Advanced GeoEnvironmental, Inc.

29 September 2005
AG-NC Project No. 03-1101

Mr. Reed Rinehart
Rinehart Oil, Inc.
2401 North State Street
Ukiah, California 95482

Alameda County
OCT 03 2005
Environmental Health

Subject: **Additional Site Assessment Work Plan**
RINEHART OIL, INC. - OAKLAND TRUCK STOP
1107 5th Street, Oakland, California

Dear Mr. Rinehart:

Advanced GeoEnvironmental, Inc. has prepared the enclosed *Additional Site Assessment Work Plan* for the above-referenced address. The scope of work includes the advancement of nine additional soil probe borings and installation of one additional ground water monitoring well to delineate the vertical and lateral extents of petroleum hydrocarbon contamination at the site. A copy of this work plan will be forwarded to Mr. Barney Chan of Alameda County Environmental Health Services (ACEHS-DEP).

The opportunity to provide this service is greatly appreciated. If you have any questions or comments, please contact our office at (209) 467-1006.

Sincerely,

***Advanced* GeoEnvironmental, Inc.**

Joel M. Chapman
Staff Geologist

Enclosure

cc: Mr. Barney Chan - ACEHS-DEP
Mr. Jerry Wickham - ACEHC-DEP

837 Shaw Road, Stockton, California 95215
Telephone (209) 467-1006 Fax (209) 467-1118

Alameda County
OCT 03 2005
Environmental Health

Additional Site Assessment Work Plan
RINEHART OIL, INC. - OAKLAND TRUCK STOP
1107 5th Street, Oakland, California

29 September 2005
AGE-NC Project No. 03-1101

PREPARED FOR:

Mr. Reed Rinehart
RINEHART OIL, INC.

PREPARED BY:

Advanced GeoEnvironmental, Inc.

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Additional Site Assessment Work Plan
RINEHART OIL, INC. - OAKLAND TRUCK STOP
1107 5th Street, Oakland, California

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Alameda County
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Environmental Health

Advanced **GeoEnvironmental, Inc.**
837 Shaw Road, Stockton, California

PREPARED BY: _____
Jo'l M. Chapman
Staff Geologist

REVIEWED BY: _____
Calvin F. Lee
Senior Project Geologist
California Professional Geologist No. 7327

REGISTERED GEOLOGIST
CALVIN F. LEE
No. 7327
STATE OF CALIFORNIA

ADDITIONAL SITE ASSESSMENT WORK PLAN
RINEHART OIL, INC. - OAKLAND TRUCK STOP
1107 5th Street, Oakland, California

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RINEHART OIL, INC. - OAKLAND TRUCK STOP
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RINEHART OIL, INC. - OAKLAND TRUCK STOP
1107 5th Street, Oakland, California

1.0. INTRODUCTION

At the request of Mr. Reed Rinehart of Rinehart Oil, Inc., *Advanced* GeoEnvironmental, Inc. (AGE) has prepared this *Additional Site Assessment Work Plan* for the site located at 1107 5th Street, Oakland, California. In a directive letter dated 05 July 2005, Alameda County Environmental Health Services (ACEHS-DEP) required further vertical and lateral delineation of petroleum hydrocarbon contamination resulting from an unauthorized release from underground storage tanks (USTs). The scope of work includes the advancement of nine additional soil probe borings and installation of one additional ground water monitoring well. The site and surrounding area are illustrated on Figure 1. On-site structures, soil borings, and well locations are illustrated on Figure 2.

2.0. BACKGROUND

The site is located at 1107 5th Street in a commercial and industrial area of west Oakland, California (Figure 1). The property contains a service station building, four fuel dispenser islands, a truck scale, scale house, and two USTs. The site has been operating as a truck stop for the past 40 years.

2.1. REGIONAL GEOLOGIC/HYDROGEOLOGIC SETTING

The site is situated within the Coast Range Geomorphic Province of California. This geopmorphic province contains coastal foothills and mountains and extends from the Tehachapi Mountains in the south to the Klamath Mountains in the north. The western and eastern boundaries of this province are comprised of the Pacific Ocean and the Great Valley Geomorphic Province, respectively.

The site is located in the Franciscan Complex, which is subdivided into four major divisions identified as the Northern Coast Range, the Franciscan Block, the Diablo Range, and the Nacimiento Block. The site is situated within the Franciscan Block, an assemblage of variably deformed and metamorphosed rock units. The surface is composed of Quaternary alluvium; at depth, the site is underlain by rocks of the Franciscan Complex, which are composed predominately of detrital sedimentary rocks with volcanic tuffs and deep ocean marine sediments. The Franciscan lithologies typically have low porosity and permeability.

Based upon the General Soil Map from the *Soil Survey of Alameda County, Western Part*, issued by the United States Department of Agriculture Soil Conservation Service in 1981, the site area is situated within the Urban Land-Danville complex. This complex is located on low terraces and alluvial fans at an elevation of about 20 feet to 300 feet above mean sea level (MSL), and consists of approximately 60% Urban Land, 30% Danville soil, and 10% other soils. Danville soil is a silty clay loam that formed in alluvium originating primarily from sedimentary rock; Urban land consists

of areas covered by roads, parking lots, and buildings. The nearest surface water feature in the vicinity of the property is the Oakland Estuary, approximately 2,400 feet to the south of the property.

Beginning in October 1996, ground water monitoring has been conducted at the site to assess the seasonal variation of elevation, gradient, and flow direction, and to define the impact of petroleum hydrocarbon compounds and fuel oxygenating compounds in shallow ground water beneath the site. Based on data from previous monitoring events, ground water at the property varies seasonally between approximately 10 inches to 6 feet below surface grade (bsg). The ground water flow has varied from southwest to north. This may be affected by changing recharge and discharge patterns, as well as leaking pipes.

2.2. UNDERGROUND STORAGE TANK REMOVAL

In March 1999, two 10,000-gallon diesel USTs, one 10,000-gallon gasoline UST, and one 8,000-gallon gasoline UST were removed from the site. The approximate location of the former USTs is shown on Figure 2.

Interim remedial action was performed during the UST removal to address contaminated soil and ground water. Approximately 2,100 tons of contaminated soil were removed from the excavation. Soil samples were collected from the excavation and stockpiles as directed by the Fire Inspector. Contaminated ground water was removed from the excavation pit; approximately 33,000 gallons of water were pumped into temporary storage tanks, which were then transported and disposed off-site. Approximately 1,700 tons of backfill was placed in the excavation. Results of the soil samples taken during the excavation are not available.

2.3. PREVIOUS SITE ASSESSMENT ACTIVITIES

In November 1996, ground water monitoring wells MW-1 through MW-3 were installed to a depth of 20 feet bsg to assess contamination from an unauthorized release of fuel, which was repaired as soon as it was discovered. Product recovery sumps equipped with skimmers were installed in the wells and approximately 6 gallons of gasoline were recovered.

Monitoring well MW-2 was destroyed in January 1999. Additional monitoring wells MW-4 through MW-9 were installed to a total depth of 20 feet bsg in August 2000. Contamination was detected in each of the wells, and free product was occasionally evident in well MW-7.

Monitoring wells MW-10 and MW-11 were installed in May 2002 to a total depth of 12 feet bsg. At this time, well MW-3 was abandoned and well MW-3N was installed to a depth of 12 feet bsg.

In July 2002, eight soil borings were advanced on 5th Street and Chestnut Street to total depths between 5 feet and 8 feet bsg to determine if contamination was migrating off-site along preferential pathways (i.e. utility trenches). Sample results indicated high methyl tertiary-butyl ether (MTBE) concentrations that ranged from 170,000 micrograms per liter (µg/l) to 460,000 µg/l in grab ground water samples from borings drilled directly north of the site, along the 5th Street sewer line. Borings east of the site had little to no contamination. Analytical results of soil and grab ground water samples are summarized in Tables 1 and 2, respectively.

In January 2003, a passive skimmer was placed inside monitoring well MW-7 to remove free product. During monitoring activities in April 2004, free-product was noted in MW-8. The passive skimmer in MW-7 was moved to MW-8 to remove the free product.

On 04 and 05 October 2004, a total of thirteen soil borings were advanced at the site. Boring MW14 and the ten ozone sparge well borings were advanced at the north edge of the property to vertical depths of 20 feet and 15 feet bsg, respectively. Borings MW12 and MW13 were advanced in the 5th Street right of way to the north of the property to a vertical depth of 20 feet bsg. Pilot borings MW12 through MW14 were completed as ground water monitoring wells using 2-inch diameter polyvinylchloride (PVC) casing with a 0.020-inch slotted screen installed from 5 feet to 20 feet bsg. The ozone sparge well soil borings were completed with manufacturer-assembled, 2-inch by 24-inch microporous sparge points and blank casing extended to the surface, with a filter pack (No. 2/12 Lonestar sand) installed from 9 feet to 13 feet bsg. A total of three soil samples, taken from the monitoring well pilot borings, were analyzed for petroleum hydrocarbon constituents. In sample MW14-10, 1.8 milligrams per kilogram (mg/kg) TPH-d and 2.0 mg/kg MTBE were detected. Analytical results of soil samples are summarized in Table 1.

To date, the vertical extent of petroleum hydrocarbon contamination is undefined at the site. The lateral extent of contamination is defined to the north by monitoring well MW-12, to the east by monitoring well MW-14, and to the south by monitoring well MW-10. Additional assessment is required to define the petroleum hydrocarbon plume to the west, northwest, and possibly northeast. A plan view depicting the concentrations of adsorbed hydrocarbons detected in the July 2002 soil probe borings and the October 2004 monitoring well installation pilot borings is included on Figure 3. Cross-sections depicting vertical geologic and analytical soil data are illustrated on Figures 4 and 5.

3.0. SCOPE OF WORK

The scope of work includes the advancement of nine additional soil probe borings and installation of one additional ground water monitoring well to delineate the vertical and lateral extents of petroleum hydrocarbon contamination resulting from an unauthorized release from underground

storage tanks. The scope of work will include the following tasks:

- Permitting and pre-field work activities;
- Soil and grab ground water sample collection;
- Pilot drilling and soil sample collection;
- Monitoring well installation and development;
- Laboratory analysis of ground water and soil samples; and
- Preparation of a report of findings.

3.1. PERMITTING AND PRE-FIELD WORK ACTIVITIES

Applicable site assessment boring permits will be obtained from the ACEHS - DEP for all on-site boring locations. An update to the health and safety plan presently on-file will be prepared in accordance with *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities* (National Institute for Occupational Safety and Health Administration, U.S. Coast Guard and U.S. Environmental Protection Agency, 1985). Prior to mobilization, the area of excavation will be clearly marked and a utility clearance obtained through Underground Service Alert.

3.2. SOIL AND GRAB GROUND WATER SAMPLE COLLECTION AND ANALYSIS

AGE proposes to advance a total of nine soil probe borings on- and off- site using direct push technology. The soil borings will be advanced to characterize lithology, model potential contaminant migration pathways, and to assess the vertical and lateral extents of petroleum hydrocarbon-impacted soil and ground water. Based on the distribution of hydrocarbon contamination encountered to date during the ongoing investigation, AGE proposes to advance the soil borings in the following locations (Figure 2):

- Five soil borings will be advanced on-site to a total depth of approximately 40 feet bsg in the area of the former USTs and near wells MW-7 and MW-8 to delineate the lateral extent of free product and the vertical extent of petroleum hydrocarbon contamination; and
- Four soil borings will be advanced off-site near the utility corridor in Adeline Street to a total depth of approximately 20 feet bsg to define the lateral extent of the hydrocarbon plume west of well MW-8 and to evaluate the potential for utilities along Adeline Street to act as preferential pathways.

Total depths of the borings may vary according to geologic/hydrogeologic conditions encountered during drilling activities.

First-encountered ground water and selected soil samples will be analyzed by a California Department of Health Services (DHS)-certified laboratory for:

- Total petroleum hydrocarbons quantified as gasoline and diesel (TPH-g and TPH-d, respectively) in accordance with EPA Method 8015M; and
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) and the fuel additives MTBE, di-isopropyl ether (DIPE), ethyl tertiary-butyl ether (ETBE), tertiary-amyl methyl ether (TAME), tertiary-butyl alcohol (TBA), 1,2-dichloroethane (1,2-DCA), and 1,2-dibromoethane (EDB) in accordance with EPA Method 8260B.

In addition, a grab ground water sample will be collected at total depth from selected borings and analyzed for the chemical constituents listed above in order to assess the vertical extent of impacted ground water.

Laboratory reports for soil and grab ground water analyses, testing methods, laboratory quality assurance/quality control (QA/QC) reports, and chain of custody documentation will be included in a report of findings and recommendations.

3.3. MONITORING WELL INSTALLATION

AGE proposes to advance one pilot soil boring off-site in the 5th Street right-of-way for the installation of an additional shallow ground water monitoring well.

3.3.1. Drilling and Soil Sample Collection

The pilot boring will be advanced to a depth of 20 feet bsg using a CME-75HT truck-mounted drill rig equipped with 8.25-inch hollow-stem augers; the total depth of the well boring may vary according to geologic/hydrogeologic conditions encountered during drilling. The boring will be advanced in the 5th Street right-of-way, approximately 125 feet west-northwest of monitoring well MW-12 (Figure 2).

Selected soil samples will be analyzed by a State of California DHS-certified laboratory for the constituents listed in Section 3.2.

Laboratory reports of soil analysis, testing methods, laboratory QA/QC reports, and chain of custody documentation will be presented in a report of findings and recommendations.

3.3.2. Monitoring Well Installation, Development, and Survey

The pilot soil boring will be completed as a single-level ground water monitoring well screened from 4 feet to 20 feet bsg. Following installation, the well will be developed to maximize water flow and minimize the amount of fine-grained sediment drawn into the well during pumping or bailing, and the top of the newly installed well casing (well head) will be surveyed to determine its elevation relative to MSL.

3.3.3. Ground Water Sampling and Analysis

Following the installation of the new monitoring well, ground water monitoring and sampling activities will be conducted for all of the wells on a quarterly basis for a minimum of one year (four sampling events); monitoring activities will include recording depth to ground water measurements and collection of ground water samples for laboratory analysis by a DHS-certified laboratory for the analytes noted in Section 3.2.

3.4. REPORT PREPARATION

Upon completion of field work and receipt of final laboratory analysis, a report will be prepared in the format of a site conceptual model for the site, presenting the findings of the investigation. The report will include a description of the work performed and the results of the sampling and analysis. Conclusions and applicable recommendations will be included in the report. The report will be in a format acceptable to the ACEHS-DEP and will be reviewed and signed by a California Professional Geologist.

4.0. FIELD PROCEDURES

All field procedures will be overseen by an AGE representative under the supervision of a California Professional Geologist. Procedures for soil and ground water sampling and well installation and development are described below.

4.1. SOIL PROBE BORING PROCEDURES

Nine soil probe borings will be advanced using a van-mounted Geoprobe 5400 direct-push probing unit equipped with 1.25-inch probing rods. The Geoprobe advances soil probe borings using a hydraulic hammer to drive soil sampling tools to specified depths.

4.1.1. Soil Sampling Procedures

Soil borings will be sampled at discreet 5-foot intervals using a 1.125-inch Geoprobe soil sampling assembly loaded with four pre-cleaned 6-inch brass sleeves. Upon sample retrieval, the ends of the second sleeve will be covered with Teflon sheets, capped, and sealed with tape.

Appropriately sealed and labeled samples will be placed in a chilled container and transported under chain of custody procedures to a DHS-certified laboratory for analysis for the constituents listed in Section 3.2. Each sample sleeve will be labeled with the boring location, designation, time, date, and sampler's initials. Soils encountered in the borings will be visually classified by an AGE geologist in accordance with the Unified Soil Classification System (USCS). Additionally, soil samples will be field-screened for the presence of volatile organic compounds using an organic vapor meter (OVM), equipped with photo-ionization detector (PID). Soil sample descriptions and OVM readings will be recorded on a log for each boring.

4.1.2. Grab Ground Water Sampling Procedures

The soil borings will be advanced to the top of the ground water table, as identified by the collection of a saturated soil sample, to collect a grab ground water sample. Once ground water has been encountered, samples will be collected with a Hydropunch water sampling assembly; a 1-inch diameter PVC casing with a 5-foot long, 0.010-inch slotted well screen at the lower end will be temporarily installed in the borehole and a grab ground water sample will be collected by lowering a Teflon hose-bailer through the hollow center of the push rods into the screened section. In addition, grab ground water samples will be collected at total depth from selected soil borings to assess the vertical extent of contamination.

Ground water samples will be transferred into laboratory-supplied, 40-milliliter (ml) volatile organic analysis (VOA) vials containing 0.5 ml 18% hydrochloric acid solution as a sample preservative, and 1-liter amber bottles without preservative. Following collection, the samples will be appropriately labeled, placed in a chilled container, and transported under chain of custody procedures to a DHS-certified laboratory for analysis for the constituents listed in Section 3.2.

4.2. MONITORING WELL INSTALLATION PROCEDURES

Utilizing a CME-75HT truck-mounted hollow-stem drill rig equipped with 8.25-inch diameter hollow-stem augers, the pilot soil boring will be advanced to a depth of 20 feet bsg. Relatively undisturbed soil samples will be collected from the pilot soil boring at 5-foot intervals using a California modified split-spoon sampler fitted with 2-inch diameter, 6-inch long brass sleeves. Upon removal from the sampler, the sample sleeves will be separated with a knife. The exposed ends of the second sleeve will be covered with Teflon sheets, capped, and sealed with tape. Soils sampled in the borings will be visually classified by an AGE geologist in accordance with the USCS. Additionally, soil samples will be field screened for the presence of volatile organic compounds using an OVM equipped with a PID. Soil sample descriptions and OVM readings will be recorded on a log for each boring.

Following sample collection, each preserved sample sleeve will be labeled with the boring location, designation, time, date, and sampler's initials. Appropriately sealed and labeled samples will be placed in a chilled container and transported under chain of custody procedures to a DHS-certified laboratory for analysis for the constituents listed in Section 3.2..

4.3. WELL COMPLETION AND WELL ELEVATION SURVEY

The pilot soil boring will be completed as a ground water monitoring well utilizing 2-inch diameter, Schedule 40 PVC blank well casing and 0.020-inch slotted well screen installed from 4 feet to 20 feet bsg. A monitoring well construction diagram is depicted on Figure 6.

After installing the well casing in the pilot boring, a filter pack material consisting of pre-washed #3 Lonestar sand will be added through the augers from total depth to approximately 1 foot above the screened interval. Following placement of the filter pack, the well will be surged to assist in settling the filter pack. Additional sand will be added if settling occurs.

A nominal 2-foot bentonite chip seal will be placed above the filter pack to minimize the potential for grout penetration into the screened section of the wells. The bentonite seal will be formed by pouring bentonite pellets into the annulus and allowing them to settle on the filter pack. The bentonite pellets will be allowed to hydrate for a minimum of ½-hour prior to grouting.

The remaining annular space will be filled to within 1 foot of the ground surface with a cement grout. The grout mixture will consist of Type I/II portland neat cement and not more than 6 gallons of water per 94-pound sack of cement. The grout will be placed by pumping through a tremie pipe. A grouting inspection will be scheduled with ACEHS-DEP personnel.

Following completion of the monitoring wells, well elevations and locations will be surveyed by a California-licensed surveyor.

4.4. WELL DEVELOPMENT

Development of the proposed well will consist of a combination of bailing with a stainless steel bailer to remove the major portion of fine-grained sediment from inside the well, surging to flush out or draw in sediment from the filter pack, and additional ground water evacuation with a Waterra inertia pump to finish the removal of fine-grained sediment. Developmental purging activities will be continued until field parameters (pH, electrical conductivity, and temperature) have stabilized and purged water is visually sediment-free.

4.5. GROUND WATER MONITORING PROCEDURES

Upon completion, the additional monitoring well will be included in the Rinehart Oil - Oakland Truck Stop ground water monitoring program; ground water sample collection will be performed in accordance with San Francisco Bay Regional Water Quality Control Board (RWQCB) guidelines *(Tri-Regional Water Quality Control Board Recommendations for Preliminary Investigations and Evaluation of Underground Storage Tanks)*.

4.5.1. Static Water Level Measurements

Before sampling and during ground water monitoring, static water level will be measured using an electric water level indicator. Water level data will be recorded to the nearest 0.01-foot from a reference point marked at the top of the PVC well casing. Before and after each use, the measurement device will be rinsed with water.

4.5.2. Well Evacuation

After measuring the depth to ground water and prior to sampling, the well will be purged using an inertia pump or a disposable bailer to ensure that the sample is representative of the formation, rather than standing water in the well casing. The well will be purged until: 1) a minimum of three casing-water volumes have been removed from the well and/or 2) the field-measured ground water parameters pH, temperature, and conductivity, have stabilized. However, if a well is purged dry prior to evacuating three casing volumes, a ground water sample will be collected following 80 percent recovery of ground water within the well or after a minimum of 1 hour, but within 8 hours, of well

evacuation.

4.5.3. Sample Withdrawal

Water samples will be collected from the monitoring well using a disposable polyethylene bailer or dedicated Teflon tubing used in conjunction with the inertia pump. The bailers are disposed of after one use and require no decontaminating; the Teflon tubing used with the inertia pump is either dedicated to each well or changed at each sampling event, thereby minimizing cross contamination due to sampling devices. Samples will be drawn and collected in such a manner that agitation and exposure of the groundwater to the atmosphere is minimal

4.5.4. Sample Handling

Ground water samples will be collected into laboratory-supplied, 40-ml VOA vials containing 0.5 ml 18% hydrochloric acid solution as a sample preservative, and 1-liter amber bottles without preservative. Care will be taken to ensure that visible air bubbles are not present in the vials after filling and capping. Following collection the samples will be appropriately labeled, placed on ice, and kept in a cooler until delivered to a DHS-certified analytical laboratory for analysis. Chain of custody protocols will be used to document sample custody transfer from the field to the laboratory; a chain of custody form will accompany the samples.

4.6. EQUIPMENT DECONTAMINATION/WASTE MANAGEMENT

All sampling tools used for sample collection will be thoroughly rinsed with clean water after being washed with a solution of Alconox. All probing rods will be cleaned prior to advancement at each probe boring location, and all down-hole and drilling equipment will be pressure washed prior to starting each boring. Cuttings and rinseate generated during drilling will be containerized in properly labeled, Department of Transportation (DOT)-approved 55-gallon drums and stored on-site in an area lacking public access. Disposal alternatives will be evaluated based on the results of soil and ground water analysis.

4.7. BORING ABANDONMENT

All soil probe borings will be permanently sealed to prevent vertical migration of potential contaminants. Soil borings shall be abandoned by backfilling with portland cement utilizing a tremie pipe from total depth to surface grade.

FIGURES

OAKLAND WEST QUADRANGLE, CALIFORNIA
7.5 MINUTE SERIES (U.S. GEOLOGICAL SURVEY)

N

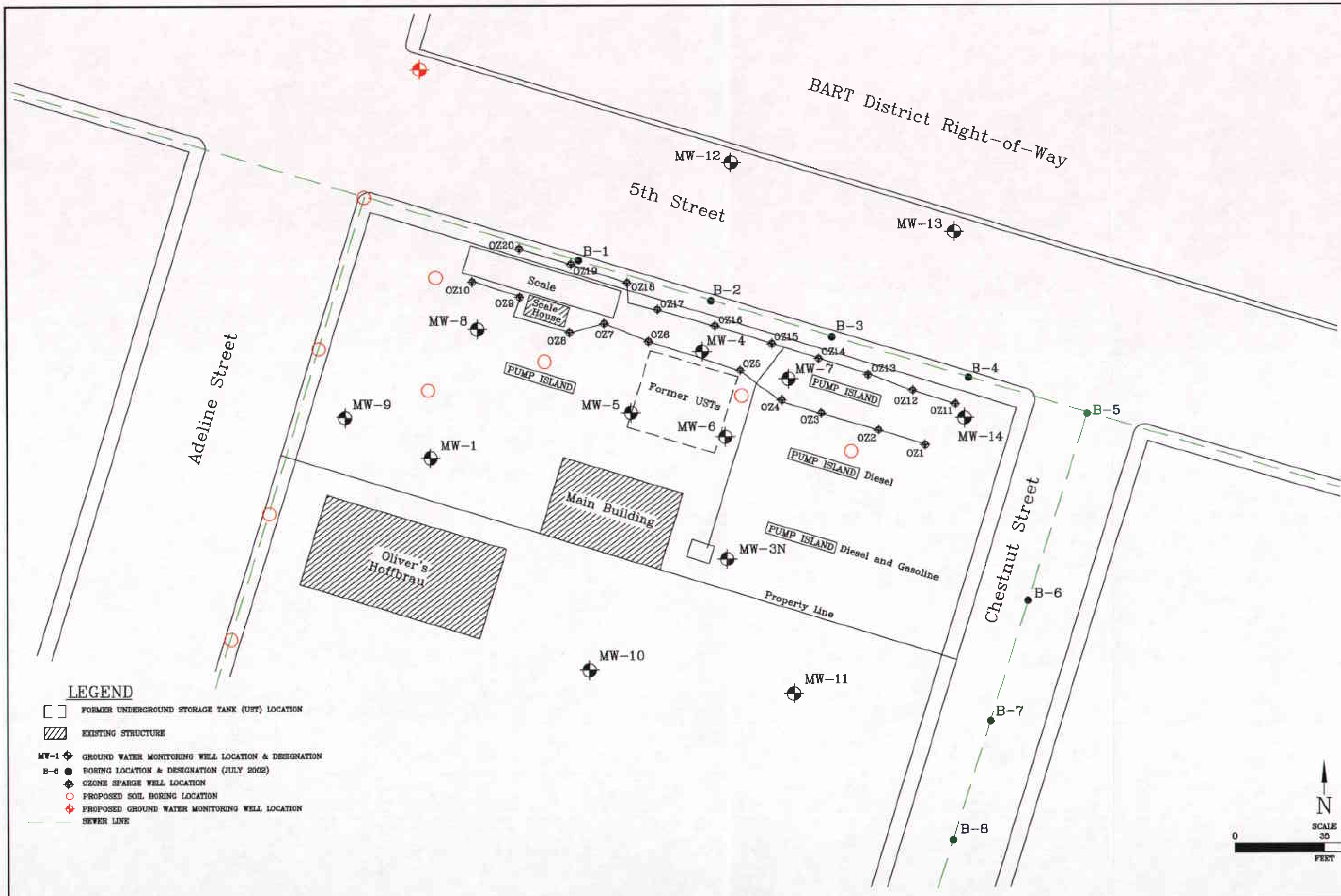
SCALE
0 2000 4000
FEET

LOCATION MAP

RINEHART – OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
of Northern California

PROJECT NO. AGE-NC-03-1101	FILE: LOCATION	FIGURE:
DATE: 27 SEPTEMBER 2004	DRAWN BY: MAC	1



Advanced GeoEnvironmental, Inc.
of Northern California

PROJECT NO. AGE-NC-03-1101 | FILE: | DRAWN BY: MAC | FIGURE: 2
DATE: 29 SEPTEMBER 2005

SITE PLAN

RINEHART - OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

ADSOBED HYDROCARBONS
RINEHART – OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
of Northern California

PROJECT NO. AGE-NC-03-1101 | FILE: [illegible] | FIGURE: 3
DATE: 29 SEPTEMBER 2005 | DRAWN BY: MAC

5th Street

BART District Right-of-Way

Adeline Street

Chestnut Street

Property Line

Scale

Scale House

PUMP ISLAND

PUMP ISLAND Diesel

PUMP ISLAND Diesel and Gasoline

Former USTs

Main Building

Oliver's Hoffbrau

MW-1
MW-3N
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
MW-12 (15')
MW-13 (20')
MW-14 (10')

B-1 (8')
B-2 (8')
B-3 (8')
B-4 (8')
B-5 (8')
B-6 (8')
B-7 (5')
B-8 (6')

TPH-g: 6,000
MTBE: 15,000
B: 71
T: 16
E: 130
X 440

TPH-g: 1,700
MTBE: 72,000
B: 27
T: 12
E: 28
X 85

TPH-g: 13,000
MTBE: 50,000
B: 24
T: 22
E: 120
X 480

TPH-g: 48,000
MTBE: 51,000
B: <40
T: <40
E: <40
X 82

TPH-g: <1
MTBE: <0.005
B: <0.005
T: <0.005
E: <0.005
X <0.005

TPH-g: <1
MTBE: <0.005
B: <0.005
T: <0.005
E: <0.005
X <0.005

TPH-g: <1
MTBE: 2.0
B: <0.005
T: <0.005
E: <0.005
X <0.005

TPH-g: <1,000
MTBE: 57
B: <5
T: <5
E: <5
X <5

TPH-g: <1,000
MTBE: <5
B: <5
T: <5
E: <5
X <5

TPH-g: <1,000
MTBE: <5
B: <5
T: <5
E: <5
X <5

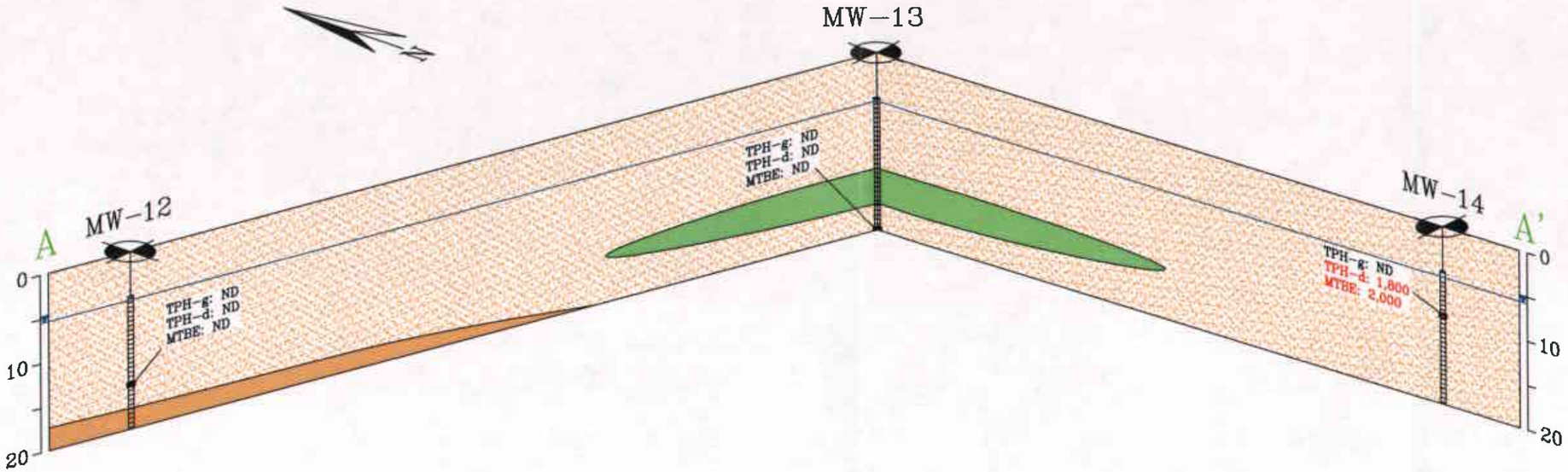
TPH-g: <1,000
MTBE: <5
B: <5
T: <5
E: <5
X <5

LEGEND

- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION
- EXISTING STRUCTURE
- MW-1 GROUND WATER MONITORING WELL LOCATION & DESIGNATION
- B-8 BORING LOCATION & DESIGNATION (JULY 2002)
- OZONE SPARGE WELL LOCATION
- PROPOSED SOIL BORING LOCATION
- PROPOSED GROUND WATER MONITORING WELL LOCATION
- LINES OF CROSS-SECTIONS

N

SCALE
0 35 70
FEET



LEGEND

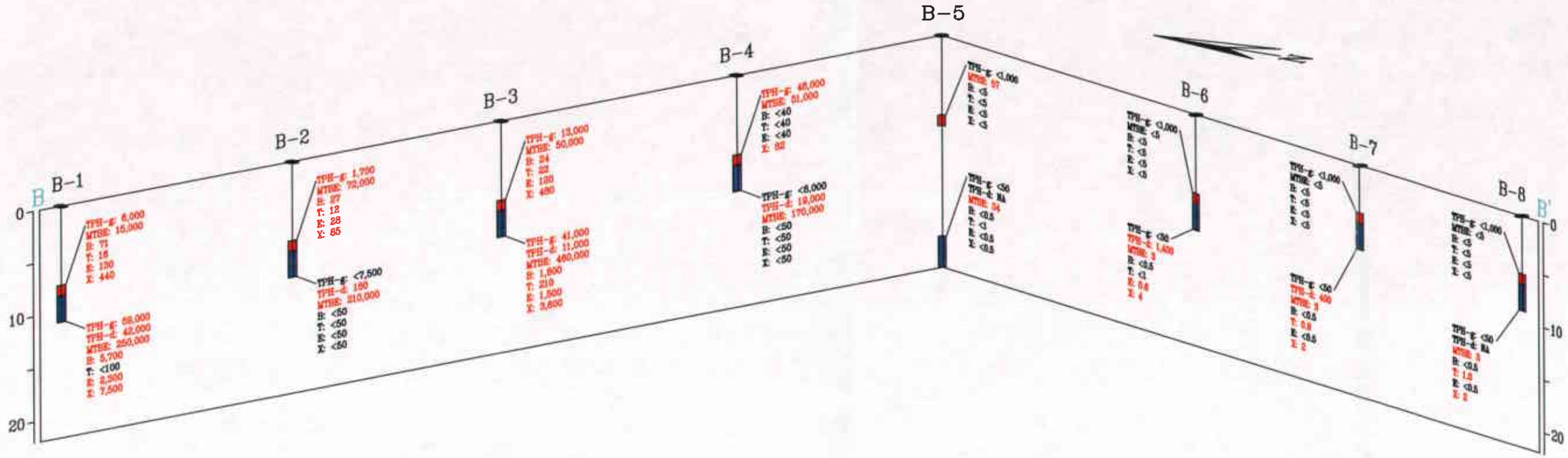
- CLAY
- SILT
- SANDY SILT, SILTY SAND, SAND
- SCREENED INTERVAL OF WELL
- AVERAGE DEPTH TO GROUND WATER: OCTOBER 2004 to JUNE 2005
- APPROXIMATE LITHOLOGIC CONTACT

NOTE: ALL CONCENTRATIONS GIVEN IN MICROGRAMS PER KILOGRAM.

Advanced GeoEnvironmental, Inc.
of Northern California

PROJECT NO. AGE-NC-03-1101 | FILE: OaNAA'0905 | FIGURE: 4
DATE: 29 SEPTEMBER 2005 | DRAWN BY: MAC

GEOLOGIC CROSS-SECTION A-A'
RINEHART - OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA



LEGEND

TOTAL DEPTH OF BORING

GRAB GROUND WATER SAMPLE LOCATION (JULY 2002)

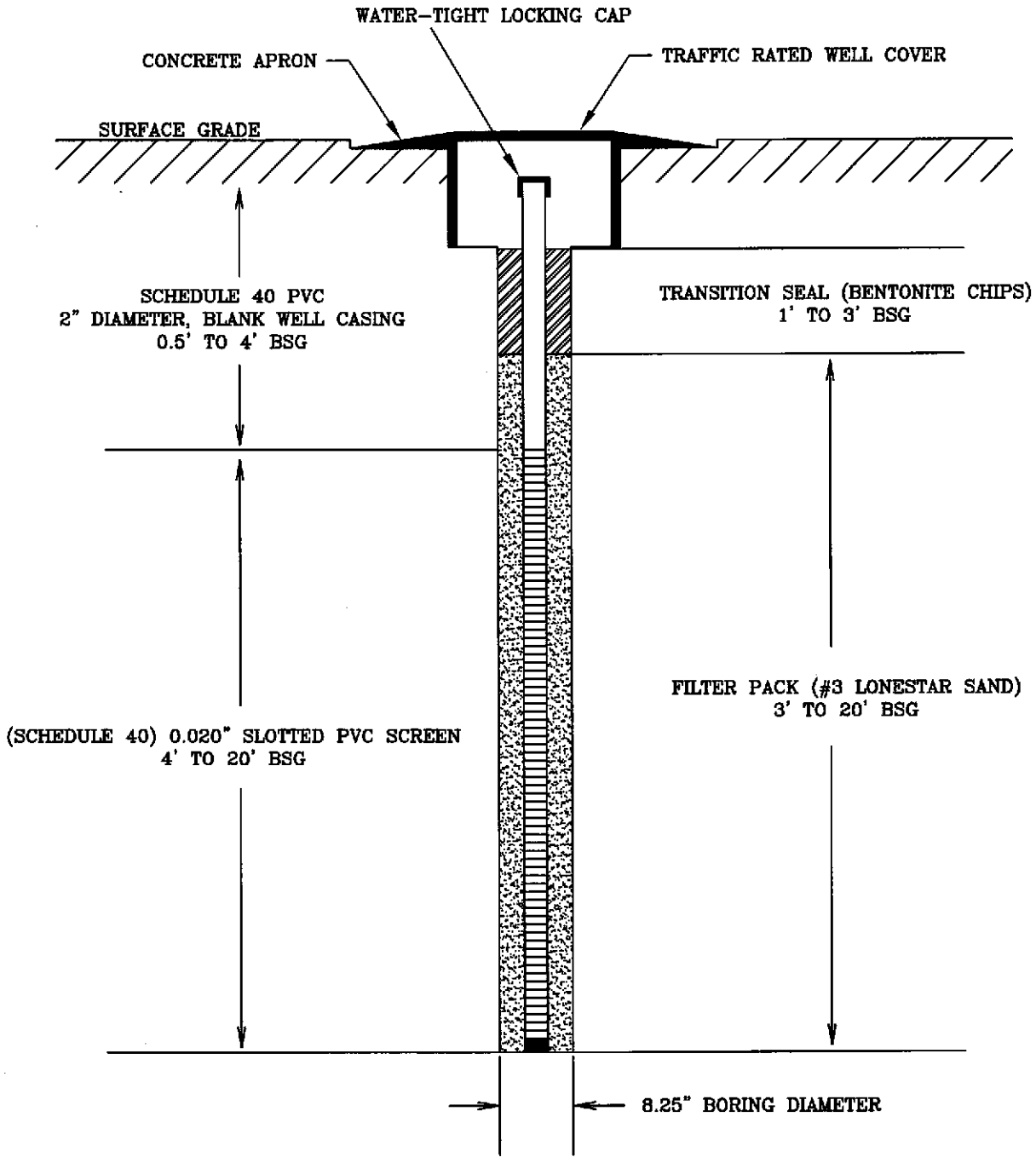
SOIL SAMPLE LOCATION (JULY 2002)

NOTE: 2X VERTICAL EXAGGERATION.
ALL CONCENTRATIONS GIVEN IN MICROGRAMS PER KILOGRAM FOR SOIL AND MICROGRAMS PER LITER FOR WATER.

Advanced GeoEnvironmental, Inc.
of Northern California

PROJECT NO. AGE-NC-03-1101 | FILE: 0411ED'0905 | FIGURE: 5
DATE: 29 SEPTEMBER 2005 | DRAWN BY: MAC

GEOLOGIC CROSS-SECTION B-B'
RINEHART - OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA



NOT TO SCALE

MONITORING WELL CONSTRUCTION DIAGRAM
RINEHART – OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Advanced GeoEnvironmental, Inc.
of Northern California

PROJECT NO. AGE–NC–03–1101	FILE: OaklandWELL0005	FIGURE: 6
DATE: 29 SEPTEMBER 2005	DRAWN BY: MAC	

TABLES

TABLE 1
ANALYTICAL RESULTS OF SOIL SAMPLES
Rinehart Oil, Inc. - Oakland Truck Stop
1107 5th Street, Oakland, California
(mg/kg)

Sample I.D.	Date	8015M		8021	8260B												
		TPH-g	TPH-d	MTBE	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	DIPE	ETBE	TAME	TBA	Methanol	Ethanol	1,2-DCA	EDB
B-1S	07-??-02	NA	**6.0**	**14**	**15**	**0.071**	**0.016**	**0.13**	**0.44**	<0.68	<0.68	<0.68	<6.8	<68	<6.8	<0.68	<0.68
B-2S	07-??-02	NA	**1.7**	**58**	**72**	**0.027**	**0.012**	**0.028**	**0.085**	<1.9	<1.9	<1.9	<19	<47	<4.7	<1.9	<1.9
B-3S	07-??-02	NA	**13**	**51**	**50**	**0.024**	**0.022**	**0.12**	**0.48**	<1.6	<1.6	<1.6	<16	<82	<8.2	<1.6	<1.6
B-4S	07-??-02	NA	**48**	**53**	**51**	<0.04	<0.04	<0.04	**0.082**	<1.7	<1.7	<1.7	<17	<42	<4.2	<1.7	<1.7
B-5S	07-??-02	NA	<1.0	**0.08**	**0.057**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<2.5	<0.25	<0.005	<0.005
B-6S	07-??-02	NA	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<2.5	<0.25	<0.005	<0.005
B-7S	07-??-02	NA	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<2.5	<0.25	<0.005	<0.005
B-8S	07-??-02	NA	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<2.5	<0.25	<0.005	<0.005
MW12-15	10-20-04	<1.0	<1.0	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	NA	NA	<0.005	<0.005
MW13-20	10-20-04	<1.0	<1.0	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	NA	NA	<0.005	<0.005
MW14-10	10-20-04	<1.0	**1.8**	NA	**2.0**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	NA	NA	<0.005	<0.005

Notes:
mg/kg: -milligrams per kilogram
NA: not analyzed
TPH-g: total petroleum hydrocarbons quantified as gasoline
TPH-d: total petroleum hydrocarbons quantified as diesel
MTBE: methyl tertiary-butyl ether
DIPE: di-isopropyl ether
ETBE: ethyl tertiary-butyl ether
TAME: tertiary-amyl methyl ether
TBA: tertiary-butyl alcohol
1,2-DCA: 1,2-dichloroethane
EDB: 1,2-dibromoethane

TABLE 2

ANALYTICAL RESULTS OF GRAB GROUND WATER SAMPLES
Rinehart Oil, Inc. - Oakland Truck Stop
1107 5th Street, Oakland, California
(µg/l)

Sample I.D.	Date	8015M		8021	8260B												
		TPH-g	TPH-d	MTBE	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	DIPE	ETBE	TAME	TBA	Methanol	Ethanol	1,2-DCA	EDB
B-1W	07-??-02	**42,000**	**59,000**	**210,000**	**250,000**	**5,700**	<100	**2,300**	**7,500**	<2,500	<2,500	<2,500	<25,000	<2,500,000	<250,000	<2,500	<2,500
B-2W	07-??-02	**180**	<7,500	**220,000**	**210,000**	<50	<50	<50	<50	<2,500	<2,500	<2,500	<25,000	<2,500,000	<250,000	<2,500	<2,500
B-3W	07-??-02	**11,000**	**41,000**	**420,000**	**460,000**	**1,800**	**210**	**1,500**	**3,600**	<10,000	<10,000	<10,000	<100,000	<10,000,000	<1,000,000	<10,000	<10,000
B-4W	07-??-02	**19,000**	<8,000	**160,000**	**170,000**	<50	<50	<50	<50	<5,000	<5,000	<5,000	<50,000	<5,000,000	<500,000	<5,000	<5,000
B-5W	07-??-02	NA	<50	**26**	**34**	<0.5	**1.0**	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<500	<50	<0.5	<0.5
B-6W	07-??-02	**1,400**	<50	<5	**3.0**	<0.5	**1.0**	**0.6**	**4.0**	<0.5	<0.5	<0.5	<5	<500	<50	<0.5	<0.5
B-7W	07-??-02	**400**	<50	**5.0**	**3.0**	<0.5	**0.9**	<0.5	**2.0**	<0.5	<0.5	<0.5	<5	<500	<50	<0.5	<0.5
B-8W	07-??-02	NA	<50	<5	**3.0**	<0.5	**1.0**	<0.5	**2.0**	<0.5	<0.5	<0.5	<5	<500	<50	<0.5	<0.5

Notes:

µg/l: milligrams per kilogram
NA: not analyzed
TPH-g: total petroleum hydrocarbons quantified as gasoline
TPH-d: total petroleum hydrocarbons quantified as diesel
MTBE: methyl tertiary-butyl ether
DIPE: di-isopropyl ether
ETBE: ethyl tertiary-butyl ether
TAME: tertiary-amyl methyl ether
TBA: tertiary-butyl alcohol
1,2-DCA: 1,2-dichloroethane
EDB: 1,2-dibromoethane