Prepared for:

RHEEM MANUFACTURING COMPANY
138 ROBERSON MILL ROAD N.W.
MILLEDGEVILLE, GA 31061

VOLUNTARY REMEDIATION PROGRAM APPLICATION
Rheem Manufacturing Company
Millegeville, Georgia

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Update 1, October 2012

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Prepared For:

Rheem Manufacturing Company
138 Roberson Mill Road N.W.
Milledgeville, GA 31061

Prepared By:

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TABLE OF CONTENTS

1.0 INTRODUCTION

As requested by the Georgia Environmental Protection Division (GAEPD) letter dated August 22, 2012, this updated Voluntary Remediation Program (VRP) Application is being submitted on behalf of Rheem Manufacturing Company (Rheem) for Rheem's former manufacturing facility located on a parcel of approximately 41.12 acres (Property) at 138 Roberson Mill Road in Milledgeville, Georgia. An updated VRP Application and Checklist and a copy of the original Application Fee check are included in Appendix A. Tax map and warranty deed information for the Property are attached in Appendix B.

Figure 1 (all figures are in Appendix C) is a topographic map of the surrounding area, and Figure 2 is an aerial photo that includes the Property. The Property was previously used for the production of domestic air conditioning units and furnaces until the manufacturing facility ceased operations in 2009. Currently, the Property consists of a vacant manufacturing building, vacant offices, and a parking lot. The Property currently is fenced and has on-site security.

1.1 Background

In September 1988, a release of reclaimed trichloroethene (TCE) from the former manufacturing facility was discovered by Rheem and reported to the GAEPD. The release occurred in the tank farm area (release area) from underground piping connecting two aboveground TCE storage tanks to a parts washer inside the facility. The quantity and duration of the TCE release are unknown. A groundwater recovery system, which is still in operation, was installed in 1989-1990 to address the presence of TCE in groundwater. Rheem has performed ongoing assessment and corrective action activities with oversight by the GAEPD Land Protection Branch.

1.2 Purpose

The purpose of this document is to update the previously submitted application for enrollment into the VRP by presenting a current understanding of conditions at the Property based on existing Property data and a preliminary Conceptual Site Model (CSM), and potential remedial options for the Property.

1.3 Property Eligibility

The Property meets the eligibility criteria for the VRP. A release of regulated substances on the Property has been confirmed. The Property 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 Property 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 Property pursuant to Code Sections 12-8-96 and 12-13-12.

1.4 Participant Eligibility

Rheem is both the owner of the Property and the VRP applicant. Furthermore, Rheem 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 discusses the current site conditions, the delineation criteria, and soil and groundwater delineation activities conducted at the Property;
- Section 3.0 describes the preliminary Conceptual Site Model; and
- Section 4.0 reviews potential remedial options for the Property.

2.0 CURRENT SITE CONDITIONS

2.1 Geological Setting

2.1.1 Regional Geology

The Property is located within the Piedmont Physiographic Province. The regional subsurface geologic setting is characterized by a gradational weathering profile with depth from soil (termed "saprolite" to partially weathered rock (PWR) to competent bedrock. Groundwater occurs under unconfined conditions, whereby the potentiometric surface is generally similar to the ground surface topography. Along topographically low areas, the water table typically occurs within the saprolite to PWR portions of the weathering profile, whereas along topographically high areas, the water table often occurs in the underlying bedrock.

2.1.2 Property Geology and Hydrogeology

A cross section location map is included as Figure 3A, and cross sections are shown on Figures 3B through 3E. For purposes of these cross sections, the saprolite profile at the Property consists of a thin (less than one foot) organic layer (in unpaved areas) underlain by clay extending to depths ranging from 30 to 75 feet (ft), thicker to the southwest off-site. Because the saprolite profile is gradational, the saprolite/PWR interface occurs within a varying zone rather than at a single depth. PWR generally extends to depths of 70 to 110 ft with interwoven PWR lenses occurring throughout the saprolite zone. The PWR lenses typically have higher sand-size grain content and are therefore more transmissive than the surrounding saprolite, which has higher clay content. The PWR zone is generally more highly transmissive than the saprolite and is characterized by sand and gravel size material.

In April and May 2010, a supplemental bedrock investigation was performed during the installation of three monitoring wells (*Groundwater Delineation Report: Revision 1*, EPS, August 2010). Boreholes were drilled to 200 ft in each location, and geophysical logging and discrete interval sampling were conducted in the boreholes. Similar to the saprolite/PWR interface, the PWR/bedrock interface also occurs as a gradational zone rather than a planer feature. Bedrock generally occurs around 100 ft below the ground surface (bgs) at the Property and consists of granitic and mafic gneiss. The gneiss is generally slightly weathered in the upper 10-20 ft of the bedrock profile with core samples having Rock Quality Designations (RQDs) of less than 50. In front of and beneath the former manufacturing facility building, the bedrock was more competent with only a few fractures between 120 and 200 ft bgs. Southwest and adjacent to the office area, the sonic RQD (not a true RQD because of the drilling method) remained low down to 200 ft bgs. While drilling in this area, fracture cementations were broken due to the stresses on the rock applied by the drilling equipment causing gravel and cobble sized rocks to be returned to the surface in the sample barrels. Geophysical testing indicated that the fractures

generally re-mineralized at the borehole walls. The geophysical report is included in Appendix E. Geophysical logs for borings PB-1, WB-1, and EB-1 correspond to monitoring well locations MW-24, MW-25, and MW-26, respectively.

The water table at the Property occurs in the soil and PWR zone. The overall groundwater flow direction, as influenced by the groundwater recovery system, is to the southwest. Figure 4 is a potentiometric surface map from the June 2012 sampling event. The saprolite, PWR, and shallow bedrock aquifers are generally interconnected, while some of the deeper bedrock monitoring well screen intervals are not connected to the surficial aquifer.

2.2 Regulated Constituents in Soil and Groundwater

The following list identifies detected regulated constituents related to or potentially related to the reclaimed TCE product release that have been detected in soil and groundwater. Type 1 Risk Reduction Standards (RRS) have been derived for these detected constituents and are provided in Table 1 in Appendix D.

GROUNDWATER		SOIL
1,1,1-Trichloroethane	Ethyl benzene	1,1,1-Trichloroethane
1,1,2-Trichloroethane*	Isopropylbenzene	1,1,2-Trichloroethane
1,1-Dichloroethane	m&p-Xylene	1,1-Dichloroethene
1,1-Dichloroethene*	Methyl tertbutyl ether (MTBE)	Carbon tetrachloride
2-Butanone (MEK)	o-Xylene	Chloroform
Benzene	**Tetrachloroethene***	cis/trans1,2-Dichloroethene
Carbon disulfide	Toluene	cis-1,2-Dichloroethene
Carbon tetrachloride*	trans-1,2-Dichloroethene	Dichloromethane (Methylene chloride)
Chloroform***	**Trichloroethene***	Isopropylbenzene
cis-1,2-Dichloroethene*	Xylenes (Total)	Methyl tertbutyl ether (MTBE)
Dibromochloromethane***	Dichloromethane (Methylene chloride)	Tetrachloroethene
Dichlorobromomethane***	Ethyl benzene	**Trichloroethene****
Dichloromethane (Methylene chloride)	Isopropylbenzene	1,1,1-Trichloroethane

*Currently detected above Type 1 RRS (groundwater)

** Currently detected above Csat (soil)

*** Constituent detected in drinking water (disinfection byproduct) from City of Milledgeville, GA

2.3 Areal Distribution of Constituents in Soil and Groundwater

The following sections provide discussion of the current spatial distribution of regulated constituents in soil and groundwater exceeding the Type 1 RRS (delineation standard under VRP).

2.3.1 Vadose Zone Soil Conditions

Between September 2008 and May 2010, VOCs in vadose zone soils were delineated to the Hazardous Site Response Act (HSRA) Type 1 RRS. These field investigations were documented in the July 2010 *Soil Delineation Report: Revision 1* (EPS, July 2010). TCE is the prevalent VOC in soils at concentrations ranging from below the laboratory reporting limit to greater than 10,000 milligrams per kilogram (mg/kg). Other VOCs have been detected at similar locations as TCE in significantly lower concentrations. TCE is the only soil constituent to exceed its Type 1 RRS. Figures 5A through 5F summarize the TCE concentrations in soil at different depth intervals. Table 1 in Appendix D lists the soil delineation criteria (Type 1 RRS), and Table 2 summarizes VOCs detected in soils between 2008 and 2010.

2.3.1.1 Areal Distribution of Soil TCE

0-2 ft bgs (Figure 5A)

Fourteen locations near the reported TCE release have been analyzed for soil TCE in the depth interval from ground surface to 2 ft bgs. Two of the fourteen samples reported a concentration of 0.01 mg/kg. The two detections occurred directly north of the reported release point. The other twelve sample locations were non-detect.

2-5 ft bgs (Figure 5B)

Fifty-eight locations have been sampled in the depth interval from 2 to 5 ft bgs. The concentration profile shows that samples exceeding the Type 1 RRS were located beneath the building foundation slab and along the perimeter of the original facility building, now covered with an addition to the original building. The remaining samples in the former tank farm area exhibited concentrations in the range of 0 to 0.4 mg/kg, with lower concentrations or non-detect reported hydraulically down gradient.

5-10 ft bgs (Figure 5C)

Forty-six locations have been sampled in the depth interval from 5 to 10 ft bgs. The TCE concentration profile parallels that of the 2 to 5 ft bgs depth interval with samples exceeding the Type 1 RRS located beneath the facility building foundation slab and along the perimeter of the original facility building. Two samples within this depth interval, located in the immediate vicinity of the released area, also exhibited concentrations above the TCE soil saturation value

(Csat) of 690 mg/kg. A majority of the samples located outside the perimeter of the original building were non-detect except for a few located adjacent to the building near the release area.

10-15 ft bgs (Figure 5D)

Fifty-eight locations have been sampled in the depth interval from 10 to 15 ft bgs. Again, the areal distribution is consistent with the overlying concentration profile; however, more TCE concentrations are reported above Csat immediately below the release area. Additional sample results were also above the Type 1 RRS (0.5 mg/kg), suggesting the TCE migrated horizontally, likely as a dense non-aqueous phase liquid (DNAPL), as it descended and encountered zones less permissible to vertical migration. The areal extent of soil samples above the Type 1 RRS also increased at this depth primarily to the southwest of the release area consistent with site hydraulic flow.

15-20 ft bgs (Figure 5E)

Thirty-four locations have been sampled in the depth interval from 10 to 15 ft bgs with a TCE concentration profile consistent with the overlying distributions. Several samples above Csat (690 mg/kg) were collected immediately below the reported release area, indicating a near vertical migration of TCE from the release area. Samples taken from beneath the facility building foundation slab exhibited concentrations above the Type 1 RRS (0.5 mg/kg) with periphery samples typically reporting much lower concentrations..

>20 ft bgs (Figure 5F)

Five locations, three of which are located immediately beneath the release area, have been sampled at a depth greater than 20 ft bgs. TCE concentrations above both Csat (690 mg/kg) and the Type 1 RRS (0.5 mg/kg) were reported below the release area and one location south of the release area along the facility building perimeter also reported a result above the Type 1 RRS. Soil samples below 20 ft bgs are limited as the water table occurs at this approximate depth.

2.3.2 Areal Distribution of Groundwater Constituents

Groundwater monitoring has been ongoing since the release was discovered in 1988. Table 4 summarizes the most current analytical results for groundwater at each monitoring point, either a monitoring well, piezometer or recovery well. In cases were a monitoring point was not sampled during the last sampling event in June 2012, the most recent result is reported and is typically from the 2010 comprehensive sampling event during which all site monitoring wells, recovery wells and two piezometers were sampled. Table 5 summarizes historical TCE results for groundwater.

Six VOCs were detected most recently reported in groundwater above the Type 1 RRS delineation criteria (Table 1). The areal distributions of these six VOCs are provided below (based on the most current concentration reported at each monitoring point).

1,1-Dichloroethene (1,1-DCE)

1,1-DCE, a daughter product of TCE degradation, was detected most recently at eight locations, with the highest concentration observed in RW-1 at 150 µg/L (2010) near the release area (Figure 6A). Six additional locations were reported above the Type 1 RRS (7 µg/L). The current monitoring well network delineates 1,1-DCE to non-detect in all directions from the release area.

1,1,2-Trichloroethane (1,1,2-TCA)

1,1,2-TCA was detected most recently at three locations, with the highest concentration reported in RW-3 at 120 µg/L (2010), and the other detections occurring in RW-1 and RW-4, both above the Type 1 RRS (5 µg/L) (Figure 6B). The current monitoring well network delineates 1,1,2-TCA to non-detect in all directions from the release area.

cis-1,2-Dichloroethene (cis-DCE)

cis-DCE, a daughter product of TCE degradation, was detected most recently at thirteen locations, with the highest concentration reported at 950 µg/L (2010) in RW-3, which is located hydraulically down gradient from the reported release area (Figure 6C). Six other locations were also reported above the Type 1 RRS (70 µg/L). The current monitoring well network delineates cis-DCE to non-detect in all directions from the release area except to the southwest. Additional monitoring activities are currently being implemented to complete groundwater delineation.

Carbon Tetrachloride (CT)

CT, a common impurity in reclaimed solvent, was detected most recently in only one well, RW-3, at a concentration of 13 µg/L (2010), slightly above the Type 1 RRS of 5 µg/L (Figure 6D). The current monitoring well network delineates CT to non-detect in all directions from the release area.

Tetrachloroethene (PCE)

PCE, a likely impurity in the released reclaimed solvent based on its low detection frequency, was detected most recently at four locations near the release area, all above the Type 1 RRS (5 µg/L), with the highest reported concentration reported in RW-1 at 70 µg/L (2010) (Figure 6E). The other detections occurred in RW-2, RW-3 and MW-9. The current monitoring well network delineates PCE to non-detect in all directions from the release area.

Trichloroehene (TCE)

TCE, the solvent released at the Property, was detected most recently at twenty locations, all above the Type 1 RRS (5 µg/L). The higher concentrations occur in the area of RW-1, RW-3, MW-1 and MW-5, all near the release area, with the highest concentration reported in MW-5 at 430 mg/L (Figure 6F). The current monitoring well network delineates TCE to non-detect in all directions from the release area except to the southwest. Additional monitoring activities are currently being implemented to complete groundwater delineation.

2.4 Off-site Delineation of Groundwater

Additional off-site delineation has been performed for TCE in groundwater southwest of the Property, since submission of the original VRP Application in December 2010. The approach to the delineation has been to advance a borehole into the PWR and bedrock, to a termination depth of approximately 200 ft bgs. Double-inflatable packers are used to obtain vertically-discrete zone groundwater samples. Monitoring wells, if installed, are screened in the zone of highest TCE concentration. Using this approach, in June 2011 a boring (WB-3) was completed approximately 200 ft southwest of the Rheem property line, and vertically-discrete groundwater samples were collected. TCE was detected at 78 µg/L (57 ft bgs), at 250 µg/L (97 ft bgs), and at 5 µg/L (147 ft bgs and 197 ft bgs). The boring was plugged and abandoned. In October 2011, another boring (WB-7) was drilled further down gradient to the west, adjacent to Roberson Mill Road. TCE was detected at one depth interval only, at a concentration of 9.8 µg/L (157 ft bgs). Subsequently, WB-7 was converted into monitoring well MW-33. MW-33 was sampled in June 2012, and TCE was detected at a concentration of 41 µg/L.

In July 2012, two additional bedrock borings (WB-8 and WB-9) were completed further west/southwest and down gradient of MW-33. No TCE was detected in WB-9. TCE was detected in WB-8 at 11 µg/L (157 ft bgs) and 17 µg/L (187 ft bgs). Monitoring well MW-34 was installed in boring WB-8. In September 2012, an additional bedrock boring (WB-10) was complete down gradient of WB-8. No TCE was detected in WB-10. Monitoring well MW-36 was installed in boring WB-10.

Rheem currently is performing additional assessment activities to complete delineation of TCE in groundwater to the southwest of the Property. Those delineation activities have been and are being performed with the written consent of the property owners. When the off-site delineation activities have been completed, Rheem will have more definitive information to use in determining which property owners should be approached in order to include their properties as qualifying properties under the VRP.

2.5 Groundwater Recovery System

The current groundwater recovery system consists of 4 recovery wells (RWs), each with either a down-hole pump or an injection pump, piped to an air stripper. Currently, air stripper emissions are run through three vapor-phase activated carbon drums. Treated groundwater is gravity-fed to the City of Milledgeville publicly owned treatment works.

Detection of TCE in MW-33 indicates dissolved constituents have migrated off-site following the natural hydraulic gradient to the southwest of the site. In addition to the continued use of the current groundwater recovery system, a pilot study of the Accelerated Remediation Technologies (ART) in-well groundwater remediation system is scheduled to start November/December 2012 at the western boundary of the Property.

2.6 Corrective Actions To Date

Corrective action as outlined in the 1998 Revised CAP has included continued operation of the groundwater recovery system and groundwater monitoring. Groundwater quality monitoring has been conducted according to the performance monitoring well sampling schedule specified in the 1998 Revised CAP. Under this schedule, the specified monitoring wells are analyzed for the designated parameters at the following frequency:

- specified monitoring wells are sampled for TCE on a semiannual or annual basis; and
- each of the monitoring wells is sampled on a biennial basis for parameters historically detected in the well.

The complete 2011 Corrective Action Report is included in Appendix G.

2.7 Monitoring and Compliance Sampling Methods

All media samples collected to monitor remedial progress or demonstrate compliance with corrective action goals are conducted in accordance with methods outlined within *USEPA Region 4 SESD Field Branch Quality Systems and Technical Procedures (http://eps.gov/region4/sesd/fbqstp/).*

3.0 PRELIMINARY CONCEPTUAL SITE MODEL

The Conceptual Site Model (CSM) is intended to establish a common knowledge base about the Property and its environmental condition, to facilitate the development of basic remedial action objectives appropriate for the Property, and to allow an informed decision regarding possible remedial action measures for the Property. This section discusses the information depicted in Figures 7A, 7B, and 8. Figure 7A is a cross-sectional view of the TCE groundwater plume and 7B is a CSM displaying potential exposure pathways and receptors. Figure 8 details the potential current and future on-site and off-site receptors, as well as potential exposure pathways.

The remainder of this section describes the surface and subsurface features at the Property, the fate and transport of TCE, likely as a DNAPL, the distribution of dissolved constituents resulting from the likely DNAPL release, and the potential receptors and exposure pathways associated with the TCE.

3.1 Ground Surface Features

The topography of the Property gently slopes from the north to south with the area of the release being relatively flat. A road/driveway encircles the former manufacturing facility, and in the area of the release the road has a slight northward slope to allow for drainage to an unpaved ditch that runs parallel to the road on the north.

The unpaved ditch travels southwest to the Property boundary line and then turns southeast along the Property boundary. Currently, a paved drainage ditch exists in the source area and runs underneath the road to the unpaved ditch on the north side of the road; however, there is evidence that the paved ditch did not exist at the time of the release. Soil samples collected from the unpaved ditch near the paved ditch outfall did not contain significant concentrations of VOCs, indicating that the TCE release did not migrate through drainage ditches. The ditches are typically dry, except after rain events, and are not considered to be surface water features. There are no surface water features on or adjacent to the Property.

3.2 Subsurface Features

The subsurface is segregated into four zones - vadose zone saprolite (to a depth of approximately 20 to 25 ft bgs), saturated zone saprolite (to a depth of approximately 30 ft bgs), PWR (approximately ranging between 30 ft bgs and 100 ft bgs), and bedrock (generally at depths greater than 100 ft bgs).

3.2.1 Saprolite and PWR

The upper portion of Figures 7A and 7B represent the saprolite geologic media. The media is unconsolidated clayey soils in the shallow subsurface transitioning to a loosely consolidated, PWR with depth. Field geologists typically define the beginning of the PWR zone to coincide with the point of drilling refusal using hollow stem augers. Typically, the material is not

sufficiently competent to yield high sample recoveries during core drilling. Sample cores from the PWR tend to exhibit coarse sand and gravel type material. The PWR is typically the most transmissive portion of the overall hydrogeologic profile of the soil-saprolite-rock system. Often the PWR is characterized by alternating competent rock lenses and saprolite.

Figure 7A shows approximately where TCE has been identified in the saprolite, PWR and bedrock. TCE released at the ground surface is expected to migrate vertically, under the influence of gravity, with some horizontal spreading with depth through the vadose zone. Vertical migration continues in the saturated zone saprolite with more prevalent lateral dispersion and diffusion.

3.2.2 Interface of PWR and Rock

The interface between the PWR and un-weathered rock promotes vertical accumulation of downward migrating TCE. This is a result of the rather drastic change in physical characteristics (porosity and permeability) of the rock compared to the overlying saprolite. Permeability in the rock is provided only by openings in faults and fractures, thus permeation of the rock by the TCE occurs only where the features in the rock intersect this interface. The interface elevation is variable, promoting limited lateral spread of the TCE along the slope of the interface.

3.2.3 Bedrock

The un-weathered gneissic bedrock is represented on the lower portion of Figure 7A. Metamorphic rock of the Piedmont Physiographic Province exhibits essentially no primary porosity/permeability but rather relies upon secondary permeability features such as fractures and faults for the storage and transmission of fluids (e.g., groundwater). These secondary permeability features are generally of a relatively small aperture (opening) and also are not highly abundant, thus this portion of the hydrogeologic system generally stores and contains significantly less fluid compared to the same volume of saprolite/PWR media above. The degree of fracture development, and the size of fracture apertures, tends to decrease with depth.

3.3 TCE Fate and Transport Summary

An unknown quality of reclaimed solvent TCE was released for an unknown period of time from the underground piping between the outdoor ASTs and the indoor parts washer. Based on minor detections of other VOCs in soil and groundwater and the lack of evidence of a separate release, the other VOCs likely were present as trace impurities in the reclaimed TCE solvent released. TCE is the only chemical reported in soil above free product saturation concentrations (Csat). Due to the clayey nature of the soils and the apparent volume of TCE released, it is likely that the TCE not only migrated downward through the soil, but it also spread laterally within the tank farm release area according to the topography of the localized ground surface. Based on

sampling, there is no indication that the TCE migrated outside of the tank farm area at the ground surface level except for two detections just north of the release area.

The TCE likely migrated downward through the subsurface environment as a DNAPL, leaving a globule trail of residual product and sorbed-phase contamination in vadose zone soils (Figure 7B). In the vadose zone, a TCE DNAPL will follow paths of least resistance, leaving higher concentrations in more permeable zones and lower concentrations in tighter clays. Over time, vadose zone soil concentrations can remain stable or they can be altered by precipitation flushing and diffusion. Precipitation recharge will typically follow similar pathways to reach the water table, thereby leaching TCE to the water table during precipitation events. TCE also can evaporate from shallow soils, resulting in a decrease of concentrations in the shallow soils.

In water saturated saprolite, PWR and bedrock, migrating TCE DNAPL may also leave a trail of globules by displacing groundwater within pores or fractures. These typically immobile DNAPL globules can act as a continued source of dissolved TCE. Once DNAPL reaches the bedrock interface, vertical migration becomes limited to movement within faults and fractures, and horizontal movement occurs along the down-slope of the bedrock interface.

The highest groundwater TCE concentrations exist in the saprolite, PWR, and shallow bedrock beneath the source area and in the PWR and shallow bedrock to the southwest of the source area along the down-slope direction of the bedrock interface.

3.4 Potential Receptors and Exposure Pathways

The Property includes a single-story former manufacturing facility building (approximately 12 acres under roof) and a parking lot located to the northwest of the building. The former manufacturing facility is not in operation and there are no full-time Rheem employees at the Property. There is a security service at the Property as well as a periodic inspection/maintenance service contractor and a landscaping contractor who maintains the grounds on an as needed basis. Future uses of the Property may be influenced by the post-operational condition of the Property as well as any remedial actions taken to address environmental conditions.

The adjoining properties are used for commercial purposes or are currently vacant. The majority of the area near the Rheem facility is zoned for commercial land use with pockets of single family homes to the north and west of Roberson Mill Road and to the east of North Columbia Street. The nearest residential area is a townhome neighborhood approximately 1000 ft from the northwest corner of the Property.

The Property and the surrounding area are serviced by public drinking water systems. The City of Milledgeville and Baldwin County Water Authority are not aware of any drinking water wells in the vicinity of the Rheem Property. A 2001 private well survey map generated by EPD as part of a HSRA release notification trip report for a nearby facility indicated that there was one

private well approximately 3200 ft to the west of the western Property boundary[1]. Rheem was recently made aware of a private well at a residence located at 120 Meriweather Circle, approximately 2,700 ft to the southwest of the western Property boundary may be used periodically for irrigation. Rheem sampled the irrigation well at 120 Meriweather Circle on September 25, 2012, and no constituents were detected[2].

A hypothetical Point of Exposure (POE) for groundwater will be established contingent upon completion of off-site delineation activities. Due to an absence of drinking water wells in the area, the anticipated POE will be based on a hypothetical point of drinking water exposure located at a distance of 1000 ft down gradient from the delineated site constituents. A future down gradient groundwater monitoring point(s) from delineation activities that confirms groundwater is protective at the POE will be designated as a Point of Demonstration (POD) to confirm groundwater remains protective at the hypothetical POE.

Several potential current and/or future human receptors have been identified. These potential receptors are listed below along with a brief discussion of the rationale behind their identification and the pathways through which they could potentially be exposed to VOCs associated with the TCE release. These potential receptors and exposure pathways are also depicted on Figure 7B and diagramed in Figure 8.

Potential On-Site Receptors

- Current/Future Site Worker: There are no current manufacturing workers at the site, however, there are contract security personnel who work approximately 40 hours per week at the site. In the future, the facility may be returned to commercial/industrial use. Receptors associated with commercial/industrial land use can potentially have long-term exposure to site-related chemicals in surface soil via ingestion, dermal contact, and inhalation of volatiles in outdoor air. This potential receptor may also be exposed to vapors potentially migrating (vapor intrusion) from impacted groundwater and vadose zone soils to the indoor air of existing and/or future buildings.
- There is no current use of groundwater on the property and Rheem anticipates the use of deed restrictions to restrict future groundwater use.
- Current/Future Groundskeeper: The grounds are currently maintained by a landscaping contractor on an as-needed basis, and landscaping activity is likely to be required for

[1] Although no address is provided, the EPD survey map provides a "household" designation and indicates that the well belonged to a Burnice King. On June 24, 2010 a Rheem employee, Randy Layne, visited the area shown on the EPD survey map to investigate the well. He learned that Burnice King is now deceased and that one of her daughters now lives in Mrs. King's former home at the corner of Meriwether Circle and Highway 212. Another daughter of Mrs. King with whom Mr. Layne spoke stated that there is no private well on the property and that the City of Milledgeville has provided water to the residence since the 1940s.
[2] Groundwater analyzed for TCL Volatile Organics (SW8260B).

any future use scenarios. Groundskeepers could potentially have intermittent long-term exposure to site-related chemicals in surface soil via ingestion, dermal contact, and inhalation of volatiles.

- Future Adolescent Trespasser: Access to the Property currently is limited by fencing and security. Although these types of restrictions are likely to continue, there is a possibility that trespassers could have easier access to the Property in the future. The most frequent trespassers would likely be adolescents with intermediate-term (6 years) exposure to the Property, who could be potentially exposed to chemicals in surface soil via ingestion, dermal contact, and inhalation of volatiles.

- Future Construction Worker: No construction activities are currently planned at the Property, however, it is possible that additional or replacement buildings could be constructed on the Property in the future. 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.

- Future Resident: Future residential use of the Property is highly unlikely as the Property is zoned commercial/industrial, but is discussed here for completeness. Hypothetical future residents on the Property could potentially have long-term exposure to site-related chemicals in surface soil via ingestion, dermal contact, and inhalation of volatiles in outdoor air. This potential receptor could also be exposed to vapors potentially migrating from impacted groundwater and vadose zone soils to the indoor air of future residential dwellings. A barrier to mitigate vapor migration would be presumably used for any future residential construction.

- There is no current use of groundwater on the property and Rheem anticipates the use of deed restrictions to restrict future groundwater use.

- Ecological Receptors: The area impacted by the TCE release is mostly covered by buildings or pavement and does not represent quality habitat for wildlife, as it lacks natural vegetative cover. Disturbance from vehicles, facility operations, and mowing likely have disturbed and will continue to disturb wildlife and cause animals to seek less frequently disturbed areas.

Potential Off-Site Receptors

- Current/Future Commercial Workers: There are some businesses to the southwest of the Rheem Property in the general direction of groundwater flow. These businesses have no drinking water wells and are currently serviced by public drinking water systems, but groundwater hypothetically could be used at some time in the future. While unlikely, given the concentrations of TCE detected in off-site groundwater and

the depth of detection, off-site commercial workers potentially could be exposed to vapors migrating from impacted groundwater to the indoor air. If private wells were to be installed in the future, workers could also be exposed to impacted groundwater via ingestion and dermal contact.

- Current/Future Resident: There are some single family and multi-family residences within a half-mile of the western boundary of the Property. These homes are serviced by public drinking water systems, but groundwater hypothetically could be used at some time in the future. While unlikely, given the concentrations of TCE detected in off-site groundwater and the depth of detection, off-site residents potentially could be exposed to vapors migrating from impacted groundwater to the indoor air. If private wells were to be installed in the future, residents could also be exposed to impacted groundwater via ingestion and dermal contact.
- Ecological Receptors: No off-site ecological receptors have been identified. Plume delineation efforts will determine if impacted groundwater has the potential to discharge to two surface water features, Fishing Creek, which is located approximately ¼ mile to the southwest of the Property and a small unnamed pond, also located southwest of the Property. The small unnamed pond was evaluated on September 25, 2012 by collection of a surface water sample. No constituents were detected[3].

[3] Surface water analyzed for TCL Volatile Organics (SW8260B).

4.0 POTENTIAL REMEDIAL OPTIONS

4.1 Evaluation of Source Area Potential Remedial Options

EPS has thus far screened the following potential remedial options for the source area on the Property. These options are primarily intended to address source material within vadose zone soils, however, some technologies may also be applicable to treatment of underlying groundwater.

1. No action – natural attenuation (soil and groundwater)
2. In-situ chemical oxidation (ISCO) and enhancements (soil and groundwater)
3. In-situ thermal treatment (soil and groundwater)
4. Air sparge and soil vapor extraction (soil and groundwater)
5. Capping (soil only)
6. Excavation with off-site disposal (soil only)
7. Continued pump and treat (groundwater only)
8. Combination of the above.

4.1.1 Natural Attenuation

A natural attenuation approach is not favored for the source area due to the potential for TCE to continue leaching to the groundwater and to migrate off-site in the saturated zone.

4.1.2 ISCO Treatment

ISCO treatment is generally considered a viable remediation method for chlorinated VOCs in soil and groundwater. The appropriateness of ISCO technology depends on matching the oxidant and delivery system to the site-specific constituents and conditions. Chlorinated solvents respond favorably to ISCO. Oxidation is dependent on achieving adequate contact between oxidants and constituents. Failure to account for subsurface heterogeneities or preferential flow paths can result in pockets of untreated constituents compromising the remediation effectiveness. The applied reagents can be consumed by natural organic matter or dissolved iron rather than the target constituents, thereby compromising the remediation effectiveness. Accordingly, the most critical success factors are:

1. Effectiveness of and ability to control the ISCO reaction with the constituents
2. Effective delivery of the reagents throughout the zone to be treated

Based on the regulated constituents and conditions at the Property, the potential chemical oxidants considered include permanganate, persulfate, and hydrogen peroxide.

Permanganate

The application of potassium permanganate ($KMNO_4$) for the oxidation of chlorinated solvents can be effective for both soil and groundwater applications at some sites. $KMnO_4$ injected into the subsurface can remain active for many weeks, but may be rapidly consumed depending on the natural oxidant demand of the soil. In well-designed systems, production of chlorinated daughter products is negligible, with the overall reaction as shown below:

$$C_2Cl_3H + 2MnO_4^- \rightarrow 2CO_2 + 2MnO_{2\,(s)} + 3Cl^- + H^+$$

The degradation of TCE by $KMnO_4$ produces carbon dioxide, chloride and solid manganese dioxide (MnO_2) as nontoxic byproducts. In most instances, the amount of MnO_2 formed is not sufficient to significantly decrease aquifer permeability or porosity; however, in the presence of free-phase or globule DNAPL the potential for MnO_2 precipitates to form on the surface of the DNAPL increases. This could have the effect of essentially encapsulating the DNAPL, limiting further oxidation. The concentrations detected in the source area vadose zone and groundwater at the Property could cause a large amount of MnO_2 precipitation which could potentially hinder further oxidation of the TCE. Therefore, permanganate would be considered for use at this Property only at locations outside of the source area or in the source area once concentrations are significantly decreased by other remedial methods.

Persulfate

Sodium persulfate ($Na_2S_2O_8$) can be an efficient oxidizer of chlorinated solvents in soil and groundwater. Persulfate requires an activator to produce the sulfate free radicals which react with the chlorinated solvent. Typical activators for persulfate are hydrogen peroxide, lime, sodium hydroxide, ethylenediamine tetraacetic acid ferric sodium complex (Fe-EDTA). The degradation of TCE by persulfate produces carbon dioxide, sodium chloride and sulfuric acid. The reaction of sodium persulfate with TCE is provided below.

$$C_2Cl_3H + 2Na_2S_2O_8^- + 4H_2O \rightarrow 2CO_2 + 4NaCl^- + H^+ + H_2SO_2$$

Persulfate will oxidize TCE in the saturated and vadose zones. However, in the vadose zone, the liquid injectant may not remain for the desired period of time due to gravity mobilizing the liquid into the saturated zone. Due to the TCE concentrations in the vadose zone, if persulfate were the selected remedy, the treatment area likely would need to be saturated a number of times with the oxidant. Persulfate may be a viable oxidizer for this Property.

Hydrogen Peroxide

The application of hydrogen peroxide (H_2O_2) for the oxidation of chlorinated solvents can be effective for groundwater applications but likely would not be effective for vadose zone soils due to the rapid breakdown time of the oxidant. The oxidation of TCE by hydrogen peroxide has the advantage of no precipitates forming to encapsulate the DNAPL thus allowing the reaction to

move to completion. The production of daughter compounds is possible as a by-product of the reaction; however the use of additional hydrogen peroxide causes the oxidation of these compounds. Thus the daughter compound by-products are negligible after the application of hydrogen peroxide. A simplified overall reaction is shown below:

$$C_2Cl_3H + 4.5H_2O_2 \rightarrow 2CO_2 + 3Cl^- + 5H_2O$$

The reaction does not use hydrogen peroxide in its natural state but rather uses hydroxyl radicals to move to completion. In order to produce the hydroxyl radicals at an increased rate, a catalyst is required. Three of the catalyst reactions and the products are shown below:

1. Hydrogen peroxide reacting with ozone to form hydroxyl radicals:
   $2\ O_3 + H_2O_2 \rightarrow 2\ (\bullet OH) + 3\ O_2$
2. Hydrogen peroxide reacting with iron to form hydroxyl radicals:
   $H_2O_2 + C \rightarrow \bullet\ OH + OH^- + C+$
   C = Iron or Metal Catalyst; $\bullet$ OH = Hydroxyl Radicals
3. Hydrogen peroxide reacting with sodium persulfate to form sulfate radicals and hydroxyl radicals:
   $S_2O_8^{2-} + H_2O_2 \rightarrow 2SO_4\bullet + 2(\bullet OH)$ $SO_4\bullet$ = Sulfate Radicals

The most common catalyst used is iron, and when iron is mixed with hydrogen peroxide, the resulting solution is known as Fenton's reagent. Fenton's reagent is pH dependent, as iron is more soluble at lower pH, and as such the pH of the injection location plays a factor in the overall efficiency of the reaction. Bench testing would be needed to be performed to determine if Fenton's reagent would be an effective application for the Property.

Another factor that may influence the efficiency of this method is the fraction organic carbon (f_{oc}). The hydroxyl radical is not selective and will react with any compound present that can be oxidized. The f_{oc} of the media would be determined in the bench testing and, as such, would determine of the efficacy of hydrogen peroxide injection.

Hydrogen peroxide injection could be used in conjunction with another form of injection to optimize the degradation of TCE in groundwater at the source area. Hydrogen peroxide injection could be used to treat 80 – 90% of the impacted groundwater, and a second injection (possibly permanganate) could be used to treat the remaining TCE impacted groundwater.

The use of the hydrogen peroxide injection has a higher risk of injury than other oxidizers through worker contact with the concentrated hydrogen peroxide, but proper precautions and personal protective equipment can minimize the chance of injury.

4.1.2.1 ISCO Injection Methods

ISCO can be applied to the subsurface using several different methods. The following sections discuss ICSO via standard injection wells, ISCO via screw auger mixing, and ISCO via hydraulic fracture well injection.

4.1.2.1.1 ISCO via Standard Injection Wells

ISCO injections are often conducted using direct push methods. Because multiple injections would likely be required for both vadose zone and groundwater remediation, and because much of the groundwater zone cannot be reached with direct push methods, permanent injection wells would need to be installed instead. Well spacing and depth grouping would need to be determined through pilot testing.

4.1.2.1.2 ISCO via Screw Auger Mixing

Screw auger mixing could be used only in the vadose zone soils but not the groundwater due to depth constraints. This method utilizes a three to four foot diameter auger equipped with an injection line which discharges from the bottom of the auger. The auger is advanced on three to four foot centers within the treatment zone to effectively cover the entire footprint of the treatment zone. By mixing the soil in place, the soil is essentially transformed from a heterogeneous to a homogenous material, and the oxidant is dispersed evenly throughout the soil matrix. This technology is more effective than direct push injections, and remedial goals can be accomplished after only one injection/mixing event. However, this technology has depth limitations and cannot be used adjacent to or inside a building without additional considerations.

4.1.2.1.3 ISCO via Hydraulic Fracture Well Injection

This method employs the use of hydraulic fracture wells to increase the permeability and the injection rate and area of influence. Hydraulic fracture wells are more expensive to install than standard injection wells, but the costs are usually more than made up by the time saved with increased injection rates and the effectiveness of the oxidant delivery.

4.1.2.2 Potential ISCO Enhancement

Surfactant Flushing

Surfactants can be used to desorb VOCs from the soil matrix. They can be used in either the vadose or the saturated zone. Persulfate can be mixed with a surfactant prior to injection thus enhancing the treatment efficiency of the persulfate.

Groundwater Recirculation

The existing groundwater recovery system provides a means to move groundwater through the subsurface at a much faster rate than the natural groundwater flow velocity. This could be used

in conjunction with reinjection to create a circulation system, which would help to mix the groundwater and move an oxidizer through the aquifer more rapidly than by injection alone.

4.1.3 In-Situ Thermal Treatment

This technology employs the use of heat, via steam injection or electrical resistance heating (ERH), to volatilize VOCs in the vadose zone and in groundwater. These technologies heat the subsurface to temperatures near the boiling point of the site-specific VOCs, causing them to desorb from the soil matrix. Soil vapor extraction wells are used to capture the VOC vapors in the vadose zone.

These in-situ thermal technologies can be very effective but can also be very expensive due to the amount of electrical energy required to raise and sustain the temperature of the subsurface.

4.1.4 Air Sparge and Soil Vapor Extraction

Air sparging technology utilizes strategically placed injection wells to force high pressure air to the treatment zone, stripping VOCs from the groundwater and carrying them upwards to the vadose zone. Soil vapor extraction (SVE) wells are placed in the vadose zone to capture TCE stripped from the groundwater as well as the TCE existing in the vadose zone. This method would not be suitable for TCE in bedrock due to the low area of influence of the air sparge (AS) wells in bedrock. However, this technology can be effective in saprolite and PWR.

An AS/SVE system is typically comprised of a pressure blower and a vacuum blower attached to a series of injection and extraction wells, respectively. The vacuum blower would exhaust to an air pollution control device such as an oxidizer or carbon-containing vessel. A pilot test is typically conducted prior to system installation to determine the radius of influence of the system and thus the injection/extraction well spacing.

SVE can also be used in thermal treatment, as described above, and could be used in the absence of air sparging in the vadose zone through standard injection wells or through hydraulic fracture wells. TCE, being a volatile compound and having a Henry's Law constant of 0.42 and a volatilization factor of 2,575 m^3/kg, is conducive to vapor extraction technology. The vadose zone on the Property, having weathered rock with sand and gravel-sized grains interspersed throughout the sandy clay, is considered a candidate for SVE due to anticipated high air flow rates.

4.1.5 Capping

Although capping the source area soils could inhibit potential human exposure to the TCE, capping is not considered fully effective since groundwater would likely continue to capture TCE in the "smear zone" during seasonal water table fluctuations.

4.1.6 Excavation

This option involves the treatment and removal of the impacted soil in the source area for off-site disposal. Because of the apparent existence of DNAPL in the saturated zone, this method is not expected to have a significant impact on TCE concentrations in groundwater. Structures, including tanks, concrete foundations, and utilities located in the excavation area, would need to be temporarily removed prior to excavating. The existing pump and treat system would need to be shut down and removed during the excavation activities. In addition, certain monitoring wells and a recovery well might need to be abandoned and replaced. Excavation of soil to a depth of 20 to 30 ft bgs could be required.

Excavated soil failing the TCLP would be considered a D040 characteristic hazardous waste. Since disposal of the excavated soil as a hazardous waste would be cost-prohibitive, the source area soil likely would be treated via chemical oxidation to non-characteristic concentrations. Such soil would require treatment on-site to non-hazardous levels prior to off-site disposal.

4.1.7 Continued Pump and Treat

This potential remedy would not affect the vadose zone soils and is not considered a viable option by itself, as dissolved constituents have been reported off-site to the southwest and continued pumping is not expected to sufficiently capture all impacted groundwater migrating to the southwest. This option may be used in conjunction with other remedial options.

4.1.8 Combination Remedy

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

4.2 Selection of Potential Remedial Action Approaches for Source Area

A remedial approach has not been selected for the on-site source area at this time and will be evaluated further based on the Projected Milestone Schedule (Appendix F).

4.3 Evaluation of Potential Remedial Options for On-Site Groundwater

EPS has reviewed technologies potentially applicable to addressing the VOCs detected in groundwater on-site. The impacted groundwater is known to extend southwest from the release area to the western Property boundary line and is estimated to cover a distance (width) of approximately 500+ ft between MW-20 and WB-2 at the Property boundary line. In addition, TCE is reported to depths of approximately 200 ft bgs, with the highest reported concentrations occurring within the PWR zone. It is proposed to address on-site groundwater through both corrective action in the source zone (Section 4.1) and management of impacted groundwater along the western boundary line of the Property. This approach is designed to treat on-site

impacted groundwater as it travels southwest following the hydraulic gradient and manage future off-site transport of groundwater constituents.

The following technologies were screened for their potential feasibility in treating on-site groundwater and managing off-site migration of the impacted groundwater:

1. Monitored Natural Attenuation (MNA)
2. Pump and treat
3. Permeable reactive barrier
4. In-situ air sparging/air stripping.

4.3.1 Monitored Natural Attenuation

MNA relies on natural processes intrinsic to a site to decrease the concentration of constituents of concern. These processes include both biological degradation processes (e.g. microbial degradation) and physical processes (e.g. adsorption and dilution) to reduce constituents concentrations. Typically MNA is applicable when constituent concentrations achieve a target level prior to reaching potential receptors or a set boundary. In the case of Rheem, the set boundary is the Property line. Current groundwater data indicates that dissolved VOCs extend off-site in groundwater, therefore, MNA is not considered a feasible on-site option for managing migration of the dissolved VOCs.

4.3.2 Pump and Treat

Pump-and-treat remediation systems manage impacted groundwater plumes by extraction of the groundwater from the aquifer (i.e. the “pump” process) followed by a post-removal treatment process to degrade or remove dissolved constituents. Pump-and-treat systems may be a feasible option for managing dissolved VOCs if adequate hydrogeologic characterization can be completed to ensure the constructed extraction well network provides for an effective groundwater capture zone. The capture zone in the present case would encompass the depth and width of the VOC impacted groundwater plume along the western boundary line of the Property.

The current on-site pump-and-treat system utilizes an air stripper to remove dissolved VOCs (changing the dissolved VOCs to a vapor phase) from extracted groundwater and the vapor phase VOCs are captured in carbon canisters. Groundwater extracted from a system installed to manage migration of dissolved VOCs along the western boundary line of the Property would likely require on-site treatment prior to discharge to the local public owned treatment works (POTW). Rheem currently has a permit to dispose of treated groundwater to the POTW, but the volume of water extracted for a property line boundary system would need to be evaluated to determine if the current permit limits would be exceeded. Based on the scale of such a system along the property boundary line and pumping rates needed to ensure capture of groundwater, this option would require additional study to determine its potential feasibility and effectiveness

and to set site specific design parameters. A potentially significant hurdle to use of a pump-and-treat system to manage the on-site impacted groundwater would be the large quantities of groundwater that would require post extraction treatment and disposal.

4.3.3 Permeable Reactive Barrier

Permeable reactive barriers (PRBs) place reactive media across the groundwater flow path of the plume to intercept and chemically react with the constituents of concern or drive geochemical conditions to a favorable environment for constituent reduction. The technology is applicable to groundwater flow in unconsolidated aquifer media (soil or saprolite) and is not considered feasible for PWR and bedrock. Common media in PRBs for VOCs include zero-valent iron which acts as an electron source to drive chemical reduction of chlorinated VOCs. Alternate media apply bioavailable carbon and iron to modify geochemical conditions and drive constituent reduction. PRBs can be installed in a trench based approach to a depth of approximately 50 ft bgs, but require jetting (a method of high pressure injection) at depths greater than 50 ft. Since the depth of the dissolved TCE along the western boundary line of the Property, is greater than 50 ft (typical bedrock depth is 80-100 ft along the western boundary), jetting would be required if this approach were selected.

The effectiveness of PRBs is dependent on the installation of the media in a manner that ensures that the PRB intercepts the impacted groundwater plume and the barrier does not contain any significant gaps or flaws that allow untreated groundwater to pass. Jetting of media into deep subsurface formations has the risk of missing transmissive zones, and verification of media distribution at depth is difficult to assess. An additional consideration is the effective lifetime of the media for the barrier as a whole and at discrete locations within transmissive zones, where the media capacity for constituent reduction may be exhausted at a faster rate.

Additional characterization would be required to identify highly transmissive features in the subsurface and constituent concentrations in order to determine the dimensions of the PRB and mass of media required for effective treatment.

4.3.4 In-situ Air Sparging/Vapor Extraction

In-situ air sparging/vapor extraction combines multiple processes that exploit the high volatility of VOCs to remove dissolved constituents from groundwater. Sparging may also remove VOCs entrained in soils, both saturated and vadose, depending on the system design and site conditions. Two approaches to control of impacted groundwater with in-situ air sparging have been developed, in-situ trench sparging and in-situ well air sparging/stripping (IWAS). Trench sparging is not considered a feasible option at the Property due to the depth at which TCE is present (~100 ft bgs) along the western boundary.

IWAS combines in-situ air stripping, air sparging and soil vapor extraction to remove VOCs. Similar to standard air stripping technologies this approach removes dissolved VOCs by both diffusing air into a column of water (i.e. the well casing) to remove dissolved VOCs and recirculates water to the top of the well casing for downward discharge through a spray head. The groundwater released through the spray head cascades down the interior of the well similar to the process used in an air-stripping tower to remove dissolved VOCs. These processes are completed under a negative pressure (under vacuum) within the well casing to both remove the volatilized compounds and cause mounding of groundwater around the well casing. The combined effect of groundwater mounding near the IWAS well casing and circulation of groundwater through the well casing, results in the exchange of treated well casing water with the surrounding aquifer, creating an effective radius of influence (ROI) for constituent removal beyond the well casing itself. The reported effective ROI of this type of well system is on the order of two to five times the water column height, but is dependent on-site-specific conditions.

Additional characterization or pilot testing would be required to establish proper well spacing, ROI and residence time of groundwater flow within the ROI to ensure adequate treatment of the impacted groundwater.

4.3.5 Comparison of Potential Remedial Action Approaches for On-site Groundwater

A comparison of the potential correction action approaches described is provided below based on seven factors applicable to the selection process and perceived success of each system.

Treatment Technology Screening Matrix: On-site Groundwater

Remedial Option	Factors (Pass/Fail) or (Yes/No)						
	Health & Safety	Effectiveness	Feasibility/Installation	Duration	O & M Required	Groundwater Disposal Required	Capital Considerations
MNA	P	F	P	F	N	N	P
Pump & Treat	P	P	P	P	Y	Y	P
Permeable Reactive Barrier (PRB)	P	P	F	P	N	N	N
In-Situ Sparging: Trench	P	P	F	P	Y	N	N
In-Situ Sparging: IWAS	P	P	P	P	Y	N	P

As shown, all options can be effectively implemented to meet health and safety standards. The facility on the Property is currently vacant with no manufacturing operations and security personnel are stationed on-site to prevent contact with any proposed system. In general, all approaches are considered a potentially effective technology for removing dissolved constituents from groundwater under appropriate site conditions. Installation considerations, specific to site conditions along the western boundary line of the Property, remove both PRBs and in-situ air sparging with the trench method as feasible options due to the depth of the groundwater. Of the two remaining technologies considered feasible for impacted groundwater management, pump-and-treat and in-well air sparging, both would require aboveground treatment of either VOC gas (in the case of in-situ air sparging) or dissolved VOC (in the case of pump-and-treat). In-situ air sparging, however, may be considered the more beneficial technology as it would entail no dewatering of the aquifer or disposal of groundwater. Also, based on prior case studies, IWAS provides the best capability of successful installation at the required depths. IWAS could also be installed incrementally as needed if any deficiency is observed in future system evaluations (i.e., additional management of groundwater is required to lower constituent concentrations).

4.4 Remedial Action Approach for On-Site Groundwater Management

In-well air stripping technology from Accelerated Remediation Technologies (ART) has been

selected for further evaluation to manage off-site migration of VOCs to the southwest along the western boundary line of the Property. A pilot test of the technology is scheduled for November/December 2012 near MW-27/MW-28 adjacent to the western boundary line of the Property.

4.5 Evaluation of Potential Remedial Options for Off-Site Groundwater Constituents

An evaluation of options to address the VOC constituents detected in groundwater off-site is ongoing and subject to continued delineation activities. It is anticipated that a monitored natural attenuation approach will be feasible if: (1) the Property line remediation system for on-site groundwater management is effective at minimizing future migration of VOCs off-site, (2) reported concentrations of TCE off-site are representative of any future detections, and (3) off-site delineation of the VOCs does not identify exposure to any potential receptors.

5.0 PROJECTED MILESTONE SCHEDULE

A Projected Milestone Schedule, showing timelines for the following items, is included in Appendix E.

- Groundwater Delineation (on-site and off-site)
- Semi-Annual Progress Report Submittal
- Updated CSM Submittal
- Final Remediation Plan and Preliminary Cost Estimate Submittal
- Compliance Status Report Submittal

The projected milestone schedule may be revised as necessary and will commence with the effective date of the VIRP approval.

6.0 REFERENCES

Environmental Planning Specialists, Inc., August 2010. Groundwater Delineation Report: Revision 1

Environmental Planning Specialists, Inc., July 2010. Soil Delineation Report: Revision 1

Environmental Planning Specialists, Inc., August 2010. Interim Corrective Action Report

APPENDIX A

Voluntary Remediation Program Application and Checklist

Voluntary Investigation and Remediation Plan Application Form and Checklist

VRP APPLICANT INFORMATION

COMPANY NAME	Rheem Manufacturing Company				
CONTACT PERSON/TITLE	Gregory Henry				
ADDRESS	1100 Abernathy Rd. NE, Suite 1400, Atlanta, GA 30328				
PHONE	770-351-3050	**FAX**	770-351-3092	**E-MAIL**	gregory.henry@rheem.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, Atlanta, Georgia				
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:

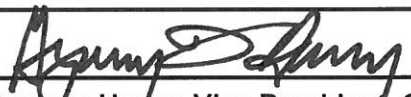
(1) The property must have a release of regulated substances into the environment;
(2) The property shall not be:
- (A) Listed on the federal National Priorities List pursuant to the federal Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601.
- (B) Currently 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			
APPLICANT'S NAME/TITLE (PRINT)	**Gregory Henry, Vice President, Chief Financial Officer for Rheem Manufacturing Company**	**DATE** 10/10/12	

QUALIFYING PROPERTY INFORMATION (For additional qualifying properties, please refer to the last page of application form)			
HAZARDOUS SITE INVENTORY INFORMATION (if applicable)			
HSI Number	N/A	Date HSI Site listed	N/A
HSI Facility Name	N/A	NAICS CODE 333415	333415
PROPERTY INFORMATION			
TAX PARCEL ID	M52-001	PROPERTY SIZE (ACRES)	41.13
PROPERTY ADDRESS	138 Roberson Mill Road		
CITY	Milledgeville	COUNTY	Baldwin
STATE	Georgia	ZIPCODE	30328
LATITUDE (decimal format)	33.1050	LONGITUDE (decimal format)	83.2578
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	Rheem Manufacturing Company	PHONE #	770-351-3050
MAILING ADDRESS	1100 Abernathy Rd. NE, Suite 1400		
CITY	Atlanta	STATE/ZIPCODE	GA 30328

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 12/20/10 Chk # 6000000362	
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, D, E, and F	

	during the preceding period. A Gantt chart format is preferred for the 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 F	
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 F	
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 F	
5.d.	Within 60 months after enrollment, the participant must submit the compliance status report required under the VRP, including the requisite certifications.	Appendix F	
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 10-10-12 Date Signature and Stamp		

ADDITIONAL QUALIFYING PROPERTIES (COPY THIS PAGE AS NEEDED)

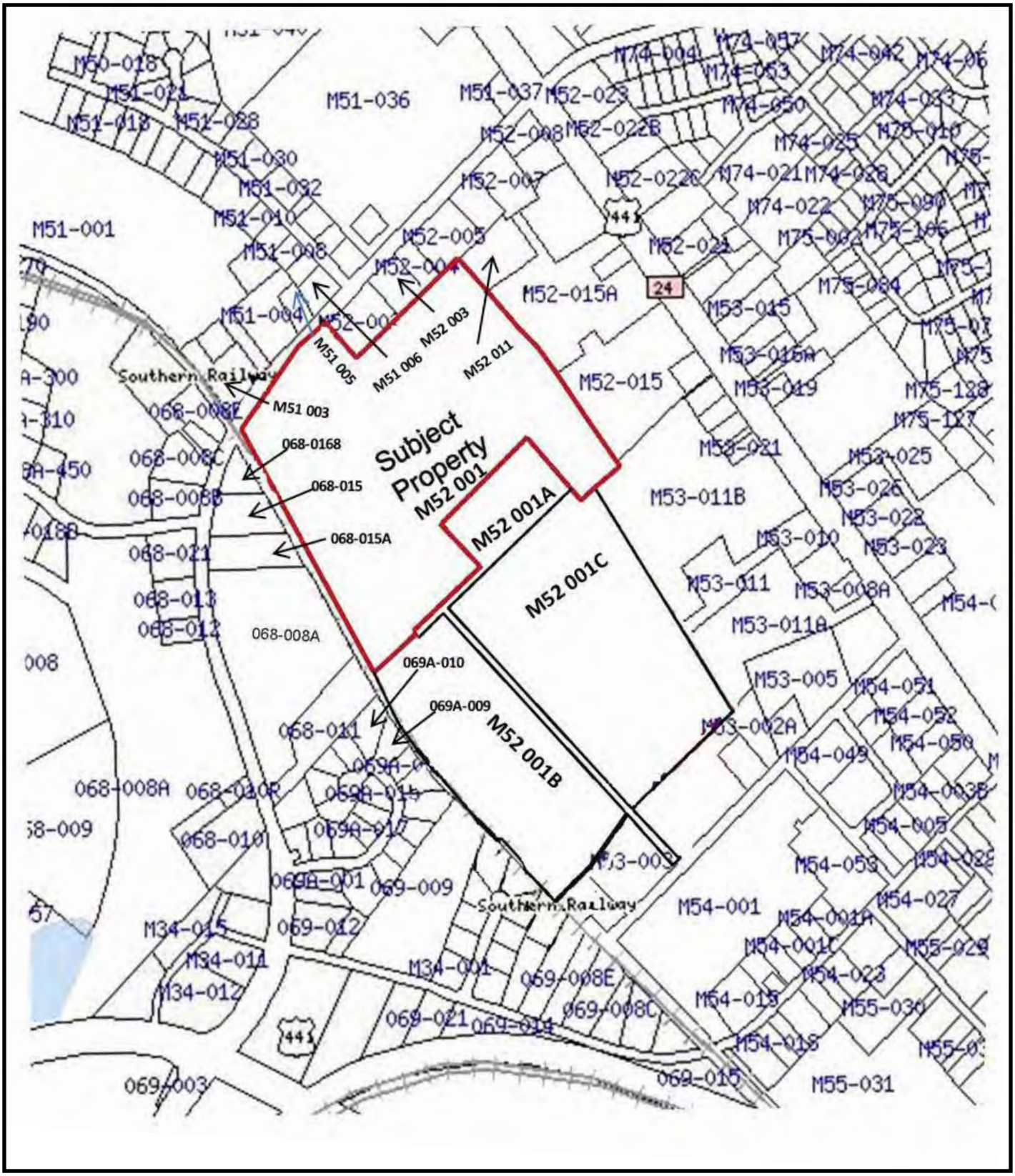
PROPERTY INFORMATION			
TAX PARCEL ID		PROPERTY SIZE (ACRES)	
PROPERTY ADDRESS			
CITY		COUNTY	
STATE		ZIPCODE	
LATITUDE (decimal format)		LONGITUDE (decimal format)	
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)		PHONE #	
MAILING ADDRESS			
CITY		STATE/ZIPCODE	

PROPERTY INFORMATION			
TAX PARCEL ID		PROPERTY SIZE (ACRES)	
PROPERTY ADDRESS			
CITY		COUNTY	
STATE		ZIPCODE	
LATITUDE (decimal format)		LONGITUDE (decimal format)	
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)		PHONE #	
MAILING ADDRESS			
CITY		STATE/ZIPCODE	

PROPERTY INFORMATION			
TAX PARCEL ID		PROPERTY SIZE (ACRES)	
PROPERTY ADDRESS			
CITY		COUNTY	
STATE		ZIPCODE	
LATITUDE (decimal format)		LONGITUDE (decimal format)	
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)		PHONE #	
MAILING ADDRESS			
CITY		STATE/ZIPCODE	

APPENDIX B

Tax Map and Warranty Deed



Note: Subject property lines are approximate.

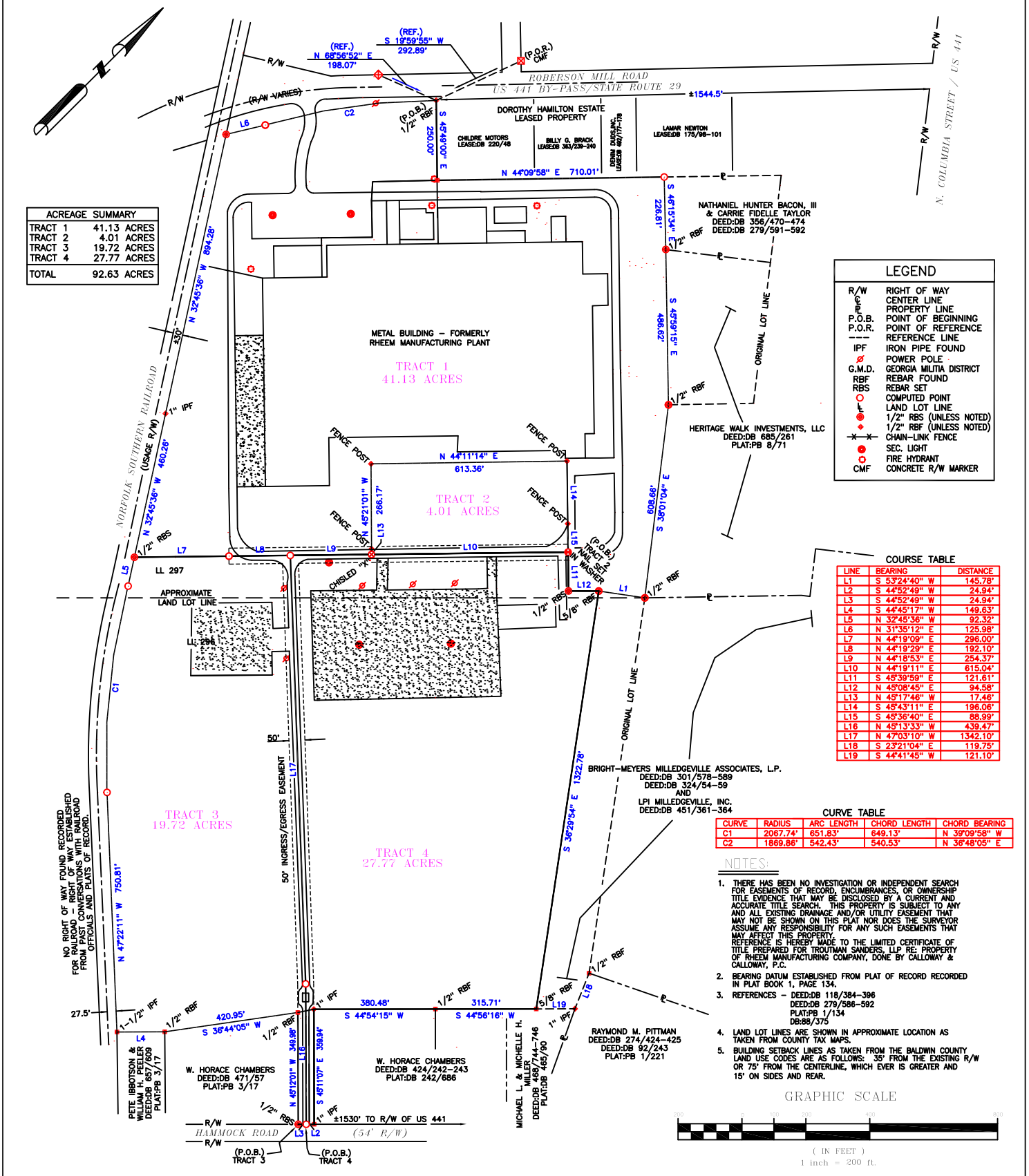
EPS

N

Rheem Manufacturing Company
138 Roberson Mill Road
Milledgeville, Georgia

TAX PARCEL MAP

VOLUNTARY REMEDIATION PROGRAM APPLICATION



ACREAGE SUMMARY	
TRACT 1	41.13 ACRES
TRACT 2	4.01 ACRES
TRACT 3	19.72 ACRES
TRACT 4	27.77 ACRES
TOTAL	92.63 ACRES

LEGEND

R/W	RIGHT OF WAY
℄	CENTER LINE
℗	PROPERTY LINE
P.O.B.	POINT OF BEGINNING
P.O.R.	POINT OF REFERENCE
----	REFERENCE LINE
IPF	IRON PIPE FOUND
⌀	POWER POLE
G.M.D.	GEORGIA MILITIA DISTRICT
RBF	REBAR FOUND
RBS	REBAR SET
○	COMPUTED POINT
℄	LAND LOT LINE
◎	1/2" RBS (UNLESS NOTED)
◆	1/2" RBF (UNLESS NOTED)
-x-x-	CHAIN-LINK FENCE
⊙	SEC. LIGHT
⊙	FIRE HYDRANT
CMF	CONCRETE R/W MARKER

COURSE TABLE

LINE	BEARING	DISTANCE
L1	S 53°24'40" W	145.78'
L2	S 44°52'49" W	24.94'
L3	S 44°52'49" W	24.94'
L4	S 44°45'17" W	149.63'
L5	N 32°45'36" W	92.32'
L6	N 31°35'12" E	125.98'
L7	N 44°19'09" E	296.00'
L8	N 44°19'29" E	192.10'
L9	N 44°18'53" E	254.37'
L10	N 44°19'11" E	615.04'
L11	S 45°39'59" E	121.61'
L12	N 45°08'45" E	94.58'
L13	N 45°17'46" W	17.46'
L14	S 45°43'11" E	196.06'
L15	S 45°36'40" E	88.99'
L16	N 45°13'33" W	439.47'
L17	N 47°03'10" W	1342.10'
L18	S 23°21'04" E	119.75'
L19	S 44°41'45" W	121.10'

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C1	2067.74'	651.83'	649.13'	N 39°09'58" W
C2	1869.86'	542.43'	540.53'	N 36°48'05" E

NOTES:

1. THERE HAS BEEN NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, OR OWNERSHIP TITLE EVIDENCE THAT MAY BE DISCLOSED BY A CURRENT AND ACCURATE TITLE SEARCH. THIS PROPERTY IS SUBJECT TO ANY AND ALL EXISTING DRAINAGE AND/OR UTILITY EASEMENT THAT MAY NOT BE SHOWN ON THIS PLAT NOR DOES THE SURVEYOR ASSUME ANY RESPONSIBILITY FOR ANY SUCH EASEMENTS THAT MAY AFFECT THIS PROPERTY. REFERENCE IS HEREBY MADE TO THE LIMITED CERTIFICATE OF TITLE PREPARED FOR TROUTMAN SANDERS, LLP RE: PROPERTY OF RHEEM MANUFACTURING COMPANY, DONE BY CALLOWAY & CALLOWAY, P.C.
2. BEARING DATUM ESTABLISHED FROM PLAT OF RECORD RECORDED IN PLAT BOOK 1, PAGE 134.
3. REFERENCES – DEED:DB 118/384-396 DEED:DB 279/586-592 PLAT:PB 1/134 DB:88/375
4. LAND LOT LINES ARE SHOWN IN APPROXIMATE LOCATION AS TAKEN FROM COUNTY TAX MAPS.
5. BUILDING SETBACK LINES AS TAKEN FROM THE BALDWIN COUNTY LAND USE CODES ARE AS FOLLOWS: 35' FROM THE EXISTING R/W OR 75' FROM THE CENTERLINE, WHICHEVER IS GREATER AND 15' ON SIDES AND REAR.

GRAPHIC SCALE

200 0 200 400 600

(IN FEET)
1 inch = 200 ft.

DATE SURVEYED: 10/22/2010
DATE DRAWN: 11/03/2010
SCALE 1" = 200'
EQUIPMENT: TOPCON GPT-3005 TOTAL STATION
DATE:
KIRK A. FREEMAN RLS #2982
FILE:BM52_1

SURVEY OF PROPERTY FOR:

RHEEM MANUFACTURING COMPANY

LYING IN LAND LOTS 296 & 297
FIRST LAND DISTRICT
318th G.M.D.
BALDWIN COUNTY, GEORGIA

GEORGIA REGISTERED No. 2982 LAND SURVEYOR KIRK A. (CORKY) FREEMAN

SURVEYED BY:
KIRK FREEMAN, LLC
LAND SURVEYING
423 S. WAYNE STREET
P.O. BOX 1081
MILLEDGEVILLE, GA 31059
478-451-2997 478-456-7121

THE FIELD DATA UPON WHICH THIS MAP OR PLAT IS BASED HAS A CLOSURE PRECISION OF ONE FOOT IN 82,101 FEET AND AN ANGULAR ERROR OF 00°00'09" PER ANGLE POINT AND WAS ADJUSTED USING THE COMPASS RULE. THIS MAP OR PLAT HAS BEEN CALCULATED FOR CLOSURE AND IS FOUND TO BE ACCURATE WITHIN ONE FOOT IN _____ FEET.

FILED & RECORDED
CLERK, SUPERIOR COURT
BALDWIN COUNTY, GA

2010 DEC 22 PM 1:23

BY [signature]
ROSEMARY PHILLIPS, CLERK
Deputy Clerk

After recordation, return to:

Troutman Sanders LLP
Bank of America Plaza, Suite 5200
600 Peachtree Street
Atlanta, Georgia 30308-2216
Attention: William W. Burton

Note to Clerk: This conveyance is being made for $0.00 consideration. No transfer tax is due.

STATE OF GEORGIA

COUNTY OF BALDWIN

LIMITED WARRANTY DEED

THIS INDENTURE is made as of the 22nd day of December, 2010, by and between **RHEEM MANUFACTURING COMPANY**, a Delaware corporation ("Grantor"), and **RHEEM MANUFACTURING COMPANY**, a Delaware corporation ("Grantee"). The words "Grantor" and "Grantee" shall include their respective heirs, executors, administrators, legal and personal representatives, successors and assigns where the context requires or permits.

WITNESSETH:

GRANTOR, for and in consideration of the sum of Ten and No/100 Dollars ($10.00), and other good and valuable consideration, the receipt, adequacy, and sufficiency of which are hereby acknowledged by Grantor, has granted, bargained, sold, aliened, conveyed and confirmed and does hereby grant, bargain, sell, alien, convey and confirm unto Grantee the following described real property:

> ALL THAT TRACT OR PARCEL of land lying and being in Land Lots 296 and 297 of the 1st Land District, 318th G.M.D. of Baldwin County, Georgia, and being more particularly described on **Exhibit "A"** attached hereto and by this reference made a part hereof (the "Land"), together with all plants, trees, shrubbery, buildings, structures and improvements thereon, and any right, title and interest of Grantor in and to any land lying in the bed of any street, road or highway in front of or adjoining said Land, together with any strips or gores relating to the Land (hereinafter collectively referred to as the "Property").

TO HAVE AND TO HOLD the Property, together with all and singular the rights, members and appurtenances thereto, to the same being, belonging, or in anywise appertaining, to the only proper use, benefit and behoof of Grantee forever in FEE SIMPLE.

AND GRANTOR WILL WARRANT and forever defend the right and title to the Property unto Grantee against the lawful claims of all persons owning, holding or claiming by, through or under Grantor, but not otherwise.

This conveyance and foregoing warranty of title are expressly subject to all matters of record.

[*Signatures Commence on Following Page*]

IN WITNESS WHEREOF, Grantor has signed and sealed this deed, the day and year first above written.

Signed, sealed and delivered
in the presence of:

Witness

Notary Public

Commission Expiration Date:

April 05, 2011

(NOTARY SEAL)

JOCELYN L. JOHNSON NOTARY PUBLIC DeKALB COUNTY, GA Exp. Apr. 05, 2011

GRANTOR:

RHEEM MANUFACTURING COMPANY,
a Delaware corporation

By:
Name: Scott Bates
Its: VP, Secretary & General Counsel

(CORPORATE SEAL)

EXHIBIT "A"

Legal Description of the Property

All of Tract 1, as depicted on Survey of Property for Rheem Manufacturing Company, a plat of which is of record in Plat Book 37, Pages 50-51, recorded with the Clerk of Superior Court of Baldwin County, Georgia, Tract 1 being more particularly described as follows:

All that tract or parcel of land lying and being in Land Lots 296 and 297, First Land District, 318th G.M.D. in Baldwin County, Georgia and being more particularly described as follows: Beginning at the P.O.B. of Tract 1; thence S 45°49'00" E a distance of 250.00' to a 1/2" rebar found; thence N 44°09'58" E a distance of 710.01' to a computed point; thence S 46°15'34" E a distance of 226.81' to a 1/2" rebar found; thence S 45°59'15" E a distance of 486.62" to a 1/2" rebar found; thence S 38°01'04" E a distance of 608.66' to a 1/2" rebar found; thence S 53°24'40" W a distance of 145.78' to a 5/8" rebar found; thence S 45°09'21" W a distance of 94.54' to a 1/2" rebar set; thence N 45°41'09" W a distance of 121.59' to a nail set in washer; thence N 45°36'40" W a distance of 88.99' to a fence post; thence N 45°43'11" W a distance of 196.06' to a fence post; thence S 44°11'14" W a distance of 613.36' to a fence post; thence S 45°21'01" E a distance of 266.17' to a fence post; thence S 45°17'46" E a distance of 17.46' to a chiseled "X"; thence S 44°18'53" W a distance of 254.37' to a computed point; thence S 44°19'29" W a distance of 192.10' to a computed point; thence S 44°19'09" W a distance of 296.00' to a 1/2" rebar set; thence N 32°45'36" W a distance of 460.26' to a 1" iron pipe; thence N 32°45'36" W a distance of 894.28' to a 1/2" rebar set; thence N 31°35'12" E a distance of 125.98' to a computed point; thence with a curve turning to the right with an arc length of 542.43',with a radius of 1869.86', with a chord bearing of N 36°48'05" E, with a chord length of 540.53' to a 1/2" rebar found, which is the point of beginning, having an area of 41.13 acres.

Calloway & Calloway, P.C.

Attorneys at Law
6133 Peachtree Dunwoody Road, N.E.
Atlanta, Georgia 30328

Phone: (770) 394-7000 **Fax: (770) 698-2028**

REVISED LIMITED CERTIFICATE OF TITLE

PREPARED FOR AND LIMITED TO THE USE OF:
TROUTMAN SANDERS LLP
Attn: William W. Burton, Esq.

Re: Property of Rheem Manufacturing Company; Land Lots 296 and 297, 318th Militia District, Baldwin County, Georgia; STS File No. 1278.0054

NOTE: All others who rely hereon do so at their own risk.

This is to certify that we have carefully examined the title to the real property described on **EXHIBIT "A"** attached hereto and by reference made a part hereof (the "Property"), as officially and correctly indexed in the public records of the county in which said Property lies, and that good merchantable title in **FEE SIMPLE** is vested in **Rheem Manufacturing Company, a Delaware corporation**, by virtue of the following:

1. Limited Warranty Deed by and between Rheem Manufacturing Company, a Delaware corporation, and Rheem Manufacturing Company, a Delaware corporation, dated as of December 22, 2010, filed for record December 22, 2010 at 1:23 p.m., recorded in Deed Book _____, Page _____, Records of Baldwin County, Georgia.

Subject to those objections and exceptions set out on **EXHIBIT "B"** attached hereto and by reference made a part hereof and the following:

(a) All matters of record subsequent to the date of this Certificate.

(b) Matters affecting the title which are not of record, or which, if they are of record, are not indexed in such a manner that a reasonably prudent search would have revealed them to the examiner.

(c) Such state of facts as would be disclosed by a current, accurate survey and careful visual inspection of the Property.

(d) Encroachments, except such as in our opinion do not materially affect the value of the Property.

(e) Title to that portion of the Property within the bounds of any public road.

(f) The riparian rights of abutting owners on any stream running through the Property.

(g) Rights or claims of parties in possession of the Property.

(h) Any violation of all zoning laws, ordinances or regulations, municipal or county, and all governmental regulations of the use and occupancy of the Property, including the regulation or condemnation of the land or any building or structure thereon.

(i) Taxes not due and payable at the date of this Certificate, and taxes coming due and payable for all future times.

(j) Unrecorded claims of lien for labor or material furnished for the improvement of the Property.

(k) Street improvement liens which have not been properly placed of record.

(l) Past due utility bills, which, while not technically liens, will deter the municipal authority or utility company from transferring meters or service until the bills have been paid.

(m) Pay-as-you-enter water or sewer lines, which, while not technically liens, will be payable upon connection with such lines.

(n) All governmental liens for the clean up of toxic waste which are not filed in the public records of the county in which the Property lies.

(o) No certification is made as to the exact amount of acreage contained in the Property.

The effective date of this Certificate of Title is December 12, 2010.

CALLOWAY & CALLOWAY, P.C.

By: _____
George C. Calloway, Esq.

GCC/sdb

EXHIBIT "A"

Legal Description of the Property

All of Tract 1, as depicted on Survey of Property for Rheem Manufacturing Company, a plat of which is of record in Plat Book 37, Pages 50-51, recorded with the Clerk of Superior Court of Baldwin County, Georgia, Tract 1 being more particularly described as follows:

All that tract or parcel of land lying and being in Land Lots 296 and 297, First Land District, 318th G.M.D. in Baldwin County, Georgia and being more particularly described as follows: Beginning at the P.O.B. of Tract 1; thence S 45°49'00" E a distance of 250.00' to a 1/2" rebar found; thence N 44°09'58" E a distance of 710.01' to a computed point; thence S 46°15'34" E a distance of 226.81' to a 1/2" rebar found; thence S 45°59'15" E a distance of 486.62" to a 1/2" rebar found; thence S 38°01'04" E a distance of 608.66' to a 1/2" rebar found; thence S 53°24'40" W a distance of 145.78' to a 5/8" rebar found; thence S 45°09'21" W a distance of 94.54' to a 1/2" rebar set; thence N 45°41'09" W a distance of 121.59' to a nail set in washer; thence N 45°36'40" W a distance of 88.99' to a fence post; thence N 45°43'11" W a distance of 196.06' to a fence post; thence S 44°11'14" W a distance of 613.36' to a fence post; thence S 45°21'01" E a distance of 266.17' to a fence post; thence S 45°17'46" E a distance of 17.46' to a chiseled "X"; thence S 44°18'53" W a distance of 254.37' to a computed point; thence S 44°19'29" W a distance of 192.10' to a computed point; thence S 44°19'09" W a distance of 296.00' to a 1/2" rebar set; thence N 32°45'36" W a distance of 460.26' to a 1" iron pipe; thence N 32°45'36" W a distance of 894.28' to a 1/2" rebar set; thence N 31°35'12" E a distance of 125.98' to a computed point; thence with a curve turning to the right with an arc length of 542.43',with a radius of 1869.86', with a chord bearing of N 36°48'05" E, with a chord length of 540.53' to a 1/2" rebar found, which is the point of beginning, having an area of 41.13 acres.

EXHIBIT "B"

1. All taxes pertaining to the subject property. Please note that 2009 real property ad valorem taxes were paid as follows:

   (a) State and County property taxes for Map Reference No. M52-001 were paid October 20, 2009 in the amount of $98,833.62;

   (b) There was no State and County property tax due for Map Reference No. M52-001X (utility right of way); and

   (c) City of Milledgeville property taxes for Map Reference No. M52-001X (utility right of way) were paid March 16, 2010 in the amount of $2.04.

   Note: Map Reference No. M52-001 lies outside the boundaries of any municipality.

2. Limited access rights contained in Right of Way Deed from Rheem Manufacturing Company to the Department of Transportation, dated November 12, 1987, filed for record December 16, 1987 at 11:16 a.m., recorded in Deed Book 238, Page 718, Records of Baldwin County, Georgia.

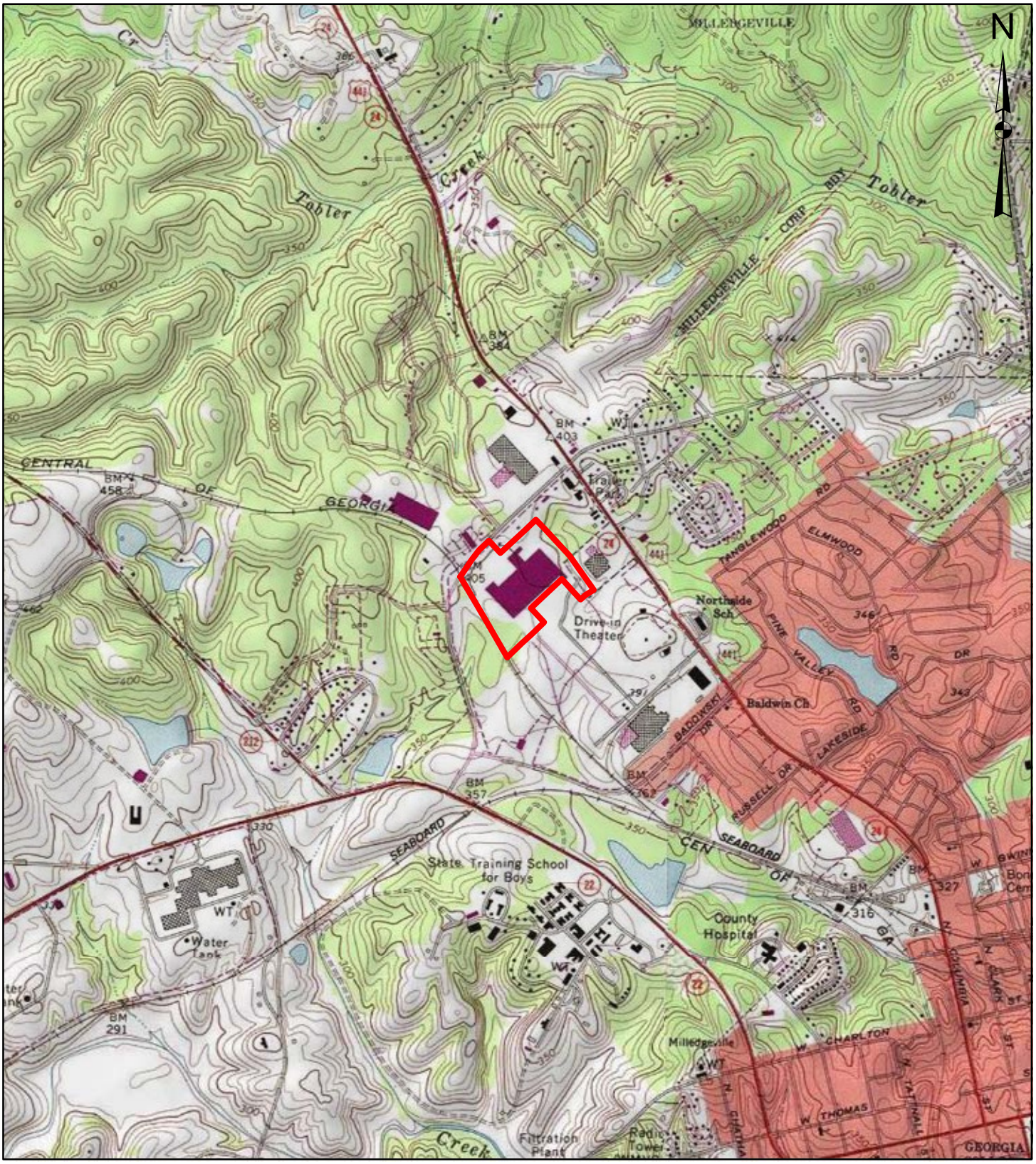
3. All matters disclosed by Plat recorded in Plat Book 1, Page 134, aforesaid Records.

4. All matters prior to January 5, 1977.

APPENDIX C

Figures

Site Location Map



0 1,000 2,000 4,000

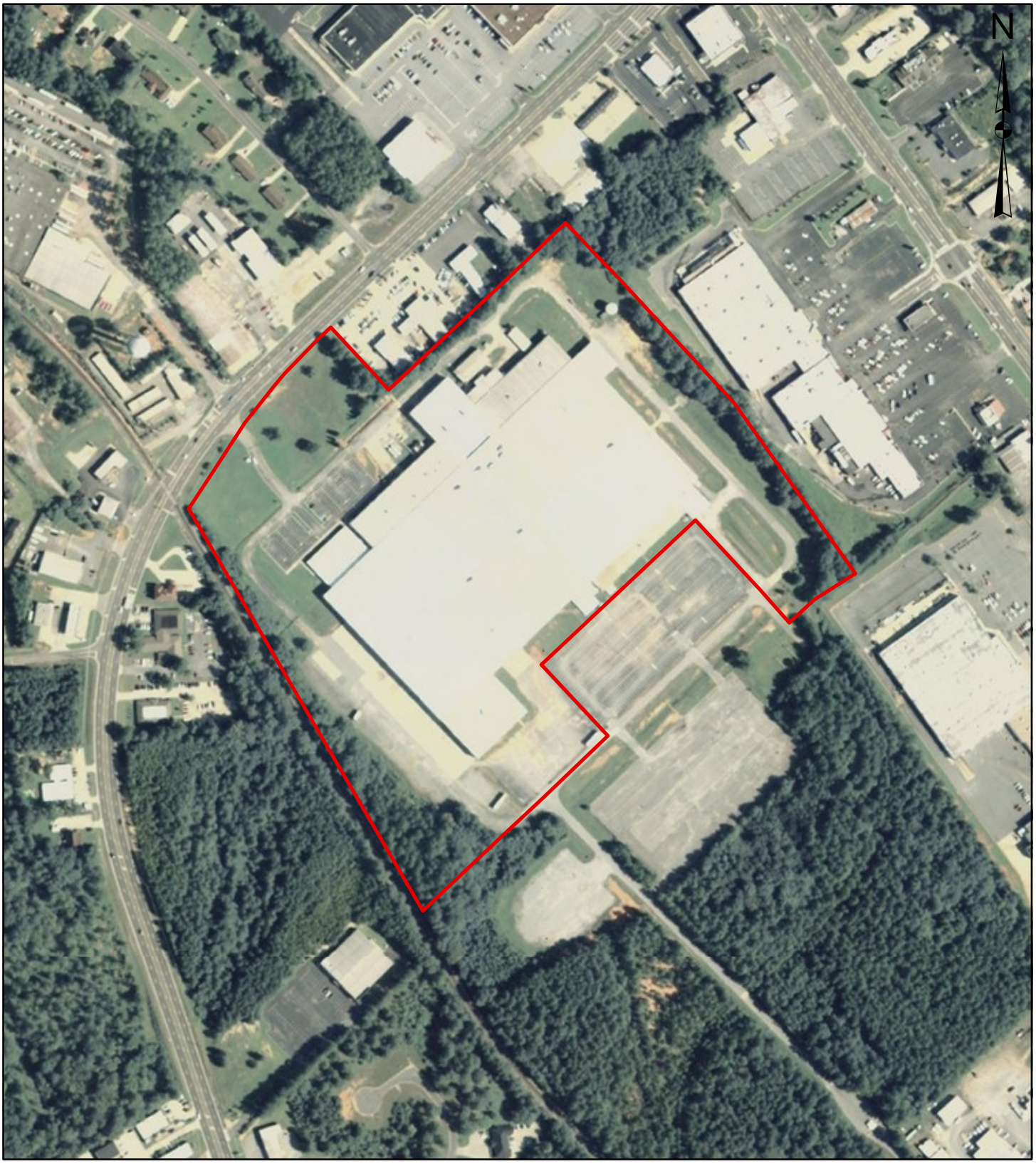
Feet

Legend

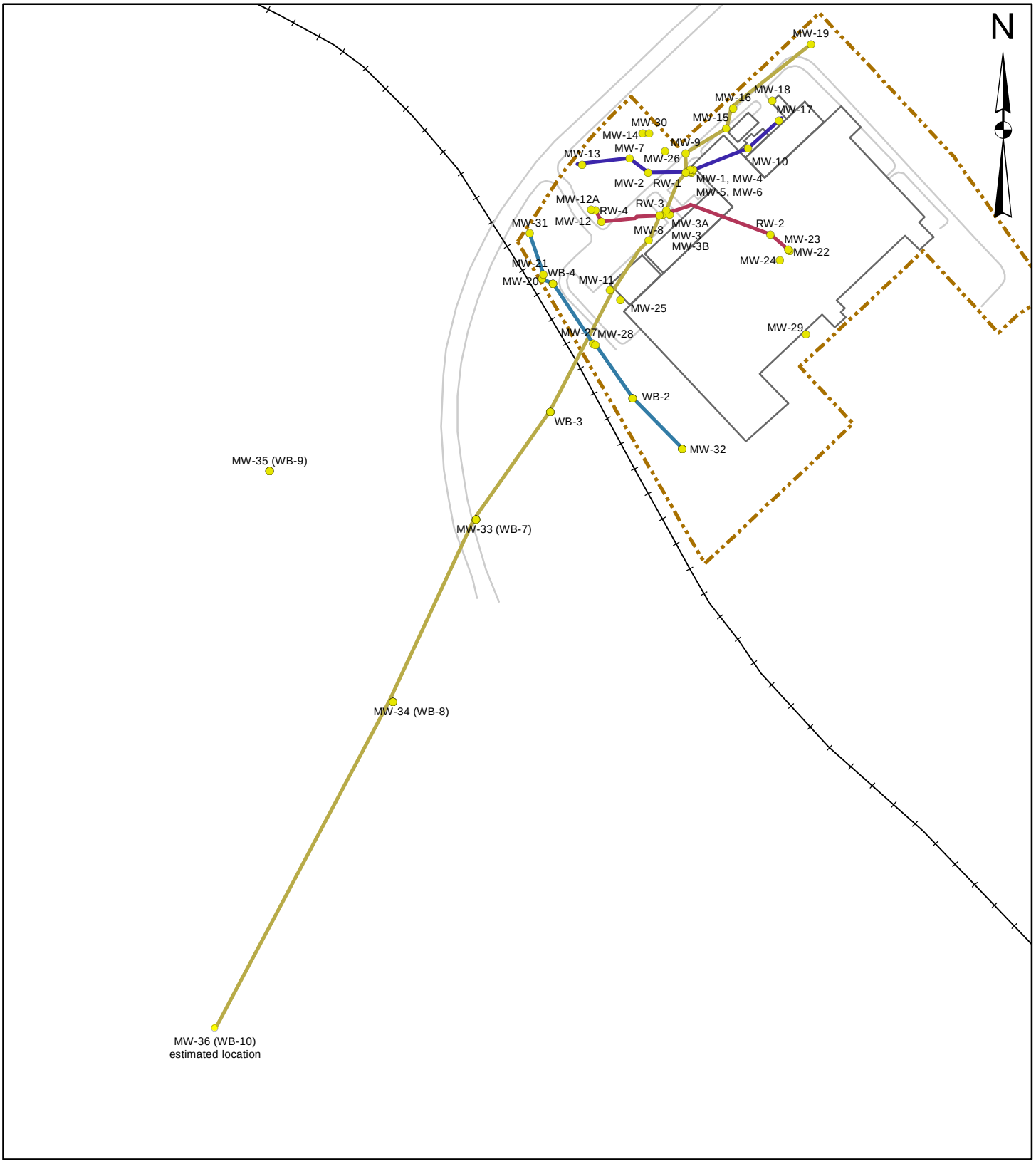
Property Line

Site Address:
Rheem Manufacturing Co.
138 Roberson Mill Road
Milledgeville, Georgia

Aerial Photograph



Rheem Manufacturing Company
Hydrogeologic Cross Section Locations



0 250 500 1,000
Feet

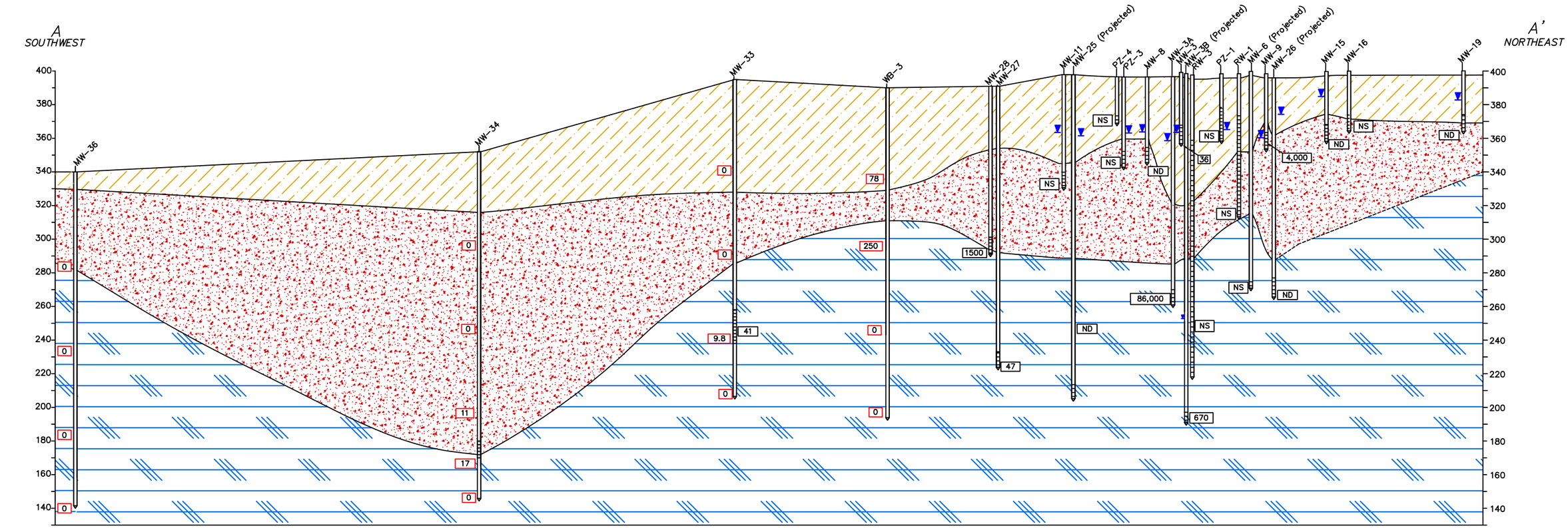
Cross Section
- A-A'
- B-B'
- C-C'
- D-D'

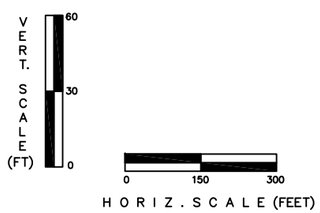
Site Feature
- Road/Parking
- Railroad
- Property Line
- Building

Environmental Planning Specialists, Inc.

Figure No.3A

Hydrogeologic Profile A - A'





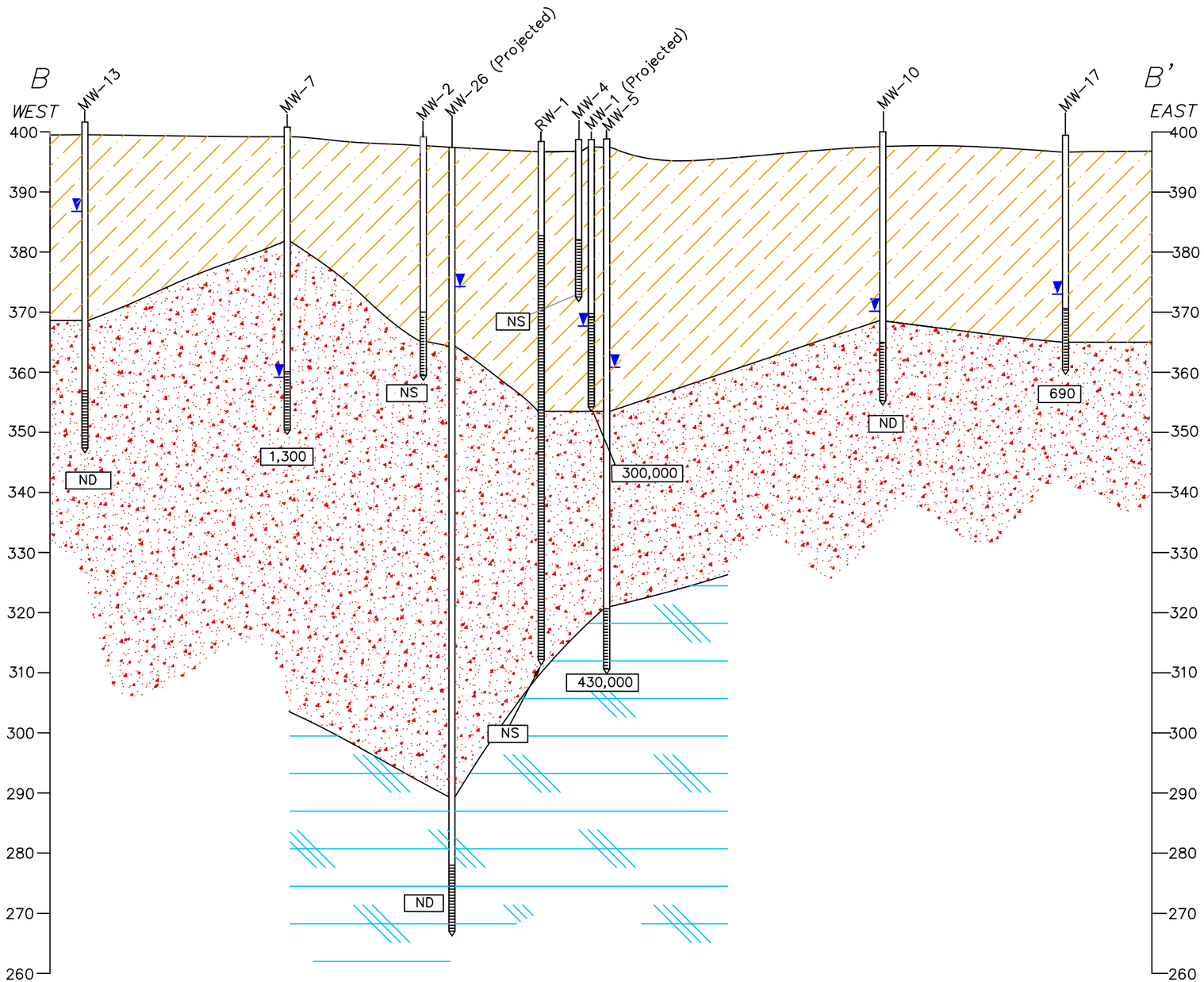
LEGEND

- SAPROLITE
- PARTIALLY WEATHERED ROCK
- BEDROCK
- WATER TABLE ELEVATION DECEMBER 2011
- Projected — WELL PROJECTED INTO PLANE OF CROSS-SECTION
- 100 — TRICHLOROETHENE (TCE) CONCENTRATIONS IN GROUNDWATER (ug/L) [JUNE /JULY 2012]
- NS; ND — NOT SAMPLED; NON-DETECT
- SCREENED INTERVAL
- 0 — DISCRETE INTERVAL (PACKER SAMPLE TESTING) TCE CONCENTRATION

EPS

Figure No. 3B

Hydrogeologic Profile B - B'



VERT. SCALE (FT) 20 10 0

HORIZ. SCALE (FEET) 0 50 100

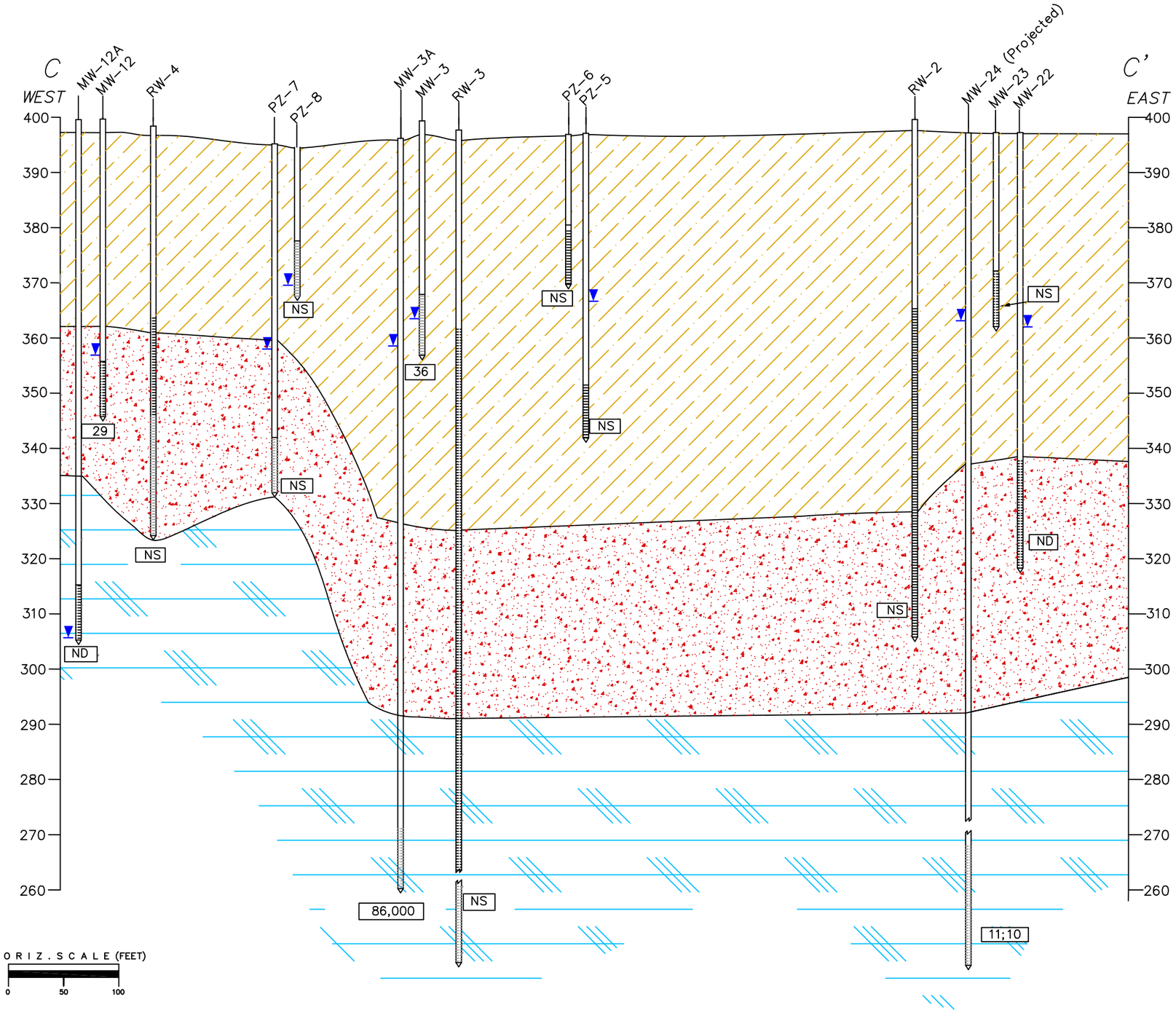
LEGEND

- SAPROLITE
- PARTIALLY WEATHERED ROCK
- BEDROCK
- WATER TABLE ELEVATION DECEMBER 2011
- SCREENED INTERVAL
- Projected WELL PROJECTED INTO PLANE OF CROSS SECTION
- 270;34 TRICHLOROETHENE (TCE) CONCENTRATIONS IN GROUNDWATER (ug/L) [JUNE/JULY 2012]
- NS;ND NOT SAMPLED;NON-DETECT

EPS

Figure No. 3C

Hydrogeologic Profile C - C'



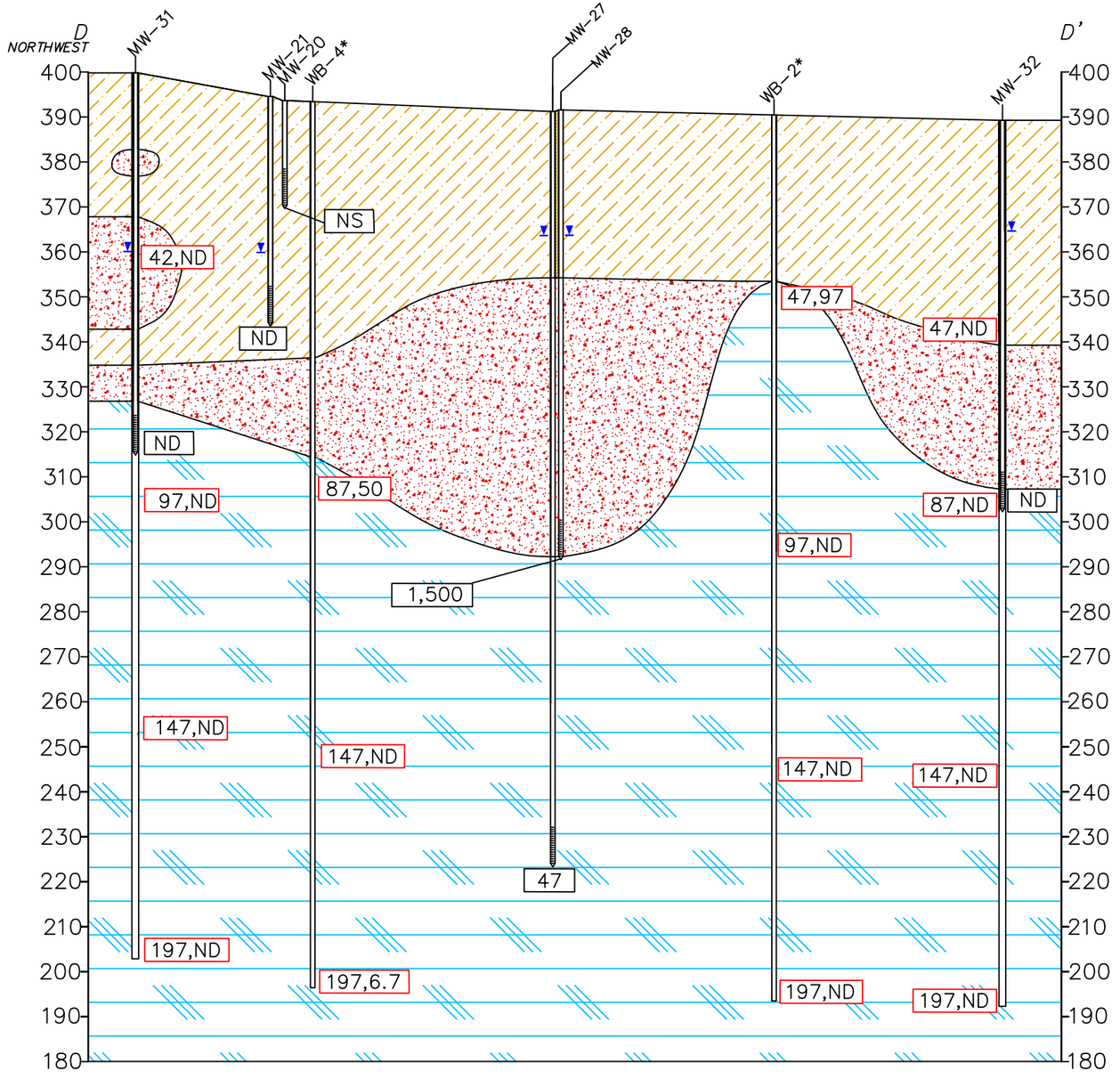
LEGEND

- SAPROLITE
- PARTIALLY WEATHERED ROCK
- BEDROCK
- WATER TABLE ELEVATION DECEMBER 2011
- SCREENED INTERVAL
- 120;170 — TRICHLOROETHENE (TCE) CONCENTRATIONS IN GROUNDWATER (ug/L) [JUNE/JULY 2012]
- NS;ND — NOT SAMPLED;NON-DETECT
- Projected — WELL PROJECTED INTO PLANE OF CROSS SECTION

EPS

Figure No. 3D

Hydrogeologic Profile D - D'



VERT. SCALE (FT) 0 10 20

HORIZ. SCALE (FEET) 0 75 150

LEGEND

- SAPROLITE
- PARTIALLY WEATHERED ROCK
- BEDROCK
- WATER TABLE ELEVATION DECEMBER 2011
- SCREENED INTERVAL

78 — TRICHLOROETHENE (TCE) CONCENTRATIONS IN GROUNDWATER (ug/L) [JUNE/JULY 2012]

100,78 — TCE CONCENTRATIONS IN GROUNDWATER (ug/L) DURING PACKER TESTING {DEPTH,CONCENTRATION}

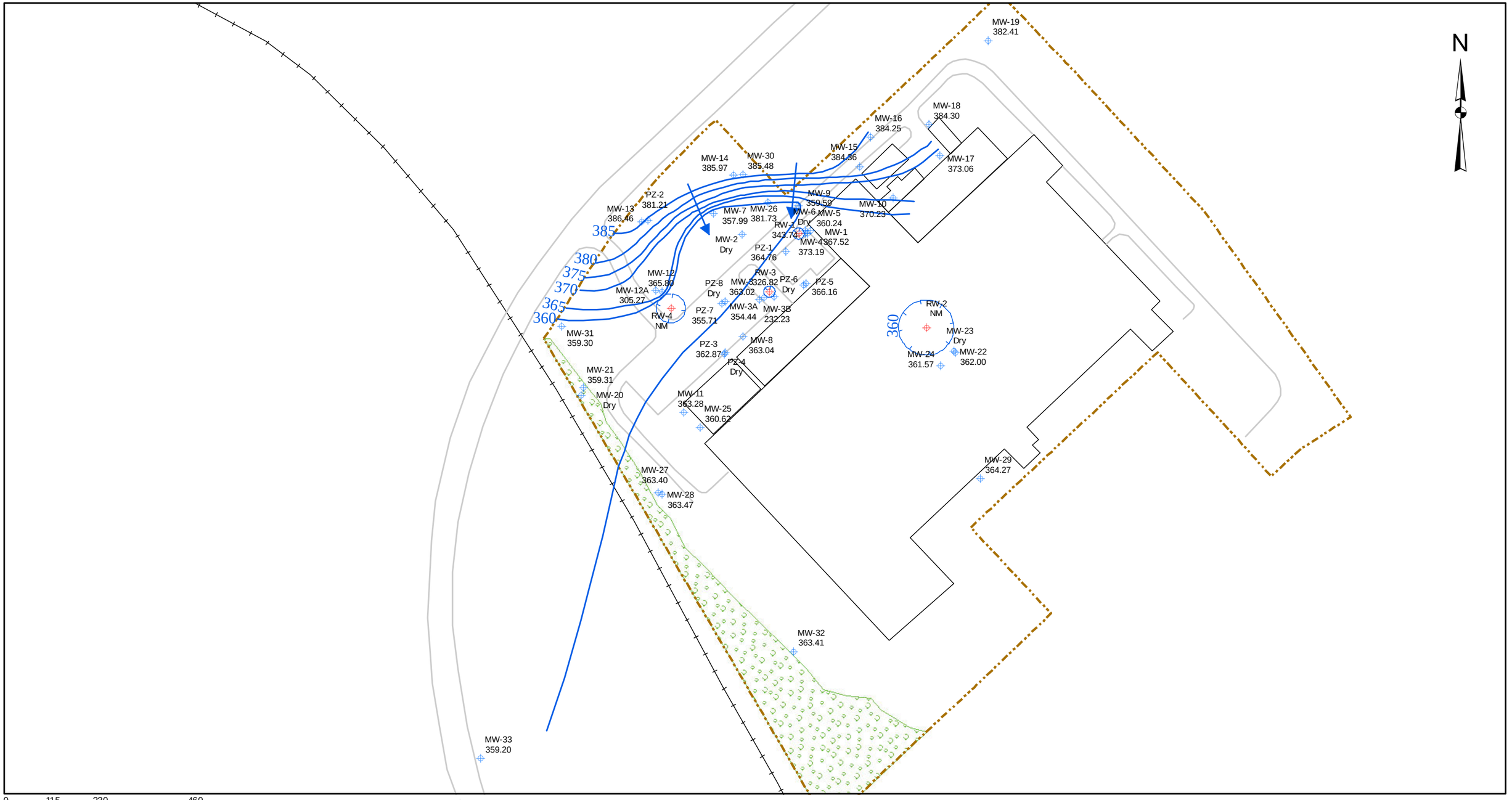
NS;ND — NOT SAMPLED;NON-DETECT

* = NO WELL WAS SET IN BORINGS WB-2 AND WB-4

EPS

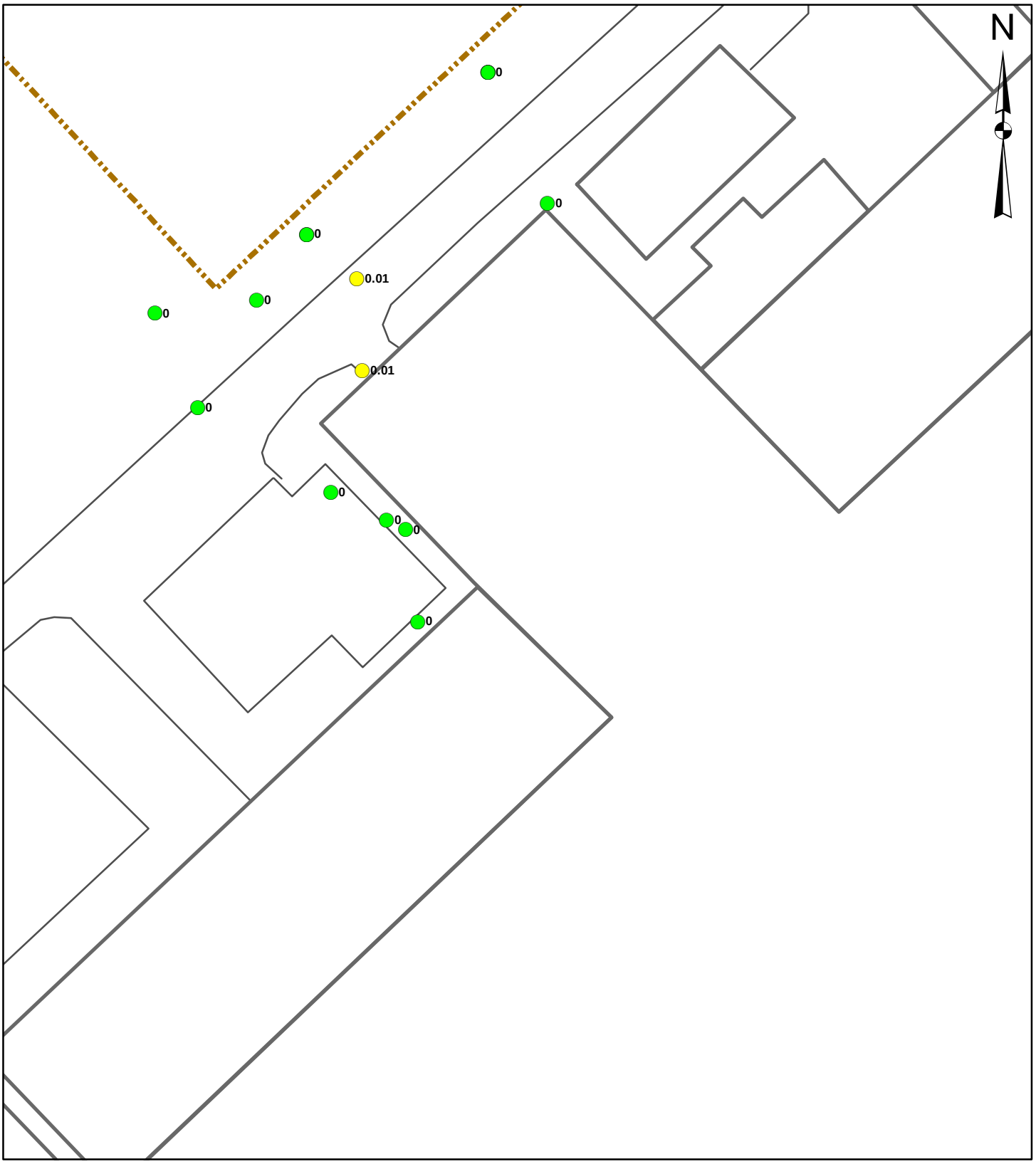
Figure No. 3E

Potentiometric Surface Map
June 2012



1. Wells screened in all hydrogeologic profiles.
2. Deep bedrock wells not included in potentiometric contouring
3. Several groundwater elevations were considered anomalies and not included in potentiometric contouring.

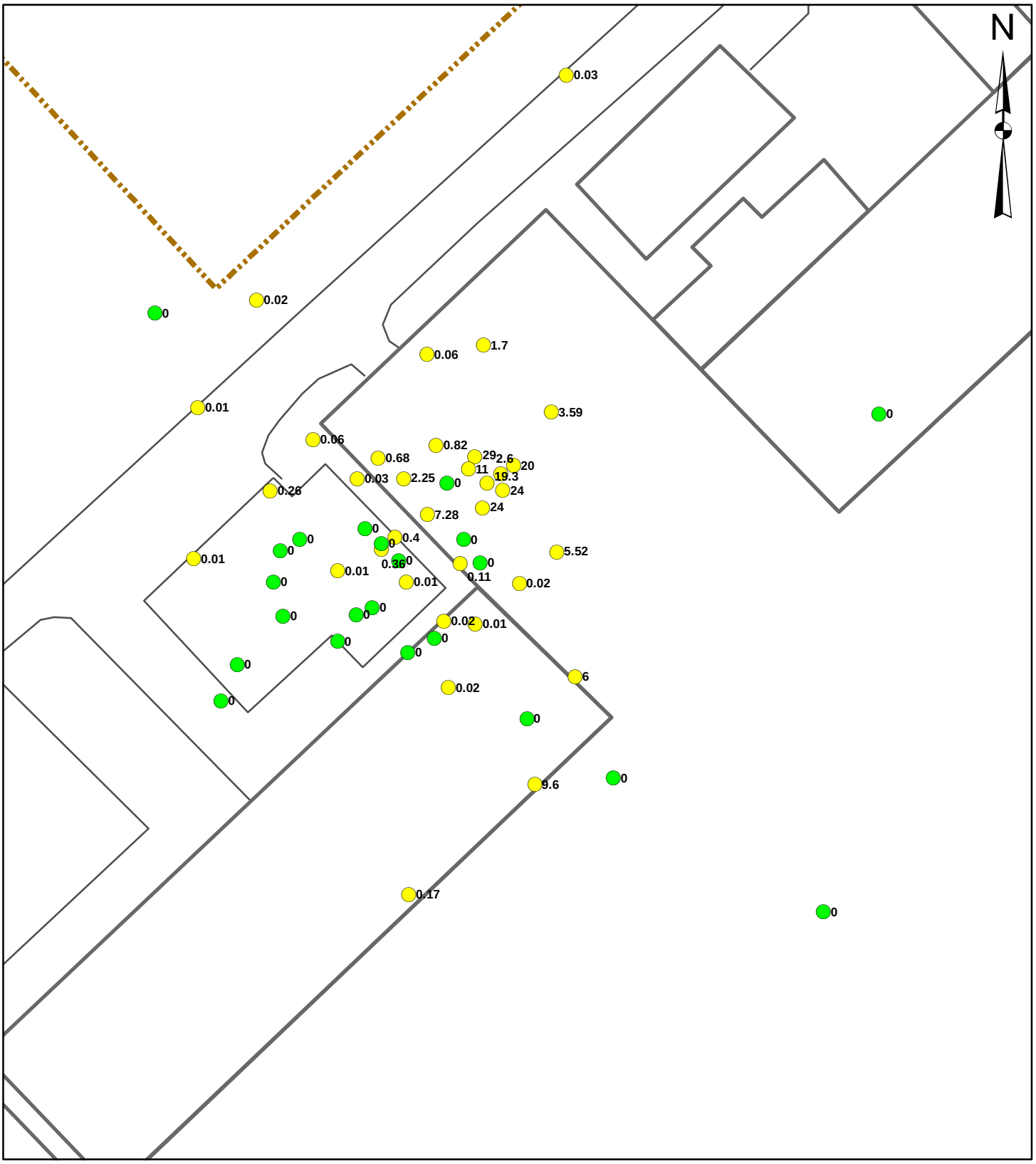
Rheem Manufacturing Company
Areal Distribution of Trichloroethene in Soil (<2 ft bgs)



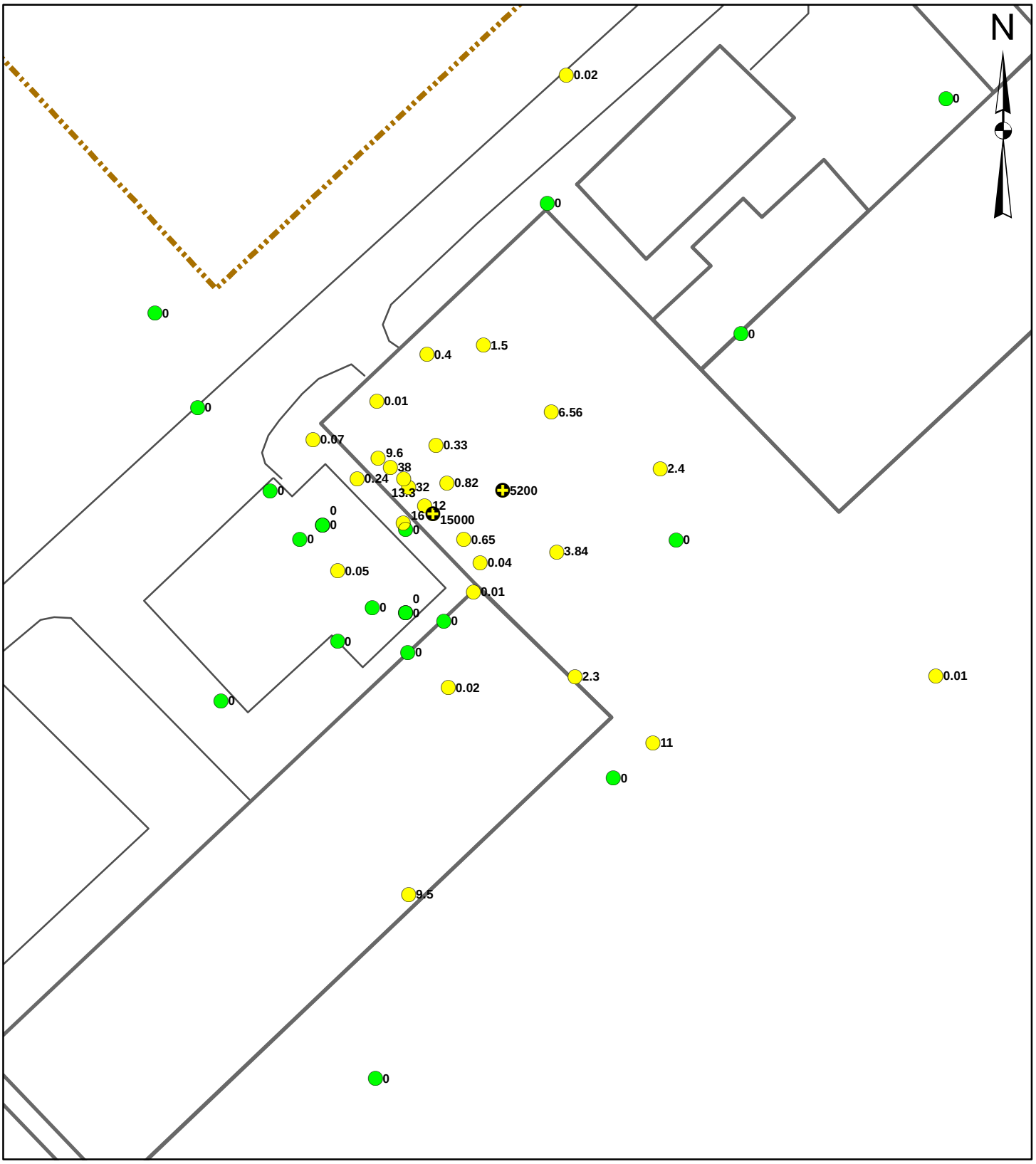
Environmental Planning Specialists, Inc.

Figure No.5A

Rheem Manufacturing Company
Areal Distribution of Trichloroethene in Soil (2-5 ft bgs)



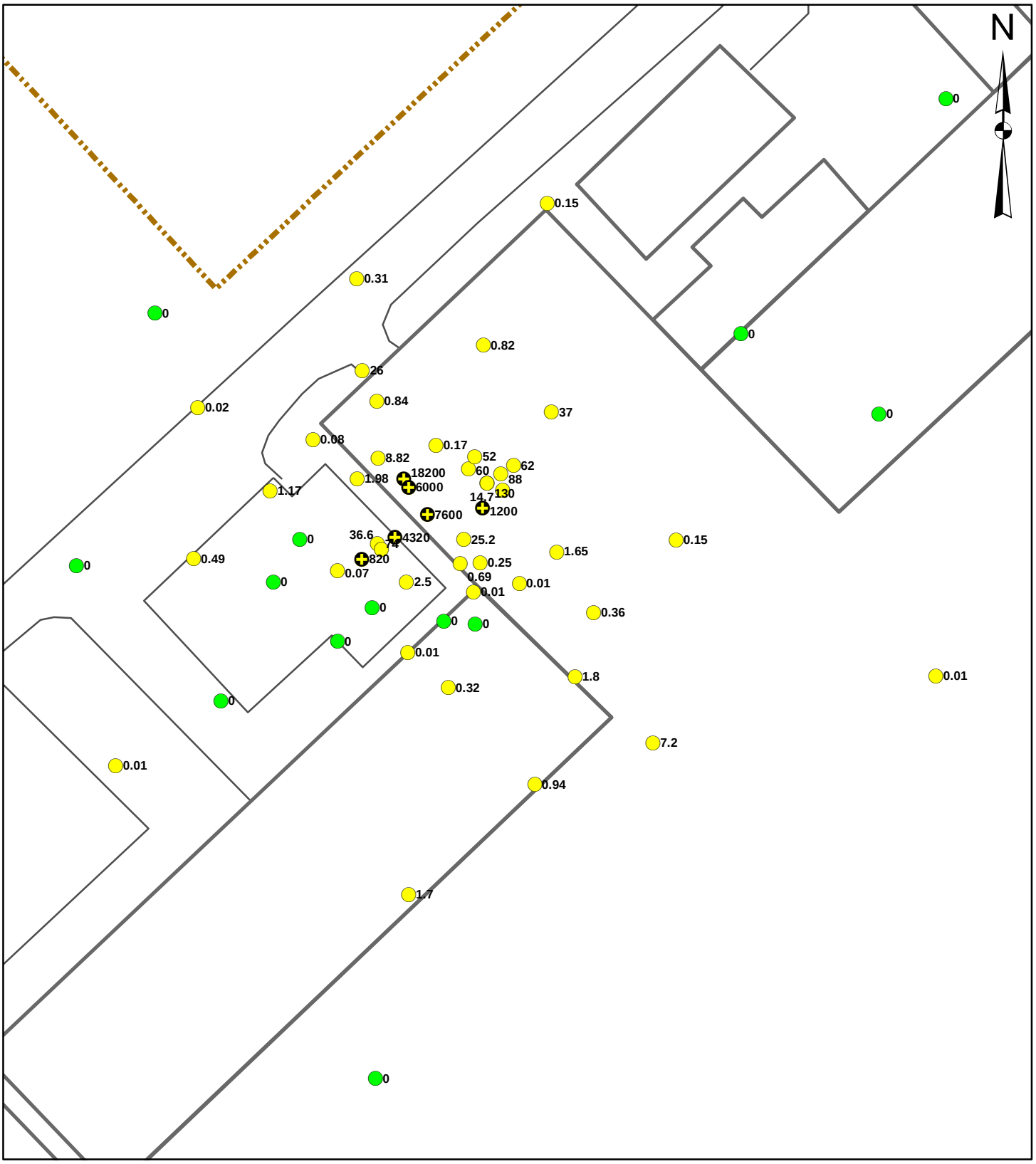
Rheem Manufacturing Company
Areal Distribution of Trichloroethene in Soil (5-10 ft bgs)



Environmental Planning Specialists, Inc.

Figure No.5C

Rheem Manufacturing Company
Areal Distribution of Trichloroethene in Soil (10-15 ft bgs)



0 35 70 140
Feet

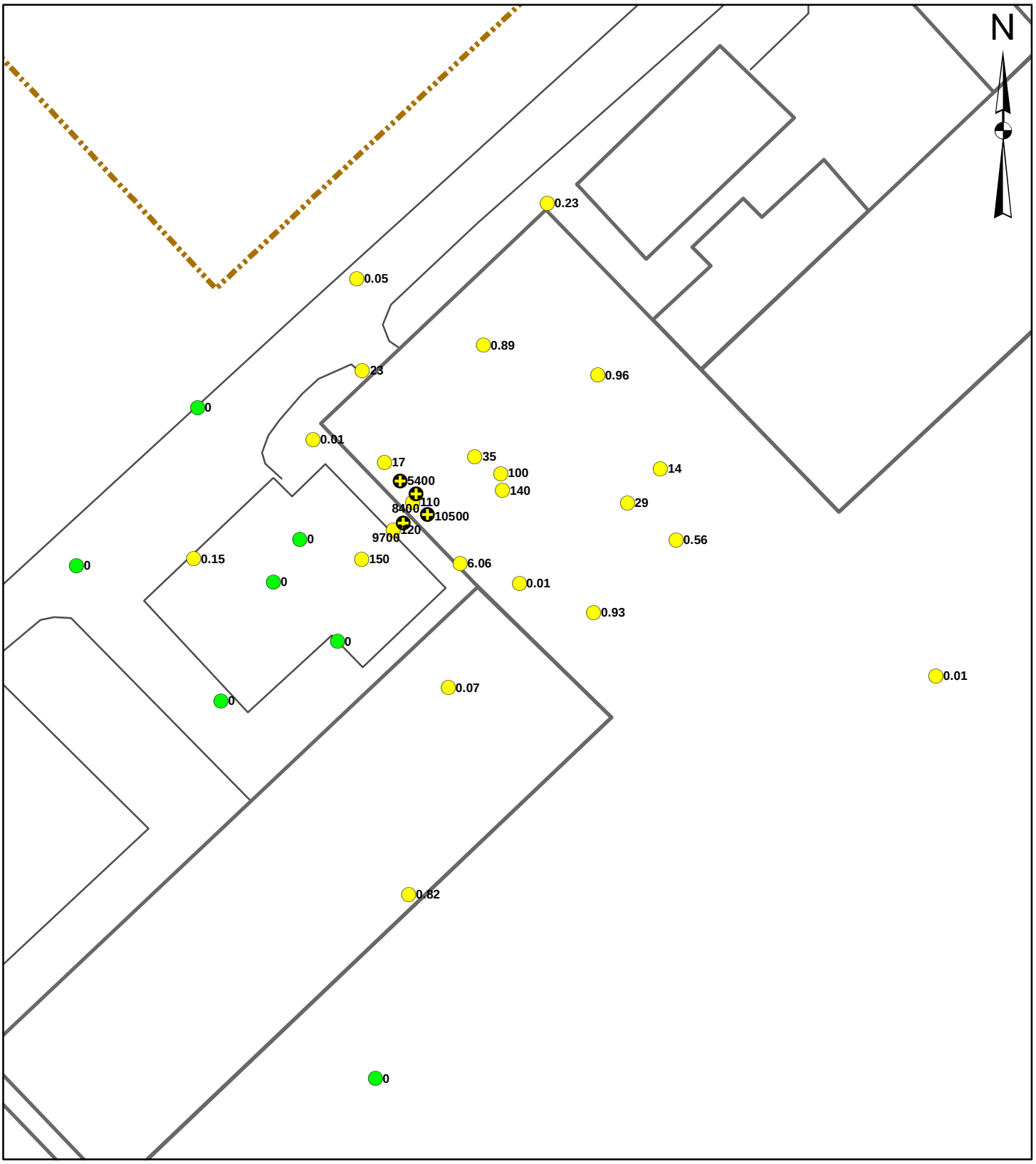
TCE Detection

- Non-detect
- TCE Detected, mg/kg
- TCE Detected, mg/kg (> Csat)

Site Feature

- Property Line
- Building
- Road/Parking

Rheem Manufacturing Company
Areal Distribution of Trichloroethene in Soil (15-20 ft bgs)



0 35 70 140
Feet

TCE Detection

- Non-detect
- TCE Detected, mg/kg
- TCE Detected, mg/kg (> Csat)

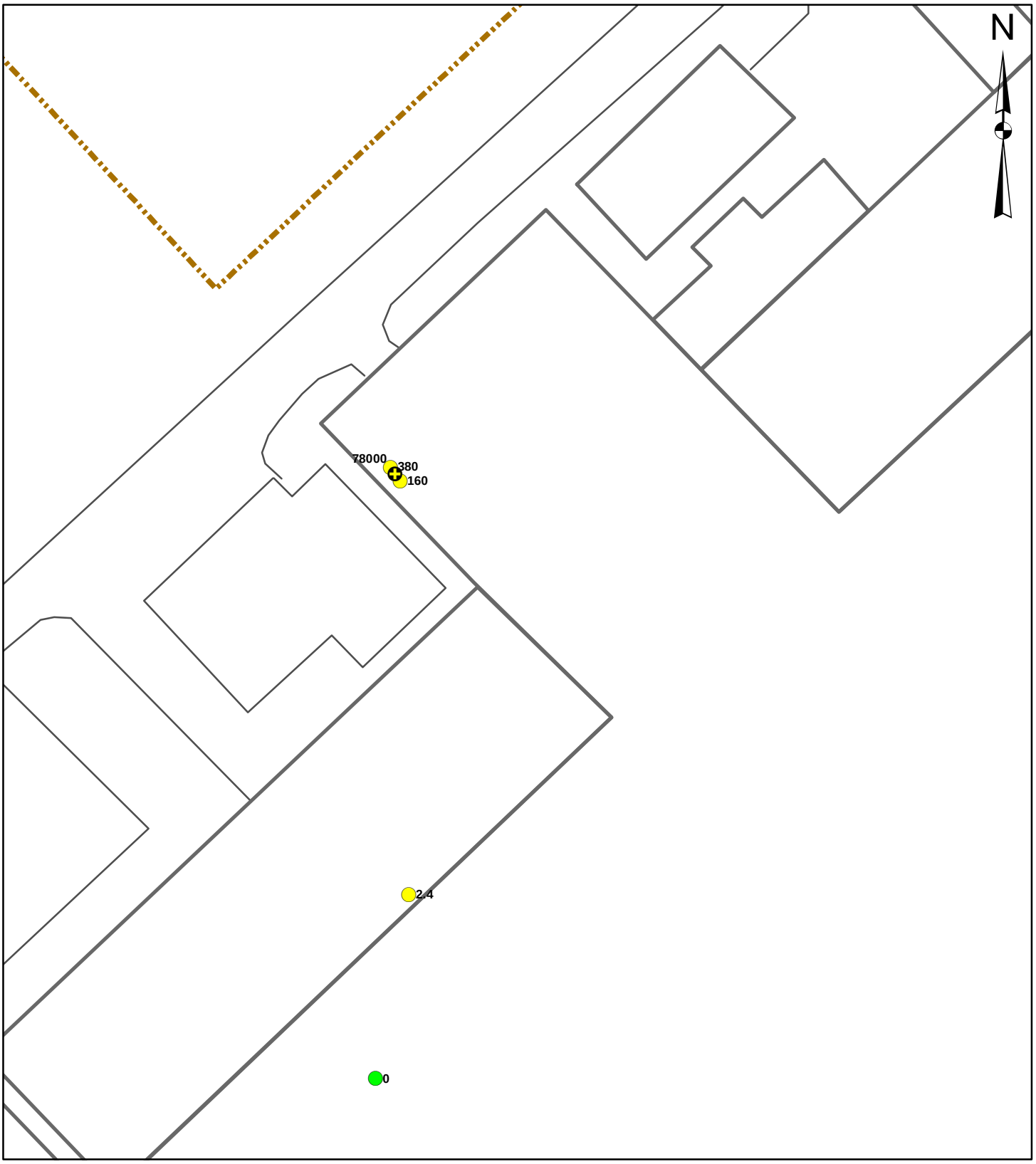
Site Feature

- Property Line
- Building
- Road/Parking

Environmental Planning Specialists, Inc.

Figure No.5E

Rheem Manufacturing Company
Areal Distribution of Trichloroethene in Soil (>20 ft bgs)



0 35 70 140
Feet

TCE Detection

- Non-detect
- TCE Detected, mg/kg
- TCE Detected, mg/kg (> Csat)

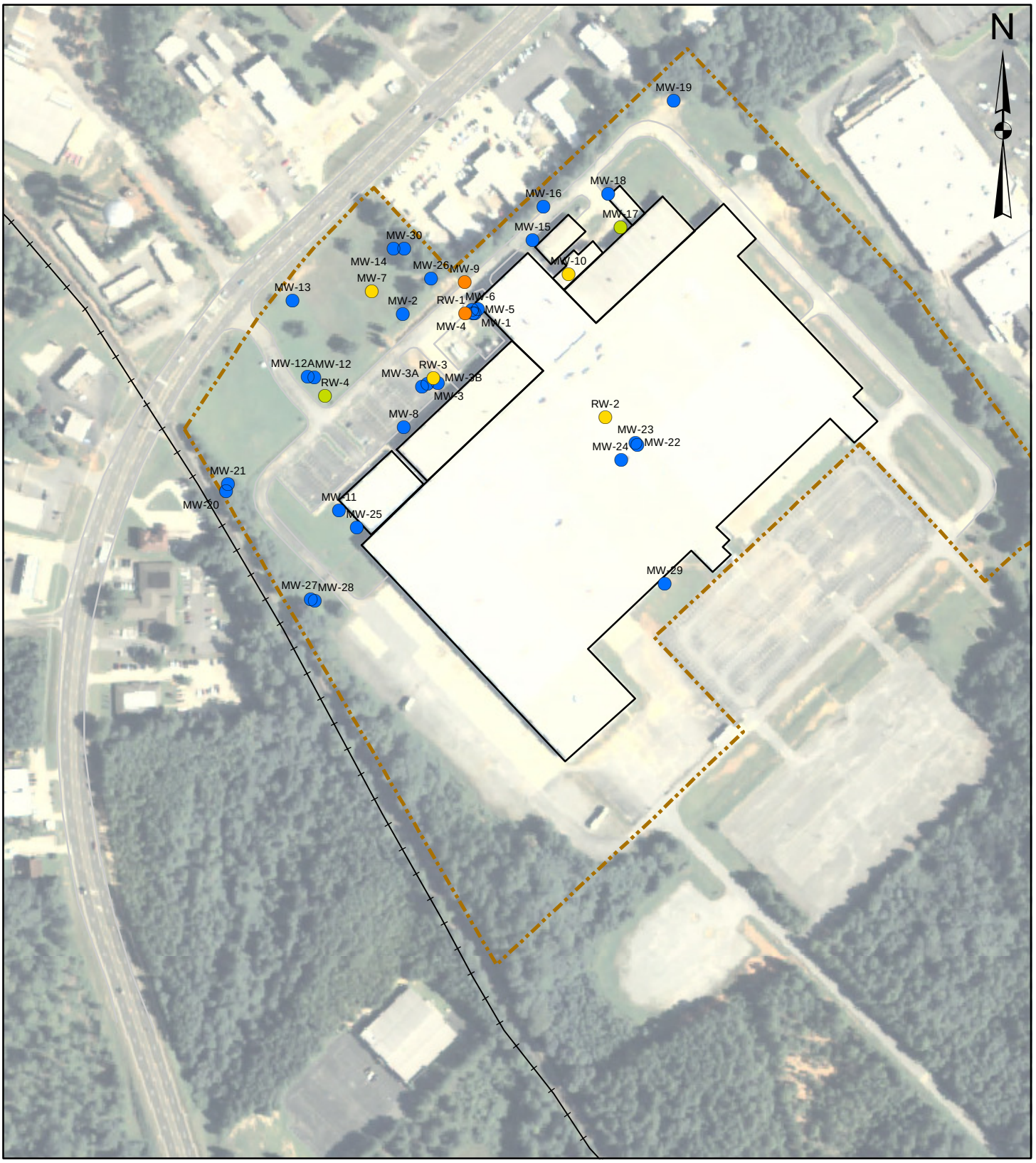
Site Feature

- Property Line
- Building
- Road/Parking

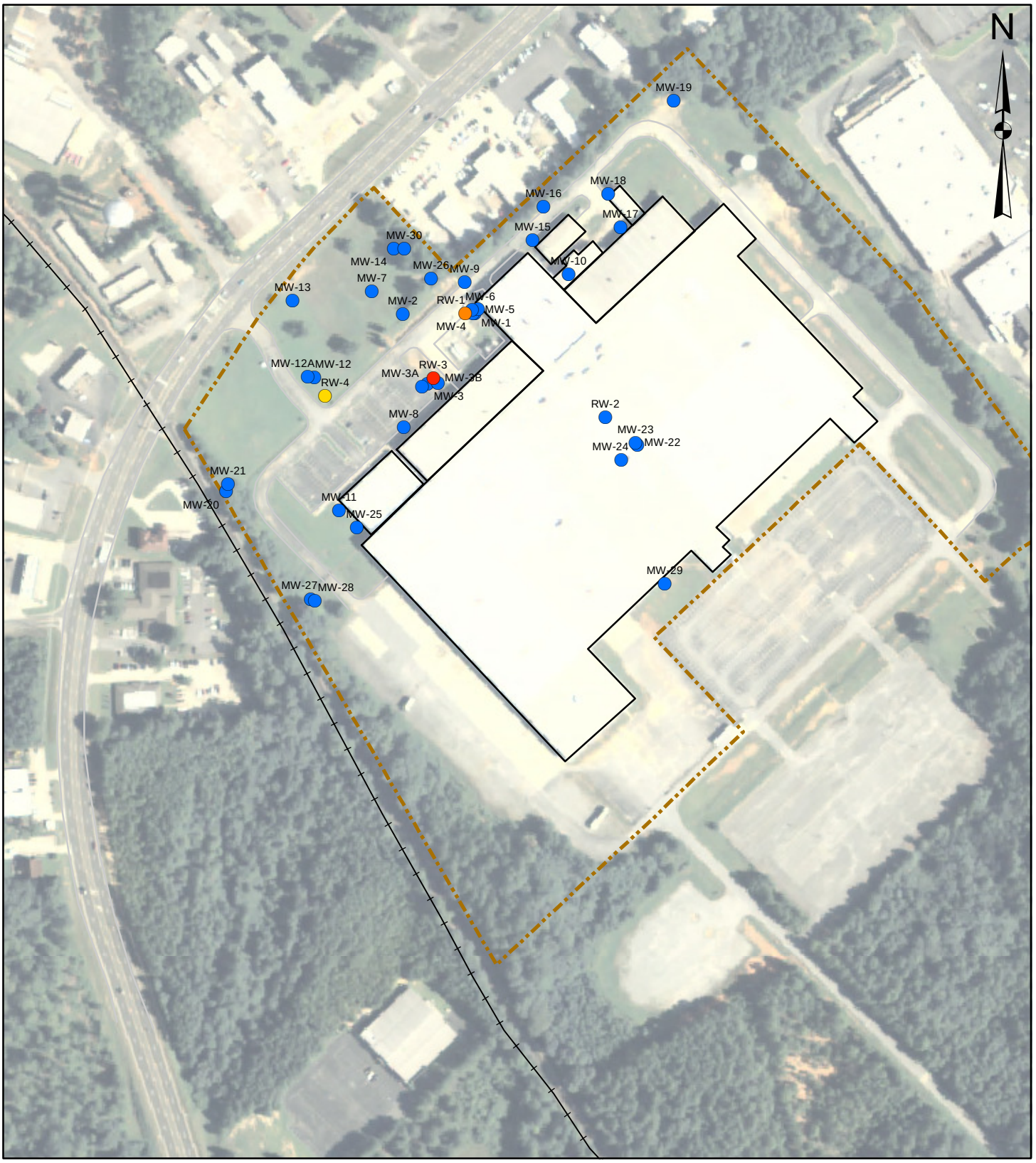
Environmental Planning Specialists, Inc.

Figure No.5F

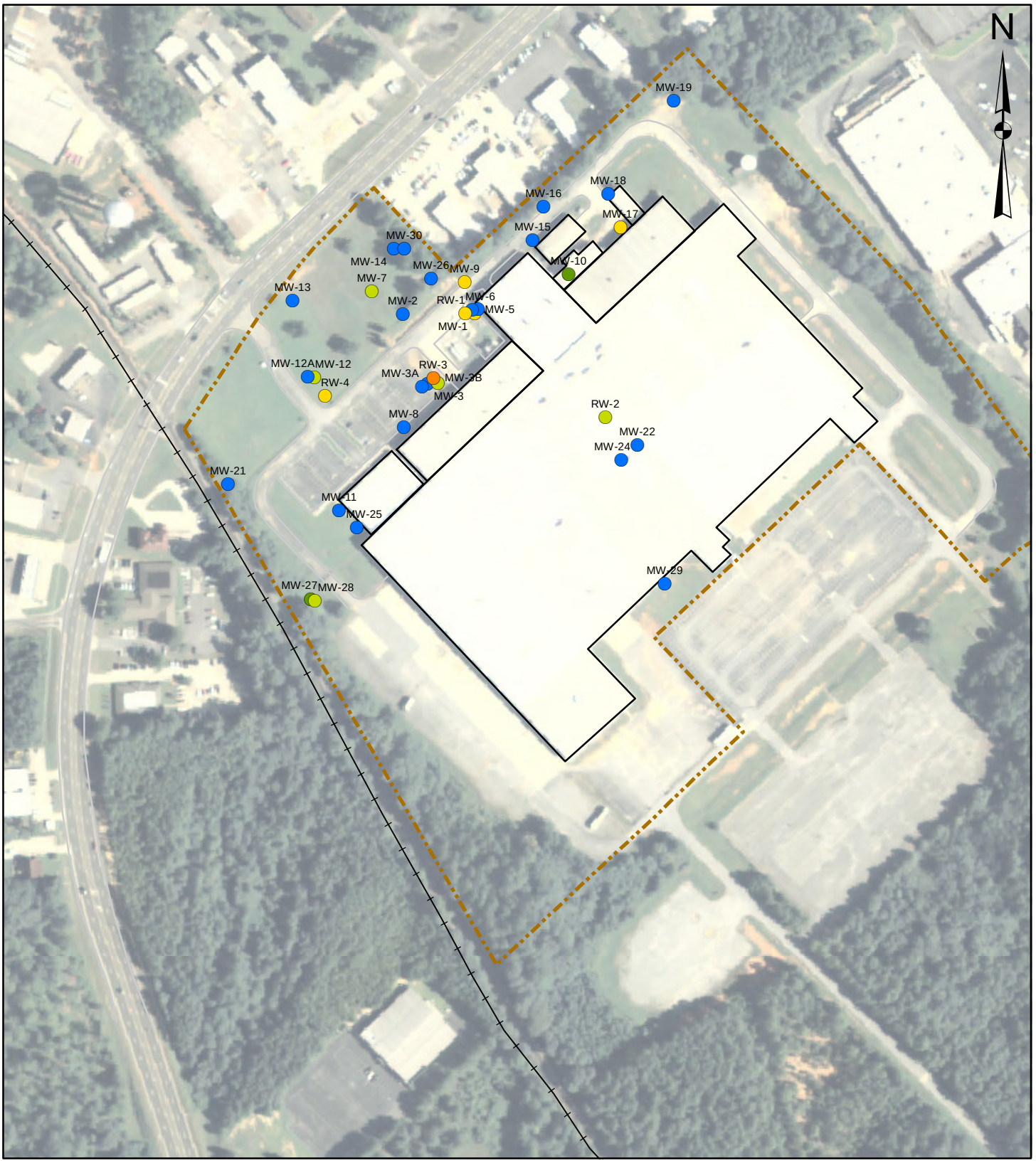
Rheem Manufacturing Company
Areal Distribution of 1,1-Dichloroethene in Groundwater



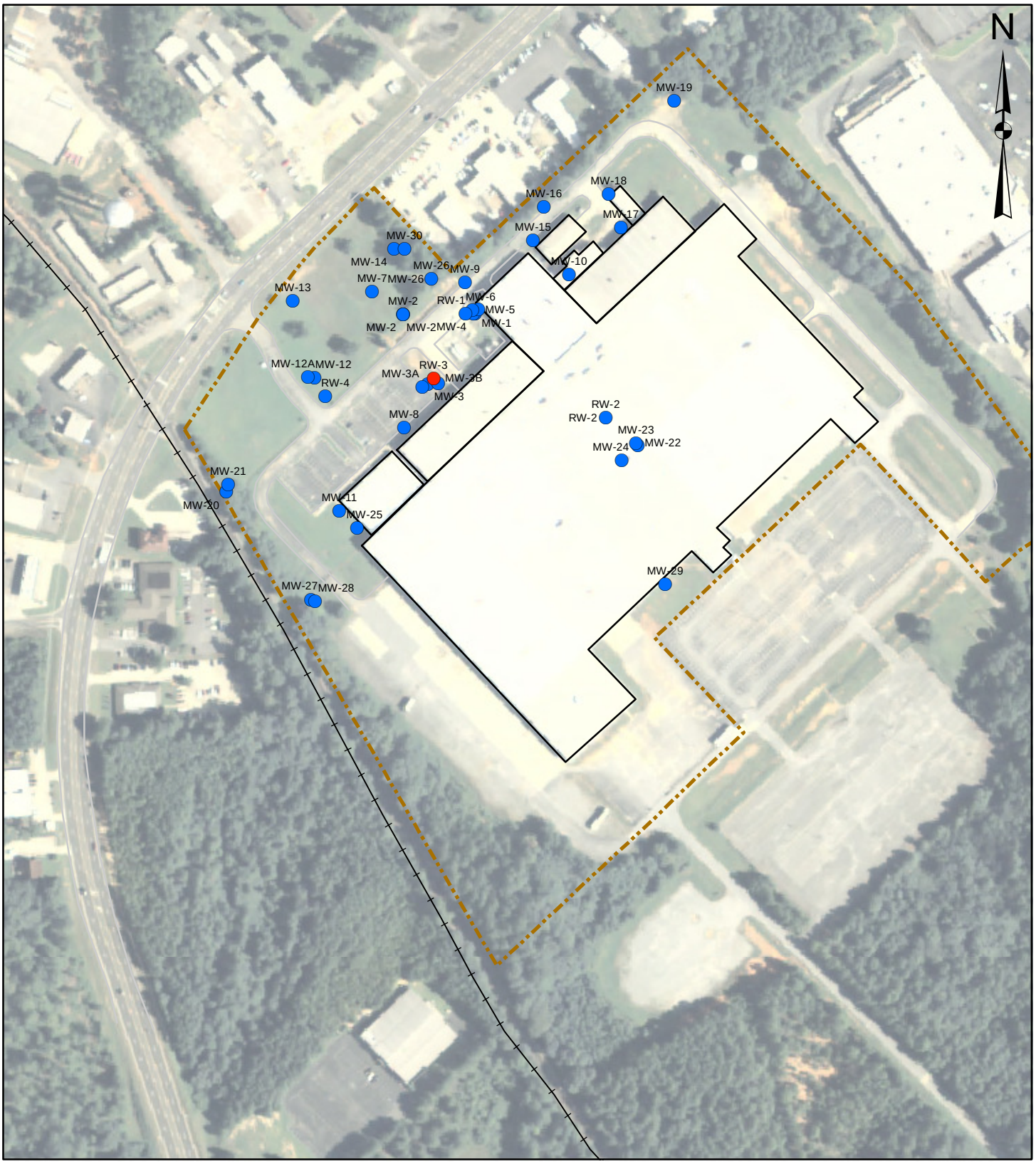
Rheem Manufacturing Company
Areal Distribution of 1,1,2-Trichloroethane in Groundwater



Rheem Manufacturing Company
Areal Distribution of cis-1,2-Dichloroethene in Groundwater



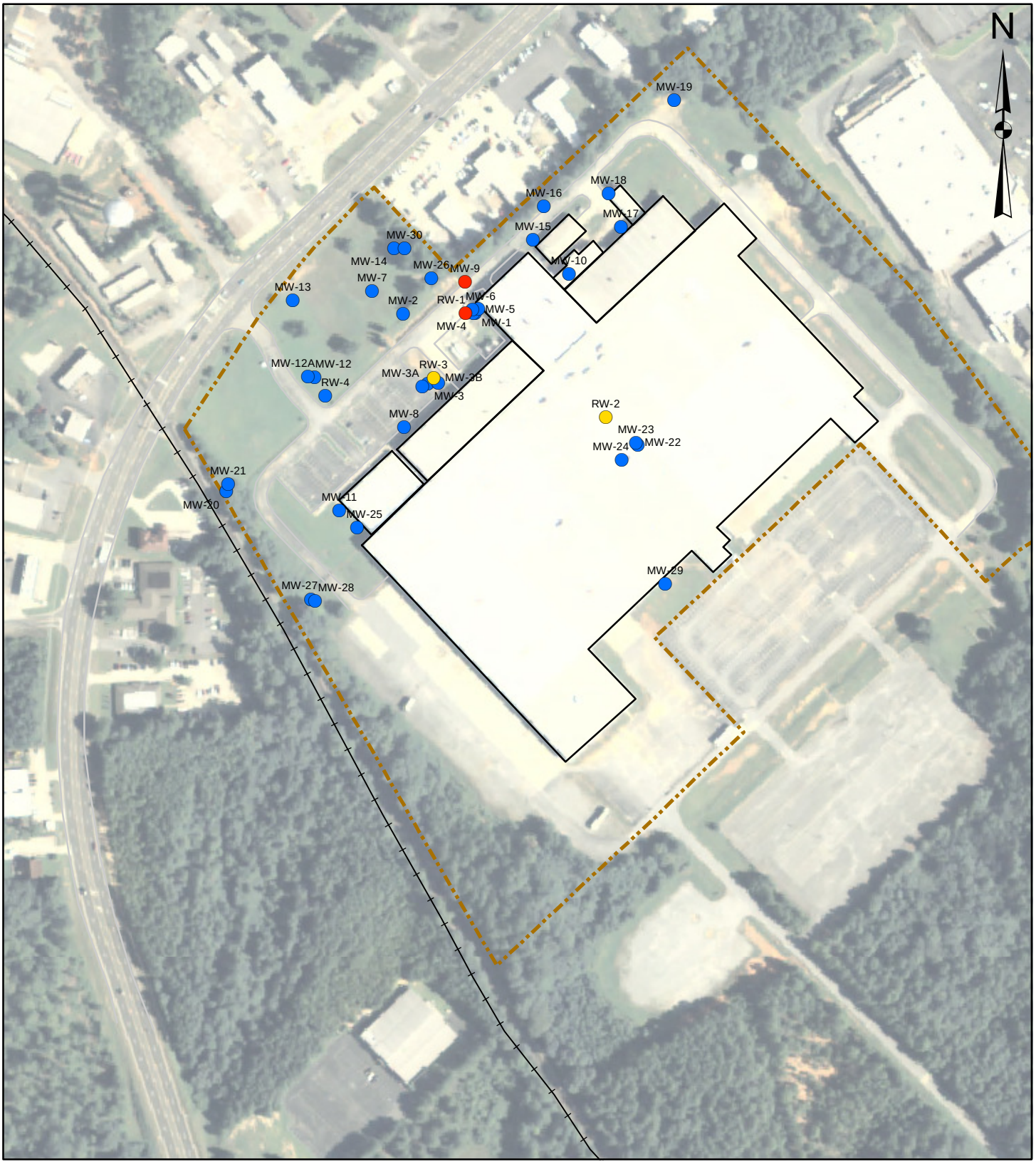
Rheem Manufacturing Company
Areal Distribution of Carbon Tetrachloride in Groundwater



Environmental Planning Specialists, Inc.

Figure No.6D

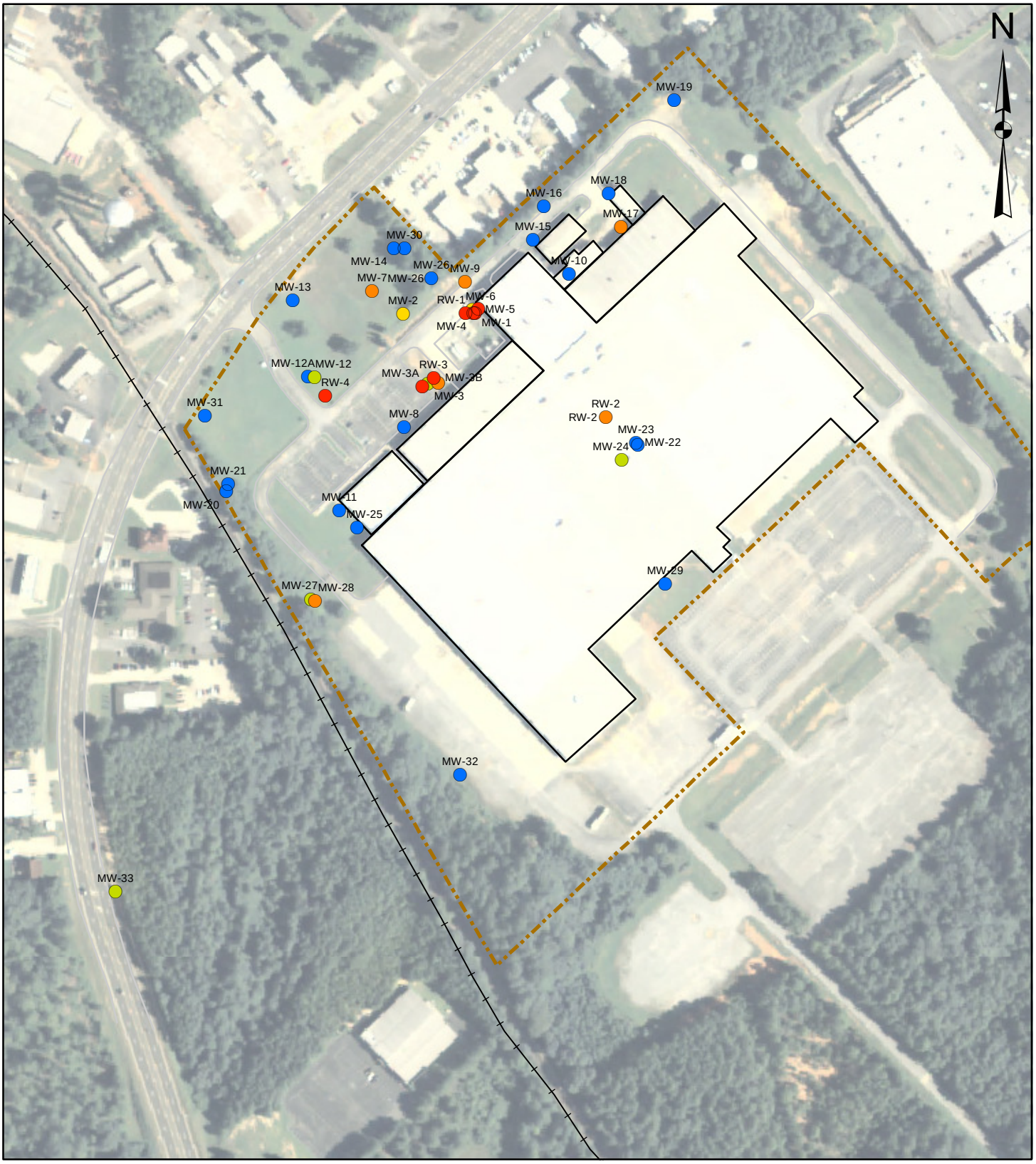
Rheem Manufacturing Company
Areal Distribution of Tetrachloroethene in Groundwater



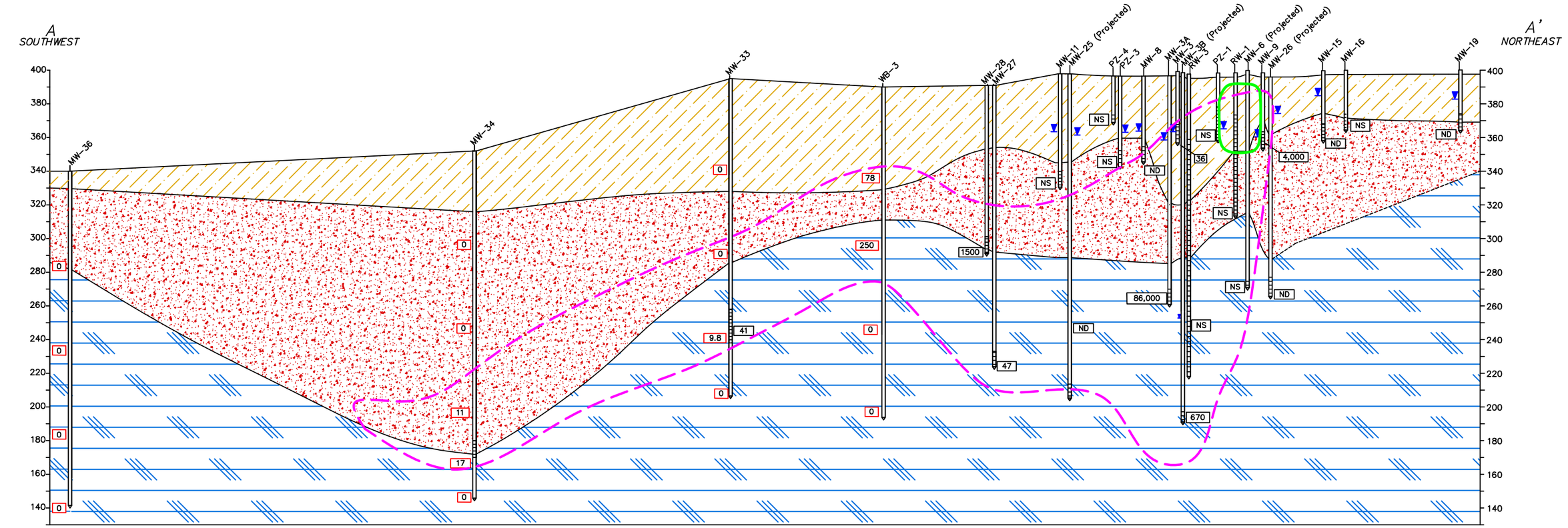
Environmental Planning Specialists, Inc.

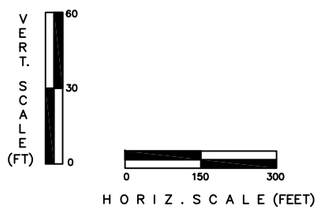
Figure No.6E

Rheem Manufacturing Company
Areal Distribution of Trichloroethene in Groundwater



Hydrogeologic Profile A - A'





LEGEND

- SAPROLITE
- PARTIALLY WEATHERED ROCK
- BEDROCK
- WATER TABLE ELEVATION DECEMBER 2011
- APPROXIMATE TCE GROUNDWATER PLUME
- APPROXIMATE EXTENT OF SOILS ABOVE TCE CSAT (690mg/kg)
- SCREENED INTERVAL
- Projected — WELL PROJECTED INTO PLANE OF CROSS-SECTION
- 100 — TRICHLOROETHENE (TCE) CONCENTRATIONS IN GROUNDWATER (ug/L) [JUNE /JULY 2012]
- NS; ND — NOT SAMPLED; NON-DETECT
- 0 — DISCRETE INTERVAL (PACKER SAMPLE TESTING) TCE CONCENTRATION

EPS

Figure No. 7A

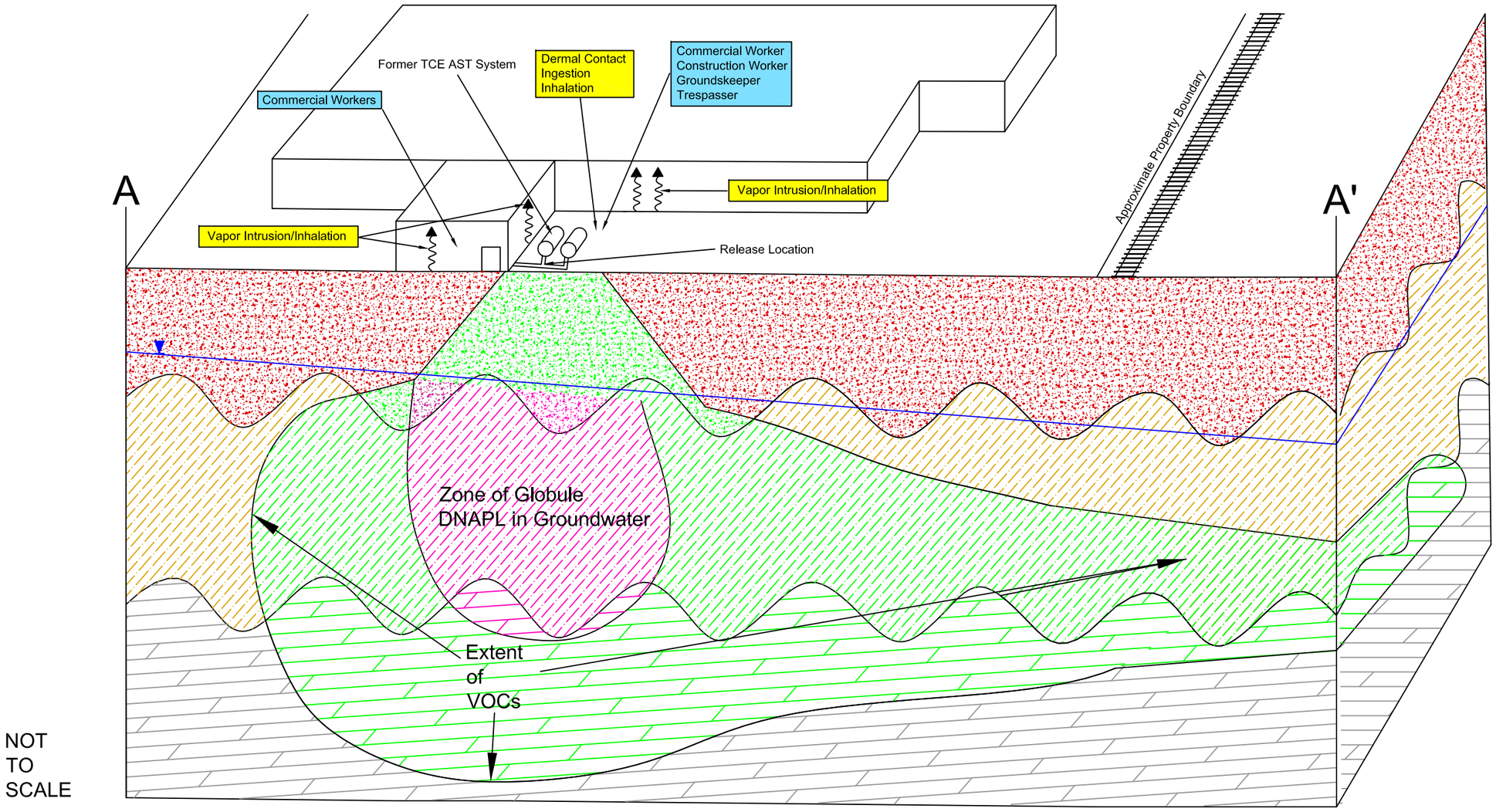
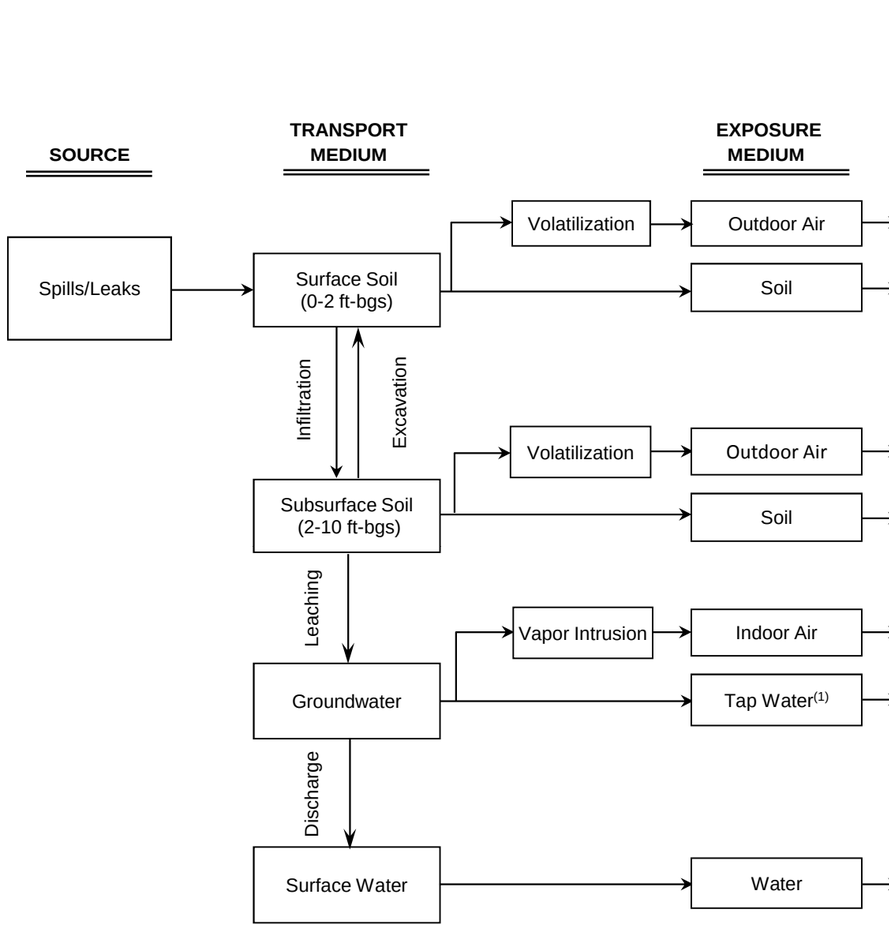

A
A'
Former TCE AST System
Dermal Contact
Ingestion
Inhalation
Commercial Worker
Construction Worker
Groundskeeper
Trespasser
Commercial Workers
Vapor Intrusion/Inhalation
Vapor Intrusion/Inhalation
Release Location
Approximate Property Boundary
Zone of Globule
DNAPL in Groundwater
Extent
of
VOCs
NOT
TO
SCALE
APPROXIMATE WATER TABLE
POTENTIAL EXPOSURE RECEPTOR
POTENTIAL EXPOSURE PATHWAY
APPROXIMATE POTENTIOMETRIC SURFACE
SAPROLITE (GREEN = TCE IMPACTED SOILS)
PARTIALLY WEATHERED ROCK (GREEN = TCE IMPACTED SOILS)
BEDROCK (GREEN = TCE IMPACTED SOILS)

Figure 8
Potential Receptors and Exposure Pathways
Rheem Manufacturing Company
Milledgeville, Georgia



	On-Site						Off-Site		
	Current / Future				Future		Current/Future		
EXPOSURE ROUTE	Site Worker	Groundskeeper	Trespasser	Ecological	Construction Worker	Resident	Resident	Commercial Worker	Ecological
Inhalation	●	●	●	❖	●	●	--	--	--
Ingestion	●	●	●	❖	●	●	--	--	--
Dermal Contact	●	●	●	❖	●	●	--	--	--
Inhalation	--	--	--	--	●	--	--	--	--
Ingestion	--	--	--	--	●	--	--	--	--
Dermal Contact	--	--	--	--	●	--	--	--	--
Inhalation	--	--	--	--	❖	●	❖	❖	--
Ingestion	--	--	--	--	--	--	❖	❖	--
Dermal Contact	--	--	--	--	--	--	❖	❖	--
Ingestion	--	--	--	--	--	--	❖	❖	❖
Dermal Contact	--	--	--	--	--	--	❖	❖	❖

Legend

-- = Incomplete exposure pathway

❖ = Potentially complete exposure pathway, but with minimal exposure potential

● = Potentially complete exposure pathway

Footnotes

(1) This pathway is contengent on installation and use of private wells.

APPENDIX D

Tables

Table 1
Delineation Standards
Rheem Manufacturing Company
Milledgeville, Georgia

Parameters	Soil Type 1 RRS (mg/kg)	GW Type 1 RRS (mg/L)
1,1,1-Trichloroethane	20	0.2
1,1,2,2-Tetrachloroethane	0.13	0.0002
1,1-Dichloroethane	400	4
1,1-Dichloroethene	0.7	0.007
1,1,2-Trichloroethane	0.5	0.005
1,2-Dichloroethane	0.5	0.005
2-Butanone (MEK)	200	2
2-Hexanone	454	Background/DL
4-Methyl-2-pentanone (MIBK)	200	2
Acetone	400	4
Benzene	0.5	0.005
Bromoform	8	0.08
Carbon Disulfide	400	4
Carbon Tetrachloride	0.5	0.005
Chloroform	8	0.08
Chloromethane	0.3	0.003
cis-1,2-Dichloroethene	7	0.07
Dibromochloromethane	8	0.08
Dichlorobromomethane	3.7	0.08
Dichloromethane (Methylene Chloride)	0.5	0.005
Ethylbenzene	70	0.7
Freon-12 (Dichlorodifluoromethane)	23	1
Isopropyl Benzene (Cumene)	22	Background/DL
Methyl tert-Butyl Ether (MTBE)	499	Background/DL
m&p Xylene	1000	10 (total Xylenes)
o-Xylene	1000	10 (total Xylenes)
Tetrachloroethene	0.5	0.005
Toluene	100	1
trans-1,2-Dichloroethene	10	0.1
Trichloroethene	0.5	0.005

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
RRS = Risk Reduction Standard

Table 2
Detected Volatile Organic Compounds Soil (mg/kg)
2008-2010
Rheem Manufacturing Company
Milledgeville, Georgia

Location	Date Sampled	Sample Depth	1,1,1-Trichloroethane	1,1-Dichloroethene	2-Butanone (MEK)	2-Hexanone	Acetone	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethene	Dichlorobromomethane	Dichloromethane (Methylene chloride)	Ethyl benzene	Freon-12	Isopropyl Benzene	Methyl tert-Butyl Ether (MTBE)	m&p-Xylene	o-Xylene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	Trichloroethene
Industrial RSLT			**38000**	**1100**	**200000**	**1400**	**630000**	**3**	**1.5**	**2000**	**3.3**	**960**	**27**	**400**	**11000**	**220**	**2500**	**3000**	**110**	**45000**	**690**	**6.4**
Residential RSLT			**8700**	**240**	**28000**	**210**	**61000**	**0.61**	**0.29**	**160**	**0.68**	**56**	**5.4**	**94**	**2100**	**43**	**590**	**690**	**22**	**5000**	**150**	**0.91**
RSL Risk-Based SSL			**2.6**	**0.093**	**1**	**0.01**	**2.4**	**0.00015**	**0.000053**	**0.0082**	**0.000039**	**0.0025**	**0.0015**	**0.3**	**0.64**	**0.0028**	**0.18**	**0.19**	**0.0044**	**0.59**	**0.025**	**0.00016**
MCL-Based SSL			**0.070**	**0.0025**	**-**	**-**	**-**	**0.0019**	**0.022**	**0.021**	**0.021**	**0.0013**	**0.78**	**-**	**-**	**-**	**-**	**9.8**	**0.0023**	**0.69**	**0.029**	**0.0018**
HA-1	11/04/08	0.5																				<0
HA-1	11/04/08	4																				**0.0161**
HA-2	11/04/08	0.5																				<0.00426
HA-2	11/04/08	4																				<0.00587
HA-3	11/04/08	0.5																				<0.00359
HA-3	11/04/08	4																				<0.00336
SB-1	09/15/08	5																				<0
SB-1	09/15/08	9																				**0.00977**
SB-1	09/15/08	12																				**0.839**
SB-1	09/15/08	20																				**8.64**
SB-2	09/15/08	4																				**0.0633**
SB-2	09/15/08	8																				**0.0658**
SB-2	09/15/08	12																				**0.0837**
SB-2	09/15/08	18																				**0.00858**
SB-3	09/15/08	4																				**0.0197**
SB-3	09/15/08	8																				**0.016**
SB-3	09/15/08	14																				**0.325**
SB-3	09/15/08	18																				**0.0703**
SB-4	09/15/08	4																				**0.023**
SB-4	09/15/08	10																				**0.00936**
SB-4	09/15/08	14																				**0.00953**
SB-4	09/15/08	18																				**0.0123**
SB-5	09/15/08	4																				**0.0107**
SB-5	09/15/08	10																				<0.00441
SB-5	09/15/08	14																				<0.00471
SB-5	09/15/08	20																				**0.0175**
SB-6	09/15/08	4																				**0.821**
SB-6	09/15/08	8																				**0.326**
SB-6	09/15/08	12																				**0.167**
SB-6	09/15/08	20																				**6.04**
SB-7	09/16/08	4																				**19.3**
SB-7	09/16/08	10		<5.4						<5.4											<5.4	**19**
SB-7	09/16/08	14																				**14.7**
SB-7	09/16/08	20																				**104**
SB-7	11/30/09	14																				**130**
SB-7	11/30/09	20																				**260**

Table 2
Detected Volatile Organic Compounds Soil (mg/kg)
2008-2010
Rheem Manufacturing Company
Milledgeville, Georgia

Location	Date Sampled	Sample Depth	1,1,1-Trichloroethane	1,1-Dichloroethene	2-Butanone (MEK)	2-Hexanone	Acetone	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethene	Dichlorobromomethane	Dichloromethane (Methylene chloride)	Ethyl benzene	Freon-12	Isopropyl Benzene	Methyl tert-Butyl Ether (MTBE)	m&p-Xylene	o-Xylene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	Trichloroethene
Industrial RSLT			**38000**	**1100**	**200000**	**1400**	**630000**	**3**	**1.5**	**2000**	**3.3**	**960**	**27**	**400**	**11000**	**220**	**2500**	**3000**	**110**	**45000**	**690**	**6.4**
Residential RSLT			**8700**	**240**	**28000**	**210**	**61000**	**0.61**	**0.29**	**160**	**0.68**	**56**	**5.4**	**94**	**2100**	**43**	**590**	**690**	**22**	**5000**	**150**	**0.91**
RSL Risk-Based SSL			**2.6**	**0.093**	**1**	**0.01**	**2.4**	**0.00015**	**0.000053**	**0.0082**	**0.000039**	**0.0025**	**0.0015**	**0.3**	**0.64**	**0.0028**	**0.18**	**0.19**	**0.0044**	**0.59**	**0.025**	**0.00016**
MCL-Based SSL			**0.070**	**0.0025**	**-**	**-**	**-**	**0.0019**	**0.022**	**0.021**	**0.021**	**0.0013**	**0.78**	**-**	**-**	**-**	**-**	**9.8**	**0.0023**	**0.69**	**0.029**	**0.0018**
SB-8	09/16/08	4																				**5.52**
SB-8	09/16/08	8																				**3.84**
SB-8	09/16/08	14																				**1.65**
SB-8	09/16/08	20																				**25.1**
SB-9	09/16/08	4		<0.0029						<0.0029											<0.0029	**0.00417**
SB-9	09/16/08	10																				<0
SB-9	09/16/08	12																				<0.00351
SB-9	09/16/08	18																				<0.00426
SB-10	09/16/08	4																				<0.00335
SB-10	09/16/08	6																				<0.00325
SB-10	09/16/08	12																				<0.00422
SB-10	09/16/08	18																				<0.00407
DUP-1	09/16/08	18																				<0.00389
SB-11	09/16/08	4																				**0.011**
SB-11	09/16/08	8																				**0.053**
SB-11	09/16/08	14		<0.0042						0.015											<0.0042	**0.0719**
SB-11	09/16/08	20																				**0.0171**
SB-12	09/16/08	4																				<0.0039
SB-12	09/16/08	6																				<0.0046
SB-12	09/16/08	14																				<0.00426
SB-12	09/16/08	18																				<0.00811
SB-13	09/16/08	4		<0.0041						<0.0041											<0.0041	<0
SB-13	09/16/08	8																				<0.00363
SB-13	09/16/08	12																				<0.00399
SB-13	09/16/08	20																				<0.0039
DUP-2	09/16/08	20																				<0.00438
SB-14	09/16/08	4																				**0.007**
SB-14	09/16/08	10																				**0.00664**
SB-14	09/16/08	14																				**2.5**
SB-14	09/16/08	20		<0.0043						<0.0043											<0.0043	**5.63**
SB-15	09/16/08	4																				**3.59**
SB-15	09/16/08	8		<0.27						<0.27											<0.27	**6.56**
SB-15	09/16/08	12																				**37**
SB-15	09/16/08	20		<1.9						<1.9											<1.9	**29.7**

Table 2
Detected Volatile Organic Compounds Soil (mg/kg)
2008-2010
Rheem Manufacturing Company
Milledgeville, Georgia

Location	Date Sampled	Sample Depth	1,1,1-Trichloroethane	1,1-Dichloroethene	2-Butanone (MEK)	2-Hexanone	Acetone	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethene	Dichlorobromomethane	Dichloromethane (Methylene chloride)	Ethyl benzene	Freon-12	Isopropyl Benzene	Methyl tert-Butyl Ether (MTBE)	m&p-Xylene	o-Xylene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	Trichloroethene
Industrial RSLT			**38000**	**1100**	**200000**	**1400**	**630000**	**3**	**1.5**	**2000**	**3.3**	**960**	**27**	**400**	**11000**	**220**	**2500**	**3000**	**110**	**45000**	**690**	**6.4**
Residential RSLT			**8700**	**240**	**28000**	**210**	**61000**	**0.61**	**0.29**	**160**	**0.68**	**56**	**5.4**	**94**	**2100**	**43**	**590**	**690**	**22**	**5000**	**150**	**0.91**
RSL Risk-Based SSL			**2.6**	**0.093**	**1**	**0.01**	**2.4**	**0.00015**	**0.000053**	**0.0082**	**0.000039**	**0.0025**	**0.0015**	**0.3**	**0.64**	**0.0028**	**0.18**	**0.19**	**0.0044**	**0.59**	**0.025**	**0.00016**
MCL-Based SSL			**0.070**	**0.0025**	**-**	**-**	**-**	**0.0019**	**0.022**	**0.021**	**0.021**	**0.0013**	**0.78**	**-**	**-**	**-**	**-**	**9.8**	**0.0023**	**0.69**	**0.029**	**0.0018**
SB-16	09/16/08	4																				<0.0032
SB-16	09/16/08	8																				<0.00443
SB-16	09/16/08	12																				**0.00593**
SB-16	09/16/08	20																				**0.0302**
SB-17	09/16/08	4																				**0.0167**
SB-17	09/16/08	8																				<0.0041
SB-17	09/16/08	12																				<0.00403
SB-17	09/16/08	20																				<0.00405
SB-18	09/17/08	4																				<0
SB-18	09/17/08	6																				**0.816**
SB-19	09/17/08	4		<0.0032						0.0041											<0.0032	**0.112**
SB-19	09/17/08	10																				**0.163**
SB-19	09/17/08	14																				**0.694**
SB-19	09/17/08	16																				**6.06**
DUP-3	09/16/08	16																				**0.41**
SB-20	09/17/08	4		<0.17						<0.17											<0.17	**0.364**
SB-20	09/17/08	10		<250						<250											<250	**2540**
SB-20	09/17/08	14																				**36.6**
SB-20	09/17/08	20																				**27.9**
SB-21	09/17/08	4																				**0.397**
SB-21	09/17/08	10																				**19.4**
SB-21	09/17/08	14		<150						<150											<150	**4320**
SB-21	09/17/08	20		<21						<21											<21	**198**
SB-22	09/17/08	4																				**7.28**
SB-22	09/17/08	10		<320						<320											<320	**6960**
SB-22	09/17/08	14		<140						<140											<140	**7600**
SB-22	09/17/08	18		<230						<230											<230	**10500**
SB-23	09/17/08	4																				**0.264**
SB-23	09/17/08	8																				<0.00322
SB-23	09/17/08	13		<0.16						<0.16											<0.16	**1.17**
DUP-4	09/17/08	13																				**0.187**
SB-24	09/17/08	4																				<0.00295
SB-24	09/17/08	8		<0.0025						<0.0025											<0.0025	**0.0352**
SB-24	09/17/08	14																				**0.253**
SB-24	09/17/08	20																				**0.0818**

Table 2
Detected Volatile Organic Compounds Soil (mg/kg)
2008-2010
Rheem Manufacturing Company
Milledgeville, Georgia

Location	Date Sampled	Sample Depth	1,1,1-Trichloroethane	1,1-Dichloroethene	2-Butanone (MEK)	2-Hexanone	Acetone	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethene	Dichlorobromomethane	Dichloromethane (Methylene chloride)	Ethyl benzene	Freon-12	Isopropyl Benzene	Methyl tert-Butyl Ether (MTBE)	m&p-Xylene	o-Xylene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	Trichloroethene
Industrial RSLT			**38000**	**1100**	**200000**	**1400**	**630000**	**3**	**1.5**	**2000**	**3.3**	**960**	**27**	**400**	**11000**	**220**	**2500**	**3000**	**110**	**45000**	**690**	**6.4**
Residential RSLT			**8700**	**240**	**28000**	**210**	**61000**	**0.61**	**0.29**	**160**	**0.68**	**56**	**5.4**	**94**	**2100**	**43**	**590**	**690**	**22**	**5000**	**150**	**0.91**
RSL Risk-Based SSL			**2.6**	**0.093**	**1**	**0.01**	**2.4**	**0.00015**	**0.000053**	**0.0082**	**0.000039**	**0.0025**	**0.0015**	**0.3**	**0.64**	**0.0028**	**0.18**	**0.19**	**0.0044**	**0.59**	**0.025**	**0.00016**
MCL-Based SSL			**0.070**	**0.0025**	**-**	**-**	**-**	**0.0019**	**0.022**	**0.021**	**0.021**	**0.0013**	**0.78**	**-**	**-**	**-**	**-**	**9.8**	**0.0023**	**0.69**	**0.029**	**0.0018**
SB-25	09/17/08	4																				<0
SB-25	09/17/08	8																				**0.654**
SB-25	09/17/08	14																				**25.2**
SB-25	09/17/08	20		<18						<18											<18	**108**
SB-26	09/17/08	4		<0.16						<0.16											<0.16	**2.25**
SB-26	09/17/08	8																				**13.3**
DUP-5	09/17/08	8																				**3.01**
SB-26	09/17/08	14		<170						<170											<170	**18200**
SB-26	09/17/08	20		<180						<180											<180	**11400**
SB-27	09/17/08	4																				**0.682**
SB-27	09/17/08	8																				**9.6**
SB-27	09/17/08	14																				**8.82**
SB-27	09/17/08	20																				**20.2**
SB-28	09/17/08	8																				**0.0113**
SB-28	09/17/08	14																				**0.00874**
SB-28	09/17/08	20																				**0.0592**
DUP-6	09/17/08	20																				**0.0288**
SB-29	09/17/08	4																				**0.0288**
SB-29	09/17/08	8																				**0.243**
SB-29	09/17/08	14																				**1.98**
SB-29	09/17/08	20																				**2.81**
SB-30	11/30/09	4																				**2.6**
SB-30	11/30/09	10																				**55**
SB-30	11/30/09	14																				**88**
SB-30	11/30/09	18																				**100**
SB-31	11/30/09	4																				**24**
SB-31	11/30/09	8																				**5200**
SB-31	11/30/09	14																				**350**
SB-31	11/30/09	18																				**140**
SB-32	11/30/09	4																				**11**
SB-32	11/30/09	10																				**50**
SB-32	11/30/09	14																				**60**
SB-32	11/30/09	20																				**50**

Table 2
Detected Volatile Organic Compounds Soil (mg/kg)
2008-2010
Rheem Manufacturing Company
Milledgeville, Georgia

Location	Date Sampled	Sample Depth	1,1,1-Trichloroethane	1,1-Dichloroethene	2-Butanone (MEK)	2-Hexanone	Acetone	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethene	Dichlorobromomethane	Dichloromethane (Methylene chloride)	Ethyl benzene	Freon-12	Isopropyl Benzene	Methyl tert-Butyl Ether (MTBE)	m&p-Xylene	o-Xylene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	Trichloroethene
Industrial RSLT			**38000**	**1100**	**200000**	**1400**	**630000**	**3**	**1.5**	**2000**	**3.3**	**960**	**27**	**400**	**11000**	**220**	**2500**	**3000**	**110**	**45000**	**690**	**6.4**
Residential RSLT			**8700**	**240**	**28000**	**210**	**61000**	**0.61**	**0.29**	**160**	**0.68**	**56**	**5.4**	**94**	**2100**	**43**	**590**	**690**	**22**	**5000**	**150**	**0.91**
RSL Risk-Based SSL			**2.6**	**0.093**	**1**	**0.01**	**2.4**	**0.00015**	**0.000053**	**0.0082**	**0.000039**	**0.0025**	**0.0015**	**0.3**	**0.64**	**0.0028**	**0.18**	**0.19**	**0.0044**	**0.59**	**0.025**	**0.00016**
MCL-Based SSL			**0.070**	**0.0025**	**-**	**-**	**-**	**0.0019**	**0.022**	**0.021**	**0.021**	**0.0013**	**0.78**	**-**	**-**	**-**	**-**	**9.8**	**0.0023**	**0.69**	**0.029**	**0.0018**
SB-33	11/30/09	4																				**29**
SB-33	11/30/09	10																				**21**
SB-33	11/30/09	14																				**52**
DUP	11/30/09	14																				**54**
SB-33	11/30/09	18																				**35**
SB-34	12/01/09	4																				**20**
SB-34	12/01/09	10																				**41**
SB-34	12/01/09	14																				**62**
SB-34	12/01/09	20																				**62**
SB-35	12/01/09	14																				**820**
SB-35	12/01/09	18																				**150**
SB-36	12/01/09	12																				**74**
SB-36	12/01/09	20																				**720**
SB-37	12/01/09	10																				**40**
SB-37	12/01/09	16																				**120**
SB-38	12/01/09	8																				**16**
SB-38	12/01/09	18																				**9700**
SB-39	12/01/09	10																				**17000**
SB-39	12/01/09	20																				**11**
SB-40	12/01/09	6																				**12**
SB-40	12/01/09	10																				**4.9**
SB-41	12/01/09	10																				**40**
SB-41	12/01/09	18																				**8400**
SB-42	12/01/09	8																				**38**
SB-42	12/01/09	24																				**380**
SB-43	12/01/09	16																				**5400**
SB-43	12/01/09	24																				**160**
SB-44	12/02/09	10																				**11000**
SB-44	12/02/09	20																				**340**
SB-45	12/02/09	8																				**15000**
SB-45	12/02/09	20																				**7600**
SB-46	12/02/09	18																				**110**
SB-46	12/02/09	20																				**120**
SB-47	12/02/09	8																				**32**
SB-47	12/02/09	12																				**6000**

Table 2
Detected Volatile Organic Compounds Soil (mg/kg)
2008-2010
Rheem Manufacturing Company
Milledgeville, Georgia

Location	Date Sampled	Sample Depth	1,1,1-Trichloroethane	1,1-Dichloroethene	2-Butanone (MEK)	2-Hexanone	Acetone	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethene	Dichlorobromomethane	Dichloromethane (Methylene chloride)	Ethyl benzene	Freon-12	Isopropyl Benzene	Methyl tert-Butyl Ether (MTBE)	m&p-Xylene	o-Xylene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	Trichloroethene
Industrial RSLT			**38000**	**1100**	**200000**	**1400**	**630000**	**3**	**1.5**	**2000**	**3.3**	**960**	**27**	**400**	**11000**	**220**	**2500**	**3000**	**110**	**45000**	**690**	**6.4**
Residential RSLT			**8700**	**240**	**28000**	**210**	**61000**	**0.61**	**0.29**	**160**	**0.68**	**56**	**5.4**	**94**	**2100**	**43**	**590**	**690**	**22**	**5000**	**150**	**0.91**
RSL Risk-Based SSL			**2.6**	**0.093**	**1**	**0.01**	**2.4**	**0.00015**	**0.000053**	**0.0082**	**0.000039**	**0.0025**	**0.0015**	**0.3**	**0.64**	**0.0028**	**0.18**	**0.19**	**0.0044**	**0.59**	**0.025**	**0.00016**
MCL-Based SSL			**0.070**	**0.0025**	-	-	-	**0.0019**	**0.022**	**0.021**	**0.021**	**0.0013**	**0.78**	-	-	-	-	**9.8**	**0.0023**	**0.69**	**0.029**	**0.0018**
SB-48	12/02/09	10																				**130**
SB-48	12/02/09	22																				**78000**
SB-49	12/02/09	16																				**17**
SB-49	12/02/09	20																				**55**
SB-50	12/03/09	4		<3.5						<3.5											<3.5	**24**
DUP	12/03/09	4		<4.2						<4.2											<4.2	**32**
SB-50	12/03/09	14		<150						<150											<150	**1200**
SB-50	12/03/09	20		<0.0033						<0.0033											<0.0033	**0.18**
SB-51	03/30/10	4	<0.0046	<0.0046	<0.046		<0.092	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0092			<0.0092	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046
SB-51	03/30/10	10	<0.0059	<0.0059	<0.059		<0.12	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.012			<0.012	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059
SB-51	03/30/10	15	<0.0054	<0.0054	<0.054		<0.11	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.011			<0.011	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054
SB-52	03/30/10	2	<0.0048	<0.0048	<0.048		<0.096	<0.0048	0.013	**0.012**	<0.0048	<0.0048	<0.0048	<0.0096			<0.0096	<0.0048	<0.0048	<0.0048	<0.0048	**3.4**
SB-52	03/30/10	8	<0.0039	**0.0052**	<0.039		<0.078	<0.0039	0.017	**0.025**	<0.0039	<0.0039	<0.0039	<0.0078			<0.0078	<0.0039	<0.0039	<0.0039	<0.0039	**11**
SB-52	03/30/10	14	<0.0059	**0.018**	<0.059		<0.12	<0.0059	0.026	**0.098**	<0.0059	**0.014**	<0.0059	<0.012			<0.012	<0.0059	<0.0059	<0.0059	<0.0059	**7.2**
SB-52	03/30/10	20	**0.011**	**0.027**	<0.033		<0.066	<0.0033	0.013	**0.13**	<0.0033	**0.064**	<0.0033	<0.0066			<0.0066	<0.0033	<0.0033	<0.0033	<0.0033	**38**
SB-53	03/30/10	4	<0.0033	<0.0033	<0.033		**0.13**	<0.0033	0.0098	**0.069**	<0.0033	<0.0033	<0.0033	<0.0065			<0.0065	<0.0033	<0.0033	<0.0033	<0.0033	**6**
SB-53	03/30/10	8	<0.0032	**0.0039**	<0.032		<0.064	<0.0032	0.011	**0.16**	<0.0032	<0.0032	<0.0032	<0.0064			<0.0064	<0.0032	<0.0032	<0.0032	<0.0032	**2.3**
SB-53	03/30/10	12	<0.0041	<0.0041	<0.041		<0.082	<0.0041	<0.0041	**0.044**	<0.0041	<0.0041	<0.0041	<0.0082			<0.0082	<0.0041	<0.0041	<0.0041	<0.0041	**1.8**
SB-54	03/30/10	4	<0.0045	<0.0045	<0.045		**0.44**	<0.0045	0.035	**0.14**	<0.0045	<0.0045	<0.0045	<0.0089			<0.0089	<0.0045	0.0073	<0.0045	**0.015**	**9.6**
SB-54	03/30/10	10	<0.0032	<0.0032	<0.032		<0.063	<0.0032	0.014	**0.093**	<0.0032	<0.0032	<0.0032	<0.0063			<0.0063	<0.0032	<0.0032	<0.0032	**0.0061**	**0.51**
SB-54	03/30/10	12	<0.0036	<0.0036	<0.036		<0.072	<0.0036	0.016	**0.14**	<0.0036	<0.0036	<0.0036	<0.0072			<0.0072	<0.0036	<0.0036	<0.0036	**0.01**	**0.94**
SB-54	03/30/10	20	<0.0038	<0.0038	<0.038		<0.075	<0.0038	<0.0038	**0.016**	<0.0038	<0.0038	<0.0038	<0.0075			<0.0075	<0.0038	<0.0038	<0.0038	<0.0038	**0.11**
SB-55	03/30/10	2	<0.0058	<0.0058	<0.058		<0.12	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.012			<0.012	<0.0058	<0.0058	<0.0058	<0.0058	**0.14**
SB-55	03/30/10	8	<0.0034	<0.0034	<0.034		<0.067	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0067			<0.0067	<0.0034	<0.0034	<0.0034	<0.0034	**<0.17**
SB-55	03/30/10	14	<0.004	<0.004	<0.04		<0.081	<0.004	<0.004	**0.0043**	<0.004	<0.004	<0.004	<0.0081			<0.0081	<0.004	<0.004	<0.004	<0.004	**0.15**
SB-55	03/30/10	16	<0.0037	<0.0037	<0.037		<0.074	<0.0037	<0.0037	**0.0041**	<0.0037	<0.0037	<0.0037	<0.0074			<0.0074	<0.0037	<0.0037	<0.0037	<0.0037	**0.56**
SB-56	03/30/10	2	<0.0036	<0.0036	<0.036		<0.072	<0.0036	**0.0091**	**0.024**	<0.0036	<0.0036	<0.0036	<0.0072			<0.0072	<0.0036	<0.0036	<0.0036	<0.0036	**0.51**
SB-56	03/30/10	10	<0.0044	<0.0044	<0.044		<0.089	<0.0044	**0.0045**	**0.02**	<0.0044	<0.0044	<0.0044	<0.0089			<0.0089	<0.0044	<0.0044	<0.0044	<0.0044	**0.083**
SB-56	03/30/10	14	<0.003	<0.003	<0.03		<0.059	<0.003	**0.021**	**0.11**	<0.003	<0.003	<0.003	<0.0059			<0.0059	<0.003	<0.003	<0.003	<0.003	**0.36**
SB-56	03/30/10	18	<0.0033	<0.0033	<0.033		<0.067	<0.0033	**0.011**	**0.059**	<0.0033	<0.0033	<0.0033	<0.0067			<0.0067	<0.0033	<0.0033	<0.0033	<0.0033	**0.93**
SB-57	03/30/10	4	<0.0036	<0.0036	<0.036		<0.073	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0073			<0.0073	<0.0036	<0.0036	<0.0036	<0.0036	**0.061**
SB-57	03/30/10	8	<0.0044	<0.0044	<0.044		<0.088	<0.0044	<0.0044	**0.0073**	<0.0044	<0.0044	<0.0044	<0.0088			<0.0088	<0.0044	<0.0044	<0.0044	<0.0044	**0.4**
SB-58	03/31/10	4	<0.0032	<0.0032	<0.032		<0.064	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0064			<0.0064	<0.0032	<0.0032	<0.0032	<0.0032	**1.7**
SB-58	03/31/10	6	<0.0037	<0.0037	<0.037		<0.074	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0074			<0.0074	<0.0037	<0.0037	<0.0037	<0.0037	**1.5**
SB-58	03/31/10	12	<0.0037	<0.0037	<0.037		<0.074	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0074			<0.0074	<0.0037	<0.0037	<0.0037	<0.0037	**0.82**
SB-58	03/31/10	16	<0.0036	<0.0036	<0.036		<0.073	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0073			<0.0073	<0.0036	<0.0036	<0.0036	<0.0036	**0.89**

Table 2
Detected Volatile Organic Compounds Soil (mg/kg)
2008-2010
Rheem Manufacturing Company
Milledgeville, Georgia

Location	Date Sampled	Sample Depth	1,1,1-Trichloroethane	1,1-Dichloroethene	2-Butanone (MEK)	2-Hexanone	Acetone	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethene	Dichlorobromomethane	Dichloromethane (Methylene chloride)	Ethyl benzene	Freon-12	Isopropyl Benzene	Methyl tert-Butyl Ether (MTBE)	m&p-Xylene	o-Xylene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	Trichloroethene
Industrial RSLT			**38000**	**1100**	**200000**	**1400**	**630000**	**3**	**1.5**	**2000**	**3.3**	**960**	**27**	**400**	**11000**	**220**	**2500**	**3000**	**110**	**45000**	**690**	**6.4**
Residential RSLT			**8700**	**240**	**28000**	**210**	**61000**	**0.61**	**0.29**	**160**	**0.68**	**56**	**5.4**	**94**	**2100**	**43**	**590**	**690**	**22**	**5000**	**150**	**0.91**
RSL Risk-Based SSL			**2.6**	**0.093**	**1**	**0.01**	**2.4**	**0.00015**	**0.000053**	**0.0082**	**0.000039**	**0.0025**	**0.0015**	**0.3**	**0.64**	**0.0028**	**0.18**	**0.19**	**0.0044**	**0.59**	**0.025**	**0.00016**
MCL-Based SSL			**0.070**	**0.0025**	-	-	-	**0.0019**	**0.022**	**0.021**	**0.021**	**0.0013**	**0.78**	-	-	-	-	**9.8**	**0.0023**	**0.69**	**0.029**	**0.0018**
SB-59	03/31/10	10	<0.0046	<0.0046	<0.046		<0.093	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0093			<0.0093	<0.0046	**0.0097**	<0.0046	<0.0046	**8.9**
SB-59	03/31/10	16	<0.0038	<0.0038	<0.038		<0.075	<0.0038	**0.0046**	<0.0038	<0.0038	<0.0038	<0.0038	<0.0075			<0.0075	<0.0038	**0.011**	<0.0038	<0.0038	**0.96**
SB-60	03/31/10	16	<0.24	<0.24	<2.4		<4.7	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.47			<0.47	<0.24	<0.24	<0.24	<0.24	**29**
SB-61	04/01/10	1	<0.0032	<0.0032	<0.032		<0.063	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032	<0.0063			<0.0063	<0.0032	<0.0032	<0.0032	<0.0032	**0.0098**
SB-61	03/30/10	2	<0.0046	<0.0046	<0.046		<0.091	<0.0046	<0.0046	**0.0076**	<0.0046	<0.0046	<0.0046	<0.0091			<0.0091	<0.0046	<0.0046	<0.0046	<0.0046	**1.9**
SB-61	03/31/10	10	<0.2	<0.2	<2		<3.9	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.39			<0.39	<0.2	<0.2	<0.2	<0.2	**16**
SB-61	03/31/10	14	<0.004	<0.004	<0.04		**0.13**	**0.015**	**0.022**	**0.44**	**0.018**	<0.004	**0.014**	<0.008			**0.041**	**0.053**	0.0075	0.0043	<0.004	**26**
SB-61	03/31/10	16	<0.23	<0.23	<2.3		<4.6	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.46			<0.46	<0.23	<0.23	<0.23	<0.23	**23**
SB-62	04/01/10	1	<0.0033	<0.0033	<0.033		**0.28**	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0066			<0.0066	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033
SB-62	03/30/10	4	<0.0061	<0.0061	<0.061		<0.12	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.012			<0.012	<0.0061	<0.0061	<0.0061	<0.0061	**0.015**
SB-62	03/31/10	8	<0.0054	<0.0054	<0.054		<0.11	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.011			<0.011	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054
SB-62	03/31/10	12	<0.0037	<0.0037	<0.037		<0.074	<0.0037	<0.0037	**0.031**	<0.0037	<0.0037	<0.0037	<0.0074			<0.0074	<0.0037	<0.0037	<0.0037	<0.0037	**0.024**
DUP-1	03/31/10	12	<0.0033	<0.0033	<0.033		<0.065	<0.0033	<0.0033	**0.033**	<0.0033	<0.0033	<0.0033	<0.0065			<0.0065	<0.0033	<0.0033	<0.0033	<0.0033	**0.025**
SB-62	03/31/10	16	<0.0033	<0.0033	<0.033		<0.067	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0067			<0.0067	<0.0033	<0.0033	<0.0033	<0.0033	**0.0036**
SB-63	03/31/10	4	<0.0035	<0.0035	<0.035		<0.069	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0069			<0.0069	<0.0035	<0.0035	<0.0035	<0.0035	**0.011**
SB-63	03/31/10	10	<0.0044	<0.0044	<0.044		<0.087	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	**0.016**			<0.0087	<0.0044	<0.0044	<0.0044	<0.0044	**0.1**
SB-63	03/31/10	14	<0.004	<0.004	<0.04		<0.08	<0.004	<0.004	**0.017**	<0.004	<0.004	<0.004	**0.079**			<0.008	<0.004	<0.004	<0.004	<0.004	**0.49**
SB-63	03/31/10	18	<0.0034	<0.0034	<0.034		<0.068	<0.0034	<0.0034	**0.011**	<0.0034	<0.0034	<0.0034	**0.043**			<0.0068	<0.0034	<0.0034	<0.0034	<0.0034	**0.15**
SB-64	03/31/10	4	<0.0039	<0.0039	<0.039		<0.077	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	**0.066**			<0.0077	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039
SB-64	03/31/10	8	<0.0045	<0.0045	<0.045		<0.089	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	**0.061**			<0.0089	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045
SB-64	03/31/10	14	<0.0037	<0.0037	<0.037		<0.074	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	**0.07**			<0.0074	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037
DUP-2	03/31/10	14	<0.0037	<0.0037	<0.037		<0.074	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0074			<0.0074	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037
SB-64	03/31/10	18	<0.0044	<0.0044	<0.044		<0.089	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	**0.086**			<0.0089	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044
SB-66	03/31/10	2	<0.005	<0.005	<0.05		<0.1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01			<0.01	<0.005	<0.005	<0.005	<0.005	<0.005
SB-66	03/31/10	6	<0.0047	<0.0047	<0.047		<0.094	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0094			<0.0094	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047
SB-66	03/31/10	12	<0.0041	<0.0041	<0.041		<0.081	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0081			<0.0081	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041
SB-67	04/01/10	1	<0.0043	<0.0043	<0.043		<0.085	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0085			<0.0085	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043
SB-67	03/31/10	4	<0.0041	<0.0041	<0.041		<0.082	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0082			<0.0082	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041
SB-67	03/31/10	6	<0.0047	<0.0047	<0.047		<0.093	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0093			<0.0093	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047
DUP-3	03/31/10	6	<0.004	<0.004	<0.04		<0.08	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.008			<0.008	<0.004	<0.004	<0.004	<0.004	<0.004
SB-67	03/31/10	12	<0.0034	<0.0034	<0.034		<0.068	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0068			<0.0068	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034
SB-68	04/01/10	1	<0.0028	<0.0028	<0.028		**0.085**	<0.0028	<0.0028	<0.0028	<0.0028	<0.0028	<0.0028	<0.0056			<0.0056	<0.0028	<0.0028	<0.0028	<0.0028	**0.01**
SB-68	03/30/10	2	<0.0036	<0.0036	<0.036		<0.072	<0.0036	<0.0036	**0.0048**	<0.0036	<0.0036	<0.0036	<0.0072			<0.0072	<0.0036	<0.0036	<0.0036	<0.0036	**1.3**
SB-68	03/31/10	10	<0.0045	<0.0045	<0.045		<0.09	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.009			<0.009	<0.0045	<0.0045	<0.0045	<0.0045	**0.051**
SB-68	03/31/10	14	<0.0041	<0.0041	<0.041		<0.082	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0082			<0.0082	<0.0041	<0.0041	<0.0041	<0.0041	**0.31**
SB-68	03/31/10	18	<0.0038	<0.0038	<0.038		<0.077	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0077			<0.0077	<0.0038	<0.0038	<0.0038	<0.0038	**0.051**

Table 2
Detected Volatile Organic Compounds Soil (mg/kg)
2008-2010
Rheem Manufacturing Company
Milledgeville, Georgia

Location	Date Sampled	Sample Depth	1,1,1-Trichloroethane	1,1-Dichloroethene	2-Butanone (MEK)	2-Hexanone	Acetone	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethene	Dichlorobromomethane	Dichloromethane (Methylene chloride)	Ethyl benzene	Freon-12	Isopropyl Benzene	Methyl tert-Butyl Ether (MTBE)	m&p-Xylene	o-Xylene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	Trichloroethene
Industrial RSLT			**38000**	**1100**	**200000**	**1400**	**630000**	**3**	**1.5**	**2000**	**3.3**	**960**	**27**	**400**	**11000**	**220**	**2500**	**3000**	**110**	**45000**	**690**	**6.4**
Residential RSLT			**8700**	**240**	**28000**	**210**	**61000**	**0.61**	**0.29**	**160**	**0.68**	**56**	**5.4**	**94**	**2100**	**43**	**590**	**690**	**22**	**5000**	**150**	**0.91**
RSL Risk-Based SSL			**2.6**	**0.093**	**1**	**0.01**	**2.4**	**0.00015**	**0.000053**	**0.0082**	**0.000039**	**0.0025**	**0.0015**	**0.3**	**0.64**	**0.0028**	**0.18**	**0.19**	**0.0044**	**0.59**	**0.025**	**0.00016**
MCL-Based SSL			**0.070**	**0.0025**	**-**	**-**	**-**	**0.0019**	**0.022**	**0.021**	**0.021**	**0.0013**	**0.78**	**-**	**-**	**-**	**-**	**9.8**	**0.0023**	**0.69**	**0.029**	**0.0018**
SB-69	04/01/10	6	<0.0037	<0.0037	<0.037		<0.073	<0.0037	**0.005**	<0.0037	<0.0037	<0.0037	<0.0037	<0.0073			<0.0073	<0.0037	<0.0037	<0.0037	<0.0037	**2.4**
SB-69	04/01/10	16	<0.18	<0.18	<1.8		<3.7	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.37			<0.37	<0.18	<0.18	<0.18	<0.18	**14**
SB-70	04/01/10	2	<0.0042	<0.0042	<0.042		<0.084	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0084			<0.0084	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042
SB-70	04/01/10	8	<0.0036	<0.0036	<0.036		<0.073	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0073			<0.0073	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036
SB-70	04/01/10	14	<0.0039	<0.0039	<0.039		<0.078	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0078			<0.0078	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039
SB-71	04/01/10	1	<0.0052	<0.0052	<0.052		**0.18**	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.01			<0.01	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052
SB-71	04/01/10	2	<0.0043	<0.0043	**0.49**		<0.086	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0086			<0.0086	<0.0043	<0.0043	<0.0043	<0.0043	**0.0047**
SB-71	04/01/10	8	<0.21	<0.21	**10**		<4.2	<0.21	<0.21	<0.21	<0.21	<0.21	**2.5**	<0.42			**8.1**	**2.7**	<0.21	**0.33**	<0.21	<0.21
DUP-4	04/01/10	8	<0.16	<0.16	**11**		<3.2	<0.16	<0.16	<0.16	<0.16	<0.16	**1.3**	<0.32			**4.4**	**1.5**	<0.16	<0.16	<0.16	<0.16
SB-71	04/01/10	12	<0.0046	<0.0046	**8.3**		**0.13**	<0.0046	<0.0046	0.027	<0.0046	<0.0046	**0.095**	<0.0092			**0.32**	**0.13**	<0.0046	**0.013**	<0.0046	**0.15**
SB-71	04/01/10	16	<0.004	<0.004	<0.04		<0.08	<0.004	<0.004	0.035	<0.004	<0.004	<0.004	<0.008			<0.008	<0.004	<0.004	<0.004	<0.004	**0.23**
SB-72	04/19/10	2	<0.0041	<0.0041	<0.041		<0.081	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0081			<0.0081	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041
SB-72	04/19/10	10	<0.0038	<0.0038	<0.038		<0.075	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0075			<0.0075	<0.0038	<0.0038	<0.0038	<0.0038	**0.024**
SB-72	04/19/10	14	<0.0049	<0.0049	<0.049		<0.098	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0098			<0.0098	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
SB-72	04/19/10	18	<0.0036	<0.0036	<0.036		<0.072	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0072			<0.0072	<0.0036	<0.0036	<0.0036	<0.0036	**0.0039**
SB-73	04/19/10	4	<0.0039	<0.0039	<0.039		<0.078	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0078			<0.0078	<0.0039	<0.0039	<0.0039	<0.0039	**0.028**
SB-73	04/19/10	6	<0.0036	<0.0036	<0.036		<0.071	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0071			<0.0071	<0.0036	<0.0036	<0.0036	<0.0036	**0.02**
SB-73	04/19/10	10	<0.0043	<0.0043	<0.043		<0.087	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0087			<0.0087	<0.0043	<0.0043	<0.0043	<0.0043	**0.015**
SB-74	04/19/10	4	<0.004	<0.004	<0.04		<0.079	<0.004	**0.007**	**0.088**	<0.004	<0.004	<0.004	<0.0079			<0.0079	<0.004	<0.004	<0.004	**0.0079**	**0.17**
SB-74	04/19/10	6	<0.25	<0.25	<2.5		<5.1	<0.25	<0.25	**0.85**	<0.25	<0.25	<0.25	<0.51			<0.51	<0.25	<0.25	<0.25	<0.25	**9.5**
SB-74	04/19/10	14	<0.0033	<0.0033	<0.033		<0.067	<0.0033	**0.018**	**0.56**	<0.0033	<0.0033	<0.0033	<0.0067			<0.0067	<0.0033	<0.0033	<0.0033	**0.038**	**1.7**
DUP-1	04/19/10	14	<0.0042	<0.0042	<0.042		<0.085	<0.0042	**0.025**	**0.25**	<0.0042	<0.0042	<0.0042	<0.0085			<0.0085	<0.0042	<0.0042	<0.0042	**0.053**	**0.73**
SB-74	04/19/10	18	<0.0038	<0.0038	<0.038		<0.076	<0.0038	**0.0095**	**0.26**	<0.0038	<0.0038	<0.0038	<0.0076			<0.0076	<0.0038	<0.0038	<0.0038	**0.033**	**0.82**
SB-74	04/19/10	22	<0.0039	<0.0039	<0.039		<0.079	<0.0039	**0.01**	**0.64**	<0.0039	<0.0039	<0.0039	<0.0079			<0.0079	<0.0039	<0.0039	<0.0039	**0.057**	**2.4**
SB-75	04/19/10	2	<0.0048	<0.0048	<0.048		<0.095	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0095			<0.0095	<0.0048	<0.0048	<0.0048	<0.0048	**0.0077**
SB-75	04/19/10	8	<0.0039	<0.0039	<0.039		<0.078	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0078			<0.0078	<0.0039	<0.0039	<0.0039	<0.0039	**0.0092**
SB-75	04/19/10	12	<0.0036	<0.0036	<0.036		<0.071	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0071			<0.0071	<0.0036	<0.0036	<0.0036	<0.0036	**0.0068**
SB-75	04/19/10	18	<0.0043	<0.0043	<0.043		<0.085	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0043	<0.0085			<0.0085	<0.0043	<0.0043	<0.0043	<0.0043	**0.0053**
SB-76	04/19/10	4	<0.0052	<0.0052	<0.052		<0.1	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.01			<0.01	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052
SB-76	04/19/10	10	<0.0036	<0.0036	<0.036		<0.073	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0073			<0.0073	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036
SB-76	04/19/10	14	<0.0039	<0.0039	<0.039		<0.079	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0079			<0.0079	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039
SB-77	04/19/10	2	<0.0051	<0.0051	<0.051		<0.1	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.01			<0.01	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051
SB-77	04/19/10	8	<0.0041	<0.0041	<0.041		**0.45**	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0081			<0.0081	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041
SB-77	04/19/10	14	<0.0037	<0.0037	<0.037		<0.075	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0075			<0.0075	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037
SB-77	04/19/10	18	<0.0042	<0.0042	<0.042		<0.084	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0084			<0.0084	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042
SB-77	04/19/10	22	<0.0041	<0.0041	<0.041		<0.082	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0082			<0.0082	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041

Table 2
Detected Volatile Organic Compounds Soil (mg/kg)
2008-2010
Rheem Manufacturing Company
Milledgeville, Georgia

Location	Date Sampled	Sample Depth	1,1,1-Trichloroethane	1,1-Dichloroethene	2-Butanone (MEK)	2-Hexanone	Acetone	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethene	Dichlorobromomethane	Dichloromethane (Methylene chloride)	Ethyl benzene	Freon-12	Isopropyl Benzene	Methyl tert-Butyl Ether (MTBE)	m&p-Xylene	o-Xylene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	Trichloroethene
Industrial RSLT			**38000**	**1100**	**200000**	**1400**	**630000**	**3**	**1.5**	**2000**	**3.3**	**960**	**27**	**400**	**11000**	**220**	**2500**	**3000**	**110**	**45000**	**690**	**6.4**
Residential RSLT			**8700**	**240**	**28000**	**210**	**61000**	**0.61**	**0.29**	**160**	**0.68**	**56**	**5.4**	**94**	**2100**	**43**	**590**	**690**	**22**	**5000**	**150**	**0.91**
RSL Risk-Based SSL			**2.6**	**0.093**	**1**	**0.01**	**2.4**	**0.00015**	**0.000053**	**0.0082**	**0.000039**	**0.0025**	**0.0015**	**0.3**	**0.64**	**0.0028**	**0.18**	**0.19**	**0.0044**	**0.59**	**0.025**	**0.00016**
MCL-Based SSL			**0.070**	**0.0025**	-	-	-	**0.0019**	**0.022**	**0.021**	**0.021**	**0.0013**	**0.78**	-	-	-	-	**9.8**	**0.0023**	**0.69**	**0.029**	**0.0018**
SB-78	04/19/10	2	<0.0031	<0.0031	<0.031		**0.21**	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0062			<0.0062	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031
SB-78	04/19/10	10	<0.0042	<0.0042	<0.042		<0.085	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0085			<0.0085	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042
SB-78	04/19/10	14	<0.0055	<0.0055	<0.055		<0.11	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.011			<0.011	<0.0055	<0.0055	<0.0055	<0.0055	**0.0096**
SB-78	04/19/10	20	<0.0035	<0.0035	<0.035		<0.069	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0069			<0.0069	<0.0035	<0.0035	<0.0035	<0.0035	**0.033**
DUP-2	04/19/10	20	<0.0041	<0.0041	<0.041		<0.083	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0083			<0.0083	<0.0041	<0.0041	<0.0041	<0.0041	**0.016**
SB-79	05/20/10	3	<0.0049	<0.0049	<0.049		<0.098	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0098			<0.0098	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
SB-79	05/19/10	9	<0.004	<0.004	<0.04		<0.08	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.008			<0.008	<0.004	<0.004	<0.004	<0.004	<0.004
SB-80	05/20/10	3	<0.0047	<0.0047	<0.047		**0.12**	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0094			<0.0094	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047
SB-80	05/20/10	6	<0.0048	<0.0048	<0.048		<0.096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0096			<0.0096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
SB-80	05/19/10	12	<0.0045	<0.0045	<0.045		**0.15**	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.009			<0.009	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045

Notes:
Detections are shown in bold.
Only VOCs detected in one or more soil samples are included in this table.
mg/kg = milligrams per kilogram

Table 3
Well Information and Groundwater Depths and Elevations for June 2012
Rheem Manufacturing Company
Milledgeville, Georgia

Well No.	Total Depth (ft bls)	Screen Depth (ft bls)	Open Screened Interval Hydrogeologic Setting	Installation Date	Elevation Top of Riser (feet)	Depth to Groundwater June-12 (feet)	Watertable Elevation June-12 (feet)
MW-1	44	29 - 44	Soil	11/2/1988	398.71	31.19	367.52
MW-2	39	29 - 39	Soil	11/11/1988	399.18	Dry	Dry
MW-3	40	30 - 40	Soil	11/9/1988	399.38	36.36	363.02
MW-3A	135.5	125.5 - 135.5	Bedrock	9/12/1990	396.18	41.74	354.44
MW-3B	209	199 - 209	Bedrock	8/1/1991	398.11	165.88	232.23
MW-4	24	14 - 24	Soil	11/8/1988	398.74	25.55	373.19
MW-5	86.5	76.5 - 86.5	Bedrock	4/27/1989	398.83	38.59	360.24
MW-6	125	120 - 125	Bedrock	5/18/1989	398.31	Dry	Dry
MW-7	50	40 - 50	Partially Weathered Rock	6/29/1989	400.79	42.80	357.99
MW-8	51	41 - 51	Partially Weathered Rock	6/30/1989	396.14	33.10	363.04
MW-9	45	35 - 45	Partially Weathered Rock	6/29/1989	398.41	38.82	359.59
MW-10	43	33 - 43	Partially Weathered Rock	7/5/1989	399.96	29.73	370.23
MW-11	68	58 - 68	Partially Weathered Rock	11/30/1989	397.01	33.73	363.28
MW-12	54	44 - 54	Partially Weathered Rock	11/20/1989	399.68	33.88	365.80
MW-12A	94.5	84.5 - 94.5	Bedrock	9/13/1990	399.59	94.32	305.27
MW-13	55	45 - 55	Partially Weathered Rock	11/28/1989	401.61	15.15	386.46
MW-14	49	39 - 49	Partially Weathered Rock	11/21/1989	404.20	18.23	385.97
MW-15	41.5	31.5 - 41.5	Partially Weathered Rock	12/4/1989	396.82	12.09	384.73
MW-16	35.5	25.5 - 35.5	Soil/Partially Weathered Rock	12/5/1989	397.24	12.63	384.61
MW-17	37	27 - 37	Soil/Partially Weathered Rock	12/6/1989	399.44	26.38	373.06
MW-18	17.5	2.5 - 17.5	Soil	12/6/1989	400.47	16.17	384.30
MW-19	36	26 - 36	Soil/Partially Weathered Rock	11/31/1989	400.98	18.34	382.64
MW-20	24	9 - 24	Soil	1/23/1990	393.66	Dry	Dry
MW-21	51	41 - 51	Soil	1/22/1990	394.57	35.26	359.31
MW-22	80	70 - 80	Partially Weathered Rock	6/20/1991	397.19	35.19	362.00
MW-23	32	22 - 32	Soil	6/26/1991	397.24	Dry	Dry
MW-24	195	175 - 195	Bedrock	6/8/2010	397.18	35.25	361.93
MW-25	197	184 - 194	Bedrock	6/7/2010	396.84	35.83	361.01
MW-26	131	121 - 131	Bedrock	6/9/2010	399.40	17.40	382.00
MW-27	168	158 - 168	Bedrock	9/20/2010	391.58	27.85	363.73
MW-28	100	90 - 100	Partially Weathered Rock	9/23/2010	391.96	28.11	363.85
MW-29	62	52 - 62	Partially Weathered Rock	9/22/2010	396.41	31.75	364.66
MW-30	73	63 - 73	Partially Weathered Rock	9/24/2010	405.30	19.50	385.80
MW-31	85	75 - 85	Partially Weathered Rock	7/11/2011	399.83	40.53	359.30
MW-32	87	77 - 87	Partially Weathered Rock	7/11/2011	389.26	25.85	363.41
MW-33	157	137 - 157	Bedrock	10/27/2011	392.08	32.88	359.20
PZ-1	40	20 - 40	Soil	4/27/1989	395.99	31.23	364.76
PZ-2	N/A	N/A	N/A	01/99 (1)	400.80	19.59	381.21
PZ-3	54	44 - 54	Partially Weathered Rock	6/12/1991	396.32	33.45	362.87
PZ-4	27.5	17.5 - 27.5	Soil	6/12/1991	396.45	Dry	Dry
PZ-5	56	46 - 56	Soil	6/13/1991	398.85	32.69	366.16
PZ-6	28	18 - 28	Soil	6/13/1991	398.71	Dry	Dry
PZ-7	63	53 - 63	Partially Weathered Rock	6/14/1991	395.18	39.47	355.71
PZ-8	27	17 - 27	Soil	6/14/1991	395.41	Dry	Dry
RW-1	85	15 - 85	Soil/Partially Weathered Rock	01/99 (2)	398.38	54.64	343.74
RW-2	90	20 - 90	Soil/Partially Weathered Rock	6/30/1991	399.57	NM	NM
RW-3	181	36 - 181	Soil/Partially Weathered Rock/Bedrock	8/15/1991	397.69	70.87	326.82
RW-4	73	28 - 73	Soil/Partially Weathered Rock	7/26/1991	398.40	NM	NM

Notes:

(1) The original PZ-2 installation date is unknown. The well was replaced in 1/99 due to a destruction by a run away trailer from Roberson Mill Road.

(2) The original RW-1 was installed in 6/21/89. The well was replaced in 1/99 due to a collapse of the well

ft bls = feet below land surface

N/A = Information currently not available

Top of riser elevations for MW-15, MW-16, MW-19 and PZ-1 were modified since the December 2009 sampling event.

* = Wells MW-27 - MW-30 were installed and measured in September 2010.

Table 4
Detected Volatile Organic Compounds in Groundwater (June 2010 thru June 2012)
Rheem Manufacturing Company
Milledgeville, Georgia

SAMPLE LOCATION	ANALYTE	RESULTS (µg/L)				
		Jun-10	Dec-10	Jun-11	Dec-11	Jun-12
MW-1	Trichloroethene	160,000	-	-	-	300,000
	cis-1,2-Dichloroethene	<5	-	-	-	100
MW-2	Trichloroethene	210	-	-	-	-
MW-3	Trichloroethene	28	-	-	-	36
MW-3A	Trichloroethene	67,000	92,000	150,000	270,000	86,000
MW-3B	Trichloroethene	370	-	1,200	-	670
	cis-1,2-Dichloroethene	13	-	-	-	-
MW-4	All VOCs	DRY	-	-	-	-
MW-5	Trichloroethene	490,000	-	350,000	-	430,000
MW-6	Trichloroethene	DRY	-	Dry	-	-
MW-7	Trichloroethene	2,000	1,500	2,400	2,100	1,300
	cis-1,2-Dichloroethene	13	-	-	-	-
	1,1-Dichloroethene	7.10	-	-	-	-
MW-8	Trichloroethene	<5	<5	<5	<5	<5
	Other VOCs	ND	-	-	-	-
MW-9	Trichloroethene	8,100	-	-	-	4,000
	cis-1,2-Dichloroethene	180	-	-	-	180
	trans-1,2-Dichloroethene	5.7	-	-	-	9.1
	1,1-Dichloroethene	77	-	-	-	-
	Tetrachloroethene	70	-	-	-	-
MW-10	Trichloroethene	7.7	5.3	5.4	8.6	<5
	cis-1,2-Dichloroethene	7	-	-	-	-
	1,1-Dichloroethene	85	-	-	-	38
	o-Xylene	25	-	-	-	<5
	m&p-Xylene	99	-	-	-	<5
	Methyl tertbutyl ether (MTBE)	1.4	-	-	-	-
	Ethyl benzene	2.7	-	-	-	-
	1,1,1-Trichloroethane	5.4	-	-	-	-
	Isopropylbenzene	75	-	-	-	-
MW-11	All VOC	ND	-	-	-	-
MW-12	Trichloroethene	570	82	91	20	29
	cis-1,2-Dichloroethene	7.2	-	-	-	-
	1,1-Dichloroethene	< 5.0	-	-	-	-
	Methyl tertbutyl ether (MTBE)	1.2	-	-	-	-
MW-12A	Trichloroethene			<5	<5	<5
	Other VOCs	ND	-	-	-	
MW-13	Trichloroethene	-	-	<5	-	<5
	Other VOCs	ND	-	-	-	-
MW-14	Trichloroethene	<5	-	<5	-	<5
	Other VOCs	ND	-	-	-	-
MW-15	Trichloroethene	<5	<5	<5	<5	<5
	Other VOCs	ND	-	-	-	-
MW-16	All VOCs	ND	-	-	-	-
MW-17	Trichloroethene	410	540	260	620	690
	cis-1,2-Dichloroethene	95	-	-	-	-
	1,1-Dichloroethene	5.20	-	-	-	-
MW-18	All VOCs	ND	-	-	-	-
MW-19	Trichloroethene	<5	<5	<5	<5	<5
	Other VOCs	ND	-	-	-	.-
MW-20	All VOCs	Dry	-	-	-	-
MW-21	Trichloroethene	<5	<5	<5	<5	<5
	Other VOCs	ND	-	-	-	-
MW-22	Trichloroethene	<5	<5	<5	<5	<5
	Other VOCs	ND	-	-	-	-
MW-23	All VOCs	Dry	-	-	-	-
MW-24	Trichloroethene	16	10	11	10	8
MW-25	Trichloroethene	9.4	10.0	<5	<5	<5
MW-26	Trichloroethene	8.2	<5	<5	<5	<5

Table 4
Detected Volatile Organic Compounds in Groundwater (June 2010 thru June 2012)
Rheem Manufacturing Company
Milledgeville, Georgia

SAMPLE LOCATION	ANALYTE	RESULTS (µg/L)				
		Jun-10	Dec-10	Jun-11	Dec-11	Jun-12
MW-27	Trichloroethene	45**	43	59	60	47
	cis-1,2-Dichloroethene	5.4**	-	-	-	-
MW-28	Trichloroethene	920**	1,100	1,400	2,500	1,500
	cis-1,2-Dichloroethene	36**	-	-	-	-
MW-29	Trichloroethene	<5**	<5	<5	<5	<5
MW-30	Trichloroethene	<5**	<5	<5	<5	<5
MW-31	Trichloroethene	-	-	-	<5	<5
MW-32	Trichloroethene	-	-	-	<5	<5
MW-33	Trichloroethene	-	-	-	64.0	41.0
RW-1	Trichloroethene	210,000	-	-	-	-
	cis-1,2-Dichloroethene	620	-	-	-	-
	1,1-Dichloroethene	150	-	-	-	-
	Tetrachloroethene	71	-	-	-	-
	Benzene	1.9	-	-	-	-
	Toluene	2.3	-	-	-	-
	Chloroform	9	-	-	-	-
	Dichlorobromomethane	19	-	-	-	-
	1,1,2-Trichloroethane	74	-	-	-	-
RW-2	Trichloroethene	1,800	-	-	-	-
	cis-1,2-Dichloroethene	10	-	-	-	-
	1,1-Dichloroethene	15	-	-	-	-
	Tetrachloroethene	20		-	-	-
RW-3	Trichloroethene	290,000	-	-	-	-
	cis-1,2-Dichloroethene	950	-	-	-	-
	1,1-Dichloroethene	35	-	-	-	-
	Tetrachloroethene	20	-	-	-	-
	Benzene	1.7	-	-	-	-
	Toluene	4.5	-	-	-	-
	1,1,1-Trichloroethane	8.8	-	-	-	-
	Carbon tetrachloride	13	-	-	-	-
	Dichlorobromomethane	26	-	-	-	-
	1,1,2-Trichloroethane	120	-	-	-	-
RW-4	Trichloroethene	7,300	-	-	-	-
	cis-1,2-Dichloroethene	98	-	-	-	-
	1,1-Dichloroethene	7	-	-	-	-
	1,1,2-Trichloroethane	5.2	-	-	-	-
	Methyl tertbutyl ether (MTBE)	5.8	-	-	-	-
PZ-5	Trichloroethene	70,000	-	-	-	-
PZ-7	Trichloroethene	53,000	-	-	-	-

Notes:

VOC = all volatile organic compounds analyzed
ND = Not Detected Above Laboratory Reportable Limits
DRY = Well was dry and could not be sampled
-- = Not Analyzed

Table 5
Summary of Historical Groundwater Trichloroethene Concentrations
Rheem Manufacturing Company
Milledgeville, Georgia

DATE	TOTAL TRICHLOROETHENE RESULTS (µg/L)																																				
ANALYZED	MW-1	MW-2	MW-3	MW-3A	MW-3B	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-12A	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	MW-25	MW-26	MW-27	MW-28	MW-29	MW-30	MW-31	MW-32	MW-33
11/88	42,000	47	480			170,000																														
4/89	-	-	-			-	18,000																													
7/89	-	-	-			-	-	5	2,350	3	120,000	2,200																								
8/89	-	-	-			-	-	-	2,400	8	290,000	2,800																								
11/89	-	-	-			-	-	-	2,200	-	-	-	-	-		-	-																			
12/89	-	-	-			-	-	-	-	-	-	-	ND	600		ND	ND	ND	ND	ND	ND	ND														
4/90	22,000	-	210			52,000	18,500	-	1,200	-	170,000	3,100	ND	-		-	-	-	-	-	-	-	ND	ND												
5/90	-	-	-			-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-												
8/90	83,000	-	1,300			130,000	10,000	-	4,700	-	280,000	1,600	ND	-		-	-	-	-	-	-	-	-	-												
9/90	43,000	106	1,100	200		120,000	9,000	-	3,100	ND	160,000	1,900	ND	42	50	ND	ND	11	ND	ND	ND	ND	ND	ND												
11/90	65,000	-	1,000	-		-	14,500	-	2,800	ND	150,000	1,300	-	100	-	-	-	-	-	-	-	-	-	-												
1/91	300,000	-	1,600	-		260,000	19,000	-	13,000	19	170,000	960	-	160	-	-	-	8	-	-	-	-	-	-												
3/91	-	-	-	-		-	-	-	-	-	180,000	1,800	-	-	-	-	-	-	-	-	-	-	-	-												
4/91	-	-	2,500	-		-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-												
5/91	190,000	-	2,400	470		330,000	10,000	-	1,500	ND	-	-	ND	140	40	ND	ND	-	ND	190	-	-	ND	ND												
7/91	290,000	-	2,200	4,600		450,000	22,000	-	1,775	ND	120,000	1,200	-	180	-	-	-	-	-	-	-	-	-	-	ND	ND										
8/91	-	-	-	-	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
10/91	240,000	-	1,300	-	-	710,000	66,000	-	1,990	ND	130,000	ND	ND	280	-	-	-	ND	-	220	-	-	-	ND	ND	-										
2/92	125,000	-	940	-	-	-	83,000	-	1,250	ND	4,700	ND	-	88	-	-	-	7	-	-	-	-	-	-	ND	-										
3/92	-	-	-	-	-	-	-	-	-	-	-	1,700	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
4/92	96,000	-	1,500	-	270	-	100,000	-	2,000	ND	5,800	240	ND	85	-	ND	ND	7	ND	470	-	-	-	470	ND	-										
7/92	160,000	-	1,500	-	-	-	360,000	-	500	ND	2,600	140	-	57	-	-	-	6	-	-	-	-	-	-	ND	-										
10/92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,200	-	-	-	-	-	-										
11/92	420,000	-	5,400	-	190	-	240,000	-	1,200	ND	10,000	200	ND	33	-	-	-	8	-	-	-	-	-	ND	ND	-										
1/93	250,000	-	5,900	-	-	-	160,000	-	1,200	36	3,700	120	-	19	-	-	-	ND	-	-	-	-	-	-	ND	-										
4/93	320,000	-	7,800	-	110	-	170,000	-	630	ND	33,000	100	ND	15	-	ND	ND	6	ND	1,200	-	-	-	ND	ND	-										
7/93	270,000	-	9,000	-	-	-	160,000	-	1,000	ND	28,000	75	-	75	-	-	-	ND	-	-	-	-	-	-	ND	-										
9/93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,200	-	-	-	-	-	-										
10/93	240,000	-	-	-	93	-	250,000	-	750	ND	53,000	120	ND	10	-	-	-	ND	-	-	-	-	-	ND	ND	-										
11/93	-	-	-	-	-	-	245,000	-	750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
12/93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	-	ND	-	-	-	-	-	-										
1/94	220,000	-	9,400	-	-	-	190,000	-	750	ND	25,000	120	-	10	-	-	-	-	-	-	-	-	-	-	-	-										
2/94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
4/94	500,000	-	6,700	-	58	-	180,000	-	330	ND	40,000	88	ND	8	7	ND	ND	ND	ND	2,400	-	-	-	ND	ND	-										
5/94	-	-	-	-	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
7/94	300,000	-	4,430	-	-	-	310,000	-	340	ND	37,000	89	-	9	-	-	-	ND	-	ND	-	-	-	ND	ND	-										
10/94	260,000	-	2,600	-	49	-	239,000	-	1,250	ND	38,000	100	ND	ND	-	-	-	ND	-	2,000	-	-	-	ND	ND	-										
1/95	380,000	-	5,000	-	-	-	250,000	-	510	ND	45,000	810	-	54	-	-	-	ND	-	-	-	-	-	-	37	-										
3/95	220,000	-	4,600	-	-	-	1,040,000	-	460	ND	30,000	96	ND	ND	-	-	-	ND	-	2,000	-	-	-	ND	ND	-										
6/95	190,000	-	2,900	1,100	34	-	97,000	-	820	ND	33,000	93	ND	ND	ND	ND	ND	ND	ND	2,400	-	-	-	ND	ND	-										
9/95	170,000	-	7,200	15,000	-	-	170,000	-	250	12	22,000	140	-	ND	-	-	-	-	-	2,600	-	-	-	-	ND	-										
12/95	910,000	-	9,200	19,000	-	-	120,000	-	340	ND	20,000	130	-	ND	-	-	-	-	-	2,600	-	-	-	-	ND	-										
1/96	-	-	-	-	25	-	-	-	-	-	-	-	ND	-	14	-	-	ND	-	-	-	ND	-	ND	-	-										
2/96	-	-	-	-	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
3/96	510,000	-	4,800	16,000	23	-	140,000	-	1,600	ND	23,000	130	-	ND	-	-	-	-	-	3,300	-	-	-	-	ND	-										
5/96	220,000	-	9,800	14,000	26	-	140,000	-	1,100	ND	29,000	140	ND	ND	-	ND	ND	ND	ND	2,400	-	ND	-	ND	ND	-										
6/11/96	-	-	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
6/27/96	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
7/96	-	-	-	-	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
8/96	-	-	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
9/96	260,000	-	5,000	11,000	27	-	100,000	-	2,900	ND	43,000	330	-	ND	-	-	-	-	-	2,400	-	ND	-	-	ND	-										
12/03/96	220,000	-	4,200	12,000	24	-	100,000	-	600	ND	35,000	140	ND	5.7	6.5	-	-	ND	-	2,000	-	ND	-	ND	ND	-										
12/16/96	-	-	-	-	26	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-										
3/04/97	160,000	-	2,700	11,000	28	-	94,000	-	1,100	ND	30,000	140	-	16	6.0	-	-	-	-	2,100	-	ND	-	-	ND	-										
3/21/97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.1	-	-	-	-	-	-	ND	-	-	ND	-										
6/97	180,000	-	4,200	9,800	27	-	93,000	-	600	ND	25,000	110	ND	12	ND	ND	ND	ND	ND	2,000	-	ND	-	ND	ND	-										
12/97	-	-	-	9,600	-	-	-	-	630	ND	-	110	-	16	-	-	-	ND	-	3,200	-	ND	-	ND	ND	-										
6/98	-	-	-	8,100	-	-	55,000	-	860	ND	-	83	-	8.1	ND	ND	ND	ND	-	2,500	-	ND	-	ND	ND	-										
12/98	-	-	-	8,600	(1)	-	-	(1)	490	ND	-	65	-	ND	(1)	-	-	ND	-	2,400	-	ND	-	ND	5.3	-										
6/99	150,000	-	1,700	2,800	(1)	-	130,000	(1)	650	ND	6,900	82	-	ND	ND	ND	ND	ND	-	2,700	-	(2)	-	-	ND	-										
12/99	-	-	-	9,900	(1)	-	-	(1)	450	ND	-	82	-	ND	(1)	-	-	ND	-	(2)	-	ND	-	-	7.4	-										
7/00	-	-	-	7,100	-	-	-	-	440	ND	-	99	-	7.2	(1)	-	-	ND	-	84	-	ND	-	-	ND	-										
12/00	-	-	-	7,100	22	-	300,000	(1)	340	ND	-	58	-	ND	(1)	ND	ND	ND	-	18	-	ND	-	ND	11	-										
7/01	100,000	-	330	11,000	32	-	180,000	160	450	ND	6,200	70	-	260	ND	ND	ND	ND	-	98	-	ND	-	-	6.9	-										
12/01	-	-	-	11,100	-	-	-	-	227	ND	-	41.4	-	ND	(1)	-	-	ND	-	206	-	11.4	-	-	12.4	-										
6/02	-	-	-	15,000	-	-	-	-	350	ND	-	28	-	84	ND	-	-	ND	-	55	-	ND	-	-	ND	-										
12/02	-	-	-	24,000	(1)	-	520,000	(1)	330	ND	-	26	-	62	ND	ND	ND	ND	-	ND	-	ND	-	ND	30.0	-										
6/03	32,000	-	130	46,000	(1)	-	-	(1)	280	ND	12,000	11	-	ND	ND	-	-	ND	-	ND	-	5.4	-	ND	ND	-										
12/03	-	-	-	68,000	(1)	-	380,000	(1)	210	ND	-	9.7	-	38	ND	ND	ND	ND	-	ND	-	ND	-	-	ND	-										
6/04	-	-	-	9,500	(1)	-	(1)	170	240	ND	-	ND	-	470	(1)	-	ND	ND	-	5	-	ND	NS	ND	ND	-										
12/04	-	-	-	17,000	-	-	380,000	-	590	9.2	-	ND	-	10	ND	ND	ND	ND	-	7.5	-	ND	-	ND	ND	-										
6/05	61,000	-	56	32,000	160	-	-	(1)	400	ND	9,700	ND	ND	19	ND	-	-	ND	-	ND	-	ND	-	ND	13	-										
12/05	-	-	-	130	120	-	450,000	(1)	350	ND	-	5.2	-	130	(1)	ND	ND	ND	-	ND	-	ND	-	ND	19	-										
6/06	-	-	-	33,000	-	-	-	-	280	ND	-	10	-	460	ND	-	-	ND	-	14	-	ND	-	ND	5.6	-										
12/06	-	-	-	200,000	170	-	390,000	150	95	ND	-	ND	-	320	ND	ND	ND	ND	-	120	-	ND	-	ND	9	-										
6/07	71,000	-	140	29,000	170	-	380,000	120	400	ND	15,000	21	-	400	ND	ND	ND	ND	-	33	-	ND	-	ND	(1)	-										
12/07	0	-	-	20,000	-	-	-	-	190	ND	-	ND	-	150	-	-	-	ND	-	300	-	ND	-	ND	ND	-										
12/08	150,000	-	-	98,000	190	-	530,000	100	970	ND	4,800	11	-	410	ND	ND	ND	ND	-	270	-	ND	-	ND	ND	-										
12/09	130,000	-	37	130,000	860	-	520,000	78	1,200	ND	4,400	10	-	1,500	ND	ND	ND	(2)	-	34	-	ND	-	ND	ND	-										
6/10	160,000	210	28	67,000	370	(1)	490,000	(1)	2,000	ND	8,100	7.7	ND	570	ND	ND	ND	ND	ND	410	ND	ND	(1)	ND	ND	(1)	16	9	8.2	45*	920*	ND	ND			
12/10	-	-	-	92,000	-	-	-	-	1,500	ND	-	5.3	-	82	-	-	-	ND	-	540	-	ND	-	ND	ND	-	10	10	ND	43	1,100	ND	ND			
6/11	-	-	-	150,000	1,200	-	350,000	(1)	2,400	ND	-	5.4	-	91	ND	ND	ND	ND	-	260	-	ND	-	ND	ND	-	11	ND	ND	59	1,400	ND	ND			
12/11	-	-	-	270,000	-	-	-	-	2,100	ND	-	8.6	-	20	ND	-	-	ND	-	620	-	ND	-	ND	ND	-	10	ND	ND	60	2,500	ND	ND	ND	ND	64
6/12	300,000	-	36	86,000	670	-	430,000	(1)	1,300	ND	4,000	ND	-	29	ND	ND	ND	ND	-	690	-	ND	-	ND	ND	-	8	ND	ND	47	1,500	ND	ND	ND	ND	41

Notes: (1) Well was dry or contained insufficient groundwater to sample.
(2) Well was not accessible during sampling event.

ND = Not Detected Above Laboratory Reportable Limits
- = Not Sampled

* = Samples were collected in September 2010

APPENDIX E

Geophysical Report

Acoustic Televiewer and Heat Pulse Flow Meter Logging

Rheem Manufacturing Company Site
Milledgeville, Georgia

Performed for:
Environmental Planning Specialists, Inc.

Acoustic Televiewer and Heat Pulse Flow Meter Logging

Rheem Manufacturing Company Site
Milledgeville, Georgia

TABLE OF CONTENTS

Signature Page

This report, entitled "Acoustic Televiewer and Heat Pulse Flow Meter Logging, Rheem Manufacturing Company Site, Milledgeville, Georgia" has been prepared for Environmental Planning Specialists, Inc. located in Atlanta, Georgia. It has been prepared under the supervision of Mr. Jorgen Bergstrom at the request of and the exclusive use of Environmental Planning Specialists, Inc. This report has been prepared in accordance with accepted quality control practices and has been reviewed by the undersigned.

GEL Geophysics, LLC
A Member of the GEL Group, Inc.

Jorgen Bergstrom
Senior Geophysicist

Scott T. Smith
Senior Project Manager

May 20, 2010

Date

Acoustic Televiewer and Heat Pulse Flow Meter Logging

Rheem Manufacturing Company Site
Milledgeville, Georgia

EXECUTIVE SUMMARY

GEL Geophysics performed geophysical borehole logging services in six wells at Rheem Manufacturing Company (Rheem) former manufacturing facility located on property at 138 Roberson Mill Road, NE in Milledgeville, Georgia. The field work was performed on May 6-7, 2010. The geophysical logging that was performed included acoustic televiewers and heat pulse flow meter. Heat pulse flow meter logs were collect under both ambient and pumping conditions. This geophysical investigation was performed for Environmental Planning Specialists, Inc. (EPS) to aid in the characterization of fractures, ground water flow, and the water producing capabilities of fractures at the site.

The acoustic televiewer logs were analyzed for fractures and other features using WellCAD software, manufactured by Advanced Logic Technology. Heat pulse flow meter logging under ambient and pumping conditions was then conducted throughout the wells. Dip, dip angle, and aperture were also calculated for each detected fracture.

Acoustic Televiewer and Heat Pulse Flow Meter Logging

Rheem Manufacturing Company Site
Milledgeville, Georgia

1.0 INTRODUCTION

GEL Geophysics performed acoustic televiewer and heat pulse flow meter logging services in six wells at the Rheem Manufacturing Company (Rheem) former manufacturing facility located on property at 138 Roberson Mill Road, NE in Milledgeville, Georgia. The field investigation was performed on May 6-7, 2010. Acoustic televiewer logging was conducted in the three new wells (PB01, WB01, and EB01). Heat pulse flow meter (HPF) logging was conducted in the three new wells (PB01, WB01, EB01) and as well as in three existing wells at the site (RW01, RW03, and RW04). Acoustic televiewer was not performed in the existing wells due to the presence of a screened steel casing in each of these wells. The logging data was analyzed to determine the location, orientation and aperture of fractures, and to determine which fractures are transmissive. This data will be used by EPS to choose suitable screen intervals for the new wells and to determine transmissive zones in the existing wells.

2.0 EQUIPMENT AND METHODOLOGY

The information below is an overview of the geophysical methodologies used for this investigation. The intent of this overview is to give the reader a better understanding of each method, and background information as to what is actually measured, the resolution of the method, and the limitations imposed by site-specific subsurface conditions.

2.1 Acoustic Televiewer

Acoustic televiewer logging is similar to optical televiewer logging in that a high resolution, magnetically oriented digital image is produced to map the location, aperture and orientation of intersecting fractures, foliations and lithologic contacts. The Acoustic televiewer tool emits a rotating, narrow, acoustic beam that is reflected off the borehole

wall. The travel time and amplitude of the reflected wave are recorded by the tool and used to create borehole images. Both datasets are useful for identifying the location, aperture and orientation of fractures. The amplitude of the reflected signal will decrease at the location of fractures and the travel time will increase. The travel time data can also be used for developing a high resolution caliper log for a more comprehensive analysis of fractures. Acoustic televiewers can only be used in fluid filled boreholes. However, contrary to optical televiewers, the fluid does not have to be optically clear for the method to work. The acoustic televiewer has a vertical resolution of 2 millimeters.

2.2 Heat Pulse Flowmeter (HPF)

HPF logging measures the direction and rate of vertical fluid flow in a borehole by heating up a small volume of water and monitoring temperature variations as the heated water moves with the fluid flow in the borehole. Under ambient conditions, differences in hydraulic head between two transmissive fractures produce vertical flow in the borehole. However, if the hydraulic head is the same, no flow will occur under ambient conditions. Therefore, HPF logging is also conducted under low-rate pumping conditions. HPF readings are point readings at the location of fractures. The location and number of these readings can be determined after analyzing the Acoustic televiewer log for fractures. HPF can be used for measuring vertical flows between 0.01 gallons per minute (gpm) and approximately 1.5 gpm.

3.0 FIELD PROCEDURES

All GEL Geophysics activities on-site were supervised by a senior geophysicist. For this investigation, GEL Geophysics used a Mount Sopris Matrix logging system. Pumping tests during HPF testing were conducted using a Grundfos Redi-Flow-2 water pump with variable speed control box and an in-situ Mini-Troll pressure transducer with logging capabilities. Due to the potential for contaminants in the groundwater, GEL Geophysics set up a decontamination pad at the well location for decontamination of equipment and collection of decontamination fluids. Groundwater pumped from the wells during the pumping tests and decontamination fluids were containerized onsite pending proper disposition. HPF logging under pumping conditions commenced after the

borehole water levels had stabilized. Well EB01 was pumped dry prior to the geophysical logging and recharged at an extremely low rate (less than 0.03 gpm). Since the well did not produce a significant amount of water, HPF tests were conducted only with the groundwater level drawn down and with no pump installed. The open hole section of the new wells were 3.77-inch diameter for well PB01 and EB01, and approximately 5-inch diameter for well WB01. A summary of the configuration of the boreholes, pumping rates and water levels is provided below. As seen in the table, most logs stop shallower than the reported total depth due to the presence of material at the bottom of the wells. All depth measurements are referenced from the ground surface.

Logging Configuration Summary

New Wells:	**PB01**	**WB01**	**EB01**
Steel casing (ft):	0-132	0-150	0-121
Open hole (ft):	132-200	150-200	121-200
Maximum depth logged (ft):	196.0	195.4	199.8
Depth of pump (ft):	80	80	No pump used
Pumping rate (gpm):	0.6	1.2	N/A
Water level before pumping (ft):	31.10	28.50	103.00 (102.03 following HPF)
Water level at equilibrium (ft):	76.86	38.10	--

ExistingWells:	**RW01**	**RW03**	**RW04**
Steel casing (ft):	0-15	0-37	0-35
Screened Steel Casing(ft):	15-85	37-187	35-75
Maximum depth logged (ft):	77	167.5	73
Depth of pump (ft):	50	50	40
Pumping rate (gpm):	1.0	1.2	1.5
Water level before pumping (ft):	28.13	27.80	32.04
Water level at equilibrium (ft):	43.07	36.32	32.23

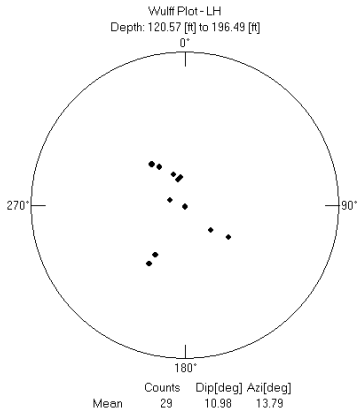
4.0 DATA PROCESSING AND RESULTS

The logs were analyzed for fractures and other features using WellCAD software, manufactured by Advanced Logic Technology. The travel time data from the acoustic televiewer log was used to develop a maximum caliper log. Fractures were interpreted through a complete data analysis of all logs. Dip, dip angle, and aperture were calculated for each detected fracture. The fracture data was corrected

from apparent to true dip and dip angle using deviation logs included with the televiewer datasets. The dip angle is measured clockwise from magnetic north. Printouts of logs and features are shown on Appendices 1-3. Detected fractures are marked in the Amplitude logs. Attributes for all identified fractures are listed in Tables 1-3 below (water producing fractures are in bold text). All depths are from ground surface.

Table 1 – Well PB01 – Identified Fractures

Depth ft	Dip angle deg	Dip deg	Aperture mm
133.64	104.19	11.55	6.35
147.92	**31.13**	**48.9**	**4.08**
148.06	**30.26**	**42.38**	**13.34**
153.61	1.2	2	12.5
156.71	1.5	2	0
156.72	1.5	2	0
158.46	1	2	18.5
163.55	**3.9**	**2**	**26.5**
168.56	4.1	2	31
173.49	3.3	1.8	7.5
177.68	**316.58**	**27.22**	**6.77**
177.93	**307.74**	**39.49**	**5.9**
182.72	5.4	2.4	32.5
183.15	4.8	2.2	23.5
187.67	8.9	2.4	6.5
187.89	8.6	2.6	4
188.02	8.3	2.6	2
188.06	8.1	2.6	2.5
188.28	7.1	2.6	19
188.36	7.8	2.6	2.5
188.41	6.5	2.6	6
191.08	170.24	19.63	4.63
191.17	162.87	18.31	4.67
191.94	3	2.6	11
192.45	144.86	32.43	7.01
193.4	140.17	37.23	5.84
193.94	7.1	2.2	6.5
194.33	8.9	2.4	8.5
194.91	157.78	23.31	10.39

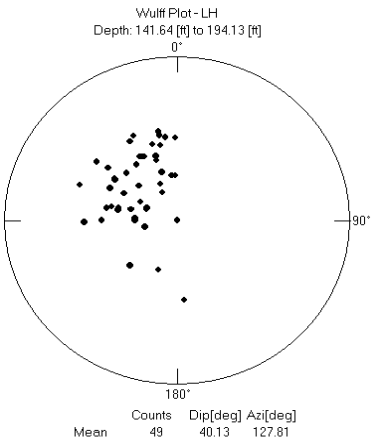


Dip polar projection diagram

Note: Water producing fractures based on HPF testing are shown in bold text.

Table 2 – Well WB01 – Identified Fractures

Depth ft	Dip angle deg	Dip deg	Aperture mm	Depth ft	Dip angle deg	Dip deg	Aperture mm
156.1	354.21	52.29	9.85	183.2	103.69	37.57	196
157.3	18.33	35.56	19.05	183.49	279.6	1	0
157.68	111.34	61.5	9.23	184.31	151.65	47.62	59.94
158.11	102.94	41.43	14.72	185.07	162.58	42.21	218.36
158.87	125.29	46.17	46.93	186	169.25	57.66	10.6
160.14	118.94	26.63	44	189	117.26	46.27	20.38
161.39	179.38	53.44	88.86	190.79	163.7	51.56	55.41
162.36	76.96	20.77	64.99	191.17	150.7	57.47	9.71
163.92	112.16	20.65	0	191.56	146.05	44.35	7.07
164.17	156.57	21.1	0	192.8	163.21	44.61	7.07
165.11	93.24	26.39	17.74	193.18	151.67	47.64	6.66
165.47	154.64	46.6	17.67	193.48	125.84	47.35	6.66
165.84	135.37	44.16	14.14				
166.61	89.72	26.28	84				
166.95	100.68	37.46	18.74				
167.45	100.74	43.8	14.14				
168.07	118.78	37.51	18.74				
168.39	43.63	42.01	35.92				
169.43	174.68	30.64	80.61				
169.97	127.86	59.87	4.86				
170.48	114.26	20.55	9.28				
173.19	154.26	59.24	63.33				
175.55	157.55	26.94	44.36				
177.08	175.43	30.74	48.02				
177.73	168.8	49.76	32.01				
178.06	153.93	46.6	13.59				
178.39	172.97	54.17	5.81				
178.85	169.37	55.58	22.39				
179.91	178.81	30.8	12				
180.11	129.33	53.59	8.14				
180.38	89.88	46.21	10.87				
180.58	279.3	0.9	0				
180.72	88.45	55.68	54.96				
181.4	134.82	33.41	96				
181.65	279.3	0.9	0				
181.85	164.18	33.81	16.54				
182.32	105.05	29.97	34				

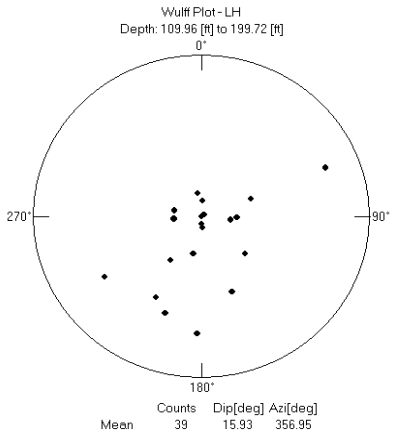


Dip polar projection diagram

Note: No significant water producing fractures identified with HPF for this well within the measurement interval.

Table 3 – Well EB01 – Identified Fractures

Depth ft	Dip angle deg	Dip deg	Aperture mm
123.2	36.22	36.23	4.02
123.36	14.88	25.75	4.47
123.88	339.83	52.73	2.99
125.61	313.57	38.39	14.05
126.02	274.55	22.74	6.41
126.07	280.33	18.89	9.41
127.5	58.2	1.5	18
127.89	55.7	1.5	5
128.37	53.5	1.5	15
128.87	54.6	1.5	20
133.88	56.2	1.6	15
136.81	99.98	19.85	4.73
136.89	81.95	20.13	5.26
136.93	57.5	1.5	6
138.85	178.08	10.49	18
142.7	2.52	72.95	1.53
143.08	58.7	1.5	8
143.68	1.89	8.69	18
148.73	20.3	66.13	4.23
148.83	11.13	6.61	15
150.41	247.87	75.49	3.83
150.74	209.91	0.86	59.21
153.79	59.2	1.6	10
158.75	57.6	1.6	7
163.19	56.1	1.6	58
163.62	56.2	1.6	17
166.55	55.8	1.6	12
168.03	28.8	60.87	5.07
168.61	56.8	70.46	4.31
168.76	55.8	1.5	5
173.77	56.1	1.5	35
178.6	165.69	16.14	9.58
183.66	56.8	1.5	17
188.67	55.7	1.5	10
188.68	56.6	1.5	0
191.71	250.42	33.53	12.29
193.6	58.5	1.5	22
198.42	59.8	1.5	5
198.61	58.8	1.5	8



Dip polar projection diagram

Note: No significant water producing fractures identified with HPF for this well within the measurement interval.

The Acoustic Televiewer log for Well WB01 appears to show extremely fractured rock throughout the well. Some fractures detected for this well may be a result of sonic drilling. Therefore, some of these fractures may and not extend very far from the well. Heat Pulse Flowmeter logging was then conducted throughout the open and screened sections of the wells. The results from HPF logging of the wells are shown on Figures 1-6 below. Water producing fractures give rise to horizontal jags in the flow profile during pumping conditions.

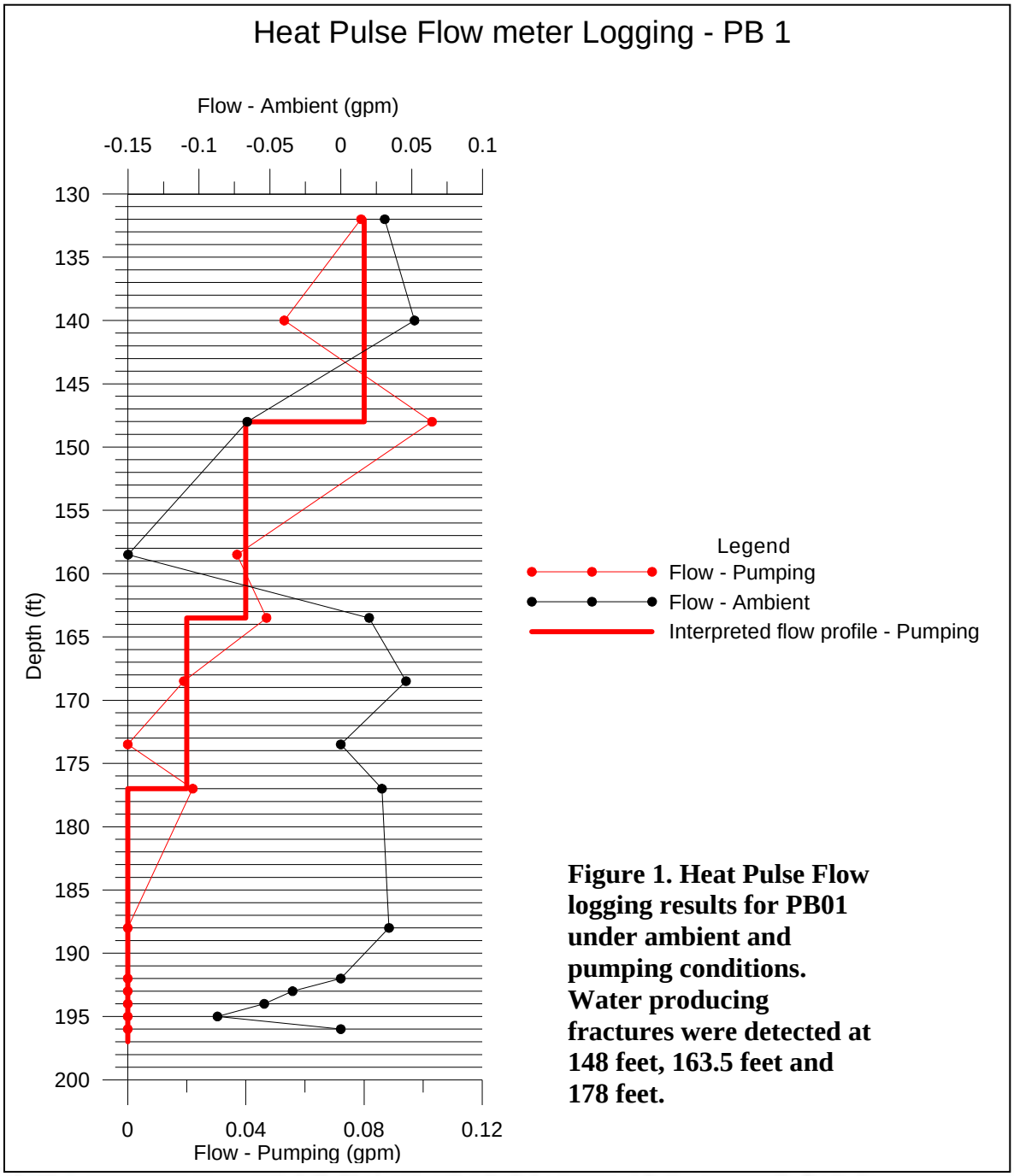


Figure 1. Heat Pulse Flow logging results for PB01 under ambient and pumping conditions. Water producing fractures were detected at 148 feet, 163.5 feet and 178 feet.

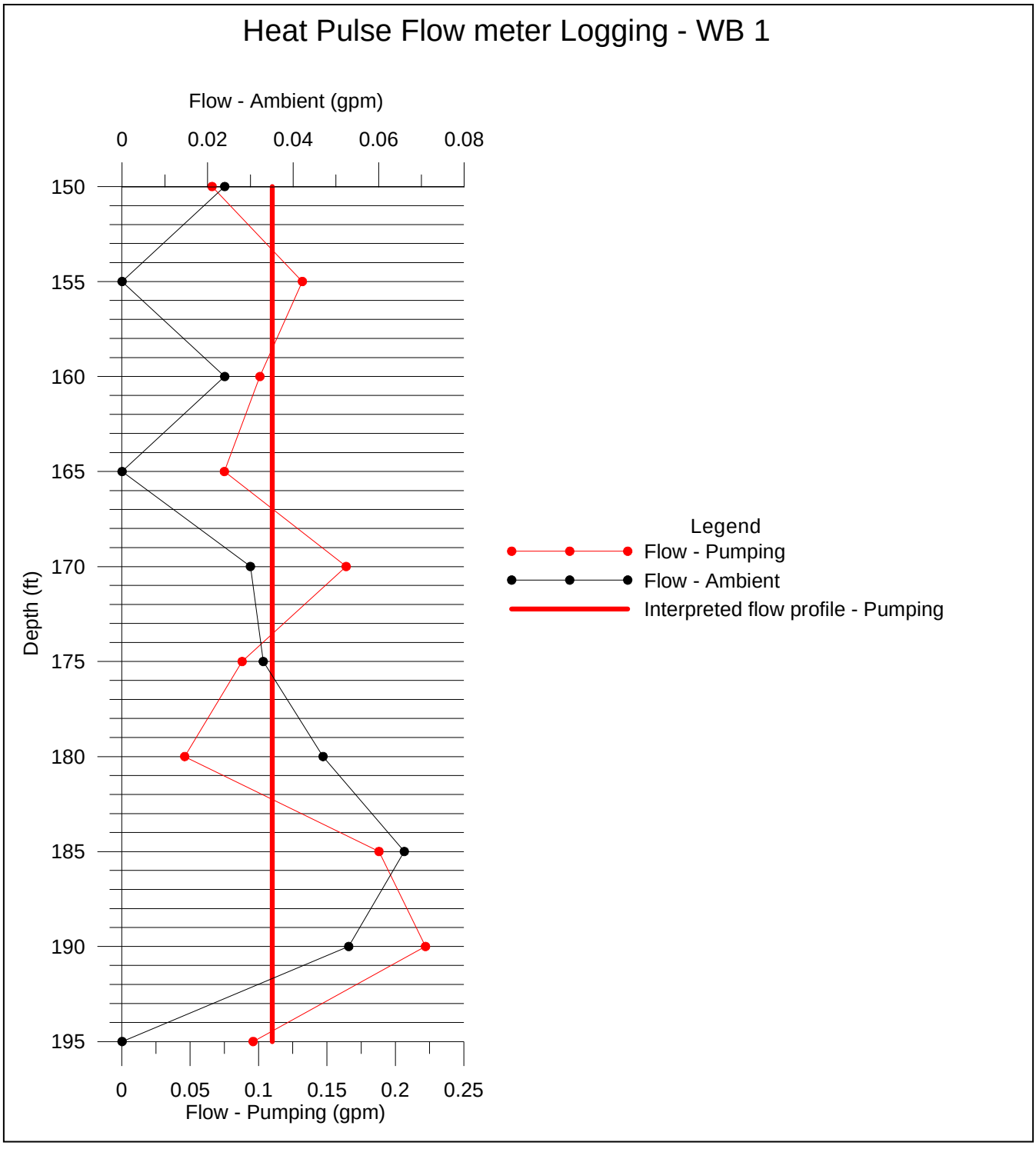


Figure 2. Heat Pulse Flow logging results for WB01 under ambient and pumping conditions. The flow was fairly constant throughout the well indicating inflow from below 195 feet. The variations in the reading are probably due to issues with the seal against the borehole wall and should be ignored.

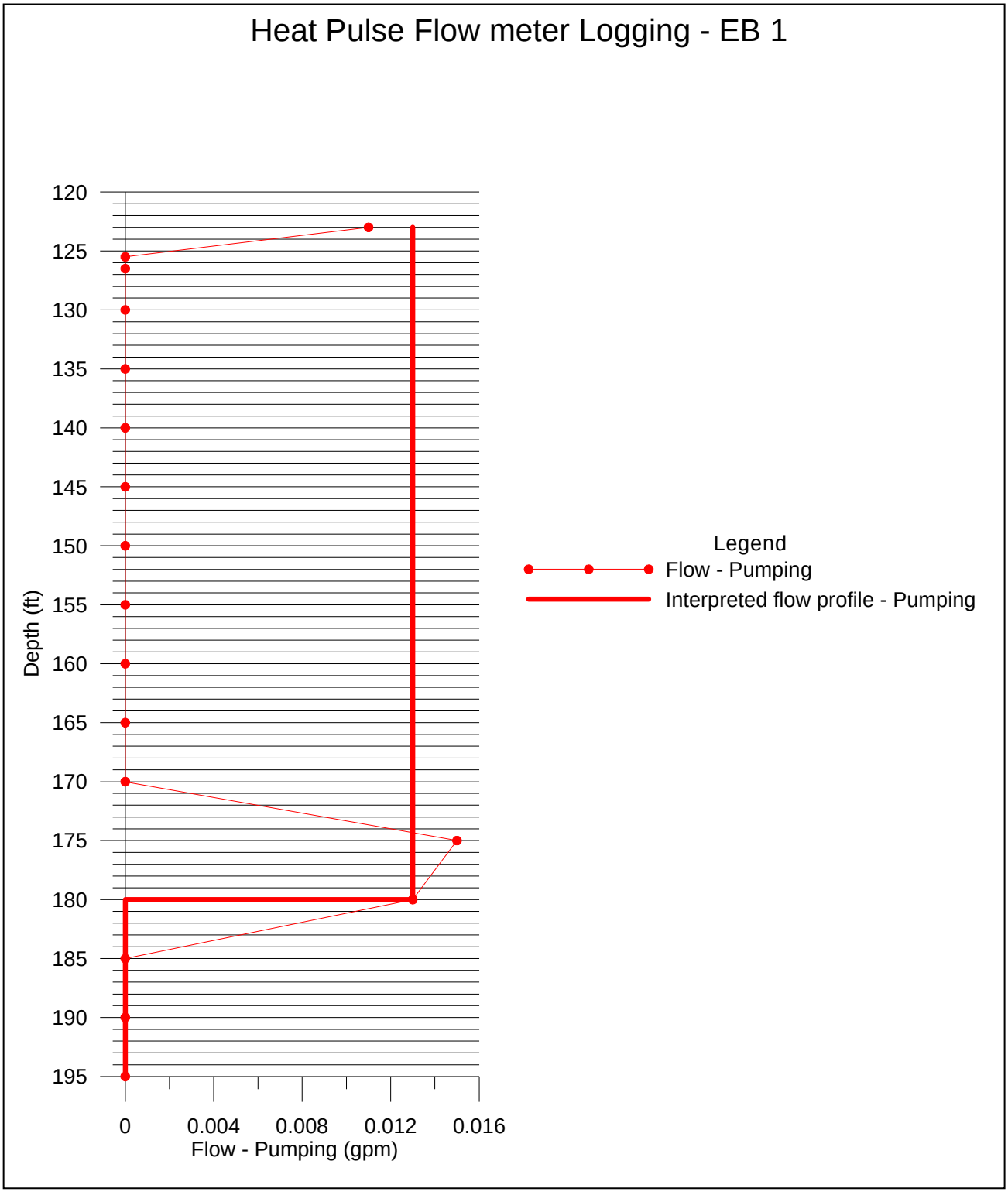


Figure 3. Heat Pulse Flow logging results for EB01 under quasi-pumping conditions (the well was drawn down prior to the logging and recharging during the logging). No significant water producing zones were detected in this well.

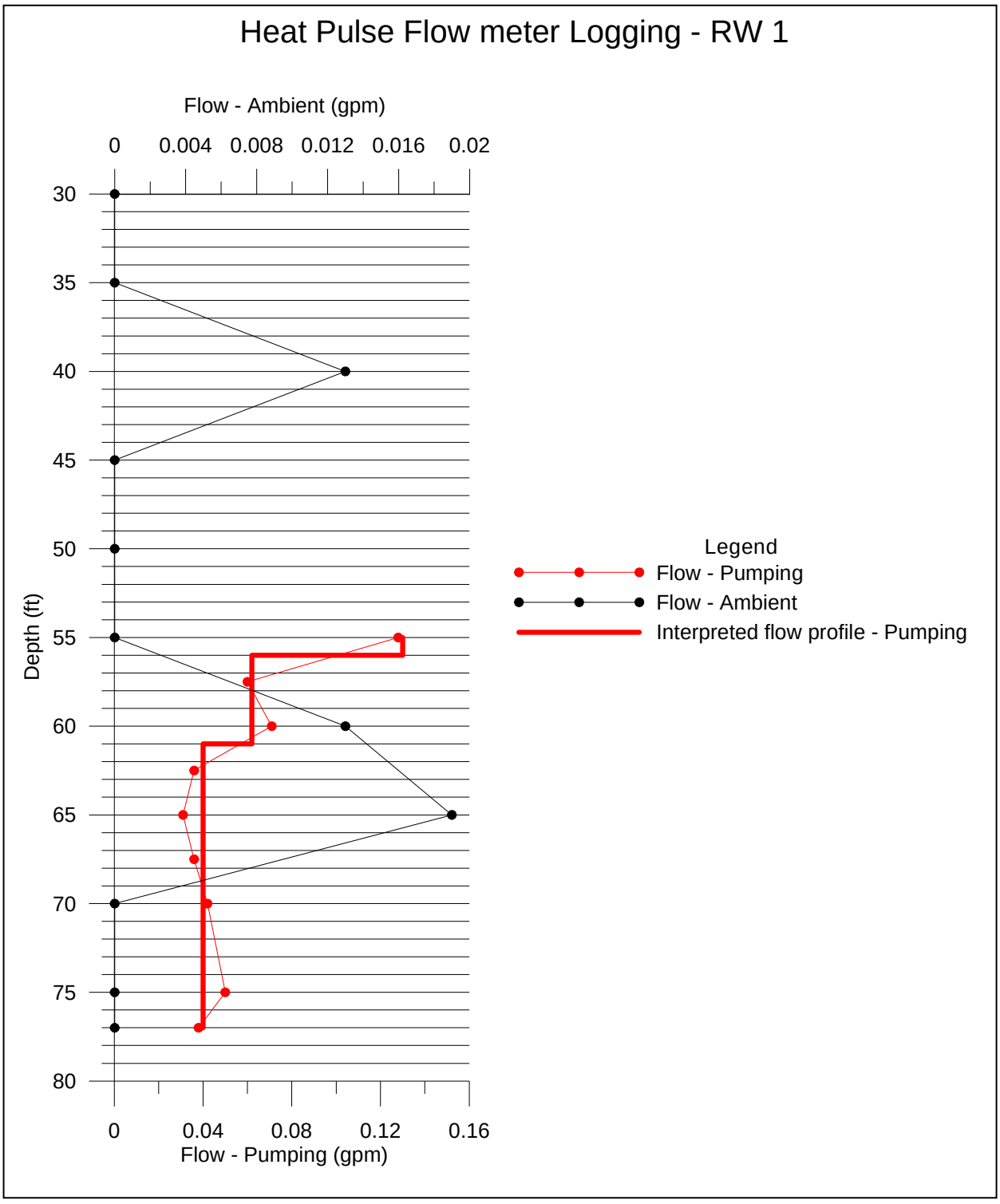


Figure 4. Heat Pulse Flow logging results for RW01 under ambient and pumping conditions, and interpreted flow profile. Water producing zones were detected at 56 feet, 61 feet and below the deepest measurement (77 feet).

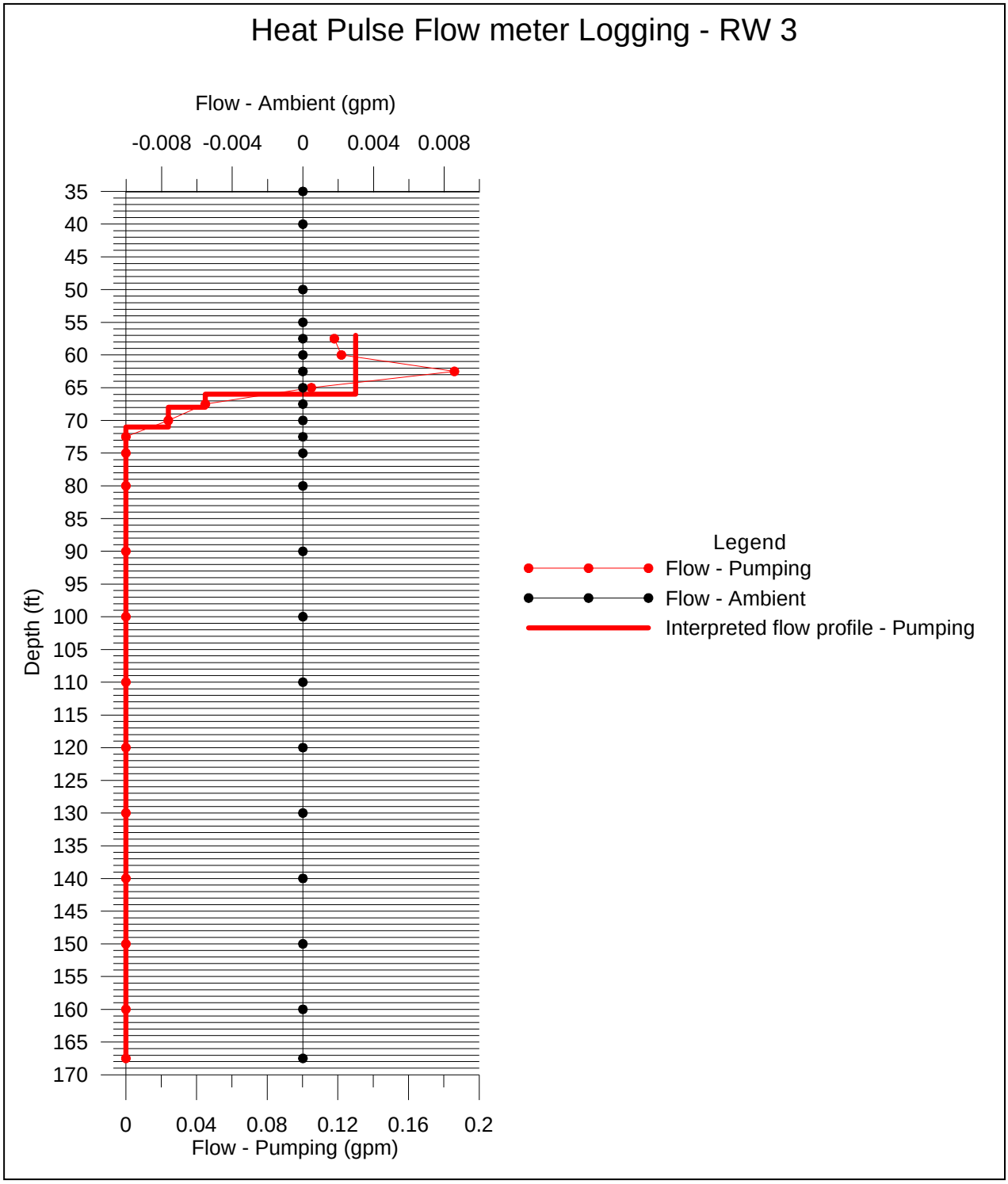


Figure 5. Heat Pulse Flow logging results for RW03 under ambient and pumping conditions, and interpreted flow profile. Water producing zones were detected at 66 feet, 68 feet and 71 feet.

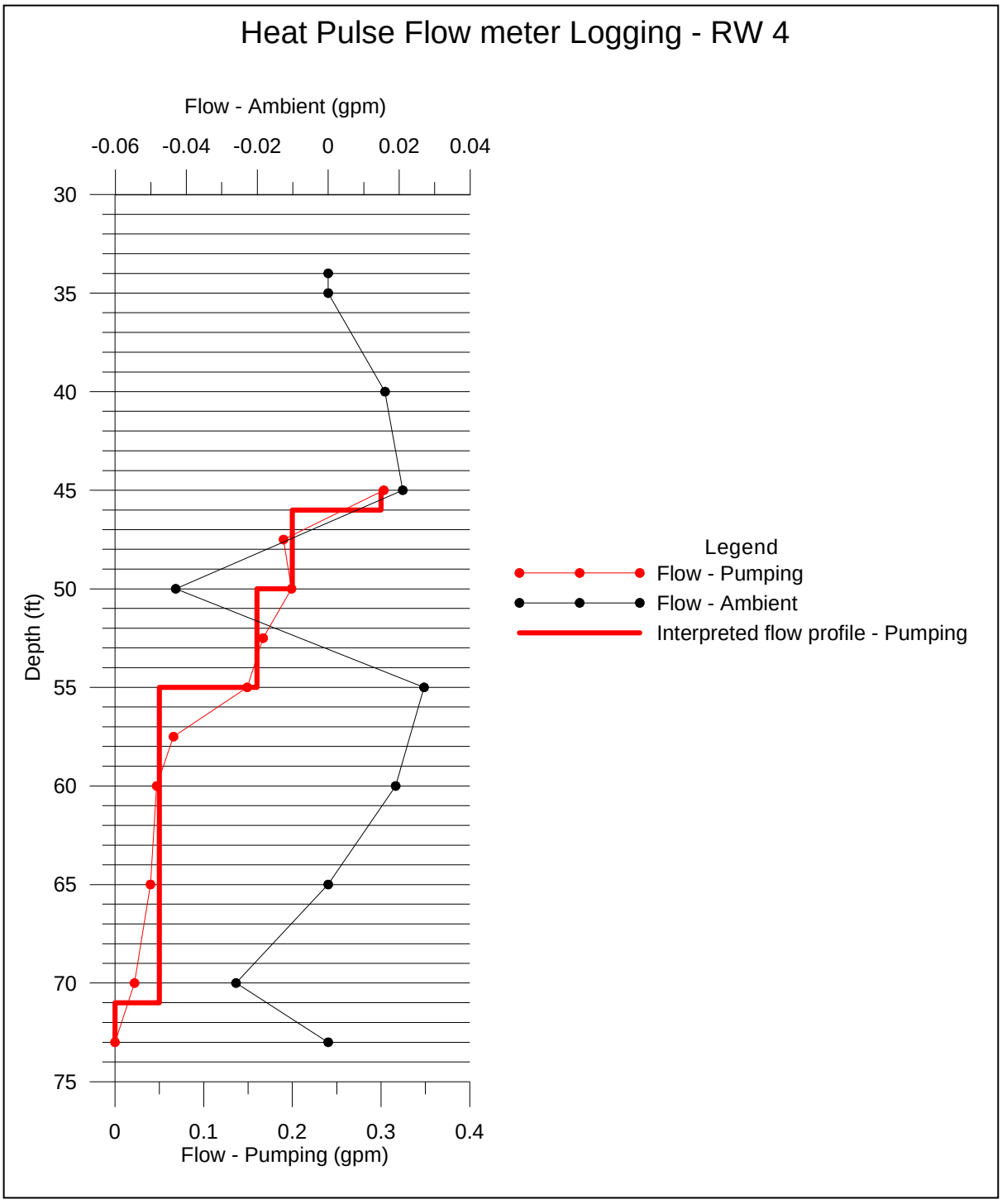


Figure 6. Heat Pulse Flow logging results for RW04 under ambient and pumping conditions, and interpreted flow profile. Water producing zones were detected at 46 feet, 50 feet, 55 feet, and 71 feet.

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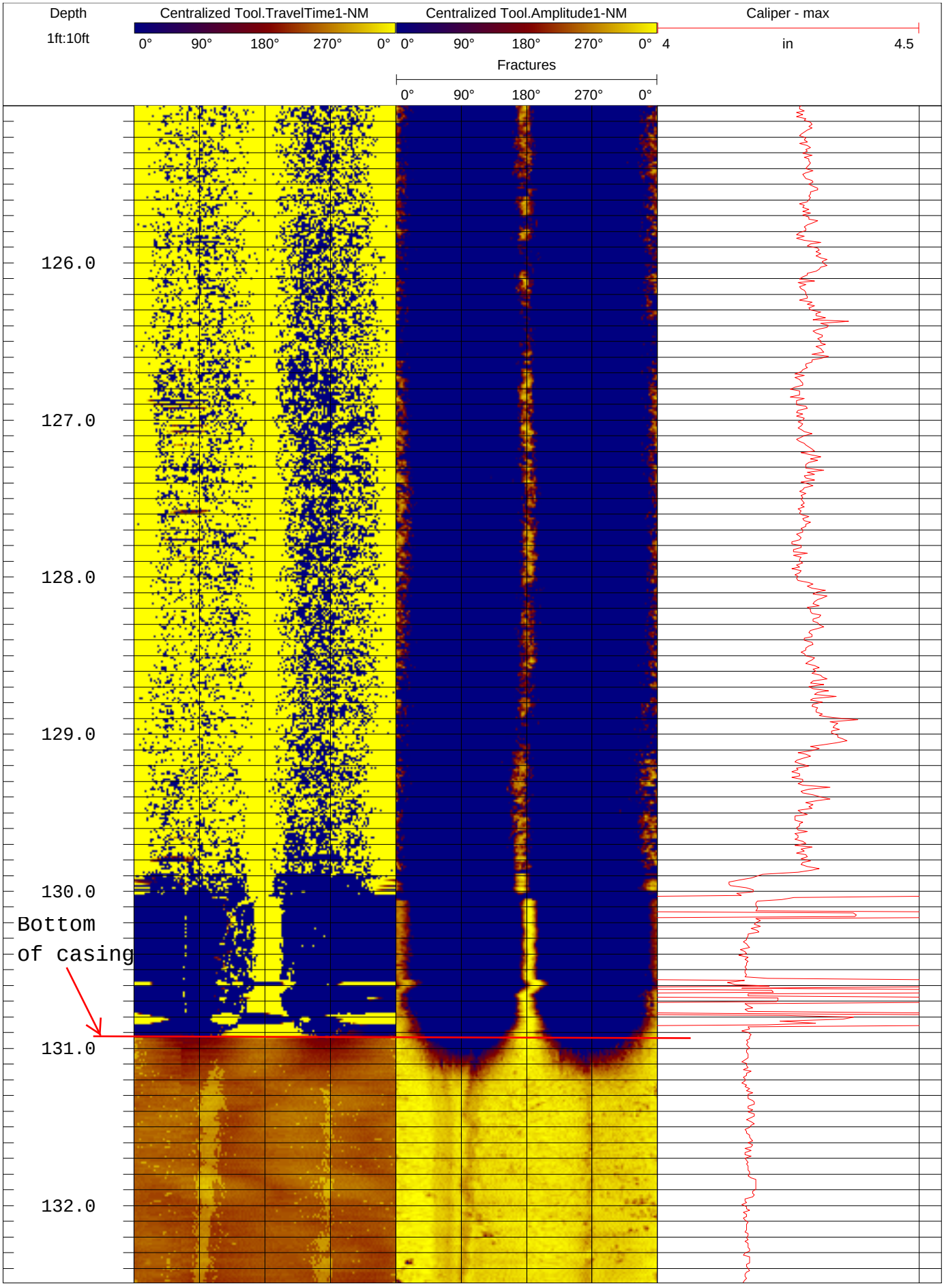

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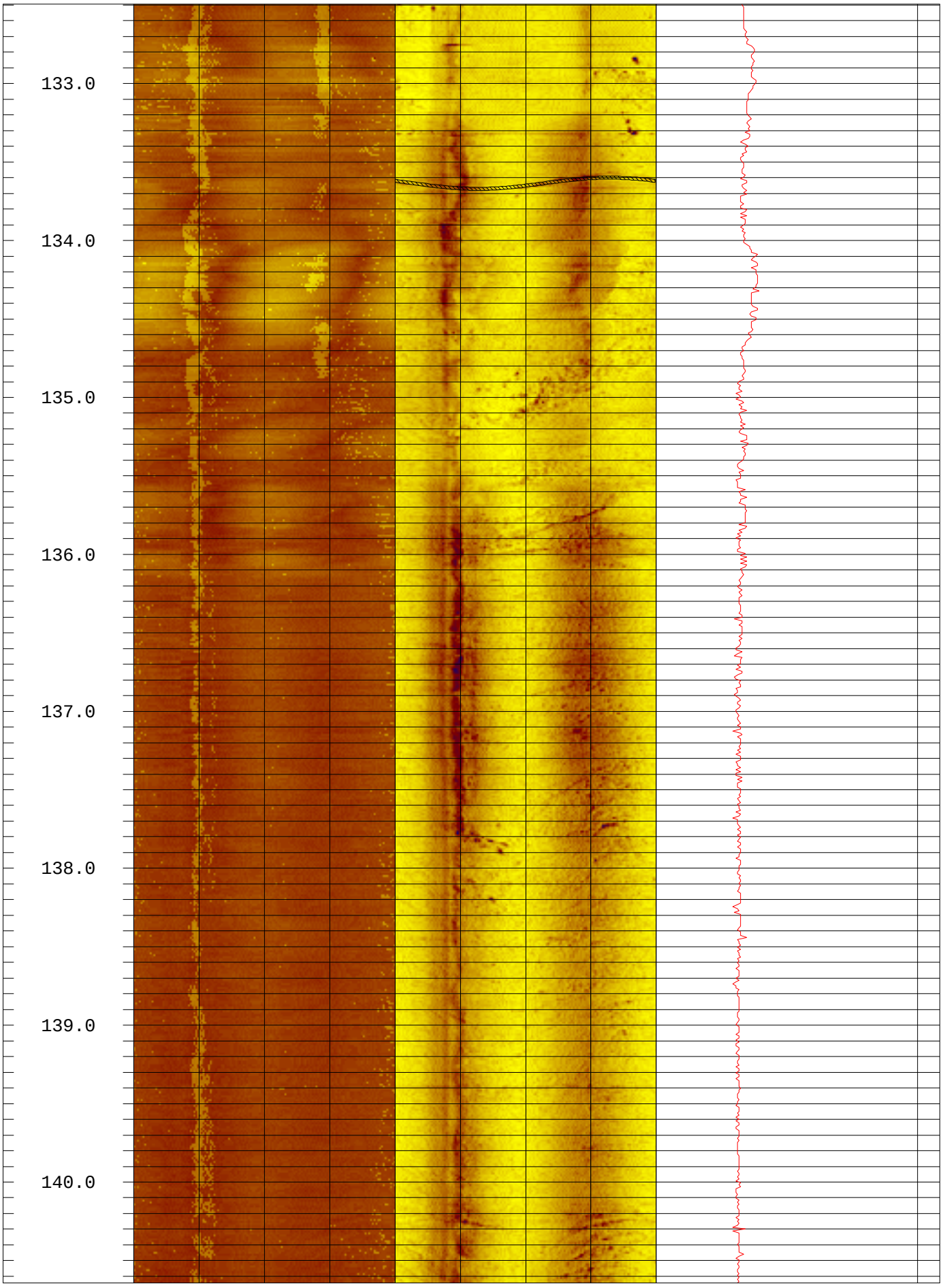
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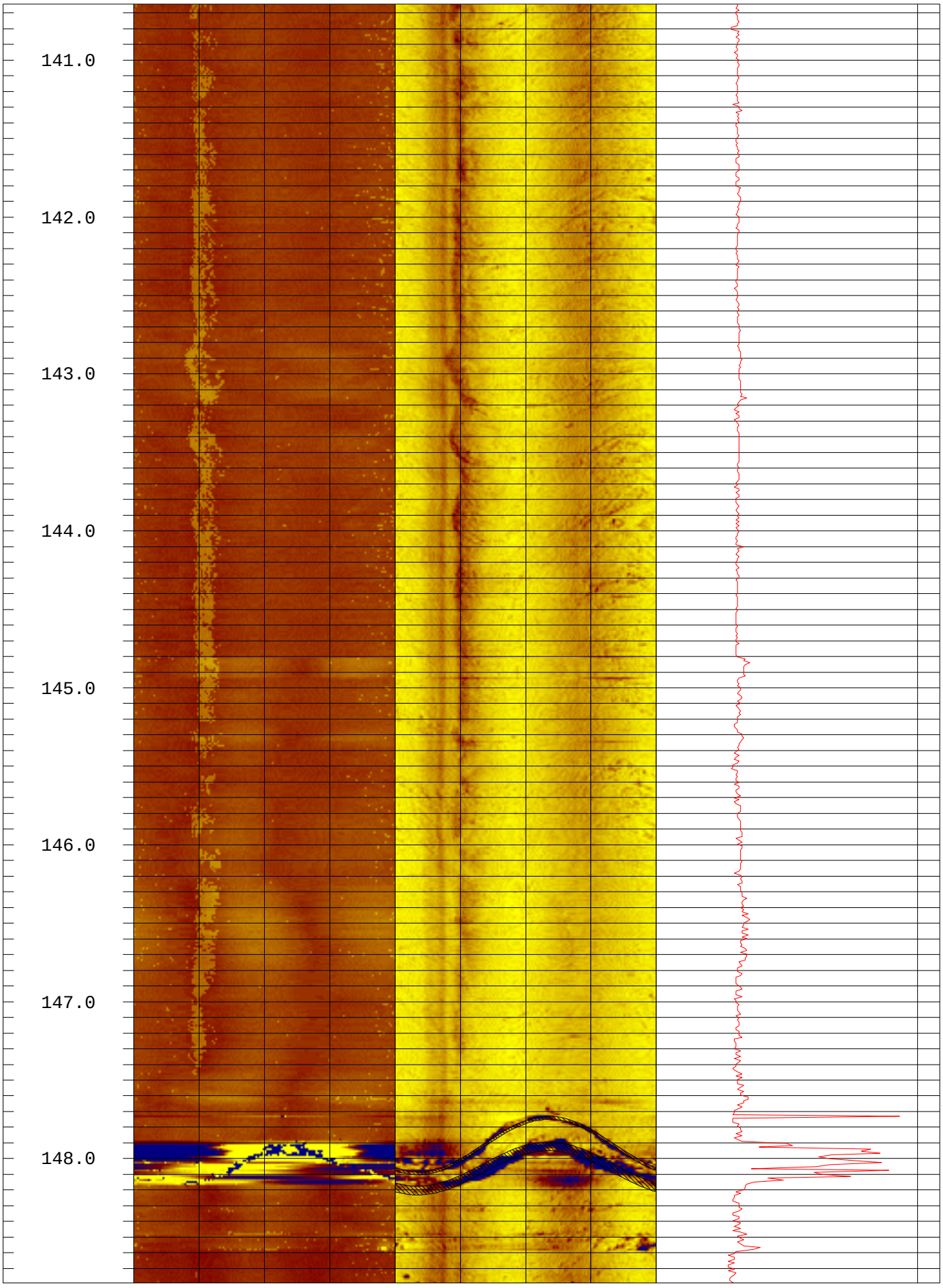
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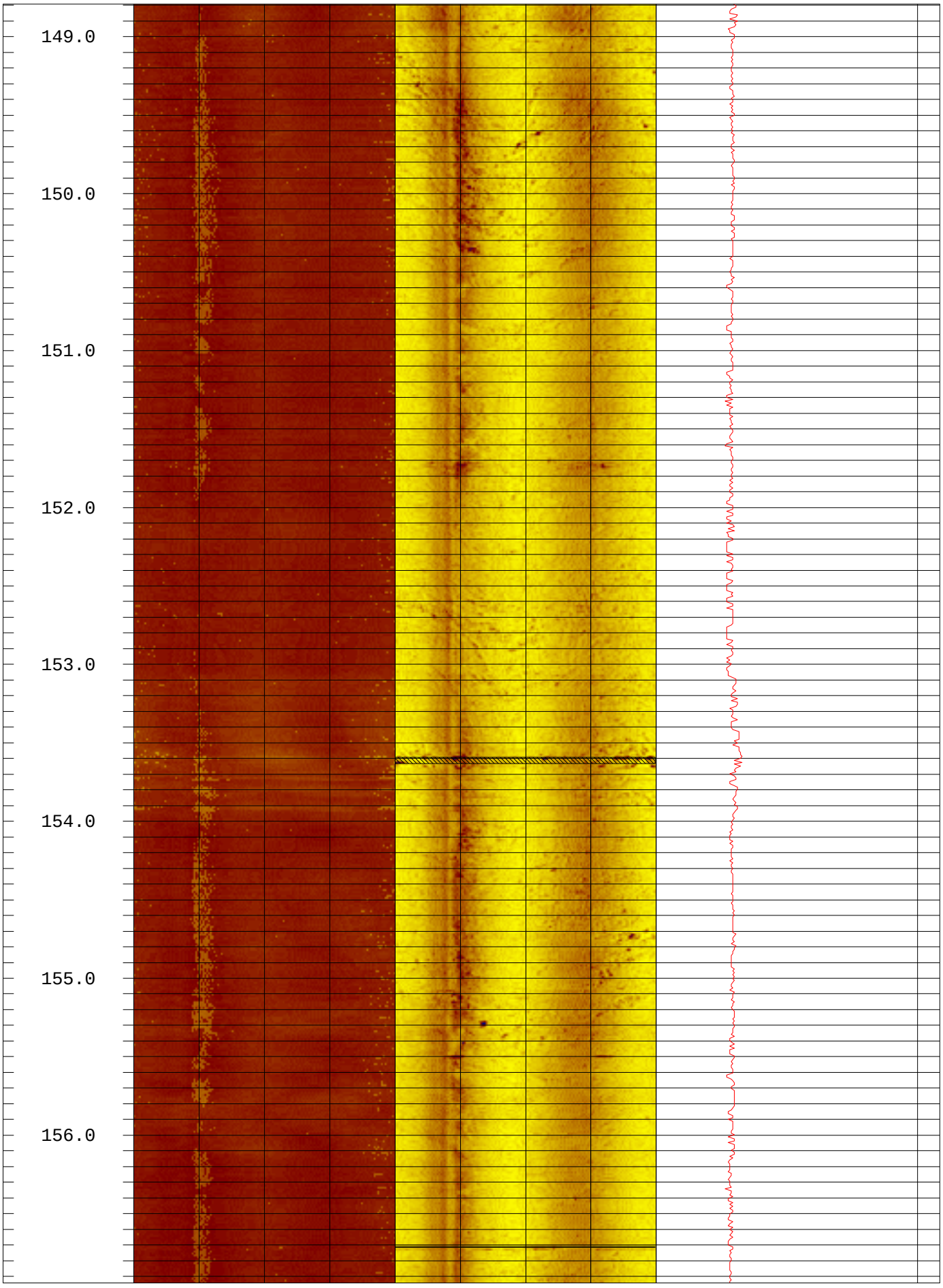
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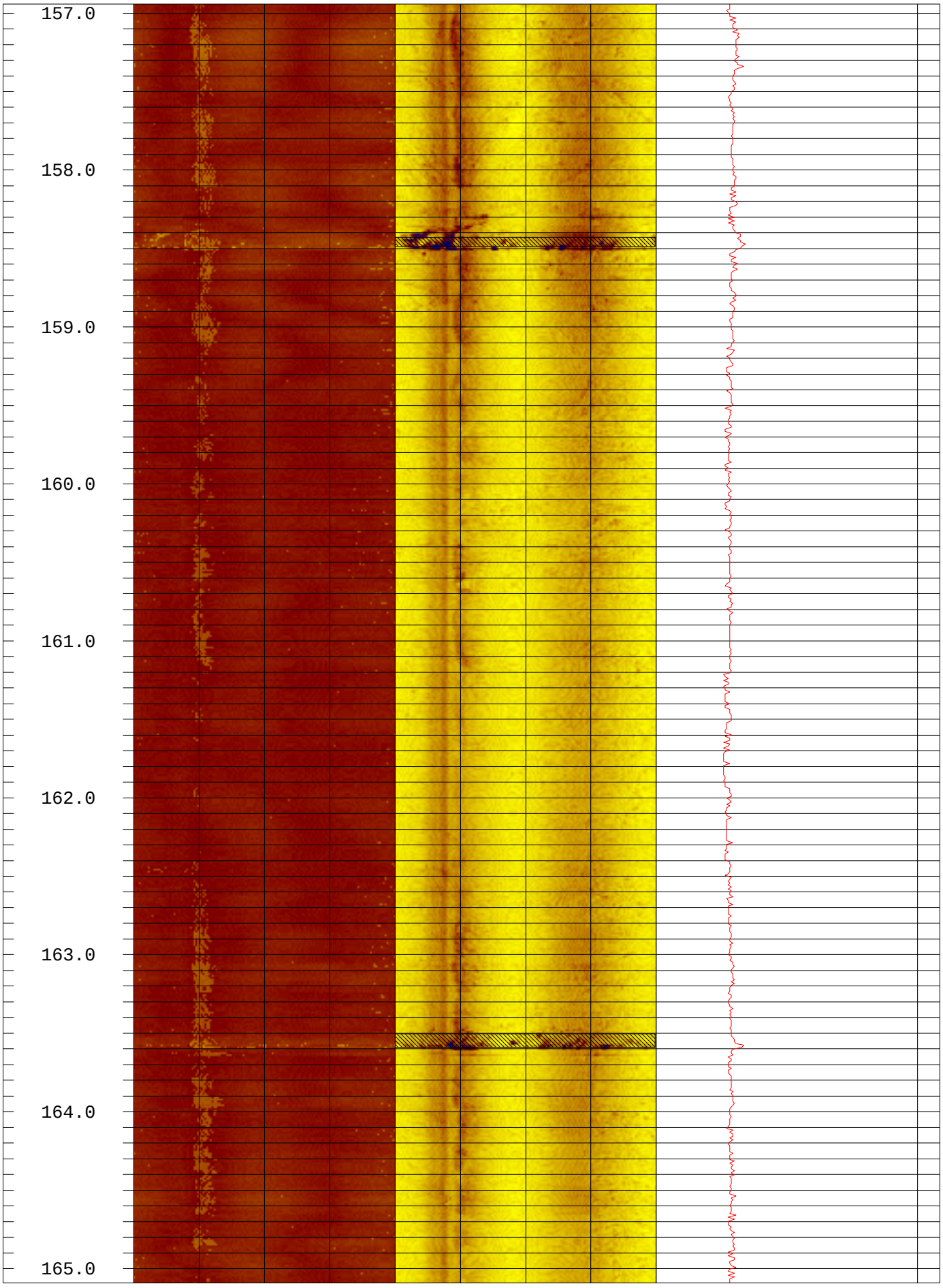
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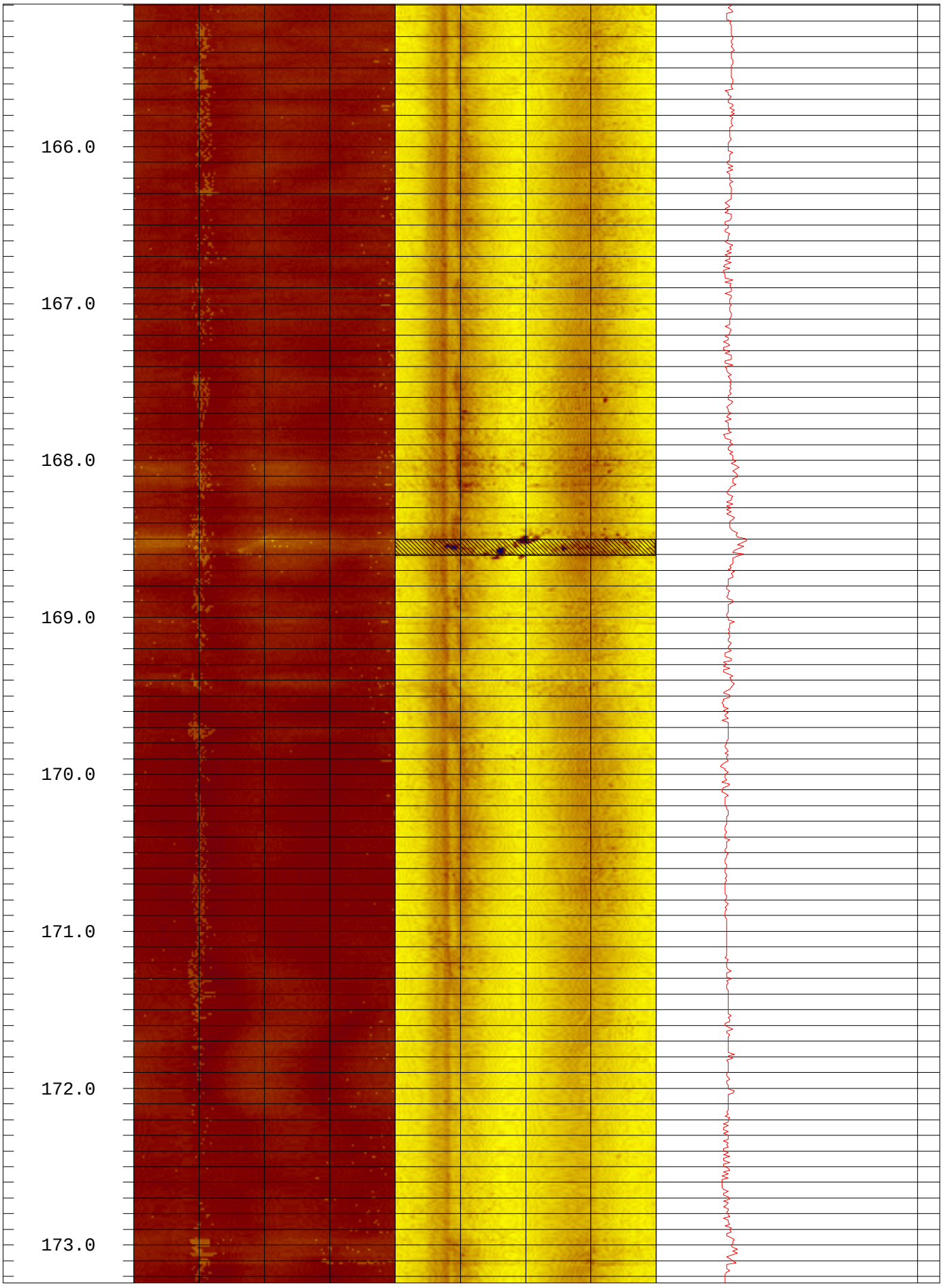
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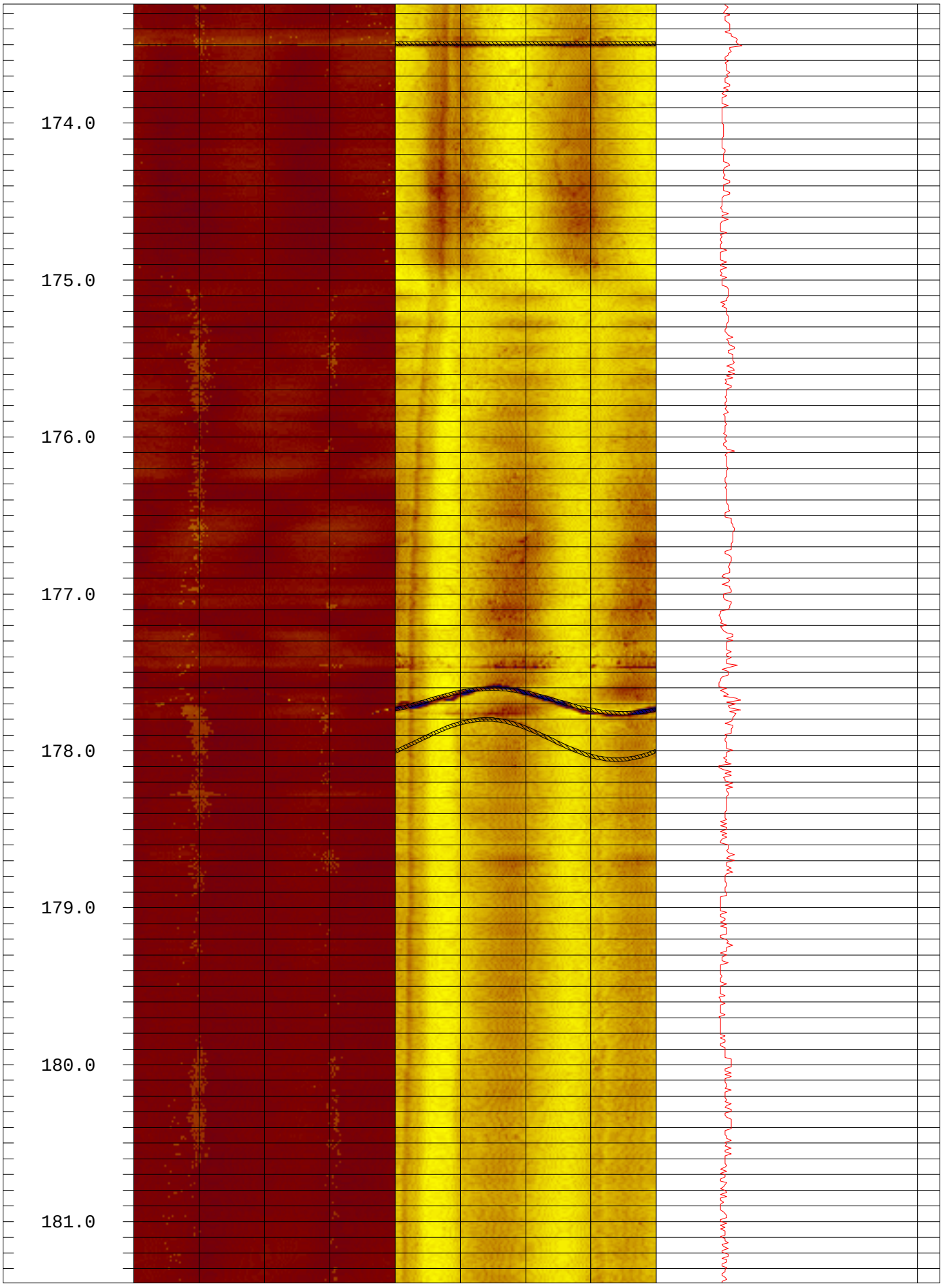
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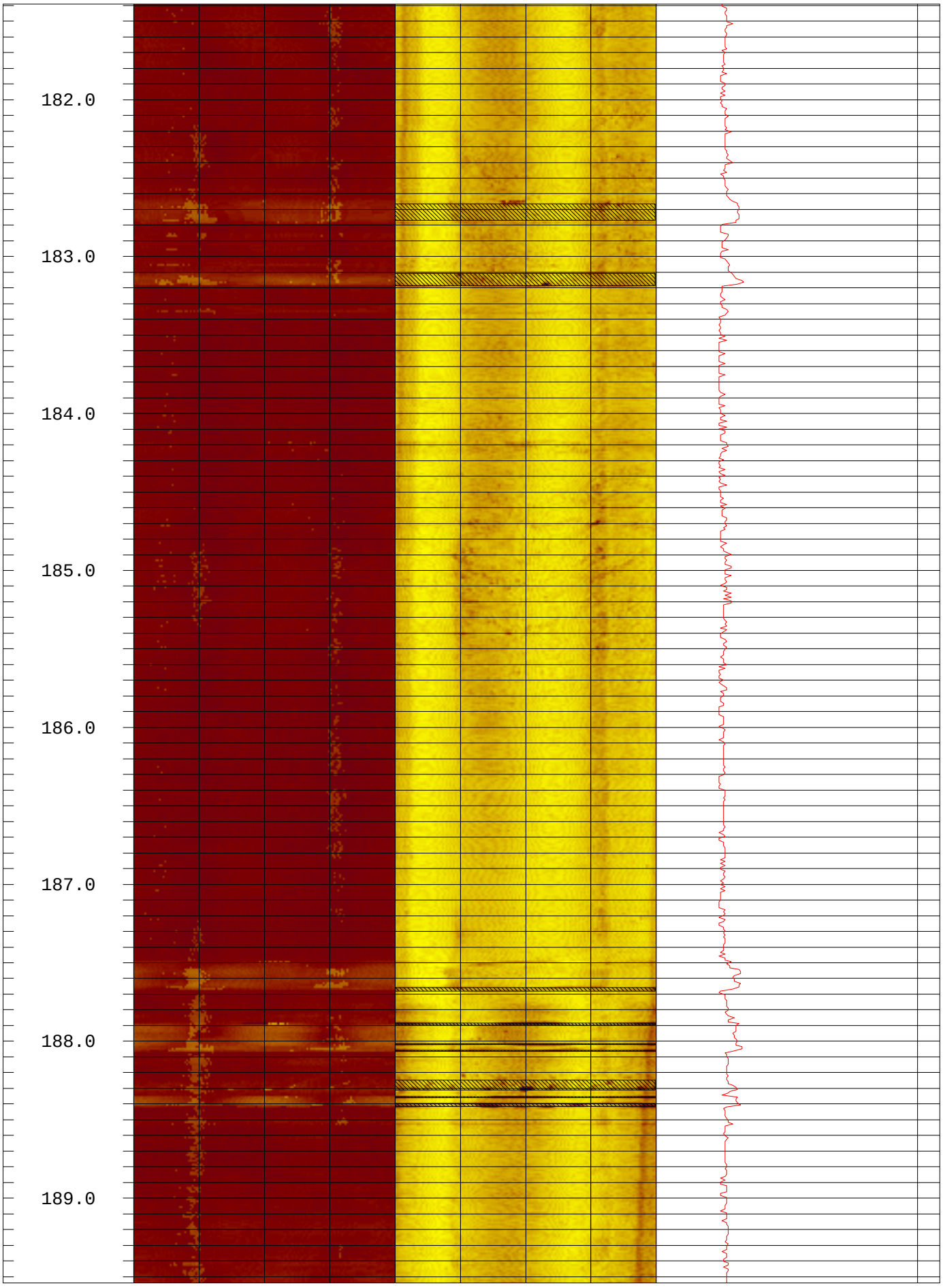
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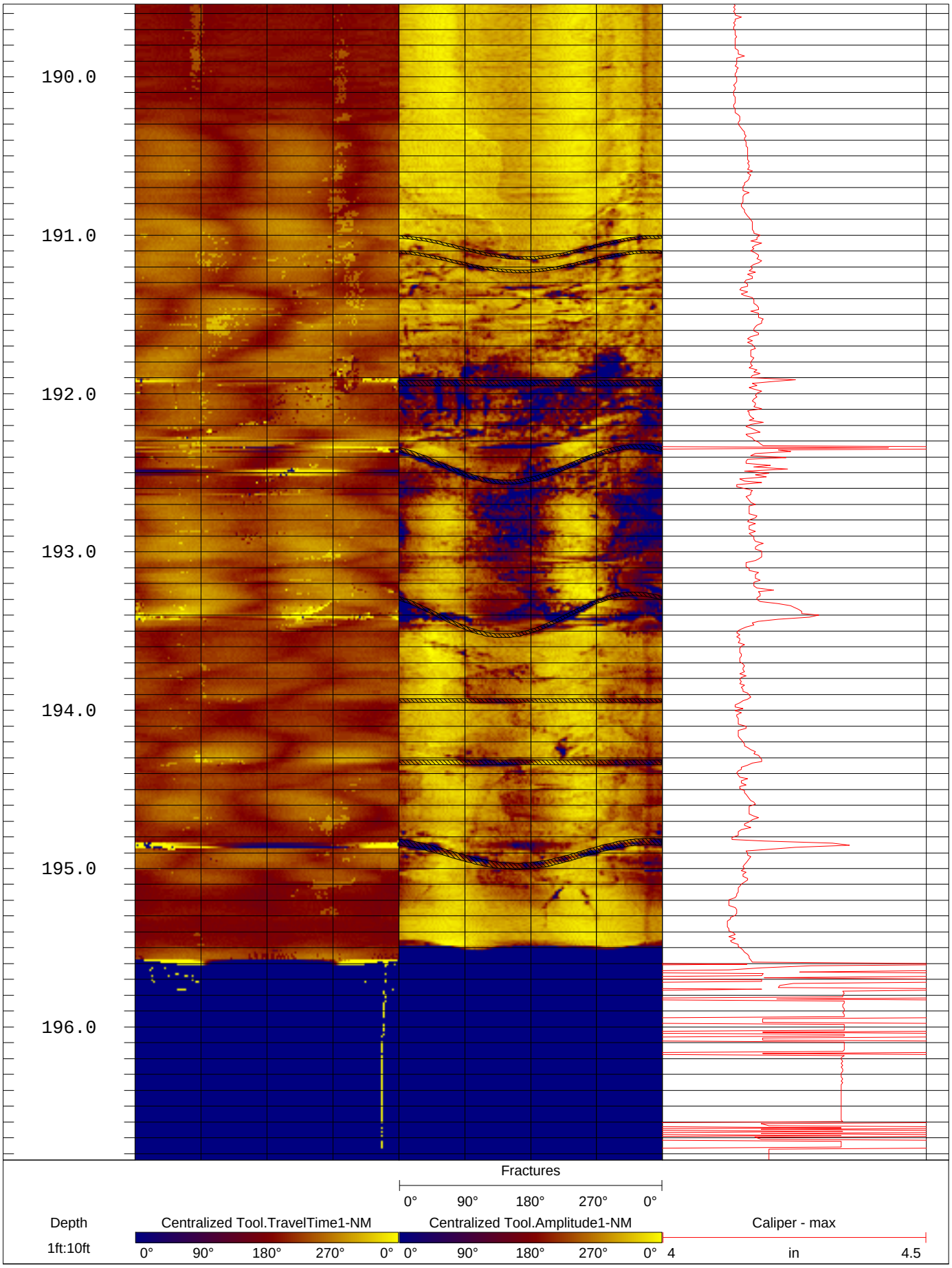
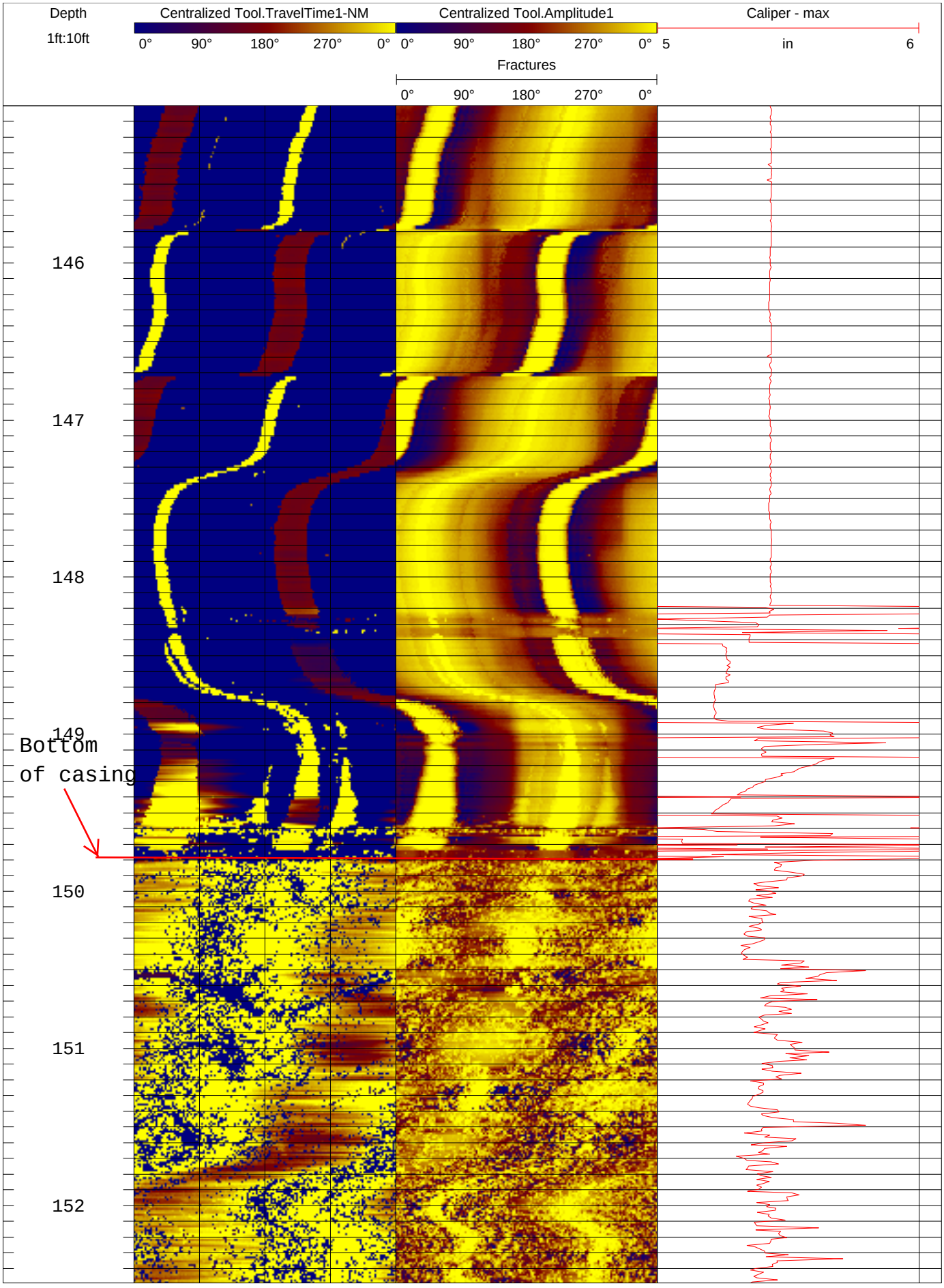


WELL PB01 - ACOUSTIC TELEVIEWER LOG

WELL WB01 - ACOUSTIC TELEVIEWER LOG



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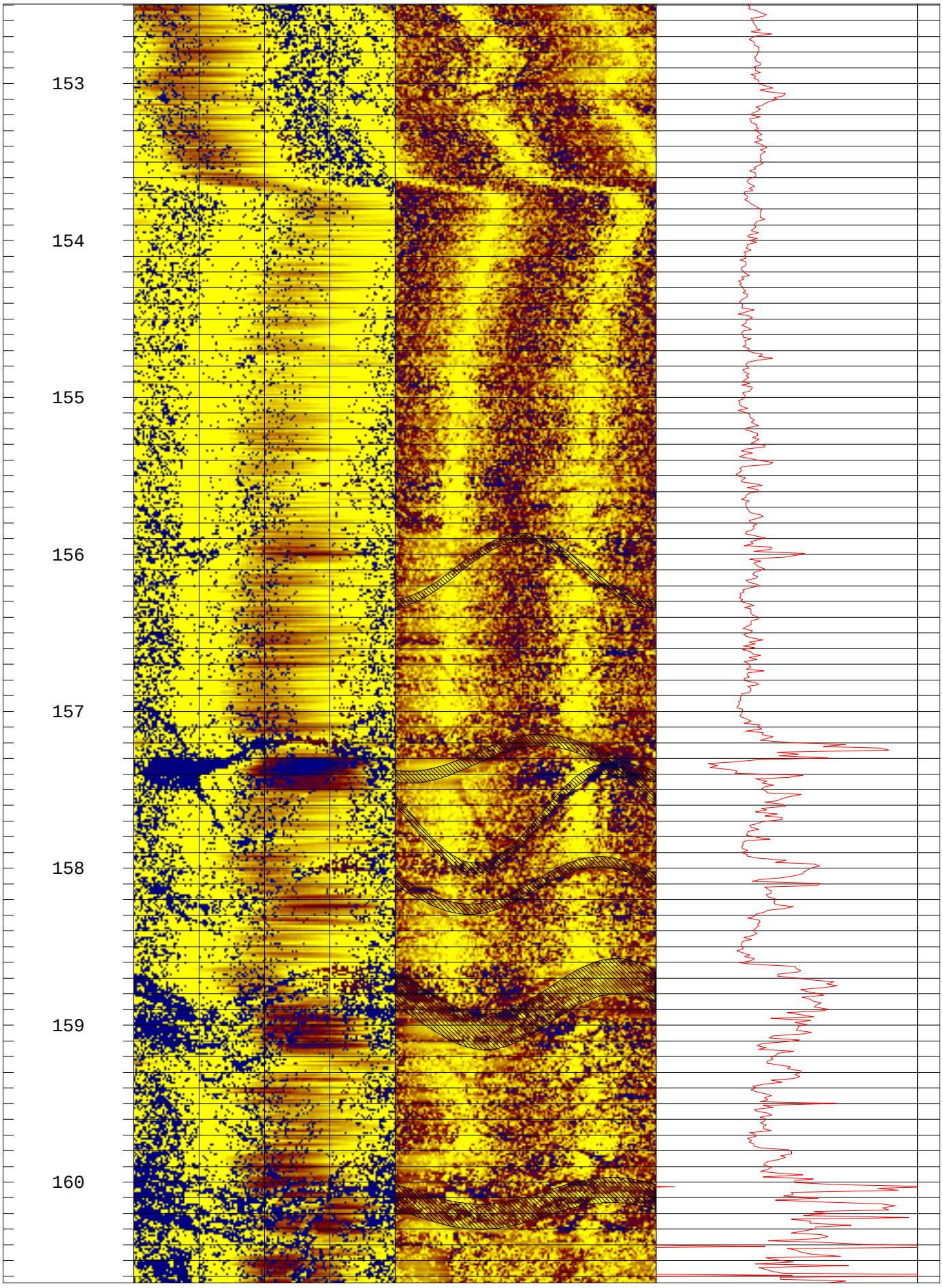
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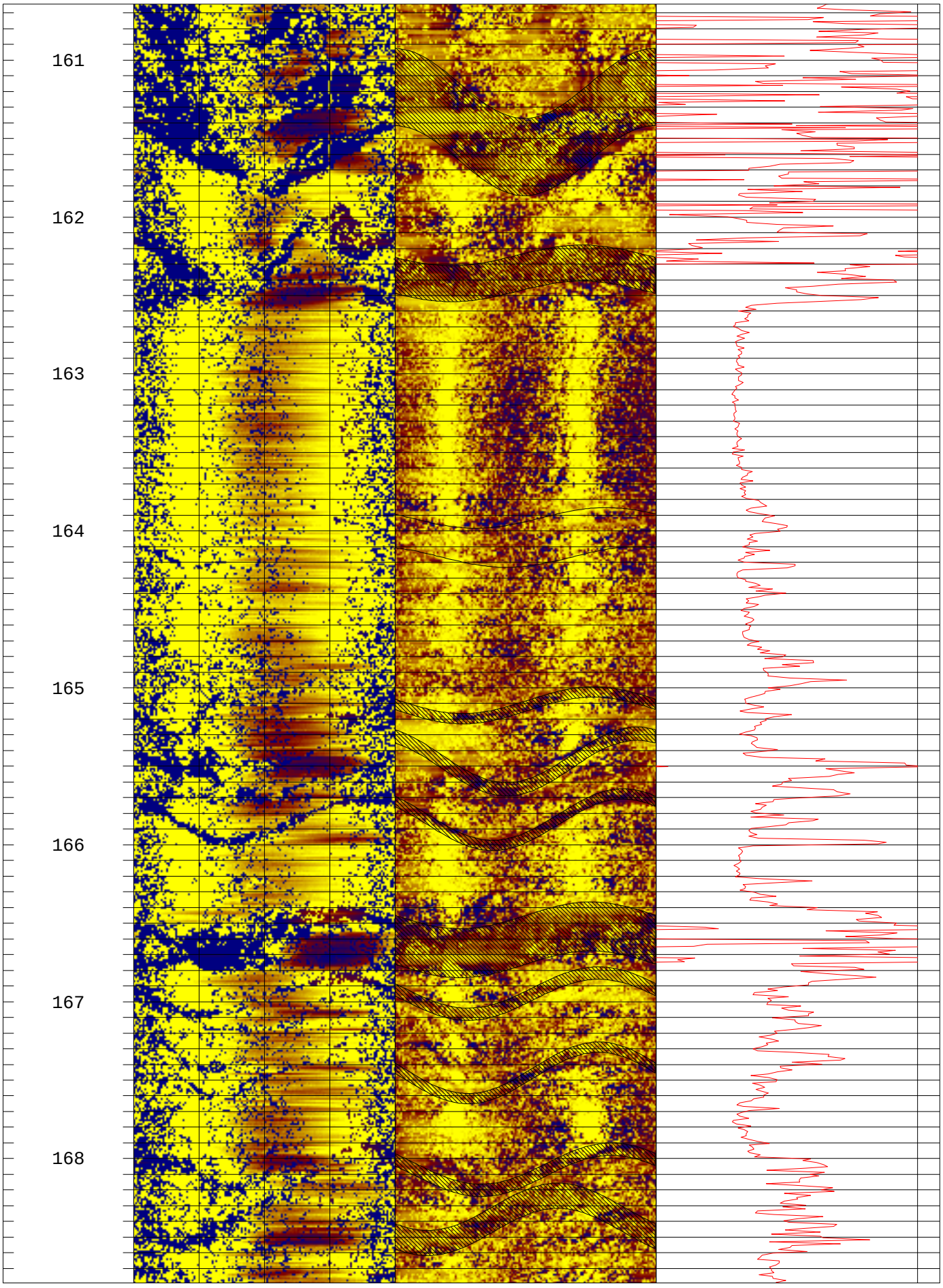

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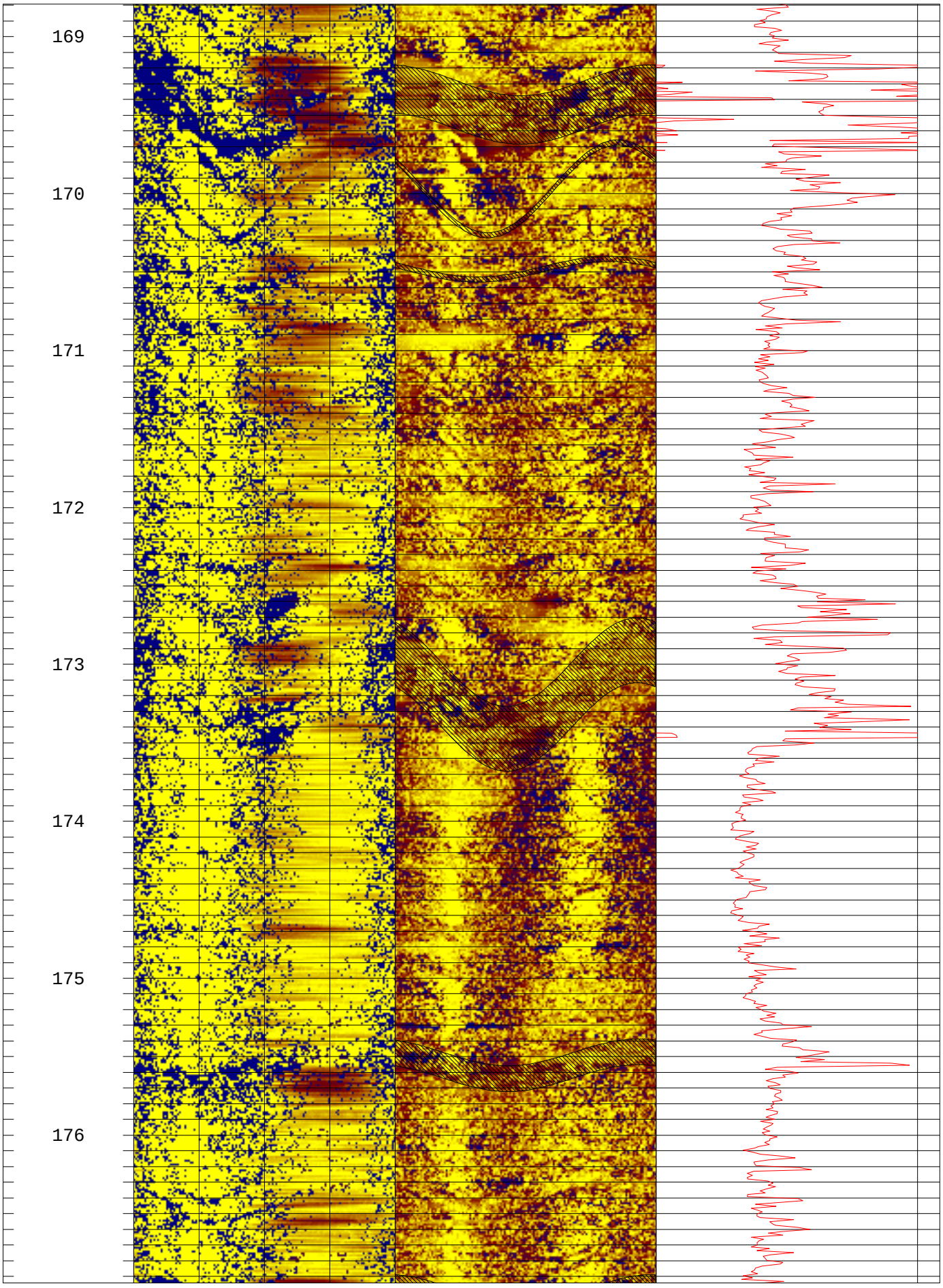
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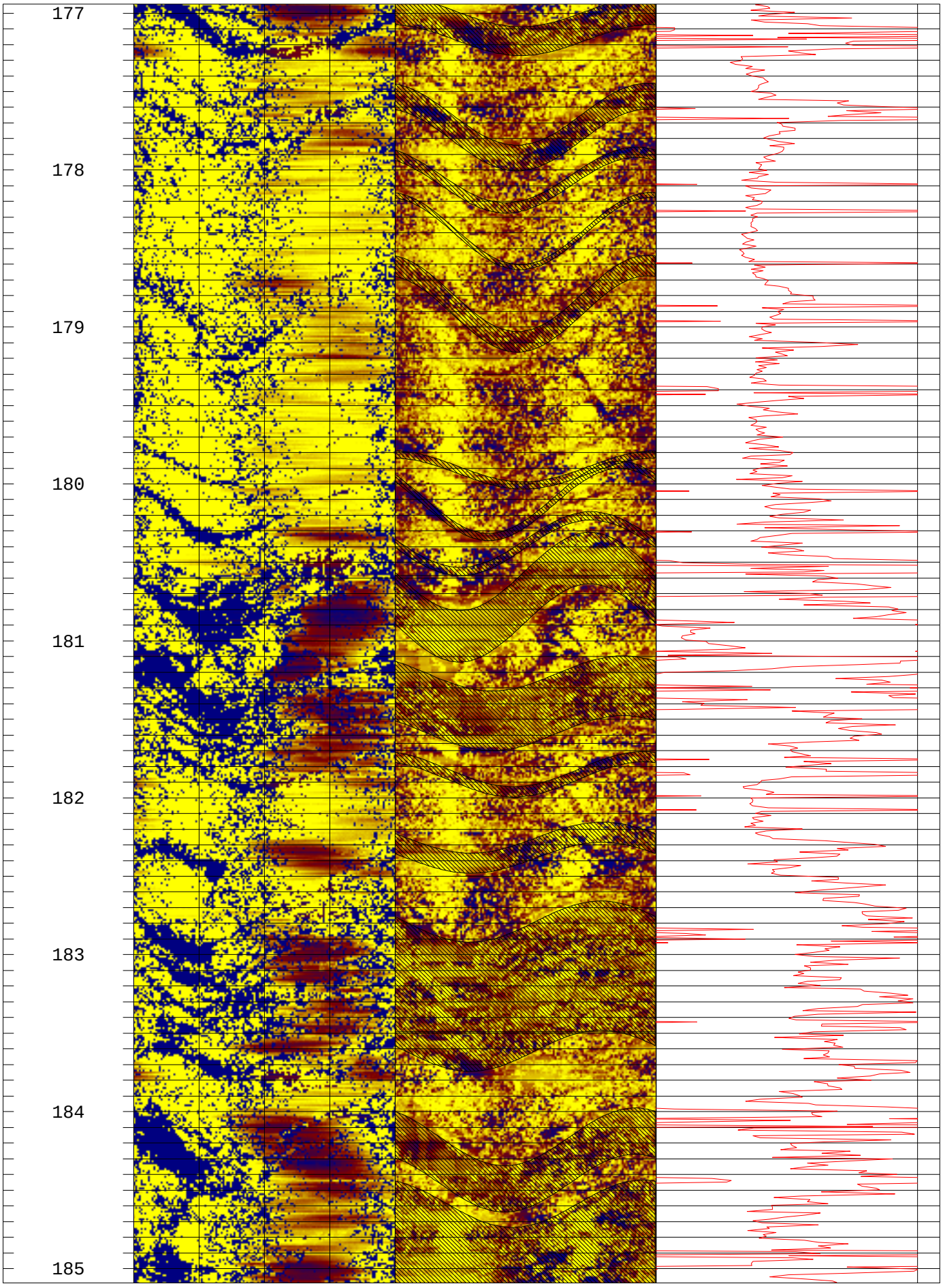
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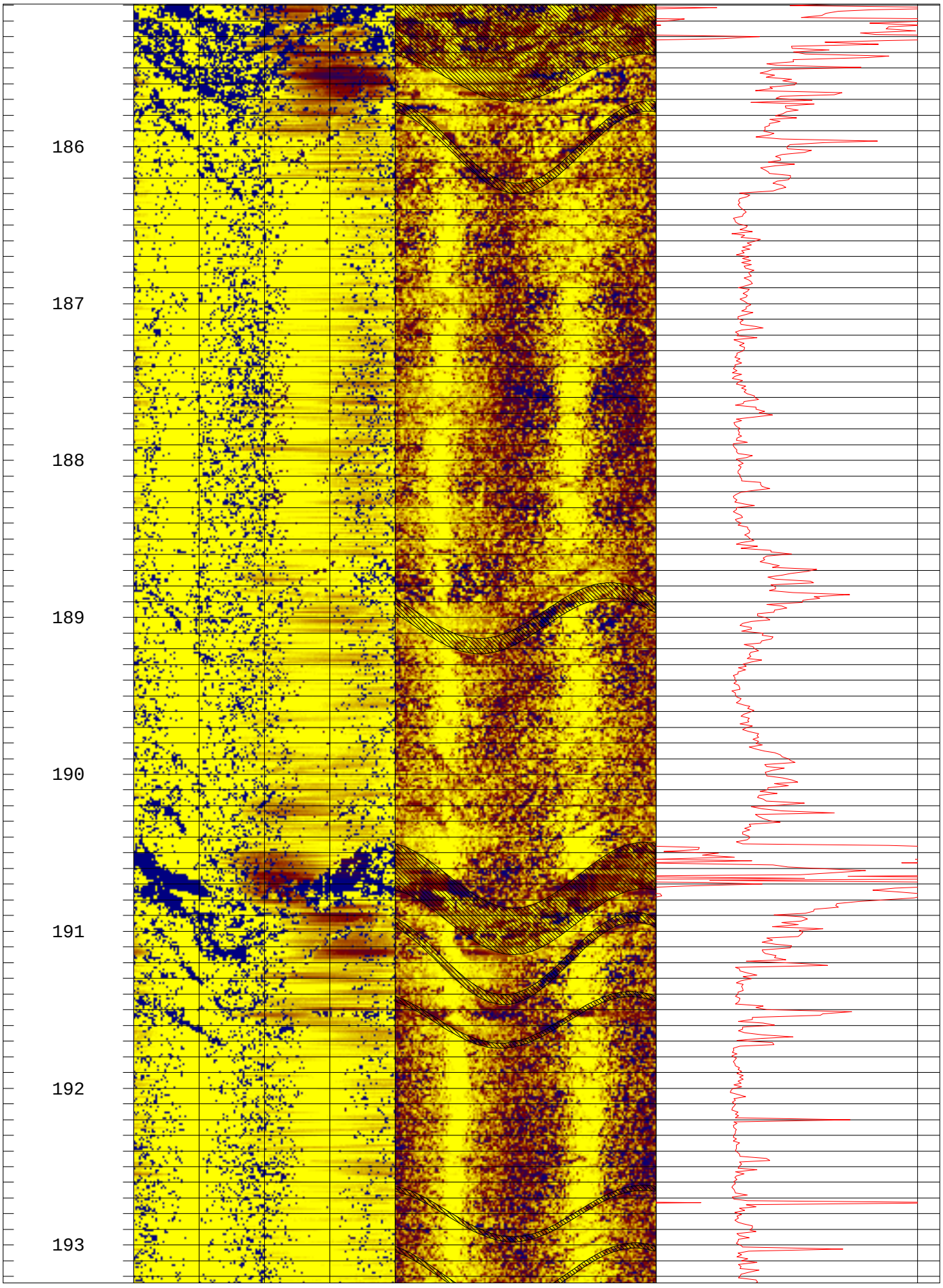
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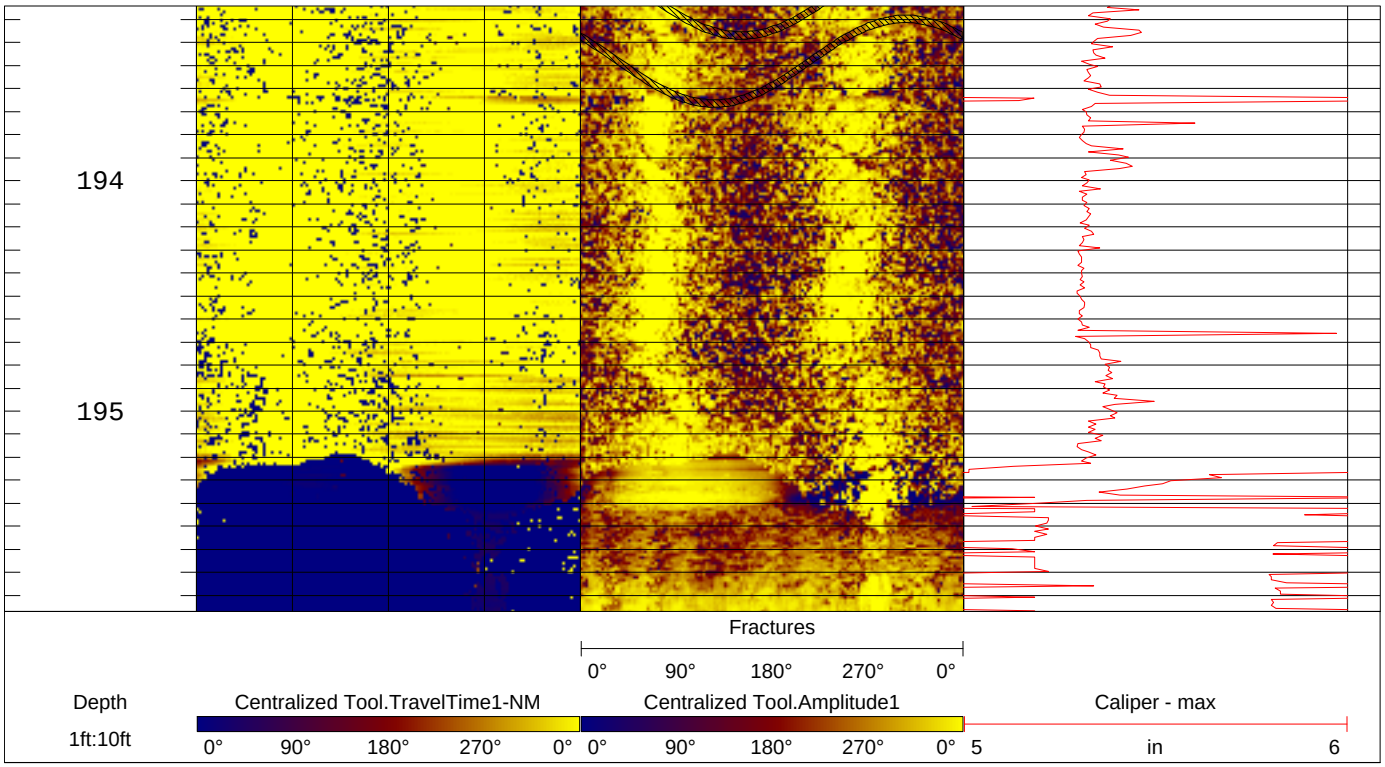

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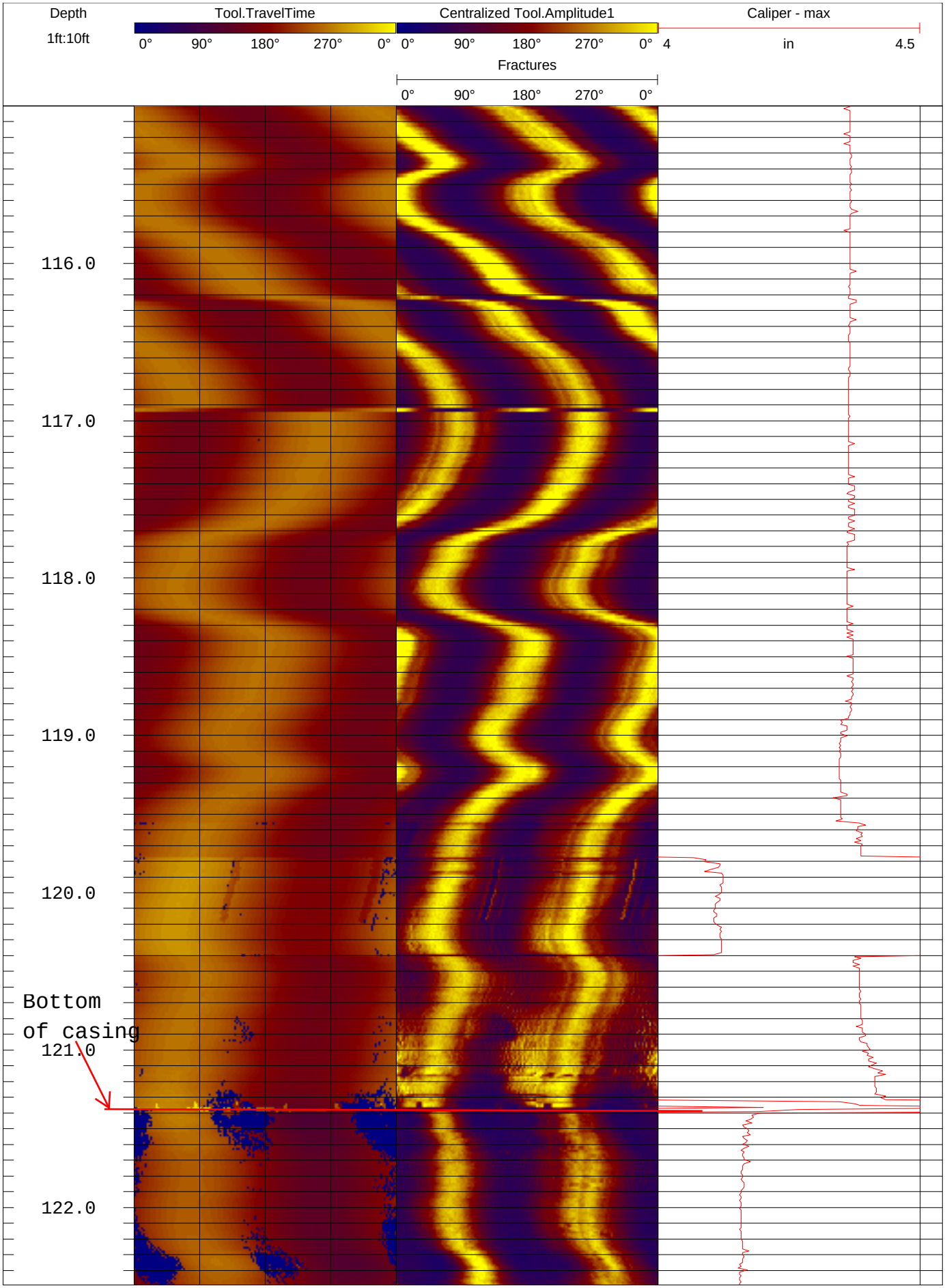

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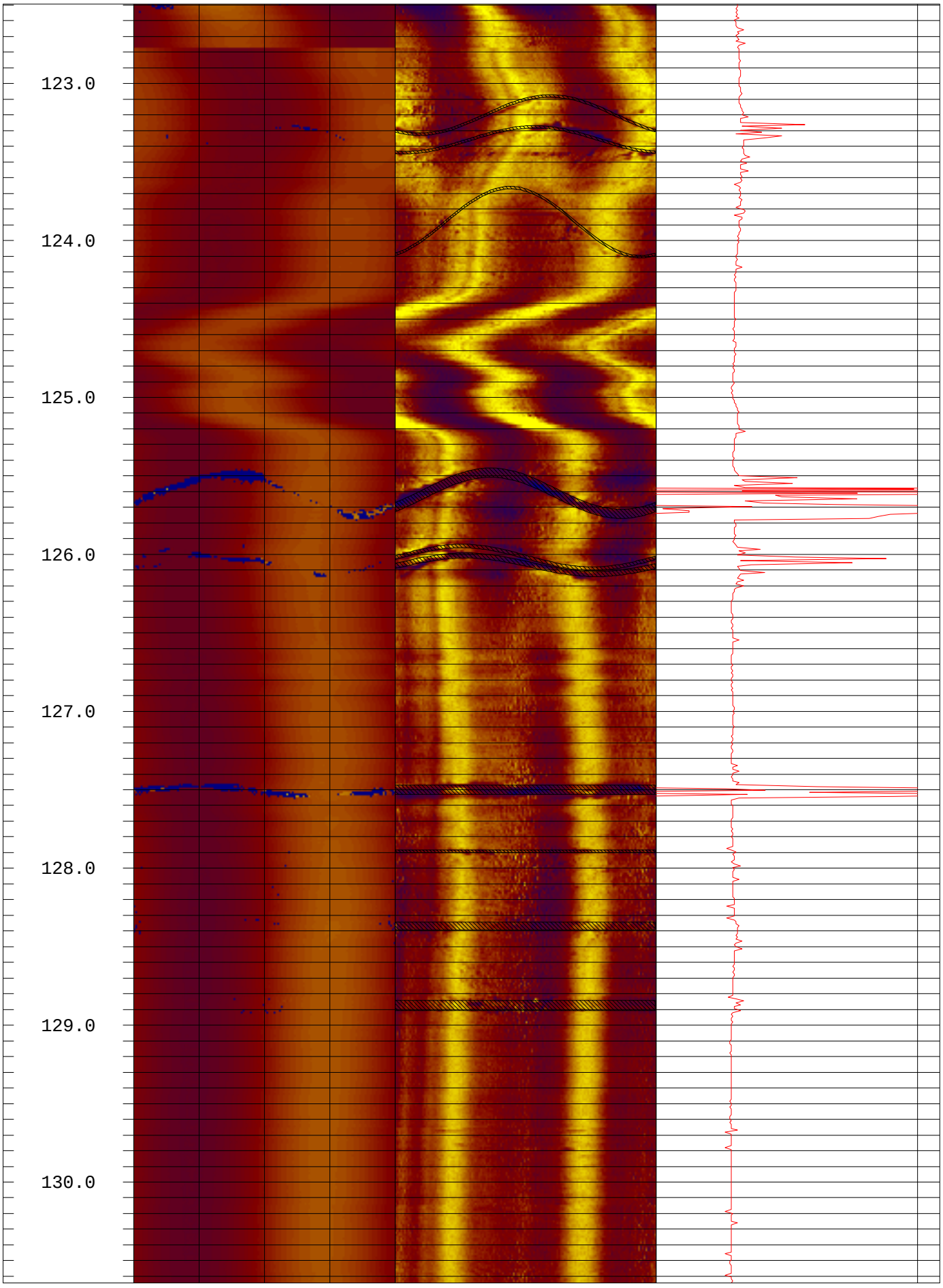
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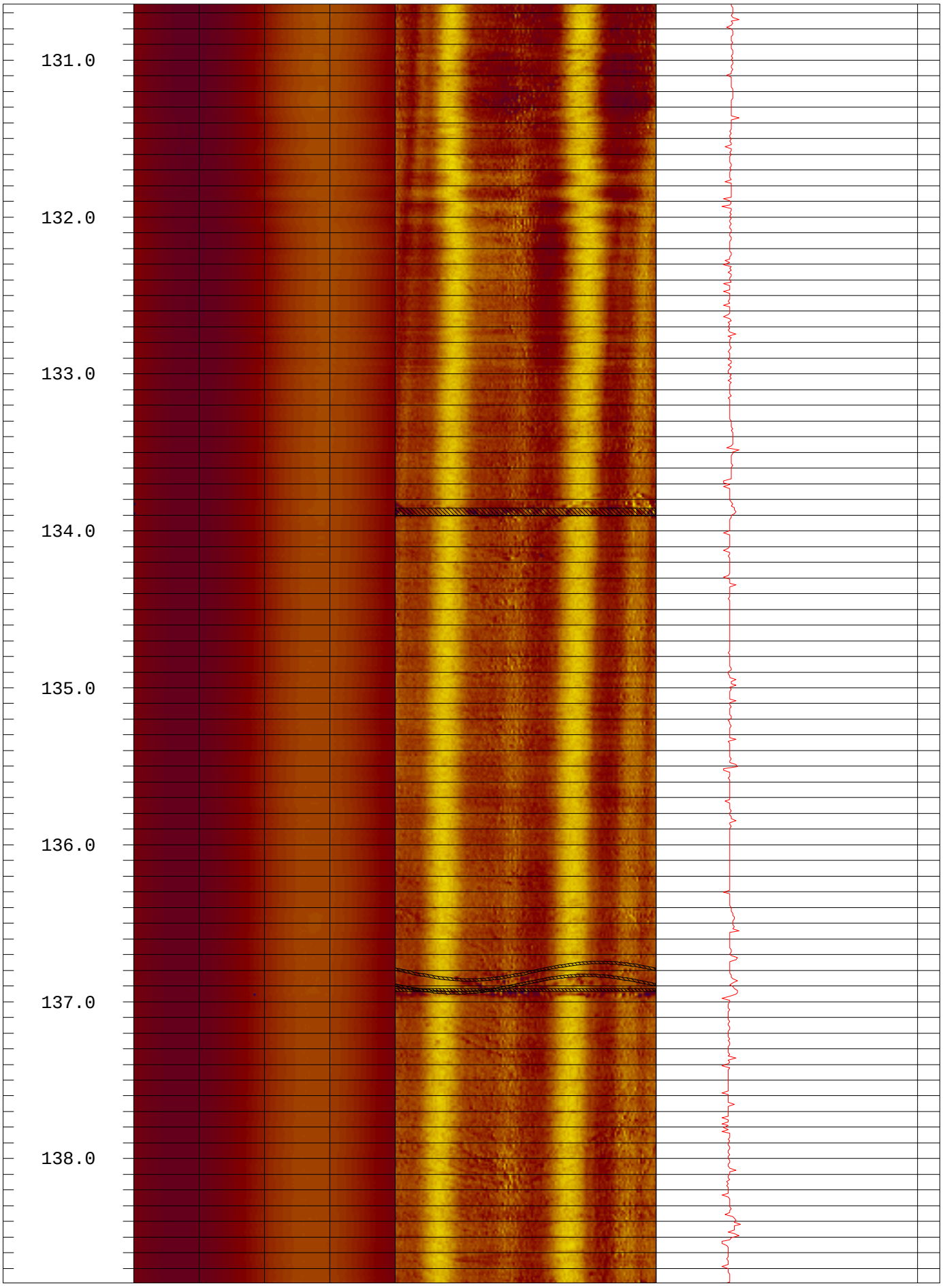
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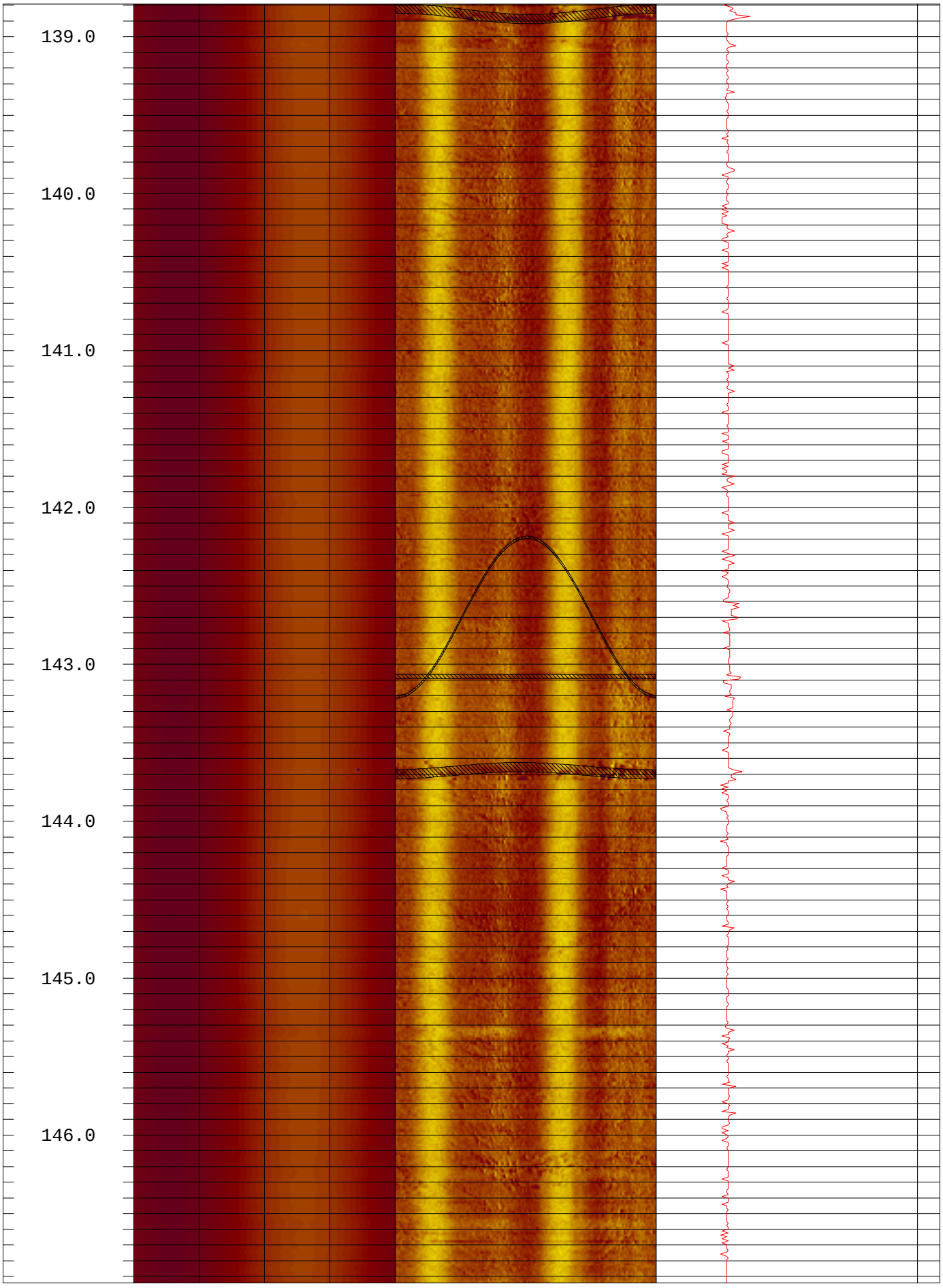
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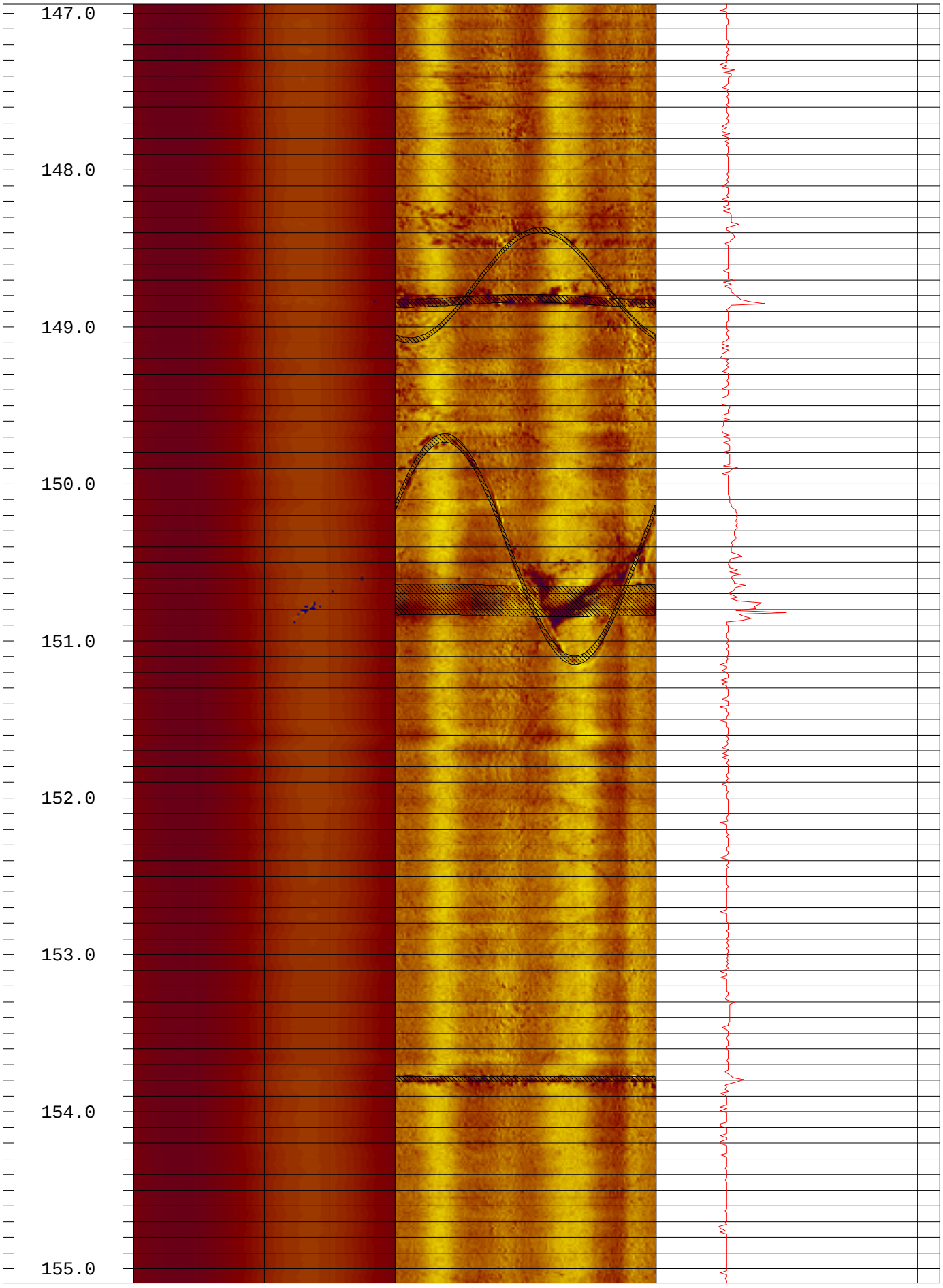
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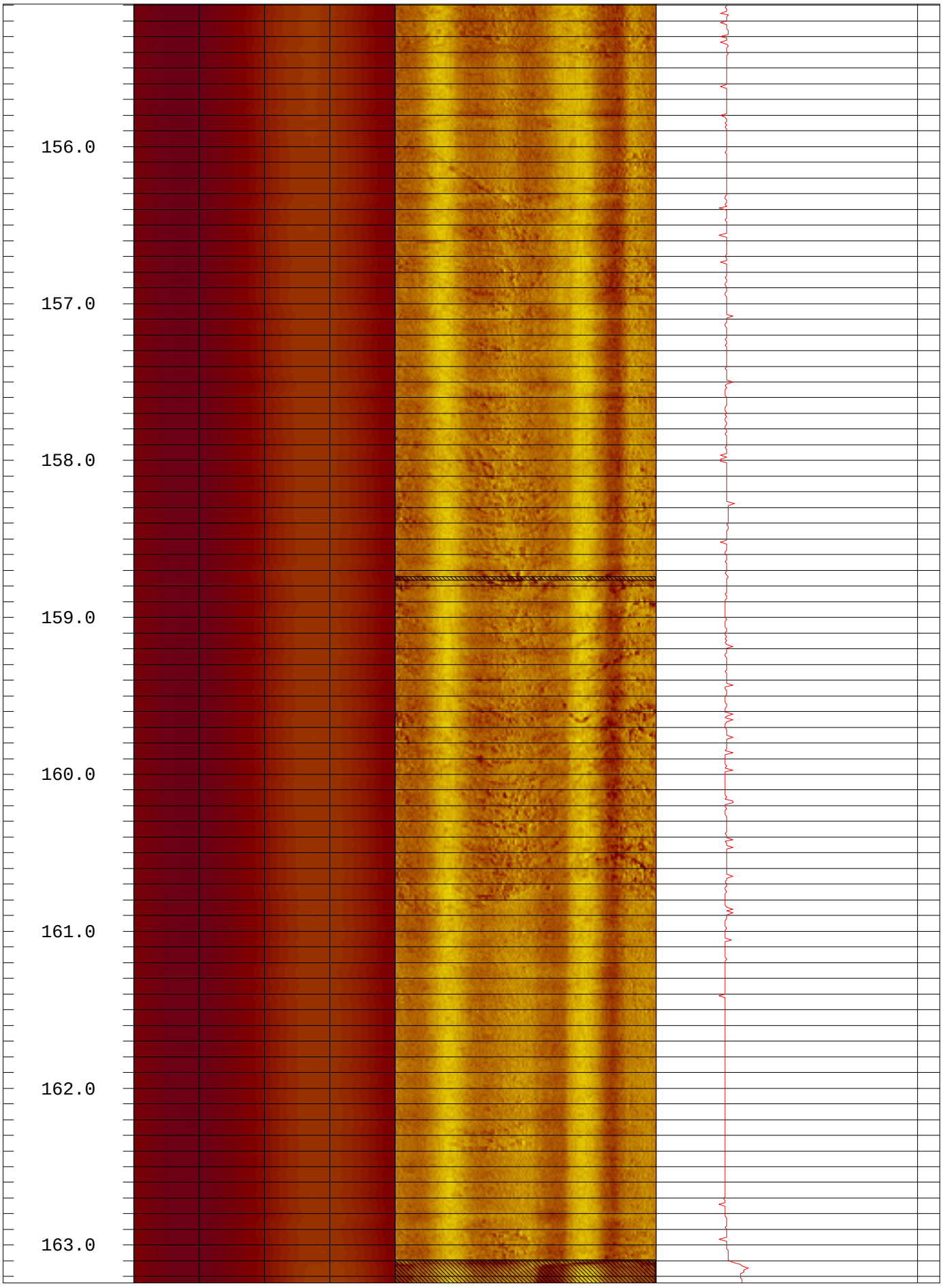
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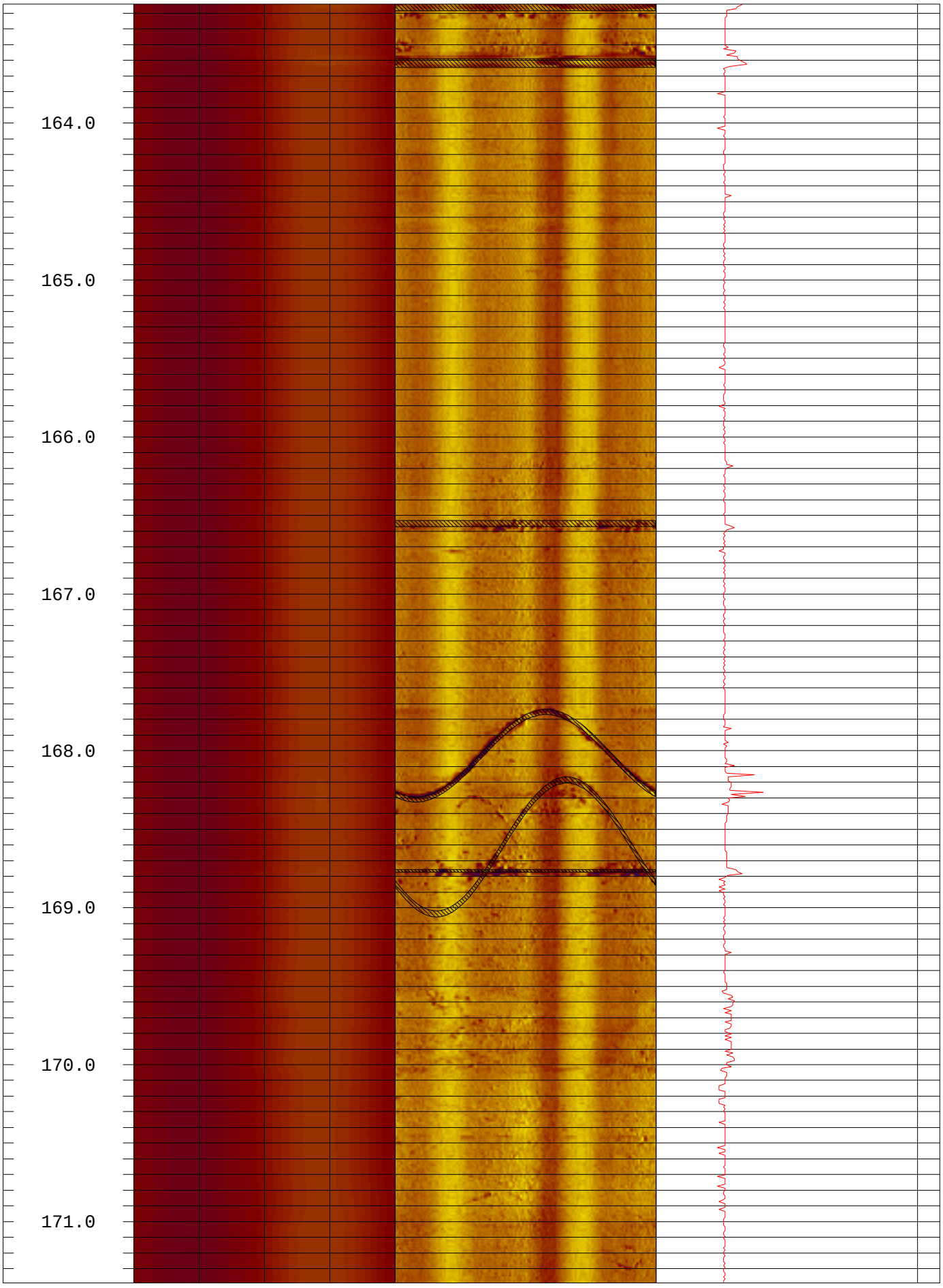

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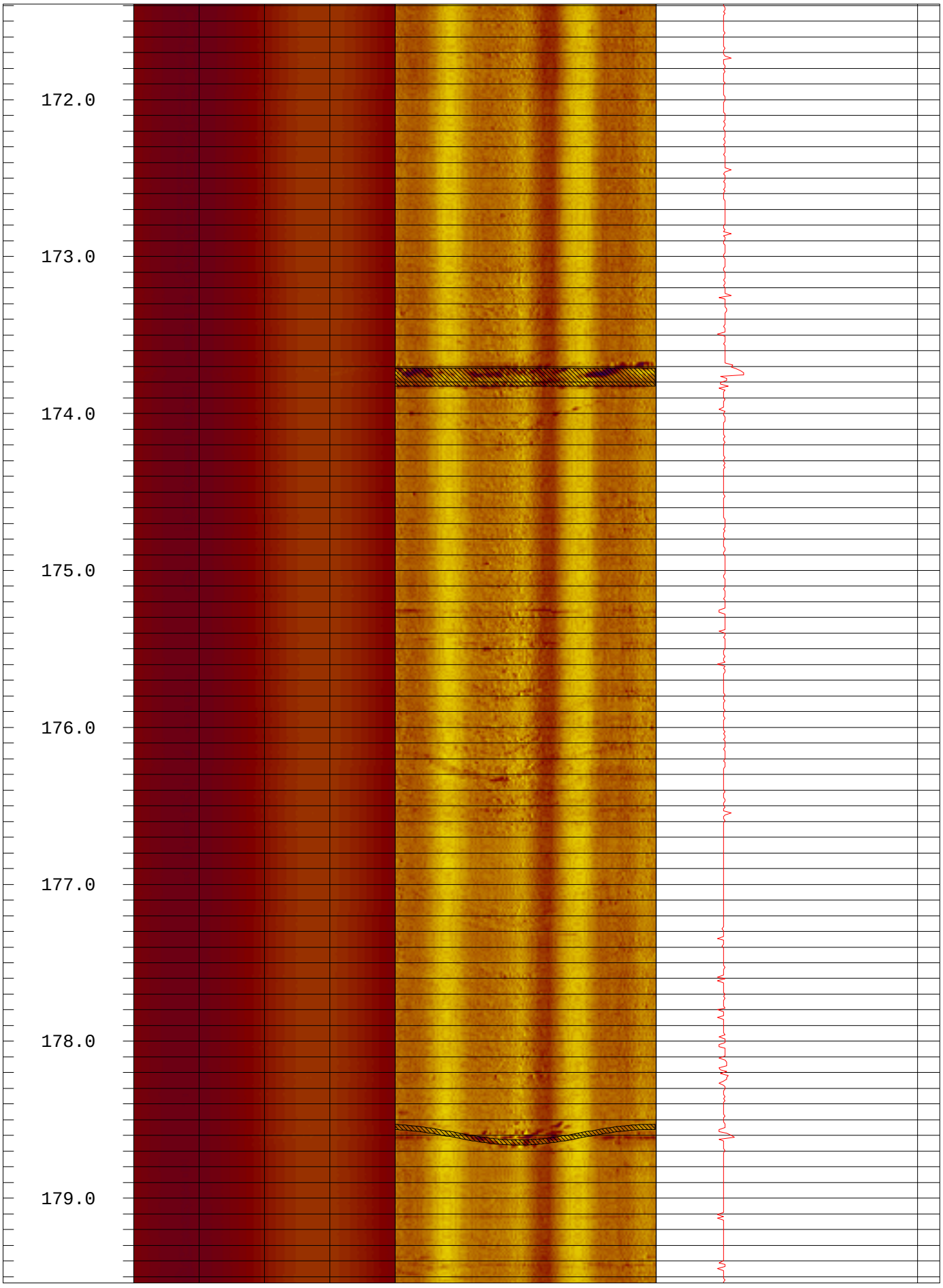
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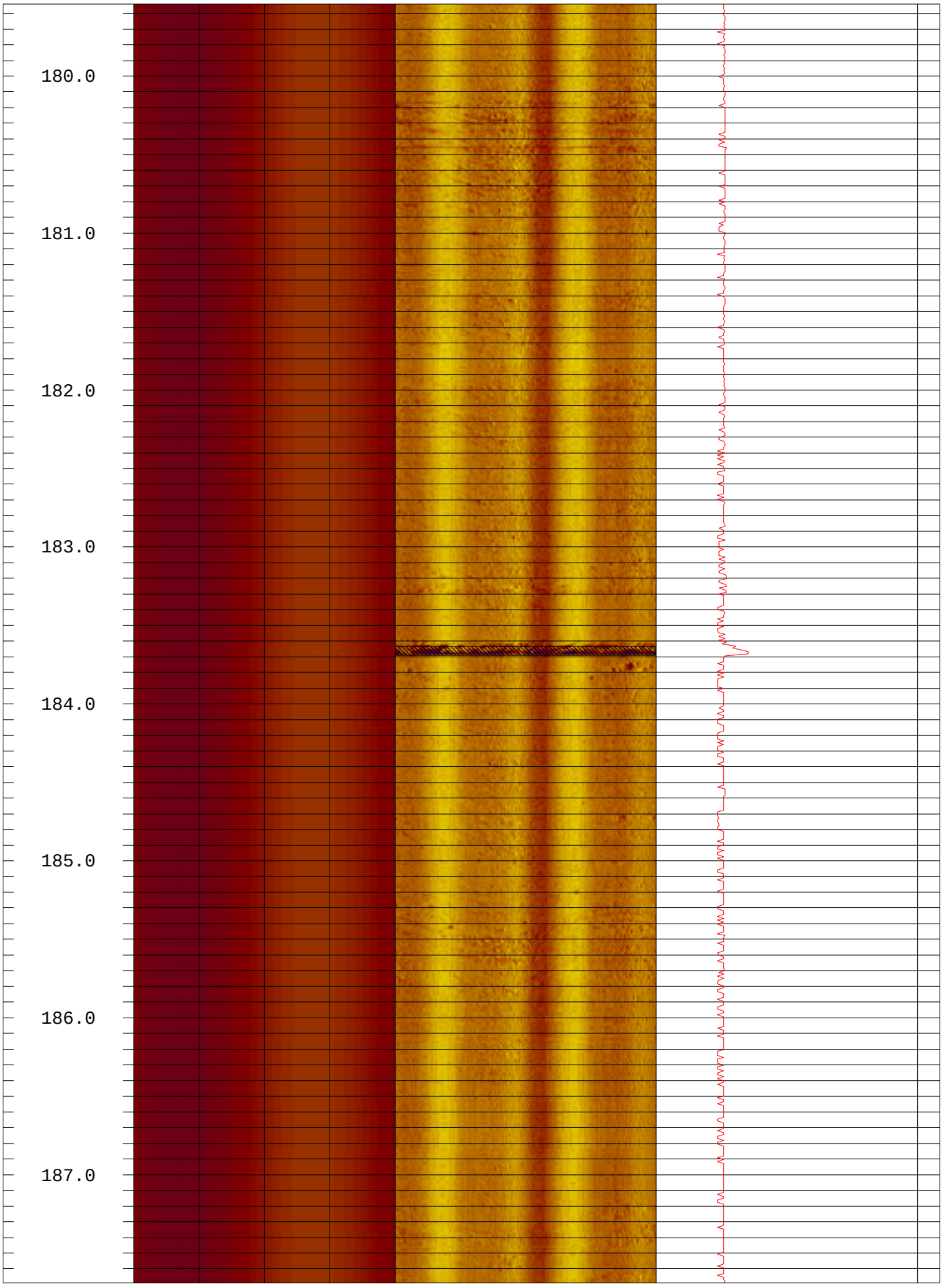
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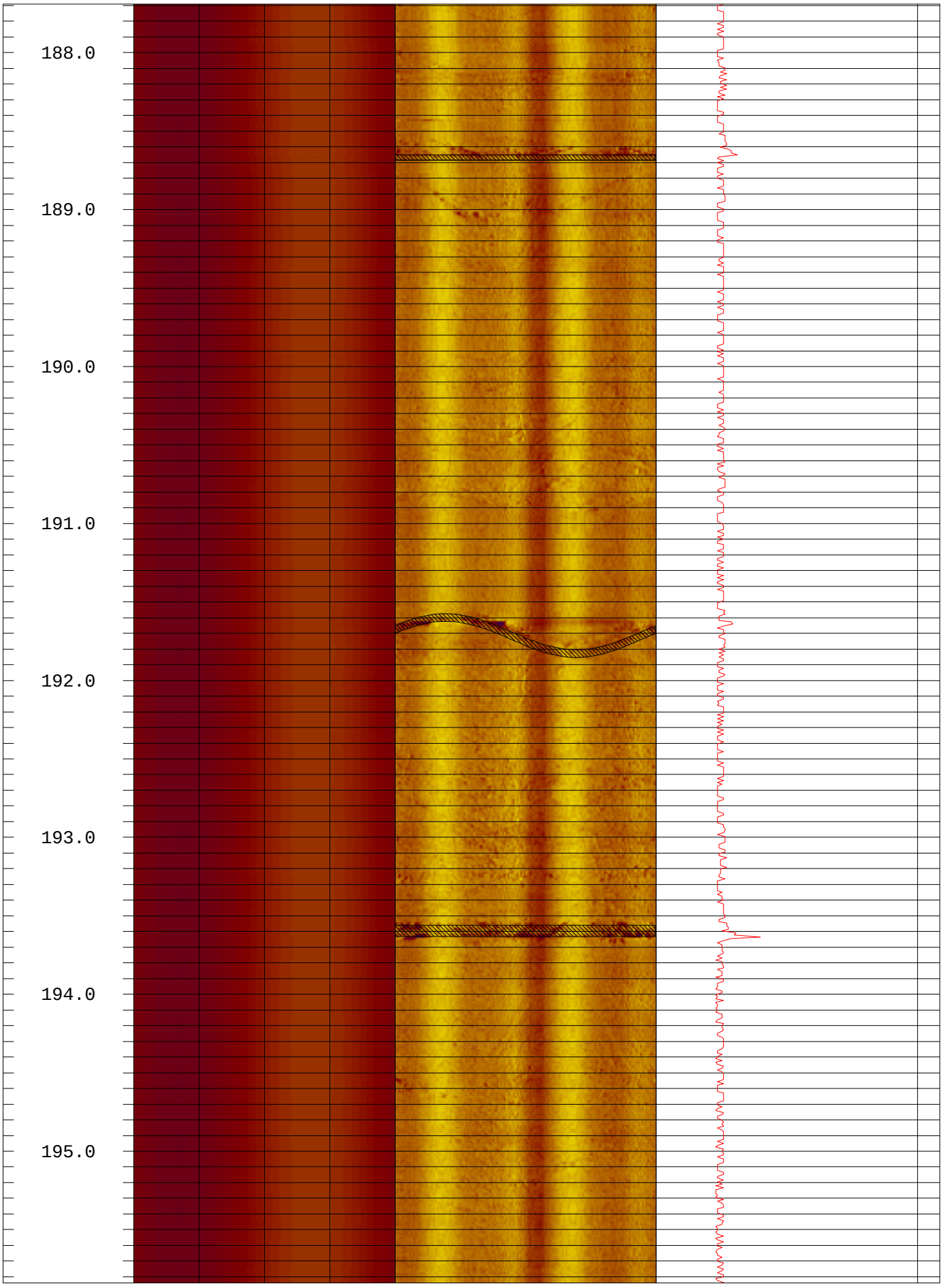
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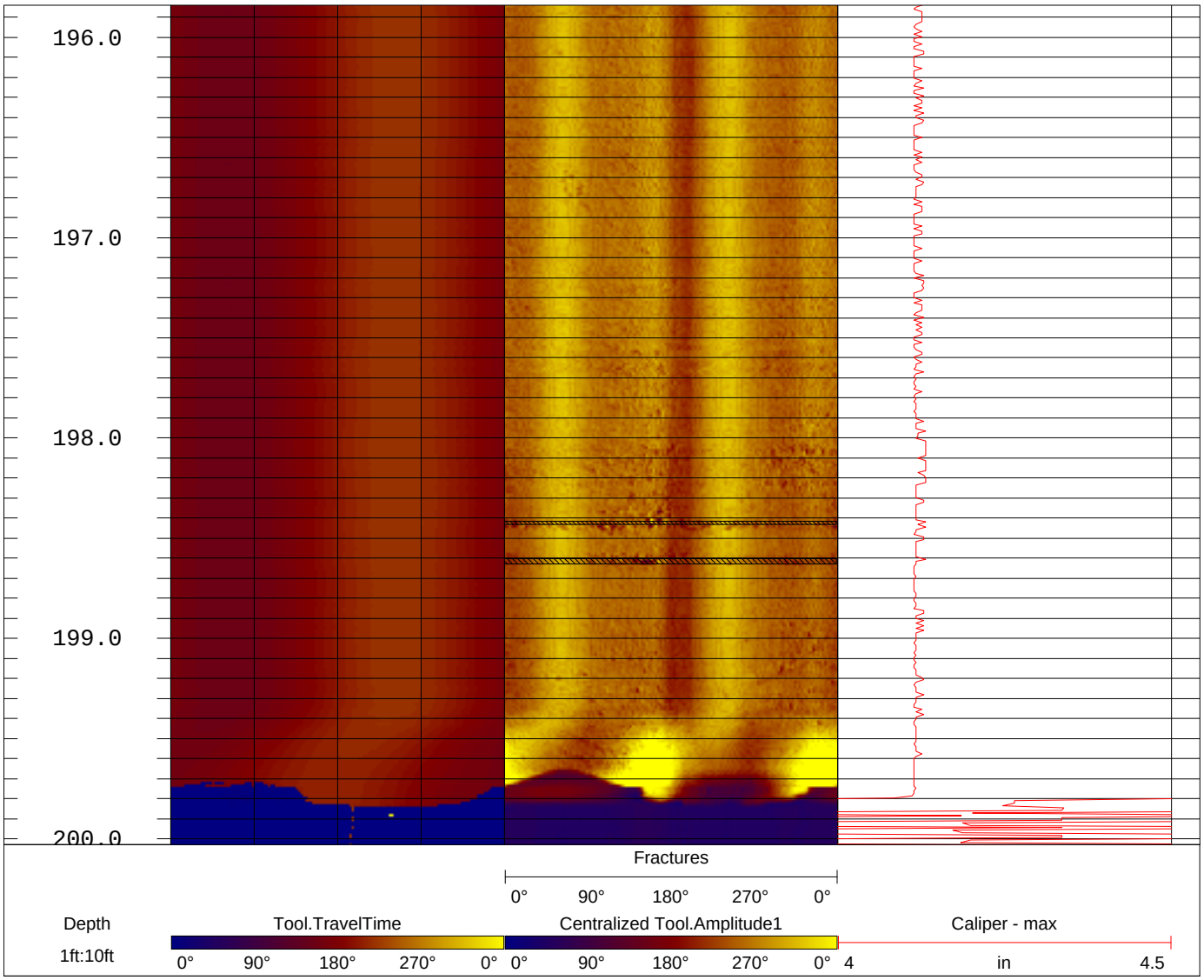
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APPENDIX F

Projected Milestone Schedule

PROJECTED MILESTONE SCHEDULE
RHEEM MANUFACTURING COMPANY
MILLEDGEVILLE, GA

ID	Task Name	2012				2013				2014				2015				2016				2017			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Soil Delineation (Complete)																								
2	Semi-Annual Progress Reports																								
3	On-site Horzontal Groundwater Delineation (if necessary)																								
4	Off-site Horizontal Groundwater Delineation (if necessary)																								
5	Vertical Groundwater Delineation (if necessary)																								
6	Updated CSM, Final Remdiation Plan, and Prelinimary Cost Estimate																								
7	Remedial Activities																								
8	Compliance Status Report																								

Notes: Dark gray shading indicates portion of schedule that has passed.
Light gray shading indicates portion of schedule for EPD review of the Application. Remaining schedule may require adjustment depending on timing of Application approval.

APPENDIX G

2011 Corrective Action Report

Prepared for:

RHEEM MANUFACTURING COMPANY
138 ROBERSON MILL ROAD N.W.
MILLEDGEVILLE, GA 31061

2011 CORRECTIVE ACTION REPORT RHEEM MANUFACTURING COMPANY MILLEDGEVILLE, GEORGIA

Prepared by:

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

February 2012

2011 CORRECTIVE ACTION REPORT
RHEEM MANUFACTURING COMPANY
MILLEDGEVILLE, GEORGIA

Prepared for:

RHEEM MANUFACTURING COMPANY
138 ROBERSON MILL ROAD N.W.
MILLEDGEVILLE, GA 31061

Prepared by:

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

Kirk Kessler, P.G.
Principal

Justin D. Vickery, P.G.
Project Manager

February 2012

EPS

2011 CORRECTIVE ACTION REPORT
RHEEM MANUFACTURING COMPANY
MILLEDGEVILLE, GEORGIA

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ACRONYMS

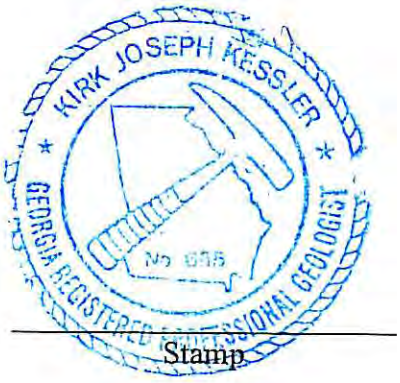
bls	below land surface
CAR	Corrective Action Report
CAP	Corrective Action Plan
gpm	gallons per minute
EPD	Georgia Department of Natural Resources Environmental Protection Division
MW	Monitoring Well
ND	Non Detect
lbs/day	pounds per day
PZ	Piezometer
PVC	Polyvinyl Chloride
POTW	Publicly Owned Treatment Works
RW	Recovery Well
TCE	Trichloroethene
U.S. EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds
μg/L	micrograms per liter

EPS

2011 CORRECTIVE ACTION REPORT
RHEEM MANUFACTURING COMPANY
MILLEDGEVILLE, GEORGIA

REGISTERED PROFESSIONAL GEOLOGIST/ENGINEER CERTIFICATION

I hereby certify that I have directed and supervised the field work and preparation of this document, in accordance with State Rules and Regulations. As a registered professional geologist and/or professional engineer, I certify that I am a qualified groundwater professional, as defined by the Georgia State Board of Professional Geologists. All of the information and laboratory data in this plan and in all of the attachments are true, accurate, complete, and in accordance with applicable State Rules and Regulations.



Kirk J. Kessler, P.G.
GA Reg # 685

Stamp

2-16-2012
Date

2011 CORRECTIVE ACTION REPORT
RHEEM MANUFACTURING COMPANY
MILLEDGEVILLE, GEORGIA

FACILITY CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to 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.

Charles T. Holt
VP, Strategic Manufacturing
Rheem Manufacturing Company
Atlanta, GA

2/14/12
Date

1 INTRODUCTION

1.1 Background

This Annual Corrective Action Report (CAR) for the period from January 2011 to December 2011 was prepared by Environmental Planning Specialists, Inc. (EPS) on behalf of Rheem Manufacturing Company (Rheem). This report is being submitted consistent with the Consent Order between Rheem and the Georgia Department of Natural Resources Environmental Protection Division (EPD) dated September 26, 1991, and the facility's *Revised and Restated Groundwater Corrective Action Plan* (May 1998, as revised September 1998) (1998 Revised CAP).

The former Rheem Air Conditioning Division plant (the plant or the plant site) which ceased operations in 2009, is located at 138 Roberson Mill Road in Milledgeville, Georgia (Figure 1). A trichloroethene (TCE) release at the plant was reported to EPD in September 1988. The facility manufactured air conditioning and heating units and utilized TCE until 1990 as a degreasing solvent for the plant process system and as a metal parts rinse. The TCE leak was detected in 1988 in the underground piping associated with two aboveground storage tanks. The quantity of TCE released to the environment and the duration of this leak are unknown. A groundwater recovery system was installed and continues to operate to address the presence of TCE in groundwater resulting from the release.

The goals of the Rheem performance monitoring program under the 1998 Revised CAP include:

1. monitoring the capture zone of the recovery wells through measurement of the potentiometric levels in piezometers and monitoring wells; and
2. monitoring groundwater quality through a prescribed schedule of sampling and analysis of groundwater collected from specified monitoring wells.

1.2 Recovery System Description

The current groundwater monitoring, recovery, and treatment system consists of 8 piezometers (PZs), 30 performance monitoring wells (MWs) (refer to Table 3), 4 recovery wells (RWs), one air stripper with three associated activated carbon units, and an effluent overflow weir. The locations of these system components are illustrated on Figure 2. The functions of these components are presented below.

ITEM	QUANTITY	FUNCTION
Piezometers	8	Water table measurements
Monitoring Wells	30	Water table measurements/groundwater sampling
Recovery Wells	4	Groundwater extraction/plume control
Air Stripper	1	Groundwater treatment
Carbon Units	3	Vapor treatment of air stripper emissions
Overflow Weir	1	Flow measurements/effluent sampling to Publicly Owned Treatment Works (POTW)

The groundwater extraction system includes four polyvinyl chloride (PVC) influent lines which run from each of the four recovery wells to a manifolded influent trunk line connected to the air stripper. The influent entering into the stripper currently is treated by diffused aeration prior to discharge via a PVC effluent line. The effluent line passes through a collection box overflow weir where it joins effluent sewer flow from the plant, when operating, and flows out to the City of Milledgeville POTW. Vapor emissions containing volatile organic compounds (VOCs) which are produced during the air stripping process are currently treated as necessary by three activated carbon canisters installed in series.

The plant's wastewater discharge to the POTW is limited to 5.05 pounds per day (lbs/day) of TCE. Treatment of extracted groundwater with the air stripper allows the facility to increase the pumping rates of the recovery wells while maintaining compliance with the discharge limit. The use of the air stripper is discretionary provided that compliance with the discharge limit can otherwise be maintained. The recovery/treatment system process diagram is shown on Figure 3.

During this reporting period, effluent water samples were collected on a monthly basis by EPS personnel from the collection box overflow weir. As discussed in Section 2.1, the quantity of TCE discharged to the POTW during this reporting period was within the limit.

1.3 Operation and Maintenance

EPS inspected the treatment system and recovery wells during the December 2011 sampling event. Each of the recovery wells and the air stripper were in operation at the time of the inspection. The air stripper was cleaned in June 2011 and was functioning properly in December 2011. All recovery wells were functioning properly.

2 HYDRAULIC CONTROL MONITORING

2.1 Groundwater / TCE Recovery

The total flow of groundwater extracted from the recovery well network is measured using flow meters connected to each recovery well at the well head. This data is obtained from readings recorded weekly by a Rheem contractor. A summary of the data is included in Appendix A. During the monitoring period of January 2011 through December 2011, the recovery well network recovered 7,484,529 gallons of groundwater. For each recovery well, the total flow per month and the monthly average flow rates have been calculated (Appendix A). For the calendar year, the average flow rate from the recovery well network was 14.25 gallons per minute (gpm).

EPS personnel also collected monthly effluent samples from the collection box overflow weir to estimate the quantity of TCE discharged to the POTW. Effluent samples were submitted for analysis of TCE using United States Environmental Protection Agency (U.S. EPA) SW-846 Method 8260B. The monthly and annual average TCE concentrations have been calculated from these analytical results (refer to Appendix A). The average TCE concentration in the discharged water for the calendar year was 8,458 micrograms per liter (µg/L).

The total volume of water discharged to the POTW in 2011 consisted of groundwater extracted from the recovery well network and a minor amount from the facility restrooms. Effluent flow data from the overflow weir is monitored weekly by a Rheem contractor (Appendix A). The overflow weir water meter measured a total facility discharge of 6,766,316 gallons, or an average of 12.87 gpm, to the POTW between January 2011 and December 2011.

The measured recovery well network total flow was greater than the measured total facility effluent. Therefore, to err on the conservative side regarding TCE discharge to the POTW, the greater of the two readings (recovery well network total flow) was used to calculate the total TCE discharged. Based on an average flow rate of 14.25 gpm at the recovery well network and an average TCE concentration of 8,458 µg/L at the overflow weir, the average TCE discharge rate in the treated effluent was calculated to be 1.45 pounds per day (lbs/day) during the 2011 reporting period. This discharge rate is within the approved limit of 5.05 lbs/day. Based on an estimated treatment efficiency of 50%, it is estimated that 1,057 pounds of TCE were recovered during this full year reporting period (refer to Appendix A).

2.2 Horizontal Control of the TCE Groundwater Plume

The screened intervals of the recovery wells, piezometers, and monitoring wells are installed within various zones in the subsurface (residual soils, partially weathered rock, and bedrock). This data is summarized in Table 1. Groundwater levels were measured in monitoring wells and piezometers during the December 2011 sampling event to assess the effectiveness of the groundwater plume containment. Groundwater depths and elevations are summarized in Table 2 for the June 2011 and the December 2011 monitoring events. Piezometers PZ-4, PZ-6, and monitoring wells MW-6, MW-20, MW-23 were dry in both June 2011 and December 2011. Piezometer PZ-1 was dry in June 2011 and MW-2 was dry in December 2011.

Potentiometric surface maps, Figures 4 and 5, were prepared using the June 2011 and December 2011 groundwater elevation data, respectively. These figures were developed using monitoring wells and piezometers screened only within soil or partially weathered rock zones. The potentiometric surfaces were estimated where larger distances exist between wells, such as under the facility building.

The natural, undisturbed groundwater flow gradient (prior to the initiation of groundwater extraction) is expected to follow the topographic gradient to the south-southwest. The altered flow produced by the groundwater extraction system is similar to pre-system conditions with depressions in the water table in the vicinity of the recovery wells. While groundwater monitoring data historically indicated that the TCE plume was being fully contained on-site, based upon recent data, it appears that the recovery system has not fully contained some of the TCE to the southwest of the site.

2.3 Vertical Control of TCE Groundwater Plume

The upper aquifer, or upper water-bearing zone, at the site consists of soil, partially weathered rock, and some portion of the fractured bedrock. In typical Piedmont environments, some hydraulic connection is present between partially weathered rock zones (saprolite) and the fractured bedrock.

The vertical extent of the TCE groundwater plume is currently monitored by four vertical extent monitoring wells (MW-3A, MW-3B, MW-6 and MW-12A) which are screened to total depths of 135.5, 210, 125 and 94.5 ft-bls, respectively. The screened interval of MW-3A is installed in fractured bedrock. The screened intervals of MW-3B, MW-6 and MW-12A are installed in competent bedrock. MW-3B, MW-6 and MW-12A historically have been “dry” or have yielded only small quantities of groundwater, and TCE concentrations in MW-3B, MW-6, and MW-12A are orders of magnitude lower than shallower groundwater in the respective locations, This indicates that these fractured zones are not significantly interconnected with the upper aquifer and are not a significant water bearing formation.

3 GROUNDWATER QUALITY MONITORING

3.1 Overview

Groundwater quality monitoring for 2011 was conducted according to the performance monitoring well sampling schedule specified in the 1998 Revised CAP. The CAP performance monitoring well sampling schedule is presented in Table 3. Under this schedule, the monitoring wells are analyzed for the designated parameters at the following frequency:

- specified monitoring wells are sampled for TCE on a semiannual or annual basis;
- each of the monitoring wells is sampled on a biennial basis for parameters historically detected in the well; and
- each of the monitoring wells are scheduled to be sampled for a full suite of parameters listed under SW-846 Method 8260B, at the Corrective Action endpoint.

The December 2011 event was considered to be a semi-annual event. The December 2011 sampling schedule included the following modification:

- In addition to MW-3A, MW-7, MW-8, MW-10, MW-12, MW-12A, MW-15, MW-17, MW-19, and MW-22 scheduled to be sampled semi-annually, MW-21 was sampled due to a detection of 20 µg/L in MW-12 during the June 2011 event.

In addition to the wells sampled under the 1998 Revised CAP, recently installed delineation wells MW-24 through MW-30 were sampled for TCE in June and December of 2011, and newly installed MW-31 through MW-33 were sampled for TCE in December 2011.

The following sections detail the findings of the sampling and laboratory analyses conducted during this reporting period. The December 2011 laboratory analytical data report is presented in Appendix B.

A summary of measured concentrations for samples analyzed during June 2011 and December 2011 is presented in Table 4. A tabulation of the historical TCE analyses for each well is provided in Table 5. The distribution of TCE in groundwater during the June 2011 and December 2011 sampling events is presented in Figures 6A-6C and 7A-7C, respectively. A cross-section location map is provided as Figure 8. Hydrogeologic cross-sections, presented in Figures 9 through 11, depict the subsurface lithology.

Time series graphs of TCE concentrations in selected monitoring wells sampled in 2011 are presented in figures organized by the categorical purpose of the monitoring well, as listed below.

- Horizontal "Edge of Plume" wells: MW-8, MW-12, and MW-19 (Figures 12a to 12c);
- Aquifer Restoration - "Interior Area" wells: MW-1, MW-3 and MW-5 (Figures 13a to 13c);
- Aquifer Restoration - "Exterior Area" wells: MW-7, MW-9, MW-10 and MW-17 (Figures 14a to 14d);
- Horizontal "Down-Gradient" wells: MW-11, MW-21 and MW-22 (Figures 15a to 15c);
- Horizontal "Up-Gradient" wells: MW-13, MW-14 and MW-15 (Figures 16a to 16c); and
- "Vertical Extent" wells: MW-3A, MW-3B, MW-6 and MW-12A (Figures 17a to17d).

Analytical results for the edge of plume wells, aquifer restoration wells, down-gradient wells, up-gradient wells, and the more recently installed delineation (MW-24 through MW-33) wells were evaluated to identify possible changes in the horizontal extent and distribution of the TCE plume.

3.2 Horizontal Extent Wells

3.2.1 Horizontal Edge of Plume Wells

Groundwater samples were collected from MW-8, MW-12, and MW-19 in December 2011 and evaluated for changes in the horizontal extent of TCE in groundwater during 2011. TCE was not detected in MW-8 (southwestern shallow plume boundary) during the sampling event, which is consistent with historical sampling data. TCE was detected in MW-12 (western plume boundary) during the December 2011 sampling event at a concentration of 20 µg/L. This TCE detection indicates a continued decrease in concentration since December 2009. TCE was not detected in MW-19 (northern and eastern plume boundary) in the December 2011 sampling event, which is consistent with historical sampling data. Time series graphs of the TCE sampling results for the edge of plume wells are shown on Figures 12a through 12c.

3.2.2 Aquifer Restoration Wells

The purpose of the aquifer restoration wells (MW-1, MW-3, MW-5, MW-7, MW-9, MW-10, and MW-17) is to monitor the TCE concentrations within the groundwater plume. Consistent with the monitoring schedule, MW-7, MW-10, and MW-17 were sampled during the December 2011 sampling event.

3.2.2.1 Interior Area Wells

Three monitoring wells (MW-1, MW-3 and MW-5) are located within the interior of the plume near the former source of the TCE release. Time series plots for these interior wells are provided

on Figures 13a through 13c. Consistent with the schedule, these wells were not sampled in December 2011.

3.2.2.2 Exterior Area Wells

Four monitoring wells (MW-7, MW-9, MW-10, and MW-17) are located at the periphery of the TCE plume. MW-9 was not scheduled to be sampled in December 2011. In accordance with the monitoring schedule, MW-7, MW-10, and MW-17 were sampled in December 2011. The TCE time series concentrations for these wells are presented on Figures 14a through 14d.

During the December 2011 event, TCE was detected in MW-7 at 2,100 µg/L, in MW-10 at 8.6 µg/L, and in MW-17 at 620 µg/L. The concentrations in the exterior wells are consistent with historical data.

3.2.3 Down-gradient Wells

Three down-gradient wells (MW-11, MW-21 and MW-22) are located southwest and southeast of the former tank area. Wells MW-11 and MW-21 are sampled on an "as needed" basis, and MW-22 is sampled semi-annually. Time series graphs of TCE concentrations for these three down-gradient wells are provided in Figures 15a through 15c. Consistent with the 1998 Revised CAP, MW-11 was not sampled during the December 2011 event because TCE was not detected in MW-8 during the June 2011 event, and MW-21 was sampled in December 2011 due to TCE being detected in MW-12 during the June 2011 sampling event. MW-22 was sampled in December 2011. TCE was not detected in MW-21 or MW-22 during the December 2011 event. These results are consistent with historical data.

3.2.4 Up-gradient Wells

The up-gradient wells (MW-13, MW-14, and MW-15) are located north and northwest of the TCE plume (hydraulically up-gradient) and are used as background wells. MW-13 and MW-14 were not scheduled to be sampled in the December 2011 sampling event. MW-15 was sampled in December 2011. Consistent with historical data, TCE was not detected in MW-15. Figures 16a through 16c show time series graphs for the up-gradient wells.

3.3 Vertical Extent Wells

Deep monitoring wells MW-3A, MW-3B, MW-6 and MW-12A have been sampled when sufficient groundwater was present. MW-3A and MW-12A were sampled in December 2011. The time series of TCE concentrations in the Vertical Extent wells are presented in Figures 17a through 17d.

MW-3A and MW-3B are located in the vicinity of RW-3. The screened interval of MW-3A is installed in a fractured zone of the bedrock at a depth of 125.5 to 135.5 ft-bls. The screened interval of MW-3B is installed at a depth of 199 to 209 ft-bls in a zone of bedrock which is lacking significant fractures. The TCE concentration detected in MW-3A in December 2011 was 270,000 µg/L. Consistent with the 1998 Revised CAP, MW-3B was not sampled in December 2011.

MW-6 is located in the former source area adjacent to recovery well RW-1. Its screened interval is installed at a depth of 120 to 125 ft-bls in a zone of bedrock which lacks significant fractures. Consistent with the 1998 Revised CAP, MW-6 was not sampled in December 2011.

MW-12A is located near the edge of the TCE plume in the vicinity of recovery well RW-4. The screened interval of MW-12A is installed at 84.5 ft-bls to 94.5 ft-bls in a zone which lacks significant fractures. TCE has not been detected in MW-12A since 1997.

3.4 Recovery Wells

The recovery wells (RW-1, RW-2, RW-3, and RW-4) were not sampled in December 2011.

3.5 Delineation Wells

3.5.1 Monitoring Wells Installed in 2010

Monitoring Wells MW-24, MW-25 and MW-26 were installed in bedrock in June 2010. In December 2011, TCE was detected in MW-24 at a concentration of 10 µg/L, and TCE was not detected in MW-25 and MW-26. These results are similar to those obtained for the June 2011 event.

Monitoring Wells MW-27, MW-28, MW-29, and MW-30 were installed in September 2010. Monitoring well MW-27 is screened in bedrock while MW-28, MW-29, and MW-30 are screened in partially weathered rock at the bedrock interface. These four wells were sampled in December 2011 for TCE. MW-27 and MW-28 had TCE concentrations of 60 µg/L and 2,500 µg/L, respectively . TCE was not detected in MW-29 and MW-30. These results are similar to those obtained in the June 2011 event.

3.5.2 Monitoring Wells Installed in 2011

Monitoring Wells MW-31 and MW-32 were installed in June 2011. Monitoring well MW-33 was installed in October 2011. Wells MW-31 and MW-32 are screened in partially weathered rock at the bedrock interface while MW-33 is screened in bedrock. These three wells were

sampled in December 2011 for TCE analysis. MW-33 had a TCE concentration of 64 µg/L in December 2011. TCE was not detected in MW-31and MW-32.

4 EVALUATION OF CORRECTIVE ACTION

4.1 Overview

The previous sections of this report discuss key elements of the performance monitoring system. This section presents an evaluation of the effectiveness of corrective action based on the review of these elements.

4.2 Hydraulic Control

The natural, undisturbed groundwater flow gradient is expected to follow the topographic gradient to the south-southwest. Sampling results obtained in December 2011 for the new well MW-33 indicated that some TCE has migrated off-site, to the southwest. Based on the vertical extent wells (Section 3.3) and the delineation wells (Section 3.5), vertical plume migration appears to be minimal.

4.3 Groundwater Monitoring

4.3.1 Horizontal Extent Wells

Data collected during this reporting period indicate the following:

- The majority of the TCE plume is being contained on-site.
- TCE was detected in one off-site monitoring well at a concentration of 64 µg/L.
- TCE continues to be non-detectable in shallow down-gradient wells.

4.3.2 Vertical Extent Wells

The monitoring results for the vertical extent wells indicate the following:

- TCE concentrations have remained low and/or consistent with historical sampling data; and
- The deeper bedrock zone in which the screened intervals of MW-3B, MW-6, and MW-12A are installed does not transmit significant groundwater quantities, thereby limiting the potential for further downward migration of TCE. In addition, historical

TCE concentrations in MW-3B and MW-6, located in the former source area, are orders of magnitude lower than shallower surrounding wells, indicating that the bedrock is substantially limiting vertical migration.

TABLES

Table 1.
Well Installation Summary
Rheem Manufacturing Company
Milledgeville, Georgia

Well No.	Total Depth (ft bls)	Screen Depth (ft bls)	Open Screened Interval Hydrogeologic Setting	Installation Date
MW-1	44	29 - 44	Soil	11/2/1988
MW-2	39	29 - 39	Soil	11/11/1988
MW-3	40	30 - 40	Soil	11/9/1988
MW-3A	135.5	125.5 - 135.5	Bedrock	9/12/1990
MW-3B	209	199 - 209	Bedrock	8/1/1991
MW-4	24	14 - 24	Soil	11/8/1988
MW-5	86.5	76.5 - 86.5	Bedrock	4/27/1989
MW-6	125	120 - 125	Bedrock	5/18/1989
MW-7	50	40 - 50	Partially Weathered Rock	6/29/1989
MW-8	51	41 - 51	Partially Weathered Rock	6/30/1989
MW-9	45	35 - 45	Partially Weathered Rock	6/29/1989
MW-10	43	33 - 43	Partially Weathered Rock	7/5/1989
MW-11	68	58 - 68	Partially Weathered Rock	11/30/1989
MW-12	54	44 - 54	Partially Weathered Rock	11/20/1989
MW-12A	94.5	84.5 - 94.5	Bedrock	9/13/1990
MW-13	55	45 - 55	Partially Weathered Rock	11/28/1989
MW-14	49	39 - 49	Partially Weathered Rock	11/21/1989
MW-15	41.5	31.5 - 41.5	Partially Weathered Rock	12/4/1989
MW-16	35.5	25.5 - 35.5	Soil/Partially Weathered Rock	12/5/1989
MW-17	37	27 - 37	Soil/Partially Weathered Rock	12/6/1989
MW-18	17.5	2.5 - 17.5	Soil	12/6/1989
MW-19	36	26 - 36	Soil/Partially Weathered Rock	11/31/1989
MW-20	24	9 - 24	Soil	1/23/1990
MW-21	51	41 - 51	Soil	1/22/1990
MW-22	80	70 - 80	Partially Weathered Rock	6/20/1991
MW-23	32	22 - 32	Soil	6/26/1991
MW-24	195	175 - 195	Bedrock	6/8/2010
MW-25	197	184 - 194	Bedrock	6/7/2010
MW-26	131	121 - 131	Bedrock	6/9/2010
MW-27	168	158 - 168	Bedrock	9/21/2010
MW-28	100	90 - 100	Partially Weathered Rock	9/23/2010
MW-29	62	52 - 62	Partially Weathered Rock	9/22/2010
MW-30	73	63 - 73	Partially Weathered Rock	9/24/2010
MW-31	85	75 - 85	Partially Weathered Rock	7/11/2011
MW-32	87	77 - 87	Partially Weathered Rock	7/11/2011
MW-33	157	137 - 157	Bedrock	10/27/2011
PZ-1	40	20 - 40	Soil	4/27/1989
PZ-2	N/A	N/A	N/A	01/99 (1)
PZ-3	54	44 - 54	Partially Weathered Rock	6/12/1991
PZ-4	27.5	17.5 - 27.5	Soil	6/12/1991
PZ-5	56	46 - 56	Soil	6/13/1991
PZ-6	28	18 - 28	Soil	6/13/1991
PZ-7	63	53 - 63	Partially Weathered Rock	6/14/1991
PZ-8	27	17 - 27	Soil	6/14/1991
RW-1	85	15 - 85	Soil/Partially Weathered Rock	01/99 (2)
RW-2	90	20 - 90	Soil/Partially Weathered Rock	6/30/1991
RW-3	181	36 - 181	Soil/Partially Weathered Rock/Bedrock	8/15/1991
RW-4	73	28 - 73	Soil/Partially Weathered Rock	7/26/1991

Notes: (1) The original PZ-2 installation date is unknown. The well was replaced in 1/99 due to a destruction by a run away trailer from Roberson Mill Road.

(2) The original RW-1 was installed in 6/21/89. The well was replaced in 1/99 due to a collapse of the well

ft bls = feet below land surface

N/A = Information currently not available

EPS

Table 2.
Summary of June 2011 and December 2011 Groundwater Elevations
Rheem Manufacturing Company
Milledgeville, Georgia

	ELEVATION	Depth to Groundwater		Water Table Elevations		CHANGE[(1)]
	TOP OF RISER	June-11	December-11	June-11	December-11	6/11 to 12/11
WELL	(feet)	(feet)	(feet)	(feet)	(feet)	(feet)
MW-1	398.71	30.44	31.04	368.27	367.67	-0.60
MW-2	399.18	39.24	Dry	359.94	Dry	Dry
MW-3	399.38	35.21	35.90	364.17	363.48	-0.69
MW-3A	396.18	37.26	37.62	358.92	358.56	-0.36
MW-3B	398.11	176.06	171.36	222.05	226.75	4.70
MW-4	398.74	Dry	Dry	Dry	Dry	Dry
MW-5	398.83	37.29	37.98	361.54	360.85	-0.69
MW-6	398.31	Dry	Dry	Dry	Dry	Dry
MW-7	400.79	40.47	41.64	360.32	359.15	-1.17
MW-8	396.14	32.97	32.36	363.17	363.78	0.61
MW-9	398.41	37.30	38.04	361.11	360.37	-0.74
MW-10	399.96	29.12	29.81	370.84	370.15	-0.69
MW-11	397.01	32.26	33.50	364.75	363.51	-1.24
MW-12	399.68	39.81	42.80	359.87	356.88	-2.99
MW-12A	399.59	93.14	93.93	306.45	305.66	-0.79
MW-13	401.61	13.28	14.87	388.33	386.74	-1.59
MW-14	404.20	16.44	17.91	387.76	386.29	-1.47
MW-15	396.45	10.40	11.47	386.05	384.98	-1.07
MW-16	396.88	10.95	NM	385.93	NM	NM
MW-17	399.44	26.45	26.46	372.99	372.98	-0.01
MW-18	400.47	15.22	16.24	385.25	384.23	-1.02
MW-19	400.75	16.97	17.96	383.78	382.79	-0.99
MW-20	393.66	Dry	Dry	Dry	Dry	Dry
MW-21	394.57	33.13	34.68	361.44	359.89	-1.55
MW-22	397.19	34.50	35.18	362.69	362.01	-0.68
MW-23	397.24	Dry	Dry	Dry	Dry	Dry
MW-24	396.82	33.52	33.70	363.30	363.12	-0.18
MW-25	396.45	32.35	34.98	364.10	361.47	-2.63
MW-26	399.13	31.26	24.89	367.87	374.24	6.37
MW-27	391.25	26.44	27.60	364.81	363.65	-1.16
MW-28	391.58	26.69	27.86	364.89	363.72	-1.17
MW-29	396.02	30.22	31.09	365.80	364.93	-0.87
MW-30	404.98	17.71	19.16	387.27	385.82	-1.45
MW-31	399.83	NA	39.74	NA	360.09	New
MW-32	389.26	NA	24.60	NA	364.66	New
MW-33	392.08	NA	32.62	NA	359.46	New
PZ-1	395.99	Dry	30.80	Dry	365.19	Dry
PZ-2	400.80	16.53	18.38	384.27	382.42	-1.85
PZ-3	396.32	31.95	33.22	364.37	363.10	-1.27
PZ-4	396.45	Dry	Dry	Dry	Dry	Dry
PZ-5	398.85	31.55	32.26	367.30	366.59	-0.71
PZ-6	398.71	Dry	Dry	Dry	Dry	Dry
PZ-7	395.18	36.92	37.19	358.26	357.99	-0.27
PZ-8	395.41	25.88	25.87	369.53	369.54	0.01
RW-1	398.38	NM	NM	NM	NM	NM
RW-2	399.57	NM	NM	NM	NM	NM
RW-3	397.69	NM	NM	NM	NM	NM
RW-4	398.40	NM	NM	NM	NM	NM

Notes: Top of riser elevations for MW-15, MW-16, MW-19, after being modified, and MW-24 through MW-33 were surveyed by a registered professional land surveyor in December 2011.

(1) Positive values = rise; negative values = drop

NM Not Measured (MW-16 was not located during the Dec. 2011 event)

NA Not Applicable

Table 3.
Performance Monitoring Specifications
(Chart A from the 1998 Revised and Restated Corrective Action Plan)
Rheem Manufacturing Company
Milledgeville, Georgia

Monitoring Well	Purpose for Well Monitoring	Sampling Frequency		
		TCE Only	Historical Parameters	All Parameters Under EPA Method 8260B
MW-1	Aquifer Restoration	Every 2 Years	Every 2 Years	Corrective Action Endpoint
MW-3	Aquifer Restoration	Every 2 Years	Every 2 Years	Corrective Action Endpoint
MW-3A	Vertical Extent Monitoring	Semi-annually	Every 2 Years	Corrective Action Endpoint
MW-3B (3)	Vertical Extent Monitoring	Annually	Every 2 Years	Corrective Action Endpoint
MW-5	Aquifer Restoration	Annually	Every 2 Years	Corrective Action Endpoint
MW-6 (3)	Vertical Extent Monitoring	Annually	Every 2 Years	Corrective Action Endpoint
MW-7	Aquifer Restoration	Semi-annually	Every 2 Years	Corrective Action Endpoint
MW-8 (1)	Edge of Plume Monitoring	Semi-annually	Every 2 Years	Corrective Action Endpoint
MW-9	Aquifer Restoration	Every 2 Years	Every 2 Years	Corrective Action Endpoint
MW-10	Aquifer Restoration	Semi-annually	Every 2 Years	Corrective Action Endpoint
MW-11 (1)	Downgradient	As Needed	As Needed	Corrective Action Endpoint
MW-12 (2)	Edge of Plume Monitoring	Semi-annually	Every 2 Years	Corrective Action Endpoint
MW-12A	Vertical Extent Monitoring	Semi-annually	Every 2 Years	Corrective Action Endpoint
MW-13	Upgradient	Annually	Every 2 Years	Corrective Action Endpoint
MW-14	Upgradient	Annually	Every 2 Years	Corrective Action Endpoint
MW-15	Upgradient	Semi-annually	Every 2 Years	Corrective Action Endpoint
MW-17	Aquifer Restoration	Semi-annually	Every 2 Years	Corrective Action Endpoint
MW-19	Edge of Plume Monitoring	Semi-annually	Every 2 Years	Corrective Action Endpoint
MW-21 (2)	Downgradient	As Needed	As Needed	Corrective Action Endpoint
MW-22	Downgradient	Semi-annually	Every 2 Years	Corrective Action Endpoint
MW-24	Delineation Well	Not Established	Not Established	Not Established
MW-25	Delineation Well	Not Established	Not Established	Not Established
MW-26	Delineation Well	Not Established	Not Established	Not Established
MW-27	Delineation Well	Not Established	Not Established	Not Established
MW-28	Delineation Well	Not Established	Not Established	Not Established
MW-29	Delineation Well	Not Established	Not Established	Not Established
MW-30	Delineation Well	Not Established	Not Established	Not Established
MW-31	Delineation Well	Not Established	Not Established	Not Established
MW-32	Delineation Well	Not Established	Not Established	Not Established
MW-33	Delineation Well	Not Established	Not Established	Not Established

Notes:
(1) If TCE is detected in MW-8, then MW-11 will be sampled during the following sampling period.
(2) If TCE is detected in MW-12, then MW-21 will be sampled during the following sampling period.
(3) MW-3B and MW-6 have historically been dry or contained insufficient water to collect a representative sample. These wells will be sampled annually provided sufficient water is present at the time of the annual sampling event.

Table 4.
June 2011 and December 2011
Groundwater Sampling Results
Rheem Manufacturing Company
Milledgeville, Georgia

SAMPLE LOCATION	ANALYTE	RESULTS (µg/L)	
		Jun-11	Dec-11
MW-3A	Trichloroethene	150,000	270,000
MW-3B	Trichloroethene	1,200	--
MW-5	Trichloroethene	350,000	--
MW-6	Trichloroethene	Dry	--
MW-7	Trichloroethene	2,400	2,100
MW-8	Trichloroethene	<5	<5
MW-10	Trichloroethene	5.4	8.6
MW-12	Trichloroethene	91	20
MW-12A	Trichloroethene	<5	<5
MW-13	Trichloroethene	<5	--
MW-14	Trichloroethene	<5	--
MW-15	Trichloroethene	<5	<5
MW-17	Trichloroethene	260	620
MW-19	Trichloroethene	<5	<5
MW-21	Trichloroethene	<5	<5
MW-22	Trichloroethene	<5	<5
MW-24	Trichloroethene	11	10
MW-25	Trichloroethene	<5	<5
MW-26	Trichloroethene	<5	<5
MW-27	Trichloroethene	59	60
MW-28	Trichloroethene	1,400	2,500
MW-29	Trichloroethene	<5	<5
MW-30	Trichloroethene	<5	<5
MW-31	Trichloroethene	--	<5
MW-32	Trichloroethene	--	<5
MW-33	Trichloroethene	--	64

Notes:
-- = Not Analyzed

Table 5.
Summary of Historical Monitoring Well Trichloroethene Concentrations
Rheem Manufacturing Company
Milledgeville, Georgia

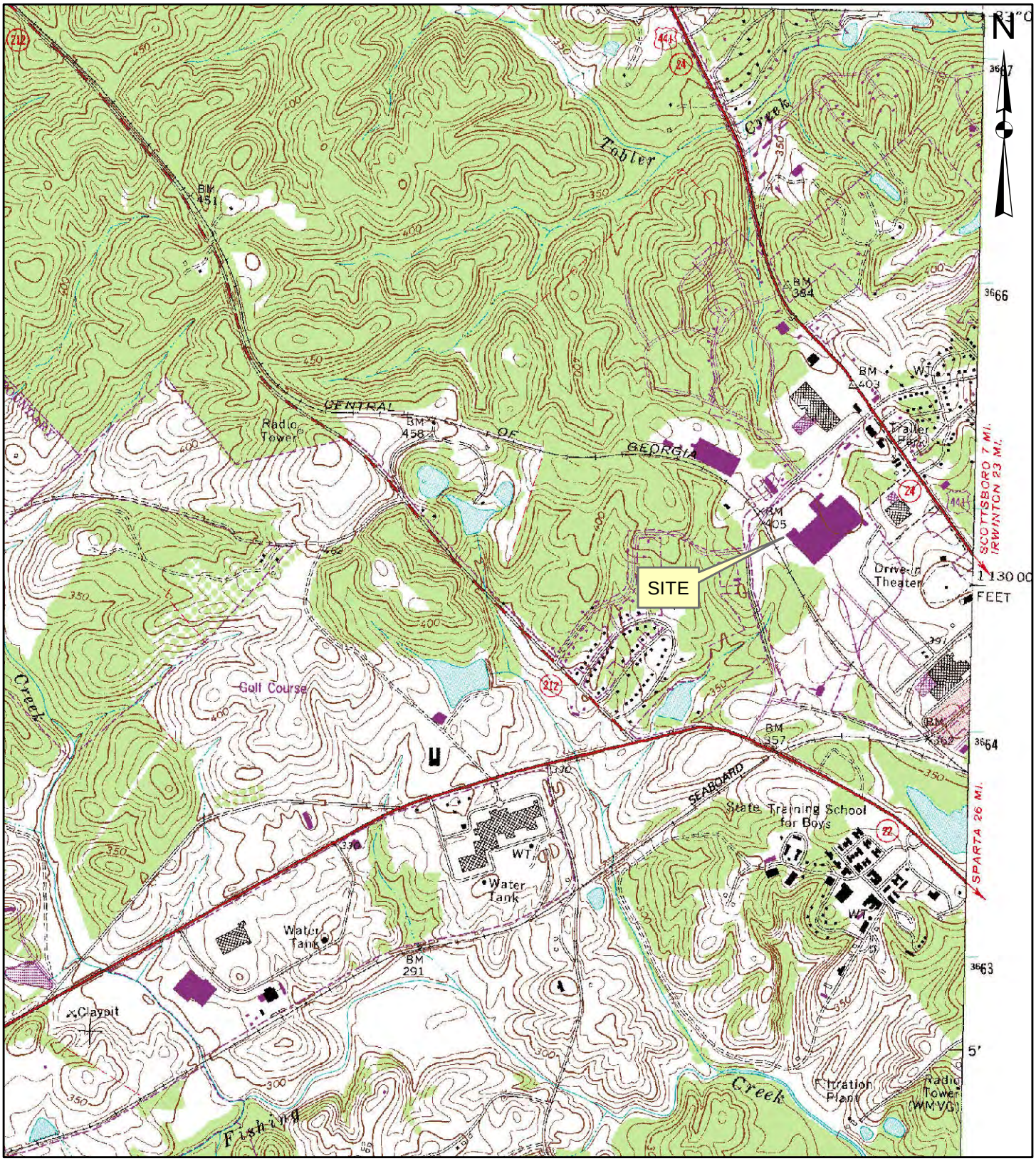
EPS

DATE	TOTAL TRICHLOROETHENE RESULTS (µg/L)																																		
ANALYZED	MW-1	MW-2	MW-3	MW-3A	MW-3B	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-12A	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	MW-25	MW-26	MW-27	MW-28	MW-29	MW-30	MW-31	MW-32	MW-33
11/88	42,000	47	480			170,000																														
4/89	-	-	-			-	18,000																													
7/89	-	-	-			-	-	5	2,350	3	120,000	2,200																								
8/89	-	-	-			-	-	-	2,400	8	290,000	2,800																								
11/89	-	-	-			-	-	-	2,200	-	-	-	-	-		-	-																			
12/89	-	-	-			-	-	-	-	-	-	-	ND	600		ND	ND	ND	ND	ND	ND	ND														
4/90	22,000	-	210			52,000	18,500	-	1,200	-	170,000	3,100	ND	-		-	-	-	-	-	-	-	ND	ND												
5/90	-	-	-			-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-												
8/90	83,000	-	1,300			130,000	10,000	-	4,700	-	280,000	1,600	ND	-		-	-	-	-	-	-	-	-	-												
9/90	43,000	106	1,100	200		120,000	9,000	-	3,100	ND	160,000	1,900	ND	42	50	ND	ND	11	ND	ND	ND	ND	ND	ND												
11/90	65,000	-	1,000	-		-	14,500	-	2,800	ND	150,000	1,300	-	100	-	-	-	-	-	-	-	-	-	-												
1/91	300,000	-	1,600	-		260,000	19,000	-	13,000	19	170,000	960	-	160	-	-	-	8	-	-	-	-	-	-												
3/91	-	-	-	-		-	-	-	-	-	180,000	1,800	-	-	-	-	-	-	-	-	-	-	-	-												
4/91	-	-	2,500	-		-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-												
5/91	190,000	-	2,400	470		330,000	10,000	-	1,500	ND	-	-	ND	140	40	ND	ND	-	ND	190	-	-	ND	ND												
7/91	290,000	-	2,200	4,600		450,000	22,000	-	1,775	ND	120,000	1,200	-	180	-	-	-	-	-	-	-	-	-	-	ND	ND										
8/91	-	-	-	-	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
10/91	240,000	-	1,300	-	-	710,000	66,000	-	1,990	ND	130,000	ND	ND	280	-	-	-	ND	-	220	-	-	-	ND	ND	-										
2/92	125,000	-	940	-	-	-	83,000	-	1,250	ND	4,700	ND	-	88	-	-	-	7	-	-	-	-	-	-	ND	-										
3/92	-	-	-	-	-	-	-	-	-	-	-	1,700	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
4/92	96,000	-	1,500	-	270	-	100,000	-	2,000	ND	5,800	240	ND	85	-	ND	ND	7	ND	470	-	-	-	470	ND	-										
7/92	160,000	-	1,500	-	-	-	360,000	-	500	ND	2,600	140	-	57	-	-	-	6	-	-	-	-	-	-	ND	-										
10/92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,200	-	-	-	-	-	-										
11/92	420,000	-	5,400	-	190	-	240,000	-	1,200	ND	10,000	200	ND	33	-	-	-	8	-	-	-	-	-	-	ND	ND										
1/93	250,000	-	5,900	-	-	-	160,000	-	1,200	36	3,700	120	-	19	-	-	-	ND	-	-	-	-	-	-	ND	-										
4/93	320,000	-	7,800	-	110	-	170,000	-	630	ND	33,000	100	ND	15	-	ND	ND	6	ND	1,200	-	-	-	ND	ND	-										
7/93	270,000	-	9,000	-	-	-	160,000	-	1,000	ND	28,000	75	-	75	-	-	-	ND	-	-	-	-	-	-	ND	-										
9/93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,200	-	-	-	-	-	-										
10/93	240,000	-	-	-	93	-	250,000	-	750	ND	53,000	120	ND	10	-	-	-	ND	-	-	-	-	-	ND	ND	-										
11/93	-	-	-	-	-	-	245,000	-	750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
12/93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	-	ND	-	-	-	-	-	-										
1/94	220,000	-	9,400	-	-	-	190,000	-	750	ND	25,000	120	-	10	-	-	-	-	-	-	-	-	-	-	-	-										
2/94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
4/94	500,000	-	6,700	-	58	-	180,000	-	330	ND	40,000	88	ND	8	7	ND	ND	ND	ND	2,400	-	-	-	ND	ND	-										
5/94	-	-	-	-	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
7/94	300,000	-	4,430	-	-	-	310,000	-	340	ND	37,000	89	-	9	-	-	-	ND	-	ND	-	-	-	ND	ND	-										
10/94	260,000	-	2,600	-	49	-	239,000	-	1,250	ND	38,000	100	ND	ND	-	-	-	ND	-	2,000	-	-	-	ND	ND	-										
1/95	380,000	-	5,000	-	-	-	250,000	-	510	ND	45,000	810	-	54	-	-	-	ND	-	-	-	-	-	-	37	-										
3/95	220,000	-	4,600	-	-	-	1,040,000	-	460	ND	30,000	96	ND	ND	-	-	-	ND	-	2,000	-	-	-	ND	ND	-										
6/95	190,000	-	2,900	1,100	34	-	97,000	-	820	ND	33,000	93	ND	ND	ND	ND	ND	ND	ND	2,400	-	-	-	ND	ND	-										
9/95	170,000	-	7,200	15,000	-	-	170,000	-	250	12	22,000	140	-	ND	-	-	-	-	-	2,600	-	-	-	-	1,300	-										
12/95	910,000	-	9,200	19,000	-	-	120,000	-	340	ND	20,000	130	-	ND	-	-	-	-	-	2,600	-	-	-	-	ND	-										
1/96	-	-	-	-	25	-	-	-	-	-	-	-	ND	-	14	-	-	ND	-	-	-	ND	-	ND	-	-										
2/96	-	-	-	-	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
3/96	510,000	-	4,800	16,000	23	-	140,000	-	1,600	ND	23,000	130	-	ND	-	-	-	-	-	3,300	-	-	-	-	ND	-										
5/96	220,000	-	9,800	14,000	26	-	140,000	-	1,100	ND	29,000	140	ND	ND	-	ND	ND	ND	ND	2,400	-	ND	-	ND	ND	-										
6/11/96	-	-	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
6/27/96	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
7/96	-	-	-	-	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
8/96	-	-	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
9/96	260,000	-	5,000	11,000	27	-	100,000	-	2,900	ND	43,000	330	-	ND	-	-	-	-	-	2,400	-	ND	-	-	ND	-										
12/03/96	220,000	-	4,200	12,000	24	-	100,000	-	600	ND	35,000	140	ND	5.7	6.5	-	-	ND	-	2,000	-	ND	-	ND	ND	-										
12/16/96	-	-	-	-	26	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-										
3/04/97	160,000	-	2,700	11,000	28	-	94,000	-	1,100	ND	30,000	140	-	16	6.0	-	-	-	-	2,100	-	ND	-	-	ND	-										
3/21/97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.1	-	-	-	-	-	-	ND	-	-	ND	-										
6/97	180,000	-	4,200	9,800	27	-	93,000	-	600	ND	25,000	110	ND	12	ND	ND	ND	ND	ND	2,000	-	ND	-	ND	ND	-										
12/97	-	-	-	9,600	-	-	-	-	630	ND	-	110	-	16	-	-	-	ND	-	3,200	-	ND	-	ND	ND	-										
6/98	-	-	-	8,100	-	-	55,000	-	860	ND	-	83	-	8.1	ND	ND	ND	ND	-	2,500	-	ND	-	ND	ND	-										
12/98	-	-	-	8,600	(1)	-	-	(1)	490	ND	-	65	-	ND	(1)	-	-	ND	-	2,400	-	ND	-	ND	5.3	-										
6/99	150,000	-	1,700	2,800	(1)	-	130,000	(1)	650	ND	6,900	82	-	ND	ND	ND	ND	ND	-	2,700	-	(2)	-	-	ND	-										
12/99	-	-	-	9,900	(1)	-	-	(1)	450	ND	-	82	-	ND	(1)	-	-	ND	-	(2)	-	ND	-	-	7.4	-										
7/00	-	-	-	7,100	-	-	-	-	440	ND	-	99	-	7.2	(1)	-	-	ND	-	84	-	ND	-	-	ND	-										
12/00	-	-	-	7,100	22	-	300,000	(1)	340	ND	-	58	-	ND	(1)	ND	ND	ND	-	18	-	ND	-	ND	11	-										
7/01	100,000	-	330	11,000	32	-	180,000	160	450	ND	6,200	70	-	260	ND	ND	ND	ND	-	98	-	ND	-	-	6.9	-										
12/01	-	-	-	11,100	-	-	-	-	227	ND	-	41.4	-	ND	(1)	-	-	ND	-	206	-	11.4	-	-	12.4	-										
6/02	-	-	-	15,000	-	-	-	-	350	ND	-	28	-	84	ND	-	-	ND	-	55	-	ND	-	-	ND	-										
12/02	-	-	-	24,000	(1)	-	520,000	(1)	330	ND	-	26	-	62	ND	ND	ND	ND	-	ND	-	ND	-	ND	30.0	-										
6/03	32,000	-	130	46,000	(1)	-	-	(1)	280	ND	12,000	11	-	ND	ND	-	-	ND	-	ND	-	5.4	-	ND	ND	-										
12/03	-	-	-	68,000	(1)	-	380,000	(1)	210	ND	-	9.7	-	38	ND	ND	ND	ND	-	ND	-	ND	-	-	ND	-										
6/04	-	-	-	9,500	(1)	-	(1)	170	240	ND	-	ND	-	470	(1)	-	ND	ND	-	5	-	ND	NS	ND	ND	-										
12/04	-	-	-	17,000	-	-	380,000	-	590	9.2	-	ND	-	10	ND	ND	ND	ND	-	7.5	-	ND	-	ND	ND	-										
6/05	61,000	-	56	32,000	160	-	-	(1)	400	ND	9,700	ND	ND	19	ND	-	-	ND	-	ND	-	ND	-	ND	13	-										
12/05	-	-	-	130	120	-	450,000	(1)	350	ND	-	5.2	-	130	(1)	ND	ND	ND	-	ND	-	ND	-	ND	19	-										
6/06	-	-	-	33,000	-	-	-	-	280	ND	-	10	-	460	ND	-	-	ND	-	14	-	ND	-	ND	5.6	-										
12/06	-	-	-	200,000	170	-	390,000	150	95	ND	-	ND	-	320	ND	ND	ND	ND	-	120	-	ND	-	ND	9	-										
6/07	71,000	-	140	29,000	170	-	380,000	120	400	ND	15,000	21	-	400	ND	ND	ND	ND	-	33	-	ND	-	ND	(1)	-										
12/07	0	-	-	20,000	-	-	-	-	190	ND	-	ND	-	150	-	-	-	ND	-	300	-	ND	-	ND	ND	-										
12/08	150,000	-	-	98,000	190	-	530,000	100	970	ND	4,800	11	-	410	ND	ND	ND	ND	-	270	-	ND	-	ND	ND	-										
12/09	130,000	-	37	130,000	860	-	520,000	78	1,200	ND	4,400	10	-	1,500	ND	ND	ND	(2)	-	34	-	ND	-	ND	ND	-										
6/10	160,000	210	28	67,000	370	(1)	490,000	(1)	2,000	ND	8,100	7.7	ND	570	ND	ND	ND	ND	ND	410	ND	ND	(1)	ND	ND	(1)	16	9	8.2	45*	920*	ND	ND			
12/10	-	-	-	92,000	-	-	-	-	1,500	ND	-	5.3	-	82	-	-	-	ND	-	540	-	ND	-	ND	ND	-	10	10	ND	43	1,100	ND	ND			
6/11	-	-	-	150,000	1,200	-	350,000	(1)	2,400	ND	-	5.4	-	91	ND	ND	ND	ND	-	260	-	ND	-	ND	ND	-	11	ND	ND	59	1,400	ND	ND			
12/11	-	-	-	270,000	-	-	-	-	2,100	ND	-	8.6	-	20	ND	-	-	ND	-	620	-	ND	-	ND	ND	-	10	ND	ND	60	2,500	ND	ND	ND	ND	64

Notes: (1) Well was dry or contained insufficient groundwater to sample. ND = Not Detected Above Laboratory Reportable Limits * = Samples were collected in September 2010
(2) Well was not accessible during sampling event. - = Not Sampled

FIGURES

Site Location Map



0 1,000 2,000 4,000

Feet

Source: USGS Quadrangle, Browns Crossing, GA, 1985.

EPS

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Figure No.1

Groundwater Recovery System Layout

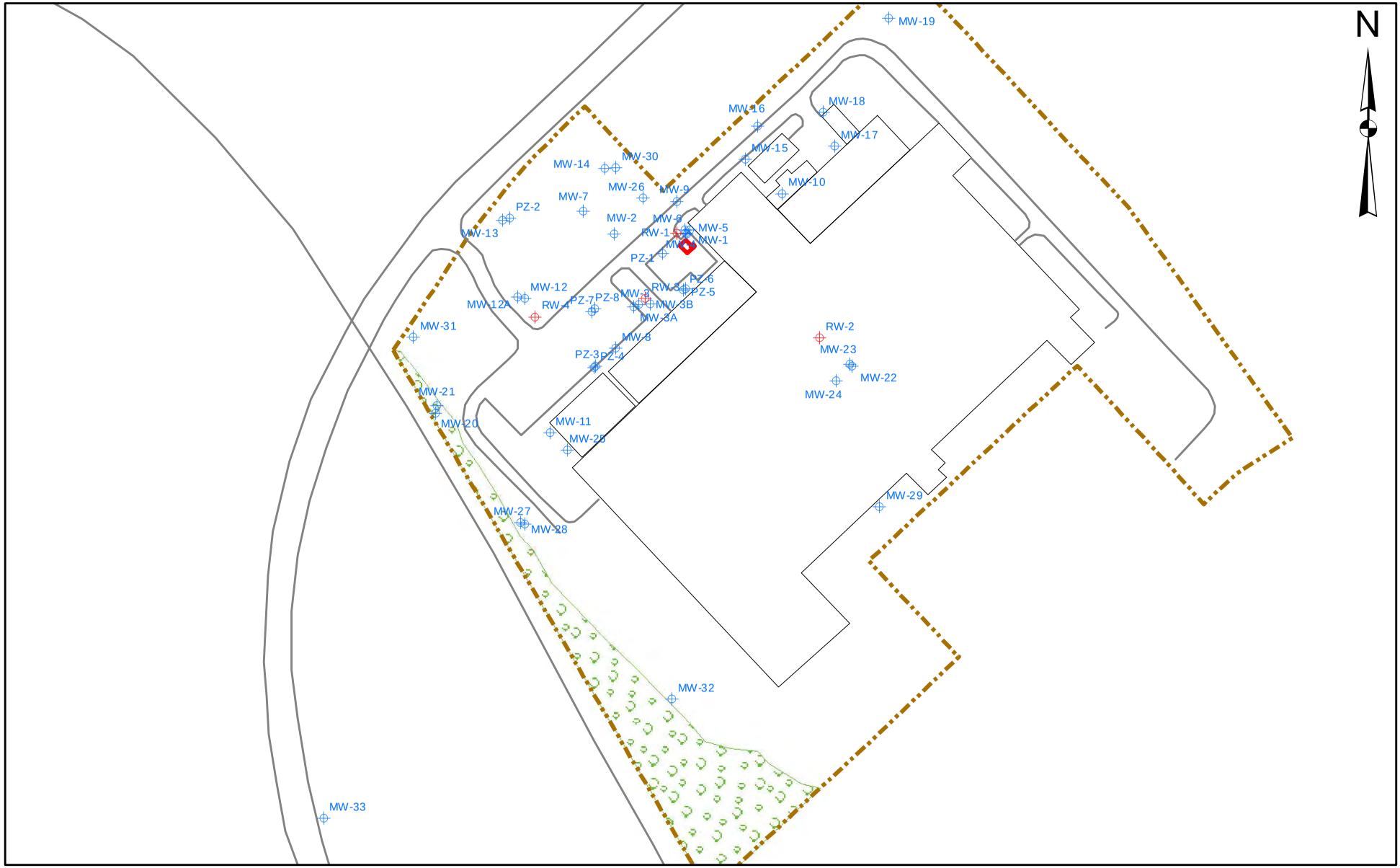

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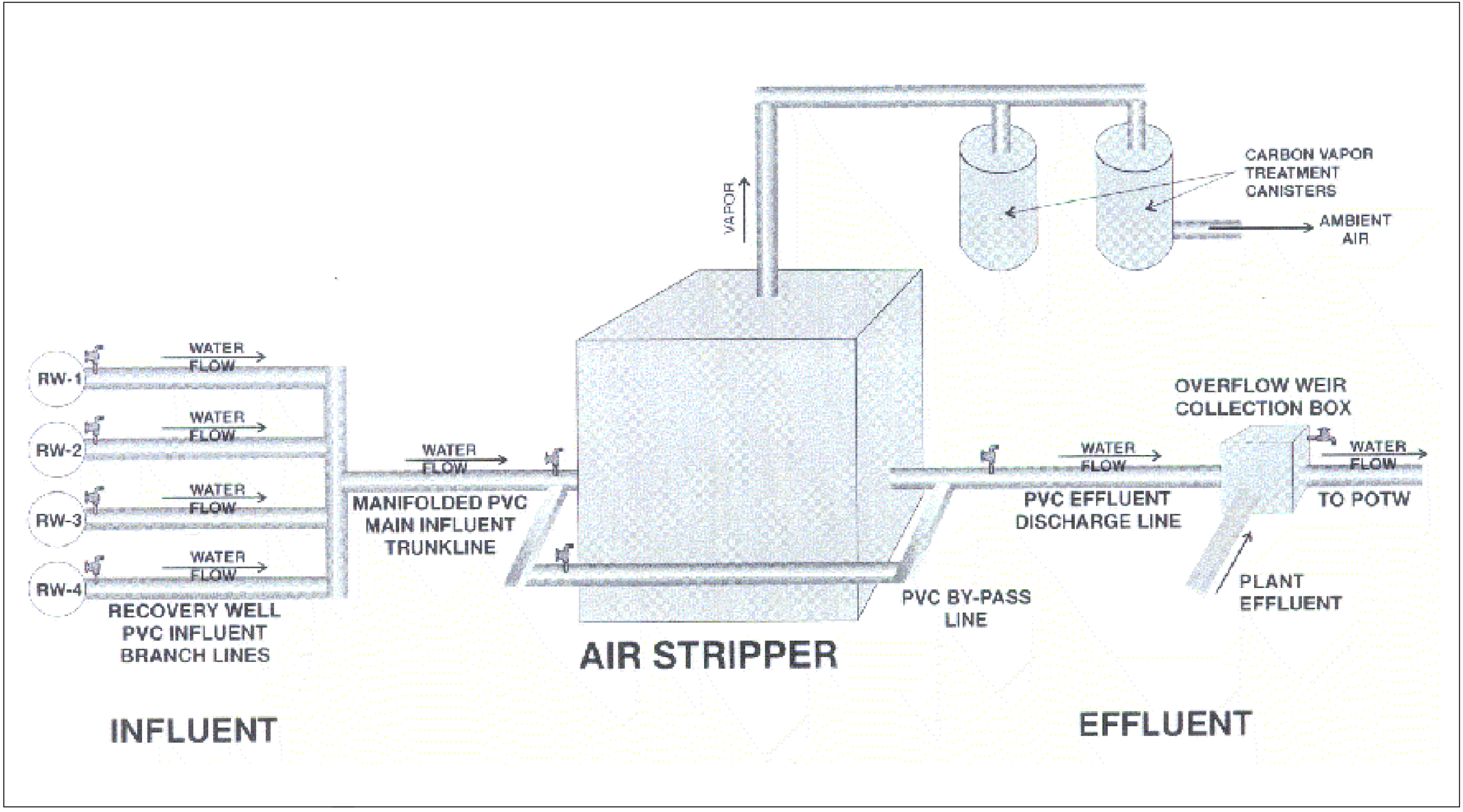
Figure No.2



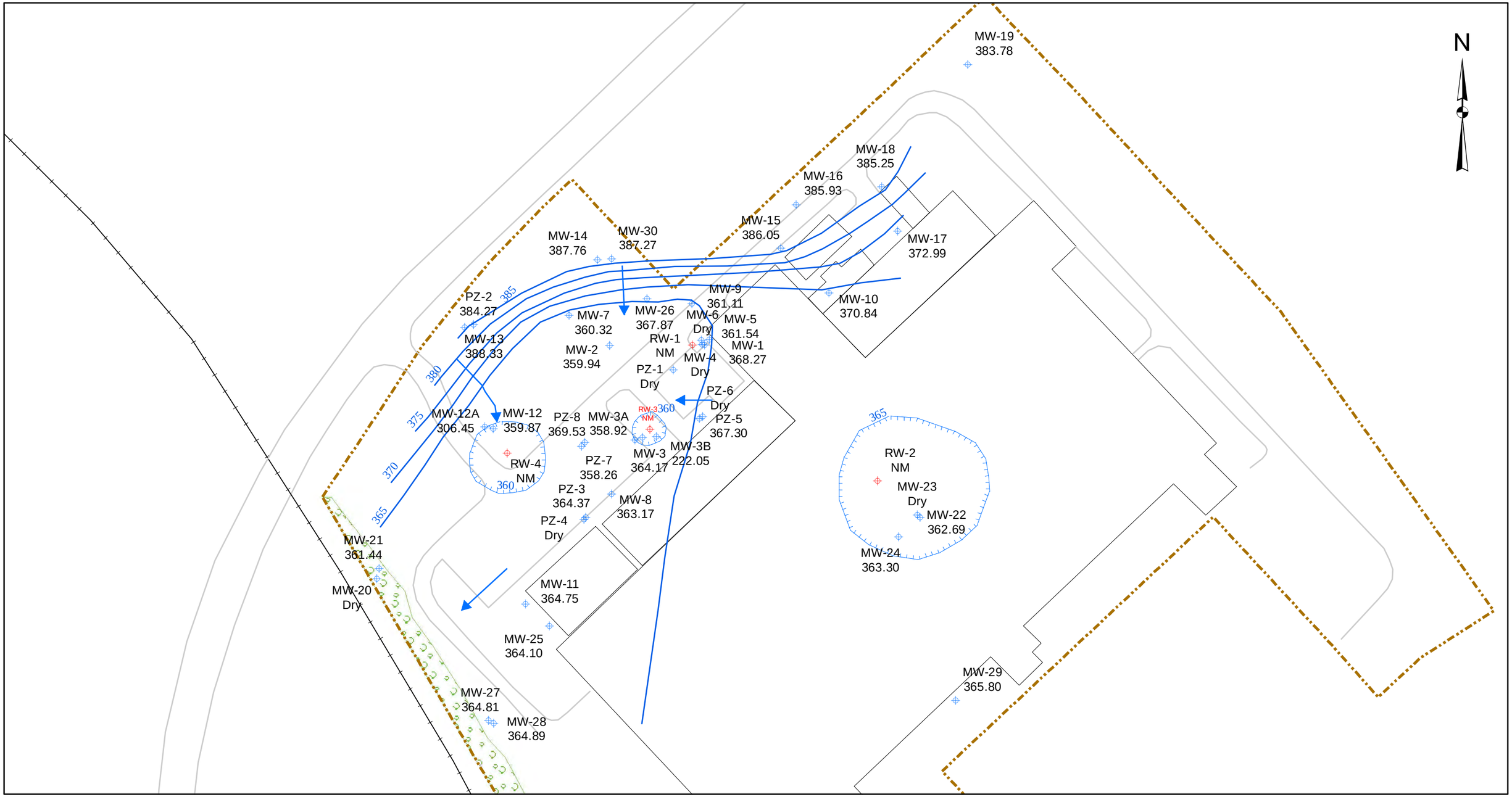
LEGEND

SAMPLING PORT

RW-1 RECOVERY WELL HEAD

NOT TO SCALE

Potentiometric Surface Map
June 2011



Legend

- Pontentiometric Contour
- Groundwater Flow Direction
- Monitoring Wells
- Recovery Wells
- Rail & Fence
- Pavement & Roads
- Property Line
- Buildings
- Railroad
- Vegetative Cover

1. Wells screened in all hydrogeologic profiles.
2. Deep bedrock wells not included in potentiometric contouring
3. Several groundwater elevations were considered anomalies and not included in potentiometric contouring.

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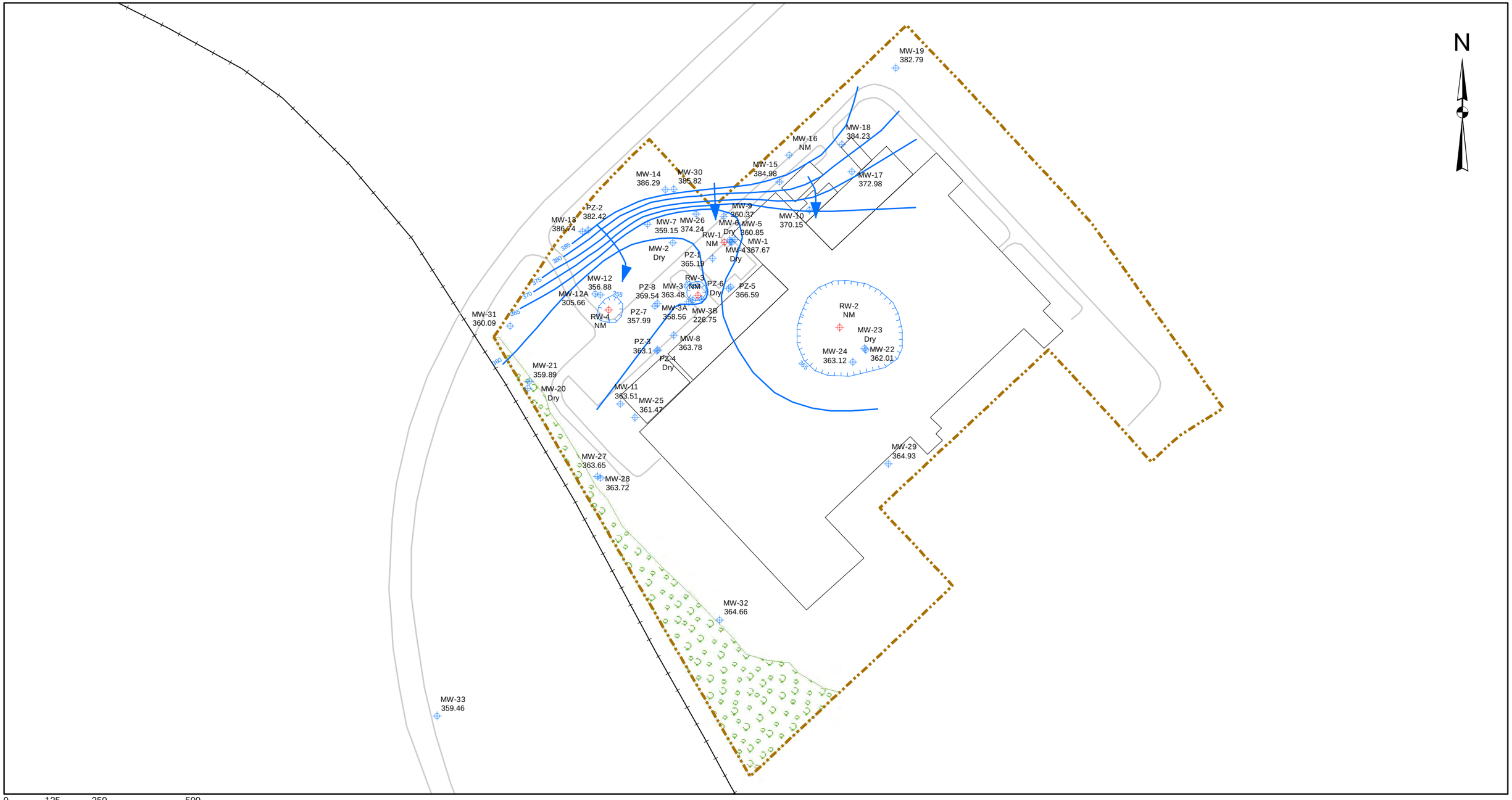
Figure No.4

Potentiometric Surface Map
December 2011

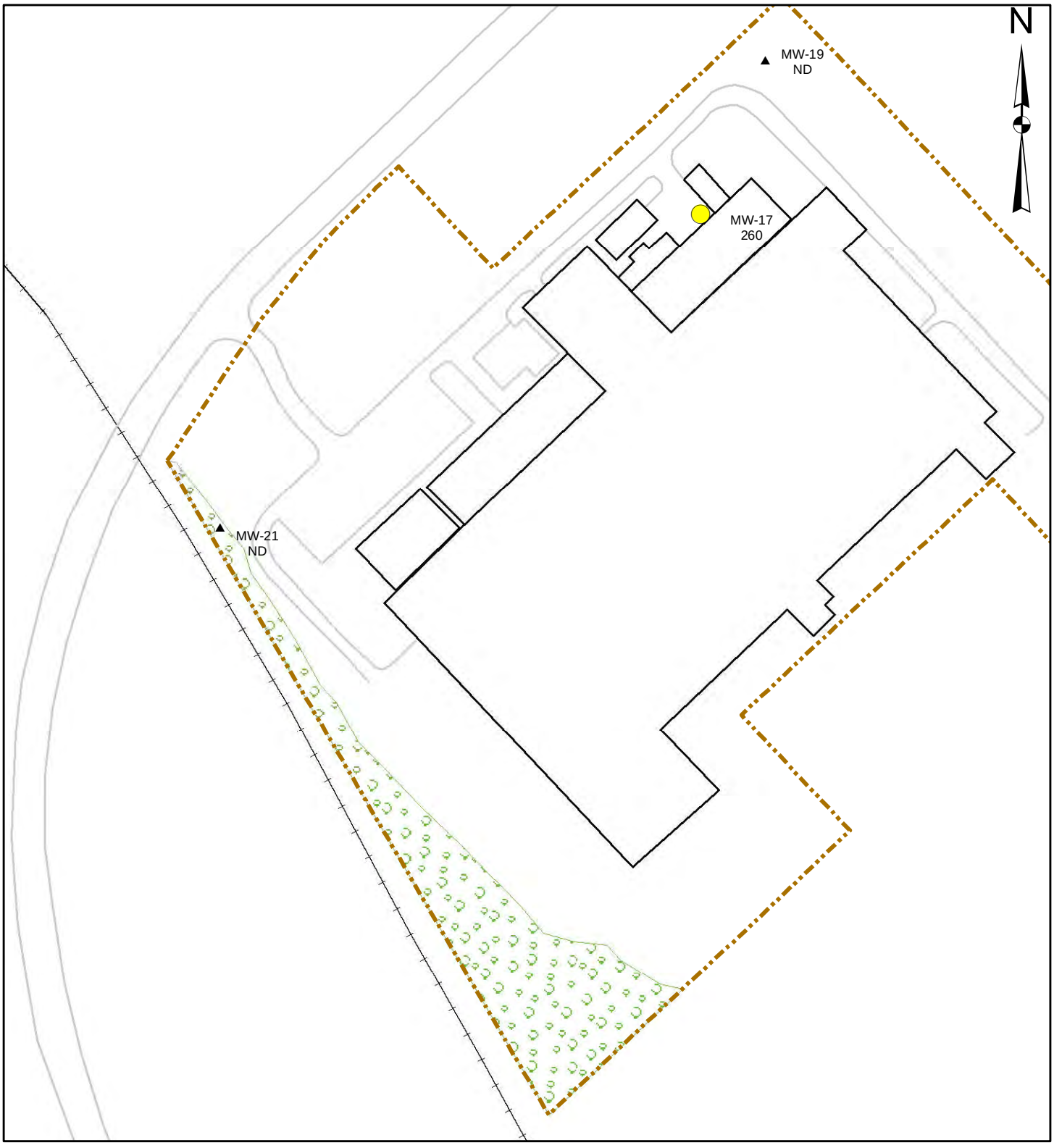


Legend

- Pontentiometric Contour
- Groundwater Flow Direction
- Monitoring Wells
- Recovery Wells
- Rail & Fence
- Pavement & Roads
- Property Line
- Buildings
- Railroad
- Vegetative Cover

1. Wells screened in all hydrogeologic profiles.
2. Deep bedrock wells not included in potentiometric contouring
3. Several groundwater elevations were considered anomalies and not included in potentiometric contouring.

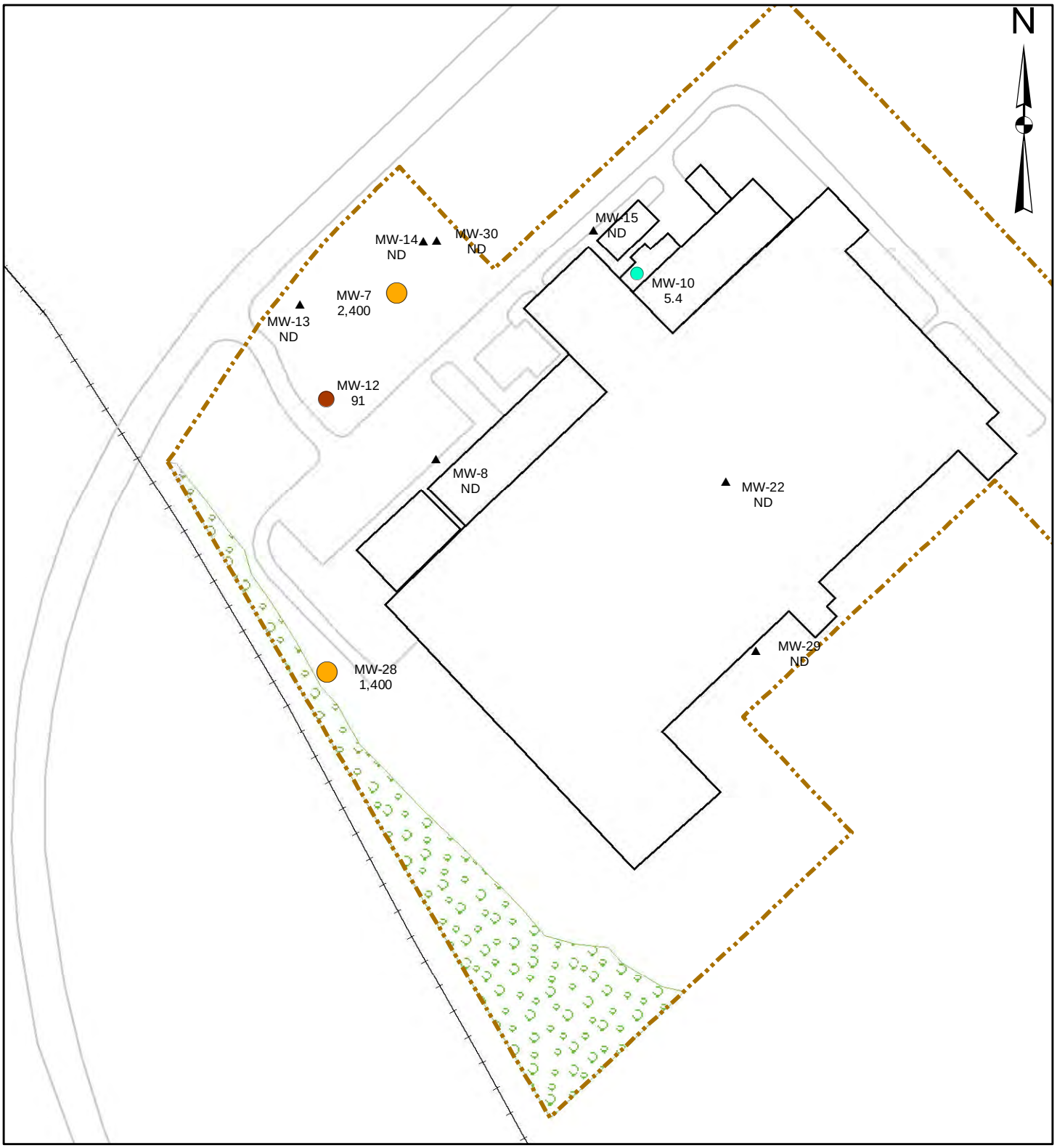
Horizontal Extent of TCE in Groundwater
Soil Wells
June 2011



EPS

Figure No.6A

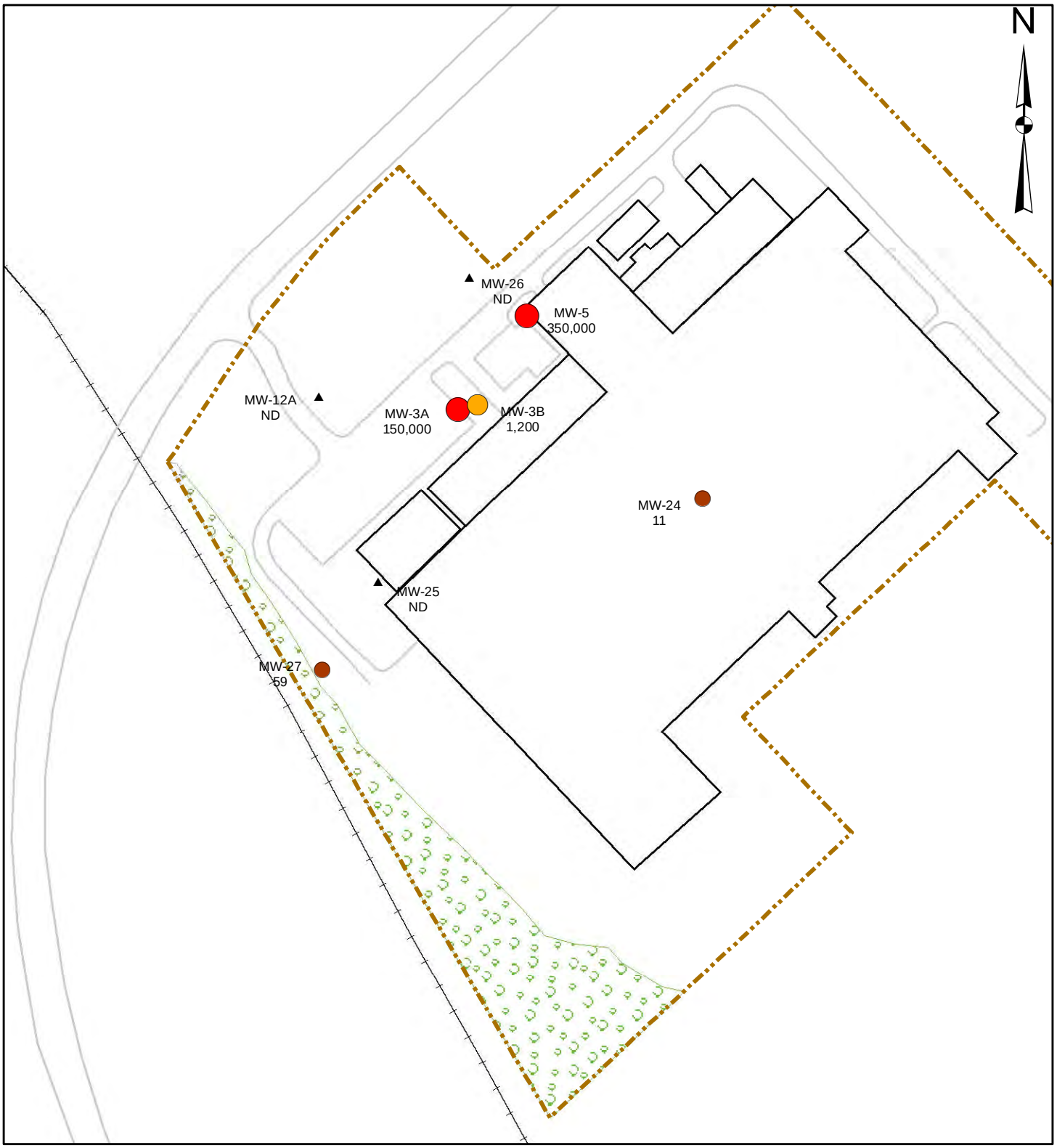
Horizontal Extent of TCE in Groundwater
Partially Weathered Rock Wells
June 2011



EPS

Figure No.6B

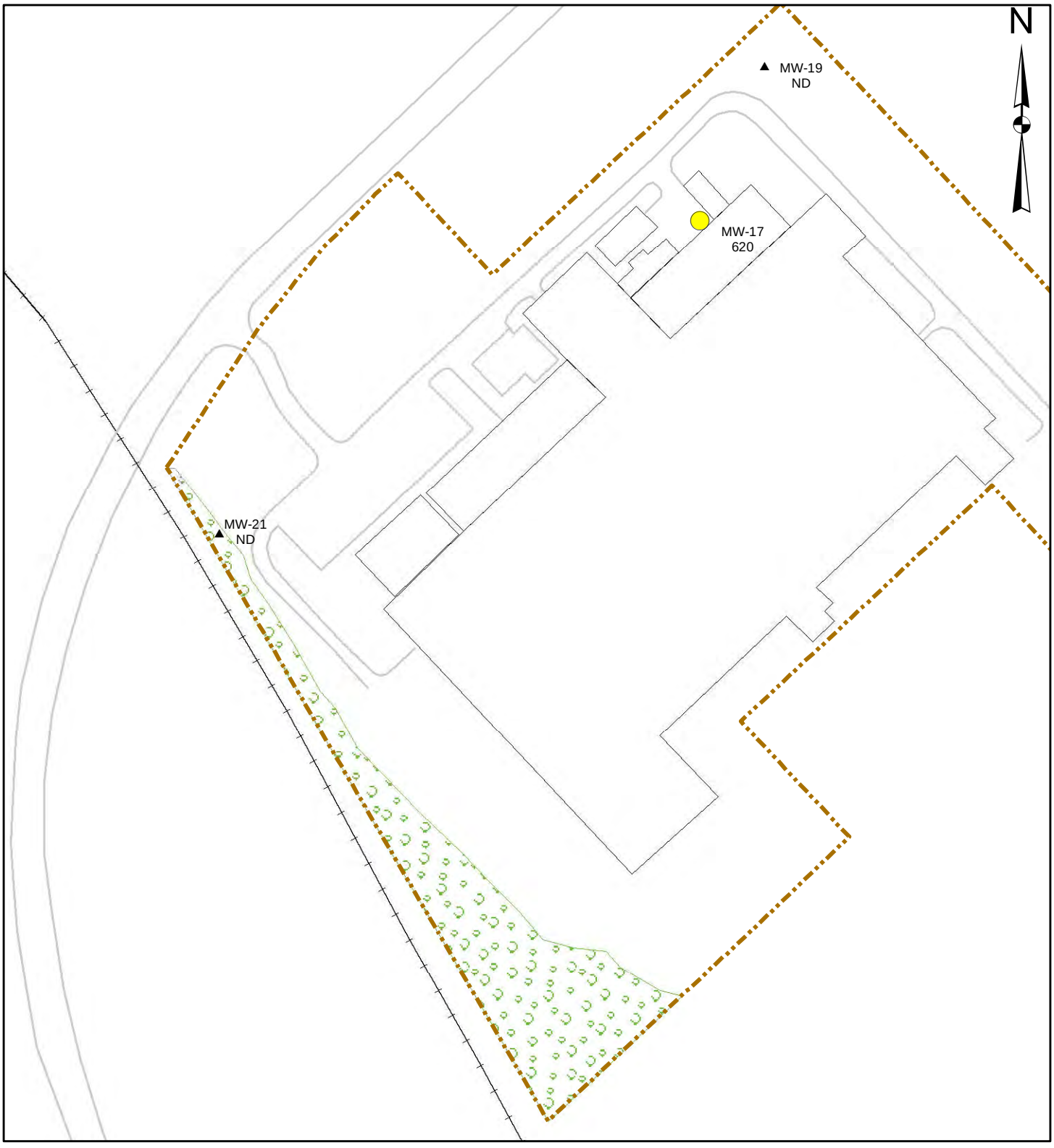
Horizontal Extent of TCE in Groundwater
Bedrock Wells
June 2011



EPS

Figure No.6C

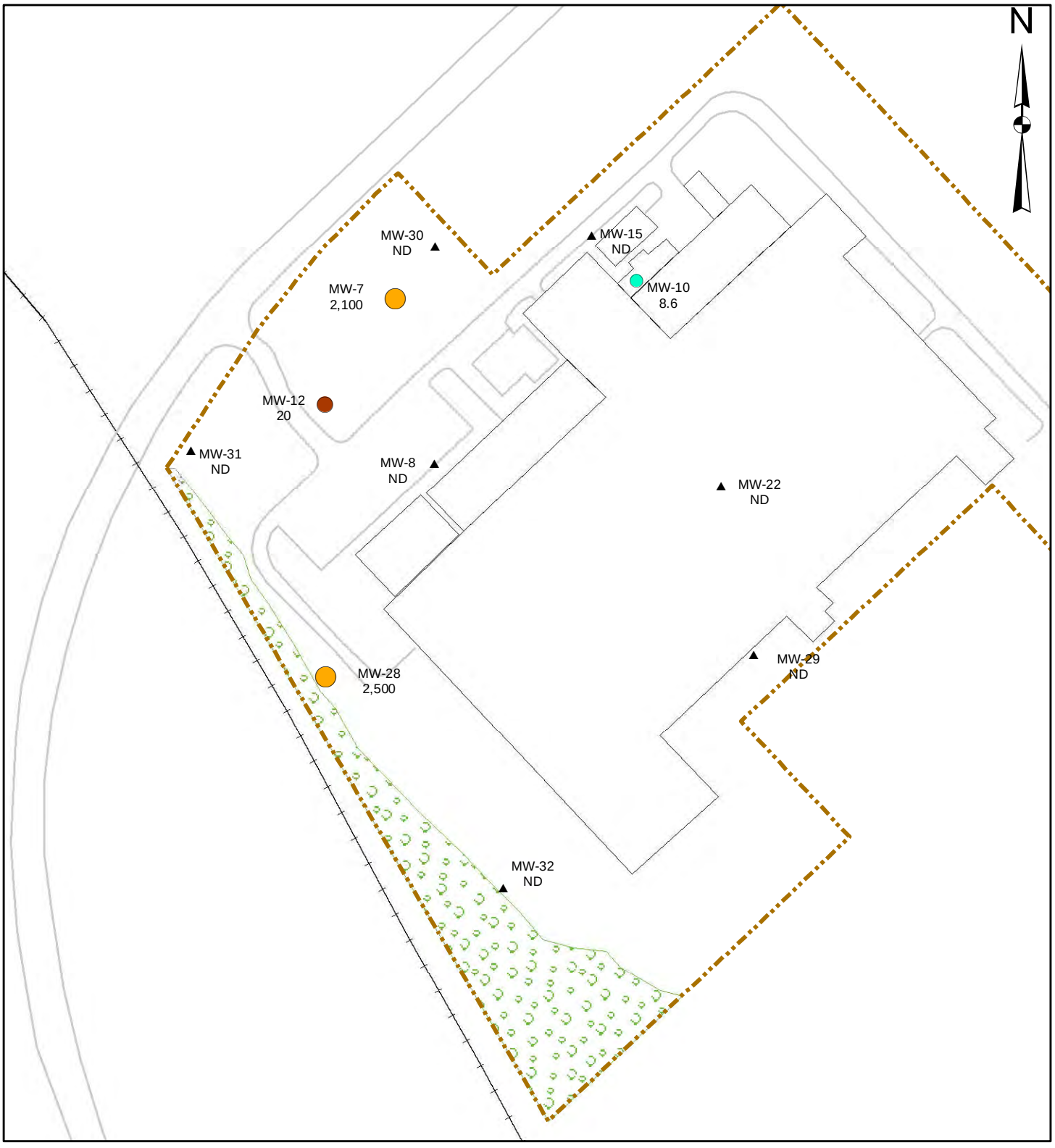
Horizontal Extent of TCE in Groundwater
Soil Wells
Decemeber 2011



EPS

Figure No.7A

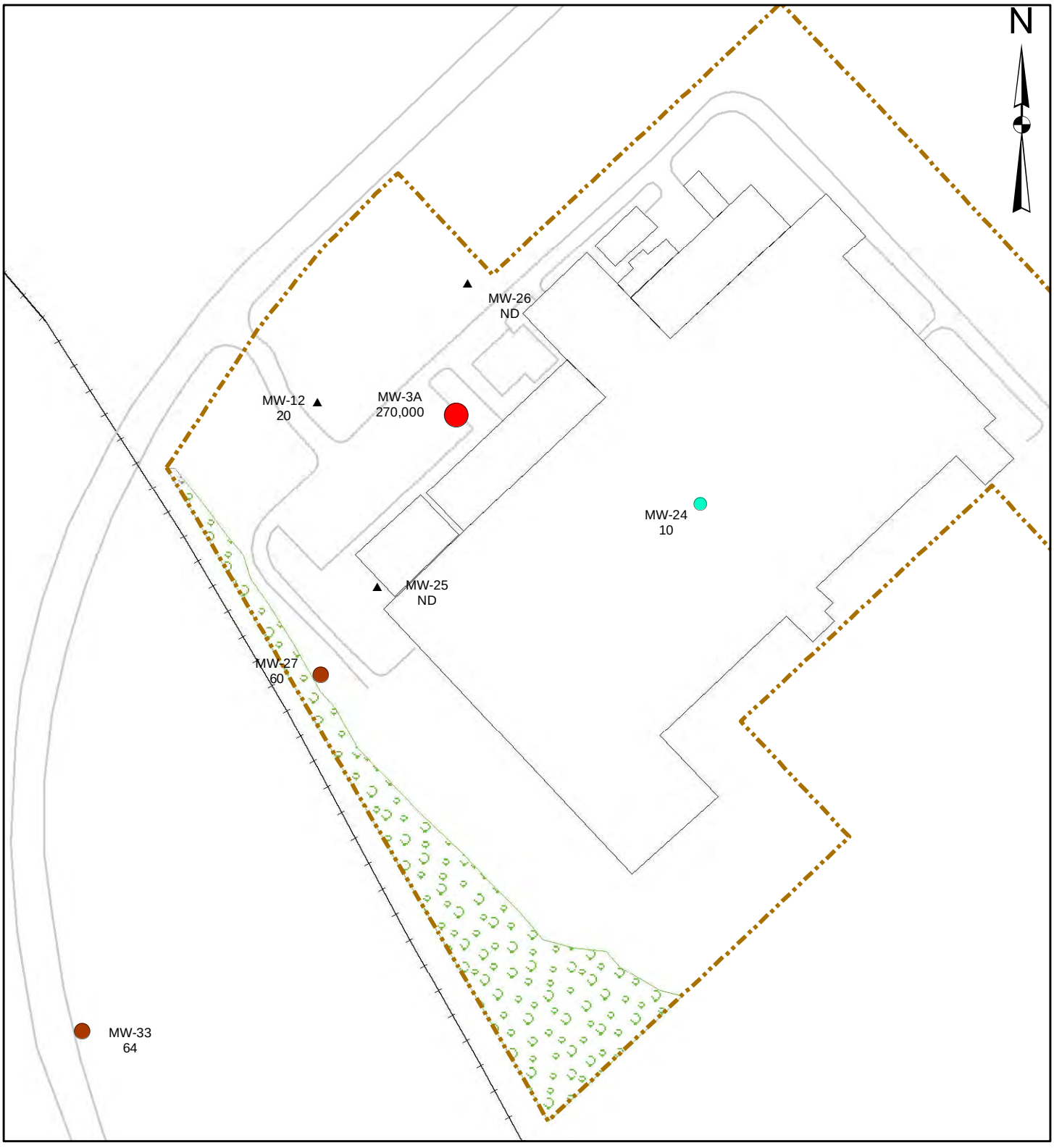
Horizontal Extent of TCE in Groundwater
Partially Weathered Rock Wells
Decemeber 2011



EPS

Figure No.7B

Horizontal Extent of TCE in Groundwater
Bedrock Wells
Decemeber 2011



EPS

Figure No.7C

Site Plan
Hydrogeologic Cross Section Locations

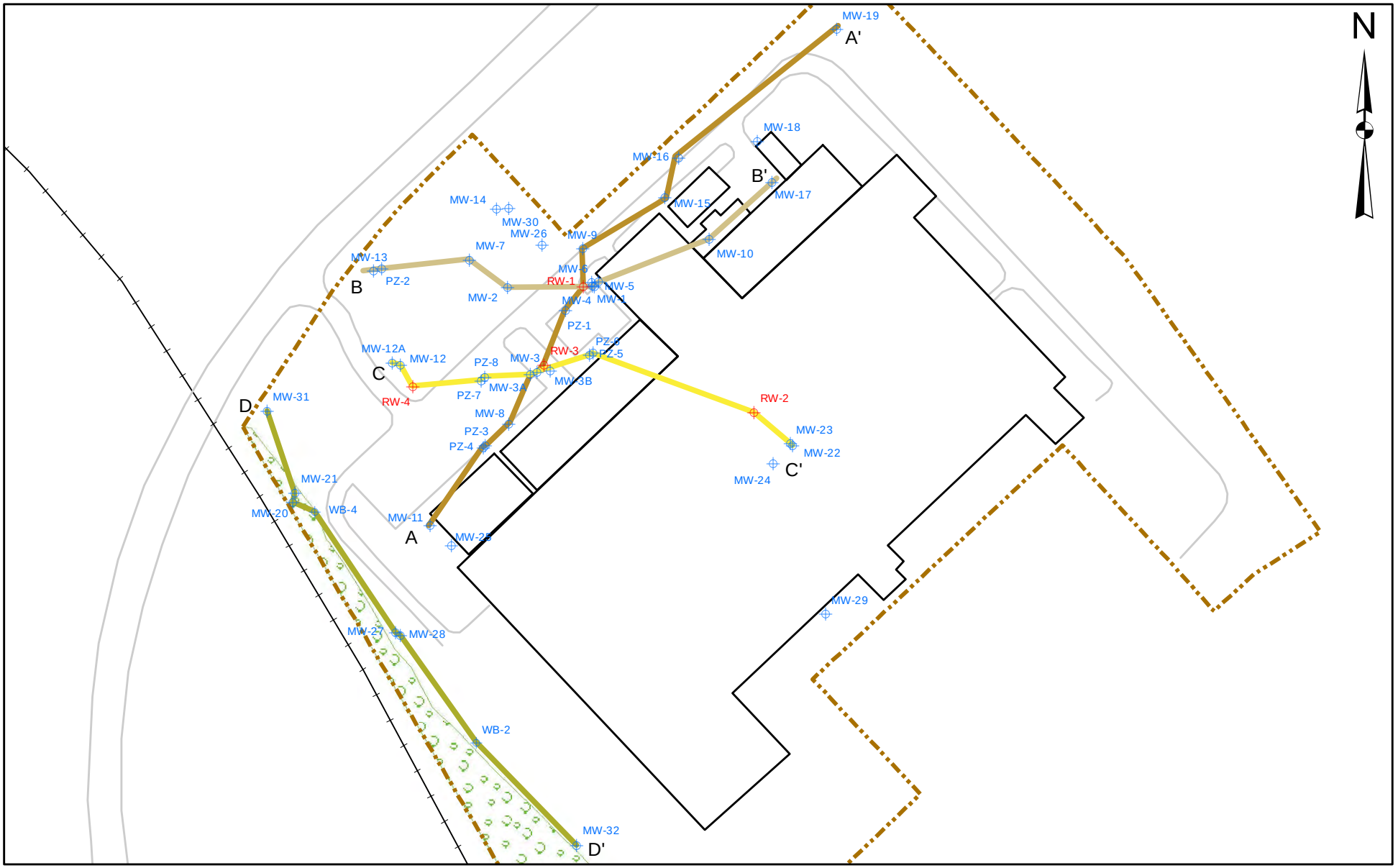


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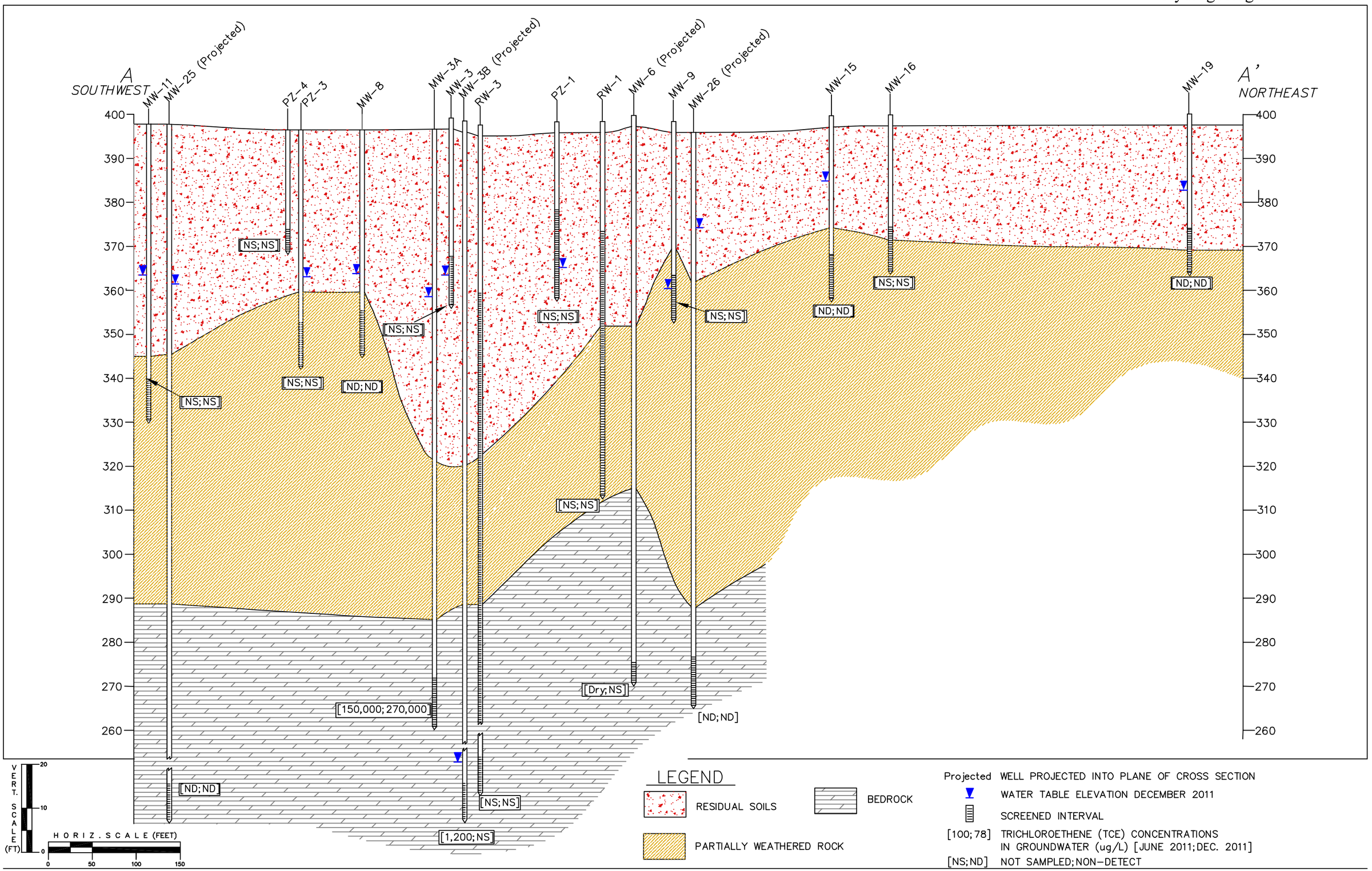
Figure No.8


A
SOUTHWEST
A'
NORTHEAST
MW-11
MW-25 (Projected)
PZ-4
PZ-3
MW-8
MW-3A
MW-3
MW-3B (Projected)
RW-3
PZ-1
RW-1
MW-6 (Projected)
MW-9
MW-26 (Projected)
MW-15
MW-16
MW-19
400
390
380
370
360
350
340
330
320
310
300
290
280
270
260
[NS;NS]
[NS;NS]
[NS;NS]
[ND;ND]
[NS;NS]
[NS;NS]
[NS;NS]
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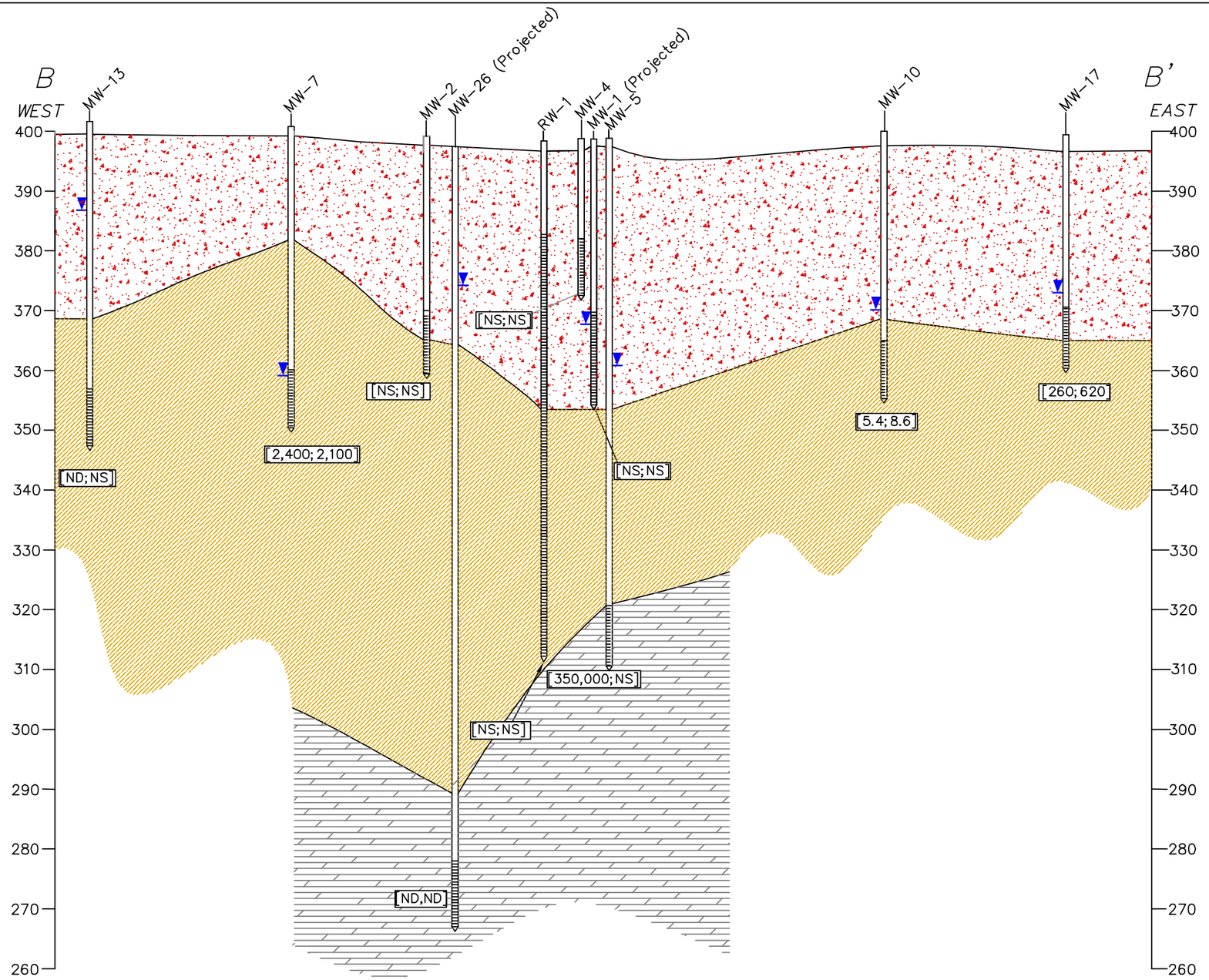
[NS;NS]
[ND;ND]
[Dry;NS]
[ND;ND]
[150,000;270,000]
[ND;ND]
[NS;NS]
[1,200;NS]
VERT. SCALE (FT)
20
10
0
HORIZ. SCALE (FEET)
0
50
100
150
LEGEND
RESIDUAL SOILS
PARTIALLY WEATHERED ROCK
BEDROCK
Projected WELL PROJECTED INTO PLANE OF CROSS SECTION
WATER TABLE ELEVATION DECEMBER 2011
SCREENED INTERVAL
[100;78] TRICHLOROETHENE (TCE) CONCENTRATIONS IN GROUNDWATER (ug/L) [JUNE 2011;DEC. 2011]
[NS;ND] NOT SAMPLED;NON-DETECT

Figure No. 9



VERT. SCALE (FT) 20 10 0
HORIZ. SCALE (FEET) 0 50 100 150

LEGEND

RESIDUAL SOILS

PARTIALLY WEATHERED ROCK

BEDROCK

Projected WELL PROJECTED INTO PLANE OF CROSS SECTION

WATER TABLE ELEVATION DECEMBER 2011

SCREENED INTERVAL

[270; 34] TRICHLOROETHENE (TCE) CONCENTRATIONS IN GROUNDWATER (ug/L) [JUNE 2011; DEC. 2011]

[NS; ND] NOT SAMPLED; NON-DETECT

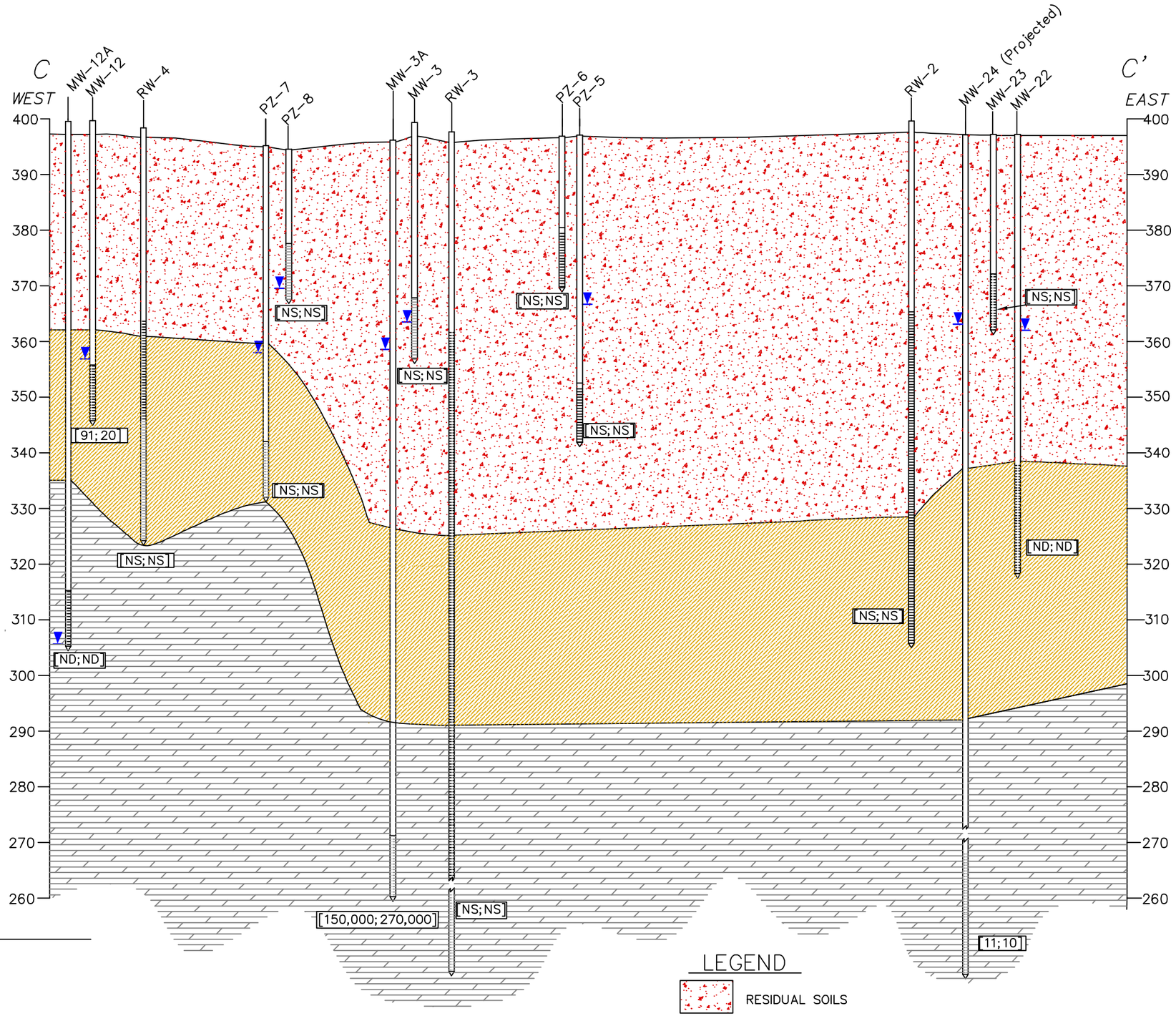

C
C'
WEST
EAST
MW-12A
MW-12
RW-4
PZ-7
PZ-8
MW-3A
MW-3
RW-3
PZ-6
PZ-5
RW-2
MW-24 (Projected)
MW-23
MW-22
400
390
380
370
360
350
340
330
320
310
300
290
280
270
260
[91; 20]
[NS; NS]
[ND; ND]
[150,000; 270,000]
[11; 10]
VERT. SCALE (FT)
20
10
0
HORIZ. SCALE (FEET)
0
50
100
150
LEGEND
RESIDUAL SOILS
PARTIALLY WEATHERED ROCK
BEDROCK
Projected WELL PROJECTED INTO PLANE OF CROSS SECTION
WATER TABLE ELEVATION DECEMBER 2011
SCREENED INTERVAL
[120;170] TRICHLOROETHENE (TCE) CONCENTRATIONS IN GROUNDWATER (ug/L) [JUNE 2011,DEC.2011]
[NS;ND] NOT SAMPLED;NON-DETECT

Figure No. 11

Figure 12a
MW-8 Historical TCE Concentrations

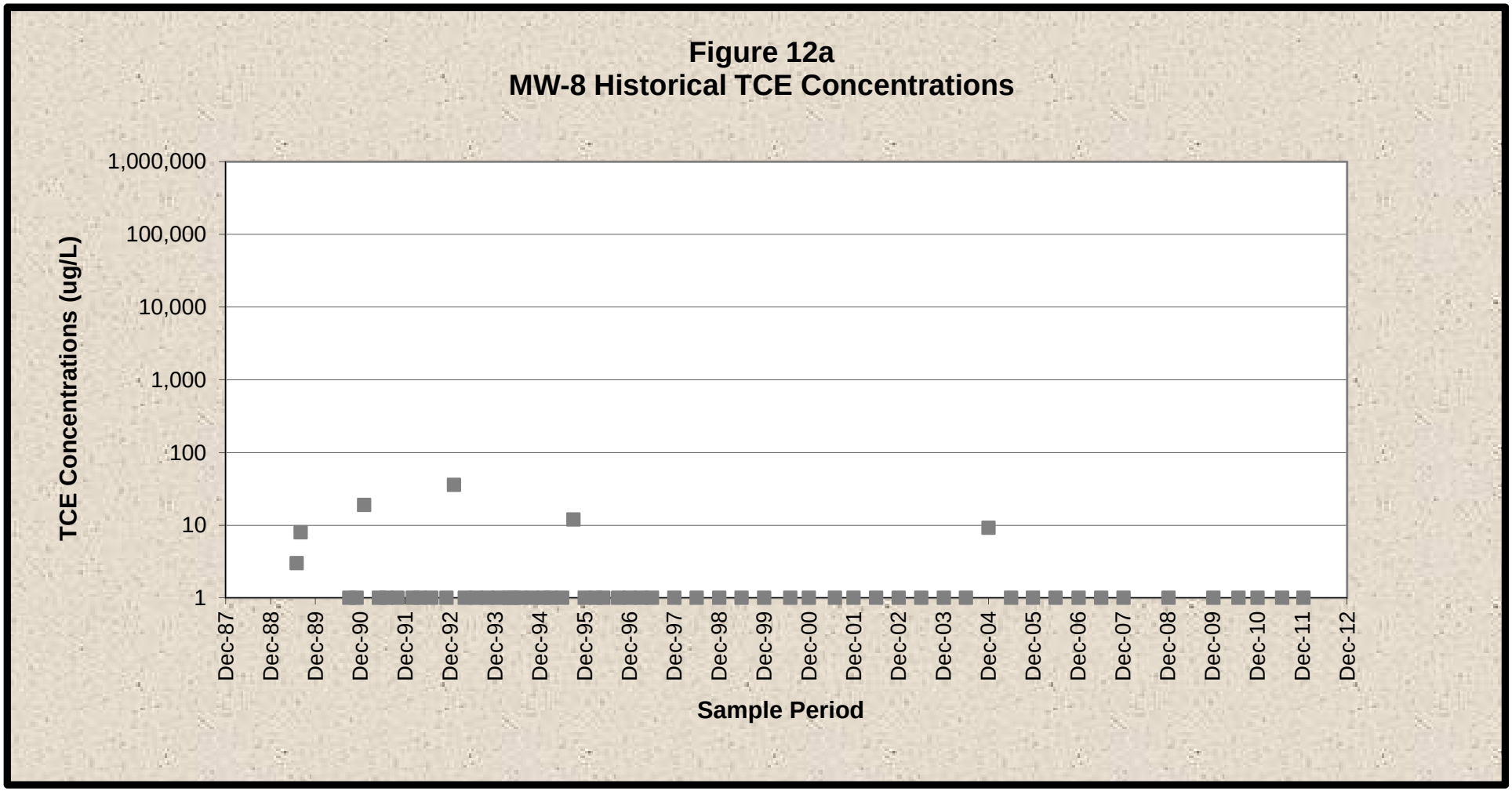


Figure 12b
MW-12 Historical TCE Concentrations

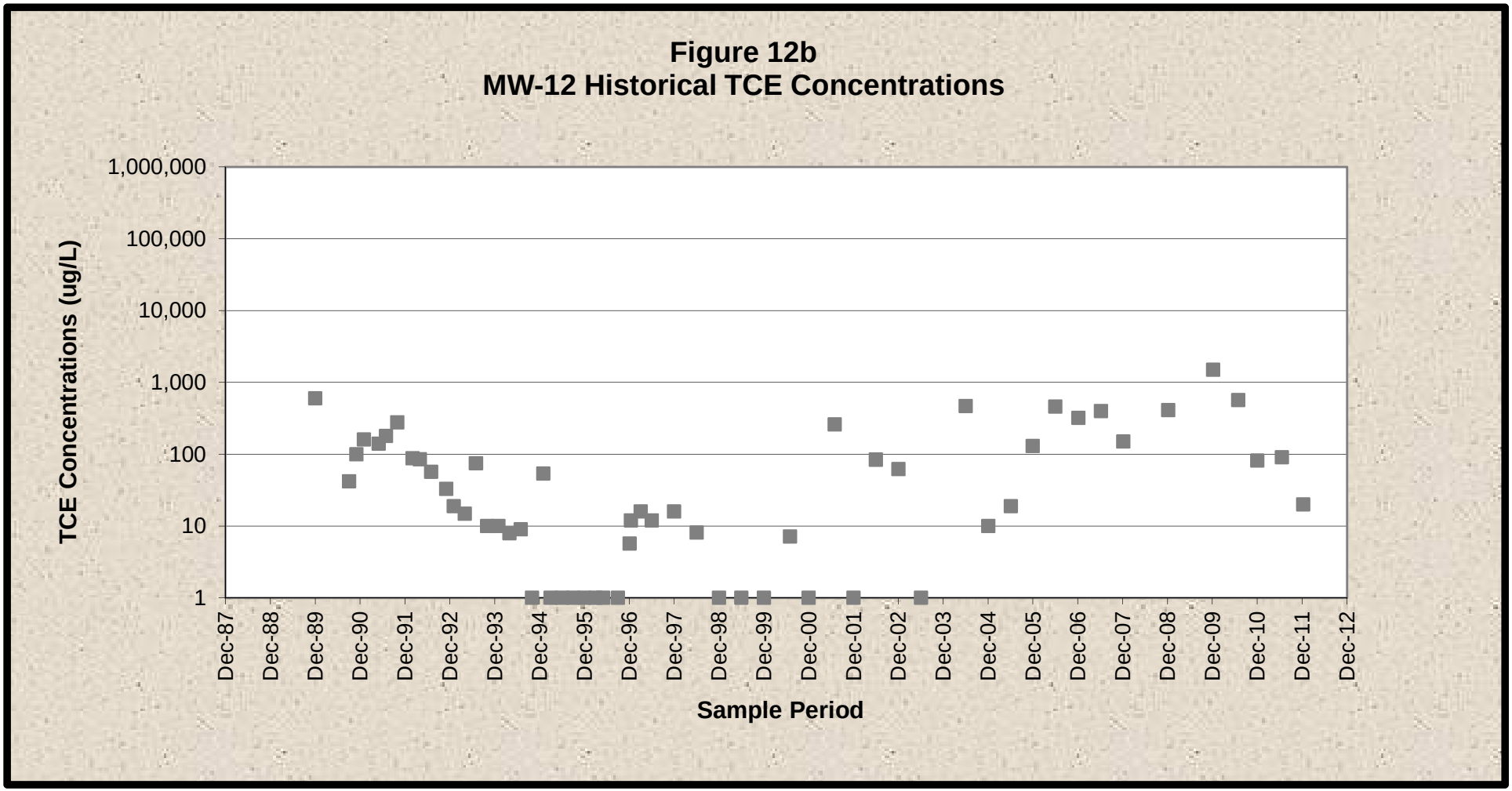


Figure 12c
MW-19 Historical TCE Concentrations

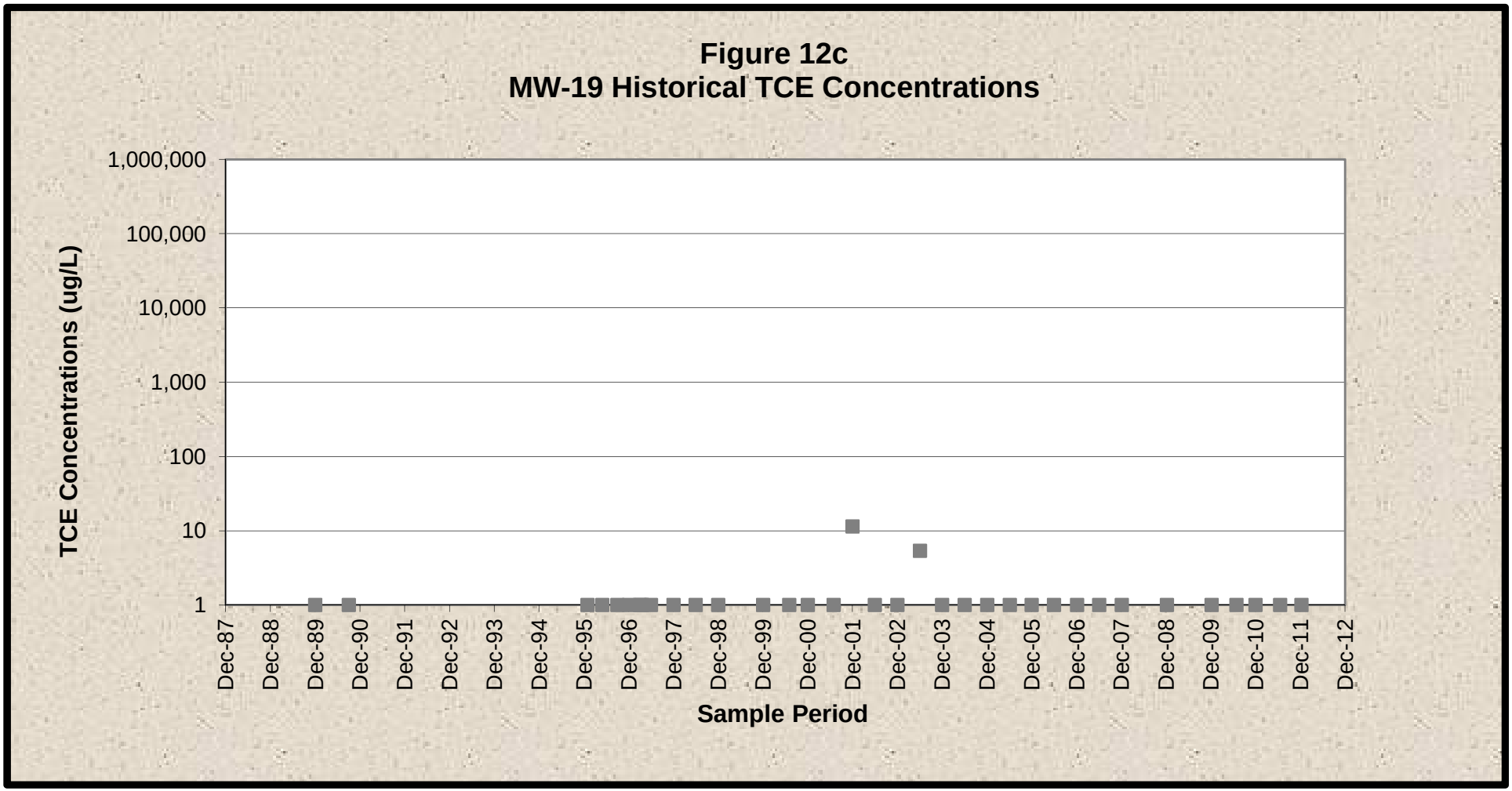


Figure 13a
MW-1 Historical TCE Concentrations

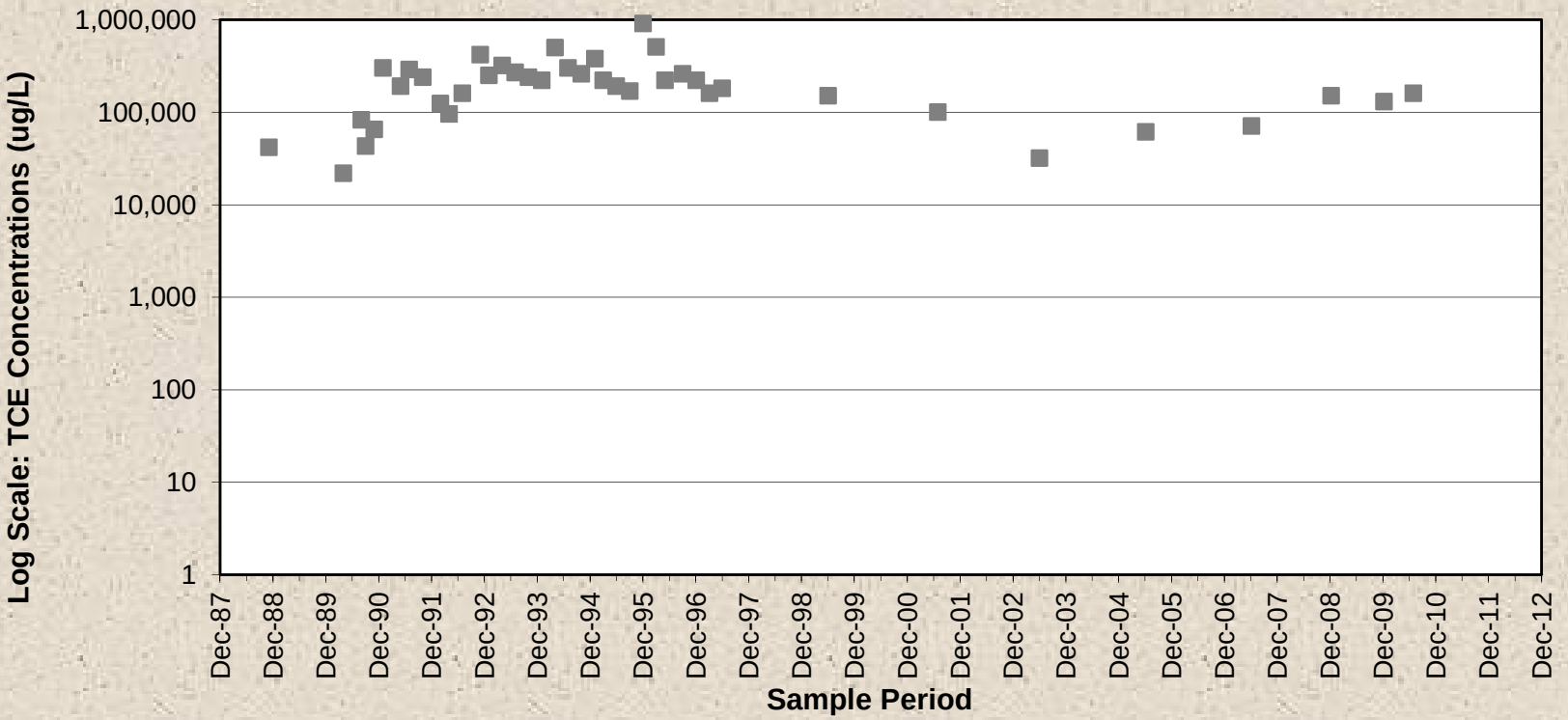


Figure 13b
MW-3 Historical TCE Concentrations

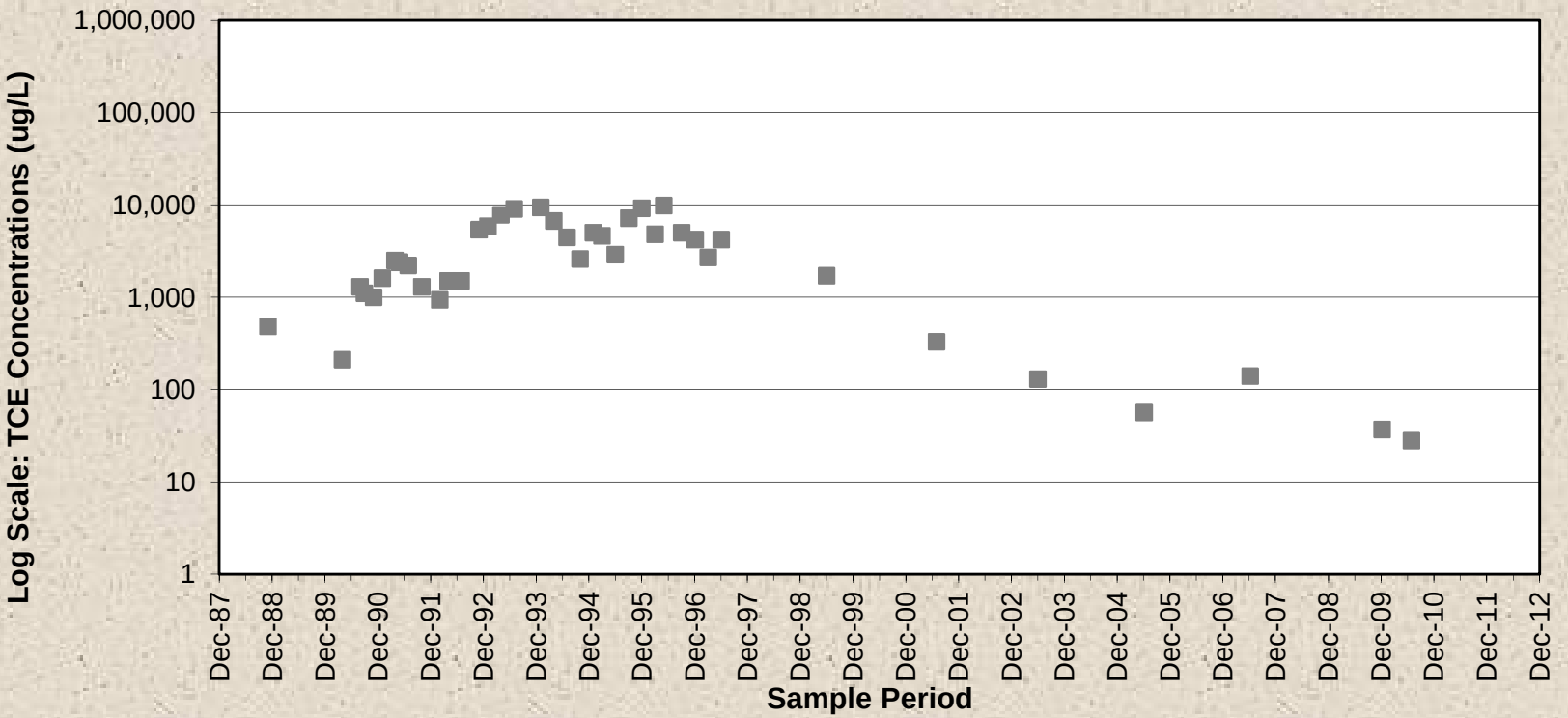


Figure 13c
MW-5 Historical TCE Concentrations

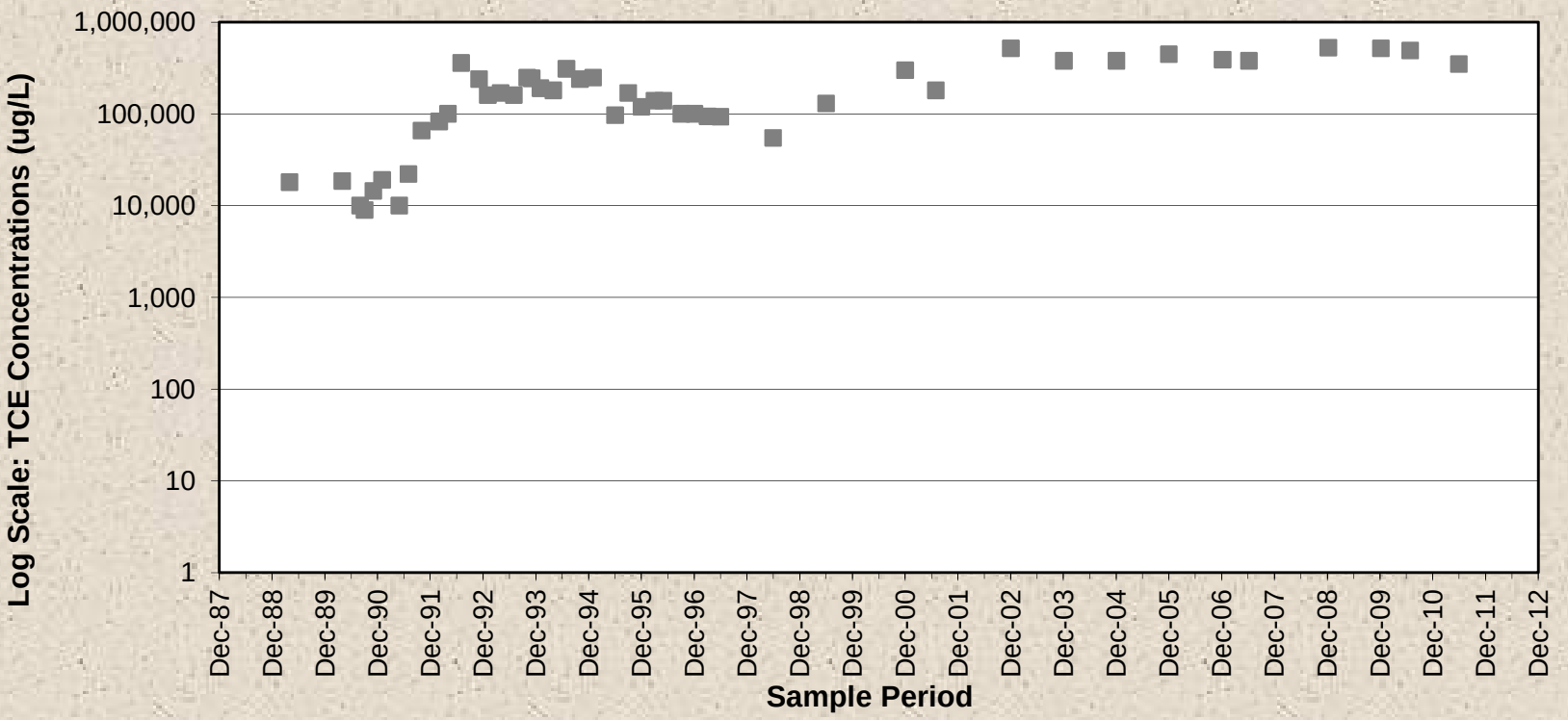


Figure 14a
MW-7 Historical TCE Concentrations

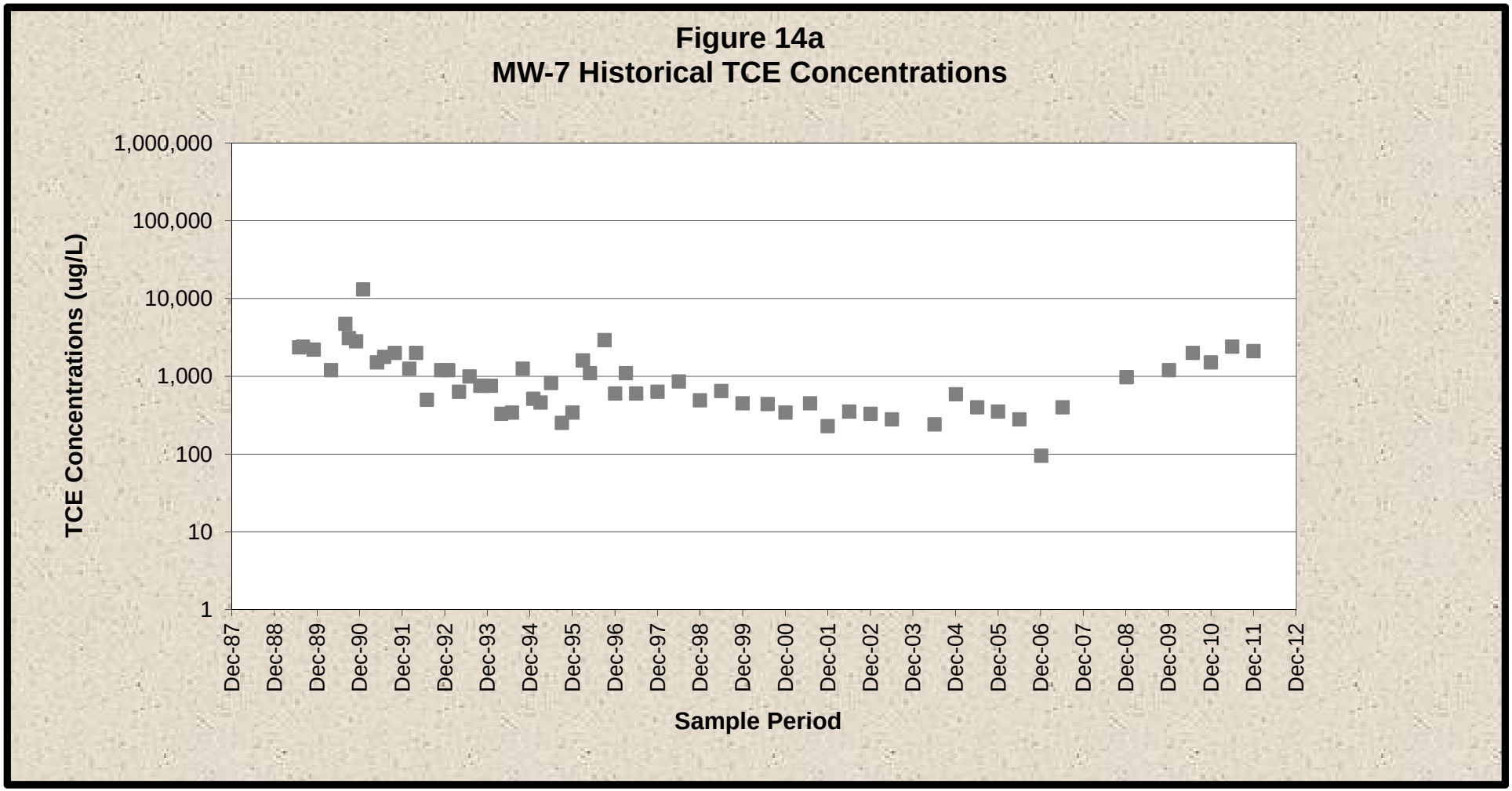


Figure 14b
MW-9 Historical TCE Concentrations

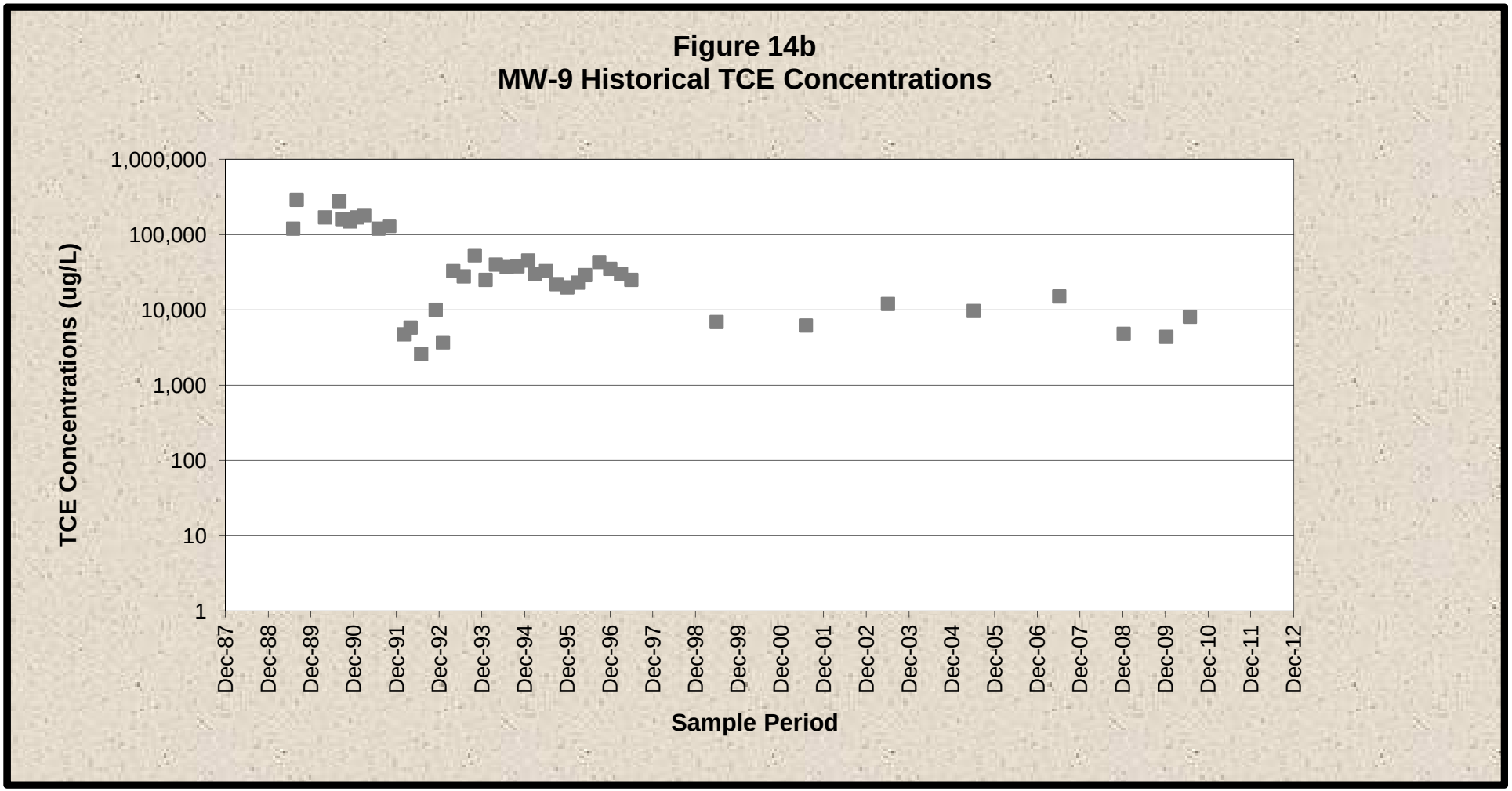


Figure 14c
MW-10 Historical TCE Concentrations

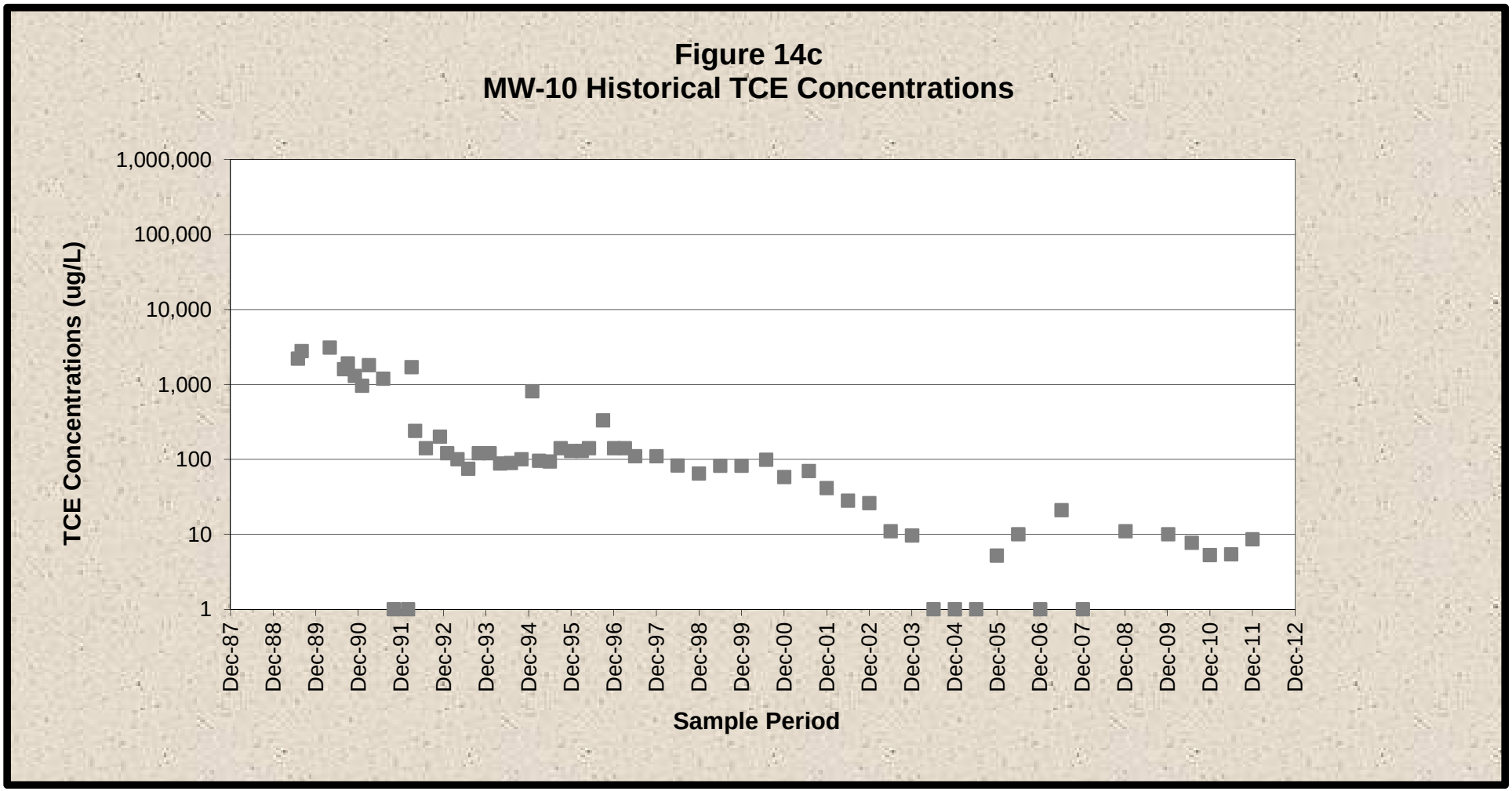


Figure 14d
MW-17 Historical TCE Concentrations

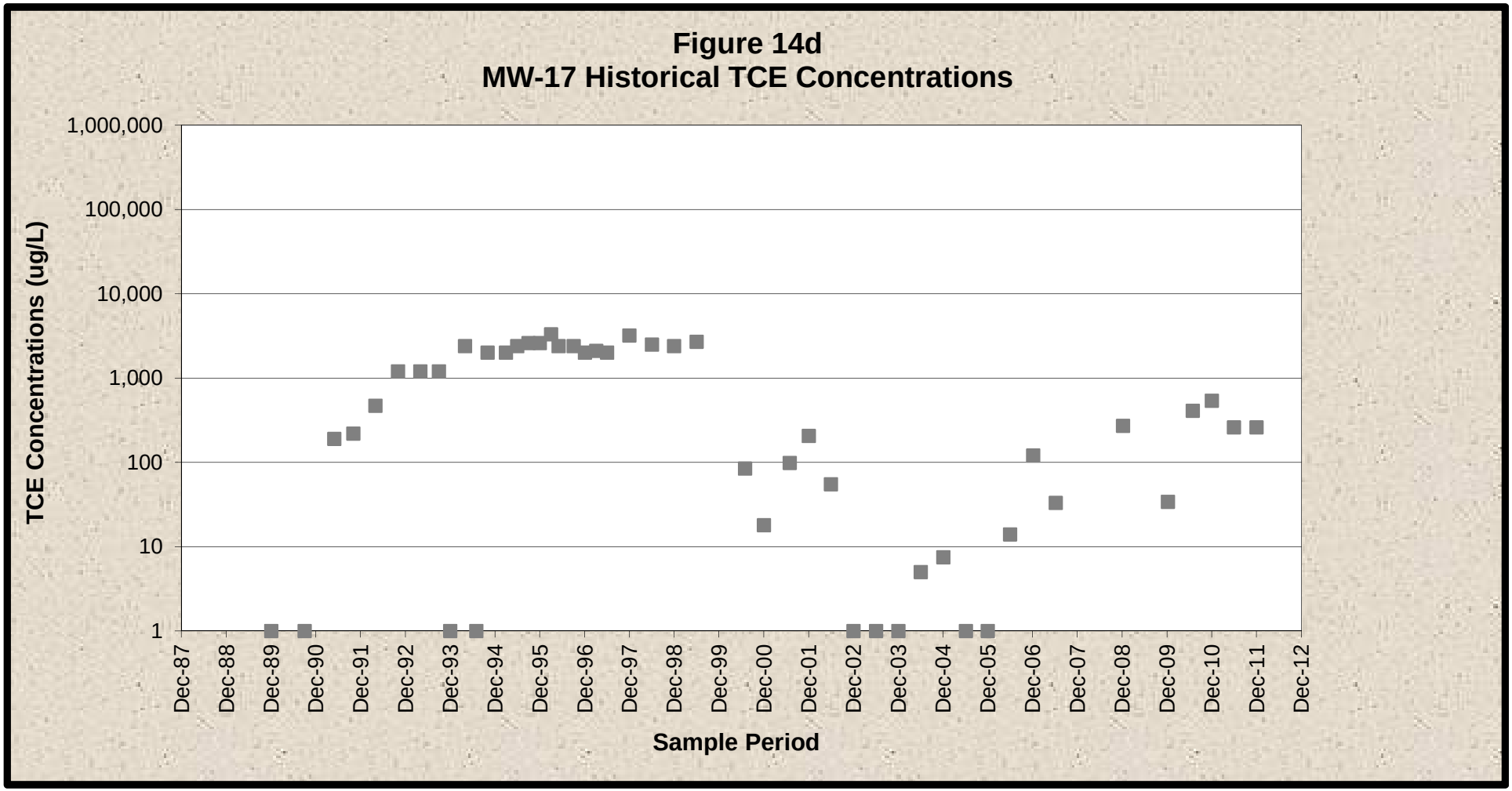


Figure 15a
MW-11 Historical TCE Concentrations

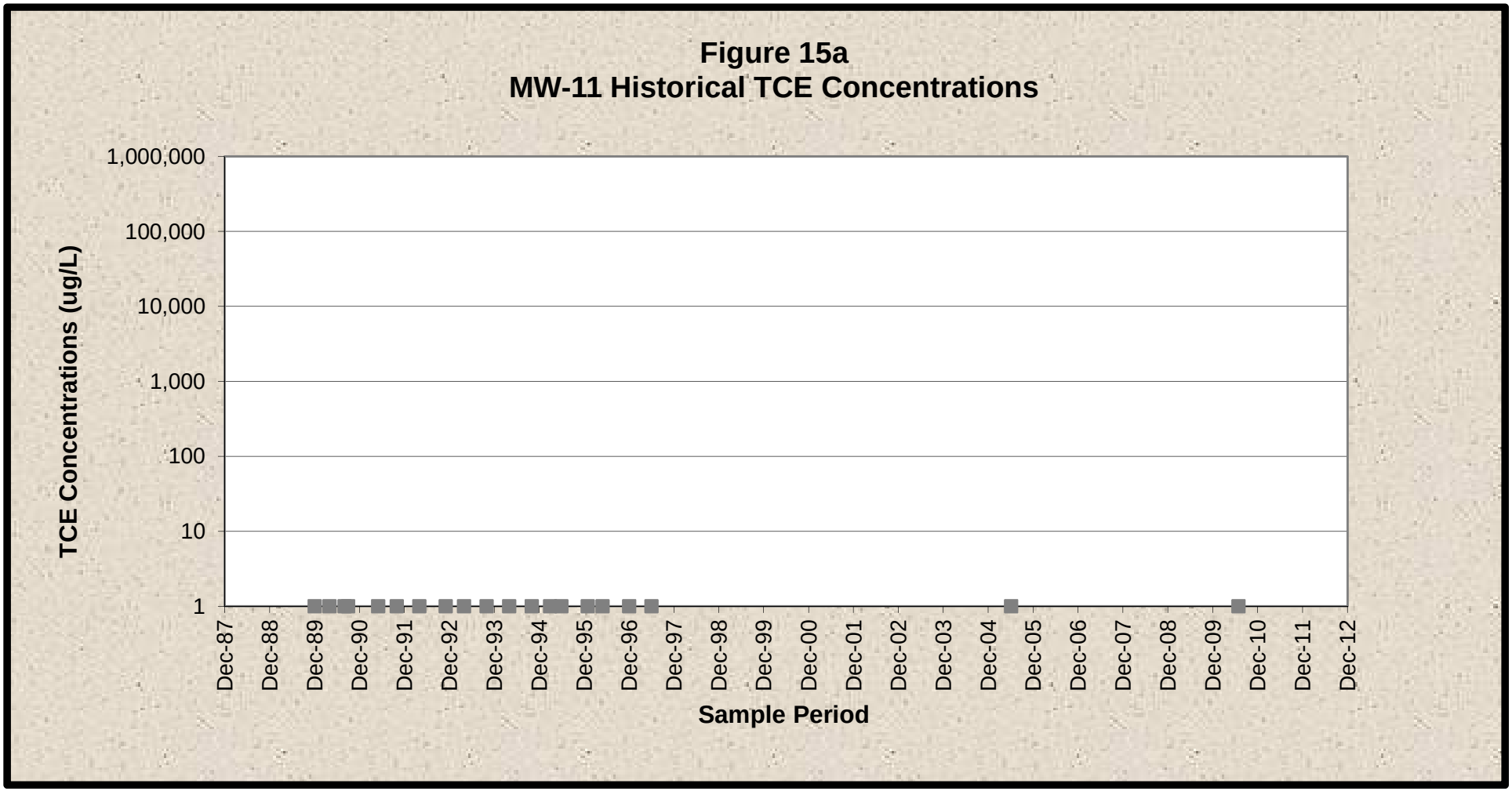


Figure 15b
MW-21 Historical TCE Concentrations

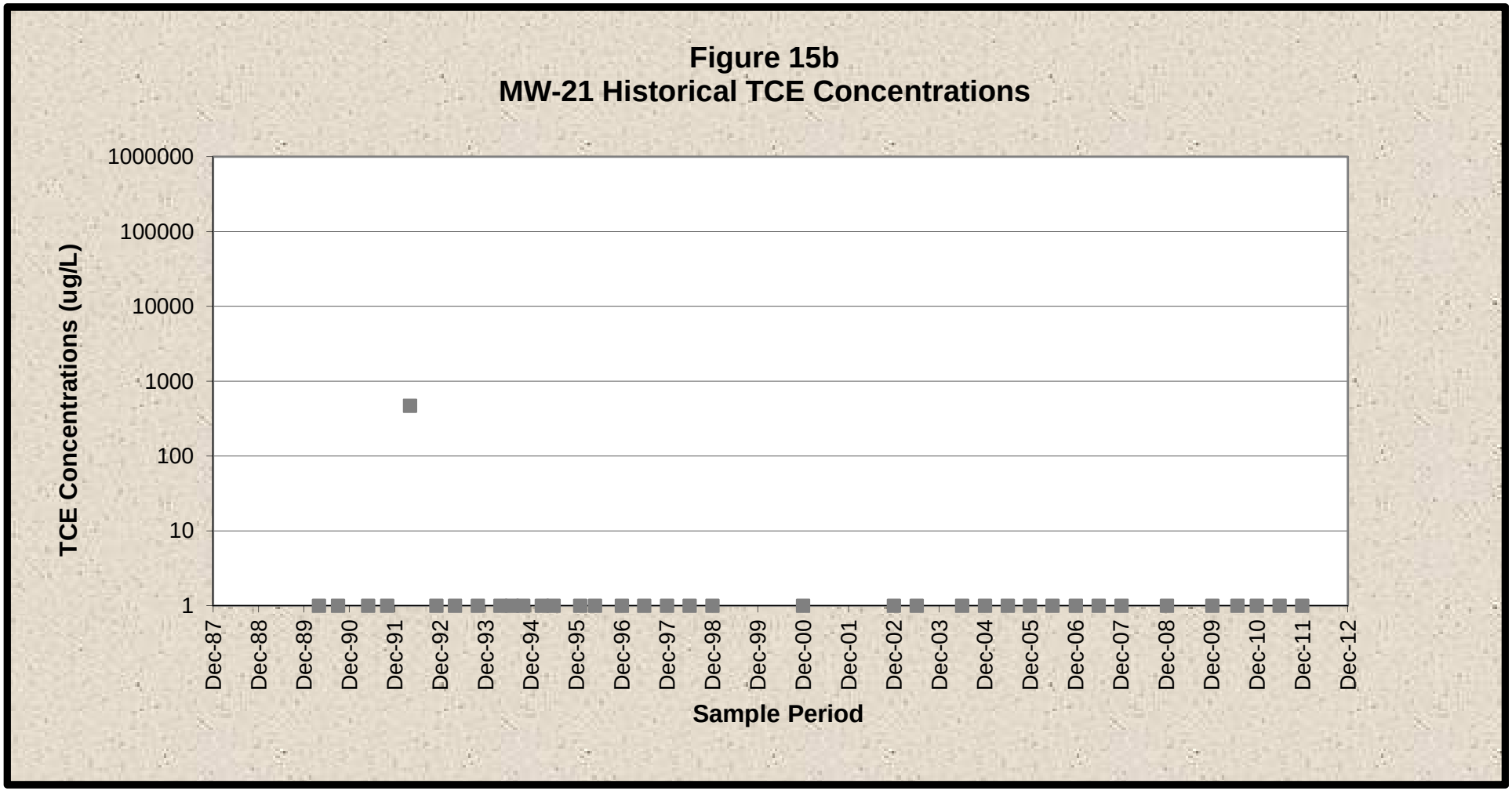


Figure 15c
MW-22 Historical TCE Concentrations

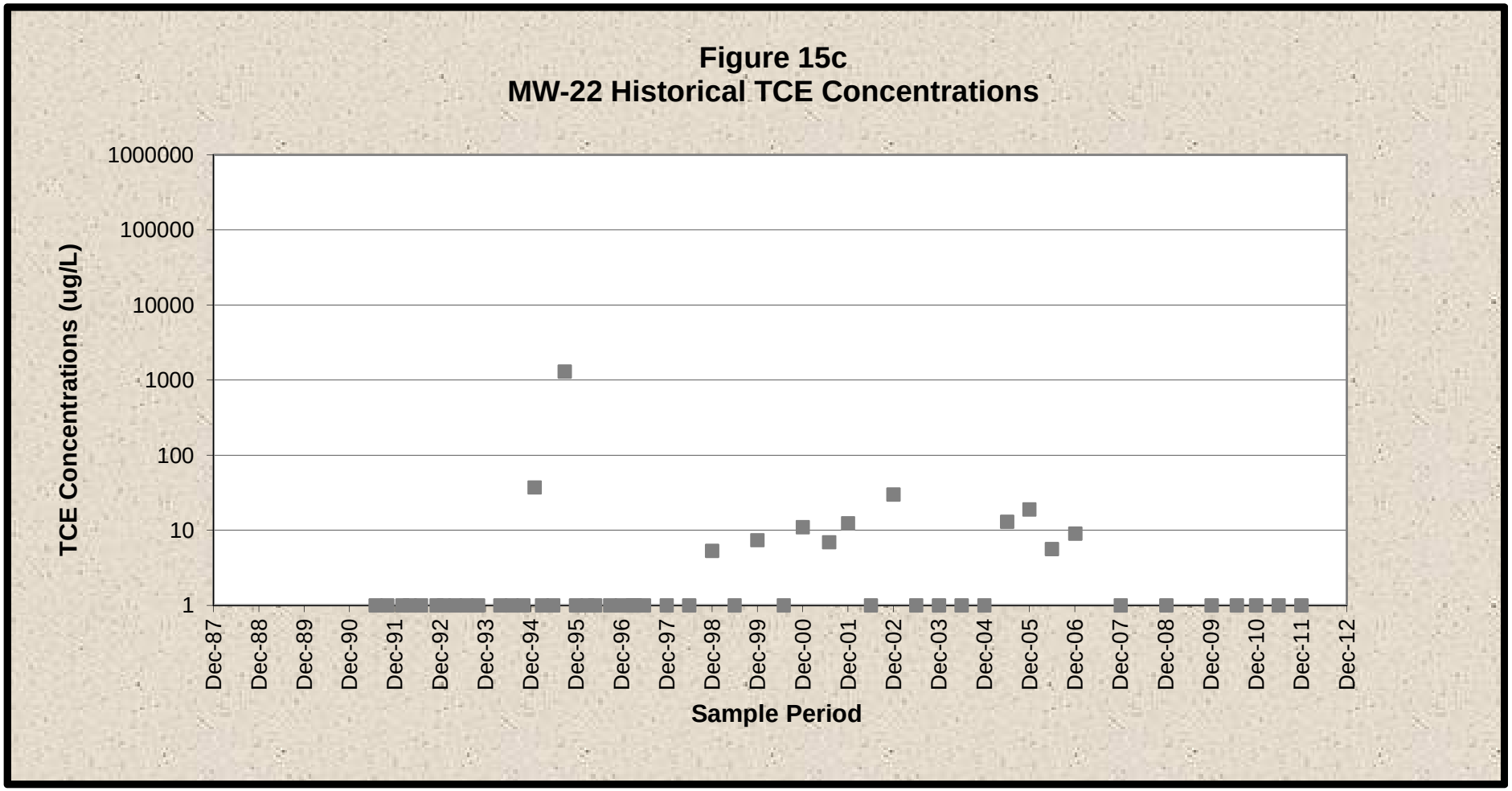


Figure 16a
MW-13 Historical TCE Concentrations

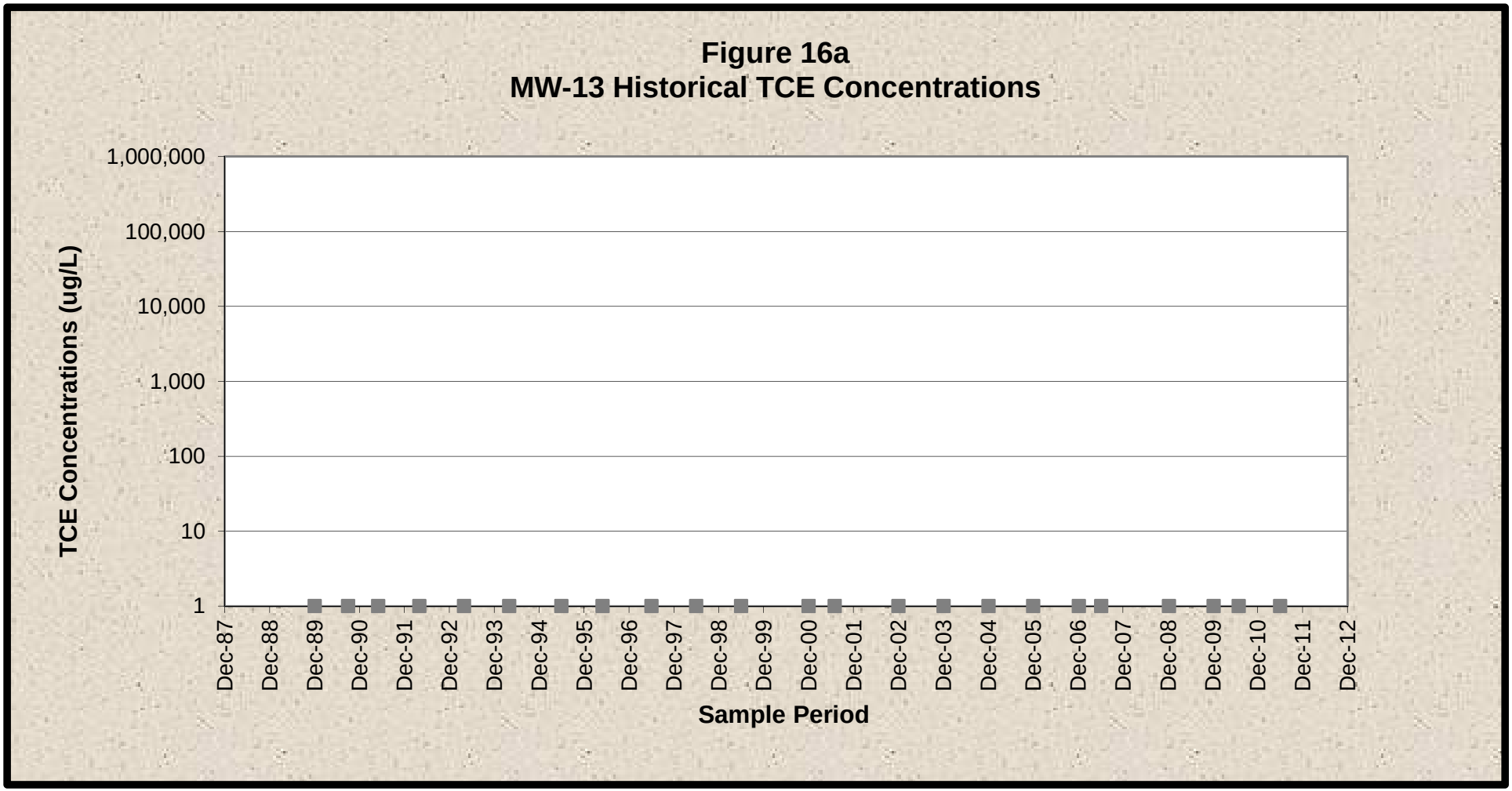


Figure 16b
MW-14 Historical TCE Concentrations

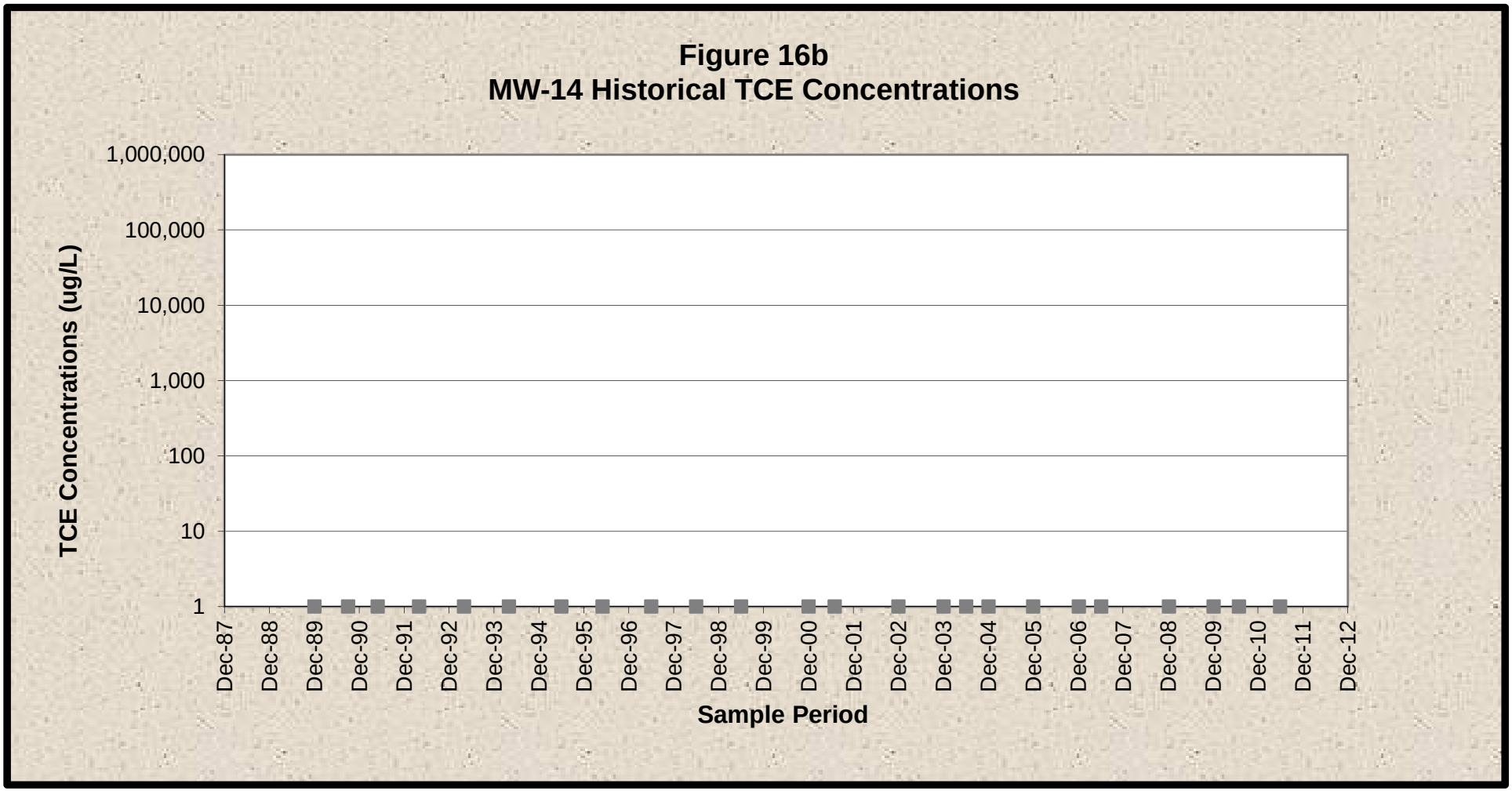


Figure 16c
MW-15 Historical TCE Concentrations

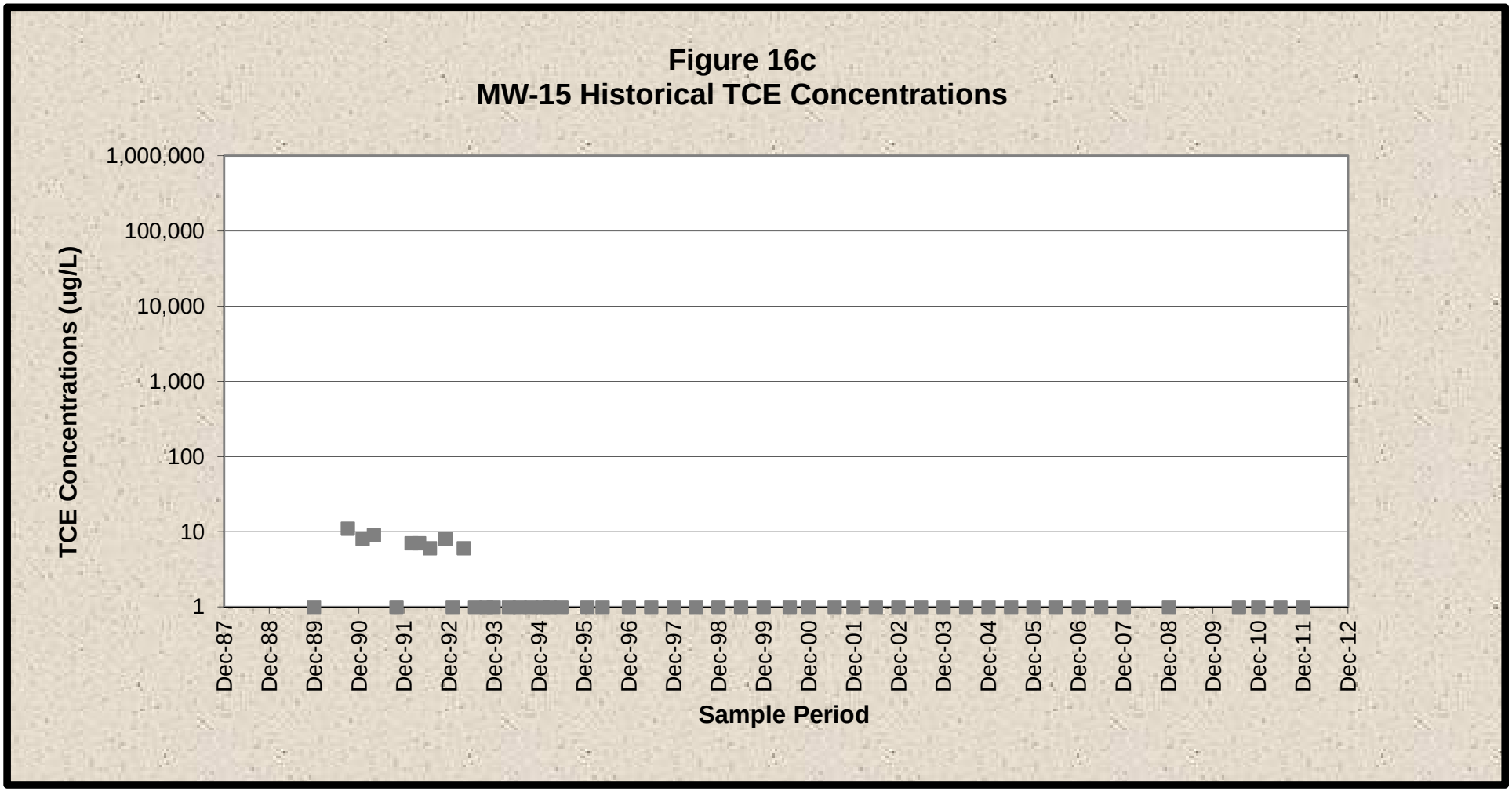


Figure 17a
MW-3A Historical TCE Concentrations

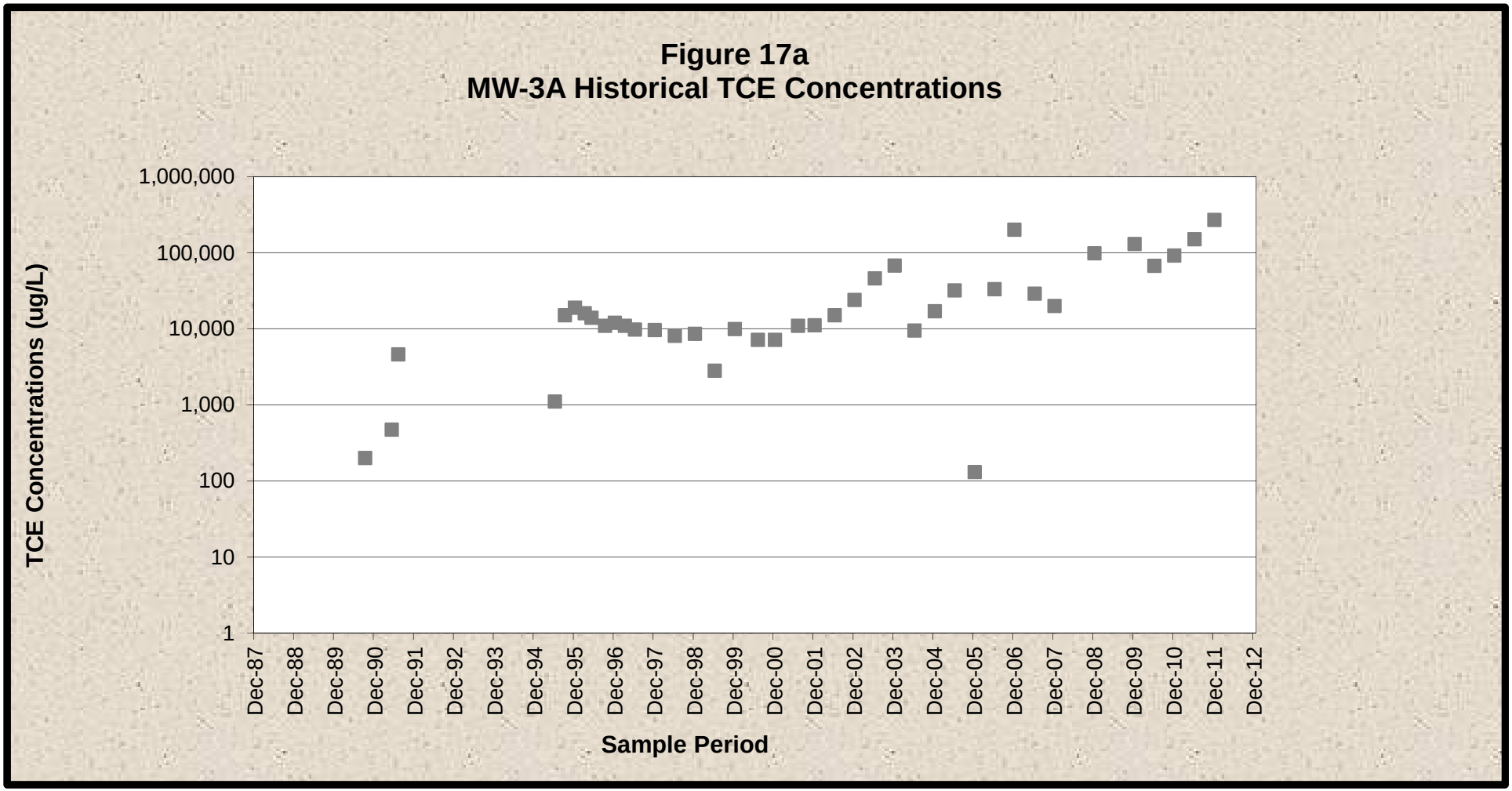


Figure 17b
MW-3B Historical TCE Concentrations

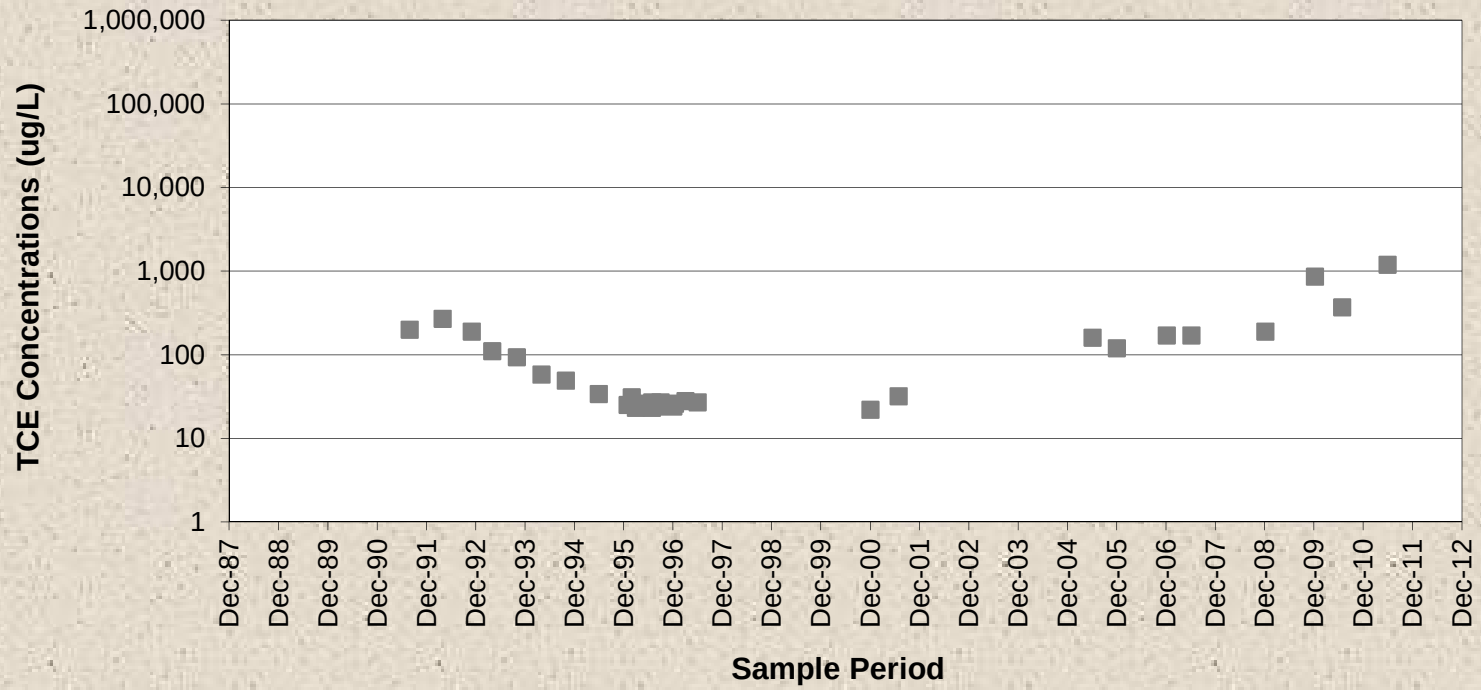


Figure 17c
MW-6 Historical TCE Concentrations

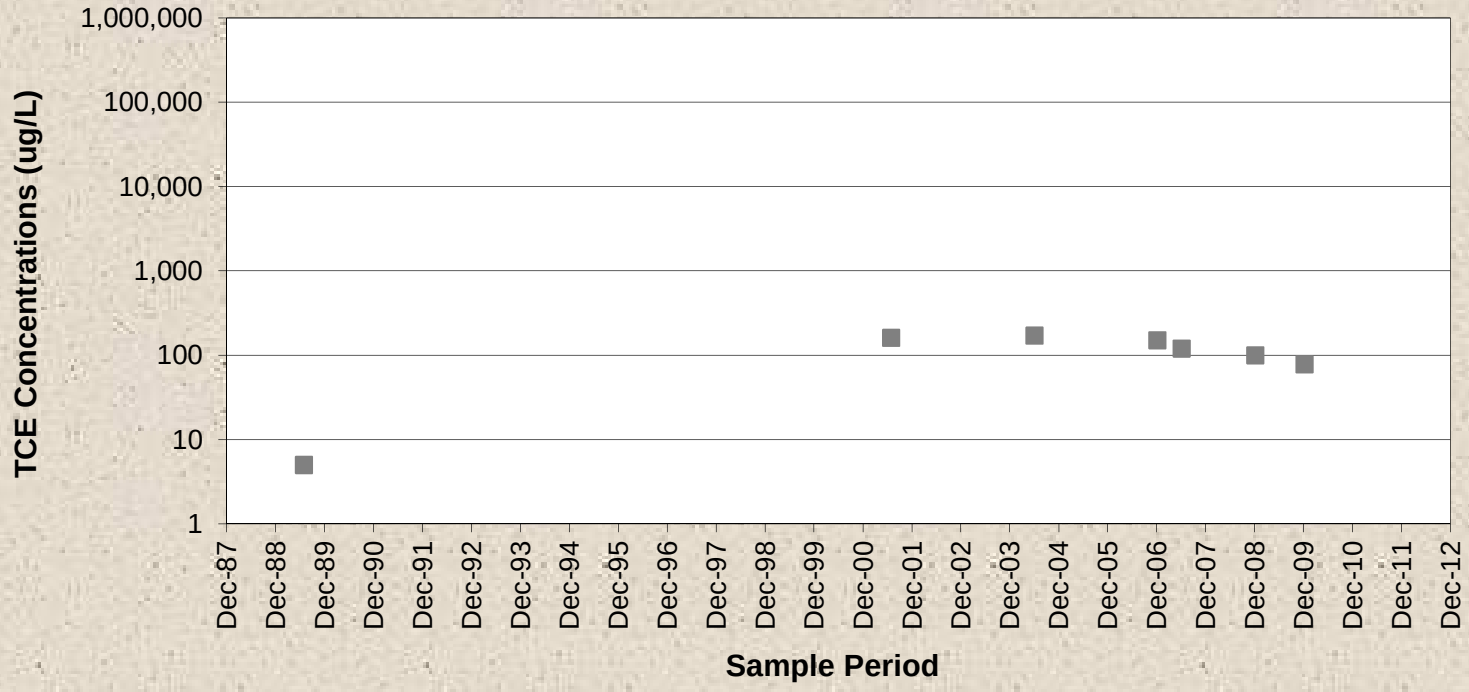
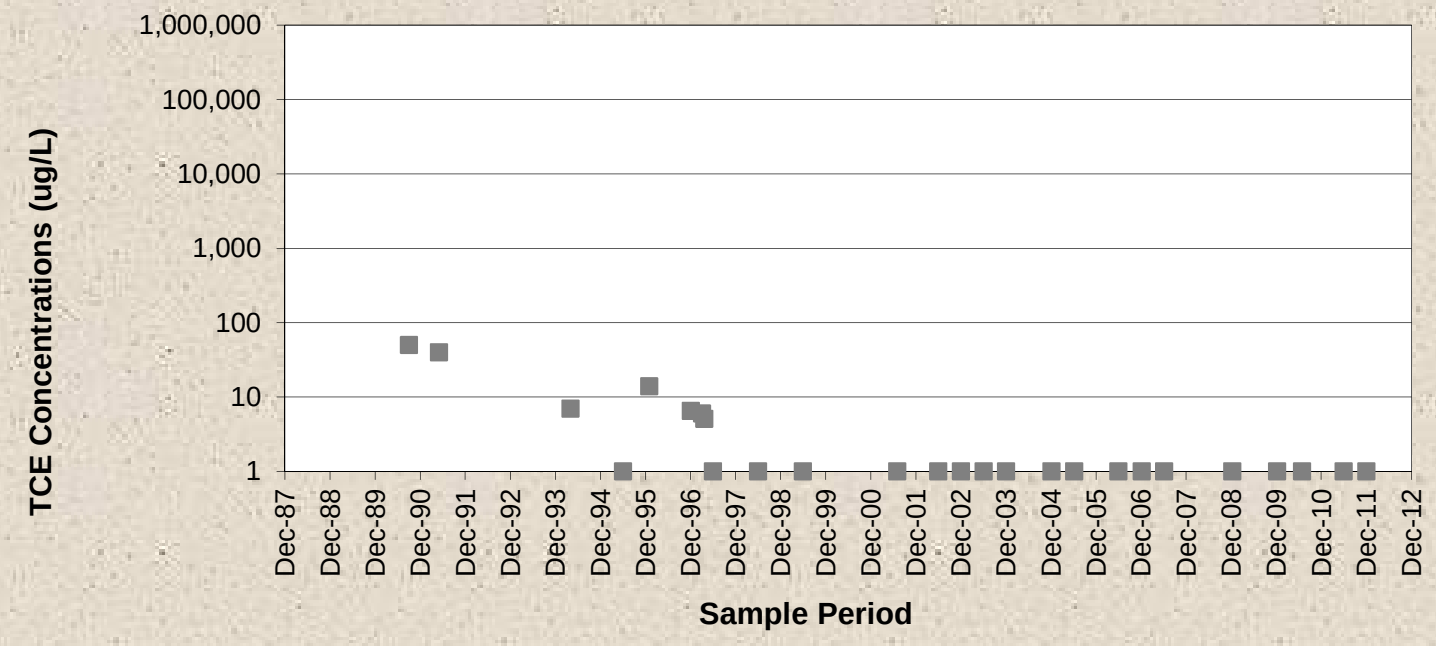


Figure 17d
MW-12A Historical TCE Concentrations



APPENDIX A

TCE Recovery and Discharge Calculations

RHEEM MANUFACTURING COMPANY - MILLEDGEVILLE, GEORGIA
Appendix A
TCE Recovery and Discharge Calculations
January 2011 to December 2011

Average Monthly Flow Rates at Each Recovery Well (gpm)

Monitoring Period	RW-1		RW-2		RW-3		RW-4		Total Recovery Wells	
	Total Flow (gal)	Avg Flow (gpm)	Total Flow (gal)	Avg Flow (gpm)	Total Flow (gal)	Avg Flow (gpm)	Total Flow (gal)	Avg Flow (gpm)	Total Flow (gal)	Avg Flow (gpm)
January	45,759	1.03	274,806	6.16	60,342	1.35	375,561	8.41	756,468	16.95
February	40,940	1.02	249,797	6.20	41,665	1.03	339,374	8.42	671,776	16.66
March	37,946	0.85	260,621	5.84	45,570	1.02	375,682	8.42	719,819	16.12
April	38,138	0.88	196,966	4.56	42,249	0.98	353,422	8.18	630,775	14.60
May	28,041	0.63	244,058	5.47	42,326	0.95	327,629	7.34	642,054	14.38
June	40,335	0.93	260,735	6.04	39,327	0.91	150,047	3.47	490,444	11.35
July	41,636	0.93	249,490	5.59	41,437	0.93	286,213	6.41	618,776	13.86
August	39,050	0.87	228,001	5.11	43,582	0.98	279,689	6.27	590,322	13.22
September	36,304	0.84	217,914	5.04	54,226	1.26	267,254	6.19	575,698	13.33
October	37,400	0.84	233,620	5.23	56,194	1.26	290,212	6.50	617,426	13.83
November	35,228	0.82	219,255	5.08	51,700	1.20	271,234	6.28	577,417	13.37
December	34,729	0.78	227,131	5.09	49,450	1.11	282,244	6.32	593,554	13.30
Average Groundwater Flow (gpm)		**0.87**		**5.45**		**1.08**		**6.85**		**14.25**
Total Groundwater Recovered (gal)	**455,506**		**2,862,394**		**568,068**		**3,598,561**		**7,484,529**	

Total Groundwater Volume Recovered During Reporting Period = 7,484,529 gal

TCE Effluent Concentrations and Flow Rates at the Overflow Weir

Monitoring Period	TCE Concentration Monthly Average (ug/L)	Effluent Flow to POTW* Total Flow (gal)	Effluent Flow Rate* Average (gpm)	TCE Discharge Average (lb/day)
January	12,000	756,468	16.95	2.44
February	11,000	671,776	16.66	2.20
March	11,000	719,819	16.12	2.13
April	7,800	630,775	14.13	1.32
May	6,800	642,054	14.38	1.18
June	5,400	490,444	10.99	0.71
July	3,200	618,776	13.86	0.53
August	9,600	590,322	13.22	1.53
September	9,600	575,698	13.33	1.54
October	9,300	617,426	14.29	1.60
November	5,800	577,417	13.37	0.93
December	10,000	593,554	13.74	1.65
Annual Average / Total	**8,458**	**7,484,529**	**14.25**	**1.45**

* = Based on recovery well water meter readings which were higher than the sewer discharge meter readings.

Conversion of Average TCE Concentration (ug/L) to (lb/day)

14.25	gal/min	x	3.79	L/gal	=	53.96 L/min
53.96	L/min	x	60	min/hour	=	3237.309 L/hour
3237.31	L/hour	x	24	hrs/day	=	77,695 L/day
77,695	L/day	x	8.458	mg/L	=	657,174 mg/day
657,174	mg/day	x	0.001	g/mg	=	657.17 g/day
657.17	g/day	x	0.0022	lb/g	=	1.45 lb/day

Total Weight of TCE Discharged to POTW = 528.8 lbs
1.45 lb/day * 365 days

Total Weight of TCE Recovered = 1057.6 lbs
Based on diversion of approximately 50% of recovered groundwater through the air stripper

APPENDIX B

Monitoring Well Analytical Data (December 2011 Sampling Event)

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

December 23, 2011

Justin Vickery
Environmental Planning Specialists, Inc.
1050 Crown Pointe Parkway
Atlanta GA 30338

TEL: (404) 315-9113
FAX: (404) 315-8509

RE: Rheem

Dear Justin Vickery: Order No: 1112G76

Analytical Environmental Services, Inc. received 25 samples on 12/16/2011 4:10:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/11-06/30/12.
-AIHA Certification ID #100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/13.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

James Forrest
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3785 Presidential Parkway, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1112676

Date: 12/16/11 Page 1 of 2

COMPANY: EPS, Inc.

ADDRESS: 1050 Crowne Pointe Parkway, suite 550 Atlanta, GA 30338

PHONE: (404) 315-9113

FAX:

SAMPLED BY: Jeff Dennis / Ben Crowe

SIGNATURE:

ANALYSIS REQUESTED

TCE (only)

PRESERVATION (See codes)

H+I

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	REMARKS	No # of Containers
1	11247-MW-8	12/13/11	1130	✓		GW		2
2	11347-MW-15	12/13/11	1140	✓		GW		2
3	11347-MW-19	12/13/11	1500	✓		GW		2
4	11347-MW-32	12/13/11	1535	✓		GW		2
5	11347-MW-21	12/13/11	1550	✓		GW		2
6	11348-MW-12A	12/14/11	0935	✓		GW		2
7	11348-MW-31	12/14/11	1125	✓		GW		2
8	11348-MW-30	12/14/11	1140	✓		GW		2
9	11348-MW-10	12/14/11	1510	✓		GW		2
10	11348-MW-25	12/14/11	1630	✓		GW		2
11	11348-MW-29	12/14/11	1645	✓		GW		2
12	11348-MW-26	12/14/11	1700	✓		GW		2
13	11348-MW-22	12/14/11	1840	✓		GW		2
14	11349-MW-12	12/15/11	1110	✓		GW		2

RELINQUISHED BY / DATE/TIME
1: 12/16/11 1615
2:
3:

RECEIVED BY / DATE/TIME
1: 12/16/11
2: 4:10
3:

SPECIAL INSTRUCTIONS/COMMENTS: Analyze for TCE only.

SHIPMENT METHOD
OUT / / VIA
IN / / VIA
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER

PROJECT INFORMATION
PROJECT NAME: Rheem
PROJECT #:
SITE ADDRESS:
SEND REPORT TO: juickery@enplanning.com
INVOICE TO (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers: 28

Turnaround Time Request
● Standard 5 Business Days
○ 2 Business Day Rush
○ Next Business Day Rush
○ Same Day Rush (auth req.)
○ Other

STATE PROGRAM (if any):
E-mail? Y / N, Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3785 Presidential Parkway, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1112G76

Date: 12/16/11 Page 2 of 2

COMPANY: EPS, Inc.

ADDRESS: 1050 Crowne Point Parkway, suite 550 Atlanta, GA 30338

PHONE: (404) 315-9113

FAX:

SAMPLED BY: Jeff Dennis / Ben Crowe

SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	TCE (only)	PRESERVATION (See codes) H+S	REMARKS	No # of Containers
1	11349-MW-33	12/15/11	1155	✓		GW	✓	✓		2
2	11349-MW-17	12/15/11	1410	✓		GW	✓	✓		2
3	11349-MW-27	12/15/11	1515	✓		GW	✓	✓		2
4	11349-MW-24	12/15/11	1550	✓		GW	✓	✓		2
5	11349-MW-7	12/15/11	1640	✓		GW	✓	✓		2
6	11349-MW-28	12/15/11	1510	✓		GW	✓	✓		2
7	11349-DUP 1	12/15/11		✓		GW	✓	✓		2
8	11350-MW-3A	12/16/11	0915	✓		GW	✓	✓		2
9	11350-Rinsate	12/16/11	1235	✓		W	✓	✓		2
10	11350-Effluent	12/16/11	1245	✓		WW	✓	✓		2
11	Trip Blank						✓	✓		2
12										
13										
14										

ANALYSIS REQUESTED

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	12/16/11 1610	1:	12/16/11 4:10
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: Rheem

PROJECT #:

SITE ADDRESS:

SEND REPORT TO: jvickery@envplanning.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 22

Turnaround Time Request
- ● Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ○ Other

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:
Analyze for TCE only.

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S.M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc

Date: 28-Dec-11

Client: Environmental Planning Specialists, Inc.
Project: Rheem
Lab ID: 1112G76

Case Narrative

Volatile Organic Compounds Analysis by Method 8260B:

Percent recovery for the internal standard compound 1,4-Dichlorobenzene-d4 on sample 1112G76-021A was outside control limits biased low due to suspected matrix interference.

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11247-MW-8
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/13/2011 11:30:00 AM
Lab ID:	1112G76-001A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	155743	1	12/21/2011 16:27	SB
Surr: 4-Bromofluorobenzene	84.8	67.4-123		%REC	155743	1	12/21/2011 16:27	SB
Surr: Dibromofluoromethane	107	75.5-128		%REC	155743	1	12/21/2011 16:27	SB
Surr: Toluene-d8	83.5	70-120		%REC	155743	1	12/21/2011 16:27	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11347-MW-15
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/13/2011 11:40:00 AM
Lab ID:	1112G76-002A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	155743	1	12/21/2011 18:20	SB
Surr: 4-Bromofluorobenzene	90.6	67.4-123		%REC	155743	1	12/21/2011 18:20	SB
Surr: Dibromofluoromethane	101	75.5-128		%REC	155743	1	12/21/2011 18:20	SB
Surr: Toluene-d8	85.1	70-120		%REC	155743	1	12/21/2011 18:20	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11347-MW-19
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/13/2011 3:00:00 PM
Lab ID:	1112G76-003A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	155743	1	12/21/2011 18:48	SB
Surr: 4-Bromofluorobenzene	82.1	67.4-123		%REC	155743	1	12/21/2011 18:48	SB
Surr: Dibromofluoromethane	100	75.5-128		%REC	155743	1	12/21/2011 18:48	SB
Surr: Toluene-d8	80.1	70-120		%REC	155743	1	12/21/2011 18:48	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11347-MW-32
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/13/2011 3:35:00 PM
Lab ID:	1112G76-004A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	155743	1	12/22/2011 16:45	SB
Surr: 4-Bromofluorobenzene	80.6	67.4-123		%REC	155743	1	12/22/2011 16:45	SB
Surr: Dibromofluoromethane	103	75.5-128		%REC	155743	1	12/22/2011 16:45	SB
Surr: Toluene-d8	96.3	70-120		%REC	155743	1	12/22/2011 16:45	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11347-MW-21
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/13/2011 3:50:00 PM
Lab ID:	1112G76-005A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	155743	1	12/21/2011 19:16	SB
Surr: 4-Bromofluorobenzene	83.6	67.4-123		%REC	155743	1	12/21/2011 19:16	SB
Surr: Dibromofluoromethane	104	75.5-128		%REC	155743	1	12/21/2011 19:16	SB
Surr: Toluene-d8	87.1	70-120		%REC	155743	1	12/21/2011 19:16	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11348-MW-12A
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/14/2011 9:35:00 AM
Lab ID:	1112G76-006A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	155743	1	12/21/2011 19:44	SB
Surr: 4-Bromofluorobenzene	83.2	67.4-123		%REC	155743	1	12/21/2011 19:44	SB
Surr: Dibromofluoromethane	108	75.5-128		%REC	155743	1	12/21/2011 19:44	SB
Surr: Toluene-d8	88.8	70-120		%REC	155743	1	12/21/2011 19:44	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11348-MW-31
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/14/2011 11:25:00 AM
Lab ID:	1112G76-007A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	155743	1	12/22/2011 17:13	SB
Surr: 4-Bromofluorobenzene	81	67.4-123		%REC	155743	1	12/22/2011 17:13	SB
Surr: Dibromofluoromethane	103	75.5-128		%REC	155743	1	12/22/2011 17:13	SB
Surr: Toluene-d8	97.3	70-120		%REC	155743	1	12/22/2011 17:13	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11348-MW-30
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/14/2011 11:40:00 AM
Lab ID:	1112G76-008A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	155743	1	12/21/2011 20:13	SB
Surr: 4-Bromofluorobenzene	83	67.4-123		%REC	155743	1	12/21/2011 20:13	SB
Surr: Dibromofluoromethane	105	75.5-128		%REC	155743	1	12/21/2011 20:13	SB
Surr: Toluene-d8	86.9	70-120		%REC	155743	1	12/21/2011 20:13	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11348-MW-10
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/14/2011 3:10:00 PM
Lab ID:	1112G76-009A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	8.6	5.0		ug/L	155743	1	12/21/2011 20:41	SB
Surr: 4-Bromofluorobenzene	121	67.4-123		%REC	155743	1	12/21/2011 20:41	SB
Surr: Dibromofluoromethane	112	75.5-128		%REC	155743	1	12/21/2011 20:41	SB
Surr: Toluene-d8	90.5	70-120		%REC	155743	1	12/21/2011 20:41	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11348-MW-25
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/14/2011 4:30:00 PM
Lab ID:	1112G76-010A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	155743	1	12/21/2011 21:10	SB
Surr: 4-Bromofluorobenzene	80.7	67.4-123		%REC	155743	1	12/21/2011 21:10	SB
Surr: Dibromofluoromethane	105	75.5-128		%REC	155743	1	12/21/2011 21:10	SB
Surr: Toluene-d8	87.3	70-120		%REC	155743	1	12/21/2011 21:10	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11348-MW-29
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/14/2011 4:45:00 PM
Lab ID:	1112G76-011A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	155743	1	12/21/2011 21:38	SB
Surr: 4-Bromofluorobenzene	87.9	67.4-123		%REC	155743	1	12/21/2011 21:38	SB
Surr: Dibromofluoromethane	108	75.5-128		%REC	155743	1	12/21/2011 21:38	SB
Surr: Toluene-d8	89.1	70-120		%REC	155743	1	12/21/2011 21:38	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11348-MW-26
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/14/2011 5:00:00 PM
Lab ID:	1112G76-012A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	155743	1	12/22/2011 08:28	SB
Surr: 4-Bromofluorobenzene	86.5	67.4-123		%REC	155743	1	12/22/2011 08:28	SB
Surr: Dibromofluoromethane	115	75.5-128		%REC	155743	1	12/22/2011 08:28	SB
Surr: Toluene-d8	93.6	70-120		%REC	155743	1	12/22/2011 08:28	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11348-MW-22
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/14/2011 6:40:00 PM
Lab ID:	1112G76-013A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	155743	1	12/22/2011 00:56	SB
Surr: 4-Bromofluorobenzene	82.9	67.4-123		%REC	155743	1	12/22/2011 00:56	SB
Surr: Dibromofluoromethane	114	75.5-128		%REC	155743	1	12/22/2011 00:56	SB
Surr: Toluene-d8	92.8	70-120		%REC	155743	1	12/22/2011 00:56	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11349-MW-12
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/15/2011 11:10:00 AM
Lab ID:	1112G76-014A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	20	5.0		ug/L	155743	1	12/22/2011 01:24	SB
Surr: 4-Bromofluorobenzene	82	67.4-123		%REC	155743	1	12/22/2011 01:24	SB
Surr: Dibromofluoromethane	119	75.5-128		%REC	155743	1	12/22/2011 01:24	SB
Surr: Toluene-d8	89.9	70-120		%REC	155743	1	12/22/2011 01:24	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11349-MW-33
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/15/2011 11:55:00 AM
Lab ID:	1112G76-015A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	64	5.0		ug/L	155743	1	12/22/2011 17:42	SB
Surr: 4-Bromofluorobenzene	80.2	67.4-123		%REC	155743	1	12/22/2011 17:42	SB
Surr: Dibromofluoromethane	107	75.5-128		%REC	155743	1	12/22/2011 17:42	SB
Surr: Toluene-d8	97.3	70-120		%REC	155743	1	12/22/2011 17:42	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11349-MW-17
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/15/2011 2:10:00 PM
Lab ID:	1112G76-016A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	620	50		ug/L	155743	10	12/22/2011 15:48	SB
Surr: 4-Bromofluorobenzene	80.5	67.4-123		%REC	155743	10	12/22/2011 15:48	SB
Surr: Dibromofluoromethane	103	75.5-128		%REC	155743	10	12/22/2011 15:48	SB
Surr: Toluene-d8	96.1	70-120		%REC	155743	10	12/22/2011 15:48	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11349-MW-27
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/15/2011 3:15:00 PM
Lab ID:	1112G76-017A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	60	5.0		ug/L	155743	1	12/22/2011 01:53	SB
Surr: 4-Bromofluorobenzene	85.6	67.4-123		%REC	155743	1	12/22/2011 01:53	SB
Surr: Dibromofluoromethane	116	75.5-128		%REC	155743	1	12/22/2011 01:53	SB
Surr: Toluene-d8	90.4	70-120		%REC	155743	1	12/22/2011 01:53	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11349-MW-24
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/15/2011 3:50:00 PM
Lab ID:	1112G76-018A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	10	5.0		ug/L	155743	1	12/22/2011 02:21	SB
Surr: 4-Bromofluorobenzene	85.2	67.4-123		%REC	155743	1	12/22/2011 02:21	SB
Surr: Dibromofluoromethane	114	75.5-128		%REC	155743	1	12/22/2011 02:21	SB
Surr: Toluene-d8	92	70-120		%REC	155743	1	12/22/2011 02:21	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11349-MW-7
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/15/2011 4:40:00 PM
Lab ID:	1112G76-019A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	2100	100		ug/L	155743	20	12/22/2011 15:19	SB
Surr: 4-Bromofluorobenzene	80.6	67.4-123		%REC	155743	20	12/22/2011 15:19	SB
Surr: Dibromofluoromethane	102	75.5-128		%REC	155743	20	12/22/2011 15:19	SB
Surr: Toluene-d8	96.6	70-120		%REC	155743	20	12/22/2011 15:19	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11349-MW-28
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/15/2011 3:10:00 PM
Lab ID:	1112G76-020A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	2500	100		ug/L	155743	20	12/22/2011 18:38	SB
Surr: 4-Bromofluorobenzene	82.3	67.4-123		%REC	155743	20	12/22/2011 18:38	SB
Surr: Dibromofluoromethane	105	75.5-128		%REC	155743	20	12/22/2011 18:38	SB
Surr: Toluene-d8	99.8	70-120		%REC	155743	20	12/22/2011 18:38	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11349-DUP1
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/15/2011
Lab ID:	1112G76-021A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	2400	100		ug/L	155782	20	12/23/2011 11:18	SB
Surr: 4-Bromofluorobenzene	93.9	67.4-123		%REC	155782	20	12/23/2011 11:18	SB
Surr: Dibromofluoromethane	114	75.5-128		%REC	155782	20	12/23/2011 11:18	SB
Surr: Toluene-d8	90.7	70-120		%REC	155782	20	12/23/2011 11:18	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11350-MW-3A
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/16/2011 9:15:00 AM
Lab ID:	1112G76-022A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B (SW5030B)								
Trichloroethene	270000	25000		ug/L	155782	5000	12/22/2011 14:22	SB
Surr: 4-Bromofluorobenzene	82.7	67.4-123		%REC	155782	5000	12/22/2011 14:22	SB
Surr: Dibromofluoromethane	99.9	75.5-128		%REC	155782	5000	12/22/2011 14:22	SB
Surr: Toluene-d8	94.7	70-120		%REC	155782	5000	12/22/2011 14:22	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11350-RINSATE
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/16/2011 12:35:00 PM
Lab ID:	1112G76-023A	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	155782	1	12/22/2011 07:59	SB
Surr: 4-Bromofluorobenzene	83.1	67.4-123		%REC	155782	1	12/22/2011 07:59	SB
Surr: Dibromofluoromethane	121	75.5-128		%REC	155782	1	12/22/2011 07:59	SB
Surr: Toluene-d8	93.8	70-120		%REC	155782	1	12/22/2011 07:59	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	11350-EFFLUENT
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/16/2011 12:45:00 PM
Lab ID:	1112G76-024A	**Matrix:**	Waste Water

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	10000	500		ug/L	155782	100	12/22/2011 14:51	SB
Surr: 4-Bromofluorobenzene	82.4	67.4-123		%REC	155782	100	12/22/2011 14:51	SB
Surr: Dibromofluoromethane	100	75.5-128		%REC	155782	100	12/22/2011 14:51	SB
Surr: Toluene-d8	95.9	70-120		%REC	155782	100	12/22/2011 14:51	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 28-Dec-11

Client:	Environmental Planning Specialists, Inc.	**Client Sample ID:**	TRIP BLANK
Lab Order	1112G76	**Tag Number:**	
Project:	Rheem	**Collection Date:**	12/16/2011
Lab ID:	1112G76-025A	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	155782	1	12/22/2011 00:28	SB
Surr: 4-Bromofluorobenzene	84.8	67.4-123		%REC	155782	1	12/22/2011 00:28	SB
Surr: Dibromofluoromethane	117	75.5-128		%REC	155782	1	12/22/2011 00:28	SB
Surr: Toluene-d8	90.8	70-120		%REC	155782	1	12/22/2011 00:28	SB

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client EPS Work Order Number 1112676

Checklist completed by PLS 12/19/14
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (4°C±2)* Yes ✓ No __

Cooler #1 3.1°C Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Client: Environmental Planning Specialists, Inc.
Project Name: Rheem
Workorder: 1112G76

ANALYTICAL QC SUMMARY REPORT

BatchID: 155743

Sample ID: **MB-155743** Client ID: Units: **ug/L** Prep Date: **12/21/2011** Run No: **211778**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **155743** Analysis Date: **12/21/2011** Seq No: **4429454**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Trichloroethene	BRL	5.0	0	0	0	0	0	0	0	0	
Surr: 4-Bromofluorobenzene	43.20	0	50	0	86.4	67.4	123	0	0	0	
Surr: Dibromofluoromethane	55.47	0	50	0	111	75.5	128	0	0	0	
Surr: Toluene-d8	44.21	0	50	0	88.4	70	120	0	0	0	

Sample ID: **LCS-155743** Client ID: Units: **ug/L** Prep Date: **12/21/2011** Run No: **211778**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **155743** Analysis Date: **12/21/2011** Seq No: **4429452**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Trichloroethene	52.58	5.0	50	0	105	70	130	0	0	0	
Surr: 4-Bromofluorobenzene	54.74	0	50	0	109	67.4	123	0	0	0	
Surr: Dibromofluoromethane	54.43	0	50	0	109	75.5	128	0	0	0	
Surr: Toluene-d8	54.78	0	50	0	110	70	120	0	0	0	

Sample ID: **1112G76-001AMS** Client ID: **11247-MW-8** Units: **ug/L** Prep Date: **12/21/2011** Run No: **211778**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **155743** Analysis Date: **12/21/2011** Seq No: **4430151**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Trichloroethene	61.62	5.0	50	0	123	68.3	149	0	0	0	
Surr: 4-Bromofluorobenzene	55.67	0	50	0	111	67.4	123	0	0	0	
Surr: Dibromofluoromethane	48.53	0	50	0	97.1	75.5	128	0	0	0	
Surr: Toluene-d8	49.24	0	50	0	98.5	70	120	0	0	0	

Sample ID: **1112G76-001AMSD** Client ID: **11247-MW-8** Units: **ug/L** Prep Date: **12/21/2011** Run No: **211778**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **155743** Analysis Date: **12/21/2011** Seq No: **4430155**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Trichloroethene	67.91	5.0	50	0	136	68.3	149	61.62	9.71	17.7	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Environmental Planning Specialists, Inc.
Project Name: Rheem
Workorder: 1112G76

ANALYTICAL QC SUMMARY REPORT

BatchID: 155743

Sample ID: **1112G76-001AMSD** Client ID: **11247-MW-8** Units: **ug/L** Prep Date: **12/21/2011** Run No: **211778**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **155743** Analysis Date: **12/21/2011** Seq No: **4430155**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 4-Bromofluorobenzene	51.73	0	50	0	103	67.4	123	55.67	0	0	
Surr: Dibromofluoromethane	49.95	0	50	0	99.9	75.5	128	48.53	0	0	
Surr: Toluene-d8	50.52	0	50	0	101	70	120	49.24	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Environmental Planning Specialists, Inc.
Project Name: Rheem
Workorder: 1112G76

ANALYTICAL QC SUMMARY REPORT

BatchID: 155782

Sample ID: **MB-155782**	Client ID:				Units: **ug/L**		Prep Date: **12/21/2011**		Run No: **211876**
SampleType: **MBLK**	TestCode: **TCL VOLATILE ORGANICS SW8260B**				BatchID: **155782**		Analysis Date: **12/21/2011**		Seq No: **4430230**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Trichloroethene	BRL	5.0	0	0	0	0	0	0	0	0	
Surr: 4-Bromofluorobenzene	42.44	0	50	0	84.9	67.4	123	0	0	0	
Surr: Dibromofluoromethane	51.75	0	50	0	104	75.5	128	0	0	0	
Surr: Toluene-d8	43.17	0	50	0	86.3	70	120	0	0	0	

Sample ID: **LCS-155782**	Client ID:				Units: **ug/L**		Prep Date: **12/21/2011**		Run No: **211876**
SampleType: **LCS**	TestCode: **TCL VOLATILE ORGANICS SW8260B**				BatchID: **155782**		Analysis Date: **12/21/2011**		Seq No: **4430227**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Trichloroethene	54.33	5.0	50	0	109	70	130	0	0	0	
Surr: 4-Bromofluorobenzene	52.94	0	50	0	106	67.4	123	0	0	0	
Surr: Dibromofluoromethane	50.48	0	50	0	101	75.5	128	0	0	0	
Surr: Toluene-d8	51.41	0	50	0	103	70	120	0	0	0	

Sample ID: **1112G98-009AMS**	Client ID:				Units: **ug/L**		Prep Date: **12/21/2011**		Run No: **211876**
SampleType: **MS**	TestCode: **TCL VOLATILE ORGANICS SW8260B**				BatchID: **155782**		Analysis Date: **12/22/2011**		Seq No: **4430259**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Trichloroethene	3750	250	2500	1012	110	68.3	149	0	0	0	
Surr: 4-Bromofluorobenzene	2936	0	2500	0	117	67.4	123	0	0	0	
Surr: Dibromofluoromethane	2800	0	2500	0	112	75.5	128	0	0	0	
Surr: Toluene-d8	2732	0	2500	0	109	70	120	0	0	0	

Sample ID: **1112G98-009AMSD**	Client ID:				Units: **ug/L**		Prep Date: **12/21/2011**		Run No: **211876**
SampleType: **MSD**	TestCode: **TCL VOLATILE ORGANICS SW8260B**				BatchID: **155782**		Analysis Date: **12/22/2011**		Seq No: **4430264**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Trichloroethene	4194	250	2500	1012	127	68.3	149	3750	11.2	17.7	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Environmental Planning Specialists, Inc.
Project Name: Rheem
Workorder: 1112G76

ANALYTICAL QC SUMMARY REPORT

BatchID: 155782

Sample ID: **1112G98-009AMSD** Client ID:
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B**
Units: **ug/L** Prep Date: **12/21/2011** Run No: **211876**
BatchID: **155782** Analysis Date: **12/22/2011** Seq No: **4430264**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 4-Bromofluorobenzene	2954	0	2500	0	118	67.4	123	2936	0	0	
Surr: Dibromofluoromethane	2884	0	2500	0	115	75.5	128	2800	0	0	
Surr: Toluene-d8	2700	0	2500	0	108	70	120	2732	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

APPENDIX H

Supplement to Update 1, April 17, 2013

Appendix H as of April 2013

Supplement to Rheem Updated VRP Application as of October 10, 2012

Near-term and Anticipated Future Remedial Action Measures

1. Near-term Remedial Action Measures

Near-term remedial actions to be performed by Rheem Manufacturing Company ("Rheem") to address the release of TCE at the facility will include 1) continuance of operation of the pump-and-treat (P&T) recovery system to address the release in the TCE source area and 2) evaluation and implementation of a groundwater treatment system to manage the migration of dissolved TCE.

A. Rheem will continue to operate and maintain the current P&T system in the TCE source area during the forthcoming source area characterization and technology evaluation. The current system is comprised of four recovery wells and a central air-stripper treatment system (Figure 1). At completion of source area characterization and technology evaluation, Rheem will implement the remedial action measure determined to be most appropriate for meeting the goal of source area TCE reduction, whether that is continued operation of the current P&T system, operation of a modified P&T system, or replacement of the P&T system with measures deemed better suited to achieving the source area TCE reduction goal.

B. Near-term remedial actions to manage the migration of dissolved TCE include both additional groundwater assessment along the Property's western boundary and expansion of the Accelerated Remediation Technologies, Inc. ("ART") pilot program initiated in 2012. Rheem intends to install addition well clusters along the Property's western boundary to supplement the current monitoring well network (Figure 2). This will be done to further develop the conceptual site model of the groundwater plume and guide in the placement of additional ART wells. The ART pilot program initiated in 2012 entailed a two-point ART system placed near the centerline of the TCE plume. The pilot system will be expanded and upon completion is anticipated to include a total of five ART wells (Figure 2).

2. Anticipated Future Remedial Action Measures

Future remedial actions are anticipated to include implementation of source area remediation and operation of the ART system to manage the migration of dissolved TCE at the Property's western boundary.

A. Based on the current conceptual site model, source area remediation is expected to include both vadose zone soils and the saturated zone in the TCE source area. As indicated, near-term actions including source area characterization and technology evaluation will guide the future remedial action measures for the TCE source area. Probable remedial action measures to address the source

area were described in the *Voluntary Remediation Program Application, Update 1* (EPS, October 2012). The current P&T system is not considered a comprehensive long-term remedial option as it will not address vadose zone soils and is not expected to sufficiently capture all TCE impacted groundwater migrating to the west/southwest. However, the current system or variation of the system may be used in conjunction with other remedial action options subject to the forthcoming technology review and evaluation.

B. Future remedial action measures to manage the migration of dissolved TCE at the Property's western boundary are anticipated to include operation and maintenance of the 5-point ART system that is expected to be installed in 2013-2014. The 5-point system will be designed to address the centerline of the dissolved TCE plume based on the current conceptual site model of the TCE plume. The ART system may be expanded or supplemented with other measures in the future subject to need, based on an evaluation of the effectiveness of the 5-point system.

Near-Term Remedial Action to Address Source Area TCE
Current Pump-and-Treat System Layout

Environmental Planning Specialists, Inc.

Figure No.1

Near-Term Remedial Actions to Manage Migration of PCE at the Property's Western Boundary

Environmental Planning Specialists, Inc.

Figure No.2