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3:36 pm, Mar 21, 2011

Alameda County
Environmental Health

March 17, 2011

Alameda County Department of
Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Attention: Paresh Khatri

Subject: Report of Ozone Injection Well Installation
Dublin Toyota UST Site, 6450 Dublin Court, Dublin, California
Alameda County LOP Site ID No. 0000333

Ladies and Gentlemen:

Attached please find a copy of the *Report of Ozone Injection Well Installation, Dublin Toyota UST Site, 6450 Dublin Court, Dublin, California*, prepared by Gribi Associates. I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Very truly yours,

A handwritten signature in blue ink that reads "Scott F. Anderson".

Scott F. Anderson
Chief Financial Officer
Dublin Toyota



6450 DUBLIN COURT • DUBLIN • CA 94568 • 925 829-7700 • FAX 925 829-9025

www.dublintoys.com



March 17, 2011

Alameda County Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Attention: Mr. Paresh Khatri

Subject: Report of Ozone Injection Well Installation
Dublin Toyota UST Site
6450 Dublin Court, Dublin, California
Fuel Leak Case RO# 0000333

Ladies and Gentleman:

Gribi Associates is pleased to submit this *Report of Ozone Injection Well Installation* on behalf of Dublin Toyota for the underground storage tank (UST) site located at 6450 Dublin Court in Dublin, California (Site). This report details the drilling and installation of five ozone injection wells at the site. These wells were installed to conduct an ozone injection pilot test, as proposed in the *Feasibility Study/Corrective Action Plan* (Gribi Associates, September 15, 2010) and approved by Alameda County Environmental Health (ACEH) on September 30, 2010.

GENERAL BACKGROUND

The Site is located in a primarily commercial area of Dublin, California, just north of U.S. Interstate 580 (see Figures 1 and 2). The Site was formerly occupied by the Dublin Toyota automobile dealership and is presently occupied by La Mesa RV. The Site previously included three USTs located in a common UST tank farm located adjacent to the northeast corner of the maintenance garage. The tank farm was composed of two 2,000-gallon steel gasoline USTs and one 1,000-gallon steel waste oil UST. The three USTs were removed from a common excavation by Scott Company on June 10, 1998. Based on soil and grab groundwater sampling results, which showed elevated levels of gasoline- and diesel-range hydrocarbons, the UST excavation cavity was over-excavated, and approximately 500 gallons of groundwater was pumped from the excavation cavity. Approximately 92 tons of hydrocarbon-impacted soil were disposed of offsite.

Significant site characterization has been conducted, both on the Site itself and downgradient on the south side of U.S. Interstate 580. These activities have included: (1) The drilling and sampling of approximately 25 investigative soil borings; (2) The installation and sampling of 12 shallow groundwater monitoring wells and nine deeper ("B" Zone) groundwater monitoring wells; and (3) The collection and analysis of four shallow soil gas samples in the former UST source area. Results from these investigations indicate that soil and groundwater hydrocarbon

impacts (primarily MTBE) appear to have originated at the former USTs and migrated laterally in groundwater approximately 150 to 200 feet in a southwest direction in the upper "A" Zone. MTBE then migrated vertically downward to the deeper "B" Zone and then laterally southwest in the "B" Zone. MTBE is present in well MW-16, located in Johnson Drive approximately 300 feet south from the Site.

Soil vapor hydrocarbon concentrations at SG-3 and SG-4, located immediately downgradient from the former UST cavity within the adjoining main vehicle maintenance building, exceeded residential land use ESLs, but did not exceed commercial land use ESLs. Thus, these sampling results do not indicate significant risk relative to occupational (commercial land use) indoor air exposure.

Based on the results of site characterization activities, which have generally shown elevated hydrocarbon impacts in the former UST source area and in downgradient shallow groundwater, a Corrective Action Plan (CAP) was prepared for the Site (*Feasibility Study/Corrective Action Plan*, Gribi Associates, September 15, 2010). This CAP provided a detailed Site background, proposed Site cleanup goals, and evaluated four viable remedial options to achieve proposed cleanup goals. Based on this evaluation, the CAP recommended the implementation of ozone injection at the Site and provided a workplan to conduct an ozone injection pilot test at the Site. The CAP was approved by Alameda County Environmental Health (ACEH) on September 30, 2010.

DESCRIPTION OF FIELD ACTIVITIES

Five 3/4-inch diameter ozone injection wells, IW-1 through IW-5, were drilled and installed at the site between November 22 and November 25, 2010. The wells were screened in the previously-identified "B" Zone sand. The "B" Zone sand, from about 30 to 35 feet in depth is present both onsite and offsite to the south (downgradient) and is believed to be the primary MTBE/TBA downgradient migratory pathway.

Pre-Field Activities

Prior to implementing this workplan, written approval was obtained from the ACEH. Also, drilling permits were obtained from Zone 7 Water Agency. Copies of the drilling permits are contained in Attachment A.

Prior to implementing field activities, the proposed well locations were marked with white paint, and Underground Services Alert (USA) was notified at least 48 hours prior to drilling. Prior to initiating drilling activities, a Site Safety Plan was prepared, and a tailgate safety meeting was conducted with all site workers.



Locations of Wells

The location of the five ozone injection wells (IW-1 through IW-5) are shown on Figure 3. In order to assess ozone injection varying radii of influence and overall effectiveness, the five injection wells were spaced in a semi-grid pattern within the outdoors portion of the groundwater MTBE/TBA plume area, adjacent to existing outside wells (MW-3, MW-4S, MW-4D, MW-5S, MW-5D, MW-6S, MW-6D, MW-7, MW-8, and MW-9).

Drilling and Sampling of Well Borings

The five ozone injection wells were drilled and installed by Gregg Drilling using hollow-stem drilling equipment. For each well, the boring was drilled to approximately 25 to 30 feet below ground surface (bgs) with a wood plug inserted in the drill bit to prevent possible flowing sands from entering the hollow stem augers. While the wood plug was present in the bit, soil sampling and lithologic logging was not possible. After reaching 25 to 30 feet bgs, the wood plug was pushed out the bottom of the auger and overdrilled. Undisturbed, continuous soil cores were then collected in advance of the auger using a California-style split spoon sampler for lithologic logging only (no soil samples were preserved for lab analysis). Boring logs for the five injection well borings are provided as Attachment B. Soil cuttings were placed in sealed 55-gallon drums pending disposal.

Installation of Injection Wells

Ozone injection wells IW-1 through IW-5 were constructed using 3/4-inch diameter Schedule 40 threaded PVC casing according to the following specifications: (1) a 1-foot long microporous sparge point was placed at a depth of approximately 30 feet to 35 feet below surface grade, followed by blank casing to surface; (2) Filter sand was placed around the casing to approximately 2 feet above of top of screen; (3) A 3 foot bentonite seal was placed above the filter sand; and (4) The remaining annulus was grouted using a Type II Portland cement slurry (two 90-pound bags of cement to 30 gallons of water) to approximate grade. The top of the well casing was set approximately 6 inches below surface grade and was enclosed in traffic-rated, flush-mounted well box set in concrete. Well construction details for the three monitoring wells are included on the well boring logs in Attachment B.

RESULTS OF FIELD ACTIVITIES

General Subsurface Conditions

Soils from approximately 25 feet to 35 feet bgs in the five injection well borings were generally similar, consisting of silts and clays to about 30 feet, followed by the previously-identified permeable "B" Zone sands from about 30 to 35 feet bgs.



California DWR Well Completion Report

In accordance with California Water Code Section 137501, completed California Department of Water Resources' *Well Completion Reports* are provided as Attachment C.

CONCLUSIONS

Gribi Associates completed the drilling and installation of five 3/4-inch diameter ozone injection wells (IW-1 through IW-5) at the site between November 22 and November 25, 2010.

PLANNED ACTIVITIES

Gribi Associates is preparing to conduct an ozone injection pilot test at the site and expects to have the pilot test operational during the first half of 2011.

We appreciate the opportunity to present this report for your review. Please call if you have questions or require additional information.

Very truly yours,



Matthew A. Rosman
Project Engineer

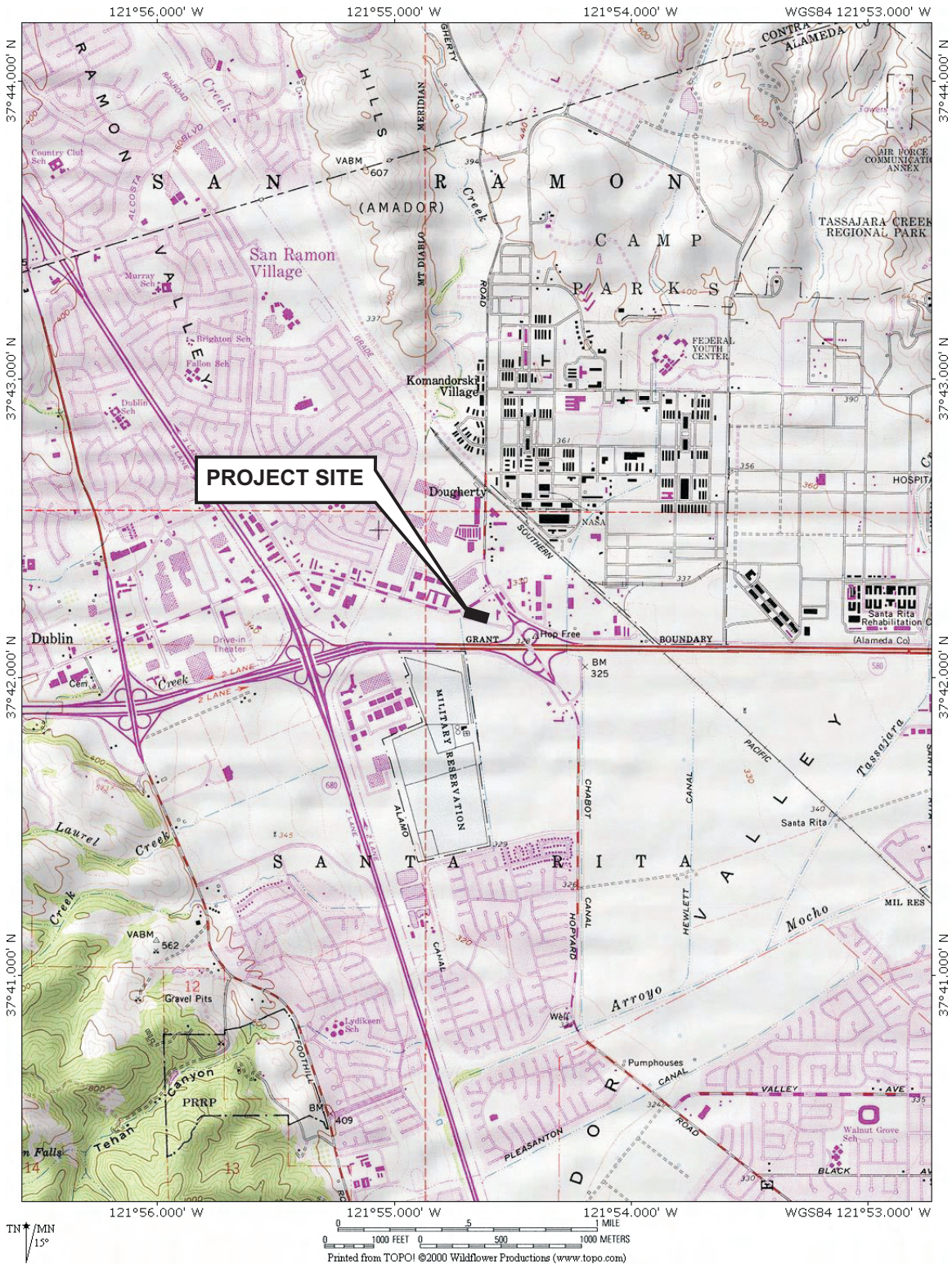
MAR:JEG:ct
Enclosure




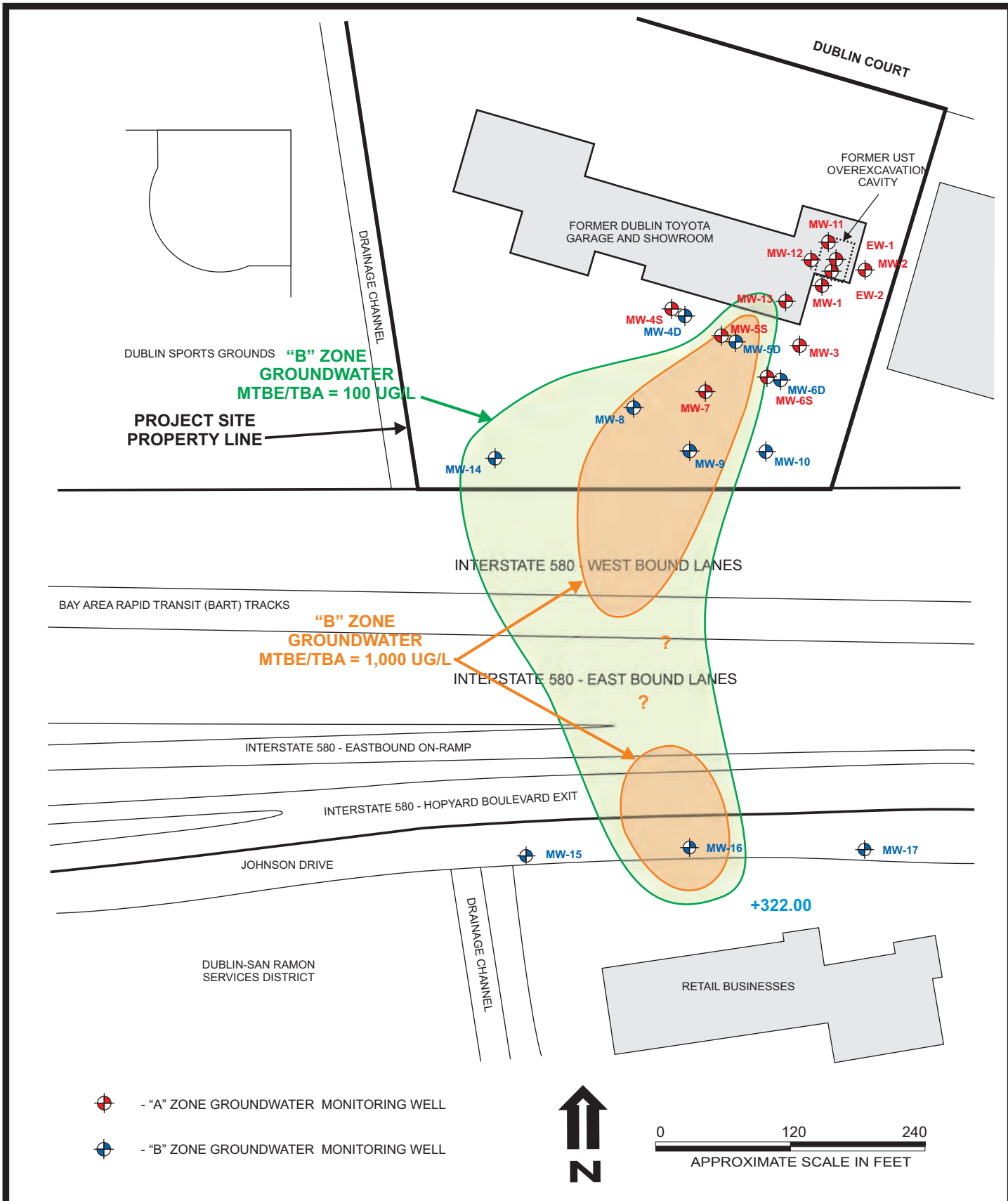
James E. Gribi
Registered Geologist
California No. 5843



FIGURES



DESIGNED BY:	CHECKED BY: JEG	SITE VICINITY MAP	DATE: 03/17/2011	FIGURE: 1
DRAWN BY: MAR	SCALE:			
PROJECT NO:		DUBLIN TOYOTA UST SITE 6450 DUBLIN COURT DUBLIN, CALIFORNIA		



DESIGNED BY:	CHECKED BY: JEG	"B" ZONE GROUNDWATER ELEVATIONS AND HYDROCARBON RESULTS, 06/2010 DUBLIN TOYOTA UST SITE 6450 DUBLIN COURT DUBLIN, CALIFORNIA	DATE: 03/17/2011	FIGURE: 2
DRAWN BY: MAR	SCALE:			
PROJECT NO:				



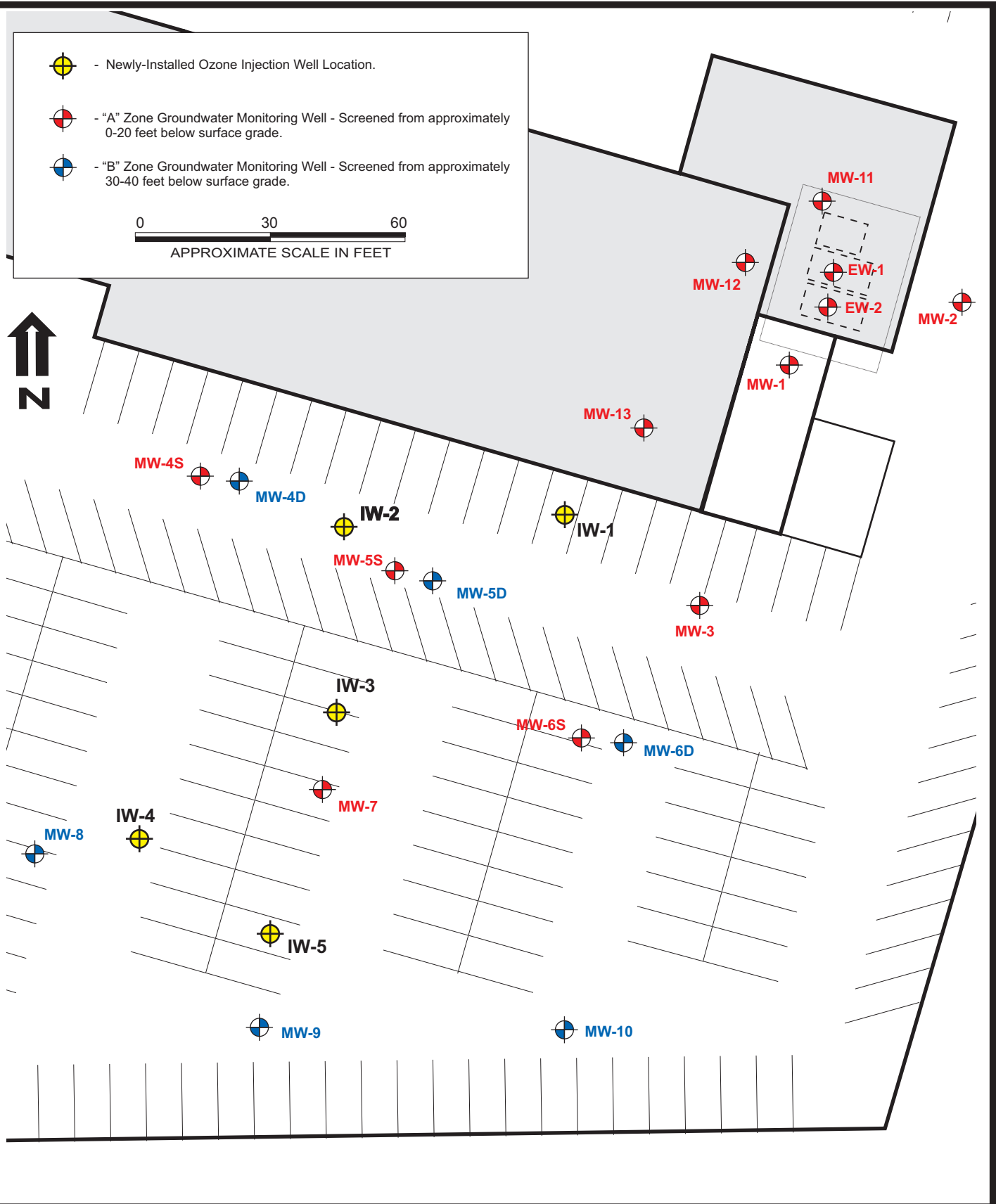
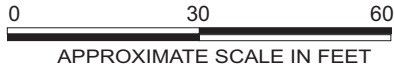
- Newly-Installed Ozone Injection Well Location.



- "A" Zone Groundwater Monitoring Well - Screened from approximately 0-20 feet below surface grade.



- "B" Zone Groundwater Monitoring Well - Screened from approximately 30-40 feet below surface grade.



DESIGNED BY:

CHECKED BY: JEG

**SITE PLAN SHOWING OZONE
INJECTION WELL LOCATIONS**

DATE: 03/17/2011

FIGURE: 3

DRAWN BY: MAR

SCALE:

DUBLIN TOYOTA UST SITE
6450 DUBLIN COURT
DUBLIN, CALIFORNIA

PROJECT NO:



ATTACHMENT A
DRILLING PERMIT



ZONE 7 WATER AGENCY

100 NORTH CANYONS PARKWAY, LIVERMORE, CALIFORNIA 94551 VOICE (925) 454-5000 FAX (925) 454-5728

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT
6450 DUBLIN COURT, DUBLIN, CALIFORNIA 94568

PERMIT NUMBER 2010111
WELL NUMBER 3S/1E-6E24 to 3S/1E-6E28
APN 941-1400-007-00

California Coordinates Source _____ ft Accuracy _____ ft
CCN _____ ft CCE _____ ft
APN _____

PERMIT CONDITIONS

(Circled Permit Requirements Apply)

CLIENT
Name DUBLIN TOYOTA
Address 4321 TOYOTA DRIVE Phone 925-241-7335
City DUBLIN, CALIFORNIA Zip 94568

- A. GENERAL**
 1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to 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 or equivalent for well projects or drilling logs and location sketch for geotechnical projects
 3. Permit is void if project not begun within 90 days of approval date

APPLICANT
Name GRIPI ASSOCIATES Fax 707-748-7763
Address 1090 ADAMS STREET, #K Phone 707-748-7743
City BENICIA, CALIFORNIA Zip 94510

- B. WATER SUPPLY WELLS**
 1. Minimum surface seal thickness is two inches of cement grout placed by tremie
 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. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements
 4. A sample port is required on the discharge pipe near the wellhead.

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	<input type="checkbox"/>	General	<input type="checkbox"/>
Water Supply	<input type="checkbox"/>	Contamination	<input type="checkbox"/>
Monitoring	<input checked="" type="checkbox"/>	Well Destruction	<input type="checkbox"/>

- C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS**
 1. Minimum surface seal thickness is two inches of cement grout placed by tremie
 2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet

PROPOSED WELL USE

New Domestic	<input type="checkbox"/>	Irrigation	<input type="checkbox"/>
Municipal	<input type="checkbox"/>	Remediation	<input checked="" type="checkbox"/>
Industrial	<input type="checkbox"/>	Groundwater Monitoring	<input type="checkbox"/>
Dewatering	<input type="checkbox"/>	Other	<input type="checkbox"/>

- 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	<input type="checkbox"/>	Air Rotary	<input type="checkbox"/>	Hollow Stem Auger	<input checked="" type="checkbox"/>
Cable Tool	<input type="checkbox"/>	Direct Push	<input type="checkbox"/>	Other	<input type="checkbox"/>

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

DRILLER COMPANY GREGG DRILLING AND TESTING
DRILLER'S LICENSE NO 485165

- F. WELL DESTRUCTION.** See attached

WELL PROJECTS

Drill Hole Diameter	<u>8.0</u> in.	Maximum	
Casing Diameter	<u>0.75</u> in.	Depth	<u>40</u> ft.
Surface Seal Depth	<u>30.0</u> ft.	Number	<u>5</u>

- G. SPECIAL CONDITIONS.** Submit to Zone 7 within 60 days after the 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 NOVEMBER 22, 2010
ESTIMATED COMPLETION DATE NOVEMBER 23, 2010

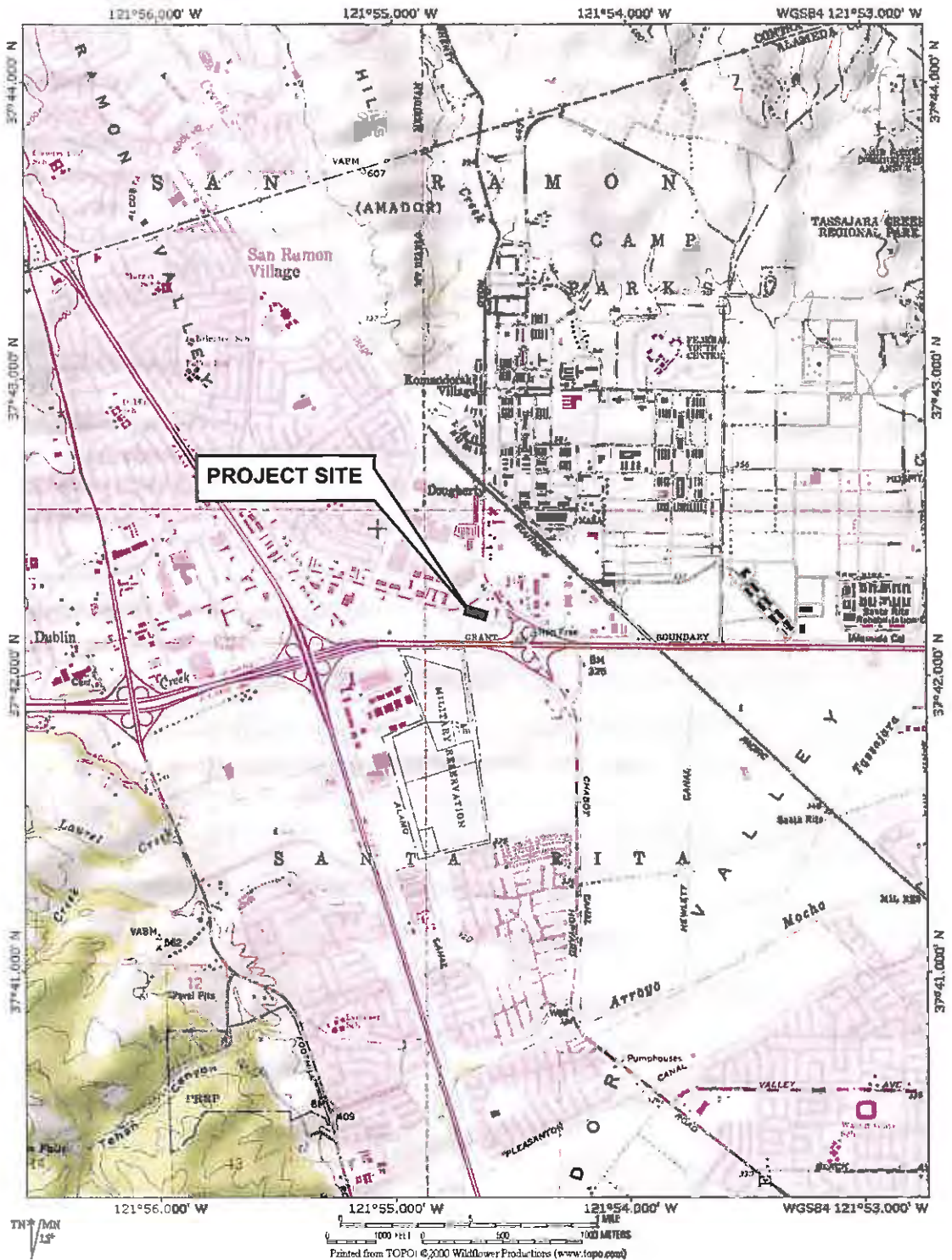
Approved Wyman Hong Date 11/17/10
Wyman Hong

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-88.




APPLICANT'S SIGNATURE [Signature] Date 10/13/2010

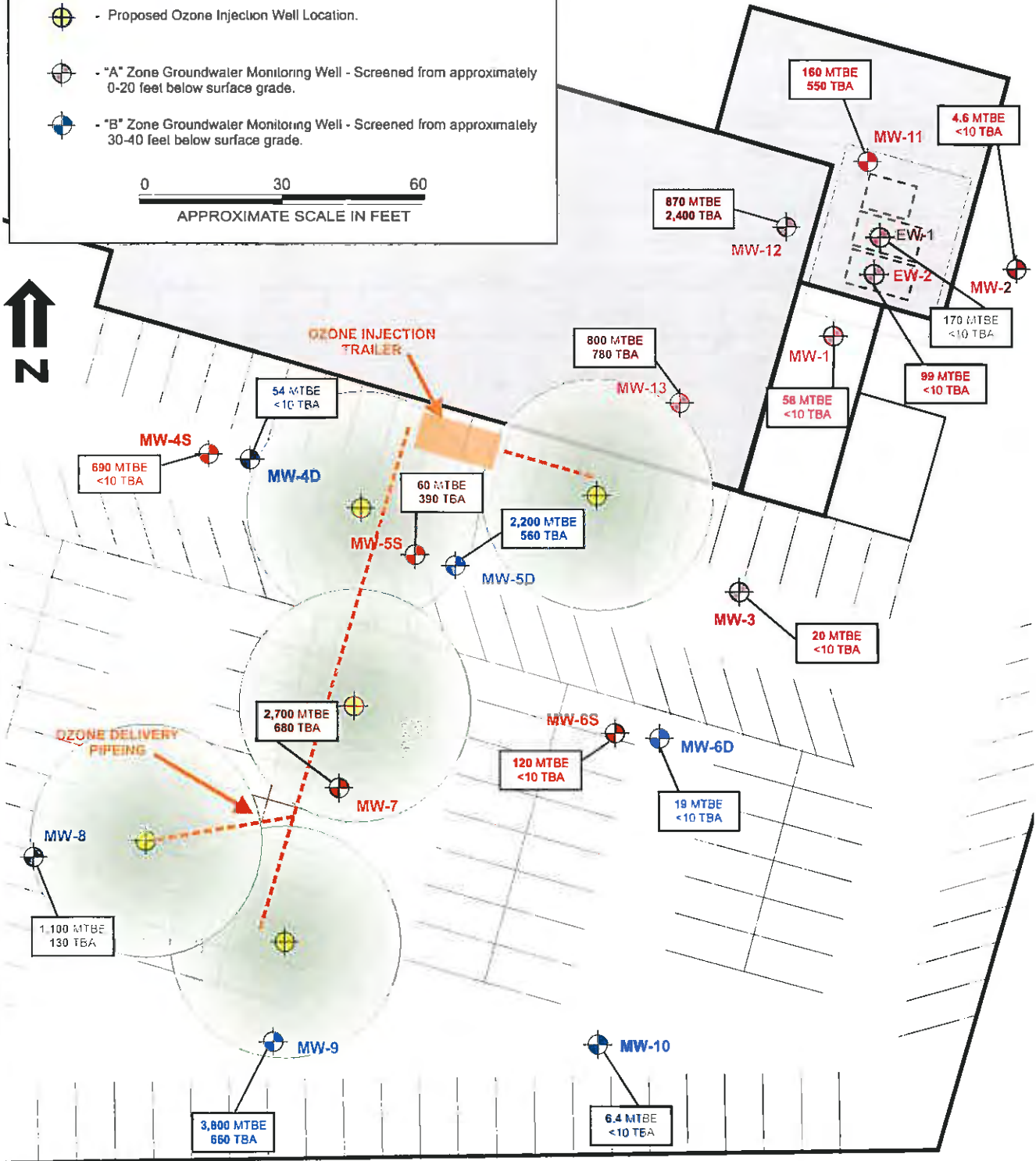
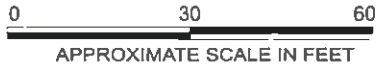
ATTACH SITE PLAN OR SKETCH

Revised April 27 2005



DESIGNED BY:	CHECKED BY: JEG	SITE VICINITY MAP	DATE: 09/15/2010	FIGURE: 1
DRAWN BY: MAR	SCALE:			
PROJECT NO:		DUBLIN TOYOTA UST SITE 6450 DUBLIN COURT DUBLIN, CALIFORNIA		

-  - Proposed Ozone Injection Well Location.
-  - "A" Zone Groundwater Monitoring Well - Screened from approximately 0-20 feet below surface grade.
-  - "B" Zone Groundwater Monitoring Well - Screened from approximately 30-40 feet below surface grade.



DESIGNED BY:	CHECKED BY: JEG
DRAWN BY: MAR	SCALE:
PROJECT NO:	

PROPOSED OZONE INJECTION SYSTEM LAYOUT
 DUBLIN TOYOTA UST SITE
 6450 DUBLIN COURT
 DUBLIN, CALIFORNIA

DATE: 09/15/2010 FIGURE: 10



ATTACHMENT B

**SOIL BORING LOGS AND
WELL CONSTRUCTION DETAILS**

LOG OF SOIL BORING

SHEET 1 OF

BORING NUMBER : **IW-1**

BORING LOCATION:

GRIBI Associates

DRILLING CONTRACTOR: GREGG DRILLING

DRILLING METHOD: HOLLOW-STEM AUGER

BORING TYPE: INJECTION WELL

BOREHOLE DIAMETER: 8.0 INCHES

COMPLETION METHOD: WELL BOX

PROJECT NAME: DUBLIN TOYOTA
DUBLIN, CALIFORNIA

START DATE: 11/22/2010

BORING TOTAL DEPTH: 36.0 FEET

PROJECT NUMBER:

COMPLETION DATE: 11/22/2010

GROUNDWATER DEPTH:

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS ▽ - INITIAL ▲ - FINAL	USCS	LOG OF MATERIAL		PIEZOMETRY WELL INSTALLATION																
5							0.0 -25.0 ft. Drill with wood plug. No samples were collected for logging.																	
10																								
15																								
20																								
25					CL	25.0 - 28.0 ft. Clay (CL) Olive-brown, moist, stiff, slightly silty, slightly sandy - very fine grain, no odor or staining.																		
30					SM	28.0 - 31.0 ft. Silty Sand (SM) Brown, wet, loose, very fine to fine grain sands, no odor or staining.																		
35					CL	31.0 - 36.0 ft. Clay Brown, moist, stiff to very stiff, slightly sandy - very fine to fine grain sands, no odor or staining.																		
40						TOTAL DEPTH: 36.0 FEET (below ground surface)																		
						<p style="text-align: center;"><u>WELL SPECIFICATIONS</u></p> <table border="0"> <tr> <td>A - WELL SCREEN DEPTH:</td> <td>30.50 FT</td> <td>CASING TYPE:</td> <td>SCH 40 PVC</td> </tr> <tr> <td>B - WELL SCREEN LENGTH:</td> <td>1.00 FT</td> <td>CASING SIZE:</td> <td>0.75 INCH</td> </tr> <tr> <td>C - DEPTH TO TOP OF SAND:</td> <td>28.00 FT</td> <td>SLOT SIZE:</td> <td>MICROPOROUS</td> </tr> <tr> <td>D - DEPTH BENTONITE SEAL:</td> <td>25.00 FT</td> <td></td> <td></td> </tr> </table>		A - WELL SCREEN DEPTH:	30.50 FT	CASING TYPE:	SCH 40 PVC	B - WELL SCREEN LENGTH:	1.00 FT	CASING SIZE:	0.75 INCH	C - DEPTH TO TOP OF SAND:	28.00 FT	SLOT SIZE:	MICROPOROUS	D - DEPTH BENTONITE SEAL:	25.00 FT			
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B - WELL SCREEN LENGTH:	1.00 FT	CASING SIZE:	0.75 INCH																					
C - DEPTH TO TOP OF SAND:	28.00 FT	SLOT SIZE:	MICROPOROUS																					
D - DEPTH BENTONITE SEAL:	25.00 FT																							

LOG OF SOIL BORING

SHEET 1 OF 1

BORING NUMBER : **IW-2**

BORING LOCATION:

GRIBI Associates

DRILLING CONTRACTOR: GREGG DRILLING

DRILLING METHOD: HOLLOW-STEM AUGER

BORING TYPE: INJECTION WELL

BOREHOLE DIAMETER: 8.0 INCHES

PROJECT NAME: DUBLIN TOYOTA
DUBLIN, CALIFORNIA

START DATE: 11/22/2010

COMPLETION METHOD: WELL BOX

BORING TOTAL DEPTH: 38.0 FEET

PROJECT NUMBER:

COMPLETION DATE: 11/22/2010

GROUNDWATER DEPTH:

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS ▽ - INITIAL ▲ - FINAL	USCS	LOG OF MATERIAL		PIEZOMETRY WELL INSTALLATION																
5							0.0 - 25.0 ft. Drill with wood plug. No samples were collected for logging.	A																
10																								
15																								
20																								
25					CL	25.0 - 30.0 ft. Clay (CL) Grey-brown, moist, stiff, slightly silty, slightly sandy - very fine grain, increase silt content with depth, no odor or staining.																		
30					SP	30.0 - 32.0 ft. Partial Recovery Same as above? Wet, sand in shoe - very fine to fine grain.																		
35					CL	32.0 - 36.0 ft. No Recovery Sand on outside of sampler. GW in boring rose to 12 fbg, boring collapse to 31 fbg.																		
40					CL	36.0 - 38.0 ft. Partial Recovery Brown, silty clay, soft to medium stiff to stiff.																		
						TOTAL DEPTH: 38.0 FEET (below ground surface)																		
						<p style="text-align: center;"><u>WELL SPECIFICATIONS</u></p> <table border="0"> <tr> <td>A - WELL SCREEN DEPTH:</td> <td>35.00 FT</td> <td>CASING TYPE:</td> <td>SCH 40 PVC</td> </tr> <tr> <td>B - WELL SCREEN LENGTH:</td> <td>1.00 FT</td> <td>CASING SIZE:</td> <td>0.75 INCH</td> </tr> <tr> <td>C - DEPTH TO TOP OF SAND:</td> <td>31.00 FT</td> <td>SLOT SIZE:</td> <td>MICROPOROUS</td> </tr> <tr> <td>D - DEPTH BENTONITE SEAL:</td> <td>28.00 FT</td> <td></td> <td></td> </tr> </table>		A - WELL SCREEN DEPTH:	35.00 FT	CASING TYPE:	SCH 40 PVC	B - WELL SCREEN LENGTH:	1.00 FT	CASING SIZE:	0.75 INCH	C - DEPTH TO TOP OF SAND:	31.00 FT	SLOT SIZE:	MICROPOROUS	D - DEPTH BENTONITE SEAL:	28.00 FT			
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B - WELL SCREEN LENGTH:	1.00 FT	CASING SIZE:	0.75 INCH																					
C - DEPTH TO TOP OF SAND:	31.00 FT	SLOT SIZE:	MICROPOROUS																					
D - DEPTH BENTONITE SEAL:	28.00 FT																							

LOG OF SOIL BORING

SHEET 1 OF 1

BORING NUMBER : **IW-3**

BORING LOCATION:

BORING TYPE: INJECTION WELL

PROJECT NAME: DUBLIN TOYOTA
DUBLIN, CALIFORNIA

PROJECT NUMBER:

GRIBI Associates

DRILLING CONTRACTOR: GREGG DRILLING

DRILLING METHOD: HOLLOW-STEM AUGER

BOREHOLE DIAMETER: 8.0 INCHES



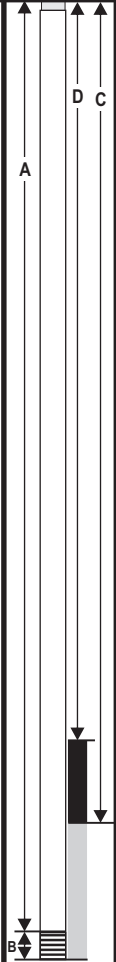
COMPLETION METHOD: WELL BOX

BORING TOTAL DEPTH: 35.0 FEET

GROUNDWATER DEPTH:

START DATE: 11/24/2010

COMPLETION DATE: 11/24/2010

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS	USCS	LOG OF MATERIAL	PIEZOMETRY WELL INSTALLATION												
				 - INITIAL  - FINAL															
5						0.0 - 30.0 ft. Drill with wood plug. No samples were collected for logging.													
10																			
15																			
20																			
25						30.0 - 32.0 ft. Silty Sand (SM) Grey, wet, very fine to fine grain sand, loose, increasing clay with depth - becoming sandy clay in shoe.													
30						32.0 - 33.0 ft. Sandy Clay (CL) Grey-brown, moist, medium stiff to stiff, very fine to fine grain sands, no odor or staining.													
35						33.0 - 34.0 ft. Sand (SP) Brown, fine to coarse grain sand, wet, loose.													
40						34.0 - 35.0 ft. Clay (CL) Brown, moist, stiff, slightly silty, no odor or staining.													
TOTAL DEPTH: 35.0 FEET (below ground surface)						<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; margin: 0;"><u>WELL SPECIFICATIONS</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">A - WELL SCREEN DEPTH:</td> <td style="width: 33%;">34.00 FT</td> <td style="width: 33%;">CASING TYPE: SCH 40 PVC</td> </tr> <tr> <td>B - WELL SCREEN LENGTH:</td> <td>1.00 FT</td> <td>CASING SIZE: 0.75 INCH</td> </tr> <tr> <td>C - DEPTH TO TOP OF SAND:</td> <td>30.00 FT</td> <td>SLOT SIZE: MICROPOROUS</td> </tr> <tr> <td>D - DEPTH BENTONITE SEAL:</td> <td>27.00 FT</td> <td></td> </tr> </table> </div>		A - WELL SCREEN DEPTH:	34.00 FT	CASING TYPE: SCH 40 PVC	B - WELL SCREEN LENGTH:	1.00 FT	CASING SIZE: 0.75 INCH	C - DEPTH TO TOP OF SAND:	30.00 FT	SLOT SIZE: MICROPOROUS	D - DEPTH BENTONITE SEAL:	27.00 FT	
A - WELL SCREEN DEPTH:	34.00 FT	CASING TYPE: SCH 40 PVC																	
B - WELL SCREEN LENGTH:	1.00 FT	CASING SIZE: 0.75 INCH																	
C - DEPTH TO TOP OF SAND:	30.00 FT	SLOT SIZE: MICROPOROUS																	
D - DEPTH BENTONITE SEAL:	27.00 FT																		

BORING NUMBER : IW-4

BORING LOCATION:

BORING TYPE: INJECTION WELL

PROJECT NAME: DUBLIN TOYOTA
DUBLIN, CALIFORNIA

PROJECT NUMBER:

LOG OF SOIL BORING

GRIBI Associates

SHEET 2 OF 2

DRILLING CONTRACTOR: GREGG DRILLING

DRILLING METHOD: HOLLOW-STEM AUGER

BOREHOLE DIAMETER: 8.0 INCHES



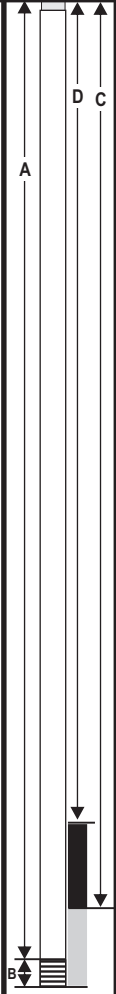





COMPLETION METHOD: WELL BOX

BORING TOTAL DEPTH: 37.0 FEET

GROUNDWATER DEPTH:

START DATE: 11/23/2010

COMPLETION DATE: 11/23/2010

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS	USCS	LOG OF MATERIAL	PIEZOMETRY WELL INSTALLATION
				 - INITIAL  - FINAL			
5						0.0 - 25.0 ft. Drill with wood plug. No samples were collected for logging.	
10							
15							
20							
25						25.0 - 28.0 ft. Clay (CL) Grey-brown, moist, stiff, slightly silty, slightly sandy - very fine grain, increase silt content with depth, no odor or staining.	
30						28.0 - 30.0 ft. Clayey Silt (ML) Grey-brown, moist, medium stiff, slightly sandy - very fine grain, sand increasing with depth, no odor or staining.	
35						30.0 - 32.0 ft. Sandy Silt (ML) Brown, moist, soft to medium stiff, very fine to fine grain sand.	
35						32.0 - 36.0 ft. Gravelly Sand (SP) Brown, wet, fine to coarse grain sand, fine to coarse gravel, no odor or staining.	
35						36.0 - 37.0 ft. Clay (CL) Brown, moist, very stiff, slightly silty, no odor or staining.	
40						TOTAL DEPTH: 37.0 FEET (below ground surface)	
WELL SPECIFICATIONS A - WELL SCREEN DEPTH: 35.00 FT CASING TYPE: SCH 40 PVC B - WELL SCREEN LENGTH: 1.00 FT CASING SIZE: 0.75 INCH C - DEPTH TO TOP OF SAND: 33.00 FT SLOT SIZE: MICROPOROUS D - DEPTH BENTONITE SEAL: 30.00 FT							

LOG OF SOIL BORING

SHEET 1 OF 2

BORING NUMBER : **IW-5**

BORING LOCATION:

GRIBI Associates

DRILLING CONTRACTOR: GREGG DRILLING

DRILLING METHOD: HOLLOW-STEM AUGER

BORING TYPE: INJECTION WELL

BOREHOLE DIAMETER: 8.0 INCHES

COMPLETION METHOD: WELL BOX

PROJECT NAME: DUBLIN TOYOTA
DUBLIN, CALIFORNIA



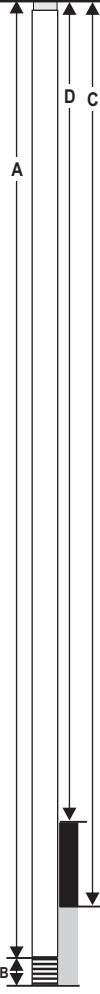
START DATE: 11/23/2010

BORING TOTAL DEPTH: 36.0 FEET

PROJECT NUMBER:

COMPLETION DATE: 11/24/2010

GROUNDWATER DEPTH:

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS	USCS	LOG OF MATERIAL	PIEZOMETRY WELL INSTALLATION																				
				 - INITIAL  - FINAL																							
5						0.0 - 30.0 ft. Drill with wood plug. No samples were collected for logging.																					
10																											
15																											
20																											
25																											
30						30.0 - 32.0 ft. Sandy Clay (CL) Olive-brown, moist, stiff, slightly silty, slightly sandy - very fine grain, increase sand content with depth, no odor or staining.																					
35						32.0 - 36.0 ft. Gravelly Sand (SP) Brown, wet, loose, fine to coarse grain sand, fine to medium gravel, no odor or staining.																					
40						TOTAL DEPTH: 35.0 FEET (below ground surface)																					
<table border="1"> <thead> <tr> <th colspan="4">WELL SPECIFICATIONS</th> </tr> </thead> <tbody> <tr> <td>A - WELL SCREEN DEPTH:</td> <td>35.00 FT</td> <td>CASING TYPE:</td> <td>SCH 40 PVC</td> </tr> <tr> <td>B - WELL SCREEN LENGTH:</td> <td>1.00 FT</td> <td>CASING SIZE:</td> <td>0.75 INCH</td> </tr> <tr> <td>C - DEPTH TO TOP OF SAND:</td> <td>33.00 FT</td> <td>SLOT SIZE:</td> <td>MICROPOROUS</td> </tr> <tr> <td>D - DEPTH BENTONITE SEAL:</td> <td>30.00 FT</td> <td></td> <td></td> </tr> </tbody> </table>								WELL SPECIFICATIONS				A - WELL SCREEN DEPTH:	35.00 FT	CASING TYPE:	SCH 40 PVC	B - WELL SCREEN LENGTH:	1.00 FT	CASING SIZE:	0.75 INCH	C - DEPTH TO TOP OF SAND:	33.00 FT	SLOT SIZE:	MICROPOROUS	D - DEPTH BENTONITE SEAL:	30.00 FT		
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ATTACHMENT C
DWR WELL COMPLETION REPORTS

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

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