SECOR
INTERNATIONAL
INCORPORATED

www.secor.com
3017 Kilgore Road, Suite 100
Rancho Cordova, CA 95670
916-861-0400 TEL
916-861-0430 FAX

May 21, 2008

Ms. Barbara Jakub
Alameda County Environmental Health Services
1131 Harbor Bay Parkway Suite 250
Alameda, CA 94502
(Sent Via Electronic Upload to Alameda ftp)

RE: **Work Plan for Additional Site Assessment**
Former 76 Service Station No. 7124
10151 International Boulevard, Oakland, CA
SECOR Project No.: 77CP.01634.42.1106

Dear Ms. Jakub:

SECOR International Incorporated (SECOR is pleased to submit this work plan for additional site assessment to Alameda County Environmental Health Services (ACEHS) on behalf of ConocoPhillips. This work plan is to investigate the lateral extent of dissolved-phase hydrocarbons beneath former 76 Service Station No. 71245, located at 10151 International Boulevard, and surrounding properties in Oakland, California (Figures 1 and 2).

On October 14, 2004, SECOR submitted a work plan for the installation of monitoring wells offsite to delineate the dissolved phase hydrocarbons in groundwater; however, in a letter dated April 12, 2005, the ACEHS disapproved the work plan stating that it was premature to install more monitoring wells without additional groundwater sampling to determine the location of the plume for optimal well locations. Therefore, an addendum to the October 14, 2004 work plan was submitted on July 22, 2005. SECOR has never received approval or disapproval from the ACEHS for SECOR's addendum to the October 14, 2004 work plan.

This work plan is intended to replace SECOR's October 14, 2004 *Work Plan for Additional Off-Site Monitoring Well Installation* and July 22, 2005 *Addendum to Work Plan for Additional Off-Site Monitoring Well Installation*.

SITE DESCRIPTION

The site is currently an active Royal Gasoline Station located on the northwest corner of the intersection of International Boulevard and 102nd Avenue in Oakland, California. Site facilities include three underground storage tanks (USTs) and associated piping and fuel dispensers. The site is bordered to the northwest by a commercial property and to the west by residential housing.

PREVIOUS ASSESSMENT

On March 22, 2000, SECOR supervised the removal and replacement of product lines and dispensers by Balch Petroleum of Milpitas, California. Soil samples collected from beneath the dispensers and product lines revealed the presence of total petroleum hydrocarbons as gasoline (TPHg) at a maximum concentration of 6,200 milligrams per kilogram (mg/kg), methyl tertiary butyl ether (MTBE) up to120 mg/kg, and benzene up to 7.4 mg/kg. Excavation and sampling activities were observed and approved by Inspector Gomez of the City of Oakland Fire Services Agency.

On March 27, 2000, SECOR observed the over-excavation of approximately 60 cubic yards of soil from the beneath those portions of the dispensers and product lines where soil samples with elevated concentrations of petroleum hydrocarbons were located. Areas measuring approximately 8-10 feet long by 8-10 feet wide were over-excavated to an approximate depth of 8 feet below ground surface (bgs) in each of these areas. Additional over-excavation in these areas was not possible due to their proximity to the footings of the service station canopy. TPHg was detected in two of the three samples at a concentration of 108 mg/kg; benzene was detected in one of the three samples at 0.162 mg/kg; and MTBE was detected in all three samples at maximum concentrations of up to 43.8 mg/kg. Lead was not detected at or above laboratory reporting limits in any samples.

In February 2002, SECOR supervised the installation of four on-site groundwater monitoring wells. Prior to well installation, all borings were advanced to 26.5 feet bgs, and subsurface soil samples were collected every five feet. Soil samples were analyzed for gasoline range organics (GRO), benzene, toluene, ethylbenzene, total xylenes (BTEX), and fuel oxygenates via Environmental Protection Agency (EPA) Method 8260B. The maximum reported concentrations were 42 mg/kg GRO, 0.36 mg/kg ethylbenzene, 0.26 mg/kg xylenes, and 1.2 mg/kg MTBE.

During the first quarter 2008 quarterly sampling event, the local groundwater flow was to the south at a gradient of 0.02 foot per foot (ft/ft). A summary of historical groundwater flow directions and gradients are presented below:

Sample Date	Groundwater Flow Direction	Groundwater Gradient
Second Quarter 2005	West	0.012
Third Quarter 2005	West	0.012
Fourth Quarter 2005	West	0.01
3/24/2006	Northwest	0.02
5/30/2006	Northwest	0.02
8/22/2006	Northwest	0.01
10/31/2006	West	0.01
1/12/2007	West	0.01
4/4/2007	South	0.03
7/5/2007	Southwest	0.01
10/1/2007	West	0.01
1/11/2008	South	0.02

During the first quarter 2008, TPHg and MTBE were reported at concentrations of up to 2,200 µg/L (MW-3) and 1,300 µg/L (MW-3), respectively. The results of the first quarter 2008 quarterly sampling is presented in SECOR's *Quarterly Monitoring and Summary Report – First Quarter 2008*, dated February 27, 2008. Data presented in the report indicate additional delineation is needed on the northern and southern portions of the site, as well as off-site to the north and west. Copies of first quarter 2008 figures prepared by TRC Solutions Inc. are included in Attachment 1.

SENSITIVE RECEPTORS

During the third quarter 2004, SECOR completed a ½-mile radius agency receptor survey and obtained an Environmental Data Resources Incorporated (EDR) radius map for the site. The agency survey identified two industrial supply wells, three cathodic protection wells, and two wells of unknown type within the search radius. The survey also identified twelve wells of unknown type that could not be located precisely because the records on file with DWR did not include this information. These wells may or may not be located within the search radius. The EDR radius map did not identify any water supply wells within the search radius, but did identify two water supply wells within one mile of the site.

SCOPE OF WORK FOR ADDITIONAL ASSESSEMENT

The proposed scope of work includes the advancement of two on-site monitoring wells (MW-5 and MW-6) and three off-site monitoring wells (MW-7 through MW-9), as shown on Figure 2.

Site Health and Safety Plan (HASP). As required by the Occupational Safety and Health Administration (OSHA) Standard "Hazardous Waste Operations and Emergency Response" guidelines (29 CFR 1910.120), and by the California OSHA (Cal-OSHA) "Hazardous Waste Operations and Emergency Response" guidelines (CCR Title 8, Section 5192), SECOR will prepare a site-specific HASP prior to the commencement of fieldwork. The HASP will be reviewed by the field staff and contractors before beginning field operations at the site.

Permitting. Well Installation permits will be obtained from Alameda County Public Works Agency. Access agreements will be obtained from the adjacent property owners prior to the commencement of drilling activities.

Underground Utility Location and Clearance. In advance of field activities, SECOR will mark the locations of the proposed monitoring wells in accordance with Underground Service Alert (USA) guidelines, and notify USA of upcoming subsurface activities so that existing underground utilities in the area of proposed work can be located and avoided. SECOR will contract a private utility locator to confirm the locations of underground utilities in the vicinity of the well locations. Prior to the onset of drilling, all borings will be air knifed to a minimum depth of 5 feet bgs.

Monitoring Well Installation. Five monitoring wells (MW-5 through MW-9) will be installed at the locations shown on Figure 2. The wells will be advanced using 8-inch diameter hollow-stem auger drilling equipment. Each boring will be advanced to a total depth of 25 feet bgs and a 2-inch well constructed of poly-vinyl chloride (PVC) casing with 15 feet of 0.010-inch-slot screen will be installed. Field and laboratory procedures are provided in Attachment 2.

Soil Sampling and Analysis. Soil samples for lithological description and chemical analysis will be collected at 5 foot intervals to the total depth explored in each borehole. Samples submitted for chemical analysis will be sent under chain-of-custody documentation to a California state-certified laboratory. At a minimum, two samples, including one collected near the capillary fringe from each boring will be analyzed for TPHg, BTEX, and fuel oxygenates using EPA Method 8260.

Monitoring Well Development/Sampling/Analysis. Groundwater monitoring wells will be developed at least 72 hours after well installation by rigorously surging each well over the length of the screen interval and by purging approximately 10 casing volumes of water. Groundwater samples will be collected and analyzed for the presence of TPHg, BTEX, and fuel oxygenates using EPA Method 8260. Field and laboratory procedures are included in Attachment 2.

Well Surveying and EDF Upload. Following installation, the newly-installed monitoring wells will be surveyed by a licensed surveyor to a local benchmark relative to mean sea level. Survey data including elevation, longitude, and latitude will be included in information uploaded to the state GeoTracker database.

Soil and Water Disposal. Soil cuttings and purge/rinseate water generated during boring and well installation activities will temporarily be stored in California DOT approved 55-gallon steel drums on-site pending characterization and disposal. The drums containing soil and rinseate/purge water will be removed by Belshire Environmental Services Inc. and transported to their facility for proper disposal.

Reporting. Following the completion of well installation activities, SECOR will submit a report documenting the findings. The report will include boring logs, soil and groundwater analytical results, chain-of-custody documentation, conclusions, and recommendations for future work if needed.

SECOR is prepared to initiate the well installation activities upon approval of the work plan by the ACEHS, and following the receipt of necessary permits and access agreements. SECOR will complete a report within 60 days of completion of field activities documenting the findings and include recommendations for future work if needed.

LIMITATIONS

This report has been prepared for the exclusive use of ConocoPhillips Company and its representatives as it pertains to the property located at 10151 International Boulevard, Oakland, California. Evaluations of the geologic conditions at the site for the purposes of this investigation are inherently limited due to the number of observation points. There are no representations, warranties, or guarantees that the points selected for sampling are representative of the entire site. Data from this report reflects the conditions at specific locations at a specific point in time. No other interpretation, representations, warranties, guarantees, express or implied, are included or intended in the report findings. SECOR assumes no responsibility for exploratory borings or data provided or reported by other consultants or contractors.

If you have any questions regarding the proposed scope of work, please contact Ben Chevlen at (916) 861-0400, extension 289.

Sincerely,
SECOR International Incorporated

Ben Chevlen, P.G.
Associate Geologist

Ed Simonis, P.G.
Senior Geologist

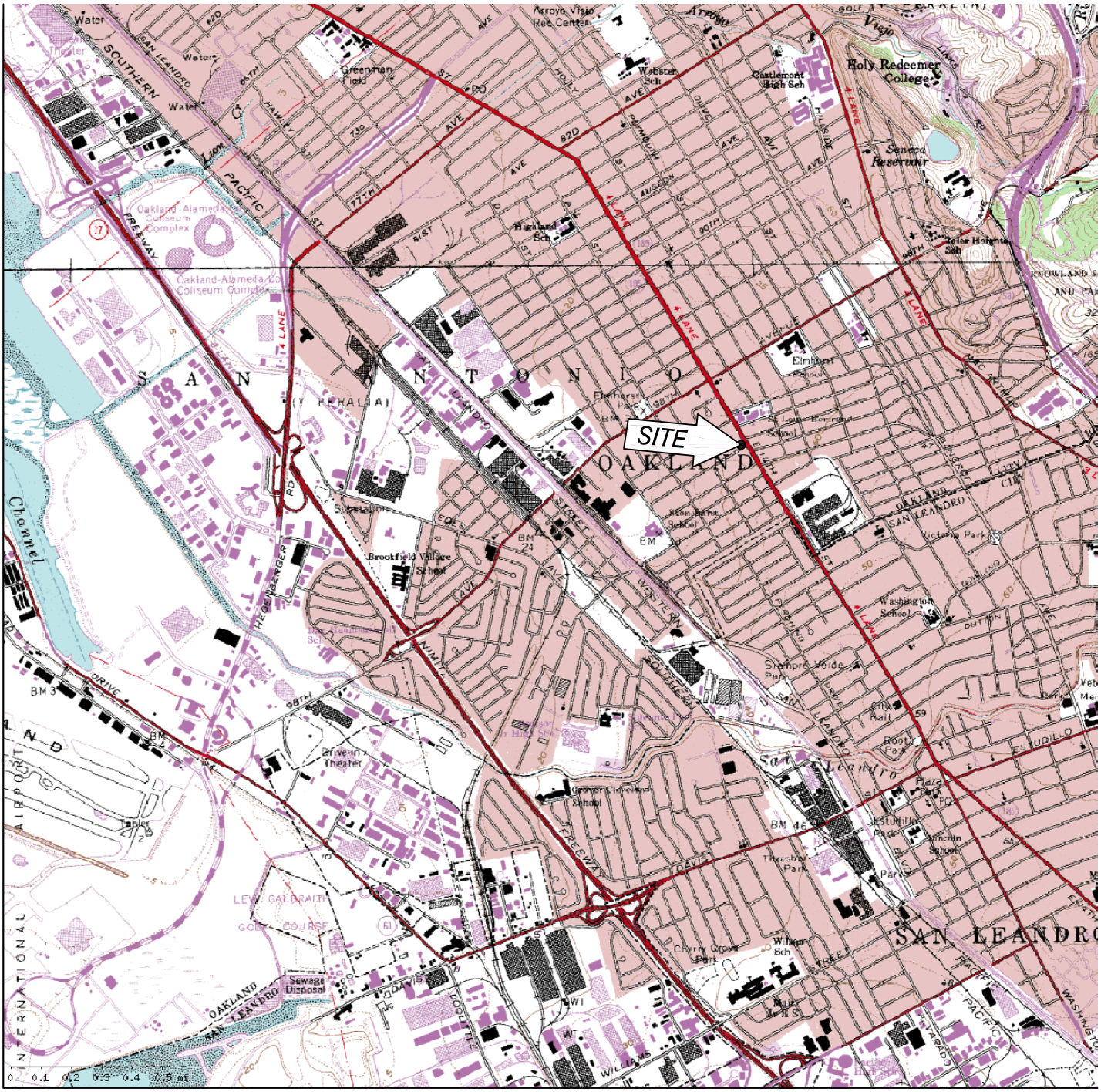
Attachments:

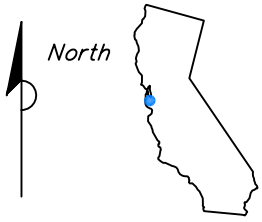
Figure 1 – Site Location Map
Figure 2 – Site Plan with Proposed Well Locations

Attachment 1 – First Quarter 2008 TRC Figures
Attachment 2 – Field and Laboratory Procedures

cc: Mr. Bill Borgh, ConocoPhillips

FIGURES





1 1/2 0 1

SCALE (MILES)

1000 0 1000 2000 3000 4000 5000 6000 7000

SCALE (FEET)

REFERENCE: USGS 7.5 MINUTE QUADRANGLE, OAKLAND, CALIFORNIA

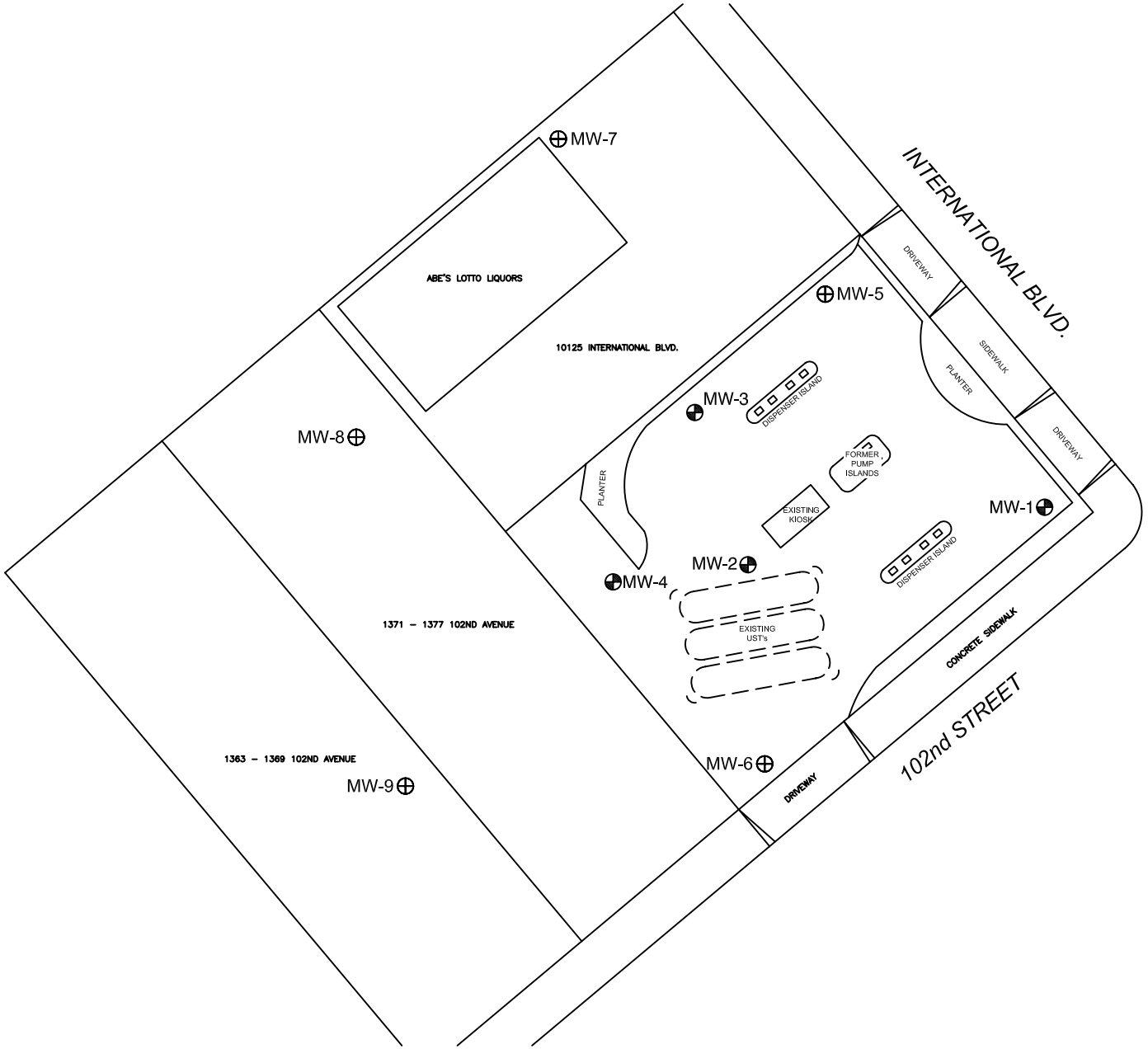
SECOR
3017 KILGORE ROAD, SUITE 100
RANCHO CORDOVA, CALIFORNIA
PHONE: (916) 861-0400/861-0430 (FAX)

FOR:
FORMER 76
STATION NO. 7124
10151 INTERNATIONAL BLVD.
OAKLAND, CALIFORNIA

SITE LOCATION

FIGURE: **1**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
77CP.01634.41	STA	BC	TP	05/19/08



LEGEND

MW-1 ⊕ GROUNDWATER MONITORING WELL LOCATIONS

MW-5 ⊕ PROPOSED GROUNDWATER MONITORING WELL LOCATIONS

N

0 40 80

APPROXIMATE SCALE IN FEET

SECOR
3017 KILGORE ROAD, SUITE 100
RANCHO CORDOVA, CALIFORNIA
PHONE: (916) 861-0400/861-0430 (FAX)

FOR:
FORMER 76
STATION NO. 7124
10151 INTERNATIONAL BLVD.
OAKLAND, CALIFORNIA

SITE PLAN WITH PROPOSED WELL LOCATIONS

FIGURE: **2**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
77CP.01634.41	STA	BC	TP	05/15/08

FILEPATH:Q:\CADD-77\ConocoPhillips\7124\76-7124 SITEPLAN.dwg | Layout Tab: Layout1 | Drafter: saguinaldo | May 21, 2008 at 13:01

ATTACHMENT 1
FIRST QUARTER 2008 TRC FIGURES

Work Plan for Additional Site Assessment
76 Service Station No. 7124
10151 International Boulevard
Oakland, California

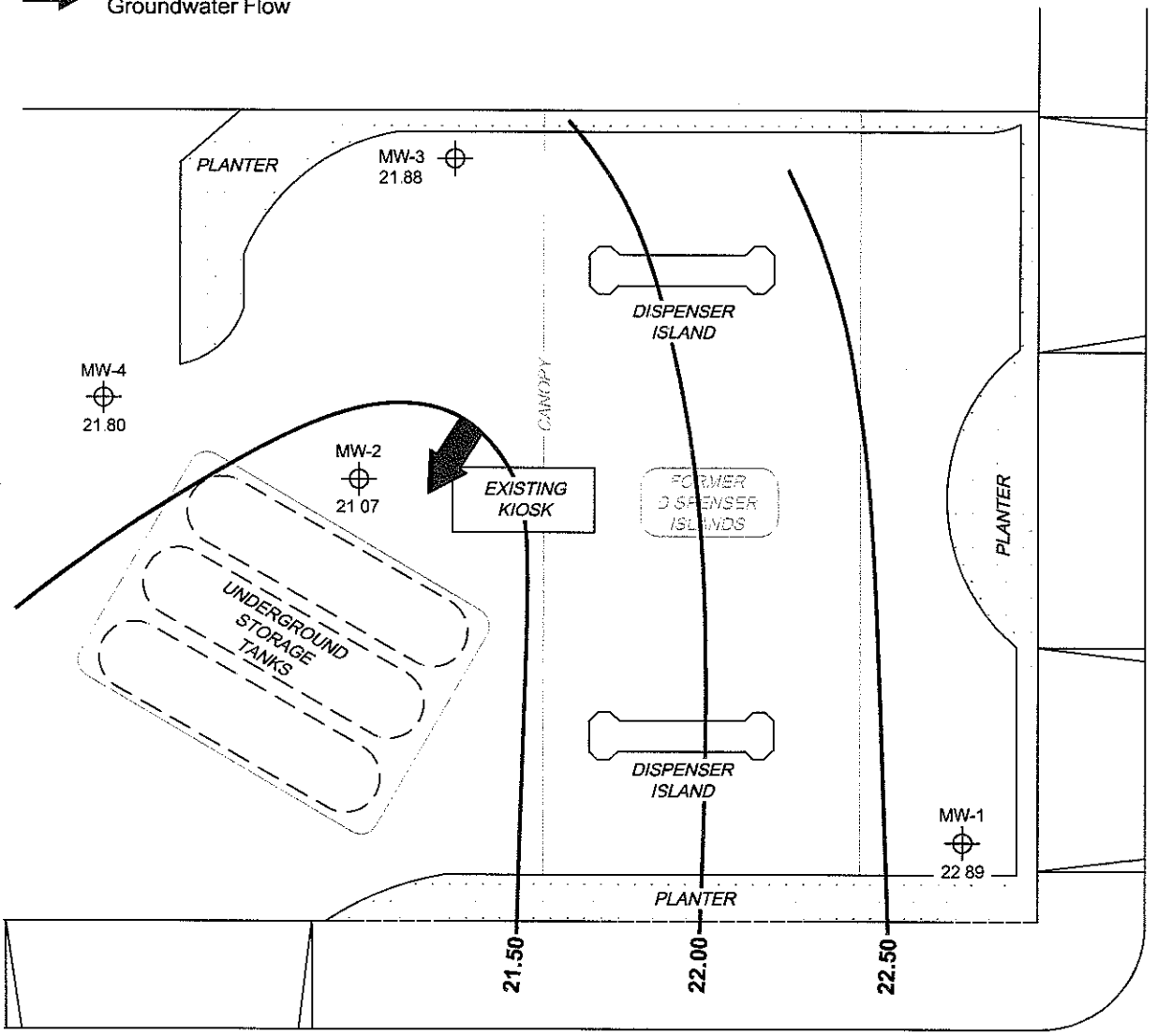
LEGEND

MW-4 ⊕ Monitoring Well with Groundwater Elevation (feet)

22.50 — Groundwater Elevation Contour

General Direction of Groundwater Flow

N



NOTES:

Contour lines are interpretive and based on fluid levels measured in monitoring wells
Elevations are in feet above mean sea level

SCALE (FEET)

0 20

TRC

PROJECT: 154771

FACILITY:

76 STATION 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP
January 11, 2008

FIGURE 2

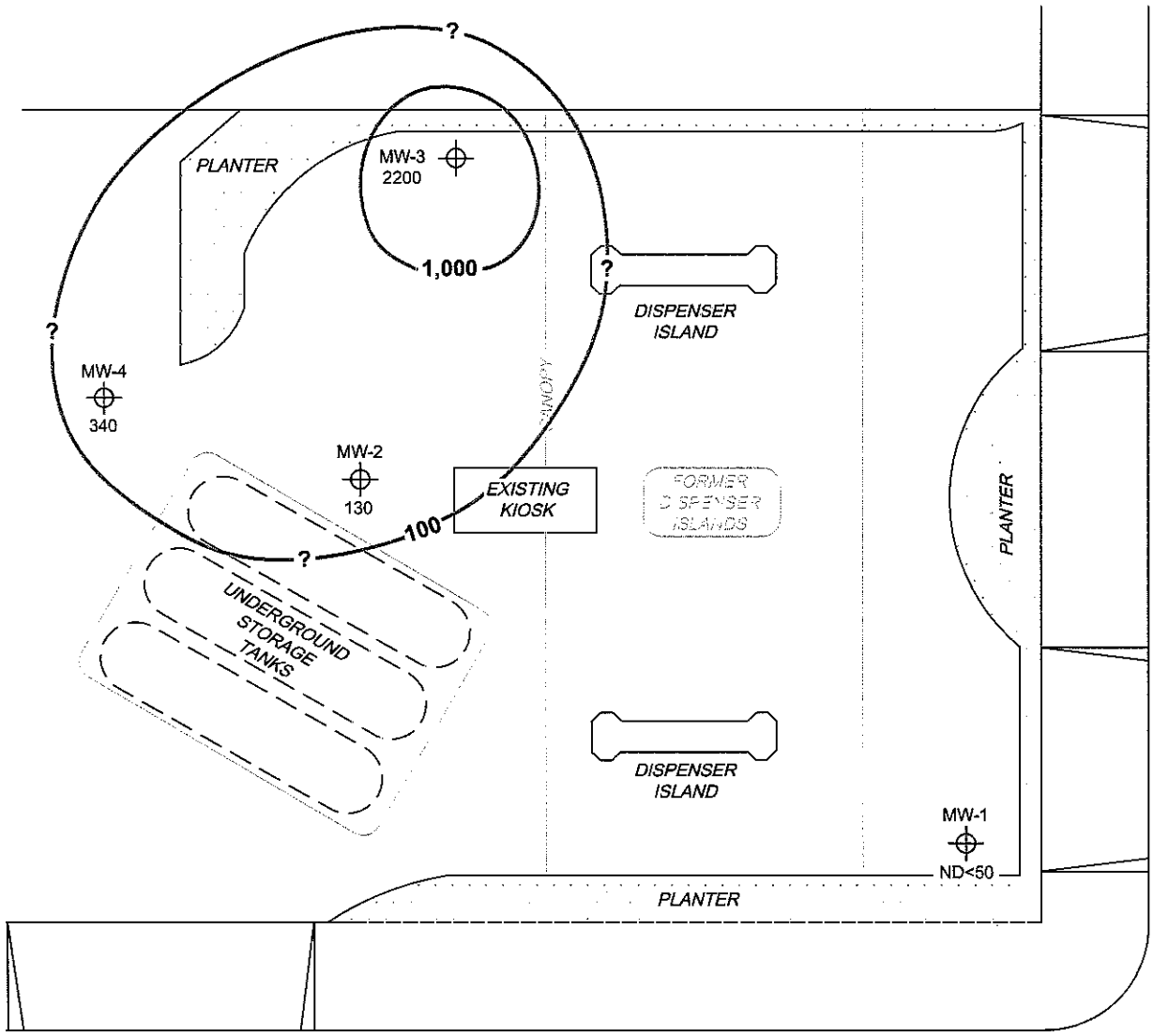
MS=1:1 7124-003 L:\Graphics\QMS NORTH-SOUTH\7x-7000\7124+\7124QMS.DWG Jan 30, 2008 - 12:05pm bschmidt

LEGEND

MW-4 ⊕ Monitoring Well with Dissolved-Phase TPH-G (GC/MS) Concentration (µg/l)

—1,000— Dissolved-Phase TPH-G (GC/MS) Contour (µg/l)

N



NOTES:

Contour lines are interpretive and based on laboratory analysis results of groundwater samples TPH-G (GC/MS) = total petroleum hydrocarbons with gasoline distinction utilizing EPA Method 8260B. µg/l = micrograms per liter ND = not detected at limit indicated on official laboratory report.

SCALE (FEET)

0 20

TRC

PROJECT: 154771

FACILITY:

76 STATION 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

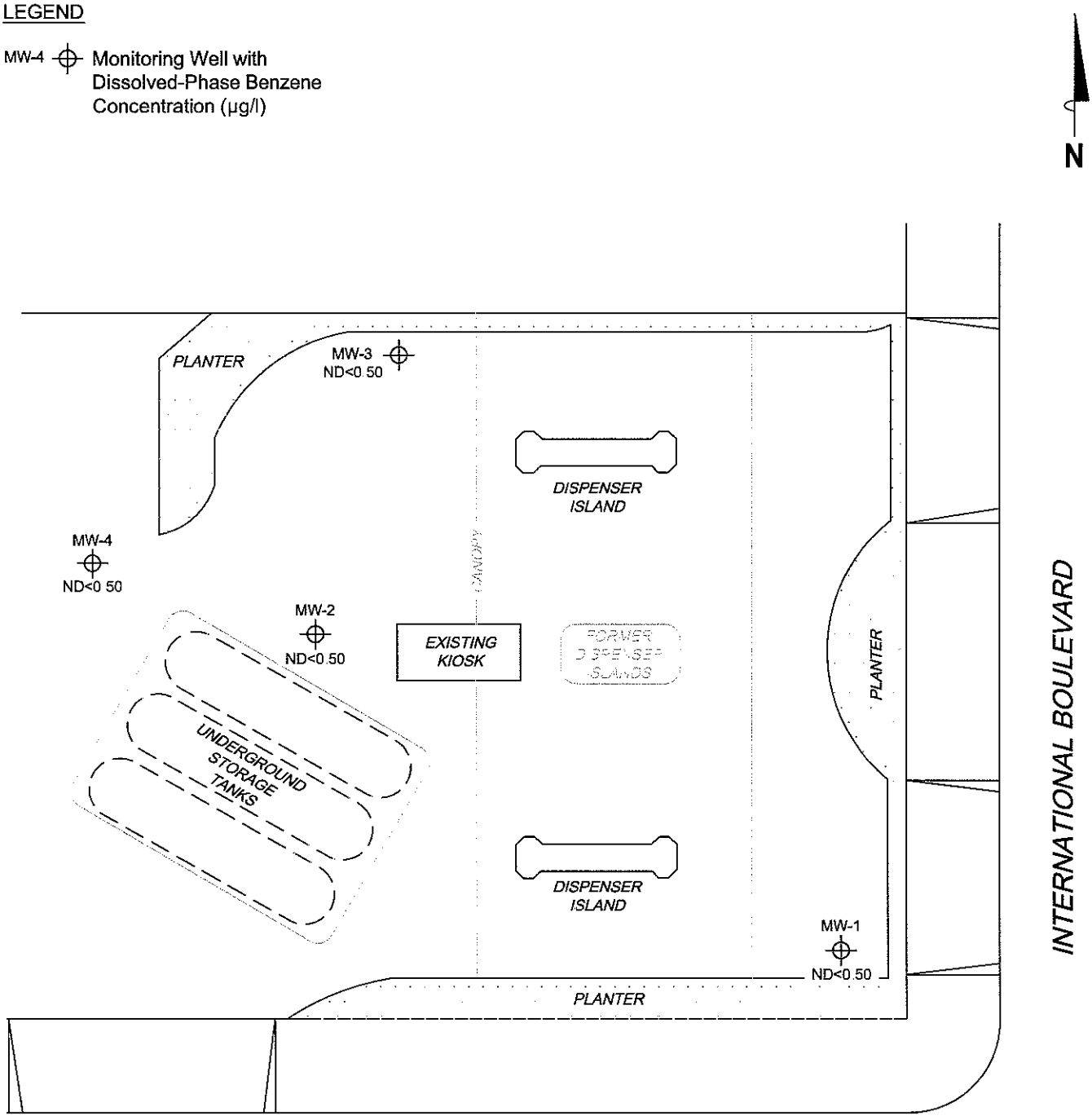
DISSOLVED-PHASE TPH-G (GC/MS) CONCENTRATION MAP
January 11, 2008

FIGURE 3

MS=1:1 7124-003 L:\Graphics\QMS NORTH-SOUTH\x-7000\7124+\7124QMS.DWG Jan 30, 2008 - 12:09pm bschmidt

LEGEND

MW-4 ⊕ Monitoring Well with Dissolved-Phase Benzene Concentration (µg/l)



NOTES:

µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report.

SCALE (FEET)

0 20

TRC

PROJECT: 154771

FACILITY:

76 STATION 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

DISSOLVED-PHASE BENZENE CONCENTRATION MAP
January 11, 2008

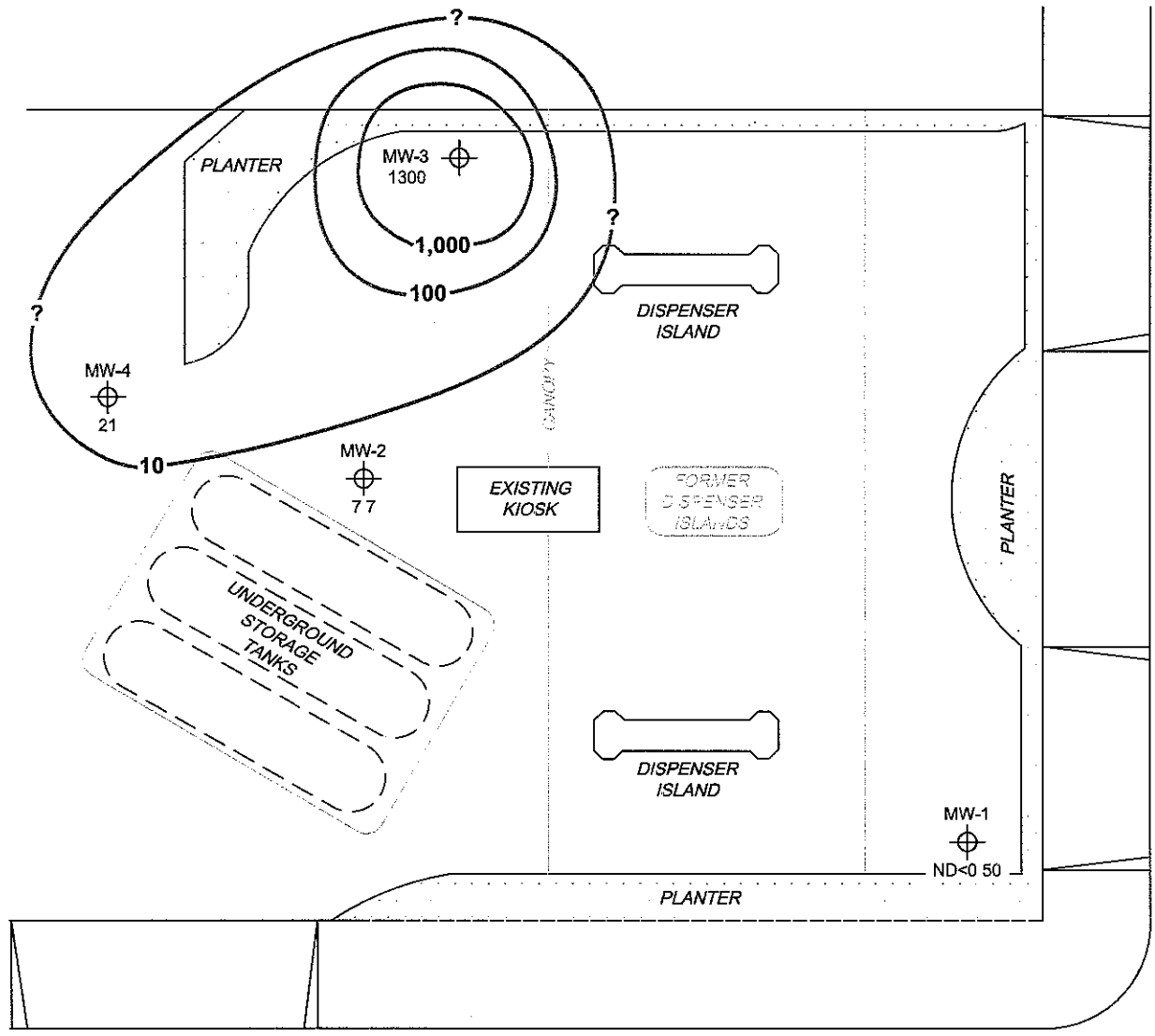
FIGURE 4

MS=1:1 7124-003 L:\Graphics\QMS NORTH-SOUTH\x-7000\7124+\7124QMS.DWG Jan 30, 2008 - 12:09pm bschmidt

LEGEND

MW-4 ⊕ Monitoring Well with Dissolved-Phase MTBE Concentration (µg/l)

1,000 Dissolved-Phase MTBE Contour (µg/l)



NOTES:

Contour lines are interpretive and based on laboratory analysis results of groundwater samples. MTBE = methyl tertiary butyl ether. µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report. Results obtained using EPA Method 8260B

SCALE (FEET)

0 20

TRC

PROJECT: 154771

FACILITY:

76 STATION 7124
10151 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA

DISSOLVED-PHASE MTBE CONCENTRATION MAP
January 11, 2008

FIGURE 5

MS=1:1 7124-003 L:\Graphics\QMS NORTH-SOUTH\x-7000\7124+\7124QMS.DWG Jan 30, 2008 -- 12:16pm bschmidt

ATTACHMENT 2
FIELD AND LABORATORY PROCEDURES

Work Plan for Additional Site Assessment
76 Service Station No. 7124
10151 International Boulevard
Oakland, California

ATTACHMENT 2
FIELD AND LABORATORY PROCEDURES

EXPLORATORY DRILLING

Soil boring will be drilled to maximum depth of 25 feet bgs using hollow stem auger drilling equipment (first groundwater is expected to be at approximately 12 to 15 feet bgs). The boring will be logged by SECOR field staff using the Unified Soil Classification System and standard geologic techniques under the direction of California Registered Geologist. Soil samples for logging and possible analysis will be collected from the borings at five foot intervals. All soil samples for chemical analysis will be retained in brass or stainless steel sample sleeves, capped with Teflon squares and plastic end caps, and sealed in clean zip-lock bags. The samples will be placed on ice for transport to the laboratory accompanied by chain-of-custody documentation. All down-hole drilling and sampling equipment will be steam-cleaned following the completion of the soil boring. Down-hole sampling equipment will be washed in an alconox solution between samples.

ORGANIC VAPOR PROCEDURES

Soil samples collected during drilling operations will be analyzed in the field for ionizable organic compounds using a photo-ionization detector (PID) with a 10.2 eV lamp or a flame ionization detector (FID). The test procedure will involve measuring approximately 30 grams from an undisturbed soil sample, placing this subsample in a sealed container (either a zip-lock bag or a mason jar). The container will be warmed for approximately 20 minutes (in the sun), then the head-space within will be tested for total organic vapor, measured in parts per million as benzene (ppm; volume/volume). The instrument will be calibrated prior to drilling using a 100-ppm isobutylene standard (in air) and a sensitivity factor of 55, which relates the photo-ionization potential of benzene to that of isobutylene at 100 ppm. The results of the field-testing will be noted on the boring logs. PID and FID readings are useful for indicating relative levels of contamination, but cannot be used to evaluate hydrocarbon levels with the confidence of laboratory analyses.

MONITORING WELL INSTALLATION

The monitoring wells are constructed by inserting or tremming well materials through the annulus of the hollow stem auger. In general, the groundwater monitoring wells are constructed with 10 feet of screen below groundwater and 10 feet above groundwater, for a total screen length of 20 feet. Where shallow groundwater is encountered or perched water dictates otherwise, the screen is adjusted, as appropriate, to maintain a proper seal at the surface (minimum three feet) and to avoid penetrating low permeable horizons or aquicludes. All groundwater wells are installed in accordance with the conditions of the well construction permit issued by the regulatory agency exercising jurisdiction over the project site.

The well screen will consist of schedule 40 polyvinyl chloride (PVC) casing with 0.010-inch machine slots. The screen is then filter packed with Lonestar 2/12 sand. The well screens are expected to be set from 10 feet to 25 feet bgs.

Once the borehole has been drilled to the desired depth, approximately six inches of filter sand are tremmied to the bottom of the boring. The well screen and blank well casing are then inserted through the annulus of the hollow stem augers. The well screen is sandpacked by tremming the appropriate filter sand through the annulus between the casing and augers while slowly retracting the augers. During this operation, the depth of the sand pack in the auger is continuously sounded to make sure that the sand remains in the auger annulus during auger retraction to avoid shortcircuiting the well. The sand pack is tremmied to approximately two feet above the screen, at which time pre-development surging is performed to consolidate the sand pack. Additional sand is added as necessary to assure that the sand pack extends a minimum of two feet above top of screen. Following construction of the sand pack, a two foot thick bentonite seal is tremmied over the sand and hydrated in place. The remainder of the borehole is backfilled with neat cement grout. The well head is then capped with a locking cap and secured with a lock to protect the well from surface water intrusion and vandalism.

The well head is further protected from damage with traffic a rated well box in paved areas or locking steel riser in undeveloped areas. The protective boxes or risers are set in concrete. The details of well construction are recorded on well construction logs.

Following well construction, the wells are developed in accordance with agency protocols by intermittently surging and bailing the wells. Development is determined to be sufficient once pH, conductivity and temperature stabilize to within the 10 percent of the previous two readings and turbidity is below 10 NTUs.

Wastewater collected during development is contained in 55-gallon DOT approved drums and stored on site pending laboratory results and disposal. A label is affixed to the drums indicating the contents of the drum, suspected contaminants, date of generation and the monitoring well number from which the waste water was generated.

To evaluate groundwater gradient and groundwater elevation, the well heads are surveyed to an assumed or legal bench mark depending on the requirements of the project.

LABORATORY PROCEDURES

Selected soil and groundwater samples will be analyzed for TPHg, BTEX, and fuel oxygenates by EPA Method 8260.

SOIL CUTTINGS AND RINSATE/PURGE WATER

Soil cuttings generated during drilling operations will be temporarily stored on-site pending characterization and disposal. Soil cuttings will be removed by a licensed disposal contractor to an appropriate treatment or disposal facility. Water generated during equipment cleaning will be temporarily stored in DOT-approved 55-gallon drums pending transport by a licensed disposal contractor to an appropriate treatment or disposal facility. Drummed soil cuttings and rinsate water will be temporarily stored on-site for approximately 4 to 6 weeks.