

1 December 2009

Ms. Karen Milicic
Contract Manager
Florida Department of Environmental Protection
2600 Blair Stone Road, MS 4520
Tallahassee, Florida 32399-2400

Re: YEAR 2 SEMI-ANNUAL 2
POST ACTIVE REMEDIAL MONITORING REPORT
Former Advanced Dental
935 North Semoran Boulevard
Orlando, FL
FDEP Facility No. 489500817
FDEP Task Assignment No. HW504-D13Q

Dear Ms. Milicic:

Geosyntec Consultants (Geosyntec) has prepared this Year 2 Semi-Annual 2 Post Active Remedial Monitoring (PARM) report for the Former Advanced Dental facility located in Orlando, Florida (**Figure 1**). The report was prepared in accordance with the Florida Department of Environmental Protection (FDEP) Task Assignment HW504-D13Q. This letter report provides a summary of potassium lactate injection activities completed in April 2007 and March 2008, and PARM activities and results from October 2009.

Potassium Lactate Injection

Geosyntec completed two potassium lactate injections at the Former Advanced Dental Site. The initial injection was completed in April 2007 in accordance with the Remedial Action Plan Modification (RAP Mod), dated 18 January 2007 and approved by the FDEP on 19 January 2007. The Rap Mod specified injecting 20 gallons of potassium lactate (2,000 gallons of diluted potassium lactate solution) into the upper portion of the surficial aquifer beneath the former facility.

PARM sampling results were reported to the FDEP on 7 November 2007 and indicated that dissolved concentrations of tetrachloroethylene (PCE), trichloroethylene (TCE), and cis-1,2 dichloroethene (cis-1,2 DCE) were detected in groundwater. Prior to the April 2007 lactate injection, the PCE concentration in monitoring well MW001 was reported at 13 micrograms per liter ($\mu\text{g/L}$), which is above the Groundwater Cleanup Target Level (GCTL) of 3.0 $\mu\text{g/L}$. The PCE concentration in monitoring well MW001 decreased to 4.88 $\mu\text{g/L}$ on 24 September 2007. No other detectable concentrations of PCE were reported during the post-injection monitoring period. Concentrations of TCE and cis-1,2 DCE were reported below GCTLs in monitored wells following the April 2007 injection.

The post-injection groundwater data was evaluated and no substantial increase in total organic carbon (TOC) was observed in the treatment zone. Geosyntec concluded that a sufficient quantity of potassium lactate solution was not delivered to the source area during the April 2007 injection. Based on these results, Geosyntec and the FDEP concurred that a second injection should be performed at the site and the quantity of potassium lactate should be increased to 100 gallons (5,500 gallons of diluted potassium lactate solution). The second lactate injection was completed in March 2008.

The results of baseline groundwater sampling conducted on 11 February 2008 in advance of the second injection event performed in March 2008 were reported to the FDEP on 10 April 2008. Baseline groundwater sampling results indicated that PCE concentrations exceeded the GCTL in monitoring well MW001 (20.8 $\mu\text{g/L}$ PCE). PARM sampling subsequent to the second injection (March 2008) was completed in April (4.12 $\mu\text{g/L}$ PCE), May (5.79 $\mu\text{g/L}$ PCE) and September 2008 (12.6 $\mu\text{g/L}$ PCE), as well as March 2009 (8.7 $\mu\text{g/L}$ PCE).

Water Quality Sampling

Geosyntec staff mobilized to the site on 13 October 2009, to complete the Year 2 Semi-Annual 2, PARM of monitoring wells MW001 (source monitoring well), MW004 (down gradient monitoring well), and MW010 (side gradient monitoring well). All sampling and decontamination activities were performed in general accordance with the FDEP Standard Operating Procedures cited in Rule 62-160, F.A.C. effective 3 December 2008. A minimum of one well volume of groundwater was purged from each monitoring well prior to collecting field measured parameters. Well purging continued until at least three consecutive rounds of field measured parameters were within FDEP specified limits. The samples were submitted to a fixed base laboratory (Xenco Laboratories – Tampa, FL). Xenco is a NELAC accredited laboratory (NELAC Certification Numbers E86240 and

E84900) located in Tampa, Florida. Groundwater samples were analyzed for volatile organic hydrocarbons (VOHs) by EPA Method 8260, dissolved organic carbon (DOC) by SM5310 and the Underground Injection Control (UIC) parameter color by SM2120B.

Quality assurance/quality control (QA/QC) samples were collected for laboratory analysis to evaluate the quality of field sampling and laboratory analysis. All method blanks were free from target compounds and other interferences. During the performance of the monitoring event on 13 October 2009, a duplicate sample for VOHs was obtained from monitoring well MW001. The duplicate sample analytical result was within 3.7 % of the primary sample analytical result for PCE, 10.4% of the primary sample for TCE, and 4.1% of the primary sample for cis-DCE. A copy of the laboratory certificate is included in **Attachment A**.

The field data (pH, conductivity, temperature, dissolved oxygen [DO], redox [ORP], turbidity and visual observations with regards to sample color) are summarized in **Table 1**. Analytical results for groundwater samples are summarized in **Tables 2 and 3**. Groundwater sampling results for the 13 October 2009 sampling event are presented on **Figure 2**.

Groundwater Flow Characterization

Depth-to-water measurements were recorded from all wells during the 13 October 2009 groundwater sample collection. Monitoring well construction details, and depth-to-water measurements and the resulting groundwater elevation data, are presented in **Tables 4 and 5**, respectively. Groundwater elevations and estimated contours are presented in **Figure 3**. Groundwater appears to flow from southwest to northeast near MW001 and generally east to west across the rest of the site, which is consistent with historical data.

Summary

Groundwater sampling results indicate dissolved concentrations of PCE, TCE, and cis-1,2 DCE were detected in groundwater samples collected this reporting period. PCE (37.7 µg/L) was reported in the groundwater sample collected on 13 October 2009 from monitoring well MW001 (source) at a concentration exceeding the GCTL of 3.0 µg/L. No other VOHs were reported above applicable GCTLs. Groundwater sampling results are summarized in **Table 2** and are provided on **Figure 2**.

Groundwater samples collected this reporting period from monitoring wells MW001, MW004 and MW010 were analyzed for dissolved organic carbon (DOC). Reported DOC concentrations in monitoring wells MW001, MW004, and MW010 were 49.9 mg/L, 15.1 mg/L, 34.2 mg/L respectively. Reported DOC concentrations in monitoring wells MW004 and MW010 represent increases from March 2009. However, DOC concentrations continue to decrease in the treatment area in the sample at monitoring well MW001 from 106 to 50 mg/L. DOC analytical results are summarized in **Table 3**.

Natural attenuation field parameters were recorded at monitoring wells MW001, MW004, and MW010 prior to performance of the sampling event on 13 October 2009. Concentrations of DO remained relatively stable over the reporting period and ranged from 0.3 to 0.7 mg/L on 13 October 2009. ORP increased in all sampled monitoring wells compared to the previous monitoring event (March 2009). The measured ORP values ranged from 69.6 millivolts (mV) to 154.3 mV. Positive ORP values indicate that reducing conditions are not present in the upper portion of the surficial aquifer in the source area. pH values slightly increased from the previous period (March 2009) and ranged from 5.1 to 6.3 compared to 4.6 to 5.5 for the previous period. Review of the field measured natural attenuation parameters indicates that pH may be the limiting factor for reductive dechlorination. The most recent data indicates that the measured pH values are outside the range for reductive dechlorination. Field-measured groundwater parameters are summarized in **Table 1**.

Groundwater samples collected from monitoring wells MW001, MW004 and MW010 on 13 October 2009 were analyzed for color by Xenco Laboratories. Reported color values for groundwater samples from monitoring wells MW001, MW004, and MW010 were 60, 10, and 30 color units (CU) respectively.

Review of the period of record data for TDS, color and DOC results may indicate that the injected potassium lactate solution was not fully delivered to the depth interval of interest. While slight increase in concentrations of these parameters was observed, the magnitude of observed increases are not consistent with data from other sites where potassium lactate has been used.

The results of the performance groundwater sampling indicate that PCE concentrations exceed the GCTL in monitoring well MW001 and that concentrations have risen to the highest observed levels since 2005. Increasing concentrations of PCE reported in MW001 suggest that potassium lactate injections have not been effective in reducing PCE

concentrations in groundwater in the source area. Current water quality data indicate that PCE concentrations in monitoring well MW001 have increased to their highest levels since 2005 and the lack of detections of concentrations of PCE daughter products are minimal. The ineffectiveness of the injections is most-likely due to the inability of the injectate to reach the impacted portion of the surficial aquifer. Injectate was pumped through the SVE laterals near monitoring well MW001 and into the vadose zone where it infiltrated downward to the surface of the water table. Due to the placement method of the injectate, mechanical mixing (dispersion) of the potassium lactate with the groundwater in the aquifer was limited, leaving diffusion as the only mechanism available to distribute potassium lactate to the impacted zone of the aquifer.

Recommendations

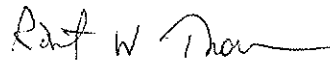
Geosyntec recommends continued groundwater monitoring at MW001, MW004 and MW010 on a semi-annual basis. The sampling program will also include a complete round of depth to water level measurements to estimate groundwater flow direction. Geosyntec also recommends discussing the path forward for this site with the FDEP to evaluate alternative remedial and monitoring options.

Please call if you have any questions or comments regarding the information presented in this letter report.

Sincerely,



John Spencer
Sr. Staff Hydrogeologist



Robert W. Thompson, P.G.
Geologist

CERTIFICATE OF AUTHORIZATION
POST ACTIVE REMEDIATION MONITORING REPORT

FORMER ADVANCED DENTAL
935 North Semoran Boulevard
Orlando, FL
FDEP Facility No. 489500817

I hereby certify that in my professional judgment, the geologic and hydrogeologic components of this document satisfy the requirements set forth in Chapter 492, Florida Statutes, and other applicable rules and regulations of the state of Florida. I have completed and/or been in responsible charge of work completed by a qualified geologist working directly under my supervision.

Prepared by:

John Spencer 12/01/09

John Spencer/Date
Sr. Staff Hydrogeologist

Reviewed by:

Robert W. Thompson 12/1/09

Robert W. Thompson, P.G./Date
Florida Professional Geologist No. 2560
Geosyntec Consultants, Inc.
Telephone: (813) 558-0990

TABLES

TABLE 1: FIELD SAMPLING PARAMETERS SUMMARY**Facility Name: Former Advanced Dental Facility ID No. 489700817**

Sample Location	Sample Date	Sample Depth (feet bls)	pH	Conductivity (ms/cm)	Temperature (°C)	Turbidity (NTU)	ORP (MV)	DO (mg/L)	Color/Comments
MW001	02/27/01	9	5.9	257	23.2	450	-220.0	1.3	NC
	09/05/01	8	5.4	180	27.2		163.0	3.0	NC
	02/25/03	8	5.0	210	24.1	55	170.0	1.4	NC
	02/25/03	8	5.0	210	24.1	55	170.0	1.4	NC
	09/02/03	10	5.2	200	17.6		245.1	1.1	Clear
	09/14/04	10	4.9	211	28.5	15	220.7	0.4	Clear
	03/10/05	10	5.5	340	22.04	172	177	1.4	Brown
	09/23/05	10	5.7	160	27.1	2.9	250	0.1	Clear
	01/17/06	10	5.0	285	23.1	20	-72.3	0.2	Clear
	04/19/06	10	5.9	320	24.5	7.7	-51	1.2	Clear
	07/27/06	10	4.9	289	23.1	7.3	82.2	0.6	Clear
	10/30/06	10	4.7	256	23	18.7	19.7	0.3	Clear
	03/20/07	9	6.1	310	23.2	16	173	1.0	Clear
	07/05/07	7	4.9	445	23.6	1.24	232.6	0.7	Clear
	09/24/07	7	5.0	214	23.8	4.1	52.5	0.6	Clear
	02/11/08	9	4.5	365	22.5	7.1	96.7	1.1	Clear
	04/16/08	10	5.2	196	23.8	0.03	-159.6	0.3	Clear/sulfur odor
	06/25/08	10	4.9	926	24.0	3.89	-10.2	0.8	Clear/sulfur odor
	09/15/08	NR	7.0	964	24.0	14.7	-296.1	0.4	Cloudy
	03/17/09	9	5.5	555	23.4	17.9	-195.7	0.4	Clear
	10/13/09	8.5	5.8	587	24.1	18.4	69.6	0.4	Clear
MW002	02/27/01	9	5.5	302	24.2	39	-137.9	0.6	NC
	09/06/01	9	4.8	280	29.5		-110.0	3.6	NC
MW003	02/27/01	33	5.6	73	24.1	1433	-171.2	0.7	NC
	09/05/01	33	5.2	50	27.4		-167.0	5.4	NC

TABLE 1: FIELD SAMPLING PARAMETERS SUMMARY**Facility Name: Former Advanced Dental Facility ID No. 489700817**

Sample Location	Sample Date	Sample Depth (feet bls)	pH	Conductivity (ms/cm)	Temperature (°C)	Turbidity (NTU)	ORP (MV)	DO (mg/L)	Color/Comments
MW004	02/27/01	9	5.6	192	22.3	8	-103.4	0.6	NC
	09/05/01	9	5.2	200	29.1		-80.0	4.1	NC
	02/25/03	8	5.0	240	21.5	5	74.0	1.1	NC
	09/02/03	11	4.9	232	20.4		86.8	0.9	Clear
	09/14/04	10	4.8	291	30.9	5.2	33	0.2	Clear
	03/10/05	10	5.9	380	21.05	9	79	0.9	Clear
	09/23/05	10	5.2	170	27.62	8.7	216	0.1	Clear
	01/17/06	10	5.2	255	22.2	45	-88.4	0.3	Clear
	04/19/06	10	5.7	340	24.4	2.9	-66	1.0	Clear
	07/27/06	10	4.9	299	28.9	8.3	-81.6	0.6	Clear
	10/30/06	10	4.8	287	25.6	13.8	-117	0.2	Clear
	03/20/07	NR	4.9	260	24.2	38.5	137.9	0.6	Clear
	07/05/07	7	4.8	496	27.7	0	119.8	0.2	Clear
	09/24/07	7	4.9	242	27.8	3.15	-20.3	0.4	Clear
	02/11/08	8	4.8	272	22.6	4.9	156.2	1.4	Clear
	04/16/08	10	5.1	185	22.2	2.4	68.7	0.5	Clear
	06/25/08	10	4.9	335	28.9	1.01	113.6	0.2	Clear
	09/15/08	NR	6.6	192	28.1	19.2	-194.3	0.7	Clear
	03/17/09	9	4.6	168	21.4	3.2	27.5	0.5	Clear
	10/13/09	8	5.1	218	27.3	3.9	154.3	0.3	Clear
MW005	02/27/01	9	5.3	264	26.6	424	-160.3	0.5	NC
	09/06/01	9	4.9	270	33.2		-126.0	4.6	NC
MW006	02/27/01	9	5.7	256	29.9	665	-141.0	1.0	NC
	09/06/01	9	6.3	270	33.4		-173.0	0.5	NC
MW007	02/27/01	33	5.4	74	28.7	1455	-137.7	0.7	NC
	09/06/01	33	5.2	70	31.4		-152.0	0.4	NC

TABLE 1: FIELD SAMPLING PARAMETERS SUMMARY**Facility Name: Former Advanced Dental Facility ID No. 489700817**

Sample Location	Sample Date	Sample Depth (feet bls)	pH	Conductivity (ms/cm)	Temperature (°C)	Turbidity (NTU)	ORP (MV)	DO (mg/L)	Color/Comments
MW008	02/27/01	9	5.8	199	28.8	243	-117.0	0.8	NC
	09/06/01	9	5.6	200	33.1		-98.0	4.7	NC
	02/25/03	8	5.6	260	25.9	4	-109.0	1.0	NC
	09/02/03	11	5.8	280	22.3		-41.2	1.1	Clear
	09/14/04	10	5.6	246	31.6	7.2	-37.2	0.3	Clear
	03/10/05	10	6.4	230	24.49	23	133	1.4	Clear
	09/23/05	10	5.6	140	31.51	12.3	277	0.3	Clear
	01/17/06	10	5.5	162	26.5	1	-73.2	0.3	Clear
MW009	02/27/01	9	5.3	202	25.3	467	-103.9	0.6	NC
	09/06/01	9	5.1	150	30.4		-96.0	4.6	NC
MW010	02/27/01	9	5.8	263	22.9	61	-57.4	0.5	NC
	09/06/01	9	6.3	440	30.6		63.0	5.2	NC
	03/20/07	NR	6.0	290	23.0	18	109.4	1.0	Clear
	07/05/07	7	5.4	324	27.6	6.9	134.7	0.2	Clear
	09/24/07	7	6.0	455	29.1	18.1	38.1	0.7	Clear
	02/11/08	9	4.3	395	23.3	13.9	121.4	1.4	Clear
	04/16/08	9	5.2	90	25.7	0.0	39.0	0.3	Clear
	06/25/08	9	5.6	192	28.9	11.8	85.2	0.1	Clear
	09/15/08	NR	7.0	462	29.8	0	-227.9	1.2	Clear
	03/17/09	9	5.5	197	23.8	18.2	-57.6	0.3	Clear
	10/13/09	8	6.3	417	29.4	2.3	129.2	0.7	Clear
MW011	02/27/01	9	5.9	835	24.3	31	-72.8	0.5	NC
	09/06/01	9	5.9	2180	29.2		100.0	0.7	NC
MW012	03/21/01	10	5.5	179	25.0	46	-190.0	1.0	NC
	09/05/01	8	5.5	160	29.8		-170.0	0.4	NC
	02/25/03	8	5.2	160	24.0	3	-62.0	0.9	NC
MW013	03/21/01	10	5.0	174	25.0	3	-186.0	1.4	NC
	09/05/01	8	5.9	400	31.2		83.0	3.2	NC
	02/25/03	8	5.4	342	22.9	7	72.3	3.6	NC

Notes: μ S/cm = microSiemens (micromhos) per centimeter
 bls = below land surface
 NC = No Comment NR = Not Recorded

NA = not applicable; information was not obtained
 NTU = nephelometric turbidity units

TABLE 2: MONITOR WELL GROUNDWATER ANALYTICAL RESULTS

Facility Name: Former Advanced Dental

Facility ID No.: 489700817

Sample Location	Sample Date	Collection Depth (feet; btoc)	Analyte Concentration					
			Total VOH (µg/L)	PCE (µg/L)	TCE (µg/L)	cis 1,2 DCE (µg/L)	trans 1,2 DCE (µg/L)	Vinyl Chloride (µg/L)
Groundwater Cleanup Target Levels				3.0	3.0	70	100	1.0
Method Detection Limit				1.0	1.0	1.0	1.0	1.0
MW001	2/27/2001	9	404	300	36.4	64.1	3.5	BDL
	9/5/2001	8	465.7	360	87.3	18.4	BDL	BDL
	2/25/2003	8.1	218.5	195	15.9	7.6	BDL	BDL
	2/25/2003 (DUP)		429.8	405	14.9	9.9	BDL	BDL
	9/2/2003	10	315.4	300	10	5.4	BDL	BDL
	9/14/2004	10	82.2	63	9.3	9.9	BDL	BDL
	3/10/2005 (DUP)	10	1.4	1.4	BDL	BDL	BDL	BDL
	3/10/2005	10	1.4	1.4	BDL	BDL	BDL	BDL
	9/23/2005	10	99.6	85.0	7.2	7.4	BDL	BDL
	1/17/2006	10	ND	<1.0	<1.0	<1.0	<1.0	<1.0
	1/17/06 (Dup)	10	ND	<1.0	<1.0	<1.0	<1.0	<1.0
	4/19/2006	10	7.1	5.9	<1.0	1.2	<1.0	<1.0
	7/26/2006	9	ND	<1.0	<1.0	<1.0	<1.0	<1.0
	7/26/06 (Dup)	9	ND	<1.0	<1.0	<1.0	<1.0	<1.0
	10/30/2006	10	9.0	6.5	1.1	1.4	<1.0	<1.0
	3/20/2007	9	18.6	13	2.11	3.5	BDL	BDL
	7/5/2007	7	4.6	3.83	0.79	BDL	BDL	BDL
	9/24/2007	7	5.6	4.88	0.7	BDL	BDL	BDL
	2/11/2008	9	26.3	20.8	2.49	2.96	BDL	BDL
	4/16/2008	10	6.44	4.12	2.32	BDL	BDL	BDL
	6/25/2008	10	7.84	5.79	0.80	1.25	BDL	BDL
	9/15/2008	NR	16.19	12.6	2.63	0.961	BDL	BDL
	3/17/2009	9	11.69	8.7	1.79	1.20	BDL	BDL
	10/13/2009	8.5	39.67	36.7	2.24	0.73	<0.39	<0.41
	10/13/2009 (Dup)	8.5	40.90	37.7	2.50	0.70	<0.39	<0.41
MW002	2/27/2001	9	ND	BDL	BDL	BDL	BDL	BDL
	9/6/2001	9	ND	BDL	BDL	BDL	BDL	BDL
MW003	2/27/2001	33	ND	BDL	BDL	BDL	BDL	BDL
	9/5/2001	32.5	ND	BDL	BDL	BDL	BDL	BDL
	9/5/2001 (DUP)		ND	BDL	BDL	BDL	BDL	BDL

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Facility Name: Former Advanced Dental

Facility ID No.: 489700817

Sample Location	Sample Date	Collection Depth (feet; btoc)	Analyte Concentration					
			Total VOH (µg/L)	PCE (µg/L)	TCE (µg/L)	cis 1,2 DCE (µg/L)	trans 1,2 DCE (µg/L)	Vinyl Chloride (µg/L)
Groundwater Cleanup Target Levels				3.0	3.0	70	100	1.0
Method Detection Limit				1.0	1.0	1.0	1.0	1.0
MW004	2/27/2001	9	25.9	23.5	2.4	BDL	BDL	BDL
	9/5/2001	9	21	13.4	4.6	3.0	BDL	BDL
	2/25/2003	7.9	48.6	48.6	BDL	BDL	BDL	BDL
	9/2/2003	11	5.2	5.2	BDL	BDL	BDL	BDL
	9/14/2004	10	ND	BDL	BDL	BDL	BDL	BDL
	3/10/2005	10	ND	BDL	BDL	BDL	BDL	BDL
	9/23/2005	10	ND	BDL	BDL	BDL	BDL	BDL
	1/17/2006	10	ND	<1.0	<1.0	<1.0	<1.0	<1.0
	4/19/2006	10	ND	<1.0	<1.0	<1.0	<1.0	<1.0
	4/19/2006 (Dup)	10	ND	<1.0	<1.0	<1.0	<1.0	<1.0
	7/26/2006	9	ND	<1.0	<1.0	<1.0	<1.0	<1.0
	10/30/2006	9	ND	<1.0	<1.0	<1.0	<1.0	<1.0
	10/30/06 (Dup)	9	ND	<1.0	<1.0	<1.0	<1.0	<1.0
	3/20/2007	NC	ND	BDL	BDL	BDL	BDL	BDL
	7/5/2007	7	ND	BDL	BDL	BDL	BDL	BDL
	9/24/2007	7	ND	BDL	BDL	BDL	BDL	BDL
	2/11/2008	8	ND	BDL	BDL	BDL	BDL	BDL
	4/16/2008	10	0.88	BDL	0.88	BDL	BDL	BDL
	6/25/2008	10	1.63	1.63	BDL	BDL	BDL	BDL
	9/15/2008	NR	ND	BDL	BDL	BDL	BDL	BDL
	3/17/2009	9	ND	<1.0	<1.0	<1.0	<1.0	<1.0
	10/13/2009	8	ND	<0.51	<0.31	<0.36	<0.39	<0.41
MW005	2/27/2001	9	ND	BDL	BDL	BDL	BDL	BDL
	9/6/2001	9	ND	BDL	BDL	BDL	BDL	BDL
MW006	2/27/2001	9	ND	BDL	BDL	BDL	BDL	BDL
	9/6/2001	9	ND	BDL	BDL	BDL	BDL	BDL
MW007	2/27/2001	33	ND	BDL	BDL	BDL	BDL	BDL
	9/6/2001	32.5	ND	BDL	BDL	BDL	BDL	BDL
	9/6/2001 (DUP)		ND	BDL	BDL	BDL	BDL	BDL

TABLE 2: MONITOR WELL GROUNDWATER ANALYTICAL RESULTS

Facility Name: Former Advanced Dental

Facility ID No.: 489700817

Sample Location	Sample Date	Collection Depth (feet; btoc)	Analyte Concentration					
			Total VOH (µg/L)	PCE (µg/L)	TCE (µg/L)	cis 1,2 DCE (µg/L)	trans 1,2 DCE (µg/L)	Vinyl Chloride (µg/L)
Groundwater Cleanup Target Levels				3.0	3.0	70	100	1.0
Method Detection Limit				1.0	1.0	1.0	1.0	1.0
MW008	2/27/2001	9	14	9.0	3.5	1.5	BDL	BDL
	9/6/2001	9	15.4	8.0	5.0	2.4	BDL	BDL
	2/25/2003	8	8.7	7.5	1.2	BDL	BDL	BDL
	9/2/2003	11	6.7	3.4	1.6	1.7	BDL	BDL
	9/14/2004	10	2.7	1.3	BDL	1.4	BDL	BDL
	9/14/2004 (Dup)		2.6	1.2	BDL	1.4	BDL	BDL
	3/10/2005	10	ND	BDL	BDL	BDL	BDL	BDL
	9/23/2005 (Dup)		ND	BDL	BDL	BDL	BDL	BDL
	9/23/2005	10	ND	BDL	BDL	BDL	BDL	BDL
1/17/2006	10	ND	<1.0	<1.0	<1.0	<1.0	<1.0	
MW009	2/27/2001	9	1.4	1.4	BDL	BDL	BDL	BDL
	9/6/2001	9	ND	BDL	BDL	BDL	BDL	BDL
MW010	2/27/2001	9	1.8	1.8	BDL	BDL	BDL	BDL
	9/6/2001	9	ND	BDL	BDL	BDL	BDL	BDL
	3/20/2007	NC	ND	BDL	BDL	BDL	BDL	BDL
	7/5/2007	7	ND	BDL	BDL	BDL	BDL	BDL
	9/24/2007	6	3	BDL	3	BDL	BDL	BDL
	2/11/2008	9	1	BDL	1	BDL	BDL	BDL
	4/16/2008	9	0.575	BDL	0.575	BDL	BDL	BDL
	6/25/2008	9	0.776	BDL	0.776	BDL	BDL	BDL
	9/15/2008	NR	1.15	BDL	1.15	BDL	BDL	BDL
	3/17/2009	9	8.06	1.38	6.68	0.776	BDL	BDL
	3/17/09 (DUP)	9	7.82	1.10	6.72	BDL	BDL	BDL
	10/13/2009	8	0.39	<0.51	0.39	<0.36	<0.39	<0.41
MW011	2/27/2001	9	ND	BDL	BDL	BDL	BDL	BDL
	9/6/2001	9	ND	BDL	BDL	BDL	BDL	BDL

TABLE 2: MONITOR WELL GROUNDWATER ANALYTICAL RESULTS

Facility Name: Former Advanced Dental

Facility ID No.: 489700817

Sample Location	Sample Date	Collection Depth (feet; btoc)	Analyte Concentration					
			Total VOH (µg/L)	PCE (µg/L)	TCE (µg/L)	cis 1,2 DCE (µg/L)	trans 1,2 DCE (µg/L)	Vinyl Chloride (µg/L)
Groundwater Cleanup Target Levels				3.0	3.0	70	100	1.0
Method Detection Limit				1.0	1.0	1.0	1.0	1.0
MW012	3/21/2001	10	ND	BDL	BDL	BDL	BDL	BDL
	9/5/2001	8	ND	BDL	BDL	BDL	BDL	BDL
	2/25/2003	8.3	ND	BDL	BDL	BDL	BDL	BDL
MW013	3/21/2001	10	ND	BDL	BDL	BDL	BDL	BDL
	9/5/2001	8	ND	BDL	BDL	BDL	BDL	BDL
	2/25/2003	8.3	ND	BDL	BDL	BDL	BDL	BDL

Notes: µg/L = micrograms per liter (parts per billion)
BDL = analyte not detected above the method detection limit
(DUP) = duplicate sample
ND = VOCs not detected
bls = below land surface
NC = No Comment

DCE = dichloroethene
PCE = tetrachloroethene
TCE = trichloroethene
VOH = volatile organic halogens
Values in bold denotes a concentration greater than the Florida groundwater CTL.

TABLE 3: MONITOR WELL POST INJECTION PARAMETER ANALYTICAL RESULTS**Facility Name: Former Advanced Dental Facility ID No. 489700817**

Sample Location	Sample Date	Sample Depth (feet bls)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	Color (CU)	Chloride (mg/L)	TDS (mg/L)
UIC Maximum Allowable Concentrations			NA	NA	*15	*250	*500
MW001	03/20/07	9	5.87	NA	NA	NA	NA
	07/05/07	7	NA	6.9	NA	NA	NA
	09/24/07	7	NA	12.8	NA	NA	NA
	02/11/08	9	4.8	NA	NA	NA	NA
	04/16/08	10	13.6	NA	NA	NA	NA
	06/25/08	10	239	NA	20	27.4	871
	09/15/08	NR	344	NA	25	41.3	1,620
	03/17/09	9	106	NA	40	26.6	260
	10/13/09	8.5	50	NA	60	NA	NA
MW004	03/20/07	NR	7.57	NA	NA	NA	NA
	07/05/07	7	NA	8.38	NA	NA	NA
	09/24/07	7	NA	8.27	NA	NA	NA
	02/11/08	8	7.07	NA	NA	NA	NA
	04/16/08	10	7.42	NA	NA	NA	NA
	06/25/08	10	7.58	NA	50	14.9	108
	09/15/08	NR	7.61	NA	10	10.8	121
	03/17/09	9	7.54	NA	7.5	17.4	10.0
	10/13/09	8	15.1	NA	10	NA	NA
MW010	03/20/07	NR	12.7	NA	NA	NA	NA
	07/05/07	7	NA	10.6	NA	NA	NA
	09/24/07	6	NA	18.8	NA	NA	NA
	02/11/08	9	13.2	NA	NA	NA	NA
	04/16/08	9	12.6	NA	NA	NA	NA
	06/25/08	9	11.6	NA	46	8.31	132
	09/15/08	NR	16.0	NA	25	14.4	380
	03/17/09	9	13.1	NA	10	17.8	125
	10/13/09	8	34.2	NA	30	NA	NA

Notes: mg/L = milligrams per liter
 bls = below land surface
 NA = not applicable; information was not obtained
 NC = No Comment
 NR = Not Recorded
 * = Secondary Drinking Water Standards Ch. 62-550

TABLE 4: MONITOR WELL CONSTRUCTION DETAILS**Facility Name: Advanced Dental Facility ID No.: 489700817**

Well ID	Date Installed	Well Diameter (inches)	Screened Interval (feet bls)	Top of Casing Elevation (feet msl)	Total Depth (feet btoc)
MS001	09/20/00	1.00	5-15	96.34	15
MS002	09/20/00	1.00	5-15	96.11	15
MS003	09/20/00	1.00	5-15	95.84	15
MW001	02/26/01	0.75	2 - 12	96.35	12
MW002	02/05/01	0.75	2 - 12	96.27	12
MW003	02/07/01	0.75	30 - 35	96.25	35
MW004	02/07/01	0.75	2 - 12	96.30	12
MW005	02/06/01	0.75	2 - 12	95.80	12
MW006	02/06/01	0.75	2 - 12	95.92	12
MW007	02/06/01	0.75	30 - 35	96.30	35
MW008	02/06/01	0.75	2 - 12	96.27	12
MW009	02/06/01	0.75	2 - 12	96.19	12
MW010	02/07/01	0.75	2 - 12	95.77	12
MW011	02/06/01	0.75	2 - 12	96.21	12
MW012	03/20/01	0.75	2 - 12	96.45	12
MW013	03/20/01	0.75	2 - 12	96.17	12

Notes:

bls = below land surface
btoc = below top of casing
msl = mean sea level

N/A Denotes Data Not Available

Elevations surveyed to mean sea level (NAVD, 1988)

TABLE 5: GROUNDWATER ELEVATION DATA**Facility Name: Former Advanced Dental Facility ID No. 489700817**

Sample Location	Top of Casing (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (ft msl)
September 21, 2000			
MS001	99.58	3.73	95.85
MS002	99.46	3.58	95.88
MS003	99.39	3.21	96.18
December 12, 2000			
MS001	99.58	4.99	94.59
MS002	99.46	4.85	94.61
MS003	99.39	4.54	94.85
February 27, 2001			
MS001	96.35	5.48	90.87
MS002	96.11	5.23	90.88
MS003	95.84	5.00	90.84
MW001	96.35	5.80	90.55
MW002	96.27	5.39	90.88
MW003	96.25	5.84	90.41
MW004	96.30	5.48	90.82
MW005	95.80	5.00	90.80
MW006	95.92	5.32	90.60
MW007	96.30	5.98	90.32
MW008	96.27	5.74	90.53
MW009	96.19	5.60	90.59
MW010	95.77	4.94	90.83
MW011	96.21	5.48	90.73
March 8, 2001			
MS001	96.34	5.00	91.34
MS002	96.11	5.21	90.90
MS003	95.84	4.86	90.98
MW001	96.35	5.69	90.66
MW002	96.27	5.30	90.97
MW003	96.25	5.65	90.60
MW004	96.30	5.37	90.93
MW005	95.80	4.93	90.87
MW006	95.82	5.24	90.58
MW007	96.30	5.82	90.48
MW008	96.27	5.62	90.65
MW009	96.19	5.34	90.85
MW010	95.77	4.79	90.98
MW011	96.21	5.31	90.90
March 21, 2001			
MW012	N/A	5.00	N/A
MW013	N/A	5.20	N/A

TABLE 5: GROUNDWATER ELEVATION DATA**Facility Name: Former Advanced Dental Facility ID No. 489700817**

Sample Location	Top of Casing (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (ft msl)
September 5, 2001			
MS001	96.34	N/A	N/A
MS002	96.11	N/A	N/A
MS003	95.84	N/A	N/A
MW001	96.35	3.59	92.76
MW002	96.27	2.96	93.31
MW003	96.25	3.34	92.91
MW004	96.30	3.22	93.08
MW005	95.80	2.66	93.14
MW006	95.82	2.93	92.89
MW007	96.30	3.46	92.84
MW008	96.27	3.35	92.92
MW009	96.19	3.23	92.96
MW010	95.77	2.43	93.34
MW011	96.21	2.91	93.30
MW012	96.45	3.89	92.56
MW013	96.17	4.33	91.84
September 3, 2003			
MW001	96.35	3.24	93.11
MW002	96.27	2.75	93.52
MW003	96.25	3.15	93.10
MW004	96.30	2.90	93.40
MW005	95.80	2.42	93.38
MW006	95.82	2.47	93.35
MW007	96.30	3.31	92.99
MW008	96.27	3.20	93.07
MW009	96.19	3.14	93.05
MW010	95.77	2.48	93.29
MW011	96.21	2.85	93.36
MW012	96.45	3.60	92.85
MW013	96.17	3.92	92.25
September 14, 2004			
MW001	96.35	3.10	93.25
MW002	96.27	2.56	93.71
MW003	96.25	3.26	92.99
MW004	96.30	2.82	93.48
MW005	95.80	2.48	93.32
MW006	95.82	2.92	92.90
MW007	96.30	3.57	92.73
MW008	96.27	3.55	92.72
MW009	96.19	3.25	92.94
MW010	95.77	2.26	93.51
MW011	96.21	2.88	93.33
MW012	96.45	N/A	N/A
MW013	96.17	N/A	N/A

TABLE 5: GROUNDWATER ELEVATION DATA**Facility Name: Former Advanced Dental Facility ID No. 489700817**

Sample Location	Top of Casing (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (ft msl)
March 10, 2005			
MW001	96.35	4.80	91.55
MW002	96.27	4.17	92.10
MW003	96.25	4.69	91.56
MW004	96.30	4.43	91.87
MW005	95.80	4.03	91.77
MW006	95.82	4.55	91.27
MW007	96.30	4.98	91.32
MW008	96.27	5.03	91.24
MW009	96.19	4.69	91.50
MW010	95.77	3.73	92.04
MW011	96.21	4.43	91.78
MW012	96.45	5.74	90.71
MW013	96.17	5.75	90.42
September 21, 2005			
MW001	96.35	4.04	92.31
MW002	96.27	3.91	92.36
MW003	96.25	4.63	91.62
MW004	96.30	4.06	92.24
MW005	95.80	3.82	91.98
MW006	95.82	4.30	91.52
MW007	96.30	5.00	91.30
MW008	96.27	4.98	91.29
MW009	96.19	4.64	91.55
MW010	95.77	3.35	92.42
MW011	96.21	4.23	91.98
MW012	96.45	5.94	90.51
MW013	96.17	6.25	89.92
January 17, 2006			
MW001	96.35	5.00	91.35
MW002	96.27	4.43	91.84
MW003	96.25	5.21	91.04
MW004	96.30	4.70	91.60
MW005	95.80	4.26	91.54
MW006	95.82	4.70	91.12
MW007	96.30	5.49	90.81
MW008	96.27	5.42	90.85
MW009	96.19	5.19	91.00
MW010	95.77	3.90	91.87
MW011	96.21	4.86	91.35
MW012	96.45	6.40	90.05
MW013	96.17	6.66	89.51

TABLE 5: GROUNDWATER ELEVATION DATA**Facility Name: Former Advanced Dental Facility ID No. 489700817**

Sample Location	Top of Casing (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (ft msl)
April 19, 2006			
MW001	96.35	5.49	90.86
MW002	96.27	5.23	91.04
MW003	96.25	5.80	90.45
MW004	96.30	5.51	90.79
MW005	95.80	5.05	90.75
MW006	95.82	5.32	90.50
MW007	96.30	6.12	90.18
MW008	96.27	6.05	90.22
MW009	96.19	5.81	90.38
MW010	95.77	4.90	90.87
MW011	96.21	5.25	90.96
MW012	96.45	6.85	89.60
MW013	96.17	7.07	89.10
July 26, 2006			
MW001	96.35	4.63	91.72
MW002	96.27	4.02	92.25
MW003	96.25	4.51	91.74
MW004	96.30	4.31	91.99
MW005	95.80	3.98	91.82
MW006	95.82	4.51	91.31
MW007	96.30	4.91	91.39
MW008	96.27	4.90	91.37
MW009	96.19	4.80	91.39
MW010	95.77	3.50	92.27
MW011	96.21	4.21	92.00
MW012	96.45	5.72	90.73
MW013	96.17	N/A	N/A
October 30, 2006			
MW001	96.35	4.71	91.64
MW002	96.27	4.16	92.11
MW003	96.25	4.94	91.31
MW004	96.30	4.41	91.89
MW005	95.80	4.00	91.80
MW006	95.82	4.42	91.40
MW007	96.30	5.17	91.13
MW008	96.27	5.05	91.22
MW009	96.19	4.83	91.36
MW010	95.77	3.92	91.85
MW011	96.21	4.53	91.68
MW012	96.45	6.03	90.42
March 20, 2007			
MW001	96.35	5.16	91.19
MW004	96.30	5.20	91.10
MW010	95.77	5.19	90.58

TABLE 5: GROUNDWATER ELEVATION DATA**Facility Name: Former Advanced Dental Facility ID No. 489700817**

Sample Location	Top of Casing (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (ft msl)
April 12, 2007			
MW001	96.35	5.79	90.56
MW004	96.30	5.50	90.80
MW010	95.77	5.10	90.67
July 8, 2007			
MW001	96.35	6.20	90.15
MW004	96.30	5.67	90.63
MW010	95.77	5.98	89.79
September 24, 2007			
MW001	96.35	2.31	94.04
MW004	96.30	4.00	92.30
MW010	95.77	3.31	92.46
February 11, 2008			
MW001	96.35	6.00	90.35
MW004	96.30	4.87	91.43
MW010	95.77	5.75	90.02
April 16, 2008			
MW001	96.35	7.80	88.55
MW004	96.30	7.32	88.98
MW010	95.77	7.22	88.55
June 25, 2008			
MW001	96.35	7.33	89.02
MW004	96.30	7.03	89.27
MW010	95.77	6.53	89.24
September 15, 2008			
MW001	96.35	4.10	92.25
MW004	96.30	3.75	92.55
MW010	95.77	3.17	92.60
March 17, 2009			
MW001	96.35	6.34	90.01
MW004	96.30	6.00	90.30
MW010	95.77	5.55	90.22
October 13, 2009			
MW001	96.35	4.87	91.48
MW002	96.27	4.42	91.85
MW003	96.25	5.08	91.17
MW004	96.30	4.62	91.68
MW005	95.80	4.10	91.70
MW006	95.92	4.51	91.41
MW007	96.30	5.28	91.02
MW008	96.27	5.13	91.14
MW009	96.19	4.92	91.27
MW010	95.77	4.18	91.59
MW011	96.21	4.63	91.58
MW012	96.45	5.88	90.57
MW013	96.17	5.95	90.22

Notes:

bls = below land surface

btoc = below top of casing

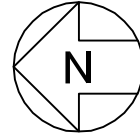
msl = mean sea level

Elevations surveyed to mean sea level (NAVD, 1988)

N/A Denotes Data Not Available

FIGURES

I:_CADD (PROJECTS)\FIDEPA\ADVANCED DENTAL\FIGURES\FR1018A.02\FR1018A.02F01.DWG (1 December 2009) cvtckers



MW011

DUMPSTERS

FENCE

Ⓟ POWER
POLE

MW010		
CONSTITUENT	GCT L µg/L	RESULT
PCE	3	<0.51 µg/L
TCE	3	0.39 µg/L
CIS 1, 2 DCE	70	<0.36 µg/L
DOC	NA	34.2 mg/L

MW010

TRANSFORMER

MW001		
CONSTITUENT	GCT L µg/L	RESULT
PCE	3	37.7 µg/L
TCE	3	2.24 µg/L
CIS 1, 2 DCE	70	0.73 µg/L
DOC	NA	49.6 mg/L

ISLAND

MW004		
CONSTITUENT	GCT L µg/L	RESULT
PCE	3	<0.51 µg/L
TCE	3	<0.31 µg/L
CIS 1, 2 DCE	70	<0.36 µg/L
DOC	NA	15.1 mg/L

MW004

MW003

VMP-2

ADVANCED
DENTAL
(DENTURECARE)

HAIR
CUTTERS

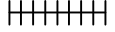
SIDEWALK

DURON PAINTS &
WALL COVERINGS

COSTA
DEL SOL
REST.

ACE BEAUTY
SUPPLY

LEGEND:

- MW006  SHALLOW MONITORING WELL LOCATION
(12' TOTAL DEPTH BLS)
- MW003  DEEP MONITORING WELL LOCATION
(35' TOTAL DEPTH BLS)
-  VAPOR EXTRACTION LATERAL WELLHEAD
- VMP-1  VAPOR MONITORING POINT LOCATION
-  VAPOR EXTRACTION LATERAL



NOTES:

PCE= TETRACHLOROETHENE
TCE= TRICHLOROETHENE
DCE= DICHLOROETHENE
DOC= DISSOLVED ORGANIC CARBON
µg/L= MICROGRAMS / LITER
mg/L= MILLIGRAMS / LITER
NA= NOT APPLICABLE
GCTL=GROUNDWATER CLEANUP TARGET LEVEL

MW002

GROUNDWATER SAMPLING RESULTS
13 OCTOBER 2009
ADVANCED DENTAL (DENTURECARE)
953 NORTH SEMORAN BOULEVARD
ORLANDO, FLORIDA

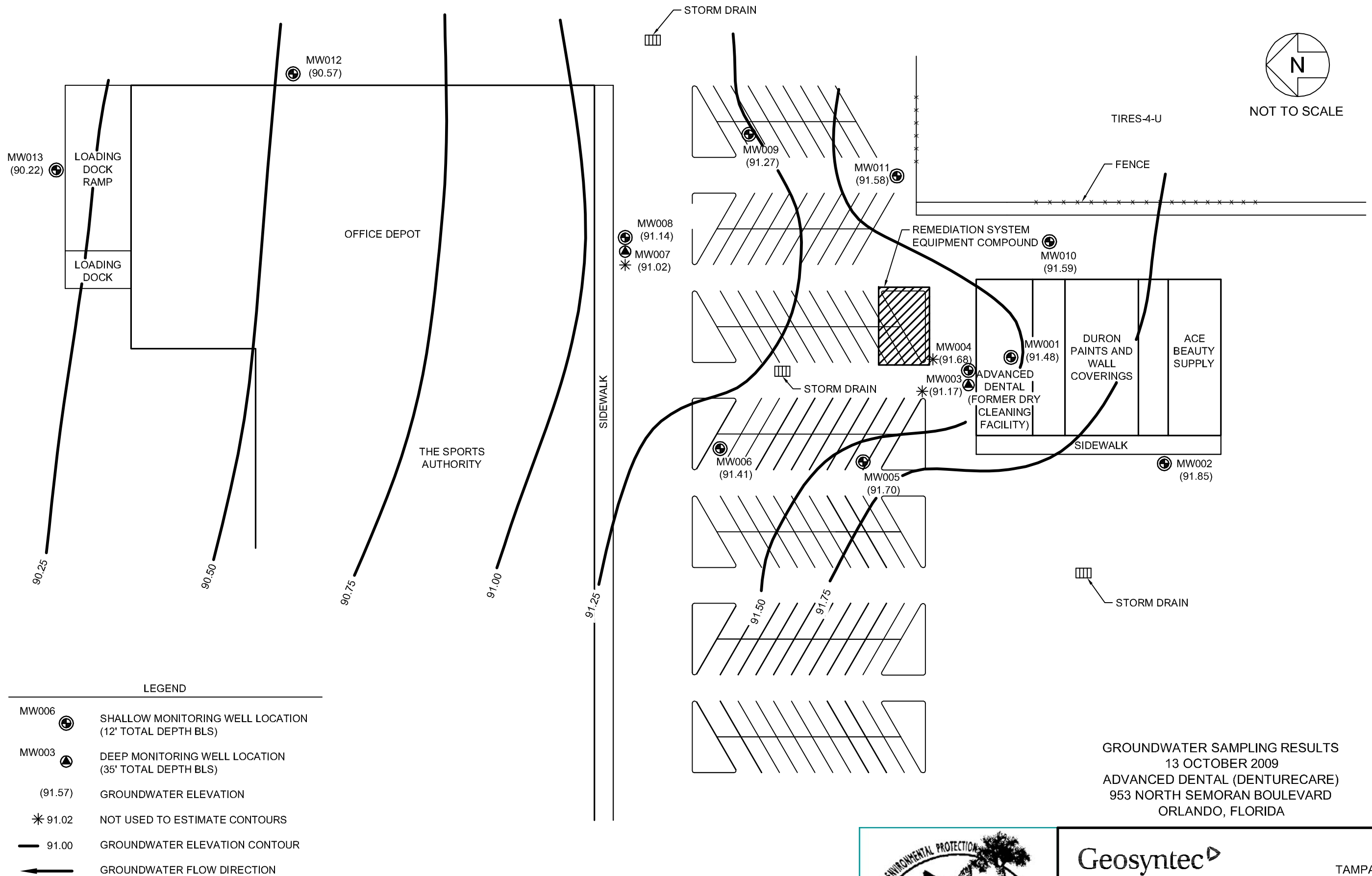


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DATE: 10 NOVEMBER 2009	FILE NO. FR1018A.02F01
PROJECT NO. FR1018A	FIGURE NO. 2

I:_CADD (PROJECTS)\FIDEPI\ADVANCED DENTAL\FIGURES\FR1018A.02\FR1018A.02F02.DWG (10 November 2009) cvickers

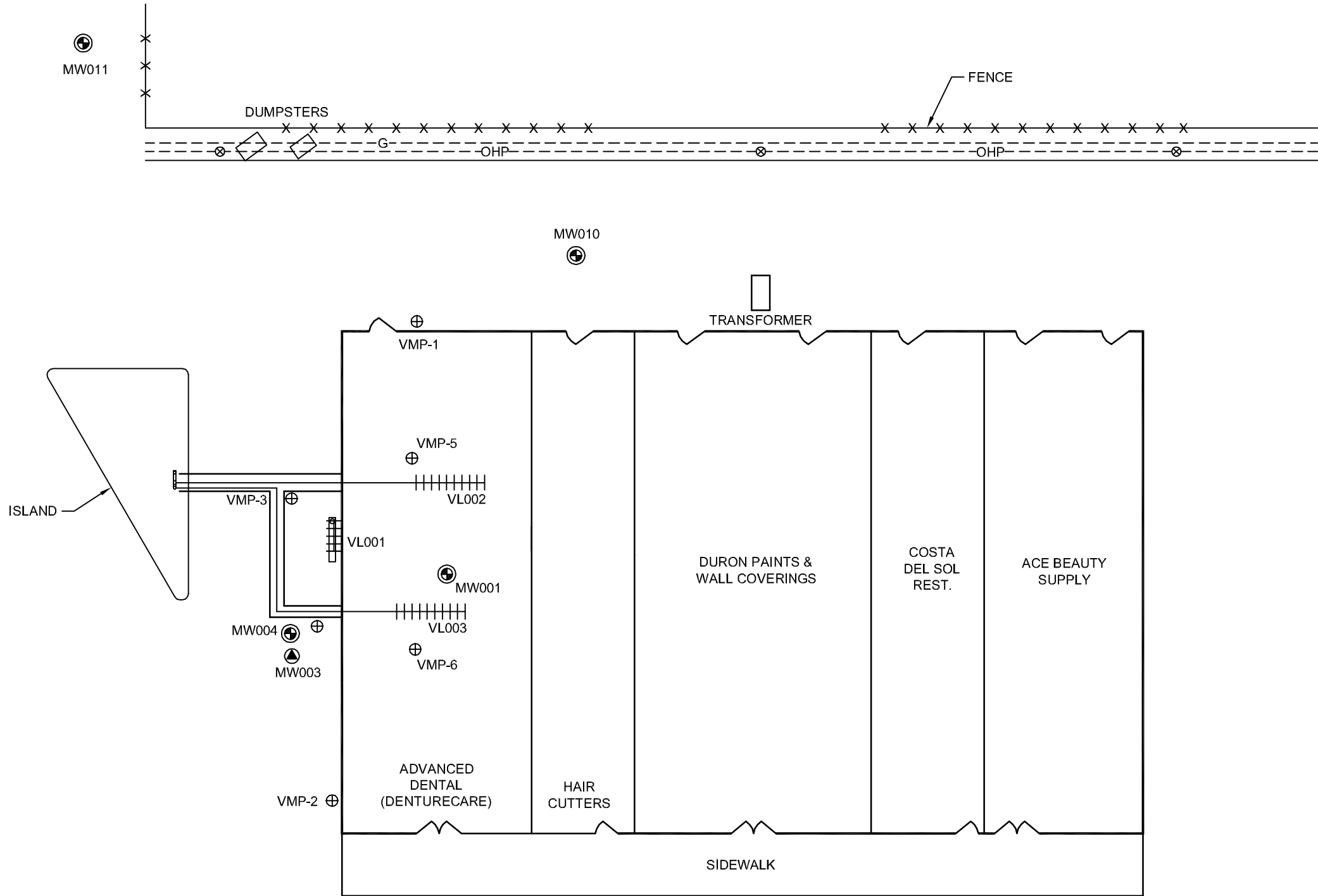
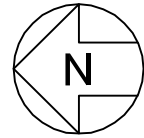


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DATE: 10 NOVEMBER 2009	FILE NO. FR1018A.02F02
PROJECT NO. FR1018A	FIGURE NO. 3

I:_CADD (PROJECTS)\FIDEPA\ADVANCED DENTAL\FIGURES\FR1018A.02\FR1018A.02F03.DWG (1 December 2009) cvtckers



LEGEND:

- MW006 SHALLOW MONITORING WELL LOCATION (12' TOTAL DEPTH BLS)
- MW003 DEEP MONITORING WELL LOCATION (35' TOTAL DEPTH BLS)
- VAPOR EXTRACTION LATERAL WELLHEAD
- VMP-1 VAPOR MONITORING POINT LOCATION
- VAPOR EXTRACTION LATERAL



NOTES:

PCE= TETRACHLOROETHENE
TCE= TRICHLOROETHENE
DCE= DICHLOROETHENE
DOC= DISSOLVED ORGANIC CARBON
µg/L= MICROGRAMS / LITER
mg/L= MILLIGRAMS / LITER
NA= NOT APPLICABLE
GCTL=GROUNDWATER CLEANUP TARGET LEVEL

SITE MAP
ADVANCED DENTAL (DENTURECARE)
953 NORTH SEMORAN BOULEVARD
ORLANDO, FLORIDA



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consultants

TAMPA, FL

DATE: 10 NOVEMBER 2009	FILE NO. FR1018A.02F03
PROJECT NO. FR1018A	FIGURE NO. 1

ATTACHMENT A

Laboratory Certifications



22-OCT-09

Project Manager: **Luke LeMond**
Geosyntec Consultants
14055 River Edge Drive
Suite 300
Tampa, FL 33637

Reference: XENCO Report No: **348331**
Advanced Dental
Project Address: FL

Luke LeMond:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 348331. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 348331 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,


Michelle B. Williams

Project Manager

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