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Environmental Health

L.Bermudez@pcandf.com

Direct: 925-884-0860

Fax: 925-905-2746

February 3, 2011

Mr. Paresh Khatari
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject: Site Investigation Report and Work Plan
Site: 76 Station No. 5748/6419
6401 Dublin Boulevard
Dublin, California
Fuel Leak Case No. RO0000459

Dear Mr. Khatari;

I declare under penalty of perjury that to the best of my knowledge the information and/or recommendations contained in the attached report is/are true and correct.

If you have any questions or need additional information, please call:

Liz Bermudez
Pacific Convenience & Fuel
2603 Camino Ramon, Suite 350
San Ramon, California 94583
Tel: (925) 884-0860
Fax: (925) 867-4687
lbermudez@pcandf.com

Sincerely,

PACIFIC CONVENIENCE & FUEL

LIZ BERMUDEZ
Senior Paralegal

Attachment

Site Investigation Report and Work Plan

***76 Station No. 5748/6419
6401 Dublin Boulevard
Dublin, California
Fuel Leak Case No. R00000459***

***Antea™Group Project No. I42705748
February 3, 2011***

Prepared for:
Mr. Paresh Khatri
Hazardous Material Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Suite 250
Alameda, CA 94502

Prepared by:
Antea™Group
11050 White Rock Road
Suite 110
Rancho Cordova, CA 95670
+1 800 477 7411

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Site Investigation Report and Work Plan

76 Station No. 5748/6419
6401 Dublin Boulevard
Dublin, California

1.0 INTRODUCTION

Antea Group (formally Delta Consultants) has prepared this site investigation report and work plan detailing the replacement of monitoring well MW-1 with MW-1R and to propose the advancement of two cone penetration test (CPT) borings down gradient of monitoring well MW-5 as requested by Alameda County Health Care Services Agency (ACHCSA) in an e-mail dated January 13, 2011. A copy of the e-mail is presented as **Attachment A**. The work proposed in this work plan is in an effort to assess the extent of the petroleum hydrocarbon and methyl tertiary-butyl ether (MTBE) impacted groundwater, down-gradient of the site.

1.1 Site Description

The subject site is an active 76 station located on the western corner of Dublin Boulevard and Dougherty Road in Dublin, California. The site is bounded to the south by Dublin Boulevard, to the northeast by Dougherty Road, and to the northwest and southwest by a shopping center and parking lot. Properties in the immediate site vicinity are commercial, including service stations and retail facilities.

Current aboveground site facilities consist of two dispenser islands, a car wash, and a station building/convenience store. Two 12,000-gallon gasoline underground storage tanks (USTs) are located in the common pit, east of the station building (**Figures 1 and 2**).

1.2 Previous Assessment

September 1993: Two 10,000-gallon gasoline USTs, one 55-gallon waste-oil UST, and the associated product piping were removed from the site subsequent to confirmation sampling. Groundwater was observed entering the UST excavation. Concentrations of petroleum hydrocarbons in confirmation soil samples beneath the fuel USTs were non-detect to low. Petroleum hydrocarbon and volatile organic compounds (VOCs) concentrations in confirmation soil samples beneath the waste-oil UST were non-detect to low, and concentrations of metals were considered background levels. Petroleum hydrocarbon and lead concentrations in confirmation soil samples from the dispenser islands were non-detect, and low, respectively. Petroleum hydrocarbon and lead concentrations in confirmation soil samples from the piping trenches were non-detect, and low, respectively.

February 1994: Three on-site monitoring wells (MW-1 through MW-3) were installed.

June 1999: Four on-site monitoring wells (MW-4 through MW-7) were installed to a depth of approximately 19 feet below ground surface (bgs).

November 1999: A four-inch diameter groundwater observation and extraction well (TPW-1) was installed in the gasoline UST pit backfill to allow purging of MTBE impacted groundwater.

September 2001: Two off-site monitoring wells (MW-8 and MW-9) were installed to a depth of 20 feet bgs.

October 2003: Site environmental consulting responsibilities were transferred to TRC.

December 2004: Off-site monitoring wells MW-8 and MW-9 were abandoned due to construction activities planned at those locations by Pin Brothers Fine Homes.

January 12, 2006: On-site monitoring wells MW-2, MW-4, MW-6, and MW-7 were abandoned at the request of the City of Dublin in anticipation of street widening on both Dougherty Road and Dublin Boulevard.

1.3 Sensitive Receptors

July 3, 2007: TRC completed a sensitive receptor survey for the site. According to California Department of Water Resources (DWR) and the Zone 7 Water Agency records, four water supply wells are located within a one-half mile of the site. Three of the wells are listed by the Zone 7 Water Agency as water supply wells and are located approximately 1,940 feet east, 2,175 feet north, and 2,070 feet northwest of the site. One well is listed by the Zone 7 Water Agency as an abandoned water supply well and is located approximately 2,440 feet west-southwest of the site.

Three surface water bodies were identified within a one-half mile of the site. San Ramon Creek is located approximately 2,145 feet northwest of the site, an unnamed canal is located approximately 625 feet southwest of the site, and the Chabot Canal is located approximately 1,650 feet east of the site.

2.0 WELL REPLACEMENT

The scope of work completed for the monitoring well replacement included the following activities:

- Conducted a utility clearance and obtained permits from the Zone 7 Water Agency;
- Prepared a site-specific health and safety plan;
- Removed the well box, cleared the location to five (5) feet bgs using an air-knife, and over-drilled and replaced one (1) monitoring well (MW-1 with MW- 1R);
- Developed the new monitoring well (MW-1R) by surging the screen interval and purging; and
- Arranged for disposal of generated waste.

2.1 Pre-Field Activities

Prior to the beginning of field activities, Delta prepared a Health and Safety Plan in accordance with state and federal requirements. A monitoring well destruction and installation permit were obtained from Zone 7 Water Agency. Copies of the permits are presented as **Attachment B**.

Prior to field activities, Underground Service Alert (USA) was notified as required by law and a private utility locating service was employed to clear the monitoring well location for underground utilities.

2.2 Well Replacement

On December 21, 2010 Gregg Drilling and Testing Inc. (Gregg), under the supervision of a Delta field geologist, removed monitoring well MW-1, by over-drilling and installed one monitoring well (MW-1R) in the same borehole. The monitoring well boring was advanced to a depth of 20 feet bgs using a truck mounted drill-rig equipped with 10-inch outside diameter hollow-stem augers. A copy of the boring log for monitoring well MW-1 is presented as **Attachment C**. The monitoring well location is shown on **Figure 2**.

Prior to well construction, the borehole was back filled to a depth of 16 feet bgs with bentonite chips. The boring was converted to a monitoring well by installing a 4-inch diameter schedule 40 poly-vinyl chloride (PVC) well casing with a screened interval from 5 to 15 feet bgs. The perforation size in the screened interval is 0.020-inch. A sand pack consisting of RMC Lonestar #2/12 sand was placed into the annular space and extended to approximately 1 foot above the top of the screen (4 feet bgs).

A 1-foot thick bentonite seal was placed on top of the sand pack. The remainder of the annular space was filled with neat cement to approximately 1 foot bgs. The monitoring well was fitted with a locking

cap and encased in a traffic-rated protective vault placed at existing ground level. A well construction diagram is presented as **Figure 3**.

2.3 Well Development, Monitoring, and Sampling

On December 27, 2010, Gregg, under the supervision of a Delta field geologist, developed the newly installed monitoring well (MW-1R). The monitoring well was developed by surging a block throughout the screen interval for 20 minutes. Subsequent to the surging, approximately 7 casing volumes of groundwater were removed from the monitoring well using a bailer and a pump. The monitoring well went dry after removing 7 casing volumes of water. The monitoring well was allowed to recharge for 30 minutes at which time Gregg attempted to purge more groundwater but the monitoring well was still dry. Due to the monitoring well continuing to be dry, after the removal of approximately 7 casing volumes of groundwater, it was decided to terminate well development activities. Electrical conductivity, pH, turbidity, and temperature were monitored during development activities. A copy of Gregg's well development log is presented as **Attachment D**.

2.4 Disposal of Derived Waste

Waste derived during the monitoring well destruction activities are temporarily being stored on-site in appropriately labeled 55-gallon Department of Transportation (DOT) approved drums pending disposal arrangements. Samples of the derived waste were collected and are currently being analyzed for total petroleum hydrocarbons as gasoline (TPHg) by the CA LUFT Method, benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and MTBE, by Environmental Protection Agency (EPA) Method 8260, and total lead by EPA Method 6010. A chain-of-custody accompanied the waste samples during transportation to Pace Analytical Services, Inc. in Seattle, Washington, a California-certified laboratory. Subsequent to the receipt of the waste sample analyses, the drummed drill cuttings and wastewater will be profiled. Subsequent to waste profiling activities the waste will be transported and disposed of at an approved facility.

3.0 PROPOSED ACTIVITIES

Antea Group is proposing the advancement of two CPT borings for the horizontal and vertical assessment of the petroleum hydrocarbon and MTBE impacted soil and groundwater down-gradient of the site. The CPT borings will be advanced in Dublin Boulevard down-gradient of monitoring well MW-5 and former monitoring well MW-6.

3.1 Health and Safety, Permitting, Utility Notification, and Borehole Clearance

Before commencing field activities, Antea Group will prepare a Health and Safety Plan in accordance with state and federal requirements.

Drilling permits will be obtained from the Zone 7 Water Agency. In addition, Antea Group will attempt to obtain an encroachment permit from the City of Dublin for the advancement of the CPT-1 and CPT-2 borings, in Dublin Boulevard. The proposed boring locations are shown on **Figure 2**. If the encroachment permit cannot be obtained from the City of Dublin, Antea Group will discuss options with the ACHCSA.

Prior to drilling, Underground Service Alert (USA) will be notified as required by law and a private utility locator will be employed to clear the proposed boring locations for underground utilities. In addition, an air- or water-knife will be used to clear each boring location to a depth of five feet bgs prior to boring advancement.

3.2 CPT Boring Advancement

To date, the maximum depth of exploration at this site is approximately 20 feet bgs. Based on available boring logs, soil types beneath the site consist of interbedded silt, clay, and sand. To further assess the horizontal and vertical extent of the petroleum hydrocarbon impact to the soil and the groundwater down-gradient of the site, it is proposed that two CPT borings be advanced at the locations shown on **Figure 2** to a depth of approximately 40 feet bgs.

Soil samples collected from the borings will be logged using the Unified Soil Classification System (USCS) for lithologic interpretation and field screened for the presence of VOCs by headspace analysis using a pre-calibrated photo ionization detector (PID). A minimum of three soil samples will be collected for analysis from field selected depths from each CPT boring. A chain-of-custody will accompany the samples during transportation to the laboratory. The collected soil samples will be analyzed for TPHg by the CA LUFT Method, BTEX, MTBE, and ethanol by EPA Method 8260, and total lead by EPA Method 6010.

Grab groundwater samples will be collected at selected depths based on the encountered lithology. Potential sample depths include but are not limited to 20 feet bgs, 30 feet bgs, and 40 feet bgs. Each grab groundwater sample will be collected from a separate boring in the general vicinity of the original CPT boring location. A chain-of-custody will accompany the samples during transportation to the laboratory. The groundwater samples will be analyzed for TPHg by CA LUFT Method and BTEX, MTBE,

and ethanol by EPA Method 8260.

Non-disposable sampling equipment will be decontaminated between samples in a non-phosphate detergent and double rinsed with potable water. Following sample collection, neat cement grout will be pumped through the push rods as they are extracted from the borehole affecting borehole abandonment.

3.3 Disposal of Derived Waste

Drill cuttings and decontamination water generated during investigation activities will be placed into properly labeled 55-gallon DOT approved steel drums and temporarily stored on the station property. Samples of the drill cuttings and decontamination wastewater will be collected, properly labeled and placed on ice for submittal to a California-certified laboratory and will be analyzed for TPHg by the CA LUFT Method, BTEX, and MTBE by EPA Method 8260, and total lead by EPA Method 6010. A chain-of-custody will accompany the samples during transportation to the laboratory. Subsequent to receiving the laboratory analytical results, the drummed drill cuttings, and decontamination wastewater will be profiled, transported, and disposed of at an approved facility.

3.4 Reporting

Following completion of the field work and receipt of analytical results, a site investigation report will be prepared and submitted within 60 days. The report will present the details of the boring activities, including copies of boring permits, and details of disposal activities and copies of disposal documents, and soil and groundwater, including copies of laboratory reports. Required electronic submittals will be uploaded to the State Geotracker database.

4.0 REMARKS

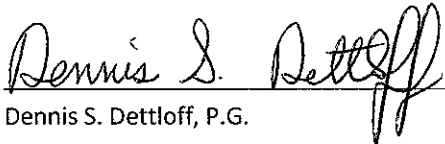
The recommendations contained in this report represent Antea USA, Inc.'s professional opinions based upon the currently available information and are arrived at in accordance with currently accepted professional standards. This report is based upon a specific scope of work requested by the client. The contract between Antea USA, Inc. and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Antea USA, Inc.'s client and anyone else specifically identified in writing by Antea USA, Inc. as a user of this report. Antea USA, Inc. will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Antea USA, Inc. makes no express or implied warranty as to the contents of this report.



Edward T. Weyrens, G.I.T.
Staff Geologist

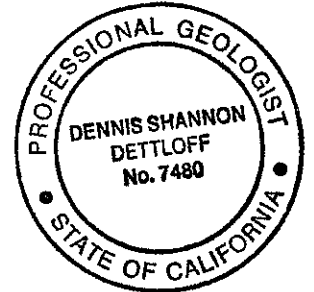
Date: 2/3/11

Reviewed by:



Dennis S. Dettloff, P.G.
Project Manager
California Professional Geologist No. 7480

Date: 2/3/11



Figures

- Figure 1 Site Location Map
- Figure 2 Site Plan With Proposed Boring Locations
- Figure 3 MW-1R Well Construction Diagram

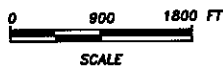
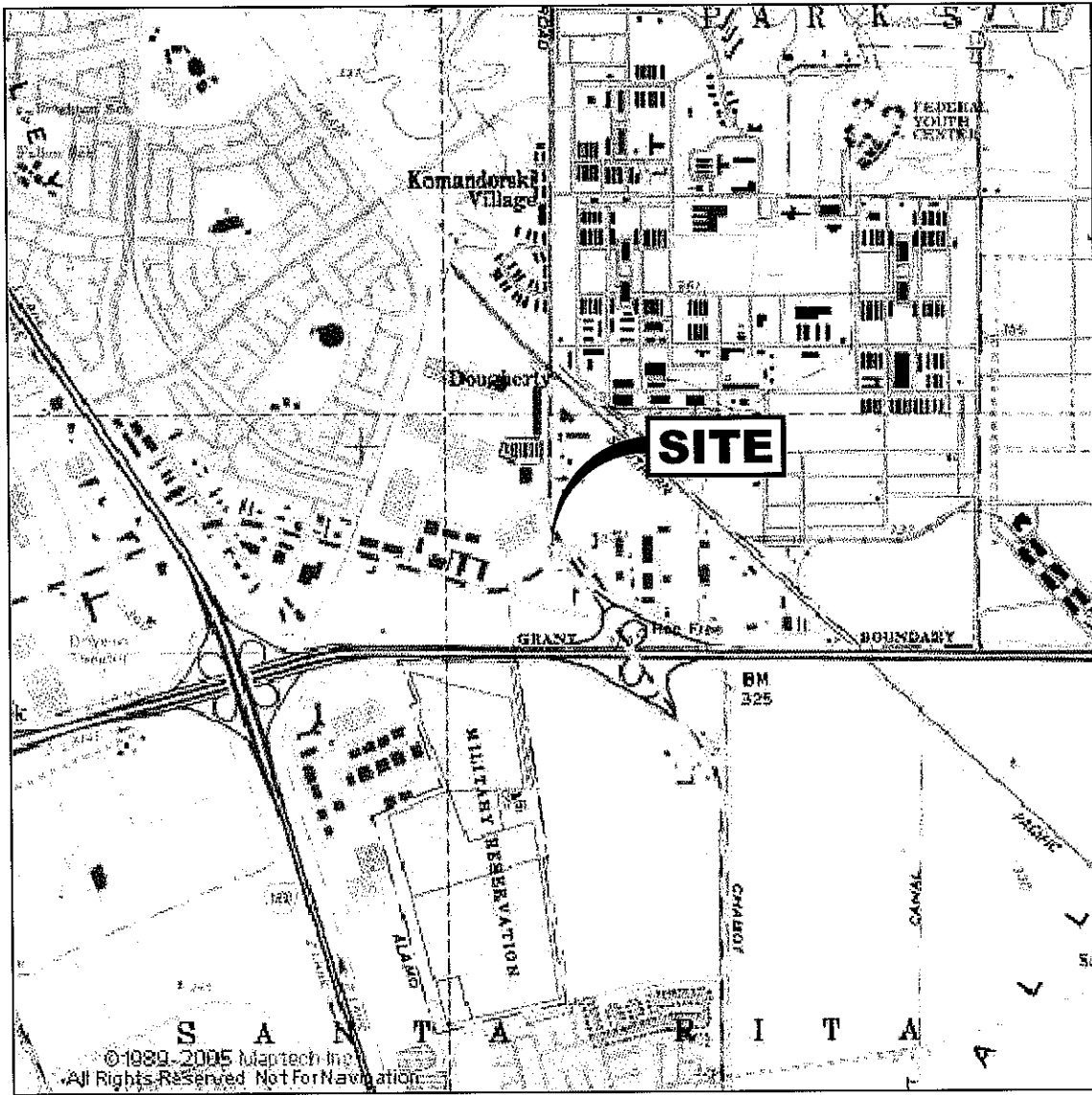


FIGURE 1

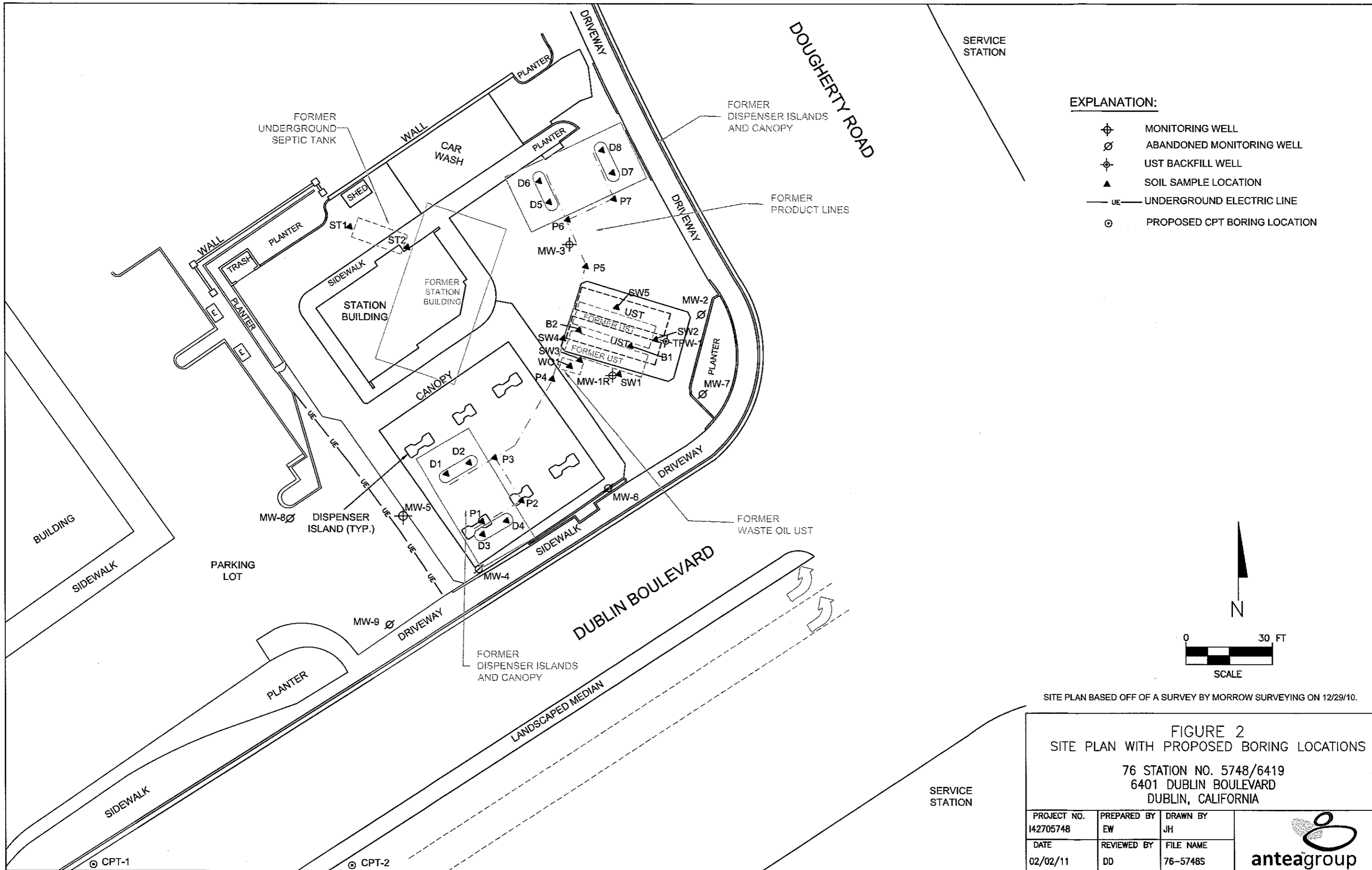
SITE LOCATION MAP

76 STATION NO. 5748 / 6419
 6401 DUBLIN BOULEVARD
 DUBLIN, CALIFORNIA

PROJECT NO. C105748	DRAWN BY JH 2/2/11
FILE NO. 5748-SiteLocator	PREPARED BY JH
REVISION NO.	REVIEWED BY DD



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, DUBLIN (1998) QUADRANGLE



SITE PLAN BASED OFF OF A SURVEY BY MORROW SURVEYING ON 12/29/10.

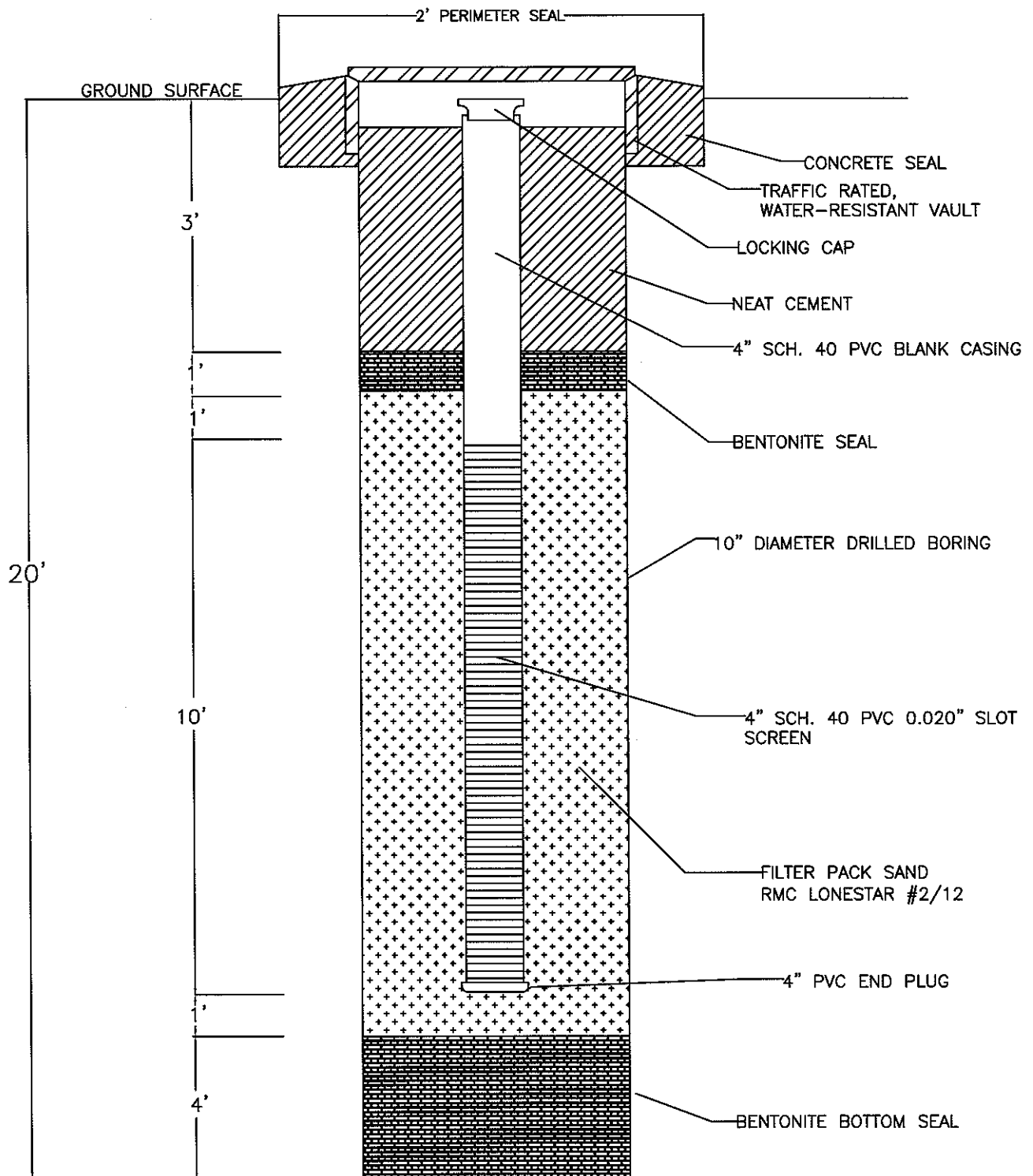


FIGURE 3
MW-1R WELL CONSTRUCTION DIAGRAM

76 STATION NO. 5748/6419
6401 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA

PROJECT NO. 142705748	PREPARED BY JF	DRAWN BY JH
DATE 2/2/11	REVIEWED BY DD	FILE NAME 5748-WellDetail



Appendix A

Alameda County Health Care Services Agency E-mail

Dennis Dettloff

From: Khatri, Paresh, Env. Health [paresh.khatri@acgov.org]
Sent: Thursday, January 13, 2011 3:14 PM
To: Dennis Dettloff
Cc: Drogos, Donna, Env. Health
Subject: RE: Site 5748/6419, 6401 Dublin Boulevard, Dublin, Fuel Leak Case No. RO0000459

Mr. Dettloff,

As proposed, please prepare and submit a summary report that details the monitoring well installation as well as discusses the proposed boring(s) to characterize the down-gradient extent of the groundwater contaminant plume.

Please submit the report/work plan within 60-days from the date of this e-mail correspondence (March 14, 2011).

Sincerely,

Paresh C. Khatri
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

Phone: (510) 777-2478
Fax: (510) 337-9335

E-mail: Paresh.Khatri@acgov.org

<http://www.acgov.org/aceh/lop/lop.htm>

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-----Original Message-----

From: Dennis Dettloff [mailto:Dennis.Dettloff@anteagroup.com]
Sent: Tuesday, January 11, 2011 7:08 AM
To: Khatri, Paresh, Env. Health
Cc: Drogos, Donna, Env. Health
Subject: RE: Site 5748/6419, 6401 Dublin Boulevard, Dublin, Fuel Leak Case No. RO0000459
Importance: High

Mr. Khatri:

Thank you for your reply.

Monitoring well MW-1 has been replaced, developed, and surveyed. If you like I can prepare the well installation report for MW-1R and include our proposal for the off-site CPT boring(s). Let me know if this is acceptable to you.

Regards,

Dennis S. Dettloff, P.G. | Project Manager Antea(tm)Group Direct + 916 503 1261 | Mobile + 916 230 0209 | USA Toll Free 800 477 7411
Dennis.Dettloff@anteagroup.com | www.anteagroup.com

Member of Inogen(r) | www.inogenet.com

-----Original Message-----

From: Khatri, Paresh, Env. Health [mailto:paresh.khatri@acgov.org]
Sent: Monday, January 10, 2011 5:23 PM
To: Dennis Dettloff
Cc: Drogos, Donna, Env. Health
Subject: RE: Site 5748/6419, 6401 Dublin Boulevard, Dublin, Fuel Leak Case No. R00000459

Dear Mr. Dettloff,

It is ACEH's understanding that you are proposing to relocate a previously proposed boring from the neighboring property to the Dublin Boulevard to avoid accessing the neighboring property (due to access agreement issues). ACEH is not opposed to your relocation proposal.

However, prior to approval, since several iterations of scopes of work have been proposed at this site, please submit a brief summary and a figure illustrating the location(s) of the boring(s) that are currently proposed and what has been completed to date, including the status of MW-1.

Sincerely,

Paresh C. Khatri
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

Phone: (510) 777-2478
Fax: (510) 337-9335

E-mail: Paresh.Khatri@acgov.org

<http://www.acgov.org/aceh/lop/lop.htm>

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From: Dennis Dettloff [DDettloff@deltaenv.com]
Sent: Friday, December 10, 2010 12:06 PM
To: Khatri, Paresh, Env. Health
Subject: Site 5748/6419, 6401 Dublin Boulevard, Dublin, Fuel Leak Case No. R00000459

Mr. Khatri:

I have been discussing the matter of off-site access as discussed in the attached letter from you dated, November 18, 2010 with my supervisor and we would like to make a proposal. Due to the low and declining concentrations reported in monitoring well MW-5 and the predominate groundwater flow direction (southwest), we believe that at this time it is not necessary to access the neighboring property.

Currently, this 76 station has an easement that allows the people using this 76 station to exit the site on to Dublin Boulevard across the neighboring property. In addition, because the current property owners of the 76 station (PC&F) and the neighboring property owners need to try and co-exist peacefully, that accessing their property to investigate what are likely to be low to nondetect concentrations in the groundwater beneath the neighboring property is not worth upsetting the neighboring property owner. This also could likely end in a lengthy legal battle that will benefit no one.

Therefore, Delta would like to propose the advancement of one CPT boring in the street

(Dublin Boulevard) down-gradient of the site. Delta has already obtain an encroachment permit from the City of Dublin for this work so we could just move the previously proposed CPT boring in the street slightly further west in the down-gradient direction from the site. Groundwater samples collected from this boring will likely indicate the groundwater is not impacted down-gradient of monitoring well MW-5.

In this way we can determine down-gradient impact, if present, without upsetting the neighboring property owners. If you would like to discuss this further or if you have any question don't hesitate to contact me.

Regards,

Dennis S. Dettloff, P.G. | Senior Project Manager | North American Operations Delta Consultants, an Oranjewoud N.V. Company Direct + 916 503 1261 | Mobile + 916 230 0209 | USA Toll Free 800 477 7411
ddettloff@deltaenv.com | <mailto:ddettloff@deltaenv.com%7C>
www.deltaenv.com <http://www.deltaenv.com/>

SUSTAINABLE STRATEGIES FOR GLOBAL LEADERS

Member of Inogen(r) | www.inogenet.com <http://www.inogenet.com/>
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Appendix B

Permits



ZONE 7 WATER AGENCY

100 NORTH CANYONS PARKWAY, LIVERMORE, CALIFORNIA 94551 VOICE (925) 454-5000 FAX (925) 245-9306
E-MAIL whong@zone7water.com

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 6401 Dublin Blvd
Dublin, CA 94568

PERMIT NUMBER 2010117
WELL NUMBER 3S/1E-6E2
APN 941-2831-001-02

Coordinates Source Google Earth ft. Accuracy ft.
LAT: 37 42 17 ft. LONG: 121 54 36 ft.
APN 941-2831-001-02

PERMIT CONDITIONS (Circled Permit Requirements Apply)

CLIENT
Name Delta Consultants
Address 11050 White Rock Rd Ste 110 Phone 916 288-0150
City Rancho Cordova Zip 95670

- (A) GENERAL**
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to your proposed starting date.
 2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report (DWR Form 188), signed by the driller.
 3. Permit is void if project not begun within 90 days of approval date.
 4. Notify Zone 7 at least 24 hours before the start of work.

APPLICANT
Name Delta Consultants - Jonathan Fillingame
Email jfillingame@deltaenv.com Fax 916 638-8385
Address 11050 White Rock Rd Ste 110 Phone 916 288-0150
City Rancho Cordova Zip 95670

- B. WATER SUPPLY WELLS**
1. Minimum surface seal diameter is four inches greater than the well casing diameter.
 2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
 3. Grout placed by tremie.
 4. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
 5. A sample port is required on the discharge pipe near the wellhead.

TYPE OF PROJECT:
Well Construction Geotechnical Investigation
Well Destruction Contamination Investigation
Cathodic Protection Other

- C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS**
1. Minimum surface seal diameter is four inches greater than the well or piezometer casing diameter.
 2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
 3. Grout placed by tremie.

PROPOSED WELL USE:
Domestic Irrigation
Municipal Remediation
Industrial Groundwater Monitoring
Dewatering Other

- D. GEOTECHNICAL** Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

DRILLING METHOD:
Mud Rotary Air Rotary Hollow Stem Auger
Cable Tool Direct Push Other

- E. CATHODIC.** Fill hole above anode zone with concrete placed by tremie.

DRILLING COMPANY Gregg Drilling
DRILLER'S LICENSE NO. 485165

- (F) WELL DESTRUCTION.** See attached.

WELL SPECIFICATIONS:
Drill Hole Diameter 10 in. Maximum
Casing Diameter 4 in. Depth 20 ft
Surface Seal Depth ft. Number MW-1

- G. SPECIAL CONDITIONS.** Submit to Zone 7 within 60 days after completion of permitted work the well installation report including all soil and water laboratory analysis results.

SOIL BORINGS:
Number of Borings Maximum
Hole Diameter in. Depth ft.

ESTIMATED STARTING DATE December 21, 2010
ESTIMATED COMPLETION DATE December 29, 2010

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

Approved Wymarr Hong Date 11/19/10
Wymarr Hong

APPLICANT'S SIGNATURE Jonathan Fillingame Date 11/19/10

ATTACH SITE PLAN OR SKETCH

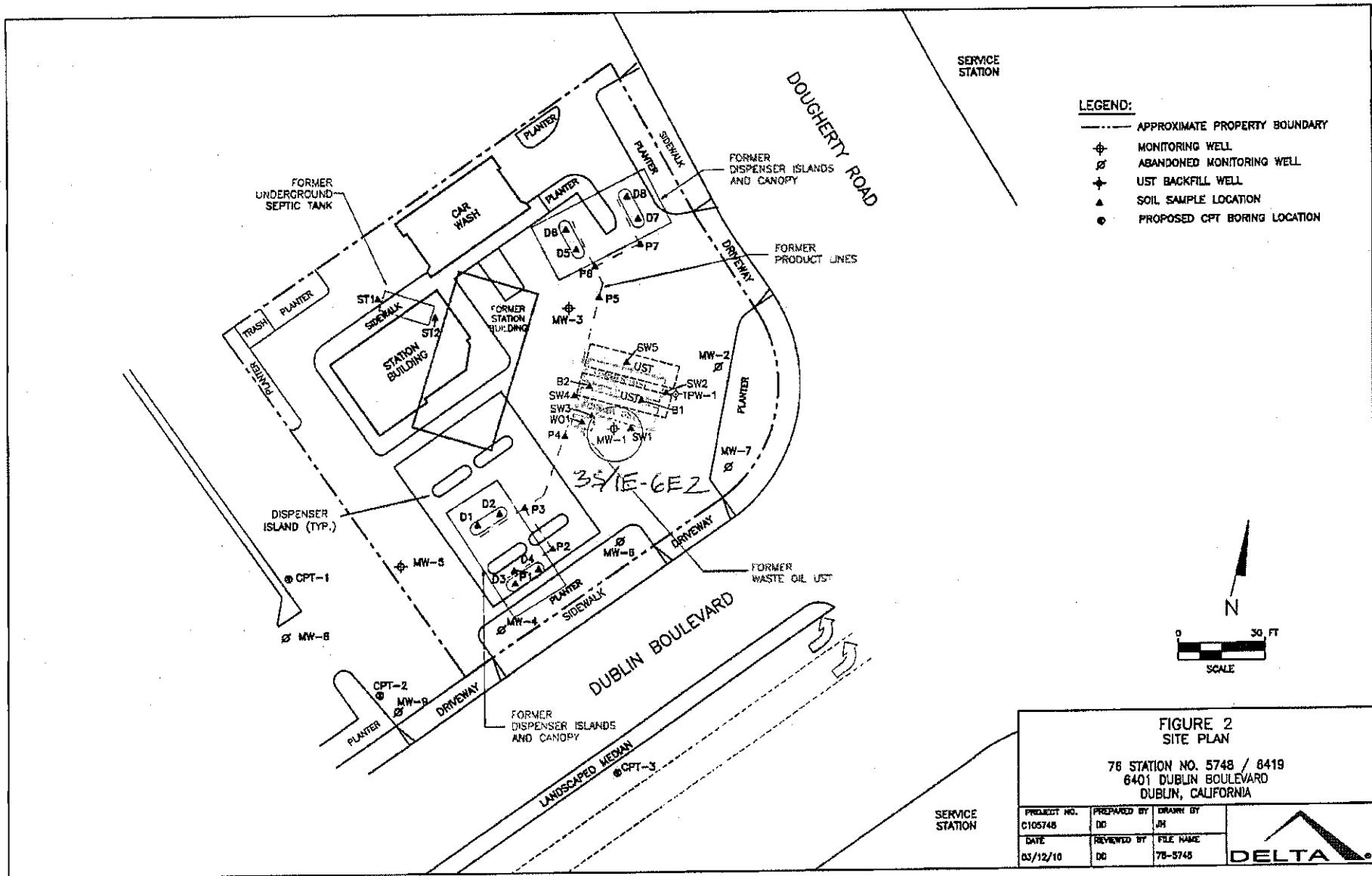
November 19, 2010

**Zone 7
Water Resources Engineering
Groundwater Protection Ordinance**

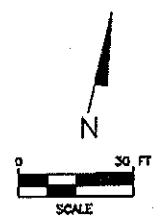
**UNOCAL (76 Station)
6401 Dublin Boulevard
Dublin
Well 3S/1E-6E2 (MW-1)
Permit 2010117**

Destruction Requirements:

1. Sound the well as deeply as practicable and record for your report.
2. Drill out the well so that the casing, seal, and gravel pack are removed to the bottom of the well.
3. Fill the remaining hole to two feet below grade or original ground, whichever is the lower elevation, with neat cement sealing material, using a tremie pipe.



- LEGEND:**
- APPROXIMATE PROPERTY BOUNDARY
 - ⊕ MONITORING WELL
 - ⊗ ABANDONED MONITORING WELL
 - ⊕ UST BACKFILL WELL
 - ▲ SOIL SAMPLE LOCATION
 - PROPOSED CPT BORING LOCATION



**FIGURE 2
SITE PLAN**

78 STATION NO. 5748 / 8419
6401 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA

PROJECT NO. C105748	PREPARED BY DG	DRAWN BY JH	
DATE 03/12/10	REVIEWED BY DG	FILE NAME 78-5748	

SERVICE STATION



ZONE 7 WATER AGENCY

100 NORTH CANYONS PARKWAY, LIVERMORE, CALIFORNIA 94551 VOICE (925) 454-5000 FAX (925) 245-9306
E-MAIL whong@zone7water.com

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 6401 Dublin Blvd
Dublin, CA 94568

PERMIT NUMBER 2010118
WELL NUMBER 3S/1E-6E24
APN 941-2831-001-02

Coordinates Source Google Earth ft. Accuracy ft.
LAT: 37 42 17 ft. LONG: 121 54 36 ft.
APN 941-2831-001-02

PERMIT CONDITIONS
(Circled Permit Requirements Apply)

CLIENT
Name Delta Consultants
Address 11050 White Rock Rd Ste 110 Phone 916 288-0150
City Rancho Cordova Zip 95670

- A. GENERAL**
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to your proposed starting date.
 2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report (DWR Form 188), signed by the driller.
 3. Permit is void if project not begun within 90 days of approval date.
 4. Notify Zone 7 at least 24 hours before the start of work.

APPLICANT
Name Delta Consultants - Jonathan Fillingame
Email jfillingame@deltaenv.com Fax 916 638-8385
Address 11050 White Rock Rd Ste 110 Phone 916 288-0150
City Rancho Cordova Zip 95670

- B. WATER SUPPLY WELLS**
1. Minimum surface seal diameter is four inches greater than the well casing diameter.
 2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
 3. Grout placed by tremie.
 4. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
 5. A sample port is required on the discharge pipe near the wellhead.

TYPE OF PROJECT:
Well Construction Geotechnical Investigation
Well Destruction Contamination Investigation
Cathodic Protection Other

- C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS**
1. Minimum surface seal diameter is four inches greater than the well or piezometer casing diameter.
 2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
 3. Grout placed by tremie.

PROPOSED WELL USE:
Domestic Irrigation
Municipal Remediation
Industrial Groundwater Monitoring
Dewatering Other

- D. GEOTECHNICAL.** Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

DRILLING METHOD:
Mud Rotary Air Rotary Hollow Stem Auger
Cable Tool Direct Push Other

- E. CATHODIC.** Fill hole above anode zone with concrete placed by tremie.

DRILLING COMPANY Gregg Drilling
DRILLER'S LICENSE NO. 485165

- F. WELL DESTRUCTION.** See attached.

WELL SPECIFICATIONS:
Drill Hole Diameter 10 in. Maximum
Casing Diameter 4 in. Depth 20 ft.
Surface Seal Depth ft. Number MW-1R

- G. SPECIAL CONDITIONS.** Submit to Zone 7 within 60 days after completion of permitted work the well installation report including all soil and water laboratory analysis results.

SOIL BORINGS:
Number of Borings Maximum
Hole Diameter in. Depth ft.

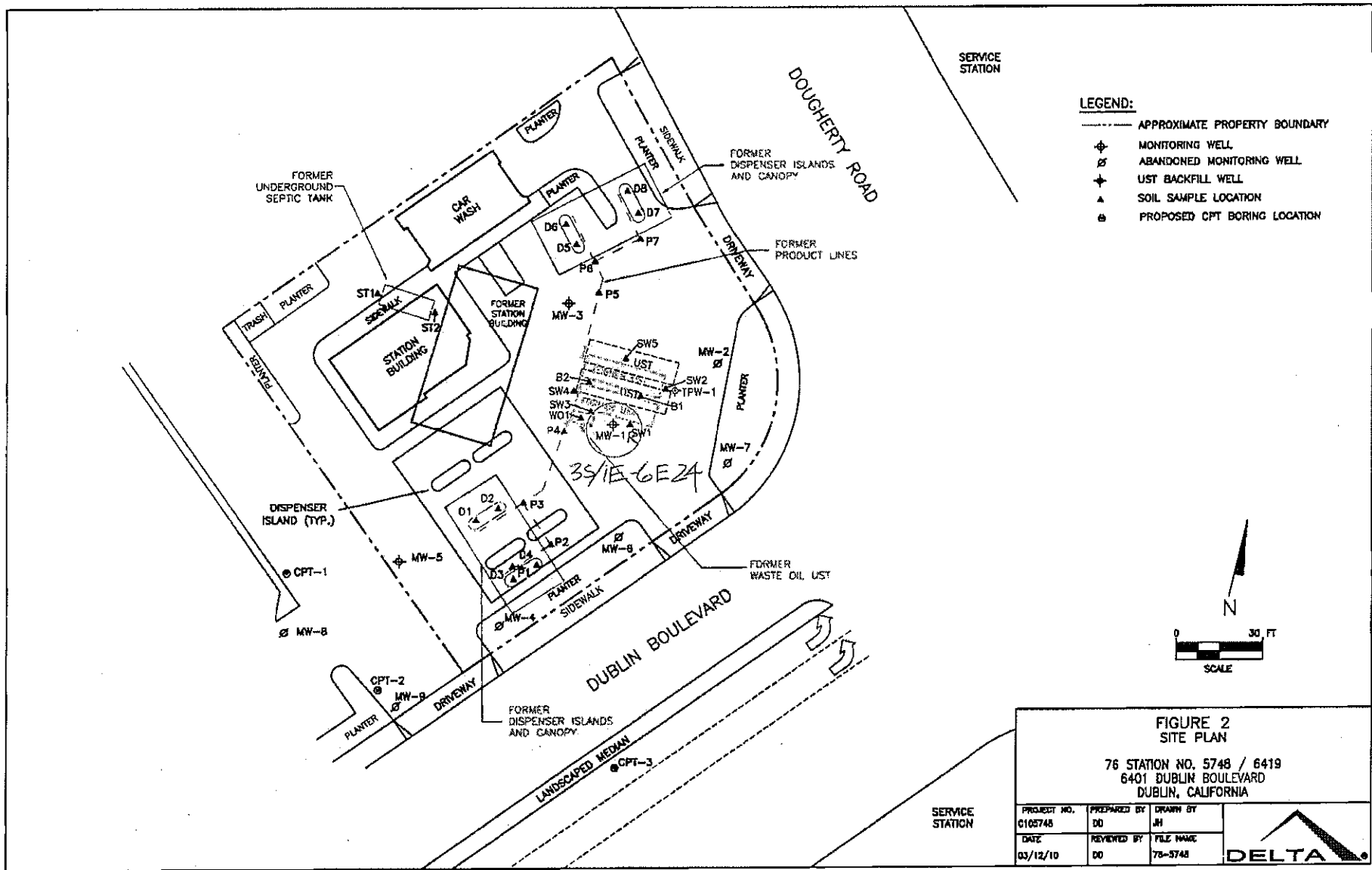
ESTIMATED STARTING DATE December 21, 2010
ESTIMATED COMPLETION DATE December 29, 2010

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

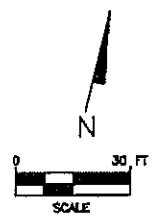
Approved Wyman Hong Date 11/19/10
Wyman Hong

APPLICANT'S SIGNATURE Jonathan Fillingame Date 11/10/10

ATTACH SITE PLAN OR SKETCH



- LEGEND:**
- APPROXIMATE PROPERTY BOUNDARY
 - ⊕ MONITORING WELL
 - ⊘ ABANDONED MONITORING WELL
 - ⊕ UST BACKFILL WELL
 - ▲ SOIL SAMPLE LOCATION
 - ⊙ PROPOSED CPT BORING LOCATION



**FIGURE 2
SITE PLAN**

76 STATION NO. 5748 / 6419
6401 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA

PROJECT NO. C102748	PREPARED BY DD	DRAWN BY JH	
DATE 03/12/10	REVIEWED BY DD	FILE NAME 76-5748	

Appendix C

Boring Log

BORING LOG

Project No. KEI-P93-0401	Boring Diameter 8.5"	Logged By <i>JGG</i> D.L. <i>CEG 1633</i>
	Casing Diameter 2"	
Project Name Unocal S/S #6419 6401 Dublin Blvd., Dublin	Well Cover Elevation N/A	Date Drilled 2/24/94
Boring No. MW1	Drilling Method Hollow-stem Auger	Drilling Company Woodward Drilling

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati- graphy USCS	Description
		0		A.C. Pavement over sand and gravel base.
			GC	Clayey gravel with sand, medium dense, moist, dark greenish gray and black, mottled, disturbed (fill).
			GP	Gravel and sand, loose, moist, brown, gravel is fine grained (fill).
3/4/6		5	MH	Clayey silt, stiff, moist, black, with iron oxide staining, disturbed above 4.5 feet, clay content increasing with depth.
3/5/8			CL	Silty clay, estimated at 35-45% silt, stiff, moist, black, with caliche nodules to 1/2 inch in diameter.
3/5/6		10	MH	Clayey silt, estimated at 30-40% clay, stiff, moist, very dark gray.
4/5/7	▽		ML	Silt with sand, estimated at 10-15% clay, stiff, moist, olive brown.
			MH	Sandy silt, trace clay, stiff, very moist, olive brown.
4/6/9		15	ML	Clayey silt, trace fine grained sand, stiff, moist, olive brown and olive gray, mottled.
			ML	Silt, estimated at 15-30% clay, and 5-10% sand, stiff, moist, olive and olive brown, mottled, grades to sandy silt below 15.5 feet.
			CL	Clay estimated at 15-30% silt, very stiff, moist, olive brown and dark greenish gray, mottled.
5/8/11			ML	Silt with sand, stiff, moist, dark greenish gray.
			SP	Poorly graded sand, estimated at 5-15% silt, medium dense, wet, dark greenish gray.
			ML	Clayey silt, very stiff, moist, dark greenish gray, with caliche.
		20		TOTAL DEPTH: 19'

Appendix D

Well Development Log

All measurements taken from: Top of Casing Protective Casing Ground Level

Sample ID _____

Qty. of Drilling Fluid Lost _____

Minimum Gal. to be Purged _____

Development Method Bail-Surge-
Bail-pump

Purging Equipment SS Bailer-4 pump

Water Level Equipment Solinst

pH/EC Meter HORIBA U50

Turbidity Meter HORIBA U50

Other _____

Well Number MLV-1R

Borehole Diameter 10"

Date 12.27.10

Screen Length 10'

Time Start: 10:05 End: 12:00

Measured Depth (pre-development) 14.8

Client DELTA

Measured Depth (post-development) 14.8

Project 16401 Dublin Blv, Dublin

Static Water Level (ft.) 7.45

Job Number D2100309

Standing Water Column (ft.) 7.35

Installation Date 12.19.10

One Well Volume (gal.) 4.851

Well Diameter 4"

One Annulus Vol. (gal.) _____

Field Parameters Measured

Time	Amount Purged (gal.)	Field Parameters Measured							GPM	W.L.	Comments	Field Tech.
		pH	EC	Turbidity	D.O.	D.O. Temp.	SAL.	W/L				
10:38	20	7.69	3.71	287	-	19.88	2.0	1	9.85	Bail-10 gal.		
10:43	25	7.48	3.63	121	-	19.84	2.0	1	10.92	Surge-20 mi		
10:48	30	7.49	3.64	42	-	19.83	2.0	1	12.96	Bail-5 gal		
10:53	35	7.46	3.65	19	-	19.81	2.0	1	13.82	Stop Tank Recharge		
NO RECHARGE IN 30 MIN - Pull Pump												
Purged By Bailer												
X	Bail-	5	Gal	WELL	dry							
FINAL FIELD PARAMETER MEASUREMENTS												