



May 16, 2006

Mr. William Keeney
Vice President
Tierra Energy
7000 North Mopac, Suite 475
Austin, Texas 78731

Subject: **Report of Findings – Limited Subsurface Investigation**
Former Trend Technologies, LLC, Metal Finishing Facility
Hayward, California

Dear Mr. Kuceravy:

This Report of Findings summarizes the Limited Subsurface Investigation completed at the former Trend Technologies, LLC, Metal Finishing facility located at 25101 Clawiter Road in Hayward, California (Site) (Figure 1). The Investigation was conducted to address outstanding issues identified in TRC's Phase I Environmental Site Assessment (Phase I) (TRC, 2005) in support of a potential property transaction, and proceeded in accordance with the Limited Subsurface Investigation Workplan, dated April 24, 2006.

Field investigation activities occurred on Thursday April 27, 2006. As described in the Workplan, the Subsurface Investigation involved installation of shallow soil borings by hand augering in selected locations at the facility, and collection and analysis of soil samples for specific chemical constituents at a State-certified environmental laboratory.

1.0 INTRODUCTION

The Former Trend Metal Finishing Facility is located approximately 200 feet south of Depot Road on Clawiter Road, in Hayward, Alameda County, California (Figure 1). The Site is bounded by Clawiter Road to the east, an industrial fuel service station to the north, industrial facilities to the west, and mixed commercial and industrial use to the south. To the east, beyond Clawiter Road lies a vacant lot and a chiropractic school.

The Site consists of one approximately 100,000 square-foot building, a parking/loading area on the south end and a raised concrete platform (former water treatment area) along the northwestern perimeter on an approximately 7-acre lot (Figure 2). The building occupies most of the central and northwestern portion of the Site.

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1.1 Environmental Issues

The following outstanding environmental issues were identified in the Phase I:

- Although it is unlikely that hydraulic oil or lubricants used by equipment inside the facility would have been able to migrate to soil underlying 6-inch thick concrete observed throughout the building interior, sampling and analysis of the underlying soil was recommended to test for the presence of petroleum hydrocarbons and volatile organic compounds (VOCs).
- Soil in the vicinity of the former water treatment area along the northwestern perimeter should be tested for the presence of petroleum hydrocarbons and VOCs.
- Soil beneath the current and former transformer locations should be tested for the presence of polychlorinated biphenyls (PCBs).
- Soils in the vicinity of the railroad tracks should be tested for the presence of metals, petroleum hydrocarbons and semi-volatile organic compounds (SVOCs).
- Constituents potentially present in the import fill beneath the building and site area should be tested for the presence of metals, pesticides, PCBs, VOCs and petroleum hydrocarbons.
- An investigation of building materials for the presence of asbestos containing material (ACM) and lead-based paint was recommended.

2.0 FIELD INVESTIGATION

The field implementation of the Workplan consisted of installation of seven (7) hand augered soil borings at selected locations and collection of soil samples from each boring for laboratory analysis, as follows:

- Installation of soil borings at three (3) locations along the northern property boundary - external to the northern perimeter of the building - at locations specified in Figure 2. Each of the borings was hand augered directly through soils to an approximate depth of 3.5 feet below grade (fbg). The 3 boring locations included the following:
 - Boring B-1: Near concrete pad observed in northeastern area – between building perimeter and tracks for rail spur
 - Boring B-2: Adjacent to and north of building, between existing transformer and building at northwestern area of facility (adjacent to former water treatment area).
 - Boring B-3: Between current and former transformer pads, adjacent to former water treatment area

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- Installation of soil borings at four (4) locations within the building at locations specified in Figure 2. Each of the borings required prior (5-inch diameter) coring of the reported 6-inch thick concrete to facilitate the hand augering through soils to an approximate depth of 3.5 feet below (sub-concrete) grade. Borings were installed at the following locations, as indicated in Figure 2:
 - Boring B-4: Adjacent to equipment/parts washing area along northern perimeter of building interior in western portion of building
 - Boring B-5: Adjacent to “Utility Trench” in eastern portion of building
 - Boring B-6: Adjacent to equipment footing in western portion of building, approximately 90 feet southeast of Boring B-4
 - Boring B-7: Adjacent to equipment footing in western portion of building, approximately 120 feet south of Boring B-4

Each boring was visually logged in the field for the presence of staining or odor. Soil samples were collected from the following depth intervals:

- 0-0.5 fbg (analyzed by lab)
- 1.5-2.0 fbg (analyzed by lab)
- 3.0-3.5 fbg (not analyzed – samples held pending surface and intermediate depth sample results)¹.

3.0 LABORATORY ANALYSIS

Soil and groundwater samples collected as part of the Subsurface Investigation were preserved in the field and transmitted to a State-certified laboratory under appropriate chain-of-custody procedures and analyzed for the following constituents:

- Total extractable petroleum hydrocarbons as Hydraulic Oil (TEPH-HO) by EPA Method 8015 modified for Hydraulic Oil
- Total extractable petroleum hydrocarbons as Diesel (TEPH-D) by EPA Method 8015 modified for Diesel
- VOCs by EPA Method 8260
- SVOCs by EPA Method 8270 (Boring B-1 samples only)
- PCBs and Pesticides by EPA Method 8080
- CAM 17 Metals by EPA Method 6000/7000 series.

¹ The deep sample from boring B-1 was analyzed to confirm the depth extent of DDT (and related isomers) reported in shallow and intermediate depth samples.

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4.0 SUMMARY OF FINDINGS

TEPH-D was detected in eleven of the submitted samples at concentrations ranging from 1.4 milligrams per kilogram (mg/kg) (B-1 @ 0-0.5 fbgs) to 1,100 mg/kg (B-6 @ 0-0.5 fbgs). TEPH-HO was detected in nine of the samples at concentrations ranging from 57 mg/kg (B-3 @ 1.5-2.0 fbgs) to 2,600 mg/kg (B-6 @ 0-0.5 fbgs). VOCs were detected in B-6 @ 0-0.5 fbgs, and included 1,2,4-trimethylbenzene at 380 micrograms per kilogram ($\mu\text{g}/\text{kg}$), 1,3,5-trimethylbenzene at 170 $\mu\text{g}/\text{kg}$, and total xylenes at 30 $\mu\text{g}/\text{kg}$. No other VOCs were detected in the other samples analyzed. As indicated in Table 1, low but detectable concentrations of pesticides were found in each of the three samples collected from boring B-1. Reported levels of metals detected in the soil samples are generally consistent with naturally occurring levels in regional soils. Table 2 includes a summary of data for metals reported in soil samples.

5.0 EVALUATION OF RESULTS

Organic constituents reported in soil samples collected as part of this investigation include petroleum hydrocarbons, VOCs (trimethylbenzene, xylenes) and pesticides (DDT compounds). In general, the reported levels of these organic constituents appear to be limited to the near surface soil (e.g., 0 to 0.5 fbgs) and at levels below typically accepted thresholds of concern. Reported levels of metals are consistent with typical background levels for area soils. Given the apparent diminished concentrations with depth, impacts to groundwater associated with these findings are likely not significant, if present.

- Petroleum Hydrocarbons – Although reported levels of petroleum hydrocarbons in soils are likely below levels of regulatory concern, the concentrations reported in surface samples collected from borings B-3 and B-6 (e.g., > 1,000 mg/kg) may warrant further evaluation. The reported impacts in these borings appear to diminish significantly with depth, suggesting that the contamination is limited to the surface soil (e.g., less than 0.5 fbgs). Additional evaluation should focus on determination of the nature and extent (laterally) of impacts and appropriate remedial alternatives, as necessary.
- VOCs – Low levels of three VOCs were reported in a single surface soil collected from boring B-6. The reported concentrations of trimethylbenzene and xylenes were approximately 2 to 3 orders of magnitude below applicable preliminary remediation goals (PRGs) established by the USEPA for both residential and industrial land uses. Furthermore, the observed impacts appear to diminish rapidly with depth and are therefore limited to the surface soil (e.g., less than 0.5 fbgs). Additional evaluation would focus on the nature and lateral extent of impacts and appropriate remedial alternatives. Since the impacted soil is situated beneath at least 6 inches of concrete, there is minimal exposure potential for human or environmental contact.
- Pesticides – Low levels of DDT (and isomers DDD, DDE) reported in each of the three samples collected from boring B-1 are approximately 1 order of magnitude

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below applicable PRGs established by the USEPA for both residential and industrial land uses. Although the level reported in the intermediate depth sample was higher than that reported in the shallow sample, the reported concentrations diminished in the deeper sample, suggesting that impacts are limited to the near surface soil.

- Metals – Reported levels of metals in soil samples collected during this investigation are consistent with typical background levels in regional soils.
- PCBs – No detectable levels of PCBs were reported in soil samples collected during this investigation.

6.0 RECOMMENDATIONS

Impacted soil beneath the building (i.e., under the existing concrete in the vicinity of boring B-6) should be further evaluated if and when the building is demolished and concrete removed in order to confirm that the observed VOC impacts are of limited areal and vertical extent. At the present time, there is no direct human exposure potential, nor is there indication that the impacts are widespread. Furthermore, the observed impacts appear to be limited to the surface veneer, thereby indicating that the potential for impacts to underlying groundwater is minimal. It is possible that cleanup of impacted surface soils, if confirmed (e.g., by visual inspection) can be completed incidentally during removal of concrete.

It is likely that reported levels of DDT and its isomers in the shallow soil at boring B-1 are spatially localized (e.g., given the lack of other findings of detectable levels in other samples). As this area was historically used for agriculture, the reported detection of DDT in this area is likely not significant.

The reported presence of petroleum hydrocarbons in the vicinity of borings B-3 and B-6 should be further evaluated to confirm that the impacts are localized and that the magnitude of the impacts is below applicable regulatory thresholds. Followup inspection should also focus on confirmation that observed impacts are limited to surficial soils. At the present time there is no potential for direct exposure to these relatively heavy grade hydrocarbons, nor is there significant likelihood of impact to underlying groundwater. It is also noteworthy that there are no human health toxicity criteria associated with these hydrocarbons, so that future exposure potential would likely not drive the need for remediation. As with the VOCs discussed above, cleanup of impacted surface soils, if confirmed (e.g., by visual inspection of staining) can be completed incidentally during removal of concrete.

As necessary, surveys may be conducted to determine if lead-based paint and/or asbestos containing material are present in the building.

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If you have any questions or comments, please contact me at (925) 688-2473.

Sincerely,



Jonathan E. Scheiner, PhD

Project Manager

Attachments:

Table 1: Summary of Laboratory Results – Organic Constituents

Table 2: Summary of Laboratory Results – Metals

Figure 1: Vicinity Map

Figure 2: Site Map showing boring locations

Appendix: Laboratory Report

cc: Vladislav Kuceravy, E3 Consulting

Steve Ferrara, TRC

TABLES

Table 1
Summary of Soil Sample Analysis-Organics
Former Trend Technologies Metal Finishing Facility
25101 Clawiter Road, Hayward, California

Sample ID	Date	Depth (feet)	TEPH-D (mg/Kg)	TEPH-HO (mg/Kg)	1,2,4-Tri-	1,3,5-Tri-	Total	4,4'-DDT (µg/Kg)	4,4'-DDE (µg/Kg)	4,4'-DDD (µg/Kg)
					methylbenzene (µg/Kg)	methylbenzene (µg/Kg)	Xylenes (µg/Kg)			
B-1 @ 0'	04/27/06	0.0	1.4	<50	<5.0	<5.0	<10	8.5	5.3	<2.0
B-1 @ 1.5'	04/27/06	1.5	<1.0	<50	<4.9	<4.9	<9.9	100	39	43
B-1 @ 3.0'	04/27/06	3.0	NT	NT	NT	NT	NT	20	2.5	<2.0
B-2 @ 0'	04/27/06	0.0	9.0	64	<4.6	<4.6	<9.2	<20	<20	<20
B-2 @ 1.5'	04/27/06	1.5	<0.99	<50	<4.7	<4.7	<9.5	<2.0	<2.0	<2.0
B-3 @ 0'	04/27/06	0.0	280	1900	<4.6	<4.6	<9.1	<20	<20	<20
B-3 @ 1.5'	04/27/06	1.5	11	57	<4.9	<4.9	<9.9	<10	<10	<10
B-4 @ 0'	04/27/06	0.0	27	160	<4.9	<4.9	<9.7	—	—	—
B-4 @ 1.5'	04/27/06	1.5	18	89	<4.9	<4.9	<9.7	—	—	—
B-5 @ 0'	04/27/06	0.0	<0.99	<50	<4.6	<4.6	<9.2	<2.0	<2.0	<2.0
B-5 @ 1.5'	04/27/06	1.5	1.7	<50	<5.0	<5.0	<10	<2.0	<2.0	<2.0
B-6 @ 0'	04/27/06	0.0	1100	2600	380	170	30	<9.9	<9.9	<9.9
B-6 @ 1.5'	04/27/06	1.5	32	150	<4.9	<4.9	<9.8	<20	<20	<20
B-7 @ 0'	04/27/06	0.0	24	140	<4.9	<4.9	<9.9	—	—	—
B-7 @ 1.5'	04/27/06	1.5	28	150	<4.8	<4.8	<9.7	—	—	—

NOTES:

Table includes only the analytes that were detected at or above the stated method detection limit

TEPH-D = total extractable petroleum hydrocarbons as diesel

TEPH-HO = total extractable petroleum hydrocarbons as hydraulic oil

mg/Kg = milligrams per kilogram (parts per million)

µg/Kg = micrograms per kilogram (parts per billion)

< = not detected at or above stated method detection limit

4,4'-DDT = dichlorodiphenyltrichloroethane

4,4'-DDE = dichlorodiphenyldichloroethylene

4,4'-DDD = dichlorodiphenyldichloroethane

— = not analyzed

Table 2
Summary of Soil Sample Analysis-Metals
Former Trend Technologies Metal Finishing Facility
25101 Clawiter Road, Hayward, California

Sample ID	Date	Depth (feet)	Arsenic (mg/Kg)	Barium (mg/Kg)	Beryllium (mg/Kg)	Chromium (mg/Kg)	Cobalt (mg/Kg)	Copper (mg/Kg)	Lead (mg/Kg)	Molybdenum (mg/Kg)	Nickel (mg/Kg)	Vanadium (mg/Kg)	Zinc (mg/Kg)	Mercury (mg/Kg)
B-1 @ 0'	04/27/06	0.0	5.9	150	0.61	36	15	65	9.4	1.4	34	57	72	0.24
B-1 @ 1.5'	04/27/06	1.5	5.6	170	0.64	42	9.3	26	11	1.2	55	35	47	<0.048
B-2 @ 0'	04/27/06	0.0	3.2	57	0.65	13	11	32	2.9	<0.99	15	74	72	0.74
B-2 @ 1.5'	04/27/06	1.5	6.5	91	0.58	13	13	48	1.8	<0.99	9.8	99	49	1.0
B-3 @ 0'	04/27/06	0.0	3.5	120	<0.50	59	10	41	10	<0.99	83	40	62	0.22
B-3 @ 1.5'	04/27/06	1.5	5.0	260	0.61	41	9.5	29	7.3	<0.96	41	39	45	0.19
B-4 @ 0'	04/27/06	0.0	4.2	99	0.58	17	11	63	2.4	<0.95	15	77	72	1.9
B-4 @ 1.5'	04/27/06	1.5	3.8	78	0.58	15	13	63	2.1	<0.99	20	74	90	1.7
B-5 @ 0'	04/27/06	0.0	5.3	73	0.58	9.8	13	48	1.1	<0.95	8.4	99	57	2.3
B-5 @ 1.5'	04/27/06	1.5	4.5	61	<0.50	7.2	11	59	<1.0	<1.0	6.0	82	52	2.3
B-6 @ 0'	04/27/06	0.0	5.3	150	0.64	34	12	58	3.8	<0.97	33	69	64	0.50
B-6 @ 1.5'	04/27/06	1.5	4.3	87	0.57	14	12	89	2.3	<0.97	12	85	68	1.5
B-7 @ 0'	04/27/06	0.0	5.3	84	0.62	24	12	53	4.2	<1.0	23	77	67	1.3
B-7 @ 1.5'	04/27/06	1.5	5.2	140	0.63	19	12	76	3.2	<0.95	18	85	70	1.1

NOTES:

Table includes only the analytes that were detected at or above the stated method detection limit

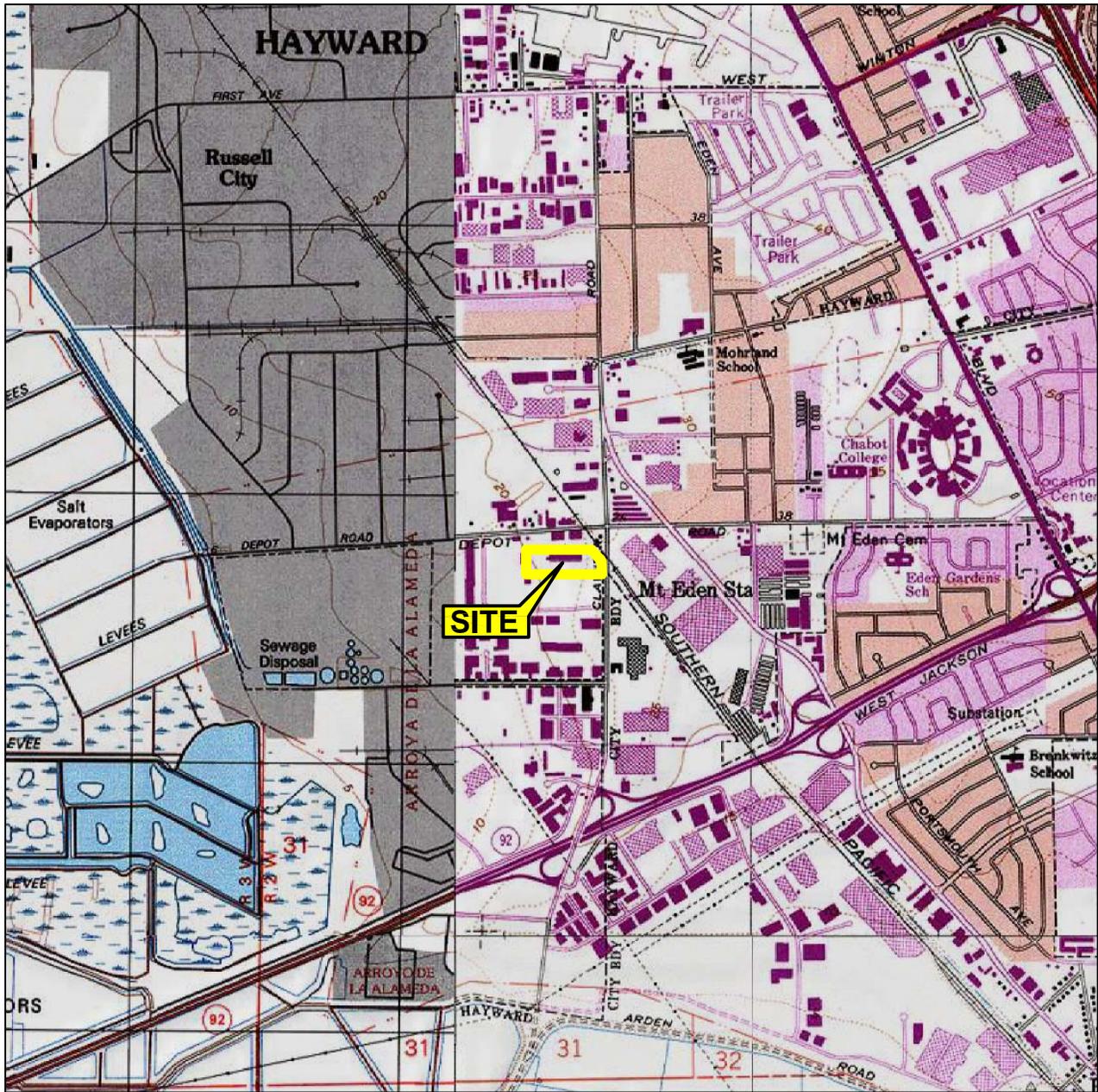
mg/Kg = milligrams per kilogram (parts per million)

< = not detected at or above stated method detection

Table 2
Summary of Soil Sample Analysis-Metals
Former Trend Technologies Metal Finishing Facility
25101 Clawiter Road, Hayward, California

Sample ID	Date	Depth (feet)	Arsenic (mg/Kg)	Barium (mg/Kg)	Beryllium (mg/Kg)	Chromium (mg/Kg)	Cobalt (mg/Kg)	Copper (mg/Kg)	Lead (mg/Kg)	Molybdenum (mg/Kg)	Nickel (mg/Kg)	Vanadium (mg/Kg)	Zinc (mg/Kg)	Mercury (mg/Kg)
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FIGURES



1 MILE 3/4 1/2 1/4 0 1 MILE



SCALE 1 : 24,000



SOURCE:

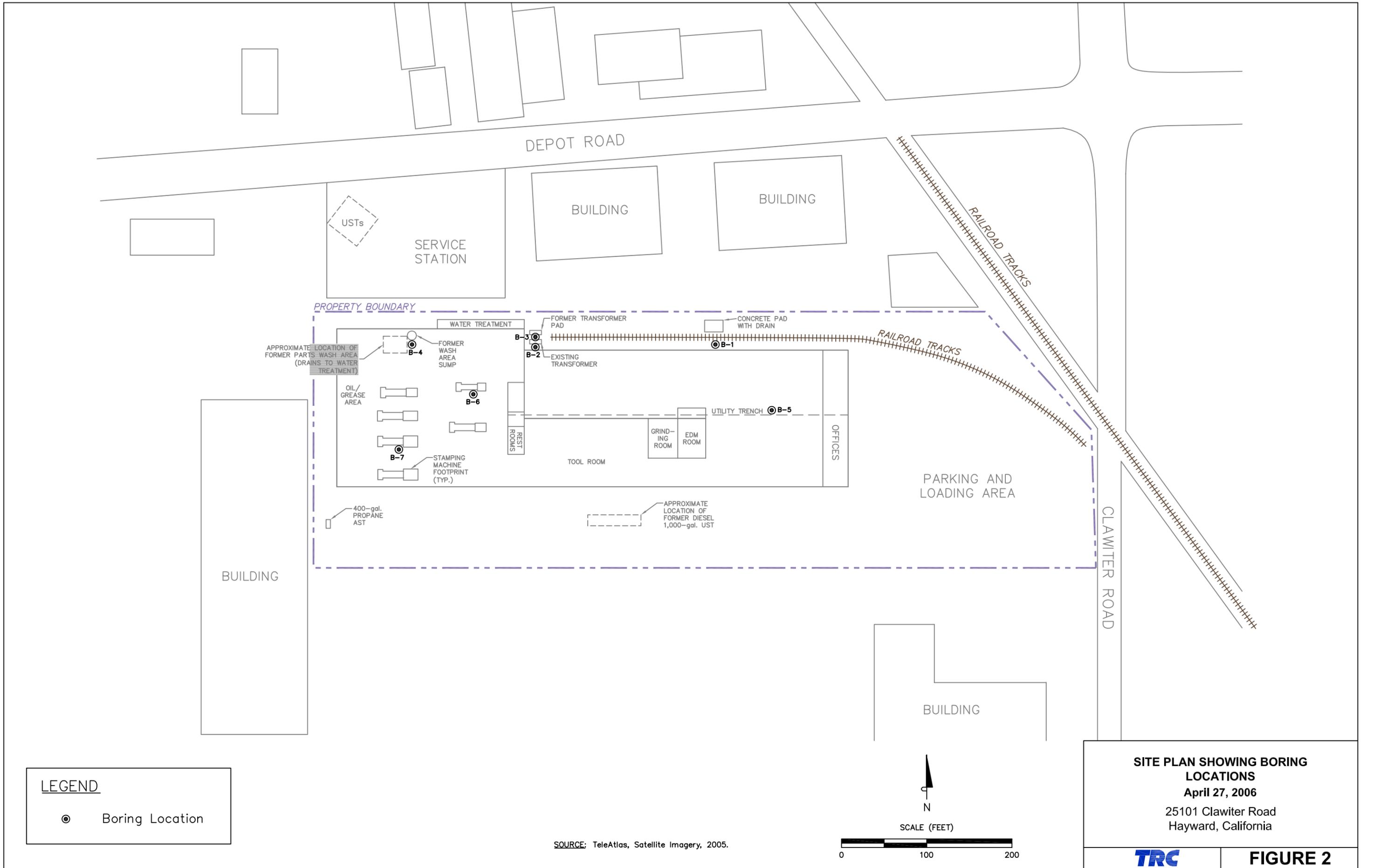
United States Geological Survey
7.5 Minute Topographic Maps:
Hayward Quadrangle, California

VICINITY MAP

25101 Clawiter Road
Hayward, California

TRC

FIGURE 1



APPENDIX A

LAB REPORTS TO FOLLOW VIA MAIL