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Donan Environmental Services, Inc.

SITE REMEDIATION WORK PLAN
High Vacuum Dual-Phase Extraction

for

UNAUTHORIZED RELEASE CASE NUMBER: H03089-001

Golden State Gasoline
225 West Washington Ave.
Escondido, California

Prepared By:
DONAN ENVIRONMENTAL SERVICES, INC.

October 21, 2015

SIGNATORY PAGE

Designation:

DES Project Number 09E3857

Site Remediation Work Plan, High Vacuum Dual-Phase Extraction

Report Prepared For:

Golden State Gasoline, Inc.

225 West Washington Ave.

Escondido, CA 92025

Prepared and Submitted By:

DONAN ENVIRONMENTAL SERVICES, INC.



Greg Delson, PG#6983

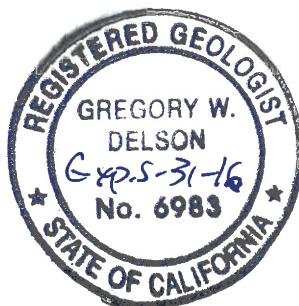
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cc: Ms. Laurie Apecechea, County of San Diego DEH

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SUPPORT DOCUMENTS

- CalClean Report (April 18, 2014) - Figure 4 - cumulative mass recovery
- DEH Letter (January 23, 2015)
- DEH Letter (May 11, 2015)
- DEH Letter (July 6, 2015)
- DEH Letter (February 21, 2014)
- Mr. John L. Dentzer - Statement of Qualifications (1 page)
- Mr. Greg Delson, PG - Statement of Qualifications (2 pages)
- Mako HVDPE System Component List (1 page)
- CalClean Report (May 1, 2015) - Field Data Sheets, Vacuum in Observation Wells
(March 30, 2015 - April 14, 2015)
- Community Health and Safety Plan
- Public Notice Sheet



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Donan Environmental Services, Inc.

October 21, 2015

Project Number: 09E3857

Report Delivered To:

Mr. Samuel Boyd
Golden State Gasoline, Inc.
225 West Washington Ave.
Escondido, CA 92025

RE: SITE REMEDIATION WORK PLAN

High Vacuum Dual-Phase Extraction at

Unauthorized Release Case Number: H03089-001

Golden State Gasoline at 225 West Washington Ave., Escondido, California (Site)

Donan Environmental Services, Inc. (DES) has prepared this Site Remediation Work Plan and Remedial Design for the above-referenced Site in response to the County of San Diego Department of Environmental Health (DEH) letter dated January 23, 2015 (enclosed). This Work Plan has been prepared based on the guidance in Section 7.V "Site Remediation Workplan Checklist" of the most recent DEH Site Assessment and Mitigation Manual.

1.0 INTRODUCTION

1.1 Site Identification

Site Address: 225 West Washington Ave., Escondido, California, 92025

Site Contact and Phone Number: See property owner information below.

Current Site Use: Operating Filling Station

Property Owner and Responsible Party Information:

Golden State Gasoline, Inc.
181 N. 2nd Street
El Cajon, CA 92021
Telephone: 619-593-9130
Attention: Mr. Samuel Boyd

Consultant Information:

Donan Environmental Services, Inc.
P.O. Box 1839

Vista, CA 92085
Telephone: 760-639-3600
Attention: Mr. Greg Delson, PG

DEH Case Number: H03089-001
EPA ID Number: Will be obtained should excess free product require disposal.

1.2 Site Use, Location, and Description

The Site is located in a commercially-developed neighborhood of Escondido, east of Interstate 15, close to the intersection of Highway 78 and Interstate 15. Refer to the enclosed site location map (Figure 1).

The Site is a commercial establishment, in use as a filling station. The Site improvements include one building housing a store, a cluster of three gasoline underground storage tanks (USTs), three fuel pump islands, a paved parking lot, and groundwater monitoring wells, MW1, MW2, MW3, MW4, MW5, MW6, DW7, DW8, DW9, DW10, DW11, DW12, DW13, DW14, DW15, DW16, DW17, DW18, DW19, DW20 DW21, DW22, and DW23. Refer to the enclosed site plan (Figure 2). East adjacent to the Site is a property known as the E&L Supply Property (Figure 2). Impacts from the Site release have been reported on the E&L Supply property. Other offsite sources of impacts to the E&L Supply property were evaluated in detail in the DES Report (September 22, 2011). Mitigating impacts under the E&L Supply property Building is one of the objectives of the remedial action directed in the DEH Letter (January 23, 2015).

1.3 Historical and Anticipated Site Land Use

The historical land use at the Site and in the Site vicinity was discussed in detail in the previous DES Report (September 22, 2011). Real estate records indicate that the GSG Site was first developed in 1970 and a 1974 aerial photograph in the DES Report (September 22, 2011) shows dispenser islands that match the current configuration at the Site. Therefore, the records support a conclusion that USTs were operated at the GSG Site from 1970 to present-day. Operation of the USTs in the 1970 to present-day time frame indicates sufficient conditions for both degraded older gasoline and MTBE-containing newer gasoline to be components of the GSG release. The future Site use has not been determined.

1.4 Sensitive Receptor Survey

A sensitive receptor survey was presented in the previous DES Report (September 3, 2010). No active groundwater production wells were reported within a 1/2-mile radius of the Site. Geotracker has information on multiple UST release cases within a mile of the Site and their associated active and inactive well networks.

Figure 1 of this Report shows multiple schools within a 1-mile radius of the Site, and Palomar Hospital within a 1-mile radius of the Site. The principal school that is a concern for this remedial design is the Classical Academy High School shown on Figure 2. Enclosed Figure 4 shows that bifurcated groundwater flow directions have a southwestward flowing component that provides conditions for contamination on the E&L Supply property and east of the E&L Supply property to migrate to the southwest onto the Classical Academy High School Property.

1.5 Need for Remedial Action

On March 4, 2014 to April 3, 2014, a 30-day HVDPE event was conducted at the Site in accordance with the DES IRAP (September 22, 2011) and the enclosed DEH Letter (February 21, 2014). During the event, HVDPE was conducted in Wells MW1, MW2, MW3, MW4, and MW5. Refer to enclosed Figure 3 for the HVDPE pumping configuration. Upon completing the HVDPE event, vapor influent concentrations in the treatment system were lower than at initial start-up. Although, enclosed CalClean Report (April 18, 2014) - Figure 4 shows that cumulative mass recovery continued to increase through the end of the 30-day event. The laboratory analytical data indicate that the shut down sample concentrations for TPHg in MW1 (3,200 ppmv), MW2 (3,300 ppmv), MW3 (2,600 ppmv), MW4 (1,500 ppmv), and MW5 (2,600 ppmv) (Table 1) did not meet the cleanup criteria of 250 ppmv.

Previous DES Reports have indicated that a submerged product condition is the source of elevated dissolved-phase impacts in the Site's groundwater. After the September 2013 HVDPE pilot test, product thicknesses of 0.33 feet in MW2 and 0.53 feet in MW5 confirmed that submerged product is present at the Site. The data indicated that the application of HVDPE lowered the water table and allowed the submerged product to enter MW2 and MW5. This condition was also confirmed during a follow-up 15-day HVDPE event conducted in April 2015.

In the enclosed DEH Letter (May 23, 2015), the DEH directed that a design be prepared for a fixed-base remediation system to mitigate product impacts under the east-adjacent E&L Supply property. The remediation will be conducted to provide conditions that meet the LTCP cleanup criteria of "product removed to the extent practicable."

2.0 OBJECTIVES

The objectives of the proposed remediation action are as follows:

- 1) Remove free product from the Site groundwater.
- 2) Mitigate the source of residual product impacts in the vadose zone.

3.0 SUMMARY OF SITE ASSESSMENT

The previous investigation have found that submerged product impacts at the Site serve as a continuing source for soil and dissolved-phase contamination migration. The assessment status of the Site is based on the available data for product impacts to soil and groundwater.

3.1 Free Product Impacts

3.1.1 Submerged Product Source

Upon completing the HVDPE pilot test in 2013, free product was observed for the first time in MW2 and MW5. The elevated TPH-gasoline and BTEX data in the wells MW1, MW2, and MW5 indicate that the free product consists of gasoline (Table 4). During follow-up groundwater monitoring the product levels decreased to a sheen. In the DES Report (January 8, 2014), DES provided evidence to show that the sheen observations are an indicator of free product submerged below the water table. The enclosed DEH Letter (February 21, 2014) concurred with the submerged product finding and directed that a HVDPE remediation event be

conducted. In March 2014 - April 2014, DES conducted a 30-day HVDPE event at the Site. During the event, HVDPE lowered the water table, exposed previously submerged soil, and allowed product to enter the Site wells. The HVDPE event and product rebound findings were presented in the DES Report (May 7, 2014). Rebound of submerged product was confirmed during the HVDPE event by product thicknesses of 0.53 feet in MW2 and 0.70 feet in MW5, in response to vacuums induced during the operation (Table 3).

Upon completing the March 2014 HVDPE event, further monitoring was required to determine the amount of product rebound that would occur during non-HVDPE static vadose zone conditions. In the later DES Report (November 26, 2014) for the Second Quarter 2014 groundwater monitoring event, product measurements of 0.03 feet (MW5) and 0.01 feet (MW1 and MW2) indicated rebound of submerged product (Table 3). In the enclosed DEH Letter (January 23, 2015) the DEH concurred with the submerged product finding and directed that, upon completing a 2-week HVDPE event to verify rebound of submerged product, submit a design for a fixed-base remediation system to implement HVDPE at the Site.

On March 30 to April 14, 2015 DES conducted a 15-day HVDPE event at the Site in response to the DEH Letter (January 23, 2015). The activities and findings of the 2015 HVDPE event will be submitted in a separate Report. During the April 2015 HVDPE event, rebound of submerged free product was indicated by a product thickness of 0.13 feet measured in MW2 during well gauging during HVDPE (Figure 5). As required by the DEH Letter (January 23, 2015), the vacuum radius of influence during the April 2015 HVDPE event is discussed in Section 5.1 of this Work Plan.

3.1.2 Product Lateral Extent and Migration

The submerged product discussed above was reported in wells MW1 and MW2 in June 2015 (Figure 6). Figure 6 shows that in June 2015, product rebounded to thicknesses of 0.43 feet in MW2 and 0.02 feet in MW1. A product sheen in MW3 indicates historical migration of the Site free product release to the west. Bifurcated product migration is also indicated by a product sheen in DW11 which provides evidence of historical migration of the Site free product release to the southeast. The historical free product migration pattern is similar to the bifurcated dissolved-phase TPH-Gasoline plume migration findings discussed in Section 3.3.1 of this Work Plan. Figure 4 shows that in June 2015 free product impacts are assessed by no-product findings in DW7 (west), DW9 (south), DW10 (south), and DW22 (east). There is a data gap for product north of MW6 (sheen) in West Washington Avenue, although the DEH has not previously required investigation impacts north of MW6 (Figure 6).

3.1.3 Evaluation of Submerged Product Impacts and Available Recovery Options

The submerged product at the Site requires a remedial technology that can lower the water table and expose submerged product-impacted soils to SVE. The previous HVDPE events have shown that HVDPE is optimal for lowering the water table and mitigating product impacts in the saturated zone and the vadose zone. Use of hand-bailing techniques and product skimming pumps will not provide the water table drawdown needed to treat submerged product and are thus not recommended. Application of SVE with no groundwater removal is also not recommended for the same reasons.

3.2 Product Impacts to Soil

The available Site soil data are summarized on Table 1. Soil data are shown on Plan view on enclosed Figure 7. The locations of geologic cross-sections that show soil data are presented on Figure 7. West-to-east trending

Cross-Section A-A' is shown on Figure 8. North-to-south trending Cross-Section B-B' is shown on Figure 9. Based on the historical and current findings, the petroleum hydrocarbon impact to the soil was assessed as follows:

3.2.1 TPH-Gasoline-Impacted Soil

The maximum TPHg concentration at the Site was reported in Boring B-5 at 20 fbg at 8,000 ppm (Figures 5 and 6). In the population of soil samples with detected TPHg impacts, Table 1 indicates an average TPHg concentration of 812 ppm. The vertical and lateral assessment of the TPHg impacts to soil are discussed below.

3.2.1.1 Vertical Extent of TPH-Gasoline-Impacted Soil

Analytical results at MW2 delineate the vertical extent of TPHg impacts at the source area. Figure 8 shows two consecutive ND TPHg results in soil samples from 25 and 30 feet bgs in MW2. Reportable TPHg concentrations were detected in the 20-foot bgs samples from borings DW9 at 0.21 ppm (DW9-20'), DW10 at 0.24 ppm (DW10-20'), DW11 at 2.81 ppm (DW11-10'), and DW12 at 4.91 ppm (DW12-20'). However, Figure 7 shows that at all those locations, DW9, DW10, DW11, and DW12, the TPHg concentrations decreased in orders of magnitude vertically between the 15- and 20-foot bgs samples. The data from MW2 and the significant vertical decreases in TPHg impacts in DW9, DW10, DW11, and DW12 indicate that the vertical extent of soil contamination is assessed (Figure 7).

3.2.1.2 Onsite Lateral Extent of TPH-Gasoline-Impacted Soil

The lateral extent of TPHg-impacted soil has been partially assessed by the Site soil sampling efforts. Figure 7 shows that the highest TPHg concentrations, and the source of the TPHg release, are located at the USTs near wells MW1, MW2, and MW5. The release at the Site was discovered during soil sampling that was conducted in support of tank re-lining activities in 1998. The USTs currently remain in place and are active. Cross-Section A-A' on Figure 7 shows that during drilling of HerSchy Boring B-2 in 1998, and D.R Sorben boring B-7 (MW2) in 1999, free product was encountered on the groundwater table at approximately 17.5 feet bgs. Table 3 shows that, since 1999, the groundwater table increased in elevation to approximately 8 to 12 feet bgs at the Site. This increase was recorded in 2005 when the depth to groundwater at the Site was between 8 to 12 feet bgs. This finding suggests that free product at 17.5 feet bgs and its associated smear zone has been submerged by the rising water table.

During a soil investigation to support UST re-lining in 1998, angle borings B-1, B-3, B-4, B-5, and B-6 were advanced. A sample was collected at the base of the 20-foot angled length of auger which corresponded to a depth bgs of about 17.3 feet bgs. Based on this drilling approach, soil samples from 1998 named B-3@20' (etc) actually represent soil from about 17.3 feet bgs. Figure 8 shows that, with the exception of an 8,000 ppm (B-5@20') TPHg concentration at 17.3 feet bgs in B-5, most of the highest TPHg concentrations in soil have been reported in the soil samples collected at 12 or 15 feet bgs. The elevated impacts at 12 to 15 feet bgs are shown by TPHg concentrations of 4,100 ppm (MW2 (B-7) at 12 feet bgs), 1,390 ppm (DW10-15'), 1,840 ppm (DW11-15'), and 293 ppm (DW12-15' bgs) (Figure 7).

The data show that the highest TPHg concentrations are to be expected in the product smear zone which has been reported at depths of 12 to 17.3 feet bgs at the Site. Downgradient to the west of the Site, ND TPHg results at 5, 10, 15, and 20 feet bgs in DW23 assess the westward lateral extent of TPHg impacts in soil

(Figure 7). The ND TPHg results at 10, 15, and 20 feet bgs in DW22 assess the southeastward lateral extent of the east portion of the bifurcated plume that enters the E&L Supply property to the east.

In DW21, the TPHg concentration of 156 ppm at 15 feet bgs (Figure 7) indicates a data gap to the southwest of DW21. The data gap southwest of DW21 is a concern for the Classical Academy High School Property (Figure 7). In accordance with the enclosed DEH Letter (July 6, 2015), investigation of dissolved phase impacts southwest of DW21 will be investigated under a separate effort. Cleanup of oil impacts at DW21 is not the focus of this Remedial Action.

3.2.1.3 Offsite Source Contributions to Bifurcated Plume

The TPHg concentration soil iso-contours in Figure 7 depict the bifurcated plume findings presented in the previous DES SAR (January 8, 2014). The TPHg impacts of 293 ppm in DW12-15' and 3,020 ppm in DW18-16' indicate product migration on the water table from an offsite source east of the Site and the E&L Supply property (Figure 7). The DES SAR (January 8, 2014) provided details about the offsite sources of contamination. The Offsite plume east of the E&L Supply property will not be treated by the proposed HVDPE approach. The intent of the HVDPE remedial approach is to mitigate submerged product impacts at the Site and mitigate soil, soil gas, and groundwater impacts below the E&L Supply building.

3.2.2 Benzene-Impacted Soil

Table 1 shows that the maximum benzene concentration in soil at the Site was in B-5 at 20 fbg at a concentration of 110,000 ppb. In the population of samples with detected benzene concentrations, the average benzene concentration was 8,028 ppb (Table 1). The DES Report (January 8, 2014) provided a detailed discussion of the benzene concentrations in soil. The DES Report (January 8, 2014) found that the benzene concentrations in soil supported the bifurcated plume model indicated by the available MTBE and TPHg data. Soil data for benzene are presented in enclosed Table 1.

3.2.3 MTBE-Impacted Soil

The maximum MTBE concentration at the Site was reported in MW2 at 12 fbg at 62,000 ppb (Table 1). In the population of soil samples with detected MTBE impacts, Table 1 indicates an average MTBE concentration of 15,387 ppb. The DES Report (January 8, 2014) provided a detailed discussion of the MTBE concentrations in soil. The DES Report (January 8, 2014) found that the MTBE concentrations in soil supported the bifurcated plume model indicated by the available MTBE groundwater data. Soil data for MTBE are presented in enclosed Table 1.

3.3 Product Impacts to Groundwater

3.3.1 TPH-Gasoline-Impacted Groundwater

The historical data on Table 4 indicate that TPH-gasoline highs have been reported in the MW2 source area well at concentrations up to 400,000 ppb (on 8/24/2010). The average TPHg concentration in source area well MW2 is calculated to be 167,325 ppb (Table 4). For the assessment evaluation of TPHg concentrations in groundwater, the most recent June 2015 TPHg data are discussed relative to remediation needs. The supporting laboratory data and field sampling logs for the June 2015 groundwater sampling event were presented in the DES Report (October 20, 2015).

The TPHg concentration iso-contours in Figure 10 confirm the bifurcated plume findings indicated by the soil data. The onsite impacts that require remediation are the TPHg highs of 222,000 ppb (MW2), 30,700 ppb (MW5), 33,300 ppb (MW1), 25,900 ppb (MW3) and 24,600 ppb (MW4). The need to remediate impacts south of MW5 is indicated by the TPHg highs of 24,600 ppb (MW4), 30,700 ppb (MW5) and 72,600 ppb (DW11). The TPHg impact of 72,600 ppb (DW11) indicates contamination migration under the southern half of the E&L Supply Building.

The offsite TPHg impacts that indicate a release source offsite to the east of the Site are TPHg highs of 10,100 ppb (DW19) and 8,050 ppb (DW18) (Figure 10). The offsite-source release impacts east of the E&L Supply property will not be the focus of the proposed remedial action.

The June 2015 sheen observations and historical highly-elevated TPHg impacts (Table 4) in wells MW1, MW2, MW3, and MW5 indicate submerged product at the Site. The presence of submerged product is further indicated by product that was measured in MW2 and MW5 after the HVDPE pilot test in September 2013 (Table 3). Upon lowering the water table in MW2 and MW5 during HVDPE, product from the adjacent formation was allowed to enter the wells.

3.3.2 Benzene-Impacted Groundwater

The historical data on Table 4 indicate that benzene highs have been reported in the MW2 source area well at concentrations up to 29,800 ppb (on 9/30/2012). The average benzene concentration in source area well MW2 is calculated to be 17,054 ppb (Table 4). For the assessment evaluation of benzene concentrations in groundwater, the most recent June 2015 benzene data are discussed relative to remediation needs. The supporting laboratory data and field sampling logs for the June 2015 groundwater sampling event were presented in the DES Report (October 20, 2015).

The benzene concentration iso-contours in Figure 11 confirm the bifurcated plume findings indicated by the soil data. The onsite impacts that require remediation are the benzene highs of 18,000 ppb (MW2), 7,800 ppb (MW1), 9,000 ppb (MW3), and 2,500 ppb (MW5) (Figure 11). The need to remediate impacts south of MW5 is indicated by the benzene concentrations of 2,500 ppb (MW4) and 18,000 ppb (DW11). The benzene impact of 18,000 ppb (DW11) indicates eastward migration of the Site plume under the E&L Supply Building (Figure 11).

A benzene high of 2,500 ppb in DW19 indicates a release source offsite to the east of the E&L Supply Building. The offsite-source release impacts east of the E&L Supply property will not be the focus of the proposed remedial action.

In addition to the eastward upgradient release concerns, the June 2015 data indicate the following assessment findings for benzene:

- 1) West of the Site, the onsite benzene impacts are assessed by ND benzene in DW23, DW15, and DW8 (Figure 11).

-
- 2) Northeast of MW6 (benzene of 520 ppb) and DW13 (benzene of 4.5 ppb) is a benzene data gap, although the DEH has not previously directed investigation of this data gap in the City of Escondido right-of-way in West Washington Avenue (Figure 11).
 - 3) Southwest of benzene impacts in DW21 (130 ppb) and DW17 (540 ppb) is a data gap (Figure 11). The reported benzene impacts in DW21 are a concern because DW21 is directly upgradient of the Classical Academy High School. It has not been determined if impacts reported in DW21 have migrated to the southwest onto the Classical Academy High School property (Figure 11).

The sheen and highly-elevated benzene impacts in wells MW1, MW2, MW3, and MW5 indicate submerged product at the Site. The presence of submerged product is further indicated by product thicknesses of 0.48 feet measured in MW5 and 0.33 feet measured in MW2 after the HVDPE pilot test in September 2013 (Table 3). Upon lowering the water table in MW2 and MW5 during HVDPE, product from the formation was allowed to enter the wells. The presence of submerged product at the Site indicates that the Case does not meet the LTCP cleanup criteria of “product removed to the extent practicable.”

3.3.3 MTBE-Impacted Groundwater

The historical data on Table 4 indicate that MTBE highs have been reported in the MW2 source area well at concentrations up to 270,000 ppb (on 11/16/2005). The average MTBE concentration in source area well MW2 is calculated to be 121,134 ppb (Table 4). For the assessment evaluation of MTBE concentrations in groundwater, the most recent June 2015 MTBE data are discussed relative to remediation needs. The supporting laboratory data and field sampling logs for the June 2015 groundwater sampling event were presented in the DES Report (October 20, 2015).

The MTBE concentration iso-contours in Figure 12 confirm the bifurcated plume findings indicated by the soil data. The onsite impacts that require remediation are the MTBE highs of 98,000 ppb (MW2), 27,000 ppb (MW5), and 9,500 ppb (MW1) (Figure 12). The lack of MTBE impacts east of the E&L Supply building indicates old-gasoline/new-gasoline findings that were discussed in detail in the DES SAR (May 22, 2015).

3.4 Contamination Mass Estimate

Upon reviewing the DES 30-Day Remediation Event Report (May 7, 2014), the DEH requested that DES provide an estimate of the mass of product impacts remaining at the Site. In response to the DEH request, DES provided further mass calculations to the DEH in an email dated September 2, 2014. The estimate in the DES Email (September 2, 2014) was later incorporated into the DES Site Assessment Report (May 22, 2015). Enclosed Table 5 (from DES Report (May 22, 2015)) shows the following mass estimates:

- 1) The estimated mass of mobile submerged product contamination at the release source area is 5,762 pounds (equivalent to 980 gallons).
- 2) The estimated mass of mobile product in the product smear zone is 23,398 pounds (equivalent to 3,978 gallons).

-
- 3) Estimated mass of dissolved product in the >10,000 ppb TPHg plume footprint from the March-April 2014 groundwater monitoring event data is 151 pounds (equivalent to 26 gallons).

The DES SAR (May 22, 2015) evaluated the mass estimates relative to the mass removal of 975 gallons of product per month indicated by the 30-day remediation event in March 2014. The DES SAR (May 22, 2015) estimated that the product impacts could be remediated under the following timeframes:

- 1) The 980 gallons of submerged product at the release source area could be removed in 1-month if sufficient radius of influence is provided by the remediation well network.
- 2) The 3,978 gallons of mobile product in the product smear zone could be removed in 4.1 months if sufficient radius of influence is provided by the remediation well network.

4.0 APPLICABLE CLEANUP LEVELS

Typically, product impact cleanups are driven by the following cleanup objectives:

- 1) Mitigate free product impacts in the soil.
- 2) Decrease contamination sources for groundwater.
- 3) Remove soil impacts that may be a source of soil-gas impacts and potential vapor intrusion risks.

The following site conditions indicate that a product-impact-driven cleanup is appropriate for the Site:

- 1) Highly-elevated TPHg and benzene impacts in the groundwater indicate submerged product is a source for unstable dissolved-phase impacts. Remediation of submerged product is needed.
- 2) The LTCP requires that product be removed to the extent practicable.

Based on the above conditions, the cleanup goal for the Site will be to remediate the submerged product until dissolved benzene concentrations achieve a decreasing condition during quarterly monitoring or achieve the LTCP cleanup level of 3,000 ppb for benzene. Upon achieving those criteria over two quarterly monitoring events after the Remediation System is shut down, a no further action recommendation will be made.

The following HVDPE Shut Down criteria discussed in Section 5.6 and 5.7 of this Work Plan will be used to provide conditions needed to decrease dissolved benzene impacts at the Site:

- 1) After three days of exhibiting influent PID measurements below 250 parts per million by volume (ppmv), the PID and vapor inlet analytical data will be evaluated to determine if asymptotic results warrant shut down of the HVDPE in the wells that exhibit the asymptotic results.

-
- 2) No product thicknesses exceeding 0.02 feet in extraction wells MW1, MW2, MW3, MW4, MW5, DE1, DE2, DE3, DE4, DE5, and DE6.

5.0 REMEDIAL ACTION

The proposed remediation activities will be performed in general accordance with the latest SAM guidelines and the LTCP. The 30-Day HVDPE event in March-April 2014 and the 15-Day event in April 2015 confirmed that HVDPE is the optimal technology to mitigate the submerged product impacts at the Site. Therefore, in accordance with the recommendations in the DES Report (May 7, 2014) and the enclosed DEH Letter (May 11, 2015), an HVDPE approach is the basis for the design.

5.1 Extraction Well Spacing based on Vacuum ROI and Hydrocarbon Mass Removal

The product data and TPHg mass removal in the DES Report (May 7, 2014) indicate that the HVDPE event was successful in partially mitigating product impacts at the Site. The historical product measurements in wells MW2 and MW5 indicate those wells are in communication with product-bearing zones at the Site and are in optimum locations to continue remediation by HVDPE at the Site.

Based on the mass removal from the 30-Day HVDPE event, DES later provided further mass calculations to the DEH in an email dated September 2, 2014. The estimate in the DES Email (September 2, 2014) was later incorporated into the DES Site Assessment Report (May 22, 2015). Enclosed Table 5 from the DES SAR (May 22, 2015) compares the calculated mass volumes to a mass removal rate of 975 gallons per month. The 975 gallons per month removal rate was derived by multiplying the reported pounds of mass removal in the DES Report (May 7, 2014) of 5,735.68 by the American Petroleum Institute Publication No. 4261 (July 1976) density for gasoline of 0.17 gallons per pound).

The treatment durations estimated in the DES Report (May 22, 2015) assume that the extraction wells can access the lateral extent of the product impacts. However, the existing well network is not sufficient to access all portions of the plume. In response to the directive in the enclosed DEH Letter (January 23, 2015), vacuum measurements were made during the April 2015 HVDPE Event. The April 2015 vacuum data indicate a maximum vacuum radius of influence of 72 feet based on 0.01 inches of water vacuum in DW10 measured during HVDPE in wells MW1, MW2, MW3, MW4, MW5, and MW6 (Figure 13). A stronger vacuum radius of influence of 45 feet was indicated by a vacuum response of 0.11 inches of water in DW8 during HVDPE (Figure 13).

Figure 13 shows that the vacuum response in MW8 (and not in wells DW7, DW9, and DW14) is an indication that preferential flow pathways in the vadose zone govern flow and that a smaller vacuum ROI can be expected at other portions of the Site. To ensure vacuum coverage in probable treatment gaps that may not contain the preferential flow pathways needed, a closer extraction well spacing of 20-25 feet is proposed for wells MW5, DE2, DE3, and DE4. A close spacing is proposed for MW5, DE2, DE3 and DE4 because those well locations have the following benefits:

- 1) The locations intersect the southwest contamination migration pathway from the Site release to the E&L Supply Building.

- 2) The locations are on accessible portions of the Site property but are also as close as feasible to the west edge of the E&L Supply Building.
- 3) The locations will provide a vacuum barrier to prevent farther migration of Site impacts under the E&L Supply property when applying HVDPE in proposed HVDPE wells DE5 and DE6 on the E&L Supply property (Figure 14).

To take advantage of the benefits discussed above and to access the anticipated treatment gaps, the following new HVDPE wells are proposed:

- 1) Extraction Well DE1 is proposed to treat soils in the 5-10 fbg depth range at MW1 and MW2 where no vacuum response could be induced in those wells which are screened from 10 to 30 fbg. Figure 9 shows the 5-10 fbg vertical treatment gap at the release source area and the need for Well DE1. Well DE1 is needed to treat vadose zone impacts at 5-10fbg at the west end of the active UST Tank Pit (Figures 9 and 14).
- 2) Extraction Wells DE2, DE3, and DE4 are proposed at the east perimeter of the Site to treat vadose zone and product smear zone impacts at the east perimeter of the Site and access vapors under the east adjacent E&L Supply Building (Figure 14).
- 3) Soil-Gas probes DP8 and DP6 will be converted to HVPE Extraction Wells and re-named DE5 and DE6 respectively (Figure 2 and 14). Due to the presence of the City of Escondido storm drain at the east perimeter access driveway on the E&L Supply Property, excavation at the East perimeter of the E&L Supply Building to connect that portion of the offsite plume to the extraction well network is not worth the risk of damaging the Storm Drain. Therefore, remedial performance in DE5 and DE6 will be evaluated to determine whether additional wells should be installed to expand treatment coverage on the east side of the E&L Supply Building (Figure 2).

5.2 Project Plans and Permits

The scope of services anticipated for this remedial action will require obtaining various approvals for the following plans and permits prior to mobilization.

5.2.1 Design Approval

This Remediation Work Plan, including the project objective and scope of services, will be submitted for approval by the DEH. Should no response be received by the DEH within 60 days of date of submittal to the DEH, then approval by default is understood. Pursuant to the authority granted in California Code of Regulations, Title 23, Division 3, Chapter 16, Section 2722 (e), DES will provide a letter to the DEH indicating two-week notice of the intent to initiate the activities detailed in this Work Plan, as required by Section 2722 (e) (I). Should no response be received within two weeks of submitting the notice, the permitting for the design will be initiated under the authorization provided by Section 2722 (e).

5.2.2 Drilling Permit

Prior to well installation, a drilling and extraction well construction permit must be obtained from the DEH.

5.2.3 HVDPE Unit Permits

Concurrent with installation of the HVDPE System at the Site, an authority to construct permit will be obtained from the County of San Diego Air Pollution Control District (APCD). Upon DEH approval of the design elements, DES will make inquiries with the City of Escondido Planning Department regarding building permits and with the Escondido Fire Department regarding their requirements.

5.2.4 Utility Clearance

In order to minimize the potential site hazards during the proposed drilling and trenching, and as required by law, Underground Service Alert will be notified to identify public utilities encroaching onto the Site. The mark-out of potential utilities is intended to reduce the risk of encountering or damaging an underground structure during the proposed subsurface activities. Active product lines and private utility service connections are also known to exist in the work area, and must be further evaluated prior to drilling and trenching. A private utility locator service will be employed to detail the utility locations on the Site's interior property area. In addition, the extraction well locations will be "air-knifed" with a vacuum drilling application down to 5 feet bgs to verify utility clearance. This precaution is applicable, since the proposed drilling locations are near active utility lines.

5.3 Soil Borings and Extraction Well Installation

DES proposes to advance 6 soil borings (Figure 14) and convert them to extraction wells. A hollow stem auger (HSA) drill rig will be employed to advance the borings with a minimum 10-inch diameter drill bit. The soil borings for the HVDPE wells (DE1, DE2, DE3, DE4, DE5, and DE6) will be drilled to 20 feet bgs (Figure 14 and 18) to be consistent with depth of submerged product impacts at MW5. The soil borings will then be converted to HVDPE wells as indicated in Section 5.3.1 of this Work Plan.

5.3.1 HVDPE Well Installation

The soil borings will be converted to HVDPE extraction wells. Based on the monitored groundwater levels in the existing wells, the static groundwater is approximately 11 feet bgs (Table 1). The proposed construction for the HVDPE Wells is shown on Figure 18. The proposed extraction wells will be constructed with 15 feet of 0.020-inch slotted PVC casing and 5 feet of blank PVC casing. The proposed 5 to 15 feet bgs screen interval for the HVDPE wells is consistent with the screen intervals for the existing groundwater monitoring well network (refer to enclosed Table 2).

The well casing diameter will be 4 inches to allow for suitable vapor and groundwater flow rates during HVDPE. The gravel pack will consist of Monterey Sand #3, or equivalent, and placed in the annular space from the termination depth to one foot above the slotted casing. Upon installing the gravel pack, a surge block will be used to develop the HVDPE wells in an effort to prevent future settling of the gravel pack. Upon completing the surge block development, one foot of bentonite chips will be placed on top of the sand and hydrated. Bentonite grout backfill, or equivalent, will then be placed from the top of bentonite chips to 3 feet bgs. Then 3 feet of concrete with a traffic box and HVDPE piping connections will enclose the upper part of the well. Refer to the enclosed Well Construction diagram in Figure 18 for further well construction detail.

Following installation, the HVDPE wells will be developed using a bailer, and/or submersible pump in accordance with the SAM Manual. Development will be completed when less than 5% solids are exhibited in the purge water as indicated by use of an Imhoff cone, or until field-screening parameters stabilize. Water generated during development will be containerized and left on-site for future disposal, or by treatment via the

remediation system. The coordinates and elevation of the well casing top will be surveyed for proper assessment of groundwater elevation, gradient, flow direction, and remediation radius of influence.

No groundwater sampling is proposed in the extraction wells. Addition of the extraction wells into the Site groundwater monitoring network will be evaluated in the monthly operation and maintenance reports, as appropriate.

5.3.2 Management of Well Installation Wastes

Non-regulated and uncontaminated waste products generated during the well installation and sampling will be handled and disposed of as municipal waste. Soil and rock cuttings and equipment wash water must be handled and disposed of appropriately. It is anticipated that these waste products will be containerized in 55-gallon DOT drums as they are generated. Each drum will be labeled with its contents, date of generation, and emergency contact information. The drummed wastes will be stored in a secured area until transport to an appropriate treatment/disposal facility. California-regulated wastes will be removed via a licensed recycler. The DEH will be provided with the appropriate disposal documentation in future reports.

5.4 Remediation by High Vacuum Dual Phase Extraction (HVDPE)

5.4.1 Statement of Qualifications

The design in the this Work Plan has been prepared in consultation with Mr. John Dentzer. Mr. Dentzer's resume is included in the Appendices - Support Documents. As indicated on his resume, Mr. Dentzer has over 20 years experience in the environmental industry including the design, construction, operation, and maintenance of remediation systems.

The project will be managed by Mr. Greg Delson, PG. Mr. Delson's resume is included in the Appendices - Support Documents. Mr. Delson the Senior Vice President of Technical Operations at Donan Environmental Services and is responsible for management of over 30 LUFT cases from 2010 to present. In consultation with Mr. Dentzer, Mr. Delson has managed use of HVDPE systems to remediate multiple Sites including the following:

- 1) Wally's Auto, El Cajon, CA (Global ID No. T06019704535) - Case Closed after implementing HVDPE.
- 2) Pacific Petroleum, Escondido, CA (Global ID No. T06019794859) - Case Closed after implementing HVDPE. Well destruction pending.
- 3) Valley Center Oil, Valley Center, CA (Global ID No. T0607301724 - Remediation by HVDPE deemed complete by the RWQCB-SD, case closure pending completion of sensitive receptor survey.

5.4.2 HVDPE Process

The HVDPE process removes soil-gas, groundwater, and free product at the same time by applying a vacuum to the wellhead. Remediation is achieved by removing impacted soil gas and groundwater. The air movement caused by the vacuum also has the effect of turning contaminants in soil, product, and groundwater into vapor

and removing them. The HVDPE process consists of lowering a stinger or pipe into a groundwater well and applying a vacuum. The vacuum removes groundwater and product from the well and removes soil gas from portions of the dewatered cone of depression, capillary fringe, and vadose zone exposed to the extraction well screened interval. Previous testing efforts have found that the release consists only of petroleum hydrocarbon VOCs, therefore, treatment of HVDPE vapors by thermal oxidizer is the optimum vapor treatment method. Use of a thermal oxidizer is consistent with the previous remedial events at the Site (DES Report (May 7, 2014)).

Contaminants in the groundwater are also captured by passing the removed groundwater through a baffled knockout tank then to an approximately 2,600-gallon water storage tank. The groundwater will then be treated via a 10-micron bag filter, then through an array of 3 200-gallon carbon vessels, in response to the requirements for discharge into the City of Escondido sanitary sewer system under permit.

5.4.3 HVDPE Treatment System

To perform HVDPE on selected Site wells, a skid-mounted HVDPE Unit will be installed at the Site. DES proposes to use a HVDPE Unit that comprises a minimum 300 actual cubic feet per minute (ACFM) system capable of inducing up to 28 inches of mercury vacuum at the wellhead. The vacuum will be generated by a minimum 20 Horsepower blower, or equivalent. The system shall have the capacity to treat removed vapors from 7 of the Site wells at a time.

The proposed configuration of the HVDPE Treatment System and the proposed extraction well network is shown on Figures 14 and 15. A process flow diagram for the HVDPE System is presented on Figure 16. A profile view of the system equipment is depicted in Figure 17. A list of the HVDPE System components is provided in the Mako System List in the Appendices - Support Documents.

The proposed extraction wells will be connected with dedicated 2-inch diameter process flow pipes that will be managed by an 11-well valve manifold (Figure 14). The fixed-base system will require that wells be connected to the system via dedicated below-ground pipes. Figure 14 shows the plan view of the required pipe trenches and shows cross-sectional views of anticipated placement of the pipes in the trenches. In response to the need to manage product-containing water in the pipelines, the design calls for the use of double-containment pipes. The below ground piping will consist of 2-inch diameter schedule 40 PVC process flow piping protected by 4-inch diameter schedule 40 PVC piping to provide double containment. To accommodate the 4-inch diameter outer pipe, minimum 12-inch wide trenches will be dug for the pipe runs.

The Site assessment data indicate that the Site release has migrated under the southern portion of the adjacent E&L Supply building. In order to address this portion of release, and comply with the DEH directive to mitigate impacts below the E&L Supply building, proposed HVDPE wells DE5 and DE6, on the E&L Supply property will be connected to the HVDPE Treatment System (Figure 15). Figure 15 shows that proposed HVDPE Wells DE5 and DE6 cannot be connected to the Golden State Gasoline property by trenching because of a natural gas line that is located in the optimal pathway from the E&L Supply property to the Golden State Gasoline Site property. In response to this limitation, the design provides guidance for routing the piping from DE5 and DE6 over the E&L Supply building, down to the proposed trench network on the Golden State Gasoline property (Figure 15). As an added safety measure, the piping over the building will also consist of

dual-wall piping as indicated on Figure 15. This design approach was developed in communication with the owners of the E&L Supply property.

5.4.4 Remediation Monitoring

The HVDPE Unit will be monitored as follows during operation:

- 1) Vacuum in the pumping wells at hourly intervals, at 4-hour intervals once stable.
- 2) System flow rate at hourly intervals, then in 4-hour intervals once stable.
- 3) Thermal oxidizer temperature at hourly intervals, then in 4-hour intervals once stable.
- 4) Groundwater production rate at hourly intervals, then in 4-hour intervals once stable.
- 5) Monitoring of influent vapor concentrations using a PID and a vacuum chamber at hourly intervals, then in 4-hour intervals once stable.

5.4.5 Waste Management

5.4.5.1 HVDPE Operations Wastes

Non-regulated and uncontaminated waste products generated during remedial operations will be handled and disposed of as municipal waste. Extracted groundwater and product must be handled and disposed of appropriately. It is anticipated that these wastes will be containerized in an approximately 2,600-gallon tank or in 55-gallon DOT drums as they are generated. Containers will be labeled with their contents, date of generation, and emergency contact information. Water wastes will be discharged to the City of Escondido sanitary sewer system under a proper permit. Other wastes will be stored in a secured area until transport to an appropriate treatment/disposal facility.

Should excess product be generated during operation of the treatment system, an effort will be made to re-cycle the product through the treatment system. Should excess product require offsite recycling, a California EPA ID will be obtained and the California-regulated wastes will be removed via a licensed recycler. The DEH will be provided with the appropriate disposal documentation in monthly operation and maintenance reports, as applicable.

5.4.5.2 Trench Soil Management

It is anticipated that the trenching effort will generate 42 cubic yards of soil that cannot be re-used onsite because of the sand-only backfill requirements for the trench piping. The excavated trench soils will be temporarily stored in roll-off bins or stockpiled onsite in accordance with SAM Manual requirements. Most of the soils in the upper 3-feet may not be contaminated, however, some soils close to dispenser islands and the tank pit may have petroleum impacts. In response to this concern, soil will be screened with a PID and segregated into clean or impacted stockpiles. Soil from the stockpiles will be tested in accordance with the Waste Acceptance Guidelines for the Otay Landfill. The Otay Landfill has a permit to accept petroleum hydrocarbon wastes. A minimum of 4 soil samples will be collected and analyzed for trench soil waste characterization based on the enclosed Special Waste Acceptance Guidelines, and the enclosed Republic Services Email (September 15, 2015).

5.5 Verification Sample Collection and Analytical Methods

5.5.1 System Startup Vapor Sampling

Inlet vapor samples will be collected to evaluate HVDPE performance in the pumping wells. To document the Site conditions at HVDPE Startup, vapor inlet samples will be collected from the HVDPE Unit influent for chemical analysis as follows:

- 1) One sample from each of the 11 extraction wells at the beginning of HVDPE operation. These samples will provide start data for each well.
- 2) One sample of the combined inlet at startup.
- 3) One sample of the outlet vapor exiting the thermal oxidizer at startup. The vapor exiting the thermal oxidizer will be cooled by running the sample tubing through a water or ice-bath prior to sample collection.

The rationale above provides for a total of 13 vapor samples to be collected for chemical analysis during HVDPE Startup. The vapor samples will be collected into Tedlar® bags, or equivalent, using a Hi-Vacuum, or equivalent, sampler box. The designated vapor samples will be transported to a fixed-facility State-certified analytical laboratory under proper chain-of-custody procedures for chemical analysis.

5.5.2 Vapor Sampling During Remedial Operation

Vapor samples will be collected from the HVDPE Unit during routine operation as follows:

- 1) One sample of the combined system inlet vapors each day for the first 6 days (up to 6 samples) then, one every 5 days for the next 25 days.
- 2) One sample of the outlet vapor from the thermal oxidizer array every 5 days to document compliance.
- 3) Upon meeting the shut-down criteria, collect one vapor sample from all 11 pumping wells, from the combined inlet vapor, and the thermal oxidizer outlet vapor.

The vapor samples will be collected into Tedlar® bags, or equivalent, using a Hi-Vacuum, or equivalent, sampler box. The designated vapor samples will be transported to a fixed-facility State-certified analytical laboratory under proper chain-of-custody procedures for chemical analysis. The vapor samples will be analyzed as indicated in Section 5.5.3 of this Work Plan.

5.5.3 Vapor Analyses

Vapor samples will be analyzed at a State-certified analytical laboratory. The vapor samples will be analyzed by EPA Method 8015-modified for TPHg and by EPA Method 8260B for the following analytes:

- 1) Benzene, toluene, ethylbenzene and xylenes (BTEX).

-
- 2) Methyl-tertiary-butyl ether (MTBE), ethyl-tertiary-butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary-amyl-methyl ether (TAME), and tertiary-butyl alcohol (TBA).
 - 3) Naphthalene in accordance with California Department of Toxic Substances Control (DTSC) guidance for assessing soil gas.

5.6 HVDPE Remediation Shut Down Criteria

Shut down of the HVDPE System will be based on the criteria discussed below. It is anticipated that the LTCP-based or trend-based cleanup goals will be achieved after more than one HVDPE remediation event. The shut down criteria for an individual remedial event will be:

- 1) After three days of exhibiting influent PID measurements below 250 parts per million by volume (ppmv), the PID and vapor inlet analytical data will be evaluated to determine if asymptotic results warrant shut down of the HVDPE in the wells that exhibit the asymptotic results. DES will then discuss the results with the DEH to determine if shut-down is appropriate.
- 2) No product thicknesses exceeding 0.02 feet in extraction wells MW1, MW2, MW3, MW4, MW5, DE1, DE2, DE3, DE4, DE5, and DE6.
- 3) Shut down after 6 months of operation if criteria 1 and 2 cannot be achieved. If the shut down criteria cannot be met within 6 months, additional extraction wells or other remediation methods will be evaluated.

5.7 Product Rebound Monitoring and HVDPE Remediation Re-Start Criteria

Upon achieving the shut down criteria during system operation, the HVDPE System will be shut down. Due to the submerged product condition at the Site, product may accumulate in the wells after being accessed during HVDPE activity. After shutting down the HVDPE System, the pumping wells will be monitored for rebound of product thickness as follows:

- 1) Once on the day after HVDPE System shut down.
- 2) Once per week for the first 4 weeks, starting 1 week after HVDPE System shut down.
- 3) Quarterly until 4 quarters of product thickness less than 0.02 feet are measured or observed.

If product thicknesses greater than 0.02 feet are measured during the rebound monitoring, a recommendation for re-starting HVDPE remediation system will be submitted to the DEH for concurrence. Further HVDPE remediation events will then be implemented with application of the same shut-down re-start criteria, as appropriate.

5.8 Installation and Operation Schedule

The Remedial Action and associated Case Closure process are anticipated to be implemented on the following timeline:

Oct. 2015	Submittal of Remediation Work Plan to DEH.
Oct. - Dec. 2015	DEH 60-Day review Period for Remediation Work Plan.
Oct. - Nov. 2015	Prepare Permit Applications for APCD, City of Escondido, and City of Escondido Fire Department.
Dec. 2015	Upon receiving DEH approval of this Work Plan, submit the permit applications to the APCD, City of Escondido, City of Escondido Fire Department, and DEH Drilling permit.
Jan. 2016	Upon issuance of DEH drilling permit, install the proposed HVDPE extraction wells DE1, DE2, DE3, DE4, DE5, and DE6.
Feb. 2016	Advance trenches and pipe wells to the HVDPE Manifold.
Mar.-May 2016	Install HVDPE Treatment System, make connections to sewer, natural gas, and electrical supplies under proper permits.
June 2016	Start HVDPE Operations. Start monthly operations and maintenance reporting.
Jun.-Sep. 2016	Review operations and determine if removal rates are consistent with the 4.1 -month estimate for initial cleanup of 3,798 gallons of mobile product in the product smear zone. Evaluate whether additional extraction wells are needed.
Dec. 2016	Evaluate data from the first 6 months of HVDPE operation and determine if conditions are suitable for closure.
Jan.-Dec. 2017	Should the Site meet the cleanup criteria in Sections 5.6 and 5.7, monitor the Site well network quarterly for one year to evaluate product rebound.
Jan. 2018	Should conditions be suitable for closure in December 2017, submit a Remediation Verification Report and Request for Case Closure. Otherwise, determine if additional extraction wells need to be added to the System and continue HVDPE operation as needed.
Feb.-Mar. 2018	DEH 60-Day review of Request for Case Closure, as appropriate.
Apr.-May. 2018	60-Day notice of closure to adjacent properties and applicable agencies, as appropriate.
Jun. 2018	Decommission HVDPE Treatment System and abandon Site well network under DEH permit.

The schedule forecast above is based on an optimistic scenario that cleanup may be achieved after 6 months of HVDPE operation. Should HVDPE be required for more than 6 months, the schedule will change accordingly.

6.0 REPORTING

6.1 Monthly Operation and Maintenance Reports

Progress of the remedial activities will be reported monthly. The monthly reports will provide the monitoring and operation data for the previous month, and will evaluate the following:

- 1) Verification that individual well vacuums and vacuum ROI in the well network are consistent with the findings of the pilot test.
- 2) Evaluation of the HVDPE Unit flow rates.
- 3) An estimate of contaminant mass removal. Mass removal will be calculated based on the vapor inlet analytical results and flow volumes.
- 4) An evaluation of the PID and chemical analytical data to determine if low asymptotic results have been achieved in the pumping wells. Recommend event shut down or re-start of additional HVDPE events based on the criteria in Sections 5.6 and 5.7 of this Work Plan.

6.2 Remediation Verification Report

Upon meeting the remediation goals, a Remediation Verification Report will be prepared. The Remediation Verification Report will be prepared in general accordance with the LUFT guidelines, executed with the proper professional signatures, and submitted to the DEH. The Report will include the associated tables, figures, and charts to document the HVDPE System's performance relative to the cleanup goals. Recommendations for Case Closure will be included, as appropriate.

FIGURES

- Figure 1 - Site Location
- Figure 2 - Site Plan
- Figure 3 - Site Plan and HVDPE Event Configuration
- Figure 4 - Groundwater Plan - June 2015
- Figure 5 - Product Impact Plan During HVDPE, April 2015
- Figure 6 - Product Impact Plan After HVDPE, June 2015
- Figure 7 - Soil Sample Plan - TPH-Gasoline Iso-Concentrations
- Figure 8 - Conceptual Model, Cross-Section A-A', and TPHg Soil Impacts
- Figure 9 - Conceptual Model, Cross-Section B-B', and TPHg Soil Impacts
- Figure 10 - Gasoline-Impacted Groundwater Plan - June 2015
- Figure 11 - Benzene-Impacted Groundwater Plan - June 2015
- Figure 12 - MTBE-Impacted Groundwater Plan - June 2015
- Figure 13 - Vacuum Radius of Influence During HVDPE, April 2015
- Figure 14 - Proposed Extraction Wells and Piping Trench Profiles
- Figure 15 - HVDPE System Additional Piping Details
- Figure 16 - Simplified Process Flow Diagram, High Vacuum Dual-Phase Extraction
- Figure 17 - Process Equipment Diagram, HVDPE System with Thermal Oxidizer
- Figure 18 - Proposed HVDPE Well Construction



Source: USGS 7.5" Quadrangle Map from MyTopo.com

0 2,325 4,650
Approximate Scale in feet

Disclaimer: This figure is an interpretation based on available data. Actual site conditions may differ. All locations and dimensions are approximate.



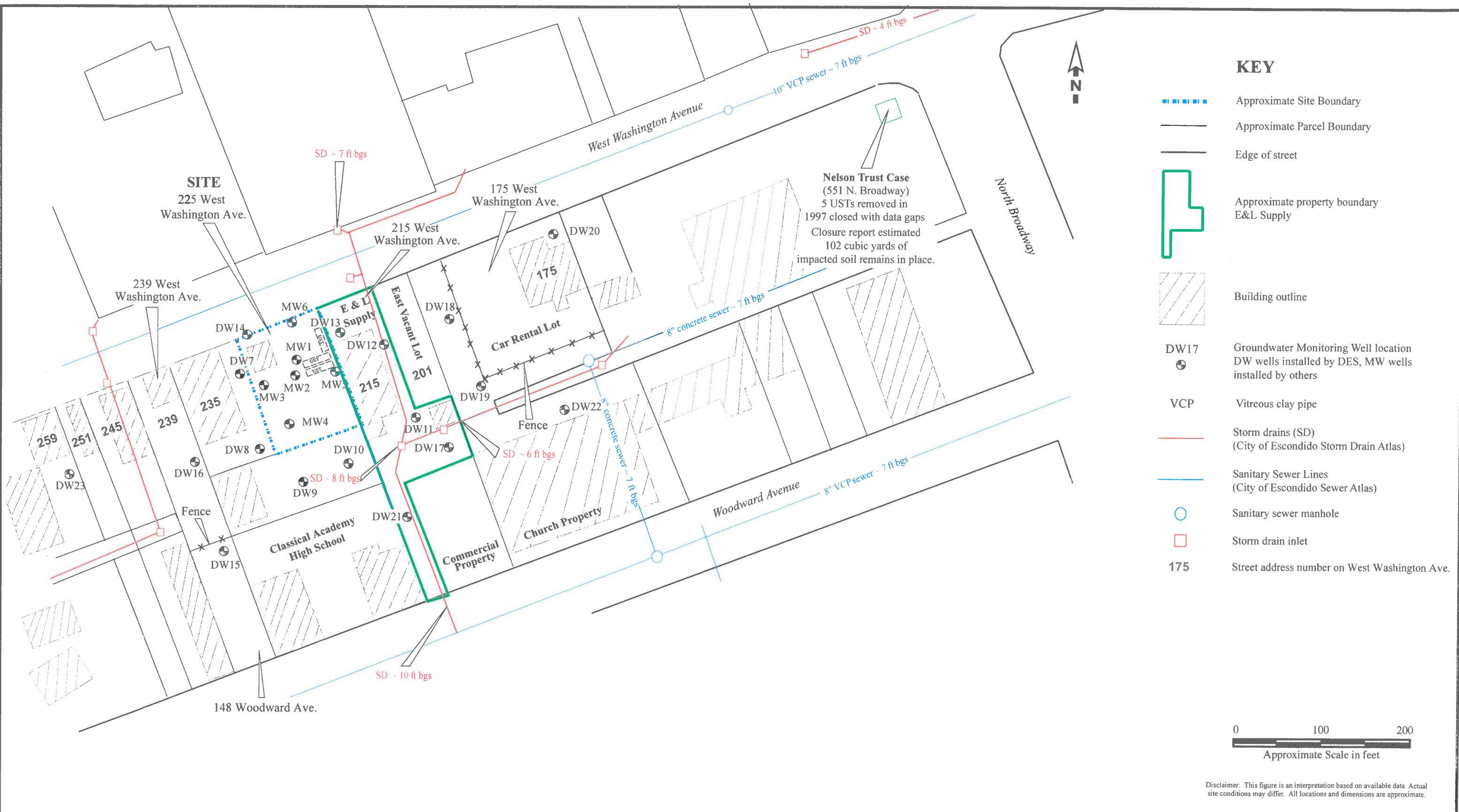
Donan Environmental Services, Inc.

Site Location

Golden State Gasoline
225 West Washington Ave.
Escondido, California 92025

Project No.
09E3857

Figure 1



Donan Environmental Services, Inc.

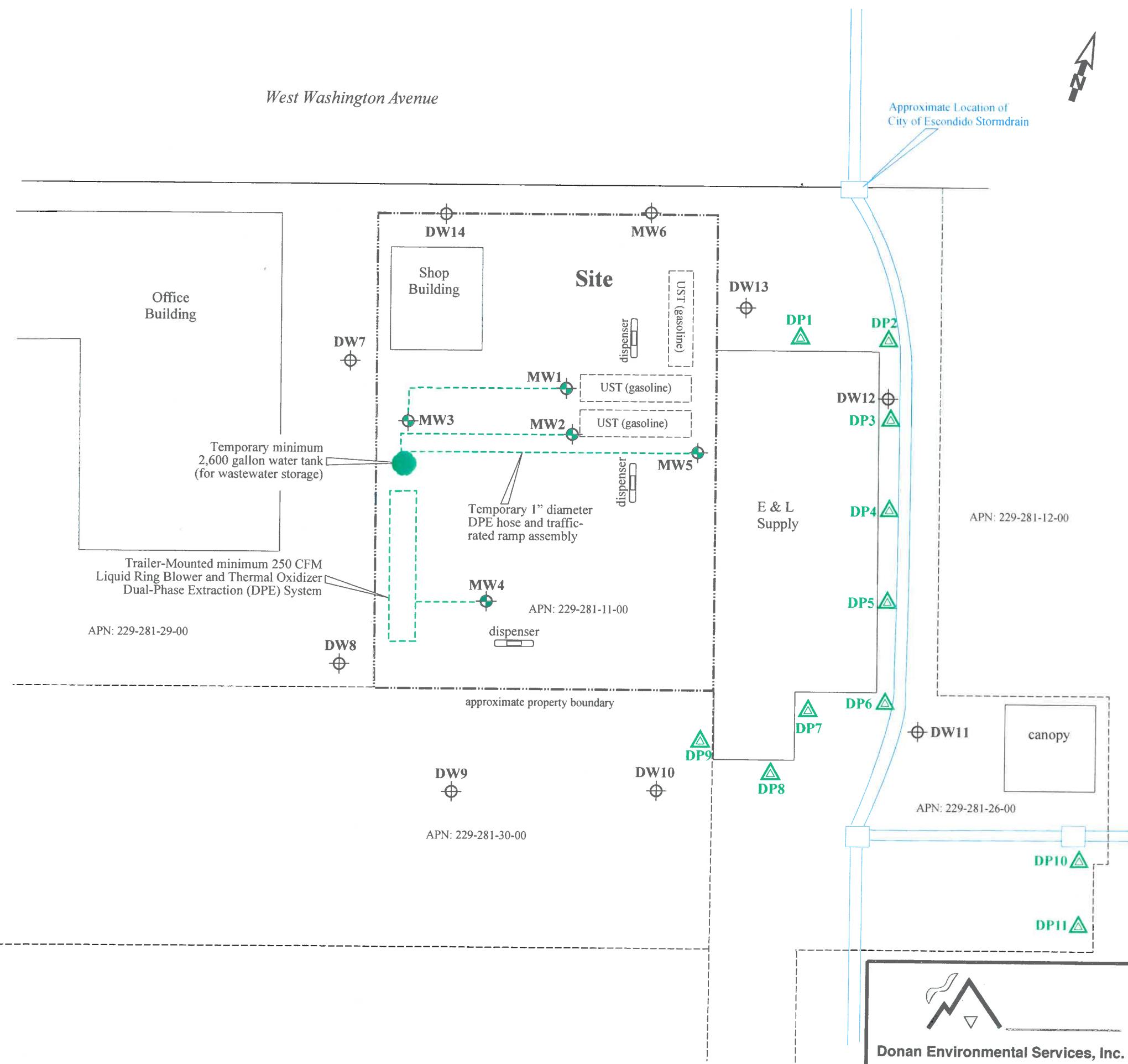
Site Plan

Golden State Gasoline
225 West Washington Avenue
Escondido, California

Project No.
09E3857

Figure 2

West Washington Avenue



KEY:

- MW4**  Groundwater monitoring wells used as extraction wells for the HVDPE Event
 - DW10**  Groundwater monitoring wells
 - DP2**  Soil-Gas Probe Location
 - HVDPE High vacuum dual-phase extraction

PP11

Disclaimer: This figure is an interpretation based on D. Jolly survey (8/25/10) of existing well locations only. Actual site conditions may differ. All locations and dimensions are approximate.

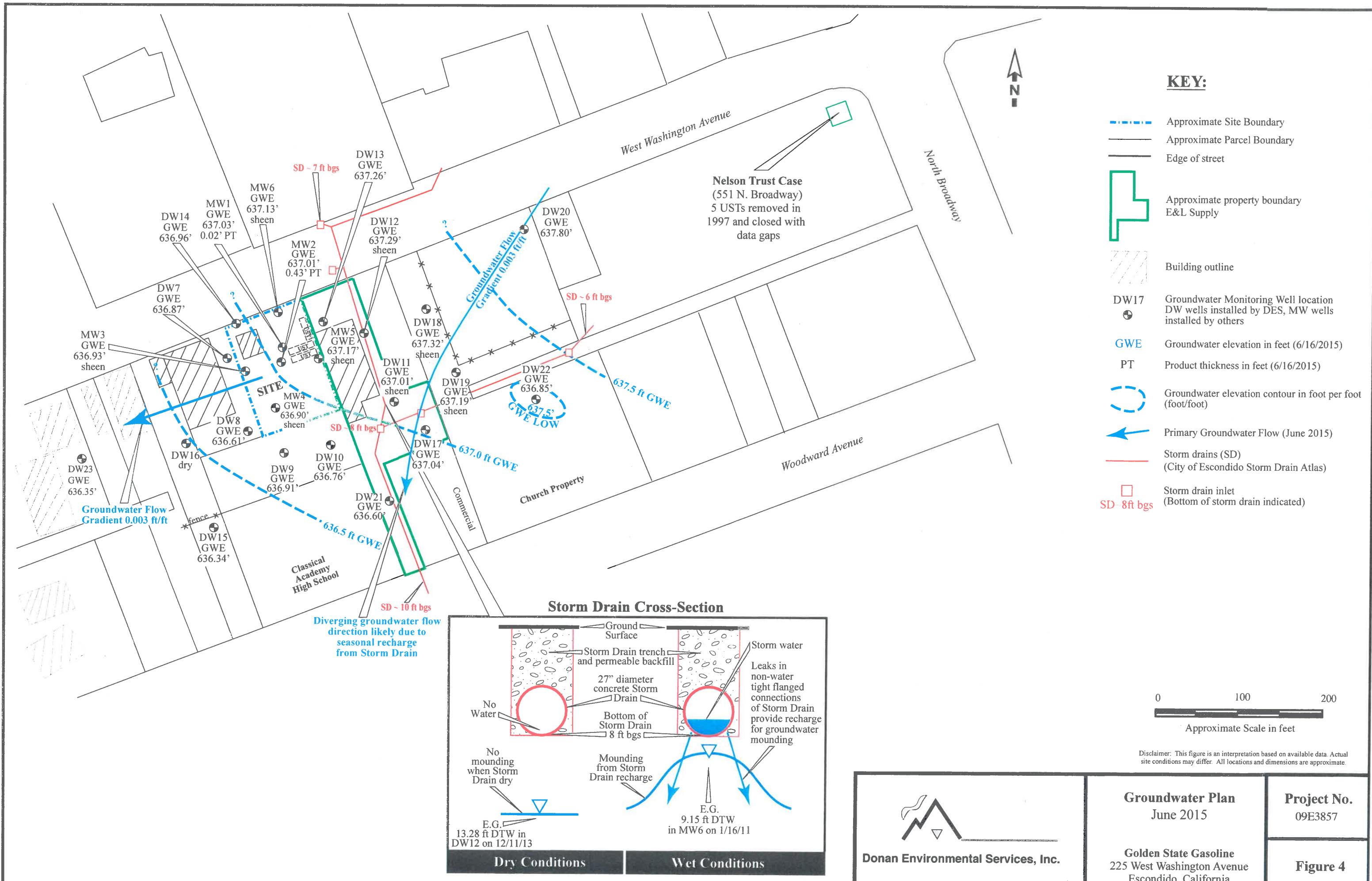
Site Plan and HVDPE Event Configuration

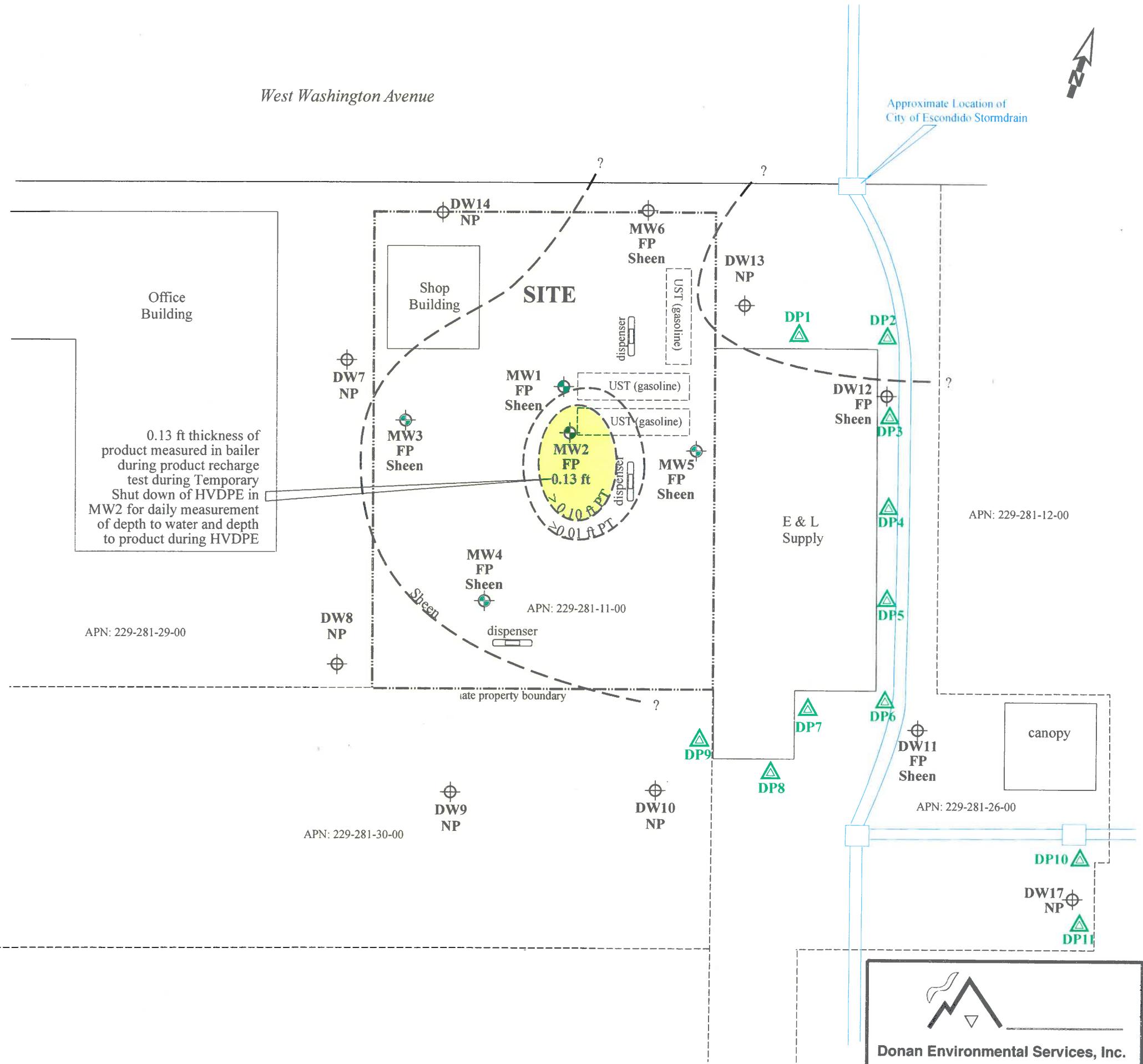
Donan Environmental Services, Inc.

Golden State Gasoline
225 West Washington Avenue
Escondido, California

Project No.
09E3857

Figure 3





KEY:

- | | |
|-----------------|---|
| MW4
 | Groundwater monitoring wells used as extraction wells for the HVDPE Event |
| DW10
 | Groundwater monitoring wells |
| DP2
 | Soil-Gas Probe Location |
| HVDPE | High vacuum dual-phase extraction |
| FP | Free Product |
| PT | Product thickness in feet (ft) (April 3, 2015) |
| NP | No product measured or observed |
| NM | Not measured |
| | Product thickness contour > 0.10 ft PT |

Disclaimer: This figure is an interpretation based on D. Jolly survey (8/25/10) of existing well locations only. Actual site conditions may differ. All locations and dimensions are approximate.

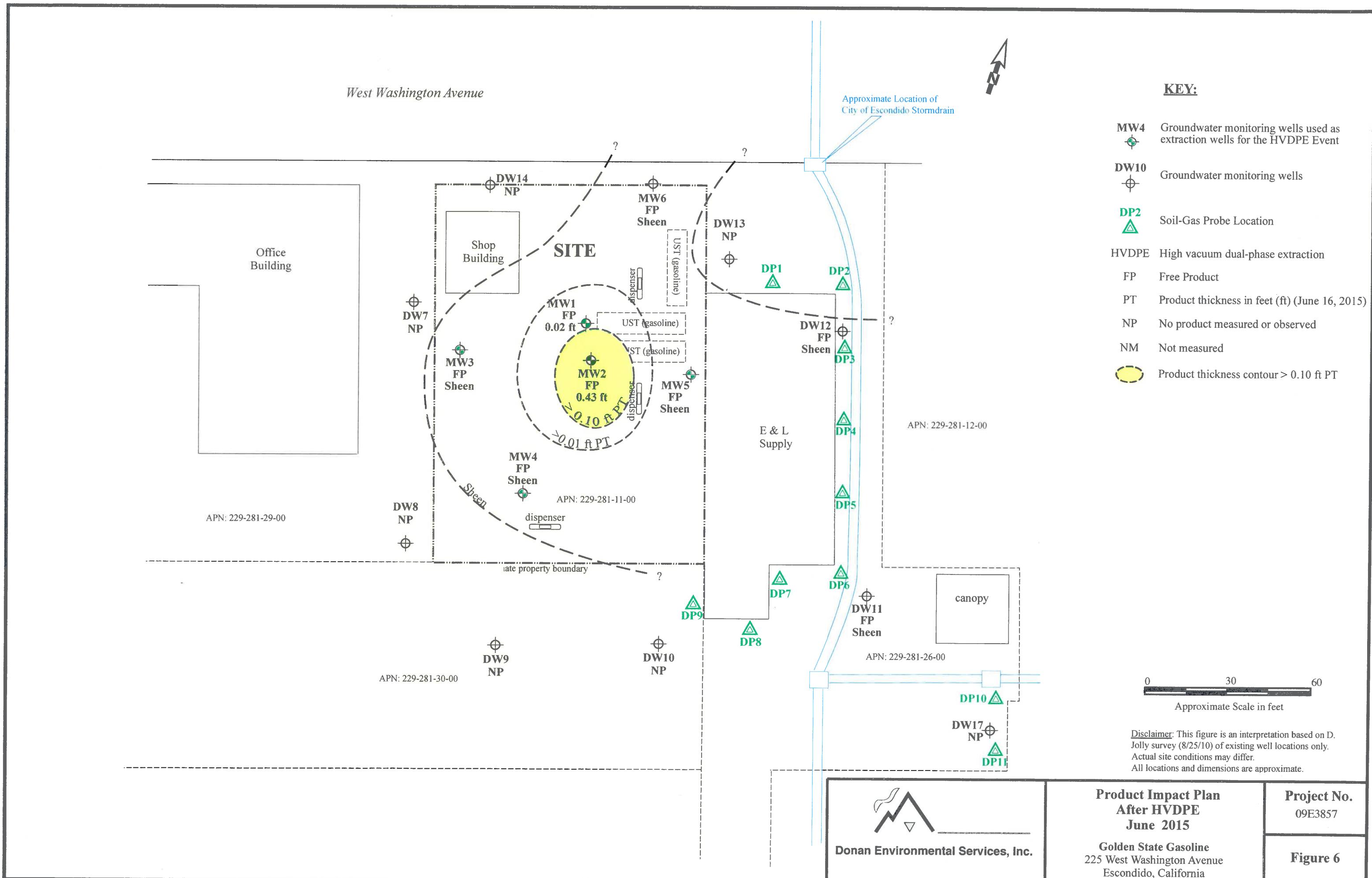
Product Impact Plan During HVDPE April 2015

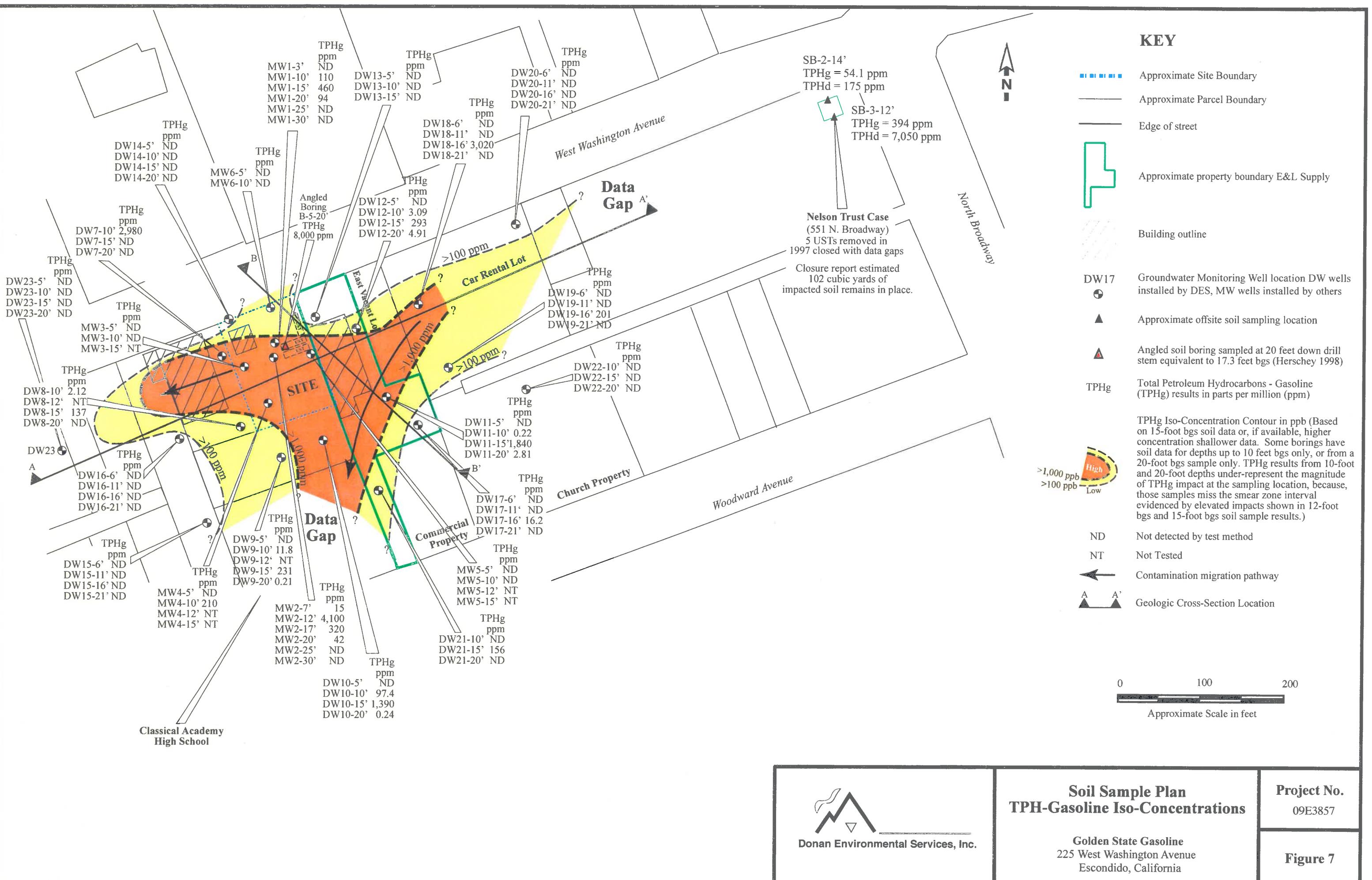
Donan Environmental Services, Inc.

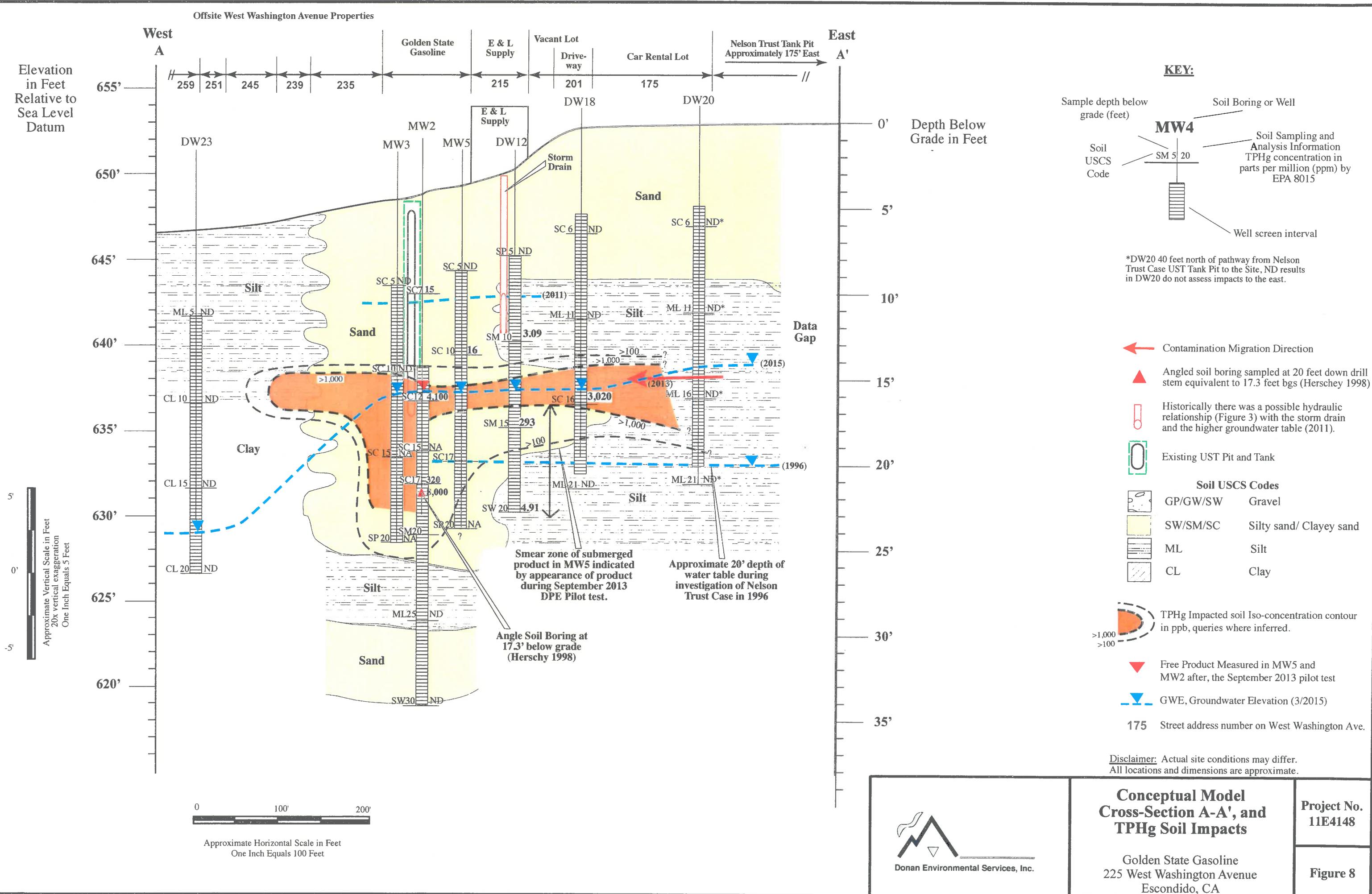
Golden State Gasoline
225 West Washington Avenue
Escondido, California

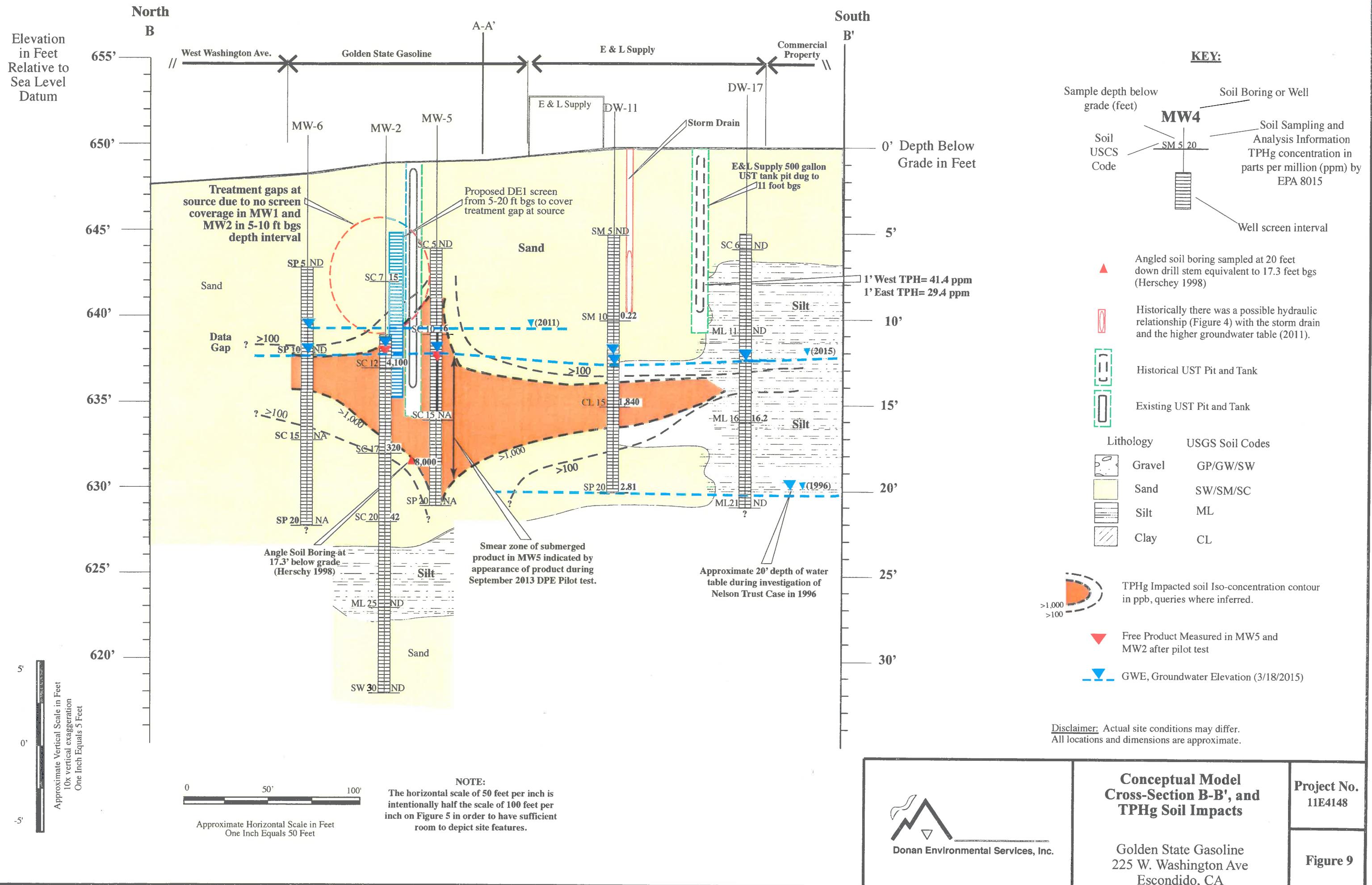
Project No.
09E3857

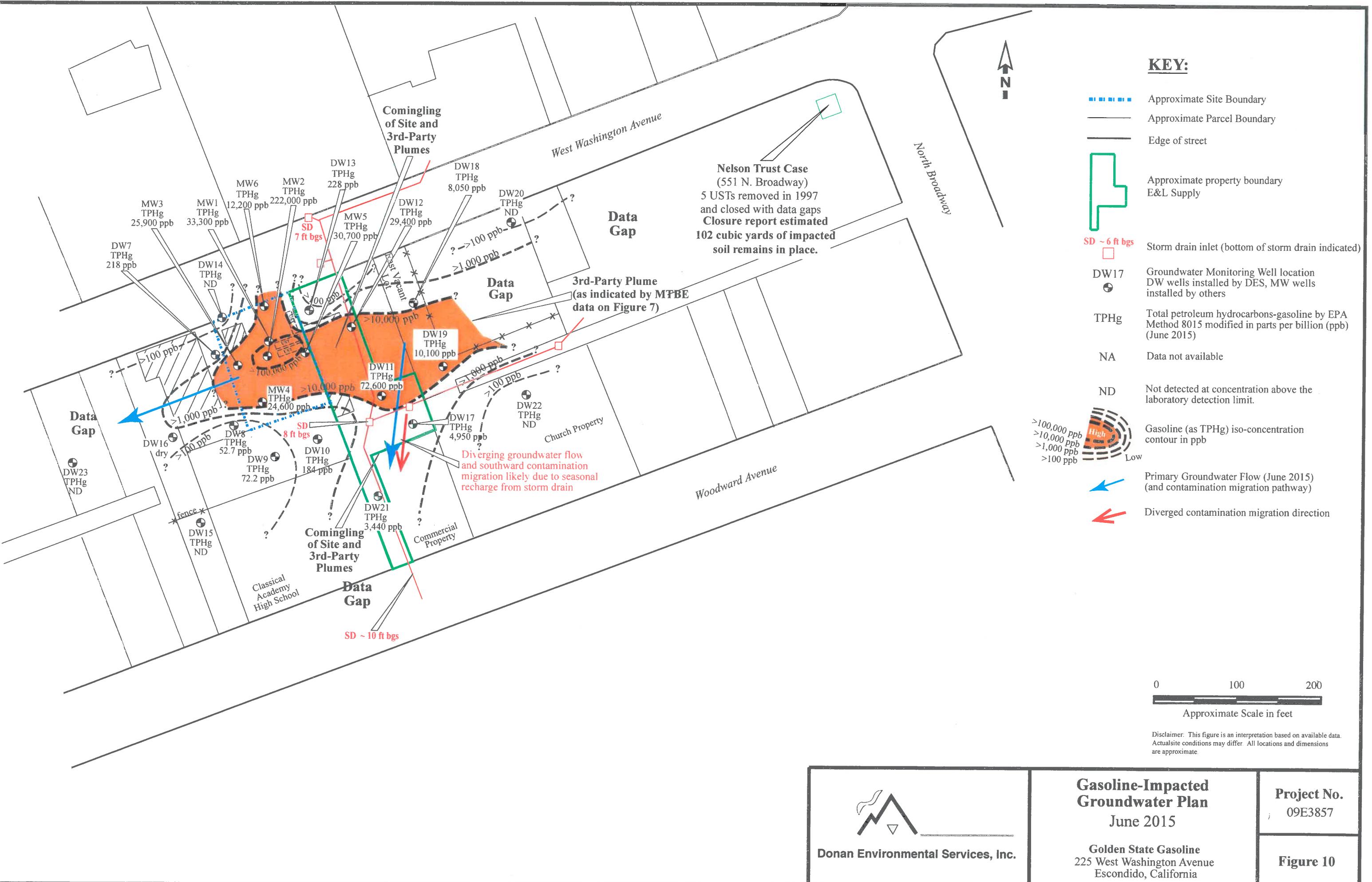
Figure 5

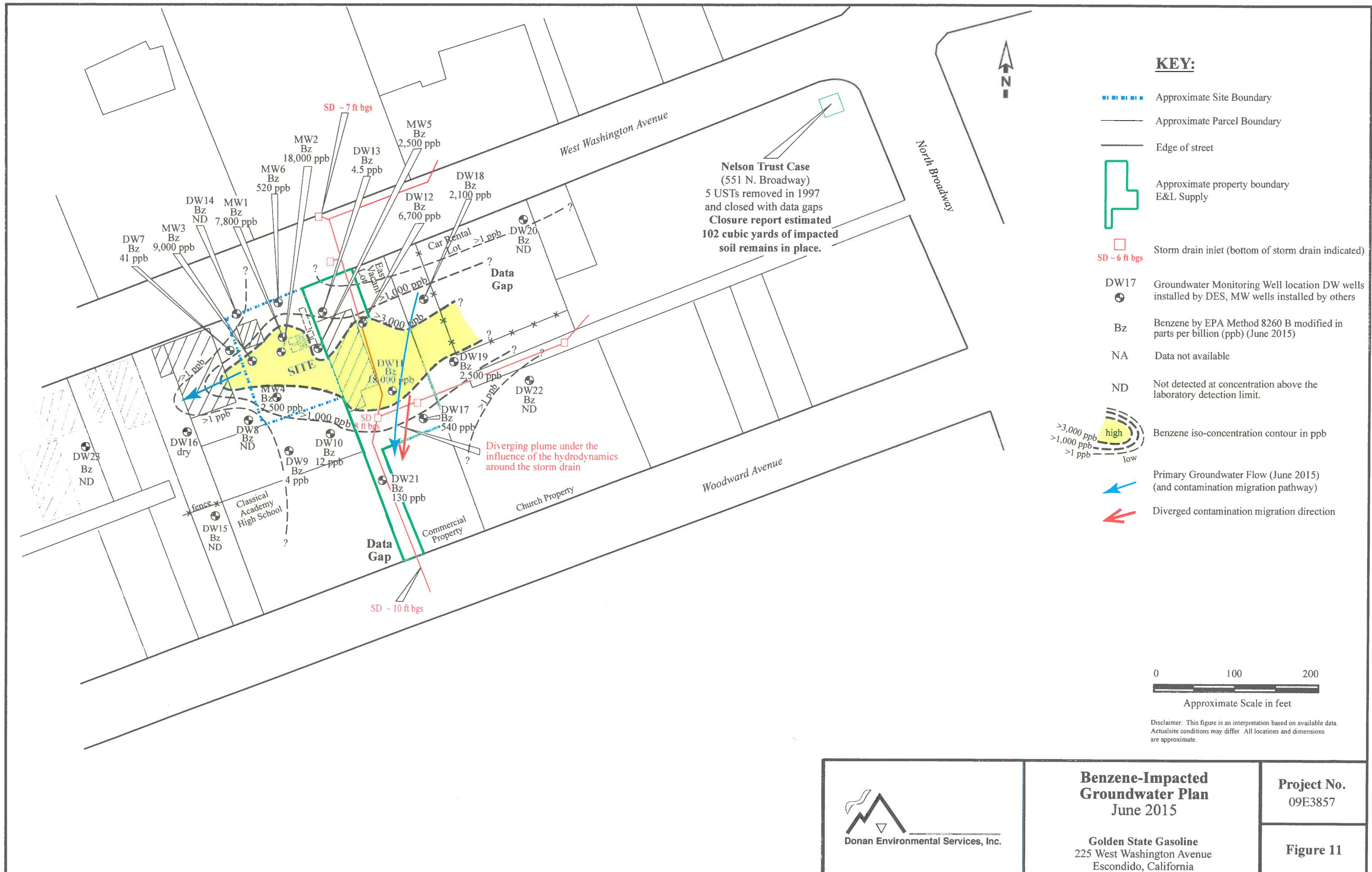


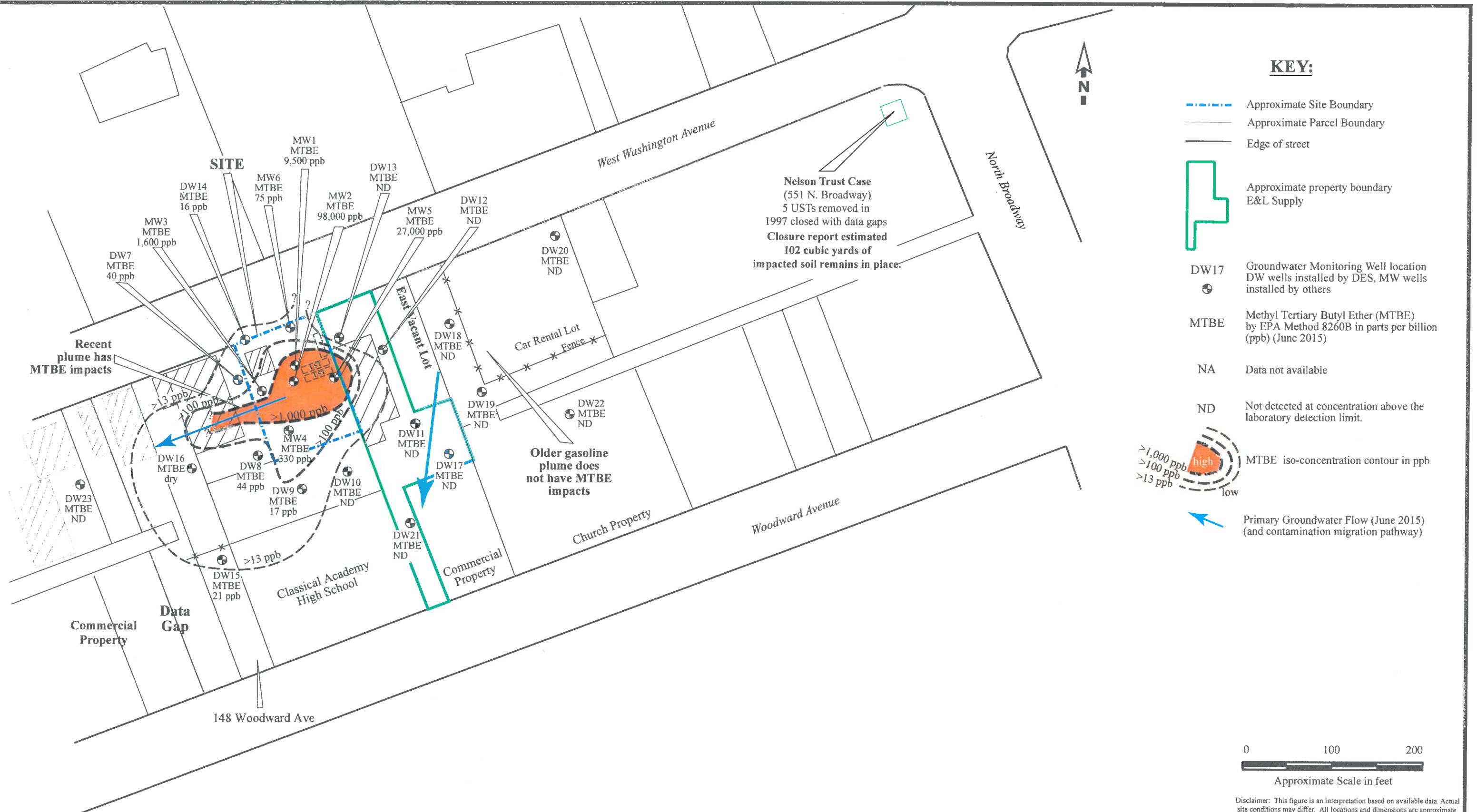












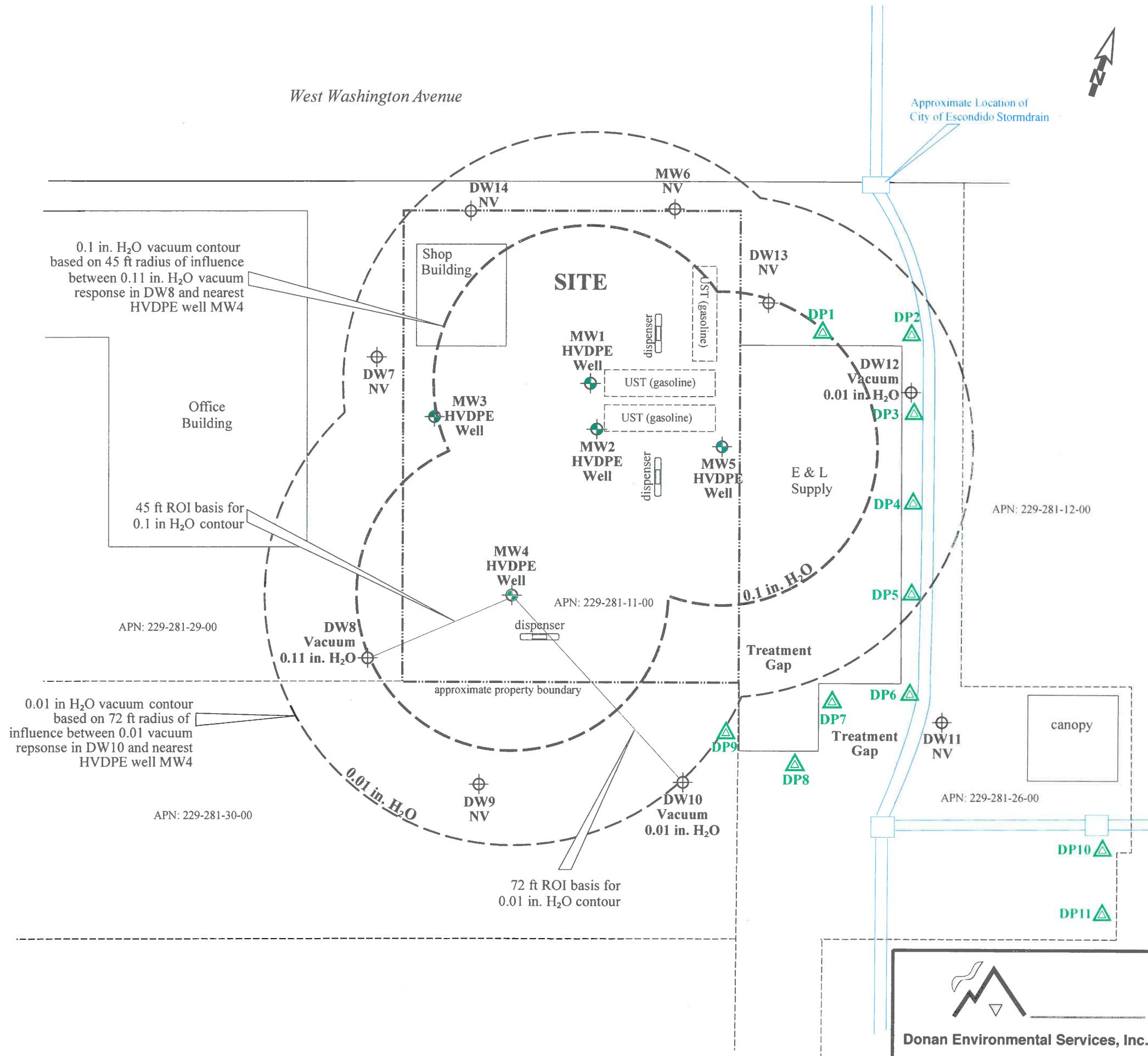
**MTBE-Impacted
Groundwater Plan
June 2015**

**Golden State Gasoline
225 West Washington Avenue
Escondido, California**

**Project No.
09E3857**

Figure 12

West Washington Avenue



KEY:

- MW4**: Groundwater monitoring wells used as extraction wells for the HVDPE Event
- DW10**: Groundwater monitoring wells
- DP2**: Soil-Gas Probe Location
- HVDPE**: High vacuum dual-phase extraction
- NV**: No Vacuum
- in. H₂O**: Vacuum in inches of water during HVDPE in MW1, MW2, MW3, MW4, and MW5 combined on April 7, 2015

0 30 60
Approximate Scale in feet

Disclaimer: This figure is an interpretation based on D. Jolly survey (8/25/10) of existing well locations only. Actual site conditions may differ. All locations and dimensions are approximate.

Vacuum Radius of Influence During HVDPE April 2015	Project No.
Golden State Gasoline 225 West Washington Avenue Escondido, California	09E3857
Figure 13	

In accordance with building codes clamp pipes and conduits for natural gas supply, electric supply, sewer inlet pipe from system, onto wall in inaccessible area for trenching between site building and fence

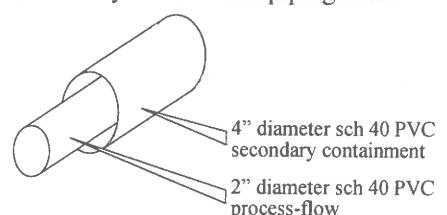
West Washington Avenue

The figure is a detailed site plan for a wastewater treatment project. It includes the following key components and labels:

- TRENCH PROFILE DETAILS:**
 - Electric & Gas TRENCH PROFILE:** Shows a vertical profile with dimensions: 12" diameter outer pipe, 2-inch thick sand bedding under bottom pipe run, 4-inch vertical spacing between pipe runs, 4-inch diameter outer pipe, 12-inch thick sub-base of sand fill between top pipe and concrete, and 4-inch thick rebar-enforced black-dye concrete.
 - Skid-mounted carbon vessels to treat groundwater for discharge to sanitary sewer:** Located near the center of the site.
 - Approximate 2,600 gallon water tank (for wastewater storage):** Located near the center of the site.
 - Skid-Mounted minimum 300 CFM Liquid Ring Blower and Thermal Oxidizer High Vacuum Dual-Phase Extraction (HVDPE) System:** Located near the center of the site.
 - existing gas line:** A dashed orange line running through the site.
 - existing product line:** A dashed red line running through the site.
 - existing electric line:** A dashed blue line running through the site.
 - existing sewer inlet:** Indicated by a dashed line near the top center.
- Utility Locations:**
 - electrical panel:** Located at the top center, connected to MW6.
 - gas meter:** Located at the top center, connected to DW14.
 - main sewer line:** Indicated by a dashed line at the top right.
 - UST (gasoline):** Located near MW1 and MW2.
 - E & L Supply:** Located in the middle right area.
 - canopy:** Located at the bottom right.
- Monitoring Wells (MW) and Detection Equipment (DE):**
 - MW6:** Located at the top center.
 - DW14:** Located at the top center, connected to the electrical panel.
 - DW7:** Located in the upper left area.
 - MW3:** Located in the upper left area.
 - DE1:** Located in the upper left area.
 - MW1:** Located in the middle left area.
 - MW2:** Located in the middle left area.
 - MW5:** Located in the middle left area.
 - DE2:** Located in the middle left area.
 - DE3:** Located in the middle left area.
 - DE4:** Located in the middle left area.
 - DE5:** Located in the middle left area.
 - DE6:** Located in the middle left area.
 - DW8:** Located in the lower left area.
 - MW4:** Located in the lower left area.
 - DW9:** Located in the lower left area.
 - DW10:** Located in the lower left area.
 - DE7:** Located in the lower left area.
 - DE8:** Located in the lower left area.
 - DE9:** Located in the lower left area.
 - DP1, DP2, DP3, DP4, DP5, DP6, DP7, DP8, DP9, DP10, DP11:** Various detection points marked with triangles.
- Geographical and Reference Information:**
 - approximate property boundary:** Indicated by a dashed line.
 - APN: 229-281-26-00:** Located at the bottom right.
 - approximate location of City of Escondido Storm drain:** Indicated by a dashed line at the top right.

KEY:

- | | |
|-------------|--|
| MW4 | Groundwater monitoring wells used as extraction wells for the HVDPE Event |
| DW10 | Groundwater monitoring wells |
| DE1 | Proposed 4-inch diameter extraction well |
| DP2 | Soil-Gas Probe Location |
| HVDPE | High vacuum dual-phase extraction |
| | Existing sanitary sewer line |
| | Existing natural gas line |
| | Existing product line |
| | Existing electrical line |
| | Trenches with pipe runs from extraction wells to valve manifold |
| | Sweep piping elbow |
| | Double containment piping. 2-inch diameter inner pipe 3-inch diameter secondary containment outer pipe |



0 30 60
Approximate Scale in feet

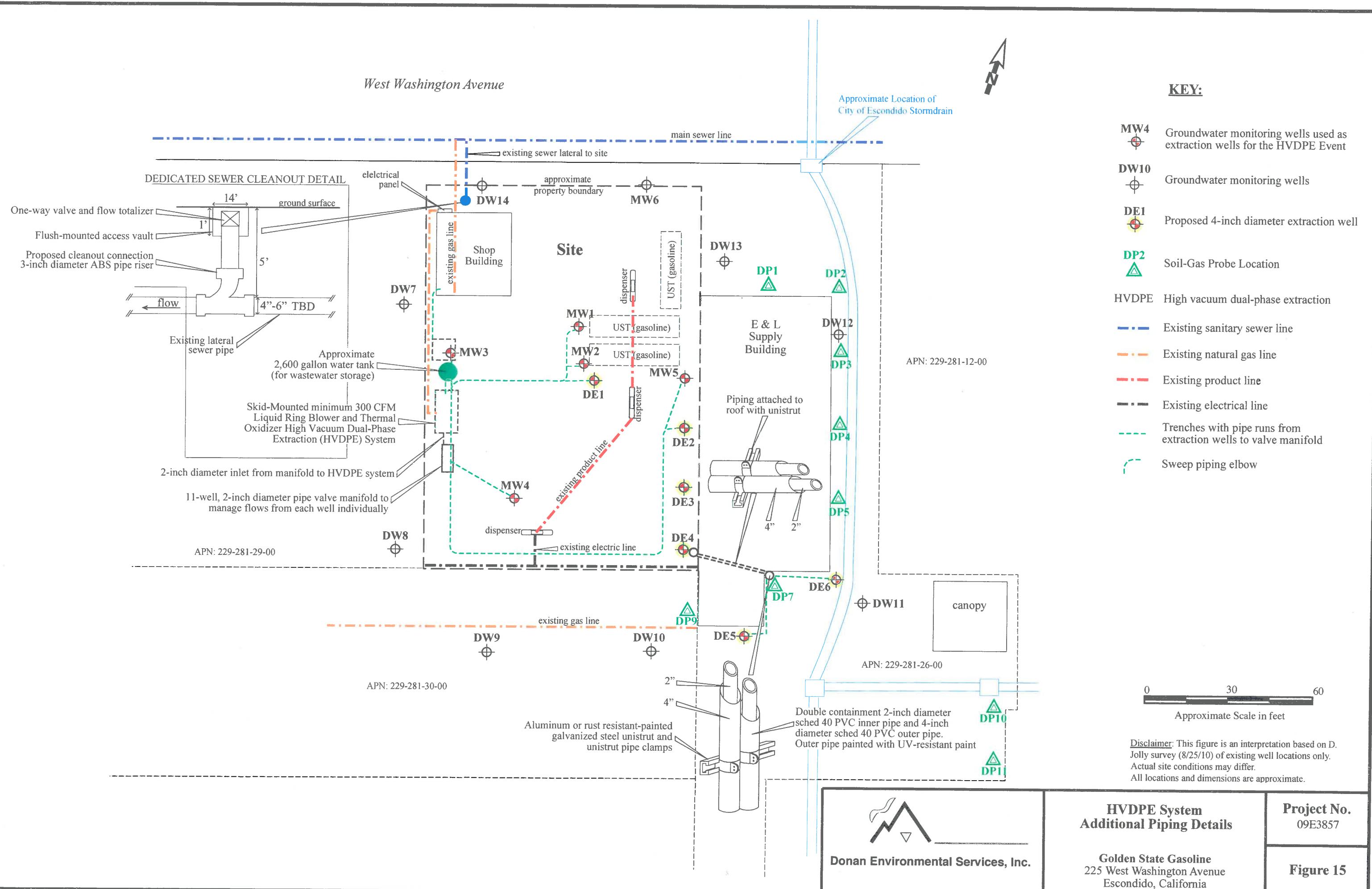
Disclaimer: This figure is an interpretation based on D. Jolly survey (8/25/10) of existing well locations only. Actual site conditions may differ. All locations and dimensions are approximate.

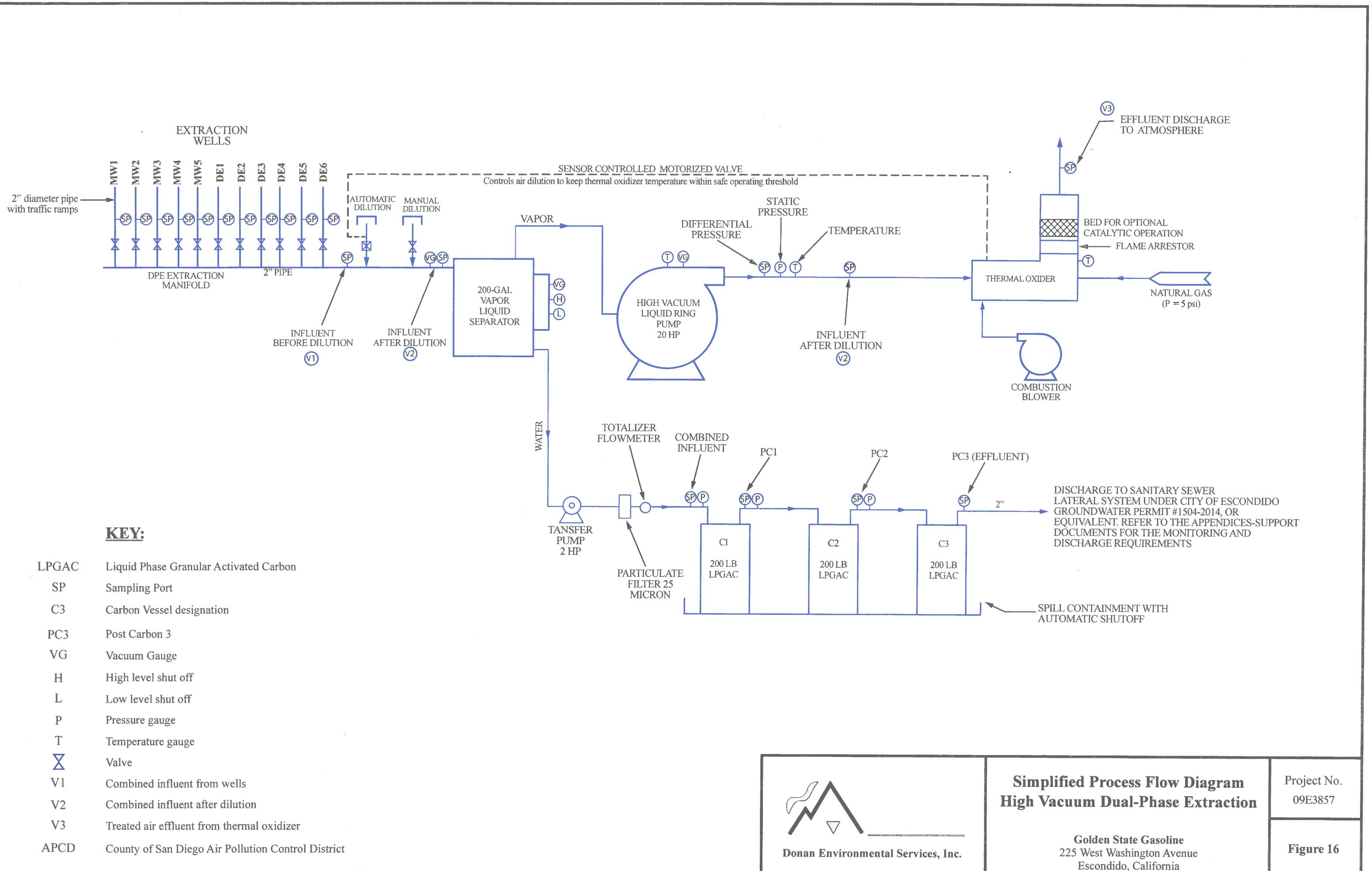
Proposed Extraction Wells and Piping Trench Profiles

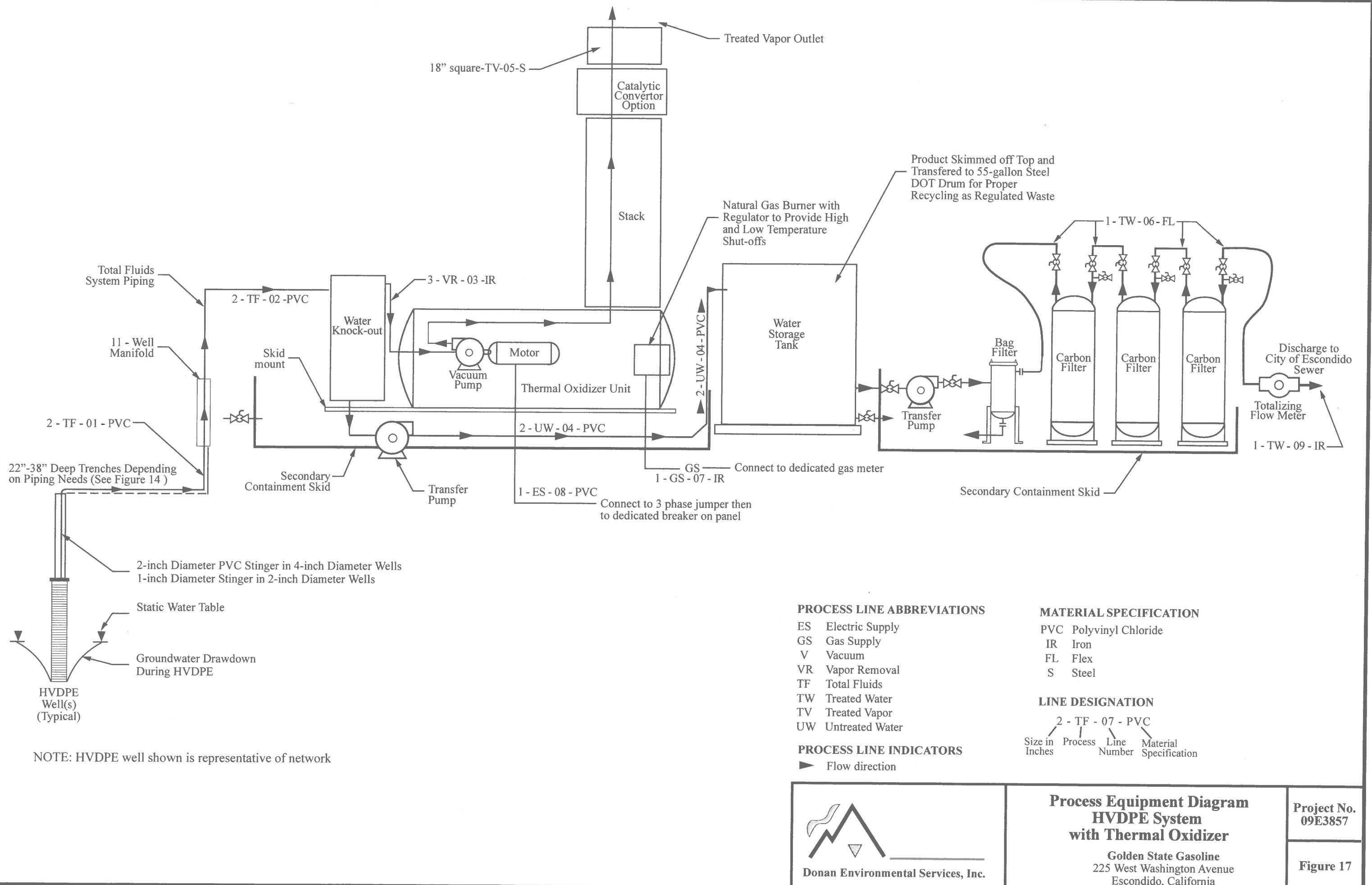
Golden State Gasoline
225 West Washington Avenue
Escondido, California

Project No.
09E3857

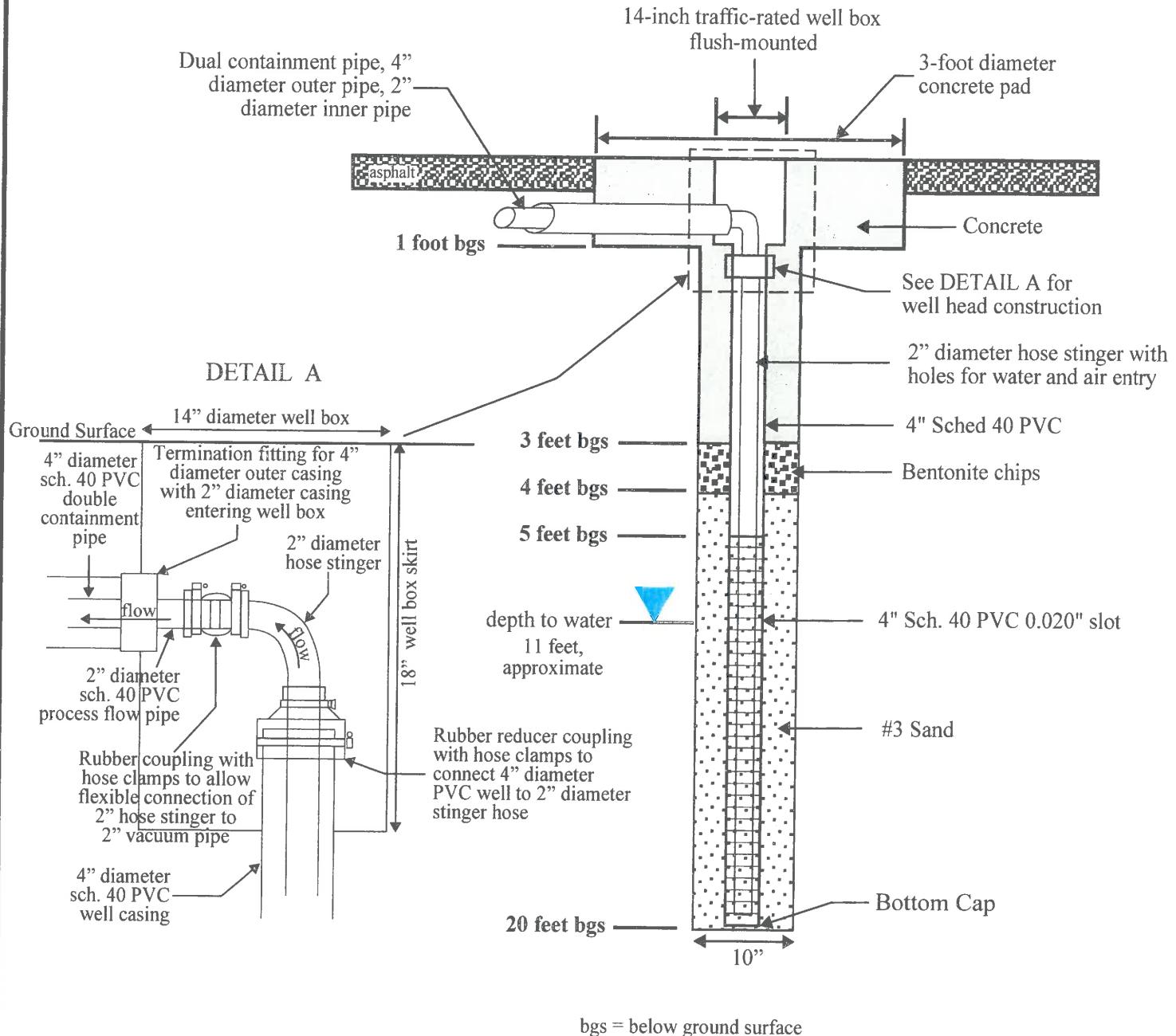
Figure 14







High Vacuum Dual-Phase Extraction (HVDPE) Well Construction



Donan Environmental Services, Inc.

Proposed HVDPE Well Construction

Golden State Gasoline
225 West Washington Avenue
Escondido, California

Project No.
09E3857

Figure 18

TABLES

- Table 1 - Summary of Soil Sample and Analytical Data
- Table 2 - Monitoring Well Construction Data
- Table 3 - Summary of Site Groundwater Levels
- Table 4 - Summary of Groundwater Sample and Analytical Data
- Table 5 - Mass Removal Forecast Summary

TABLE 1
Summary of Soil Sample and Analytical Data
Golden State Gasoline - Escondido, CA
UR# H03089-001

225 West Washington Ave., Escondido, CA

Sample Location	Sample ID	Sample Date	Depth (feet)	TPH-d		Volatile Organic Compounds		Lab	CARs/ Refs.				
				(m)	(ppm)	B (3)	T (3)	X (3)					
ppb													
Locality 1998 Soil Investigation*													
B-1	B-1@20'	1/21/98	17.3	ND	21	34	7.9	25	490				
B-2	B-2@20'	1/21/98	20.0	ND	25	52	7.6	32	31				
B-3	B-3@20'	1/21/98	17.3	470	5,500	2,100	5,700	30,000	26,000				
B-4	B-4@20'	1/21/98	17.3	140	3,300	7,800	1,700	8,900	2,200				
B-5	B-5@20'	1/21/98	17.3	8,000	110,000	410,000	120,000	610,000	ND				
D.R. Surface 1999 Soil Investigation*													
MW1	MW1@3'	1/21/99	3.0	ND	ND	ND	ND	ND	Mobil				
MW1	MW1@10'	1/21/99	10.0	110	ND	ND	ND	ND	Mobil				
MW1	MW1@15'	1/21/99	15.0	460	ND	ND	ND	ND	Mobil				
MW1	MW1@20'	1/21/99	20.0	94	ND	ND	ND	ND	Mobil				
MW1	MW1@25'	1/21/99	25.0	ND	ND	ND	ND	ND	Mobil				
MW1	MW1@30'	1/21/99	30.0	ND	ND	ND	ND	ND	Mobil				
MW2	MW2@7'	1/21/99	7.0	15	ND	ND	ND	ND	Mobil				
MW2	MW2@12'	1/21/99	12.0	4100	ND	ND	ND	ND	Mobil				
MW2	MW2@17'	1/21/99	17.0	320	ND	ND	ND	ND	Mobil				
MW2	MW2@20'	1/21/99	20.0	42	ND	ND	ND	ND	Mobil				
MW2	MW2@25'	1/21/99	25.0	ND	ND	ND	ND	ND	Mobil				
MW2	MW2@30'	1/21/99	30.0	ND	ND	ND	ND	ND	Mobil				
PC 2005 Soil Investigation													
MW3	MW3-S'	04/12/05	5.0	ND	ND	ND	ND	ND	H&P				
MW3	MW3-T'	04/12/05	10.0	ND	ND	ND	ND	ND	H&P				
MW4	MW4-S'	04/12/05	5.0	ND	ND	ND	ND	ND	C				
MW4	MW4-T'	04/12/05	10.0	210	ND	ND	ND	ND	H&P				
MW5	MW5-S'	04/12/05	5.0	ND	ND	ND	ND	ND	C				
MW5	MW5-T'	04/12/05	10.0	ND	ND	ND	ND	ND	H&P				
MW6	MW6-S'	04/12/05	5.0	ND	ND	ND	ND	ND	C				
MW6	MW6-T'	04/12/05	10.0	ND	ND	ND	ND	ND	H&P				
Des 2010 Soil Investigation													
DW7	DW7-10'	08/1/4/10	10.0	2,980	ND	1,620	18,700	34,800	211,000				
DW7	DW7-15'	08/1/4/10	15.0	ND	ND	ND	ND	ND	ND				
DW7	DW7-20'	08/1/4/10	20.0	ND	ND	ND	ND	ND	ND				
DW8	DW8-10'	08/1/4/10	10.0	2,12	ND	83	38	37	140				
DW8	DW8-15'	08/1/4/10	15.0	137	ND	ND	ND	ND	42				
DW8	DW8-20'	08/1/4/10	20.0	ND	ND	ND	ND	1,250	ND				
DW9	DW9-S'	08/1/4/10	5.0	ND	ND	ND	ND	ND	4				
DW9	DW9-T'	08/1/4/10	10.0	11.8	ND	650	900	173	ND				
DW9	DW9-15'	08/1/4/10	15.0	231	ND	820	2,500	1,840	10,600				
DW9	DW9-20'	08/1/4/10	20.0	0.21	ND	6	10	4	22				
DW10	DW10-5'	08/1/6/10	5.0	ND	ND	ND	ND	ND	ND				
DW10	DW10-10'	08/1/6/10	10.0	97.4	ND	94	ND	833	1,700				
DW10	DW10-15'	08/1/6/10	15.0	1,390	ND	7,900	15,200	16,300	86,500				
DW10	DW10-20'	08/1/6/10	20.0	0.24	ND	8	7	4	19				
DW11	DW11-S'	08/1/6/10	5.0	ND	ND	ND	ND	ND	ND				
DW11	DW11-T'	08/1/6/10	10.0	0.22	ND	ND	ND	ND	ND				
DW11	DW11-10'	08/1/6/10	15.0	1,840	ND	15,500	31,900	15,900	96,800				
DW11	DW11-15'	08/1/6/10	20.0	2.81	ND	90	67	63	378				
DW12	DW12-S'	08/1/6/10	5.0	ND	ND	ND	ND	ND	ND				
DW12	DW12-T'	08/1/6/10	10.0	3.09	ND	43	ND	31	3				
DW12	DW12-15'	08/1/6/10	15.0	293	ND	2,800	8,960	3,760	25,800				
DW12	DW12-20'	08/1/6/10	20.0	4.91	ND	113	134	34	150				
DW13	DW13-S'	08/1/5/10	5.0	ND	ND	ND	ND	ND	ND				
DW13	DW13-T'	08/1/5/10	10.0	ND	ND	ND	ND	ND	ND				
DW13	DW13-15'	08/1/5/10	15.0	ND	ND	ND	ND	ND	ND				
DW14	DW14-S'	08/1/5/10	5.0	ND	ND	ND	ND	ND	ND				
DW14	DW14-T'	08/1/5/10	10.0	ND	ND	ND	ND	ND	ND				
DW14	DW14-10'	08/1/5/10	15.0	ND	ND	ND	ND	ND	ND				
DW14	DW14-15'	08/1/5/10	20.0	ND	ND	ND	ND	ND	ND				
DW14	DW14-20'	08/1/5/10	20.0	ND	ND	ND	ND	ND	ND				

TABLE 1
Summary of Soil Sample and Analytical Data

Golden State Gasoline - Escondido

LUB# H03089-001

2225 West Washington Ave Escondido CA
92025-2225

Footnotes:

Monitoring wells MW1 and MW2 were converted on December 15, 1999, and formerly known as B-6 and B-7 Total Petroleum Hydrocarbons (TPH, gasoline) - Analyzed using EPA Method 2015 - www.epa.gov/ttn/atw/methods/2015.html

Total Petroleum Hydrocarbons (TPH-gasoline) - Analyzed using EPA Method 8015-modified using diesel as a standard.

Castle Analytical Laboratory - report dated December 2, 1998

MobbileOne Laboratories Inc. - report dated December 29, 1999
H and B Mobile Geoscientists - report dated April 19, 2000

n are i Mobile Geotechnics - report dated APHI 18, 2003

CHEM-TEK Environmental Laboratories Inc. - Report dated August 24, 2010
Associated Laboratories report dated October 10 2013

Associated Laboratories report dated October 1, 2014

Associated Laboratories report dated April 17, 2015

Table 2
Monitoring Well Construction Data
Golden State Gasoline - Escondido
UR# H03089-001
225 West Washington Ave., Escondido, CA

WELL #	MW1	MW2	MW3	MW4	MW5	MW6	MW7	DW8
Well Information								
Diameter	2"	2"	2"	2"	2"	2"	2"	2"
Blank	Not Recorded	Not Recorded	Sch 40 PVC					
Slot Size	Not Recorded	Not Recorded	0.02	0.02	0.02	0.02	0.02	0.02
Blank Length	10'	5'	5'	5'	5'	5'	5'	5'
Blank Interval	0-10'	0-5'	0-5'	0-5'	0-5'	0-5'	0-5'	0-5'
Slot Length	20'	15'	15'	15'	15'	15'	15'	15'
Slot Interval	10'-30'	5'-20'	5'-20'	5'-20'	5'-20'	5'-20'	5'-20'	5'-20'
Traffic Box	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap + Padlock	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bottom Cap	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Concrete Seal	2'	3'	3'	3'	3'	3'	3'	3'
Interval	0-2'	0-3'	0-3'	0-3'	0-3'	0-3'	0-3'	0-3'
Bentonite Chips	8'	1'	1'	1'	1'	1'	1'	1'
Interval	2'-10'	3'-4'	3'-4'	3'-4'	3'-4'	3'-4'	3'-4'	3'-4'
Sand Interval	Not Recorded 10'-30'	#3-16' 4'-21'						
Boring Information								
Diameter	6"	6"	8"	8"	8"	8"	8"	8"
Depth	0-30'	0-30'	0-21'	0-21'	0-21'	0-21'	0-21'	0-21'

Table 2
Monitoring Well Construction Data
Golden State Gasoline - Escondido
UR# H03089-001
225 West Washington Ave., Escondido, CA

WELL #	DW9	DW10	DW11	DW12	DW13	DW14	DW15	DW16
Well Information								
Diameter	2"	2"	2"	2"	2"	2"	2"	2"
Blank	Sch 40 PVC							
Slot Size	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Blank Length	5'	5'	5'	5'	5'	5'	5'	5'
Blank Interval	0-5'	0-5'	0-5'	0-5'	0-5'	0-5'	0-5'	0-5'
Slot Length	15'	15'	15'	15'	15'	15'	15'	15'
Slot Interval	5'-20'	5'-20'	5'-20'	5'-20'	5'-20'	5'-20'	5'-20'	5'-20'
Traffic Box	Yes							
Cap + Padlock	Yes							
Bottom Cap	Yes							
Concrete Seal	3'	3'	3'	3'	3'	3'	3'	3'
Interval	0-3'	0-3'	0-3'	0-3'	0-3'	0-3'	0-3'	0-3'
Bentonite Chips	1'	1'	1'	1'	1'	1'	1'	1'
Interval	3'-4'	3'-4'	3'-4'	3'-4'	3'-4'	3'-4'	3'-4'	3'-4'
Sand Interval	#3-16' 4'-21'	#3-16' 4'-21'	#3-16' 4'-21'	#3-16' 4'-21'	#3-16' 4'-21'	#3-16' 4'-21'	#3-16' 4'-21'	#3-16' 4'-21'
Boring Information								
Diameter	8"	8"	8"	8"	8"	8"	8"	8"
Depth	0-21'	0-21'	0-21'	0-21'	0-21'	0-21'	0-21'	0-21'

Table 2
Monitoring Well Construction Data
Golden State Gasoline - Escondido
UR# H03089-001
225 West Washington Ave., Escondido, CA

WELL #	DW17	DW18	DW19	DW20	DW21	DW22	DW23
Well Information							
Diameter	2"	2"	2"	2"	2"	2"	2"
Blank	Sch 40 PVC	SCH 40 PVC	SCH 40 PVC				
Slot Size	0.02	0.02	0.02	0.02	0.02"	0.02"	0.02"
Blank Length	5'	5'	5'	5'	5'	5'	5'
Blank Interval	0'-5'	0'-5'	0'-5'	0'-5'	0'-5'	0'-5'	0'-5'
Slot Length	15'	15'	15'	15'	15'	15'	15'
Slot Interval	5'-20'	5'-20'	5'-20'	5'-20'	5'-20'	5'-20'	5'-20'
Traffic Box	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap + Padlock	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bottom Cap	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Concrete Seal	3'	3'	3'	3'	3'	3'	3'
Interval	0'-3'	0'-3'	0'-3'	0'-3'	0'-3'	0'-3'	0'-3'
Bentonite Chips	1'	1'	1'	1'	1'	1'	1'
Interval	3'-4'	3'-4'	3'-4'	3'-4'	3'-4'	3'-4'	3'-4'
Sand Interval	#3-16' 4'-21'	#3-16' 4'-21'	#3-16' 4'-21'	#3-16' 4'-21'	#3-17.5' 4'-21.5'	#3-17.5' 4'-21.5'	#3-17.5' 4'-21.5'
Boring Information							
Diameter	8"	8"	8"	8"	8"	8"	8"
Depth	0-21'	0-21'	0-21'	0-21'	0-21.5'	0-21.5'	0-21.5'

TABLE 3
Summary of Site Groundwater Levels
 Golden State Gasoline - Escondido
 225 West Washington Ave., Escondido, CA (Site)

Field Measurements									
Well Number	Date Measured	TOCE (ft)	DTOS (ft)	DTW (ft)	DTP (ft)	GWE (ft)	Water Level Change (ft) ^a	FP (ft)	Adjusted GWE (ft) ¹
B-6 (MW1)	D.R. Sorben 12/15/99	None		17.00				np	
MW1 Screen 10'-30'	PIC 11/16/05	648.31	10	10.78		637.53			
	DES 12/10/09			11.20		637.11	-0.42	np	
	DES 4/7/10			10.50		637.81	0.70	np	
	DES 8/24/10			10.88		637.43	-0.38	np	
	DES 11/6/10					Well needs repair		np	
	DES 12/18/11			11.36		637.41	-0.02	np	
	DES 3/18/12			11.04		637.73	0.32	np	
	DES 5/27/12			11.32		637.45	-0.28	np	
	DES 9/30/12			11.65		637.12	-0.33	np	
	DES 9/3/13			11.84		636.93	-0.19	np	
	DES 9/25/13			11.82	11.81	636.95	0.03	0.01	636.96
	DES 10/9/13			11.88	11.87	636.89	-0.06	0.01	636.90
	DES 12/11/13			12.09	12.08	636.68	-0.21	0.01	636.69
	DES 3/28/14			11.52		637.25	0.57	np	
	DES 6/24/14			11.91	11.90	636.86	-0.39	0.01	636.87
	DES 9/29/14			12.02		636.75	-0.11	sheen	
	DES 12/18/14			11.51	11.50	637.26	0.51	0.01	637.27
	DES 3/18/15			11.62		637.15	-0.11	sheen	
	DES 6/16/15			11.76	11.74	637.01	-0.14	0.02	637.03
B-7 (MW2)	D.R. Sorben 12/15/99	None		17.00				sheen	
MW2 Screen 10'-30'	PIC 11/16/05	648.92	10	11.35		637.57		np	
	DES 12/10/09			11.90		637.02	-0.55	np	
	DES 4/7/10			11.01		637.91	0.89	sheen	
	DES 8/24/10			11.50		637.42	-0.49	np	
	DES 11/6/10			10.92		638.00	0.58	np	
	DES 1/16/11			10.91		638.01	0.01	np	
	DES 4/20/11			10.19		638.73	0.72	np	
	DES 7/18/11			11.00		637.92	-0.81	np	
	DES 12/18/11			10.72	10.71	638.20	0.29	0.01	638.21
	DES 3/18/12			11.17		637.75	-0.46	np	
	DES 5/27/12			11.45		637.47	-0.28	np	
	DES 9/30/12			11.78		637.14	-0.33	np	
	DES 9/3/13			12.22	11.89	636.70	-0.09	0.33	636.95
	DES 9/25/13			12.35	11.95	636.57	-0.06	0.04	636.60
	DES 10/9/13			11.90	11.89	637.02	0.06	0.01	637.03
	DES 12/11/13			12.95	12.00	635.97	-0.11	0.95	636.69
	DES 3/28/14			12.04	11.51	636.88	0.91	0.53	637.28
	DES 6/24/14			11.82	11.81	637.10	0.22	0.01	637.11
	DES 9/29/14			12.10	12.07	636.82	-0.28	0.03	636.84
	DES 12/18/14			11.92	11.59	637.00	0.18	0.33	637.25
	DES 3/18/15			11.72		637.20	0.20	sheen	
	DES 6/16/15			12.24	11.81	636.68	-0.52	0.43	637.01

TABLE 3
Summary of Site Groundwater Levels
 Golden State Gasoline - Escondido
 225 West Washington Ave., Escondido, CA (Site)

Field Measurements									
Well Number	Date Measured	TOCE (ft)	DTOS (ft)	DTW (ft)	DTP (ft)	GWE (ft)	Water Level Change (ft) ^a	FP (ft)	Adjusted GWE (ft) ¹
MW3 Screen 5'-20'	PIC 11/16/05	648.42	5	8.98		639.44		np	
	DES 12/10/09			12.26		636.16	3.28	np	
	DES 4/7/10			11.57		636.85	0.69	np	
	DES 8/24/10			11.17		637.25	0.40	np	
	DES 11/6/10			11.25		637.17	-0.08	np	
	DES 1/16/11			10.48		637.94	0.77	sheen	
	DES 4/25/11			10.62		637.80	-0.14	np	
	DES 7/18/11			11.25		637.17	-0.63	np	
	DES 12/18/11			11.29		637.13	-0.04	np	
	DES 3/18/12			11.49		636.93	-0.20	np	
	DES 5/27/12			11.81		636.61	-0.32	np	
	DES 9/30/12			11.69		636.73	0.12	np	
	DES 9/3/13			11.57		636.85	0.12	np	
	DES 9/24/13			11.55	11.54	636.87	0.03	0.01	636.88
	DES 10/9/13			11.61		636.81	-0.07	odor	
	DES 12/11/13			11.85		636.57	-0.24	np	
	DES 3/28/14			11.25		637.17	0.60	np	
	DES 6/24/14			11.64		636.78	-0.39	sheen	
	DES 9/29/14			11.77		636.65	-0.13	sheen	
	DES 12/18/14			11.25	11.24	637.17	0.52	0.01	637.18
	DES 3/18/15			11.40		637.02	-0.15	sheen	
	DES 6/16/15			11.49		636.93	-0.09	sheen	
MW4 Screen 5'-20'	PIC 11/16/05	649.14	5	11.79		637.35		np	
	DES 12/10/09			12.22		636.92	-0.43	sheen	
	DES 4/7/10			11.42		637.72	0.80	np	
	DES 8/24/10			11.88		637.26	-0.46	np	
	DES 11/6/10			11.66		637.48	0.22	np	
	DES 1/16/11			10.21		638.93	1.45	np	
	DES 4/20/11			11.04		638.10	-0.83	np	
	DES 7/18/11			11.65		637.49	-0.61	np	
	DES 12/18/11			10.46		638.68	1.19	np	
	DES 3/18/12			12.64		636.50	-2.18	np	
	DES 5/27/12			11.86		637.28	0.78	np	
	DES 9/30/12			11.63		637.51	0.23	np	
	DES 9/3/13			12.30		636.84	-0.67	np	
	DES 9/24/13			12.32	12.31	636.82	-0.01	0.01	636.83
	DES 10/10/13			12.39		636.75	-0.08	np	
	DES 12/11/13			12.60		636.54	0.21	np	
	DES 3/28/14			12.00		637.14	0.60	np	
	DES 6/24/14			12.43		636.71	-0.43	sheen	
	DES 9/29/14			12.50		636.64	-0.07	sheen	
	DES 12/18/14			12.15	12.04	636.99	0.35	0.11	637.07
	DES 3/18/15			12.12		637.02	0.03	sheen	
	DES 6/16/15			12.24		636.90	-0.12	sheen	

TABLE 3
Summary of Site Groundwater Levels
 Golden State Gasoline - Escondido
 225 West Washington Ave., Escondido, CA (Site)

Field Measurements									
Well Number	Date Measured	TOCE (ft)	DTOS (ft)	DTW (ft)	DTP (ft)	GWE (ft)	Water Level Change (ft) ^a	FP (ft)	Adjusted GWE (ft) ¹
MW5 Screen 5'-20'	PIC 11/16/05	648.95	5	11.24		637.71		np	
	DES 12/10/09			12.42		636.53	-1.18	np	
	DES 4/7/10			10.88		638.07	1.54	np	
	DES 8/24/10			11.51		637.44	-0.63	np	
	DES 11/6/10			11.09		637.86	0.42	np	
	DES 1/16/11			9.93		639.02	1.16	np	
	DES 4/20/11			10.46		638.49	-0.53	np	
	DES 7/18/11			11.05		637.90	-0.59	np	
	DES 12/18/11			11.47		637.83	-0.07	sheen	
	DES 3/19/12			11.41		637.89	0.06	np	
	DES 5/27/12			11.69		637.61	-0.28	np	
	DES 9/30/12			12.02		637.28	-0.33	np	
	DES 9/3/13			12.57	12.09	636.73	-0.07	0.48	637.09
	DES 9/24/13			12.55	12.11	636.75	-0.02	0.44	637.08
	DES 10/9/13			12.24		637.06	-0.13	odor	
	DES 12/11/13			12.42	12.40	636.88	-0.16	0.02	636.90
	DES 3/28/14			12.51	11.81	636.79	-0.09	0.70	637.32
	DES 6/24/14			12.31	12.28	636.99	0.20	0.03	637.02
	DES 9/29/14			12.42		636.88	-0.11	sheen	
	DES 12/18/14			11.91	11.90	637.39	0.51	0.01	637.40
	DES 3/18/15			12.01		637.29	-0.10	sheen	
	DES 6/16/15			12.13		637.17	-0.12	sheen	
MW6 Screen 5'-20'	PIC 11/16/05	648.21	5	10.57		637.64		np	
	DES 12/10/09			11.02		637.19	-0.45	sheen	
	DES 4/7/10			10.09		638.12	0.93	sheen	
	DES 8/24/10			12.40		635.81	-2.31	np	
	DES 11/6/10			9.55		638.66	2.85	np	
	DES 1/16/11			9.15		639.06	0.40	sheen	
	DES 4/20/11			9.89		638.32	-0.74	np	
	DES 7/18/11			10.70		637.51	-0.81	np	
	DES 12/18/11			10.12	10.11	638.09	0.59	0.01	638.10
	DES 3/19/12			10.31		637.90	-0.20	np	
	DES 5/27/12			10.65		637.56	-0.34	np	
	DES 9/30/12			11.00		637.21	-0.35	np	
	DES 9/3/13			11.15		637.06	-0.15	np	
	DES 9/24/13			11.12	11.11	637.09	0.04	0.01	637.10
	DES 10/9/13			11.25		636.96	-0.14	odor	
	DES 12/11/13			11.59		636.62	-0.34	np	
	DES 3/28/14			11.56		636.65	0.03	np	
	DES 6/24/14			11.26		636.95	0.30	np	
	DES 9/29/14			11.38		636.83	-0.12	sheen	
	DES 12/18/14			10.86	10.85	637.35	0.52	0.01	637.36
	DES 3/18/15			10.97		637.24	-0.11	np	
	DES 6/16/15			11.08		637.13	-0.11	sheen	

TABLE 3
Summary of Site Groundwater Levels
 Golden State Gasoline - Escondido
 225 West Washington Ave., Escondido, CA (Site)

Field Measurements									
Well Number	Date Measured	TOCE (ft)	DTOS (ft)	DTW (ft)	DTP (ft)	GWE (ft)	Water Level Change (ft) ^a	FP (ft)	Adjusted GWE (ft) ¹
DW7 Screen 5'-20'	DES 8/25/10	647.66	5	10.37		637.29		np	
	DES 11/6/10			10.10		637.56	0.27	np	
	DES 1/17/11			9.10		638.56	1.00	np	
	DES 4/21/11			9.31		638.35	-0.21	np	
	DES 7/19/11			10.21		637.45	-0.90	np	
	DES 12/19/11			10.11		637.55	0.10	np	
	DES 3/19/12			10.18		637.48	-0.07	np	
	DES 5/26/12			10.26		637.40	-0.08	np	
	DES 9/30/12			10.62		637.04	-0.36	np	
	DES 9/3/13			10.81		636.85	-0.19	np	
	DES 9/25/13			10.82		636.84	-0.01	np	
	DES 10/9/13			10.94		636.72	-0.12	np	
	DES 12/11/13			10.47		637.19	0.47	np	
	DES 3/28/14			11.30		636.36	-0.83	np	
	DES 6/24/14			10.79		636.87	0.51	sheen	
	DES 9/29/14			11.10		636.56	-0.31	np	
	DES 12/18/14			10.29		637.37	0.81	np	
	DES 3/18/15			10.22		637.44	0.07	np	
	DES 6/16/15			10.79		636.87	-0.57	np	
DW8 Screen 5'-20'	DES 08/25/10	648.18	5	11.15		637.03		np	
	DES 11/6/10			10.90		637.28	0.25	np	
	DES 1/17/11			9.95		638.23	0.95	np	
	DES 4/21/11			10.31		637.87	-0.36	np	
	DES 7/19/11			10.91		637.27	-0.60	np	
	DES 12/19/11			11.12		637.06	-0.21	np	
	DES 3/18/12			10.80		637.38	0.32	np	
	DES 5/26/12			11.11		637.07	-0.31	np	
	DES 9/30/12			11.41		636.77	-0.30	np	
	DES 9/3/13			11.55		636.63	-0.14	np	
	DES 9/25/13			11.58		636.60	-0.03	np	
	DES 10/9/13			11.66		636.52	-0.08	np	
	DES 12/11/13			11.85		636.33	-0.19	np	
	DES 3/28/14			11.94		636.24	-0.09	np	
	DES 6/24/14			11.68		636.50	0.26	np	
	DES 9/29/14			11.78		636.40	-0.10	np	
	DES 12/18/14			11.31		636.87	0.47	np	
	DES 3/18/15			11.39		636.79	-0.08	np	
	DES 6/16/15			11.57		636.61	-0.18	np	

TABLE 3
Summary of Site Groundwater Levels
 Golden State Gasoline - Escondido
 225 West Washington Ave., Escondido, CA (Site)

Field Measurements									
Well Number	Date Measured	TOCE (ft)	DTOS (ft)	DTW (ft)	DTP (ft)	GWE (ft)	Water Level Change (ft) ^a	FP (ft)	Adjusted GWE (ft) ⁱ
DW9 Screen 5'-20'	DES 8/25/10	648.82	5	11.85		636.97		np	
	DES 11/5/10			11.50		637.32	0.35	np	
	DES 1/17/11			10.42		638.40	1.08	np	
	DES 4/21/11			10.95		637.87	-0.53	np	
	DES 7/19/11			11.58		637.24	-0.63	np	
	DES 12/19/11			11.76		637.06	-0.18	np	
	DES 3/19/12			11.45		637.37	0.31	np	
	DES 5/26/12			11.73		637.09	-0.28	np	
	DES 9/30/12			12.19		636.63	-0.46	np	
	DES 9/3/13			-		-	-	roots	
	DES 9/25/13			-		-	-	roots	
	DES 10/9/13			-		-	-	roots	
	DES 12/11/13			-		-	-	roots	
	DES 3/28/14			-		-	-	DRY	
	DES 6/24/14			-		-	-	DRY	
	DES 9/29/14			12.2		636.62	-	sheen	
	DES 12/18/14			11.40		637.42	0.80	np	
	DES 3/18/15			11.78		637.04	-0.38	np	
	DES 6/16/15			11.91		636.91	-0.13	np	
DW10 Screen 5'-20'	DES 8/25/10	648.97	5	11.82		637.15		np	
	DES 11/5/10			11.52		637.45	0.30	np	
	DES 1/17/11			10.49		638.48	1.03	np	
	DES 4/21/11			11.02		637.95	-0.53	np	
	DES 7/19/11			11.61		637.36	-0.59	np	
	DES 12/19/11			11.85		637.12	-0.24	np	
	DES 3/20/12			11.51		637.46	0.34	np	
	DES 5/26/12			11.81		637.16	-0.30	np	
	DES 9/30/12			12.11		636.86	-0.30	np	
	DES 9/3/13			12.25		636.72	-0.14	np	
	DES 9/25/13			12.24		636.73	0.01	np	
	DES 10/9/13			12.36		636.61	-0.12	np	
	DES 12/11/13			12.51		636.46	-0.15	np	
	DES 3/28/14			12.46		636.51	0.05	np	
	DES 6/24/14			12.36		636.61	0.10	sheen	
	DES 9/29/14			12.48	12.47	636.49	-0.12	0.01	636.50
	DES 12/18/14			12.01		636.96	0.47	np	
	DES 3/18/15			12.09		636.88	-0.08	np	
	DES 6/16/15			12.21		636.76	-0.12	np	

TABLE 3
Summary of Site Groundwater Levels
 Golden State Gasoline - Escondido
 225 West Washington Ave., Escondido, CA (Site)

Field Measurements									
Well Number	Date Measured	TOCE (ft)	DTOS (ft)	DTW (ft)	DTP (ft)	GWE (ft)	Water Level Change (ft) ^a	FP (ft)	Adjusted GWE (ft) ¹
DW11 Screen 5'-20'	DES 8/25/10	649.90	5	12.55		637.35		np	
	DES 11/5/10			12.25		637.65	0.30	np	
	DES 1/17/11			11.00		638.90	1.25	np	
	DES 4/24/11			11.68		638.22	-0.68	np	
	DES 7/19/11			12.27		637.63	-0.59	np	
	DES 12/19/11			12.54		637.36	-0.27	sheen	
	DES 3/20/12			12.25		637.65	0.29	np	
	DES 5/26/12			12.46		637.44	-0.21	np	
	DES 9/28/12			12.81		637.09	-0.35	np	
	DES 9/3/13			12.93		636.97	-0.12	np	
	DES 9/24/13			12.96		636.94	-0.03	np	
	DES 10/9/13			13.02		636.88	-0.06	np	
	DES 12/11/13			13.20		636.70	-0.18	sheen	
	DES 3/28/14			13.24		636.66	-0.04	sheen	
	DES 6/24/14			14.06		635.84	-0.82	np	
	DES 9/29/14			13.19		636.71	0.87	np	
	DES 12/18/14			12.72		637.18	0.47	np	
	DES 3/18/15			12.78		637.12	-0.06	sheen	
	DES 6/16/15			12.89		637.01	-0.11	sheen	
DW12 Screen 5'-20'	DES 8/25/10	650.26	5	12.62		637.64		np	
	DES 11/5/10			12.31		637.95	0.31	sheen	
	DES 1/17/11			11.21		639.05	1.10	np	
	DES 4/24/11			11.72		638.54	-0.51	np	
	DES 7/19/11			12.35		637.91	-0.63	np	
	DES 12/19/11			12.60		637.66	-0.25	sheen	
	DES 3/20/12			12.35		637.91	0.25	np	
	DES 5/29/12			12.51		637.75	-0.16	np	
	DES 9/28/12			12.90		637.36	-0.39	np	
	DES 9/3/13			13.45		636.81	-0.55	np	
	DES 9/24/13			13.06		637.20	0.39	np	
	DES 10/9/13			13.10		637.16	-0.04	np	
	DES 12/11/13			13.28		636.98	-0.18	sheen	
	DES 3/28/14			13.19		637.07	0.09	np	
	DES 6/26/14			13.15		637.11	0.04	sheen	
	DES 9/29/14			13.30		636.96	-0.15	np	
	DES 12/18/14			12.79		637.47	0.51	np	
	DES 3/18/15			12.87		637.39	-0.08	sheen	
	DES 6/16/15			12.97		637.29	-0.10	sheen	

TABLE 3
Summary of Site Groundwater Levels
 Golden State Gasoline - Escondido
 225 West Washington Ave., Escondido, CA (Site)

Field Measurements									
Well Number	Date Measured	TOCE (ft)	DTOS (ft)	DTW (ft)	DTP (ft)	GWE (ft)	Water Level Change (ft) ^a	FP (ft)	Adjusted GWE (ft) ¹
DW13 Screen 5'-20'	DES 8/25/10	650.24	5	12.66		637.58		np	
	DES 11/6/10			12.40		637.84	0.26	np	
	DES 1/17/11			11.05		639.19	1.35	np	
	DES 4/24/11			11.59		638.65	-0.54	np	
	DES 7/19/11			12.11		638.13	-0.52	np	
	DES 12/19/11			12.41		637.83	-0.30	sheen	
	DES 3/19/12			12.31		637.93	0.10	np	
	DES 5/26/12			12.57		637.67	-0.26	np	
	DES 9/28/12			12.92		637.32	-0.35	np	
	DES 9/3/13			13.09		637.15	-0.17	np	
	DES 9/24/13			13.05		637.19	0.04	np	
	DES 10/9/13			13.11		637.13	-0.06	np	
	DES 12/11/13			13.34		636.90	-0.23	np	
	DES 3/28/14			13.45		636.79	0.11	np	
	DES 6/24/14			13.07		637.17	0.38	np	
	DES 9/29/14			13.32		636.92	-0.25	np	
	DES 12/18/14			12.81		637.43	0.51	np	
	DES 3/18/15			12.88		637.36	-0.07	np	
	DES 6/16/15			12.98		637.26	-0.10	np	
DW14 Screen 5'-20'	DES 08/25/10	648.14	5	10.81		637.33		np	
	DES 11/6/10			10.54		637.60	0.27	np	
	DES 1/17/11			9.35		638.79	1.19	np	
	DES 4/24/11			9.90		638.24	-0.55	np	
	DES 7/19/11			10.55		637.59	-0.65	np	
	DES 12/19/11			10.78		637.36	-0.23	np	
	DES 3/18/12			10.45		637.69	0.33	np	
	DES 5/26/12			10.74		637.40	-0.29	np	
	DES 9/30/12			11.08		637.06	-0.34	np	
	DES 9/3/13			11.24		636.90	-0.16	np	
	DES 10/9/13			11.35		636.79	-0.11	np	
	DES 12/11/13			11.65		636.49	-0.30	np	
	DES 3/28/14			11.63		636.51	0.02	np	
	DES 6/24/14			11.35		636.79	0.28	np	
	DES 9/29/14			11.45		636.69	-0.10	np	
	DES 12/18/14			10.95		637.19	0.50	np	
	DES 3/18/15			11.06		637.08	-0.11	np	
	DES 6/16/15			11.18		636.96	-0.12	np	
DW15 Screen 5'-20'	DES 10/10/13	651.85	5	15.67		636.18		np	
	DES 12/12/13			15.81		636.04	-0.14	np	
	DES 3/28/14			15.85		636.00	-0.04	np	
	DES 6/24/14			15.68		636.17	0.17	np	
	DES 9/29/14			15.78		636.07	-0.10	np	
	DES 12/18/14			15.23		636.62	0.55	np	
	DES 3/18/15			15.40		636.45	-0.17	np	
	DES 6/16/15			15.51		636.34	-0.11	np	

TABLE 3
Summary of Site Groundwater Levels
 Golden State Gasoline - Escondido
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Field Measurements									
Well Number	Date Measured	TOCE (ft)	DTOS (ft)	DTW (ft)	DTP (ft)	GWE (ft)	Water Level Change (ft) ^a	FP (ft)	Adjusted GWE (ft) ^b
DW16 Screen 5'-20'	DES 10/10/13	647.15	5	10.72		636.43		np	
	DES 12/11/13			10.91		636.24	-0.19	np	
	DES 3/28/14			10.98		636.17	-0.07	np	
	DES 6/24/14			10.73		636.42	0.25	np	
	DES 9/29/14			10.85		636.30	-0.12	np	
	DES 12/18/14			10.25		636.90	0.60	np	
	DES 3/18/15			10.45		636.70	-0.20	np	
	DES 6/16/15			dry				dry	
DW17 Screen 5'-20'	DES 10/9/13	649.90	5	13.55		636.35		np	
	DES 12/11/13			13.35		636.55	0.20	np	
	DES 3/28/14			13.33		636.57	0.02	sheen	
	DES 6/24/14			13.16		636.74	0.17	np	
	DES 9/29/14			13.31		636.59	-0.15	np	
	DES 12/18/14			12.92		636.98	0.39	np	
	DES 3/18/15			12.43		637.47	0.49	sheen	
	DES 6/16/15			12.86		637.04	-0.43	np	
DW18 Screen 5'-20'	DES 10/10/13	652.73	5	15.45		637.28		np	
	DES 12/11/13			15.65		637.08	-0.20	np	
	DES 3/28/14			15.68		637.05	-0.03	np	
	DES 6/24/14			15.59		637.14	0.09	np	
	DES 9/29/14			15.66		637.07	-0.07	sheen	
	DES 12/18/14			15.21		637.52	0.45	np	
	DES 3/18/15			15.23		637.50	-0.02	sheen	
	DES 6/16/15			15.41		637.32	-0.18	sheen	
DW19 Screen 5'-20'	DES 10/10/13	651.22	5	14.15		637.07		np	
	DES 12/11/13			14.32		636.90	-0.17	sheen	
	DES 3/28/14			14.35		636.87	-0.03	np	
	DES 6/24/14			14.18		637.04	0.17	np	
	DES 9/29/14			14.32		636.90	-0.14	np	
	DES 12/18/14			13.86		637.36	0.46	np	
	DES 3/18/15			13.90		637.32	-0.04	np	
	DES 6/16/15			14.03		637.19	-0.13	sheen	
DW20 Screen 5'-20'	DES 10/9/13	652.07	5	14.45		637.62		np	
	DES 12/11/13			14.59		637.48	-0.14	np	
	DES 3/28/14			14.55		637.52	0.04	np	
	DES 6/24/14			14.47		637.60	0.08	np	
	DES 9/29/14			14.61		637.46	-0.14	np	
	DES 12/18/14			14.11		637.96	0.50	np	
	DES 3/18/15			14.13		637.94	-0.02	np	
	DES 6/16/15			14.27		637.80	-0.14	np	
DW21 Screen 5'-20'	DES 9/29/14	650.09	5	13.60		636.49		np	
	DES 12/19/14			14.70		635.39	-1.10	np	
	DES 3/18/15			13.35		636.74	1.35	np	
	DES 6/16/15			13.49		636.60	-0.14	np	

TABLE 3
Summary of Site Groundwater Levels
 Golden State Gasoline - Escondido
 225 West Washington Ave., Escondido, CA (Site)

Field Measurements										
Well Number	Date Measured	TOCE (ft)	DTOS (ft)	DTW (ft)	DTP (ft)	GWE (ft)	Water Level Change (ft) ^a	FP (ft)	Adjusted GWE (ft) ¹	
DW22 Screen 5'-20'	DES 9/29/14	651.65	5	15.12		636.53	1.47 -1.05 -0.10	np np np np		
	DES 12/19/14			13.65		638.00				
	DES 3/18/15			14.70		636.95				
	DES 6/16/15			14.80		636.85				
DW23 Screen 5'-20'	DES 3/18/15	646.77	5	10.49		636.28	0.07	np np		
	DES 6/16/15			10.42		636.35				

Difference in groundwater elevation between consecutive monitoring events, based on air-liquid interface data by using

Notes: DTW if no product measured or DTP if product measured. If groundwater elevation is decreasing, the value is negative.

^a If groundwater elevation is increasing, the value is positive.

TOCE Top of Casing Elevation

DTOS Depth to top of screen presented in the following reports:

D.R. Sorben Limited Site Assessment Report and Proposed Work Plan (February 15, 2000) (Wells MW1 and MW2)

PIC Soil and Groundwater Investigation Report (May 16, 2006) (Wells MW3, MW4, MW5, and MW6)

DTW Depth to Water in feet below TOCE

GWE Groundwater Elevation in feet above Datum

FP Free Product thickness in feet

DTP Depth to product in feet below TOCE

¹ Gasoline is less dense than water, therefore, the adjusted GWE is calculated as follows:

Calculation: [PT x 0.76] + GWE = Adjusted GWE

Submerged well-screen relative to top of groundwater table

TABLE 4
Summary of Groundwater Sample and Analytical Data
Golden State Gasoline - Escondido
225 West Washington Ave., Escondido, CA (Site)

Analytical Data																
Sample	Date Sampled	TPHg (1)	TPHd (1)	DF	B (2)	T (2)	E (3)	MTBE (2)	ETBE (2)	DIPE (2)	TAME (2)	Nap (2)	TBA (2)	DF ppb	Lab ppb	CARs/ Refs
MW1 ⁽³⁾	12/15/99	63,000	ND-500	7,300	13,000	2,600	8,200	32,000	ND	ND	1,000	18,000	42,400	100	H&P	
MW1 ⁽⁴⁾	11/16/05	100,000	18,000	5,720	2,170	430	1,370	7,640	ND	ND	ND	ND	31,800	50	CTEK (A) CTEK (B) CTEK (C)	
MW1	12/10/09	25,100	10	5,720	2,170	430	1,370	7,640	ND	ND	760	ND	110,000	50	CTEK (H)	
MW1	04/07/10	72,000	ND	50/1	10,400	9,950	1,400	6,200	53,500	ND	ND	130	ND	ND		
	08/24/10	28,000	2,760	50/1	5,000	210	ND	2,200	9,300	ND	ND	ND	ND	ND		
	11/06/10	120,000	ND	500/1	19,400	7,610	1,520	5,600	88,100	28	ND	1,310	124,000	10	CTEK (I)	
	12/18/11	120,000	ND	5/1	11,000	265	42	510	3,910	23	ND	56	129,000	5	CTEK (J) CTEK (K) Assoc (L)	
	03/18/12	9,400	ND	50/1	8,900	130	ND	350	2,740	20	ND	35	113,000	5		
	05/27/12	24,000	ND	50/1	6,900	50	110	106	270	18	4	ND	106,000	1		
	09/30/12	6,400	ND	100/5	11,000	5,500	2,100	10,000	47,000	ND	ND	800	160,000	200		
	09/25/13	88,800	8,100	Product	4,500	100/5	13,000	790	2,000	5,900	17,000	28	ND	330	99,000	20
	12/11/13	66,500	4,500	50/1	4,000	2,500	ND	2,200	16,000	ND	ND	460	ND	ND	Assoc (N) Assoc (P)	
	03/31/14	33,800	770	Product	40	10,000	ND	1,600	2,000	5,000	ND	ND	180	46,000	50	
	06/24/14	Sheen	20	7,800	1,000	1,200	3,700	9,500	ND	ND	ND	280	110,000	50	Assoc (X)	
Averages ⁽⁵⁾		49,786			9,010			21,400								
MW2 ⁽³⁾	12/15/99	78,000	7,400	20,000	18,000	2,100	10,700	270,000	ND	ND	3,900	ND	21,000	H&P		
MW2 ⁽⁴⁾	11/16/05	50,200	ND	20	3,970	3,190	700	2,500	34,100	ND	ND	ND	ND	400	CTEK (A) CTEK (B)	
MW2	12/10/09	180,000	ND	200/1	9,900	11,800	1,740	8,000	143,000	ND	ND	2,800	ND	49,000	CTEK (C) CTEK (D)	
MW2	04/07/10	400,000	2,670	200/1	27,400	25,500	ND	11,700	406,000	ND	ND	8,200	ND	170,000	200	
MW2	08/24/10	400,000	5,800	50/1	8,300	842	795	1,100	13,500	ND	ND	195	86,100	50		
MW2	11/06/10	21,000	ND	200/1	18,500	1,350	1,500	2,000	21,900	ND	ND	230	ND	183,600	200	
MW2	01/16/11	59,000	ND	10/1	17,200	1,900	1,740	2,480	28,500	ND	ND	292	ND	156,000	80	
MW2	04/20/11	73,000	ND	100/1	17,000	1,530	1,870	2,100	21,040	ND	ND	242	ND	73,650	100	
MW2	07/18/11	30,000	ND	Product	12/18/11	10,300	9,440	1,110	5,300	72,100	ND	ND	1,690	23,000	25	CTEK (I)
MW2	03/18/12	126,000	ND	250/1	24,800	23,600	1,160	8,400	240,000	ND	ND	5,240	ND	77,300	50	CTEK (J)
MW2	05/27/12	305,000	ND	400/1	29,800	24,100	1,900	9,900	183,000	72	ND	6,100	ND	86,000	40	CTEK (K)
MW2	09/30/12	286,000	ND	500/1	24,000	30,000	6,000	30,000	170,000	ND	ND	5,800	ND	100,000	1,000	Assoc (L)
MW2	09/25/13	256,000	20,000	100/20	6,700	11,000	2,200	12,000	11,000	ND	ND	ND	ND	ND	ND	
MW2	12/11/13	318,000	49,000	200/100	19,000	24,000	5,600	28,000	180,000	ND	ND	7,400	ND	61,000	100	Assoc (N)
MW2	03/31/14	Product	03/31/14	12,000	6,400	200/10	ND	ND	ND	ND	ND	ND	ND	2,500	100	Assoc (P)
MW2	06/24/14	Product	06/24/14	ND	18,000	22,000	4,600	28,000	46,000	ND	ND	2,800	ND	26,000	100	
MW2	09/29/14	Product	09/29/14	ND	18,000	23,000	3,700	24,000	98,000	ND	ND	3,200	ND	140,000	500	Assoc (X)
MW2	12/23/14	161,000	100	17,054	17,054											
Primary MCLs		1	150	300	1,750	13										
L/TCP Cleanup Levels	No Product		<3,000 ppb													

<1,000 ppb
<3,000 ppb

TABLE 4
Summary of Groundwater Sample and Analytical Data
 Golden State Gasoline - Escondido
 225 West Washington Ave., Escondido, CA (Site)

Primary MCLs
Notification Levels
LTCP Cleanup Levels

TABLE 4
Summary of Groundwater Sample and Analytical Data
Golden State Gasoline - Escondido
225 West Washington Ave., Escondido, CA (Site)

Sample Location	Sample Sampled	Analytical Data												Lab	CARs/ Refs
		TPhG (a) ppb	TPhd (b) ppb	Df g/d	B (c) ppb	T (c) ppb	E (c) ppb	X (c) ppb	MTBE (c) ppb	ETBE (c) ppb	DPE (c) ppb	TAME (c) ppb	Nap (c) ppb	TBA (c) ppb	
MW5 (a)	11/16/05	23,000	1,400		12,000	3,400	1,200	4,300	48,000	ND	ND	ND	ND	ND	H&P
MW5	12/10/09	48,000	400	5,060	1,220	460	1,350	26,600	ND	ND	ND	ND	ND	ND	CTEK
	04/07/10	49,000	ND	100/1	4,810	1,640	610	1,600	38,800	ND	ND	ND	ND	ND	CTEK
	08/24/10	110,000	2,610	100/1	8,400	3,000	ND	2,700	71,300	ND	ND	ND	ND	ND	CTEK
	11/06/10	20,000	12,000	100/1	1,340	426	ND	450	18,100	ND	ND	ND	ND	ND	CTEK
	01/16/11	30,000	ND	200/1	3,480	700	ND	1,000	29,000	ND	ND	ND	ND	ND	CTEK
	04/20/11	89,000	ND	200/1	10,800	3,140	98	2,040	78,900	ND	ND	ND	ND	ND	CTEK
	07/18/11	44,000	ND	8/2	11,500	3,820	1,400	3,400	58,700	13	ND	ND	ND	ND	CTEK
	12/18/11	50,000	ND	200/1	6,780	2,170	793	2,730	45,000	ND	ND	ND	ND	ND	CTEK
	03/19/12	12,000	ND	8/1	1,350	293	280	450	5,800	ND	ND	ND	ND	ND	CTEK
	05/27/12	36,000	ND	40/1	5,640	735	230	900	21,800	ND	ND	ND	ND	ND	CTEK
	09/30/12	26,700	ND	50/1	5,150	590	580	500	9,980	8	ND	ND	ND	ND	CTEK
	09/24/13	145,000	17,000	100/20	7,200	8,700	4,600	24,000	42,000	ND	ND	ND	ND	ND	Assoc
	12/11/13	Product													200
	12/11/13	160,000	400,000	200/200	6,600	6,500	3,600	20,000	53,000	ND	ND	ND	ND	ND	Assoc
	03/31/14	Product													(N)
	03/31/14	13,600	1,700	20/1	440	440	140	2,600	2,800	ND	ND	ND	ND	ND	Assoc
	06/24/14	Product													(P)
	09/29/14	Sheen													
	12/23/14	Product													
	12/23/14	49,900	NT	40	5,100	1,400	920	4,200	21,000	ND	ND	ND	ND	ND	Assoc
	03/18/15	Sheen													(V)
	06/18/15	30,700	55,112	50	2,500	ND	700	1,400	27,000	ND	ND	ND	ND	ND	Assoc
	Averages (a)				5,774				35,164						(X)
MW6 (a)	11/16/05	3,300	540		450	130	350	540	100	ND	ND	ND	ND	ND	H&P
MW6	12/10/09	960	1	61	7	45	26	12	ND	ND	ND	ND	ND	ND	CTEK
	04/07/10	6,600	ND	1/2	300	157	280	630	58	ND	ND	ND	ND	ND	CTEK
	08/24/10	15,000	ND	10/2	910	252	280	2,060	155	ND	ND	ND	ND	ND	CTEK
	11/06/10	1,800	2,300	1/2	74	25	120	200	19	ND	ND	ND	ND	ND	CTEK
	01/16/11	6,700*	ND	1/2	240	19	ND	580	69	ND	ND	ND	ND	ND	CTEK
	04/20/11	32,000	ND	8/1	1,420	1,040	946	4,180	ND	ND	ND	ND	ND	ND	CTEK
	07/18/11	15,000	ND	1/2	905	230	1,260	1,800	102	ND	ND	ND	ND	ND	CTEK
	12/18/11	Product													
	03/19/12	18,000	ND	25/1	770	230	920	1,000	82	ND	ND	ND	ND	ND	CTEK
	05/27/12	15,000	ND	5/1	750	280	34	1,200	102	ND	ND	ND	ND	ND	CTEK
	09/30/12	11,700	ND	1/1	600	172	484	550	65	ND	ND	ND	ND	ND	CTEK
	09/24/13	9,490	990	5/5	680	110	870	450	110	ND	ND	ND	ND	ND	Assoc
	12/11/13	10,900	2,200	10/5	710	100	1,200	430	140	ND	ND	ND	ND	ND	Assoc
	03/31/14	741	120	1/2	41	10	51	42	11	ND	ND	ND	ND	ND	Assoc
	06/26/14	9,830	ND	1/21	440	170	940	840	62	ND	ND	ND	ND	ND	Assoc
	09/29/14	Product													
	12/23/14	9,740	10	500	100	750	710	92	ND	ND	ND	ND	ND	ND	Assoc
	03/20/15	609	1	21	6,8	45	35	6,4	ND	ND	ND	ND	ND	ND	Assoc
	06/18/15	12,200	10	520	210	1,200	1,400	75	ND	ND	ND	ND	ND	ND	Assoc
	Averages (a)	10,169	522						74						(X)
Primary MCLs		1	150	300	1,750	13									
Notification Levels															
LTCP Cleanup Levels															
									<3,000 ppb						<1,000 ppb

TABLE 4
Summary of Groundwater Sample and Analytical Data
Golden State Gasoline - Escondido
225 West Washington Ave., Escondido, CA (Site)

Sample Location	Sample Date	Analytical Data												Lab	CARs/ Refs	
		TPHg (v) ppb	TPHd (i) ppb	B (c) ppb	T (v) ppb	E (v) ppb	X (v) ppb	MTBE (v) ppb	ETBE (v) ppb	DPE (v) ppb	TAME (v) ppb	Nap (v) ppb	TBA (v) ppb	DF ppb		
DW7	08/28/10	460	ND	1/1	ND	35	ND	ND	ND	ND	ND	ND	ND	2	3,040	1
	11/06/10	3,700	2,600	1/1	200	35	196	307	7	ND	ND	ND	ND	1,48	1	CTEK (C)
	01/17/11	1,000	ND	1/1	49	6	25	36	34	ND	ND	ND	ND	1,460	1	CTEK (D)
	04/21/11	4,300	ND	1/1	474	57	246	237	22	ND	ND	ND	ND	1	CTEK (E)	
	07/19/11	870	ND	1/1	39	ND	2	5	48	ND	ND	ND	ND	1,090	1	CTEK (F)
	12/19/11	2,200	ND	4/1	346	13	318	12	ND	ND	ND	ND	ND	52	1	CTEK (G)
	03/19/12	1,400	ND	5/1	83	ND	ND	23	25	ND	ND	ND	ND	1,170	1	CTEK (H)
	5/26/12	4,800	ND	10/1	560	53	60	400	10	ND	ND	ND	ND	318	1	CTEK (I)
	09/30/12	1,400	ND	1/1	106	10	30	32	ND	ND	ND	ND	ND	66	1	CTEK (J)
	09/25/13	2,760	180	1/1	470	26	51	250	ND	ND	ND	ND	ND	ND	5	Assoc (L)
DW8	12/11/13	284	960	1/1	61	ND	16	12	57	1.1	1.2	ND	ND	5,300	1	Assoc (N)
	03/31/14	179	ND	1/1	ND	ND	ND	ND	62	ND	ND	ND	ND	3,900	10	Assoc (P)
	06/24/14	Sheen														
	10/01/14	76.7	ND	1/1	16	ND	ND	ND	57	ND	ND	ND	ND	4,600	5	Assoc (T)
DW9	12/23/14	166	1	11	ND	ND	ND	ND	45	ND	ND	ND	ND	3,800	1	Assoc (V)
	03/19/15	139	1	6.8	ND	ND	ND	ND	43	ND	ND	ND	ND	3,600	1	Assoc (W)
	06/17/15	218	1	41	ND	11	ND	ND	40	ND	ND	ND	ND	3,100	1	Assoc (X)
	Averages (v)	1,497			176				37							
DW8	08/25/10	560	ND	1/1	ND	ND	ND	68	3	2	ND	ND	2	19,600	1	CTEK (C)
	11/06/10	1,600	3,700	1/1	200	59	22	89	ND	ND	ND	ND	ND	12,500	10	CTEK (D)
	01/17/11	1,400	ND	1/1	142	ND	36	20	92	ND	ND	ND	ND	23,700	10	CTEK (E)
	04/21/11	1,100	ND	1/1	10	ND	ND	ND	90	ND	ND	ND	ND	34,200	5	CTEK (F)
	07/19/11	520	ND	1/1	ND	ND	ND	ND	117	2	ND	ND	ND	16,000	1	CTEK (G)
	12/19/11	3,200	ND	10/1	607	10	92	25	104	2	ND	ND	ND	25,000	1	CTEK (H)
	03/18/12	1,200	ND	1/1	14	ND	3	ND	107	5	2	ND	ND	40,100	1	CTEK (I)
	05/26/12	1,800	ND	1/1	85	3	ND	25	127	4	3	ND	ND	35,500	1	CTEK (J)
	09/30/12	760	ND	1/1	2	ND	ND	95	4	2	ND	ND	ND	33,600	1	CTEK (K)
	09/25/13	126	190	1/1	4.8	ND	ND	ND	52	ND	2.7	ND	ND	8,300	1	Assoc (L)
	12/13/13	73.7	210	1/1	ND	ND	ND	ND	39	ND	1.9	ND	ND	5,600*	1	Assoc (O)
	03/31/14	111	ND	1/1	ND	ND	ND	ND	62	ND	ND	ND	ND	6,400	10	Assoc (P)
	06/26/14	53.6	1	ND	ND	ND	ND	47	ND	ND	ND	ND	ND	5,600	10	Assoc (S)
	10/01/14	70.5	ND	1/1	ND	ND	ND	63	ND	ND	13	ND	ND	4,700	10	Assoc (T)
	12/23/14	75	1	ND	ND	ND	ND	ND	56	ND	1.7	ND	ND	5,400	1	Assoc (V)
	03/19/15	67.9	1	ND	ND	ND	ND	ND	48	ND	1.3	ND	ND	5,500	1	Assoc (W)
	06/17/15	52.7	1	ND	ND	ND	ND	44	ND	1.4	ND	ND	ND	5,700	1	Assoc (X)
	Averages (v)	751.2			133.1				76.5							
	Primary MCLs	1	150	300	1,750				13							
	Notification Levels	<3,000 ppb														
	LJCP Cleanup Levels	No Product														
		<1,000 ppb														

TABLE 4
Summary of Groundwater Sample and Analytical Data
Golden State Gasoline - Escondido
225 West Washington Ave., Escondido, CA (Site)

Sample Location	Sample Sampled	Analytical Data														Lab	CARs/ Refs
		TPHg (v) ppb	TPHd (v) ppb	B (v) ppb	T (v) ppb	E (v) ppb	X (v) ppb	MTBE (v) ppb	ETBE (v) ppb	DIME (v) ppb	TAME (v) ppb	Nap (v) ppb	TBA (v) ppb	DF ppb			
DW9	08/25/10 4,600	ND	10/1	600	290	ND	392	180	ND	ND	ND	8	58	3	CTEK (C)		
	11/05/10 480	3,400	1/1	52	14	12	45	2	ND	ND	ND	37	1	CTEK (D)			
	01/17/11 5,700	ND	4/1	875	530	98	480	245	ND	ND	ND	ND	4	CTEK (E)			
	04/21/11 10,000	ND	1/1	2,750	880	230	470	261	ND	ND	ND	ND	10	CTEK (F)			
	07/19/11 8,600	ND	10/1	1,660	1,270	220	657	210	ND	ND	ND	ND	162	2	CTEK (G)		
	12/19/11 5,000	ND	10/1	610	225	93	91	274	ND	ND	ND	ND	100	1	CTEK (H)		
	03/19/12 2,000	ND	5/1	181	55	43	90	194	ND	ND	ND	ND	27	1	CTEK (I)		
	05/26/12 440	ND	1/1	ND	ND	ND	ND	234	ND	ND	ND	ND	64	1	CTEK (J)		
	09/30/12 620	ND	1/1	194	ND	26	ND	90	ND	ND	ND	ND	20	1	CTEK (K)		
	09/25/13 --	--	--	--	--	--	--	--	--	--	--	--	--	--			
DW10	12/11/13 --	--	--	--	--	--	--	--	--	--	--	--	--	--			
	03/31/14 --	--	--	--	--	--	--	--	--	--	--	--	--	--			
	06/24/14 --	--	--	--	--	--	--	--	--	--	--	--	--	--			
	10/02/14 504	440	1/1	8.4	ND	6.9	16	ND	ND	ND	ND	ND	ND	1	Assoc (T)		
	12/22/14 116	1	11	ND	ND	ND	27	ND	ND	ND	ND	ND	ND	1	Assoc (V)		
	03/19/15 439	1	24	11	9.6	11	75	ND	ND	ND	ND	ND	10	1	Assoc (W)		
	06/17/15 72.2	1	4	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	1	Assoc (X)		
	Averages (s) 2,967.0			580.8			140.4										
	08/25/10 630	ND	1/1	ND	ND	10	2	ND	ND	ND	ND	ND	50	1	CTEK (C)		
	11/05/10 4,000	1,500	1/1	550	576	114	624	171	ND	ND	ND	ND	ND	1	CTEK (D)		
DW11	01/17/11 620	ND	1/1	120	7	17	20	ND	ND	ND	ND	ND	ND	1	CTEK (E)		
	04/21/11 1,100	ND	1/1	324	13	4	16	6	ND	1	ND	ND	ND	1	CTEK (F)		
	07/19/11 470	ND	1/1	122	5	21	9	2	ND	ND	ND	ND	ND	1	CTEK (G)		
	12/19/11 290	ND	1/1	233	4	32	4	2	ND	ND	ND	ND	50	1	CTEK (H)		
	03/20/12 1,000	ND	1/1	207	18	30	39	2	ND	ND	ND	ND	16	1	CTEK (I)		
	05/26/12 ND	ND	1/1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	CTEK (J)		
	09/30/12 ND	ND	1/1	2	ND	ND	ND	ND	ND	ND	ND	ND	22	1	CTEK (K)		
	09/25/13 113	ND	1/1	38	ND	ND	ND	1.2	ND	ND	ND	ND	ND	1	Assoc (L)		
	12/11/13 188	250	1/1	7.8	ND	ND	1.1	ND	ND	ND	ND	ND	36	1	Assoc (N)		
	04/03/14 497	ND	1/1	110	7.8	11	21	1.4	ND	1.1	ND	73	1	Assoc (R)			
DW12	06/24/14 Sheen Product																
	09/29/14 <3,000 ppb																
	12/22/14 213	1	16	ND	ND	8.5	ND	ND	ND	ND	ND	ND	ND	1	Assoc (V)		
	03/19/15 342	1	35	ND	11	13	ND	ND	ND	ND	ND	ND	ND	1	Assoc (W)		
	06/17/15 184	1	12	ND	ND	ND	ND	21	ND	ND	ND	ND	29	1	Assoc (X)		
	Averages (s) 742			137													
	Primary MCLs			1	150	300	1,750	13									
	Notification Levels			<3,000 ppb													
	LTCP Cleanup Levels			No Product													

TABLE 4
Summary of Groundwater Sample and Analytical Data
Golden State Gasoline - Escondido
225 West Washington Ave., Escondido, CA (Site)

Sample Location	Date Sampled	Analytical Data														DF ppb	Lab	CARs/ Refs
		TPHg ⁽¹⁾ ppb	TPHd ⁽¹⁾ ppb	B ⁽²⁾ ppb	T ⁽²⁾ ppb	E ⁽²⁾ ppb	X ⁽²⁾ ppb	MTBE ⁽²⁾ ppb	ETBE ⁽²⁾ ppb	DIME ⁽²⁾ ppb	ETAME ⁽²⁾ ppb	Nap ⁽²⁾ ppb	TBA ⁽²⁾ ppb					
DW11	08/25/10	4,500	730	1/1	4,680	580	ND	810	ND	ND	ND	ND	ND	ND	22	ND	20	CTEK (C)
	11/05/10	2,400	6,600	1/1	1,050	207	105	330	ND	ND	ND	ND	ND	ND	ND	233	5	CTEK (D)
	01/17/11	3,500	ND	1/1	1,120	172	83	240	ND	ND	ND	ND	ND	ND	ND	ND	1	CTEK (E)
	04/21/11	15,000	ND	30/1	6,140	1,130	360	800	ND	ND	ND	ND	ND	ND	ND	ND	30	CTEK (F)
	07/19/11	5,500	ND	4/1	1,960	574	196	700	ND	ND	ND	ND	ND	ND	ND	ND	143	4 CTEK (G)
	12/19/11	17,000	ND	10/1	2,990	1,430	293	2,810	2	ND	2	ND	ND	ND	ND	ND	75	1 CTEK (H)
	03/20/12	66,000	ND	100/1	15,700	4,800	956	4,130	ND	ND	ND	ND	ND	ND	ND	ND	334	10 CTEK (I)
	05/29/12	70,000	ND	100/1	14,900	6,130	1,210	7,400	ND	ND	ND	ND	ND	ND	ND	ND	207	5 CTEK (J)
	09/28/12	51,800	ND	100/1	14,800	6,500	960	9,570	ND	ND	ND	ND	ND	ND	ND	ND	208	4 CTEK (K)
	09/24/13	47,500	1,400	20/1	16,000	2,100	1,700	4,400	ND	ND	ND	ND	ND	ND	ND	ND	50	Assoc (L)
	12/13/13	13,400	200	20/1	2,000	510	260	920	ND	ND	ND	ND	ND	ND	ND	ND	10	Assoc (O)
	04/01/14	62,400	3,700	20/5	14,000	2,200	1,300	3,000	ND	ND	ND	ND	ND	ND	ND	ND	410	10 Assoc (Q)
	06/25/14	63,300	50	16,000	4,400	2,100	9,800	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	Assoc (S)
	10/02/14	7,990	730	10/1	1,700	230	200	750	ND	ND	ND	ND	ND	ND	ND	ND	5	Assoc (T)
	12/22/14	3,870	5	1,300	110	93	190	ND	ND	ND	ND	ND	ND	ND	ND	ND	26	1 Assoc (V)
	03/18/15	Sheen	50	18,000	4,300	2,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	320	10 Assoc (X)
	Averages ^(s)		31,673	8,271				2										
DW12	08/25/10	16,000	ND	1/1	2,830	1,770	114	1,930	ND	ND	ND	ND	ND	ND	ND	23	ND	10 CTEK (C)
	11/05/10	6,800*	2,500	10/1	1,400	450	200	577	ND	ND	ND	ND	ND	ND	ND	ND	7,400	10 CTEK (D)
	01/17/11	11,000	ND	20/1	2,680	520	290	800	ND	ND	ND	ND	ND	ND	ND	ND	20	CTEK (E)
	04/21/11	13,000	ND	15/1	4,720	662	186	516	ND	ND	2	ND	ND	ND	ND	ND	1	CTEK (F)
	07/19/11	5,200	ND	4/1	1,930	368	181	400	ND	ND	ND	ND	ND	ND	ND	ND	4	CTEK (G)
	12/19/11	8,400	ND	10/1	1,800	755	168	580	ND	ND	ND	ND	ND	ND	ND	ND	92	1 CTEK (H)
	03/20/12	23,000	ND	25/1	5,900	2,240	588	1,770	ND	ND	ND	ND	ND	ND	ND	ND	10	CTEK (I)
	05/29/12	31,000	ND	40/1	6,460	3,610	680	1,900	ND	ND	ND	ND	ND	ND	ND	ND	295	5 CTEK (J)
	09/28/12	28,200	ND	50/1	5,420	2,550	734	2,360	2	ND	2	ND	ND	ND	ND	ND	144	1 CTEK (K)
	09/24/13	11,300	370	20/1	3,400	510	440	1,200	ND	ND	ND	ND	ND	ND	ND	ND	20	Assoc (L)
	12/13/13	3,770	320	5/1	780	160	68	230	ND	ND	ND	ND	ND	ND	ND	ND	10	Assoc (O)
	04/03/14	3,310	ND	5/2	850	120	67	180	ND	ND	ND	ND	ND	ND	ND	ND	5	Assoc (R)
	06/26/14	Sheen																
	10/01/14	7,990	1,700	5/1	770	350	180	790	ND	ND	ND	ND	ND	ND	ND	ND	51	5 Assoc (T)
	12/22/14	4,310	10	1,000	250	99	340	ND	ND	ND	ND	ND	ND	ND	ND	ND	31	1 Assoc (V)
	03/18/15	Sheen	40	6,700	3,400	970	3,500	ND	ND	ND	ND	ND	ND	ND	ND	ND	410	10 Assoc (X)
	Averages ^(s)		13,991	3,109				2										
Primary MCLs		1	150	300	1,750	13												
Notification Levels		<3,000 ppb		<1,000 ppb												12		
LTCP Cleanup Levels		No Product																

TABLE 4
Summary of Groundwater Sample and Analytical Data
Golden State Gasoline - Escondido
225 West Washington Ave., Escondido, CA (Site)

Sample	Date Sampled	Analytical Data														Lab	CARS/Refs
		TPHg ^(a) ppb	TPHd ^(b) ppb	DF g/d	B ^(c) ppb	T ^(c) ppb	E ^(c) ppb	X ^(c) ppb	MTBE ^(c) ppb	ETBE ^(c) ppb	DPE ^(c) ppb	TAME ^(c) ppb	Nap ^(c) ppb	TBA ^(c) ppb	DF ppb		
DW13	08/25/10	ND	1/1	ND	ND	ND	ND	ND	3	ND	2	ND	ND	195	1	CTEK (C)	
	11/06/10	300	ND	1/1	2	ND	5	ND	2	ND	ND	ND	ND	62	1	CTEK (D)	
	01/17/11	600	ND	1/1	12	ND	22	5	ND	ND	ND	ND	ND	100	1	CTEK (E)	
	04/21/11	1,000	ND	1/1	15	ND	40	3	ND	ND	1	ND	ND	ND	1	CTEK (F)	
	07/19/11	300	ND	1/1	3	ND	7	ND	2	ND	ND	ND	ND	64	1	CTEK (G)	
	12/19/11	270	ND	1/1	5	3	8	6	2	ND	ND	ND	ND	72	1	CTEK (H)	
	03/19/12	700	ND	1/1	10	ND	24	ND	2	ND	ND	ND	ND	55	1	CTEK (I)	
	05/26/12	430	ND	1/1	2	ND	ND	ND	2	ND	ND	ND	ND	37	1	CTEK (J)	
	09/28/12	500	ND	1/1	2	ND	ND	ND	2	ND	ND	ND	ND	46	1	CTEK (K)	
	09/24/13	121	ND	1/1	ND	ND	ND	1.3	ND	ND	ND	ND	ND	ND	1	Assoc (L)	
	12/11/13	216	ND	1/1	ND	ND	ND	1.4	ND	ND	ND	ND	ND	41	1	Assoc (N)	
	04/01/14	236	ND	1/1	3.8	ND	8.5	ND	ND	ND	ND	ND	ND	24	1	Assoc (Q)	
	06/25/14	63.1	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	Assoc (S)	
	10/01/14	ND	ND	1/1	ND	ND	ND	ND	ND	ND	ND	ND	ND	15	1	Assoc (T)	
	12/22/14	NT															
	03/20/15	154		1	2.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	Assoc (W)	
	06/18/15	228		1	4.5	ND	13	ND	ND	ND	ND	ND	ND	23	1	Assoc (X)	
Averages^(a)		366			6				2								
DW14	08/25/10	ND	ND	1/1	ND	ND	ND	ND	29	ND	ND	ND	ND	156	1	CTEK (C)	
	11/6/10	ND	2,200	1/1	ND	ND	ND	ND	17	ND	ND	ND	ND	63	1	CTEK (D)	
	01/17/11	ND	ND	1/1	ND	ND	ND	ND	19	ND	ND	ND	ND	29	1	CTEK (E)	
	04/21/11	ND	ND	1/1	ND	ND	ND	ND	28	ND	ND	ND	ND	99	1	CTEK (F)	
	07/19/11	ND	ND	1/1	ND	ND	ND	ND	24	ND	ND	ND	ND	75	1	CTEK (G)	
	12/19/11	ND	ND	1/1	ND	ND	ND	ND	23	ND	ND	ND	ND	100	1	CTEK (H)	
	03/18/12	ND	ND	1/1	ND	ND	ND	ND	8	ND	ND	ND	ND	ND	1	CTEK (I)	
	5/26/12	ND	ND	1/1	ND	ND	ND	ND	17	ND	ND	ND	ND	24	1	CTEK (J)	
	09/30/12	ND	ND	1/1	ND	ND	ND	ND	19	ND	ND	ND	ND	96	1	CTEK (K)	
	10/09/13	ND	ND	1/1	ND	ND	ND	ND	27	ND	ND	ND	ND	210	1	Assoc (M)	
	12/11/13	ND	ND	1/1	ND	ND	ND	ND	44	ND	ND	ND	ND	370	1	Assoc (N)	
	03/31/14	53	ND	1/1	ND	ND	ND	ND	38	ND	ND	ND	ND	290	1	Assoc (P)	
	06/26/14	ND	1	ND	ND	ND	ND	ND	24	ND	ND	ND	ND	340	1	Assoc (S)	
	10/01/14	ND	ND	1/1	ND	ND	ND	ND	26	ND	ND	ND	ND	300	1	Assoc (T)	
	12/23/14	ND	1	ND	ND	ND	ND	ND	20	ND	ND	ND	ND	160	1	Assoc (V)	
	03/20/15	ND	1	ND	ND	ND	ND	ND	21	ND	ND	ND	ND	230	1	Assoc (W)	
	06/17/15	ND	1	ND	ND	ND	ND	ND	16	ND	ND	ND	ND	230	1	Assoc (X)	
Averages^(a)		53			ND				24								
Primary MCLs					1	150	300	1,750	13								
Notification Levels					<3,000 ppb												
LTCP Cleanup Levels					No Product												
<1,000 ppb																	

<1,000 ppb

TABLE 4
Summary of Groundwater Sample and Analytical Data
Golden State Gasoline - Escondido
225 West Washington Ave., Escondido, CA (Site)

Sample Location	Sample Date Sampled	Analytical Data												Lab	CARs/ Refs		
		TPHg (v) ppb	TPHd (v) ppb	DF g/d	B (v) ppb	T (v) ppb	E (v) ppb	X (v) ppb	MTBE (v) ppb	ETBE (v) ppb	DPE (v) ppb	TAME (v) ppb	Nap (v) ppb	TBA (v) ppb	DF ppb		
DW15	10/10/13	50.5	ND	1/1	ND	ND	ND	ND	21	ND	ND	ND	ND	ND	ND	1	Assoc (M)
	12/12/13	ND	ND	1/1	ND	ND	ND	ND	23	ND	ND	ND	ND	ND	ND	1	Assoc (N)
	04/01/14	ND	ND	1/1	ND	ND	ND	ND	26	ND	ND	ND	ND	ND	ND	1	Assoc (Q)
	06/24/14	ND	ND	1	ND	ND	ND	ND	2.7	ND	ND	ND	ND	ND	ND	1	Assoc (S)
	09/30/14	ND	ND	1/1	ND	ND	ND	ND	22	ND	ND	ND	ND	ND	ND	1	Assoc (T)
	12/19/14	ND	ND	1	ND	ND	ND	ND	21	ND	ND	ND	ND	ND	ND	1	Assoc (U)
	03/18/15	ND	ND	1	ND	ND	ND	ND	19	ND	ND	ND	ND	ND	ND	1	Assoc (W)
	06/17/15	ND	ND	1	ND	ND	ND	ND	21	ND	ND	ND	ND	ND	ND	1	Assoc (X)
Averages (s)		51			ND				19								
DW16	10/10/13	196	ND	1/1	ND	ND	ND	7.9	440	ND	ND	3.7	1,500	ND	1	Assoc (M)	
	12/11/13	420	ND	1/1	7.7	ND	ND	7.4	390	ND	ND	3	920	1	Assoc (N)		
	04/01/14	264	ND	1/1	ND	ND	ND	400	ND	ND	ND	ND	920	5	Assoc (Q)		
	06/25/14	142	1	ND	ND	ND	ND	ND	220	ND	ND	ND	610	5	Assoc (S)		
	09/30/14	196	ND	1/1	ND	ND	ND	ND	320	ND	ND	ND	1,100	5	Assoc (T)		
	12/19/14	182	1	ND	ND	ND	ND	ND	280	ND	ND	ND	1,400	2	Assoc (U)		
	03/18/15	177	1	ND	ND	ND	ND	ND	260	ND	ND	ND	1,100	5	Assoc (W)		
	06/17/15	dry	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Averages (s)		225			7.7				330								
DW17	10/09/13	44,300	1,900	40/10	3,100	4,100	1,800	7,500	ND	ND	ND	ND	ND	ND	1	Assoc (M)	
	12/13/13	16,700	1,500	20/5	2,000	720	330	1,800	ND	ND	ND	ND	ND	ND	10	Assoc (O)	
	04/01/14	17,000	450	20/1	1,300	480	290	570	ND	ND	ND	ND	ND	ND	10	Assoc (Q)	
	06/25/14	6,630	NT	10	670	400	110	590	ND	ND	ND	ND	ND	ND	10	Assoc (S)	
	10/01/14	4,480	700	10/1	670	110	180	320	ND	ND	ND	ND	ND	ND	10	Assoc (T)	
	12/19/14	10,100	5	1,100	410	450	1,300	ND	ND	ND	ND	ND	ND	ND	10	Assoc (U)	
	03/18/15	Sheen		10	540	110	210	800	ND	ND	ND	ND	ND	ND	10	Assoc (X)	
	06/18/15	4,950		14,880	1,340												
Averages (s)																	
DW18	10/10/13	7,170	0.96	10/5	1,900	610	240	950	ND	ND	ND	ND	ND	ND	10	Assoc (M)	
	12/11/13	29,600	2,000	20/5	2,100	2,400	840	3,800	ND	ND	ND	ND	ND	ND	20	Assoc (N)	
	04/01/14	15,100	1,600	20/1	1,800	860	470	1,900	ND	ND	ND	ND	ND	ND	20	Assoc (O)	
	06/24/14	9,490		20	1,700	890	580	1,100	ND	ND	ND	ND	ND	ND	20	Assoc (Q)	
	10/01/14															Assoc (S)	
	12/22/14	5,880		5	1,100	250	170	570	ND	ND	ND	ND	ND	ND	13	Assoc (V)	
	03/18/15	Sheen		5	2,100	92	620	720	ND	ND	ND	ND	ND	ND	10	Assoc (X)	
	06/16/15	8,050		12,548	1,783												
Primary MCLs					1	150	300	1,750	13								
Notification Levels		No Product				<3,000 ppb											
LTCP Cleanup Levels																	
<1,000 ppb																	

13

<3,000 ppb

12

TABLE 4
Summary of Groundwater Sample and Analytical Data
Golden State Gasoline - Escondido
225 West Washington Ave., Escondido, CA (Site)

Sample Location	Date Sampled	Analytical Data														Lab	CARS/ Refs
		TPHg ^(v) ppb	TPHd ⁽ⁱ⁾ ppb	DF g/d	B ^(c) ppb	T ^(v) ppb	E ^(z) ppb	X ^(z) ppb	MTBE ^(c) ppb	ETBE ^(c) ppb	DPE ^(c) ppb	TAME ^(c) ppb	Nap ^(c) ppb	TBA ^(c) ppb	DF ppb		
DW19	10/10/13	6,730	1,000	10/5	2,000	ND	800	290	ND	ND	ND	ND	ND	ND	ND	Assoc (M)	
	12/11/13	9,910	1,200	5/1	1,400	49	780	540	ND	ND	1.8	ND	ND	57	1	Assoc (N)	
	04/01/14	8,580	780	10/1	1,800	ND	690	66	ND	ND	ND	ND	ND	ND	ND	Assoc (Q)	
	06/24/14	9,140	10	1,900	ND	770	280	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (S)	
	09/30/14	8,340	1,200	10/1	2,300	ND	630	67	ND	ND	ND	ND	ND	ND	ND	Assoc (T)	
	12/19/14	10,600	10	2,700	ND	810	120	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (U)	
	03/19/15	12,700	10	3,100	ND	1,200	61	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (W)	
	06/16/15	10,100	10	2,500	ND	820	210	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (X)	
	Averages ^(s)	9,513		2,213													
DW20	10/09/13	ND	ND	1/1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (M)
	12/11/13	ND	ND	1/1	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (N)
	04/01/14	ND	ND	1/1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (Q)
	06/24/14	ND	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (S)
	09/30/14	ND	ND	1/1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (T)
	12/22/14	ND	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (V)
	03/18/15	ND	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (W)
	06/16/15	ND	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (X)
	Averages ^(s)	ND		1.2													
DW21	10/02/14	5,340	1,800	5/1	160	59	130	460	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (T)
	12/19/14	3,100	5	150	17	210	110	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (U)
	03/18/15	2,980	5	130	22	210	120	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (W)
	06/17/15	3,440	5	130	20	180	99	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (X)
	Averages ^(s)	3,715		143													
	10/02/14	ND	ND	1/1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (T)
	12/19/14	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (U)
	03/18/15	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (W)
	06/17/15	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (X)
	Averages ^(s)	ND															
DW22	03/20/15	ND	ND	1/1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (T)
	06/16/15	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (U)
	Averages ^(s)	ND		1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (W)
DW23	03/20/15	ND	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (X)
	06/16/15	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Assoc (X)
	Averages ^(s)	ND		1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Primary MCLs																	
Notification Levels																	
LTCP Cleanup Levels																	
No Product																	
Detection Limits		100		1	1	1	1	1	1	1	1	1	1	1	1	1	
<3,000 ppb																12	
<1,000 ppb																13	

TABLE 4
Summary of Groundwater Sample and Analytical Data
Golden State Gasoline - Escondido
225 West Washington Ave., Escondido, CA (Site)

Sample Location	Sample Date Sampled	Analytical Data												CARs / Refs
		TPHg ppb	TPHd ⁽¹⁾ ppb	DF g/d	B ⁽²⁾ ppb	T ⁽²⁾ ppb	E ⁽²⁾ ppb	M/TBEx ⁽²⁾ ppb	ETBEx ⁽²⁾ ppb	DPE ⁽²⁾ ppb	TAME ⁽²⁾ ppb	Nap ⁽²⁾ ppb	TBA ⁽²⁾ ppb	DF ppb
Abbreviations:														
TPHg	Total Petroleum Hydrocarbons per a gasoline standard													
TPHd	Total Petroleum Hydrocarbons per a diesel standard													
B	Benzene	MTBE	Methyl-Tertiary-Butyl-Ether											
T	Toluene	ETBE	Ethy-J-Tertiary-Butyl-Ether											
E	Ethylbenzene	Di-isopropyl-Ether												
X	Total Xylenes	TAME	Tertiary-Amyl-Methyl-Ether											
		TBA	Tertiary-Butyl-Alcohol											
		Nap	Naphthalene											
				DF	Lab dilution factor, for ND analyses									
				GID	Gasoline / Diesel									

MCL Notification Non-enforceable notification levels (also known as California Action Levels) developed by the California Department of Public Health (CDPH) for contaminants not having MCLs. Intended for use of drinking water suppliers for protecting their consumers. Published in "Drinking Water Notification Levels and Response Levels: An Overview" (CDPH, December 14, 2007).

Note: Bold results are above applicable MCL or Notification Level

Highlighted results are above applicable LTCP Clean-up Levels

Analyzed using EPA Method 8015-modified using gasoline as a standard (TPHg) or using a diesel standard (TPHd)

Analyzed using EPA Method 8260

Sampled by D.R. Sorben, analyzed by Mobile One Laboratories Inc., (Mobi1) and presented in Report dated February 15, 2000. All else sampled by DES unless noted.

Sampled by PLC, analyzed by H&P Mobile Geochemistry (H&P), and presented in Report dated May 18, 2006. All else sampled by DES unless noted.

Average of detected concentrations of TPHg, Benzene, and MTBE, by individual analyte per well

- (A) CHEMTEK Environmental Laboratories, Inc. report dated December 16, 2009 (O) Associated Laboratories report dated December 24, 2013
- (B) CHEMTEK Environmental Laboratories, Inc. report dated April 15, 2010 (P) Associated Laboratories report dated March 31, 2014
- (C) CHEMTEK Environmental Laboratories, Inc. report dated September 6, 2010 (Q) Associated Laboratories report dated April 1, 2014
- (E) CHEMTEK Environmental Laboratories, Inc. Report dated January 28, 2011 (S) Associated Laboratories report dated July 9, 2014
- (F) CHEMTEK Environmental Laboratories, Inc. Report dated May 2, 2011 (T) Associated Laboratories report dated October 13, 2014
- (G) CHEMTEK Environmental Laboratories, Inc. Report dated July 29, 2011 (U) Associated Laboratories report no. 550875 dated January 12, 2015
- (H) CHEMTEK Environmental Laboratories, Inc. Report dated December 30, 2011 (V) Associated Laboratories report no. 550928 dated January 12, 2015
- (I) CHEMTEK Environmental Laboratories, Inc. Report dated March 26, 2012 (W) Associated Laboratories report dated April 9, 2015
- (J) CHEMTEK Environmental Laboratories, Inc. Report dated June 13, 2012 (X) Associated Laboratories report dated June 29, 2015
- (L) Associated Laboratories report dated October 8, 2012
- (M) Associated Laboratories report dated October 23, 2013
- (N) Associated Laboratories report dated January 2, 2014
- * Free Product Sheen

Table 5
Mass Removal Forecast Summary
Compare the Estimated Mass of Mobile Product Contamination in the Proposed Treatment Area to the Mass Removed in March 2014

Site: Golden State Gasoline, Inc.
Address: 225 W. Washington Ave., Escondido CA
UR#: H03089-001

Purpose: Compare the estimated mass of product impacts in the proposed treatment area (from Calculations 1, 2, and 3 in DES Email (9/2/2014)***) to the estimated mass of petroleum hydrocarbons removed during the March - April 2014 HVDP E Event at the Site. The non-mobile residual saturation of TPH impacts are anticipated to remain in place upon completing the remediation.

Mass	Pounds	Gallons	Estimated 1-HVDP E System Remediation Duration (months)*
Estimated Mass of Mobile Submerged Product Contamination at the release Source Area (from Calculation 1)	5,762	980	1*
Estimated Mass of Mobile Product in the Product Smear Zone (from Calculation 2)	23,398	3,978	4.1.*
Estimated Mass of Dissolved Product in the >10,000 ppb TPHg Plume Footprint (from Calculation 3)	151	26	5**
Total Mass	29,311	4,983	
Estimated Mass of Removed Petroleum Hydrocarbons During the March 2014 HVDP E Event (based on Lab Data from DES Report (May 7, 2014))	5,735	975	

* Estimated Treatment duration based on 975-gallons removed per month as indicated by the March 2014 HVDP E event. Also assumes that one truck-mounted treatment system is doing the treatment. Faster treatment would be possible with more trucks. Also assumes that well spacing is sufficient to reach the subject contamination, additional remediation wells may be required to provide needed water level drawdown and access to submerged impacts and smear zone.

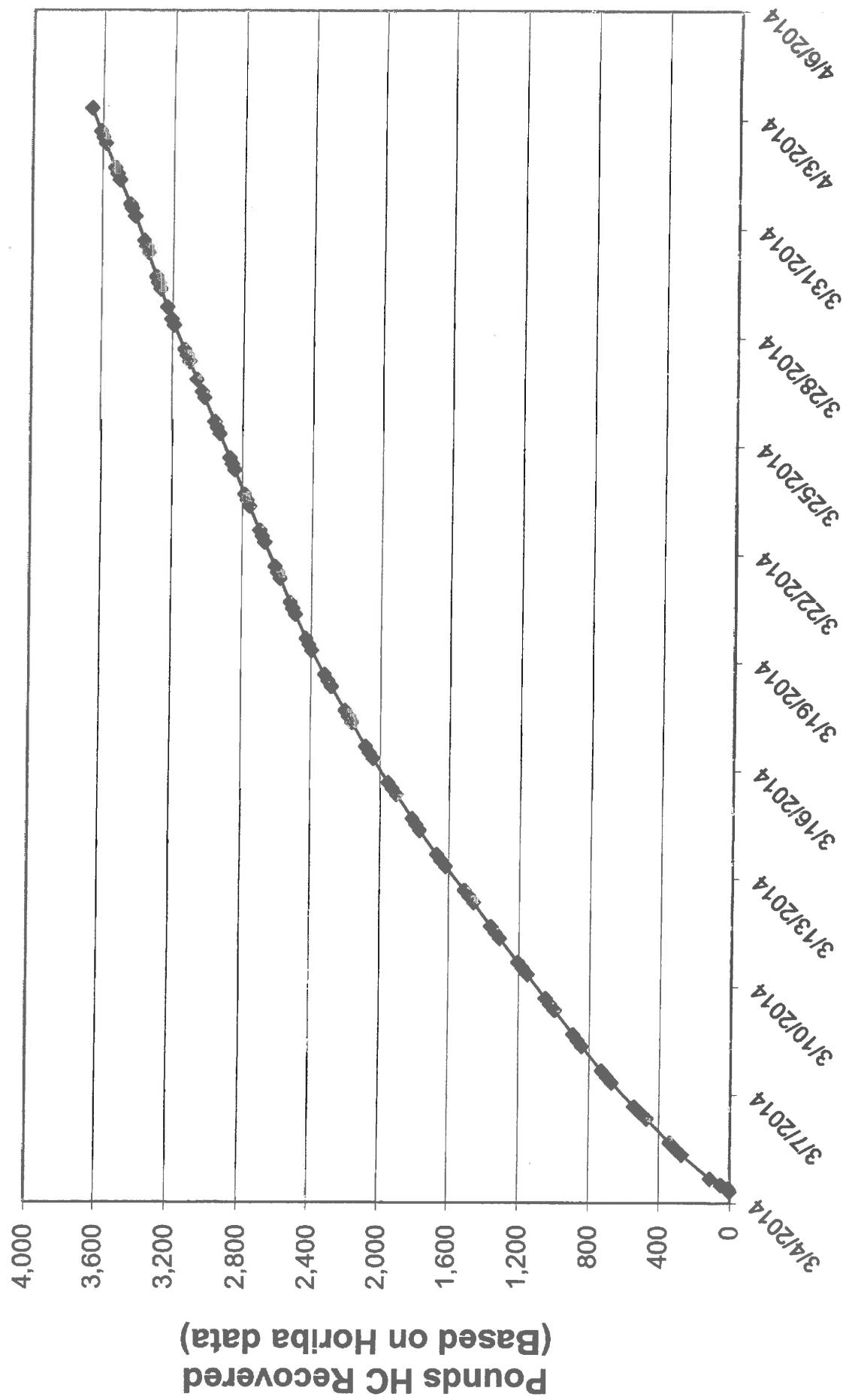
** HVDP E is not the optimum approach to manage widespread dissolved-phase impacts. Based on Calculation 3, to remove 26-gallons of TPHg, 866,666 gallons of water must be removed. In March 2014, 178,110 gallons of water were removed during the 30-day HVDP E event. Therefore, approximately 5 months of treatment would be required to remove the equivalent of 26 gallons of product.

*** DES Email (9/2/2014), which includes Calculations 1, 2, and 3, is provided in the Appendices/Support Documents of this Report

SUPPORT DOCUMENTS

CalClean Report (April 18, 2014) - Figure 4 - cumulative mass recovery
DEH Letter (January 23, 2015)
DEH Letter (May 11, 2015)
DEH Letter (July 6, 2015)
DEH Letter (February 21, 2014)
Mr. John L. Dentzer - Statement of Qualifications (1 page)
Mr. Greg Delson, PG - Statement of Qualifications (2 pages)
Mako HVDPE System Component List (1 page)
CalClean Report (May 1, 2015) - Field Data Sheets, Vacuum in Observation Wells
(March 30, 2015 - April 14, 2015)
Community Health and Safety Plan
Public Notice Sheet

Figure 4
Cumulative HC Recovered Over 30 Days
Golden State Gasoline, Escondido, CA - 3/4-4/3/14





County of San Diego

ELIZABETH A. POZZEBON
DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
LAND AND WATER QUALITY DIVISION
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AMY HARBERT
ASSISTANT DIRECTOR

January 23, 2015

Mr. Samuel Boyd
Golden State Gasoline, Inc.
181 N. 2nd Street
El Cajon, CA 92021

Dear Mr. Boyd:

UNAUTHORIZED RELEASE #H03089-001
GOLDEN STATE GASOLINE, INC.
225 W. WASHINGTON AVENUE, ESCONDIDO, CA 92025
RESPONSE LETTER

Staff of the Department of Environmental Health (DEH), Site Assessment and Mitigation Program, reviewed the report titled *Second Quarter 2014 Groundwater Assessment*, prepared by Donan Environmental Services, Inc. (DES), dated November 26, 2014, and received by DEH on December 1, 2014.

The report summarizes the results of groundwater monitoring of 19 monitoring wells and sampling of 11 monitoring wells during the second quarter of 2014. Monitoring well DW-9 was not gauged or sampled due to the presence of roots. The roots were subsequently removed on September 23, 2014. Monitoring wells MW1, MW2, MW3, MW4, MW5, DW7, DW10, and DW12 were not sampled due to the presence of free product in these wells. Groundwater levels increased in 15 of the monitoring wells as compared to the previous monitoring event in March 2014. Benzene was detected in five of the monitoring wells, and concentrations increased in two monitoring wells since the previous monitoring event. Methyl *tert*-butyl ether (MTBE) was detected in five of the monitoring wells, and concentrations increased in one of the monitoring wells since the previous monitoring event.

DES concludes that the dissolved-phase plume is not stable or assessed, and that there is insufficient data to determine trends. DES also concludes that submerged product in monitoring wells MW1, MW2, and MW5 is a continuing source of dissolved-phase impacts. DES states that gauging free product on the static water table is not suitable to evaluate whether submerged product-bearing zones have been remediated by previous high vacuum dual-phase extraction (HVDPE) events. DES recommends completion of a two week HVDPE event to determine if product rebound occurs. DES will install monitoring well DW24 once access is obtained, and will conduct the data evaluation directed in the DEH letter dated September 12, 2014 once assessment is completed. DES also recommends re-development of monitoring well DW11.

DEH concurs with DES's recommendations to complete assessment, re-develop monitoring well DW11, and complete a two week HVDPE event to determine if product rebound occurs. Since completion of additional assessment has been delayed, DEH would like DES to proceed with the

design of an on-site remediation system to mitigate the potential health risk to occupants of the E & L Supply Company Building as soon as the two week HVDPE event has been completed. The report must include a discussion of radius of influence from the HVDPE events as required in the DEH response letter dated September 12, 2014.

The well purging/sampling logs do not contain sufficient information to determine whether the monitoring wells were purged in accordance with the SAM Manual. In future monitoring reports ensure that the depth to groundwater at the time of sampling and the depth to groundwater at 80 percent recovery are recorded on the well purging/sampling logs.

If you have any questions, please contact me at (858) 505-6874.

Sincerely,

Colleen Hines, Environmental Health Specialist II
Site Assessment and Mitigation Program

cc: Mr. Anderson Donan, Donan Environmental Services, Inc.
Mr. Greg Delson, Donan Environmental Services, Inc.



County of San Diego

ELIZABETH A. POZZEBON
DIRECTOR

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AMY HARBERT
ASSISTANT DIRECTOR

May 11, 2015

Mr. Samuel Boyd
Golden State Gasoline, Inc.
181 N. 2nd Street
El Cajon, CA 92021

Dear Mr. Boyd:

UNAUTHORIZED RELEASE #H03089-001
GOLDEN STATE GASOLINE, INC.
225 W. WASHINGTON AVENUE, ESCONDIDO, CA 92025
RESPONSE LETTER

Staff of the Department of Environmental Health (DEH), Site Assessment and Mitigation Program, reviewed the following reports: *Third Quarter 2014 Groundwater Assessment*, dated and received by DEH on March 19, 2015, and *Fourth Quarter 2014 Groundwater Assessment*, dated and received by DEH on March 24, 2015. Both reports were prepared by Donan Environmental Services, Inc. (DES).

The reports summarize the results of groundwater monitoring during the third and fourth quarters of 2014. Monitoring wells MW1, MW2, MW3, MW4, MW5, MW6, DW9, DW10, and DW18 were not sampled during the third quarter due to the presence of free product in these wells. Monitoring wells MW1, MW2, MW3, MW4, MW5, and MW6 contained free product during the fourth quarter, but were sampled without purging to provide baseline data for the upcoming high vacuum dual-phase extraction (HVDPE) event. Groundwater levels generally decreased in the third quarter and increased in the fourth quarter.

DES concludes that the dissolved-phase plume is not stable or assessed, and that there is insufficient data to determine trends. DES also concludes that submerged product in monitoring wells MW1, MW2, and MW5 is a continuing source of dissolved-phase impacts. DES states that gauging free product on the static water table is not suitable to evaluate whether submerged product-bearing zones have been remediated by previous HVDPE events. DES proposes to complete a two week HVDPE event in April 2015 to determine if product rebound occurs. DES also proposes to prepare a Site Assessment Report detailing the installation and sampling of monitoring wells DW21, DW22, and DW23. DES further proposes to install a monitoring well (DW24) down-gradient of monitoring well DW21 to evaluate potential dissolved-phase contamination migration onto the Classical Academy High School Property. Should analytical data from DW24 indicate groundwater contamination under the property, DES proposes to prepare a soil-gas risk assessment Work Plan to evaluate exposure risk for students and workers at the school.

DEH concurs with DES's conclusions and recommendations. As per the previous DEH response letter dated January 23, 2015, DEH would like DES to proceed with the design of an on-site remediation

system to mitigate the potential health risk to occupants of the E & L Supply Company Building as soon as the two week HVDPE event has been completed. The report must include a discussion of radius of influence from the HVDPE events as required in the DEH response letter dated September 12, 2014.

The well purging/sampling logs indicate that fast recovering monitoring wells were sampled prior to 80 percent recovery. In future monitoring reports ensure that the depth to groundwater at 80 percent recovery is recorded on the well purging/sampling logs and that fast-recovering monitoring wells are not sampled until they reach 80 percent recovery.

If you have any questions, please contact me at (858) 505-6874.

Sincerely,

Colleen Hines, Environmental Health Specialist II
Site Assessment and Mitigation Program

cc: Mr. Anderson Donan, Donan Environmental Services, Inc.
Mr. Greg Delson, Donan Environmental Services, Inc.



County of San Diego

ELIZABETH A. POZZEBON
DIRECTOR

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AMY HARBERT
ASSISTANT DIRECTOR

July 6, 2015

Mr. Samuel Boyd
Golden State Gasoline, Inc.
181 N. 2nd Street
El Cajon, CA 92021

Dear Mr. Boyd:

UNAUTHORIZED RELEASE #H03089-001
GOLDEN STATE GASOLINE, INC.
225 W. WASHINGTON AVENUE, ESCONDIDO, CA 92025
RESPONSE LETTER

Staff of the Department of Environmental Health (DEH), Site Assessment and Mitigation Program, reviewed the report titled *Site Assessment Report, Soil and Groundwater Investigation Third Quarter 2014 and First Quarter 2015*, prepared by Donan Environmental Services, Inc. (DES), dated May 22, 2015, and received by DEH on May 26, 2015.

The report summarizes the installation of monitoring wells DW21, DW22, and DW23, re-installation of monitoring well DW9, and the results of groundwater monitoring and sampling during the first quarter of 2015. Petroleum constituents were detected in one soil sample collected during drilling of the monitoring wells, which was from DW21. All monitoring wells were gauged in March 2015, and 14 monitoring wells were sampled. Monitoring wells MW1, MW2, MW3, MW4, MW5, DW11, DW12, DW17, and DW18 were not sampled due to the presence of free product sheen in these wells. Monitoring well DW11 was re-developed prior to sampling.

DES concludes that petroleum-impacted soil has been assessed vertically and laterally to the west and southeast. DES states that there are data gaps to the east of the E & L Supply Building and to the southwest of DW21. DES states that based upon the DEH letter issued February 21, 2014, no further investigation of the data gaps to the east is required in terms of assessment of the Golden State Gasoline Case.

DES also concludes that there is a bifurcated plume that consists of older gasoline that does not contain methyl *tert*-butyl ether (MTBE) and a newer, MTBE containing plume. The older plume extends to the east, southeast, and west of the site, and the newer MTBE containing plume extends from the source area to the west/southwest only. DES attributes the bifurcation and different migration patterns of the older and newer portions of the plume to the storm drain to the east of the site. DES also concludes that the eastern portion of the older plume is commingled with an unidentified third-party release to the east of monitoring wells DW18 and DW19.

DES proposes to install a monitoring well (DW24) down-gradient of monitoring well DW21 to evaluate

potential dissolved-phase contamination migration onto the Classical Academy High School Property. DES also proposes to prepare a design for a fixed-base high vacuum dual-phase extraction (HVDPE) system to mitigate the vapor risk to occupants of the E & L Supply building and site impacts. DES will continue quarterly groundwater monitoring.

DEH concurs with DES's recommendations to install monitoring well DW24 and submit a design for a fixed-base HVDPE system. DEH concurs with quarterly groundwater monitoring for newly installed monitoring wells DW21, DW22, and DW23 only. The remaining wells are to be monitored on a semi-annual basis.

DEH denied the location information (GEO_XY) for DW21, DW22, and DW23 on May 29, 2015 because the longitude for DW22 was incorrect. Please re-upload the location information for these wells to GeoTracker and contact me when completed.

As per the previous DEH response letter dated May 11, 2015, the well purging/sampling logs indicate that fast recovering monitoring wells DW6, DW7, DW8, DW9, DW10, DW14, DW19, DW20, and DW22 were sampled prior to 80 percent recovery. In future monitoring reports ensure that the depth to groundwater at 80 percent recovery is recorded on the well purging/sampling logs and that fast-recovering monitoring wells are not sampled until they reach 80 percent recovery.

If you have any questions, please contact me at (858) 505-6874.

Sincerely,

Colleen Hines, Environmental Health Specialist II
Site Assessment and Mitigation Program

cc: Mr. Anderson Donan, Donan Environmental Services, Inc.
Mr. Greg Delson, Donan Environmental Services, Inc.



County of San Diego

JACK MILLER
DIRECTOR

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ELIZABETH POZZEBON
ASSISTANT DIRECTOR

February 21, 2014

Mr. Samuel Boyd
Golden State Gasoline, Inc.
181 N. 2nd Street
El Cajon, CA 92121

Dear Mr. Boyd:

UNAUTHORIZED RELEASE #H03089-001
RESPONSE LETTER
GOLDEN STATE GASOLINE, INC.
225 W. WASHINGTON AVENUE, ESCONDIDO, CA 92025

The Department of Environmental Health (DEH), Site Assessment and Mitigation Program (SAM) reviewed the *Site Assessment Report Soil and Groundwater Investigation Third Quarter 2013*, dated January 8, 2014, and *Technical Report Third Quarter 2013 High Vacuum Dual-phase Extraction Pilot Test*, dated January 9, 2014, both prepared by Donan Environmental Services, Inc., (DES).

Based on a review of the reports and the case file, SAM has the following comments and requirements:

Site Assessment Report Soil and Groundwater Investigation

The report recommends further soil and groundwater assessment, implementing an additional Interim Remedial Action Plan (IRAP), continued quarterly groundwater monitoring and sampling, discontinuation of Total Petroleum Hydrocarbons as diesel analysis, and the replacement of groundwater monitoring well DW9.

Based on a review of the report and the case file, SAM concurs with the above recommendations and has the following comments and requirements:

- Proposed wells DW-26 and DW-27 located at 551 North Broadway, Escondido, CA are not necessary.
- Proposed well DW-24 is not necessary.
- Proposed well DW-23 should be relocated approximately 50 feet south.
- Proposed well DW-22 should be relocated north of the conveyance system approximately 100 feet north.

By March 28, 2014, submit a workplan to reinstall DW-9 and to conduct additional site assessment of soil and groundwater impacts.

High Vacuum Dual-phase Extraction (HVDPE) Pilot Test

The report recommends performing a HVDPE event on monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5 as a continuation of the Pilot Test presented above. The HVDPE event proposes shutdown criteria of photo ionization detector (PID) reading over three days below 250 parts per million by volume or no detectable product in pumping wells.

Based on a review of the report and the case file, SAM concurs with the above recommendations and has the following requirements:

- An interim remedial action is approved for 30 days or until the shutdown criteria outlined above has been met. Following the completion of the 30 day event, a comparative cost analysis must be prepared to evaluate the most appropriate design for a long term solution.
- During the 30 day event, collect vapor samples for laboratory analysis once a day for the first 5 days. Subsequent sampling should be conducted every 5 days with corresponding high PID samples. Additionally, prior to shut down, provide a comparative evaluation of PID reading versus laboratory analytical data.
- Following completion of the 30 day event, two quarters of groundwater monitoring and sampling are required to evaluate the response of the above remedial actions.

By April 28, 2014, implement the 30 day HVDPE event as proposed above and the SAM IRAP approval letter dated December 13, 2011.

If you have any questions regarding this project, please call me at (858) 505-6978.

Sincerely,

CRAIG M. BURNETT, PG 8182
Environmental Health Specialist
Site Assessment and Mitigation Program

cc: Mr. Greg Delson, DES

John L. Dentzer

P.O. Box 1079 © Sunset Beach, CA © 90742 © (714) 362-4254 © jdedci@gmail.com

Professional experience

July 2009-present

Greenway Technical Services

Orange County, CA

Principal

- Assist clients with proper sizing and selection of remediation equipment for soil and groundwater remediation.
- Perform trenching and piping operations for installation of soil and groundwater remediation systems.
- Development of Electrokinetic Remediation Technology.
- Operate and monitor remediation systems for various consulting firms on a freelance basis. Fine tune existing systems for maximum efficiency.
- Preparation of CAP and IRAP documents for various agencies.

1997-July 2009

Excel Drilling Company, Inc.

Fountain Valley, CA

President

- Conduct sales and marketing efforts, project scheduling.
- Responsible for environmental compliance and OHSA issues.
- Prepare and implement safety manuals and job site safety procedures. Work with clients to insure safe practices during drilling operations.
- Design and install soil remediation systems.
- Project management and oversight.
- Responsible for permit application and acquisition for construction projects.
- Create sales and marketing materials to achieve business growth.

2002-2006

RSR, LLC.

Sunset Beach, CA

Principal

- Rental and sales of vapor extraction systems for soil remediation.
- Responsible for operation and emission compliance issues.
- Prepare reports detailing operations and soil contamination destruction rates.

1994-1997

Western Environmental Engineers Co.

Santa Ana, CA

Project Engineer

- Perform soil and groundwater remediation operations.
- Design and install soil and groundwater remediation systems.
- Develop and expand client base.
- Prepare and submit reports for remediation and air testing projects.

1989-1994

The Almega Corporation

Signal Hill, CA

Project Manager

- Air emissions testing and reporting for major oil companies.
- Combustion efficiency testing and certification.

Education

June 1985

University of Dayton

Dayton, OH

Bachelor of Science : Chemical Engineering Technology

Expertise

- 40 hour HAZWOPER Compliance Trained
- 8 hour HAZWOPER Annual Refresher Certified
- Computer literate
- Extensive international and domestic travel

References

Available upon request.

Greg Delson, PG Cell: 858-761-3611 E-mail: gd@desxyz.com

Professional Geologist Experience

Donan Environmental Services, Inc. (DES) (2010 – 2015)

At DES, Mr. Delson is the lead Registered Geologist and Technical Operations Manager. Mr. Delson's responsibilities in the principal UST Case Closure market for the company are as follows:

UST Case Closure

2010 - 2015 Mr. Delson manages investigation and remediation of 34 petroleum hydrocarbon Underground Storage Tank (UST) release cases for 30 commercial clients. Activities for these cases include soil and groundwater investigations, dual-phase extraction remediation projects, soil-gas investigations/risk assessments, and performing air conductivity and hydraulic conductivity studies in support of remediation system design.

AECOM (1998 – 2009)

At AECOM, Mr. Delson was the lead Registered Geologist and Project Manager for multiple commercial client and government projects. Example projects are listed below and are organized by project type:

Geological Services for Construction/Development

2008 - 2006 *County of San Diego Road-Widening Project, Valley Center, California.* Managed the removal of two approximately 80-cubic-yard gasoline and diesel releases to soil to ensure safe construction of below-grade storm drains.

2007 *Commercial Developer, Assessment of Burn Ash In Fill, San Diego, California.* Evaluated relevant soil metals and dioxins data for the Fedmont Burnsites and developed an approach for regulatory approval for the planned future use of an impacted property.

2002 - 2001 *SANDAG. Construction of Light Rail Line (Trolley), San Diego, California.* Conducted multiple soil and groundwater investigations to develop the environmental data to prepare construction specifications sections for an approximately \$120 million light rail construction project. Oversaw implementation of the project to ensure proper performance of work in areas with soil and groundwater contamination.

Geological Services for the US Navy

2006 – 2000 *Navy Sites, Background Metals Evaluations.* Conducted statistical analysis for metals in soils at multiple sites in Guam and Hawaii. The evaluation was done to develop background concentration ranges for metals in soil for use as environmental cleanup decision criteria.

- 2000 – 1998 *Navy Site, Agana Power Plant, Guam.* Managed soil sampling to provide risk assessment data for remedial investigation of a PCB-contaminated site in a residential area. Consulted on the planning documents and remedial design of the soil removal action that followed. Oversaw the soil excavation to verify conformance with the removal design and specifications.
- 2000 - 1999 *Navy Site, Residential and Wetland Areas Downgradient of the Agana Power Plant, Guam.* Managed sediment sampling and biological sampling of soil, fish, invertebrates, and plants in support of ecological risk assessment for remedial investigation of residential and wetlands areas impacted by a PCB release from the power plant. Consulted on the planning and design of the soil removal action that followed. Oversaw the soil excavation and installation of drainage improvements to verify conformance with the removal design and specifications.

IT Corporation (1994 – 1998)

At IT Corporation, Mr. Delson was a staff geologist working under California Registered Geologists Mr. Walter B. Grinyer and Mr. Michael D. Reason. Example projects include the following:

- 1998 – 1994 *San Diego County Solid Waste Management Unit.* Conducted groundwater monitoring and reporting for solid waste landfills in San Diego County, California.
- 1997 *US Air Force Reserve.* Abandoned 4 drinking water production wells at March Air Reserve Base (ARB), Moreno Valley, California. Project planning and implementation challenges included operations in a confined space in an historic building.
- 1996 *Dual Phase Extraction Pilot Test at March ARB.* Conducted a dual phase extraction pilot test at a solvent release site at March ARB to develop a design to remediate TCE and PCE in soil, soil gas, and groundwater.

Professional History

- 2010 – 2015 Donan Environmental Services, Inc., Senior Geologist, Project Manager
2009 – 1998 AECOM, Senior Geologist, Project Manager
1998 – 1994 IT Corporation, Staff Geologist

Education

BS, Geology, University of California, Riverside, 1993

Professional Registration

Professional Geologist, California, #6983



Environmental Remediation Systems
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Greg Delson, PG
DONAN ENVIRONMENTAL SERVICES, INC.
ph: 760-639-3600
cell: 858-761-3611
fax: 760-639-3603
email: gd@DESxyz.com

RE: Purchase of a Mako Industries 300 CFM Thermal Catalytic Oxidizer with Liquid Ring Blower Package

Dear Mr. Delson:

On behalf of **Mako Industries, Inc.**, I am pleased to present this proposal. We are confident that you will find both our quality and service to be exceptional. Please review, sign and return the quotation/contract provided to proceed with this project.

300 Makotherm(HV) Thermal / Catalytic Oxidizer

- **Skid Mounted System (96" x 120" layout)** 6" channel fabrication with 4 lifting eyelets
- **Steel Entrained Liquid Separator** with low, high and high/high water level switches, large site glass, hand access port and drain valve.
- **Auto Dilution / Process Isolation Valves and Drive Motor** on entrainment separator inlet
- **2 Horsepower Stainless Steel Liquid Transfer Pump** with hand/off/auto switch and check valve (pumps 30 GPM @ 26" hg vacuum)
- **Oil Sealed Liquid Ring Blower** capable of 300 ACFM and up to 28" Hg. vacuum
- **20 Horsepower TEFC Motor**
- **Outlet Entrained Oil Separator** with 3/16" steel design, high temperature shut-off switch, high and low oil level switches, sight glass, oil de-mister and oil cooler system complete
- **Oxidizer Chamber** constructed of A-36 steel, lined with 5" ceramic fiber, easy access catalyst door and receptacle (**Catalyst Cell Optional**)
- **Double Blocking Valve Fuel Train** with high, low gas pressure switches, regulator and adjustment valve – meets IRI, CSA and FM requirements
- **400,000 Btu/hr. Eclipse Excess Air Packaged Burner** with medium pressure blower designed for 10 to 1 turndown ratio
- **Flame Safeguard** with purge, spark igniter and UV scanner
- **Flame Arrestor** on blower discharge in process line
- **Air Pressure Switches** on the combustion air blower and process line
- **NEMA 4 Panel:** Main disconnect, On/Off switches, operator interface lights, emergency stop switch, motor starters, fuses, transformers
- **Digital Temperature Controller** with digital readout that modulates supplemental fuel
- **Digital Controller** with digital readout that modulates the process inlet and dilution air valves
- **Digital High Limit Controller** with digital readout that monitors exhaust stack temperature
- **Flow Measurement Device and Differential Pressure Transmitter** for flow measurement and monitoring from the total process air line
- **Digital Chart Recorder** that records total ACFM air flow and outlet stack temperature – PC Software included
- **Vacuum Gauges** on system process inlet, extraction blower inlet
- **Pressure Gauges** on blower outlet, fuel train
- **Sample Ports** on process inlet / post dilution inlet / exhaust outlet
- **Electrical Requirement - 240 volt / 3 Phase / 100 AMP (____initial)**
- **Supplemental Fuel Requirement – 5 PSI / 400 SCFH**
- **Equipment is Primed and Painted** with industrial paint throughout
- **Operation Manual** with general arrangement, process flow, electrical drawings

HIGH VACUUM

 SVE DPE

FIELD DATA SHEET

Project Location: 225 W. WASHINGTON AVENUE

Client: DES

City: ESCONDIDO

Operator (s): ASG

CALCLEAN INC.

(714) 734-9137
Page 18 of 4

Site #: GOLDEN STATE GASOLINE

Date: 3/30/2015

Comments:

OBSERVATION WELLS

WELL SCREEN DTW (ft)	DW-7	DW-8	DW-9	DW-10	DW-11	DW-12	DW-13	DW-17	DW-21					
Time	Vacuum "H ₂ O	DTW (ft)												
3/30	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1420	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
3/31														
0730	0.00	0.09	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/1														
0930	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00
4/2														
1000	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00

HIGH VACUUM

 SVE or DPE FIELD DATA SHEET

Project Location: 225 W. WASHINGTON AVENUE
 Client: DES

Site #: GOLDEN STATE GASOLINE
 Operator (s): JASON
 Date: 4/3/2015 Page 20 of 4

CALCLEAN INC.

(714) 734-9137

OBSERVATION WELLS

WELL SCREEN	DW-7	DW-8	DW-9	DW-10	DW-11	DW-12	DW-13	DW-17	DW-21
DTW (ft)	Vacuum "H ₂ O	DTW (ft)	Vacuum "H ₂ O	DTW (ft)	Vacuum "H ₂ O	DTW (ft)	Vacuum "H ₂ O	DTW (ft)	Vacuum "H ₂ O
4/3	0.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/4	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/5	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/6	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/7	0.00	0.12	0.00	0.01	0.00	0.01	0.00	0.00	0.00
4/8	0.00	0.12	0.00	0.01	0.00	0.01	0.00	0.00	0.00

Comments:

HIGH VACUUM

 SVE or DPE

FIELD DATA SHEET

Project Location: 225 W. WASHINGTON AVENUE

Client: DES

Site #: GOLDEN STATE GASOLINE Date: 4/8/2015 Page 38 of 41

City: ESCONDIDO

Operator (s): ASON

OBSERVATION WELLS

WELL SCREEN DTW (ft)	DW-7	DW-8	DW-9	DW-10	DW-11	DW-12	DW-13	DW-17	DW-21					
Time	Vacuum "H ₂ O	DTW (ft)												
4/8														
0745	0.00	0.11	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/9														
0730	0.00	0.12	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/10														
0745	0.00	0.12	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/11														
0730	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/12														
0845	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Comments:

HIGH VACUUM

 SVE or DPE FIELD DATA SHEET

CALCLEAN INC.

Project Location: 225 W. WASHINGTON AVENUE

Client: DES

Site #: GOLDEN STATE GASOLINE Date: 4/13/2015 Page 4B of 4

City: ESCONDIDO

Operator (s): ASAN

(714) 734-9137

WELL SCREEN DTW (ft)	DW-7	DW-8	DW-9	DW-10	DW-11	DW-12	DW-13	DW-17	DW-21

OBSERVATION WELLS

WELL SCREEN DTW (ft)	DW-7	DW-8	DW-9	DW-10	DW-11	DW-12	DW-13	DW-17	DW-21
Time	Vacuum "H ₂ O	DTW (ft)	Vacuum "H ₂ O						
4/13									
0730	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/14									
0730	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Comments:

**DONAN ENVIRONMENTAL SERVICES, INC.
COMMUNITY HEALTH AND SAFETY PLAN**

for
Geotracker ID Number: T0607302617
Golden State Gasoline
225 West Washington Avenue
Escondido, CA 92025

INTRODUCTION

Donan Environmental Services, Inc. (DES) has prepared this Community Health and Safety Plan for the proposed site activities discussed in the proposed Remediation Work Plan. The DES Community Health and Safety Plan is written pursuant to the regulations found in 29 CFR Part 1910.120 and includes the following information:

Site Identification and Description

Site Name:	Golden State Gasoline
Site Address:	225 West Washington Avenue Escondido, California
Site Manager:	Mr. Samuel Boyd, Property Owner (619) 593-9130
Site Safety Manager and Environmental Manager:	Mr. Greg Delson (858) 761 - 3611

The site is located in a commercial use neighborhood. Refer to the Site Location Map (Figure 1). The Site is in use as an operating filling station. The Site operates three gasoline underground storage tanks (USTs) and three dispenser islands that serve gasoline. The Site is paved and contains a station store and dispensers.

Project Description

DES will construct and operate an onsite high vacuum dual-phase extraction (HVDPE) system to remediate soil, soil-gas, and groundwater impacted by a petroleum hydrocarbon release from the UST system at the Site. DES will be supervising the remediation system operation activities. The remediation process consists of lowering a stinger or pipe into groundwater wells at the Site and applying a vacuum. The vacuum removes groundwater and soil gas from the underground area near the well.

Contaminants in the soil gas and groundwater are treated by a thermal oxidizer on the remediation system unit. The thermal oxidizer will be fueled by a connection to the Site's natural gas meter. Contaminants in the groundwater are also captured by passing the removed groundwater through a knockout tank. Groundwater generated by the activities will be stored onsite in a temporary water storage tank or 55-gallon drums, treated with granular activated carbon, then discharged to the City of Escondido Sanitary Sewer System under a proper permit.

Evaluation of Off-Site Risk

The field operations may generate organic vapors, dust, and equipment noise.

Control Methods

- *Organic Vapors*

Organic vapors will be monitored periodically during the extraction well installation and the HVDPE and SVE System operation with a photoionization detector (PID) at the downwind perimeter of the work area. If the PID measurement exceeds 50 parts per million (ppm), the HVDPE System will be temporarily stopped and vapor control methods, such as changing the extraction rate, making system adjustments, or applying additional ventilation at the work site, will be implemented.

If the PID reading exceeds 25 ppm, then chemical-specific detector tubes may be utilized. If the detected chemical concentration exceeds the NIOSH TWA vapor exposure limits for benzene (1 ppm), then the work will be temporarily stopped and vapor control measures will be implemented. Monitoring will continue until the measured chemical's concentration is less than the benzene TWA exposure limit.

- *Dust*

Digging of trenches for the extraction system piping and drilling of extraction wells will disturb soils and may create dust. Excavated soils will be wetted as necessary to prevent dust migration offsite. To meet the characterization and disposal requirements for soils excavated at a known gasoline release

site, soil generated during digging will be screened by PID during digging and will be segregated into impacted and non-impacted soil stockpiles. The soils will then be containerized or covered in secured plastic for storage prior to offsite disposal in accordance with the DES Remediation Work Plan.

- Noise

The Site is located in a commercial use area. The HVDPE System consists of blowers and pumps that will be connected to the Site power supply or to a line drop from a nearby power pole. Little noise is anticipated from operation of the HVDPE System. HVDPE operations are planned for 24-hour continual operation.

- Remediation System Management

Access to the remediation system area will be restricted to authorized personnel. The work area will be cordoned off with barricades and caution tape and posted with the enclosed Public Notice to minimize inadvertent entry of unauthorized personnel into the work area. Those entering the work area will be required to review and to sign a Site Worker Health and Safety (SWHS) Plan. Unauthorized personnel will be excluded from the area of work. All field personnel working within the exclusion zone will be required to have completed proper Hazardous Waste Site Health and Safety training in accordance with 29 CFR 1910.120.

- Site Worker Health and Safety Plan

A SWHS Plan will be written pursuant to the regulations found in 29 CFR Part 1910.120 and will outline the potential chemical and physical hazards that may be encountered during the remediation system set up and operation at the site. The appropriate personal protective equipment and emergency response procedures for the site-specific chemical and physical hazards will be detailed in this SWHS Plan. Prior to the commencement of the proposed field work, DES and contracted personnel will meet and review the SWHS Plan. All field personnel within the exclusion zone will be required to sign the document in order to encourage proper health and safety practices.

Monitoring Equipment

A PID will be used to monitor the total organic vapors at the site. A Sensidyne Hand Pump or equivalent device, with replaceable chemical-specific tubes, will also be used to analyze for the potential benzene vapor concentrations, as required. The monitored measurements will be recorded onto the field notes of the DES field representative.

Site: Golden State Gasoline
Project Number: 09E3857
Date: October 21, 2015

COMMUNITY H&S PLAN
Page 4 of 4

Site Safety Manager

The DES environmental site safety manager will also be accessible by a 24-hour office number of 858-761-3611 during the time of the on-site activities.

Emergency Planning

In the event there is an emergency due to an accidental injury at the time of the DES field activities, the instructions of the SWHS Plan will be followed. The SWHS Plan instructions include recommendations 1) to telephone 911 and/or 2) to telephone the nearest hospital for assistance. A map with directions to the nearest hospital will be included in the SWHS Plan. A first aid kit and an eye wash kit will be provided at the site.

If there is an emergency due to an unanticipated physical or chemical event, which significantly affects the job site activities, then the field work will be temporarily stopped until appropriate action can be implemented to resolve the incident.

Public Notification

A public notice will be posted at the site in several locations with a disclosure of the field activities. The name and 24-hour telephone number of a DES site safety manager and anticipated work schedule will be included. An example of the public notice is enclosed.

If any further information is needed, please contact our office at (760-639-3600).

Respectfully,
DONAN ENVIRONMENTAL SERVICES, INC.

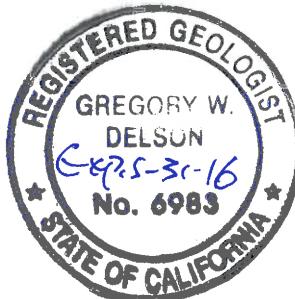

Anderson M. Donan

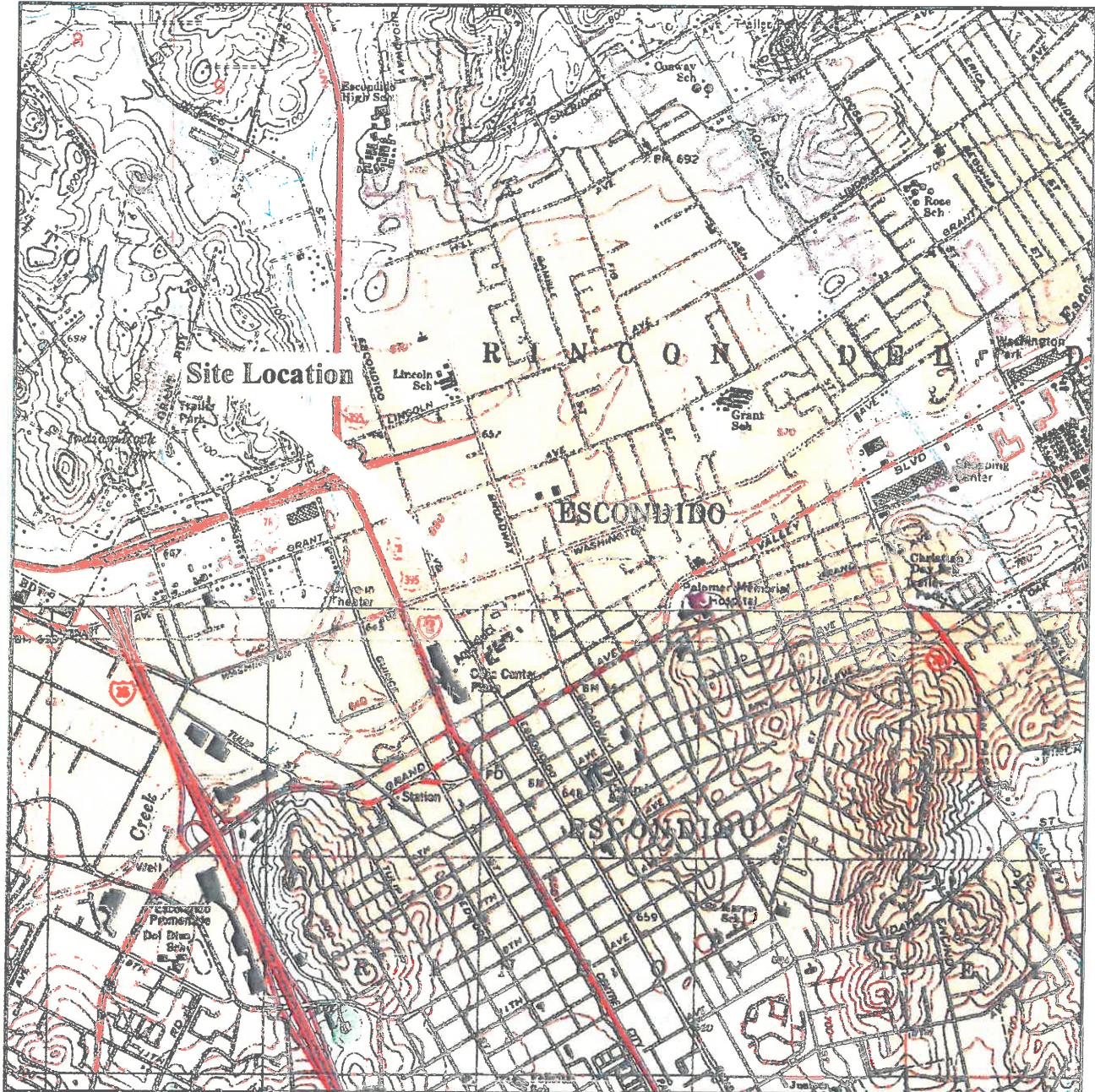
General Manager



Greg Delson, P.G. #6983
Project Manager

GSG-ES/GSG-ES.CHSP.wpd





Source: USGS 7.5" Quadrangle Map from MyTopo.com

0 2,325 4,650

Approximate Scale in feet

Disclaimer: This figure is an interpretation based on available data. Actual site conditions may differ. All locations and dimensions are approximate.



Donan Environmental Services, Inc.

Site Location

Golden State Gasoline
225 West Washington Ave.
Escondido, California 92025

Project No.
09E3857

Figure 1

NOTICE

In _____, on a 24-hour continuous basis, Donan Environmental Services, Inc. will be operating soil vapor extraction and groundwater pumping equipment at the following location:

Golden State Gasoline
225 West Washington Avenue
Escondido, CA

The activity is being conducted to clean up components of gasoline found in the soil and groundwater under the Site. Some components of gasoline are known to cause adverse health effects associated with chronic exposure. Based on the California Proposition 65 List, benzene is known to the State to cause cancer or reproductive toxicity. Ethylbenzene is known to the State to cause cancer. Toluene is known to the State to cause reproductive toxicity.

The treatment approach has been designed such that proper operation of the treatment system will not result in exposure of occupants of adjacent properties to the components of gasoline requiring removal.

Should you have any questions or concerns, please call the following:

Donan Environmental Services, Inc.
Phone: 760-639-3600
Attention: Greg Delson, Project Manager