Chevron

Global Gas

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RECEIVED

9:06 am, Oct 29, 2010

Alameda County
Environmental Health

October 28, 2010

Mr. Jerry Wickham
Department of Environmental Health
Alameda County Health Agency
1131 Harbor Bay Parkway
Alameda, CA 94502

Dear Mr. Wickham:

I declare, under penalty of perjury, that the information and/or recommendations contained in URS' report titled "**Conceptual Site Model SLIC Case No. RO0002892, Chevron Sunol Pipeline, 2793 Calaveras Road, Sunol, California**" are true and correct to the best of my knowledge at the present time.

Sincerely,

K. H. (Kimberly) Tourloukis

KHT/rmf

URS

October 28, 2010

Mr. Jerry Wickham
Department of Environmental Health
Alameda County Health Agency
1131 Harbor Bay Parkway
Alameda, California 94502

Subject: SLIC Case No. RO0002892, Chevron Pipeline Company, Sunol Spill, 2793 Calaveras Road, Sunol, California, Conceptual Site Model

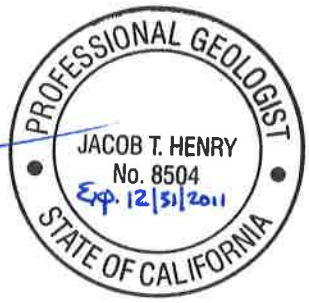
Dear Mr. Wickham:

In response to a letter provided by the Alameda County Environmental Health Department staff (ACEHD) on August 5, 2010, attached is a Conceptual Site Model requested for the Chevron Pipeline Company (CPL) Sunol Spill Site (Site).

If you have any questions on this report, please call Mr. Joe Morgan or Mr. Jacob Henry of URS at 510-874-3201 or 510-874-3252, respectively.

Sincerely yours,

URS Corporation



Jacob Henry, P.G.
Senior Geologist

Joe Morgan III
Senior Project Manager

cc: Mr. Jeff Johnson, Chevron Pipeline Company
Ms. Kimberly Tourloukis, Chevron Pipeline Company
Ms. Rachel Naccarati, URS Oakland

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URS

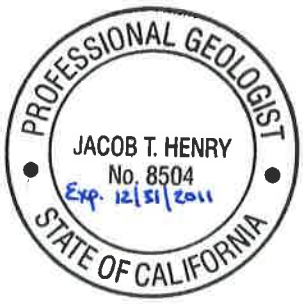
This Conceptual Site Model was prepared under my direct supervision. The information presented in this report is based on our review of available data obtained during our quarterly sampling activities and our previous subsurface investigation efforts. To the best of our knowledge, we have incorporated into our recommendations all relevant data pertaining to the Chevron Pipeline Company's Sunol Spill Site in Sunol, California.

The Conceptual Site Model discussed herein was developed in accordance with the standard of care used to develop this type of report. The assumptions that were made and the recommendations for continued field activities were based on our professional experience and protocols reported in the literature for similar investigations.

URS Corporation
Approved by:

Joe Morgan III

Jacob Henry, P.G.



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CONCEPTUAL SITE MODEL

SLIC CASE #RO0002892
CHEVRON PIPELINE COMPANY
SUNOL SPILL
2793 CALAVERAS ROAD
SUNOL, CALIFORNIA

Prepared for
Alameda County Health Agency
1131 Harbor Bay Parkway
Alameda, CA 94502

October 2010

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612

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Acronyms and Abbreviations

ACBD	Alameda County Building Department
ACEHD	Alameda County Environmental Health Department
ACFD	Alameda County Fire Department
ACPD	Alameda County Planning Department
BTEX	benzene, toluene, ethylbenzene, and xylenes
bgs	below ground surface
CPL	Chevron Pipeline Company
CSM	Conceptual Site Model
DO	dissolved oxygen
ESL	environmental screening level
GORE™	W.L. Gore & Associates
Mako	Mako Industries
mg/L	milligrams per liter
MNA	monitored natural attenuation
Msl	mean sea level
mV	millivolts
Nursery	Valley Crest Tree Company
psi	pounds per square inch
O&M	operation and maintenance
ORP	oxidation reduction potential
ROW	right of way
RWQCB	Regional Water Quality Control Board
SFPUC	San Francisco Public Utilities Commission
SVE	soil-vapor extraction
TPH-g	total petroleum hydrocarbons as gasoline
µg/L	micrograms per liter
URS	URS Corporation
VOC	volatile organic compound

This Conceptual Site Model (CSM) has been prepared by URS Corporation (URS) on behalf of Chevron Pipeline Company (CPL) for the Sunol Spill Site (Site), which is located at 2793 Calaveras Road in Sunol, California. The Alameda County Environmental Health Department (ACEHD) is the oversight agency. The San Francisco Public Utilities Commission (SFPUC) owns the Site and much of the surrounding Sunol Valley. The SFPUC currently leases the eastern portion (hillside) of the Site to a local rancher and the western portion to Valley Crest Tree Company (nursery). CPL also leases the pipeline right-of-way from the SFPUC on the eastern side of Calaveras Road. According to the SFPUC, current and future land use will remain the same for the foreseeable future.

The purpose of this CSM is to present all Site data in one document so that an effective plan of action can be developed by all parties that will lead to Site closure. Currently, Site data suggests impacts caused by the August 14, 2005 pipeline release of gasoline are limited to shallow/deep soils in and around the hillside were the release occurred and to groundwater that infiltrates the hillside and migrates under Calaveras Road to the nursery. The site contaminants are total petroleum hydrocarbons as gasoline (TPH-g), benzene, toluene, ethylbenzene, and total xylenes (BTEX). The pipeline release and secondary releases from soil to groundwater have not impacted water wells or surface waters. Based on current Site condition and use, no complete pathways to human receptors appear to be present. However, future Site workers may ingest, come in contact with, or inhale dust/vapors from impacted shallow soils. Although several trees were killed as a result of the release, current ecological receptors do not appear to be significantly impacted, but burrowing ecological receptors may ingest, come in contact with, or inhale dust/vapors from impacted shallow soils. Existing TPH-g and BTEX impacts in groundwater will continued to be monitored on a quarterly basis to document the decreasing concentrations. The age of the soil analytical data, unknown depth of the hillside soil source, lack of shallow groundwater monitoring wells at the base of the hillside, and the age of the biological survey are perceived data gaps that may need to be addressed.

Current geochemical groundwater data indicates an anaerobic environment that may be reducing TPH-g and BTEX concentrations by anaerobic degradation. Soil impacts in the hillside may need additional investigations to evaluate current Site conditions. The hillside soil source area appears stable with minimal infiltration. The monitoring wells currently impacted are all on Site and surrounded on the north, south, and west by clean monitoring wells indicating no off Site migration. The Calaveras Fault runs approximately at the base of the hillside along the east side of Calaveras Road at the Site. Additional shallow monitoring wells along the eastern side of Calaveras Road at the base of the hillside may be appropriate for additional understanding of groundwater movement through the geologic framework of the Site.

URS recommends continued groundwater monitoring for TPH-g, BTEX, and geochemical parameters (biodegradation). The identified data gaps and potential implementation of additional Site activities will be discussed in a meeting between ACEHD, CPL, and URS to determine the most appropriate course of action that will lead to all parties agreeing on Site closure criteria.

1.1 INTRODUCTION

This CSM has been prepared by URS on behalf of CPL for the Site, located at 2793 Calaveras Road, Sunol, California (Figure 1). Figure 2 presents the locations of the on Site SVE and groundwater monitoring wells. For the purpose of this document, the Site is defined as follows:

North: The Site boundary is defined by the small stream that flows east to west.

South: The Site boundary is defined by clean groundwater monitoring well MW-2 and the former groundwater monitoring well MW-6.

East: The Site boundary is defined by the dirt road where the release occurred. This portion of the Site contains all of the soil vapor extraction (SVE) wells, monitoring well MW-8, and Calaveras Road.

West: The Site boundary is defined by clean groundwater monitoring wells MW-3, MW-4, and MW-11 located in the nursery. This portion of the Site also contains monitoring wells MW-1, MW-2, MW-9, and MW-10

URS submitted a work plan to the ACEHD outlining the proposed CSM on June 2, 2010. ACEHD approved the work plan in a letter to CPL dated August 5, 2010.

1.2 PURPOSE

The purpose of this CSM is to develop and document an understanding of the residual petroleum hydrocarbons located in the hillside source area, nursery groundwater, and identify all potential exposure pathways, sensitive receptors, and potential data gaps.

2.1 SITE HISTORY

The subject pipeline is an 8-inch diameter active pipeline that is part of CPLs Bay Area Products Pipeline (BAPL) from South Livermore to San Jose, California. The pipeline has been in place since at least 1963. The subject pipeline carries unleaded gasoline from the Chevron Richmond Refinery to San Jose, California.

The location of the pipeline release is approximately 2.7 miles south of the intersection of Interstate 680 and Calaveras Road, between mileposts 2.7 and 2.8 of Calaveras Road, in Sunol Valley, Valle de San Jose Mexican land grant (La Costa Valley Quadrangle) in Alameda County, California. The release location is approximately 4 miles southeast from the city of Sunol, California. The pipeline extends along the east side of Calaveras Road and traverses a steep hillside above the east side of the road (hillside). The SFPUC owns the property where the release occurred and leases it to a cattle rancher. Immediately to the west of Calaveras Road at the location of the release is a tree nursery, the nursery also leases the property from the SFPUC.

Aerial photographs starting in 1939 show the Site and surrounding land as undeveloped and/or farmland. Aerial photographs form 1958 and 1965 show some development of the surrounding land into what appears to be tree nurseries. After 1965, the San Antonio Reservoir is visible to the northeast with associated pumping station facilities approximately ¼ of a mile to the north of the Site. The Site and surrounding land have remained mainly unchanged since 1965.

The release of unleaded gasoline occurred on August 14, 2005 during the grading of the dirt road used by the cattle rancher on the eastern side of Calaveras Road. The grading equipment struck and damaged the pipeline causing the release. CPL initially estimated that approximately 700 barrels (29,400 gallons) of unleaded gasoline were released. Approximately 85 barrels of gasoline were recovered while draining and repairing the pipeline with approximately 615 barrels (25,830 gallons) released as a spray down slope of the pipeline onto the adjacent hillside and Calaveras Road.

A sizeable portion of the release was recovered when 152 tons of gasoline-impacted soil and debris were excavated and disposed of off-site as part of the emergency remedial activities. An additional portion of the product evaporated immediately after and in the days following the release. The following facts support this assumption:

- The product was released as a spray at approximately 750 pounds per square inch (psi) pressure from a hole in the top of the pipeline, allowing for rapid volatilization. The condition of site vegetation indicated that the gasoline spray reached as high as 50 feet in the air.
- The down slope portion of Calaveras Road was saturated with product, most of which evaporated or was removed when the roadway was replaced.
- The dense vegetation on the hillside provided a large amount of surface area for evaporation.
- The high volatility of gasoline and the ambient temperature at the site at the time of the release, approximately 90 degrees Fahrenheit, contributed to gasoline vaporization from the soil immediately after and in the days following the release.

2.2 REGIONAL GEOLOGY AND HYDROGEOLOGY

The pipeline release site is located on a steep hillside above the east side of Calaveras Road. Bedrock is present on the hillside at shallow depths and is exposed in numerous outcrops upslope. The bedrock geology of the hillside consists of Miocene-age marine sandstone and/or siltstone of the Briones Formation, the bedding of which dips steeply to the east as part of the western limb of a syncline. The axis of the syncline is located upslope a few hundred feet east of Calaveras Road and trends northwest paralleling the ridge line. Farther up the hillside east of the synclinal axis, the bedding reverses dip direction toward the west. According to the California Division of Mines and Geology, the Calaveras Fault (fault), which is located approximately 300 feet west of Calaveras Road, lies near the bottom of the hillside along the east edge of an alluvial plain that makes up the floor of Sunol Valley (California Division of Mines and Geology 1966; Dibblee 1980)? However, URS soil investigation data indicates that a fault zone is located at the base of the hillside on the eastern side of Calaveras Road and is assumed to be a part of the fault zone. Immediately to the west of Calaveras Road is the nursery, which is located on what appears to be a terrace. The Alameda Creek floodplain is located about 500 feet to the west of the nursery and is about 35 feet lower in elevation.

2.3 LOCAL GEOLOGY AND HYDROGEOLOGY

Local Geology

Local lithology on the hillside above Calaveras Road consists of sandy silt to silty sand colluvium extending to depths ranging from approximately 3 to 32 feet bgs. The silty sand colluvium is underlain by gravelly fine sand and fine sandy gravel to total depths ranging from approximately 10 to 40 feet bgs. Beneath the sand and gravel layer (observed in the borings that reached the greatest depth below ground surface) a thin silty/clayey weathered zone was encountered just before refusal on what appeared to be the sandstone/siltstone bedrock. Sandstone bedrock overlain by a gravel bed is exposed in the dirt road cut below the pipeline release site.

A continuous water-bearing zone was not encountered within the colluvial deposits on the hillside. However, perched groundwater zones were encountered on the hillside at depths ranging from 24 to 39 feet bgs in four of the borings (CP-SB-11, CP-SB-12, CP-SB-20, and CP-SB-25).

Local lithology along Calaveras Road and in the nursery indicates the base of the hillside consists of sandy to clayey silt and silty sand to a depth of about 17 to 35 feet bgs, underlain by sandy to silty gravel to a depth of about 29 to 43 feet bgs. Highly weathered sandy siltstone bedrock (with the consistency of sandy clay) is encountered at depths ranging from 29 to 47 feet bgs, underlain by progressively less weathered sandy siltstone, clayey siltstone, and silty claystone.

A weathered and sheared clay layer was encountered that appears to be fault gouge in boring AR-2. At approximately 105 feet bgs, hard, dark ultramafic igneous rock, which appeared to be basalt or gabbro (possibly of the Franciscan Formation), was encountered at the total explored depth of 108 feet bgs. It is possible that the clay layer could be fault gouge marking the contact with the Calaveras Fault. The depth to the alluvium/bedrock contact does not increase with distance west from the hillside, unlike what is suggested by the angle of the slope.

Representative cross-sections of select borings showing the local lithology are located in Appendix A.

Unconfined Water-Bearing Zone

Groundwater elevation data was collected during the second quarter groundwater monitoring event on June 23, 2010. The groundwater surface elevations decreased in all monitoring wells (MW-1 through MW-4 and MW-8 through MW-11) relative to the last sampling event in March 2010. The groundwater surface elevation change at MW-1 and MW-3 resulted in hydraulic disconnection. The groundwater elevations for monitoring wells MW-1 through MW-4 and MW-9 through MW-11 were 290.55, 291.49, 291.71, 292.26, 291.13, 291.37, and 292.17 feet above average mean sea level (msl), respectively. The groundwater elevation for MW-8, which is screened in an apparent hillside groundwater recharge source for the nursery's unconfined water-bearing zone, was 314.11 feet above msl.

Based on water level data from MW-2, MW-4, and MW-9 through MW-11, the local groundwater flow direction within the nursery's unconfined water-bearing zone is in a northeast direction with a calculated hydraulic gradient of 0.02 feet/feet. The seasonal groundwater recharge from the hillside appears to flow into the unconfined nursery water-bearing zone on a limited basis. Monitoring wells MW-1, MW-3, and MW-8 were not included with the groundwater contours because the groundwater elevations in monitoring wells MW-1 and MW-3 below bedrock indicating the wells were hydraulically disconnected from the water bearing zone and MW-8 is screened in a different water bearing zone.

Figure 3 provides groundwater contours for the unconfined water-bearing zone as well as bedrock surface elevations for the gravel-siltstone contact for comparison.

Confined Sandstone Water-Bearing Zone

There were three confined sandstone water-bearing wells at the Site (MW-5 through MW-7). The confined sandstone water-bearing zone wells were located along the eastern shoulder of Calaveras Road and are no longer a part of the groundwater monitoring program. After four quarters of non-detect analytical results, ACEHD agreed, in a letter dated February 1, 2008, that further groundwater monitoring of the confined sandstone water-bearing zone was unnecessary. The wells were abandoned according to Alameda County Zone 7 Water Agency (Zone 7) standards on June 23, 2008.

2.4 PREVIOUS INVESTIGATIONS AND REMEDIATION ACTIVITIES

2.4.1 Initial Response

CPL conducted emergency remedial activities immediately following the identification of the release. The pipeline rupture was repaired and the soils surrounding the release location were excavated, placed in a total of 12 roll-off bins, and disposed of off Site by CPL at an appropriate landfill.

2.4.2 Previous Investigations

Six steps of remedial investigations have been conducted since the initial release in August 2005. These investigations assessed the geology, hydrology, the extent and nature of environmental impacts to soil, groundwater, soil gas, and resulted in multiple rounds of SVE remediation.

During the course of the remedial investigations, a permanent monitoring well network was installed to assess the nature and extent of groundwater contamination and the direction of groundwater flow beneath the site. Groundwater monitoring wells are sampled quarterly.

Existing wells within the current groundwater monitoring network include eight monitoring wells (MW-1 through MW-4 and MW-8 through MW-11) screened in the unconfined water bearing zone. Three monitoring wells (MW-5 through MW-7) were installed in the confined sandstone water bearing zone but were abandoned after four consecutive quarters of non-detect concentrations. The location of the former and existing well network is presented in Figure 2.

2.4.3 GORE™ Module Passive Soil Gas Survey (2009)

URS conducted a passive soil gas survey using W.L. Gore & Associates (GORE™) modules as proposed in the *Soil Vapor Extraction System Evaluation and Work Plan for Additional Site Characterization* dated September 9, 2009. The purpose of the GORE™ survey was to evaluate residual impacts remaining in the source area, to evaluate the performance of the previously operated SVE system, the migration pathways from the source area, and migration pathways within the nursery.

The module analytical results represented a qualitative view of the subsurface soil gas at the Site. A general comparison of the module analytical results and the most recent SVE well recovery rates (April through July 2009) were made, providing confirmation of the performance of specific SVE wells. In addition to this important comparison, the module analytical results did not indicate significant petroleum hydrocarbon migration pathways from the original hillside source area. Lastly, the GORE™ survey confirmed that monitoring wells MW-10 and MW-11 are located appropriately along the northern perimeter of the Site as downgradient wells, and that no significant petroleum hydrocarbon migration pathways or concentrations past these wells are present. Results from the 2009 GORE™ survey are located in Appendix B.

2.4.4 Soil Vapor Extraction and Treatment

First SVE System Operational Period

URS installed four SVE wells (SVE-1D, SVE-2S, SVE-3S, and SVE-4D) on the dirt road in November 2005, as shown in Figure 2. The system operated for 3 months and removed an estimated 7,294 pounds of gasoline (approximately 1,042 gallons) during the period from November 8, 2005 through February 13, 2006.

Second SVE System Operational Period

ACEHD requested URS install five additional SVE wells (SVE-5 through SVE 9) below the dirt road on the steep hillside in November 2006. The updated system, including the earlier SVE wells was restarted on November 28, 2006. The updated system operated for approximately 9 months and removed an estimated total of 9,742 pounds of gasoline (approximately 1,597 gallons) during the period from November 28, 2006 through August 17, 2007.

The updated system was disconnected and removed from the Site on August 17, 2007, due to the safety issues with the dead trees killed as a result of the initial release. CPL and URS were concerned that the trees, which were losing limbs on a daily basis, would damage the SVE wells and piping or injure URS/subcontractor personnel. CPL and URS requested closure of SVE system activities in the *Third Quarter 2007 Groundwater and Soil Vapor Extraction Monitoring*

Report dated November 15, 2007. In a letter dated November 27, 2007, ACEHD requested an SVE system be reinstalled and be in operation by January 29, 2008. In a letter to ACEHD dated January 15, 2008, URS requested from ACEHD clarification on and guidance on development of closure requirements. In a letter dated February 1, 2008, ACEHD referenced the United States Environmental Protection Agency document titled "Development of Recommendations and Methods to Support Assessment of Soil Venting Performance and Closure" dated September 2001 and requested a schedule for the tasks to be completed prior to the reinstallation of an SVE system. URS complied and submitted monthly SVE system updates to ACEHD from March 2008 through January 2009.

Third SVE System Operational Period

Upon receipt of the ACEHD letter dated February 1, 2008, URS and CPL coordinated to complete the removal of the dead trees. The removal occurred in June 2008. CPL also decided to install an electrical power system to provide power to the SVE system's future operations. In order to proceed with the installation of the electrical power system, an Alameda County Building Department (ACBD) permit was required. Furthermore, as a condition of the ACBD permit, several Alameda County Fire Department (ACFD) requirements were implemented. The ACFD requirements included vegetation removal, the construction of an all purpose road for fire truck access, and the installation of a 2,500 gallon fire water tank. All ACBD and ACFD requirements were met by December 2008, with start-up of the SVE system implemented on December 12, 2008. Once results from the start-up were obtained and Bay Area Air Management District permits completed the new SVE system operations were started on December 22, 2008. The updated system was operated for approximately 2 months and removed an estimated total of 2,329 pounds of gasoline (approximately 382 gallons) during the period from December 22, 2008 through February 17, 2009.

Operation of the SVE system was discontinued February 17, 2009 when Pacific Gas and Electric disconnected the power from the electrical power system. During this time, the SVE system subcontractor, Stratus, Inc., contract ended and the SVE system was removed from the Site on March 13, 2009.

Fourth SVE System Operational Period

URS contracted with Mako Industries (Mako) to provide SVE system operation for an additional three month period. The system operated for approximately 3 months and removed an estimated total of 1,390 pounds of gasoline (approximately 228 gallons) during the period from April 30, 2009 through July 23, 2009.

Operation of the SVE system was discontinued July 23, 2009 when the contract with Mako ended and the system was removed from the Site.

Cumulative Petroleum Hydrocarbon Removal To Date

To date, SVE system operations (17 total months) have removed a total 77 barrels of gasoline (approximately 3,249 gallons).

2.4.5 MW-1 and MW-9 Sorbent Booms

From the March 2007 until May 2009, URS placed sorbent booms (booms) in MW-1 and MW-9 as an interim remedial measure. The booms were effective in passively collecting and facilitating degradation of petroleum hydrocarbons within the monitoring wells and allowed for

quarterly groundwater sample collection. Since May 2009, MW-1 and MW-9 have been gauged monthly, including during the second quarter 2010 groundwater monitoring event, with no measurable product observed. URS will continue to monitor MW-1 and MW-9 during the monthly groundwater gauging events for product.

2.5 PRIMARY SOURCE AND RELEASE MECHANISM

The primary source for the TPH-g and BTEX is the unleaded gasoline pipeline, with the release on August 14, 2005 as the primary release mechanism. During the August 15, 2005 release, unleaded gasoline sprayed approximately 50 feet into the air, affecting a number of trees, and spilled down slope to the west of the pipeline break. CPL conducted emergency remedial activities immediately following the identification of the release. The pipeline rupture was repaired and shallow soils surrounding the release location were excavated. Twelve roll-off bins of soils were removed and disposed of off-site at an appropriate landfill. Currently, no active primary sources of TPH-g and/or BTEX are located at the Site.

2.6 SECONDARY SOURCE AND RELEASE MECHANISMS

The primary release resulted in a secondary source of TPH-g and BTEX in shallow soils. Though CPL removed a significant amount of the impacted shallow soils, secondary releases occurred as infiltration to deep soils, leaching to groundwater, and volatilization to ambient air. A potential secondary release to vadose zone soils also may have occurred once impacted groundwater migrated to the nursery. Existing laboratory analytical data suggests minimal migration from the pipeline release location (hillside source area) to the west towards the nursery.

No secondary release as a discharge to surface water or a drinking water or other well has occurred. A small stream, a tributary to Alameda Creek, runs east to west on the Sites northern boarder and Alameda Creek is located approximately 830 feet to the west of the primary pipeline release location. URS samples the small stream quarterly for any TPH-g and BTEX impacts. To date, no impacts have been observed or detected by laboratory analysis. No drinking water or other wells are located within two miles of the Site with the exception of the Site groundwater monitoring wells (Appendix C).

3.1 EXPOSURE MEDIUM, ROUTES, AND RECEPTORS

Secondary releases from shallow Site soils by infiltration, migration, and volatilization impacted sediments and shallow soils, deep soils, groundwater, and potentially vadose zone soils. The eastern side of the Site has limited access for human receptors except for SFPUC personnel, the rancher, and URS personnel. Other than plant life, no other animals are known to inhabit the hillside.

3.1.1 Sediments and Surface Soils

Sediments and surface soils are classified as recent deposits of dust, soil, mud, and miscellaneous debris that accumulate on man made or natural surfaces.

Sediments and surface soils in and around the hillside source area were significantly impacted as a result of the pipeline release.

3.1.1.1 Exposure Routes and Receptors

All initial sediment and surface soil impacts were removed from the Site during the CPL emergency response in August 2005. Therefore, ingestion, dermal contact, and inhalation (dust) of sediment or surficial soils by Site human receptors are unlikely and considered an incomplete pathway. However, future Site workers may ingest, come in contact with, or inhale dust/vapors from impacted shallow soils.

3.1.2 Shallow Soils

Shallow soils are classified as those soils extending from the surface to 3 meters (approximately 10 feet) bgs (RWQCB 2008).

Shallow soils in and around the hillside source area were impacted as a result of the pipeline release. Existing laboratory analytical data, including the 2009 GORE™ passive soil gas survey results, confirm the presence of the hillside source area adjacent to the west of the pipeline release. However, soil analytical data for the hillside is from 2005 and 2006 and URS has conducted four rounds of SVE system remediation since that time. Furthermore, the GORE™ passive soil gas survey results are qualitative and do not indicate the depth of residual TPH-g and BTEX. Therefore, depending on depth, shallow soils in and around the hillside source area may or may not be considered an exposed media.

Laboratory analytical data for shallow soils in the nursery, though impacted during the pipeline release, indicate no residual impacts remain. The shallow soils in the nursery are not considered an exposed media.

3.1.2.1 Exposure Routes and Receptors

Shallow soil impacts are confined to the Site with no evidence of off Site impacts. However, though unlikely, an excavation worker could ingest, come in contact with, or inhale (dust or vapors) impacted shallow soils during excavation activities and is considered a complete pathway. No biological receptors are known to be impacted; however, burrowing animals may ingest, come in contact with, or inhale (dust or vapors) impacted shallow soils. The last

biological survey was conducted on and off Site in 2005. Inhalation of vapors in outdoor air caused by the volatilization of TPH-g and BTEX in shallow soils is discussed below.

3.1.3 Deep Soils

Deep soils are classified as those soils extending below 3 meters (approximately 10 feet) bgs (RWQCB 2008).

As indicated above, deep soils were impacted by a secondary release (infiltration) of TPH-g and BTEX from shallow soils. Existing laboratory analytical data from 2006 indicates minimal impacts to deep soils in boreholes at the base of the hill on the eastern side of Calaveras Road. Hand auger borings adjacent to the west of the pipeline release were unsuccessful beyond 5 to 10 ft bgs due to encountering refusal in gravels and cobbles, therefore limiting deep soil sampling. Though the 2009 GORE™ passive soil gas survey results are qualitative and do not indicate the depth of residual TPH-g and BTEX, the results confirm the presence of a hillside soil source area adjacent to the west of the pipeline release. It is likely deep soils to the west of the pipeline release are an exposed media. Though URS has conducted four rounds of SVE system remediation, the lack of deeper SVE wells located in the middle of the hillside has limited the ability to remove residual TPH-g and BTEX. SVE wells SVE-6 through SVE-9 were limited to shallow depths because they were advanced using a hang auger due to rig access issues on the hillside and encountering refusal in gravels and cobbles.

Laboratory analytical data for deep soils in the nursery do not indicate any impacts. The deep soils in the nursery are not considered an exposed media. However, as discussed below, deep vadose zone soils in the nursery may be a potentially exposed media.

3.1.3.1 Exposure Routes and Receptors

Ingestion, dermal contact, and inhalation of exposed media by Site human receptors are unlikely and considered an incomplete pathway. Deep soil impacts are confined to the Site with no evidence of off Site impacts. No biological receptors are known to come in contact with the deeper exposed media.

3.1.4 Groundwater

Based on existing laboratory analytical data, groundwater has been impacted by TPH-g and BTEX and is considered an exposed media. However, the impacts are limited to three of the eight Site monitoring wells. Groundwater elevations at the Site are influenced by total rainfall. During the summer and fall months, monitoring wells MW-2 through MW-4 and sometimes MW-1 have groundwater elevations below bedrock elevations and are considered hydraulically disconnected. Historical and current groundwater results are presented in Table 3.

One monitoring well (MW-8) is located at the base of the hillside on the eastern side of Calaveras Road in an apparent hillside groundwater recharge source for the nursery's unconfined water-bearing zone. The other two monitoring wells (MW-1 and MW-9) are located in the nursery on the western side of Calaveras Road. Both monitoring wells have had detectable free product, however, no free product has been detected since 2009.

Measurable free product was observed at MW-8 (0.01 ft) for the first time during the September 2010 quarterly groundwater monitoring event. During the monitoring event, MW-8 was bailed dry and left to recharge over night for sampling the next day. However, when monitoring well MW-8 was gauged the next day, free product was discovered. A sample was collected for laboratory analysis and the results will be included in this document once available. The free product is more than likely a result of the minimal amount of groundwater present at the well at the time of the September monitoring event. URS will continue to monitor this new development during monthly groundwater gauging and quarterly monitoring events.

The remaining wells (MW-2 through MW-4, MW-10, and MW-11) have shown minimal impacts in the past but currently are all non-detect for TPH-g and BTEX.

Based on groundwater elevations data and the results from the 2009 GORE™ soil gas survey, URS believes minimal groundwater interacts with the secondary soil sources located in the hillside source area limiting secondary releases to groundwater. URS does not believe groundwater is in constant contact with the hillside source area.

Inhalation of vapors in outdoor air caused by the volatilization of TPH-g and BTEX in groundwater is discussed below.

3.1.4.1 Exposure Routes and Receptors

No drinking water wells are within two miles of the Site, therefore, ingestion by drinking is not possible (human receptor). No other water wells (irrigation or industrial) are within one-mile of the Site; therefore, incidental ingestion is not possible (human receptor). Site groundwater monitoring wells are accessed monthly by URS personnel wearing appropriate personal protection equipment which prevents dermal contact and inhalation.

Groundwater impacts are confined to the Site with no evidence of off Site impacts. No biological receptors are known to come in contact with the exposed media.

All potential human and ecological receptors are considered incomplete pathways for groundwater.

3.1.5 Surface Water

Based on existing laboratory analytical data and field observations, surface water has not been impacted by the pipeline release. The sampling location along the very small stream is located at the base of the alluvial terrace within the Alameda Creek floodplain and is shown on Figure 2. The former sampling point (SW-Creek, sampled prior to the first quarter of 2007) is also provided on Figure 2 for reference. To the west, beyond the current sampling location, the very small stream fans out into the floodplain and surface flow terminates within floodplain grasses.

3.1.5.1 Exposure Routes and Receptors

There have been no detections of TPH-g or BTEX in either stream sample location.

Based on analytical results, there is no evidence of surface water impacts; therefore, human and ecological receptors are considered incomplete pathways.

3.1.6 Vapor

The secondary release mechanism of soil and/or groundwater volatilization potentially causes outdoor air to be an exposed media. No structures are located at the Site, therefore, indoor air is not considered.

3.1.6.1 Exposure Routes and Receptors

The inhalation by off site human receptor of outdoor air containing TPH-g and/or BTEX vapors is considered a complete pathway. The inhalation by a terrestrial biological receptor of outdoor air containing TPH-g and/or BTEX vapors is considered a complete pathway. The inhalation by an aquatic biological receptor of outdoor air containing TPH-g and/or BTEX vapors is considered an incomplete pathway. Also the aquatic pathway is unlikely to be a significant source of exposure to human and/or ecological receptors.

Figures 4 and 5 simplify the above discussion into a pathway map and visual representation showing all potential pathways to receptors.

4.1 TIER 1 RISK ASSESSMENT

In order to make a comprehensive comparison of TPH-g and BTEX concentrations in soil and groundwater to RWQCB environmental screening levels (ESLs) (RWQCB, 2008), the status of the Site must first be established by identifying the current geological framework of the Site with respect to groundwater, determine the current and future uses of the Site, and if Site contaminants have or will impact any sensitive receptor. Once the Site status is established, ESLs can then be chosen and compared to all analytical data collected since 2005 to determine the appropriate clean-up levels for the Site.

4.1.1 Geologic Framework

Based on all the soil borings advanced at the Site since 2005, the basic geology at the Site can be broken into two areas, the eastern and western side of Calaveras Road. The geology on the eastern side of Calaveras Road consists of:

- Fine grained materials from ground surface to approximately 25 ft bgs.
- Coarse grained materials from 25 ft bgs to approximately 30 ft bgs.
- Fine grained materials from 30 ft bgs to approximately 32 ft bgs.
- Weathered sandstone/sandstone bedrock from 32 ft bgs to approximately 50 ft bgs.
- Well cemented sandstone from 50 ft bgs to approximately 52 ft bgs, the total depth explored.

The geology on the western side of Calaveras Road consists of:

- Fine grained materials from ground surface to approximately 20 ft bgs.
- Coarse grained materials from 20 ft bgs to approximately 30 ft bgs.
- Fine grained materials from 30 ft bgs to approximately 31 ft bgs.
- Weathered siltstone bedrock from 31 ft bgs to approximately 70 ft bgs.

One soil boring in the nursery, AR-2, was advanced to 108 ft bgs and encountered claystone bedrock from 70 ft bgs to approximately 95 ft bgs. From 95 ft bgs to approximately 105 ft bgs, fine grained materials were encountered. From 105 ft bgs to approximately 108 ft bgs, igneous bedrock was encountered.

The coarse grained material observed on both sides of Calaveras Road is believed to be the main migration route for TPH-g and BTEX in groundwater from the hillside to the nursery. Bedrock encountered in the subsurface at various depths across the Site is competent with increasing depth and does not appear to be a conduit to a deeper groundwater source.

The RWQCB Basin Plan (RWQCB, 2007) indicates the Site is located within the Sunol Valley groundwater basin, which is a part of the Alameda Creek Watershed. The groundwater in the Sunol Valley groundwater basin is listed as having existing and/or potential beneficial use. However, based on historical and current Site groundwater elevation and monitoring data, it is unlikely groundwater located specifically at the Site could be used as a beneficial source

(municipal, industrial, and agricultural) due to a lack of sufficient quantity (less than 200 gallons per day production).

Groundwater within the geologic framework is dependant on the infiltration of rain water. URS' groundwater gauging data, collected monthly since 2008, indicates groundwater elevations drop in the summer/fall months (no to little rain) and rise in the winter/spring months (rainy season). During the first quarter 2010, groundwater elevations dropped 4.23 feet in monitoring well MW-3 due to low amounts of rain. In June 2010, after a late rainy season, the greatest groundwater recharge was 3.34 feet in MW-3. During quarterly groundwater monitoring events in the summer/fall months, monitoring wells MW-2 through MW-4, and sometimes MW-1, typically have groundwater elevations at or below bedrock elevations, hydraulically disconnecting the monitoring wells. Even during the winter/spring months, groundwater elevations at monitoring wells MW-2 through MW-4 are less than four feet above bedrock.

Groundwater elevations in monitoring wells MW-8, MW-10, and MW-11 fluctuate over the year and rarely, if at all, have groundwater elevations below bedrock. However, during quarterly groundwater monitoring events, monitoring wells MW-8, MW-10, and MW-11 are easily dewatered and often require several hours to recharge, indicating limited quantity and movement within the geologic framework. MW-10 and MW-11 did not have measurable groundwater until October 31, 2007, over one month after installation. Groundwater levels and elevations are presented in Tables 1 and 2, respectively.

Monitoring well MW-9 is the only monitoring well that consistently has groundwater elevations above bedrock.

Groundwater at the Site, specifically the groundwater in the nursery appears to be confined to the Site with no off Site migration or downward migration through the low permeable bedrock. Based on the known bedrock elevations, URS believes groundwater flow is not dictated by the westward sloping of the Site but the north-northeast trending of the bedrock. The bedrock also appears to have a slight concave or bowl like shape in the nursery. This feature, coupled with the limited groundwater quantity, contributes to the north-northeast groundwater flow. Groundwater elevations fluctuate which indicates groundwater leaves the Site, however, no evidence of contaminant migration is present based on existing analytical data. URS' analytical data indicates contaminants remain in a relatively small area in the nursery. Based on the current understanding of groundwater movement and the geology at the Site, minimal contaminants migrate from the hillside soil source area to the nursery. The concave nature of the bedrock under the nursery acts as a sink for the contaminants which may explain why only three monitoring wells have detectable TPH-g and BTEX concentrations.

As indicated above, only three groundwater monitoring wells (MW-1, MW-8, and MW-9) have TPH-g and BTEX impacts. MW-8 is located at the base of the hillside and MW-1 and MW-9 are located in the nursery. The remaining groundwater monitoring wells (MW-2 through MW-4, MW-10, and MW-11) all have non-detect concentrations of TPH-g and BTEX. Furthermore, MW-2 through MW-4, MW-10, and MW-11, all located in the nursery, surround the known groundwater impacts in the nursery. The GORE™ survey conducted in 2009 did not indicate a spreading of impacted groundwater to the north and south of MW-8 which suggests that the minimal groundwater present migrates from the hillside soil source area through MW-8 to the nursery. Alternatively, all groundwater observed at the Site may be a direct result of rain water infiltration.

In summary, URS has collected sufficient soil data to identify the geology and hydrogeology at the Site. Furthermore, monthly groundwater gauging conducted since 2008, and quarterly groundwater monitoring events indicate groundwater is limited in quantity (dependant on rain fall infiltration) and has limited mobility within the geologic framework, preventing any migration off Site. Groundwater concentrations of gasoline constituents in monitoring wells MW-1, MW-8, and MW-9 have steadily decreased over time. Bedrock contributes to containing the limited groundwater on Site. Finally, the GORE™ survey conducted in 2009 confirms URS' theory of minimal groundwater migration, and subsequent TPH-g and BTEX migration, at the Site (Appendix B).

4.1.2 Current and Future Uses At the Site

The Site and a large portion of Sunol Valley is owned by the SFPUC which leases the pipeline right-of-way (ROW) to CPL, the eastern side of Calaveras Road to a local rancher, and the western side of Calaveras Road to Valley Crest Tree Company which operates a public nursery. Current use is considered commercial.

The SFPUC website (SFPUC 2010) refers to the Sunol Valley as the Alameda Creek Watershed and that the land is a source of income for the SFPUC. URS contacted the SFPUC on September 1, 2009 to inquire if the SFPUC had any plans to develop the land beyond its current use. The SFPUC representative (Mike Byrne) that responded indicated the SFPUC had no plans for the Site or the watershed currently or in the future.

URS also contacted the Alameda County Planning Department (ACPD) on August 31, 2010 to determine the zoning of the Site and vicinity. The ACPD representative informed URS that the Site and vicinity is zoned as agricultural. Furthermore, the eastern side of Calaveras has a 320 acre minimum parcel size and the western side of Calaveras has a 100 acre minimum parcel size restriction. This means that a parcel has to be at least the indicated size and no smaller. According to ACPD personnel, the Site and vicinity would need to be rezoned prior to any development. The SFPUC has no intention of selling or rezoning the land for development. Current land use is anticipated to continue for the foreseeable future.

4.1.3 Current and Potential Impacts to Receptors

As discussed in Section 3, based on available data and an analysis of existing conditions, sediments, surface soils, deep soil, and groundwater pathways are incomplete. The only potentially complete pathways are ingestion of, dermal contact with, or inhalation of (dust or vapor) impacted shallow soils to excavation workers or burrowing animals and the volatilization of shallow soil and/or groundwater TPH-g and BTEX. However, any potential vapors produced would be to outdoor air which is not considered a significant exposure pathway to on or off Site human/ecological receptors.

A water well search conducted in 2009 for a 14-mile section of the pipeline which include the Site found no water wells of any kind within at least one-mile of the Site. The nearest wells other than the Site monitoring wells are located over two-miles away at the Vallecitos Nuclear Center With no water wells near the Site, no discharge of impacted groundwater can occur.

Surface waters at and near the Site consist of the very small stream which runs east west on the northern boundary of the Site and the Alameda Creek which is approximately 830 feet west of the pipeline release. The very small stream has been sampled quarterly since 2006 with no

detection of TPH-g and/or BTEX to date. CPLs main concern after the 2005 release was preventing a discharge to Alameda Creek. Based on the quarterly non-detect results from the very small stream, the limited quantity of groundwater in the geologic framework, the groundwater flow to the north-northeast, and the fact that impacted groundwater has not migrated beyond Site groundwater monitoring wells, no evidence of a discharge to Alameda Creek from impacted groundwater is available. Furthermore, the very small stream appears to be a losing stream since surface flow has never been observed reaching Alameda Creek.

In summary, current Site impacts appear to be stable with limited migration from the hillside to the nursery with no off Site migration occurring. Other than potential but insignificant, vapor inhalation by human/ecological receptors, no other ingestion or dermal pathway is complete. Finally, a discharge of impacted groundwater to a water well of any type or to surface water has not occurred nor is their evidence for a future discharge to either of these receptors.

4.1.4 Selection of Appropriate ESLs Based on Site Status

The Site is a commercial/industrial site located in a groundwater basin considered to have existing or potential beneficial use. However, URS proposes that Site groundwater does not have existing or potential beneficial use and ESLs were selected based on the following factors:

- Site groundwater production is below 200 gallons per day;
- Site groundwater is derived from the infiltration of rain water and is of limited quantity for beneficial use;
- Site geology dictates groundwater flow/mobility with no evidence of significant off Site or downward migration of contaminants;
- Confirmation of limited contaminant migration/mobility provided by 2009 GORE™ survey;
- TPH-g and BTEX impacts in soil and groundwater are stable;
- Current land use will continue into the foreseeable future;
- No sensitive receptors are likely to be impacted by current Site impacts
- No water wells are within two-miles of the Site; and
- No evidence of a discharge to surface water.

Therefore, URS proposes the use of the gross contamination ceiling values from ESL Table B-2 for soil and gross contamination ceiling values from ESL Table F-1b for groundwater. Shallow soil ESLs were chosen for use across the entire site regardless of depth.

Soil Exceedances of Selected ESLs

The Shallow Soil ESLs from Table B-2 are 500 milligrams per kilogram (mg/kg) for TPH-g, 870 mg/kg for benzene, 650 mg/kg for toluene, 400 mg/kg for ethylbenzene, and 420 mg/kg for total xylenes. Only two soil borings, SB-19 and MW-8, had exceedances of the selected ESLs.

SB-19 was advanced in 2005 approximately 40 ft west of the pipeline release to a depth of only 3 ft bgs due to cobbles. TPH-g was detected at concentrations ranging from 11,000 mg/kg to 17,000 mg/kg. Benzene was detected at a concentration of 1,200 mg/kg at a depth of 1.5 ft bgs.

Total xylenes were detected at concentrations ranging from 950 mg/kg to 2,700 mg/kg. Due to the age of this analytical data and the past SVE system remediation, additional soil sampling may need to be conducted for a representative result of current conditions.

MW-8 was installed in December 2006 at the base of the hillside west of the pipeline release to a depth of 25 ft bgs. TPH-g was detected at concentration of 1,100 mg/kg at a depth of 16.5 ft. This was the only detection above the selected ESLs. Due to the age of this analytical data and the past SVE system remediation, additional soil sampling may need to be conducted for a representative result of current conditions.

Figure 6 presents shallow soil ESL exceedances for samples collected at the site between 2005 and 2007.

Groundwater Exceedances of Selected ESLs

The Groundwater ESLs from Table F-1b are 5,000 micrograms per liter (µg/L) for TPH-g, 20,000 µg/L for benzene, 400 µg/L for toluene, 300 µg/L for ethylbenzene, and 5,300 µg/L for total xylenes. MW-1 had no exceedances of the selected ESLs. MW-8 had exceedances of the selected ESLs for TPH-g, toluene, and ethylbenzene. MW-9 had an exceedance of the selected ESLs for TPH-g only.

MW-8 was installed in August 2006 at the base of the hillside west of the pipeline release to a depth of 25 ft bgs. During the June 2010 groundwater monitoring event, TPH-g was detected at a concentration of 14,000 µg/L, toluene at a concentration of 680 µg/L, and ethylbenzene at a concentration of 870 µg/L. Benzene and total xylenes were not detected above the selected ESLs. URS has recently completed the third quarter groundwater sampling event and free product was measured in MW-8 for the first time. Though analytical results were not available for assessment in this document, URS will include the analytical results for MW-8 once available.

MW-9 was installed in August 2006 in the nursery. During the June 2010 groundwater monitoring event, TPH-g was detected at a concentration of 16,000 µg/L. BTEX was not detected above the selected ESLs. URS has recently completed the third quarter groundwater sampling event and will include the analytical results for MW-9 once available.

Table 3 presents the analytical results for gasoline compounds for the Site.

4.2 SUMMARY OF RISK ASSESSMENT

The risk assessment conducted for the Site based on all available data indicates a low threat to human and ecological receptors. Furthermore, Site soil and groundwater impacts appear stable and pose no risk to off Site groundwater or surface water sources. Therefore, the selection of gross contamination ESLs for Site soil and groundwater impacts is reasonable.

4.2.1 Identified Risk

With the exception of the potential risk to excavation workers, no other identified human health or ecological risks are present based on the Tier 1 analysis. However, several data gaps (discussed below) may require action.

4.2.2 Potential Risk

The only potential risk is the inhalation of vapors caused by the volatilization of TPH-g and BTEX in shallow soil and groundwater. However, this perceived risk is insignificant since volatilization occurs to outdoor air. Currently, no ESLs have been established for comparison to outdoor air. URS compared soil gas concentrations to appropriate ESLs and though exceedances were present, no outdoor air data is available to make a direct correlation. Furthermore, if volatilization to outdoor air is occurring, the vapors would immediately be diluted due to mixing with the ambient air significantly reducing any concentrations.

4.3 IDENTIFICATION OF DATA GAPS

URS has identified several data gaps which include outdated soil analytical data, unknown depth of the hillside soil source area, outdated biological survey, and the potential need for additional shallow monitoring wells along the eastern side of Calaveras Road at the base of the hillside. Each of these perceived data gaps will be discussed in greater detail below.

4.3.1 Outdated Soil Analytical Data

Soil analytical data used for comparison to gross contamination ESLs (Table B-2) are from Site investigations conducted in 2005, 2006, and 2007. Specifically, no new soil data has been collected from the hillside soil source area since 2005. Four rounds of SVE system remediation has been conducted since soil analytical data was collected which likely significantly reduced shallow soil concentrations. Based on ACEHD assessment of this document, URS may propose a soil investigation be conducted in the hillside soil source area in order to close this data gap.

4.3.2 Depth of Hillside Source Area Impacts

As indicated above, SVE system remediation and evaporation likely have significantly lowered shallow soil impacts. However, though the 2009 GORE™ passive soil gas survey indicates the bulk of the remaining impacts are located in the hillside, the depth and concentrations of these impacts are not known. Drilling technologies reviewed since the 2005 release may allow for the sampling of deeper soils. This would confirm the 2009 GORE™ passive soil gas survey results and provide a depth of the known source area. Based on ACEHD assessment of this document, URS may propose a soil investigation be conducted in the hillside source area in order to close this data gap.

4.3.3 Outdated Biological Survey

The last biological survey conducted at the Site was completed in late 2005. Based on ACEHD assessment of this document, URS may propose a biological survey be conducted at the Site in order to close this data gap.

4.3.4 Additional Shallow Monitoring Wells

Currently, MW-8 is the only shallow monitoring well at the base of the hillside on the eastern side of Calaveras Road. Deeper monitoring wells (MW-5 through MW-7) were located along the eastern side of Calaveras Road, however, these monitoring wells were abandoned in June 2008 after four consecutive quarters of non-detect analytical results.

The installation of additional shallow wells along the eastern side of Calaveras Road will provide additional understanding of groundwater migration from the hillside source area to the nursery. Though the 2009 GORE™ passive soil gas survey did not indicate the presence of contaminants beyond the MW-8 area, additional monitoring wells will provide soil and groundwater analytical data. Furthermore, additional geological information along the trace of the fault will provide a more comprehensive understanding of how groundwater interacts with the fault zone.

4.4 MITIGATION OF UNACCEPTABLE RISKS/THREATS

At this time, no unacceptable risks or threats to human health, ecological receptors, and or drinking water/surface water receptors are present.

5.1 BIODEGRADATION PROCESSES AND PARAMETERS

As part of the quarterly groundwater monitoring events in 2006, URS collected additional water samples for geochemical parameter evaluation. URS restarted geochemical parameter evaluation in 2009 during the fourth round of SVE remediation at the Site to demonstrate the effectiveness of the SVE system operations.

5.1.1 TPH-g and BTEX in Groundwater

An assessment was completed to determine if the concentrations of residual TPH-g and BTEX in groundwater are being decreased by anaerobic biodegradation. Monitoring wells MW-2 through MW-4, MW-10, and MW-11 have all had low detections of TPH-g and/or BTEX in the past, however, all are considered non-detect wells at this time. Furthermore, MW-2, located upgradient of the impacted monitoring wells MW-1, MW-8, and MW-9, geochemical results are considered the background for the Site prior to the pipeline release. Table 3 presents the quarterly analytical results for gasoline compounds.

MW-1

Based on monitoring well MW-1 (nursery) maximum concentrations of TPH-g and BTEX, all contaminants are decreasing. TPH-g has decreased by an order of magnitude from 57,000 µg/L (February 2006) to 3,800 µg/L (March 2010). Benzene has decreased by two orders of magnitude from 38 µg/L (February 2006) to below laboratory reporting limits (March 2010). Toluene has decreased by four orders of magnitude from 2,700 µg/L (February 2006) to below laboratory reporting limits (March 2010). Ethylbenzene has decreased by four orders of magnitude from 3,000 µg/L (February 2006) to below laboratory reporting limits (March 2010). Total xylenes have decreased by three orders of magnitude from 8,700 µg/L (February 2006) to 4 µg/L (March 2010).

MW-8

Based on monitoring well MW-8 (eastern side of Calaveras Road) maximum concentrations of TPH-g and BTEX, all contaminants are decreasing. TPH-g has decreased from 29,000 µg/L (March 2009) to 14,000 µg/L (June 2010). Benzene has decreased by an order of magnitude from 1,500 µg/L (March 2009) to 630 µg/L (June 2010). Toluene has decreased by an order of magnitude from 7,200 µg/L (March 2009) to 680 µg/L (June 2010). Ethylbenzene has decreased by an order of magnitude from 1,200 µg/L (March 2009) to 870 µg/L (June 2010). Total xylenes have decreased from 4,700 µg/L (March 2009) to 2,500 µg/L (June 2010).

As indicated above, MW-8 had measurable free product (0.01 ft) for the first time during the September 2010 quarterly groundwater monitoring event. Once analytical data is available, URS will update the CSM accordingly.

MW-9

Based on monitoring well MW-9 (nursery) maximum concentrations of TPH-g and BTEX, all contaminants are decreasing. TPH-g has decreased from 74,000 µg/L (November 2006) to 16,000 µg/L (June 2010). Benzene has decreased by three orders of magnitude from 480 µg/L (November 2006) to 0.9 µg/L (June 2010). Toluene has decreased by four orders of magnitude

from 12,000 µg/L (November 2006) to 7 µg/L (June 2010). Ethylbenzene has decreased by an order of magnitude from 2,200 µg/L (November 2006) to 210 µg/L (June 2010). Total xylenes have decreased by an order of magnitude from 17,000 µg/L (November 2006) to 1,300 µg/L (June 2010).

The following discussion regarding geochemical parameters will focus on the impacted monitoring wells MW-1, MW-8, and MW-9.

5.1.1.1 Oxidation Reduction Potential

ORP in groundwater generally ranges from -400 millivolts (mV) (reducing conditions) to +800 mV (oxidizing conditions). ORP levels in MW-1 ranged from -147 mV to 88.15 mV. ORP levels in MW-8 ranged from -165 mV to -74 mV. ORP levels in MW-9 ranged from -197 mV to 4 mV. In general, reducing conditions appear to exist at the Site.

Table 4 presents the quarterly field and analytical results for geochemical indicators for each monitoring well at the Site.

5.1.1.2 Dissolved Oxygen

DO is the most thermodynamically favored electron acceptor used in the aerobic biodegradation of petroleum hydrocarbons. DO concentrations in MW-1 ranged from 0.0 milligrams per liter (mg/L) to 2.45 mg/L DO concentrations in MW-8 ranged from 0.0 mg/L to 0.05 mg/L. DO concentrations in MW-9 ranged from 0.0 mg/L to 3.35 mg/L. Recent DO concentrations in all monitoring wells have reached 0.0 mg/L indicating anaerobic conditions at the Site.

5.1.1.3 Nitrates

After DO has been depleted in the groundwater, nitrate may be consumed during the anaerobic biodegradation of TPH-g and BTEX. In this process, called denitrification, nitrate is reduced to nitrite and ultimately to nitrogen gas. Reduced nitrate concentrations in a hydrocarbon-impacted area compared to the areas outside the plume suggest that anaerobic biodegradation is occurring under nitrate-reducing conditions. In general, nitrate levels in MW-2 through MW-4, MW-10, and MW-11 are higher than in MW-1, MW-8, and MW-9.

Nitrate concentrations in MW-1 ranged from 0.37 mg/L to 10.3 mg/L; however, overall nitrate concentrations are much lower. Nitrate concentrations in MW-8 ranged from <0.25 mg/L to 0.27 mg/L. Nitrate concentrations in MW-9 ranged from <0.25 mg/L to 0.39 mg/L. The lack of nitrate may indicate that it has either been consumed by the denitrification process or is not naturally present at the Site.

5.1.1.4 Ferric Iron

After both DO and nitrate are depleted in anaerobic groundwater, ferric iron in soil may be consumed by anaerobic biodegradation. In this process, ferric iron in soil is reduced to ferrous iron, which is soluble in water. Therefore, if groundwater has relatively high levels of ferrous iron, anaerobic biodegradation may be occurring.

Ferrous iron concentrations in MW-1 ranged from <0.008 mg/L to 0.22 mg/L. Ferrous iron concentrations in MW-8 ranged from 0.14 mg/L to 7.8 mg/L. Ferrous iron concentrations in MW-9 ranged from 0.099 mg/L to 3.3 mg/L, however, recent ferrous iron concentrations have been decreasing. In general, elevated levels of ferrous iron are present at MW-8 indicating that anaerobic biodegradation is occurring at that location.

5.1.1.5 Sulfate

After DO, nitrate and ferric iron are depleted in anaerobic groundwater; sulfate may be consumed in the anaerobic biodegradation process. Sulfate is reduced to sulfide, which reacts with ferric iron on soil particles to precipitate out as various sulfides of iron and can also lead to higher ferrous iron concentrations. Iron sulfides are re-oxidized to iron oxides in the presence of oxygen in the vadose zone. Any dissolved sulfides are oxidized at the plume fringes where impacted groundwater mixes with non-impacted groundwater. If reported sulfate concentrations vary inversely with hydrocarbon concentrations, anaerobic biodegradation of fuel hydrocarbons is likely occurring under sulfate-reducing conditions.

Sulfate concentrations in MW-1 ranged from 48.3 mg/L to 108 mg/L. Sulfate concentrations in MW-8 ranged from 1.7 mg/L to 90.2 mg/L, though recent sulfate concentrations have been below 10 mg/L. Sulfate concentrations in MW-9 ranged from 4.5 mg/L to 60.5 mg/L with recent sulfate concentrations above 30 mg/L. The elevated levels of sulfate in the nursery groundwater (MW-1 and MW-9) indicate that sulfate reduction is not occurring in this area. However, lower levels of sulfate in the groundwater at MW-8 (eastern side of Calaveras Road) indicate sulfate reduction may be ongoing.

It is worth noting the background levels of sulfate at MW-2 are slightly higher than those observed at MW-1 and MW-9 further indicating that sulfate reduction is not occurring in the nursery at this time.

5.1.1.6 Methane

The final step in the anaerobic biodegradation process is methanogenesis. When all soluble electron acceptors such as DO, nitrate, ferric iron, and sulfate are depleted, groundwater conditions become conducive to fermentation, and methane is generated by methanogenesis. The only electron acceptor available for the methanogenesis is carbon from carbon dioxide. This source of carbon dioxide is primarily from the by-products of previous stages of anaerobic biodegradation. Without methanogenesis, a great deal of carbon (in the form of fermentation products) would accumulate in anaerobic environments.

It was observed that the methane levels in nursery monitoring wells MW-1 (0.067 mg/L) and MW-9 (0.012 mg/L) were low with sulfate levels being high, indicating methanogenesis is not occurring. However, the methane level observed at MW-8 (0.65 mg/L) was slightly higher with lower sulfate levels indicating methanogenesis is occurring.

In conclusion, biodegradation parameters indicate that anaerobic conditions exist within the plume and anaerobic biodegradation is occurring within the plume. However, the soluble

electron acceptors within the plume are depleted and may be limiting the rate of biodegradation activity. Hence, addition of electron acceptors to stimulate biodegradation activity appears to be a viable remedial approach for the Site.

5.1.1.7 TPH-g and BTEX Concentration Trends

TPH-g and BTEX concentrations have steadily decreased since the pipeline release. The highest concentrations of TPH-g (16,000 mg/L to 74,000 mg/L) were in groundwater at monitoring well MW-9 located in the nursery. Monitoring well MW-9 has had free product in the past but not since early 2007. The highest concentrations of benzene (76 mg/L to 1,500 mg/L) were in groundwater at monitoring well MW-8 located on the eastern side of Calaveras Road. The highest concentrations of toluene (57 mg/L to 7,200 mg/L) were in groundwater at monitoring well MW-8. The highest concentrations of ethylbenzene (210 mg/L to 2,200 mg/L) were in groundwater at monitoring well MW-9. The highest concentrations of total xylenes (1,300 mg/L to 17,000 mg/L) were in groundwater at monitoring well MW-9. MW-1 has had free product in the past but not since late 2008. The graphs located in Appendix D show all of the monitoring well groundwater concentration trends.

5.2 LOW THREAT RISK EVALUATION

A review of the Assessment Tool for Closure of Low-Threat Chlorinated Solvents Sites (RWQCB 2009) was completed to assess if the Site would be a candidate for closure using this criteria. Because the primary contaminant is not a chlorinated solvent, but is petroleum hydrocarbons, the criteria applicable solely to chlorinated solvents will not be emphasized. By applying the Assessment Tool criteria, it is evident the site could be a candidate for closure. URS believes a more prudent approach may be monitored natural attenuation.

The Assessment Tool document provides a comparison of the Low-Risk Fuel Closure Criteria (RWQCB 1995) to the Chlorinated Solvent Closure Criteria. It further summarizes the emphasis on how to meet closure criteria for fuel sites, as follows:

> "Low-threat closure criteria for fuel-impacted sites in this region are found in the January 1996 "Supplemental Instructions to State Water Board December 8, 1995, Interim Guidance on Required Cleanup at Low-Risk Fuel Sites" issued by the S.F. Bay Water Board staff. That document presents criteria that qualitatively define low-risk sites where petroleum hydrocarbon fuels are the only pollutants of concern. The supplemental instructions establish six categories (i.e., criteria) to identify low-risk cases and provide answers to frequently asked questions. One response specifically addresses when to close low-risk LUFT sites:
>
> *… Closure of low-risk UST sites would be appropriate as soon as enough data supported the conclusion that the source had been removed, the plume had stabilized, and [intrinsic] bioremediation was expected to achieve water quality objectives in a reasonable time."*

Comparison of Closure Criteria for Solvent and Fuel Sites (RWQCB 2009)

Solvent Sites	Fuel Sites	Comments
1a	1	Somewhat equivalent. Source evaluation and remediation separated into two criteria for solvent sites
1b	2	Equivalent
1c	4	Somewhat equivalent. Added emphasis on pathway/receptor identification and evaluation for solvent sites
2a	1	Somewhat equivalent. Added emphasis on source remediation to extent feasible for solvent sites
2b	5, 6	Mostly equivalent. Human and ecological health risk assessment / mitigation combined in a single criterion for solvent sites
2c	4	Mostly equivalent. Added emphasis on threats to beneficial uses for solvent sites
3a	3	Mostly equivalent except for added emphasis on decreasing rather than stable plumes for solvent sites
3b	3	Added emphasis on demonstrating a reasonable cleanup timeframe in context of beneficial use timeframe
3c	- -	Added emphasis on risk management measure; not a major concern for fuel sites

Table 5 provides an analysis of the closure criteria for chlorinated solvents, recognizing that some criteria are not directly applicable to the subject property or site-specific conditions.

5.3 EVALUATION OF REMEDIATION METHODS/TECHNOLOGIES

Remediation methods and technologies will be evaluated once ACEHD, CPL, and URS meet to discuss the results of the CSM.

6.1 SUMMARY

The Site has two main TPH-g and BTEX sources, the hillside soil source in the eastern portion of the Site and the dissolved groundwater plume at the base of the hillside and in the nursery. Groundwater is primarily generated through the infiltration of rain water which has limited contact with the hillside soil source. No evidence of off Site migration of impacted groundwater is present and both the hillside soil source and dissolved groundwater plume appear stable. Groundwater also has limited movement within the geologic framework of the Site preventing any substantial migration of the impacts on and off Site. No sensitive receptors, human or ecological, appear to be at risk at this time due to the residual impacts remaining at the Site. However, though excavation work is unlikely, excavation worker pathways are considered a complete pathway and the burrowing ecological receptors may be a complete pathway. Furthermore, the current and future uses of the Site will remain the same for the foreseeable future.

Natural biodegradation processes are consuming the dissolved TPH-g and BTEX to a degree, specifically at MW-8, as indicated by the depressed levels of electron acceptors in the groundwater in the zone with the remaining impacts. Sulfate is considered the dominant electron acceptor for biologic oxidation of TPH-g and BTEX under anaerobic conditions.

Finally, the recent discovery of measurable free product at MW-8 during the September 2010 groundwater monitoring event will need to be further assessed during the upcoming monthly gauging and groundwater monitoring events. Once groundwater analytical results are available for MW-8, the CSM will be updated accordingly.

6.2 CONCLUSIONS

URS proposes continued groundwater monitoring as part of a natural monitored attenuation plan to be developed with ACEHD comments and guidance. In addition to implementing monitored natural attenuation at the Site, URS proposes a meeting between ACEHD, CPL, and URS be conducted to discuss the results of this CSM, identified data gaps, potential remediation options, and ACEHD recommends.

No evaluation is thorough enough to preclude the possibility that materials that are currently considered hazardous or materials that may be considered hazardous in the future may be present at a site. Because regulatory evaluation criteria are constantly changing, concentrations of contaminants presently considered non hazardous may, in the future, fall under different regulatory standards and require remediation. Opinions and judgments expressed herein, which are based on understanding and interpretation of current regulatory standards, should not be construed as legal opinions. This document and the information contained herein have been prepared solely for the use of Chevron and the RWQCB, and reliance on this report by third parties will be at the sole risk of such parties.

The report discussed herein was developed in accordance with the standard of care used to develop this type of report. The assumptions made and the recommendations were based on our professional experience and protocols reported in the literature for similar investigations.

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Tables

TABLE 1
Monitoring Well Groundwater Levels
Second Quarter 2010 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Screen Interval (feet bgs)[1]	Date	Depth to Groundwater (feet TOC-N)[2]	Depth to Product (feet TOC-N)	Product Thickness (feet)
MW-1	29.3-39.3	2/21/2006	36.34	--	--
		6/7/2006	34.28	--	--
		8/22/2006	37.11	37.08	0.03
		11/14/2006	37.05	--	--
		2/20/2007	36.14	--	--
		6/5/2007	37.21	--	--
		9/12/2007	37.67	37.55	0.12
		12/11/2007	37.49	37.46	0.03
		3/19/2008	35.94	--	--
		5/20/2008	35.51	--	--
		6/5/2008	35.69	--	--
		9/18/2008	37.62	37.61	0.01
		12/15/2008	37.53	37.52	0.01
		3/27/2009	35.24	--	--
		6/9/2009	37.05	--	--
		9/28/2009	37.61	--	--
		12/9/2009	37.56	--	--
		3/9/2010	34.41	--	--
		6/23/2010	37.49	--	--
MW-2	23.3-38.3	2/21/2006	32.19	--	--
		6/7/2006	30.23	--	--
		8/22/2006	33.11	--	--
		11/14/2006	33.01	--	--
		2/20/2007	31.93	--	--
		6/5/2007	33.23	--	--
		9/12/2007	33.62	--	--
		12/5/2007	33.52	--	--
		3/19/2008	31.76	--	--
		5/20/2008	31.41	--	--
		6/5/2008	31.56	--	--
		9/18/2008	33.65	--	--
		12/15/2008	33.59	--	--
		3/27/2009	31.14	--	--
		6/9/2009	33.08	--	--
		9/28/2009	33.62	--	--
		12/9/2009	33.61	--	--
		3/9/2010	30.36	--	--
		6/23/2010	32.66	--	--
MW-3	21.3-36.3	2/21/2006	31.97	--	--
		6/7/2006	30.91	--	--
		8/22/2006	34.66	--	--
		11/14/2006	34.71	--	--
		2/20/2007	31.66	--	--
		6/5/2007	34.63	--	--
		9/12/2007	34.71	--	--
		12/11/2007	34.77	--	--
		3/19/2008	31.64	--	--
		5/20/2008	31.26	--	--
		6/5/2008	31.45	--	--
		9/18/2008	34.81	--	--
		12/15/2008	34.79	--	--
		3/27/2009	30.87	--	--
		6/9/2009	34.48	--	--
		9/28/2009	34.82	--	--
		12/9/2009	34.83	--	--
		3/9/2010	30.60	--	--

TABLE 1
Monitoring Well Groundwater Levels
Second Quarter 2010 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Screen Interval (feet bgs)[1]	Date	Depth to Groundwater (feet TOC-N)[2]	Depth to Product (feet TOC-N)	Product Thickness (feet)
MW-3		6/23/2010	33.94	--	--
MW-4	30.7-40.7	2/21/2006	36.72	--	--
		6/7/2006	35.76	--	--
		8/22/2006	38.79	--	--
		11/14/2006	38.84	--	--
		2/20/2007	36.54	--	--
		6/5/2007	38.77	--	--
		9/12/2007	38.93	--	--
		12/11/2008	39.00	--	--
		3/19/2008	36.29	--	--
		5/20/2008	36.27	--	--
		6/5/2008	36.38	--	--
		9/18/2008	39.03	--	--
		12/15/2008	39.03	--	--
		3/27/2009	36.10	--	--
		6/9/2009	38.62	--	--
		9/28/2009	39.04	--	--
		12/9/2009	39.09	--	--
		3/9/2010	35.69	--	--
		6/23/2010	37.41	--	--
MW-8	14.5-24.5	8/22/2006	18.71	--	--
		11/14/2006	18.73	--	--
		2/20/2007	19.23	--	--
		6/5/2007	20.48	--	--
		9/12/2007	21.47	--	--
		12/11/2007	19.58	--	--
		Q1 2008	NM	--	--
		Q2 2008	NM	--	--
		9/18/2008	21.67	--	--
		12/15/2008	20.73	--	--
		3/27/2009	19.54	--	--
		6/9/2009	23.31	--	--
		9/28/2009	22.58	--	--
		12/9/2009	20.66	20.65	0.01
		3/9/2010	18.97	--	--
		6/23/2010	19.82	--	--
MW-9	36.0-46.0	8/22/2006	42.59	42.55	0.04
		11/14/2006	42.62	42.54	0.08
		2/20/2007	41.91	41.86	0.05
		6/5/2007	42.71	42.69	0.02
		9/12/2007	43.09	43.01	0.08
		12/11/2007	42.91	--	--
		3/20/2007	41.76	41.75	0.01
		12/11/2007	42.91	--	--
		5/20/2008	41.33	--	--
		6/5/2008	41.57	--	--
		9/18/2008	43.07	--	--
		12/15/2008	43.00	--	--
		3/27/2009	41.02	--	--
		6/9/2009	42.53	--	--
		9/28/2009	43.02	--	--
		12/9/2009	42.99	--	--
		3/9/2010	39.97	--	--
		6/23/2010	41.94	--	--

TABLE 1
Monitoring Well Groundwater Levels
Second Quarter 2010 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Screen Interval (feet bgs)[1]	Date	Depth to Groundwater (feet TOC-N)[2]	Depth to Product (feet TOC-N)	Product Thickness (feet)
MW-10	40.3-55.3	9/5/2007	54.86	--	--
		12/12/2007	46.84	--	--
		3/20/2008	44.41	--	--
		5/20/2008	44.09	--	--
		6/5/2008	43.67	--	--
		9/18/2008	45.89	--	--
		12/15/2008	45.91	--	--
		3/27/2009	43.82	--	--
		6/9/2009	45.19	--	--
		9/28/2009	45.94	--	--
		12/9/2009	46.02	--	--
		3/9/2010	42.62	--	--
		6/23/2010	44.52	--	--
MW-11	37.0-47.0	9/6/2007	Dry	--	--
		12/12/2007	42.73	--	--
		3/20/2008	37.29	--	--
		5/20/2008	37.06	--	--
		6/4/2008	37.18	--	--
		9/18/2008	38.97	--	--
		12/15/2008	39.36	--	--
		3/27/2009	36.87	--	--
		6/9/2009	38.30	--	--
		9/28/2009	39.21	--	--
		12/9/2009	39.73	--	--
		3/9/2010	36.28	--	--
		6/23/2010	37.72	--	--

Notes:
NM - Not measured
1. Screen intervals measured from feet below ground surface (feet bgs)
2. Groundwater and product levels measured from top of casing - north (TOC-N).
3. MW-5 through MW-7 abandoned 6/23/08.

TABLE 2
Monitoring Well Groundwater Elevations
Second Quarter 2010 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date Completed	Ground Surface Elevation (feet msl)[1]	Top of Casing Elevation (feet msl)[1, 2]	Date Measured	Groundwater Elevation (feet msl)[1]	Product Elevation (feet msl)[1]	Product Thickness (feet)
MW-1	10/20/2005	328.49	328.04	2/21/2006	291.70	--	--
				6/7/2006	293.76	--	--
				8/22/2006	290.93	290.96	0.03
				11/14/2006	290.99	--	--
				2/20/2007	291.90	--	--
				6/5/2007	290.83	--	--
				9/12/2007	290.37	--	--
				12/11/2007	290.55	290.58	0.03
				3/19/2008	292.10	--	--
				5/20/2008	292.53	--	--
				6/5/2008	292.35	--	--
				9/18/2008	290.42	290.43	0.01
				12/15/2008	290.51	290.52	0.01
				3/27/2009	292.80	--	--
				6/9/2009	290.99	--	--
				9/28/2009	290.43	--	--
				12/9/2009	290.48	--	--
				3/9/2010	293.63	--	--
				6/23/2010	290.55	--	--
MW-2	10/21/2005	324.85	324.15	2/21/2006	291.96	--	--
				6/7/2006	293.92	--	--
				8/22/2006	291.04	--	--
				11/14/2006	291.14	--	--
				2/20/2007	292.22	--	--
				6/5/2007	290.92	--	--
				9/12/2007	290.53	--	--
				12/5/2007	290.63	--	--
				3/19/2008	292.39	--	--
				5/20/2008	292.74	--	--
				6/5/2008	292.59	--	--
				9/18/2008	290.50	--	--
				12/15/2008	290.56	--	--
				3/27/2009	293.01	--	--
				6/9/2009	291.07	--	--
				9/28/2009	290.53	--	--
				12/9/2009	290.54	--	--
				3/9/2010	293.79	--	--
				6/23/2010	291.49	--	--
MW-3	10/21/2005	326.05	325.65	2/21/2006	293.68	--	--
				6/7/2006	294.74	--	--
				8/22/2006	290.99	--	--
				11/14/2006	290.94	--	--
				2/20/2007	293.99	--	--
				6/5/2007	291.02	--	--
				9/12/2007	290.94	--	--
				12/11/2007	290.88	--	--
				3/19/2008	294.01	--	--
				5/20/2008	294.39	--	--
				6/5/2008	294.20	--	--
				9/18/2008	290.84	--	--
				12/15/2008	290.86	--	--
				3/27/2009	294.78	--	--

TABLE 2
Monitoring Well Groundwater Elevations
Second Quarter 2010 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date Completed	Ground Surface Elevation (feet msl)[1]	Top of Casing Elevation (feet msl)[1, 2]	Date Measured	Groundwater Elevation (feet msl)[1]	Product Elevation (feet msl)[1]	Product Thickness (feet)
MW-3				6/9/2009	291.17	--	--
				9/28/2009	290.83	--	--
				12/9/2009	290.82	--	--
				3/9/2010	295.05	--	--
				6/23/2010	291.71	--	--
MW-4	1/31/2006	329.97	329.67	2/21/2006	292.95	--	--
				6/7/2006	293.91	--	--
				8/22/2006	290.88	--	--
				11/14/2006	290.83	--	--
				2/20/2007	293.13	--	--
				6/5/2007	290.90	--	--
				9/12/2007	290.74	--	--
				12/11/2007	290.67	--	--
				3/19/2008	293.38	--	--
				5/20/2008	293.40	--	--
				6/5/2008	293.29	--	--
				9/18/2008	290.64	--	--
				12/15/2008	290.64	--	--
				3/27/2009	293.57	--	--
				6/9/2009	291.05	--	--
				9/28/2009	290.63	--	--
				12/9/2009	290.58	--	--
				3/9/2010	293.98	--	--
				6/23/2010	292.26	--	--
MW-8	8/15/2006	335.23	333.93	8/22/2006	315.22	--	--
				11/14/2006	315.20	--	--
				2/20/2007	314.70	--	--
				6/5/2007	313.45	--	--
				9/12/2007	312.46	--	--
				12/11/2007	314.35	--	--
				Q1 2008	NM	--	--
				Q2 2008	NM	--	--
				9/18/2008	312.26	--	--
				12/15/2008	313.20	--	--
				3/27/2009	314.39	--	--
				6/9/2009	310.62	--	--
				9/28/2009	311.35	--	--
				12/9/2009	313.27	313.28	0.01
				3/9/2010	314.96	--	--
				6/23/2010	314.11	--	--
MW-9	8/16/2006	333.49	333.07	8/22/2006	290.48	290.52	0.04
				11/14/2006	290.45	290.53	0.08
				2/20/2007	291.16	291.21	0.05
				6/5/2007	290.36	290.38	0.02
				9/12/2007	289.98	290.06	0.08
				12/11/2007	290.16	--	--
				3/20/2007	291.31	--	--
				12/11/2007	290.16	--	--
				5/20/2008	291.74	--	--
				6/5/2008	291.50	--	--
				9/18/2008	290.00	--	--
				12/15/2008	290.07	--	--
				3/27/2009	292.05	--	--
				6/9/2009	290.54	--	--

TABLE 2
Monitoring Well Groundwater Elevations
Second Quarter 2010 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date Completed	Ground Surface Elevation (feet msl)[1]	Top of Casing Elevation (feet msl)[1, 2]	Date Measured	Groundwater Elevation (feet msl)[1]	Product Elevation (feet msl)[1]	Product Thickness (feet)
MW-9				9/28/2009	290.05	--	--
				12/9/2009	290.08	--	--
				3/9/2010	293.10	--	--
				6/23/2010	291.13	--	--
MW-10	9/5/2007	336.55	335.89	9/12/2007	281.03	--	--
				12/12/2007	289.05	--	--
				3/20/2008	291.48	--	--
				5/20/2008	291.80	--	--
				6/5/2008	292.22	--	--
				9/18/2008	290.00	--	--
				12/15/2008	289.98	--	--
				3/27/2009	292.07	--	--
				6/9/2009	290.70	--	--
				9/28/2009	289.95	--	--
				12/9/2009	289.87	--	--
				3/9/2010	293.27	--	--
				6/23/2010	291.37	--	--
MW-11	9/6/2007	330.29	329.89	9/12/2007	Dry	--	--
				12/12/2007	287.16	--	--
				3/20/2008	292.60	--	--
				5/20/2008	292.83	--	--
				6/5/2008	292.71	--	--
				9/18/2008	290.92	--	--
				12/15/2008	290.53	--	--
				3/27/2009	293.02	--	--
				6/9/2009	291.59	--	--
				9/28/2009	290.68	--	--
				12/9/2009	290.16	--	--
				3/9/2010	293.61	--	--
				6/23/2010	292.17	--	--

Notes:
NM - Not measured
1. All elevations displayed in feet above average mean sea level (msl).
2. Groundwater and product elevations calculated from depths as measured from top of casing - north.
MW-1 through MW-3 surveyed on October 31, 2005.
MW-4 through MW-7 surveyed on February 14, 2006.
MW-8 and MW-9 surveyed on November 10, 2006.
MW-10 and MW-11 surveyed on September 13, 2007.
MW-5 through MW-7 abandoned 6/23/08.

TABLE 3
Summary of Groundwater Analytical Results
Gasoline Compounds
Second Quarter 2010 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date	Gasoline Compounds				
		TPH-GRO	Benzene	Toluene	Ethylbenzene	Xylenes
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
ESL[1)]		5,000	20,000	400	300	5,300
MW-1	2/22/2006	**57,000**	38	**2,700**	**3,000**	**8,700**
	6/8/2006	**37,000**	10	330	120	**8,200**
	Q3 2006[3)]	NS	NS	NS	NS	NS
	11/15/2006	**38,000**	14	110	38	**5,900**
	2/21/2007	**18,000**	4	7	8	1,600
	6/5/2007	**17,000**	3	7	4	1,100
	Q3 2007[3)]	NS	NS	NS	NS	NS
	Q4 2007[3)]	NS	NS	NS	NS	NS
	3/19/2008	**12,000**	0.8	1	1	320
	6/6/2008	**8,200**	1	2	3	150
	Q3 2008[4)]	NS	NS	NS	NS	NS
	Q4 2008[4)]	NS	NS	NS	NS	NS
	3/31/2009	3,700	<0.5	1	1	44
	6/10/2009	**5,000**	<0.5	<0.5	0.7	13
	Q3 2009 [4)]	NS	NS	NS	NS	NS
	Q4 2009 [4)]	NS	NS	NS	NS	NS
	3/10/2010	3,800	<0.5	<0.5	<0.5	4
	Q2 2010 [4)]	NS	NS	NS	NS	NS
MW-2	2/21/2006[2)]	<50 / <50	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5
	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/23/2006	<50	0.5	<0.5	<0.5	<0.5
	11/14/2006	<50	0.7	<0.5	<0.5	<0.5
	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5
	6/5/2007	<50	<0.5	<0.5	<0.5	<0.5
	Q3 2007[4)]	NS	NS	NS	NS	NS
	Q4 2007[4)]	NS	NS	NS	NS	NS
	3/19/2008	<50	<0.5	<0.5	<0.5	<0.5
	6/5/2008 [2)]	<50 / <50	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5
	Q3 2008[4)]	NS	NS	NS	NS	NS
	Q4 2008[4)]	NS	NS	NS	NS	NS
	3/27/2009	<50	<0.5	<0.5	<0.5	<0.5
	Q2 2009 [4)]	NS	NS	NS	NS	NS
	Q3 2009 [4)]	NS	NS	NS	NS	NS
	Q4 2009 [4)]	NS	NS	NS	NS	NS
	3/10/2010	<50	<0.5	<0.5	<0.5	2
	6/23/2010	<50	<0.5	<0.5	<0.5	<0.5
MW-3	2/21/2006	<50	<0.5	<0.5	<0.5	<0.5
	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/23/2006	170	<0.5	<0.5	<0.5	<0.5
	11/14/2006	86	<0.5	1	<0.5	<0.5
	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5
	Q2 2007[4)]	NS	NS	NS	NS	NS
	Q3 2007[4)]	NS	NS	NS	NS	NS
	Q4 2007[4)]	NS	NS	NS	NS	NS
	3/19/2008	<50	<0.5	<0.5	<0.5	<0.5
	6/5/2008	<50	<0.5	<0.5	<0.5	<0.5
	Q3 2008[4)]	NS	NS	NS	NS	NS
	Q4 2008[4)]	NS	NS	NS	NS	NS
	3/31/2009	<50	<0.5	<0.5	<0.5	<0.5
	Q2 2009 [4)]	NS	NS	NS	NS	NS
	Q3 2009 [4)]	NS	NS	NS	NS	NS
	Q4 2009 [4)]	NS	NS	NS	NS	NS
	3/9/2010	<50	<0.5	<0.5	<0.5	<0.5
	Q2 2010 [4)]	NS	NS	NS	NS	NS

TABLE 3
Summary of Groundwater Analytical Results
Gasoline Compounds
Second Quarter 2010 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date	Gasoline Compounds				
		TPH-GRO	Benzene	Toluene	Ethylbenzene	Xylenes
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
ESL[1)]		5,000	20,000	400	300	5,300
MW-4	2/21/2006	<50	<0.5	<0.5	<0.5	<0.5
	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/23/2006	70	0.6	<0.5	<0.5	1
	11/15/2006	<50	<0.5	<0.5	<0.5	0.5
	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5
	Q2 2007[4)]	NS	NS	NS	NS	NS
	Q3 2007[4)]	NS	NS	NS	NS	NS
	Q4 2007[4)]	NS	NS	NS	NS	NS
	3/19/2008	<50	<0.5	<0.5	<0.5	<0.5
	6/6/2008	<50	<0.5	<0.5	<0.5	<0.5
	Q3 2008[4)]	NS	NS	NS	NS	NS
	Q4 2008[4)]	NS	NS	NS	NS	NS
	3/31/2009	<50	<0.5	<0.5	<0.5	<0.5
	Q2 2009 [4)]	NS	NS	NS	NS	NS
	Q3 2009 [4)]	NS	NS	NS	NS	NS
	Q4 2009 [4)]	NS	NS	NS	NS	NS
	3/9/2010	<50	<0.5	<0.5	<0.5	<0.5
	6/23/2010	<50	<0.5	<0.5	<0.5	<0.5
MW-8/MW-X	8/24/2006	**18,000**	190	**2,600**	**590**	2,800
	11/16/2006	990	76	80	69	190
	2/20/2007	2,000	180	57	170	74
	6/6/2007	3,600	340	92	**370**	210
	9/12/2007	4,200	470	230	**630**	320
	12/11/2007	4,900	350	300	**490**	650
	Q1 2008[5)]	NS	NS	NS	NS	NS
	Q2 2008[5)]	NS	NS	NS	NS	NS
	9/18/2008[2)]	**11,000 / 9,200**	740 / 690	320 / 290	**790 / 720**	2,600 / 2,100
	12/15/2008	**12,000**	810	**920**	**880**	3,300
	3/27/2009	**29,000/29,000J**	1,500/1,200	**7,200/4,500**	**1,200/1,100**	4,700/4,100
	Q2 2009 [4)]	NS	NS	NS	NS	NS
	Q3 2009 [4)]	NS	NS	NS	NS	NS
	12/10/2009	**19,000**	930	**1,600**	**1,200**	3,800
	3/10/2010	**10,000 / 10,000**	570 / 580	**500 / 500**	**730 / 730**	1,800 / 1,800
	6/24/2010	**14,000**	630	**680**	**870**	2,500
MW-9	Q3 2006[3)]	NS	NS	NS	NS	NS
	11/15/2006	**74,000**	480	**12,000**	**2,200**	**17,000**
	Q1 2007[3)]	NS	NS	NS	NS	NS
	Q2 2007[3)]	NS	NS	NS	NS	NS
	Q3 2007[3)]	NS	NS	NS	NS	NS
	12/11/2007	**48,000**	62	**5,400**	**1,700**	**12,000**
	Q1 2008[3)]	NS	NS	NS	NS	NS
	6/6/2008	**31,000**	5	**1,000**	**1,300**	**9,000**
	9/18/2008	**25,000**	6	**610**	**800**	**4,800**
	12/16/2008	**34,000**	6	**750**	**930**	**6,000**
	3/31/2009	**20,000**	3	100	**460**	3,200
	6/10/2009	**27,000**	<3	66	**610**	**4,100**
	Q3 2009[3)]	NS	NS	NS	NS	NS
	12/10/2009	**20,000**	3	85	**460**	2,800
	3/10/2010	**18,000**	<3	17	250	1,700
	6/24/2010	**16,000**	0.9	7	210	1,300

TABLE 3
Summary of Groundwater Analytical Results
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Well ID	Date	Gasoline Compounds				
		TPH-GRO	Benzene	Toluene	Ethylbenzene	Xylenes
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
ESL[1)]		5,000	20,000	400	300	5,300
MW-10/MW-X [7)]	Q3 2007[4)]	NS	NS	NS	NS	NS
	12/14/2007	<50	<0.5	<0.5	<0.5	<0.5
	3/20/2008	<50	0.9	<0.5	<0.5	<0.5
	6/6/2008	<50	<0.5	<0.5	<0.5	<0.5
	9/18/2008	<50	<0.5	<0.5	<0.5	<0.5
	12/15/2008	<50	<0.5	<0.5	<0.5	<0.5
	3/27/2009	**52**	<0.5	0.7	<0.5	<0.5
	6/10/2009	<50	<0.5	1	<0.5	<0.5
	9/28/2009	<50/<50	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5
	12/10/2009	540	1	2	5	23
	3/9/2010	<50	<0.5	<0.5	<0.5	<0.5
	6/23/2010	<50	<0.5	<0.5	<0.5	<0.5
MW-11	Q3 2007[4)]	NS	NS	NS	NS	NS
	12/14/2007	<50	<0.5	<0.5	<0.5	<0.5
	3/20/2008[2)]	<50 / <50	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5
	6/6/2008	<50	<0.5	<0.5	<0.5	<0.5
	9/18/2008	<50	<0.5	<0.5	<0.5	<0.5
	12/15/2008	<50	<0.5	<0.5	<0.5	<0.5
	3/27/2009	<50	<0.5	<0.5	<0.5	<0.5
	6/10/2009	59	<0.5	2	<0.5	3
	9/29/2009	<50	<0.5	<0.5	<0.5	<0.5
	12/10/2009	66	<0.5	<0.5	<0.5	3
	3/9/2010	<50	<0.5	<0.5	<0.5	<0.5
	6/23/2010	<50	<0.5	<0.5	<0.5	<0.5
SW-Creek	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/22/2006	<50	<0.5	<0.5	<0.5	<0.5
	11/15/2006	<50	<0.5	<0.5	<0.5	<0.5
	11/15/2006	<50	<0.5	<0.5	<0.5	<0.5
Stream	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5
	6/5/2007	<50	<0.5	<0.5	<0.5	<0.5
	9/12/2007	<50	<0.5	<0.5	<0.5	<0.5
	1/25/2008	<50	<0.5	<0.5	<0.5	<0.5
	3/20/2008	<50	<0.5	<0.5	<0.5	<0.5
	6/5/2008	<50	<0.5	<0.5	<0.5	<0.5
	9/18/2008	<50	<0.5	<0.5	<0.5	<0.5
	12/15/2008	<50	<0.5	<0.5	<0.5	<0.5
	3/31/2009	<50	<0.5	<0.5	<0.5	<0.5
	6/9/2009	<50	<0.5	<0.5	<0.5	<0.5
	Q3 2009[6)]	NS	NS	NS	NS	NS
	Q4 2009[6)]	NS	NS	NS	NS	NS
	3/9/2010	<50	<0.5	<0.5	<0.5	<0.5
	6/24/2010	<50	<0.5	<0.5	<0.5	<0.5

Notes:
J qualifier - The reported value is the approximate concentration of the analyte in the sample due to sample heterogeneity.
µg/L -
NS - Not
TPH-GRO -

1) Environmental Screening Levels (ESLs) gross contamination ceiling values obtained from the San Francisco Regional Water Quality Control Board (RWQCB) Interim Final: Table F-1b, May 2008. **Bold** values indicate ESL exceedances.
2) Both sample and duplicate concentrations from well location are displayed.
3) Sample not collected during quarterly monitoring due to the presence of measurable free product.
4) Sample not collected during quarterly monitoring because well is not hydraulically connected to unconfined water-bearing zone.
5) Sample not collected due to extreme overhead hazards posed by dead trees on the 80-90% grade directly uphill from the sampling location.
6) Sample not collected during quarterly monitoring due to the stream sample location being dry.

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		TPH-GRO	Benzene	Toluene	Ethylbenzene	Xylenes
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
ESL[1)]		5,000	20,000	400	300	5,300

7) Duplicate sampled collected from MW-10 during the third quarter 2009 sampling event because MW-8 was not hydraulically connected to the water bearing zone.

TABLE 4
Summary of Groundwater Analytical Results
Geochemical Indicators and Other Parameters
Second Quarter 2010 Groundwater Monitoring Report
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		Geochemical Indicators and Other Parameters											
Well ID	Date	DO[1] (mg/L)	ORP[1] (mV)	Nitrate (mg/L)	Manganese (mg/L)	Ferrous Iron (mg/L)	Dissolved Iron (mg/L)	Sulfate (mg/L)	Methane (mg/L)	pH[1]	TDS (mg/L)	Alkalinity to pH 4.5 (mg/L) as $CaCO_3$	Alkalinity to pH 8.3 (mg/L) as $CaCO_3$
MW-1	6/8/2006	0.28	88.15	2.6	0.116	<0.008	<0.052	48.3	<0.002	6.62	494	317	<0.46
	Q3 2006	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]
	11/15/2006	4.87[6]	25	0.37 J	1	0.22	0.079	108	<0.002	6.67	882	597	<0.46
	3/31/2009	2.45	-147	10.3J	0.534	0.12	<0.052	62.4	0.051	6.61	650	343	<0.46
	6/10/2009	0.00	-115	0.42	0.576	0.2	<0.052	72.6	<0.005	7.07	614	422	<0.46
	Q4 2009	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
	3/10/2010	0.00	-118	4 J	0.431	<0.01	<0.0522	56.9	0.067	6.79	551	347	<0.46
	Q2 2010	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-2	6/7/2006	NR[3]	36.43	11.9	0.003	<0.008	<0.052	47.5	<0.002	6.56	465	286	<0.46
	8/23/2006	0.32	25.69	7	0.024	0.015	<0.052	121	0.005	6.63	811	470	<0.46
	11/14/2006	0.2	220.84	4	0.021	0.021	<0.052 UJ	126 J	0.004	6.72	867	530	<0.46
	3/27/2009	5.47	-86	18.2	0.017	0.036J	<0.052	65	<0.01	6.62	642	347	<0.46
	Q2 2009	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
	Q4 2009	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
	3/10/2010	2.81	38	13 J	0.0182	0.35	<0.0522	54.9	<0.005	6.89	532	322	<0.46
	6/23/2010	2.18	173	13.2	0.103	4	<0.0522	50.9	<0.005	11.51	524	319	<0.46
MW-3	6/7/2006	0.37	31.23	10.9	0.005	<0.008	<0.052	45.1	<0.002	6.56	446	274	<0.46
	8/23/2006	0.3	-1.8	<0.25	0.368	0.24	<0.052	26.3	1.5	6.6	711	421	<0.46
	11/14/2006	0.12	-17.57	NM[5]	NM[5]	NM[5]	NM[5]	NM[5]	0.42	6.95	NM[5]	NM[5]	NM[5]
	3/31/2009	0.00	48	22.2J	0.0017	0.08	<0.052	57.7	<0.01	6.75	688	320	<0.46
	Q2 2009	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
	Q4 2009	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
	3/9/2010	1.75	182	12.6 J	0.0093	0.064	<0.0522	54.4	<0.005	6.78	496	293	<0.46
	Q2 2010	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-4	6/7/2006	0.28	29.57	9.2	0.02	0.059	<0.052	60.2	<0.002	6.65	423	282	<0.46
	8/23/2006	NR[3]	-22.49	<0.25	0.226	0.7	<0.052	78.4	0.003	6.62	590	396	<0.46
	11/15/2006	3.46[6]	106	0.34 J	0.137	0.47	<0.052	90.3	0.003	6.74	672	490	<0.46
	3/31/2009	3.96	5	19.5J	0.0406	0.14	<0.052	83.7	<0.01	6.64	631	323	<0.46
	Q2 2009	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
	Q4 2009	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
	3/9/2010	0.05	123	10.5 J	0.0343	0.13	<0.0522	89.8	<0.005	6.74	560	312	<0.46
	6/23/2010	0.03	164	9.4	0.0295	0.034	<0.0522	62.5	<0.005	11.03	491	297	<0.46
MW-8	8/24/2006	NM[2]	NM[2]	<0.25	0.171	0.14	<0.052	90.2	<0.002 UJ	NM[2]	563	362	<0.46
	11/16/2006	0.05	-74	<0.25	0.123	0.8	<0.052	78.6 J	0.002	7.22	564	350	<0.46
	3/27/2009	6.88[6]	-113	0.27	0.553	2.5J	<0.052	15.5	0.13	6.74	639	467	<0.46
	Q2 2009	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
	12/10/2009	0.04	-165	<0.25 UJ	0.549 J	<2.5	0.06	2 J	<0.2	6.94	576	445	<0.46
	3/10/2010	0.00	-85	<0.25	0.334	3	<0.0522	1.7	0.33	6.89	587	453	<0.46
	6/24/2010	5.83[6]	-84	<0.25	1.08	7.8	0.0949 J+	6.1	0.65	6.72	679	502	<0.46
MW-9	Q3 2006	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]
	11/15/2006	3.01[6]	4	<0.25 UJ	4.41	1.2	0.496	29.5	0.009	6.92	836	657	<0.46
	3/31/2009	3.35	-179	0.39J	3.2	0.099	<0.052	60.5	0.012	6.59	632	419	<0.46
	6/10/2009	0.00	-141	<0.25	3.01	1.7	<0.052	46.4	<0.005	6.98	622	468	<0.46
	12/10/2009	1.43	-188	<0.25 UJ	4.39 J	3.3	2.54	4.5 J	<0.2	6.6	734	620	<0.46
	3/10/2010	0.00	-197	<0.25	2.94	1.7	<0.0522	40.9	0.046	6.84	596	448	<0.46
	6/24/2010	0.00	-108	<0.25	2.46	1.5	0.131 J+	33.5	0.012	6.61	489	380	<0.46
MW-10	3/27/2009	3.65	48	8.2	0.367	0.21J	<0.052	155	0.28	6.69	1,200	645	<0.46
	6/10/2009	0.37	109	<0.25	0.767	0.8	<0.052	133	2.30	7.20	1,100	623	<0.46
	12/10/2009	0.06	-74	0.33 J	0.964 J	10.90	<0.052	640 J	<0.2	6.85	1,580	512	<0.46
	3/9/2010	1.52	105	13.9 J	0.0357	0.054	<0.052	63.6	0.19	6.89	596	349	<0.46
	6/23/2010	0.00	79	0.68	0.265	0.2	<0.0522	136	0.94	6.76	1,000	604	<0.46
MW-11	3/27/2009	5.86	53	15.3	0.114	0.058J	<0.052	134	0.06	6.61	742	365	<0.46
	6/10/2009	0.37	44	NM	0.415	NM	NM	NM	0.12	7.16	NM	NM	NM
	12/10/2009	1.01	-50	0.48 J	0.804 J	3.6	<0.052	151 J	<0.2	6.84	1720	556	<0.46
	3/9/2010	3.68	133	11.9 J	0.0176	0.087	<0.0522	91.7	0.039	6.73	615	314	<0.46
	6/23/2010	0.45	-2	0.42	0.242	0.15	<0.0522	437	0.29	6.7	1,300	479	<0.46

Notes:
DO = Dissolved oxygen
ORP = Oxygen reduction potential
TDS = Total dissolved solids
$CaCO_3$ = Calcium Carbonate
NM = Not measured
NR = Not Reported
J = Estimated result
UJ = Estimated result
J+ = Estimated high value

Note: MW-5, MW-6, and MW-7 were destroyed on 6/23/08

1) DO, ORP, and pH values were obtained in the field using a flow-through cell and a multi-parameter meter unless otherwise noted.
2) Field data was not collected for DO, ORP, and pH because groundwater was removed from the well without using the in-line flow-through cell due to insufficient recharge.
3) DO meter did not appear to be functioning correctly.
4) The well was not sampled and parameters were not measured due to the presence of free product at this location.
5) The well was purged dry and recharge was insufficient to collect groundwater for geochemical analysis.
6) DO readings were artificially high because purge water was poured into the multi-parameter meter from a bailer.
7) Sample not collected during quarterly monitoring because well is not hydraulically connected to unconfined water-bearing zone.

Table 5 Analysis of Closure Criteria

Closure Criteria	Site-Specific Details on How Criteria Are Met	Site Conclusion
1. Develop a complete Conceptual Site Model (CSM)		
1a) Pollutant sources are identified and evaluated		
Leak/spill sources (tanks, sumps, pipelines, etc.) are identified and controlled	Yes – Based on investigations and CPLs repair of the pipeline	No remaining active sources or underground conduits
The pollutant source zone (sorbed/entrained residual pollutants and free product that sustain groundwater & vapor plumes) is identified and delineated	Yes – Based on completed investigation including soil, groundwater, and passive soil gas investigations, TPH-g and BTEX impacts remain in soil on the hillside and have not migrated significantly to the nursery.	LNAPL. measured in wells MW-1 and MW-9 up through 2008 and 2007, respectively. Installation of sorbant boom passively removed LNAPL. MW-8 LNAPL measured for the first time in 2010, however, since this is an impacted well and very limited groundwater was encountered during the monitoring event, URS does not believe this to be a significant finding at this time.
1b) Exposure pathways, receptors, and potential risks, threats, and other environmental concerns are identified and assessed		
Site history, hydrology, and hydrogeology are characterized	Yes – Based on completed investigation.	All pathways were considered as part of this CSM with few potential risk identified (excavation workers and outdoor vapor inhalation).
The nature & extent (lateral and vertical) of pollutants are characterized in soil, groundwater & soil gas, as necessary	Yes – All contaminants (TPH-g and BTEX).	Based on completed investigation, hillside source area (soil impacts) and groundwater are the focus. The depth of the hillside source area is unknown at this time but is believed to be primarily deep soils.
1c) The site is adequately characterized		
Nearby receptors (wetlands, streams, wells, homes, schools, businesses, etc.) are identified	Yes – No residential or commercial buildings are located on or near the Site. No water wells are located within 2 miles of the Site. Surface waters do not appear to have been impacted by the pipeline release.	Receptors include human and ecological.
Groundwater & vapor migration/exposure pathways, natural & artificial (storm drains, sewer lines, buried channels, abandoned wells, etc.) are assessed	Groundwater & vapor migration/exposure pathways, natural & artificial (storm drains, sewer lines, buried channels, abandoned wells, etc.) were assessed.	Groundwater pathways and vapor intrusion pathways were evaluated. No excess risk determined.
Reasonably anticipated land and water use	Site is owned by the SFPUC which leases the eastern	Future development not likely based on Alameda

Table 5 Analysis of Closure Criteria

Closure Criteria	Site-Specific Details on How Criteria Are Met	Site Conclusion
scenarios have been considered	portion of the Site to a rancher and the western portion to a nursery. CPL leases the pipeline ROW from the SFPUC. The SFPUC owns a large portion of the Sunol Valley which is a source of income for the SFPUC. According to the SFPUC the current land use will continue into the foreseeable future.	County zoning of the Sunol Valley as agricultural. According to the Alameda County, the large parcels (100-330 acres) which make up the Sunol Valley will not be rezoned into smaller parcels for development.
Actual and potential risks to receptors and adverse affects to beneficial uses are assessed	Yes – This CSM has assessed all potential receptors and risks.	No unacceptable risks appear to be present at this time. However, a new biological survey is under consideration.
2. Control sources and mitigate risks and threats		
2a) Pollutant sources are remediated to the extent feasible		
The technical and economic feasibility of source remediation methods/technologies have been evaluated.	No – ACEHD will review the draft CSM and a meeting between ACEHD, CPL, and URS will be conducted to discuss potential remediation options and feasibility of completing discussed remedial options.	As indicated, an additional investigation may be needed to determine the depth of the hillside soil impacts. This could provide additional data allowing for a further SVE remediation or other technology. Previous remedial actions have had great success in removing shallow soil impacts on the hillside. Site is currently undergoing natural attenuation with TPH-g and BTEX concentrations decreasing. Reducing conditions are present and the addition of a reducing agent (sulfide) may be warranted. Non-impacted Site wells appear to have returned to background levels with regard to geochemical parameters.
Feasible source remediation technologies have been implemented.	Yes – CPL conducted emergency excavation activities to remove a significant amount of the initially impacted surface soils. Cumulative SVE operations removed approximately 3,249 gallons.	
Appropriate source remediation performance monitoring has been conducted.	Yes - Quarterly monitoring has been implemented since 2006.	
Source mass removal has been documented	Yes - Records of remedial actions and SVE and groundwater quarterly monitoring reports document the source mass removal activities.	
The effects of source remediation on groundwater/vapor plume behavior have been evaluated.	Yes – Site remediation has been implemented and an evaluation of the results is provided in this document.	
2b) Unacceptable risks to human health, ecological health, and sensitive receptors, considering current and future land and water uses, are mitigated		
Necessary & appropriate corrective actions have	Yes - Corrective actions have been implemented and	Identified data gaps may provide additional

Table 5 Analysis of Closure Criteria

Closure Criteria	Site-Specific Details on How Criteria Are Met	Site Conclusion
been implemented.	have had success on shallow soil impacts. (SVE operations) and measurable free product in MW-1 and MW-9 (sorbant booms).	information which may lead to more effective remediation options.
Confirmation sampling, monitoring, and/or risk management measures demonstrate that risks are mitigated	Maybe – Current Site data indicates that Site impacts are stable but still present. Based on the analysis conducted for the CSM, no unacceptable risk currently exists at the Site.	Human and ecological receptors are not exposed to unacceptable risks at this time.
2c) Unacceptable threats to groundwater and surface water resources, considering existing and potential beneficial uses, are mitigated		
Necessary & appropriate corrective actions have been implemented	Yes – Based on the current well network, migration of the residual TPH-g and BTEX plume does not appear to be occurring. This is demonstrated by a stable plume and decreasing concentrations trends.	To confirm that the residual TPH-g and BTEX plume is not migrating, additional shallow groundwater monitoring wells along the eastern side of Calaveras Road at the base of the hillside may be appropriate.
Confirmation sampling, monitoring, and/or risk management measures demonstrate that threats are mitigated.	Yes – Quarterly monitoring is proposed to continue.	Long-term monitoring and possibly monitored natural attenuation is required for the Site.[1]
3. Demonstrate that residual pollution in all media will not adversely affect present and anticipated land and water uses		
3a) Groundwater plumes are decreasing		
Appropriate plume monitoring has confirmed the lateral and vertical extent over time	Yes – Concentration vs. Time plots and graphs demonstrate overall decreasing plume.	The groundwater plume appears to migrate down the hillside from the hillside soil source, when enough rain

[1] The continuation of monitored natural attenuation is proposed along with a discussion with ACEHD, CPL, and URS to determine the appropriate course of action towards Site closure.

Table 5 Analysis of Closure Criteria

Closure Criteria	Site-Specific Details on How Criteria Are Met	Site Conclusion
Spatial and temporal trends for pollutants, including parent and breakdown products, have been evaluated	No – Based on the Tier 1 evaluation conducted for the CSM, spatial and temporal trend analysis is not warranted. , Furthermore, based on historical and current Site groundwater elevation and monitoring data, it is unlikely groundwater located specifically at the Site could be used as a beneficial source (municipal, industrial, and agricultural) due to a lack of sufficient quantity (less than 200 gallons per day production).	water infiltrates the hillside, to monitoring well MW-8 through to nursery monitoring wells MW-1 and MW-9. Concentration trends for TPH-g and BTEX are generally decreasing by up to four orders of magnitude (i.e. toluene in MW-1 and MW-9).
Spatial and temporal trends for natural attenuation indicators have been evaluated	Yes – primary evidence of degradation involves the evaluation of the contaminant decreases over time. Monitoring for natural attenuation parameters (geochemical parameters) and evaluation for biodegradation activities have been conducted since 2008. Natural attenuation parameters collected during recent monitoring events indicate anaerobic conditions and sulfate degradation pathways (MW-8).	
Evidence of breakdown to acceptable end products is documented	Yes – primary evidence of degradation involves the evaluation of the contaminant decreases over time. Natural attenuation parameters collected during recent monitoring events indicate sulfate reducing conditions. Furthermore, monitoring well MW-2 initially had low concentrations of TPH-g and BTEX but is now a clean well with geochemical parameters at original background levels for the Site.	
Plume concentrations are decreasing and the plume is not moving or expanding	Yes – A shrinking plume is documented.	
3b) Cleanup standards can be met in a reasonable timeframe		
The estimated timeframe to achieve cleanup standards throughout the affected area is evaluated	Concentration vs. Time plots indicate that natural attenuation would achieve cleanup in a reasonable time frame.	Cleanup would likely be achieved in less than 50 years.

Table 5 Analysis of Closure Criteria

Closure Criteria	Site-Specific Details on How Criteria Are Met	Site Conclusion
The anticipated timeframe for beneficial use of the affected and nearby water resources is evaluated	Beneficial use of groundwater from the Site is unlikely due to the source of the groundwater being dependant on rain water infiltration and low yield.	No water wells are located within two miles of the Site further indicating that groundwater in the area is not used as a beneficial source of groundwater.
The potential to adversely affect beneficial uses is assessed based on comparison of cleanup and beneficial use timeframes, hydrogeologic conditions, and the CSM	Yes. Cleanup and potential restoration of groundwater would occur at similar time frames.	Clean up in the hillside soil source has occurred. However, the depth of residual impacts is unknown and needs to be assessed before additional clean-up could occur, if warranted.
3c) Risk management measures are appropriate, documented, and do not require future Water Board oversight		
Necessary risk management measures (land use restrictions, engineered vapor barriers, soil management plans, etc.) are implemented and documented	No – The CSM will be reviewed and a meeting will be held with ACEHD, CPL, and URS to determine the criteria for Site closure.	Once Site clean-up criteria have been determined, CPL and URS will proceed with the appropriate actions.
Risk management measures do not require future Water Board/ACEHD oversight	No – Proposed monitored natural attenuation would require additional oversight by ACEHD until Site closure.	Proposed monitored natural attenuation requires future oversight.

Figures

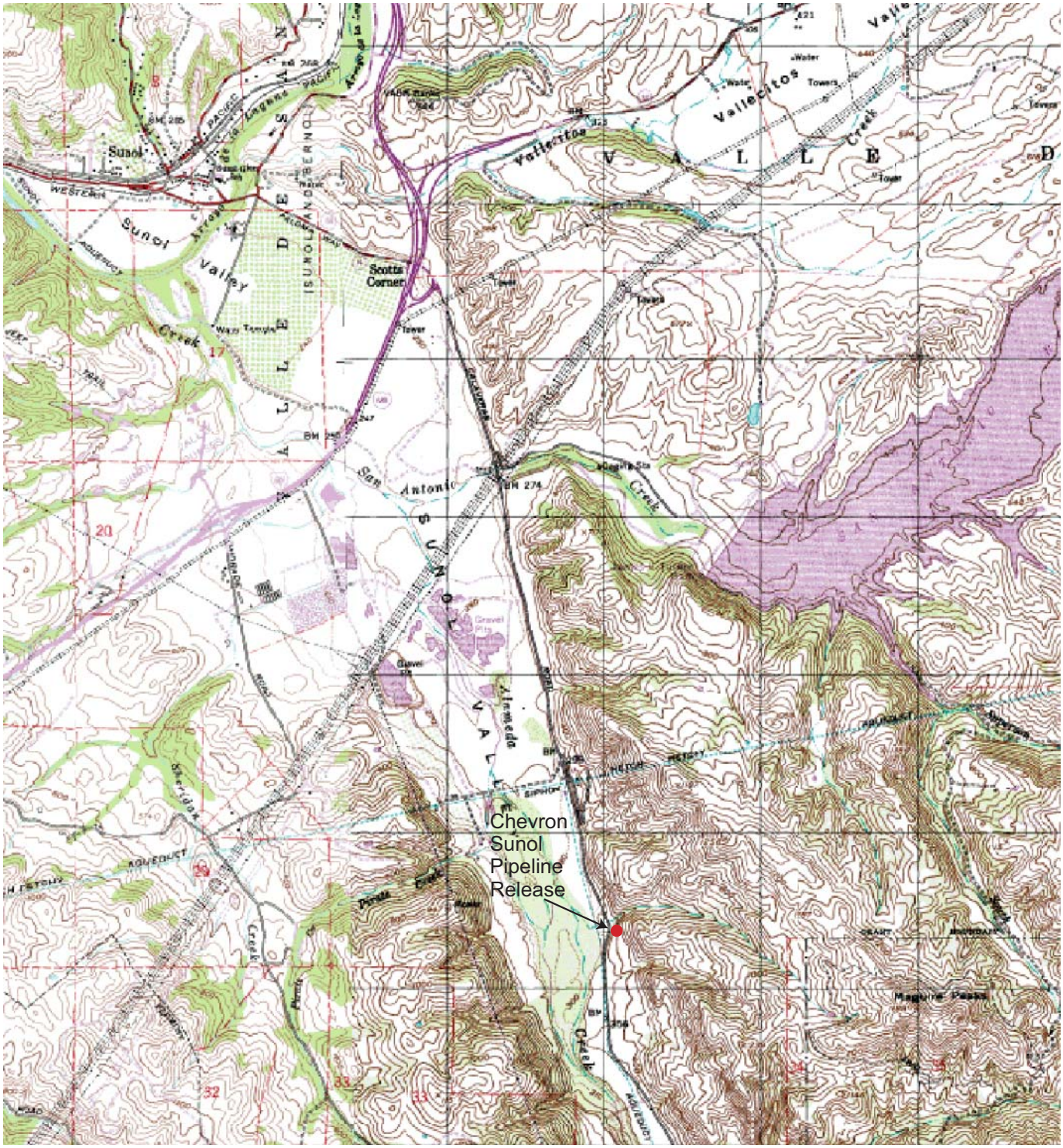


Image obtained from topozone.com

N

MAP REFERENCE:

PORTION OF U.S.G.S. QUANDRANGLE MAP
7 1/2 MINUTE SERIES (TOPOGRAPHIC)
LA COSTA VALLEY QUADRANGLE

URS	Chevron Pipeline Company Project No. 26815217	SITE VICINITY MAP CHEVRON SUNOL PIPELINE SUNOL, CALIFORNIA	Figure 1

NORTH

0 50 100

SCALE IN FEET

SW–CREEK
(Former Surface Water Sampling Location)

UPPER DIRT ROAD

LOWER DIRT ROAD

PIPELINE

CURRENT STREAM
SAMPLE LOCATION

VERY SMALL STREAM

MW–10

PROPERTY
LINE/FENCE

CALAVERAS ROAD

MW–11

MW–9

MW–4

MW–3

MW–1

MW–2

MW–7

MW–8

MW–5

MW–6

SVE–1D

SVE–2S

SVE–8

SVE–3S

SVE–7

SVE–4D

SVE–5

SVE–6

SVE–9

RELEASE LOCATION

HILL SLOPE

HILL SLOPE

HILL SLOPE

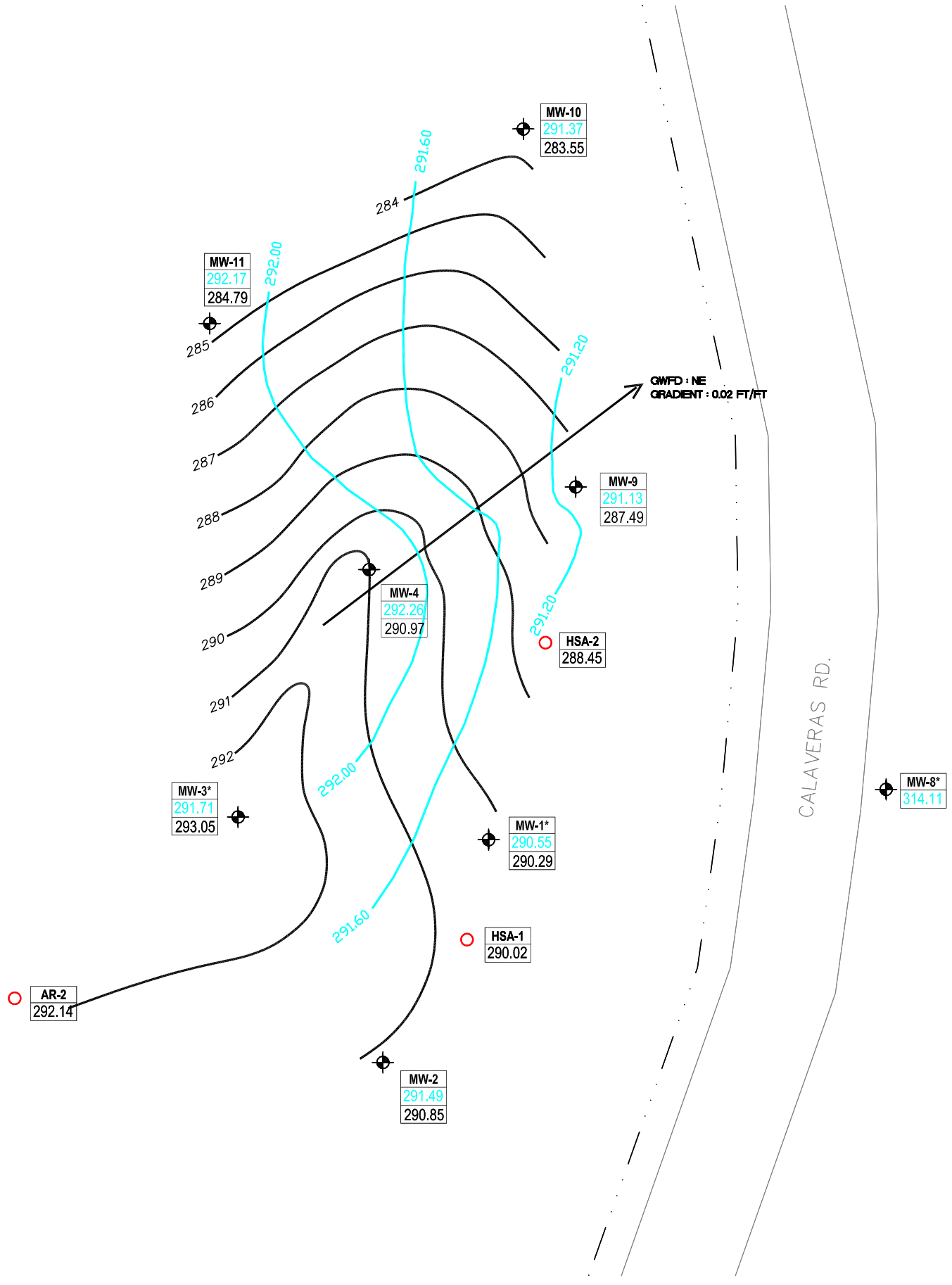
HILL SLOPE
AND DENSE
VEGETATION

LEGEND:

- SURFACE WATER SAMPLE LOCATIONS
- MONITORING WELL
- ABANDONED MONITORING WELLS
- SVE WELL
- SHELF
- STAIRS
- FENCE
- PIPELINE
- VERY SMALL STREAM
- PROPERTY LINE/FENCE
- HILL SLOPE 80–90% GRADE

URS	CHEVRON PIPELINE COMPANY Project No. 26815217	SVE AND GROUNDWATER MONITORING WELL LOCATIONS CHEVRON SUNOL PIPELINE	Figure 2

Aug 05, 2010 – 9:25am
X:\x_env_waste\Chevron Pipeline Company\Sunol Spill\Site Figures\Current CADD\FIGURE 2.dwg



LEGEND:

- MONITORING WELL
- MW-1 / 290.55 / 290.29 — MONITORING WELL LABEL; GROUNDWATER ELEVATION; BEDROCK CONTACT ELEVATION
- SOIL BORING
- HSA-2 / 288.45 — SOIL BORING LABEL; BEDROCK CONTACT ELEVATION
- 291.20 — INFERRED GROUNDWATER CONTOUR
- 285 — BEDROCK SURFACE ELVATION
- GWFD — GROUNDWATER FLOW DIRECTION

NOTES:

1. ELEVATIONS IN FEET ABOVE AVERAGE MEAN SEA LEVEL (msl).
2. GROUNDWATER ELEVATIONS FOR MW–2, MW–4, AND MW–9 THROUGH MW–11, AS MEASURED ON JUNE 23, 2010.
3. BEDROCK ELEVATION DATA OBTAINED FROM THE BORING LOGS OF MW–1 THROUGH MW–4, MW–9 THROUGH MW–11, HSA–1, HSA–2, AND AR–2.
4. THE BEDROCK ELEVATIONS SHOWN REPRESENT THE OVERBURDEN CONTACT WITH THE WEATHERED SILTSTONE/CLAYSTONE BEDROCK UNIT (POSSIBLY CRETACEOUS–AGE CLAY SHALE OF THE PANOCHE FORMATION).
5. CALCULATED GROUNDWATER GRADIENT IN NORTHEASTERLY FLOW DIRECTION dh/dl = 0.02 ft/ft.

* GROUNDWATER LEVELS ARE BELOW TOP OF BEDROCK SURFACE, WHICH LIKELY REPRESENTS STAGNANT WATER AND NOT TRUE AQUIFER CONDITIONS.

NORTH

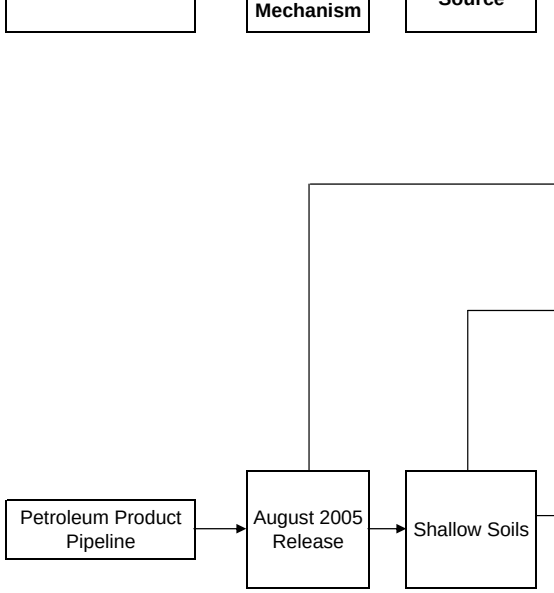
0 30' 60'

SCALE 1"= 30'

URS	CHEVRON PIPELINE COMPANY Project No. 26815217	UNCONFINED WATER–BEARING ZONE GROUNDWATER AND BEDROCK ELEVATIONS MAP CHEVRON SUNOL PIPLINE	Figure 3

Aug 05, 2010 - 9:23am
X:\x_env_waste\Chevron Pipeline Company\Sunol Spill\Quarterly Groundwater Report\202010\Report\Figures\FIGURE 3_080510.dwg

Figure 4. Conceptual Site Model, Sunol Spill Site, Sunol, CA.



Primary Source	Primary Release Mechanism	Secondary Source	Secondary Release Mechanism	Exposure Medium	Exposure Route	Human Receptors						Ecological Receptors	
						ONSITE (a)			OFFSITE PARCELS (b)				
						CURRENT and FUTURE			CURRENT and FUTURE				
						Outdoor Worker (c)	Indoor Office Worker	Excavation Worker (d)	Outdoor Worker (c)	Indoor Office Worker	Recreational User	Terrestrial	Aquatic
Petroleum Product Pipeline	August 2005 Release	Shallow Soils	Infiltration	Sediments/ Surface Soils	Ingestion	IC	NA	IC	NA	NA	NA	NA	NA
					Dermal contact	IC	NA	IC	NA	NA	NA	NA	NA
					Inhalation (Dust)	IC	NA	IC	NA	NA	NA	NA	NA
					Inhalation (Vapors)	IC	NA	IC	IC	NA	IC	IC	NA
				Shallow Soils	Ingestion	IC	NA	X	NA	NA	NA	X	NA
					Dermal contact	IC	NA	X	NA	NA	NA	X	NA
					Inhalation (Dust)	IC	NA	X	NA	NA	NA	X	NA
					Inhalation (Vapors)	X	NA	X	X	NA	X	X	NA
				Deep Soils- Hillside Source Area	Ingestion	IC	NA	IC	NA	NA	NA	NA	NA
					Dermal contact	IC	NA	IC	NA	NA	NA	NA	NA
					Inhalation (Dust)	IC	NA	IC	NA	NA	NA	NA	NA
			Leaching	Groundwater	Ingestion (drinking)	IC(d)	NA	IC(d)	IC(d)	NA	IC(d)	IC	IC
					Ingestion (incidental)	IC	NA	IC	IC	NA	IC	IC	IC
					Dermal contact	IC	NA	IC	IC	NA	IC	IC	IC
					Inhalation (Vapors)	X	NA	X	X	NA	X	X	NA

Notes:

X = Potentially Complete Pathway

IC = Incomplete Pathway

NA = Exposure Pathway Not Applicable to Receptor

(a) Onsite refers to area within the boundaries of the Sunol Site.

(b) Offsite refers to surrounding areas not apart of the Sunol Site.

(c) Outdoor worker assumed to be engaged in industrial/commercial activities that do not include soil disturbance deeper than 1 meter bgs (assume onsite impacts are deeper than 1 meter).

(d) Environmental Data Resources report from 2009 confirms no potable groundwater wells are located in the vicinity that would provide a source of drinking water.

Figure 4 - Conceptual Site Model

X:\x_env_waste\Chevron Pipeline Company\Sunol Spill\Conceptual Site Model-2010\CSM\Figures\Figure 4

WEST

EAST

Human Health Receptors

Inhalation (on & off site)
Ecological
Terrestrial Inhalation (on & off site)

Pathways

Secondary Sources/Release Mechanism

Shallow Soils
Groundwater
Volatization

Primary Sources

Pipeline

Dirt Road/
Release Location

CPL BAPL

LEGEND

- Rain Infiltration
- Volatilization
- Infiltration
- Fine Grained Material
- Coarse Grained Material

Figure 5-Conceptual Site Model Diagram

Calaveras Road

Non-Detect Wells

MW-3
MW-4
MW-1
MW-9
MW-8

Bedrock

Impacted Soil

Impacted GW

Bedrock

Alameda Creek

GW Elevation, March 2010 ?

? Bedrock

GW Elevation, July 2010
(MW-3 & 4 Stagnant)

Unknown Geology

Calaveras Fault (??)

Site GW flow is typically to the N-NE.
Bedrock dictates flow direction.

375' 370' 365' 360' 355' 350' 345' 340' 335' 330' 325' 320' 315' 310' 305' 300' 295' 290' 285' 280' 275' 270'

880 860 840 820 800 780 760 740 720 700 680 660 640 620 600 580 560 540 520 500 480 460 440 420 400 380 360 340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20

1" = 60'

1" = 50'

LEGEND:

- SURFACE WATER SAMPLE
- SOIL BORING
- MONITORING WELLS
- PIPELINE

NORTH

NOTES

NE = CONCENTRATION DID NOT EXCEED THE SHALLOW SOIL ESLs
mg/kg = MILLIGRAM(S) PER KILOGRAM
TPH-G = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE

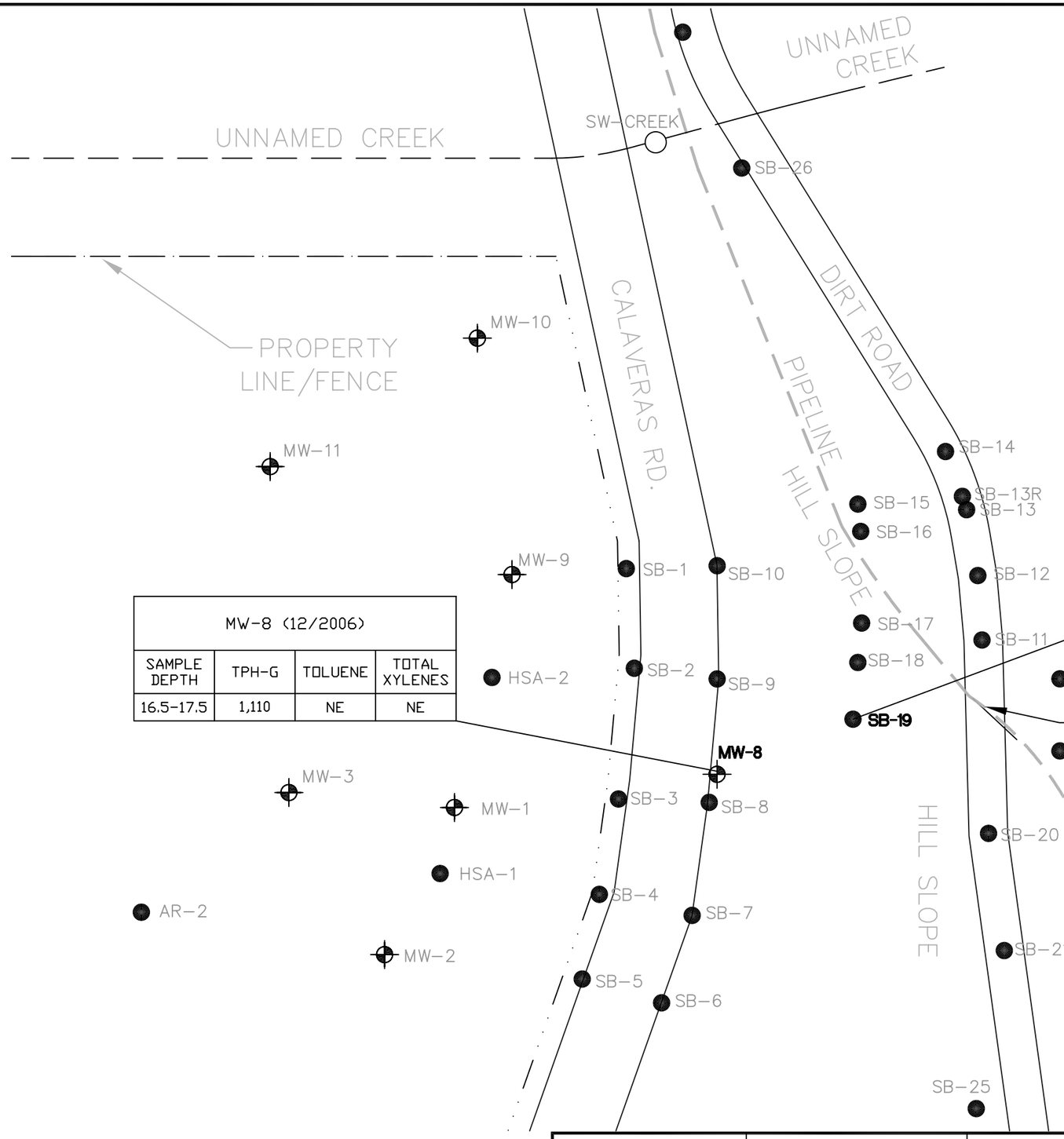
1. SOIL CONCENTRATIONS COMPARED TO INDUSTRIAL/COMMERCIAL ENVIRONMENTAL SCREENING LEVELS (ESLs) FROM TABLE B-2 FOR SHALLOW SOILS LESS THAN 3 METERS BELOW THE GROUND SURFACE (<3 M) WHERE GROUNDWATER IS NOT A CURRENT DRINKING WATER SOURCE. (RWQCB, 2008)

2. SOIL SAMPLE ANALYTICAL RESULTS ARE PRESENTED IN mg/kg.

3. SOIL SAMPLE DEPTH IS IN FEET BELOW GROUND SURFACE.

4. ALL ANALYTICAL RESULTS FROM SOIL SAMPLES COLLECTED FROM 2005 THROUGH 2007 WERE COMPARED TO THE SHALLOW SOIL ESLs. ONLY DETECTIONS ABOVE THE ESLs ARE SHOWN. ALL ANALYTICAL RESULTS FROM SOIL BORINGS COLLECTED IN 2007 WERE BELOW THE SHALLOW SOIL ESLs.

SHALLOW SOIL ESLs (INDUSTRIAL/ COMMERCIAL)	
ANALYTE	ESL (mg/kg)
TPH-G	500
BENZENE	870
TOLUENE	650
ETHYLBENZENE	400
TOTAL XYLENES	420



MW-8 (12/2006)			
SAMPLE DEPTH	TPH-G	TOLUENE	TOTAL XYLENES
16.5-17.5	1,110	NE	NE

CP-SB-19 (9/2005)			
SAMPLE DEPTH	TPH-G	TOLUENE	TOTAL XYLENES
0.5-1	11,000	NE	950
1-1.5	17,000	1,200	2,700
2-2.5	11,000	NE	1,200

40' 0 40'
SCALE 1"= 40'

URS

CHEVRON PIPELINE COMPANY

Project No. 26817150

2005-2007 SOIL BORING SHALLOW SOIL EXCEEDANCES MAP

Figure 6

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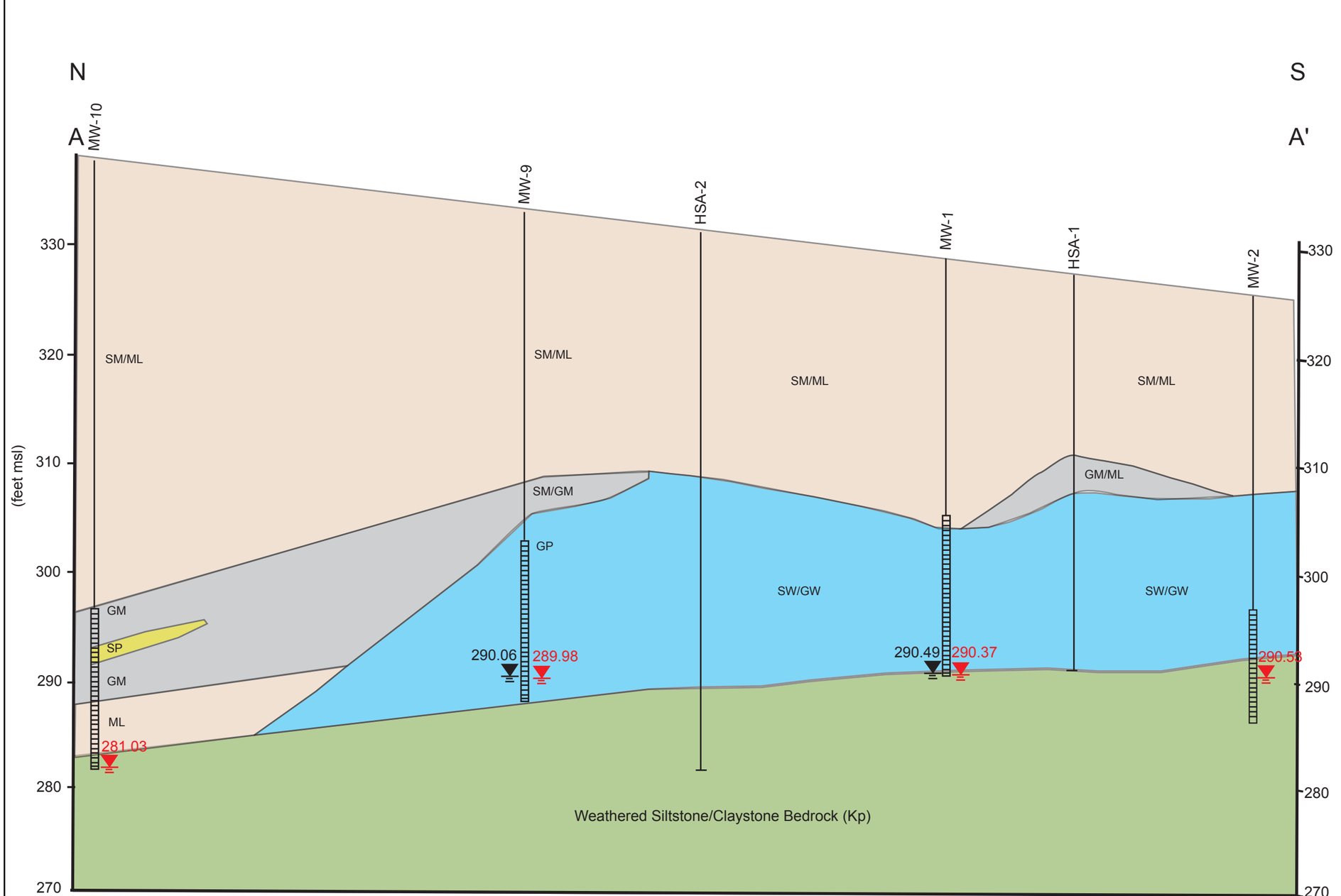
Appendix A
Cross Sections



Vertical Scale 1”=10’

Horizontal Scale 1”=20’

- SM/ML — Silty Sand/Sandy Silt
- SP — Sand
- GM/ML/SM — Silty Gravel/Gravelly Silt/Gravelly Sand
- SW/GW/GP — Gravelly Sand/Sandy Gravel
- CL/ML — Clay & Silt
- Kp — Weathered Siltstone/Claystone Bedrock (Kp) - Cretaceous clay shale (Panoche Formation)
- Groundwater Monitoring Well
- Soil Boring
- Groundwater Level
- Product Level
- Lithologic Contact
- Inferred Contact

Notes

1) Elevation in feet above average mean sea level (msl).
2) Fluid elevations for MW-1, MW-2, MW-9, and MW-10 as measured on September 12, 2007.

URS	Chevron Sunol Pipeline Sunol, California Project No. 26815217	HYDROGEOLOGIC CROSS SECTION A-A’	Figure 3

W
B

E
B'

Pipeline Release/
Dirt Road

SB-20

SB-19

Hillside Represents
Apparent Surface Trace
of Calaveras Fault

Calaveras Road

MW-5

SB-3

MW-1

MW-3

AR-2

SM/ML

SP

SW/GW

CL/ML

GM/ML

319.16

290.94

290.49

290.37

Weathered Silty Sandstone/Sandstone Bedrock (Tbr)

Weathered Siltstone Bedrock (Kp)

Claystone Bedrock (Kp)

(Tbr)

CL/ML

Apparent Fault Zone

Kvb

(feet msl)

400’-
390’-
380’-
370’-
360’-
350’-
340’-
330’-
320’-
310’-
300’-
290’-
280’-
270’-
260’-
250-
240’-
230’-
220’-
210’-
200’-

Vertical
Scale
1”=20’

Horizontal
Scale
1”=20’

= Soil Boring

= Lithologic Contact

= Inferred Contact

= Unconformity

= Groundwater Monitoring Well

= Groundwater Level

= Product Level

TBr = Weathered Silty Sandstone/Sandstone Bedrock (Tbr) - Tertiary marine sandstone (Briones Formation)

TBr = Well Cemented Sandstone Bedrock (Tbr) - Tertiary marine sandstone (Briones Formation)

Kvb = Igneous Bedrock (Basalt or Gabbro) (Kvb) - Cretaceous Volcanic rocks (Franciscan Formation)

SM/ML = Silty Sand/Sandy Silt

SP = Sand

GM/ML = Silty Gravel/Gravelly Silt

SW/GW = Gravelly Sand/Sandy Gravel

CL/ML = Clay & Silt

Kp = Weathered Siltstone/Claystone Bedrock (Kp) - Cretaceous clay shale (Panoche Formation)

Notes
1) Elevation in feet above average mean sea level (msl).
2) Ground water elevations for MW-1, MW-3, and MW-5 as measured on September 12, 2007.

URS

Chevron Sunol Pipeline
Sunol, California

Project No. 26815217

HYDROGEOLOGIC
CROSS SECTION B-B’

Figure
4

Appendix B
GORE Surveys Final Report

GORE™ Surveys

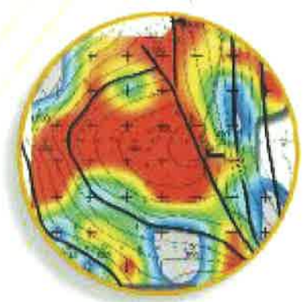
Final Report

Project: Sunol Spill, Sunol, CA
Gore Order Number: 20247086
Date Prepared: February 5, 2010
Prepared for: URS Corp.
1333 Broadway, Suite 800
Oakland, CA 94612

Written/Submitted by
James E. Whetzel
Project Manager

Reviewed/Approved by
Jay W. Hodny, Ph.D
Product Specialist

Analytical Data Reviewed by
Jeff Everhart
Chemist



W.L. Gore & Associates, Inc.
Survey Products Group

GORE™ Surveys - Final Report

REPORT DATE: 02/05/2010 **AUTHOR:** JW

SITE INFORMATION

Site Reference: Sunol Spill, Sunol, CA
Gore Production Order Number: 20247086 **Gore Site Code:** FDX

FIELD PROCEDURES

 # Modules shipped: 48
Installation Date(s): 11/13, 16, 17/09
 # Modules Installed: 41
Field work performed by: Unknown

Retrieval date(s): 12/9/09
 # Modules Retrieved: 40
 # Modules Lost in Field: 1
 # Modules Not Returned: 0

Exposure Time: 22-26 **[days]**
 # Trip Blanks Returned: 0
 # Unused Modules Returned: 7*

Date/Time Received by Gore: 12/14/2009 12:30:00 PM By: DY
Chain of Custody Form attached: Yes
Chain of Custody discrepancies: None
Comments:
No modules were selected as trip blanks.
Modules 610837 to -845 were returned unused.
Unused modules 610838, -839, -844, and -845 were treated as trip blanks.
Module 610836 was not retrieved and considered lost from the field.
The Installation Log noted 610798 was replaced by 610841, and 610827 was replaced by 610840.
Modules were not returned with the individual glass vial tamper seals in place.

GORE™ Surveys - Final Report

ANALYTICAL PROCEDURES

W.L. Gore & Associates' Screening Module Laboratory operates under the guidelines of its Quality Assurance Manual, Operating Procedures and Methods. The quality assurance program is consistent with Good Laboratory Practices (GLP) and ISO Guide 25, "General Requirements for the Competence of Calibration and Testing Laboratories", third edition, 1990.

Instrumentation consists of state of the art gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation simply involves cutting the tip off the bottom of the sample module and transferring one or more exposed sorbent containers (sorbers, each containing engineered adsorbents) to a thermal desorption tube for analysis. Sorbers remain clean and protected from dirt, soil, and ground water by the insertion/retrieval cord, and require no further sample preparation.

Analytical Method Quality Assurance:
The analytical method employed is a modified EPA method 8260/8270. Before each run sequence, two instrument blanks, a sorber containing 5µg BFB (Bromofluorobenzene), and a method blank are analyzed. The BFB mass spectra must meet the criteria set forth in the method before samples can be analyzed. A method blank and a sorber containing BFB are also analyzed after every 30 samples and/or trip blanks. Standards containing the selected target compounds at five calibration levels are analyzed at the beginning of each run. The criterion for each target compound is less than 25% RSD (relative standard deviation). If this criterion is not met for any target compound, the analyst has the option of generating second- or third-order standard curves, as appropriate. A second-source reference standard, at a level of 10µg per target compound, is analyzed after every ten samples and/or trip blanks, and at the end of the run sequence. Positive identification of target compounds is determined by 1) the presence of the target ion and at least two secondary ions; 2) retention time versus reference standard; and, 3) the analyst's judgment.

NOTE: All data have been archived. Any replicate sorbers not used in the initial analysis will be discarded fifteen (15) days from the date of analysis.

Laboratory analysis: thermal desorption, gas chromatography, mass selective detection
Instrument ID: # 8 **Chemist:** DD/ JE
Compounds/mixtures requested: A2
Deviations from Standard Method: High level calibration standard for MtBE was not used due to poor linearity. However, MtBE was not found in modules.
Comments: Soil vapor analytes and abbreviations are tabulated in the Data Table Key (page 6).

GORE™ Surveys - Final Report

DATA TABULATION

 # CONTOUR MAPS ENCLOSED: Four (4) B-sized color contour maps
LIST OF MAPS ENCLOSED:

- Benzene, Toluene, Ethyl benzene, and total Xylenes (BTEX)
- Undecane, Tridecane, and Pentadecane (C11, C13&C15)
- Total Petroleum Hydrocarbons (TPH)
- 1,3,5- & 1,2,4-Trimethylbenzene (TMBs)

NOTE: All data values presented in Appendix A represent masses of compound(s) desorbed from the GORE™ Modules received and analyzed by W.L. Gore & Associates, Inc., as identified in the Chain of Custody (Appendix A). The measurement traceability and instrument performance are reproducible and accurate for the measurement process documented. Semi-quantitation of the compound mass is based on a five-level standard calibration.

General Comments:

- This survey reports soil gas mass levels present in the vapor phase. Vapors are subject to a variety of attenuation factors during migration away from the source concentration to the module. Thus, mass levels reported from the module will often be less than concentrations reported in soil and groundwater matrix data. In most instances, the soil gas masses reported on the modules compare favorably with concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels relative to other sampled locations on the site, matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.
- Soil gas signals reported by this method cannot be identified specifically to soil adsorbed, groundwater, and/or free-product contamination. The soil gas signal reported from each module can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).
- QA/QC trip blank modules were provided to document potential exposures that were not part of the soil gas signal of interest (i.e., impact during module shipment, installation and retrieval, and storage). The trip blanks are identically manufactured and packaged soil gas modules to those modules placed in the subsurface. However, the trip blanks remain unopened during all phases of the soil gas survey. Levels reported on the trip blanks may indicate potential impact to modules other than the contaminant source of interest.

- Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central gas chromatograph elution time in the total ion chromatogram. Typically, UPEs are indicative of complex fluid mixtures that are present in the subsurface. UPEs observed early in the chromatogram are considered to indicate the presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids.
- Stacked total ion chromatograms (TICs) are included in Appendix A. The six-digit serial number of each module is incorporated into the TIC identification (e.g.: 123456S.D represents module #123456).

Project Specific Comments:

- The minimum (gray) contour level, for each mapped analyte or group of analytes, was set at the maximum blank level observed or the method detection limit, whichever was greater. When target compounds are summed together (i.e., C11,C13, &C15), the contour minimum is arbitrarily set at 0.02 µg or the maximum blank level, whichever is greater. The maximum contour level was set at the maximum value observed.
- Background levels of TPH and a trace level of toluene were detected on the trip blanks and/or the method blanks. Thus, target analyte levels reported for the field-installed modules that exceed trip and method blank levels, and the analyte method detection limit, are more likely to have originated from on-site sources.
- The mapped spatial patterns indicated a "hot spot" in the area of SV-6, SV-7, SV-8, and SV-9.

GORE™ Surveys - Final Report

KEY TO DATA TABLE
Sunol Spill, Sunol, CA

UNITS	
µg	micrograms (per sorber), reported for compounds
MDL	method detection limit
bdl	below detection limit
nd	non-detect
ANALYTES	
TPH	total petroleum hydrocarbons
BTEX	combined masses of benzene, toluene, ethylbenzene and total xylenes (Gasoline Range Aromatics)
BENZ	benzene
TOL	toluene
EtBENZ	ethylbenzene
mpXYL	m-, p-xylene
oXYL	o-xylene
C11,C13&C15	combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes)
UNDEC	undecane
TRIDEC	tridecane
PENTADEC	pentadecane
TMBs	combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene
135TMB	1,3,5-trimethylbenzene
124TMB	1,2,4-trimethylbenzene
NAPH&2-MN	combined masses of naphthalene and 2-methyl naphthalene
NAPH	naphthalene
2MeNAPH	2-methyl naphthalene
MTBE	methyl t-butyl ether
OCT	octane
BLANKS	
method blank	QA/QC module, documents analytical conditions during analysis

APPENDIX A:

1. CHAIN OF CUSTODY AND INSTALLATION/ RETRIEVAL LOG
2. DATA TABLE
3. STACKED TOTAL ION CHROMATOGRAMS
4. COLOR CONTOUR MAPS

GORE-SORBER® Screening Survey Chain of Custody

For W.L. Gore & Associates use only
Production Order # 20247086

W. L. Gore & Associates, Inc., Survey Products Group
100 Chesapeake Boulevard • Elkton, Maryland 21921 • Tel: (410) 392-7600 • Fax (410) 506-4780

Instructions: Customer must complete ALL shaded cells

Customer Name: URS CORP	Site Name: SUNOL PIPELINE CON'T.
Address: 1333 BROADWAY	Site Address: SUNOL, CA
SUITE 800 OAKLAND CA 94612	
U.S.A.	Project Manager: JACOB HENERY
Phone: (510) 874-3252	Customer Project No.: 12259721
FAX:	Customer P.O. #: 26815217 Quote #:

Serial # of Modules Shipped				# of Modules for Installation 45	# of Trip Blanks 3
# 610798 - # 610845	# - #			Total Modules Shipped: 48	Pieces
# - #	# - #			Total Modules Received:	Pieces
# - #	# - #			Total Modules Installed:	Pieces
# - #	# - #			Serial # of Trip Blanks (*Client Decides*)	#
# - #	# - #			# #	#
# - #	# - #			# #	#
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Prepared By: Darlene Gilliland
Verified By: Clarence Whitman

Installation Performed By:			Installation Method(s) (*circle those that apply*):		
Name (*please print*):			Slide Hammer Hammer Drill Auger		
Company/Affiliation:			Other:		
Installation Start Date and Time:	/ /	:	AM PM		
Installation Complete Date and Time:	/ /	:	AM PM		
Retrieval Performed By:			Total Modules Retrieved:	Pieces	
Name (*please print*):			Total Modules Lost in Field:	Pieces	
Company/Affiliation:			Total Unused Modules Returned:	Pieces	
Retrieval Start Date and Time:	/ /	:	AM PM		
Retrieval Complete Date and Time:	/ /	:	AM PM		

Relinquished By: Darlene Gilliland	Date	Time	Received By:	Date	Time
Affiliation: W.L. Gore & Associates, Inc.	11-30-09	9:00	Affiliation:		
Relinquished By	Date	Time	Received By:	Date	Time
Affiliation:			Affiliation:		
Relinquished By	Date	Time	Received By: Darlene Gilliland	Date	Time
Affiliation			Affiliation: W.L. Gore & Associates, Inc.	12-14-09	12:30

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GORE-SORBER® Screening Survey
Installation and Retrieval Log

Page 1 of 2

SITE NAME & LOCATION
Sunol Spill
Mile post 2.7, Calaveras Road, Sunol, CA

LINE #	MODULE #	INSTALLATION DATE/TIME	RETRIEVAL DATE/TIME	EVIDENCE OF LIQUID HYDROCARBONS (LPH) or HYDROCARBON ODOR (Check as appropriate)			MODULE IN WATER (check one)		COMMENTS
				LPH	ODOR	NONE	YES	NO	
		11/17/09 1445 Replaced							
1.	610798 841	11/13/09 1130	12/9/09 1415	11/17/09 Found removed from hole					7ft/SVE1
2.	610799	11/13/09 1145	12/9/09 1417	Found out of hole.					7ft/SVE1 8ft/SVE2
3.	610800	11/13/09 1205	12/9/09 1419	11/17/09 Gone. Found Replaced			Reg.		23ft/SVE2 21ft SVE3
4.	610801	11/13/09 1233	12/9/09 1422	11/17/09 Missing. Replaced			Reg.		8ft SVE-3 8ft SVE-4
5.	610802	11/13/09 1300	12/9/09 1425						9ft/SVE-5 7ft/SVE-6
6.	610803	11/13/09 1450	12/9/09 1427	Halfway out of ground					11ft/SVE-5 11ft SVE-6
7.	610804	11/13/09 1510	12/9/09 1428	Halfway out of ground					14ft/SVE-6 13ft/SVE-7
8.	610805	11/17/09 1110	12/9/09 1430						15ft/SVE-7 8ft/SVE-8
9.	610806	11/17/09 1105	12/9/09 1432						25ft SVE-8
10.	610807	11/17/09 1115	12/9/09 1435						42ft MW-8 ?
11.	610808	11/17/09 1120	12/9/09 1439						24ft MW-8
12.	610809	11/17/09 1125	12/9/09 1441						7ft SVE-9
13.	610810	11/17/09 1200	12/9/09 1442						66ft MW-8 17
14.	610811	11/17/09 1150	12/9/09 1445						41ft MW-8 16
15.	610812	11/17/09 1145	12/9/09 1446						12ft MW-8 15
16.	610813	11/17/09 1140	12/9/09 1448	Stuck in the ground					58ft MW-6/13ft MW-8 14
17.	610814	11/17/09 1135	12/9/09 1450						25ft MW-6/38ft MW-8
18.	610815	11/16/09 940	12/9/09 1452						22ft/fence 17ft/MW-10
19.	610816	11/16/09 945	12/9/09 1455						9ft/fence 34ft/MW-10
20.	610817	11/16/09 1510	12/9/09 1457						3ft/fence 35ft/MW-9
21.	610818	11/16/09 1515	12/9/09 1500						3ft/fence 33ft/MW-9
22.	610819	11/16/09 1615	12/9/09 1502						4ft/fence 53ft/MW-1
23.	610820	11/16/09 1620	12/9/09 1505						5ft/fence 53ft/MW-1
24.	610821	11/16/09 1630	12/9/09 1507						34ft/MW-2 43ft/fence
25.	610822	11/16/09 1610	12/9/09 1508						7ft/MW-1 34ft/fence
26.	610823	11/16/09 1525	12/9/09 1509						21ft/MW-9 39ft/fence
27.	610824	11/16/09 1505	12/9/09 1510						6ft/MW-9 37ft/fence
28.	610825	11/16/09 0955	12/9/09 1512						30ft/MW-10 39ft/fence
29.	610826	11/16/09 0910	12/9/09 1513						7ft/fence 36ft/MW-10
30.	610827 40	11/16/09 0854	12/9/09 1515						17ft fence 18ft/MW-11
31.	610828	11/16/09 1005	12/9/09 1517						3ft/MW-11 43ft/MW-4
32.	610829	11/16/09 1500	12/9/09 1519						42ft/MW-9 13ft/MW-4
33.	610830	11/16/09 1535	12/9/09 1520						10ft/MW-4 85ft/fence
34.	610831	11/16/09 1600	12/9/09 1522						26ft/MW-1 48ft/MW-2
35.	610832	11/16/09 1635	12/9/09 1525						38ft/MW-2 85ft/fence
36.	610833	11/16/09 1550	12/9/09 1527						32ft/MW-4 81ft/MW-3
37.	610834	11/16/09 1450	12/9/09 1529						28ft/MW-11/39ft MW-4
38.	610835	11/13/09 0930	12/9/09 1535						36ft/fence 39ft/MW-11
39.	610836	11/16/09 0940	Unrecoverable - Stuck in ground						75ft/fence 57ft/MW-11
40.	610837								
41.	610838								
42.	610839								

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GORE-SORBER® Screening Survey
Installation and Retrieval Log

Page 2. of 2 .

SITE NAME & LOCATION

_____

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LINE #	MODULE #	INSTALLATION DATE/TIME	RETRIEVAL DATE/TIME	EVIDENCE OF LIQUID HYDROCARBONS (LPH) or HYDROCARBON ODOR *(Check as appropriate)*			MODULE IN WATER *(check one)*		COMMENTS
				LPH	ODOR	NONE	YES	NO	
43.	610840								
44.	610841								
45.	610842								
46.	610843								
47.	610844								
48.	610845								
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FORM 8R.8
1/08/0

GORE(TM) SURVEYS ANALYTICAL RESULTS
URS CORPORATION, OAKLAND, CA
GORE TARGET FUELS (A2)
SUNOL SPILL MILE POST 2.7, CALAVERAS ROAD, SUNOL, CA
SITE FDX - PRODUCTION ORDER #20247086

DATE ANALYZED	SAMPLE NAME	TPH, ug	BTEX, ug	BENZ, ug	TOL, ug	EtBENZ, ug	mpXYL, ug	oXYL, ug	C11, C13, &C15, ug	UNDEC, ug
	MDL=	0.02		0.01	0.01	0.01	0.01	0.01		0.01
12-16-09	610799	2.23	0.08	0.02	0.04	bdl	0.02	nd	nd	nd
12-17-09	610800	408.84	0.03	bdl	0.01	nd	nd	0.01	2.10	0.21
12-17-09	610801	167.40	nd	nd	nd	nd	nd	nd	2.18	0.01
12-17-09	610802	1.12	nd	nd	nd	nd	nd	nd	nd	nd
12-16-09	610803	79.64	0.03	nd	0.02	nd	0.01	nd	0.34	bdl
12-16-09	610804	2350.38	0.12	0.02	0.03	0.02	0.04	0.02	23.03	8.57
12-17-09	610805	2224.66	1.66	0.01	0.05	0.04	0.38	1.19	22.40	9.10
12-17-09	610806	1.88	0.02	0.02	nd	nd	nd	nd	nd	nd
12-17-09	610807	19.79	0.02	nd	0.02	nd	nd	nd	0.05	bdl
12-17-09	610808	3893.63	0.93	0.01	0.03	0.04	0.33	0.52	45.92	28.40
12-16-09	610809	526.22	0.06	nd	0.04	nd	nd	0.02	2.64	0.01
12-17-09	610810	5.60	0.08	nd	0.05	nd	0.03	bdl	0.08	bdl
12-17-09	610811	0.80	nd	nd	nd	nd	nd	nd	0.13	nd
12-17-09	610812	1.29	nd	nd	nd	nd	nd	nd	0.12	nd
12-16-09	610813	0.75	nd	nd	nd	nd	nd	nd	nd	nd
12-17-09	610814	3.08	0.19	nd	0.12	0.01	0.04	0.02	0.00	bdl
12-16-09	610815	0.09	nd	nd	nd	nd	nd	nd	nd	nd
12-16-09	610816	1.11	0.13	0.01	0.08	0.01	0.02	nd	nd	nd
12-17-09	610817	0.31	0.02	nd	0.02	nd	nd	nd	nd	nd
12-17-09	610818	0.70	0.06	nd	0.06	nd	nd	nd	0.02	nd
12-16-09	610819	0.53	nd	nd	nd	nd	nd	nd	0.16	nd
12-17-09	610820	0.15	nd	nd	nd	nd	nd	nd	nd	nd
12-17-09	610821	1.81	0.43	0.02	0.25	0.03	0.10	0.04	0.00	bdl
12-17-09	610822	0.17	nd	nd	nd	nd	nd	nd	nd	nd
12-17-09	610823	1.69	0.17	nd	0.11	0.01	0.03	0.01	0.09	nd
12-16-09	610824	0.55	nd	nd	nd	nd	nd	nd	nd	nd
12-16-09	610825	1.65	0.18	nd	0.10	0.02	0.04	0.02	0.01	0.01
12-16-09	610826	2.13	0.06	nd	0.04	nd	0.02	nd	nd	nd
12-17-09	610828	0.64	nd	nd	nd	nd	nd	nd	0.00	nd
12-17-09	610829	6.43	0.18	nd	0.17	nd	0.01	nd	nd	nd
12-17-09	610830	0.43	0.02	nd	nd	nd	0.02	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
URS CORPORATION, OAKLAND, CA
GORE TARGET FUELS (A2)
SUNOL SPILL MILE POST 2.7, CALAVERAS ROAD, SUNOL, CA
SITE FDX - PRODUCTION ORDER #20247086

DATE ANALYZED	SAMPLE NAME	TPH, ug	BTEX, ug	BENZ, ug	TOL, ug	EtBENZ, ug	mpXYL, ug	oXYL, ug	C11, C13, &C15, ug	UNDEC, ug
	MDL=	0.02		0.01	0.01	0.01	0.01	0.01		0.01
12-16-09	610831	0.17	0.02	nd	nd	nd	0.02	nd	nd	nd
12-17-09	610832	0.16	nd	nd	nd	nd	nd	nd	nd	nd
12-17-09	610833	0.93	nd	nd	nd	nd	nd	nd	nd	nd
12-16-09	610834	1.03	0.02	nd	0.02	nd	nd	nd	nd	nd
12-17-09	610835	1.82	0.16	nd	0.06	0.03	0.05	0.02	0.12	0.01
12-17-09	610840	0.39	nd	nd	nd	nd	nd	nd	nd	nd
12-17-09	610841	0.31	nd	nd	nd	nd	nd	nd	nd	nd
12-17-09	610838	0.03	nd	nd	nd	nd	nd	nd	nd	nd
12-17-09	610839	0.05	nd	nd	nd	nd	nd	nd	nd	nd
12-17-09	610844	0.13	0.04	nd	0.04	nd	nd	nd	nd	nd
12-17-09	610845	0.02	nd	nd	nd	nd	nd	nd	nd	nd
12-16-09	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
12-17-09	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
	Maximum	3893.63	1.66	0.02	0.25	0.04	0.38	1.19	45.92	28.40
	Standard Dev.	799.18	0.31	0.01	0.05	0.01	0.08	0.21	8.85	4.95
	Mean	255.54	0.12	0.00	0.03	0.01	0.03	0.05	2.61	1.22

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS
URS CORPORATION, OAKLAND, CA
GORE TARGET FUELS (A2)
SUNOL SPILL MILE POST 2.7, CALAVERAS ROAD, SUNOL, CA
SITE FDX - PRODUCTION ORDER #20247086

SAMPLE NAME	TRIDEC, ug	PENTADEC, ug	TMBs, ug	124TMB, ug	135TMB, ug	NAPH&2-MN, ug	NAPH, ug	2MeNAPH, ug	MTBE, ug	OCT, ug
MDL=	0.01	0.01		0.01	0.01		0.01	0.01	0.01	0.01
610799	nd	nd	0.00	bdl	nd	nd	nd	nd	nd	nd
610800	0.82	1.08	0.00	nd	bdl	0.00	nd	bdl	nd	nd
610801	1.75	0.42	nd	nd	nd	nd	nd	nd	nd	nd
610802	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
610803	0.02	0.33	0.00	bdl	nd	nd	nd	nd	nd	nd
610804	9.44	5.02	6.12	0.04	6.09	0.52	0.52	nd	nd	0.26
610805	8.72	4.59	4.50	0.82	3.68	nd	nd	nd	nd	0.20
610806	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
610807	bdl	0.05	nd	nd	nd	nd	nd	nd	nd	nd
610808	14.24	3.28	88.93	0.33	88.60	2.04	2.04	nd	nd	nd
610809	0.31	2.32	0.11	0.01	0.10	nd	nd	nd	nd	nd
610810	0.08	nd	0.00	nd	bdl	nd	nd	nd	nd	nd
610811	0.13	nd	nd	nd	nd	nd	nd	nd	nd	nd
610812	0.12	bdl	nd	nd	nd	nd	nd	nd	nd	nd
610813	nd	nd	0.01	nd	0.01	nd	nd	nd	nd	nd
610814	nd	nd	0.05	0.01	0.04	nd	nd	nd	nd	nd
610815	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
610816	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
610817	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
610818	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd
610819	0.16	nd	nd	nd	nd	nd	nd	nd	nd	bdl
610820	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
610821	bdl	nd	0.05	0.03	0.02	nd	nd	nd	nd	0.02
610822	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
610823	0.09	bdl	0.00	bdl	nd	nd	nd	nd	nd	nd
610824	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
610825	nd	bdl	0.00	bdl	bdl	nd	nd	nd	nd	nd
610826	nd	nd	0.00	bdl	nd	nd	nd	nd	nd	nd
610828	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd
610829	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
610830	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

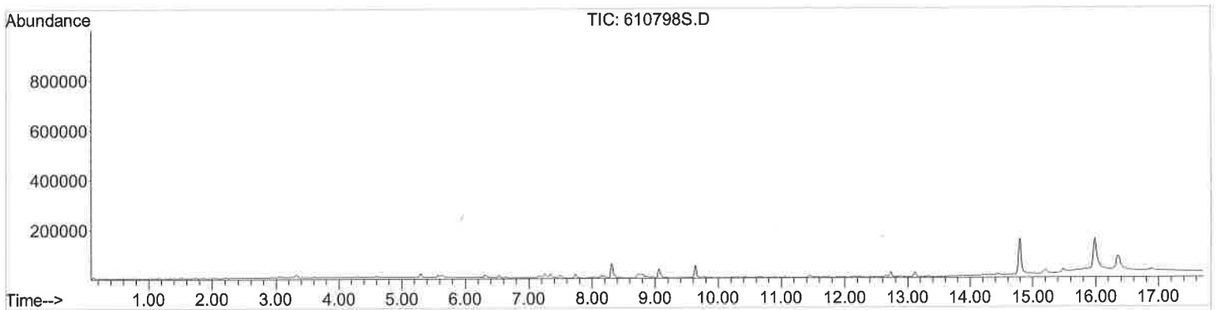
No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

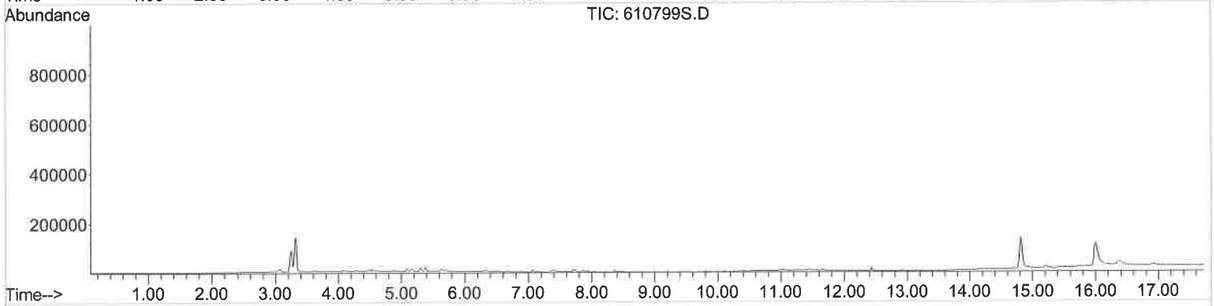
GORE(TM) SURVEYS ANALYTICAL RESULTS
URS CORPORATION, OAKLAND, CA
GORE TARGET FUELS (A2)
SUNOL SPILL MILE POST 2.7, CALAVERAS ROAD, SUNOL, CA
SITE FDX - PRODUCTION ORDER #20247086

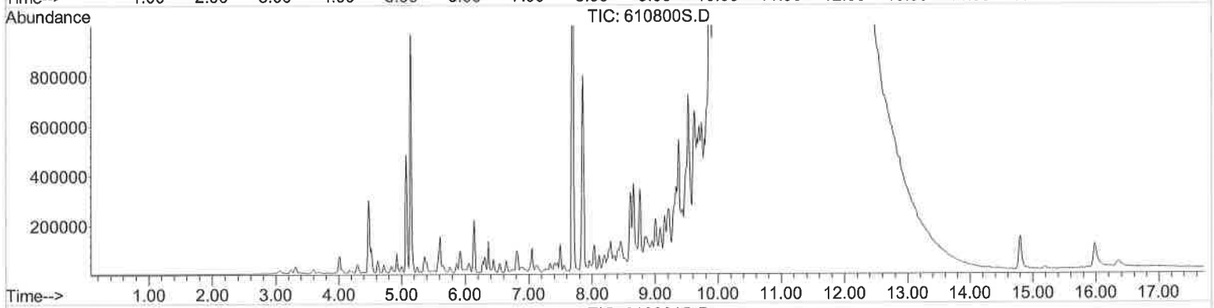
SAMPLE NAME	TRIDEC, ug	PENTADEC, ug	TMBs, ug	124TMB, ug	135TMB, ug	NAPH&2-MN, ug	NAPH, ug	2MeNAPH, ug	MTBE, ug	OCT, ug
MDL=	0.01	0.01		0.01	0.01		0.01	0.01	0.01	0.01
610831	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
610832	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
610833	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
610834	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
610835	0.10	nd	0.01	0.01	bdl	nd	nd	nd	nd	0.02
610840	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
610841	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
610838	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
610839	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
610844	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
610845	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Maximum	14.24	5.02	88.93	0.82	88.60	2.04	2.04	0.01	0.00	0.26
Standard Dev.	3.02	1.23	14.43	0.14	14.37	0.34	0.34	0.00	0.00	0.05
Mean	0.95	0.45	2.63	0.03	2.59	0.07	0.07	0.00	0.00	0.01

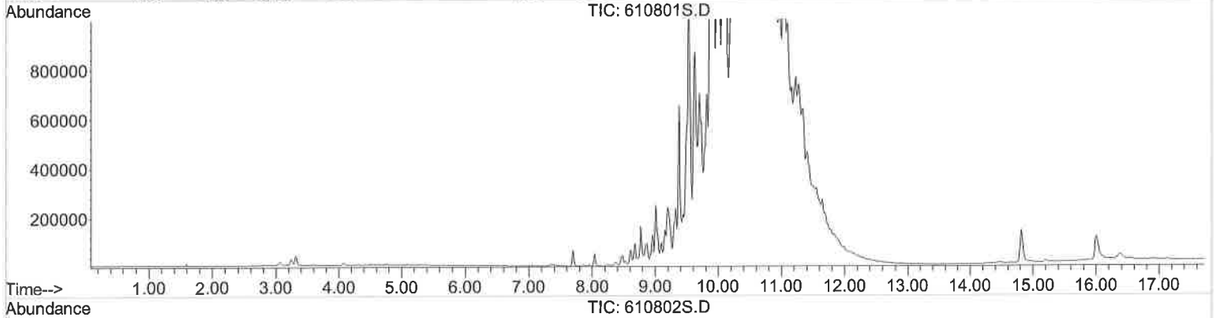
No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

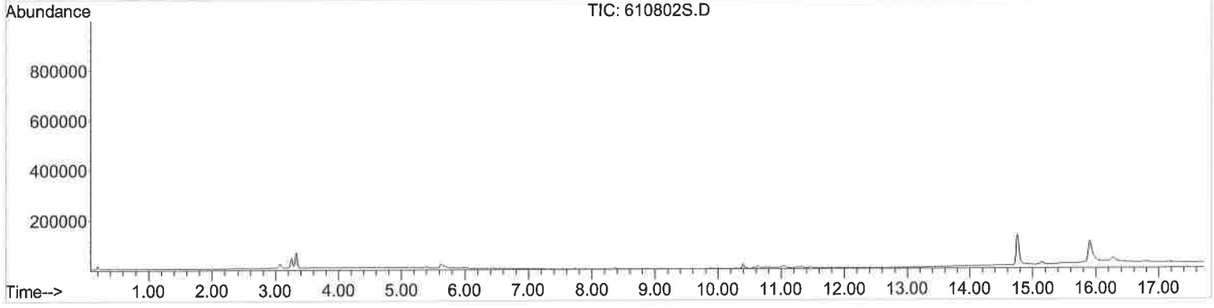
In Numerical Order
SITE FDX - PRODUCTION ORDER #: 20247086



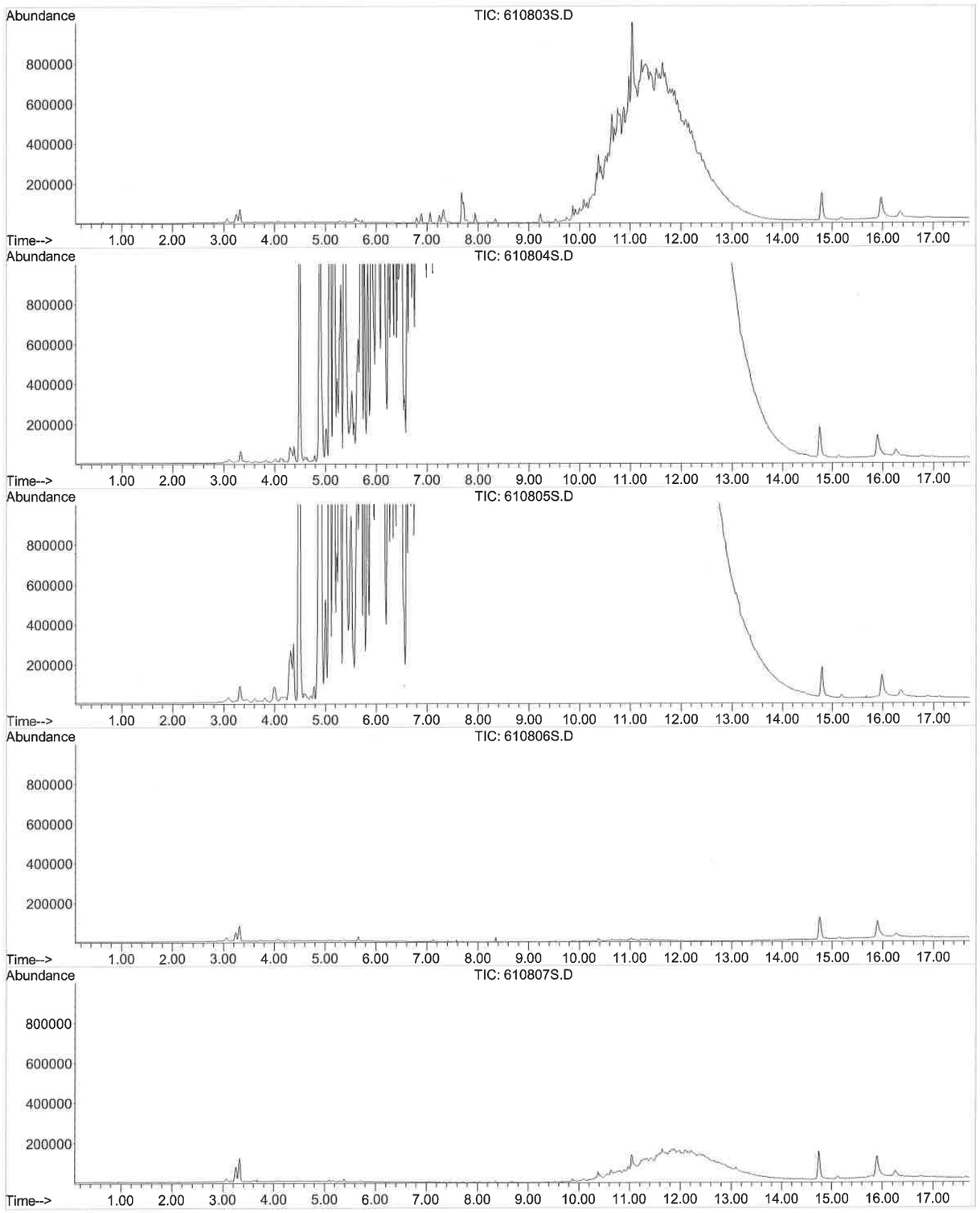




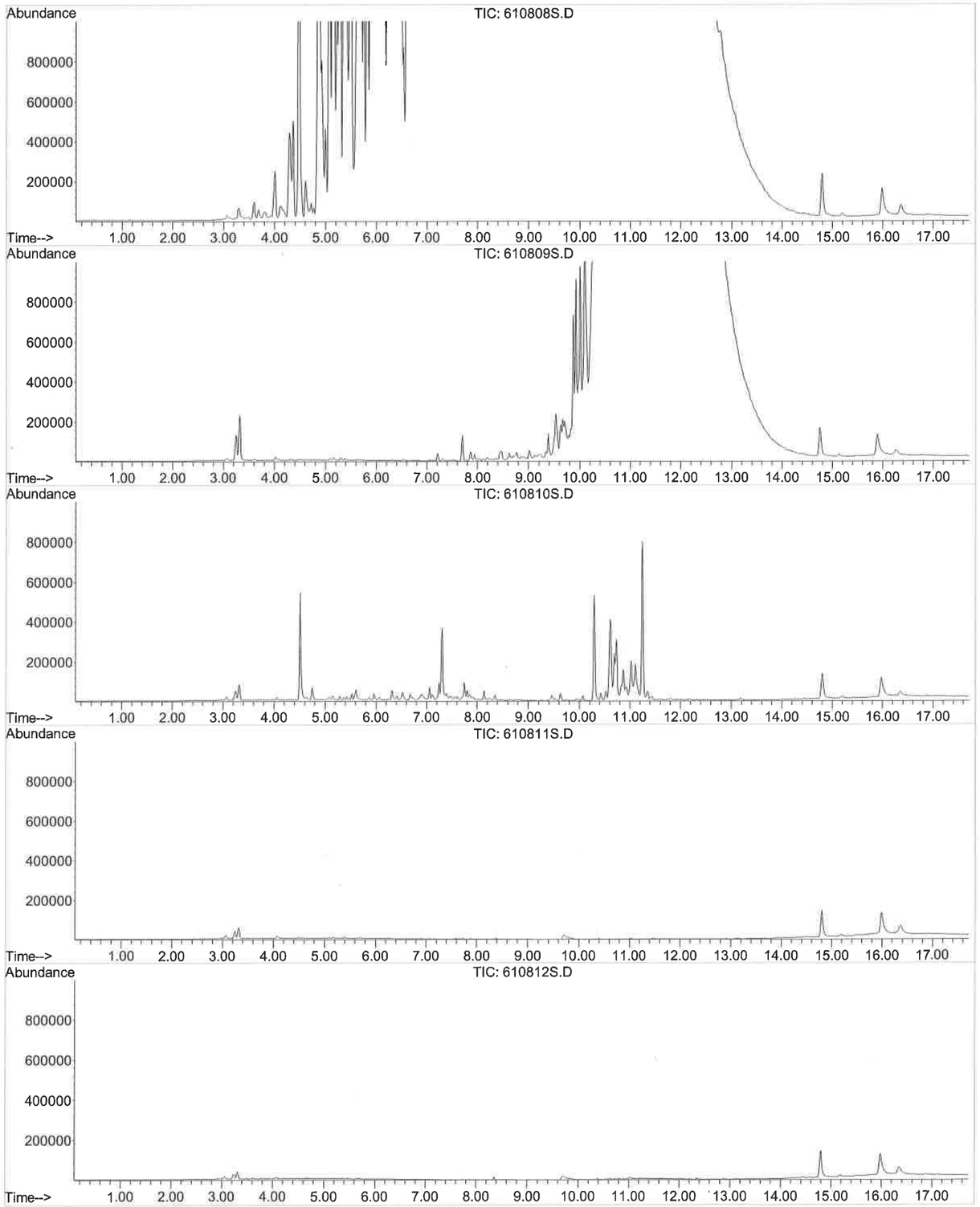




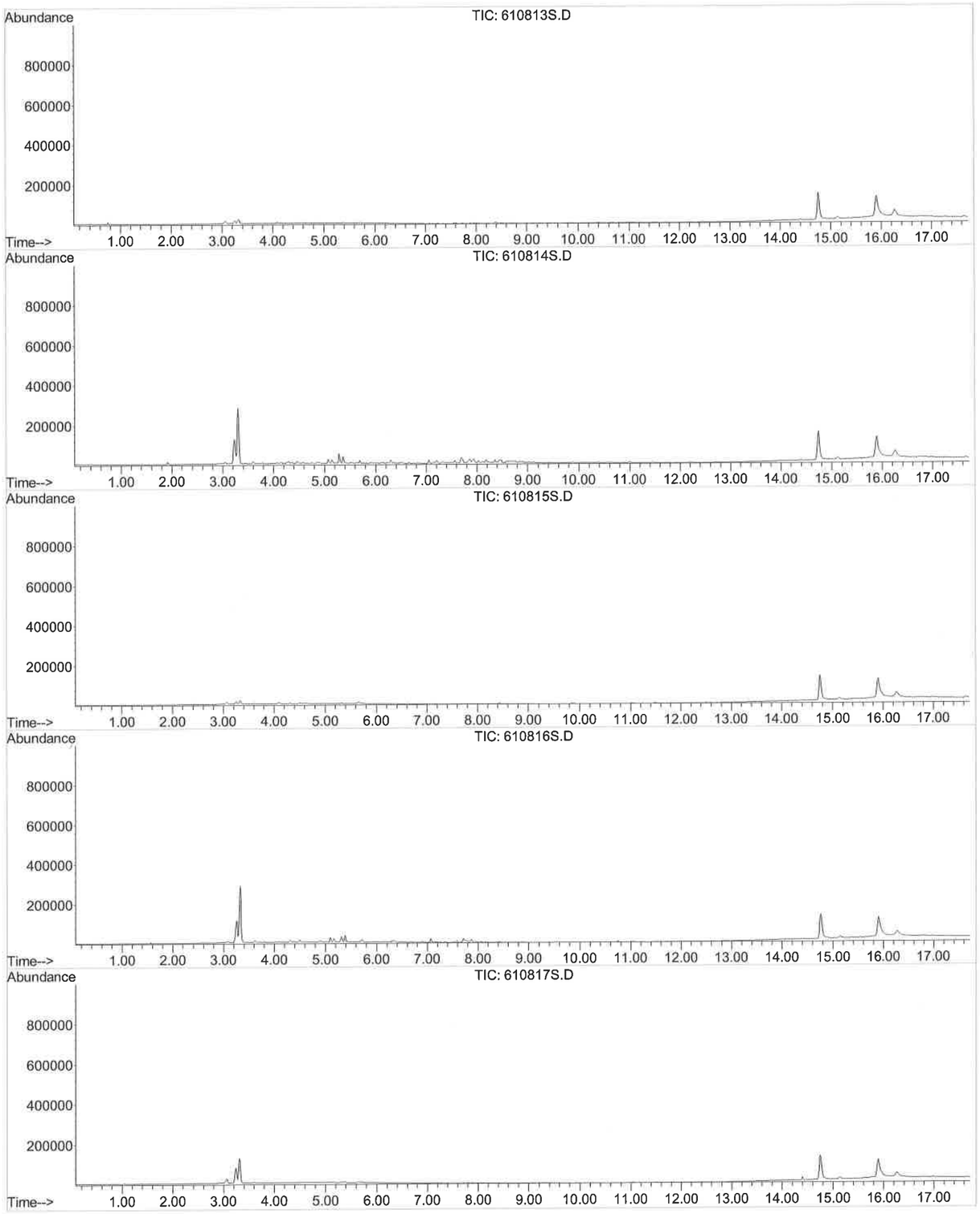
In Numerical Order
SITE FDX - PRODUCTION ORDER #: 20247086



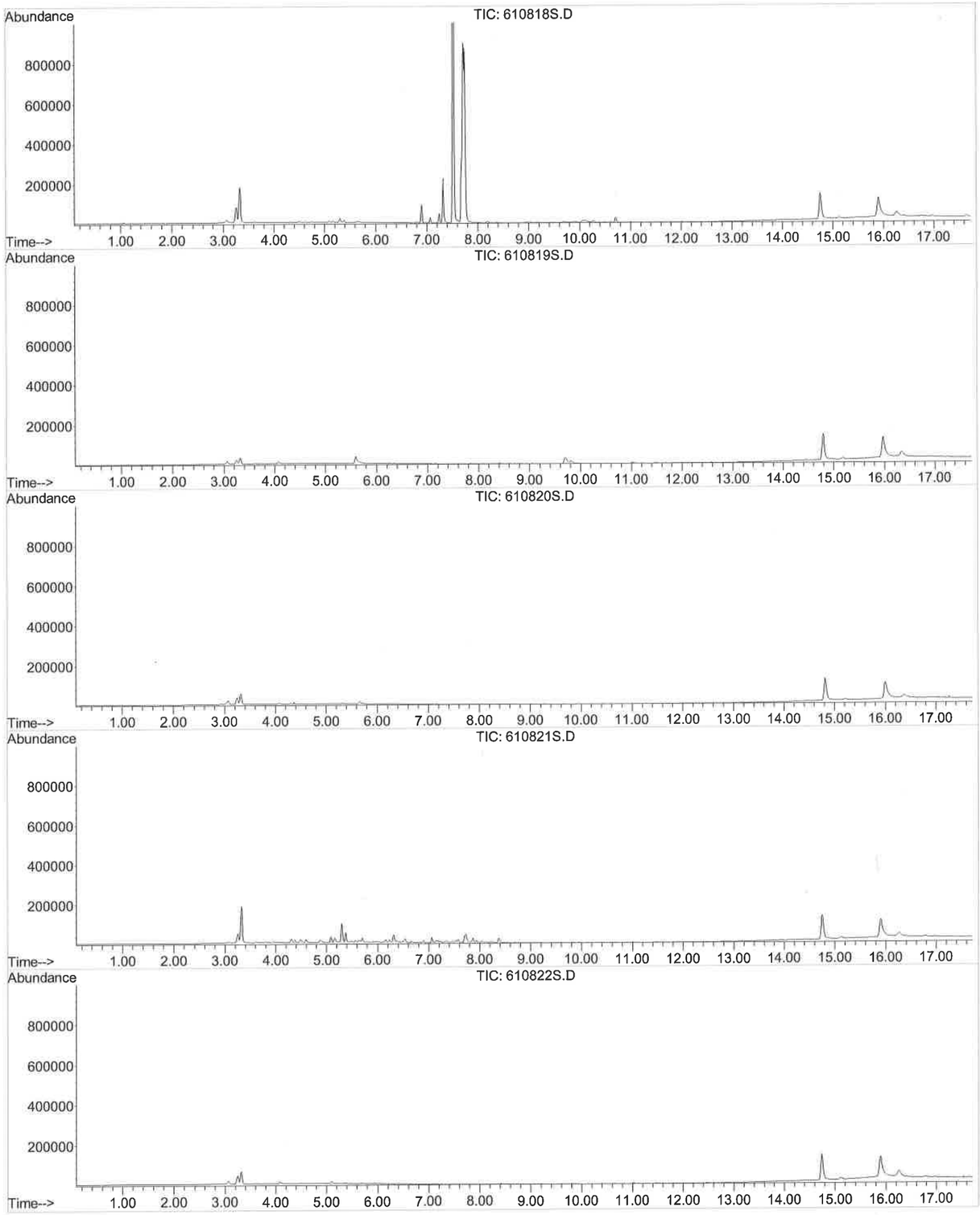
In Numerical Order
SITE FDX - PRODUCTION ORDER #: 20247086



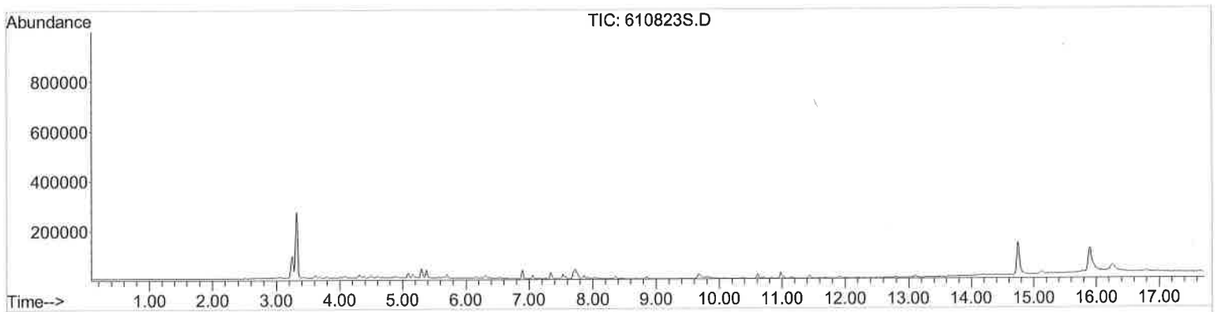
In Numerical Order
SITE FDX - PRODUCTION ORDER #: 20247086

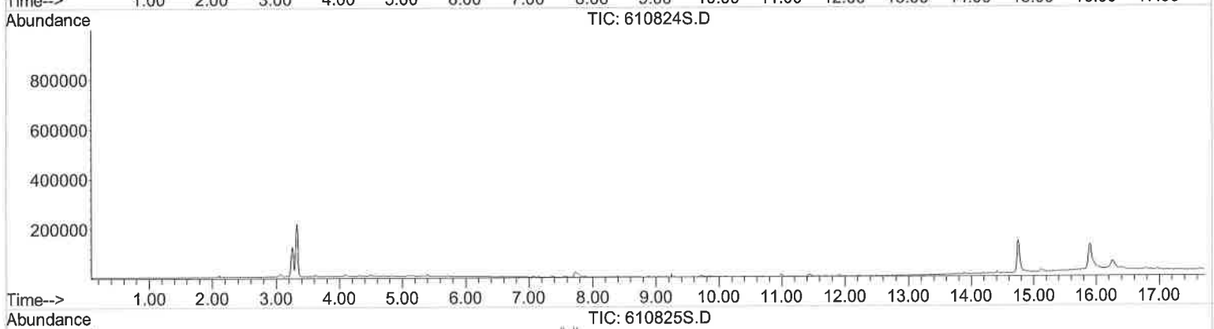


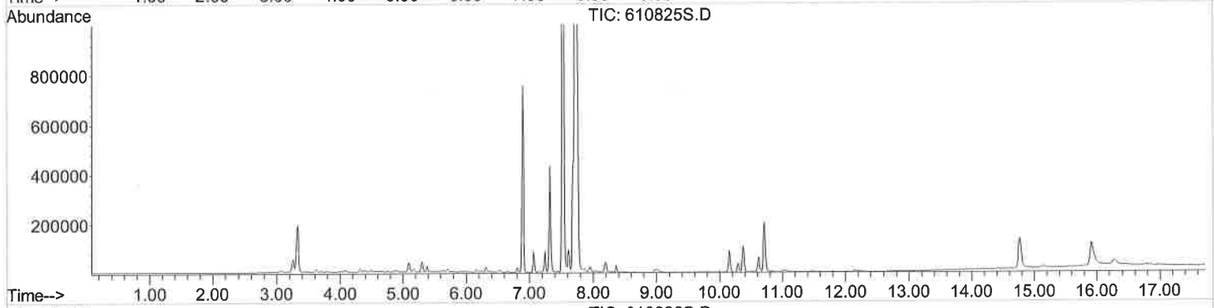
In Numerical Order
SITE FDX - PRODUCTION ORDER #: 20247086

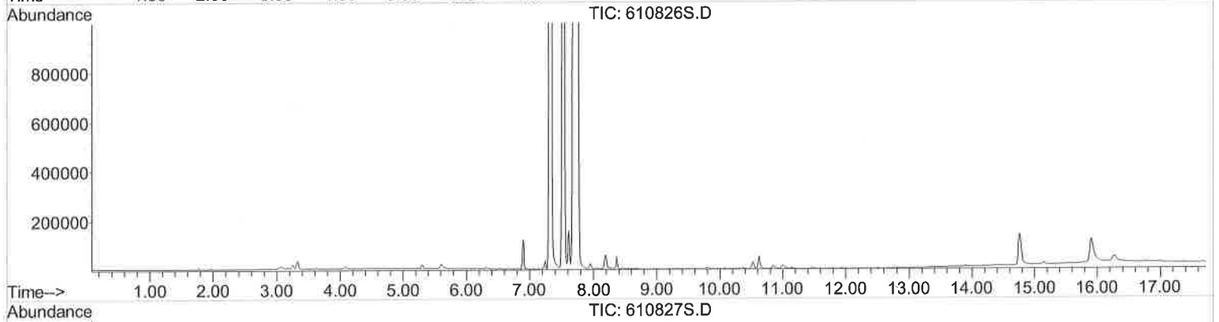


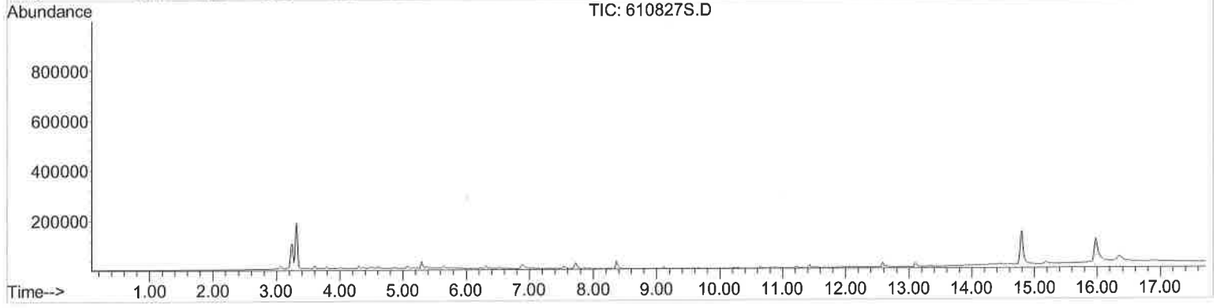
In Numerical Order
SITE FDX - PRODUCTION ORDER #: 20247086



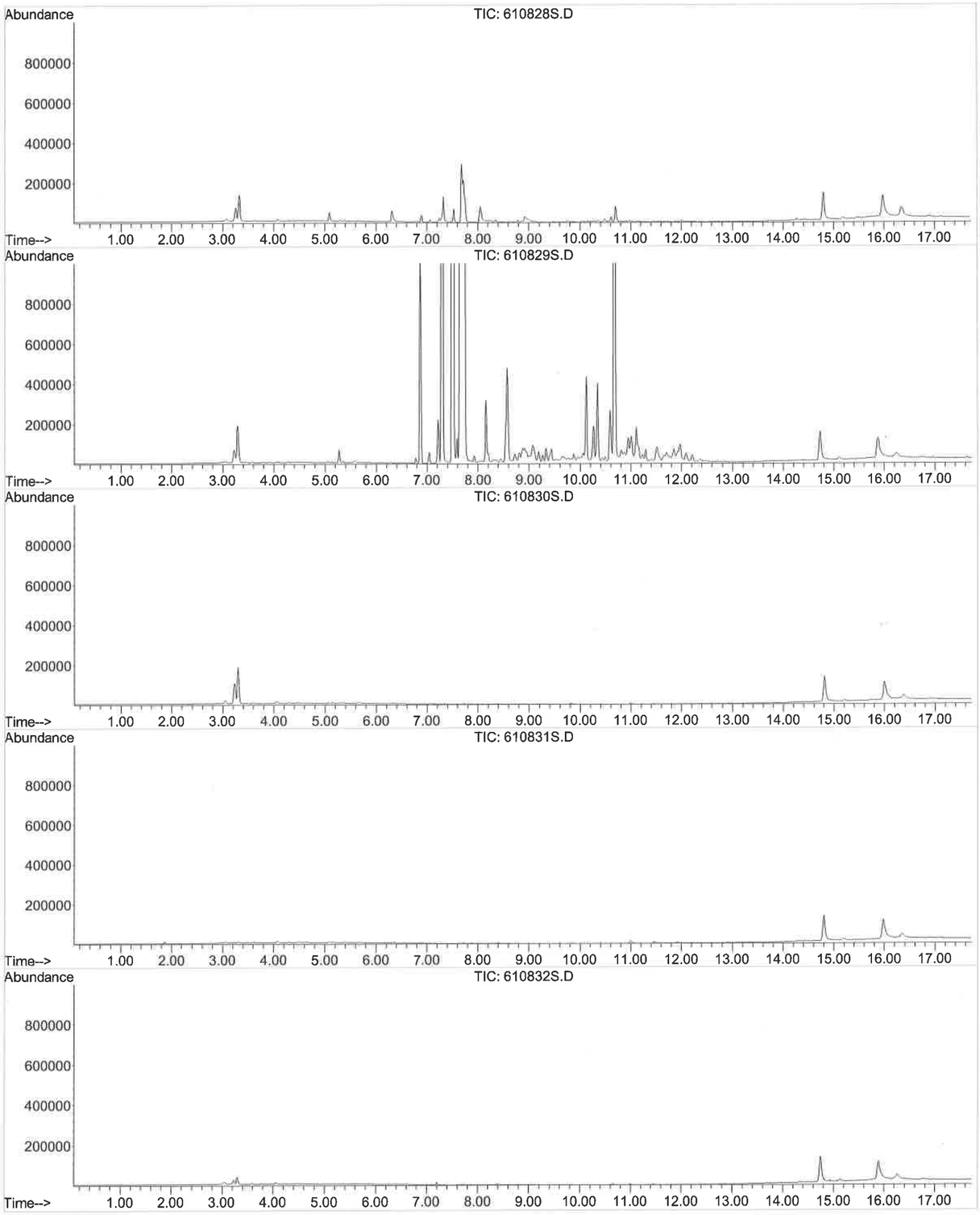




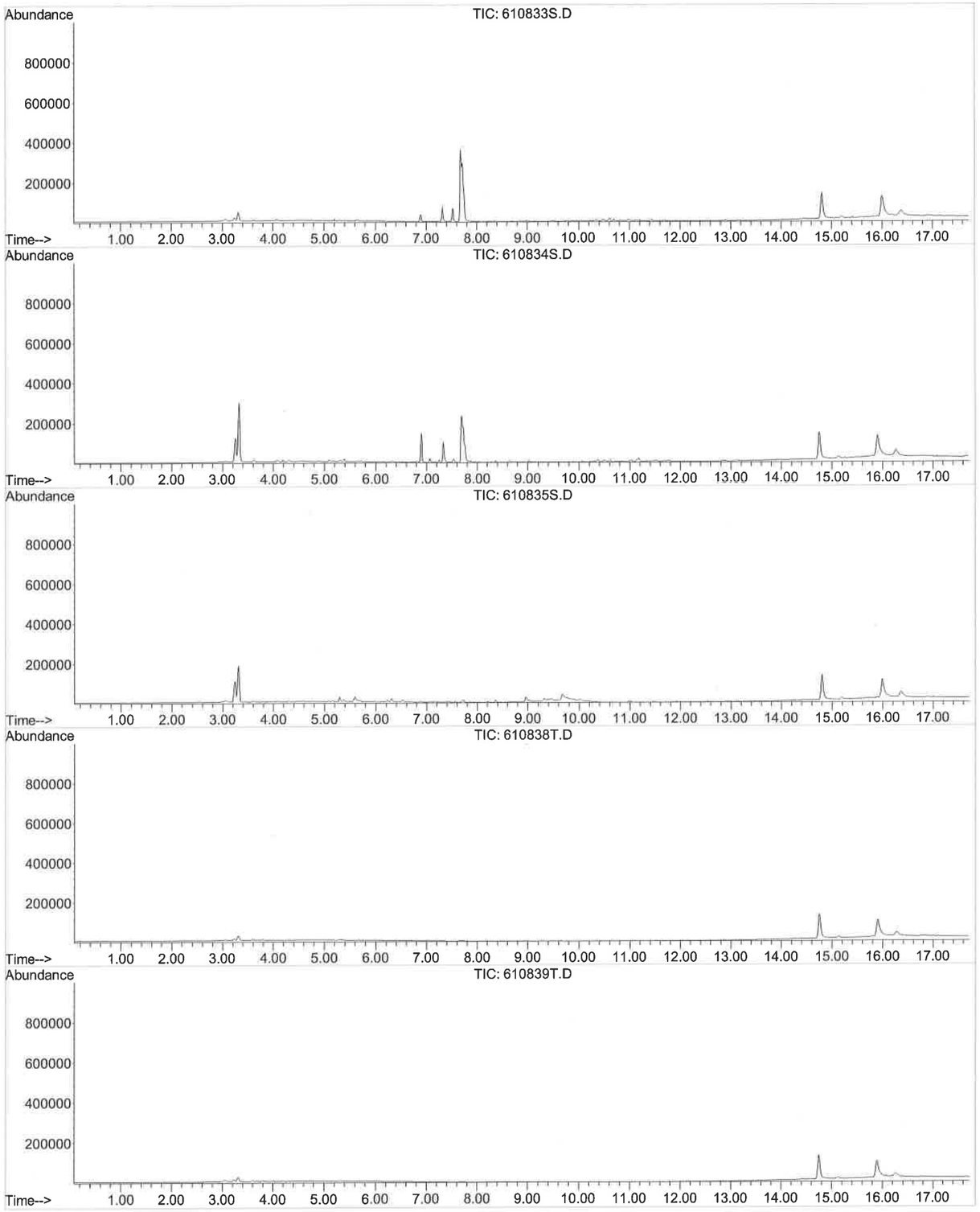




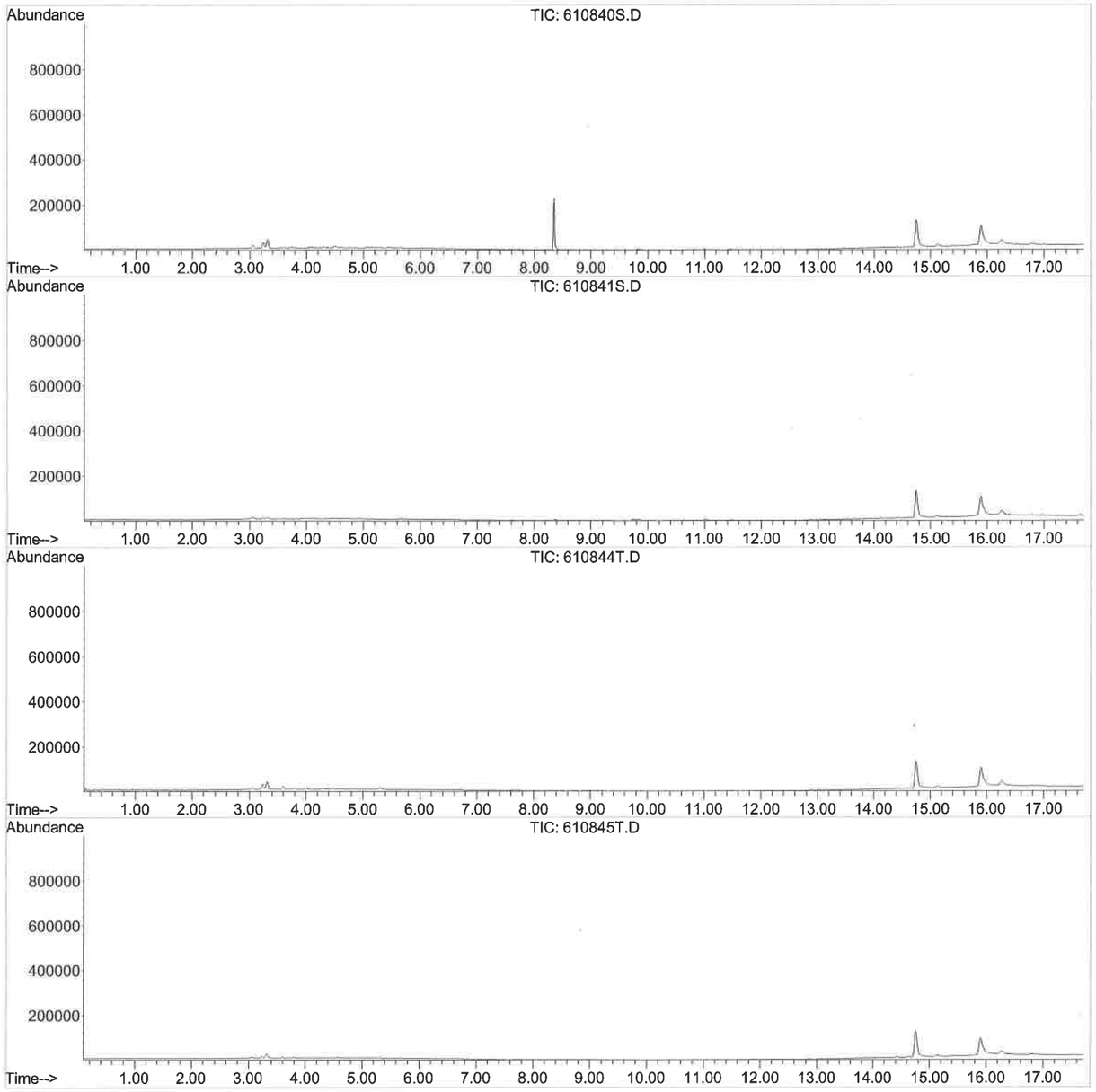
In Numerical Order
SITE FDX - PRODUCTION ORDER #: 20247086

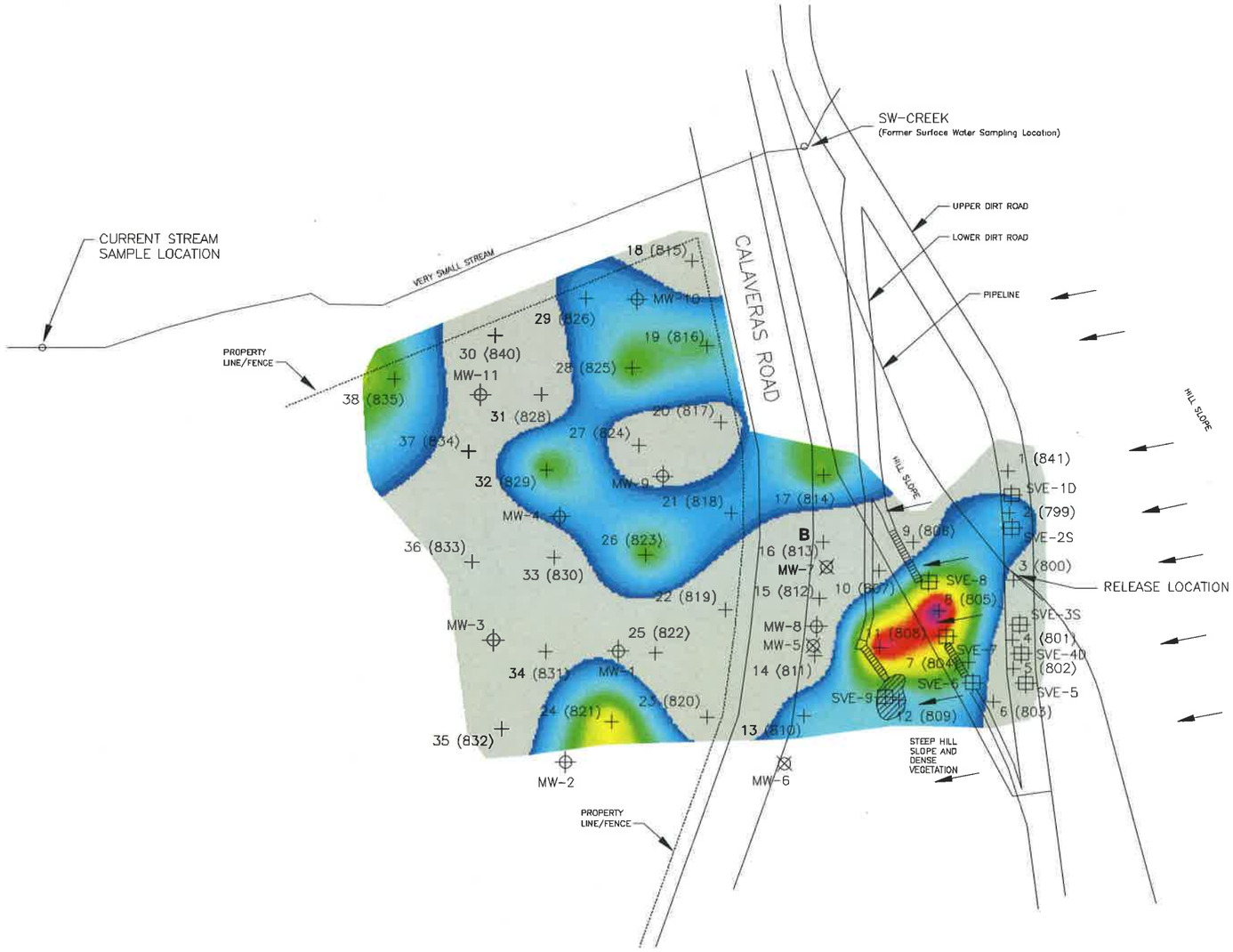


In Numerical Order
SITE FDX - PRODUCTION ORDER #: 20247086



In Numerical Order
SITE FDX - PRODUCTION ORDER #: 20247086





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1.371
1.131
0.932
0.768
0.634
0.522
0.431
0.355
0.293
0.241
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0.164
0.135
0.111
0.092
0.076
0.062
0.051
0.042
0.035

BTEX
[µg]

Scale 1:720

25 0 25 50 75 100 125 150
(feet)

GORE ™ Surveys for Environmental Site Assessment

W.L. GORE & ASSOCIATES, INC.
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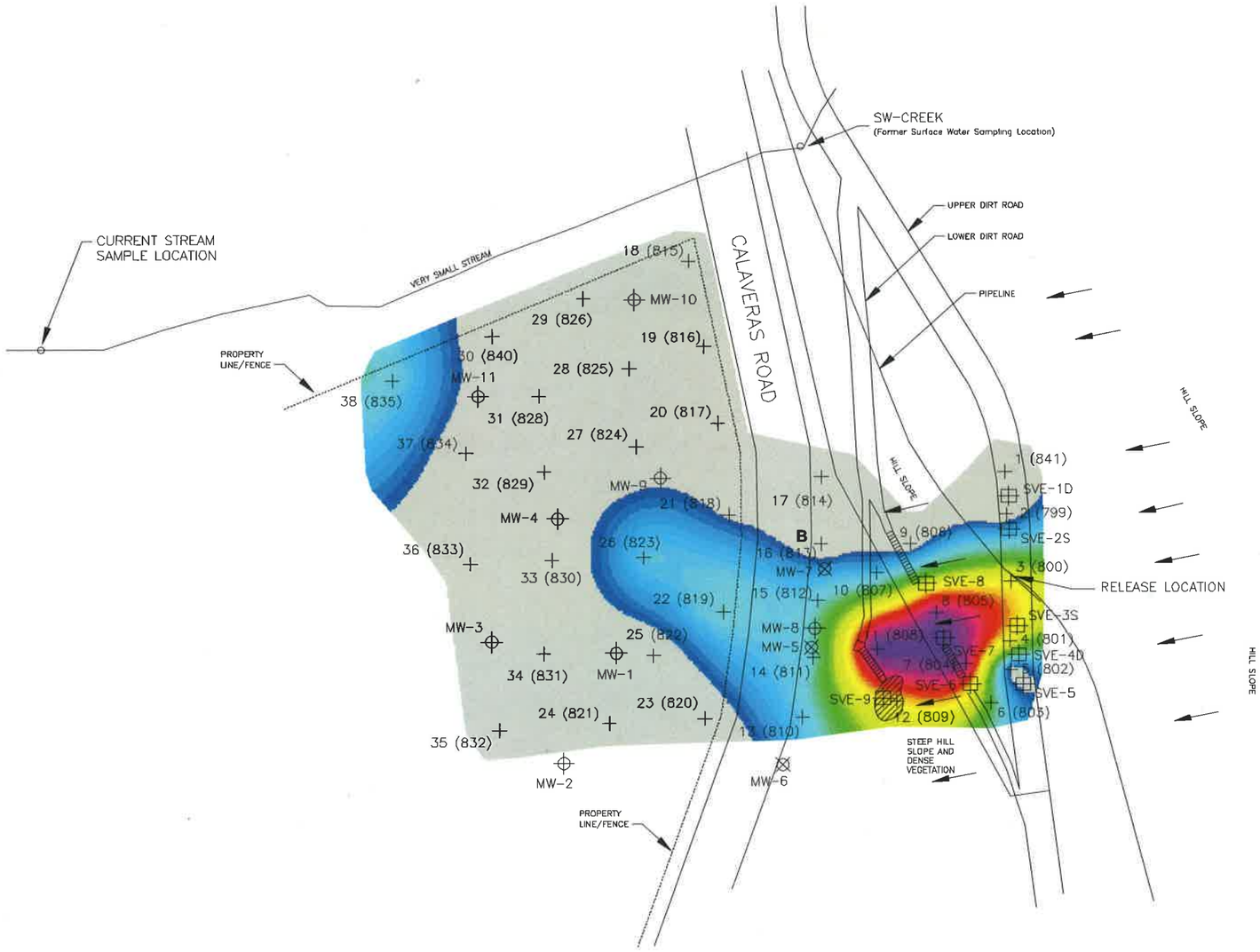
ELKTON, MD, USA 21921
USA
(410) 392-7600

Creative Technologies Worldwide

URS Corp., Oakland, CA
Sunol Spill, Sunol, CA
BTEX

DATE DRAWN: 15 Jan 2010	DRAWN BY: JW	ORIG. CAD: FIGURE 13...dwg	SITE CODE: FDX
REV. DATE:	REV. #:	PROJECT NUMBER: 20247086	



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31.185
21.179
14.383
9.768
6.634
4.505
3.059
2.078
1.411
0.958
0.651
0.442
0.300
0.204
0.138
0.094
0.064
0.043
0.029
0.020

C11, C13, & C15
[µg]

Scale 1:720

25 0 25 50 75 100 125 150
(feet)

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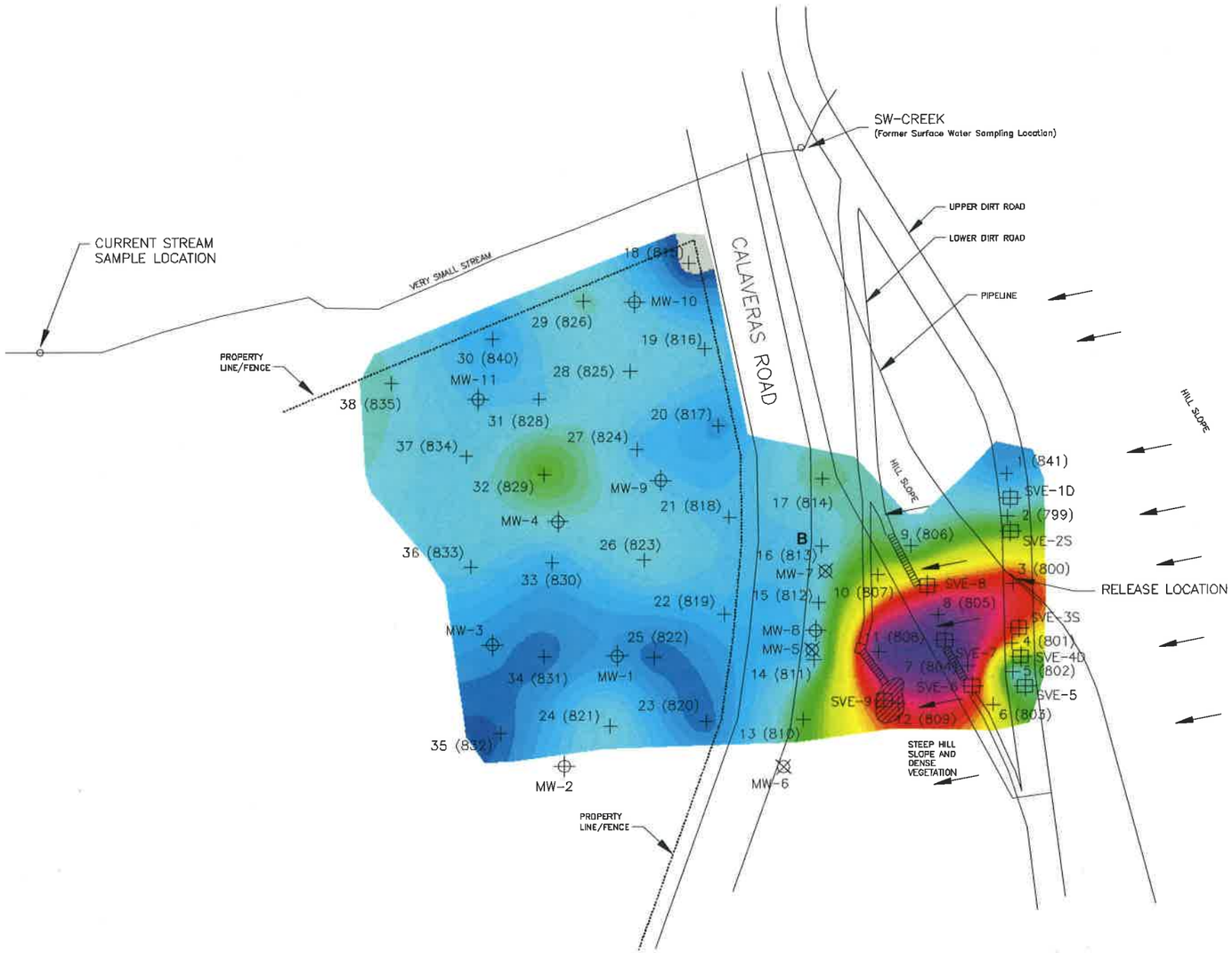
USA
(410) 392-7600

Creative Technologies Worldwide

URS Corp., Oakland, CA
Sunol Spill, Sunol, CA
Undecane, Tridecane, & Pentadecane

DATE DRAWN: 15 Jan 2010	DRAWN BY: JW	ORIG. CAD: FIGURE 13...dwg	SITE CODE: FDX
REV. DATE:	REV. #:	PROJECT NUMBER: 20247086	



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ELKTON, MD, USA 21921
USA
(410) 392-7600

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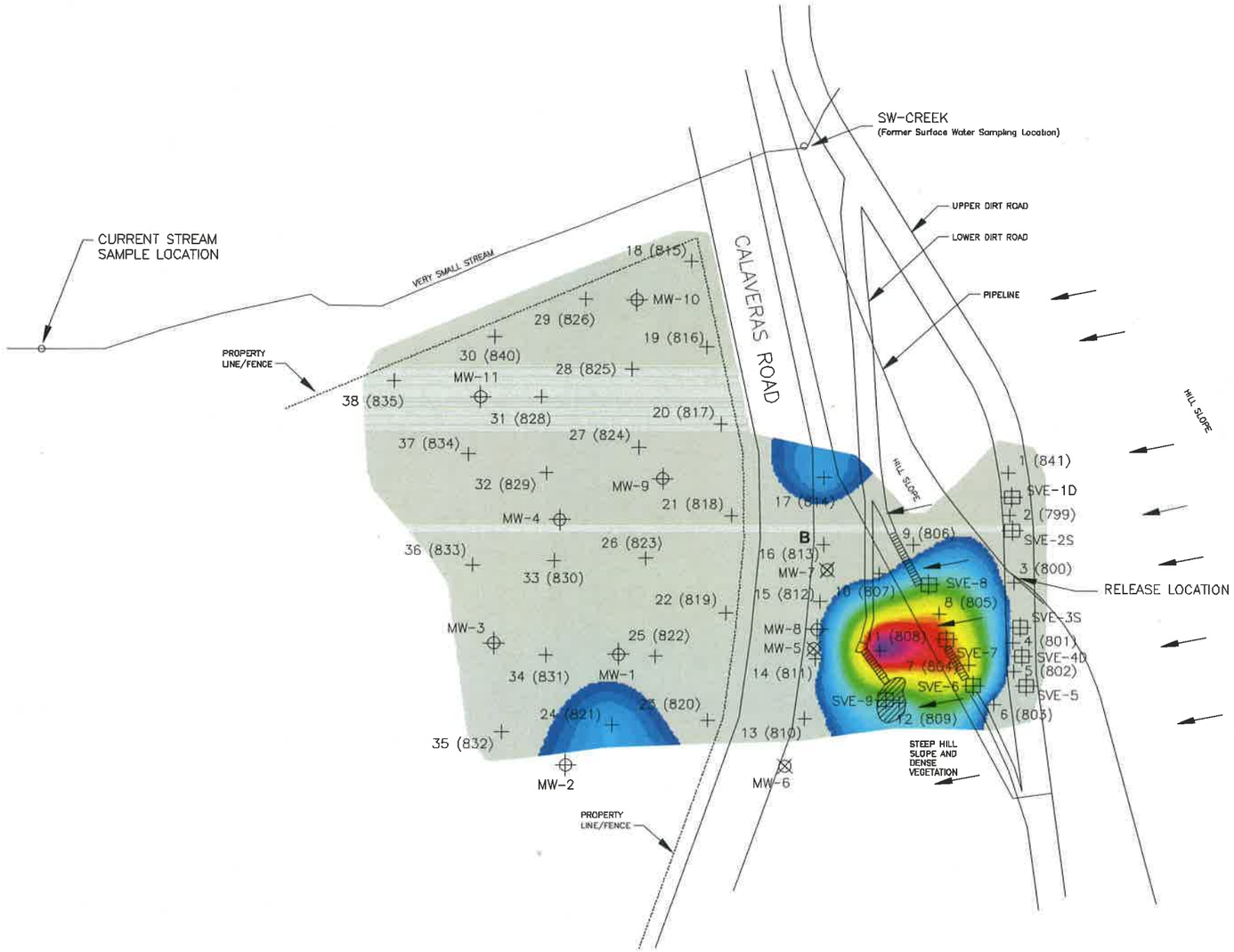
URS Corp., Oakland, CA
Sunol Spill, Sunol, CA
Total Petroleum Hydrocarbons

DATE DRAWN: 15 Jan 2010	DRAWN BY: JW	ORIG. CAD: FIGURE 13...dwg	SITE CODE: FDX
REV. DATE:	REV. #:	PROJECT NUMBER: 20247086	



88.920
58.425
38.388
25.223
16.573
10.889
7.155
4.701
3.089
2.030
1.334
0.876
0.576
0.378
0.249
0.163
0.107
0.071
0.046
0.030
0.020

TMBs
[µg]

Scale 1:720

25 0 25 50 75 100 125 150
(feet)

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USA
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URS Corp., Oakland, CA
Sunol Spill, Sunol, CA
1,2,4- & 1,3,5-Trimethylbenzene

DATE DRAWN: 15 Jan 2010	DRAWN BY: JW	ORIG. CAD: FIGURE 13...dwg	SITE CODE: FDX
REV. DATE:	REV. #:	PROJECT NUMBER: 20247086	

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LIT 1390 08/14/07

Appendix C
2009 EDR Well Search Report

ASTM E-1528-06
Livermore, CA 94550

Inquiry Number: 02629847.3w
November 11, 2009

EDR DataMap™ Well Search Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

GEOCHECK VERSION 2.1
SUMMARY

FEDERAL DATABASE WELL INFORMATION

MAP ID	WELL ID

NO WELLS FOUND

STATE WATER WELL INFORMATION

MAP ID	WELL ID
1	3810001
2	3810001
3	0110001
3	0110001

PUBLIC WATER SUPPLY SYSTEM INFORMATION

NO WELLS FOUND

USGS TOPOGRAPHIC MAP(S)

37121-E7 LA COSTA VALLEY, CA
37121-E8 NILES, CA

AREA RADON INFORMATION

Federal Area Radon Information for Zip Code: 94550

Number of sites tested: 6

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.567 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

Federal Area Radon Information for Zip Code: 94586

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.900 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

Federal Area Radon Information for Zip Code: 94539

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.900 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

GEOCHECK VERSION 2.1
SUMMARY

AREA RADON INFORMATION

Federal EPA Radon Zone for ALAMEDA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for ALAMEDA COUNTY, CA

Number of sites tested: 49

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.776 pCi/L	100%	0%	0%
Living Area - 2nd Floor	-0.400 pCi/L	100%	0%	0%
Basement	1.338 pCi/L	100%	0%	0%

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Water Wells:

Water System Information:

Map ID:	1		
Prime Station Code:	D38/001-ANTON-R	User ID:	ENG
FRDS Number:	3810001010	County:	San Francisco
District Number:	04	Station Type:	LAKE/AMBNT/MUN/INTAKE
Water Type:	Surface Water	Well Status:	Active Raw
Source Lat/Long:	373409.9 1215035.2	Precision:	0.5 Mile (30 Seconds)
Source Name:	SAN ANTONIO RESERVOIR-RAW		
System Number:	3810001		
System Name:	SF Public Utilities Commission		
Organization That Operates System:			
	1155 MARKET ST.		
	SAN FRANCISCO, CA 94103		
Pop Served:	750000	Connections:	160830
Area Served:	Not Reported		
Sample Collected:	06/09/2009	Findings:	14 UNITS
Chemical:	COLOR		
Sample Collected:	06/09/2009	Findings:	287 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/09/2009	Findings:	8.52
Chemical:	PH, LABORATORY		
Sample Collected:	06/09/2009	Findings:	104 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	06/09/2009	Findings:	104 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	06/09/2009	Findings:	112 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	06/09/2009	Findings:	11.2 MG/L
Chemical:	CHLORIDE		
Sample Collected:	06/09/2009	Findings:	.2 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	06/09/2009	Findings:	151 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	06/09/2009	Findings:	.9 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	06/09/2009	Findings:	.05 MG/L
Chemical:	BROMIDE		
Sample Collected:	06/17/2008	Findings:	155 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	06/17/2008	Findings:	1.14 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	06/17/2008	Findings:	22 UNITS
Chemical:	COLOR		
Sample Collected:	06/17/2008	Findings:	268 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/17/2008	Findings:	7.58
Chemical:	PH, LABORATORY		
Sample Collected:	06/17/2008	Findings:	94 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		

Sample Collected:	06/17/2008	Findings:	94 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	06/17/2008	Findings:	100 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	06/17/2008	Findings:	25.03 MG/L
Chemical:	CALCIUM		
Sample Collected:	06/17/2008	Findings:	9.62 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	06/17/2008	Findings:	11.82 MG/L
Chemical:	SODIUM		
Sample Collected:	06/17/2008	Findings:	1 MG/L
Chemical:	POTASSIUM		
Sample Collected:	06/17/2008	Findings:	9 MG/L
Chemical:	CHLORIDE		
Sample Collected:	06/17/2008	Findings:	.14 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	06/17/2008	Findings:	7.25 MG/L
Chemical:	SILICA		
Sample Collected:	06/17/2008	Findings:	2.05 UG/L
Chemical:	ARSENIC		
Sample Collected:	06/17/2008	Findings:	108.16 UG/L
Chemical:	BORON		
Sample Collected:	06/17/2008	Findings:	125.1 UG/L
Chemical:	IRON		
Sample Collected:	06/17/2008	Findings:	20.5 UG/L
Chemical:	MANGANESE		
Sample Collected:	06/17/2008	Findings:	66.3 UG/L
Chemical:	ALUMINUM		
Sample Collected:	07/10/2007	Findings:	10 UNITS
Chemical:	COLOR		
Sample Collected:	07/10/2007	Findings:	266 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	07/10/2007	Findings:	8.73
Chemical:	PH, LABORATORY		
Sample Collected:	07/10/2007	Findings:	98 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	07/10/2007	Findings:	82 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	07/10/2007	Findings:	16 MG/L
Chemical:	CARBONATE ALKALINITY		
Sample Collected:	07/10/2007	Findings:	104 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	07/10/2007	Findings:	26.078 MG/L
Chemical:	CALCIUM		
Sample Collected:	07/10/2007	Findings:	10.687 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	07/10/2007	Findings:	15.441 MG/L
Chemical:	SODIUM		
Sample Collected:	07/10/2007	Findings:	1.56 MG/L
Chemical:	POTASSIUM		

Sample Collected:	07/10/2007	Findings:	11 MG/L
Chemical:	CHLORIDE		
Sample Collected:	07/10/2007	Findings:	.15 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	07/10/2007	Findings:	5.45 MG/L
Chemical:	SILICA		
Sample Collected:	07/10/2007	Findings:	150.86 UG/L
Chemical:	BORON		
Sample Collected:	07/10/2007	Findings:	146 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	07/10/2007	Findings:	.55 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	07/10/2007	Findings:	.423 PCI/L
Chemical:	RADIUM 226 COUNTING ERROR		
Sample Collected:	07/10/2007	Findings:	1 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	07/10/2007	Findings:	.33 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	07/10/2007	Findings:	3 PCI/L
Chemical:	GROSS ALPHA MDA95		
Sample Collected:	07/10/2007	Findings:	1 PCI/L
Chemical:	RADIUM 228 MDA95		
Sample Collected:	12/18/2006	Findings:	130.4 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	07/11/2006	Findings:	1.87 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	07/11/2006	Findings:	34 UNITS
Chemical:	COLOR		
Sample Collected:	07/11/2006	Findings:	305 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	07/11/2006	Findings:	8.85
Chemical:	PH, LABORATORY		
Sample Collected:	07/11/2006	Findings:	114 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	07/11/2006	Findings:	102 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	07/11/2006	Findings:	12 MG/L
Chemical:	CARBONATE ALKALINITY		
Sample Collected:	07/11/2006	Findings:	126 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	07/11/2006	Findings:	29.3 MG/L
Chemical:	CALCIUM		
Sample Collected:	07/11/2006	Findings:	12.4 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	07/11/2006	Findings:	15.8 MG/L
Chemical:	SODIUM		
Sample Collected:	07/11/2006	Findings:	1.86 MG/L
Chemical:	POTASSIUM		
Sample Collected:	07/11/2006	Findings:	13 MG/L
Chemical:	CHLORIDE		

Sample Collected:	07/11/2006	Findings:	.16 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	07/11/2006	Findings:	4.56 MG/L
Chemical:	SILICA		
Sample Collected:	07/11/2006	Findings:	163.9 UG/L
Chemical:	BORON		
Sample Collected:	07/11/2006	Findings:	.35 UG/L
Chemical:	MOLYDBENDUM		
Sample Collected:	07/11/2006	Findings:	57.5 UG/L
Chemical:	ALUMINUM		
Sample Collected:	07/18/2005	Findings:	.8 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	07/18/2005	Findings:	.2 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	07/18/2005	Findings:	.06 MG/L
Chemical:	BROMIDE		
Sample Collected:	07/18/2005	Findings:	31 MG/L
Chemical:	CALCIUM		
Sample Collected:	07/18/2005	Findings:	16 UNITS
Chemical:	COLOR		
Sample Collected:	07/18/2005	Findings:	292 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	07/18/2005	Findings:	8.9
Chemical:	PH, LABORATORY		
Sample Collected:	07/18/2005	Findings:	114 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	07/18/2005	Findings:	96 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	07/18/2005	Findings:	20 MG/L
Chemical:	CARBONATE ALKALINITY		
Sample Collected:	07/18/2005	Findings:	128 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	07/18/2005	Findings:	12.9 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	07/18/2005	Findings:	16.9 MG/L
Chemical:	SODIUM		
Sample Collected:	07/18/2005	Findings:	1.8 MG/L
Chemical:	POTASSIUM		
Sample Collected:	07/18/2005	Findings:	9 MG/L
Chemical:	CHLORIDE		
Sample Collected:	07/18/2005	Findings:	7.6 MG/L
Chemical:	SILICA		
Sample Collected:	07/18/2005	Findings:	172 UG/L
Chemical:	BORON		
Sample Collected:	07/18/2005	Findings:	1 UG/L
Chemical:	MOLYDBENDUM		
Sample Collected:	07/18/2005	Findings:	68.5 UG/L
Chemical:	ALUMINUM		
Sample Collected:	07/18/2005	Findings:	176 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		

Sample Collected:	05/03/2004	Findings:	217 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	05/03/2004	Findings:	7.5 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	05/03/2004	Findings:	69 UNITS
Chemical:	COLOR		
Sample Collected:	05/03/2004	Findings:	355 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	05/03/2004	Findings:	8.9
Chemical:	PH, LABORATORY		
Sample Collected:	05/03/2004	Findings:	132 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	05/03/2004	Findings:	116 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	05/03/2004	Findings:	16 MG/L
Chemical:	CARBONATE ALKALINITY		
Sample Collected:	05/03/2004	Findings:	142 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	05/03/2004	Findings:	32.3 MG/L
Chemical:	CALCIUM		
Sample Collected:	05/03/2004	Findings:	14.9 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	05/03/2004	Findings:	19.9 MG/L
Chemical:	SODIUM		
Sample Collected:	05/03/2004	Findings:	17 MG/L
Chemical:	CHLORIDE		
Sample Collected:	05/03/2004	Findings:	.14 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	05/03/2004	Findings:	235 UG/L
Chemical:	IRON		
Sample Collected:	05/03/2004	Findings:	326 UG/L
Chemical:	ALUMINUM		

Water System Information:

Map ID:	2		
Prime Station Code:	D38/001-AEP-TR	User ID:	ENG
FRDS Number:	3810001001	County:	San Francisco
District Number:	04	Station Type:	LAKE/AMBNT/MUN/INTAKE
Water Type:	Surface Water	Well Status:	Active Treated
Source Lat/Long:	373332.0 1215127.5	Precision:	0.5 Mile (30 Seconds)
Source Name:	ALAMEDA EAST PORTAL-TERMINUS HH-TREATED		
System Number:	3810001		
System Name:	SF Public Utilities Commission		
Organization That Operates System:			
	1155 MARKET ST.		
	SAN FRANCISCO, CA 94103		
Pop Served:	750000	Connections:	160830
Area Served:	Not Reported		
Sample Collected:	06/11/2009	Findings:	41 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	06/11/2009	Findings:	40 UG/L
Chemical:	CHLOROFORM (THM)		

Sample Collected:	06/09/2009	Findings:	9 UNITS
Chemical:	COLOR		
Sample Collected:	06/09/2009	Findings:	56 UG/L
Chemical:	CHLORATE		
Sample Collected:	06/09/2009	Findings:	30 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/09/2009	Findings:	8.81
Chemical:	PH, LABORATORY		
Sample Collected:	06/09/2009	Findings:	8 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	06/09/2009	Findings:	8 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	06/09/2009	Findings:	12 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	06/09/2009	Findings:	8 MG/L
Chemical:	CHLORIDE		
Sample Collected:	06/09/2009	Findings:	22 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	06/09/2009	Findings:	.33 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	06/17/2008	Findings:	31 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/17/2008	Findings:	9.15
Chemical:	PH, LABORATORY		
Sample Collected:	06/17/2008	Findings:	10 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	06/17/2008	Findings:	8 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	06/17/2008	Findings:	2 MG/L
Chemical:	CARBONATE ALKALINITY		
Sample Collected:	06/17/2008	Findings:	14 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	06/17/2008	Findings:	2.83 MG/L
Chemical:	CALCIUM		
Sample Collected:	06/17/2008	Findings:	.22 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	06/17/2008	Findings:	2.59 MG/L
Chemical:	SODIUM		
Sample Collected:	06/17/2008	Findings:	4 MG/L
Chemical:	CHLORIDE		
Sample Collected:	06/17/2008	Findings:	5.02 MG/L
Chemical:	SILICA		
Sample Collected:	06/17/2008	Findings:	33.61 UG/L
Chemical:	CHLOROFORM (THM)		
Sample Collected:	06/17/2008	Findings:	39 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	06/17/2008	Findings:	14.8 UG/L
Chemical:	DICHLOROACETIC ACID (DCAA)		
Sample Collected:	06/17/2008	Findings:	33.61 UG/L
Chemical:	TOTAL TRIHALOMETHANES		

Sample Collected:	06/17/2008	Findings:	5.9 UG/L
Chemical:	TRICHLOROACETIC ACID (TCAA)		
Sample Collected:	06/17/2008	Findings:	47 UG/L
Chemical:	CHLORATE		
Sample Collected:	06/17/2008	Findings:	20.7 UG/L
Chemical:	HALOACETIC ACIDS (5) (HAA5)		
Sample Collected:	07/10/2007	Findings:	2.55 MG/L
Chemical:	SODIUM		
Sample Collected:	07/10/2007	Findings:	.24 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	07/10/2007	Findings:	3.28 MG/L
Chemical:	CALCIUM		
Sample Collected:	07/10/2007	Findings:	24.8 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	12/18/2006	Findings:	19.6 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	07/13/2006	Findings:	10 UNITS
Chemical:	COLOR		
Sample Collected:	07/13/2006	Findings:	.45 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	07/18/2005	Findings:	7 UNITS
Chemical:	COLOR		
Sample Collected:	07/18/2005	Findings:	.49 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	05/17/2004	Findings:	.3 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	05/17/2004	Findings:	6 UNITS
Chemical:	COLOR		

Water System Information:

Map ID:	3		
Prime Station Code:	D01/001-MSJ-RAW	User ID:	ENG
FRDS Number:	0110001030	County:	Alameda
District Number:	04	Station Type:	STREAM/AMBNT/MUN/INTAKE
Water Type:	Surface Water	Well Status:	Active Raw
Source Lat/Long:	373254.9 1215255.0	Precision:	0.5 Mile (30 Seconds)
Source Name:	SOUTH BAY AQUEDUCT-MSJ WTP		
System Number:	0110001		
System Name:	ALAMEDA COUNTY WATER DISTRICT		
Organization That Operates System:			
	43885 S. GRIMMER BLVD. FREMONT, CA 94538		
Pop Served:	271000	Connections:	69571
Area Served:	FREMONT NEWARK,UNION CITY		
Sample Collected:	07/16/2008	Findings:	282 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	07/16/2008	Findings:	7.79
Chemical:	PH, LABORATORY		
Sample Collected:	07/16/2008	Findings:	65 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	07/16/2008	Findings:	65 MG/L
Chemical:	BICARBONATE ALKALINITY		

Sample Collected:	07/16/2008	Findings:	74 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	07/16/2008	Findings:	11 MG/L
Chemical:	CALCIUM		
Sample Collected:	07/16/2008	Findings:	9.184 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	07/16/2008	Findings:	26.9 MG/L
Chemical:	SODIUM		
Sample Collected:	07/16/2008	Findings:	2.271 MG/L
Chemical:	POTASSIUM		
Sample Collected:	07/16/2008	Findings:	33 MG/L
Chemical:	CHLORIDE		
Sample Collected:	07/16/2008	Findings:	.125 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	07/16/2008	Findings:	3.351 UG/L
Chemical:	ARSENIC		
Sample Collected:	07/16/2008	Findings:	430 UG/L
Chemical:	IRON		
Sample Collected:	07/16/2008	Findings:	37 UG/L
Chemical:	MANGANESE		
Sample Collected:	07/16/2008	Findings:	629 UG/L
Chemical:	ALUMINUM		
Sample Collected:	07/16/2008	Findings:	176 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	07/16/2008	Findings:	- .377
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	07/16/2008	Findings:	7.72 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	07/16/2008	Findings:	450 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	07/16/2008	Findings:	Q 6.57 MFL
Chemical:	ASBESTOS		
Sample Collected:	07/16/2008	Findings:	30 UNITS
Chemical:	COLOR		
Sample Collected:	07/16/2008	Findings:	450 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	10/30/2007	Findings:	560 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	10/30/2007	Findings:	2.5 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	07/11/2007	Findings:	26.25 MG/L
Chemical:	CHLORIDE		
Sample Collected:	07/11/2007	Findings:	.178 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	07/11/2007	Findings:	58 UG/L
Chemical:	MANGANESE		
Sample Collected:	07/11/2007	Findings:	635 UG/L
Chemical:	ALUMINUM		
Sample Collected:	07/11/2007	Findings:	152 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		

Sample Collected:	07/11/2007	Findings:	- .639
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	07/11/2007	Findings:	13 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	07/11/2007	Findings:	35 UNITS
Chemical:	COLOR		
Sample Collected:	07/11/2007	Findings:	1.4 TON
Chemical:	ODOR THRESHOLD @ 60 C		
Sample Collected:	07/11/2007	Findings:	247 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	07/11/2007	Findings:	7.78
Chemical:	PH, LABORATORY		
Sample Collected:	07/11/2007	Findings:	62 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	07/11/2007	Findings:	62 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	07/11/2007	Findings:	68 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	07/11/2007	Findings:	11.7 MG/L
Chemical:	CALCIUM		
Sample Collected:	07/11/2007	Findings:	8.2 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	07/11/2007	Findings:	23.66 MG/L
Chemical:	SODIUM		
Sample Collected:	07/11/2007	Findings:	2.1 MG/L
Chemical:	POTASSIUM		
Sample Collected:	03/29/2007	Findings:	15 UNITS
Chemical:	COLOR		
Sample Collected:	03/29/2007	Findings:	358 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	03/29/2007	Findings:	7.92
Chemical:	PH, LABORATORY		
Sample Collected:	03/29/2007	Findings:	74 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	03/29/2007	Findings:	74 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	03/29/2007	Findings:	96 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	03/29/2007	Findings:	7.48 MG/L
Chemical:	CALCIUM		
Sample Collected:	03/29/2007	Findings:	11.7 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	03/29/2007	Findings:	29 MG/L
Chemical:	SODIUM		
Sample Collected:	03/29/2007	Findings:	2.05 MG/L
Chemical:	POTASSIUM		
Sample Collected:	03/29/2007	Findings:	42 MG/L
Chemical:	CHLORIDE		
Sample Collected:	03/29/2007	Findings:	.141 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		

Sample Collected:	03/29/2007	Findings:	204.35 UG/L
Chemical:	ALUMINUM		
Sample Collected:	03/29/2007	Findings:	199 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	03/29/2007	Findings:	- .651
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	03/29/2007	Findings:	3.7 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	03/29/2007	Findings:	5.79 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	03/29/2007	Findings:	830 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	03/29/2007	Findings:	3.7 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	10/25/2006	Findings:	1.79 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	10/25/2006	Findings:	- .17
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	10/25/2006	Findings:	172 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	10/25/2006	Findings:	359.6 UG/L
Chemical:	ALUMINUM		
Sample Collected:	10/25/2006	Findings:	15 UNITS
Chemical:	COLOR		
Sample Collected:	10/25/2006	Findings:	291 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	10/25/2006	Findings:	7.97
Chemical:	PH, LABORATORY		
Sample Collected:	10/25/2006	Findings:	92 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	10/25/2006	Findings:	92 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	10/25/2006	Findings:	114 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	10/25/2006	Findings:	16.2 MG/L
Chemical:	CALCIUM		
Sample Collected:	10/25/2006	Findings:	10.6 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	10/25/2006	Findings:	24.8 MG/L
Chemical:	SODIUM		
Sample Collected:	10/25/2006	Findings:	1.83 MG/L
Chemical:	POTASSIUM		
Sample Collected:	10/25/2006	Findings:	25 MG/L
Chemical:	CHLORIDE		
Sample Collected:	10/25/2006	Findings:	.118 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	07/18/2006	Findings:	.537 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	07/18/2006	Findings:	1.56 PCI/L
Chemical:	RADIUM 228		

Sample Collected:	06/21/2006	Findings:	25 UNITS
Chemical:	COLOR		
Sample Collected:	06/21/2006	Findings:	123 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/21/2006	Findings:	7.94
Chemical:	PH, LABORATORY		
Sample Collected:	06/21/2006	Findings:	32 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	06/21/2006	Findings:	32 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	06/21/2006	Findings:	37 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	06/21/2006	Findings:	6.2 MG/L
Chemical:	CALCIUM		
Sample Collected:	06/21/2006	Findings:	3.6 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	06/21/2006	Findings:	15.8 MG/L
Chemical:	SODIUM		
Sample Collected:	06/21/2006	Findings:	1.522 MG/L
Chemical:	POTASSIUM		
Sample Collected:	06/21/2006	Findings:	13 MG/L
Chemical:	CHLORIDE		
Sample Collected:	06/21/2006	Findings:	49 UG/L
Chemical:	MANGANESE		
Sample Collected:	06/21/2006	Findings:	936 UG/L
Chemical:	ALUMINUM		
Sample Collected:	06/21/2006	Findings:	83 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	06/21/2006	Findings:	14 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	06/21/2006	Findings:	.07 UG/L
Chemical:	METOLACHLOR		
Sample Collected:	04/18/2006	Findings:	1 PCI/L
Chemical:	GROSS BETA COUNTING ERROR		
Sample Collected:	04/18/2006	Findings:	1.2 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	02/15/2006	Findings:	2.19 MG/L
Chemical:	POTASSIUM		
Sample Collected:	02/15/2006	Findings:	31 MG/L
Chemical:	CHLORIDE		
Sample Collected:	02/15/2006	Findings:	179 UG/L
Chemical:	ALUMINUM		
Sample Collected:	02/15/2006	Findings:	191 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	02/15/2006	Findings:	3.1 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	02/15/2006	Findings:	4.5 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	02/15/2006	Findings:	700 UG/L
Chemical:	NITRATE + NITRITE (AS N)		

Sample Collected:	02/15/2006	Findings:	40.3 MG/L
Chemical:	SODIUM		
Sample Collected:	02/15/2006	Findings:	11 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	02/15/2006	Findings:	10.2 MG/L
Chemical:	CALCIUM		
Sample Collected:	02/15/2006	Findings:	97 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	02/15/2006	Findings:	74 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	02/15/2006	Findings:	74 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	02/15/2006	Findings:	7.74
Chemical:	PH, LABORATORY		
Sample Collected:	02/15/2006	Findings:	345 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	02/15/2006	Findings:	35 UNITS
Chemical:	COLOR		
Sample Collected:	01/12/2006	Findings:	1.3 PCI/L
Chemical:	GROSS BETA COUNTING ERROR		
Sample Collected:	01/12/2006	Findings:	1.5 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	11/14/2005	Findings:	2.3 MG/L
Chemical:	POTASSIUM		
Sample Collected:	11/14/2005	Findings:	36 MG/L
Chemical:	SODIUM		
Sample Collected:	11/14/2005	Findings:	14 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	11/14/2005	Findings:	100 UG/L
Chemical:	ALUMINUM		
Sample Collected:	11/14/2005	Findings:	35 UG/L
Chemical:	MANGANESE		
Sample Collected:	11/14/2005	Findings:	160 UG/L
Chemical:	IRON		
Sample Collected:	11/14/2005	Findings:	22 MG/L
Chemical:	CALCIUM		
Sample Collected:	07/19/2005	Findings:	530 UG/L
Chemical:	IRON		
Sample Collected:	07/19/2005	Findings:	23 UG/L
Chemical:	MANGANESE		
Sample Collected:	07/05/2005	Findings:	520 UG/L
Chemical:	IRON		
Sample Collected:	07/05/2005	Findings:	.057 MG/L
Chemical:	BROMIDE		
Sample Collected:	07/05/2005	Findings:	32 UG/L
Chemical:	MANGANESE		
Sample Collected:	07/05/2005	Findings:	2.64 MG/L
Chemical:	TOTAL ORGANIC CARBON (TOC)		
Sample Collected:	06/21/2005	Findings:	4.3 MG/L
Chemical:	TOTAL ORGANIC CARBON (TOC)		

Sample Collected:	06/21/2005	Findings:	.042 MG/L
Chemical:	BROMIDE		
Sample Collected:	06/14/2005	Findings:	22 UG/L
Chemical:	MANGANESE		
Sample Collected:	06/01/2005	Findings:	12 MG/L
Chemical:	SODIUM		
Sample Collected:	06/01/2005	Findings:	4.1 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	06/01/2005	Findings:	9 MG/L
Chemical:	CALCIUM		
Sample Collected:	06/01/2005	Findings:	270 UG/L
Chemical:	ALUMINUM		
Sample Collected:	06/01/2005	Findings:	27 UG/L
Chemical:	MANGANESE		
Sample Collected:	06/01/2005	Findings:	590 UG/L
Chemical:	IRON		
Sample Collected:	05/25/2005	Findings:	1.1 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	05/25/2005	Findings:	1.2 PCI/L
Chemical:	GROSS BETA COUNTING ERROR		
Sample Collected:	05/25/2005	Findings:	8.2 PCI/L
Chemical:	RADON 222 COUNTING ERROR		
Sample Collected:	05/25/2005	Findings:	1.14 PCI/L
Chemical:	RADIUM 228		
Sample Collected:	05/25/2005	Findings:	.33 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	02/23/2005	Findings:	25 UNITS
Chemical:	COLOR		
Sample Collected:	02/23/2005	Findings:	540 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	02/23/2005	Findings:	407 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	02/23/2005	Findings:	8.05
Chemical:	PH, LABORATORY		
Sample Collected:	02/23/2005	Findings:	128 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	02/23/2005	Findings:	128 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	02/23/2005	Findings:	156 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	02/23/2005	Findings:	27.85 MG/L
Chemical:	CALCIUM		
Sample Collected:	02/23/2005	Findings:	14.84 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	02/23/2005	Findings:	31 MG/L
Chemical:	SODIUM		
Sample Collected:	02/23/2005	Findings:	2.366 MG/L
Chemical:	POTASSIUM		
Sample Collected:	02/23/2005	Findings:	39 MG/L
Chemical:	CHLORIDE		

Sample Collected:	02/23/2005	Findings:	.57 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	02/23/2005	Findings:	1.1 UG/L
Chemical:	BERYLLIUM		
Sample Collected:	02/23/2005	Findings:	25.36 UG/L
Chemical:	CHROMIUM (TOTAL)		
Sample Collected:	02/23/2005	Findings:	21.68 UG/L
Chemical:	MANGANESE		
Sample Collected:	02/23/2005	Findings:	1717 UG/L
Chemical:	ALUMINUM		
Sample Collected:	02/23/2005	Findings:	219 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	02/23/2005	Findings:	.28
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	02/23/2005	Findings:	2.39 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	02/23/2005	Findings:	7 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	10/28/2004	Findings:	247 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	10/28/2004	Findings:	2.7 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	10/28/2004	Findings:	.098
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	10/28/2004	Findings:	1691 UG/L
Chemical:	ALUMINUM		
Sample Collected:	10/28/2004	Findings:	38.48 UG/L
Chemical:	MANGANESE		
Sample Collected:	10/28/2004	Findings:	12.21 UG/L
Chemical:	CHROMIUM (TOTAL)		
Sample Collected:	10/28/2004	Findings:	1.437 UG/L
Chemical:	BERYLLIUM		
Sample Collected:	10/28/2004	Findings:	104.8 UG/L
Chemical:	BARIUM		
Sample Collected:	10/28/2004	Findings:	.17 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	10/28/2004	Findings:	15 UNITS
Chemical:	COLOR		
Sample Collected:	10/28/2004	Findings:	435 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	10/28/2004	Findings:	7.83
Chemical:	PH, LABORATORY		
Sample Collected:	10/28/2004	Findings:	128 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	10/28/2004	Findings:	128 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	10/28/2004	Findings:	139 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	10/28/2004	Findings:	31 MG/L
Chemical:	CALCIUM		

Sample Collected:	10/28/2004	Findings:	19.3 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	10/28/2004	Findings:	38.69 MG/L
Chemical:	SODIUM		
Sample Collected:	10/28/2004	Findings:	2.6 MG/L
Chemical:	POTASSIUM		
Sample Collected:	10/28/2004	Findings:	38 MG/L
Chemical:	CHLORIDE		
Sample Collected:	07/21/2004	Findings:	11 PCI/L
Chemical:	RADON 222 COUNTING ERROR		
Sample Collected:	07/21/2004	Findings:	1.1 PCI/L
Chemical:	GROSS BETA COUNTING ERROR		
Sample Collected:	07/21/2004	Findings:	1.4 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	07/20/2004	Findings:	2.2 UG/L
Chemical:	DIBROMOACETIC ACID (DBAA)		
Sample Collected:	07/20/2004	Findings:	2.7 UG/L
Chemical:	TRICHLOROACETIC ACID (TCAA)		
Sample Collected:	07/20/2004	Findings:	11 UG/L
Chemical:	HALOACETIC ACIDS (5) (HAA5)		
Sample Collected:	07/20/2004	Findings:	6.1 UG/L
Chemical:	DICHLOROACETIC ACID (DCAA)		
Sample Collected:	06/23/2004	Findings:	.07 UG/L
Chemical:	METOLACHLOR		
Sample Collected:	06/15/2004	Findings:	33.88 UG/L
Chemical:	MANGANESE		
Sample Collected:	06/15/2004	Findings:	4298 UG/L
Chemical:	ALUMINUM		
Sample Collected:	06/15/2004	Findings:	200 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	06/15/2004	Findings:	12 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	06/15/2004	Findings:	20 UNITS
Chemical:	COLOR		
Sample Collected:	06/15/2004	Findings:	334 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/15/2004	Findings:	7.71
Chemical:	PH, LABORATORY		
Sample Collected:	06/15/2004	Findings:	86 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	06/15/2004	Findings:	86 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	06/15/2004	Findings:	79 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	06/15/2004	Findings:	18.3 MG/L
Chemical:	CALCIUM		
Sample Collected:	06/15/2004	Findings:	9.4 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	06/15/2004	Findings:	36.9 MG/L
Chemical:	SODIUM		

Sample Collected:	06/15/2004	Findings:	2.2 MG/L
Chemical:	POTASSIUM		
Sample Collected:	06/15/2004	Findings:	42.55 MG/L
Chemical:	CHLORIDE		
Sample Collected:	06/15/2004	Findings:	.11 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	06/15/2004	Findings:	1.64 UG/L
Chemical:	BERYLLIUM		
Sample Collected:	06/15/2004	Findings:	13.96 UG/L
Chemical:	CHROMIUM (TOTAL)		
Sample Collected:	06/15/2004	Findings:	9.034 UG/L
Chemical:	LEAD		
Sample Collected:	02/18/2004	Findings:	30 UNITS
Chemical:	COLOR		
Sample Collected:	02/18/2004	Findings:	820 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	02/18/2004	Findings:	310 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	02/18/2004	Findings:	7.85
Chemical:	PH, LABORATORY		
Sample Collected:	02/18/2004	Findings:	82 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	02/18/2004	Findings:	82 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	02/18/2004	Findings:	90 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	02/18/2004	Findings:	39.2 MG/L
Chemical:	CALCIUM		
Sample Collected:	02/18/2004	Findings:	21.8 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	02/18/2004	Findings:	29.6 MG/L
Chemical:	SODIUM		
Sample Collected:	02/18/2004	Findings:	2.65 MG/L
Chemical:	POTASSIUM		
Sample Collected:	02/18/2004	Findings:	24 MG/L
Chemical:	CHLORIDE		
Sample Collected:	02/18/2004	Findings:	2.416 UG/L
Chemical:	ARSENIC		
Sample Collected:	02/18/2004	Findings:	1.739 UG/L
Chemical:	BERYLLIUM		
Sample Collected:	02/18/2004	Findings:	10.29 UG/L
Chemical:	CHROMIUM (TOTAL)		
Sample Collected:	02/18/2004	Findings:	11.03 UG/L
Chemical:	LEAD		
Sample Collected:	02/18/2004	Findings:	76.57 UG/L
Chemical:	MANGANESE		
Sample Collected:	02/18/2004	Findings:	4395 UG/L
Chemical:	ALUMINUM		
Sample Collected:	02/18/2004	Findings:	194 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		

Sample Collected:	02/18/2004	Findings:	.041
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	02/18/2004	Findings:	3.61 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	02/18/2004	Findings:	11.4 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	02/18/2004	Findings:	820 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	02/18/2004	Findings:	3.608 MG/L
Chemical:	NITRATE (AS NO3)		

Water System Information:

Map ID:	3		
Prime Station Code:	D01/001-MSJ-TR	User ID:	ENG
FRDS Number:	0110001015	County:	Alameda
District Number:	04	Station Type:	STREAM/AMBNT/MUN/INTAKE
Water Type:	Surface Water	Well Status:	Active Treated
Source Lat/Long:	373254.9 1215255.0	Precision:	0.5 Mile (30 Seconds)
Source Name:	MSJ TP-TREATED-SOUTH BAY AQUEDUCT WATER		
System Number:	0110001		
System Name:	ALAMEDA COUNTY WATER DISTRICT		
Organization That Operates System:			
	43885 S. GRIMMER BLVD. FREMONT, CA 94538		
Pop Served:	271000	Connections:	69571
Area Served:	FREMONT NEWARK,UNION CITY		
Sample Collected:	04/27/2009	Findings:	509 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	04/27/2009	Findings:	8.6
Chemical:	PH, LABORATORY		
Sample Collected:	04/27/2009	Findings:	78 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	04/27/2009	Findings:	78 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	04/27/2009	Findings:	114 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	04/27/2009	Findings:	23.13 MG/L
Chemical:	CALCIUM		
Sample Collected:	04/27/2009	Findings:	12.75 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	04/27/2009	Findings:	57.4 MG/L
Chemical:	SODIUM		
Sample Collected:	04/27/2009	Findings:	2.657 MG/L
Chemical:	POTASSIUM		
Sample Collected:	04/27/2009	Findings:	75 MG/L
Chemical:	CHLORIDE		
Sample Collected:	04/27/2009	Findings:	.977 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	04/27/2009	Findings:	40.09 UG/L
Chemical:	MANGANESE		
Sample Collected:	04/27/2009	Findings:	284 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		

Sample Collected:	04/27/2009	Findings:	1.103
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	04/27/2009	Findings:	.104 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	02/19/2009	Findings:	1000 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	02/19/2009	Findings:	818 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	02/19/2009	Findings:	8.47
Chemical:	PH, LABORATORY		
Sample Collected:	02/19/2009	Findings:	91 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	02/19/2009	Findings:	91 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	02/19/2009	Findings:	166 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	02/19/2009	Findings:	25.67 MG/L
Chemical:	CALCIUM		
Sample Collected:	02/19/2009	Findings:	19.67 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	02/19/2009	Findings:	105.1 MG/L
Chemical:	SODIUM		
Sample Collected:	02/19/2009	Findings:	4.79 MG/L
Chemical:	POTASSIUM		
Sample Collected:	02/19/2009	Findings:	158.75 MG/L
Chemical:	CHLORIDE		
Sample Collected:	02/19/2009	Findings:	1.01 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	02/19/2009	Findings:	29.71 UG/L
Chemical:	MANGANESE		
Sample Collected:	02/19/2009	Findings:	468 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	02/19/2009	Findings:	.273
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	02/19/2009	Findings:	4.4 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	02/19/2009	Findings:	.035 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	02/19/2009	Findings:	1000 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	02/19/2009	Findings:	4.4 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	10/28/2008	Findings:	603 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	10/28/2008	Findings:	8.08
Chemical:	PH, LABORATORY		
Sample Collected:	10/28/2008	Findings:	74 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	10/28/2008	Findings:	74 MG/L
Chemical:	BICARBONATE ALKALINITY		

Sample Collected:	10/28/2008	Findings:	106 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	10/28/2008	Findings:	16.4 MG/L
Chemical:	CALCIUM		
Sample Collected:	10/28/2008	Findings:	13.91 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	10/28/2008	Findings:	73.24 MG/L
Chemical:	SODIUM		
Sample Collected:	10/28/2008	Findings:	3.572 MG/L
Chemical:	POTASSIUM		
Sample Collected:	10/28/2008	Findings:	125 MG/L
Chemical:	CHLORIDE		
Sample Collected:	10/28/2008	Findings:	1.01 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	10/28/2008	Findings:	337 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	10/28/2008	Findings:	- .28
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	10/28/2008	Findings:	.148 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	07/16/2008	Findings:	208 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	07/16/2008	Findings:	.468
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	07/16/2008	Findings:	.052 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	07/16/2008	Findings:	32 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	07/16/2008	Findings:	348 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	07/16/2008	Findings:	8.83
Chemical:	PH, LABORATORY		
Sample Collected:	07/16/2008	Findings:	58 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	07/16/2008	Findings:	58 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	07/16/2008	Findings:	74 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	07/16/2008	Findings:	15.5 MG/L
Chemical:	CALCIUM		
Sample Collected:	07/16/2008	Findings:	8.916 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	07/16/2008	Findings:	38.41 MG/L
Chemical:	SODIUM		
Sample Collected:	07/16/2008	Findings:	2.211 MG/L
Chemical:	POTASSIUM		
Sample Collected:	07/16/2008	Findings:	53.75 MG/L
Chemical:	CHLORIDE		
Sample Collected:	07/16/2008	Findings:	.962 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		

Sample Collected:	07/16/2008	Findings:	11 UG/L
Chemical:	BROMODICHLORMETHANE (THM)		
Sample Collected:	07/16/2008	Findings:	4.2 UG/L
Chemical:	DIBROMOCHLOROMETHANE (THM)		
Sample Collected:	07/16/2008	Findings:	17 UG/L
Chemical:	CHLOROFORM (THM)		
Sample Collected:	05/22/2008	Findings:	487 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	05/22/2008	Findings:	8.44
Chemical:	PH, LABORATORY		
Sample Collected:	05/22/2008	Findings:	56 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	05/22/2008	Findings:	56 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	05/22/2008	Findings:	98 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	05/22/2008	Findings:	19.55 MG/L
Chemical:	CALCIUM		
Sample Collected:	05/22/2008	Findings:	10.84 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	05/22/2008	Findings:	55.46 MG/L
Chemical:	SODIUM		
Sample Collected:	05/22/2008	Findings:	2.447 MG/L
Chemical:	POTASSIUM		
Sample Collected:	05/22/2008	Findings:	71.25 MG/L
Chemical:	CHLORIDE		
Sample Collected:	05/22/2008	Findings:	1.08 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	05/22/2008	Findings:	283 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	05/22/2008	Findings:	.1
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	05/22/2008	Findings:	3.5 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	05/22/2008	Findings:	.068 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	05/22/2008	Findings:	790 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	05/22/2008	Findings:	790 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	05/22/2008	Findings:	3.5 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	10/30/2007	Findings:	560 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	10/30/2007	Findings:	2.5 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	07/11/2007	Findings:	.084 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	07/11/2007	Findings:	40 UG/L
Chemical:	TOTAL TRIHALOMETHANES		

Sample Collected:	07/11/2007	Findings:	.63 UG/L
Chemical:	M,P-XYLENE		
Sample Collected:	07/11/2007	Findings:	328 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	07/11/2007	Findings:	8.63
Chemical:	PH, LABORATORY		
Sample Collected:	07/11/2007	Findings:	72 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	07/11/2007	Findings:	72 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	07/11/2007	Findings:	68 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	07/11/2007	Findings:	12.7 MG/L
Chemical:	CALCIUM		
Sample Collected:	07/11/2007	Findings:	7.9 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	07/11/2007	Findings:	38.43 MG/L
Chemical:	SODIUM		
Sample Collected:	07/11/2007	Findings:	2 MG/L
Chemical:	POTASSIUM		
Sample Collected:	07/11/2007	Findings:	42 MG/L
Chemical:	CHLORIDE		
Sample Collected:	07/11/2007	Findings:	.744 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	07/11/2007	Findings:	171 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	07/11/2007	Findings:	.3
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	07/11/2007	Findings:	13 UG/L
Chemical:	BROMODICHLORMETHANE (THM)		
Sample Collected:	07/11/2007	Findings:	3.2 UG/L
Chemical:	DIBROMOCHLOROMETHANE (THM)		
Sample Collected:	07/11/2007	Findings:	24 UG/L
Chemical:	CHLOROFORM (THM)		
Sample Collected:	04/26/2007	Findings:	198 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	04/26/2007	Findings:	.565
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	04/26/2007	Findings:	2.7 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	04/26/2007	Findings:	.136 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	04/26/2007	Findings:	620 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	04/26/2007	Findings:	2.7 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	04/26/2007	Findings:	353 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	04/26/2007	Findings:	8.9
Chemical:	PH, LABORATORY		

Sample Collected:	04/26/2007	Findings:	67 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	04/26/2007	Findings:	67 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	04/26/2007	Findings:	78.52 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	04/26/2007	Findings:	14.34 MG/L
Chemical:	CALCIUM		
Sample Collected:	04/26/2007	Findings:	10.2 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	04/26/2007	Findings:	34.8 MG/L
Chemical:	SODIUM		
Sample Collected:	04/26/2007	Findings:	2.3 MG/L
Chemical:	POTASSIUM		
Sample Collected:	04/26/2007	Findings:	63 MG/L
Chemical:	CHLORIDE		
Sample Collected:	04/26/2007	Findings:	.785 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	03/20/2007	Findings:	780 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	03/20/2007	Findings:	3.5 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	03/20/2007	Findings:	780 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	03/20/2007	Findings:	451 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	03/20/2007	Findings:	8.84
Chemical:	PH, LABORATORY		
Sample Collected:	03/20/2007	Findings:	80 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	03/20/2007	Findings:	80 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	03/20/2007	Findings:	96 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	03/20/2007	Findings:	20.61 MG/L
Chemical:	CALCIUM		
Sample Collected:	03/20/2007	Findings:	11.8 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	03/20/2007	Findings:	54.08 MG/L
Chemical:	SODIUM		
Sample Collected:	03/20/2007	Findings:	1.8 MG/L
Chemical:	POTASSIUM		
Sample Collected:	03/20/2007	Findings:	64 MG/L
Chemical:	CHLORIDE		
Sample Collected:	03/20/2007	Findings:	.823 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	03/20/2007	Findings:	21 UG/L
Chemical:	MANGANESE		
Sample Collected:	03/20/2007	Findings:	264 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		

Sample Collected:	03/20/2007	Findings:	.726
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	03/20/2007	Findings:	3.5 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	03/20/2007	Findings:	.048 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	10/25/2006	Findings:	356 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	10/25/2006	Findings:	8.52
Chemical:	PH, LABORATORY		
Sample Collected:	10/25/2006	Findings:	94 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	10/25/2006	Findings:	94 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	10/25/2006	Findings:	95 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	10/25/2006	Findings:	17.8 MG/L
Chemical:	CALCIUM		
Sample Collected:	10/25/2006	Findings:	12.3 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	10/25/2006	Findings:	39.1 MG/L
Chemical:	SODIUM		
Sample Collected:	10/25/2006	Findings:	1.92 MG/L
Chemical:	POTASSIUM		
Sample Collected:	10/25/2006	Findings:	43.5 MG/L
Chemical:	CHLORIDE		
Sample Collected:	10/25/2006	Findings:	1.03 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	10/25/2006	Findings:	202 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	10/25/2006	Findings:	.43
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	10/25/2006	Findings:	.101 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	06/21/2006	Findings:	5.8 UG/L
Chemical:	BROMODICHLORMETHANE (THM)		
Sample Collected:	06/21/2006	Findings:	1.2 UG/L
Chemical:	DIBROMOCHLOROMETHANE (THM)		
Sample Collected:	06/21/2006	Findings:	23 UG/L
Chemical:	CHLOROFORM (THM)		
Sample Collected:	06/21/2006	Findings:	.06 UG/L
Chemical:	METOLACHLOR		
Sample Collected:	06/21/2006	Findings:	209 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/21/2006	Findings:	9.72
Chemical:	PH, LABORATORY		
Sample Collected:	06/21/2006	Findings:	36 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	06/21/2006	Findings:	36 MG/L
Chemical:	BICARBONATE ALKALINITY		

Sample Collected:	06/21/2006	Findings:	28 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	06/21/2006	Findings:	7.105 MG/L
Chemical:	CALCIUM		
Sample Collected:	06/21/2006	Findings:	3.4 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	06/21/2006	Findings:	31.54 MG/L
Chemical:	SODIUM		
Sample Collected:	06/21/2006	Findings:	1.219 MG/L
Chemical:	POTASSIUM		
Sample Collected:	06/21/2006	Findings:	31 MG/L
Chemical:	CHLORIDE		
Sample Collected:	06/21/2006	Findings:	.95 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	06/21/2006	Findings:	30 UG/L
Chemical:	MANGANESE		
Sample Collected:	06/21/2006	Findings:	126 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	06/21/2006	Findings:	.847
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	06/21/2006	Findings:	.082 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	06/21/2006	Findings:	30 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	04/18/2006	Findings:	1.4 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	04/18/2006	Findings:	1.3 PCI/L
Chemical:	GROSS BETA COUNTING ERROR		
Sample Collected:	02/15/2006	Findings:	2.18 MG/L
Chemical:	POTASSIUM		
Sample Collected:	02/15/2006	Findings:	35 MG/L
Chemical:	CHLORIDE		
Sample Collected:	02/15/2006	Findings:	.99 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	02/15/2006	Findings:	199 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	02/15/2006	Findings:	.957
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	02/15/2006	Findings:	3.1 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	02/15/2006	Findings:	.06 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	02/15/2006	Findings:	700 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	02/15/2006	Findings:	48.1 MG/L
Chemical:	SODIUM		
Sample Collected:	02/15/2006	Findings:	15 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	02/15/2006	Findings:	18.6 MG/L
Chemical:	CALCIUM		

Sample Collected:	02/15/2006	Findings:	93 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	02/15/2006	Findings:	90 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	02/15/2006	Findings:	90 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	02/15/2006	Findings:	9.04
Chemical:	PH, LABORATORY		
Sample Collected:	02/15/2006	Findings:	410 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	01/19/2006	Findings:	1.4 PCI/L
Chemical:	GROSS BETA COUNTING ERROR		
Sample Collected:	01/19/2006	Findings:	1 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	01/13/2006	Findings:	.5 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	11/14/2005	Findings:	2.4 MG/L
Chemical:	POTASSIUM		
Sample Collected:	11/14/2005	Findings:	48 MG/L
Chemical:	SODIUM		
Sample Collected:	11/14/2005	Findings:	15 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	11/14/2005	Findings:	23 MG/L
Chemical:	CALCIUM		
Sample Collected:	07/05/2005	Findings:	1.57 MG/L
Chemical:	TOTAL ORGANIC CARBON (TOC)		
Sample Collected:	07/05/2005	Findings:	23 UG/L
Chemical:	CHLOROFORM (THM)		
Sample Collected:	07/05/2005	Findings:	36 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	07/05/2005	Findings:	3.4 UG/L
Chemical:	DIBROMOCHLOROMETHANE (THM)		
Sample Collected:	07/05/2005	Findings:	10 UG/L
Chemical:	BROMODICHLORMETHANE (THM)		
Sample Collected:	06/21/2005	Findings:	37 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	06/21/2005	Findings:	26 UG/L
Chemical:	CHLOROFORM (THM)		
Sample Collected:	06/21/2005	Findings:	1.9 UG/L
Chemical:	DIBROMOCHLOROMETHANE (THM)		
Sample Collected:	06/21/2005	Findings:	2.27 MG/L
Chemical:	TOTAL ORGANIC CARBON (TOC)		
Sample Collected:	06/21/2005	Findings:	9 UG/L
Chemical:	BROMODICHLORMETHANE (THM)		
Sample Collected:	06/01/2005	Findings:	1.7 MG/L
Chemical:	POTASSIUM		
Sample Collected:	06/01/2005	Findings:	25 MG/L
Chemical:	SODIUM		
Sample Collected:	06/01/2005	Findings:	3.9 MG/L
Chemical:	MAGNESIUM		

Sample Collected:	06/01/2005	Findings:	8.6 MG/L
Chemical:	CALCIUM		
Sample Collected:	06/01/2005	Findings:	51 UG/L
Chemical:	ALUMINUM		
Sample Collected:	05/25/2005	Findings:	16 UG/L
Chemical:	BROMODICHLORMETHANE (THM)		
Sample Collected:	05/25/2005	Findings:	4.2 UG/L
Chemical:	DIBROMOCHLOROMETHANE (THM)		
Sample Collected:	05/25/2005	Findings:	52 UG/L
Chemical:	CHLOROFORM (THM)		
Sample Collected:	05/25/2005	Findings:	.06 UG/L
Chemical:	METOLACHLOR		
Sample Collected:	05/25/2005	Findings:	1.15 PCI/L
Chemical:	RADIUM 228		
Sample Collected:	05/25/2005	Findings:	.385 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	05/25/2005	Findings:	1.2 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	05/25/2005	Findings:	1.4 PCI/L
Chemical:	GROSS BETA COUNTING ERROR		
Sample Collected:	05/25/2005	Findings:	8.2 PCI/L
Chemical:	RADON 222 COUNTING ERROR		
Sample Collected:	05/25/2005	Findings:	140 UG/L
Chemical:	BORON		
Sample Collected:	05/25/2005	Findings:	72 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	11/16/2004	Findings:	65 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	11/16/2004	Findings:	1.3 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	11/16/2004	Findings:	1.5 PCI/L
Chemical:	GROSS BETA COUNTING ERROR		
Sample Collected:	11/16/2004	Findings:	10 PCI/L
Chemical:	RADON 222 COUNTING ERROR		
Sample Collected:	11/16/2004	Findings:	140 UG/L
Chemical:	BORON		
Sample Collected:	11/16/2004	Findings:	25 UG/L
Chemical:	BROMODICHLORMETHANE (THM)		
Sample Collected:	11/16/2004	Findings:	2.9 UG/L
Chemical:	BROMOFORM (THM)		
Sample Collected:	11/16/2004	Findings:	16 UG/L
Chemical:	DIBROMOCHLOROMETHANE (THM)		
Sample Collected:	11/16/2004	Findings:	21 UG/L
Chemical:	CHLOROFORM (THM)		
Sample Collected:	10/28/2004	Findings:	499 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	10/28/2004	Findings:	8.04
Chemical:	PH, LABORATORY		
Sample Collected:	10/28/2004	Findings:	122 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		

Sample Collected:	10/28/2004	Findings:	122 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	10/28/2004	Findings:	135 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	10/28/2004	Findings:	29.8 MG/L
Chemical:	CALCIUM		
Sample Collected:	10/28/2004	Findings:	20.7 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	10/28/2004	Findings:	47.22 MG/L
Chemical:	SODIUM		
Sample Collected:	10/28/2004	Findings:	2.7 MG/L
Chemical:	POTASSIUM		
Sample Collected:	10/28/2004	Findings:	57 MG/L
Chemical:	CHLORIDE		
Sample Collected:	10/28/2004	Findings:	.41 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	10/28/2004	Findings:	122 UG/L
Chemical:	BARIUM		
Sample Collected:	10/28/2004	Findings:	253 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	10/28/2004	Findings:	.27
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	10/28/2004	Findings:	.09 NTU
Chemical:	TURBIDITY, LABORATORY		

CALIFORNIA GOVERNMENT WELL RECORDS SEARCHED

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

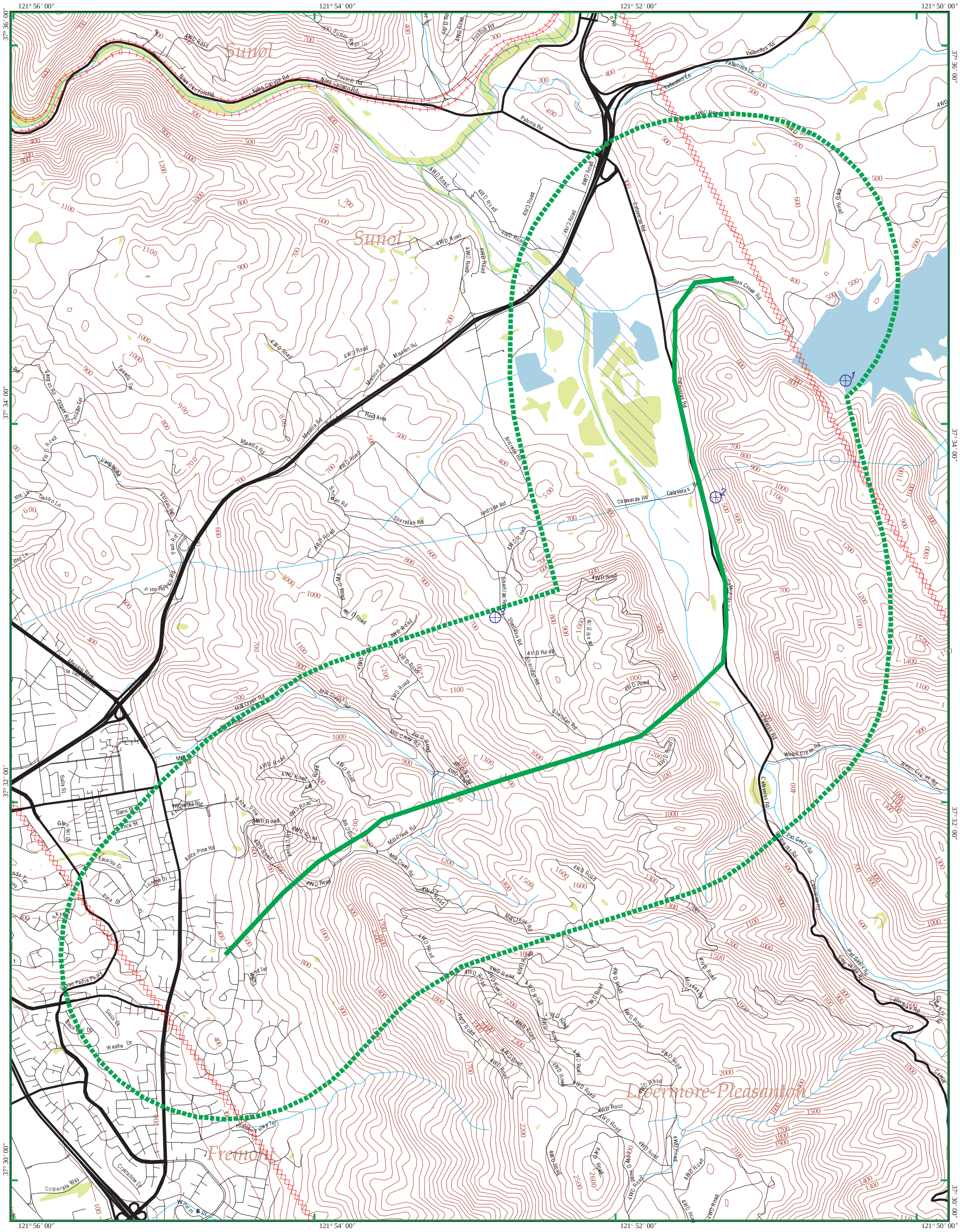
USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Health Services
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

STREET AND ADDRESS INFORMATION



EDR DataMap® - Well Search

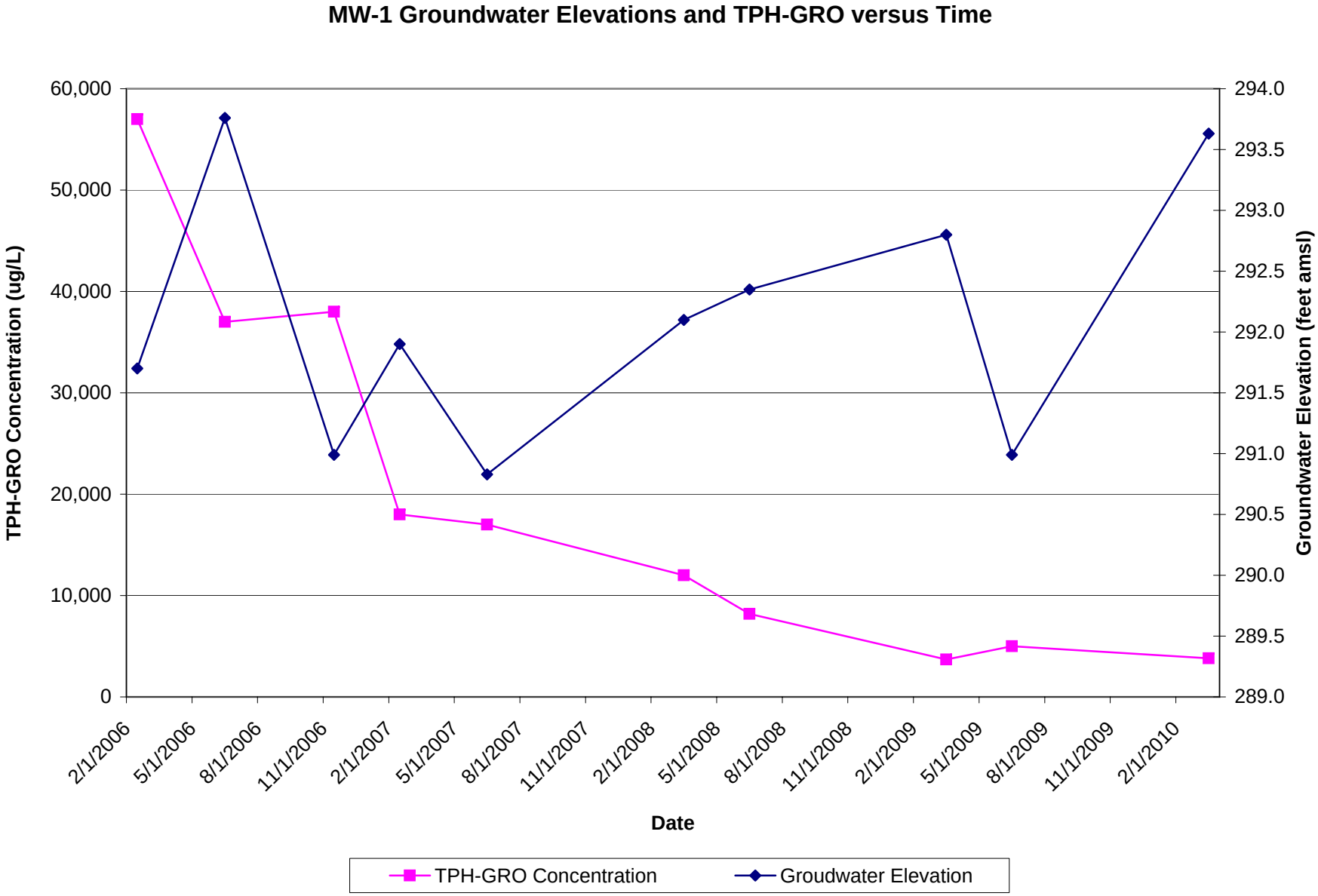
ASTM E-1528-06

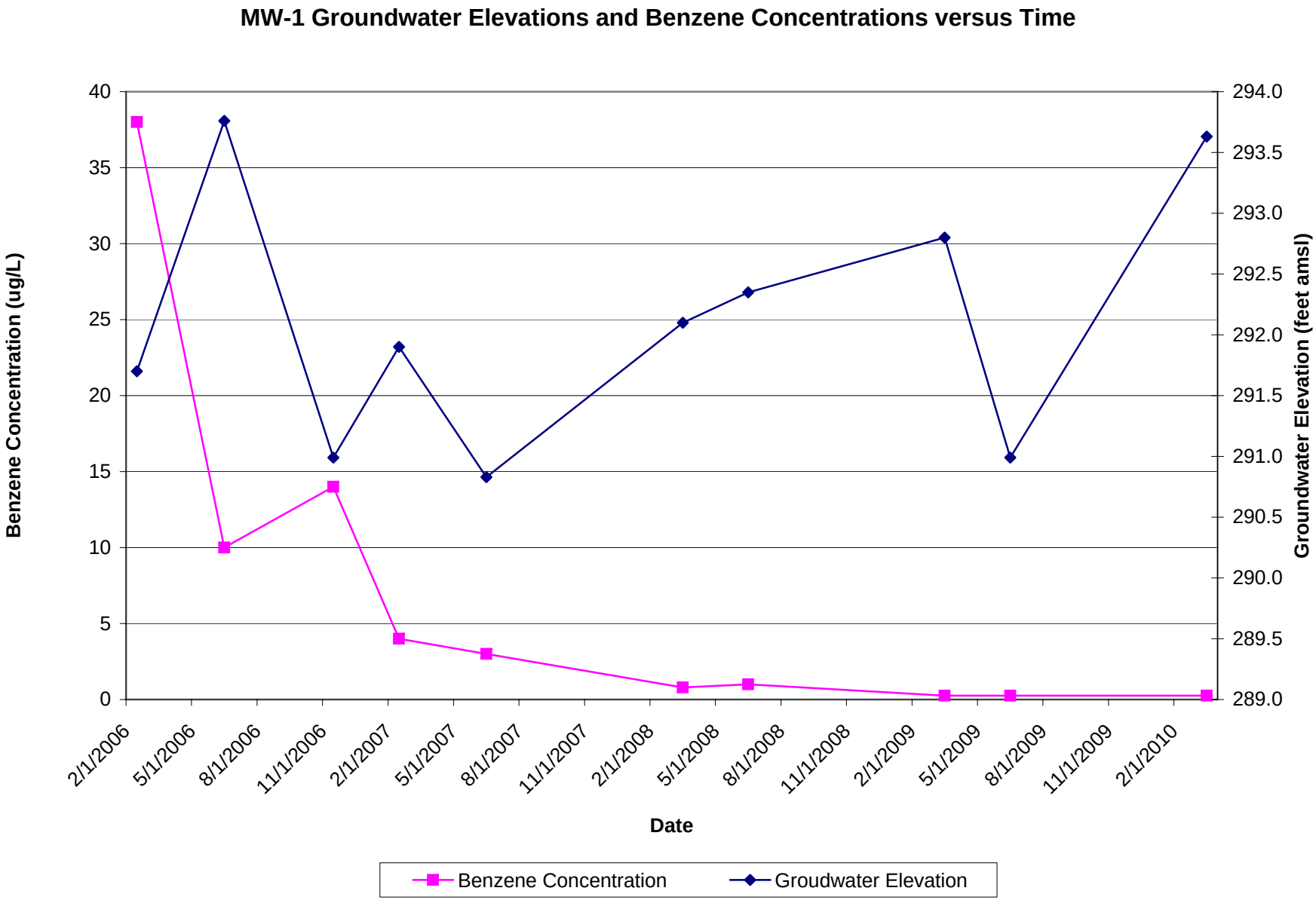
EDR® Environmental Data Resources Inc

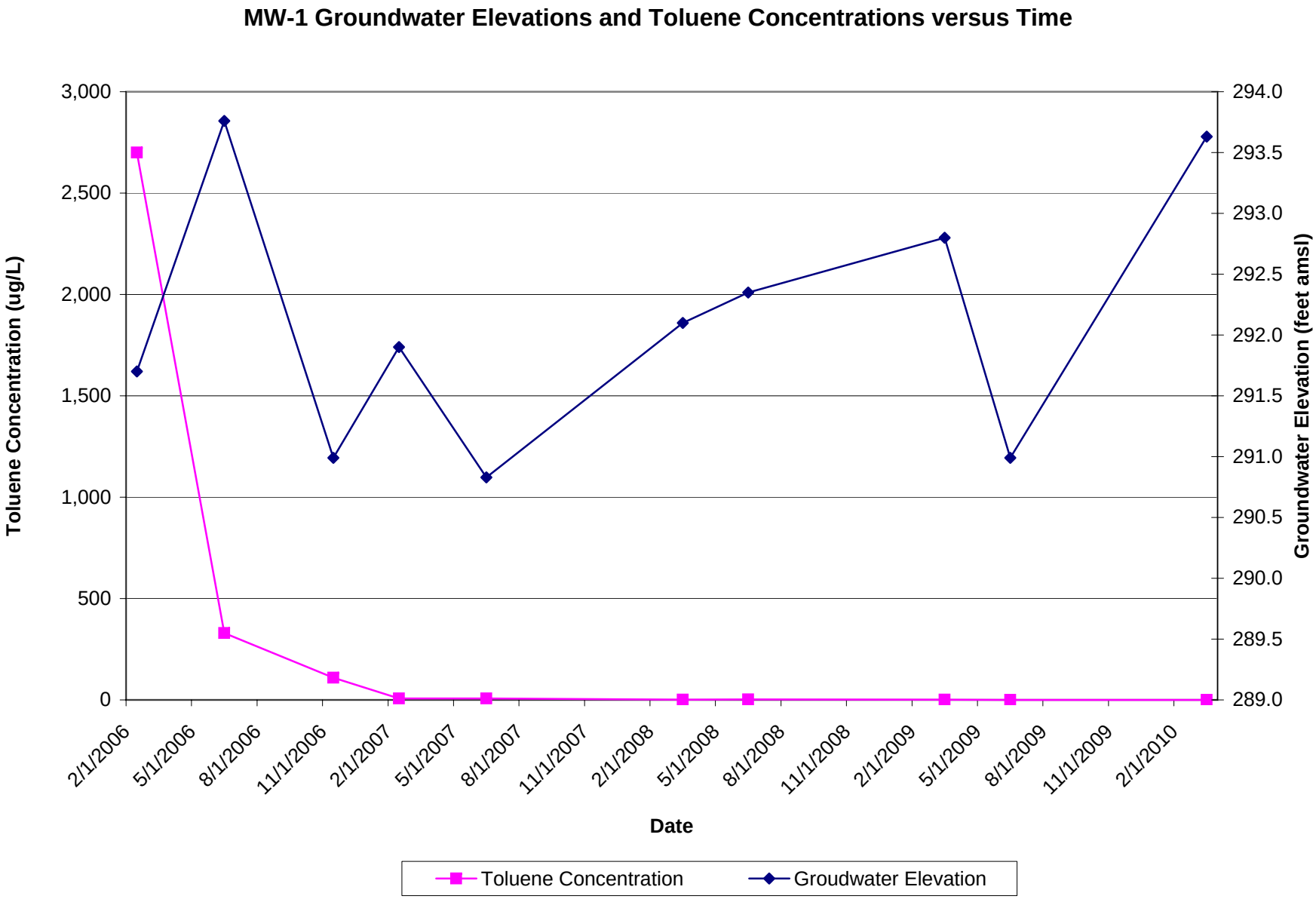
Livermore, CA

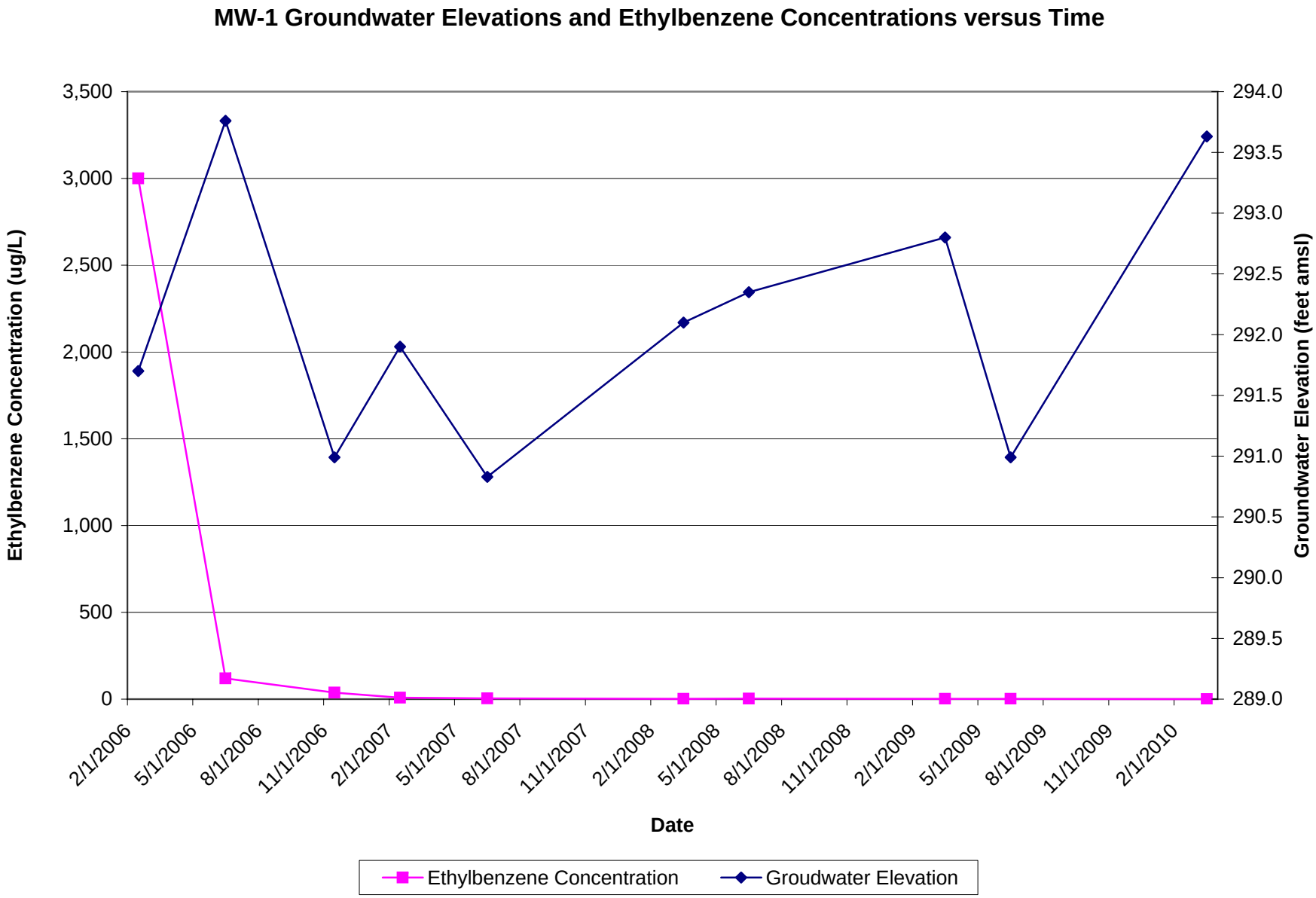
02629847.3w - 11 Nov 09

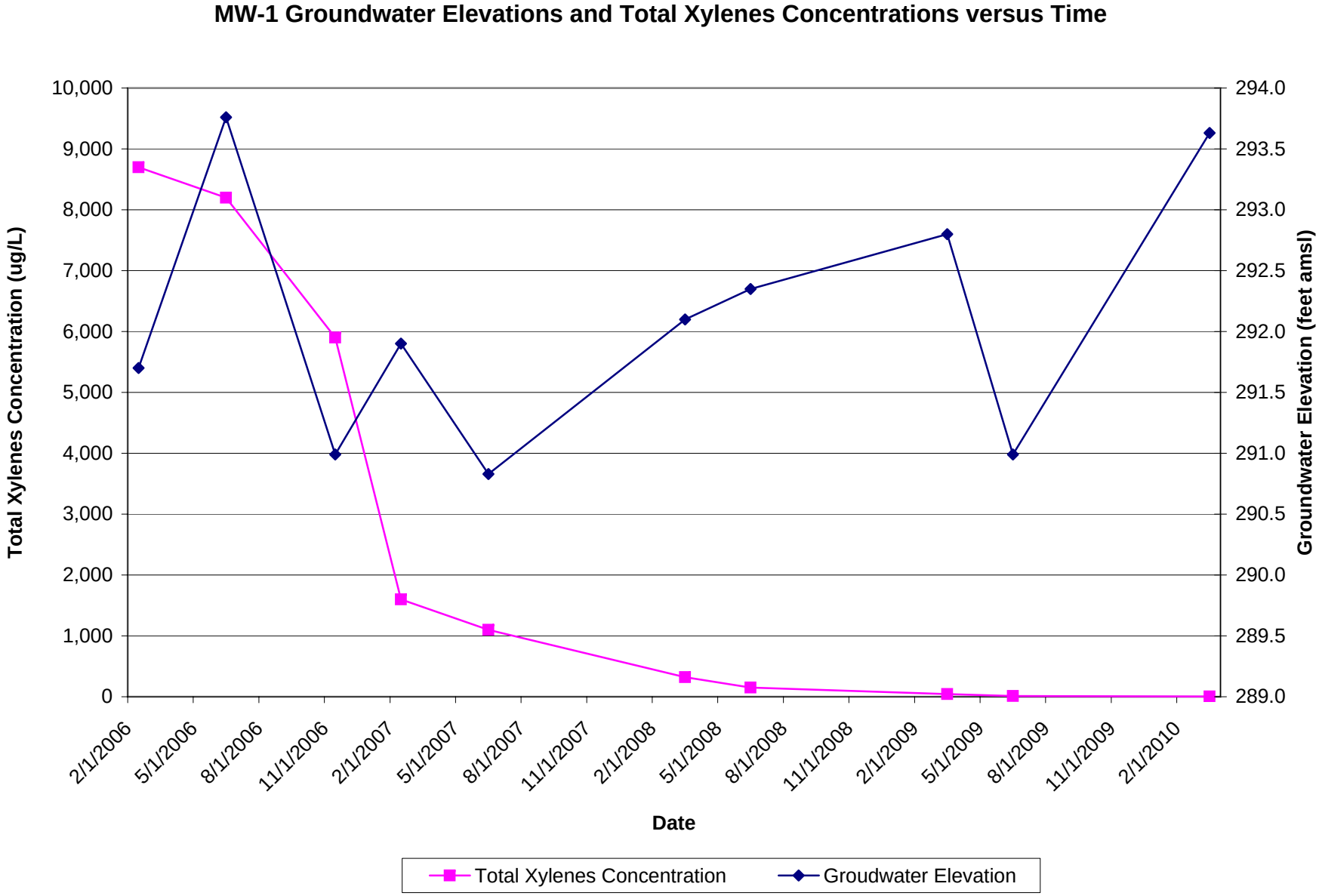
Appendix D
Total Petroleum Hydrocarbons as Gasoline, Benzene, Toluene, Ethylbenzene, Total Xylenes, and Groundwater Elevations Over Time Graphs

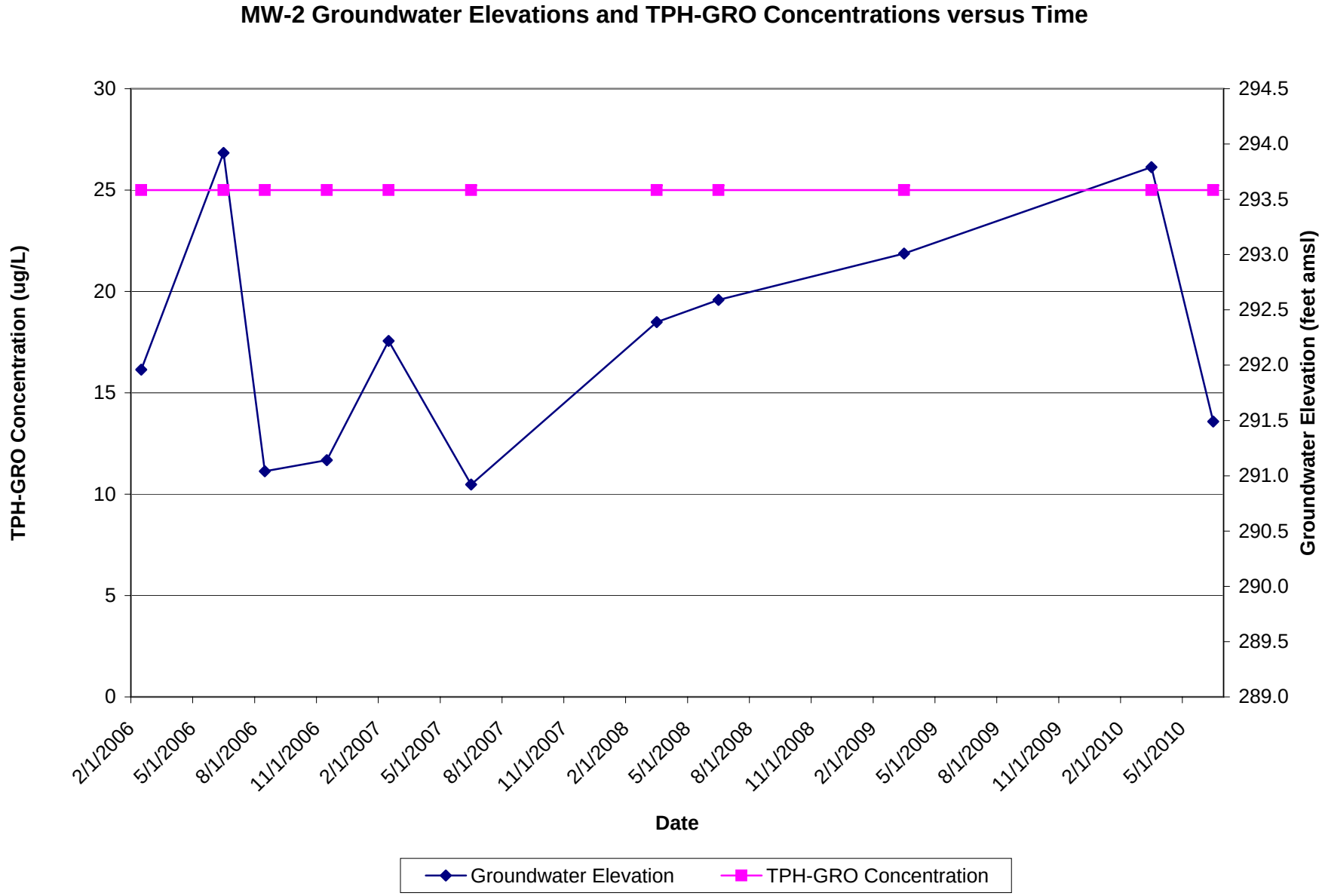

MW-1 Groundwater Elevations and TPH-GRO versus Time
TPH-GRO Concentration (ug/L)
Groundwater Elevation (feet amsl)
60,000
50,000
40,000
30,000
20,000
10,000
0
294.0
293.5
293.0
292.5
292.0
291.5
291.0
290.5
290.0
289.5
289.0
2/1/2006
5/1/2006
8/1/2006
11/1/2006
2/1/2007
5/1/2007
8/1/2007
11/1/2007
2/1/2008
5/1/2008
8/1/2008
11/1/2008
2/1/2009
5/1/2009
8/1/2009
11/1/2009
2/1/2010
Date
TPH-GRO Concentration
Groudwater Elevation


MW-1 Groundwater Elevations and Benzene Concentrations versus Time
Benzene Concentration (ug/L)
Groundwater Elevation (feet amsl)
40
35
30
25
20
15
10
5
0
294.0
293.5
293.0
292.5
292.0
291.5
291.0
290.5
290.0
289.5
289.0
2/1/2006
5/1/2006
8/1/2006
11/1/2006
2/1/2007
5/1/2007
8/1/2007
11/1/2007
2/1/2008
5/1/2008
8/1/2008
11/1/2008
2/1/2009
5/1/2009
8/1/2009
11/1/2009
2/1/2010
Date
Benzene Concentration
Groudwater Elevation


MW-1 Groundwater Elevations and Toluene Concentrations versus Time
Toluene Concentration (ug/L)
Groundwater Elevation (feet amsl)
3,000
2,500
2,000
1,500
1,000
500
0
294.0
293.5
293.0
292.5
292.0
291.5
291.0
290.5
290.0
289.5
289.0
2/1/2006
5/1/2006
8/1/2006
11/1/2006
2/1/2007
5/1/2007
8/1/2007
11/1/2007
2/1/2008
5/1/2008
8/1/2008
11/1/2008
2/1/2009
5/1/2009
8/1/2009
11/1/2009
2/1/2010
Date
Toluene Concentration
Groudwater Elevation

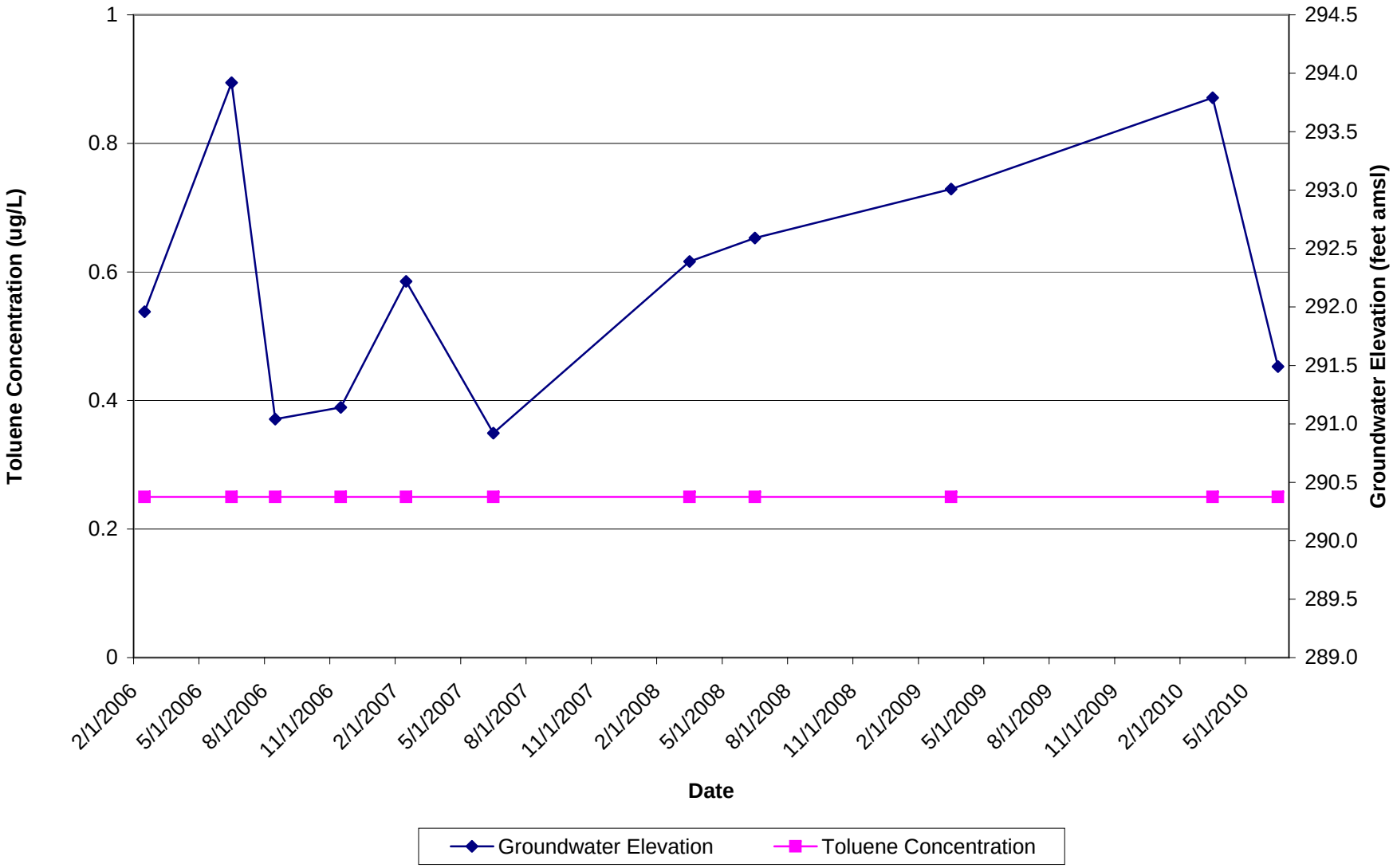

MW-1 Groundwater Elevations and Ethylbenzene Concentrations versus Time
Ethylbenzene Concentration (ug/L)
3,500
3,000
2,500
2,000
1,500
1,000
500
0
Groundwater Elevation (feet amsl)
294.0
293.5
293.0
292.5
292.0
291.5
291.0
290.5
290.0
289.5
289.0
2/1/2006
5/1/2006
8/1/2006
11/1/2006
2/1/2007
5/1/2007
8/1/2007
11/1/2007
2/1/2008
5/1/2008
8/1/2008
11/1/2008
2/1/2009
5/1/2009
8/1/2009
11/1/2009
2/1/2010
Date
Ethylbenzene Concentration
Groudwater Elevation


MW-1 Groundwater Elevations and Total Xylenes Concentrations versus Time
Total Xylenes Concentration (ug/L)
Groundwater Elevation (feet amsl)
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
294.0
293.5
293.0
292.5
292.0
291.5
291.0
290.5
290.0
289.5
289.0
2/1/2006
5/1/2006
8/1/2006
11/1/2006
2/1/2007
5/1/2007
8/1/2007
11/1/2007
2/1/2008
5/1/2008
8/1/2008
11/1/2008
2/1/2009
5/1/2009
8/1/2009
11/1/2009
2/1/2010
Date
Total Xylenes Concentration
Groudwater Elevation

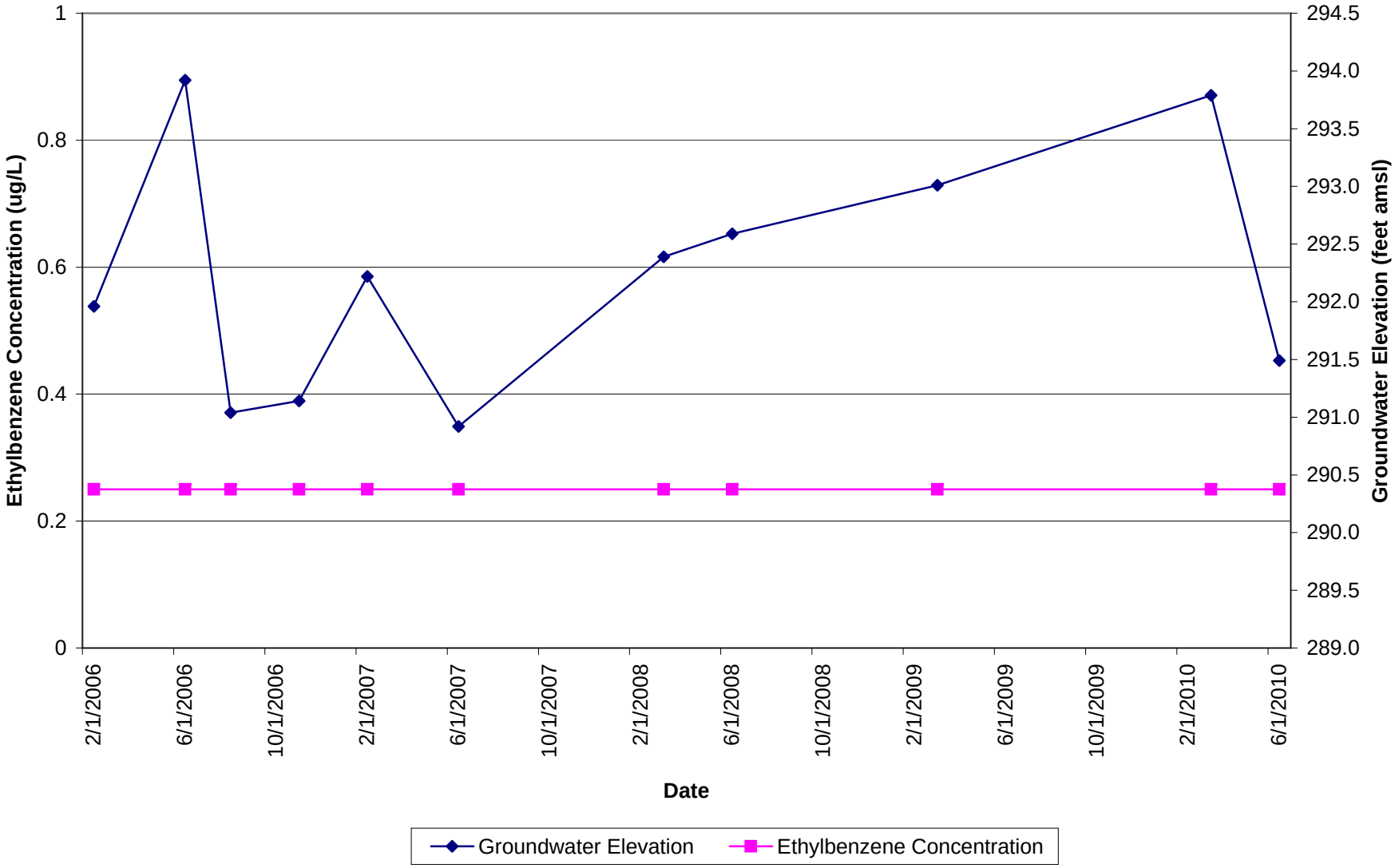

MW-2 Groundwater Elevations and TPH-GRO Concentrations versus Time
TPH-GRO Concentration (ug/L)
Groundwater Elevation (feet amsl)
30
25
20
15
10
5
0
294.5
294.0
293.5
293.0
292.5
292.0
291.5
291.0
290.5
290.0
289.5
289.0
2/1/2006
5/1/2006
8/1/2006
11/1/2006
2/1/2007
5/1/2007
8/1/2007
11/1/2007
2/1/2008
5/1/2008
8/1/2008
11/1/2008
2/1/2009
5/1/2009
8/1/2009
11/1/2009
2/1/2010
5/1/2010
Date
Groundwater Elevation
TPH-GRO Concentration


MW-2 Groundwater Elevations and Benzene Concentrations versus Time
Benzene Concentration (ug/L)
Groundwater Elevation (feet amsl)
1
0.8
0.6
0.4
0.2
0
294.5
294.0
293.5
293.0
292.5
292.0
291.5
291.0
290.5
290.0
289.5
289.0
2/1/2006
5/1/2006
8/1/2006
11/1/2006
2/1/2007
5/1/2007
8/1/2007
11/1/2007
2/1/2008
5/1/2008
8/1/2008
11/1/2008
2/1/2009
5/1/2009
8/1/2009
11/1/2009
2/1/2010
5/1/2010
Date
Groundwater Elevation
Benzene Concentration

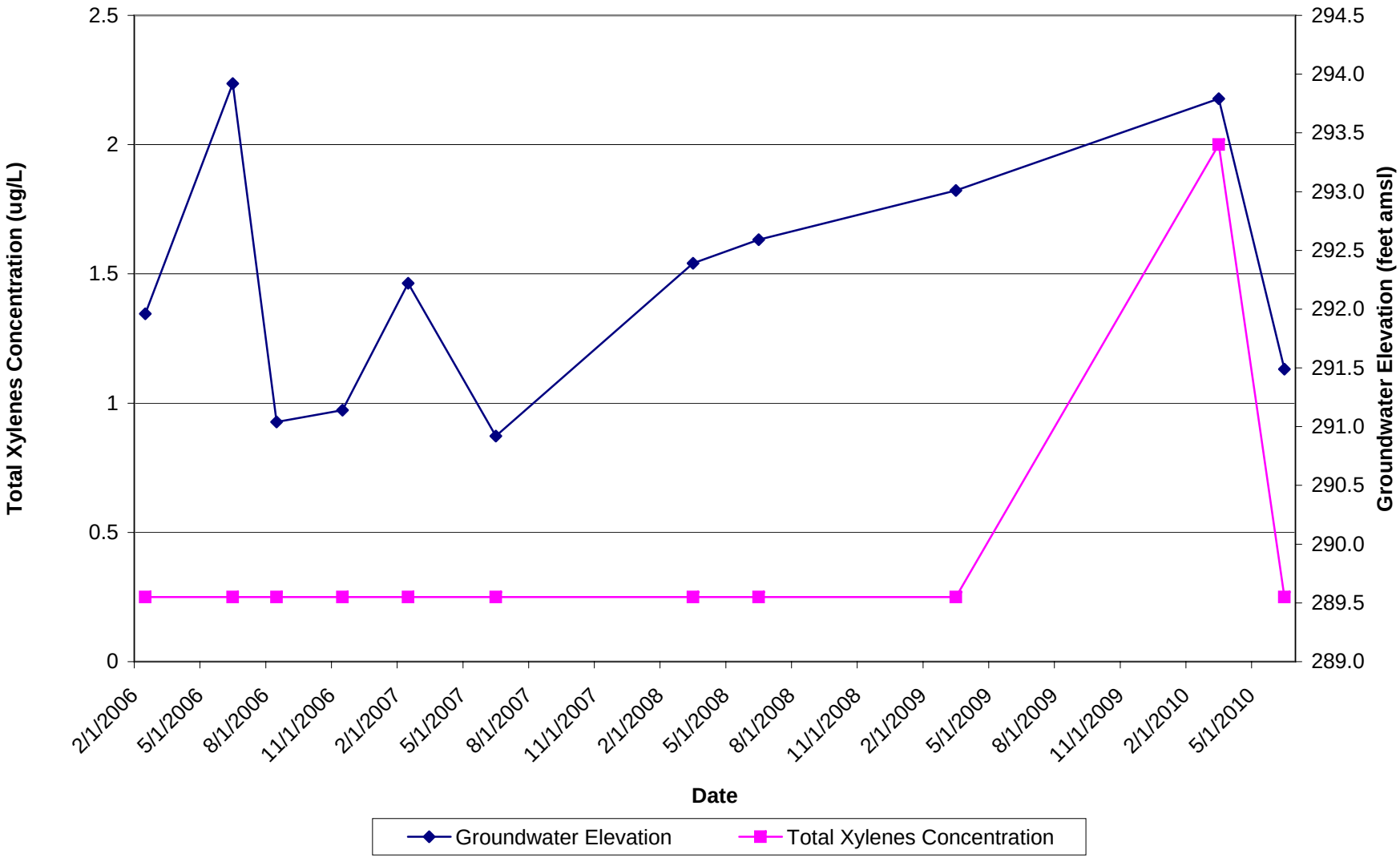
MW-2 Groundwater Elevations and Toluene Concentrations versus Time



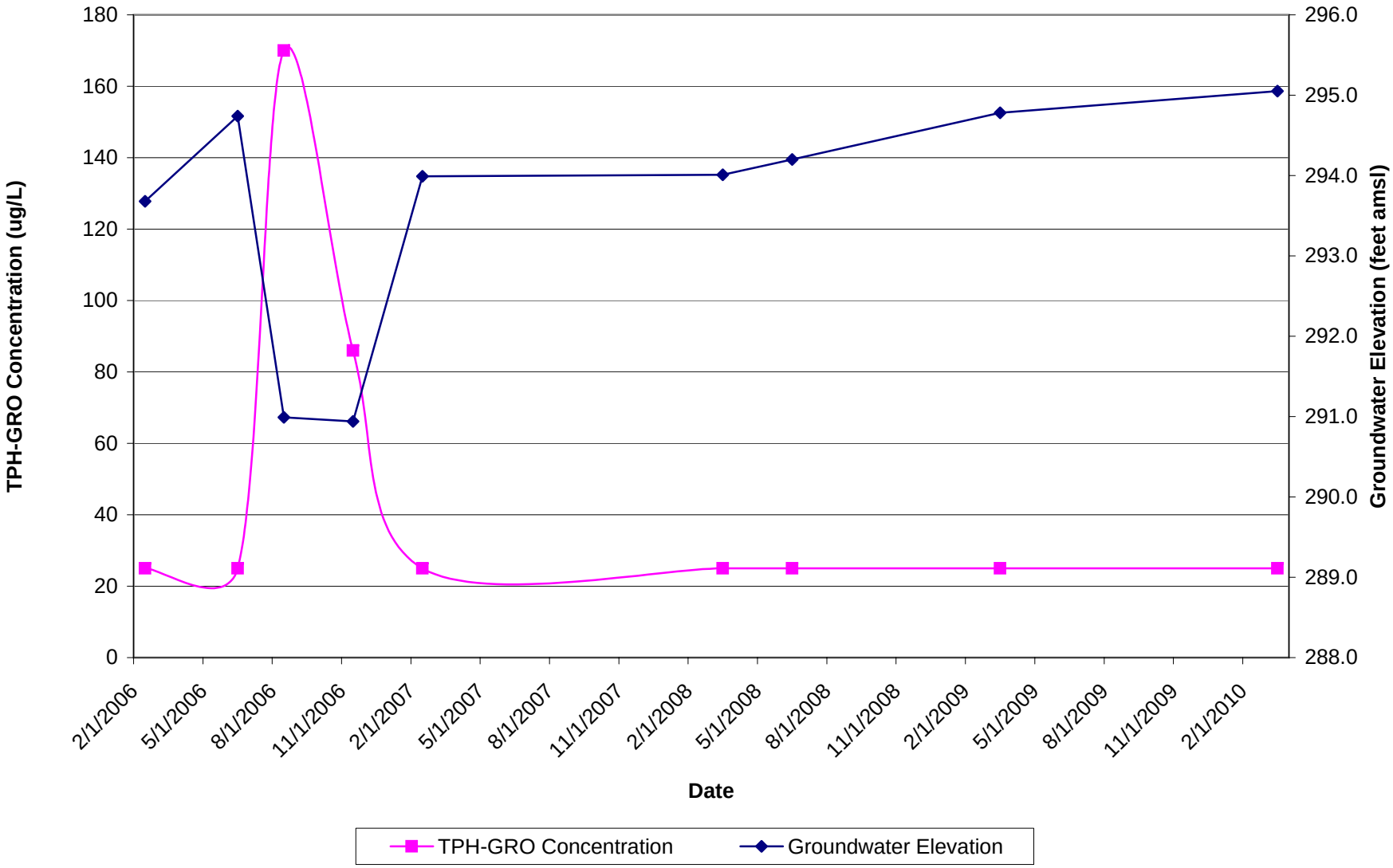
MW-2 Groundwater Elevations and Ethylbenzene Concentrations versus Time



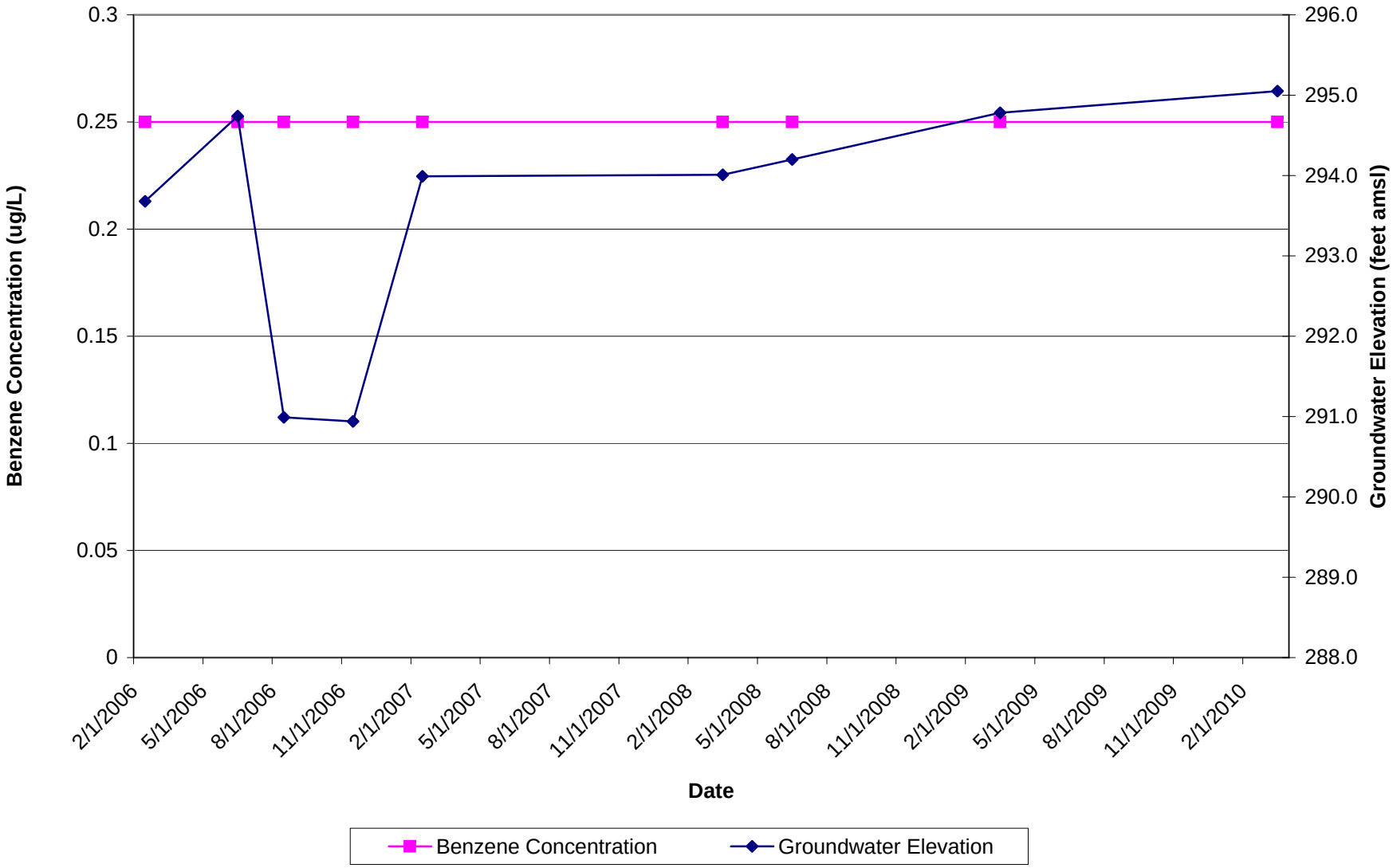
MW-2 Groundwater Elevations and Total Xylenes Concentrations versus Time



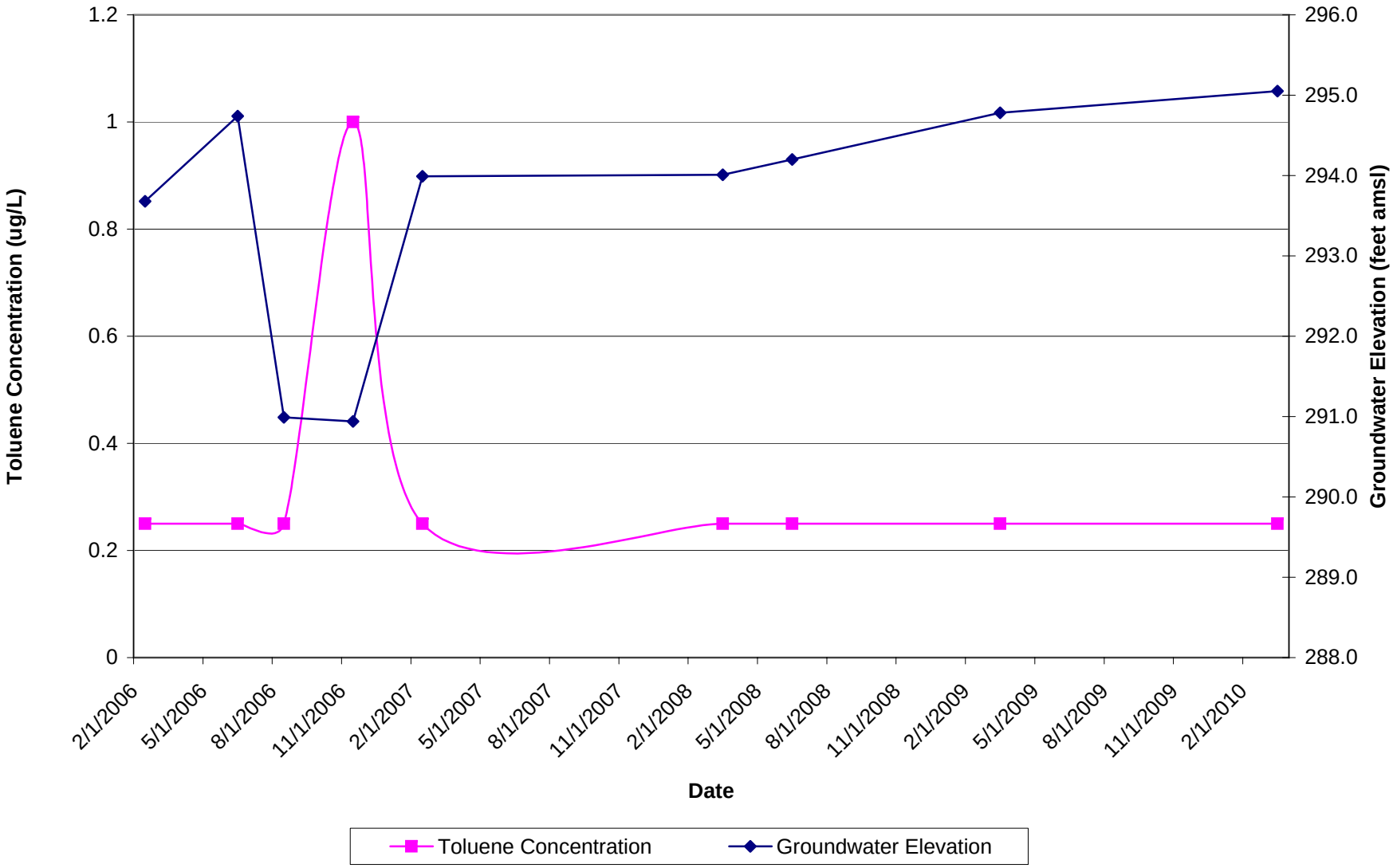
MW-3 Groundwater Elevations and TPH-GRO Concentrations versus Time

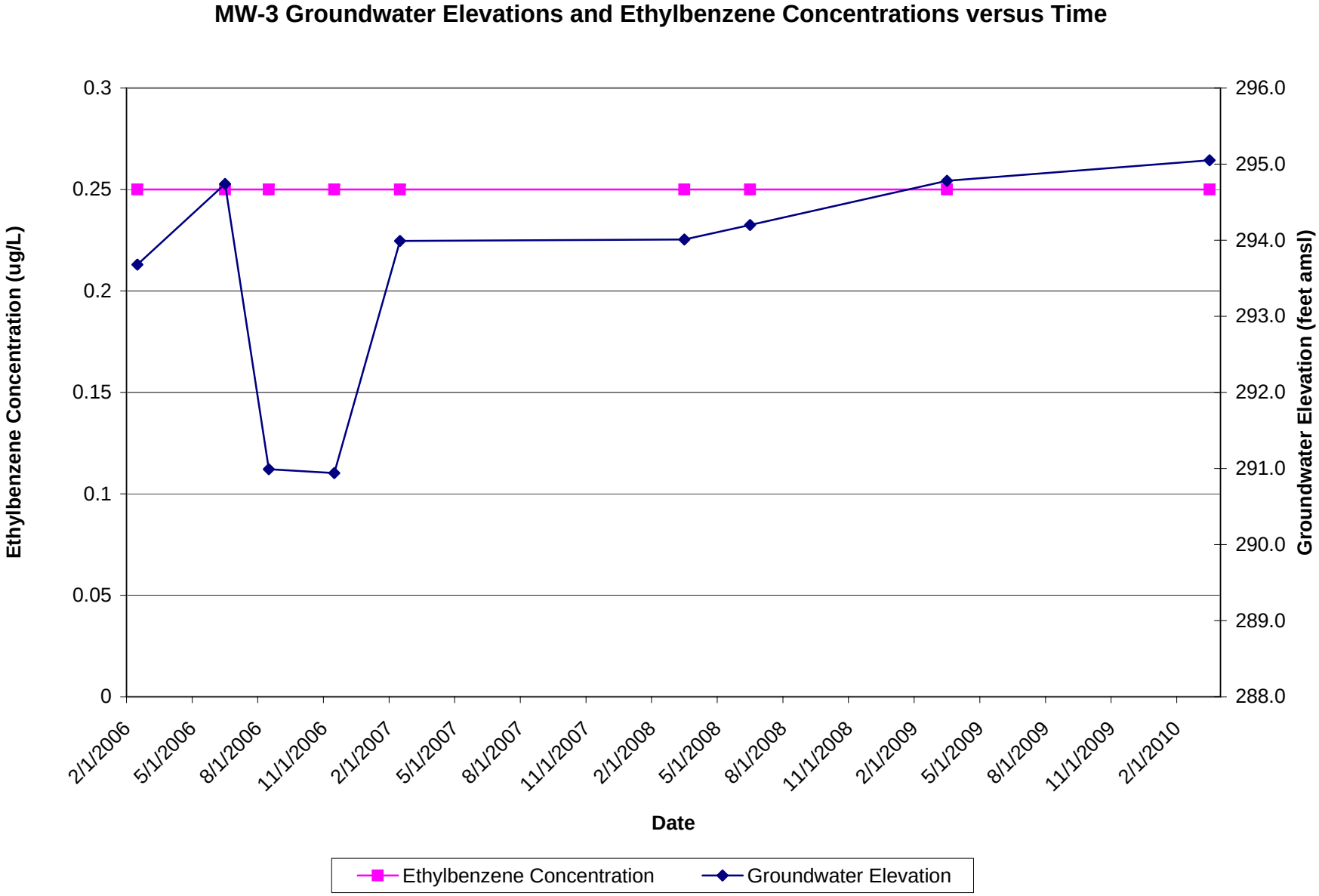


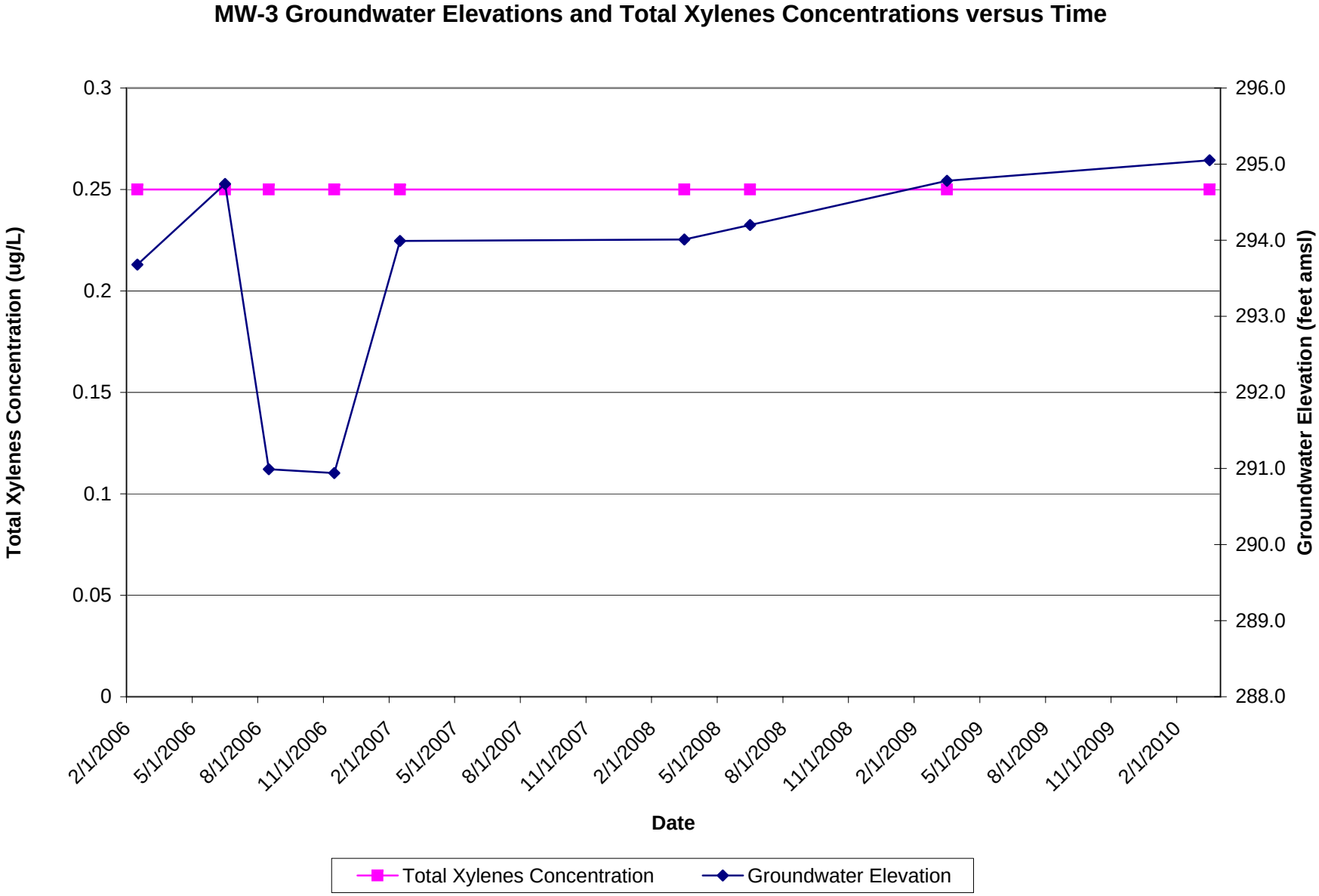
MW-3 Groundwater Elevations and Benzene Concentrations versus Time



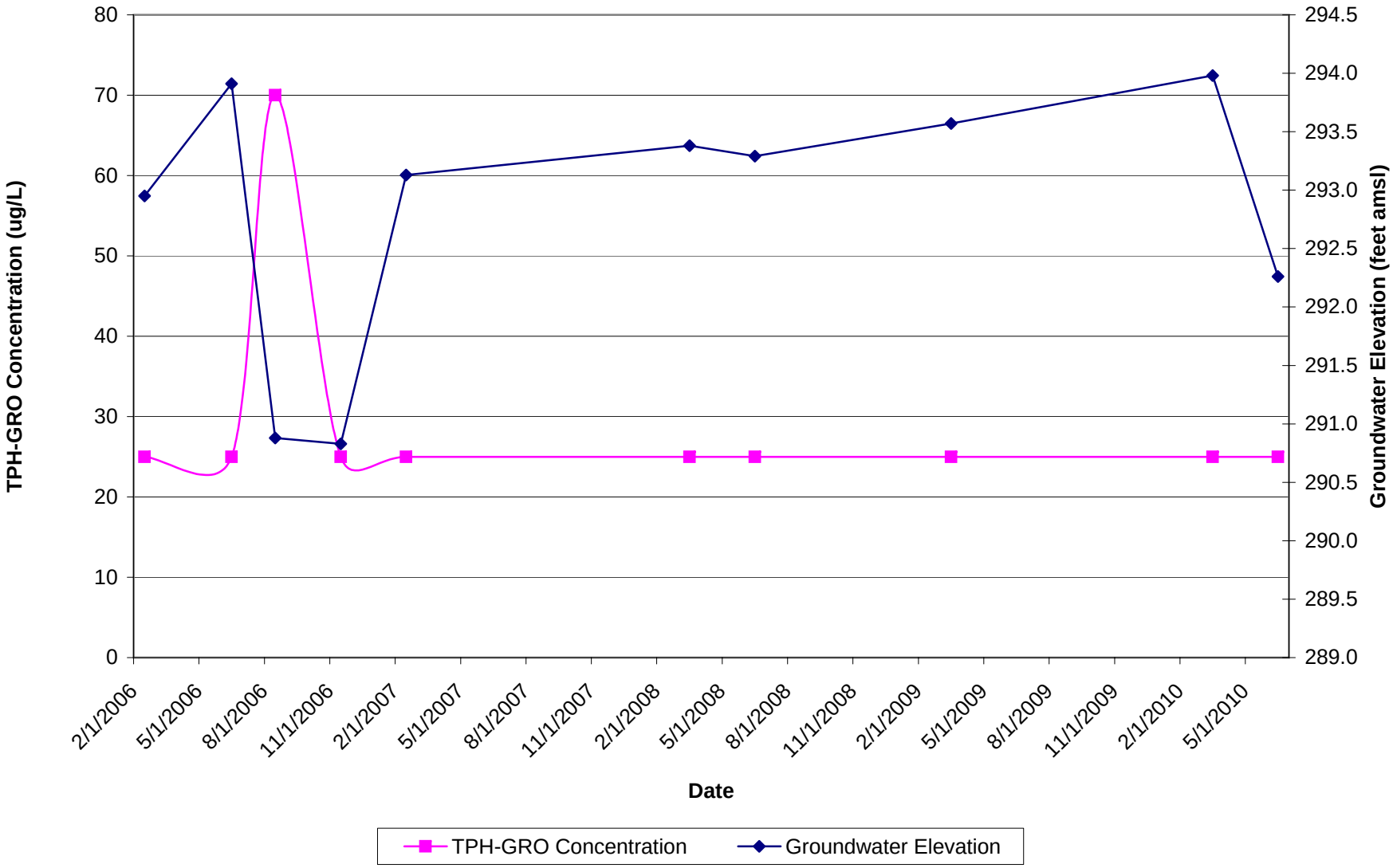
MW-3 Groundwater Elevations and Toluene Concentrations versus Time



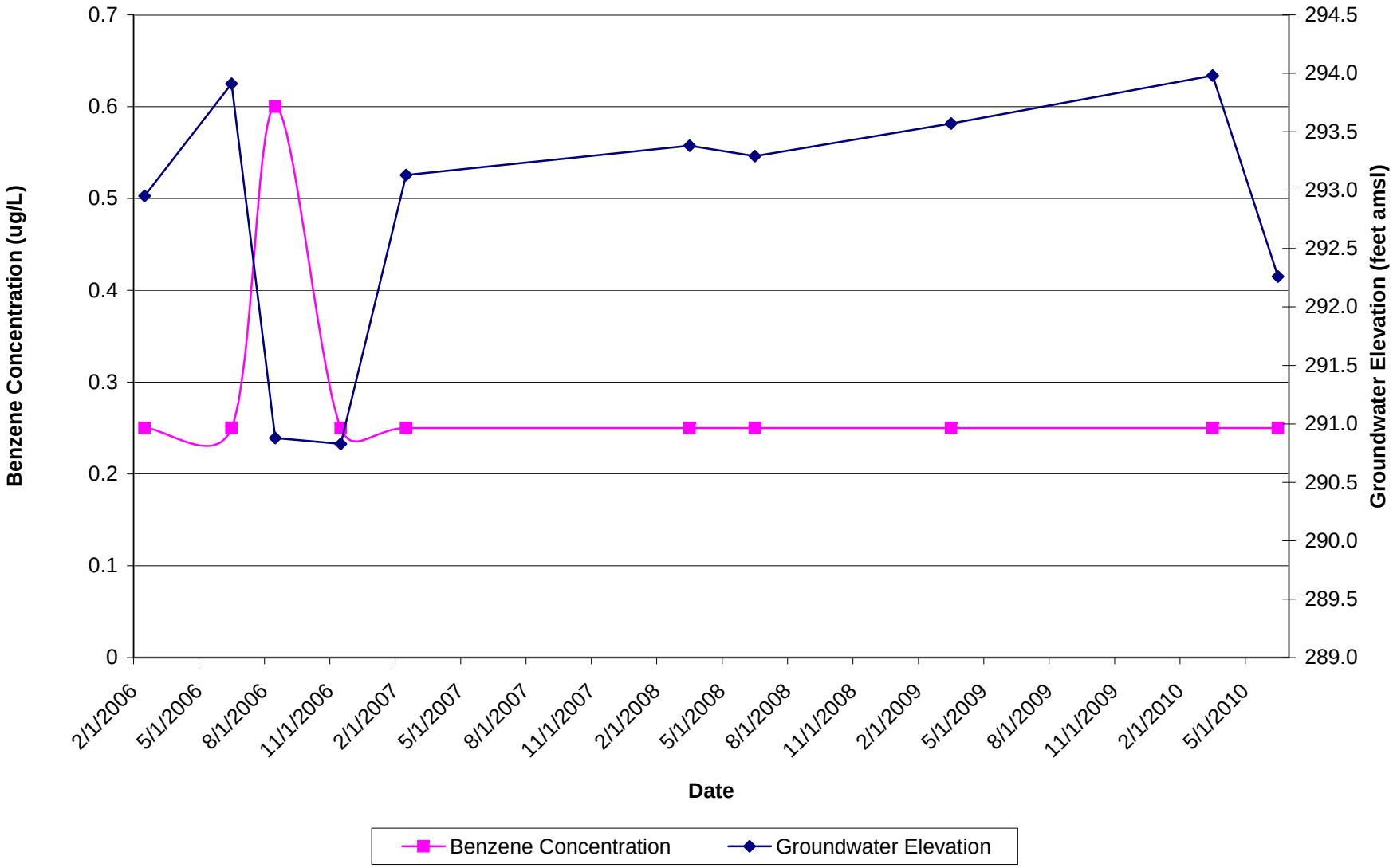

MW-3 Groundwater Elevations and Ethylbenzene Concentrations versus Time
Ethylbenzene Concentration (ug/L)
Groundwater Elevation (feet amsl)
0.3
0.25
0.2
0.15
0.1
0.05
0
296.0
295.0
294.0
293.0
292.0
291.0
290.0
289.0
288.0
2/1/2006
5/1/2006
8/1/2006
11/1/2006
2/1/2007
5/1/2007
8/1/2007
11/1/2007
2/1/2008
5/1/2008
8/1/2008
11/1/2008
2/1/2009
5/1/2009
8/1/2009
11/1/2009
2/1/2010
Date
Ethylbenzene Concentration
Groundwater Elevation


MW-3 Groundwater Elevations and Total Xylenes Concentrations versus Time
Total Xylenes Concentration (ug/L)
Groundwater Elevation (feet amsl)
0.3
0.25
0.2
0.15
0.1
0.05
0
296.0
295.0
294.0
293.0
292.0
291.0
290.0
289.0
288.0
2/1/2006
5/1/2006
8/1/2006
11/1/2006
2/1/2007
5/1/2007
8/1/2007
11/1/2007
2/1/2008
5/1/2008
8/1/2008
11/1/2008
2/1/2009
5/1/2009
8/1/2009
11/1/2009
2/1/2010
Date
Total Xylenes Concentration
Groundwater Elevation

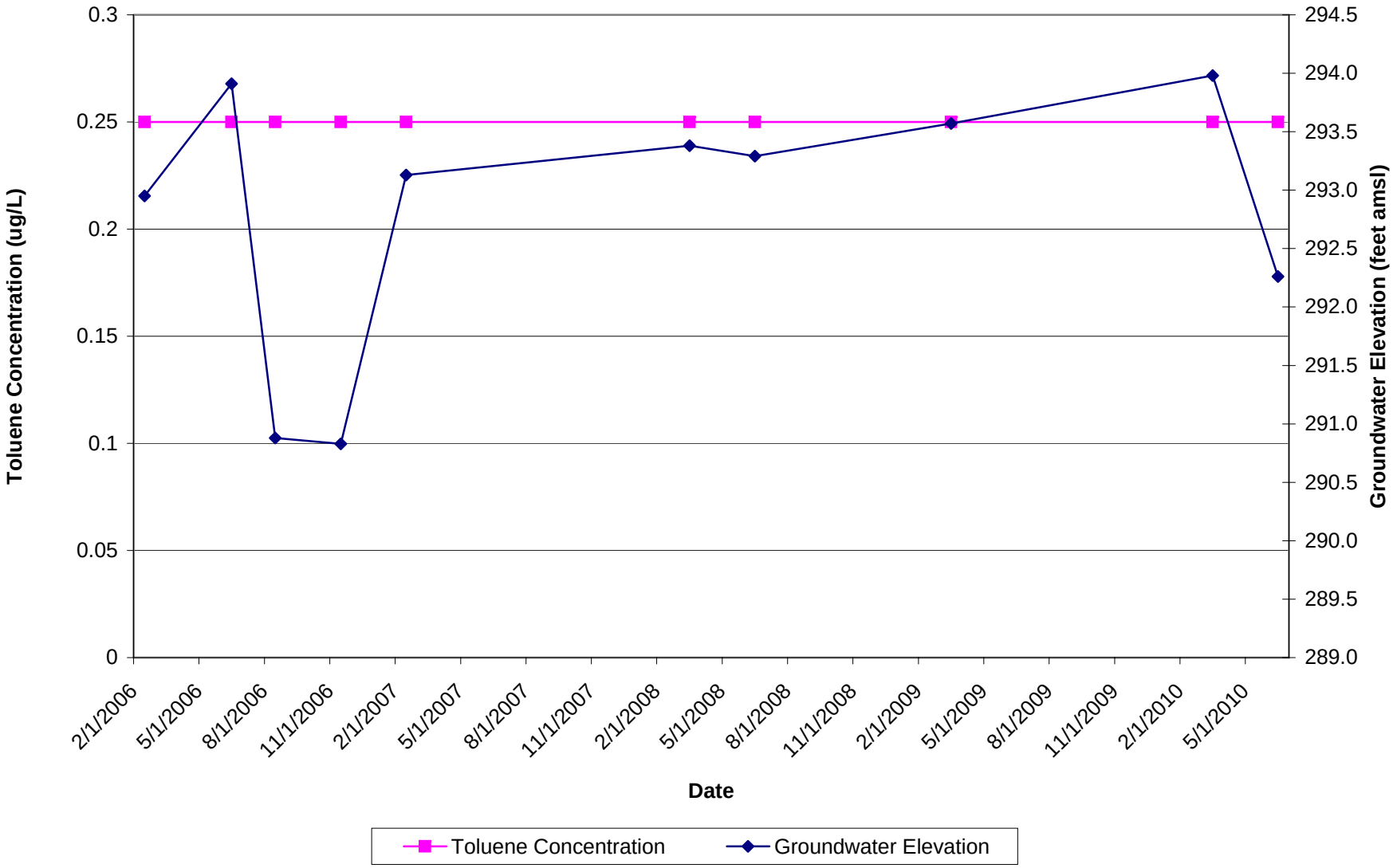
MW-4 Groundwater Elevations and TPH-GRO Concentrations versus Time



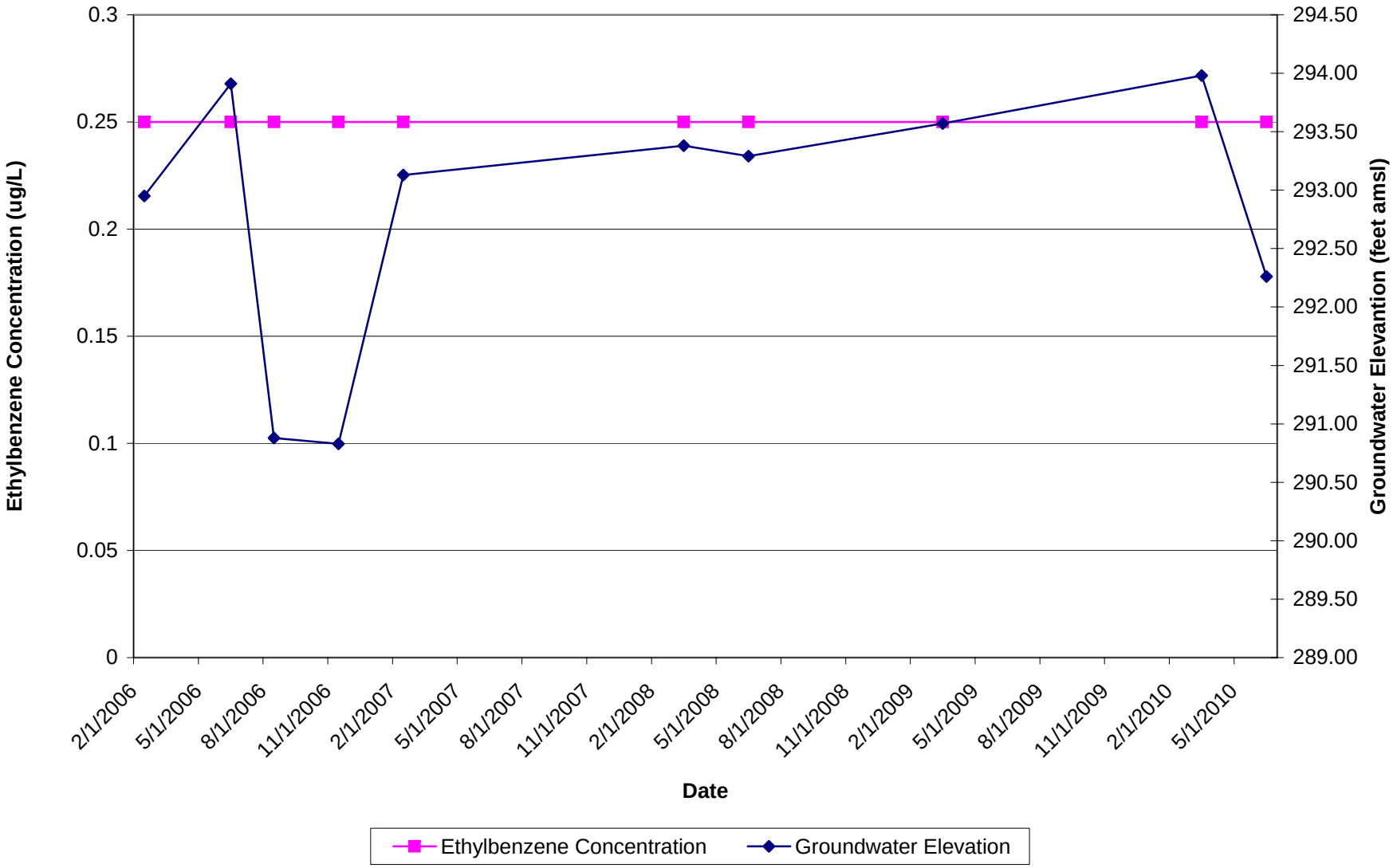
MW-4 Groundwater Elevations and Benzene Concentrations versus Time



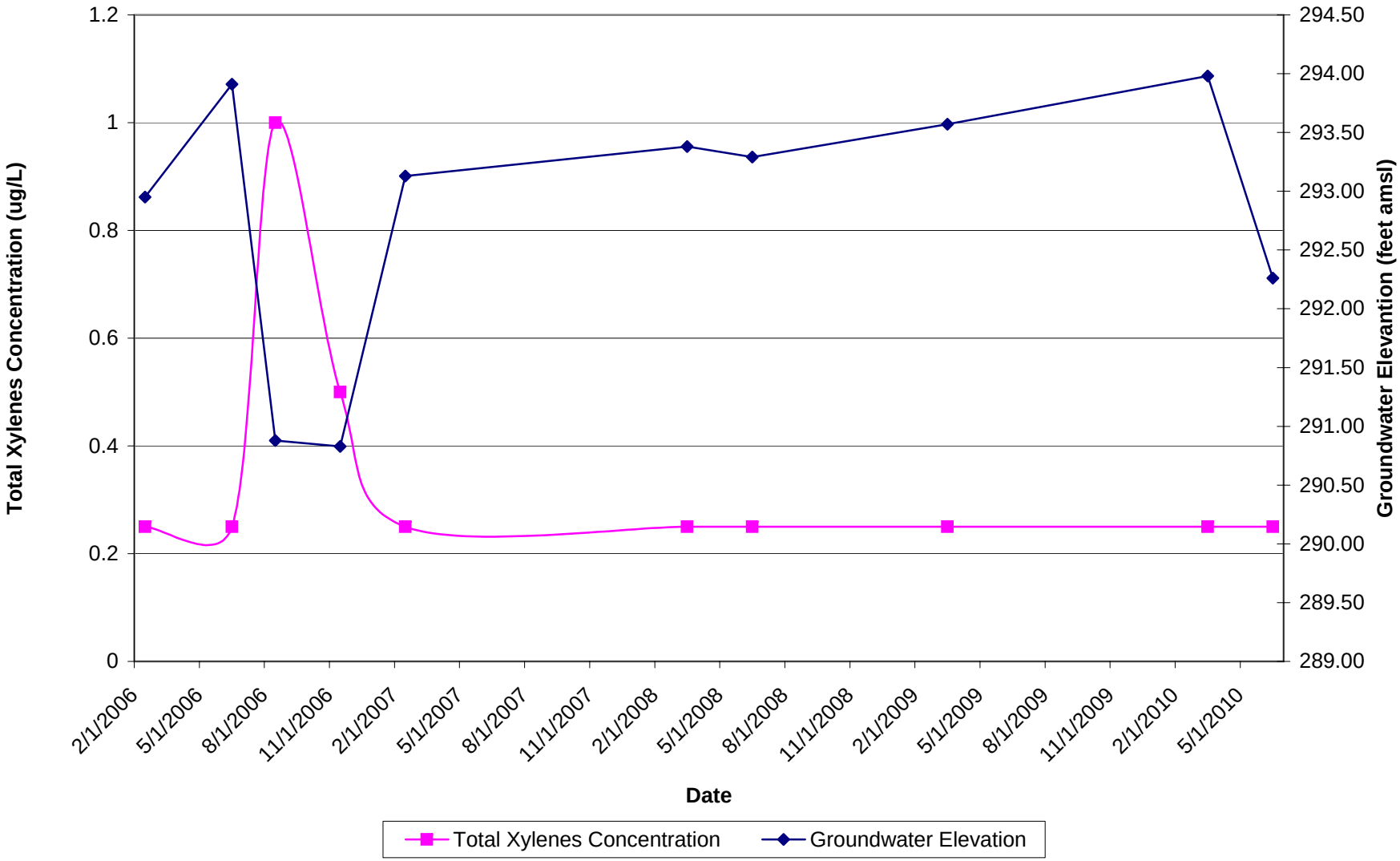
MW-4 Groundwater Elevations and Toluene Concentrations versus Time



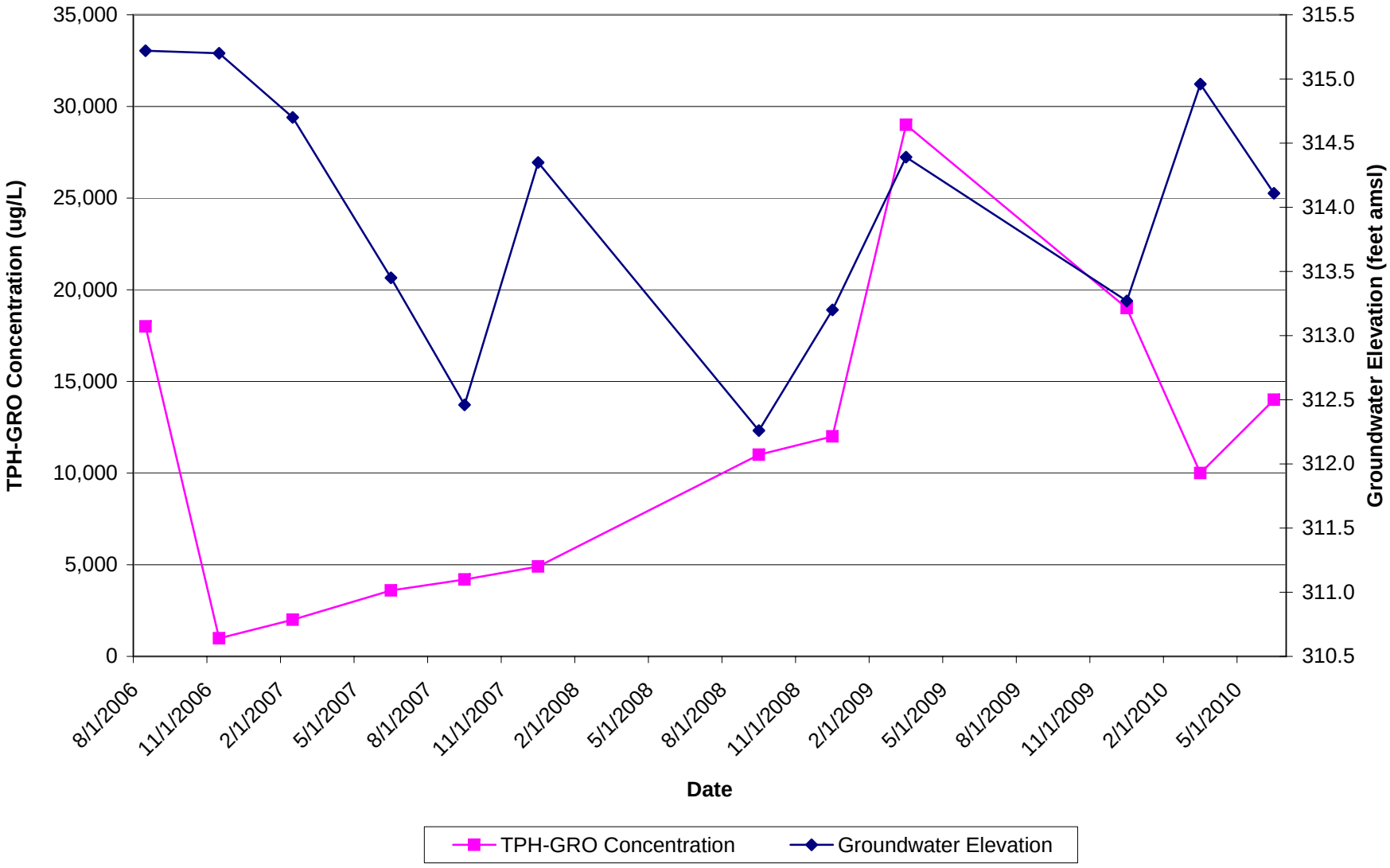
MW-4 Groundwater Elevations and Ethylbenzene Concentrations versus Time

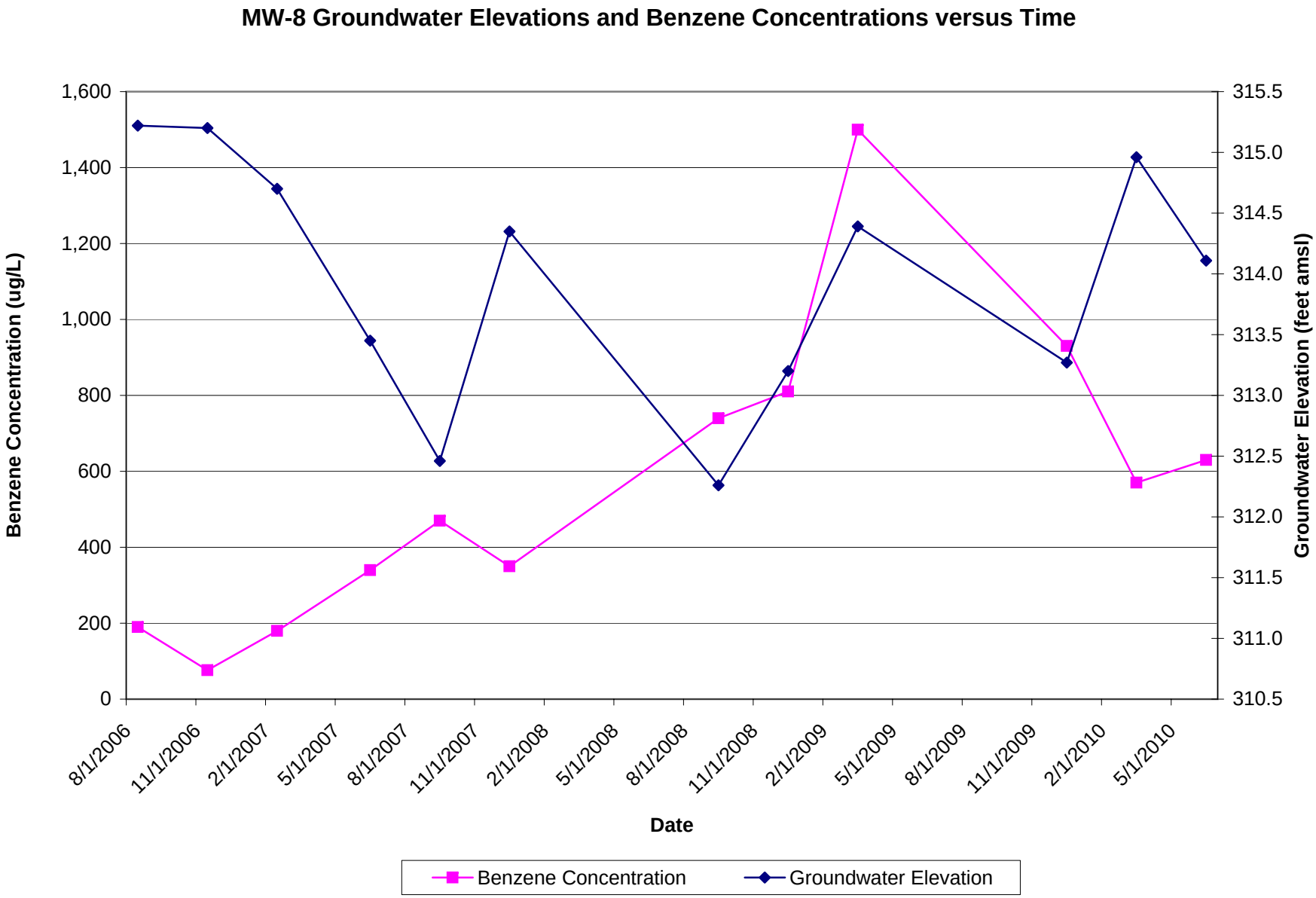


MW-4 Groundwater Elevations and Total Xylenes Concentrations versus Time

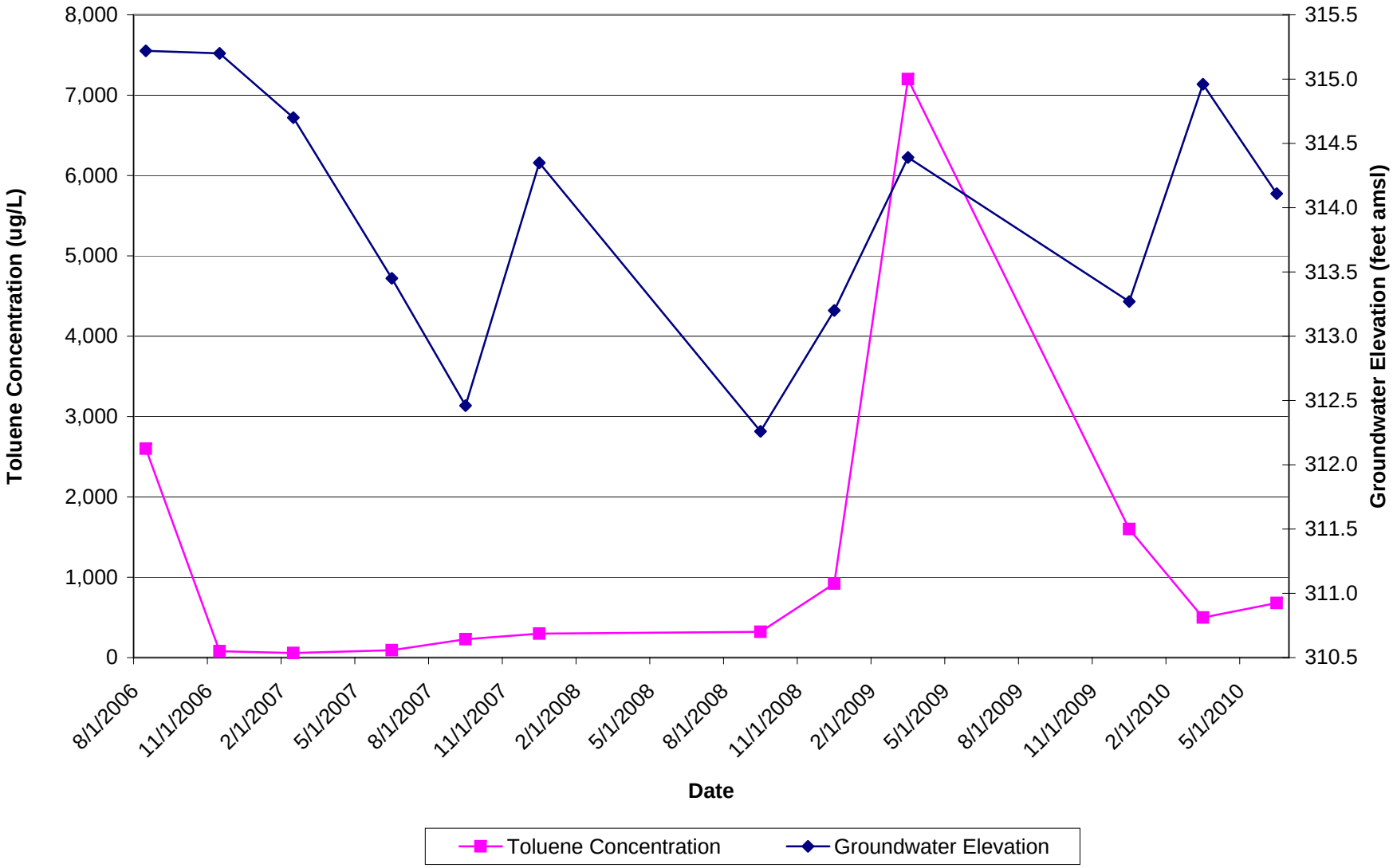


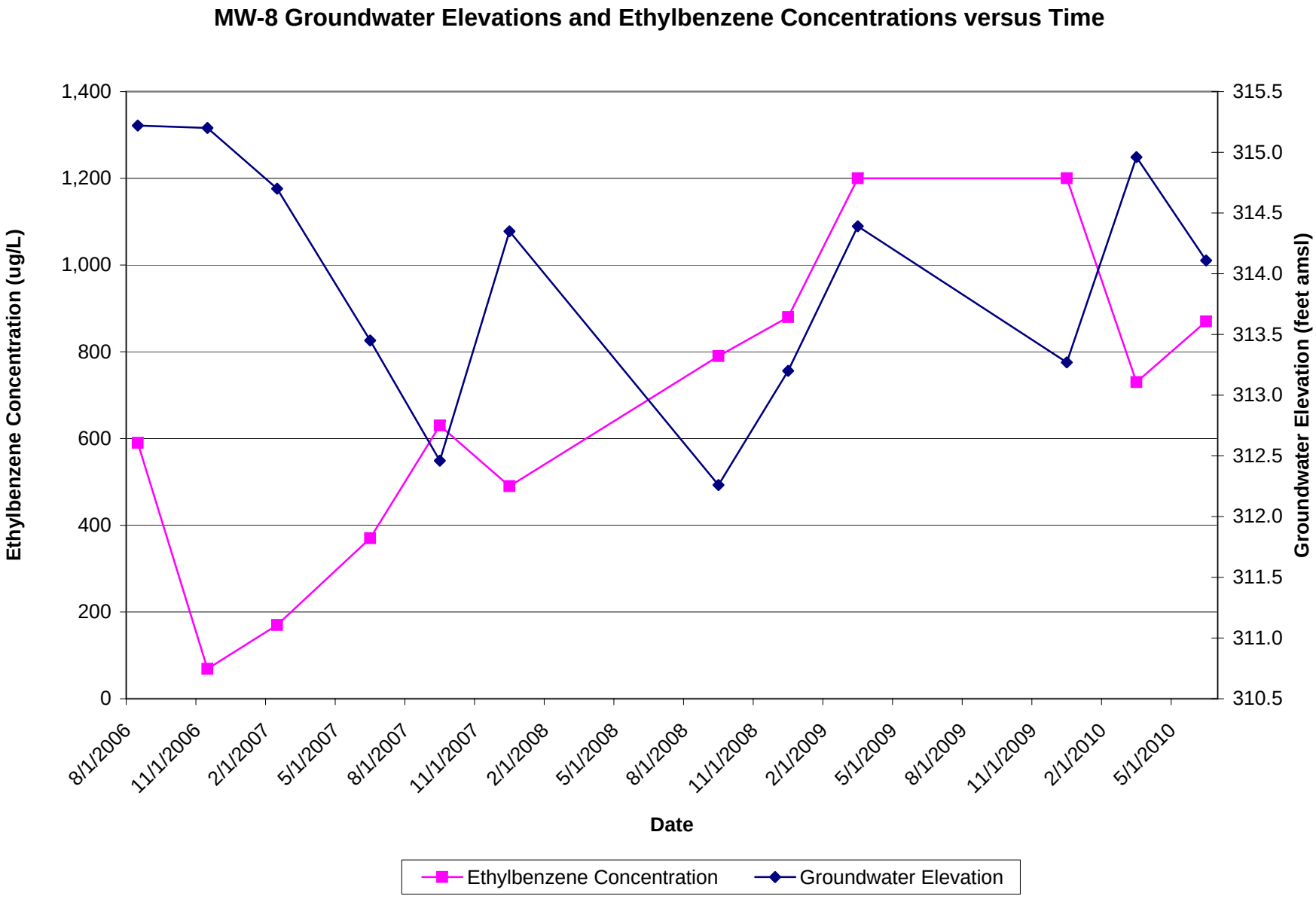
MW-8 Groundwater Elevations and TPH-GRO Concentrations versus Time

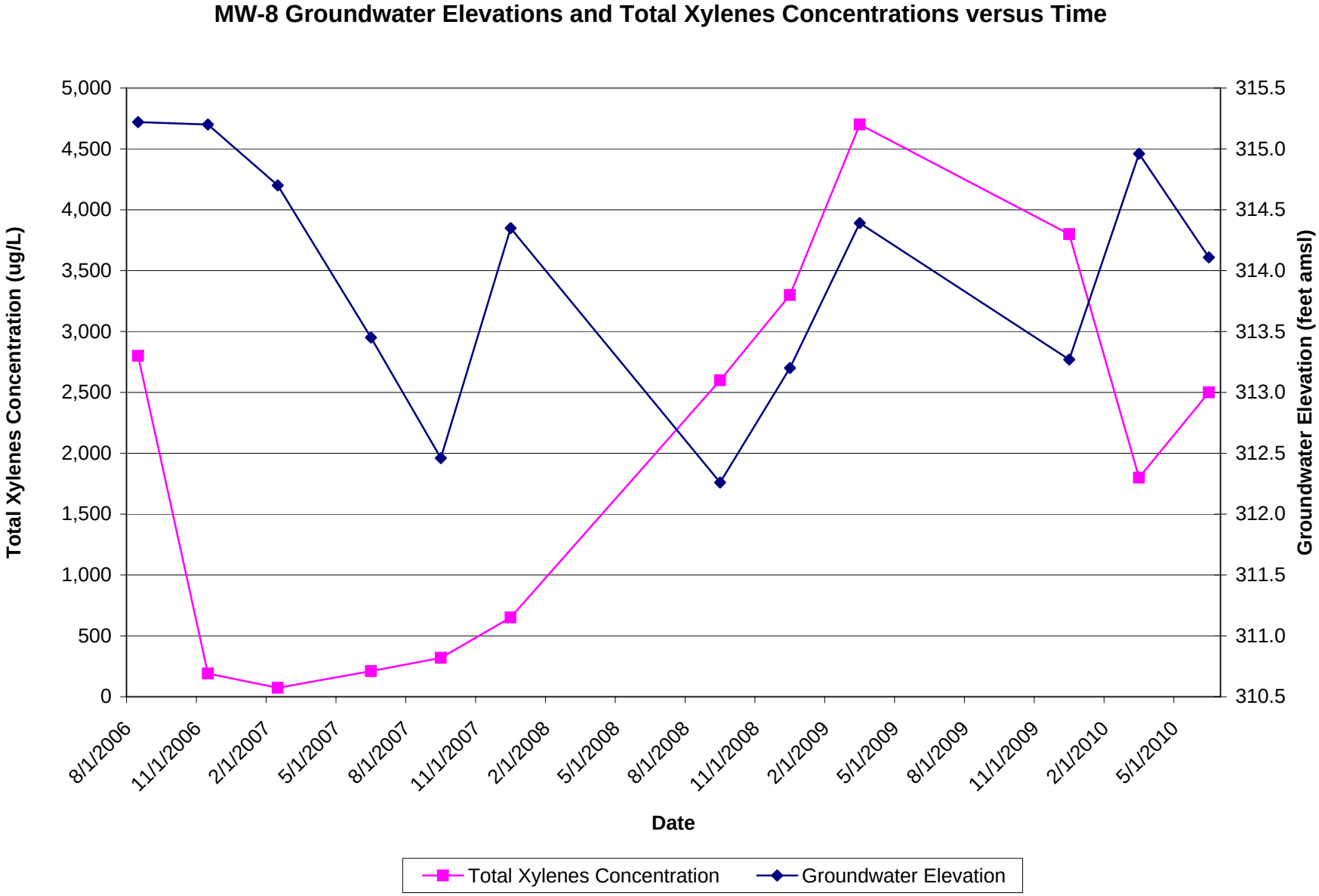



MW-8 Groundwater Elevations and Benzene Concentrations versus Time
Benzene Concentration (ug/L)
Groundwater Elevation (feet amsl)
1,600
1,400
1,200
1,000
800
600
400
200
0
315.5
315.0
314.5
314.0
313.5
313.0
312.5
312.0
311.5
311.0
310.5
8/1/2006
11/1/2006
2/1/2007
5/1/2007
8/1/2007
11/1/2007
2/1/2008
5/1/2008
8/1/2008
11/1/2008
2/1/2009
5/1/2009
8/1/2009
11/1/2009
2/1/2010
5/1/2010
Date
Benzene Concentration
Groundwater Elevation

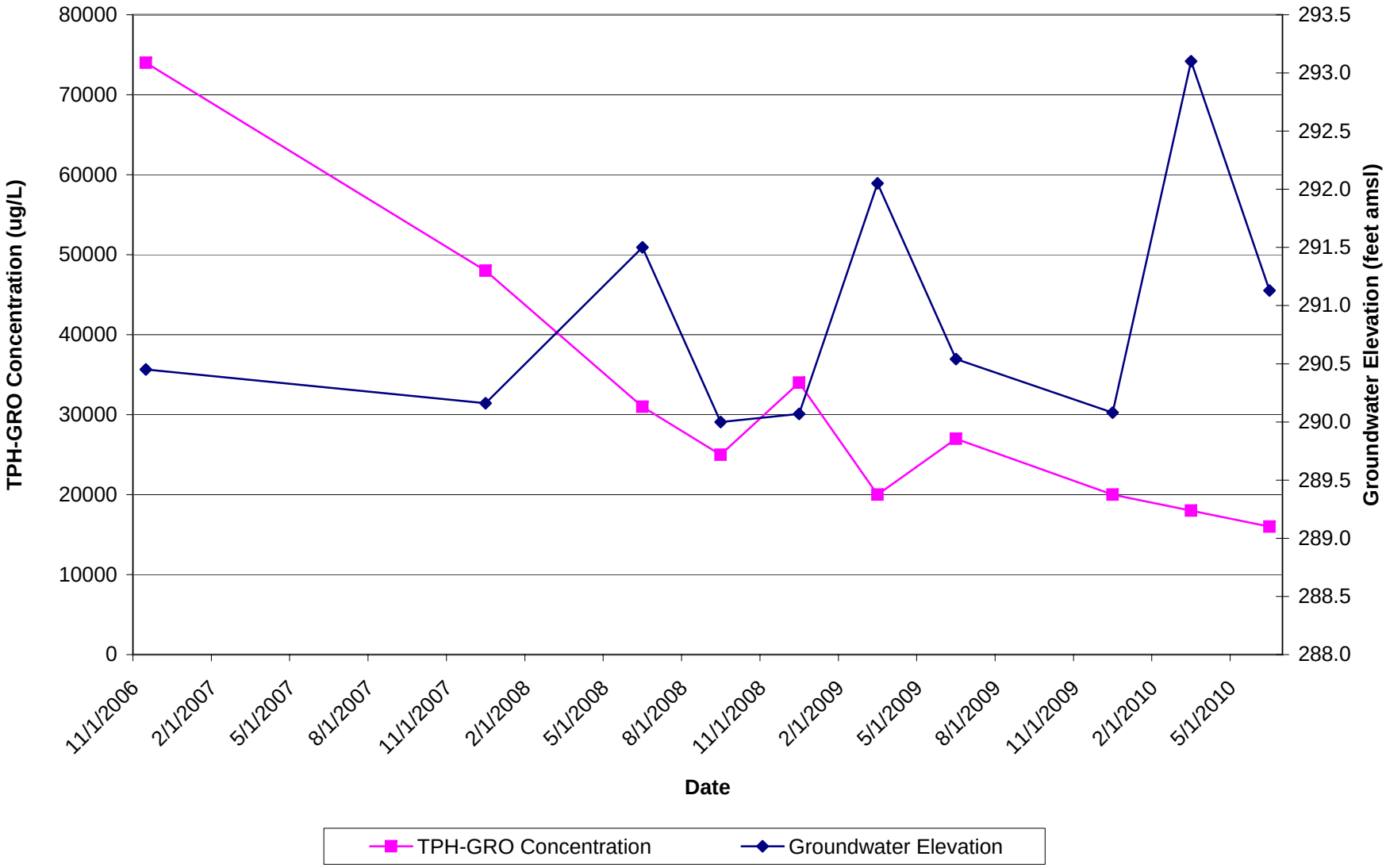
MW-8 Groundwater Elevations and Toluene Concentrations versus Time

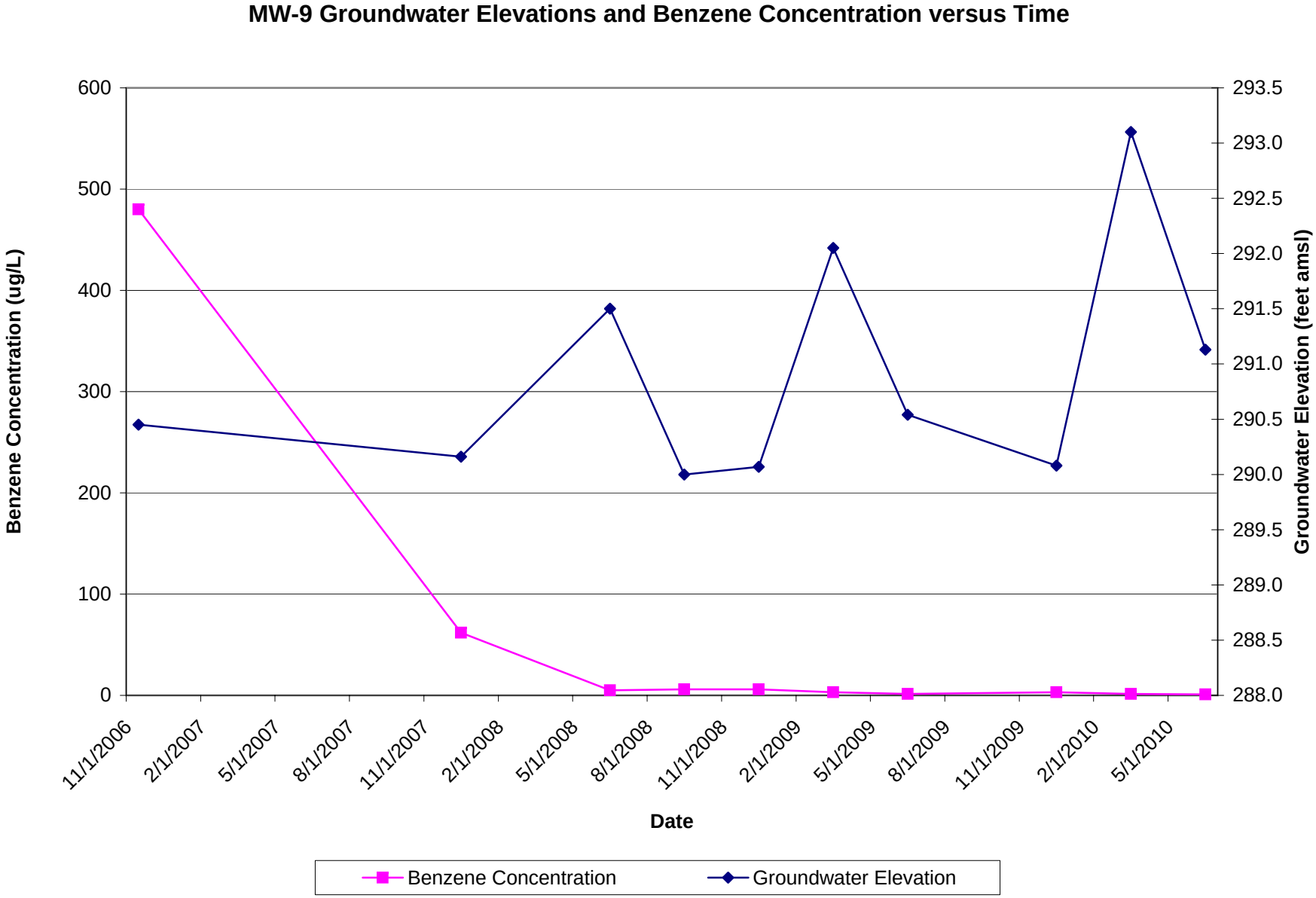



MW-8 Groundwater Elevations and Ethylbenzene Concentrations versus Time
Ethylbenzene Concentration (ug/L)
Groundwater Elevation (feet amsl)
1,400
1,200
1,000
800
600
400
200
0
315.5
315.0
314.5
314.0
313.5
313.0
312.5
312.0
311.5
311.0
310.5
8/1/2006
11/1/2006
2/1/2007
5/1/2007
8/1/2007
11/1/2007
2/1/2008
5/1/2008
8/1/2008
11/1/2008
2/1/2009
5/1/2009
8/1/2009
11/1/2009
2/1/2010
5/1/2010
Date
Ethylbenzene Concentration
Groundwater Elevation

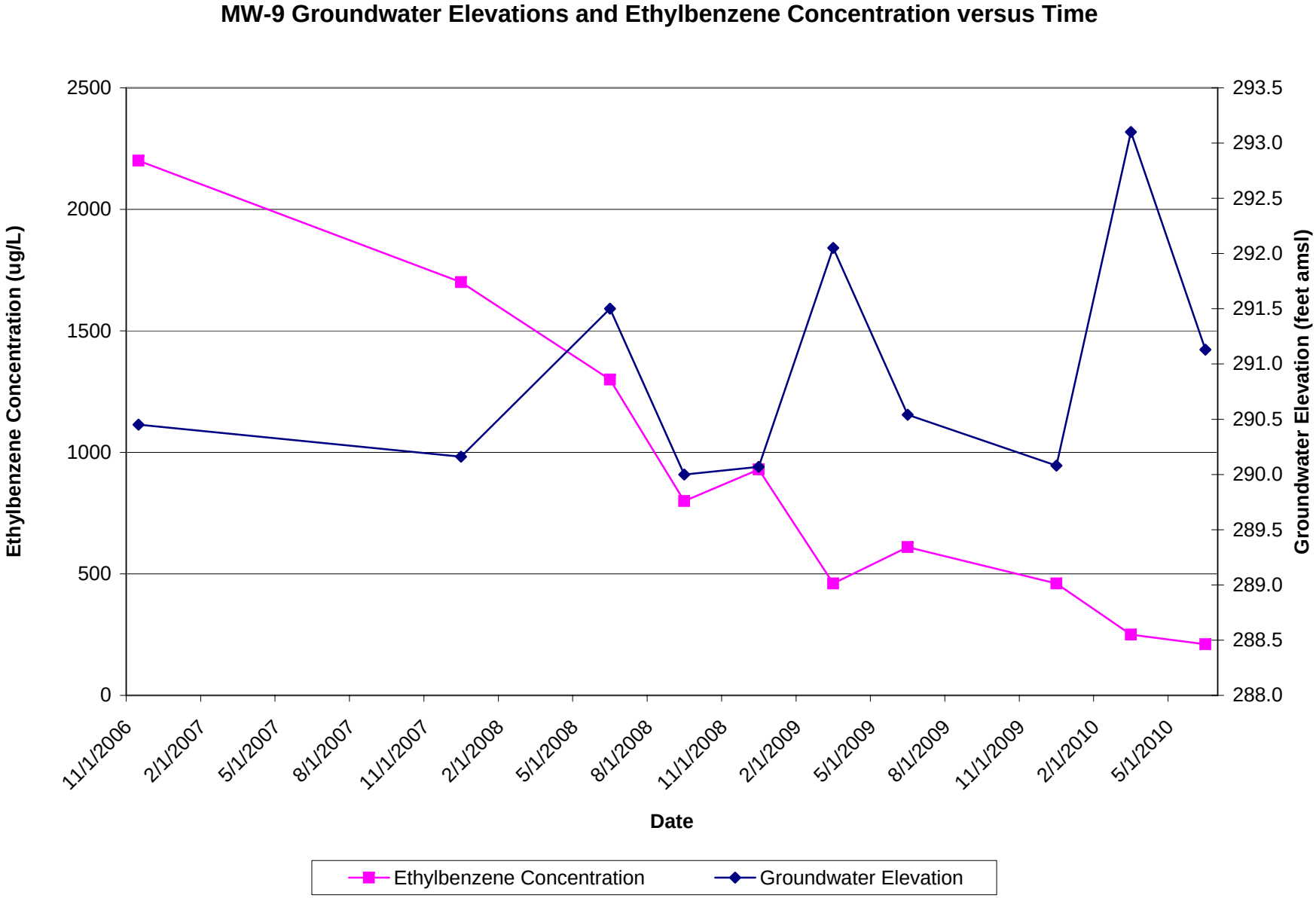

MW-8 Groundwater Elevations and Total Xylenes Concentrations versus Time
Total Xylenes Concentration (ug/L)
Groundwater Elevation (feet amsl)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
315.5
315.0
314.5
314.0
313.5
313.0
312.5
312.0
311.5
311.0
310.5
8/1/2006
11/1/2006
2/1/2007
5/1/2007
8/1/2007
11/1/2007
2/1/2008
5/1/2008
8/1/2008
11/1/2008
2/1/2009
5/1/2009
8/1/2009
11/1/2009
2/1/2010
5/1/2010
Date
Total Xylenes Concentration
Groundwater Elevation

MW-9 Groundwater Elevations and TPH-GRO Concentration versus Time

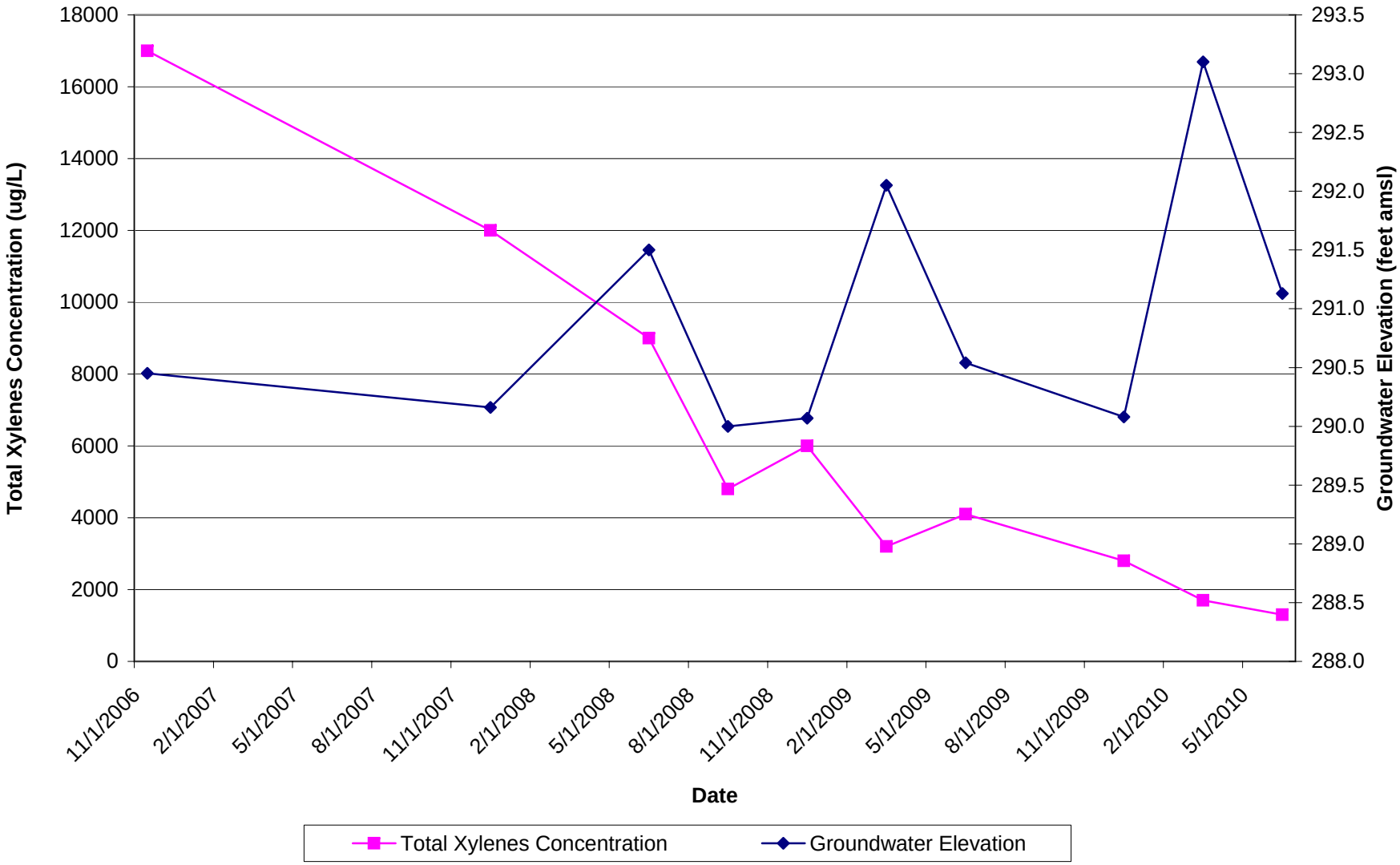


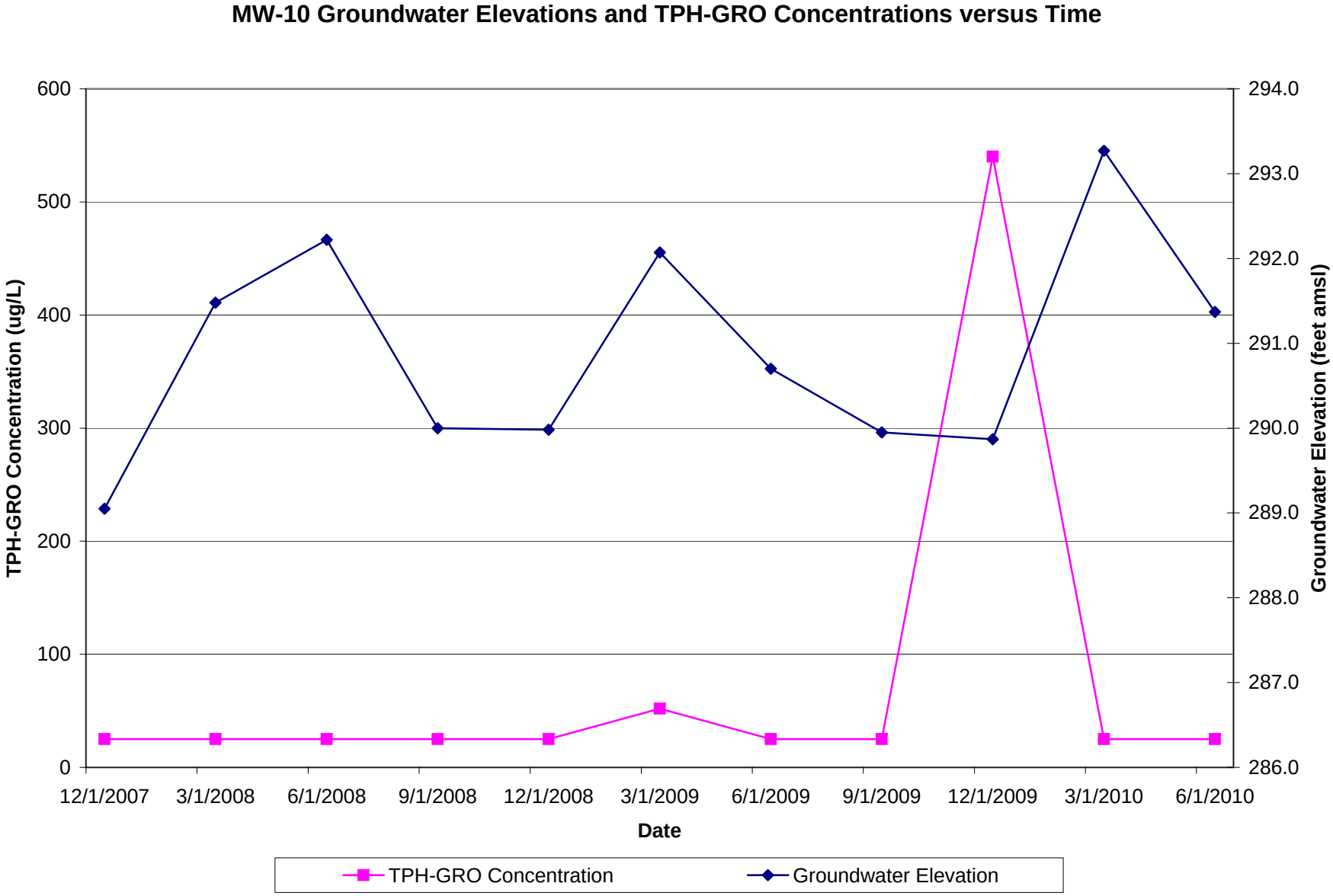

MW-9 Groundwater Elevations and Benzene Concentration versus Time
Benzene Concentration (ug/L)
Groundwater Elevation (feet amsl)
600
500
400
300
200
100
0
293.5
293.0
292.5
292.0
291.5
291.0
290.5
290.0
289.5
289.0
288.5
288.0
11/1/2006
2/1/2007
5/1/2007
8/1/2007
11/1/2007
2/1/2008
5/1/2008
8/1/2008
11/1/2008
2/1/2009
5/1/2009
8/1/2009
11/1/2009
2/1/2010
5/1/2010
Date
Benzene Concentration
Groundwater Elevation


MW-9 Groundwater Elevations and Toluene Concentration versus Time
Toluene Concentration (ug/L)
Groundwater Elevation (feet amsl)
14000
12000
10000
8000
6000
4000
2000
0
293.5
293.0
292.5
292.0
291.5
291.0
290.5
290.0
289.5
289.0
288.5
288.0
11/1/2006
2/1/2007
5/1/2007
8/1/2007
11/1/2007
2/1/2008
5/1/2008
8/1/2008
11/1/2008
2/1/2009
5/1/2009
8/1/2009
11/1/2009
2/1/2010
5/1/2010
Date
Toluene Concentration
Groundwater Elevation

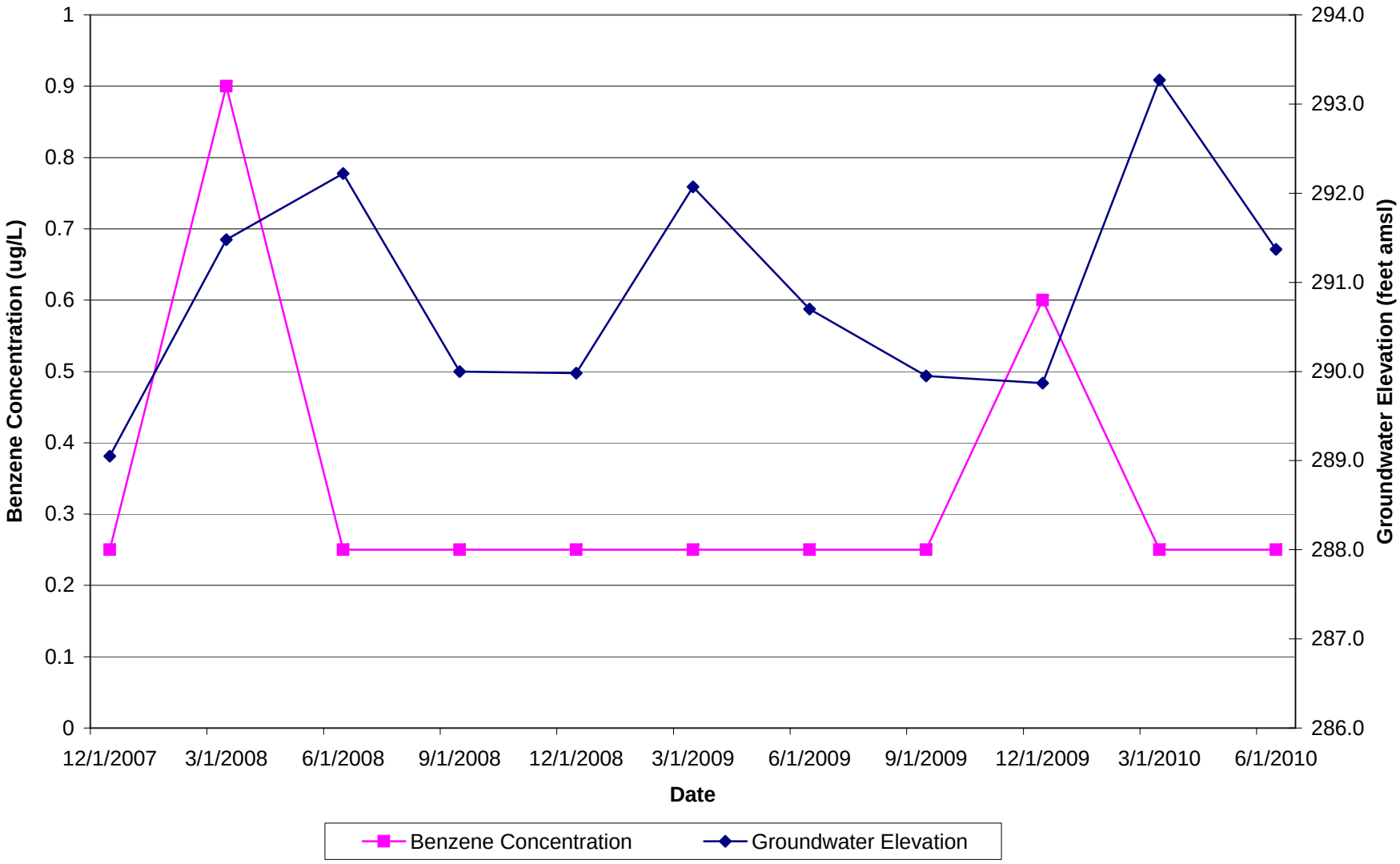

MW-9 Groundwater Elevations and Ethylbenzene Concentration versus Time
Ethylbenzene Concentration (ug/L)
Groundwater Elevation (feet amsl)
2500
2000
1500
1000
500
0
293.5
293.0
292.5
292.0
291.5
291.0
290.5
290.0
289.5
289.0
288.5
288.0
11/1/2006
2/1/2007
5/1/2007
8/1/2007
11/1/2007
2/1/2008
5/1/2008
8/1/2008
11/1/2008
2/1/2009
5/1/2009
8/1/2009
11/1/2009
2/1/2010
5/1/2010
Date
Ethylbenzene Concentration
Groundwater Elevation

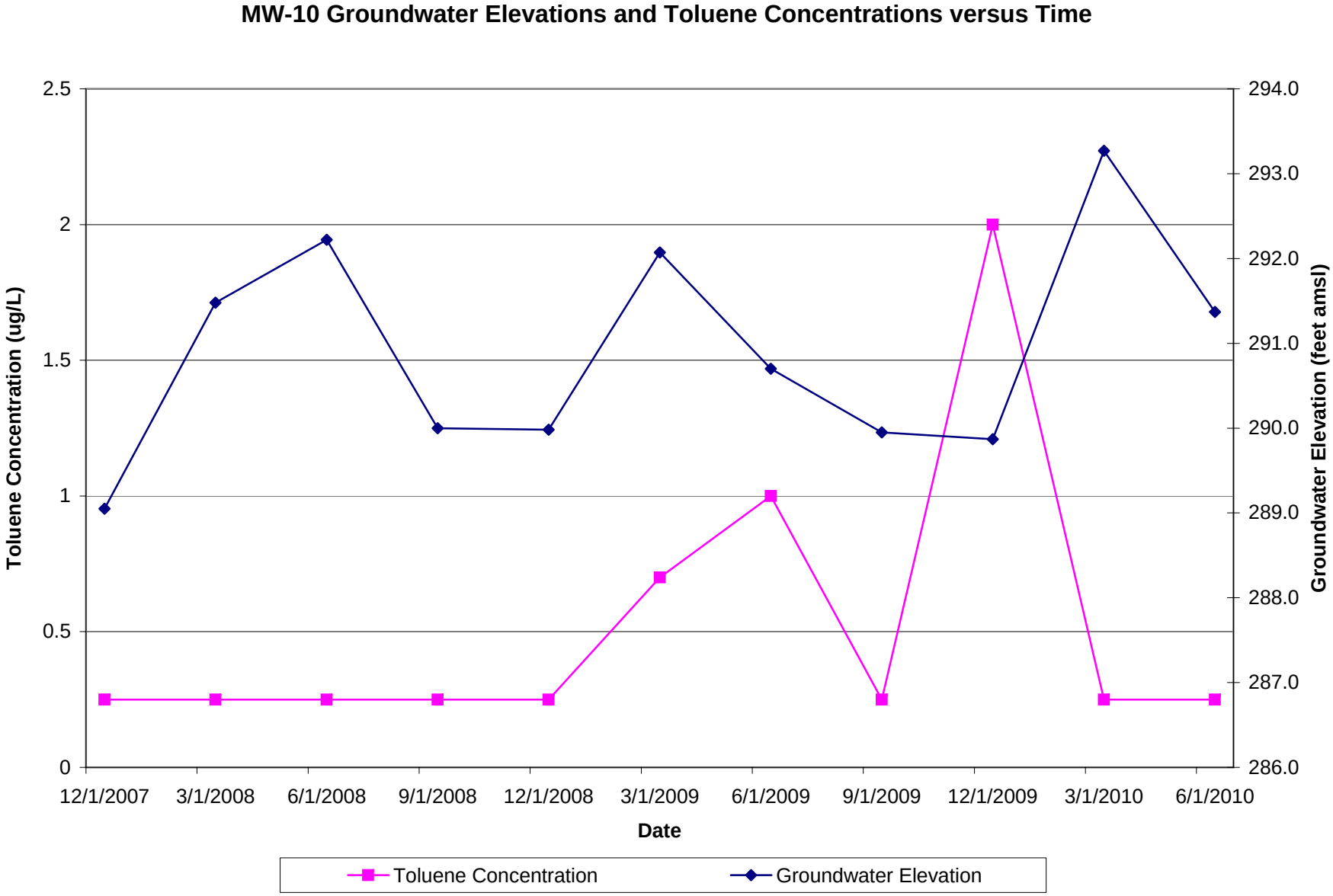
MW-9 Groundwater Elevations and Total Xylenes Concentration versus Time



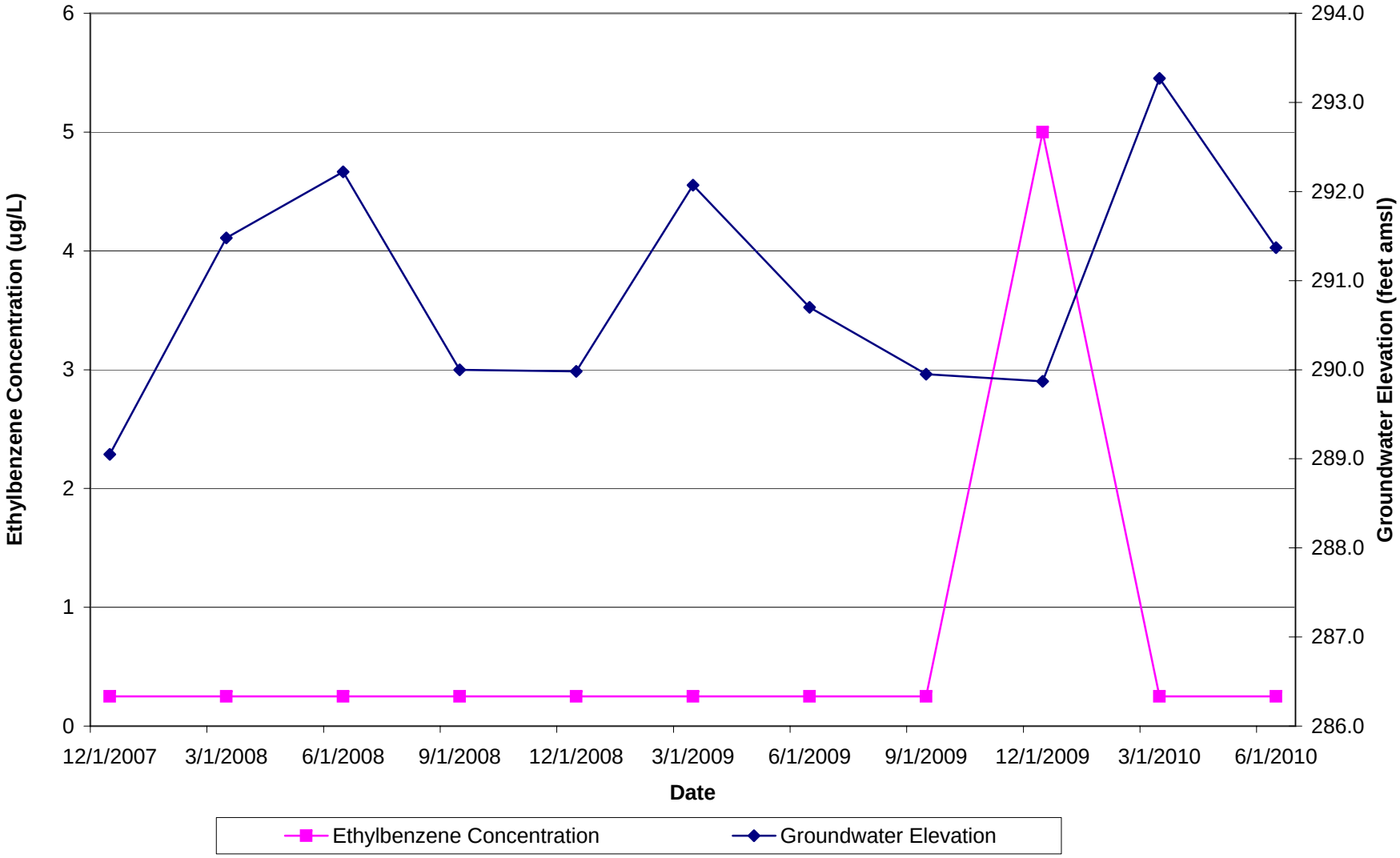

MW-10 Groundwater Elevations and TPH-GRO Concentrations versus Time
TPH-GRO Concentration (ug/L)
Groundwater Elevation (feet amsl)
600
500
400
300
200
100
0
294.0
293.0
292.0
291.0
290.0
289.0
288.0
287.0
286.0
12/1/2007
3/1/2008
6/1/2008
9/1/2008
12/1/2008
3/1/2009
6/1/2009
9/1/2009
12/1/2009
3/1/2010
6/1/2010
Date
TPH-GRO Concentration
Groundwater Elevation

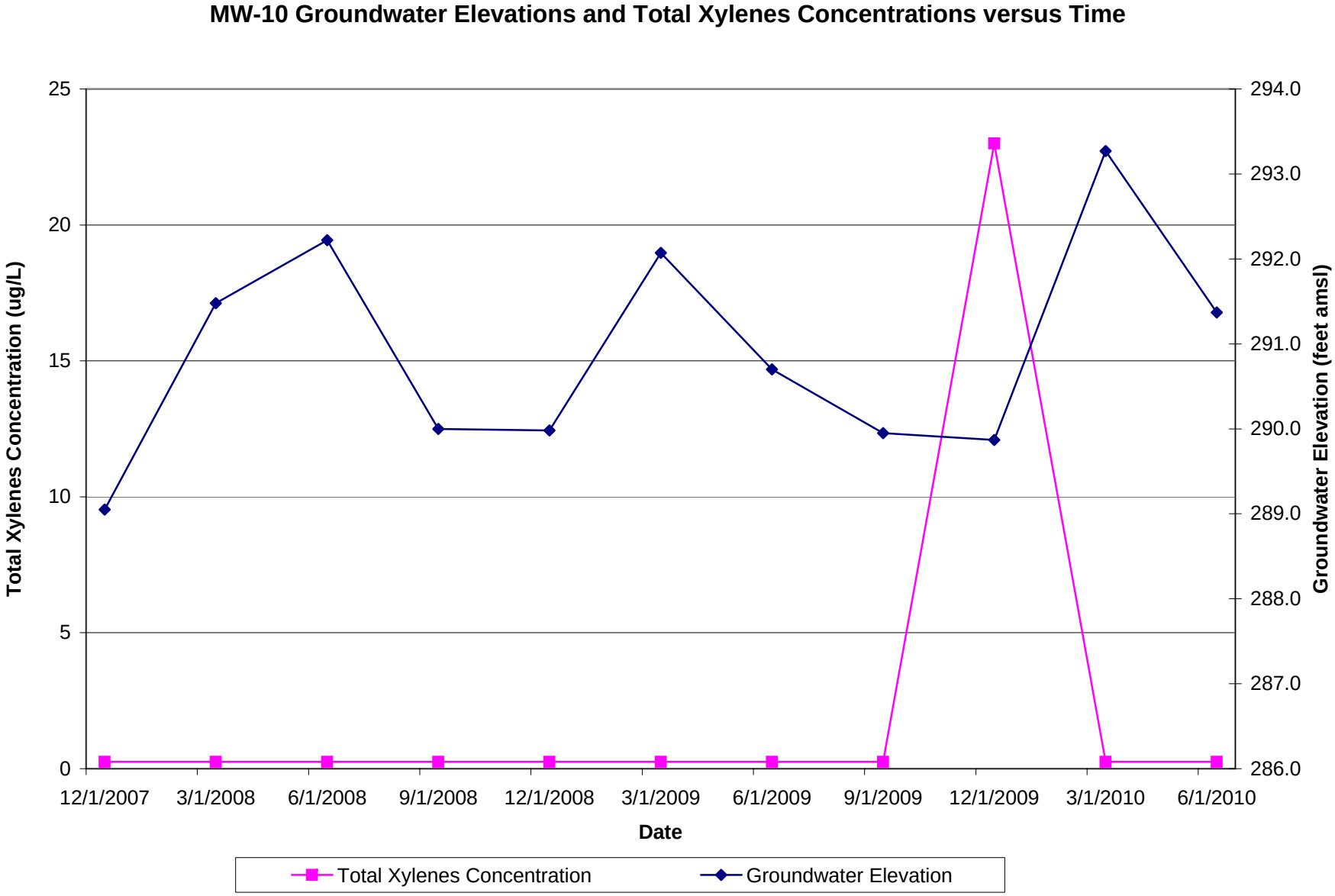
MW-10 Groundwater Elevations and Benzene Concentrations versus Time

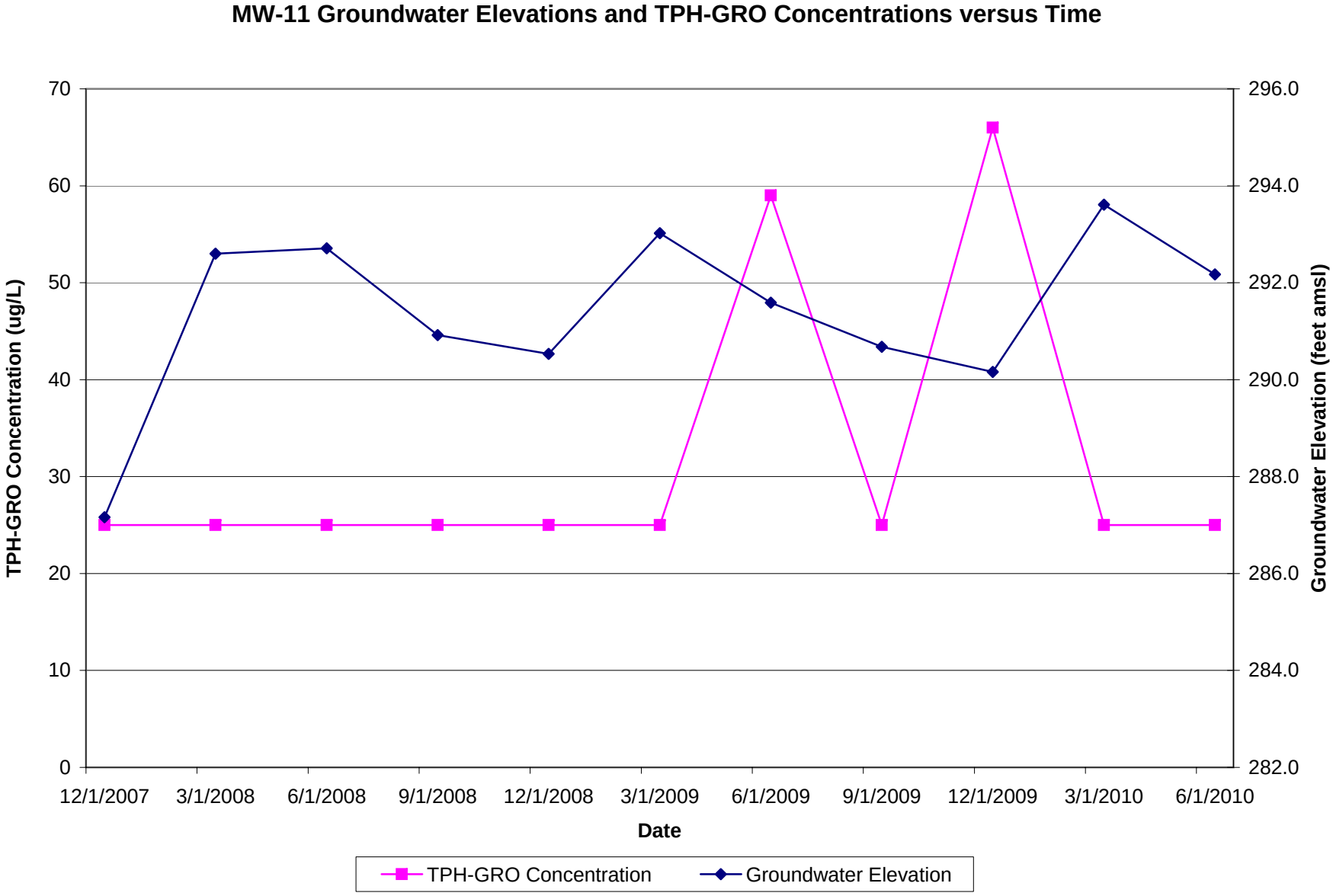


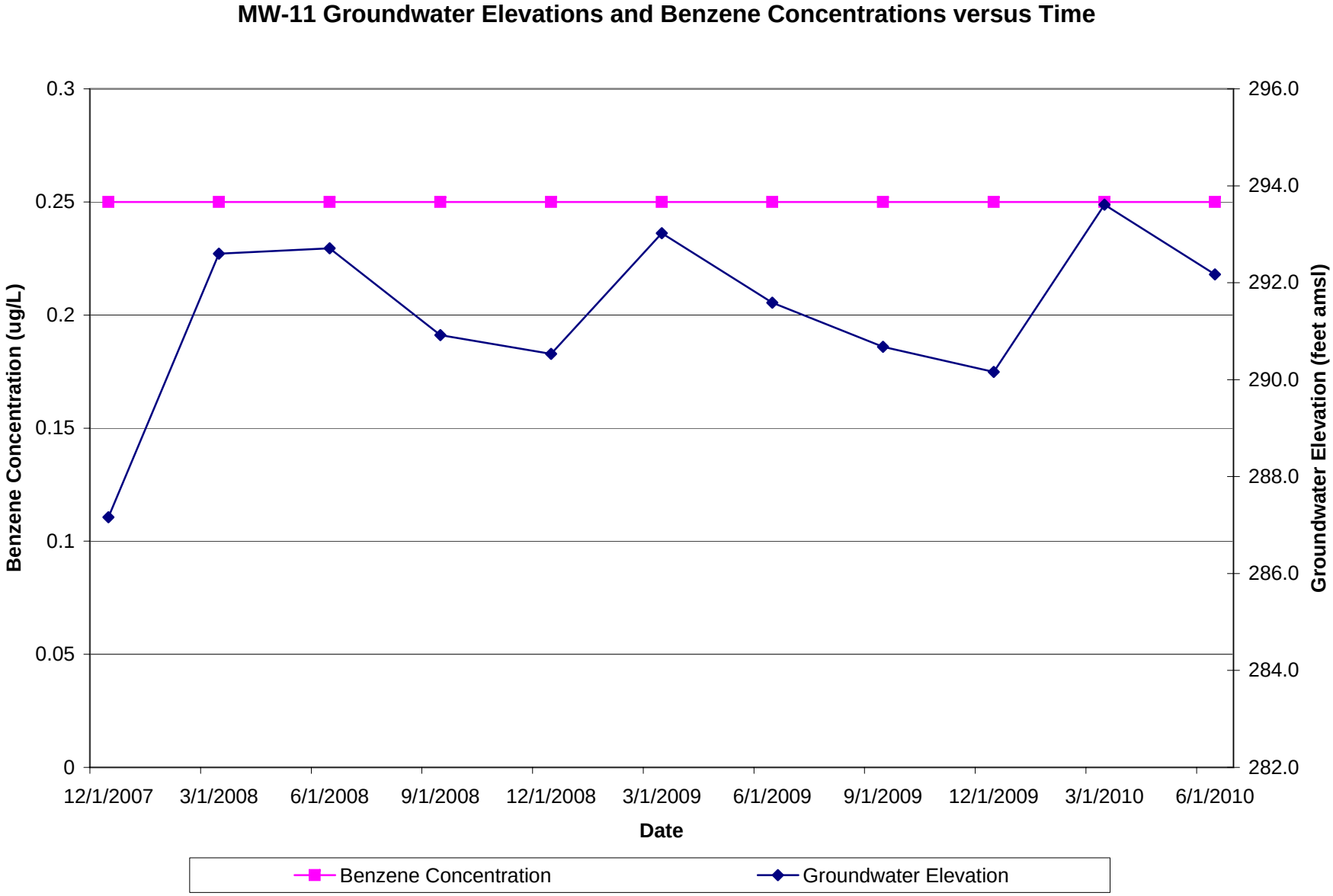

MW-10 Groundwater Elevations and Toluene Concentrations versus Time
Toluene Concentration (ug/L)
Groundwater Elevation (feet amsl)
2.5
2
1.5
1
0.5
0
294.0
293.0
292.0
291.0
290.0
289.0
288.0
287.0
286.0
12/1/2007
3/1/2008
6/1/2008
9/1/2008
12/1/2008
3/1/2009
6/1/2009
9/1/2009
12/1/2009
3/1/2010
6/1/2010
Date
Toluene Concentration
Groundwater Elevation

MW-10 Groundwater Elevations and Ethylbenzene Concentrations versus Time

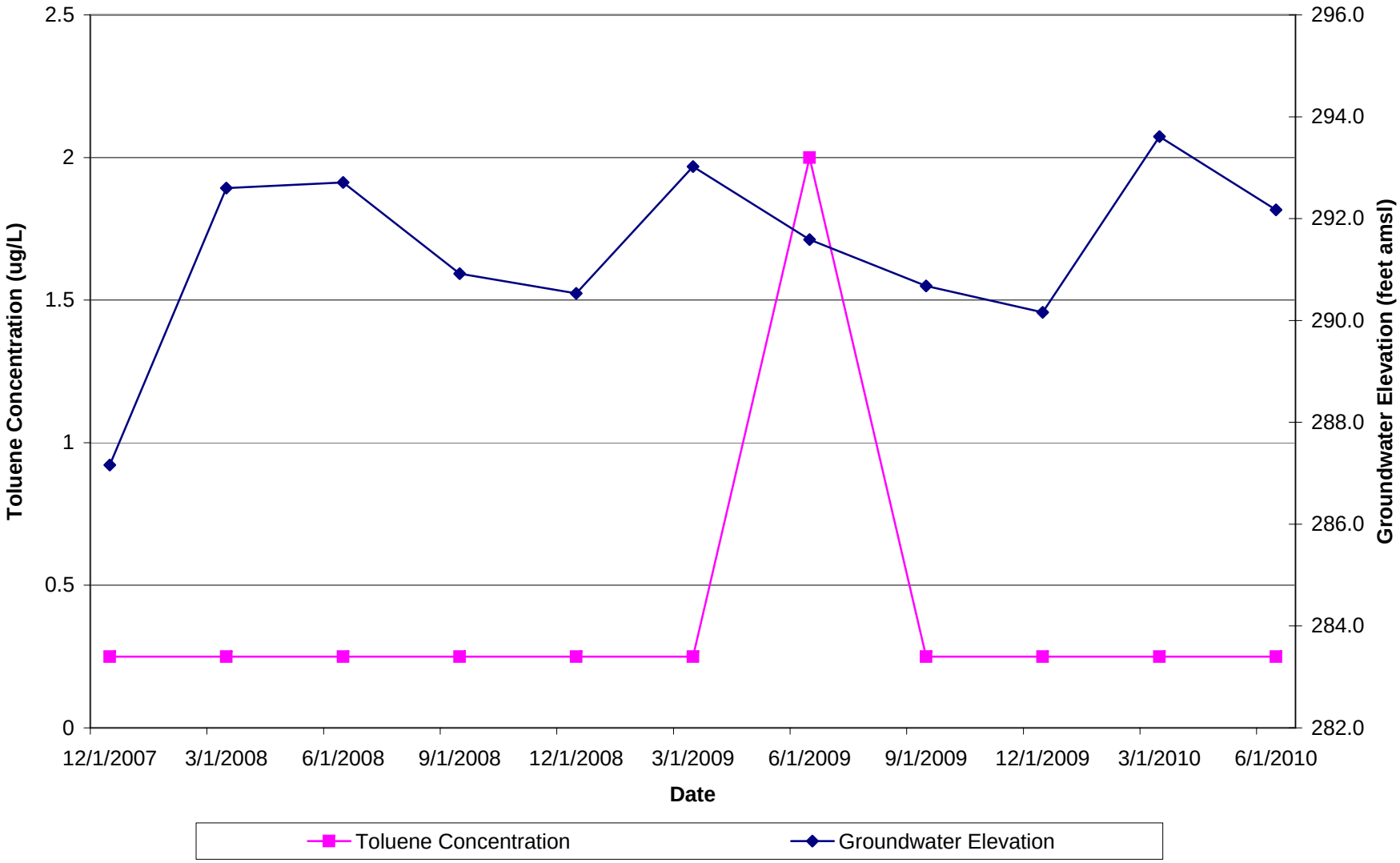


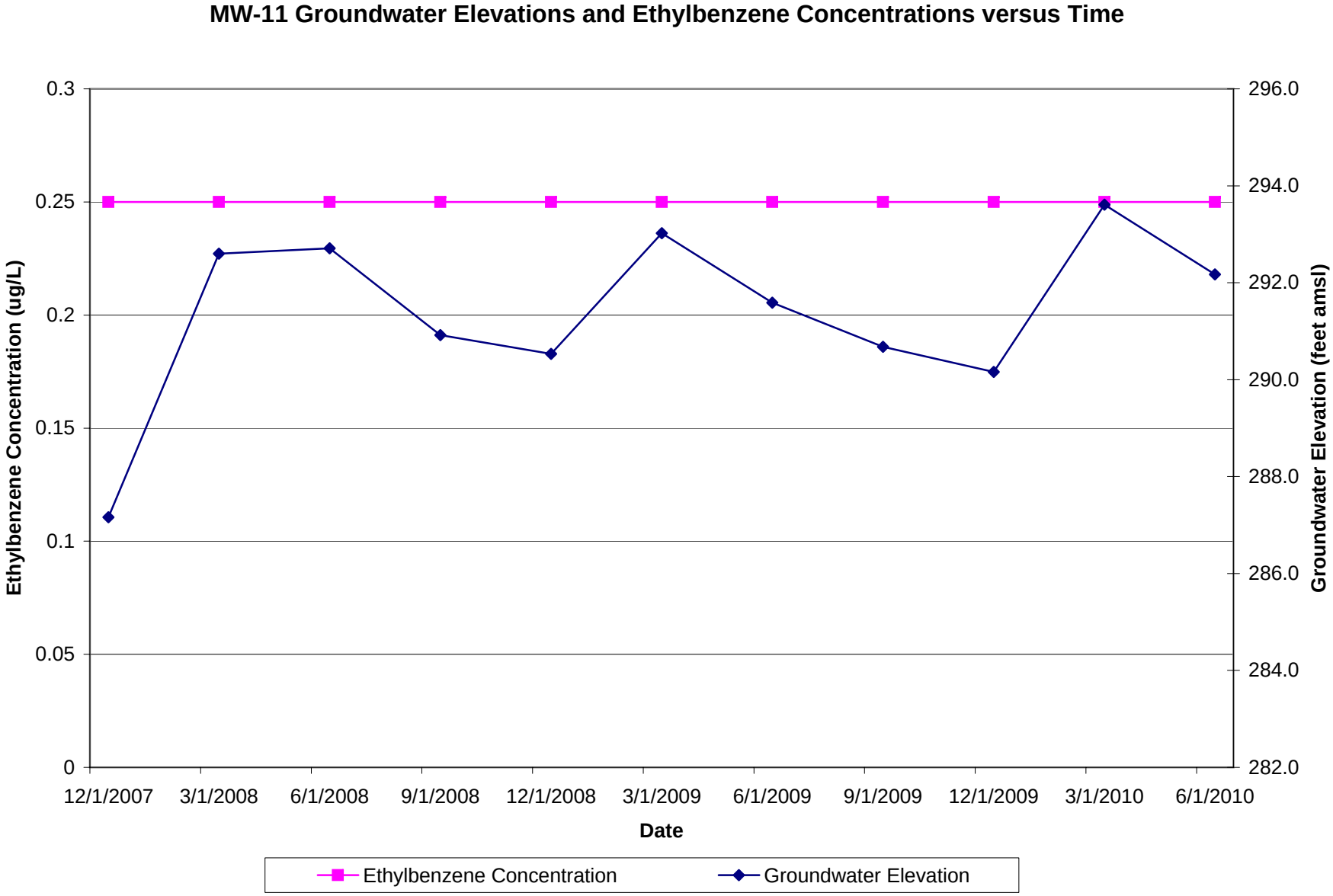

MW-10 Groundwater Elevations and Total Xylenes Concentrations versus Time
Total Xylenes Concentration (ug/L)
Groundwater Elevation (feet amsl)
25
20
15
10
5
0
294.0
293.0
292.0
291.0
290.0
289.0
288.0
287.0
286.0
12/1/2007
3/1/2008
6/1/2008
9/1/2008
12/1/2008
3/1/2009
6/1/2009
9/1/2009
12/1/2009
3/1/2010
6/1/2010
Date
Total Xylenes Concentration
Groundwater Elevation

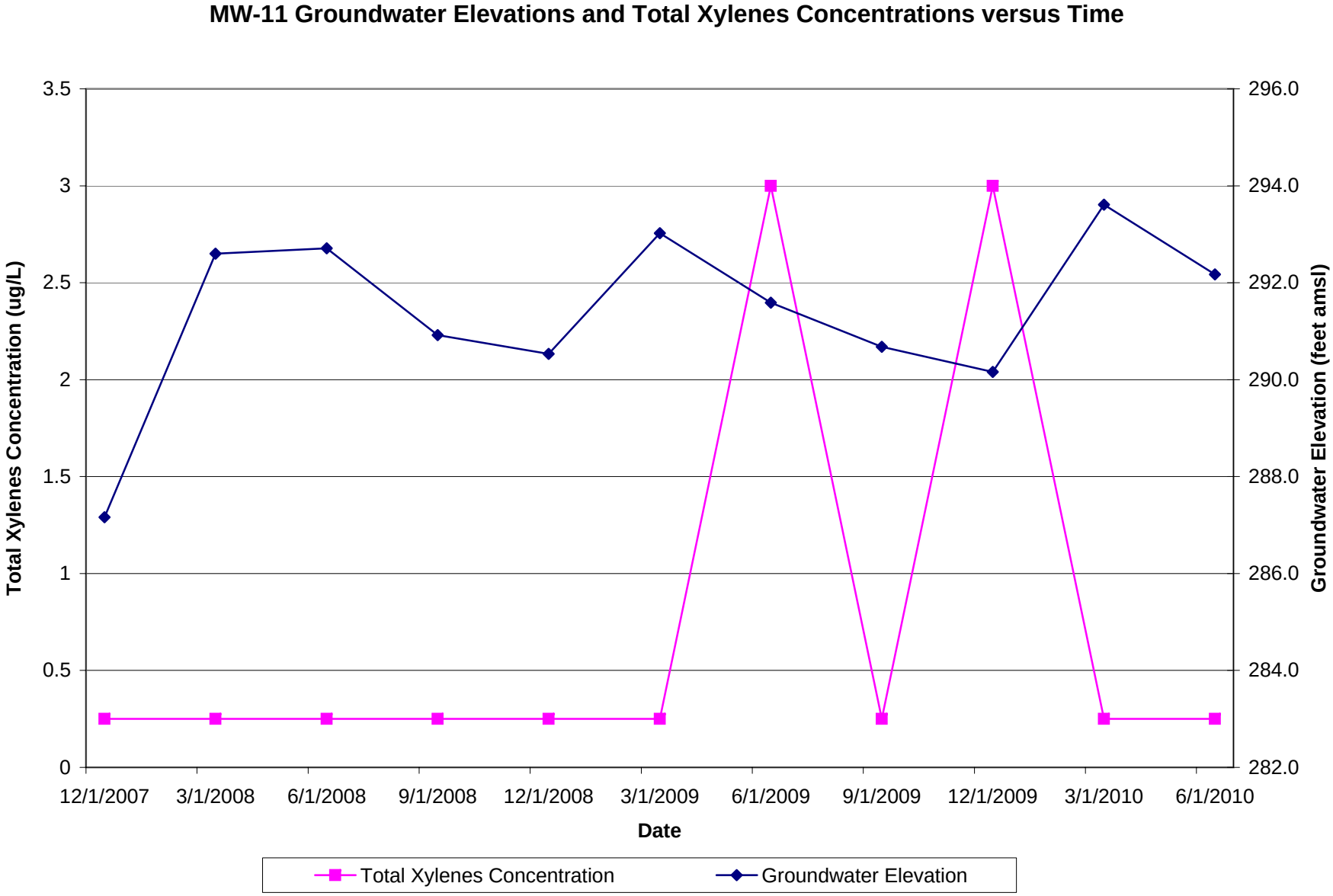

MW-11 Groundwater Elevations and TPH-GRO Concentrations versus Time
TPH-GRO Concentration (ug/L)
Groundwater Elevation (feet amsl)
70
60
50
40
30
20
10
0
296.0
294.0
292.0
290.0
288.0
286.0
284.0
282.0
12/1/2007
3/1/2008
6/1/2008
9/1/2008
12/1/2008
3/1/2009
6/1/2009
9/1/2009
12/1/2009
3/1/2010
6/1/2010
Date
TPH-GRO Concentration
Groundwater Elevation


MW-11 Groundwater Elevations and Benzene Concentrations versus Time
Benzene Concentration (ug/L)
0.3
0.25
0.2
0.15
0.1
0.05
0
Groundwater Elevation (feet amsl)
296.0
294.0
292.0
290.0
288.0
286.0
284.0
282.0
12/1/2007
3/1/2008
6/1/2008
9/1/2008
12/1/2008
3/1/2009
6/1/2009
9/1/2009
12/1/2009
3/1/2010
6/1/2010
Date
Benzene Concentration
Groundwater Elevation

MW-11 Groundwater Elevations and Toluene Concentrations versus Time




MW-11 Groundwater Elevations and Ethylbenzene Concentrations versus Time
Ethylbenzene Concentration (ug/L)
Groundwater Elevation (feet amsl)
0.3
0.25
0.2
0.15
0.1
0.05
0
296.0
294.0
292.0
290.0
288.0
286.0
284.0
282.0
12/1/2007
3/1/2008
6/1/2008
9/1/2008
12/1/2008
3/1/2009
6/1/2009
9/1/2009
12/1/2009
3/1/2010
6/1/2010
Date
Ethylbenzene Concentration
Groundwater Elevation


MW-11 Groundwater Elevations and Total Xylenes Concentrations versus Time
Total Xylenes Concentration (ug/L)
Groundwater Elevation (feet amsl)
3.5
3
2.5
2
1.5
1
0.5
0
296.0
294.0
292.0
290.0
288.0
286.0
284.0
282.0
12/1/2007
3/1/2008
6/1/2008
9/1/2008
12/1/2008
3/1/2009
6/1/2009
9/1/2009
12/1/2009
3/1/2010
6/1/2010
Date
Total Xylenes Concentration
Groundwater Elevation