1400	<330	<440	12000	<100	<610	<100	<360	390000	<320	<490	430000	<450
VI-11	7/3/2009	<210	<390	<380	<160	<460	<690	<160	<220	990	<52	<300	<52	<180	30000	<160	<240	41000	<220
VI-12	7/2/2009	<220	<390	<380	<160	<460	<700	<160	<220	8600	<52	<310	<52	<180	300000	<160	<250	270000	<220
VI-13	7/3/2009	<220	<390	<380	<160	<460	<700	<160	<220	<230	<52	820	<52	440	18000	<160	<240	27000	<220
VI-14	7/2/2009	<430	<780	<750	<330	<920	<1400	<330	<440	5900	<100	<610	<100	<350	200000	<320	<490	220000	<440
VI-15	7/3/2009	<83	<150	<140	<63	<180	<270	<63	190	260	<20	<120	<20	<68	150000	130	<94	67000	<85
VI-15	7/3/2009	<340	<620	<600	<260	<730	<1100	<260	<350	<360	<82	<480	<82	<280	44000	<250	<390	21000	<350
VI-16	7/3/2009	<210	<390	<370	<160	<450	<690	<160	<220	540	<52	<300	<52	260	120000	460	<240	53000	<220
VI-17	7/3/2009	<350	<620	<600	<260	<730	<1100	<260	<350	<370	<83	<490	<83	<280	130000	<250	<390	1100	<350
VI-18	7/9/2009	<290	<520	<510	<220	<610	<930	<220	<290	<310	<70	18000	<70	3500	1000000	<210	<330	<330	<300
VI-19	7/3/2009	<220	<390	<380	<160	<460	<700	<160	<220	<230	<52	<300	<52	<180	26000	660	<240	2900	<220
VI-20	7/3/2009	<350	<630	<610	<260	<740	<1100	<260	<350	<370	<84	<490	<84	<280	19000	<250	<390	3500	<360
VI-21	7/3/2009	<350	<630	<610	<260	<740	<1100	<260	<350	<370	<84	<490	<84	<290	27000	<260	<390	520	<360
VI-22	7/9/2009	<280	<510	<500	<220	<600	<920	<220	<290	<300	<69	3000	<69	820	150000	<210	<320	<330	<290
VI-23	7/3/2009	<44	<79	<76	<33	<93	<140	<33	<44	<46	<11	80	<11	<36	16000	190	<50	290	<45
VI-24	7/3/2009	<44	<79	<76	<33	<92	<140	<33	<44	<46	<10	<61	<10	<36	10000	180	<49	330	<45
VI-25	7/2/2009	<350	<620	<600	<260	<730	<1100	<260	<350	<370	<83	<490	<83	<280	11000	<250	<390	1800	<350
VI-26	7/2/2009	<44	<79	<76	<33	<92	<140	<33	<44	<46	<10	<61	<10	<36	13000	170	<49	3700	<45
VI-27	7/2/2009	<43	<78	<76	<33	<92	<140	<33	<44	<46	<10	<61	<10	<36	12000	350	<49	3800	<44
VI-28	7/2/2009	<43	<78	<76	<33	<92	<140	<33	<44	<46	<10	150	<10	89	27000	210	<49	3800	<44
VI-29	7/2/2009	<44	<79	<76	<33	<92	<140	<33	<44	<46	<10	<61	<10	<36	6300	300	<49	1500	<45
VI-30	7/2/2009	<170	<310	<300	<130	<370	<560	<130	<180	<180	<42	<240	<42	<140	7100	250	<200	2500	<180
VI-31	7/2/2009	<130	<240	<230	<100	<290	<430	<100	<140	<140	<32	<190	<32	<110	21000	<99	<150	2400	<140
VI-32	7/2/2009	<130	<240	<230	<100	<290	<430	<100	<140	<140	<32	<190	<32	<110	14000	200	<150	3900	<140
VI-33	7/2/2009	<230	<410	<400	<170	<480	<740	<170	<230	<240	<55	<320	<55	<190	240000	440	<260	7300	<230
VI-34	7/2/2009	<870	<1600	<1500	<660	<1800	<2800	<660	<880	<920	<210	<1200	<210	<710	630000	<640	<990	75000	<890
VI-35	7/2/2009	<1300	<2400	<2300	<1000	<2800	<4200	<1000	<1300	<1400	<320	<1900	<320	<1100	160000	<970	<1500	47000	<1300
VI-36	7/2/2009	<83	<150	<140	<63	<180	<270	<63	<84	<88	<20	<120	<20	<68	5800	420	<94	880	<85
VI-37	7/2/2009	<83	<150	<140	<63	<180	<270	<63	<84	<88	<20	<120	<20	<68	19000	370	<94	1200	<85
VI-38	7/2/2009	<83	<150	<140	720	<180	1500	<63	<84	<88	<20	200	<20	<68	12000	710	<94	3800	<85
VI-39	7/2/2009	<83	<150	<140	<63	<180	820	<63	<84	<88	<20	<120	<20	<68	12000	690	<94	2100	<85
VI-40	7/2/2009	<83	<150	<140	<63	<180	<270	<63	<84	<88	<20	<120	<20	<68	1000	140	<94	170	<85
VI-40	7/2/2009	<83	<150	<140	<63	<180	<270	<63	<84	<88	<20	<120	<20	<68	1100	150	<94	200	<85
VI-41	7/2/2009	<83	<150	<140	<63	<180	<270	<63	<84	<88	<20	<120	<20	<68	7100	110	<94	4900	<85

Legend

- Soil Sample Location
- Removed Soil Sample Location
- Overlying Sample Removed; Underlying Sample Remains

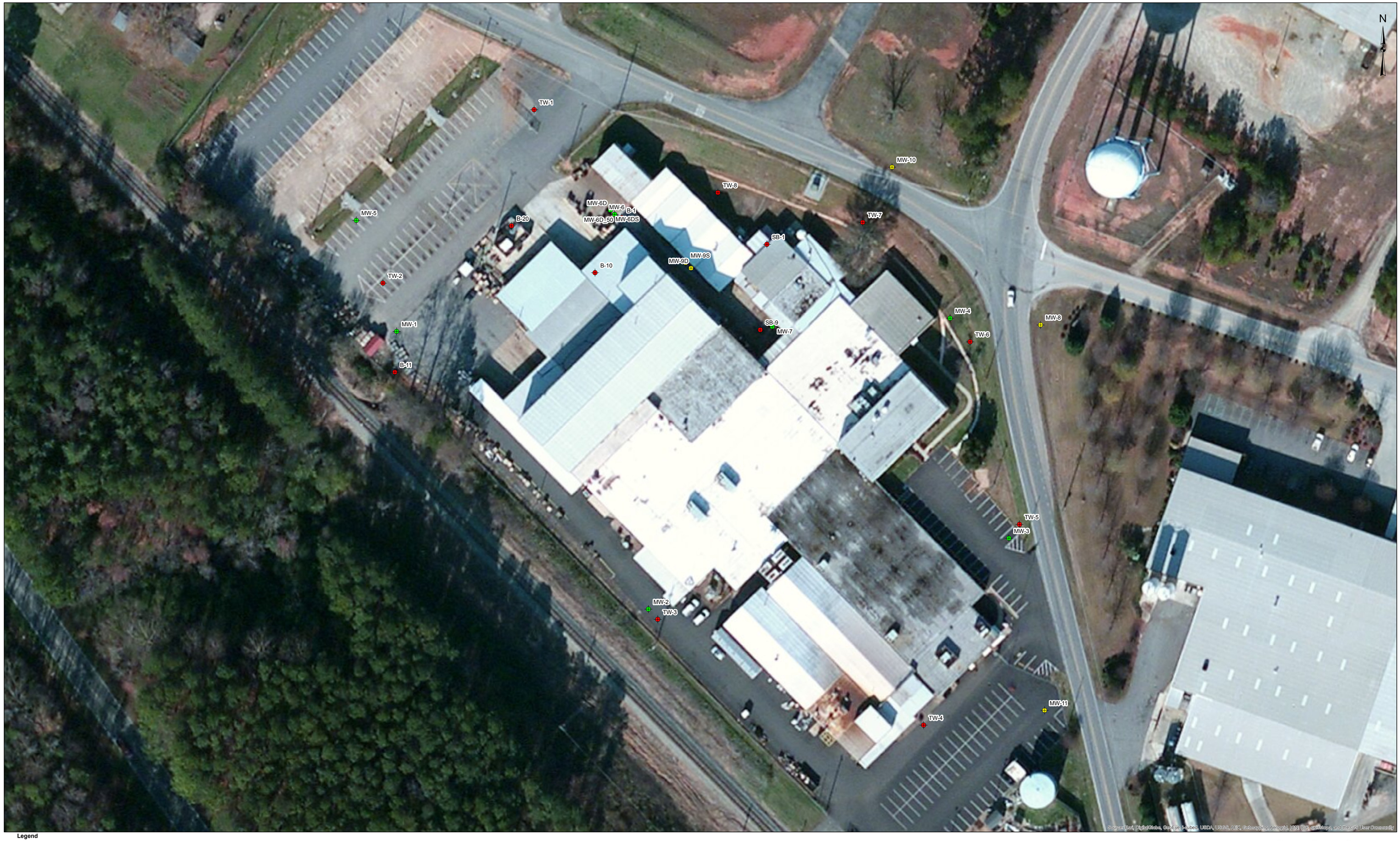
*HA-1 was an anomalous reading and was resampled as HA-2.

0 40 80 120 160
Feet

Roper Pump Company
Soil Sample Locations

Environmental Planning Specialists, Inc.
F:\Roper_Pump\GIS_Projects\VRP_Application

Figure No.F-1



Legend

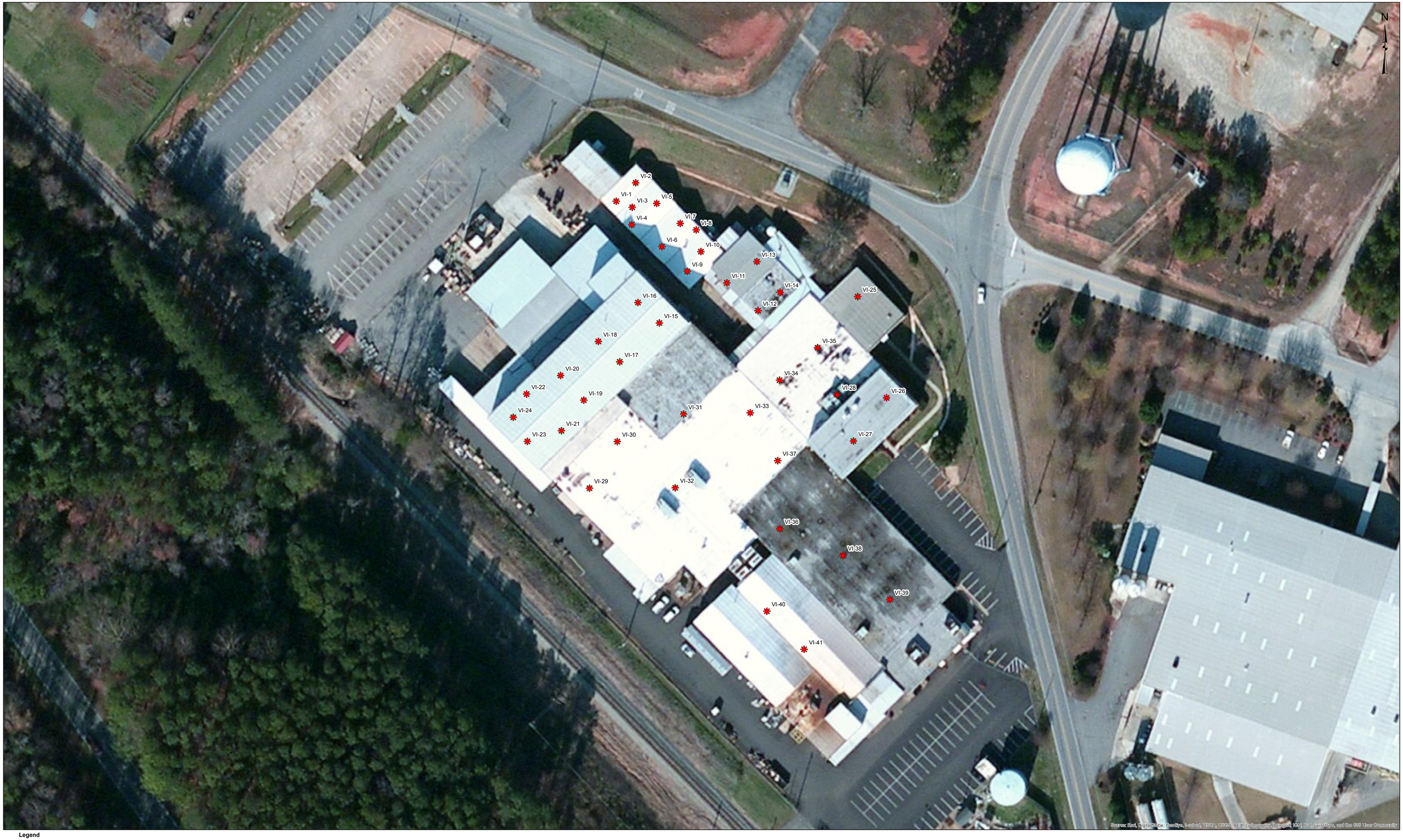
- Groundwater well Location, EPS 2009
- Groundwater well Location, EPS 2014
- Groundwater well Location, GEC

0 40 80 120 160 Feet

Roper Pump Company
Groundwater Sample Locations

Environmental Planning Specialists, Inc.
F:\Roper_Pump\GIS_Projects\VRP_Application

Figure No.F-2



Legend

Vapor Intrusion Sample Location

Feet

0 40 80 120 160

Roper Pump Company
Vapor Intrusion Sample Locations

Environmental Planning Specialists, Inc.
F:\Roper_Pump\GIS_Projects\VRP_Application

Figure No.F-3

APPENDIX G

Water Well Survey Forms

well

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: Wanita Banks

   Phone Number: _____

   Physical Address: 104 Ridgeway/ Church Rd.

2. Is your residence connected to utility provided water? NO

3. Does your residence have a water well or spring? yes / well

4. Is the water well or spring the only source of drinking water at your residence? yes

5. Would you consent to having your water well or spring sampled? yes

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Atlanta, GA 30338
404-315-9113

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: Junior Spikes & Laise Spikes

   Phone Number: _____

   Physical Address: 208 Ridgeway Church Rd.

2. Is your residence connected to utility provided water? NO

3. Does your residence have a water well or spring? well

4. Is the water well or spring the only source of drinking water at your residence? yes

5. Would you consent to having your water well or spring sampled? Yes

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Atlanta, GA 30338
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DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: Barbara Harris

   Phone Number: _____

   Physical Address: 546 B. Wilson Rd.

2. Is your residence connected to utility provided water? NO

3. Does your residence have a water well or spring? well

4. Is the water well or spring the only source of drinking water at your residence? Yes

5. Would you consent to having your water well or spring sampled? NO

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Atlanta, GA 30338
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GIS

1359

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: WENDELL P. PARKS

   Phone Number: 706-677-4446

   Physical Address: 205 B. Wilson Rd.

2. Is your residence connected to utility provided water? NO

3. Does your residence have a water well or spring? Well

4. Is the water well or spring the only source of drinking water at your residence? Yes

5. Would you consent to having your water well or spring sampled? Yes

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GIS

1518

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: Cathy Lucas

   Phone Number: _____

   Physical Address: 133 Honeysuckle Dr.

2. Is your residence connected to utility provided water? NO

3. Does your residence have a water well or spring? yes, well

4. Is the water well or spring the only source of drinking water at your residence? yes

5. Would you consent to having your water well or spring sampled? Yes

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* Not Home
~~Owner~~ resident of
12 Lee Ln, confirmed
well water for
entire st.

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: _____

   Phone Number: _____

   Physical Address: 15 Lee Ln

   _____

2. Is your residence connected to utility provided water? _____

3. Does your residence have a water well or spring? well

4. Is the water well or spring the only source of drinking water at your residence? _____

5. Would you consent to having your water well or spring sampled? _____

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1804

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: _____

   Phone Number: _____

   Physical Address: 75 olive ct.

   _____

2. Is your residence connected to utility provided water? _____

3. Does your residence have a water well or spring? _____

4. Is the water well or spring the only source of drinking water at your residence? _____

5. Would you consent to having your water well or spring sampled? _____

* no answer → appears to be on well water

Confirmed in 2009

EPS
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Atlanta, GA 30338
404-315-9113

; Vacant
" resident of 12 Lee Ln. confirmed well water for entire street

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: _____

   Phone Number: _____

   Physical Address: 47 Lee Ln.

   _____

2. Is your residence connected to utility provided water? _____

3. Does your residence have a water well or spring? _____

4. Is the water well or spring the only source of drinking water at your residence? _____

5. Would you consent to having your water well or spring sampled? _____

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DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: James S. Campbell

   Phone Number: 706-335-0510

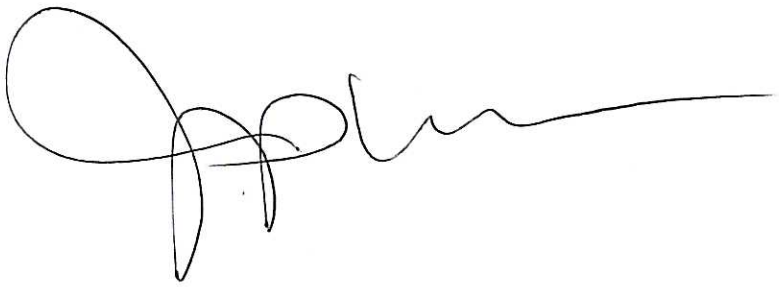
   Physical Address: 131 Lee Ln.

2. Is your residence connected to utility provided water? no

3. Does your residence have a water well or spring? well

4. Is the water well or spring the only source of drinking water at your residence? Yes

5. Would you consent to having your water well or spring sampled? Yes



EPS
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Atlanta, GA 30338
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GES

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: CHERYLE PACKISH

   Phone Number: 1 256 507 1003

   Physical Address: 134 Lee Ln.

2. Is your residence connected to utility provided water? NO

3. Does your residence have a water well or spring? well

4. Is the water well or spring the only source of drinking water at your residence? Yes

5. Would you consent to having your water well or spring sampled? Yes

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1556

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: Roy Stonnell

   Phone Number: _____

   Physical Address: 12 Lee Ln.

2. Is your residence connected to utility provided water? no

3. Does your residence have a water well or spring? well

4. Is the water well or spring the only source of drinking water at your residence? Yes

5. Would you consent to having your water well or spring sampled? Yes

* 15 Lee Ln.
* 47 Lee Ln.
* 131 Lee Ln.
* 134 Lee Ln.

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1758

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: William Dunbar

   Phone Number: _____

   Physical Address: 31 Olive Ct.

2. Is your residence connected to utility provided water? NO

3. Does your residence have a water well or spring? Well

4. Is the water well or spring the only source of drinking water at your residence? Yes

5. Would you consent to having your water well or spring sampled? Yes.

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1807

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: Carson Bowes

   Phone Number: _____

   Physical Address: 82 olive Ct

2. Is your residence connected to utility provided water? NO

3. Does your residence have a water well or spring? well

4. Is the water well or spring the only source of drinking water at your residence? Yes

5. Would you consent to having your water well or spring sampled? NO

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GES

1745

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: Samuel J. Hart

   Phone Number: _____

   Physical Address: 505 Old Bold Springs School Rd.

2. Is your residence connected to utility provided water? NO

3. Does your residence have a water well or spring? Yes, well

4. Is the water well or spring the only source of drinking water at your residence? Yes

5. Would you consent to having your water well or spring sampled? Yes

*Confirmed for all residents on road

EPS
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Atlanta, GA 30338
404-315-9113

GIS

1545

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: Marcus Whitlock

   Phone Number: 706-335 6430

   Physical Address: 591 Cathon Rd.

2. Is your residence connected to utility provided water? NO

3. Does your residence have a water well or spring? well

4. Is the water well or spring the only source of drinking water at your residence? Yes

5. Would you consent to having your water well or spring sampled? Yes

+ Confirmed city for rest of Road.

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well / city

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: Molly Massey

   Phone Number: _____

   Physical Address: 16 Mt. Olive Church Rd.

2. Is your residence connected to utility provided water? City

3. Does your residence have a water well or spring? well

4. Is the water well or spring the only source of drinking water at your residence? City

5. Would you consent to having your water well or spring sampled? Yes

* No answer

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Atlanta, GA 30338
404-315-9113

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: Doug Carol

   Phone Number: _____

   Physical Address: 473 Woods Bridge Rd.

2. Is your residence connected to utility provided water? City

3. Does your residence have a water well or spring? Well

4. Is the water well or spring the only source of drinking water at your residence? NO

5. Would you consent to having your water well or spring sampled? Yes

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1534

Daughter filled out form w/ mother's name

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: Brenda Carlan

   Phone Number: _____

   Physical Address: 119 Honeysuckle Dr.

2. Is your residence connected to utility provided water? Yes

3. Does your residence have a water well or spring? Yes

4. Is the water well or spring the only source of drinking water at your residence? City

5. Would you consent to having your water well or spring sampled? Yes

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379

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: would not give (Preacher)

   Phone Number: —

   Physical Address: 379 Mt. olive Church Rd.

2. Is your residence connected to utility provided water? City

3. Does your residence have a water well or spring? yes, not used

4. Is the water well or spring the only source of drinking water at your residence? NO

5. Would you consent to having your water well or spring sampled? yes

* Confirmed city water for immediate area; including

3695
3703
3715 Old Maysville Rd.
3737
3761
3783
3787

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Possible wells

1450 no answer

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: _____

   Phone Number: _____

   Physical Address: 226 Clyde Short Rd

   _____

2. Is your residence connected to utility provided water? _____

3. Does your residence have a water well or spring? _____

4. Is the water well or spring the only source of drinking water at your residence? _____

5. Would you consent to having your water well or spring sampled? _____

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1595
no answer
2cars in driveway

DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: _____

   Phone Number: _____

   Physical Address: 228 Honeysuckle Dr.

   _____

2. Is your residence connected to utility provided water? _____

3. Does your residence have a water well or spring? _____

4. Is the water well or spring the only source of drinking water at your residence? _____

5. Would you consent to having your water well or spring sampled? _____

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DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: _____

   Phone Number: _____

   Physical Address: 484 Woods Bridge Rd.

   _____

2. Is your residence connected to utility provided water? _____

3. Does your residence have a water well or spring? _____

4. Is the water well or spring the only source of drinking water at your residence? _____

5. Would you consent to having your water well or spring sampled? _____

* No answer

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DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: _____

   Phone Number: _____

   Physical Address: 418 Ridgeway Church Rd.

   _____

2. Is your residence connected to utility provided water? _____

3. Does your residence have a water well or spring? _____

4. Is the water well or spring the only source of drinking water at your residence? _____

5. Would you consent to having your water well or spring sampled? _____

* No answer

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DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: _____

   Phone Number: _____

   Physical Address: 240 Ridgeway/ Church Rd

   _____

2. Is your residence connected to utility provided water? _____

3. Does your residence have a water well or spring? _____

4. Is the water well or spring the only source of drinking water at your residence? _____

5. Would you consent to having your water well or spring sampled? _____

* No answer

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DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: _____

   Phone Number: _____

   Physical Address: 515 Lathon Rd.

   _____

2. Is your residence connected to utility provided water? _____

3. Does your residence have a water well or spring? _____

4. Is the water well or spring the only source of drinking water at your residence? _____

5. Would you consent to having your water well or spring sampled? _____

No answer

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DRINKING WATER WELL SURVEY QUESTIONNAIRE

1. Name: _____

   Phone Number: _____

   Physical Address: 336 Mt. olive church Rd

   _____

2. Is your residence connected to utility provided water? _____

3. Does your residence have a water well or spring? _____

4. Is the water well or spring the only source of drinking water at your residence? _____

5. Would you consent to having your water well or spring sampled? _____

*NO answer

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APPENDIX H

Projected Milestone Schedule

PROJECTED MILESTONE SCHEDULE
Roper Pump Company
Commerce, Georgia

Task Name	2015				2016				2017				2018				2019				2020
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
VRP Enrollment (approval)	X																				
On-site Horzontal Groundwater Delineation	Completed																				
Off-site Horizontal Groundwater Delineation									X												
Apply to Include Off-Site Properties In VRP									X												
Semi-Annual Progress Reports			X		X		X		X		X		X		X		X		X		
Updated CSM, Final Remdiation Plan, and Prelinimary Cost Estimate											X										
Remedial Activities																					X
Compliance Status Report																					X

Notes: Planned activity
X Activity Completed
All milestone dates are from the Effective Date of the VRP (date of enrollment)