

**1st QUARTERLY MONITORING REPORT
February 2009 Sampling**

**City of Patterson
Water Quality Control Facility
Groundwater Monitoring Program**

Conducted in Accordance with R5-2007-0147

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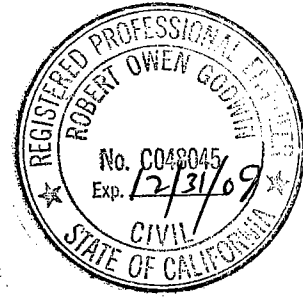


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SECTION 1 INTRODUCTION

This Quarterly Groundwater Monitoring Report has been prepared in accordance with the Waste Discharge Requirements (WDR) Order No. R5-2007-0147 for the Water Quality Control Facility (WQCF) in the City of Patterson, Stanislaus County, California. The wells were installed as part of the Monitoring and Reporting Program developed to determine if groundwater has been, or has the potential to be, adversely impacted by wastewater treatment and disposal operations. The monitoring program includes an assessment of background conditions and a determination if there has been any impact from wastewater disposal. The groundwater monitoring program consists of the quarterly sampling of fifteen (15) monitoring wells.

Monitoring wells MW-1 to MW-5 were constructed in March 2001 and have been sampled on a quarterly basis since April 2001. MW-1 and MW-2 are background upgradient wells. MW-1 is located west of the Facility along Walnut Avenue. MW-2 is northwest of Percolation Pond 3. Wells MW-3, MW-4, and MW-5 are downgradient wells located east of existing Percolation Pond 13, AIPS primary pond, and Percolation Pond 7, respectfully.

In conjunction with the 1.25 mgd expansion, four (4) wells MW-6 to MW-10 were constructed between the months of July and August 2004. Upgradient well, MW-6, is adjacent to agricultural field crops and west of the northern percolation ponds. Downgradient wells, MW-7 and MW-8, are located east of existing Percolation Ponds 18 and 16, respectfully. Downgradient well, MW-10, is located east of the south activated sludge process operations. There is no well MW-9. These wells have been sampled quarterly since being constructed in the summer of 2004.

An additional six (6) wells were constructed in July 2008. Upgradient wells, MW-11 and MW-12 are located along Olive Avenue and Eucalyptus Ave, respectively. Downgradient wells MW-13, MW-14, MW-15, and MW-16 are located east of Percolation Ponds 6, 2, 11, and 15, respectively. Well MW-16 was installed in lieu of using the privately owned domestic well east of Percolation Pond 15 for the groundwater monitoring program. This will be the third round of sampling for this set of wells.

All groundwater samples are tested in accordance with the Monitoring and Reporting Program. The 1st Quarterly Groundwater Report presents the results of the quarterly samples collected on February 20, 2009. Included in this report are groundwater elevation summaries, a contour map, and analytical results from each monitoring well sampled.

SECTION 2 GROUNDWATER MONITORING WELLS

Figure 1 shows the monitoring well locations.

Monitoring wells are a 2-inch or 4-inch diameter, schedule 40 PVC well casing with 15 feet of 20-slot well screen. Wells MW-1 to MW-10 have total depths ranging from 28 to 32 feet below ground surface (bgs) and 15 feet of solid surface casing. The remaining six (6) wells, MW-11 to MW-16, have a depth of 41 feet bgs, with 26 feet of solid surface casing. A well construction summary is provided in **Table 1**. The latter wells are deeper

to comply with current State and local monitoring well installation guidelines that required a sanitary seal that extends to at least 20 feet bgs.

SECTION 3 GROUNDWATER ELEVATIONS

Groundwater flow direction is generally from west to east. The Patterson WQCF is surrounded primarily of agricultural farmland and is immediately adjacent to the floodplain of the San Joaquin River. Depth to groundwater ranges varies depending on season, location, and local influences such as irrigation practices. The monitoring wells were installed at different times, therefore varying amounts of data exists for each set of wells. Groundwater elevations measured in this sampling round are listed in **Table 2** and contoured on the map in **Figure 1**.

Based on **Figure 1**, high water levels exist particularly around well MW-8 and has remained consistently higher than neighboring wells since June 2007. Well MW-8 is downgradient from Percolation Ponds 15 and 16. Routinely, secondary effluent is received in these ponds. Although, neighboring wells, MW-7 and MW-5 have not shown water levels in comparison with well MW-8. Nor has the newly installed wells, MW-16 and MW-13, located just south of well MW-8 show similar water levels. Agricultural tile drains once existed within the area that is now the location of Percolation Ponds 15 through 18 running west to east. It is possible that an existing tile drain is directly in line with this well and therefore causing higher water levels than expected.

SECTION 4 MONITORING WELL SAMPLING

The wells were purged and sampled on February 20, 2009 in accordance with the procedures specified in the *Revised Monitoring Well Installation Workplan* (Revised Workplan) dated April 15, 2008. Due to laboratory error, all wells were resampled on February 24, 2009 for the Bacteria sample, to be analyzed for Total Coliform. The February sampling is considered the first quarter sampling round for 2009. Sampling was conducted by Del-Tech Geotechnical Support Service.

SECTION 5 GROUNDWATER QUALITY RESULTS

In accordance with the Monitoring and Reporting Program, the following parameters were tested:

- Total Dissolved Solids
- Nitrate as Nitrogen
- Total Kjeldahl Nitrogen
- pH
- Chloride
- Sodium
- Total Coliform Organisms

Prior to sampling, the groundwater elevations were measured and the wells were purged at a minimum of three well volumes until the following three parameters were stabilized: temperature, pH, and electrical conductivity. Depth to groundwater was measured to the nearest 0.01 feet. Purge logs and groundwater level measurements are presented in

Appendix A. The samples were analyzed by BC Laboratories, Inc., a state-certified environmental laboratory. Laboratory analytical reports are included in **Appendix B**.

Degradation and pollution of underlying groundwater is of great concern regarding wastewater treatment plant effluent disposal. Coliform and nitrogen compound are contaminants associated with plant effluent disposal.

Coliform. All groundwater monitoring wells were within the acceptable limit of <2.2 MPN/100 mL for Total Coliform. Fecal Coliform was not tested during this sampling round. Historical Total and Fecal Coliform data is included in **Table 3.1**. Historical Total Coliform is graphically shown in **Figure 3.1**.

Nitrate. Nitrate (as nitrogen) has been detected in the groundwater samples. All monitoring wells were within the acceptable interim groundwater limit of 10 mg/L for Nitrate, except for upgradient wells MW-1 and MW-2 with values of 21.0 mg/L and 11 mg/L, respectively. Nitrate levels have been consistently higher in these two wells since 2006. Historical nitrate values are included in **Table 3.2** and graphically shown in **Figure 3.2**.

Additional Results. Additional analytical results as required in the City's WDR including total dissolved solids (TDS), total kjeldahl nitrogen, pH, chloride, and sodium are included in **Table 3**. Historical TDS data is provided in **Table 5.1** and graphically shown in **Figure 5.1**.

Table 1

Well Construction Summary

	Well Depth (ft)	Completion Type	Slab Surface Elev (msl)	(ft Top of Casing Elev msl)	Water Elev 02/20/09 (ft msl)
MW-1	27.55	Below	55.58	54.93	36.63
MW-2	31.42	Above	57.93	59.68	36.18
MW-6	28.40	Above	51.81	55.23	35.94
MW-11	43.75	Above	57.71	57.31	36.21
MW-12	41.00	Below	50.65	50.43	34.26
MW-3	31.00	Above	52.18	53.80	34.43
MW-4	31.60	Above	56.99	58.58	34.75
MW-5	31.00	Above	53.79	55.21	34.20
MW-7	29.80	Above	54.62	58.04	34.94
MW-8	30.61	Above	55.91	59.33	37.16
MW-10	30.00	Below	58.33	58.12	35.10
MW-13	44.75	Above	55.04	54.58	34.83
MW-14	41.35	Below	56.63	56.46	35.11
MW-15	41.15	Below	58.61	58.45	35.55
MW-16	43.94	Above	55.20	54.81	35.40

Table 2
Groundwater Elevations
Upgradient and Downgradient Monitoring Wells

Water Elevations	Upgradient Wells					Downgradient Wells										
	MW-1	MW-2	MW-6	MW-9	MW-11	MW-12	MW-3	MW-4	MW-5	MW-7	MW-8	MW-10	MW-13	MW-14	MW-15	MW-16
Water Elevation 4/4/01 (ft msl)	38.10	40.30	N/A	N/A	N/A	N/A	35.90	37.18	35.85	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Elevation 4/24/01 (ft msl)	38.57	43.79	N/A	N/A	N/A	N/A	35.85	36.85	35.31	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Elevation 5/23/01 (ft msl)	39.24	40.81	N/A	N/A	N/A	N/A	35.80	36.94	36.52	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Elevation 7/13/01 (ft msl)	39.49	40.58	N/A	N/A	N/A	N/A	34.77	36.10	35.59	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Elevation 11/7/01 (ft msl)	37.79	37.32	N/A	N/A	N/A	N/A	34.58	35.77	35.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Elevation 2/8/02 (ft msl)	37.68	40.16	N/A	N/A	N/A	N/A	35.69	36.36	35.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Elevation 5/3/02 (ft msl)	39.80	39.59	N/A	N/A	N/A	N/A	35.11	35.97	34.76	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Elevation 8/12/02 (ft msl)	38.10	42.26	N/A	N/A	N/A	N/A	31.28	33.48	33.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Elevation 11/6/02 (ft msl)	37.47	40.93	N/A	N/A	N/A	N/A	34.48	35.46	35.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Elevation 2/18/03 (ft msl)	37.22	42.99	N/A	N/A	N/A	N/A	35.05	35.87	34.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Elevation 7/09/03 (ft msl)	37.48	42.23	N/A	N/A	N/A	N/A	32.58	33.97	33.83	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Elevation 10/08/03 (ft msl)	37.93	37.99	N/A	N/A	N/A	N/A	33.97	35.40	34.80	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Elevation 1/9/04 (ft msl)	35.97	35.55	N/A	N/A	N/A	N/A	N/A	30.97	36.29	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Elevation 1/29/04 (ft msl)	N/A	N/A	N/A	N/A	N/A	N/A	35.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Elevation 4/9/04 (ft msl)	37.24	38.06	N/A	N/A	N/A	N/A	35.14	35.36	34.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Elevation 7/8/04 (ft msl)	37.61	38.82	N/A	N/A	N/A	N/A	33.76	34.44	33.60	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Elevation 10/18/04 (ft msl)	37.90	37.68	36.01	38.08	N/A	N/A	34.87	35.40	34.19	34.33	35.41	37.38	N/A	N/A	N/A	N/A
Water Elevation 1/17/05 (ft msl)	37.83	37.22	36.81	37.28	N/A	N/A	37.05	37.72	37.50	37.54	37.98	37.94	N/A	N/A	N/A	N/A
Water Elevations 4/05/05 (ft msl)	40.03	38.87	39.15	39.36	N/A	N/A	39.47	39.58	39.58	40.13	40.20	39.85	N/A	N/A	N/A	N/A
Water Elevations 7/11/05 (ft msl)	41.95	42.15	42.14	42.14	N/A	N/A	39.78	39.87	38.93	39.13	40.42	43.12	N/A	N/A	N/A	N/A
Water Elevations 10/10/05 (ft msl)	40.62	40.48	39.72	N/A	N/A	N/A	37.46	37.70	36.61	37.86	38.37	38.69	N/A	N/A	N/A	N/A
Water Elevations 01/09/06 (ft msl)	38.60	38.25	38.25	N/A	N/A	N/A	37.12	46.45	37.34	39.43	38.49	39.82	N/A	N/A	N/A	N/A
Water Elevations 04/12/06 (ft msl)	41.69	40.74	41.92	N/A	N/A	N/A	45.65	47.63	47.19	47.75	44.87	41.74	N/A	N/A	N/A	N/A
Water Elevations 07/06/06 (ft msl)	46.21	44.93	46.08	N/A	N/A	N/A	43.53	43.37	42.89	43.33	45.21	44.38	N/A	N/A	N/A	N/A
Water Elevations 01/23/07 (ft msl)	38.95	37.71	37.33	N/A	N/A	N/A	37.32	36.71	35.69	35.84	37.66	N/A	N/A	N/A	N/A	N/A
Water Elevations 06/14/07 (ft msl)	38.11	39.79	40.33	N/A	N/A	N/A	34.15	34.98	34.66	36.21	37.20	35.24	N/A	N/A	N/A	N/A
Water Elevations 08/28/07 (ft msl)	37.38	39.80	39.31	N/A	N/A	N/A	32.56	35.52	34.27	35.24	36.25	36.12	N/A	N/A	N/A	N/A
Water Elevations 11/08/08 (ft msl)	37.88	38.13	34.91	N/A	N/A	N/A	35.98	35.49	37.28	35.84	38.11	35.98	N/A	N/A	N/A	N/A
Water Elevations 02/11/08 (ft msl)	38.08	38.44	37.55	N/A	N/A	N/A	36.22	36.84	36.31	37.46	39.07	36.94	N/A	N/A	N/A	N/A
Water Elevations 04/03/08 (ft msl)	38.88	38.33	N/A	N/A	N/A	N/A	35.60	36.03	35.26	35.96	37.96	36.42	N/A	N/A	N/A	N/A
Water Elevations 09/24/08 (ft msl)	37.68	39.40	41.07	N/A	N/A	N/A	33.45	34.75	33.95	35.64	37.11	34.62	N/A	N/A	N/A	N/A
Water Elevations 12/02/08 (ft msl)	37.18	36.52	36.50	N/A	N/A	N/A	34.21	34.51	33.90	34.69	37.08	34.81	35.03	35.71	34.62	35.31
Water Elevations 02/20/09 (ft msl)	36.63	36.18	35.94	N/A	36.21	34.26	34.43	34.75	34.20	34.94	37.16	35.10	34.83	35.11	35.55	35.40

N/A = Not Applicable

Table 3
Analytical Results Upgradient and Downgradient Monitoring Wells
February 2009 Sampling

	Total Dissolved Solids (mg/L)	Nitrogen Compounds		pH	Chloride (mg/L)	Sodium (mg/L)	Pathogens		
		Nitrate (as Nitrogen) (mg/L)	Total Kjeldahl Nitrogen (mg/L)				Total Coliform Organisms (MPN/100ml)	Fecal Coliform (MPN/100ml)	
Up-gradient	MW-1	2000	21.00	0.140	7.75	320.0	360.0	<2	NT
	MW-2	2100	11.00	0.140	7.76	260.0	380.0	<2	NT
	MW-6	1000	5.70	0.210	7.82	190.0	190.0	2	NT
	MW-11	1200	9.10	0.130	7.68	210.0	220.0	<2	NT
	MW-12	1400	4.70	ND	7.79	330.0	260.0	<2	NT
	MW-3	2100	5.90	0.110	0.110	7.47	480.0	400.0	<2
Downgradient	MW-4	1700	1.30	0.220	7.16	400.0	300.0	<2	NT
	MW-5	1600	1.80	0.420	7.25	430.0	290.0	2	NT
	MW-7	1500	3.20	0.080	7.56	460.0	310.0	<2	NT
	MW-8	1200	2.60	0.090	7.45	340.0	270.0	<2	NT
	MW-10	1800	6.80	0.390	7.36	460.0	310.0	<2	NT
	MW-13	1800	2.20	0.060	7.80	350.0	350.0	<2	NT
	MW-14	1600	2.00	0.064	7.78	390.0	350.0	<2	NT
	MW-15	1400	1.80	0.600	8.36	400.0	340.0	<2	NT
	MW-16	1300	6.10	0.220	7.65	360.0	260.0	<2	NT

A/P = Absence/Presence
 N/A = Not Applicable
 ND = Not Detected
 NS = Not Sampled
 NT = Not Tested

Table 3.1
Upgradient Monitoring Wells
Historical Groundwater Total and Fecal Coliform Data
MPN/100 ML

Sample Date	MMW-1		MMW-2		MMW-6		MMW-11		MMW-12	
	Total Coliform Organisms	Fecal Coliform	Total Coliform Organisms	Fecal Coliform	Total Coliform Organisms	Fecal Coliform	Total Coliform Organisms	Fecal Coliform	Total Coliform Organisms	Fecal Coliform
10/18/2004	<2	<2	7	4	17	17	N/A	N/A	N/A	N/A
1/17/2005	6.9	<1.1	N/R	N/R	12	<1.1	N/A	N/A	N/A	N/A
4/5/2005	<2	NT	<2	NT	>1600	>1600	N/A	N/A	N/A	N/A
7/11/2005	<2	NT	<2	NT	>1600	>1600	N/A	N/A	N/A	N/A
10/10/2005	<2	NT	<2	NT	>1600	>1600	N/A	N/A	N/A	N/A
1/9/2006	<2	NT	<2	NT	50	50	N/A	N/A	N/A	N/A
4/12/2006	<1	NT	<1	NT	<1	NT	N/A	N/A	N/A	N/A
7/6/2006	1	NT	3.1	NT	>2420	NT	N/A	N/A	N/A	N/A
1/23/2007	6.9	<1.1	<1.1	N/R	12	<1.1	N/A	N/A	N/A	N/A
6/14/2007	1.1	<1.1	<1.1	<1.1	>23	<1.1	N/A	N/A	N/A	N/A
8/28/2007	<1.1	<1.1	<1.1	<1.1	>23	1.1	N/A	N/A	N/A	N/A
11/8/2007	<1.1	<1.1	<1.1	<1.1	16.1	<1.1	N/A	N/A	N/A	N/A
2/11/2008	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	N/A	N/A	N/A	N/A
4/3/2008	<1.1	<1.1	<1.1	<1.1	NS	NS	N/A	N/A	N/A	N/A
9/24/2008	<2	<2	<2	<2	>1600	>1600	<2	<2	<2	<2
12/2/2008	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
2/20/2009	<2	NT	<2	NT	2	NT	<2	NT	<2	NT

Table 3.1
Downgradient Monitoring Wells
Historical Groundwater Total and Fecal Coliform Data
MPN/100 ML

Sample Date	MMW-3		MMW-4		MMW-5		MMW-7		MMW-8		MMW-10		MMW-13		MMW-14		MMW-15		MMW-16	
	Total Coliform Organisms	Fecal Coliform	Total Coliform Organisms	Fecal Coliform	Total Coliform Organisms	Fecal Coliform	Total Coliform Organisms	Fecal Coliform	Total Coliform Organisms	Fecal Coliform	Total Coliform Organisms	Fecal Coliform	Total Coliform Organisms	Fecal Coliform	Total Coliform Organisms	Fecal Coliform	Total Coliform Organisms	Fecal Coliform	Total Coliform Organisms	Fecal Coliform
10/18/2004	2	<2	4	<2	9	<2	23	<2	8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1/17/2005	<2	N/R	<1.1	N/R	<2	N/R	<1.1	N/R	<1.1	N/R	NS	NS	<2	<2	<2	<2	<2	<2	<2	<2
4/5/2005	<2	NT	<2	NT	<2	NT	<2	NT	<2	NT	2	<2	<2	<2	<2	<2	<2	<2	<2	<2
7/11/2005	<2	NT	<2	NT	<2	NT	<2	NT	<2	NT	4	<2	<2	<2	<2	<2	<2	<2	<2	<2
10/10/2005	<2	NT	<2	NT	<2	NT	<2	NT	<2	NT	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1/9/2006	<2	NT	<2	NT	<2	NT	<2	NT	<2	NT	13	<2	<2	<2	<2	<2	<2	<2	<2	<2
4/12/2006	<1	NT	1100	21	730	60	<1	NT	<1	NT	<1	NT	<1	NT	<1	NT	<1	NT	<1	NT
7/6/2006	<1	NT	<1	NT	<1	NT	<1	NT	<1	NT	12	NT	<1	NT	<1	NT	<1	NT	<1	NT
1/23/2007	<2	N/R	<1.1	N/R	<2	N/R	<1.1	N/R	<1.1	N/R	NS	NS	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
6/14/2007	<2	<2	<1.1	<1.1	<2	<2	<1.1	<1.1	<1.1	<1.1	2.2	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
8/28/2007	<2	<2	<1.1	<1.1	<2	<2	1.1	<1.1	<1.1	<1.1	5.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
11/8/2007	<2	<2	2.2	1.1	<2	<2	<1.1	<1.1	<1.1	<1.1	1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
2/11/2008	<2	<2	<1.1	<1.1	<2	<2	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
4/3/2008	<2	<2	<1.1	<1.1	<2	<2	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
9/24/2008	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
12/2/2008	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
2/20/2009	<2	NT	<2	NT	2	NT	<2	NT	<2	NT	2	NT	<2	NT	<2	NT	<2	NT	<2	NT

Groundwater Coliform Limits <2.2 MPN/100ml
 NS = Not Sampled
 NT = Not Tested
 N/A = Not Applicable
 N/R = Not Required

Table 3.2
Upgradient and Downgradient Monitoring Wells
Historical Groundwater Nitrate as Nitrogen Data
(MG/L)

Sample Date	Upgradient MW						Downgradient MW									
	MW-1	MW-2	MW-6	MW-11	MW-12		MW-3	MW-4	MW-5	MW-7	MW-8	MW-10	MW-13	MW-14	MW-15	MW-16
10/18/2004	10	8.4	4.1	N/A	N/A		11	ND	2.7	5.3	8.6	12	N/A	N/A	N/A	N/A
1/17/2005	15	7.6	4.2	N/A	N/A		12	0.6	1.8	5.2	7.2	9.1	N/A	N/A	N/A	N/A
4/5/2005	17	8.6	1.5	N/A	N/A		12	26.6	10	5.9	7	9.3	N/A	N/A	N/A	N/A
7/11/2005	9.7	8.4	7	N/A	N/A		5	5.7	4.1	6.3	7	2.7	N/A	N/A	N/A	N/A
10/10/2005	8.4	10	6.1	N/A	N/A		7.5	2.9	6.3	8.4	6.1	4.7	N/A	N/A	N/A	N/A
1/9/2006	14	17	5.5	N/A	N/A		8.4	ND	0.3	5.5	5.9	3.2	N/A	N/A	N/A	N/A
4/12/2006	17	24	5.9	N/A	N/A		15	48	30	4.1	7.2	6.5	N/A	N/A	N/A	N/A
7/6/2006	15	22	5.7	N/A	N/A		10	7.9	19	9.5	6.3	2.9	N/A	N/A	N/A	N/A
1/23/2007	12.5	13.3	6.1	N/A	N/A		9.3	ND	13.1	0.3	7.4	NS	N/A	N/A	N/A	N/A
6/14/2007	13	17.5	5	N/A	N/A		9.9	ND	2.1	0.3	11.8	6	N/A	N/A	N/A	N/A
8/28/2007	14.2	13.4	5.8	N/A	N/A		7.2	0.3	ND	0.7	11	6.6	N/A	N/A	N/A	N/A
11/8/2007	14.3	7.8	6.2	N/A	N/A		6.7	0.3	ND	0.2	4.2	8.4	N/A	N/A	N/A	N/A
2/11/2008	16.7	7.9	6.1	N/A	N/A		6.9	ND	0.1	0.5	0.2	8.1	N/A	N/A	N/A	N/A
4/3/2008	17.4	10.2	NS	N/A	N/A		6.4	3.1	0.9	0.7	0.7	7.3	N/A	N/A	N/A	N/A
9/24/2008	14	16	5.3	9.2	4.8		6.4	2.3	ND	1.2	3.1	6.3	2.1	1.6	1	0.1
12/2/2008	18	10	5.2	9.2	3.9		5.6	1.8	0.58	4.7	1.2	5.6	4.1	1.4	0.66	0.27
2/20/2009	21	11	5.7	9.1	4.7		5.9	1.3	1.8	3.2	2.6	6.8	2.2	2	1.8	6.1

ND = Not Detected
 NS = Not Sampled
 N/A = Not Applicable

TABLE 5.1
Upgradient and Downgradient Monitoring Wells
Historical Groundwater TDS Data
(MG/L)

Sample Date	Upgradient MW					Downgradient MW										
	MW-1	MW-2	MW-6	MW-11	MW-12	MW-3	MW-4	MW-5	MW-7	MW-8	MW-10	MW-13	MW-14	MW-15	MW-16	
10/18/2004	1310	1870	1160	N/A	N/A	2450	1510	1250	1190	1940	1810	N/A	N/A	N/A	N/A	
1/11/2005	1610	1850	1110	N/A	N/A	2480	1610	1360	1240	1940	1830	N/A	N/A	N/A	N/A	
4/5/2005	1720	1910	1270	N/A	N/A	2440	1500	1280	1300	1960	1870	N/A	N/A	N/A	N/A	
7/11/2005	1310	1880	1220	N/A	N/A	1410	1580	1330	1260	1810	1600	N/A	N/A	N/A	N/A	
10/10/2005	1140	2000	1420	N/A	N/A	2200	1490	1540	1620	1870	1790	N/A	N/A	N/A	N/A	
1/9/2006	1600	2100	1300	N/A	N/A	2500	1500	1700	1600	1800	1500	N/A	N/A	N/A	N/A	
4/12/2006	1800	2200	1200	N/A	N/A	2200	2100	1800	1500	1800	1800	N/A	N/A	N/A	N/A	
7/6/2006	1560	2410	1240	N/A	N/A	2240	807	1690	2200	1710	1520	N/A	N/A	N/A	N/A	
1/23/2007	1330	1920	1140	N/A	N/A	2070	1570	1660	1260	1730	NS	N/A	N/A	N/A	N/A	
6/14/2007	1550	3030	1340	N/A	N/A	1890	1580	1650	1340	1500	1620	N/A	N/A	N/A	N/A	
8/28/2007	1620	2990	1290	N/A	N/A	2130	1460	1450	1370	1410	1640	N/A	N/A	N/A	N/A	
11/8/2007	1610	2330	1140	N/A	N/A	2020	1600	1460	1310	1460	1690	N/A	N/A	N/A	N/A	
2/11/2008	1720	2230	1180	N/A	N/A	1960	1600	1430	1320	1110	1600	N/A	N/A	N/A	N/A	
4/3/2008	1770	2450	NS	N/A	N/A	1810	1590	1500	1260	1070	1540	N/A	N/A	N/A	N/A	
9/24/2008	1600	2300	1000	1300	1000	1900	1600	1600	1400	1400	2100	1800	1700	1700	1300	
12/2/2008	1800	2000	930	1200	920	2000	1600	1600	1400	1300	1700	1800	1600	1500	1200	
2/20/2009	2000	2100	1000	1200	1400	2100	1700	1600	1500	1200	1800	1800	1600	1400	1300	

NS = Not Sampled
 NT = Not Tested
 N/A = Not Applicable

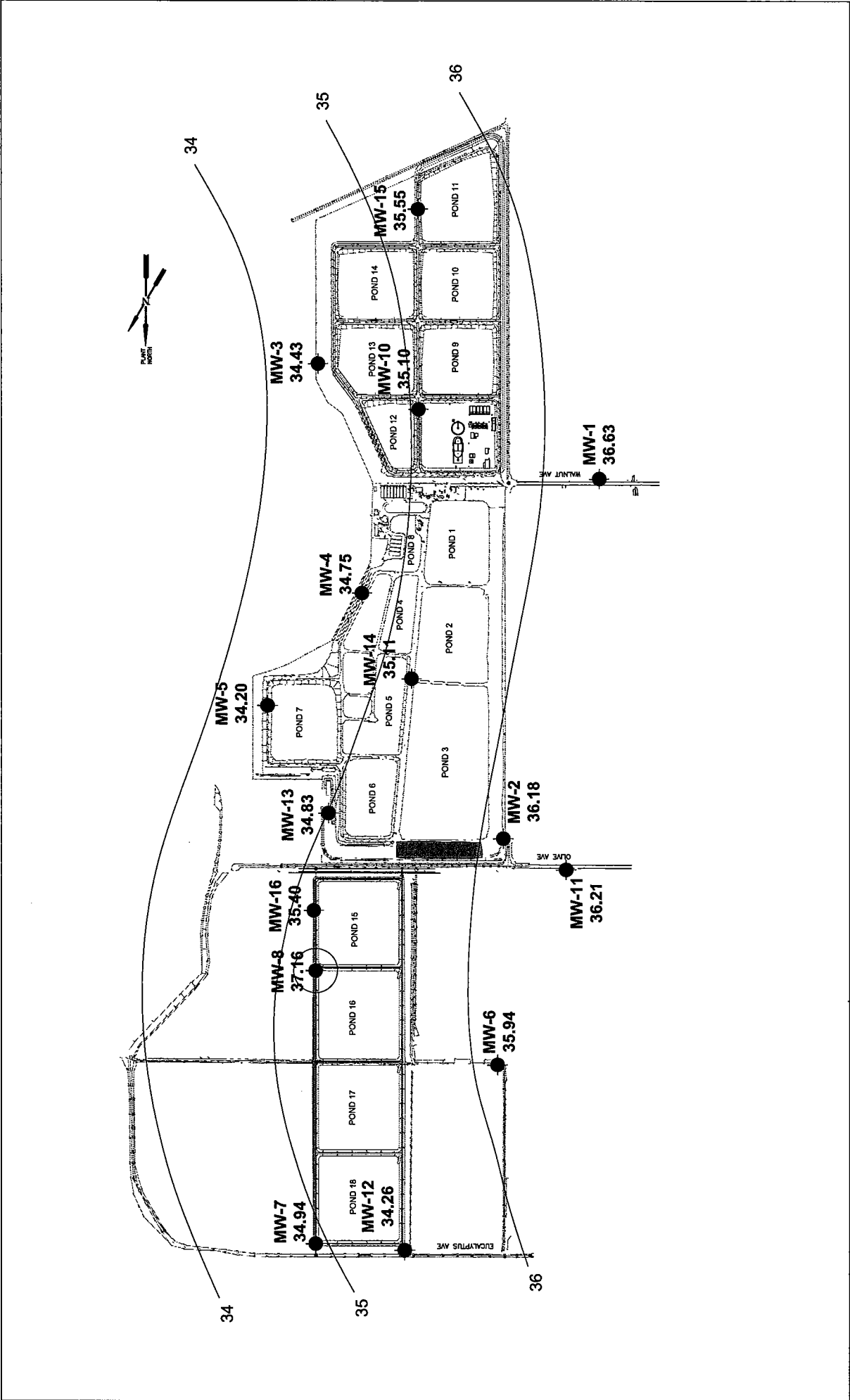
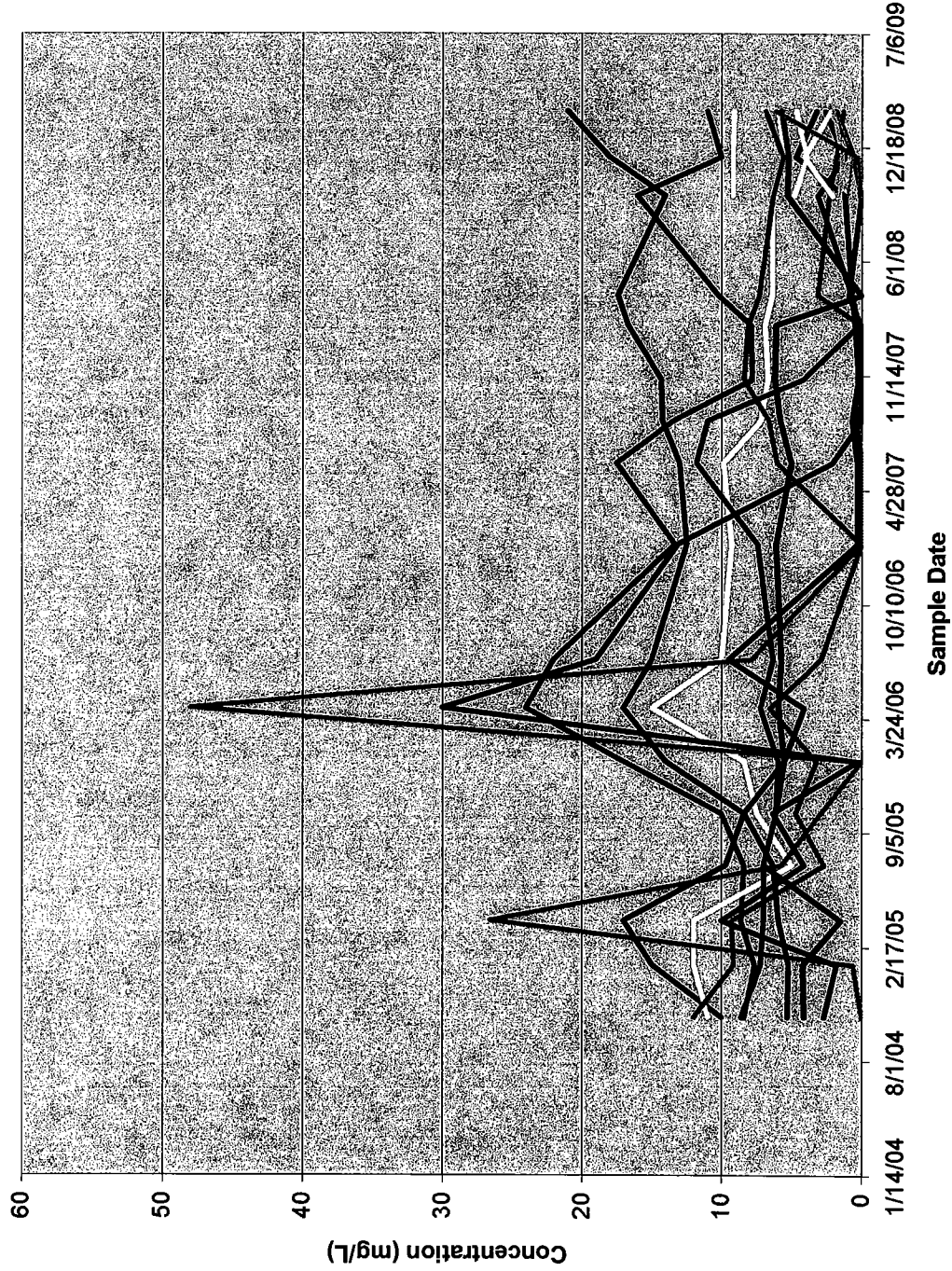


FIGURE 1
 FEBRUARY 2009 SAMPLING ROUND
 GROUNDWATER ELEVATION CONTOUR MAP
 SCALE 1"=600'

CITY OF PATTERSON
 WATER QUALITY CONTROL FACILITY
 14901 POPLAR AVENUE

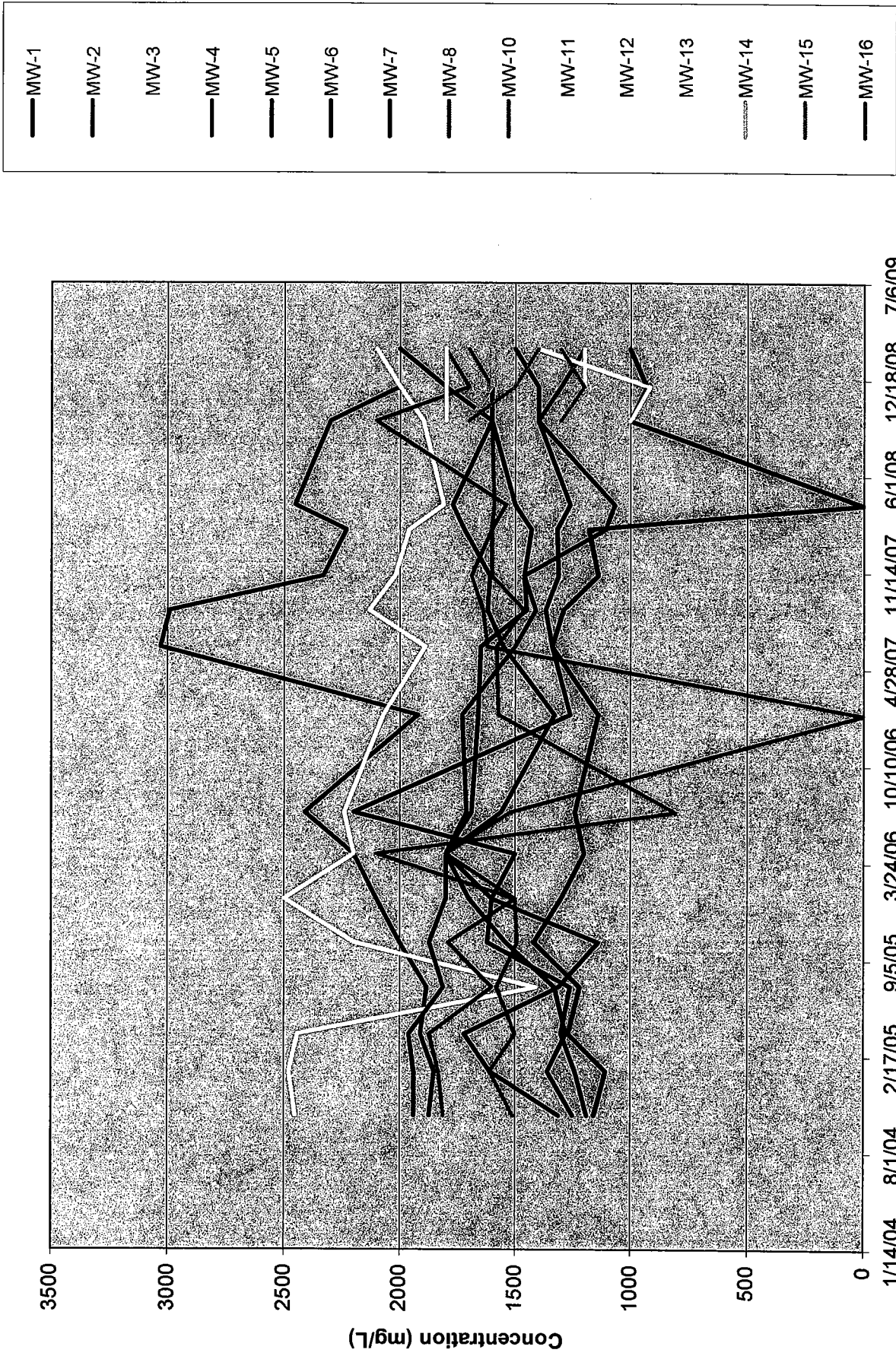


FIGURE 3.2 HISTORICAL GROUNDWATER NITRATE DATA



- MW-1
- MW-2
- MW-3
- MW-4
- MW-5
- MW-6
- MW-7
- MW-8
- MW-10
- MW-11
- MW-12
- MW-13
- MW-14
- MW-15
- MW-16

FIGURE 5.1 HISTORICAL GROUNDWATER TDS DATA



APPENDIX A
PURGE LOGS



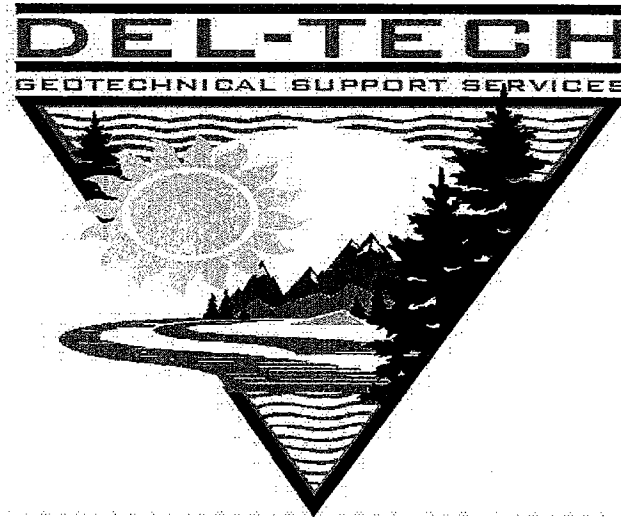
Measurement of Groundwater Levels

Project Name Patterson WWTP
Location Monitoring Wells
Equipment Type Solinst Water Level Meter
Equipment No. 1

Project No. 72802-12
Recorded By Ashley and Cassandra Light
Date 2/20/2009
Checked By _____
Date _____

Well Number	Time	Reference Point	Reference Elevation	Depth to Water	Water Elevation	Product Thickness	Product Elevation	Adjusted Water Elevation	Depth to Well Bottom	Notes (sample date)
MW-1	14:55	TOC	54.93	18.30	36.63	-	-	-	27.55	
MW-2	15:33	TOC	59.68	23.50	36.18	-	-	-	31.34	
MW-3	11:54	TOC	53.80	19.37	34.43	-	-	-	31.00	
MW-4	13:52	TOC	58.58	23.83	34.75	-	-	-	31.60	
MW-5	14:20	TOC	55.21	21.01	34.20	-	-	-	31.00	
MW-6	12:28	TOC	55.23	19.29	35.94	-	-	-	28.40	
MW-7	12:52	TOC	58.04	23.10	34.94	-	-	-	29.80	
MW-8	11:19	TOC	59.33	22.17	37.16	-	-	-	30.61	
MW-10	11:28	TOC	58.12	23.02	35.10	-	-	-	30.00	
MW-11	14:18	TOC	57.31	21.10	36.21	-	-	-	43.75	
MW-12	13:36	TOC	50.43	16.17	34.26	-	-	-	41.00	
MW-13	15:08	TOC	54.58	19.75	34.83	-	-	-	44.75	
MW-14	15:31	TOC	56.46	21.35	35.11	-	-	-	41.35	
MW-15	13:17	TOC	58.45	22.90	35.55	-	-	-	41.15	
MW-16	12:09	TOC	54.81	19.41	35.40	-	-	-	43.94	

Notes: TOC - Top of casing



**2009
GROUNDWATER
FIELD MONITORING
SUMMARY REPORT**

SITE:

**PATTERSON W.Q.C.P.
14901 POPLAR AVENUE
PATTERSON, CA.
February 24, 2009**



DEL-TECH GEOTECHNICAL SUPPORT SERVICES, INC.

MONITORING WELL FIELD LOG 2009

SAMPLE LOCATION / MW - 1											DATE: 2/20/2009	
PROJECT NAME: PATTERSON W.Q.C.P.					ANALYSIS PERFORMED: SEE CHAIN OF CUSTODY							
ADDRESS: 14901 POPLAR AVENUE					SAMPLE TIME: 14:55							
CITY, STATE: PATTERSON, CA.					SAMPLE CONTAINERS: SEE CHAIN OF CUSTODY							
SITE CONTACT: IGNACIO LOPEZ					PRESERVATIVES: SEE CHAIN OF CUSTODY							
CONSULTANT: LEE & RO, INC.					LAB. ANALYSIS BY: BC LABS.							
PROJECT MANAGER: IGNACIO LOPEZ					MONUMENT: FLUSH							
SAMPLER: DEL-TECH / ASHLEY LIGHT					WELL CASING MATERIAL : PVC							
SIGNED: Ashley Light					WELL CASING DIA. : 4" / 0.6528							
SAMPLE MEDIA: GROUNDWATER					P.I.D. READING / ODOR: N/A NONE							
TOP OF CASING ELEVATION: MSL					COLOR: LIGHT BROWN TO CLEAR							
DEPTH TO WATER:		(feet.100th's)		18.30	FEET	CALC. PURGE VOL.:		6.04		GAL.		
DEPTH OF WELL:		(feet.100th's)		27.55	FEET	TOTAL VOLUME PURGED:		18		GAL.		
STANDING WATER COLUMN:				9.25	FEET	DEPTH OF PUMP:		26		FEET		
FIELD PARAMETERS												
TIME	CUMULATIVE CASING VOLUME PER PURGE	ACTUAL VOLUME PURGED	DRAW DOWN (D.T.W.)	PUMPING RATE (GPM/LPM)	pH (units)	E. C. (uS/cm)	TEMP. (Celsius)	O.R.P. (Mvolts)	DISSOLVED OXYGEN (PPM)	TURBIDITY (N.T.U.)		
	0	0	N/A	2.0 GPM	7.35	3600	21.0	54	N/A	56		
	6.04	6	"	"	7.34	3781	21.4	53	"	25		
	12.08	12	"	"	7.32	3769	21.4	53	"	13		
	18.12	18	"	"	7.32	3762	21.4	52	"	10		
PURGE METHOD: CENTRIFUGAL PUMP VIA DEDICATED WATER INERTIA PUMP.												
SAMPLE METHOD: DEDICATED WATER INERTIA PUMP & TUBING.												
D. T. W. AFTER PURGE: D. T. W. AT SAMPLE TIME: 18.30'												
WELL INTEGRITY: CAP & SEAL ARE SECURE. LOCK INSTALLED.												
WELL LOCATION: SEE SITE MAP.												
REMARKS: DUE TO LABORATORY ERROR, WE HAD TO RETURN ON 2/24 TO RESAMPLE THE BACTERIA SAMPLE BOTTLE.												
WEATHER: CLEAR SKIES / COOL. WIND: NW5												
QUALITY CONTROL: ALL PURGING EQUIPMENT WAS CLEANED AS NECESSARY. DEDICATED PURGE TUBING IS INSTALLED IN EACH WELL. NEW NITRILE GLOVES.												
CONTAINMENT: PURGE WATER WAS DISCHARGED INTO THE ADJACENT HOLDING POND ON SIGHT.												
INSTRUMENTATION: Y.S.I. 556 MULTIPROBE SYSTEM HACH TURBIDITY METER SOLINIST SLOPE METER												
# OF DRUMS ON SIGHT: WATER: 0 SOIL: 0												



DEL-TECH GEOTECHNICAL SUPPORT SERVICES, INC.

MONITORING WELL FIELD LOG 2009

SAMPLE LOCATION / MW - 2 DATE: 2/20/2009										
PROJECT NAME: PATTERSON W.Q.C.P.					ANALYSIS PERFORMED: SEE CHAIN OF CUSTODY					
ADDRESS: 14901 POPLAR AVENUE					SAMPLE TIME: 15:33					
CITY, STATE: PATTERSON, CA.					SAMPLE CONTAINERS: SEE CHAIN OF CUSTODY					
SITE CONTACT: IGNACIO LOPEZ					PRESERVATIVES: SEE CHAIN OF CUSTODY					
CONSULTANT: LEE & RO, INC.					LAB. ANALYSIS BY: BC LABS.					
PROJECT MANAGER: IGNACIO LOPEZ					MONUMENT: STEEL POST					
SAMPLER: DEL-TECH / CASSANDRA LIGHT					WELL CASING MATERIAL : PVC					
SIGNED: <i>Cassandra Light</i>					WELL CASING DIA. : 4" / 0.6528					
SAMPLE MEDIA: GROUNDWATER					P.I.D. READING / ODOR: N/A NONE					
TOP OF CASING ELEVATION: MSL					COLOR: BROWN					
DEPTH TO WATER: (feet.100th's) 23.50 FEET					CALC. PURGE VOL.: 5.12 GAL.					
DEPTH OF WELL: (feet.100th's) 31.34 FEET					TOTAL VOLUME PURGED: 15 GAL.					
STANDING WATER COLUMN: 7.84 FEET					DEPTH OF PUMP: 30 FEET					
FIELD PARAMETERS										
TIME	CUMULATIVE CASING VOLUME PER PURGE	ACTUAL VOLUME PURGED	DRAW DOWN (D.T.W.)	PUMPING RATE (GPM/LPM)	pH (units)	E. C. (uS/cm)	TEMP. (Celsius)	O.R.P. (Mvolts)	DISSOLVED OXYGEN (PPM)	TURBIDITY (N.T.U.)
	0	0	N/A	2.0 GPM	7.39	3382	19.7	41	N/A	104
	5.12	5	"	"	7.28	3520	20.7	34	"	74
	10.24	10	"	"	7.27	3525	20.5	33	"	69
	15.35	15	"	"	7.26	3527	19.9	30	"	58
PURGE METHOD: CENTRIFUGAL PUMP VIA DEDICATED WATERRA INERTIA PUMP.										
SAMPLE METHOD: DEDICATED WATERRA INERTIA PUMP & TUBING.										
D. T. W. AFTER PURGE: D. T. W. AT SAMPLE TIME: 24.42'										
WELL INTEGRITY: CAP & SEAL ARE SECURE. LOCK INSTALLED.										
WELL LOCATION: SEE SITE MAP.										
REMARKS: DUE TO LABORATORY ERROR, WE HAD TO RETURN ON 2/24 TO RESAMPLE THE BACTERIA SAMPLE BOTTLE.										
WEATHER: CLEAR SKIES / COOL. WIND: NW5										
QUALITY CONTROL: ALL PURGING EQUIPMENT WAS CLEANED AS NECESSARY.										
CONTAINMENT: DEDICATED PURGE TUBING IS INSTALLED IN EACH WELL. NEW NITRILE GLOVES. PURGE WATER WAS DISCHARGED INTO THE ADJACENT HOLDING POND ON SIGHT.										
INSTRUMENTATION: Y.S.I. 556 MULTIPROBE SYSTEM HACH TURBIDITY METER										
SOLINIST SLOPE METER										



DEL-TECH GEOTECHNICAL SUPPORT SERVICES, INC.

MONITORING WELL FIELD LOG 2009

SAMPLE LOCATION / MW -	3	DATE:	2/20/2009
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PROJECT NAME:	PATTERSON W.Q.C.P.	ANALYSIS PERFORMED:	SEE CHAIN OF CUSTODY
ADDRESS:	14901 POPLAR AVENUE	SAMPLE TIME:	11:54
CITY, STATE:	PATTERSON, CA.	SAMPLE CONTAINERS:	SEE CHAIN OF CUSTODY
SITE CONTACT:	IGNACIO LOPEZ	PRESERVATIVES:	SEE CHAIN OF CUSTODY
CONSULTANT:	LEE & RO, INC.	LAB. ANALYSIS BY:	BC LABS.
PROJECT MANAGER:	IGNACIO LOPEZ	MONUMENT:	STEEL POST
SAMPLER:	DEL-TECH / CASSANDRA LIGHT	WELL CASING MATERIAL :	PVC
SIGNED:	<i>Cassandra Light</i>	WELL CASING DIA. :	4" / 0.6528
SAMPLE MEDIA:	GROUNDWATER	P.L.D. READING / ODOR:	N/A NONE
TOP OF CASING ELEVATION:	MSL	COLOR:	LIGHT BROWN TO CLEAR
DEPTH TO WATER:	(feet.100th's) 19.37 FEET	CALC. PURGE VOL.:	7.59 GAL.
DEPTH OF WELL:	(feet.100th's) 31.00 FEET	TOTAL VOLUME PURGED:	22.5 GAL.
STANDING WATER COLUMN:	11.63 FEET	DEPTH OF PUMP:	30 FEET

FIELD PARAMETERS

TIME	CUMULATIVE CASING VOLUME PER PURGE	ACTUAL VOLUME PURGED	DRAW DOWN (D.T.W.)	PUMPING RATE (GPM/LPM)	pH (units)	E. C. (uS/cm)	TEMP. (Celsius)	O.R.P. (Mvolts)	DISSOLVED OXYGEN (PPM)	TURBIDITY (N.T.U.)
	0	0	N/A	2.0 GPM	7.30	3733	19.3	41	N/A	248
	7.59	7.5	"	"	7.22	3770	19.7	23	"	45
	15.18	15	"	"	7.20	3789	19.8	24	"	19
	22.78	22.5	"	"	7.19	3792	19.8	24	"	10

PURGE METHOD:	CENTRIFUGAL PUMP VIA DEDICATED WATER INERTIA PUMP.
SAMPLE METHOD:	DEDICATED WATER INERTIA PUMP & TUBING.
D. T. W. AFTER PURGE:	D. T. W. AT SAMPLE TIME: 19.38'
WELL INTEGRITY:	CAP & LOCK SECURE.
WELL LOCATION:	SEE SITE MAP.
REMARKS:	DUE TO LABORATORY ERROR, WE HAD TO RETURN ON 2/24 TO RESAMPLE THE BACTERIA SAMPLE BOTTLE.
WEATHER:	CLEAR SKIES / COOL. WIND: NW5
QUALITY CONTROL:	ALL PURGING EQUIPMENT WAS CLEANED AS NECESSARY. DEDICATED PURGE TUBING IS INSTALLED IN EACH WELL. NEW NITRILE GLOVES.
CONTAINMENT:	PURGE WATER WAS DISCHARGED INTO THE ADJACENT HOLDING POND ON SIGHT.
INSTRUMENTATION:	Y.S.I. 556 MULTIPROBE SYSTEM HACH TURBIDITY METER SOLINIST SLOPE METER



DEL-TECH GEOTECHNICAL SUPPORT SERVICES, INC.

MONITORING WELL FIELD LOG 2009

SAMPLE LOCATION / MW -		4	DATE:		2/20/2009
PROJECT NAME:	PATTERSON W.Q.C.P.		ANALYSIS PERFORMED:	SEE CHAIN OF CUSTODY	
ADDRESS:	14901 POPLAR AVENUE		SAMPLE TIME:	13:52	
CITY, STATE:	PATTERSON, CA.		SAMPLE CONTAINERS:	SEE CHAIN OF CUSTODY	
SITE CONTACT:	IGNACIO LOPEZ		PRESERVATIVES:	SEE CHAIN OF CUSTODY	
CONSULTANT:	LEE & RO, INC.		LAB. ANALYSIS BY:	BC LABS.	
PROJECT MANAGER:	IGNACIO LOPEZ		MONUMENT:	STEEL POST	
SAMPLER:	DEL-TECH / CASSANDRA LIGHT		WELL CASING MATERIAL :	PVC	
SIGNED:	<i>Cassandra Light</i>		WELL CASING DIA. :	4" /	0.6528
SAMPLE MEDIA:	GROUNDWATER		P.I.D. READING / ODOR:	N/A	LT. MUSTY
TOP OF CASING ELEVATION:		MSL	COLOR:	LIGHT BROWN TO CLEAR	
DEPTH TO WATER:	(feet.100th's)	23.83	FEET	CALC. PURGE VOL.:	5.07 GAL.
DEPTH OF WELL:	(feet.100th's)	31.60	FEET	TOTAL VOLUME PURGED:	15 GAL.
STANDING WATER COLUMN:		7.77	FEET	DEPTH OF PUMP:	31 FEET

FIELD PARAMETERS

TIME	CUMULATIVE CASING VOLUME PER PURGE	ACTUAL VOLUME PURGED	DRAW DOWN (D.T.W.)	PUMPING RATE (GPM/LPM)	pH (units)	E. C. (uS/cm)	TEMP. (Celsius)	O.R.P. (Mvolts)	DISSOLVED OXYGEN (PPM)	TURBIDITY (N.T.U.)
	0	0	N/A	2.0 GPM	7.36	3347	19.9	23	N/A	135
	5.07	5	"	"	7.15	3464	20.2	21	"	34
	10.14	10	"	"	7.12	3250	20.2	20	"	19
	15.22	15	"	"	7.06	3405	20.3	20	"	13

PURGE METHOD:	CENTRIFUGAL PUMP VIA DEDICATED WATER INERTIA PUMP.
SAMPLE METHOD:	DEDICATED WATER INERTIA PUMP & TUBING.
D. T. W. AFTER PURGE:	D. T. W. AT SAMPLE TIME: 23.85'
WELL INTEGRITY:	CAP & LOCK INSTALLED.
WELL LOCATION:	SEE SITE MAP.
REMARKS:	DUE TO LABORATORY ERROR, WE HAD TO RETURN ON 2/24 TO RESAMPLE THE BACTERIA SAMPLE BOTTLE.
WEATHER:	CLEAR SKIES / COOL. WIND: NW5
QUALITY CONTROL:	ALL PURGING EQUIPMENT WAS CLEANED AS NECESSARY. DEDICATED PURGE TUBING IS INSTALLED IN EACH WELL. NEW NITRILE GLOVES.
CONTAINMENT:	PURGE WATER WAS DISCHARGED INTO THE ADJACENT HOLDING POND ON SIGHT.
INSTRUMENTATION:	Y.S.I. 556 MULTIPROBE SYSTEM HACH TURBIDITY METER SOLINIST SLOPE METER



DEL-TECH GEOTECHNICAL SUPPORT SERVICES, INC.

MONITORING WELL FIELD LOG 2009

SAMPLE LOCATION / MW - 5 DATE: 2/20/2009										
PROJECT NAME: PATTERSON W.Q.C.P.					ANALYSIS PERFORMED: SEE CHAIN OF CUSTODY					
ADDRESS: 14901 POPLAR AVENUE					SAMPLE TIME: 14:20					
CITY, STATE: PATTERSON, CA.					SAMPLE CONTAINERS: SEE CHAIN OF CUSTODY					
SITE CONTACT: IGNACIO LOPEZ					PRESERVATIVES: SEE CHAIN OF CUSTODY					
CONSULTANT: LEE & RO, INC.					LAB. ANALYSIS BY: BC LABS.					
PROJECT MANAGER: IGNACIO LOPEZ					MONUMENT: STEEL POST					
SAMPLER: DEL-TECH / CASSANDRA LIGHT					WELL CASING MATERIAL : PVC					
SIGNED: <i>Cassandra Light</i>					WELL CASING DIA. : 4" / 0.6528					
SAMPLE MEDIA: GROUNDWATER					P.I.D. READING / ODOR: N/A NONE					
TOP OF CASING ELEVATION: MSL					COLOR: CLEAR TO LIGHT BROWN TO CLEAR					
DEPTH TO WATER: (feet.100th's) 21.01 FEET					CALC. PURGE VOL.: 6.52 GAL.					
DEPTH OF WELL: (feet.100th's) 31.00 FEET					TOTAL VOLUME PURGED: 19.5 GAL.					
STANDING WATER COLUMN: 9.99 FEET					DEPTH OF PUMP: 30 FEET					
FIELD PARAMETERS										
TIME	CUMULATIVE CASING VOLUME PER PURGE	ACTUAL VOLUME PURGED	DRAW DOWN (D.T.W.)	PUMPING RATE (GPM/LPM)	pH (units)	E. C. (uS/cm)	TEMP. (Celsius)	O.R.P. (Mvolts)	DISSOLVED OXYGEN (PPM)	TURBIDITY (N.T.U.)
	0	0	N/A	2.0 GPM	6.90	3063	19.1	59	N/A	21
	6.52	6.5	"	"	7.13	3264	18.9	23	"	52
	13.04	13	"	"	7.11	3015	18.9	19	"	17
	19.56	19.5	"	"	7.09	3232	18.9	17	"	7
PURGE METHOD: CENTRIFUGAL PUMP VIA DEDICATED WATER INERTIA PUMP.										
SAMPLE METHOD: DEDICATED WATER INERTIA PUMP & TUBING.										
D. T. W. AFTER PURGE: D. T. W. AT SAMPLE TIME: 21.02'										
WELL INTEGRITY: CAP & SEAL ARE SECURE.										
WELL LOCATION: SEE SITE MAP.										
REMARKS: DUE TO LABORATORY ERROR, WE HAD TO RETURN ON 2/24 TO RESAMPLE THE BACTERIA SAMPLE BOTTLE.										
WEATHER: CLEAR SKIES / COOL. WIND: NW5										
QUALITY CONTROL: ALL PURGING EQUIPMENT WAS CLEANED AS NECESSARY. DEDICATED PURGE TUBING IS INSTALLED IN EACH WELL. NEW NITRILE GLOVES.										
CONTAINMENT: PURGE WATER WAS DISCHARGED INTO THE ADJACENT HOLDING POND ON SIGHT.										
INSTRUMENTATION: Y.S.I. 556 MULTIPROBE SYSTEM HACH TURBIDITY METER SOLINIST SLOPE METER										



DEL-TECH GEOTECHNICAL SUPPORT SERVICES, INC.

MONITORING WELL FIELD LOG 2009

SAMPLE LOCATION / MW -		6	DATE:		2/20/2009					
PROJECT NAME:		PATTERSON W.Q.C.P.		ANALYSIS PERFORMED:		SEE CHAIN OF CUSTODY				
ADDRESS:		14901 POPLAR AVENUE		SAMPLE TIME:		12:28				
CITY, STATE:		PATTERSON, CA		SAMPLE CONTAINERS:		SEE CHAIN OF CUSTODY				
SITE CONTACT:		IGNACIO LOPEZ		PRESERVATIVES:		SEE CHAIN OF CUSTODY				
CONSULTANT:		LEE & RO, INC.		LAB. ANALYSIS BY:		BC LABS.				
PROJECT MANAGER:		IGNACIO LOPEZ		MONUMENT:		STEEL POST				
SAMPLER:		DEL-TECH / ASHLEY LIGHT		WELL CASING MATERIAL :		PVC				
SIGNED:		<i>Stakley Knight</i>		WELL CASING DIA. :		2" / 0.1632				
SAMPLE MEDIA:		GROUNDWATER		P.L.D. READING / ODOR:		N/A NONE				
TOP OF CASING ELEVATION:		MSL		COLOR:		BROWN				
DEPTH TO WATER:		(feet.100th's)	19.29	FEET	CALC. PURGE VOL.:		1.49 GAL.			
DEPTH OF WELL:		(feet.100th's)	28.40	FEET	TOTAL VOLUME PURGED:		4.5 GAL.			
STANDING WATER COLUMN:			9.11	FEET	DEPTH OF PUMP:		28 FEET			
FIELD PARAMETERS										
TIME	CUMULATIVE CASING VOLUME PER PURGE	ACTUAL VOLUME PURGED	DRAW DOWN (D.T.W.)	PUMPING RATE (GPM/LPM)	pH (units)	E. C. (uS/cm)	TEMP. (Celsius)	O.R.P. (Mvolts)	DISSOLVED OXYGEN (PPM)	TURBIDITY (N.T.U.)
	0	0	N/A	1.0 GPM	7.39	2104	20.6	53	N/A	532
	1.49	1.5	"	"	7.37	2110	20.5	53	"	1000+
	2.97	3	"	"	7.37	2109	20.5	52	"	"
	4.46	4.5	"	"	7.37	2110	20.5	53	"	"
PURGE METHOD:		CENTRIFUGAL PUMP VIA DEDICATED WATERRA INERTIA PUMP.								
SAMPLE METHOD:		DEDICATED WATERRA INERTIA PUMP & TUBING.								
D. T. W. AFTER PURGE:		D. T. W. AT SAMPLE TIME: 19.50'								
WELL INTEGRITY:		CAP & SEAL ARE SECURE.								
WELL LOCATION:		SEE SITE MAP.								
REMARKS:		SILTY. DUE TO LABORATORY ERROR, WE HAD TO RETURN ON 2/24 TO RESAMPLE THE BACTERIA SAMPLE BOTTLE.								
WEATHER:		CLEAR SKIES / COOL. WIND: NWS								
QUALITY CONTROL:		ALL PURGING EQUIPMENT WAS CLEANED AS NECESSARY.								
CONTAINMENT:		DEDICATED PURGE TUBING IS INSTALLED IN EACH WELL. NEW NITRILE GLOVES. PURGE WATER WAS DISCHARGED INTO THE ADJACENT HOLDING POND ON SIGHT.								
INSTRUMENTATION:		Y.S.I. 556 MULTIPROBE SYSTEM			HACH TURBIDITY METER					
		SOLINIST SLOPE METER								



DEL-TECH GEOTECHNICAL SUPPORT SERVICES, INC.

MONITORING WELL FIELD LOG 2009

SAMPLE LOCATION / MW - 7 DATE: 2/20/2009										
PROJECT NAME: PATTERSON W.Q.C.P.					ANALYSIS PERFORMED: SEE CHAIN OF CUSTODY					
ADDRESS: 14901 POPLAR AVENUE					SAMPLE TIME: 12:52					
CITY, STATE: PATTERSON, CA.					SAMPLE CONTAINERS: SEE CHAIN OF CUSTODY					
SITE CONTACT: IGNACIO LOPEZ					PRESERVATIVES: SEE CHAIN OF CUSTODY					
CONSULTANT: LEE & RO, INC.					LAB. ANALYSIS BY: BC LABS.					
PROJECT MANAGER: IGNACIO LOPEZ MONUMENT: STEEL POST										
SAMPLER: DEL-TECH / ASHLEY LIGHT					WELL CASING MATERIAL : PVC					
SIGNED: <i>Ashley Light</i>					WELL CASING DIA. : 2" / 0.1632					
SAMPLE MEDIA: GROUNDWATER					P.I.D. READING / ODOR: N/A NONE					
TOP OF CASING ELEVATION: MSL					COLOR: BROWN TO LIGHT BROWN TO CLEAR					
DEPTH TO WATER: (feet.100th's) 23.10			FEET		CALC. PURGE VOL.: 1.09			GAL.		
DEPTH OF WELL: (feet.100th's) 29.80			FEET		TOTAL VOLUME PURGED: 3			GAL.		
STANDING WATER COLUMN: 6.70			FEET		DEPTH OF PUMP: 29			FEET		
FIELD PARAMETERS										
TIME	CUMULATIVE CASING VOLUME PER PURGE	ACTUAL VOLUME PURGED	DRAW DOWN (D.T.W.)	PUMPING RATE (GPM/LPM)	pH (units)	E. C. (uS/cm)	TEMP. (Celsius)	O.R.P. (Mvolts)	DISSOLVED OXYGEN (PPM)	TURBIDITY (N.T.U.)
	0	0	N/A	0.5 GPM	7.12	3054	20.5	54	N/A	532
	1.09	1	"	"	7.10	3201	20.6	53	"	54
	2.19	2	"	"	7.12	3215	20.6	54	"	28
	3.28	3	"	"	7.12	3212	20.6	52	"	20
PURGE METHOD: CENTRIFUGAL PUMP VIA DEDICATED WATERRA INERTIA PUMP.										
SAMPLE METHOD: DEDICATED WATERRA INERTIA PUMP & TUBING.										
D. T. W. AFTER PURGE:					D. T. W. AT SAMPLE TIME: 23.11'					
WELL INTEGRITY: CAP & SEAL ARE SECURE.										
WELL LOCATION: SEE SITE MAP.										
REMARKS: DUE TO LABORATORY ERROR, WE HAD TO RETURN ON 2/24 TO RESAMPLE THE BACTERIA SAMPLE BOTTLE.										
WEATHER: CLEAR SKIES / COOL. WIND: NW5										
QUALITY CONTROL: ALL PURGING EQUIPMENT WAS CLEANED AS NECESSARY. DEDICATED PURGE TUBING IS INSTALLED IN EACH WELL. NEW NITRILE GLOVES.										
CONTAINMENT: PURGE WATER WAS DISCHARGED INTO THE ADJACENT HOLDING POND ON SIGHT.										
INSTRUMENTATION: Y.S.I. 556 MULTIPROBE SYSTEM HACH TURBIDITY METER										
SOLINIST SLOPE METER										



DEL-TECH GEOTECHNICAL SUPPORT SERVICES, INC.

MONITORING WELL FIELD LOG 2009

SAMPLE LOCATION / MW - 8 DATE: 2/20/2009										
PROJECT NAME: PATTERSON W.Q.C.P.					ANALYSIS PERFORMED: SEE CHAIN OF CUSTODY					
ADDRESS: 14901 POPLAR AVENUE					SAMPLE TIME: 11:19					
CITY, STATE: PATTERSON, CA.					SAMPLE CONTAINERS: SEE CHAIN OF CUSTODY					
SITE CONTACT: IGNACIO LOPEZ					PRESERVATIVES: SEE CHAIN OF CUSTODY					
CONSULTANT: LEE & RO, INC.					LAB. ANALYSIS BY: BC LABS.					
PROJECT MANAGER: IGNACIO LOPEZ					MONUMENT: STEEL POST					
SAMPLER: DEL-TECH / ASHLEY LIGHT					WELL CASING MATERIAL : PVC					
SIGNED: <i>Ashley Light</i>					WELL CASING DIA. : 2" / 0.1632					
SAMPLE MEDIA: GROUNDWATER					P.L.D. READING / ODOR: N/A NONE					
TOP OF CASING ELEVATION: MSL					COLOR: BROWN TO CLEAR					
DEPTH TO WATER: (feet.100th's) 22.17			FEET		CALC. PURGE VOL.: 1.38			GAL.		
DEPTH OF WELL: (feet.100th's) 30.61			FEET		TOTAL VOLUME PURGED: 5			GAL.		
STANDING WATER COLUMN: 8.44			FEET		DEPTH OF PUMP: 30			FEET		
FIELD PARAMETERS										
TIME	CUMULATIVE CASING VOLUME PER PURGE	ACTUAL VOLUME PURGED	DRAW DOWN (D.T.W.)	PUMPING RATE (GPM/LPM)	pH (units)	E. C. (uS/cm)	TEMP. (Celsius)	O.R.P. (Mvolts)	DISSOLVED OXYGEN (PPM)	TURBIDITY (N.T.U.)
	0	0	N/A	0.5 GPM	7.18	2584	21.3	55	N/A	91
	1.38	1.5	"	"	7.08	2619	21.9	55	"	11
	2.75	3	"	"	7.07	2622	22.0	55	"	9
	4.13	4.5	"	"	7.06	2622	22.1	54	"	6
PURGE METHOD: CENTRIFUGAL PUMP VIA DEDICATED WATERRA INERTIA PUMP.										
SAMPLE METHOD: DEDICATED WATERRA INERTIA PUMP & TUBING.										
D. T. W. AFTER PURGE:					D. T. W. AT SAMPLE TIME: 22.20'					
WELL INTEGRITY: CAP & SEAL ARE SECURE. LOCK INSTALLED.										
WELL LOCATION: SEE SITE MAP.										
REMARKS: DUE TO LABORATORY ERROR, WE HAD TO RETURN ON 2/24 TO RESAMPLE THE BACTERIA SAMPLE BOTTLE.										
WEATHER: CLEAR SKIES / COOL. WIND: NW5										
QUALITY CONTROL: ALL PURGING EQUIPMENT WAS CLEANED AS NECESSARY. DEDICATED PURGE TUBING IS INSTALLED IN EACH WELL. NEW NITRILE GLOVES.										
CONTAINMENT: PURGE WATER WAS DISCHARGED INTO THE ADJACENT HOLDING POND ON SIGHT.										
INSTRUMENTATION: Y.S.I. 556 MULTIPROBE SYSTEM					HACH TURBIDITY METER					
					SOLINIST SLOPE METER					



DEL-TECH GEOTECHNICAL SUPPORT SERVICES, INC.

MONITORING WELL FIELD LOG 2009

SAMPLE LOCATION / MW - 10 DATE: 2/20/2009										
PROJECT NAME: PATTERSON W.Q.C.P.					ANALYSIS PERFORMED: SEE CHAIN OF CUSTODY					
ADDRESS: 14901 POPLAR AVENUE					SAMPLE TIME: 11:28					
CITY, STATE: PATTERSON, CA.					SAMPLE CONTAINERS: SEE CHAIN OF CUSTODY					
SITE CONTACT: IGNACIO LOPEZ					PRESERVATIVES: SEE CHAIN OF CUSTODY					
CONSULTANT: LEE & RO, INC.					LAB. ANALYSIS BY: BC LABS.					
PROJECT MANAGER: IGNACIO LOPEZ MONUMENT: FLUSH										
SAMPLER: DEL-TECH / CASSANDRA LIGHT					WELL CASING MATERIAL : PVC					
SIGNED: <i>Cassandra Light</i>					WELL CASING DIA. : 2" / 0.1632					
SAMPLE MEDIA: GROUNDWATER					P.I.D. READING / ODOR: N/A NONE					
TOP OF CASING ELEVATION: MSL					COLOR: BROWN TO LIGHT BROWN					
DEPTH TO WATER: (feet.100th's) 23.02			FEET		CALC. PURGE VOL.: 1.14			GAL.		
DEPTH OF WELL: (feet.100th's) 30.00			FEET		TOTAL VOLUME PURGED: 3			GAL.		
STANDING WATER COLUMN: 6.98			FEET		DEPTH OF PUMP: 29			FEET		
FIELD PARAMETERS										
TIME	CUMULATIVE CASING VOLUME PER PURGE	ACTUAL VOLUME PURGED	DRAW DOWN (D.T.W.)	PUMPING RATE (GPM/LPM)	pH (units)	E. C. (uS/cm)	TEMP. (Celsius)	O.R.P. (Mvolts)	DISSOLVED OXYGEN (PPM)	TURBIDITY (N.T.U.)
	0	0	N/A	0.5 GPM	7.29	2688	16.9	21	N/A	1000+
	1.14	1	DRY	"	7.17	3263	19.1	22	"	"
	2.28	2	DRY	"	7.20	3265	19.0	22	"	"
	3.42	3	DRY	"	7.19	3270	19.0	25	"	"
PURGE METHOD: CENTRIFUGAL PUMP VIA DEDICATED WATER INERTIA PUMP.										
SAMPLE METHOD: DEDICATED WATER INERTIA PUMP & TUBING.										
D. T. W. AFTER PURGE:					D. T. W. AT SAMPLE TIME: 25.70'					
WELL INTEGRITY: CAP & SEAL ARE SECURE. LOCK INSTALLED.										
WELL LOCATION: SEE SITE MAP.										
REMARKS: WELL WENT DRY / POOR RECHARGE. DUE TO LABORATORY ERROR, WE HAD TO RETURN ON 2/24 TO RESAMPLE THE BACTERIA SAMPLE BOTTLE.										
WEATHER: CLEAR SKIES / COOL. WIND: NWS										
QUALITY CONTROL: ALL PURGING EQUIPMENT WAS CLEANED AS NECESSARY. DEDICATED PURGE TUBING IS INSTALLED IN EACH WELL. NEW NITRILE GLOVES.										
CONTAINMENT: PURGE WATER WAS DISCHARGED INTO THE ADJACENT HOLDING POND ON SIGHT.										
INSTRUMENTATION:										
Y.S.I. 556 MULTIPROBE SYSTEM					HACH TURBIDITY METER					
SOLINIST SLOPE METER										



DEL-TECH GEOTECHNICAL SUPPORT SERVICES, INC.

MONITORING WELL FIELD LOG 2009

SAMPLE LOCATION / MW -											
11				DATE:			2/20/2009				
PROJECT NAME:											
PATTERSON W.Q.C.P.				ANALYSIS PERFORMED:			SEE CHAIN OF CUSTODY				
ADDRESS:				14901 POPLAR AVENUE			SAMPLE TIME:			14:18	
CITY, STATE:				PATTERSON, CA.			SAMPLE CONTAINERS:			SEE CHAIN OF CUSTODY	
SITE CONTACT:				IGNACIO LOPEZ			PRESERVATIVES:			SEE CHAIN OF CUSTODY	
CONSULTANT:				LEE & RO, INC.			LAB. ANALYSIS BY:			BC LABS.	
PROJECT MANAGER:											
IGNACIO LOPEZ				MONUMENT:			STEEL POST				
SAMPLER:				DEL-TECH / ASHLEY LIGHT			WELL CASING MATERIAL :			PVC	
SIGNED:				<i>Ashley Light</i>			WELL CASING DIA. :			4" / 0.6528	
SAMPLE MEDIA:				GROUNDWATER			P.L.D. READING / ODOR:			N/A NONE	
TOP OF CASING ELEVATION:				MSL			COLOR:			BROWN TO CLEAR	
DEPTH TO WATER:		(feet.100th's)		21.10		FEET		CALC. PURGE VOL.:		14.79	GAL.
DEPTH OF WELL:		(feet.100th's)		43.75		FEET		TOTAL VOLUME PURGED:		45	GAL.
STANDING WATER COLUMN:				22.65		FEET		DEPTH OF PUMP:		43	FEET
FIELD PARAMETERS											
TIME											
CUMULATIVE CASING VOLUME PER PURGE	ACTUAL VOLUME PURGED	DRAW DOWN (D.T.W.)	PUMPING RATE (GPM/LPM)	pH (units)	E. C. (uS/cm)	TEMP. (Celsius)	O.R.P. (Mvolts)	DISSOLVED OXYGEN (PPM)	TURBIDITY (N.T.U.)		
0	0	N/A	2.0 GPM	7.28	2500	19.4	55	N/A	98		
14.79	15	"	"	7.23	2480	19.4	53	"	47		
29.57	30	"	"	7.23	2479	19.5	53	"	31		
44.36	45	"	"	7.23	2479	19.5	53	"	25		
PURGE METHOD:											
CENTRIFUGAL PUMP VIA DEDICATED WATERRA INERTIA PUMP.											
SAMPLE METHOD:											
DEDICATED WATERRA INERTIA PUMP & TUBING.											
D. T. W. AFTER PURGE:											
D. T. W. AT SAMPLE TIME: 21.12'											
WELL INTEGRITY:											
CAP & SEAL ARE SECURE. LOCK INSTALLED.											
WELL LOCATION:											
SEE SITE MAP.											
REMARKS:											
DUE TO LABORATORY ERROR, WE HAD TO RETURN ON 2/24 TO RESAMPLE THE BACTERIA SAMPLE BOTTLE.											
WEATHER:											
CLEAR SKIES / COOL. WIND: NW5											
QUALITY CONTROL:											
ALL PURGING EQUIPMENT WAS CLEANED AS NECESSARY.											
DEDICATED PURGE TUBING IS INSTALLED IN EACH WELL. NEW NITRILE GLOVES.											
CONTAINMENT:											
PURGE WATER WAS DISCHARGED INTO THE ADJACENT HOLDING POND ON SIGHT.											
INSTRUMENTATION:											
Y.S.I. 556 MULTIPROBE SYSTEM HACH TURBIDITY METER											
SOLINIST SLOPE METER											



DEL-TECH GEOTECHNICAL SUPPORT SERVICES, INC.

MONITORING WELL FIELD LOG 2009

SAMPLE LOCATION / MW - 12 DATE: 2/20/2009										
PROJECT NAME: PATTERSON W.Q.C.P.					ANALYSIS PERFORMED: SEE CHAIN OF CUSTODY					
ADDRESS: 14901 POPLAR AVENUE					SAMPLE TIME: 13:36					
CITY, STATE: PATTERSON, CA.					SAMPLE CONTAINERS: SEE CHAIN OF CUSTODY					
SITE CONTACT: IGNACIO LOPEZ					PRESERVATIVES: SEE CHAIN OF CUSTODY					
CONSULTANT: LEE & RO, INC.					LAB. ANALYSIS BY: BC LABS.					
PROJECT MANAGER: IGNACIO LOPEZ MONUMENT: FLUSH										
SAMPLER: DEL-TECH / ASHLEY LIGHT					WELL CASING MATERIAL : PVC					
SIGNED: <i>Ignacio Lopez</i>					WELL CASING DIA. : 4" / 0.6528					
SAMPLE MEDIA: GROUNDWATER					P.I.D. READING / ODOR: N/A NONE					
TOP OF CASING ELEVATION: MSL					COLOR: LIGHT BROWN TO CLEAR					
DEPTH TO WATER: (feet.100th's) 16.17			FEET		CALC. PURGE VOL.: 16.21			GAL.		
DEPTH OF WELL: (feet.100th's) 41.00			FEET		TOTAL VOLUME PURGED: 48			GAL.		
STANDING WATER COLUMN: 24.83			FEET		DEPTH OF PUMP: 40			FEET		
FIELD PARAMETERS										
TIME	CUMULATIVE CASING VOLUME PER PURGE	ACTUAL VOLUME PURGED	DRAW DOWN (D.T.W.)	PUMPING RATE (GPM/LPM)	pH (units)	E. C. (uS/cm)	TEMP. (Celsius)	O.R.P. (Mvolts)	DISSOLVED OXYGEN (PPM)	TURBIDITY (N.T.U.)
	0	0	N/A	2.0 GPM	7.29	2991	19.7	52	N/A	53
	16.21	16	"	"	7.34	2834	19.6	55	"	18
	32.42	32	"	"	7.33	2892	19.7	54	"	10
	48.63	48	"	"	7.33	2902	19.7	54	"	8
PURGE METHOD: CENTRIFUGAL PUMP VIA DEDICATED WATER INERTIA PUMP.										
SAMPLE METHOD: DEDICATED WATER INERTIA PUMP & TUBING.										
D. T. W. AFTER PURGE:					D. T. W. AT SAMPLE TIME: 16.17'					
WELL INTEGRITY: CAP & SEAL ARE SECURE. LOCK INSTALLED.										
WELL LOCATION: SEE SITE MAP.										
REMARKS: DUE TO LABORATORY ERROR, WE HAD TO RETURN ON 2/24 TO RESAMPLE THE BACTERIA SAMPLE BOTTLE.										
WEATHER: CLEAR SKIES / COOL WIND: NWS										
QUALITY CONTROL: ALL PURGING EQUIPMENT WAS CLEANED AS NECESSARY. DEDICATED PURGE TUBING IS INSTALLED IN EACH WELL. NEW NITRILE GLOVES.										
CONTAINMENT: PURGE WATER WAS DISCHARGED INTO THE ADJACENT HOLDING POND ON SIGHT.										
INSTRUMENTATION: Y.S.I. 556 MULTIPROBE SYSTEM					HACH TURBIDITY METER					
SOLINIST SLOPE METER										



DEL-TECH GEOTECHNICAL SUPPORT SERVICES, INC.

MONITORING WELL FIELD LOG 2009

SAMPLE LOCATION / MW -		13	DATE:		2/20/2009					
PROJECT NAME:		PATTERSON W.Q.C.P.		ANALYSIS PERFORMED:		SEE CHAIN OF CUSTODY				
ADDRESS:		14901 POPLAR AVENUE		SAMPLE TIME:		15:08				
CITY, STATE:		PATTERSON, CA.		SAMPLE CONTAINERS:		SEE CHAIN OF CUSTODY				
SITE CONTACT:		IGNACIO LOPEZ		PRESERVATIVES:		SEE CHAIN OF CUSTODY				
CONSULTANT:		LEE & RO, INC.		LAB. ANALYSIS BY:		BC LABS.				
PROJECT MANAGER:		IGNACIO LOPEZ		MONUMENT:		STEEL POST				
SAMPLER:		DEL-TECH / CASSANDRA LIGHT		WELL CASING MATERIAL :		PVC				
SIGNED:		<i>Cassandra Light</i>		WELL CASING DIA. :		4" / 0.6528				
SAMPLE MEDIA:		GROUNDWATER		P.L.D. READING / ODOR:		N/A NONE				
TOP OF CASING ELEVATION:		MSL		COLOR:		CLEAR				
DEPTH TO WATER:		(feet.100th's)	19.75	FEET	CALC. PURGE VOL.: 16.32 GAL.					
DEPTH OF WELL:		(feet.100th's)	44.75	FEET	TOTAL VOLUME PURGED: 49.5 GAL.					
STANDING WATER COLUMN:			25.00	FEET	DEPTH OF PUMP: 44 FEET					
FIELD PARAMETERS										
TIME	CUMULATIVE CASING VOLUME PER PURGE	ACTUAL VOLUME PURGED	DRAW DOWN (D.T.W.)	PUMPING RATE (GPM/LPM)	pH (units)	E. C. (uS/cm)	TEMP. (Celsius)	O.R.P. (Mvolts)	DISSOLVED OXYGEN (PPM)	TURBIDITY (N.T.U.)
	0	0	N/A	2.0 GPM	7.21	3071	18.8	36	N/A	26
	16.32	16.5	"	"	7.41	3375	18.4	20	"	10
	32.64	33	"	"	7.38	3380	18.4	24	"	6
	48.96	49.5	"	"	7.37	3114	18.3	25	"	4
PURGE METHOD:		CENTRIFUGAL PUMP VIA DEDICATED WATERRA INERTIA PUMP.								
SAMPLE METHOD:		DEDICATED WATERRA INERTIA PUMP & TUBING.								
D. T. W. AFTER PURGE:		D. T. W. AT SAMPLE TIME: 19.76'								
WELL INTEGRITY:		CAP & SEAL ARE SECURE. LOCK INSTALLED.								
WELL LOCATION:		SEE SITE MAP.								
REMARKS:		DUE TO LABORATORY ERROR, WE HAD TO RETURN ON 2/24 TO RESAMPLE THE BACTERIA SAMPLE BOTTLE.								
WEATHER:		CLEAR SKIES / COOL.		WIND: NW5						
QUALITY CONTROL:		ALL PURGING EQUIPMENT WAS CLEANED AS NECESSARY.								
CONTAINMENT:		DEDICATED PURGE TUBING IS INSTALLED IN EACH WELL. NEW NITRILE GLOVES. PURGE WATER WAS DISCHARGED INTO THE ADJACENT HOLDING POND ON SIGHT.								
INSTRUMENTATION:		Y.S.I. 556 MULTIPROBE SYSTEM		HACH TURBIDITY METER						
		SOLINIST SLOPE METER								



DEL-TECH GEOTECHNICAL SUPPORT SERVICES, INC.

MONITORING WELL FIELD LOG 2009

SAMPLE LOCATION / MW - 14 DATE: 2/20/2009										
PROJECT NAME: PATTERSON W.Q.C.P.					ANALYSIS PERFORMED: SEE CHAIN OF CUSTODY					
ADDRESS: 14901 POPLAR AVENUE					SAMPLE TIME: 15:31					
CITY, STATE: PATTERSON, CA.					SAMPLE CONTAINERS: SEE CHAIN OF CUSTODY					
SITE CONTACT: IGNACIO LOPEZ					PRESERVATIVES: SEE CHAIN OF CUSTODY					
CONSULTANT: LEE & RO, INC.					LAB. ANALYSIS BY: BC LABS.					
PROJECT MANAGER: IGNACIO LOPEZ MONUMENT: FLUSH										
SAMPLER: DEL-TECH / ASHLEY LIGHT					WELL CASING MATERIAL : PVC					
SIGNED: <i>Ashley Light</i>					WELL CASING DIA. : 4" / 0.6528					
SAMPLE MEDIA: GROUNDWATER					P.L.D. READING / ODOR: N/A NONE					
TOP OF CASING ELEVATION: MSL					COLOR: BROWN TO CLEAR					
DEPTH TO WATER: (feet.100th's) 21.35 FEET						CALC. PURGE VOL.: 13.06 GAL.				
DEPTH OF WELL: (feet.100th's) 41.35 FEET						TOTAL VOLUME PURGED: 39.0 GAL.				
STANDING WATER COLUMN: 20.00 FEET						DEPTH OF PUMP: 41 FEET				
FIELD PARAMETERS										
TIME	CUMULATIVE CASING VOLUME PER PURGE	ACTUAL VOLUME PURGED	DRAW DOWN (D.T.W.)	PUMPING RATE (GPM/LPM)	pH (units)	E. C. (uS/cm)	TEMP. (Celsius)	O.R.P. (Mvolts)	DISSOLVED OXYGEN (PPM)	TURBIDITY (N.T.U.)
	0	0	N/A	2.0 GPM	7.53	3332	19.8	53	N/A	433
	13.06	13	"	"	7.43	3322	19.7	54	"	50
	26.11	26	"	"	7.39	3328	19.8	54	"	44
	39.17	39	"	"	7.37	3327	19.8	55	"	46
PURGE METHOD: CENTRIFUGAL PUMP VIA DEDICATED WATERRA INERTIA PUMP.										
SAMPLE METHOD: DEDICATED WATERRA INERTIA PUMP & TUBING.										
D. T. W. AFTER PURGE:					D. T. W. AT SAMPLE TIME: 22.68'					
WELL INTEGRITY: CAP & SEAL ARE SECURE. LOCK INSTALLED.										
WELL LOCATION: SEE SITE MAP.										
REMARKS: DUE TO LABORATORY ERROR, WE HAD TO RETURN ON 2/24 TO RESAMPLE THE BACTERIA SAMPLE BOTTLE.										
WEATHER: CLEAR SKIES / COOL. WIND: NW5										
QUALITY CONTROL: ALL PURGING EQUIPMENT WAS CLEANED AS NECESSARY.										
CONTAINMENT: DEDICATED PURGE TUBING IS INSTALLED IN EACH WELL. NEW NITRILE GLOVES. PURGE WATER WAS DISCHARGED INTO THE ADJACENT HOLDING POND ON SIGHT.										
INSTRUMENTATION: Y.S.I. 556 MULTIPROBE SYSTEM HACH TURBIDITY METER										
SOLINIST SLOPE METER										



DEL-TECH GEOTECHNICAL SUPPORT SERVICES, INC.

MONITORING WELL FIELD LOG 2009

SAMPLE LOCATION / MW -	15	DATE:	2/20/2009
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PROJECT NAME:	PATTERSON W.Q.C.P.	ANALYSIS PERFORMED:	SEE CHAIN OF CUSTODY
ADDRESS:	14901 POPLAR AVENUE	SAMPLE TIME:	13:17
CITY, STATE:	PATTERSON, CA.	SAMPLE CONTAINERS:	SEE CHAIN OF CUSTODY
SITE CONTACT:	IGNACIO LOPEZ	PRESERVATIVES:	SEE CHAIN OF CUSTODY
CONSULTANT:	LEE & RO, INC.	LAB. ANALYSIS BY:	BC LABS.

PROJECT MANAGER:	IGNACIO LOPEZ	MONUMENT:	FLUSH
SAMPLER:	DEL-TECH / CASSANDRA LIGHT	WELL CASING MATERIAL :	PVC
SIGNED:	<i>Cassandra Light</i>	WELL CASING DIA. :	4" / 0.6528
SAMPLE MEDIA:	GROUNDWATER	P.I.D. READING / ODOR:	N/A NONE
TOP OF CASING ELEVATION:	MSL	COLOR:	LIGHT BROWN TO BROWN
DEPTH TO WATER:	(feet.100th's) 22.90 FEET	CALC. PURGE VOL.:	11.91 GAL.
DEPTH OF WELL:	(feet.100th's) 41.15 FEET	TOTAL VOLUME PURGED:	36 GAL.
STANDING WATER COLUMN:	18.25 FEET	DEPTH OF PUMP:	41 FEET

FIELD PARAMETERS

TIME	CUMULATIVE CASING VOLUME PER PURGE	ACTUAL VOLUME PURGED	DRAW DOWN (D.T.W.)	PUMPING RATE (GPM/LPM)	pH (units)	E. C. (uS/cm)	TEMP. (Celsius)	O.R.P. (Mvolts)	DISSOLVED OXYGEN (PPM)	TURBIDITY (N.T.U.)
	0	0	N/A	2.0 GPM	7.64	3231	19.4	32	N/A	55
	11.91	12	"	"	8.07	3208	18.2	-7	"	1000
	23.83	24	DRY	"	8.33	3199	17.9	-4	"	867
	35.74	36	DRY	"	8.30	3197	17.8	-4	"	795

PURGE METHOD:	CENTRIFUGAL PUMP VIA DEDICATED WATER INERTIA PUMP.
SAMPLE METHOD:	DEDICATED WATER INERTIA PUMP & TUBING.
D. T. W. AFTER PURGE:	D. T. W. AT SAMPLE TIME: 38.10'
WELL INTEGRITY:	CAP & SEAL ARE SECURE. LOCK INSTALLED.
WELL LOCATION:	SEE SITE MAP.
REMARKS:	SLOW RECHARGE. DUE TO LABORATORY ERROR, WE HAD TO RETURN ON 2/24 TO RESAMPLE THE BACTERIA SAMPLE BOTTLE.
WEATHER:	CLEAR SKIES / COOL. WIND: NWS
QUALITY CONTROL:	ALL PURGING EQUIPMENT WAS CLEANED AS NECESSARY. DEDICATED PURGE TUBING IS INSTALLED IN EACH WELL. NEW NITRILE GLOVES.
CONTAINMENT:	PURGE WATER WAS DISCHARGED INTO THE ADJACENT HOLDING POND ON SIGHT.
INSTRUMENTATION:	Y.S.I. 556 MULTIPROBE SYSTEM HACH TURBIDITY METER SOLINIST SLOPE METER



DEL-TECH GEOTECHNICAL SUPPORT SERVICES, INC.

MONITORING WELL FIELD LOG 2009

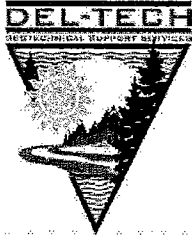
SAMPLE LOCATION / MW - 16 DATE: 2/20/2009										
PROJECT NAME: PATTERSON W.Q.C.P.					ANALYSIS PERFORMED: SEE CHAIN OF CUSTODY					
ADDRESS: 14901 POPLAR AVENUE					SAMPLE TIME: 12:06					
CITY, STATE: PATTERSON, CA					SAMPLE CONTAINERS: SEE CHAIN OF CUSTODY					
SITE CONTACT: IGNACIO LOPEZ					PRESERVATIVES: SEE CHAIN OF CUSTODY					
CONSULTANT: LEE & RO, INC.					LAB. ANALYSIS BY: BC LABS.					
PROJECT MANAGER: IGNACIO LOPEZ					MONUMENT: STEEL POST					
SAMPLER: DEL-TECH / ASHLEY LIGHT					WELL CASING MATERIAL : PVC					
SIGNED: <i>Ashley Light</i>					WELL CASING DIA. : 4" / 0.6528					
SAMPLE MEDIA: GROUNDWATER					P.L.D. READING / ODOR: N/A NONE					
TOP OF CASING ELEVATION: MSL					COLOR: CLEAR					
DEPTH TO WATER: (feet.100th's) 19.41 FEET					CALC. PURGE VOL.: 16.01 GAL.					
DEPTH OF WELL: (feet.100th's) 43.94 FEET					TOTAL VOLUME PURGED: 48 GAL.					
STANDING WATER COLUMN: 24.53 FEET					DEPTH OF PUMP: 43 FEET					
FIELD PARAMETERS										
TIME	CUMULATIVE CASING VOLUME PER PURGE	ACTUAL VOLUME PURGED	DRAW DOWN (D.T.W.)	PUMPING RATE (GPM/LPM)	pH (units)	E. C. (uS/cm)	TEMP. (Celsius)	O.R.P. (Mvolts)	DISSOLVED OXYGEN (PPM)	TURBIDITY (N.T.U.)
	0	0	N/A	1.0 GPM	7.14	2813	20.7	20	N/A	6.2
	16.01	16	"	"	7.16	2833	20.6	8	"	7.7
	32.03	32	"	"	7.17	2833	20.6	7	"	8.0
	48.04	48	"	"	7.19	2836	20.6	6	"	7.7
PURGE METHOD: CENTRIFUGAL PUMP VIA DEDICATED WATERRA INERTIA PUMP.										
SAMPLE METHOD: DEDICATED WATERRA INERTIA PUMP & TUBING.										
D. T. W. AFTER PURGE: D. T. W. AT SAMPLE TIME: 19.41'										
WELL INTEGRITY: CAP & SEAL ARE SECURE. LOCK INSTALLED.										
WELL LOCATION: SEE SITE MAP.										
REMARKS: DUE TO LABORATORY ERROR, WE HAD TO RETURN ON 2/24 TO RESAMPLE THE BACTERIA SAMPLE BOTTLE.										
WEATHER: CLEAR SKIES / COOL WIND: NW5										
QUALITY CONTROL: ALL PURGING EQUIPMENT WAS CLEANED AS NECESSARY. DEDICATED PURGE TUBING IS INSTALLED IN EACH WELL. NEW NITRILE GLOVES.										
CONTAINMENT: PURGE WATER WAS DISCHARGED INTO THE ADJACENT HOLDING POND ON SIGHT.										
INSTRUMENTATION: Y.S.I. 556 MULTIPROBE SYSTEM HACH TURBIDITY METER SOLINIST SLOPE METER										



DEL-TECH GEOTECHNICAL SUPPORT SERVICES, INC.

MONITORING WELL RESAMPLE FIELD LOG 2009

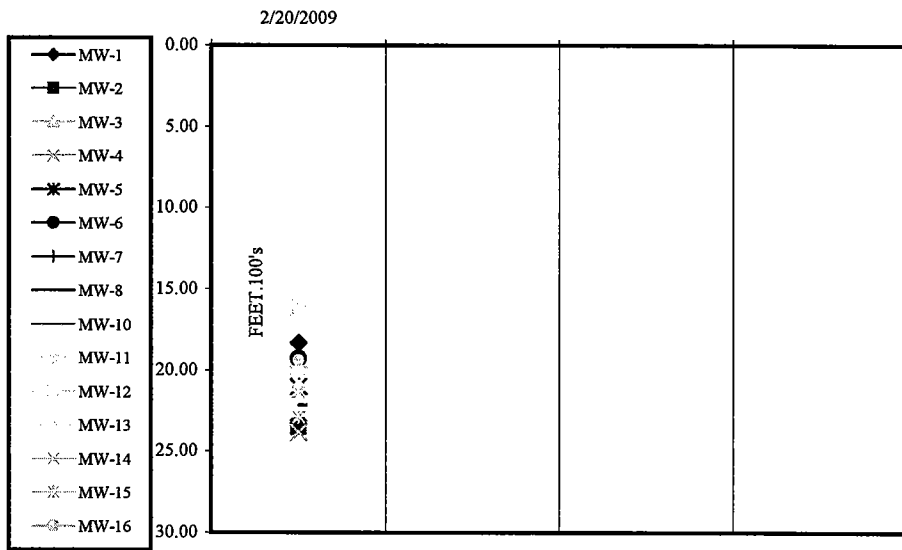
SAMPLE LOCATION / MW - SEE BELOW DATE: 2/24/2009															
PROJECT NAME:				PATTERSON W.Q.C.P.				ANALYSIS PERFORMED:				TOTAL COLIFORM			
ADDRESS:				14901 POPLAR AVENUE				SAMPLE TIME:				SEE BELOW			
CITY, STATE:				PATTERSON, CA.				SAMPLE CONTAINERS:				SEE CHAIN OF CUSTODY			
SITE CONTACT:				IGNACIO LOPEZ				PRESERVATIVES:				SEE CHAIN OF CUSTODY			
CONSULTANT:				LEE & RO, INC.				LAB. ANALYSIS BY:				BC LABS.			
PROJECT MANAGER: IGNACIO LOPEZ MONUMENT: FLUSH															
SAMPLER:				DEL-TECH / ASHLEY LIGHT				WELL CASING MATERIAL :				PVC			
SIGNED:				<i>Ashley Light</i>				WELL CASING DIA. :				4" / 0.6528			
SAMPLE MEDIA:				GROUNDWATER				P.I.D. READING / ODOR:				N/A N/A			
TOP OF CASING ELEVATION:				MSL				COLOR:				N/A			
DEPTH TO WATER:				(feet.100th's) SEE BELOW		FEET		CALC. PURGE VOL.:				N/A GAL.			
DEPTH OF WELL:				(feet.100th's) N/A		FEET		TOTAL VOLUME PURGED:				N/A GAL.			
STANDING WATER COLUMN:				N/A		FEET		DEPTH OF PUMP:				N/A FEET			
FIELD PARAMETERS															
TIME	WELL LD.	DEPTH TO WATER	DRAW DOWN (D.T.W.)	PUMPING RATE (GPM/LPM)	pH (units)	E. C. (uS/cm)	TEMP. (Celsius)	O.R.P. (Mvolts)	DISSOLVED OXYGEN (PPM)	TURBIDITY (N.T.U.)					
11:24	MW-1	18.29'	N/A	2.0 GPM	7.89	2793	21.3	31	N/A	53					
10:57	MW-2	23.51'	"	"	7.49	3074	20.1	42	"	84					
10:00	MW-3	19.36'	"	"	6.52	3560	20.7	75	"	231					
10:24	MW-4	23.84'	"	"	7.17	2674	18.3	12	"	97					
10:35	MW-5	21.00'	"	"	7.25	2608	18.1	20	"	23					
12:00	MW-6	19.31'	"	"	7.96	1735	21.0	22	"	1000+					
12:14	MW-7	23.16'	"	"	7.81	2477	20.6	33	"	62					
11:39	MW-8	22.20'	"	"	8.08	1968	22.0	27	"	13					
10:19	MW-10	23.03'	"	"	7.10	2923	17.7	34	"	1000+					
12:37	MW-11	21.12'	"	"	7.84	1998	19.5	36	"	71					
12:23	MW-12	16.19'	"	"	7.76	2071	20.4	47	"	36					
10:45	MW-13	19.76'	"	"	7.47	2804	19.0	33	"	25					
11:04	MW-14	21.39'	"	"	7.81	2467	18.9	26	"	429					
10:10	MW-15	22.93'	"	"	7.09	2791	17.7	46	"	637					
11:44	MW-16	19.42'	"	"	7.82	2251	20.5	44	"	9					
PURGE METHOD: CENTRIFUGAL PUMP VIA DEDICATED WATERRA INERTIA PUMP.															
SAMPLE METHOD: DEDICATED WATERRA INERTIA PUMP & TUBING.															
D. T. W. AFTER PURGE:						D. T. W. AT SAMPLE TIME: 18.30'									
WELL INTEGRITY: CAP & SEAL ARE SECURE. LOCK INSTALLED.															
WELL LOCATION: SEE SITE MAP.															
REMARKS:															
WEATHER:				CLEAR SKIES / COOL.				WIND: NW5							
QUALITY CONTROL: ALL PURGING EQUIPMENT WAS CLEANED AS NECESSARY.															
CONTAINMENT: DEDICATED PURGE TUBING IS INSTALLED IN EACH WELL. NEW NITRILE GLOVES.															
INSTRUMENTATION: Y.S.I. 556 MULTIPROBE SYSTEM HACH TURBIDITY METER															
SOLINIST SLOPE METER															
# OF DRUMS ON SIGHT:				WATER: 0				SOIL: 0							



DEL-TECH GEOTECHNICAL SUPPORT, INC.
 (209) 847-8757 (OFFICE) * (209) 847-7744 (FAX) * deltech1@pacbell.net (Email)

PATTERSON W.Q.C.P.
14901 POPLAR AVE. - PATTERSON, CA.
 MONITORING WELL FIELD SUMMARY LOG 2009
 DEPTH TO WATER MEASUREMENTS

	QTR. 1	QTR. 2	QTR. 3	QTR. 4	TOTAL
DATE	2/20/2009				DEPTH
LOCATION					
MW-1	18.30				27.55'
MW-2	23.50				31.34'
MW-3	19.37				31.00'
MW-4	23.83				31.60'
MW-5	21.01				31.00'
MW-6	19.29				28.40'
MW-7	23.10				29.80'
MW-8	22.17				30.61'
MW-10	23.02				30.00'
MW-11	21.10				43.75'
MW-12	16.17				41.00'
MW-13	19.75				44.70'
MW-14	21.35				41.35'
MW-15	22.90				41.15'
MW-16	19.41				43.94'



D.I.W. CHART

NOTE:
 ALL MEASUREMENTS ARE MADE FROM THE NORTH SIDE AND TOP EDGE OF THE WELL CASING. THE TOP OF CASING WITH A NOTCH OR PERMANENT MARKINGS, WHICH EVER ONE CONDITION IS APPROPRIATE.