SITE CHARACTERIZATION PLAN

Lower Zone LNAPL Remediation
ExxonMobil Corporation Baltimore Terminal

FEBRUARY 28, 2008

Prepared for:

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1.0 INTRODUCTION

On behalf of ExxonMobil Corporation, and in accordance with the November 8, 2007 Consent Decree between ExxonMobil and the Maryland Department of the Environment (MDE), GeoTrans, Inc. presents this Site Characterization Plan to delineate the nature and extent of Light Non-Aqueous Phase Liquid (LNAPL) in the "Lower Zone". This plan includes a summary of historical investigation activities and results, presents a summary of the Site Conceptual Model, evaluates data gaps to further refine the Site Conceptual Model, and presents a scope of work to meet the requirements of the Consent Decree.

2.0 BACKGROUND

The former ExxonMobil Baltimore Terminal project area has historically been divided into three main project areas which are presented in **Figure 1**. These include the "Main Terminal", the "Toone Street Tank Field" and the "14th Street Parcel". From the late 1800's through 1957, these parcels were used for refining, storing, and distributing petroleum products. The refinery was a key fuels production distribution facility during World Wars I and II. From 1957 through 1998 the Main Terminal and Toone Street parcels were used for the storage and distribution of petroleum products. Adjacent off-site properties include Baltimore City, Canton Railroad, Canton Trade Center, Obrecht, Terminal Corporation, Tulkoff, and Warner Graham.

3.0 HISTORICAL INVESTIGATION ACTIVITIES AND RESULTS

Historical "Lower Zone" delineation activities began in 1994, when, as part of environmental assessment activities, an investigation determined the presence of LNAPL below the unconfined water table unit and within a deeper water bearing unit. This confined water bearing unit was determined to be the Patuxent Aquifer and was designated "Lower Zone".

Additional "Lower Zone " investigation activities were conducted in 1995, 1996, 1999, 2002, 2003 and 2006 to further define the nature and extent of the LNAPL in the "Lower Zone". **Table 1** presents a summary of the borings (20), monitoring wells (55), and system recovery wells (21) installed and **Figure 2** presents a Site Map depicting their locations. Historical gauging results for the past 2 years are presented in **Attachment I**. Historical investigation methodology utilized to delineate the "Lower Zone" included a step by step process to determine the nature and extent of LNAPL in the subsurface and determine LNAPL recoverability. This process (**Figure 3)** will also be the methodology utilized to evaluate data gaps and present a scope of work to further refine the Site Conceptual Model and define the nature and extent of LNAPL in the subsurface. Key steps within the methodology include: identification of stratigraphic data gaps, installation of borings, observation of recoverable LNAPL, well installation, bail-down testing, and long term LNAPL recoverability testing.

Detailed site investigation results are presented in **Table 2** which include well location (northing/easting), ground elevation, depth to top of the Arundel Formation, depth to the Arundel/Patuxent contact, Arundel Formation thickness, LNAPL recovery rate, and LNAPL recovery zone thickness.

4.0 SITE CONCEPTUAL MODEL

The Site Conceptual Model is site-specific and provides the basis for investigation, data gap evaluation, and remediation activities. A graphical representation of the Site Conceptual Model as we understand it today is presented as **Figure 4**. The following sections present a summary of site characterization information collected to date on the site stratigraphy and lithology, environmental deposition, Patuxent Formation aquifer characteristics, and LNAPL delineation and recoverability.

4.1 Stratigraphy and Lithology

The stratigraphic units encountered at the site, from shallowest to deepest include Pleistocene deposits, Arundel Formation, and the Patuxent Formation. Surface topography in the vicinity of the project site ranges from approximately 55 to 20 feet above mean sea level (MSL). The Pleistocene deposits include heterogeneous units of sand, silt and clay in which the unconfined groundwater table is present at approximately 15 to 20 feet below grade surface (BGS). The Arundel Formation is a confining/semi-confining unit mainly comprised of silt with some clay and sand lenses which separate the Pleistocene sediments and the Patuxent Formation. The Patuxent Formation is comprised of heterogeneous units of sand and silty sand deposited as a fining upward sequence.

4.2 Depositional Environment

The depositional environment for the Arundel Formation was a low-energy meandering stream in comparison to that of the lower units of the Patuxent Formation, which were deposited in a higher energy braided stream environment. The sediments of the "Lower Zone" represent a transition zone between the Arundel and Patuxent Formations. **Figure 5** presents a regional contour map of the Arundel/Patuxent contact and the interpretation that the area is similar to a "bird-foot" delta which was deposited during the Cretaceous period. **Figure 6** presents a regional geologic cross-section depicting the project area. **Figure 7** presents a project area contour map of the Arundel/Patuxent contact.

4.3 Patuxent Formation Aquifer

The Patuxent Formation aquifer was used in Baltimore City as a source of water mainly for industrial purposes since the early 1900's. Aquifer usage gradually increased through 1945 and then has drastically decreased through the present day time period. The Patuxent Formation aquifer in Baltimore City is not used for domestic or public supply due to acid, chromium, copper sulfate, chloride (brackish water), and

organic chemical contamination which has been documented in numerous Maryland Geological Survey investigative reports dating back to 1952 and as recently as 1985. In addition, a portion of the Patuxent Formation aquifer in Baltimore City was classified by the Maryland Department of the Environment as a Type III (non-usable for potable water) in 1989.

The potentiometric surface of the groundwater in the Patuxent Formation has changed significantly over the past 60 years. Prior to industrialization of the project area, the potentiometric surface ranged from +5 to –5 feet MSL. The potentiometric surface in the 1940s is estimated to have reached a depth of approximately 70 feet BGS (-40 MSL) as a result of heavy industrial pumping in the vicinity of the project area. In 1997, the potentiometric surface was measured at approximately 45 feet BGS (-15 MSL), with one down-gradient industrial well (Red Star Yeast) still in operation. As a result of the shutdown of the industrial well in the late 1990s, and additional wells over the past several years, water levels in the Patuxent Formation have returned to near static conditions of 25 feet BGS (5 MSL).

4.4 LNAPL Delineation and Recoverability

During the historical delineation activities, LNAPL saturated soils (LNAPL pooling in the sampling device), were typically encountered within the fine grained soils immediately below the Arundel/Patuxent contact. Following well installation, exaggerated LNAPL thicknesses were observed due to the Arundel Formation confining pressure on the LNAPL located within the Patuxent Formation. **Figure 8** presents a diagram of this exaggeration and documents the LNAPL recovery zone identified during site characterization activities.

LNAPL recovery from the “Lower Zone” is accomplished by LNAPL skimming from select system recovery wells. Due to the complex nature of the stratigraphy and the pressures of the confining unit, LNAPL is maintained at 80% static level thickness during recovery operations. This ensures LNAPL in the formation remains in contact with LNAPL in the well and avoids “watering out” the well from over pumping. Historical recovery rates vary across the site. **Figure 9** presents a map depicting the recovery rates for each of the wells at the site.

An LNAPL recoverability data analysis was completed in 2004, 2005 and updated in 2007. The analysis concluded that the site geology is highly heterogeneous within the top of the Patuxent Formation where the recoverable LNAPL is located and well placement in areas of stratigraphic hummocks (domes or high points) is one of the keys to maximize LNAPL recoverability. In addition, LNAPL thickness in a monitoring well is a poor predictor of LNAPL volume, mobility and recoverability, and under best efforts, a significant portion of LNAPL will remain trapped. The analysis determined the two most important factors for LNAPL recovery were: a) the stratigraphic elevation of the bottom of the confining unit, and b) the presence and thickness of the LNAPL recovery zone. **Figure 10** presents a schematic documenting the technical

definition of the LNAPL recovery zone. **Figure 11** presents a contour map of the calculated LNAPL recovery zone.

4.5 Additional Recovery Well Installation Results

As part of the Consent Decree requirements, six additional interim corrective action wells were installed in pre-selected locations as determined from the Site Conceptual Model to further augment the LNAPL recovery at the site and to verify the Site Conceptual Model. Delineation results indicate the depth of the Arundel/Patuxent contact in these wells correlate very well with the Site Conceptual Model. The wells are currently being tested for LNAPL recoverability and will be converted to remediation system recovery wells pending the results of the testing.

5.0 DATA GAP EVALUATION

To fulfill the requirements of the Consent Decree and develop a scope of work to complete LNAPL delineation within the "Lower Zone", a structured data gap evaluation was conducted. The project site was divided into 4 quadrants and each quadrant was evaluated on the following criteria:

- Presence/Absence of LNAPL in monitoring wells;
- Delineation of Arundel/Patuxent contact locations;
- Delineation of the LNAPL recovery zone; and
- Availability of LNAPL characterization recoverability data.

Figure 12 presents an overall map showing the quadrant locations and **Figures 12a, 12b, 12c, and 12d** present a map of each individual quadrant. A detailed summary of the data evaluation results and proposed activities for each quadrant is presented in the following sections:

5.1 Quadrant 1 (Toone Street Tank Field Area)

This quadrant contains a total of 34 wells (**Figure 12a**), four of which are located on the off-site northeast Tulkoff Property, 14 of which are located on the Toone Street West parcel, 12 of which are located on the Toone East parcel, and 4 of which are located on the Baltimore City property located to the south paralleling Boston Street.

Presence/Absence of LNAPL in Monitoring Wells

Of these wells, 5 wells (2914, 2913, 2814, 2815, 2801) do not contain LNAPL (**Attachment I**). Well 2911, located on Baltimore City property, has not been gauged since June 2005 due to access issues, however, historical gauging results indicate this well contains minor to no LNAPL. Well 2925 (Off-Site Tulkoff Property) contains minor LNAPL thicknesses for a "Lower Zone" well (approximately 1 to 4 feet), and is not

viewed as recoverable LNAPL. Based on this information the up-gradient boundary (west/northwest/north) is defined and no additional delineation is proposed.

Arundel/Patuxent Contact

The Arundel/Patuxent contact (**Figure 7**) in this quadrant is well defined spatially and contains the highest stratigraphic elevations of the contact. No data gaps are observed and no additional delineation is proposed.

LNAPL Recovery Zone

The extent of the LNAPL recovery zone in this quadrant is also well defined and correlates well with actual LNAPL recovery rates for wells in this area where the recovery zone is thick and recoverable LNAPL is present. Historical observation data indicate higher recovery rates toward the center of the recovery area and lower rates near its boundaries. The placement of the 5 additional LNAPL recovery wells installed as part of the interim corrective action activities appear to correlate extremely well with these higher recovery rate expectations from the site conceptual model. No additional delineation is proposed to further delineate this quadrant.

LNAPL Characterization Data

The results of the LNAPL characterization data (4 sample locations) collected during the interim corrective action activities will provide sufficient technical information for this quadrant.

5.2 Quadrant 2 (MTA Area)

This quadrant contains a total of 23 wells and 8 borings (**Figure 12b**). Seventeen of the wells and four of the borings are located on the Main Terminal Property. Six of the wells and 4 of the borings are located on the off-site properties to the south.

Presence/Absence of LNAPL in Monitoring Wells

Of these wells and borings, 7 wells (2626, 2633, 2636, 2919, 2924, 2923, and 2921) do not contain LNAPL and borings #7, #8, #9, #10, #11, 2922a, and SB-C did not contain any significant LNAPL saturated soils (and therefore were not converted to wells). Additionally, historical gauging results for well 2922 (installed in 1997 with last gauge 9/15/2005 – well buried) indicate no LNAPL has ever been detected. Based on this information the western/southwestern/southern boundary is defined and no additional delineation is proposed in these areas. However, one boring/well (Q2-1) is proposed on the eastern portion of the quadrant within the ExxonMobil right-of-way (located between the buildings on the eastern side of South Haven Street). The location of this proposed boring/well is presented in **Figure 12b**.

Arundel/Patuxent Contact

The Arundel/Patuxent contact (**Figure 7**) in this quadrant is well defined spatially and contains several "hummock areas" which are focused in the northeastern portion of this quadrant. No data gaps are observed and no additional delineation is proposed. SB-A located in the northern portion of the quadrant did contain LNAPL saturated soils but was not converted to a monitoring well due to the uncertainty Arundel/Patuxent contact location. This boring is not proposed to be replaced due to the radius of effect calculations of the nearby recovery wells.

The one additional boring/well (Q2-1) will provide additional delineation on the eastern portion of this quadrant.

LNAPL Recovery Zone

The extent of the LNAPL recovery zone (**Figure 11**) in this quadrant is also well defined and correlates well with actual LNAPL recovery rates for wells in this area for those wells where the recovery zone is thick and recoverable LNAPL is present. Historical observation data indicate higher recovery rates toward the center of the recovery area and lower rates near its boundaries. The placement of the 1 additional LNAPL recovery well installed as part of the interim corrective action activities correlates extremely well with the higher recovery rate expectation in the northeastern portion of this quadrant. No additional delineation is proposed to further refine the recovery zone within the Main Terminal Area. One data gap area is present east of wells 2632 and 2624 and west of well 2917. The one additional boring/well (Q2-1) will provide additional delineation on the eastern portion of this quadrant.

LNAPL Characterization Data

The results of the LNAPL characterization data (1 sample location) collected during the interim corrective action activities will provide sufficient technical information for the Main Terminal Area, however additional LNAPL characterization data is proposed to be collected from the one additional well (Q2-1) identified above.

5.3 Quadrant 3 (Canton Trade Center Area)

This quadrant contains a total of 8 wells and 5 borings (**Figure 12c**). All of the wells and two of the borings are located on the Canton Trade Property and the other two borings are located on an off-site property currently owned by Obrecht.

Presence/Absence of LNAPL in Monitoring Wells

All of the wells contain LNAPL. All 5 of the borings #B-20, #B-21, #B-22, #B-23, and #B-24 did not contain any significant LNAPL saturated soils (and therefore were not converted to wells). The northern, northeastern, eastern, and southeastern boundaries are defined and no additional delineation is proposed.

Data gaps are present west of the Canton Trade property building however, due to site conditions (railroad tracks and buildings) additional delineation in the western portion of this quadrant would be difficult. The necessity of filling these data gaps will be re-evaluated following calculation of the estimated radius of effect and recoverability analysis for the adjacent recovery wells.

Arundel/Patuxent Contact

The Arundel/Patuxent contact (**Figure 7**) in this quadrant is well defined spatially in the areas which are accessible and contain higher elevation areas in the center and western portion of the quadrant. Data gaps are present west of the Canton Trade property building however, due to site conditions (railroad tracks and buildings) additional delineation in the western portion of this quadrant would be difficult. The necessity of filling these data gaps will be re-evaluated following calculation of the estimated radius of effect and recoverability analysis for the adjacent recovery wells.

LNAPL Recovery Zone

The extent of the LNAPL recovery zone (**Figure 11**) in this quadrant is also well defined and correlates well with actual LNAPL recovery rates for wells in this area for those wells where the recovery zone is thick and recoverable LNAPL is present. Historical observation data indicate higher recovery rates toward the center of the recovery area and lower rates near its boundaries. Data gaps are present west of the Canton Trade property building however, due to site conditions (railroad tracks and buildings) additional delineation in the western portion of this quadrant would be difficult. The necessity of filling these data gaps will be re-evaluated following calculation of the estimated radius of effect and recoverability analysis for the adjacent recovery wells.

LNAPL Characterization Data

Based on the proximity to the additional wells installed as part of interim corrective action activities on the Toone Street east portion, the results of the LNAPL characterization data collected provides sufficient technical information for this quadrant.

5.4 Quadrant 4 (14th Street Parcel Area)

This quadrant contains a total of 18 wells and 7 borings (**Figure 12d**). Three of the wells are located on Canton Railroad property. Fifteen wells and five borings are located on the 14th Street Parcel. Two borings are located on the southern off-site property (Norfolk Southern).

Presence/Absence of LNAPL in Monitoring Wells

Five of the wells in the quadrant (2916, 2918, 3090, 3087, and 3086), do not contain LNAPL. All of the borings (#B-12, #B-13, Merch 2,3,4,6, and B-29) did not contain any significant LNAPL saturated soils and therefore were not converted to wells. The southern boundaries are defined and no additional delineation is proposed. Data gaps are present along the eastern and western portion of the quadrant and additional

boring/well installations are recommended in the vicinity of the Canton Railroad property, the western edge of 14th street, and the eastern edge of 14th Street. Specifically, three additional borings/wells (Q4-1, Q4-2, Q4-3) are proposed within the Canton Railroad property, two (Q4-4, Q4-5) within the western portion of 14th Street, and two (Q4-6, Q4-7) along the eastern boundary. These locations are presented in **Figures 12d**.

Arundel/Patuxent Contact

The Arundel/Patuxent contact (**Figure 7**) in this quadrant has data gaps west of the main line of hummocks which are located in the center portion of the 14th Street Parcel. The wells planned to be installed within the Canton Railroad property and along the western edge of the 14th Street Parcel will be sufficient for delineation of the contact in these areas.

LNAPL Recovery Zone

The extent of the LNAPL recovery area (**Figure 11**) in this quadrant is fairly well defined with the exception of the Canton Railroad property (well 2917) and the area north of well 3085. The wells planned to be installed within the Canton Railroad property and along the western edge of the 14th Street Parcel will be sufficient for delineation of the contact in these areas.

LNAPL Characterization Data

GeoTrans proposes to collect additional LNAPL characterization data from the 5 borings/wells installed within this quadrant.

6.0 PROPOSED SCOPE OF WORK

The purpose of the planned activities is to finalize the delineation of the nature and extent of LNAPL within the “Lower Zone”. In accordance with previous investigations the work process flow chart (**Figure 3)** will be utilized during the investigation. The scope of work includes first determining the depth of the Arundel/Patuxent contact, the vertical delineation of LNAPL impacted soils, and the qualitative extent of LNAPL saturation to determine if a monitoring well will be installed. If LNAPL pooling is evident in the sampling device, LNAPL characterization samples will be collected, a monitoring well installed, and recoverability testing completed. If not, the borehole will be grouted.

Specific Tasks associated with these planned activities include site preparation activities, boring/recovery well installation, LNAPL characterization sampling, well development, bail-down testing, long term LNAPL recoverability testing, and data reporting.

6.1 Site Preparation and Boring/Recovery Well Installation

The site preparation activities will include contacting Miss Utility, third party utility sweep and completion of ExxonMobil subsurface clearance program. Prior to soil boring installation activities, GeoTrans, Inc. personnel will conduct a site walk to mark proposed boring/recovery well locations.
The borings will be continuously sampled from approximately 20 feet BGS to termination depth (20 ft below the Arundel/Patuxent contact – approximately 60 to 70 feet BGS) using a split spoon sampling device driven by a 300-pound hammer falling 30 inches. The holes will be 6 inches in diameter and drilled using a combination of auger and mud/water rotary techniques. Logging of the borings will include stratigraphy, photo-ionization detector (PID) readings, and LNAPL saturation (i.e., LNAPL pooling in the sampling device). If no LNAPL saturation is observed, the borehole will be abandoned by tremie grouting with a cement/bentonite mixture or bentonite slurry. A recovery well will be installed if LNAPL saturation is observed below the Arundel/Patuxent contact. A 4-inch diameter well string consisting of slotted (0.020-inch) PVC pipe and solid riser pipe will be placed in the borehole with sand (Morie # 2) adjacent to the screened interval. A bentonite seal will be placed at an interval adjacent to the portion of the Arundel Formation to provide a competent seal and avoid cross-contamination of water-bearing zones. A cement/grout mixture will then be placed on top of the bentonite (up to the ground surface) to further ensure sealing of the Arundel confining unit. Drill cuttings and drilling mud will be placed in 55 gallon drums, labeled as non-classified waste and disposed per ExxonMobil protocols. Wells will be developed approximately 24 hours after installing using surge block and pump methods, which includes removal of a minimum of three well volumes. Well development fluids will be placed in 55 gallon DOT drums, labeled as non-classified waste and disposed per ExxonMobil protocols.

One LNAPL saturated soil sample from each boring will be collected near the bottom of the Arundel/Patuxent contact, will be capped, and placed on dry ice for submittal to PTS laboratories for LNAPL characterization parameters. Analysis will include LNAPL density and viscosity, and site-specific geologic information such as porosity, fraction of the pore space filled with LNAPL, permeability of the porous media, and relative permeability of the porous media to LNAPL. **Attachment II** presents a detailed description of laboratory analytical methods and field collection methods. If LNAPL is present in the wells, specific gravity measurements will be collected using standard API hydrometers.

6.2 Bail-Down and Long Term Yield Testing

Approximately 2 to 4 weeks following well development activities, wells will be gauged and a bail-down test completed. Bail-down testing procedures will include:

- Collection of liquid levels;
- Removal of approximately 20 gallons of product (approximately 1 well volume) in approximately 15 minutes;

- Monitor liquid levels for 2 hours or 90% recovery of static LNAPL thickness, whichever occurs first; and,
- Data evaluation and comparison with historic bail-down test data and LNAPL recoverability.

Approximately 2 to 4 weeks following bail-down testing, those wells which indicate potential recovery from the bail-down testing results will be tested for long term LNAPL recovery. Long term LNAPL recovery testing will include:

- Pumping at a rate equivalent to the LNAPL yield of the water-bearing zone for an extended period of time using a portable trailer LNAPL skimming system;
- Monitoring liquid levels during the test to maintain >80% of static LNAPL thickness;
- Data analysis and determination of LNAPL recoverability yield under long term pumping conditions.

6.3 *Data Evaluation*

The results collected will be incorporated into the existing site conceptual model and will be utilized to complete a Site Characterization Report and ultimately a Corrective Action Plan. This evaluation will include mapping the Arundel/Patuxent contact, mapping the LNAPL recovery area, analysis of lab data collected for LNAPL recoverability, and analysis of LNAPL recovery testing.

6.4 Schedule

The installation of the eight borings/wells and a Site Characterization Report will be completed within one year of the MDE's approval of this Work Plan.

FIGURES

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Scale (ft)

TITLE: Baltimore Terminal Areas

LOCATION: ExxonMobil Global Remediation
Former Terminal – Baltimore, Maryland

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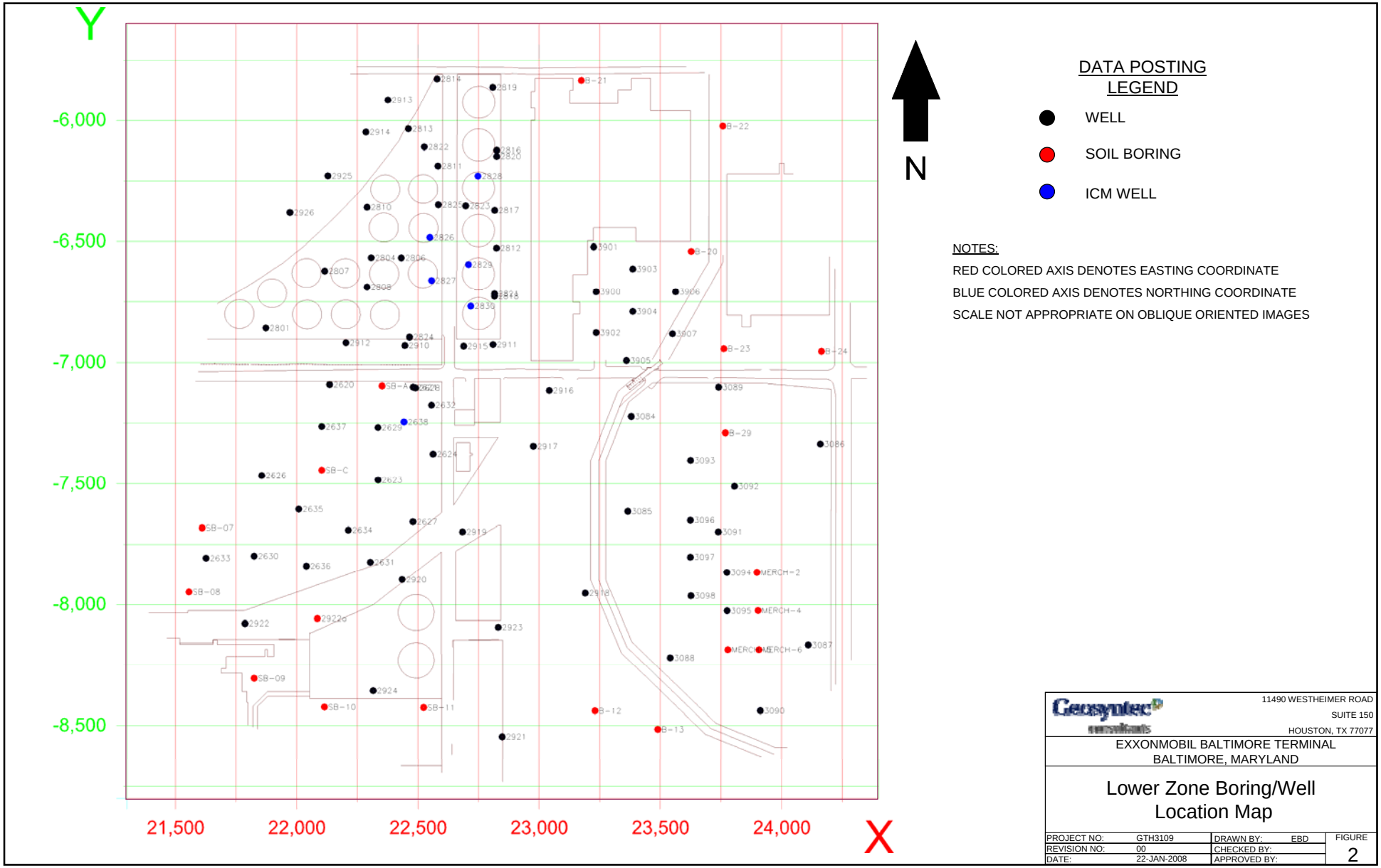
FIGURE: 1



DATA POSTING LEGEND

- WELL
- SOIL BORING
- ICM WELL

NOTES:

RED COLORED AXIS DENOTES EASTING COORDINATE

BLUE COLORED AXIS DENOTES NORTHING COORDINATE

SCALE NOT APPROPRIATE ON OBLIQUE ORIENTED IMAGES

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Geosyntec consultants

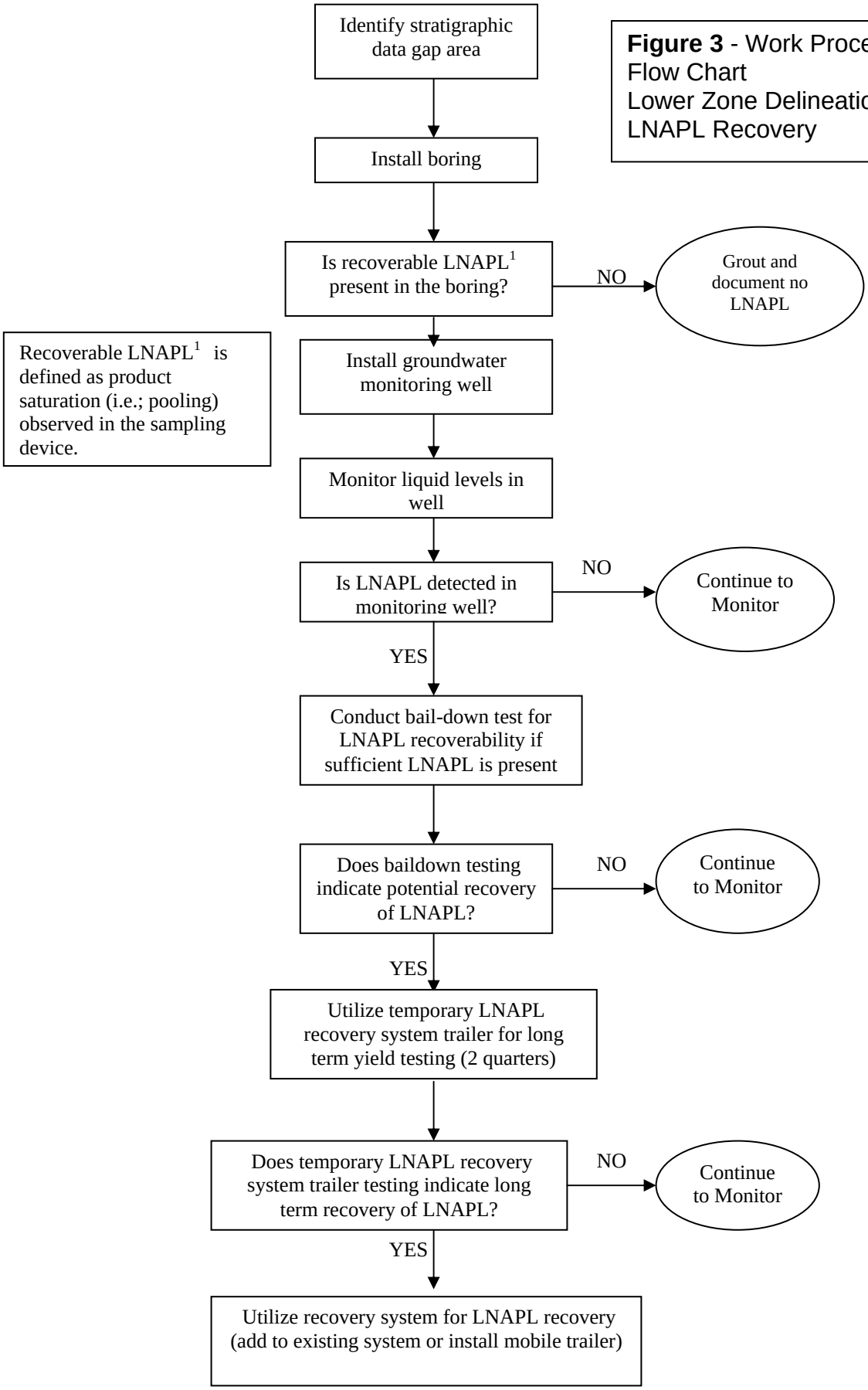
11490 WESTHEIMER ROAD
SUITE 150
HOUSTON, TX 77077

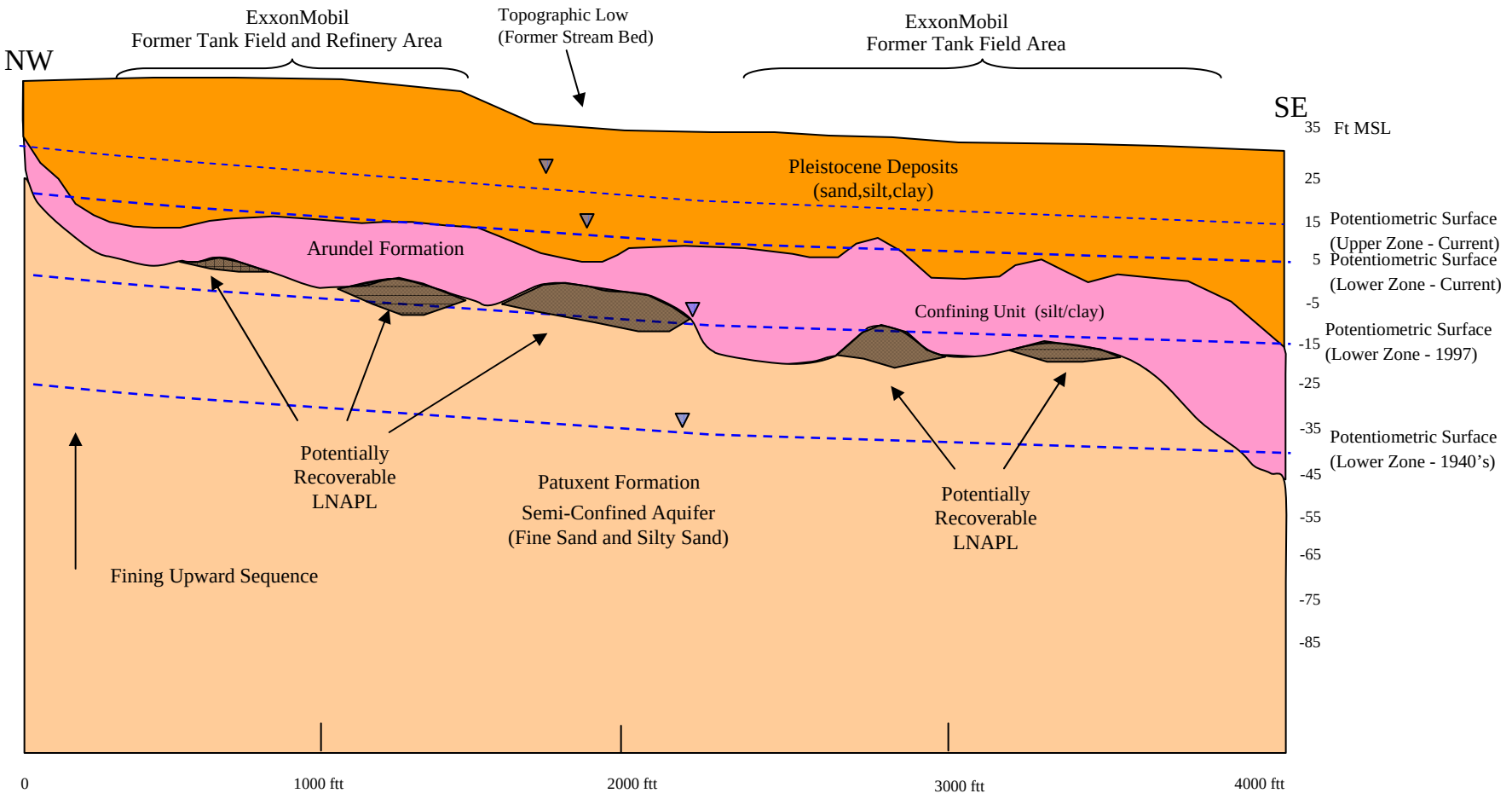
EXXONMOBIL BALTIMORE TERMINAL
BALTIMORE, MARYLAND

Lower Zone Boring/Well Location Map

PROJECT NO:	GTH3109	DRAWN BY: EBD	FIGURE 2
REVISION NO:	00	CHECKED BY:	
DATE:	22-JAN-2008	APPROVED BY:	

Figure 3 - Work Process Flow Chart
Lower Zone Delineation and LNAPL Recovery





Scale Approximate

TITLE: Site Conceptual Model Diagram

LOCATION: ExxonMobil Global Remediation
Former Terminal – Baltimore, Maryland

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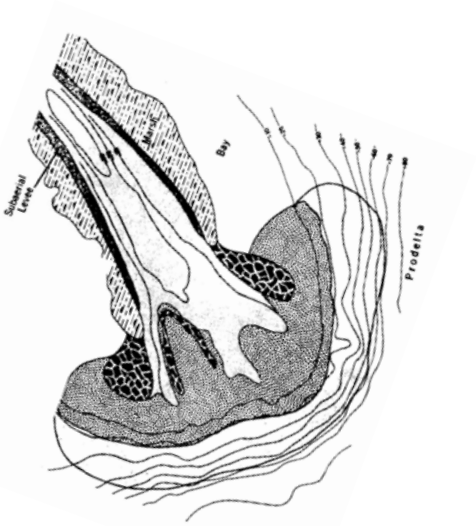
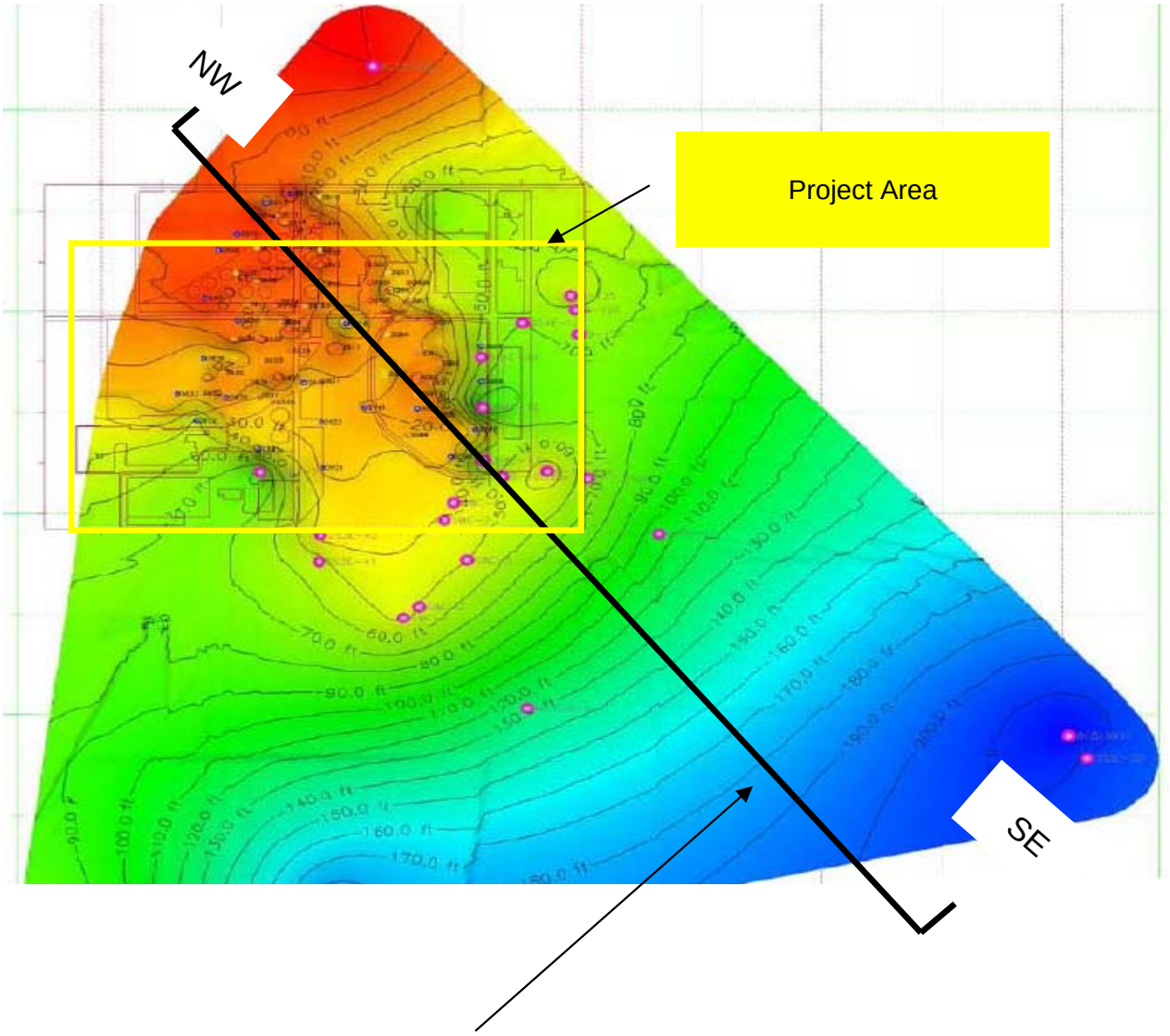
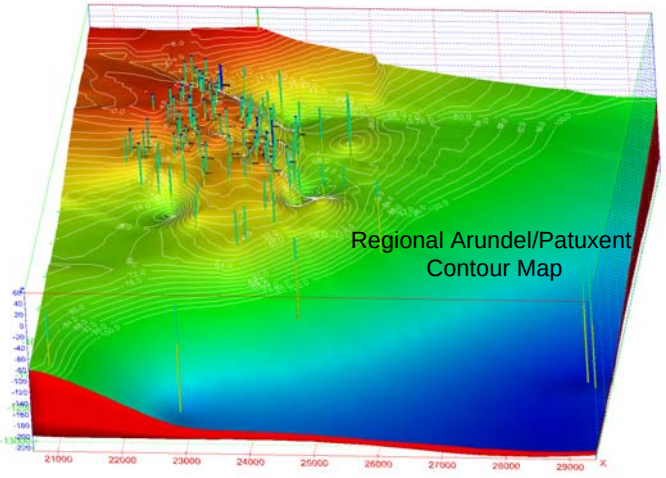
FIGURE: 4



Bird-Foot Delta



Regional Geologic Cross-Section (See Figure 6)



Regional Arundel/Patuxent Contour Map

TITLE: Regional Contour Map of A/P Contact

LOCATION: ExxonMobil Global Remediation
Former Terminal – Baltimore, Maryland

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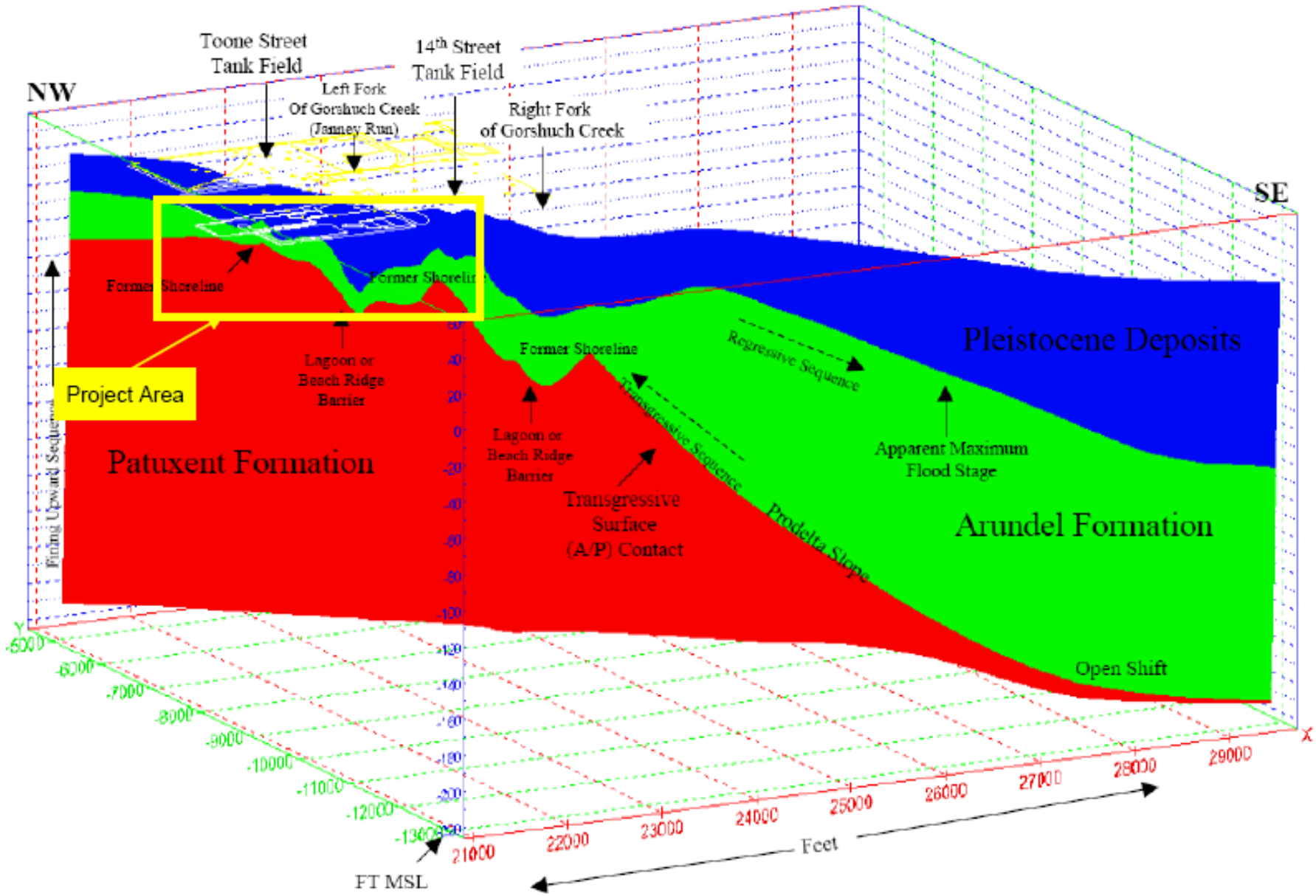
FILE	
DATE	

FIGURE: 5



TITLE:

Regional Geologic Cross-Section

LOCATION:

ExxonMobil Global Remediation
Former Terminal – Baltimore, Maryland

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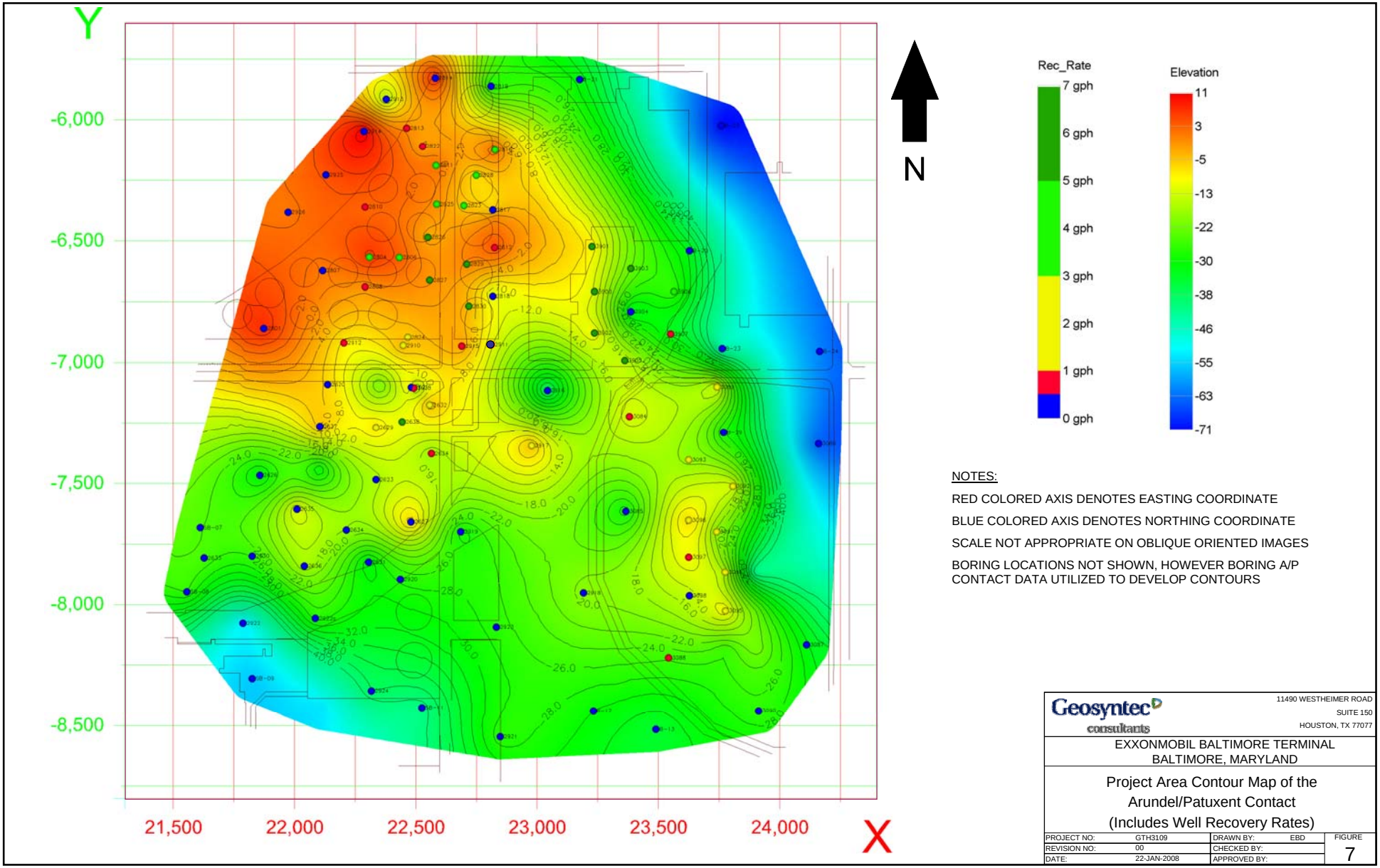
FIGURE: 6



NOTES:

RED COLORED AXIS DENOTES EASTING COORDINATE

BLUE COLORED AXIS DENOTES NORTHING COORDINATE

SCALE NOT APPROPRIATE ON OBLIQUE ORIENTED IMAGES

BORING LOCATIONS NOT SHOWN, HOWEVER BORING A/P CONTACT DATA UTILIZED TO DEVELOP CONTOURS

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EXXONMOBIL BALTIMORE TERMINAL
BALTIMORE, MARYLAND

Project Area Contour Map of the
Arundel/Patuxent Contact
(Includes Well Recovery Rates)

PROJECT NO:	GTH3109	DRAWN BY:	EBD
REVISION NO:	00	CHECKED BY:	
DATE:	22-JAN-2008	APPROVED BY:	

FIGURE 7

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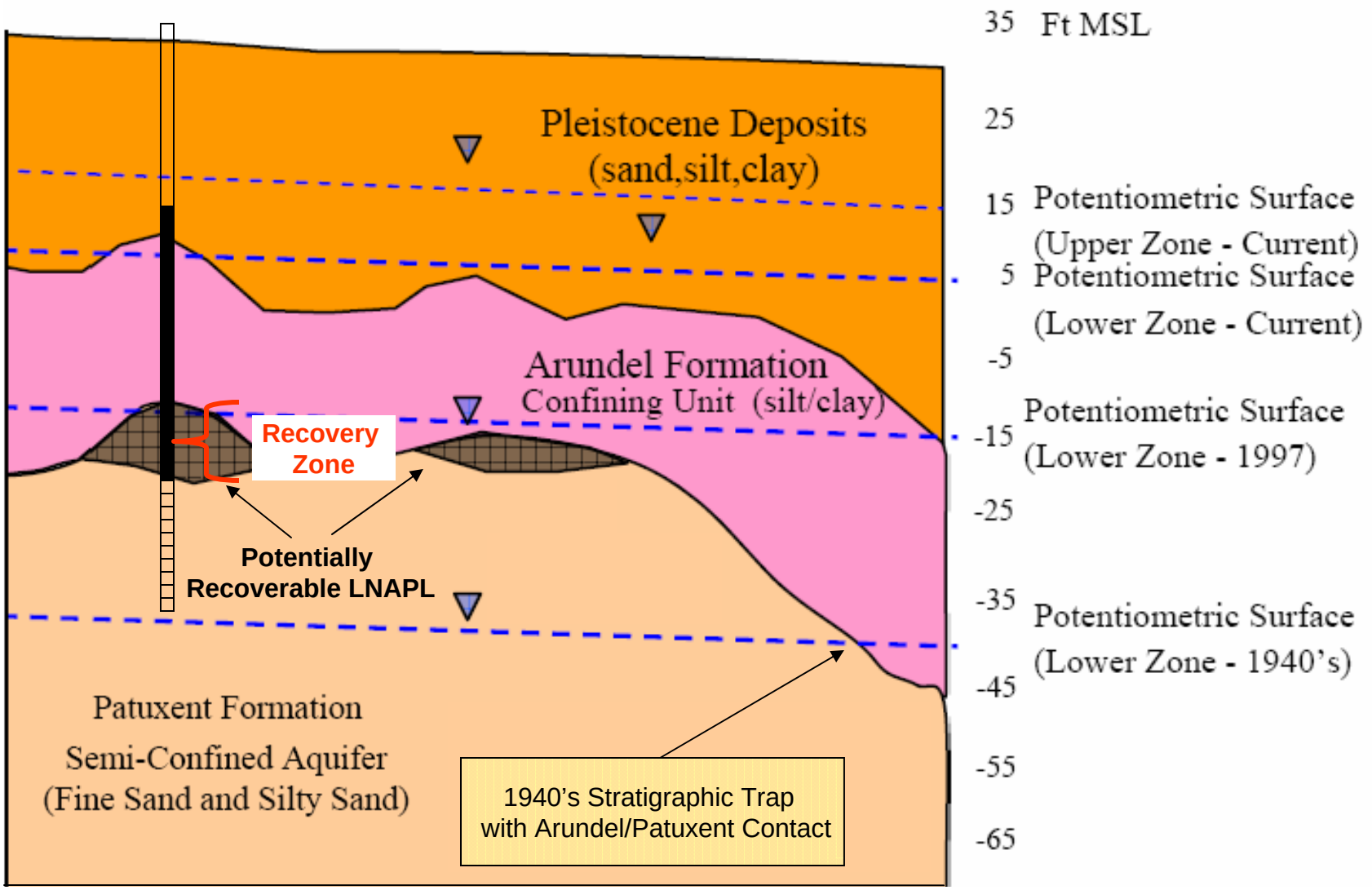

Scale Approximate

TITLE: LNAPL Thickness Exaggeration Diagram

LOCATION: ExxonMobil Global Remediation
Former Terminal – Baltimore, Maryland

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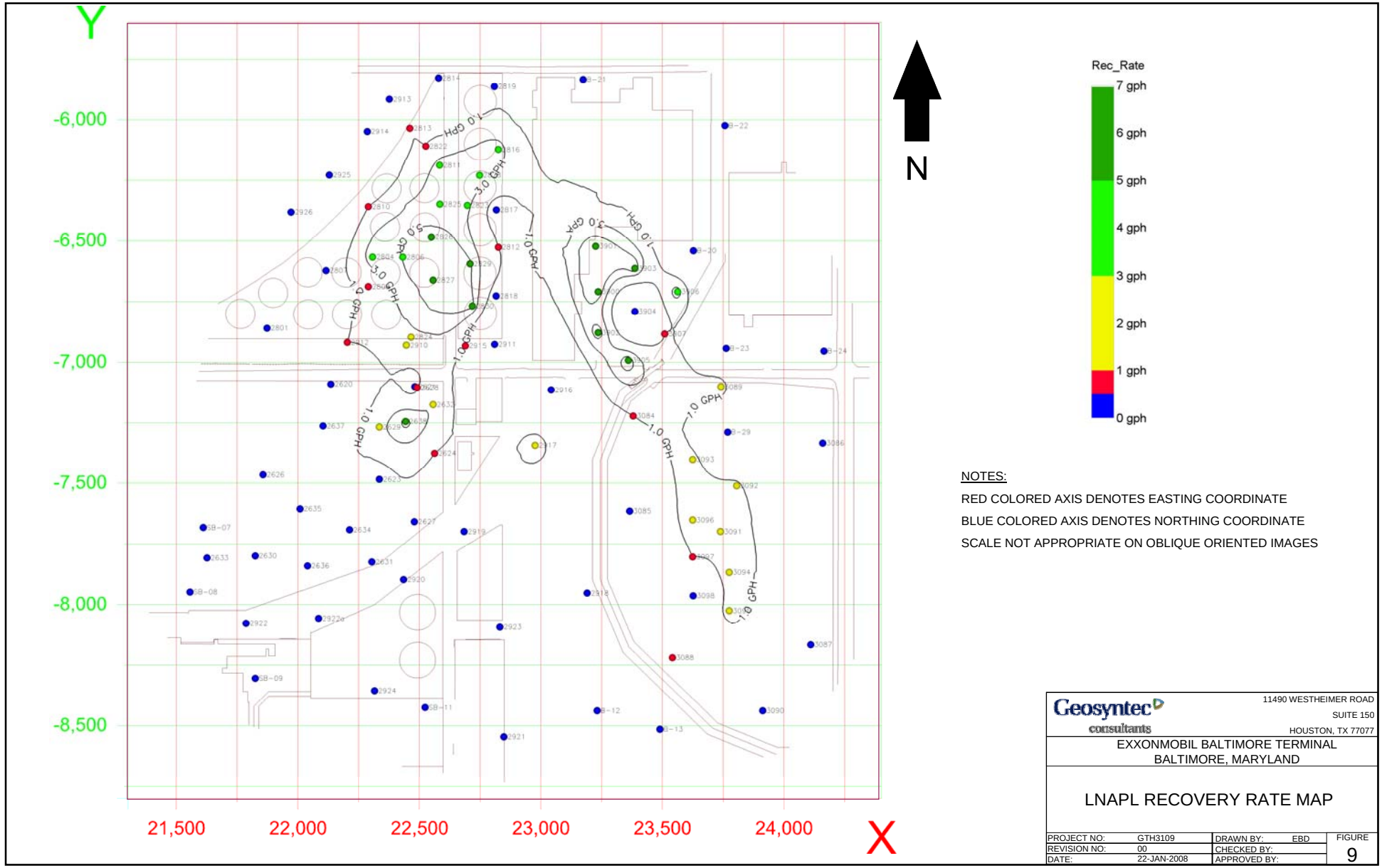
FIGURE: 8



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EXXONMOBIL BALTIMORE TERMINAL
BALTIMORE, MARYLAND

LNAPL RECOVERY RATE MAP

PROJECT NO:	GTH3109	DRAWN BY:	EBD	FIGURE 9
REVISION NO:	00	CHECKED BY:		
DATE:	22-JAN-2008	APPROVED BY:		

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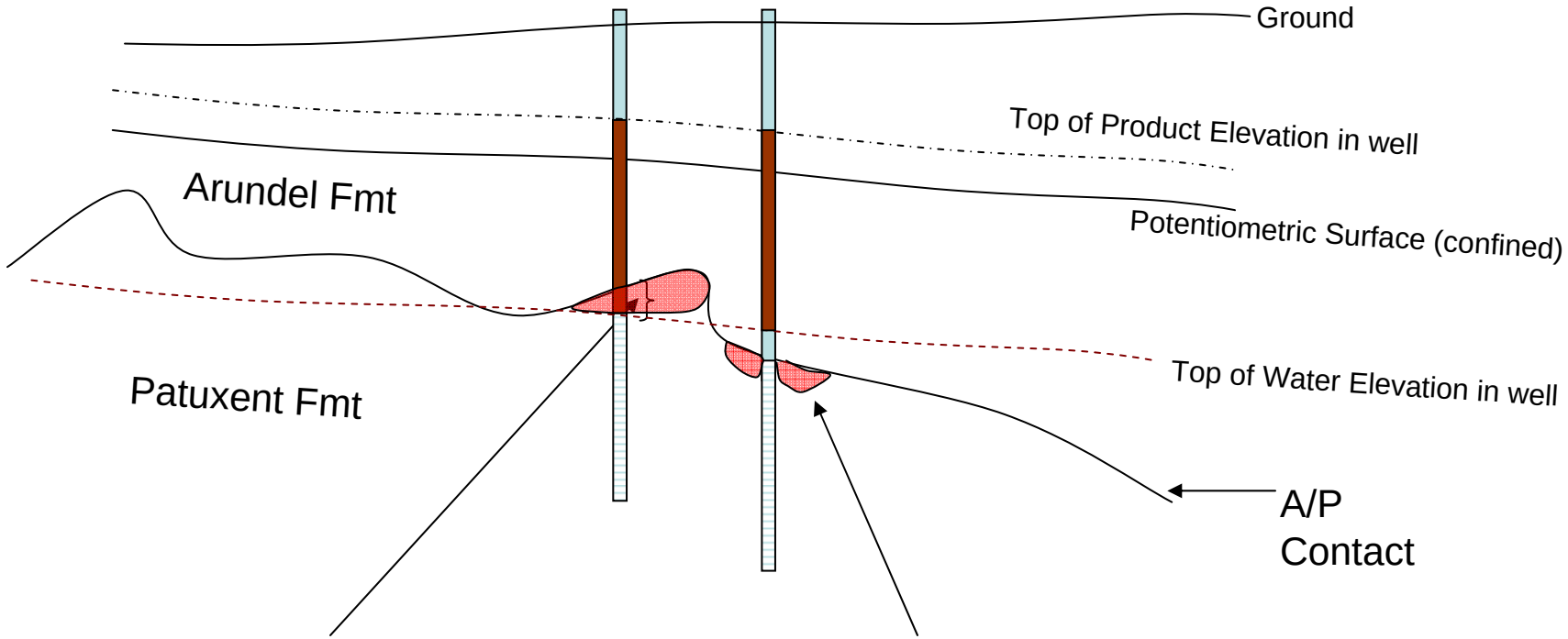
LNAPL "Recovery Zone" – (Water Elevation – A/P Contact)



LNAPL interval (> 1 GPH recovery) measured in well where that interval is also located adjacent to Patuxent sediments (below contact). LNAPL in well in direct communication with LNAPL-yielding sediments, higher productivity.

LNAPL measured in well where that interval is not adjacent to Patuxent sediments (LNAPL "weeping" in from submerged zones) low productivity – not in LNAPL Recovery Area.

TITLE: LNAPL Recovery Zone Diagram

LOCATION: ExxonMobil Global Remediation
Former Terminal – Baltimore, Maryland

GeoTrans, Inc. A TETRA TECH COMPANY

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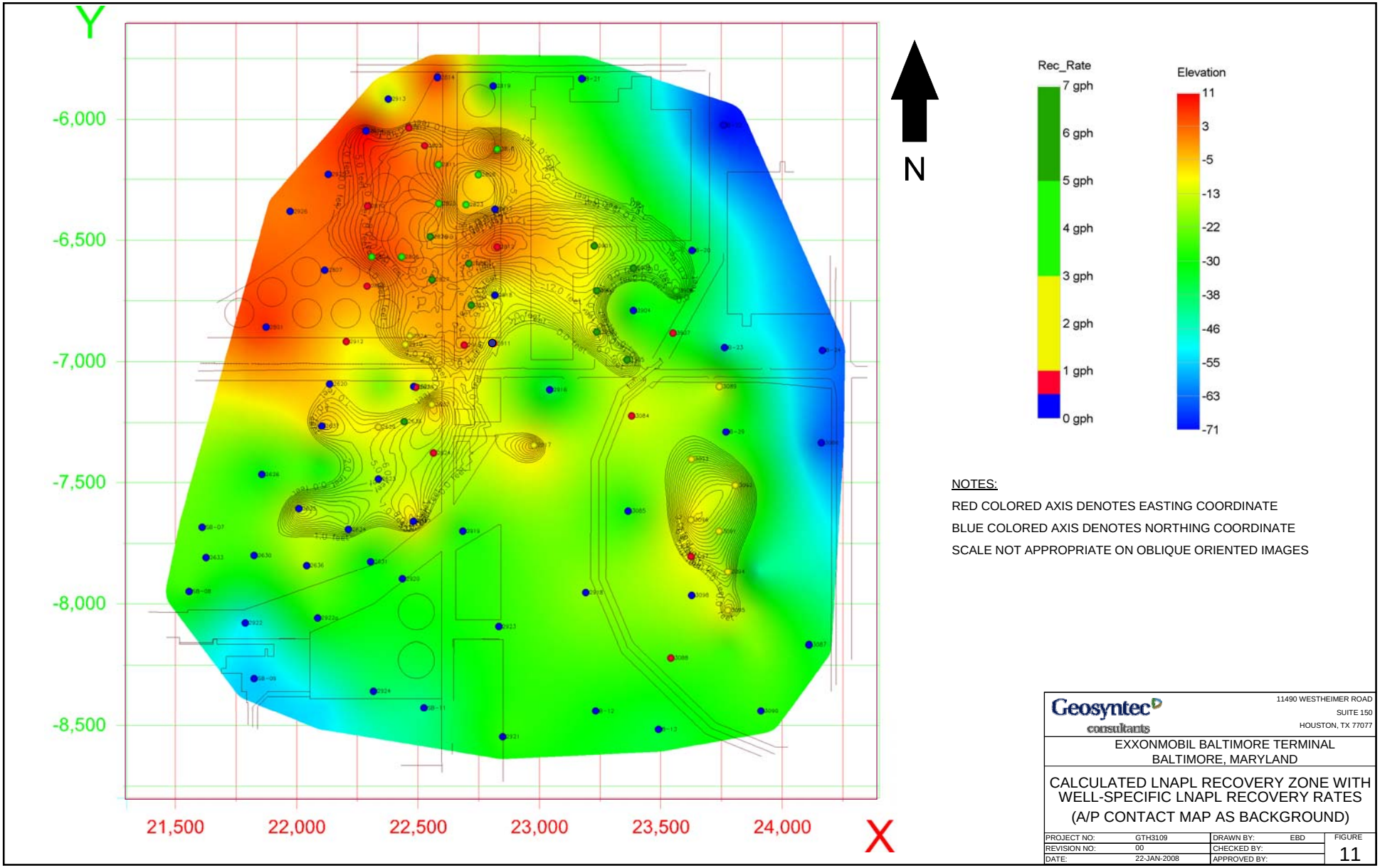
DATE

FIGURE: 10



NOTES:

RED COLORED AXIS DENOTES EASTING COORDINATE

BLUE COLORED AXIS DENOTES NORTHING COORDINATE

SCALE NOT APPROPRIATE ON OBLIQUE ORIENTED IMAGES

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BALTIMORE, MARYLAND

CALCULATED LNAPL RECOVERY ZONE WITH WELL-SPECIFIC LNAPL RECOVERY RATES
(A/P CONTACT MAP AS BACKGROUND)

PROJECT NO:	GTH3109	DRAWN BY:	EBD
REVISION NO:	00	CHECKED BY:	
DATE:	22-JAN-2008	APPROVED BY:	

FIGURE 11

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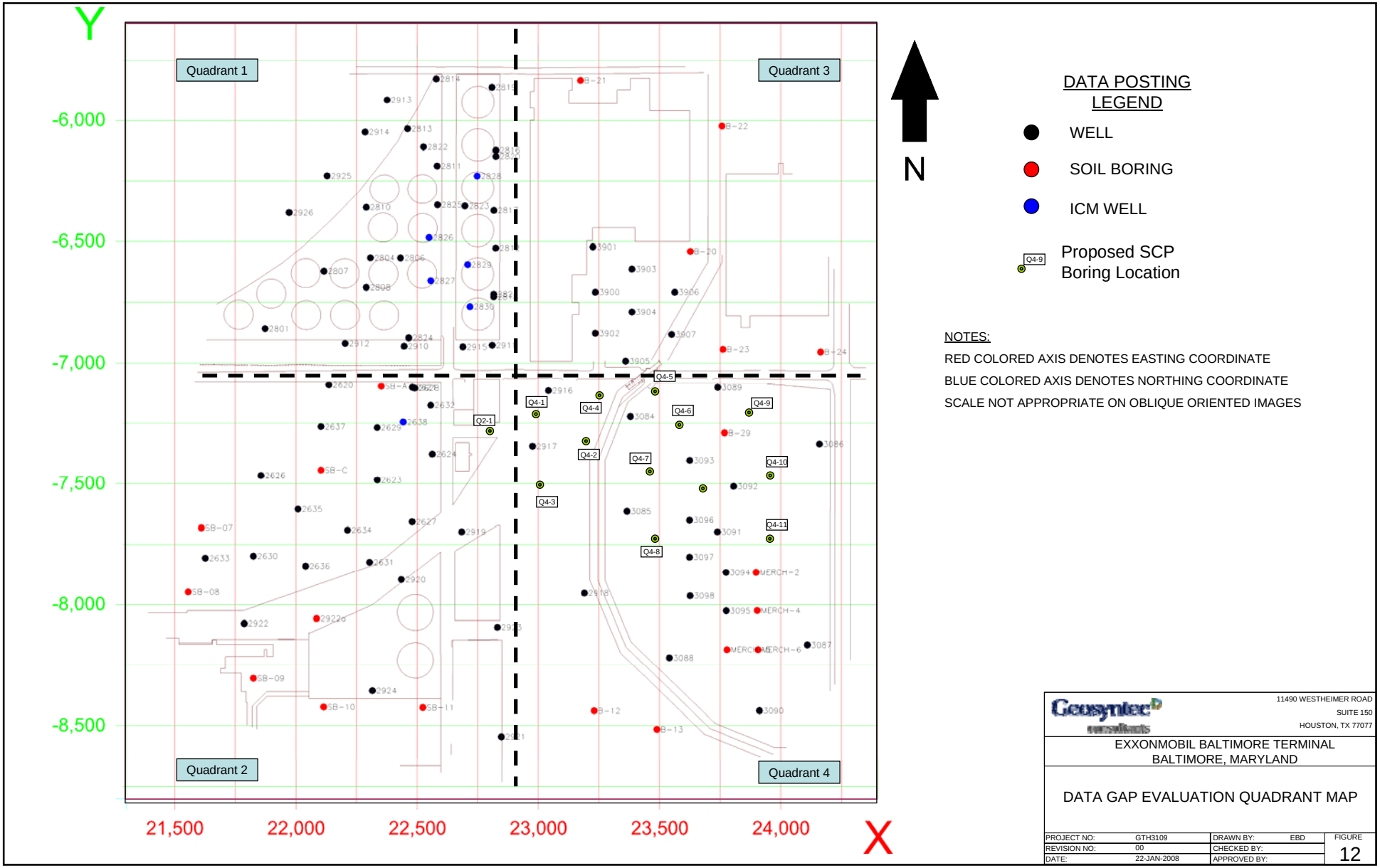

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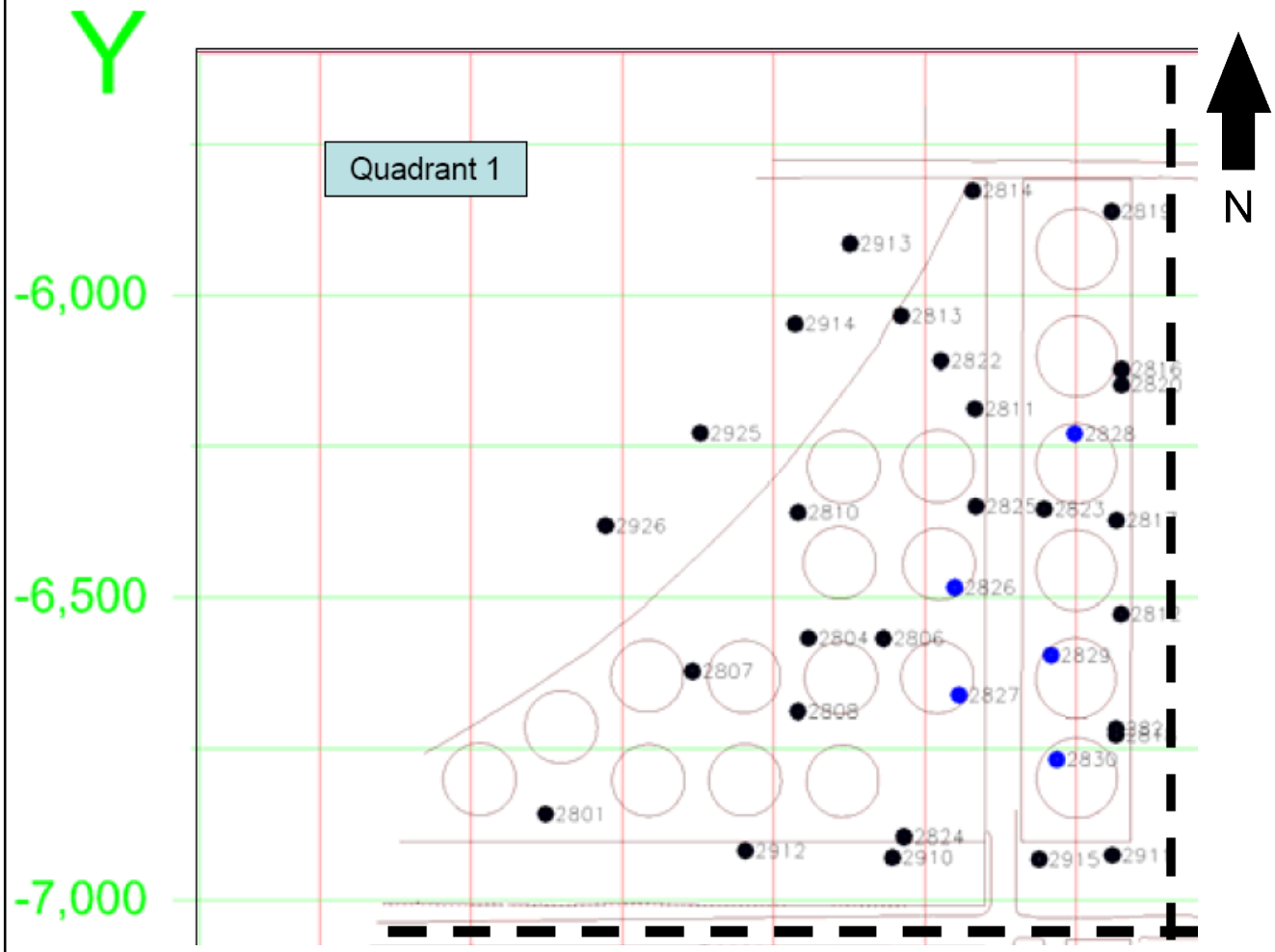
BALTIMORE, MARYLAND

DATA GAP EVALUATION QUADRANT MAP

PROJECT NO:	GTH3109	DRAWN BY:	EBD
REVISION NO:	00	CHECKED BY:	
DATE:	22-JAN-2008	APPROVED BY:	

FIGURE 12



DATA POSTING LEGEND

- WELL
- SOIL BORING
- ICM WELL
- Q4-9 Proposed SCP Boring Location

NOTES:

RED COLORED AXIS DENOTES EASTING COORDINATE

BLUE COLORED AXIS DENOTES NORTHING COORDINATE

SCALE NOT APPROPRIATE ON OBLIQUE ORIENTED IMAGES

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BALTIMORE, MARYLAND

DATA GAP EVALUATION QUADRANT MAP
(Quadrant 1)

PROJECT NO:	GTH3109	DRAWN BY:	EBD	FIGURE
REVISION NO:	00	CHECKED BY:		12a
DATE:	22-JAN-2008	APPROVED BY:		

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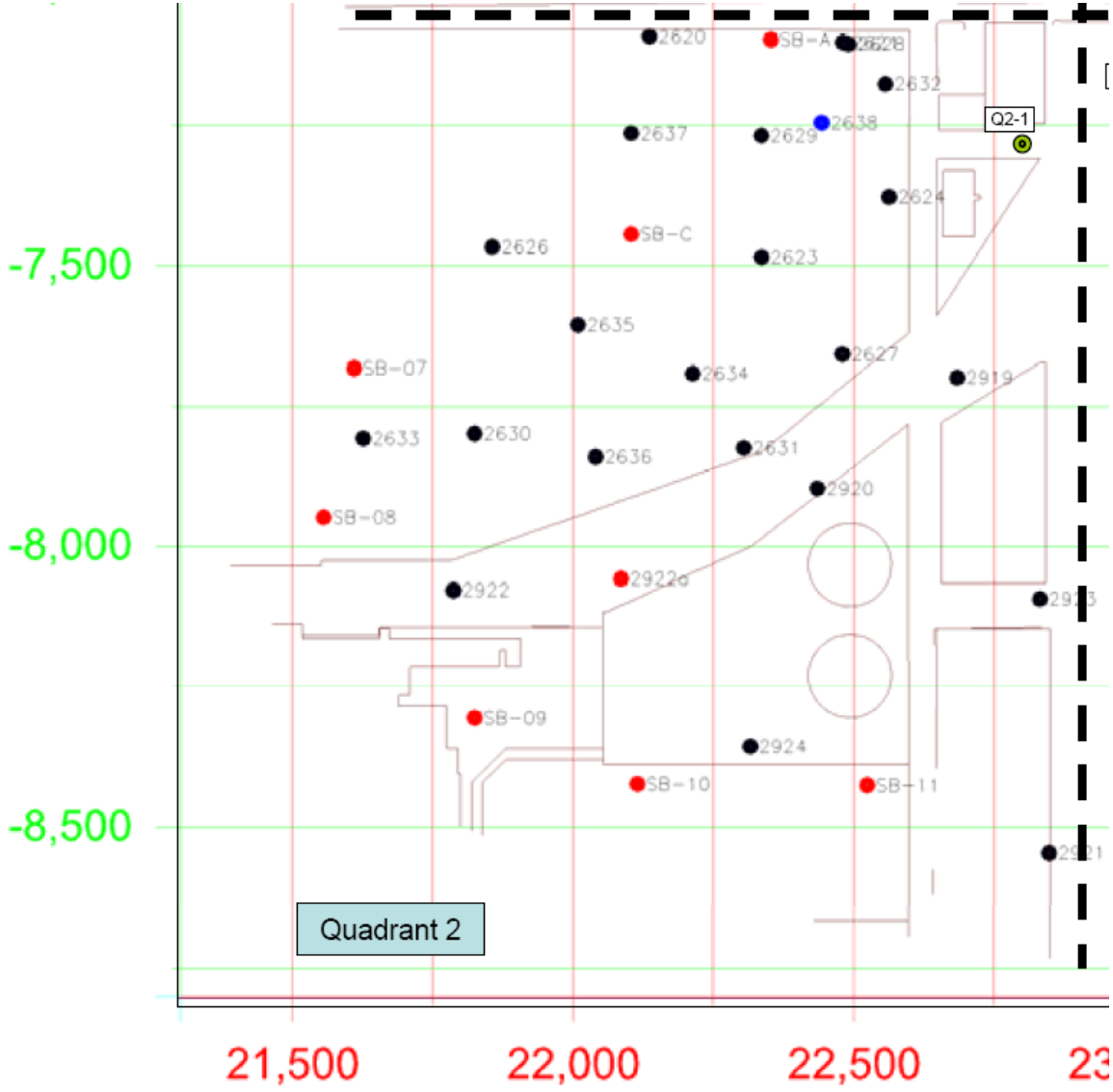

N

DATA POSTING LEGEND

- WELL
- SOIL BORING
- ICM WELL
- Q4-9 Proposed SCP Boring Location

NOTES:

RED COLORED AXIS DENOTES EASTING COORDINATE

BLUE COLORED AXIS DENOTES NORTHING COORDINATE

SCALE NOT APPROPRIATE ON OBLIQUE ORIENTED IMAGES

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BALTIMORE, MARYLAND

DATA GAP EVALUATION QUADRANT MAP
(Quadrant 2)

PROJECT NO:	GTH3109	DRAWN BY:	EBD	FIGURE 12b
REVISION NO:	00	CHECKED BY:		
DATE:	22-JAN-2008	APPROVED BY:		

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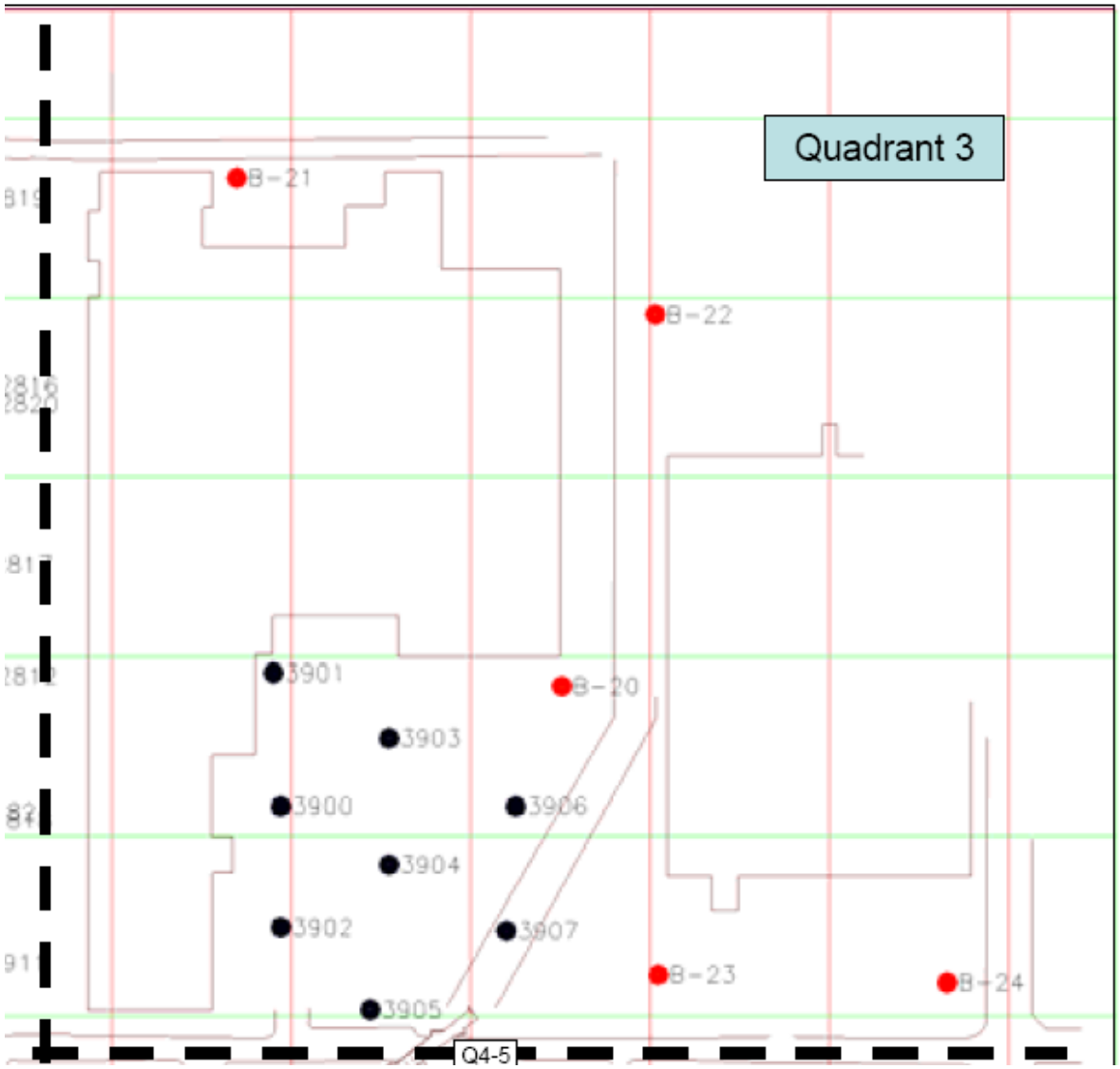

N

DATA POSTING LEGEND

- WELL
- SOIL BORING
- ICM WELL
- Q4-9 Proposed SCP Boring Location

NOTES:

RED COLORED AXIS DENOTES EASTING COORDINATE

BLUE COLORED AXIS DENOTES NORTHING COORDINATE

SCALE NOT APPROPRIATE ON OBLIQUE ORIENTED IMAGES

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EXXONMOBIL BALTIMORE TERMINAL
BALTIMORE, MARYLAND

DATA GAP EVALUATION QUADRANT MAP
(Quadrant 3)

PROJECT NO:	GTH3109	DRAWN BY:	EBD	FIGURE
REVISION NO:	00	CHECKED BY:		12c
DATE:	22-JAN-2008	APPROVED BY:		

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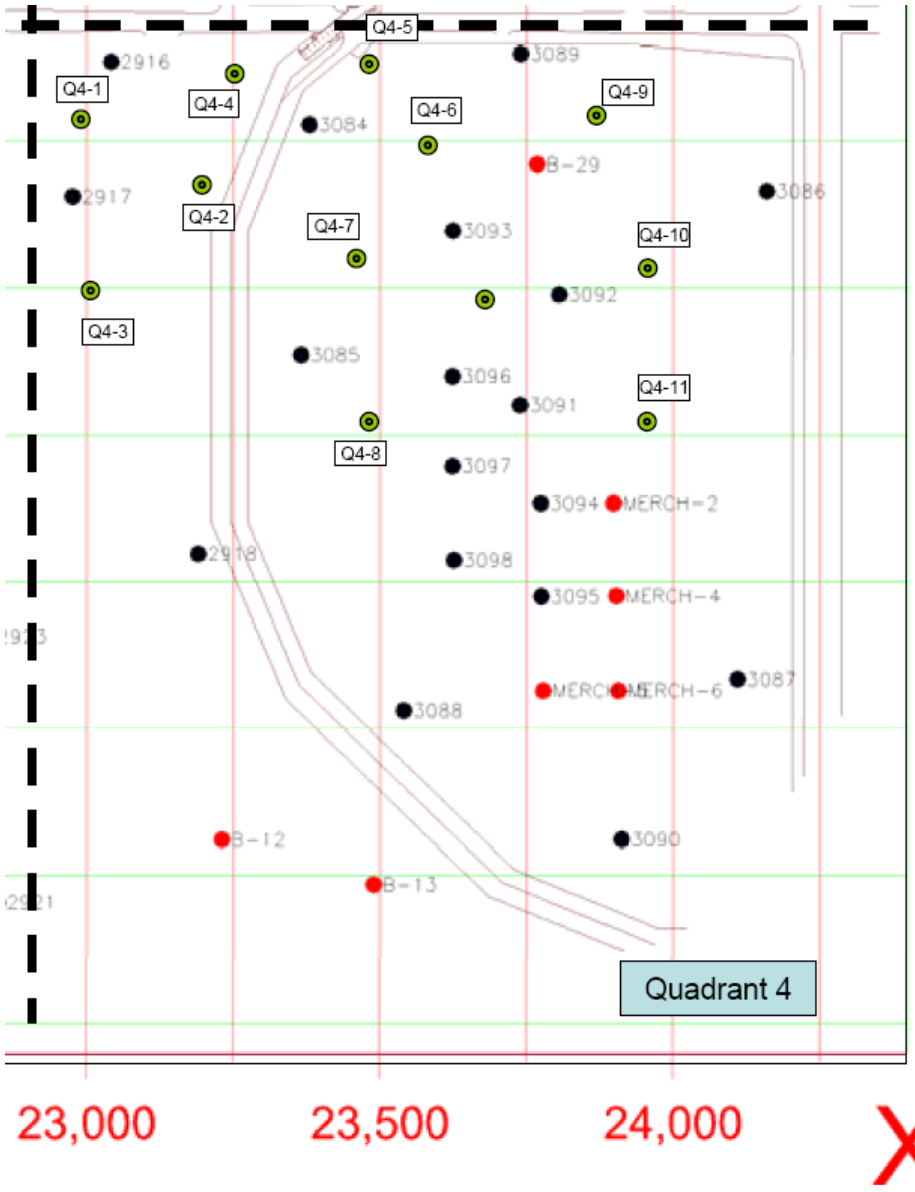

N

DATA POSTING LEGEND

- WELL
- SOIL BORING
- ICM WELL
- Q4-9 Proposed SCP Boring Location

NOTES:

RED COLORED AXIS DENOTES EASTING COORDINATE

BLUE COLORED AXIS DENOTES NORTHING COORDINATE

SCALE NOT APPROPRIATE ON OBLIQUE ORIENTED IMAGES

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EXXONMOBIL BALTIMORE TERMINAL
BALTIMORE, MARYLAND

DATA GAP EVALUATION QUADRANT MAP
(Quadrant 4)

PROJECT NO:	GTH3109	DRAWN BY:	EBD
REVISION NO:	00	CHECKED BY:	
DATE:	22-JAN-2008	APPROVED BY:	

FIGURE 12d

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TABLES

Table 1
Lower Zone Boring and Well Summary Table
ExxonMobil Corporation Baltimore Terminal

Location (Property)	Borings	Monitoring Wells	System Wells
Main Terminal Area	4	11	5
Toone Street West	0	7	5
Toone Street East	0	6	3
14th Street Parcel	5	9	6
Baltimore City	0	5	0
Canton Railroad	1	5	0
Canton Trade Center	2	6	2
Obrecht	6	1	0
Terminal Corporation	2	0	0
Tulkoff	0	4	0
Warner Graham	0	1	0
Totals	**20**	**55**	**21**

Note - does not include additional Interim Correction Action Wells installed on Toone Street East (3), Toone Street West (2), and MTA (1). These wells are currently being tested for recoverability to determine if they will be system wells.

Table 2
Lower Zone Investigations Results Summary
ExxonMobil Corporation Baltimore Terminal

ID	Easting X Elevation	Northing Y Elevation	Ground Elevation (ft msl)	Pleistocene Thickness (ft msl)	Top Arundel (ft msl)	A/P Contact (ft msl)	Arundel Thickness (ft)	Recovery Rate (GPH) (Jan-08)	Recovery Zone Thickness (ft)
2620	22135.1749	-7089.4975	37.49	29.5	7.99	-6.51	14.5	0	0.32
2621	22479.9347	-7100.3509	35.25	35.5	-0.25	-9.25	9	0.5	Not Present*
2623	22334.7580	-7483.5372	32.77	36.5	-3.73	-22.23	18.5	0.5	4.29
2624	22561.9001	-7375.8341	33.3	30.5	2.8	-16.7	19.5	1	7.07
2626	21855.6100	-7464.8612	31.21	53	-21.79	-30.79	9	0	Not Present
2627	22478.7248	-7656.6964	30.4	29.5	0.9	-6.6	7.5	0.5	12.20
2628	22489.9347	-7103.3509	35.25	34.5	0.75	-17.75	18.5	1	Not Present
2629	22334.4556	-7267.0127	33.5	35	-1.5	-8	6.5	2.5	4.32
2630	21823.7920	-7797.7622	27.65	42	-14.35	-25.85	11.5	0.5	0.62
2631	22303.4229	-7823.2074	26.5	34.5	-8	-31.5	23.5	0.5	Not Present
2632	22555.2461	-7174.3893	33.2	28.5	4.7	-4.8	9.5	3	13.66
2633	21625.6000	-7806.4000	29.33	38	-8.67	-24.67	16	0	Not Present
2634	22212.1079	-7690.5665	30	30	0	-18	18	0.5	9.55
2635	22007.8567	-7604.2956	30	26	4	-12	16	0.5	15.24
2636	22039.5012	-7839.1443	30	47	-17	-42	25	0	Not Present
2637	22102.7903	-7263.0460	33	38	-5	-40	35	0.5	8.83
2638	22441.9000	-7243.9000	33	33	0	-11	11	6	6.00*
2801	21872.3521	-6857.9225	39.54	21	18.54	8.54	10	0	Not Present
2804	22306.8479	-6566.1057	38.65	16	22.65	6.65	16	5	8.04
2806	22430.6299	-6566.6215	40.61	31	9.61	3.61	6	5	14.10
2807	22114.8215	-6621.2920	38.12	28	10.12	1.12	9	0.5	Not Present
2808	22289.2971	-6687.8250	37.67	35	2.67	-0.33	3	1	Not Present
2810	22289.4509	-6358.6672	37.68	30	7.68	2.68	5	1	5.82
2811	22581.8766	-6187.0224	37.77	31	6.77	1.77	5	4	4.84
2812	22823.9743	-6525.8765	33.93	16	17.93	3.93	14	1	20.74
2813	22460.0534	-6033.8418	39.58	26	13.58	-0.42	14	1	4.17
2814	22578.2119	-5826.6096	42.95	22	20.95	6.95	14	0	Not Present
2816	22824.4906	-6122.0367	33.67	27	6.67	1.67	5	4	19.63
2817	22816.2826	-6371.5612	32.48	25	7.48	-6.52	14	0.5	1.24
2818	22815.5998	-6726.0428	33.4	23	10.4	-11.1	21.5	0.5	7.55
2819	22808.4884	-5861.1655	34.4	10	24.4	-27.6	52	0.5	Not Present
2820	22824.4906	-6147.0367	33.67	28	5.67	-0.33	6	1	9.07
2821	22815.5998	-6716.0428	33.4	20	13.4	-12.6	26	1	Not Present
2822	22525.6108	-6108.6270	38.2	24.5	13.7	-2.3	16	1	8.56
2823	22696.5242	-6352.9939	32	25	7	-5	12	3.5	Not Present
2824	22464.7410	-6895.0572	38.5	30.5	8	-5.5	13.5	2.5	11.50
2825	22583.6324	-6348.4015	39.5	26	13.5	-0.5	14	3.25	11.91
2826	22548.6000	-6483.7000	39	38	1	-3	4	6	9.00*
2827	22555.7000	-6660.9000	37	23	14	-1	15	6.1	10.00*
2828	22747.2000	-6228.5000	35	22.5	12.5	-7	19.5	5	Not Present**
2829	22707.5000	-6594.3000	34	21	13	0	13	5.5	15.00*
2830	22717.4000	-6767.2000	33	29	4	-4	8	6	11.00*
2910	22445.6416	-6928.5816	38.4	33	5.4	-3.6	9	2	8.00*
2911	22809.3850	-6924.7256	35.5	25	10.5	-11.5	22	1	1.50*
2912	22202.5115	-6917.2349	38.9	36	2.9	-8.6	11.5	1	Not Present
2913	22375.8615	-5914.2887	53.33	27	26.33	-15.17	41.5	0	Not Present
2914	22284.8051	-6047.2515	50.95	28	22.95	11.45	11.5	0	4.00*
2915	22687.9327	-6931.3605	35.5	25	10.5	-2.5	13	1	10.00*
2916	23041.4718	-7113.6765	31.2	56.5	-25.3	-37.8	12.5	0	Not Present
2917	22975.5965	-7343.1959	32.9	33	-0.1	-5.1	5	3	9.34
2918	23189.9757	-7951.6503	31.8	30	1.8	-21.2	23	0	Not Present
2919	22683.3057	-7697.6136	28.1	43	-14.9	-28.9	14	0	Not Present
2920	22434.1438	-7895.6139	29.5	30	-0.5	-27.5	27	0	Not Present
2921	22847.1121	-8544.6536	27.7	29.5	-1.8	-26.8	25	0	Not Present
2922	21786.3476	-8076.6906	23.46	66.5	-43.04	-52.04	9	0	Not Present*
2923	22831.1324	-8091.9015	27	47	-20	-27	7	0	Not Present*
2924	22314.8824	-8355.4015	27	56.5	-29.5	-38	8.5	0	Not Present*
2925	22128.1747	-6227.2516	39.31	23.5	15.81	4.31	11.5	0	Not Present
2926	21971.4991	-6380.7543	39.25	26	13.25	1.25	12	0	Not Present*
3084	23379.3689	-7221.0863	25.24	21	4.24	-24.76	29	1	Not Present
3085	23364.8510	-7613.6416	26.7	35.5	-8.8	-29.8	21	0	Not Present
3086	24159.0370	-7333.9875	31.49	72.5	-41.01	-63.51	22.5	0	Not Present
3087	24109.1936	-8164.8510	26.9	33.5	-6.6	-31.6	25	0	Not Present
3088	23540.2756	-8218.6423	26.3	28	-1.7	-25.7	24	1	Not Present

Table 2
Lower Zone Investigations Results Summary
ExxonMobil Corporation Baltimore Terminal

ID	Easting X Elevation	Northing Y Elevation	Ground Elevation (ft msl)	Pleistocene Thickness (ft msl)	Top Arundel (ft msl)	A/P Contact (ft msl)	Arundel Thickness (ft)	Recovery Rate (GPH) (Jan-08)	Recovery Zone Thickness (ft)
3089	23739.8967	-7100.2070	31.34	26	5.34	-13.66	19	3	Not Present
3090	23911.3872	-8437.8567	25.5	29	-3.5	-26.5	23	0	Not Present
3091	23738.0819	-7697.6527	25.2	28	-2.8	-19.3	16.5	1.5	12.13
3092	23805.1016	-7509.9653	34.78	24	10.78	-13.22	24	1.5	16.03
3093	23623.7918	-7401.7241	33.07	33	0.07	-18.93	19	1.5	7.83
3094	23773.6324	-7865.6515	32.9	27	5.9	-16.1	22	2	6.50
3095	23774.3824	-8024.6515	31.7	32	-0.3	-10.3	10	2	6.42
3096	23623.4630	-7650.3292	32	21	11	-7	18	3	18.37
3097	23623.4630	-7802.2073	30.6	23	7.6	-10.4	18	1	5.80
3098	23625.7437	-7962.6097	29.8	23	6.8	-15.2	22	0	Not Present
3900	23235.0949	-6707.6241	25.9	22	3.9	-12.1	16	7	12.24
3901	23224.5385	-6521.7009	27.14	25	2.14	-6.86	9	7	17.74
3902	23235.0949	-6877.0144	23.88	22	1.88	-10.12	12	7	16.12
3903	23385.6555	-6612.8602	26.94	34.5	-7.56	-22.06	14.5	7	10.69
3904	23385.6555	-6789.3579	25.22	38	-12.78	-32.78	20	0	Not Present
3905	23359.5741	-6990.7310	23.5	26	-2.5	-14.5	12	7	11.09
3906	23562.2975	-6707.6241	26.73	37	-10.27	-26.27	16	5	11.38
3907	23549.0000	-6882.0000	24.53	55	-30.47	-32.47	2	1	Not Present
2922a	22084.7193	-8056.4434	23.94	45.5	-21.56	-27.06	5.5	NA	Boring
B-12	23230.4050	-8438.0760	24	34	-10	-30	20	NA	Boring
B-13	23488.8140	-8514.0980	25	32	-7	-34	27	NA	Boring
B-20	23626.6797	-6539.9460	29.5	17	12.5	-32.5	45	NA	Boring
B-21	23173.5586	-5832.4114	31.3	21	10.3	-30.7	41	NA	Boring
B-22	23756.7729	-6023.0710	35	58	-23	-71	48	NA	Boring
B-23	23761.1829	-6941.6315	31.06	30	1.06	-44.94	46	NA	Boring
B-24	24163.7997	-6952.6053	35.1	46	-10.9	-60.9	50	NA	Boring
B-29	23767.3310	-7288.5857	34	25	9	-28	37	NA	Boring
MERCH-2	23897.8832	-7865.4607	30	23	7	-42	49	NA	Boring
MERCH-4	23902.3260	-8023.8617	29	29	0	-22	22	NA	Boring
MERCH-5	23777.9281	-8184.4833	28	52	-24	-26	2	NA	Boring
MERCH-6	23906.0283	-8184.4833	27.03	26	1.03	-20.97	22	NA	Boring
SB-07	21609.5700	-7681.2400	28.11	39	-10.89	-23.89	13	NA	Boring
SB-08	21555.2480	-7946.8840	26.21	42	-15.79	-25.79	10	NA	Boring
SB-09	21823.9307	-8303.9560	19.82	56	-36.18	-55.18	19	NA	Boring
SB-10	22113.8989	-8422.9381	22.35	65	-42.65	-52.65	10	NA	Boring
SB-11	22522.9268	-8424.8572	22.86	48	-25.14	-41.14	16	NA	Boring
SB-A	22351.1521	-7095.2969	34	26	8	6	2	NA	Boring
SB-C	22102.7903	-7442.2979	32	23	9	-30	39	NA	Boring
SB-B	22102.7903	-7263.0460	33	20	13	-9	22	NA	Boring converted well 2637
SB-E	22039.5012	-7839.1443	30	37	-7	-26	19	NA	Boring converted well 2636

(*)= Recovery zone thickness estimated
(**)= well is located on the boundary of the Recovery Zone Area

ATTACHMENT I

Former ExxonMobil Baltimore Terminal Gauging Data

Area	Well No	Gauge Date	Depth to Product	Depth to Water	Potentiometric Elevation	Apparent Thickness
MTA LZ	2620	3/15/2006	25.33	25.60	11.73	0.27
		6/15/2006	25.80	26.04	11.26	0.24
		9/15/2006	24.78	25.34	12.24	0.56
		12/15/2006	21.35	45.03	12.20	23.68
		3/15/2007	21.21	44.28	12.43	23.07
		6/15/2007	20.14	45.73	13.12	25.59
		9/15/2007	21.45	45.34	12.07	23.89
		12/15/2007	21.80	43.93	11.98	22.13
	2621	3/15/2006	19.45	56.72	9.54	37.27
		6/15/2006	NG	NG	NG	NG
		9/15/2006	22.20	53.89	7.63	31.69
		12/15/2006	NG	NG	NG	NG
		3/15/2007	16.81	56.97	11.75	40.16
		9/15/2007	17.28	56.59	11.40	39.31
		12/15/2007	NG	NG	NG	NG
	2623	3/15/2006	19.97	31.63	10.51	11.66
		6/15/2006	17.78	40.83	10.99	23.05
		9/15/2006	15.16	53.14	11.37	37.98
		12/15/2006	17.17	53.39	9.63	36.22
		3/15/2007	13.98	53.62	12.30	39.64
		6/15/2007	13.92	43.48	13.88	29.56
		9/15/2007	14.80	53.52	11.62	38.72
		12/15/2007	14.58	53.25	11.85	38.67
	2624	3/15/2006	13.33	58.51	12.85	45.18
		6/15/2006	NG	NG	NG	NG
		9/15/2006	NG	NG	NG	NG
		12/15/2006	6.52	50.37	19.86	43.85
		3/15/2007	12.53	58.40	13.55	45.87
		6/15/2007	14.80	47.71	13.22	32.91
		9/15/2007	14.34	51.83	13.00	37.49
		10/1/2007	14.29	51.86	13.03	37.57
		12/15/2007	13.48	55.62	13.16	42.14
	2626	3/15/2006	20.34	20.34	10.42	0.00
		6/15/2006	22.52	22.52	8.24	0.00
		9/15/2006	19.77	19.77	10.99	0.00
		12/15/2006	19.78	19.78	10.98	0.00
		3/15/2007	19.45	19.45	11.31	0.00
		6/15/2007	19.15	19.15	11.61	0.00
		9/15/2007	18.45	18.45	12.31	0.00
		12/15/2007	19.85	19.85	10.91	0.00
	2627	3/15/2006	10.49	55.38	12.49	44.89
		6/15/2006	6.30	50.70	16.75	44.40
		12/15/2006	NG	NG	NG	NG
		3/15/2007	9.48	55.52	13.32	46.04
		6/15/2007	9.57	55.01	13.32	45.44
		9/15/2007	11.49	48.33	12.69	36.84
		10/1/2007	10.11	53.54	13.09	43.43
		12/15/2007	13.03	46.16	11.71	33.13
	2628	3/15/2006	15.53	56.38	14.20	40.85
		6/15/2006	NG	NG	NG	NG
		9/15/2006	NG	NG	NG	NG
		12/15/2006	NG	NG	NG	NG
		3/15/2007	17.02	54.98	13.15	37.96
		6/15/2007	19.42	35.82	13.98	16.40

Area	Well No	Gauge Date	Depth to Product	Depth to Water	Potentiometric Elevation	Apparent Thickness
MTA LZ	2628	9/15/2007	18.03	43.40	14.02	25.37
		10/1/2007	16.14	50.79	14.52	34.65
		12/15/2007	20.64	34.43	13.15	13.79
	2629	3/15/2006	18.45	54.43	9.35	35.98
		6/15/2006	NG	NG	NG	NG
		9/15/2006	NG	NG	NG	NG
		12/15/2006	NG	NG	NG	NG
		3/15/2007	14.45	45.55	14.08	31.10
		6/15/2007	15.18	44.03	13.69	28.85
		9/15/2007	15.78	46.15	12.86	30.37
		10/1/2007	15.40	46.18	13.18	30.78
		12/15/2007	15.85	45.51	12.90	29.66
	2630	3/15/2006	13.81	56.95	9.71	43.14
		6/15/2006	13.51	57.30	9.91	43.79
		9/15/2006	13.09	56.83	10.34	43.74
		12/15/2006	12.60	63.26	9.79	50.66
		3/15/2007	12.98	63.26	9.47	50.28
		6/15/2007	12.43	56.81	10.90	44.38
		9/15/2007	13.39	56.85	10.08	43.46
		12/15/2007	13.21	56.46	10.29	43.25
	2631	3/15/2006	19.68	22.92	8.08	3.24
		6/15/2006	21.00	24.20	6.76	3.20
		9/15/2006	19.35	22.60	8.40	3.25
		12/15/2006	19.02	22.23	8.74	3.21
		3/15/2007	19.22	22.39	8.55	3.17
		6/15/2007	18.93	22.13	8.83	3.20
		9/15/2007	19.54	22.76	8.22	3.22
		12/15/2007	19.52	22.68	8.25	3.16
	2632	3/15/2006	13.53	55.82	12.99	42.29
		6/15/2006	NG	NG	NG	NG
		9/15/2006	NG	NG	NG	NG
		12/15/2006	12.53	51.53	14.49	39.00
		3/15/2007	14.80	52.69	12.38	37.89
		6/15/2007	14.07	51.75	13.14	37.68
		9/15/2007	15.09	51.96	12.25	36.87
		10/1/2007	14.58	52.13	12.65	37.55
		12/15/2007	15.02	51.53	12.37	36.51
	2633	3/15/2006	22.25	22.25	7.08	0.00
		6/15/2006	22.14	22.14	7.19	0.00
		9/15/2006	21.94	21.94	7.39	0.00
		12/15/2006	22.12	22.12	7.21	0.00
		3/15/2007	22.07	22.07	7.26	0.00
		6/15/2007	21.45	21.45	7.88	0.00
		9/15/2007	22.25	22.25	7.08	0.00
		12/15/2007	22.00	22.00	7.33	0.00
	2634	1/15/2006	15.94	57.74	5.24	41.80
		2/15/2006	14.27	57.25	6.66	42.98
		3/15/2006	14.55	58.03	6.28	43.48
		6/15/2006	14.30	57.90	6.50	43.60
		8/15/2006	13.64	58.08	6.98	44.44
		9/15/2006	NG	NG	NG	NG
		12/15/2006	14.04	55.56	7.20	41.52
		3/15/2007	13.75	57.87	6.94	44.12
		6/15/2007	13.40	58.02	7.19	44.62
		9/15/2007	14.20	57.81	6.60	43.61
		12/15/2007	14.26	57.55	6.61	43.29

Area	Well No	Gauge Date	Depth to Product	Depth to Water	Potentiometric Elevation	Apparent Thickness
MTA LZ	2635	1/15/2006	23.39	28.02	5.63	4.63
		2/15/2006	22.31	31.23	5.81	8.92
		3/15/2006	22.06	32.45	5.75	10.39
		6/15/2006	19.15	45.31	5.33	26.16
		8/15/2006	21.98	31.05	6.11	9.07
		9/15/2006	20.77	34.39	6.36	13.62
		12/15/2006	21.69	29.96	6.57	8.27
		3/15/2007	18.68	43.22	6.14	24.54
		6/15/2007	15.99	54.42	5.90	38.43
		9/15/2007	16.34	56.95	5.09	40.61
		12/15/2007	16.13	57.24	5.20	41.11
	2636	1/15/2006	22.82	22.82	7.18	0.00
		2/15/2006	22.57	22.57	7.43	0.00
		3/15/2006	22.57	22.57	7.43	0.00
		6/15/2006	22.45	22.45	7.55	0.00
		9/15/2006	22.32	22.32	7.68	0.00
		12/15/2006	21.88	21.88	8.12	0.00
		12/15/2006	21.88	21.88	8.12	0.00
		3/15/2007	22.11	22.11	7.89	0.00
		6/15/2007	21.79	21.79	8.21	0.00
		9/15/2007	22.45	22.45	7.55	0.00
		12/15/2007	22.39	22.39	7.61	0.00
	2637	1/15/2006	22.78	41.83	2.72	19.05
		2/15/2006	18.76	41.93	5.77	23.17
		3/15/2006	19.76	39.40	5.60	19.64
		6/15/2006	18.40	44.99	5.32	26.59
		9/15/2006	18.20	44.72	5.54	26.52
		12/15/2006	17.89	46.93	5.26	29.04
		3/15/2007	18.02	44.02	5.84	26.00
		6/15/2007	16.83	45.70	6.36	28.87
		9/15/2007	17.65	45.01	5.89	27.36
		12/15/2007	18.22	43.83	5.74	25.61

Former ExxonMobil Baltimore Terminal Gauging Data

Area	Well No	Gauge Date	Depth to Product	Depth to Water	Potentiometric Elevation	Apparent Thickness
Toone LZ	2801	3/15/2006	23.99	23.99	15.55	0.00
		6/15/2006	23.94	23.94	15.60	0.00
		7/10/2006	23.94	23.94	15.60	0.00
		9/15/2006	23.24	23.24	16.30	0.00
		12/15/2006	23.39	23.39	16.15	0.00
		3/15/2007	19.27	19.27	20.27	0.00
		6/15/2007	23.28	23.28	16.26	0.00
		9/15/2007	23.30	23.30	16.24	0.00
		12/15/2007	23.80	23.80	15.74	0.00
	2804	3/15/2006	NG	NG	NG	NG
		6/15/2006	22.59	43.43	12.93	20.84
		7/10/2006	22.59	43.43	12.93	20.84
		9/15/2006	22.12	43.69	13.29	21.57
		12/15/2006	21.71	43.94	13.60	22.23
		3/15/2007	NG	NG	NG	NG
		6/15/2007	21.76	43.69	13.60	21.93
		9/15/2007	22.68	43.43	12.85	20.75
		10/1/2007	22.12	43.94	13.25	21.82
		12/15/2007	23.03	42.40	12.71	19.37
	2806	3/15/2006	21.54	50.36	14.75	28.82
		6/15/2006	21.64	50.26	14.68	28.62
		7/10/2006	21.64	50.26	14.68	28.62
		9/15/2006	20.94	50.32	15.26	29.38
		12/15/2006	20.86	50.64	15.28	29.78
		3/15/2007	21.47	50.58	14.77	29.11
		6/15/2007	20.78	50.69	15.34	29.91
		9/15/2007	21.64	49.89	14.73	28.25
		10/1/2007	21.29	50.39	14.96	29.10
		12/15/2007	21.88	49.21	14.63	27.33
	2807	3/15/2006	NG	NG	NG	NG
		6/15/2006	21.81	33.06	14.62	11.25
		7/10/2006	21.81	33.06	14.62	11.25
		9/15/2006	21.00	33.02	15.32	12.02
		12/15/2006	21.32	32.74	15.09	11.42
		3/15/2007	NG	NG	NG	NG
		6/15/2007	20.73	32.79	15.58	12.06
		9/15/2007	20.83	33.51	15.39	12.68
		12/15/2007	20.80	33.45	15.42	12.65
	2808	3/15/2006	NG	NG	NG	NG
		6/15/2006	21.44	31.92	14.66	10.48
		7/10/2006	21.44	31.92	14.66	10.48
		9/15/2006	20.59	30.99	15.52	10.40
		12/15/2006	20.53	28.34	15.97	7.81
		3/15/2007	21.03	30.31	15.25	9.28
		6/15/2007	19.59	27.92	16.83	8.33
		9/15/2007	20.70	28.66	15.78	7.96
		12/15/2007	21.24	33.70	14.56	12.46
	2810	3/15/2006	NG	NG	NG	NG
		6/15/2006	21.02	40.57	13.73	19.55
		7/10/2006	21.02	40.57	13.73	19.55
		9/15/2006	19.67	39.62	15.02	19.95
		12/15/2006	19.73	40.13	14.89	20.40
		3/15/2007	21.16	40.56	13.61	19.40
		6/15/2007	19.44	40.23	15.12	20.79

Area	Well No	Gauge Date	Depth to Product	Depth to Water	Potentiometric Elevation	Apparent Thickness
Toone LZ	2810	9/15/2007	19.86	40.58	14.71	20.72
		12/15/2007	20.35	40.82	14.26	20.47
	2811	3/15/2006	21.52	51.61	11.74	30.09
		6/15/2006	21.21	52.91	11.81	31.70
		7/10/2006	21.21	52.91	11.81	31.70
		9/15/2006	20.37	53.17	12.48	32.80
		12/15/2006	20.31	53.41	12.50	33.10
		3/15/2007	NG	NG	NG	NG
		6/15/2007	21.25	49.48	12.29	28.23
		9/15/2007	22.48	48.51	11.39	26.03
		10/1/2007	22.17	48.55	11.64	26.38
		12/15/2007	23.95	42.58	11.03	18.63
	2812	3/15/2006	14.23	48.34	14.58	34.11
		6/15/2006	17.23	17.23	16.70	0.00
		6/15/2006	17.23	46.85	12.26	29.62
		9/15/2006	13.13	46.92	15.73	33.79
		12/15/2006	18.56	53.55	10.12	34.99
		3/15/2007	18.01	48.44	11.36	30.43
		6/15/2007	13.18	48.58	15.44	35.40
		9/15/2007	13.79	48.60	14.92	34.81
		10/1/2007	13.93	48.60	14.80	34.67
		12/15/2007	14.43	48.60	14.37	34.17
	2813	3/15/2006	23.52	47.40	12.48	23.88
		6/15/2006	23.56	47.68	12.40	24.12
		7/10/2006	23.56	47.68	12.40	24.12
		9/15/2006	22.75	47.98	13.05	25.23
		12/15/2006	22.60	48.23	13.14	25.63
		3/15/2007	23.50	47.71	12.45	24.21
		6/15/2007	22.74	48.07	13.04	25.33
		9/15/2007	23.17	47.76	12.72	24.59
		12/15/2007	23.52	47.45	12.47	23.93
	2814	3/15/2006	24.51	24.51	18.44	0.00
		6/15/2006	24.62	24.62	18.33	0.00
		7/10/2006	24.62	24.62	18.33	0.00
		9/15/2006	20.55	20.55	22.40	0.00
		12/15/2006	23.31	23.31	19.64	0.00
		3/15/2007	23.77	23.77	19.18	0.00
		6/15/2007	24.06	24.06	18.89	0.00
		9/15/2007	23.83	23.83	19.12	0.00
		12/15/2007	24.51	24.51	18.44	0.00
	2815	3/15/2006	NG	NG	NG	NG
		6/15/2006	21.08	21.73	13.21	0.65
		9/15/2006	17.12	17.12	17.27	0.00
		12/15/2006	17.03	17.03	17.36	0.00
		3/15/2007	17.54	17.54	16.85	0.00
		6/15/2007	17.07	17.07	17.32	0.00
		9/15/2007	17.40	17.40	16.99	0.00
		12/15/2007	17.27	17.27	17.12	0.00
	2816	3/15/2006	18.92	55.46	9.27	36.54
		6/15/2006	17.59	55.61	10.38	38.02
		9/15/2006	16.56	56.16	11.17	39.60
		12/15/2006	16.65	56.35	11.07	39.70
		3/15/2007	NG	NG	NG	NG
		6/15/2007	17.04	54.16	11.06	37.12
		9/15/2007	18.48	50.72	10.35	32.24
		10/1/2007	18.45	50.32	10.44	31.87

Area	Well No	Gauge Date	Depth to Product	Depth to Water	Potentiometric Elevation	Apparent Thickness
Toone LZ	2816	12/15/2007	18.49	49.91	10.47	31.42
	2817	3/15/2006	NG	NG	NG	NG
		6/15/2006	17.74	39.18	11.52	21.44
		9/15/2006	16.61	39.46	12.44	22.85
		12/15/2006	16.58	39.76	12.42	23.18
		3/15/2007	17.07	39.75	12.01	22.68
		6/15/2007	16.44	39.49	12.58	23.05
		9/15/2007	16.74	40.00	12.25	23.26
		12/15/2007	16.80	40.24	12.16	23.44
	2818	3/15/2006	18.76	54.70	8.56	35.94
		6/15/2006	23.52	54.55	4.54	31.03
		9/15/2006	17.69	54.72	9.47	37.03
		12/15/2006	17.81	55.10	9.31	37.29
		3/15/2007	18.62	54.49	8.71	35.87
		6/15/2007	17.92	54.45	9.31	36.53
		9/15/2007	18.40	54.31	8.92	35.91
		12/15/2007	18.34	54.60	8.93	36.26
	2819	3/15/2006	NG	NG	NG	NG
		6/15/2006	14.97	14.97	22.38	0.00
		9/15/2006	22.90	23.47	14.36	0.57
		12/15/2006	22.42	23.96	14.70	1.54
		3/15/2007	22.83	23.40	14.43	0.57
		6/15/2007	22.52	23.09	14.74	0.57
		9/15/2007	22.99	23.57	14.27	0.58
		12/15/2007	23.47	23.47	13.88	0.00
	2820	3/15/2006	16.15	43.08	14.65	26.93
		6/15/2006	16.08	42.98	14.73	26.90
		9/15/2006	15.12	42.79	15.57	27.67
		12/15/2006	15.22	42.60	15.51	27.38
		3/15/2007	15.94	42.63	14.90	26.69
		6/15/2007	15.51	42.56	15.27	27.05
		9/15/2007	16.41	42.86	14.46	26.45
		12/15/2007	16.36	42.40	14.57	26.04
	2821	3/15/2006	17.09	49.87	10.95	32.78
		6/15/2006	17.21	49.87	10.85	32.66
		9/15/2006	16.40	49.64	11.57	33.24
		12/15/2006	16.43	49.77	11.53	33.34
		3/15/2007	16.70	49.87	11.28	33.17
		6/15/2007	16.22	49.25	11.79	33.03
		9/15/2007	17.08	49.75	10.98	32.67
		12/15/2007	16.76	45.25	11.93	28.49
	2822	3/15/2006	20.73	51.74	12.54	31.01
		6/15/2006	20.62	51.70	12.63	31.08
		7/10/2006	20.62	51.70	12.63	31.08
		9/15/2006	19.82	51.99	13.27	32.17
		12/15/2006	19.69	52.43	13.32	32.74
		3/15/2007	20.55	51.74	12.69	31.19
		6/15/2007	19.79	52.17	13.27	32.38
		9/15/2007	20.30	51.55	12.93	31.25
		12/15/2007	20.63	51.05	12.72	30.42
	2823	3/15/2006	NG	NG	NG	NG
		6/15/2006	16.88	50.35	12.69	33.47
		12/15/2006	12.22	48.02	17.00	35.80
		3/15/2007	NG	NG	NG	NG
		6/15/2007	19.39	51.62	10.37	32.23
		9/15/2007	22.55	38.37	9.67	15.82

Area	Well No	Gauge Date	Depth to Product	Depth to Water	Potentiometric Elevation	Apparent Thickness
Toone LZ	2823	10/1/2007	23.59	33.48	9.52	9.89
		12/15/2007	23.97	33.06	9.26	9.09
	2824	3/15/2006	19.00	56.02	13.68	37.02
		6/15/2006	18.78	55.90	13.88	37.12
		7/10/2006	18.78	55.90	13.88	37.12
		9/15/2006	18.10	55.42	14.53	37.32
		12/15/2006	19.36	54.90	13.54	35.54
		3/15/2007	18.43	55.35	14.26	36.92
		6/15/2007	18.62	42.99	15.96	24.37
		9/15/2007	19.79	50.18	13.88	30.39
		10/1/2007	19.98	50.16	13.72	30.18
		12/15/2007	19.44	53.03	13.75	33.59
	2825	3/15/2006	NG	NG	NG	NG
		6/15/2006	19.81	49.68	15.22	29.87
		7/10/2006	19.81	49.68	15.22	29.87
		9/15/2006	21.79	56.18	12.57	34.39
		12/15/2006	21.66	54.56	12.92	32.90
		3/15/2007	NG	NG	NG	NG
		6/15/2007	22.71	56.92	11.67	34.21
		9/15/2007	23.58	55.92	11.08	32.34
		10/1/2007	23.48	55.90	11.17	32.42
		12/15/2007	23.76	55.41	11.01	31.65
	2826	12/17/2007	24.08	57.03	9.97	32.95
	2827	12/17/2007	24.43	60.90	8.87	36.47
	2828	12/18/2007	19.18	55.38	10.18	36.20
	2829	12/18/2007	20.04	61.39	7.24	41.35
	2830	12/18/2007	19.97	59.54	6.68	39.57

Former ExxonMobil Baltimore Terminal Gauging Data

Area	Well No	Gauge Date	Depth to Product	Depth to Water	Potentiometric Elevation	Apparent Thickness
Canton R.R. LZ	2916	3/15/2006	17.79	17.79	11.79	0.00
		6/30/2006	17.72	17.72	11.86	0.00
		9/15/2006	17.26	17.26	12.32	0.00
		12/15/2006	17.13	17.13	12.45	0.00
		3/15/2007	17.23	17.23	12.35	0.00
		6/15/2007	16.89	16.89	12.69	0.00
		9/15/2007	17.50	17.50	12.08	0.00
		12/15/2007	17.69	17.69	11.89	0.00
	2917	3/15/2006	11.84	48.11	15.29	36.27
		6/30/2006	11.11	47.51	16.00	36.40
		9/15/2006	10.47	46.93	16.63	36.46
		12/15/2006	10.58	46.86	16.54	36.28
		3/15/2007	10.66	46.64	16.51	35.98
		6/15/2007	10.03	46.25	17.10	36.22
		9/15/2007	10.72	47.92	16.27	37.20
		12/15/2007	10.83	47.01	16.31	36.18
	2918	3/15/2006	21.00	21.00	6.50	0.00
		6/30/2006	20.96	20.96	6.54	0.00
		9/15/2006	20.35	20.35	7.15	0.00
		12/15/2006	20.04	20.04	7.46	0.00
		3/15/2007	20.29	20.29	7.21	0.00
		6/15/2007	19.95	19.95	7.55	0.00
		9/15/2007	20.62	20.62	6.88	0.00
		12/15/2007	15.06	15.06	12.44	0.00
	2919	3/15/2006	19.98	19.98	7.95	0.00
		6/15/2006	20.01	20.01	7.92	0.00
		9/15/2006	19.59	19.59	8.34	0.00
		12/15/2006	19.34	19.34	8.59	0.00
		3/15/2007	19.33	19.33	8.60	0.00
		6/15/2007	19.11	19.11	8.82	0.00
		9/15/2007	19.71	19.71	8.22	0.00
		12/15/2007	19.51	19.51	8.42	0.00
	2922	3/15/2006	NG	NG	NG	NG
		9/15/2006	NG	NG	NG	NG
		12/15/2006	NG	NG	NG	NG
		3/15/2007	NG	NG	NG	NG
		6/15/2007	NG	NG	NG	NG
		9/15/2007	NG	NG	NG	NG
		12/15/2007	NG	NG	NG	NG

Former ExxonMobil Baltimore Terminal Gauging Data

Area	Well No	Gauge Date	Depth to Product	Depth to Water	Potentiometric Elevation	Apparent Thickness
Balto City LZ	2910	3/15/2006	20.57	51.65	12.96	31.08
		6/15/2006	20.06	51.12	13.47	31.06
		9/15/2006	19.41	51.04	14.04	31.63
		12/15/2006	19.65	51.49	13.76	31.84
		3/15/2007	19.64	50.88	13.86	31.24
		6/15/2007	19.27	50.74	14.20	31.47
		9/15/2007	20.20	51.16	13.35	30.96
		12/15/2007	NG	NG	NG	NG
	2911	3/15/2006	NG	NG	NG	NG
		9/15/2006	NG	NG	NG	NG
		12/15/2006	NG	NG	NG	NG
		3/15/2007	NG	NG	NG	NG
		9/15/2007	NG	NG	NG	NG
		12/15/2007	NG	NG	NG	NG
	2912	3/15/2006	NG	NG	NG	NG
		9/15/2006	21.42	25.05	16.82	3.63
		12/15/2006	NG	NG	NG	NG
		3/15/2007	21.76	25.05	16.53	3.29
		6/15/2007	21.21	25.05	16.99	3.84
		9/15/2007	21.78	25.02	16.51	3.24
		12/15/2007	NG	NG	NG	NG
	2915	3/15/2006	NG	NG	NG	NG
		9/15/2006	NG	NG	NG	NG
		12/15/2006	NG	NG	NG	NG
		3/15/2007	NG	NG	NG	NG
		9/15/2007	NG	NG	NG	NG
		12/15/2007	NG	NG	NG	NG
	2923	3/15/2006	21.60	21.60	8.40	0.00
		6/15/2006	21.81	21.81	8.19	0.00
		9/15/2006	21.29	21.29	8.71	0.00
		12/15/2006	21.18	21.18	8.82	0.00
		3/15/2007	20.93	20.93	9.07	0.00
		6/15/2007	20.75	20.75	9.25	0.00
		9/15/2007	21.36	21.36	8.64	0.00
		12/15/2007	23.52	23.52	6.48	0.00

Former ExxonMobil Baltimore Terminal Gauging Data

Area	Well No	Gauge Date	Depth to Product	Depth to Water	Potentiometric Elevation	Apparent Thickness
Miscellaneous LZ	2921	3/15/2006	16.89	16.89	10.24	0.00
		6/15/2006	17.04	17.04	10.09	0.00
		9/15/2006	16.53	16.53	10.60	0.00
		12/15/2006	16.42	16.42	10.71	0.00
		3/15/2007	16.16	16.16	10.97	0.00
		6/15/2007	16.02	16.02	11.11	0.00
		9/15/2007	16.55	16.55	10.58	0.00
		12/15/2007	17.55	17.55	9.58	0.00
	2924	3/15/2006	16.38	16.38	10.62	0.00
		8/15/2006	16.93	16.93	10.07	0.00
		9/15/2006	15.57	15.57	11.43	0.00
		12/15/2006	15.14	15.14	11.86	0.00
		3/15/2007	15.78	15.78	11.22	0.00
		6/15/2007	15.47	15.47	11.53	0.00
		9/15/2007	15.95	15.95	11.05	0.00
		12/15/2007	15.96	15.96	11.04	0.00

Former ExxonMobil Baltimore Terminal Gauging Data

Area	Well No	Gauge Date	Depth to Product	Depth to Water	Potentiometric Elevation	Apparent Thickness
Tulkoff LZ	2913	3/15/2006	35.87	35.87	17.17	0.00
		6/15/2006	36.09	36.09	16.95	0.00
		9/15/2006	35.91	35.91	17.13	0.00
		12/15/2006	35.90	35.90	17.14	0.00
		3/15/2007	35.72	35.72	17.32	0.00
		6/15/2007	35.45	35.45	17.59	0.00
		9/15/2007	36.12	36.12	16.92	0.00
		12/15/2007	36.40	36.40	16.64	0.00
	2914	3/15/2006	NG	NG	NG	NG
		6/15/2006	NG	NG	NG	NG
		9/15/2006	NG	NG	NG	NG
		12/15/2006	NG	NG	NG	NG
		3/15/2007	31.07	31.07	19.52	0.00
		6/15/2007	32.80	32.80	17.79	0.00
		9/15/2007	NG	NG	NG	NG
		12/15/2007	NG	NG	NG	NG
	2925	3/15/2006	NG	NG	NG	NG
		6/15/2006	26.17	30.01	13.14	3.84
		8/15/2006	25.97	30.33	13.34	4.36
		9/15/2006	26.15	27.11	13.16	0.96
		12/15/2006	26.27	28.31	13.04	2.04
		3/15/2007	26.16	28.74	13.15	2.58
		6/15/2007	25.51	29.02	13.80	3.51
		9/15/2007	26.31	30.16	13.00	3.85
		12/15/2007	26.84	31.35	12.47	4.51
	2926	3/15/2006	26.60	26.94	12.40	0.34
		6/15/2006	26.90	27.22	12.10	0.32
		8/15/2006	26.24	26.58	12.76	0.34
		9/15/2006	26.44	26.46	12.56	0.02
		12/15/2006	26.83	26.92	12.17	0.09
		3/15/2007	26.52	26.87	12.48	0.35
		6/15/2007	25.91	25.93	13.09	0.02
		9/15/2007	NG	NG	NG	NG
		12/15/2007	NG	NG	NG	NG

Former ExxonMobil Baltimore Terminal Gauging Data

Area	Well No	Gauge Date	Depth to Product	Depth to Water	Potentiometric Elevation	Apparent Thickness
Warner Graham	2920	3/15/2006	NG	NG	NG	NG
		6/15/2006	8.24	57.29	13.46	49.05
		9/15/2006	7.68	57.07	13.97	49.39
		12/15/2006	7.43	57.41	14.13	49.98
		3/15/2007	7.29	57.08	14.30	49.79
		6/15/2007	16.94	17.41	12.04	0.47
		9/15/2007	17.44	17.90	11.55	0.46
		12/15/2007	17.50	17.90	11.50	0.40

Former ExxonMobil Baltimore Terminal Gauging Data

Area	Well No	Gauge Date	Depth to Product	Depth to Water	Potentiometric Elevation	Apparent Thickness
14th Street LZ	3084	3/15/2006	6.60	53.75	10.51	47.15
		6/30/2006	7.35	53.11	9.97	45.76
		9/15/2006	7.68	53.32	9.65	45.64
		12/15/2006	11.29	33.96	9.49	22.67
		3/15/2007	7.08	53.09	10.20	46.01
		6/15/2007	15.82	15.84	8.36	0.02
		9/15/2007	6.98	52.14	10.43	45.16
		12/15/2007	14.62	21.45	8.53	6.83
	3085	3/15/2006	18.00	18.72	6.52	0.72
		6/30/2006	17.99	18.80	6.52	0.81
		9/15/2006	17.87	18.67	6.64	0.80
		12/15/2006	17.01	17.84	7.50	0.83
		3/15/2007	17.47	18.43	7.02	0.96
		6/15/2007	17.17	17.96	7.34	0.79
		9/15/2007	18.04	18.95	6.45	0.91
		12/15/2007	18.10	19.00	6.40	0.90
	3086	3/15/2006	29.68	29.68	5.30	0.00
		6/30/2006	29.37	29.37	5.61	0.00
		9/15/2006	29.32	29.32	5.66	0.00
		12/15/2006	28.99	28.99	5.99	0.00
		3/15/2007	27.38	27.38	7.60	0.00
		6/15/2007	27.84	27.84	7.14	0.00
		9/15/2007	29.46	29.46	5.52	0.00
		12/15/2007	28.05	28.05	6.93	0.00
	3087	3/15/2006	23.36	23.36	6.53	0.00
		6/15/2006	23.72	23.72	6.17	0.00
		9/15/2006	23.42	23.42	6.47	0.00
		12/15/2006	23.01	23.01	6.88	0.00
		3/15/2007	22.99	22.99	6.90	0.00
		6/15/2007	23.02	23.02	6.87	0.00
		9/15/2007	23.73	23.73	6.16	0.00
		12/15/2007	23.47	23.47	6.42	0.00
	3088	3/15/2006	9.32	52.73	8.75	43.41
		6/15/2006	9.20	52.88	8.83	43.68
		9/15/2006	8.90	52.83	9.09	43.93
		12/15/2006	7.24	53.23	10.44	45.99
		3/15/2007	8.34	51.86	9.71	43.52
		6/15/2007	9.24	47.50	9.60	38.26
		9/15/2007	10.95	45.68	8.42	34.73
		12/15/2007	13.32	36.84	7.73	23.52
	3089	3/15/2006	12.18	61.02	10.70	48.84
		6/30/2006	13.17	59.66	10.06	46.49
		9/15/2006	13.44	59.93	9.79	46.49
		12/15/2006	14.29	48.01	10.86	33.72
		3/15/2007	21.94	23.30	8.06	1.36
		6/15/2007	13.88	49.47	10.99	35.59
		9/15/2007	14.46	52.20	10.08	37.74
		12/15/2007	17.58	42.15	8.94	24.57
	3090	3/15/2006	19.88	19.88	5.76	0.00
		6/15/2006	19.89	19.89	5.75	0.00
		9/15/2006	19.77	19.77	5.87	0.00
		12/15/2006	19.30	19.30	6.34	0.00
		3/15/2007	19.24	19.24	6.40	0.00
		6/15/2007	19.28	19.28	6.36	0.00

Area	Well No	Gauge Date	Depth to Product	Depth to Water	Potentiometric Elevation	Apparent Thickness
14th Street LZ	3090	9/15/2007	19.70	19.70	5.94	0.00
		12/15/2007	19.80	19.80	5.84	0.00
	3091	3/15/2006	16.42	61.51	10.39	45.09
		6/15/2006	17.31	60.49	9.79	43.18
		9/15/2006	16.19	60.93	10.67	44.74
		12/15/2006	19.81	47.36	9.63	27.55
		3/15/2007	25.38	29.21	7.62	3.83
		6/15/2007	25.30	28.67	7.77	3.37
		9/15/2007	25.17	33.35	7.18	8.18
		12/15/2007	17.97	55.93	9.91	37.96
	3092	3/15/2006	17.73	63.48	7.04	45.75
		6/30/2006	16.28	64.22	8.01	47.94
		9/15/2006	16.21	64.38	8.03	48.17
		12/15/2006	15.87	64.24	8.32	48.37
		3/15/2007	16.93	64.25	7.49	47.32
		6/15/2007	15.31	64.44	8.72	49.13
		9/15/2007	16.27	64.40	7.98	48.13
		12/15/2007	16.43	64.25	7.89	47.82
	3093	3/15/2006	14.79	63.81	7.45	49.02
		6/30/2006	15.05	62.87	7.46	47.82
		9/15/2006	14.98	62.92	7.50	47.94
		12/15/2006	14.59	62.54	7.89	47.95
		3/15/2007	15.00	63.15	7.43	48.15
		6/15/2007	14.31	62.37	8.14	48.06
		9/15/2007	14.95	59.24	8.34	44.29
		12/15/2007	15.25	61.76	7.55	46.51
	3094	3/15/2006	15.85	60.96	6.91	45.11
		6/15/2006	16.37	60.52	6.61	44.15
		9/15/2006	15.97	60.38	6.95	44.41
		12/15/2006	15.06	59.74	7.80	44.68
		3/15/2007	15.45	59.17	7.63	43.72
		6/15/2007	15.48	58.94	7.66	43.46
		9/15/2007	17.93	55.46	6.55	37.53
		12/15/2007	17.43	55.60	6.90	38.17
	3095	3/15/2006	18.03	52.22	6.00	34.19
		6/15/2006	17.29	52.30	6.56	35.01
		9/15/2006	16.88	52.18	6.90	35.30
		12/15/2006	16.90	52.18	6.89	35.28
		3/15/2007	16.85	52.10	6.94	35.25
		6/15/2007	16.03	52.10	7.58	36.07
		9/15/2007	17.01	52.07	6.82	35.06
		12/15/2007	18.81	51.72	5.51	32.91
	3096	3/15/2006	14.76	61.09	6.87	46.33
		6/15/2006	15.51	60.85	6.34	45.34
		9/15/2006	15.06	60.61	6.74	45.55
		12/15/2006	14.61	59.74	7.28	45.13
		3/15/2007	14.24	59.07	7.72	44.83
		6/15/2007	13.91	59.92	7.79	46.01
		9/15/2007	15.84	57.53	6.83	41.69
		12/15/2007	15.18	58.37	7.15	43.19
	3097	3/15/2006	17.18	35.42	9.37	18.24
		6/15/2006	16.02	42.46	8.69	26.44
		9/15/2006	14.52	46.42	8.97	31.90
		12/15/2006	13.44	47.57	9.55	34.13
		3/15/2007	13.42	47.81	9.51	34.39
		6/15/2007	13.13	47.99	9.69	34.86

Area	Well No	Gauge Date	Depth to Product	Depth to Water	Potentiometric Elevation	Apparent Thickness
14th Street LZ	3097	9/15/2007	14.25	48.46	8.72	34.21
		12/15/2007	14.52	48.20	8.57	33.68
	3098	3/15/2006	24.74	24.74	5.01	0.00
		3/16/2006	23.04	23.04	6.71	0.00
		6/15/2006	23.04	23.04	6.71	0.00
		9/15/2006	22.72	22.72	7.03	0.00
		12/15/2006	22.95	22.95	6.80	0.00
		3/15/2007	22.55	22.55	7.20	0.00
		6/15/2007	22.78	22.78	6.97	0.00
		9/15/2007	22.78	22.78	6.97	0.00
		12/15/2007	22.80	22.80	6.95	0.00

Former ExxonMobil Baltimore Terminal Gauging Data

Area	Well No	Gauge Date	Depth to Product	Depth to Water	Potentiometric Elevation	Apparent Thickness
Canton Trade LZ	3900	3/15/2006	7.96	58.42	6.90	50.46
		6/30/2006	8.78	57.67	6.42	48.89
		9/15/2006	8.12	57.64	6.95	49.52
		12/15/2006	7.40	56.97	7.65	49.57
		3/15/2007	8.36	55.04	7.33	46.68
		6/15/2007	8.01	56.09	7.37	48.08
		9/15/2007	9.09	53.95	7.00	44.86
		12/15/2007	8.97	54.34	7.00	45.37
	3901	3/15/2006	7.77	54.28	7.80	46.51
		6/30/2006	7.98	53.89	7.73	45.91
		9/15/2006	7.25	53.76	8.32	46.51
		12/15/2006	8.73	53.46	7.26	44.73
		3/15/2007	8.03	53.24	7.85	45.21
		6/15/2007	7.21	53.36	8.44	46.15
		9/15/2007	7.67	53.50	8.06	45.83
		10/15/2007	8.20	53.43	7.67	45.23
		11/15/2007	9.11	53.16	7.04	44.05
		12/15/2007	9.85	53.10	6.49	43.25
	3902	3/15/2006	6.50	52.34	7.73	45.84
		6/30/2006	6.24	52.24	7.95	46.00
		9/15/2006	5.59	52.07	8.49	46.48
		12/15/2006	5.91	51.68	8.33	45.77
		3/15/2007	5.53	51.62	8.64	46.09
		6/15/2007	5.52	51.33	8.71	45.81
		9/15/2007	6.04	51.38	8.31	45.34
		10/15/2007	5.85	51.51	8.42	45.66
		11/15/2007	5.84	51.25	8.49	45.41
		12/15/2007	7.00	51.24	7.60	44.24
	3903	3/15/2006	8.76	60.77	5.02	52.01
		6/30/2006	8.69	60.17	5.21	51.48
		9/15/2006	8.22	59.88	5.64	51.66
		12/15/2006	8.30	59.80	5.60	51.50
		3/15/2007	7.94	59.60	5.92	51.66
		6/15/2007	7.93	59.17	6.03	51.24
		9/15/2007	8.46	59.08	5.64	50.62
		10/15/2007	8.35	59.03	5.74	50.68
		11/15/2007	8.32	59.93	5.55	51.61
		12/15/2007	9.18	58.75	5.17	49.57
	3904	3/15/2006	16.83	17.17	8.67	0.34
		6/30/2006	16.88	17.21	8.62	0.33
		9/15/2006	16.30	16.65	9.20	0.35
		12/15/2006	16.09	16.49	9.41	0.40
		3/15/2007	16.36	16.69	9.14	0.33
		6/15/2007	16.10	16.48	9.40	0.38
		9/15/2007	16.66	17.01	8.84	0.35
		10/15/2007	16.75	17.09	8.75	0.34
		11/15/2007	16.93	17.25	8.57	0.32
		12/15/2007	17.85	18.14	7.65	0.29
	3905	3/15/2006	6.57	54.00	7.28	47.43
		6/30/2006	7.40	53.58	6.75	46.18
		9/15/2006	7.42	53.44	6.77	46.02
		12/15/2006	6.82	51.95	7.57	45.13
		3/15/2007	7.46	51.75	7.13	44.29
		6/15/2007	7.14	52.61	7.17	45.47

Area	Well No	Gauge Date	Depth to Product	Depth to Water	Potentiometric Elevation	Apparent Thickness
Canton Trade LZ	3905	9/15/2007	8.28	50.52	6.79	42.24
		12/15/2007	8.18	50.59	6.85	42.41
	3906	3/15/2006	9.01	62.51	16.79	53.50
		6/30/2006	6.77	62.80	19.03	56.03
		9/15/2006	6.39	62.95	19.41	56.56
		12/15/2006	NG	NG	NG	NG
		3/15/2007	6.15	63.39	19.65	57.24
		6/15/2007	5.70	63.42	20.10	57.72
		9/15/2007	6.20	63.56	19.60	57.36
		10/15/2007	6.61	63.39	19.19	56.78
		11/15/2007	6.34	63.44	19.46	57.10
		12/15/2007	6.44	63.45	19.36	57.01
	3907	3/15/2006	15.57	21.88	7.95	6.31
		6/30/2006	14.98	22.29	8.30	7.31
		9/15/2006	14.50	23.43	8.40	8.93
		12/15/2006	13.11	27.73	8.45	14.62
		3/15/2007	12.92	29.14	8.27	16.22
		6/15/2007	12.02	30.18	8.71	18.16
		9/15/2007	12.36	31.24	8.20	18.88
		10/15/2007	12.37	31.47	8.14	19.10
		11/15/2007	12.14	31.40	8.33	19.26
		12/15/2007	12.75	31.60	7.82	18.85

ATTACHMENT II

LNAPL and Hydrogeologic Characterization Data Collection	
Description	Test Method
Fluid Properties Package: LNAPL and Water (includes dynamic viscosity and fluid density, surface tension for each fluid and interfacial tension).	ASTM D445, ASTM D1481
Drainage Capillary Pressure Data, Centrifugal Method: LNAPL/Water, (includes initial fluid saturations, water production vs. capillary pressure, total porosity, dry bulk density, specific permeability to LNAPL and hydraulic conductivity.	API RP 40, ASTM D425M, EPA 9100

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Client: Environmental
Client Project ID: Core Recovery Project

PTS Quote No: 00-200
January 2002

Recommended Core Handling/Preservation Field Procedures

Introduction

Following are recommended field procedures for handling, preserving and shipping unconsolidated cores obtained from shallow borings. Coring methods are beyond the scope of these procedures, as every site will have it's own unique problems and those are best addressed by the consultant and coring companies involved.

The goal of any coring operation is to obtain representative, *undisturbed* samples. If the core is being submitted to a laboratory for petrophysical analysis, it is recommended that the laboratory be contacted in advance to discuss the test program and required core size. Often, a compromise must be met between what the laboratory requires and what is practical in the field. Generally a 2" diameter by 6" long sleeve is suitable for most basic tests; horizontal and vertical permeability, TOC, density, grain size, porosity and pore fluid saturations. If larger diameter/continuous coring equipment is available, then a more detailed lithological and petrophysical data profile can be generated.

Procedure

1. Remove sample from core sampler as soon as possible.
   a. If core is in sleeves, fill any void space with saran wrap to minimize core movement, then seal with Teflon film and tape on plastic end caps.
   b. If core is not in sleeves, slide gently from sampler on to split PVC core supports - contact PTS for details. Wrap with Saran and secure with clear box tape.
2. Label each core section with top and bottom depths. Fractions of a foot should be recorded in tenths. Additionally, label multiple sleeves sequentially with A, B, C... etc starting with A on the top (shallowest) sleeve.
3. Immediately place cores in a cooler containing dry ice and freeze to minimize migration of core fluids (alternative: pack core into an ice chest with frozen "Blue Ice" and foam packing/cushioning material).
4. Ship cores at the end of each day by overnight courier (FedEx or AirBorne Express, etc.) to PTS Laboratories. Contact PTS for labeling requirements.

Applicable ASTM Standards

D3550-84: Ring Lined Barrel Sampling of Soils; split spoon or one-piece sampling barrel.
D1587-83: Thin-Walled Tube Sampling of Soils; Pitcher/Shelby tubes.
D4220-89: Preserving and Transporting Soil Samples; basic, does not address contaminated samples.