QUARTERLY MONITORING REPORT
July 2006 SAMPLING

City of Patterson Wastewater Treatment Plant
Groundwater Monitoring Program

Conducted in Accordance with
Waste Discharge Requirements Order No. 5-00-146

Prepared by:

LEE & RO, Inc
11060 White Rock Road, Suite 100
Rancho Cordova, California 95670-6046

Prepared for:

City of Patterson
Department of Public Works
33 South Del Puerto Avenue
Patterson, CA 95363

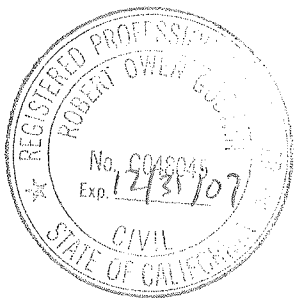
October 2006

REPORT PREPARED BY:

10-12-6

Robert Owen Godwin
Registered Civil Engineer

(DATE)
California No. C48045



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1. INTRODUCTION

This Quarterly Groundwater Monitoring Report has been prepared in accordance with the Waste Discharge Requirements for the City of Patterson Wastewater Treatment Plant in the City of Patterson, Stanislaus County, California. The wells were installed as part of the groundwater monitoring 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 will include an assessment of background conditions and a determination if there has been any impact from wastewater disposal. The groundwater monitoring program consists of the construction and quarterly sampling of ten 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. In conjunction with the 1.25 mgd wastewater treatment plant expansion, five new monitoring wells MW-6 to MW-10 were constructed between the months of July and August of 2004. These wells have been sampled on a quarterly basis since being constructed in the summer of 2004.

This report presents the results of the quarterly samples collected on July 6th, 2006. The samples collected on during the sampling round and hereafter will follow the new Supplemental Groundwater Monitoring and Reporting Program. Included in this report will be groundwater elevation summaries and contour maps.

2. GROUNDWATER MONITORING WELLS

Figure 1 shows the monitoring well locations.

All ten wells have 15 feet of screen with total depths ranging from 28 to 31.5 feet below ground surface (bgs). A summary of well characteristics is provided in **Table 1**.

The location of monitoring well MW-9 was disputed by the neighbors. Therefore, as of May 10, 2005, MW-9 was removed in accordance with the Stanislaus County requirements. At this time, no new location has been proposed to replace MW-9.

3. GROUNDWATER ELEVATIONS

Groundwater elevations measured to date are summarized in **Figure 2**.

Groundwater elevations measured in this sampling round along with the groundwater elevation from the previous two years are presented in **Table 2.** The current groundwater elevations are contoured on the map in **Figure 1**.

4. MONITORING WELL SAMPLING

The wells were purged and sampled on July 6, 2006 in accordance with the procedures specified in the workplan. Sampling was conducted by Richard Chrun of GeoAnalytical Laboratories. Purge logs are presented in **Appendix A**.

5. GROUNDWATER QUALITY RESULTS

The samples were analyzed by GeoAnalytical Laboratories, a state-certified environmental laboratory. In accordance with the Supplemental Groundwater Monitoring and Reporting Program, the following parameters were tested:

- Pathogens
  - Total Coliform Organisms
  - Fecal Coliform
- Total Organic Carbon
- Nitrogen Compounds
  - Nitrate (as NO_3-N)
  - Ammonia (as NH_3-N)
  - Total Kjeldahl Nitrogen
- General Minerals
- Sodium Adsorption Ration (SAR)
- Dissolved Metals

The results of the Supplemental Groundwater Monitoring and Reporting Program are provided in **Table 3, Table 4, and Table 5**. Laboratory reports for the July 2006 samples are presented in **Appendix B**.

Table 1 Well Construction Summary					
	Well Depth (ft)	**Completion Type**	**Slab Surface Elevation**	**Top of Casing Elevation**	**Water Elevation 07/06/06 (ft msl)**
MW-1	27.5	Below	55.58	54.93	46.21
MW-2	31.4	Above	57.93	59.68	44.93
MW-3	31.0	Above	52.18	53.80	43.53
MW-4	31.0	Above	56.99	58.58	43.37
MW-5	31.0	Above	53.79	55.21	42.89
MW-6	29.2	Above	51.81	55.23	46.08
MW-7	31.0	Above	54.62	58.04	43.33
MW-8	30.7	Above	55.91	59.33	45.21
MW-10	30.0	Below	58.33	58.12	44.38

Table 2
Groundwater Elevations
Patterson WWTP Monitoring Wells

Water Elevations	**MW-1**	**MW-2**	**MW-3**	**MW-4**	**MW-5**	**MW-6**	**MW-7**	**MW-8**	**MW-9**	**MW-10**
Water Elevation 1/9/04 (ft msl)	35.97	35.55	N/A	30.97	36.29	N/A	N/A	N/A	N/A	N/A
Water Elevation 1/29/04 (ft msl)	N/A	N/A	35.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Elevation 4/8/04 (ft msl)	37.24	38.06	35.14	35.36	34.41	N/A	N/A	N/A	N/A	N/A
Water Elevation 7/8/04 (ft msl)	37.61	38.82	33.76	34.44	33.60	N/A	N/A	N/A	N/A	N/A
Water Elevation 10/18/04 (ft msl)	37.90	37.68	34.87	35.40	34.19	36.01	34.33	35.41	38.08	37.38
Water Elevation 1/17/05 (ft msl)	37.83	37.22	37.05	37.72	37.50	36.81	37.54	37.98	37.28	37.94
Water Elevations 4/05/05 (ft msl)	40.03	38.87	39.47	39.58	39.58	39.15	40.13	40.20	39.36	39.85
Water Elevations 7/11/05 (ft msl)	41.95	42.15	39.78	39.87	38.93	42.14	39.13	40.42	N/A	43.12
Water Elevations 10/10/05 (ft msl)	40.62	40.48	37.46	37.70	36.61	39.72	37.86	38.37	N/A	38.69
Water Elevations 01/09/06 (ft msl)	38.60	38.25	37.12	46.45	37.34	38.25	39.43	38.49	N/A	39.82
Water Elevations 04/12/06 (ft msl)	41.69	40.74	45.65	47.63	47.19	41.92	47.75	44.87	N/A	41.74
Water Elevations 07/06/06 (ft msl)	46.21	44.93	43.53	43.37	42.89	46.08	43.33	45.21	N/A	44.38

Table 3
July 2006 Sampling
Analytical Results

	PH	Electric Conductivity	Total Dissolved Solids	Nitrate as Nitrogen	Ammonia as Nitrogen	Total Kjeldahl Nitrogen	Pathogens		Total Organic Carbon
	(Std. Units)	(umhos/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(MPN/100ml)	(MPN/100ml)	(mg/L)
MW-1	8.0	2880	1560	15.0	ND	2.0	1	NT	1.3
MW-2	7.8	3860	2410	22.0	ND	ND	3.1	NT	2
MW-3	7.7	3910	2240	10.0	ND	ND	<1	NT	1.7
MW-4	7.5	1210	807	7.9	ND	ND	<1	NT	3.6
MW-5	7.3	2560	1690	19.0	ND	ND	<1	NT	2.6
MW-6	7.8	2090	1240	5.7	ND	1.2	>2420	NT	1.6
MW-7	7.8	3620	2200	9.5	ND	ND	<1	NT	2.7
MW-8	7.6	2830	1710	6.3	ND	ND	<1	NT	2.1
MW-10	7.6	2360	1520	2.9	ND	1.2	12	NT	2.8

	Alkalinity					
	Hydroxide Alkalinity (as $CaCO_3$)	Bicarbonate Alkalinity (as $CaCO_3$)	Carbonate Alkalinity (as $CaCO_3$)	Total Alkalinity (as $CaCO_3$)	Hardness (as $CaCO_3$)	Methyleene Blue Active Substances
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
MW-1	ND	366	ND	366	600	ND
MW-2	ND	650	ND	650	100	ND
MW-3	ND	456	ND	456	670	ND
MW-4	ND	258	ND	258	290	ND
MW-5	ND	266	ND	266	660	ND
MW-6	ND	490	ND	490	670	ND
MW-7	ND	570	ND	570	600	ND
MW-8	ND	416	ND	416	710	ND
MW-10	ND	438	ND	438	670	ND

ND = Not Detected
NT = Not Tested

Table 4 July 2006 Sampling Metals Results										
	Arsenic	**Barium**	**Cadmium**	**Copper**	**Lead**	**Mercury**	**Molybdenum**	**Nickel**	**Selenium**	**Zinc**
	(ug/L)	**(ug/L)**	**(ug/L)**	**(mg/L)**	**(ug/L)**	**(ug/L)**	**(ug/L)**	**(ug/L)**	**(ug/L)**	**(mg/L)**
MW-1	2	33	ND	ND	ND	ND	14	3	9.9	ND
MW-2	3	34	ND	ND	ND	ND	11	3.7	23	ND
MW-3	6	27	ND	ND	ND	ND	ND	4	4.5	ND
MW-4	22	55	ND	ND	ND	ND	ND	4	4.3	ND
MW-5	4	55	ND	ND	ND	ND	10	7.2	6.1	ND
MW-6	2	61	ND	ND	ND	ND	ND	3.2	5.3	ND
MW-7	11	79	ND	ND	ND	ND	11	5.9	8	ND
MW-8	8	82	ND	ND	ND	ND	ND	7.9	8.2	ND
MW-10	2	50	ND	ND	ND	ND	ND	10.4	3	ND

ND = Not Detected
NT = Not Tested

Table 5 July 2006 Sampling General Minerals Results								
	Calcium	Magnesium	Sodium	Potassium	Iron	Manganese	Chloride	Sulfate as SO_4
	(mg/L)	(mg/L)	(mg/L)	(mg/l)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
MW-1	74	100	290	5.2	ND	ND	209	490
MW-2	80	230	360	4.3	ND	ND	315	754
MW-3	90	110	460	5.6	ND	ND	443	628
MW-4	58	35	160	7	ND	0.03	93	199
MW-5	120	90	300	6.8	ND	ND	399	377
MW-6	62	120	210	4	ND	ND	158	339
MW-7	64	110	480	6.8	0.19	ND	445	461
MW-8	120	100	280	5.1	ND	ND	339	432
MW-10	130	86	250	4.4	ND	ND	321	293

ND = Not Detected
NT = Not Tested

PLANT NORTH

42

42

MW-5
42.89

MW-7
43.33

MW-8
45.21

MW-3
43.53

44

44

MW-4
43.37

POND 16

POND 15

POND 14

POND 13

POND 4

POND 3C & 3B

POND 3A

POND 5

POND 11

POND 12

POND 10

MW-10
44.38

46

46

EUCALYPTUS AVE

POND 2

POND 2

POND 1

POND 7

POND 8

POND 9

MW-2
44.93

MW-6
46.08

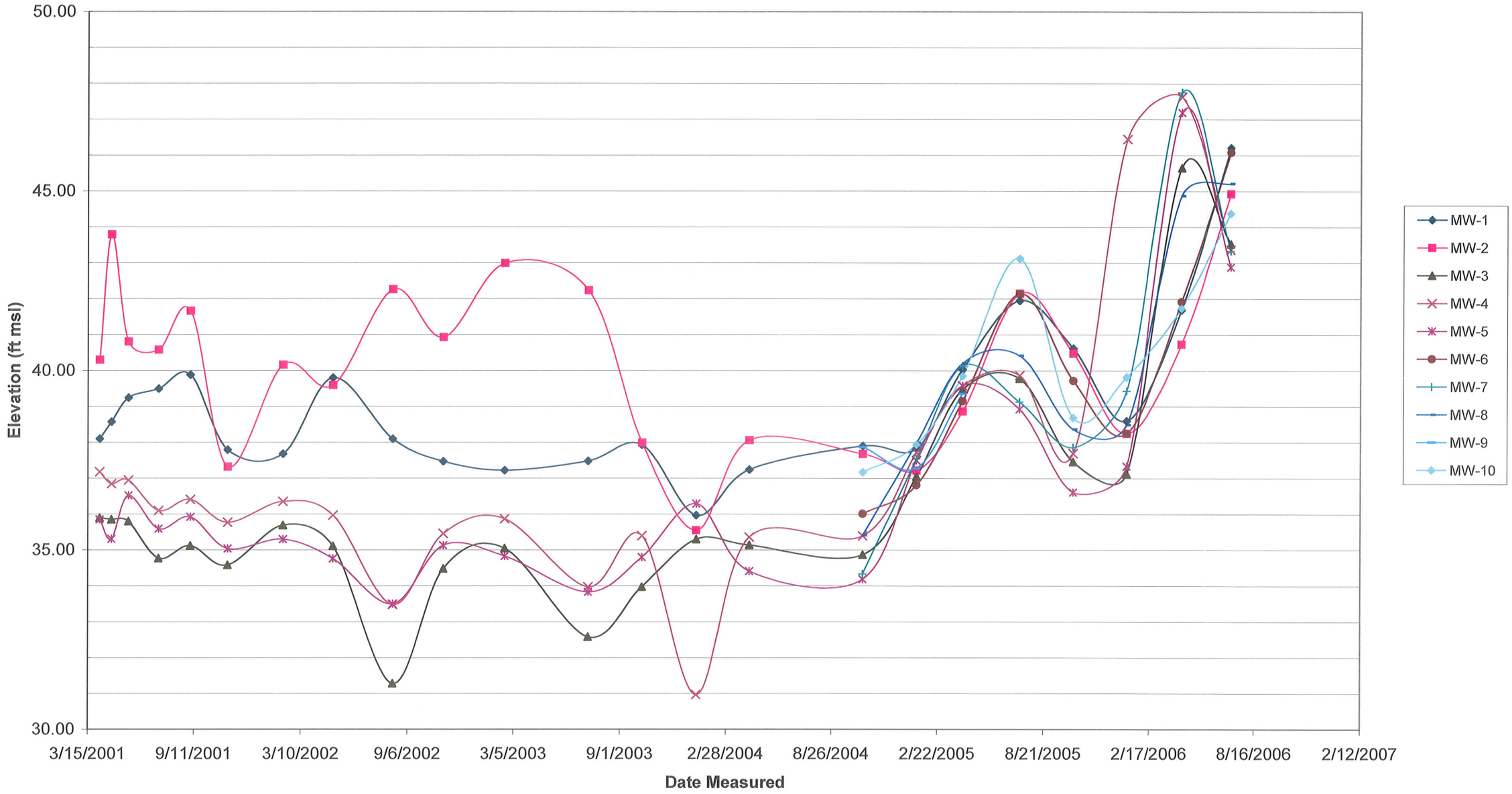
OLIVE AVE

WALNUT AVE

MW-1
46.21

	LEE&RO, Inc. RANCHO CORDOVA, CALIFORNIA	CITY OF PATTERSON WASTEWATER TREATMENT PLANT 14901 POPLAR AVENUE	FIGURE 1 JULY 6, 2006 GROUNDWATER ELEVATION CONTOUR MAP SCALE 1"=600'

Figure 2
Groundwater Elevations in Patterson WWTP Monitoring Wells



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. 728
Recorded By Richard Chrun/GeoAnalytical
Date 7/6/2006
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 (add below)
MW-1	11:28 PM	TOC	54.93	8.72	46.21	-	-	-	27.50	
MW-2	12:01 PM	TOC	59.68	14.75	44.93	-	-	-	31.40	
MW-3	1:53 AM	TOC	53.80	10.27	43.53	-	-	-	31.00	
MW-4	1:12 PM	TOC	58.58	15.21	43.37	-	-	-	31.00	
MW-5	12:45 PM	TOC	55.21	12.32	42.89	-	-	-	31.00	
MW-6	3:08 PM	TOC	55.23	9.15	46.08	-	-	-	29.20	
MW-7	2:48 PM	TOC	58.04	14.71	43.33	-	-	-	31.00	
MW-8	2:28 PM	TOC	59.33	14.12	45.21	-	-	-	30.70	
MW-10	2:03 PM	TOC	58.12	13.74	44.38	-	-	-	30.00	

Notes:

Report # SLG0601 **Field Log / Groundwater Sampling Form** Date 7/6/06

Client City of Patterson **Well Name** MW-1

Project Name Quarterly Monitoring Wells Well Type: ☐ Monitor ☐ Extraction ☐ Other

Consultant

Proj. Manager Richard Chrun **Sampler** Richard Chrun

WELL PURGING

Purge Method

- ☐ Bailer - Type
- ☒ Pump - Type 2"
- ☐ Other

Total Well Depth 27.50

Depth to Water 8.72

= Water Column Length 18.78

Multiplier

Well Casing I.D. (in.)	Gal/Ft.
2.0	0.1632
4.0	0.6527
6.0	1.4686

Purge Volume

Well Casing Diameter
- ☒ 2 - inch
- ☐ 4 - inch
- ☐ other

Well Volume Purged
- ☒ 3 volumes
- ☐ 4 volumes
- ☐ other

18.78 (Water column length) X 0.6527 (Multiplier) X 3 (No. Volumes) = 36.77 (CALCULATED. Purge Vol.)

36.77 (Purge Vol) / 2.5 (Purge Rate) = 14.70 (TOTAL PURGE TIME)

14.70 (Total Purge Time) / 3 (# Volumes) = 4.90 (PURGE TIME/VOL.)

Actual Values

Purge Time /Vol.	5
X No. Volumes	3
= Total Purge Time	15
X Purge Rate	2.5
= Actual Purge Vol.	37.5

FIELD GROUNDWATER PARAMATER MEASUREMENTS

	Time	Gallons	pH	Conductivity µmhos/cm	Temp. ☑ deg C ☐ deg F	DO	ORP	Color / Odor
Start	11:13	-	-	-	-	-	-	-
Vol 1	11:18	12.5	7.92	211ms	23.2			clear/none
Vol 2	11:23	25	7.85	1926 us	23.6			"
Vol 3	11:28	37.5	9.75	1890 us	23.6			"
Vol 4								
Vol 5								

Meter Type IQ Scientific

Purge Water Storage / Disposal
- ☒ Drummed onsite
- ☐ Onsite Treatment System
- ☐ Other

COMMENTS/purge:

WELL SAMPLING

Sampling Method
- ☐ Bailer - Type
- ☒ Pump - Type
- ☐ Other

Time	Sample ID	Org	Dup	Split	Blank	Container Type	Number of Containers	Preservative
11:28	MW-1	X				Pl Litre	1	4°C
						100ml sterile	1	4°C

COMMENTS/sampling:

1405 Kansas Ave.
Modesto, CA 95351

GeoAnalytical Laboratories, Inc.
Cert# 1157

Phone: (209) 572-0900
Fax: (209) 572-0916

Report # _____

Field Log / Groundwater Sampling Form

Date 7/6/06

Client City of Patterson

Well Name MW-7

Project Name Quarterly Monitoring Wells

Well Type: ☑ Monitor ☐ Extraction ☐ Other _____

Consultant _____

Proj. Manager Richard Chrun

Sampler Richard Chrun

WELL PURGING

Purge Method

- ☐ Bailer - Type _____
- ☒ Pump - Type 2"
- ☐ Other _____

Total Well Depth 31.40

Depth to Water 14.75

= Water Column Length 16.65

Multiplier

Well Casing I.D. (in.)	Gal/Ft.
2.0	0.1632
4.0	0.6527
6.0	1.4686

Purge Volume

Well Casing Diameter
- ☐ 2 - inch
- ☒ 4 - inch
- ☐ other _____

Well Volume Purged
- ☒ 3 volumes
- ☐ 4 volumes
- ☐ other _____

16.65 (Water column length) X 0.6527 (Multiplier) X 3 (No. Volumes) = 32.60 (CALCULATED. Purge Vol.)

32.60 (Purge Vol) / 2.5 (Purge Rate) = 13.04 (TOTAL PURGE TIME)

13.04 (Total Purge Time) / 3 (# Volumes) = 4.34 (PURGE TIME/VOL.)

Actual Values

Purge Time /Vol.	5
X	
No. Volumes	3
=	
Total Purge Time	15
X	
Purge Rate	2.5
=	
Actual Purge Vol.	37.5

GROUNDWATER PARAMATER MEASUSREMENTS

	Time	Gallons	pH	Conductivity µmhos/cm	Temp. ☑ deg C ☐ deg F	DO	ORP	Color / Odor
Start	11:46	-	-	-	-	-	-	-
Vol 1	11:51	12.5	7.69	2.87 ms	22.6			
Vol 2	11:56	25.0	7.31	2.91 ms	22.1			Clear / none
Vol 3	12:01	37.5	7.34	2.89 ms	22.0			"
Vol 4								"
Vol 5								

Meter Type IQ Scientific

Purge Water Storage / Disposal
- ☒ Drummed onsite
- ☐ Onsite Treatment System
- ☐ Other _____

COMMENTS/purge: _____

WELL SAMPLING

Sampling Method
- ☐ Bailer - Type _____
- ☒ Pump - Type _____
- ☐ Other _____

Time	Sample ID	Org	Dup	Split	Blank	Container Type	Number of Containers	Preservative
12:01pm	MW-7	X				Pl Litre	1	4°C
						100ml sterile	1	4°C

COMMENTS/sampling: _____

1405 Kansas Ave.
Modesto, CA 95351

GeoAnalytical Laboratories, Inc.
Cert# 1157

Phone: (209) 572-0900
Fax: : (209) 572-0916

Report # _____

Field Log / Groundwater Sampling Form

Date 7/6/06

Client City of Patterson

Well Name MW-3

Project Name Quarterly Monitoring Wells

Well Type: ☑ Monitor ☐ Extraction ☐ Other _____

Consultant _____

Proj. Manager Richard Chrun

Sampler Richard Chrun

WELL PURGING

Purge Method

- ☐ Bailer - Type _____
- ☒ Pump - Type 2"
- ☐ Other _____

Multiplier

Well Casing I.D. (in.)	Gal/Ft.
2.0	0.1632
4.0	0.6527
6.0	1.4686

Purge Volume

Well Casing Diameter
- ☐ 2 - inch
- ☒ 4 - inch
- ☐ other _____

Well Volume Purged
- ☒ 3 volumes
- ☐ 4 volumes
- ☐ other _____

Total Well Depth 31.00

Depth to Water 10.27

Water Column Length 20.73

20.73 (Water column length) X 0.6527 (Multiplier) X 3 (No. Volumes) = 40.59 (CALCULATED. Purge Vol.)

40.59 (Purge Vol) / 2.5 (Purge Rate) = 16.23 (TOTAL PURGE TIME)

16.23 (Total Purge Time) / 3 (# Volumes) = 5.41 (PURGE TIME/VOL.)

Actual Values

Purge Time /Vol.	6
X	
No. Volumes	3
=	
Total Purge Time	18
X	
Purge Rate	2.5
=	
Actual Purge Vol.	45

GROUNDWATER PARAMETER MEASUSREMENTS

	Time	Gallons	pH	Conductivity µmhos/cm	Temp. ☑ deg C ☐ deg F	DO	ORP	Color / Odor
Start	1:35	-	-	-	-	-	-	-
Vol 1	1:41	15	7.62	2.81ms	22.3			clear/none
Vol 2	1:47	30	7.42	2.84ms	22.7			"
Vol 3	1:53	45	7.43		22.5			"
Vol 4								
Vol 5								

Meter Type IQ Scientific

Purge Water Storage / Disposal
- ☒ Drummed onsite
- ☐ Onsite Treatment System
- ☐ Other _____

COMMENTS/purge: _____

WELL SAMPLING

Sampling Method

- ☐ Bailer - Type _____
- ☒ Pump - Type _____
- ☐ Other _____

Time	Sample ID	Org	Dup	Split	Blank	Container Type	Number of Containers	Preservative
1:53pm	MW-3	X				Pl Litre	1	4°C
						100ml sterile	1	4°C

COMMENTS/sampling: _____

1405 Kansas Ave.
Modesto, CA 95351

GeoAnalytical Laboratories, Inc.
Cert# 1157

Phone: (209) 572-0900
Fax: (209) 572-0916

Report # _____

Field Log / Groundwater Sampling Form

Date 7/6/06

Client City of Patterson

Well Name MW-4

Project Name Quarterly Monitoring Wells

Well Type: ☑ Monitor ☐ Extraction ☐ Other _____

Consultant _____

Proj. Manager Richard Chrun

Sampler Richard Chrun

WELL PURGING

Purge Method

- ☐ Bailer - Type _____
- ☒ Pump - Type 2"
- ☐ Other _____

Total Well Depth 31.00

Depth to Water 15.21

Water Column Length 15.79

Multiplier

Well Casing I.D. (in.)	Gal/Ft.
2.0	0.1632
4.0	0.6527
6.0	1.4686

Purge Volume

Well Casing Diameter
- ☐ 2 - inch
- ☒ 4 - inch
- ☐ other _____

Well Volume Purged
- ☒ 3 volumes
- ☐ 4 volumes
- ☐ other _____

15.79 (Water column length) X 0.6527 (Multiplier) X 3 (No. Volumes) = 30.91 (CALCULATED. Purge Vol.)

30.91 (Purge Vol) / 2.5 (Purge Rate) = 12.36 (TOTAL PURGE TIME)

12.36 (Total Purge Time) / 3 (# Volumes) = 4.12 (PURGE TIME/VOL.)

Actual Values

Purge Time /Vol.	4
X	
No. Volumes	3
=	
Total Purge Time	12
X	
Purge Rate	2.5
=	
Actual Purge Vol.	30

GROUNDWATER PARAMETER MEASUREMENTS

	Time	Gallons	pH	Conductivity µmhos/cm	Temp. ☑ deg C ☐ deg F	DO	ORP	Color / Odor
Start	1:00	-	-	-	-	-	-	-
Vol 1	1:04	10	7.63	1158 µs	21.5			clear / none
Vol 2	1:08	20	7.29	1149 µs	22.3			"
Vol 3	1:12	30	7.15	1164 µs	22.0			"
Vol 4								
Vol 5								

Meter Type IQ Scientific

Purge Water Storage / Disposal
- ☒ Drummed onsite
- ☐ Onsite Treatment System
- ☐ Other _____

COMMENTS/purge: _____

WELL SAMPLING

Sampling Method
- ☐ Bailer - Type _____
- ☒ Pump - Type _____
- ☐ Other _____

Time	Sample ID	Org	Dup	Split	Blank	Container Type	Number of Containers	Preservative
1:12	MW-4	X				Pl Litre	1	4°C
						100ml sterile	1	4°C

COMMENTS/sampling: _____

1405 Kansas Ave.
Modesto, CA 95351

GeoAnalytical Laboratories, Inc.
Cert# 1157

Phone: (209) 572-0900
Fax: (209) 572-0916

Report # _____

Field Log / Groundwater Sampling Form

Date 7/6/0

Client City of Patterson

Well Name MW-5

Project Name Quarterly Monitoring Wells

Consultant _____

Well Type: ☑ Monitor ☐ Extraction ☐ Other _____

Proj. Manager Richard Chrun

Sampler Richard Chrun

WELL PURGING

Purge Method

- ☐ Bailer - Type _____
- ☒ Pump - Type 2"
- ☐ Other _____

Total Well Depth 31.00

Depth to Water 12.32

= Water Column Length 18.68

Multiplier

Well Casing I.D. (in.)	Gal/Ft.
2.0	0.1632
4.0	0.6527
6.0	1.4686

Purge Volume

Well Casing Diameter
- ☐ 2 - inch
- ☒ 4 - inch
- ☐ other _____

Well Volume Purged
- ☒ 3 volumes
- ☐ 4 volumes
- ☐ other _____

18.68 (Water column length) X 0.6527 (Multiplier) X 3 (No. Volumes) = 36.57 CALCULATED. Purge Vol.

36.57 (Purge Vol) / 2.5 (Purge Rate) = 14.63 TOTAL PURGE TIME

14.63 (Total Purge Time) / 3 (# Volumes) = 4.87 PURGE TIME/VOL.

Actual Values

Purge Time /Vol.	5
X	
No. Volumes	3
=	
Total Purge Time	15
X	
Purge Rate	2.5
=	
Actual Purge Vol.	37.5

GROUNDWATER PARAMETER MEASUREMENTS

	Time	Gallons	pH	Conductivity µmhos/cm	Temp. ☑ deg C ☐ deg F	DO	ORP	Color / Odor
Start	12:30	-	-	-	-	-	-	-
Vol 1	12:35	12.5	7.71	1998 µs	21.7			clear/none
Vol 2	12:40	25.0	7.39	2.30 ms	22.9			"
Vol 3	12:45	37.5	6.93	2.32 ms	22.3			"
Vol 4								
Vol 5								

Meter Type IQ Scientific

Purge Water Storage / Disposal
- ☒ Drummed onsite
- ☐ Onsite Treatment System
- ☐ Other _____

COMMENTS/purge: _____

WELL SAMPLING

Sampling Method
- ☐ Bailer - Type _____
- ☒ Pump - Type _____
- ☐ Other _____

Time	Sample ID	Org	Dup	Split	Blank	Container Type	Number of Containers	Preservative
12:45	MW-5	X				Pl Litre	1	4°C
						100ml sterile	1	4°C

COMMENTS/sampling: _____

1405 Kansas Ave.
Modesto, CA 95351

GeoAnalytical Laboratories, Inc.
Cert# 1157

Phone: (209) 572-0900
Fax: : (209) 572-0916

Report # _____

Field Log / Groundwater Sampling Form

Date 7/6/06

Client City of Patterson

Well Name MW-6

Project Name Quarterly Monitoring Wells

Consultant _____

Well Type: ☑ Monitor ☐ Extraction ☐ Other _____

Proj. Manager Richard Chrun

Sampler Rich Chrun

WELL PURGING

Purge Method

- ☐ Bailer - Type _____
- ☒ Pump - Type 2"
- ☐ Other _____

Multiplier

Well Casing I.D. (in.)	Gal/Ft.
2.0	0.1632
4.0	0.6527
6.0	1.4686

Purge Volume

Well Casing Diameter
- ☒ 2 - inch
- ☐ 4 - inch
- ☐ other _____

Well Volume Purged
- ☒ 3 volumes
- ☐ 4 volumes
- ☐ other _____

Total Well Depth 29.20

Depth to Water 9.15

= Water Column Length 20.05

20.05 (Water column length) X 0.1632 (Multiplier) X 3 (No. Volumes) = 9.81 (CALCULATED. Purge Vol.)

9.81 (Purge Vol) / 2.5 (Purge Rate) = 3.92 (TOTAL PURGE TIME)

3.92 (Total Purge Time) / 3 (# Volumes) = 1.30 (PURGE TIME/VOL.)

Actual Values

Purge Time /Vol.	2
X No. Volumes	3
= Total Purge Time	6
X Purge Rate	2.5
= Actual Purge Vol.	15

GROUNDWATER PARAMATER MEASUSREMENTS

	Time	Gallons	pH	Conductivity µmhos/cm	Temp. ☑ deg C ☐ deg F	DO	ORP	Color / Odor
Start	3:05	-	-	-	-	-	-	-
Vol 1	3:06	5	7.86	1618 µs	21.9			
Vol 2	3:07	10	7.70	1588 µs	21.5			clear/none
Vol 3	3:08	15	7.68	1597 µs	21.3			turbid/none
Vol 4								
Vol 5								

Meter Type IQ Scientific

Purge Water Storage / Disposal
- ☒ Drummed onsite
- ☐ Onsite Treatment System
- ☐ Other _____

COMMENTS/purge: _____

WELL SAMPLING

Sampling Method

- ☐ Bailer - Type _____
- ☒ Pump - Type _____
- ☐ Other _____

Time	Sample ID	Org	Dup	Split	Blank	Container Type	Number of Containers	Preservative
3:08pm	MW-6	X				Pl Litre	1	4°C
						100ml sterile	1	4°C

COMMENTS/sampling: _____

1405 Kansas Ave.
Modesto, CA 95351

GeoAnalytical Laboratories, Inc.
Cert# 1157

Phone: (209) 572-0900
Fax: (209) 572-0916

Report # _____

Field Log / Groundwater Sampling Form

Date 7/6/06

Client City of Patterson

Well Name mw-7

Project Name Quarterly Monitoring Wells

Well Type : ☑ Monitor ☐ Extraction ☐ Other _____

Consultant _____

Proj. Manager Richard Chrun

Sampler Rich Chrun

WELL PURGING

Purge Method

- ☐ Bailer - Type _____
- ☒ Pump - Type 2"
- ☐ Other _____

Total Well Depth 31.00

Depth to Water 14.71

Water Column Length 16.29

Multiplier

Well Casing I.D. (in.)	Gal/Ft.
2.0	0.1632
4.0	0.6527
6.0	1.4686

Purge Volume

Well Casing Diameter
- ☒ 2 - inch
- ☐ 4 - inch
- ☐ other _____

Well Volume Purged
- ☒ 3 volumes
- ☐ 4 volumes
- ☐ other _____

16.29 (Water column length) X 0.1632 (Multiplier) X 3 (No. Volumes) = 7.97 (CALCULATED. Purge Vol.)

7.97 (Purge Vol) / 2.5 (Purge Rate) = 3.19 (TOTAL PURGE TIME)

3.19 (Total Purge Time) / 3 (# Volumes) = 1.06 (PURGE TIME/VOL.)

Actual Values

Purge Time /Vol.	1
X No. Volumes	3
= Total Purge Time	3
X Purge Rate	2.5
= Actual Purge Vol.	7.5

GROUNDWATER PARAMATER MEASUSREMENTS

	Time	Gallons	pH	Conductivity µmhos/cm	Temp. ☑ deg C ☐ deg F	DO	ORP	Color / Odor
Start	2:45	-	-	-	-	-	-	-
Vol 1	2:46	2.5	7.55	2.74	22.7			clear / none
Vol 2	2:47	5.0	7.44	2.79	22.4			"
Vol 3	2:48	7.5	7.40	2.98	22.8			"
Vol 4								
Vol 5								

Meter Type IQ Scientific

Purge Water Storage / Disposal
- ☒ Drummed onsite
- ☐ Onsite Treatment System
- ☐ Other _____

COMMENTS/purge: _____

WELL SAMPLING

Sampling Method

- ☐ Bailer - Type _____
- ☒ Pump - Type _____
- ☐ Other _____

Time	Sample ID	Org	Dup	Split	Blank	Container Type	Number of Containers	Preservative
2:48pm	mw-7	x				Pl Litre	1	4°C
						100ml sterile	1	4°C

COMMENTS/sampling: _____

1405 Kansas Ave.
Modesto, CA 95351

GeoAnalytical Laboratories, Inc.
Cert# 1157

Phone: (209) 572-0900
Fax: : (209) 572-0916

Report # _____

Field Log / Groundwater Sampling Form

Date 7/10/06

Client City of Patterson

Well Name MW-8

Project Name Quarterly Monitoring Wells

Well Type : ☑ Monitor ☐ Extraction ☐ Other _____

Consultant _____

Proj. Manager Richard Chrun

Sampler Rich Chrun

WELL PURGING

Purge Method

- ☐ Bailer - Type _____
- ☒ Pump - Type 2"
- ☐ Other _____

Total Well Depth 30.70

Depth to Water 14.12

Water Column Length 16.58

Multiplier

Well Casing I.D. (in.)	Gal/Ft.
2.0	0.1632
4.0	0.6527
6.0	1.4686

Purge Volume

Well Casing Diameter
- ☒ 2 - inch
- ☐ 4 - inch
- ☐ other _____

Well Volume Purged
- ☒ 3 volumes
- ☐ 4 volumes
- ☐ other _____

16.58 (Water column length) X 0.1632 (Multiplier) X 3 (No. Volumes) = 8.11 (CALCULATED. Purge Vol.)

8.11 (Purge Vol) / 2.5 (Purge Rate) = 3.24 (TOTAL PURGE TIME)

3.24 (Total Purge Time) / 3 (# Volumes) = 1.08 (PURGE TIME/VOL.)

Actual Values

Purge Time /Vol.	1
X	
No. Volumes	3
=	
Total Purge Time	3
X	
Purge Rate	2.5
=	
Actual Purge Vol.	7.5

GROUNDWATER PARAMATER MEASUSREMENTS

	Time	Gallons	pH	Conductivity µmhos/cm	Temp. ☑ deg C ☐ deg F	DO	ORP	Color / Odor
Start	2:25	-	-	-	-	-	-	-
Vol 1	2:26	2.5	7.52	1923 µs	22.5			
Vol 2	2:27	5.0	7.38	1931 µs	21.6			Clear / none
Vol 3	2:28	7.5	7.26	1958 µs	21.9			"
Vol 4								
Vol 5								

Meter Type IQ Scientific

Purge Water Storage / Disposal
- ☒ Drummed onsite
- ☐ Onsite Treatment System
- ☐ Other _____

COMMENTS/purge: _____

WELL SAMPLING

Sampling Method

- ☐ Bailer - Type _____
- ☒ Pump - Type _____
- ☐ Other _____

Time	Sample ID	Org	Dup	Split	Blank	Container Type	Number of Containers	Preservative
2:28 pm	MW-8	X				Pl Litre	1	4°C
						100ml sterile	1	4°C

COMMENTS/sampling: _____

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Modesto, CA 95351

GeoAnalytical Laboratories, Inc.
Cert# 1157

Phone: (209) 572-0900
Fax: : (209) 572-0916

Report # _____

Field Log / Groundwater Sampling Form

Date 7/6/06

Client City of Patterson

Well Name MW-10

Project Name Quarterly Monitoring Wells

Well Type: ☑ Monitor ☐ Extraction ☐ Other _____

Consultant _____

Proj. Manager Richard Chrun

Sampler Rich Chrun

WELL PURGING

Purge Method

- ☐ Bailer - Type _____
- ☒ Pump - Type 2"
- ☐ Other _____

Multiplier

Well Casing I.D. (in.)	Gal/Ft.
2.0	0.1632
4.0	0.6527
6.0	1.4686

Purge Volume

Well Casing Diameter
- ☒ 2 - inch
- ☐ 4 - inch
- ☐ other _____

Well Volume Purged
- ☒ 3 volumes
- ☐ 4 volumes
- ☐ other _____

Total Well Depth 30.00

Depth to Water 13.74

Water Column Length 16.62

16.62 (Water column length) X 0.1632 (Multiplier) X 3 (No. Volumes) = 7.96 (CALCULATED. Purge Vol.)

7.96 (Purge Vol) / 2.5 (Purge Rate) = 3.18 (TOTAL PURGE TIME)

3.18 (Total Purge Time) / 3 (# Volumes) = 1.06 (PURGE TIME/VOL.)

Actual Values

Purge Time /Vol.	1
X No. Volumes	3
= Total Purge Time	3
X Purge Rate	2.5
= Actual Purge Vol.	7.5

GROUNDWATER PARAMATER MEASUSREMENTS

	Time	Gallons	pH	Conductivity µmhos/cm	Temp. ☑ deg C ☐ deg F	DO	ORP	Color / Odor
Start	2:00	-	-	-	-	-	-	-
Vol 1	2:01	2.5	7.99	1852 µs	21.2			
Vol 2	2:02	5.0	7.32	1850 µs	20.5			turbid/none
Vol 3	2:03	7.5	7.31	1848 µs	20.4			clear/none
Vol 4								"
Vol 5								

Meter Type IQ Scientific

Purge Water Storage / Disposal
- ☒ Drummed onsite
- ☐ Onsite Treatment System
- ☐ Other _____

COMMENTS/purge: _____

WELL SAMPLING

Sampling Method

- ☐ Bailer - Type _____
- ☒ Pump - Type _____
- ☐ Other _____

Time	Sample ID	Org	Dup	Split	Blank	Container Type	Number of Containers	Preservative
2:03	MW-10	X				Pl Litre	1	4°C
						100ml sterile	1	4°C

COMMENTS/sampling: _____

1405 Kansas Ave.
Modesto, CA 95351

GeoAnalytical Laboratories, Inc.
Cert# 1157

Phone: (209) 572-0900
Fax: : (209) 572-0916

APPENDIX B
LABORATORY ANALYTICAL REPORT

GeoAnalytical Laboratories, Inc.

1405 Kansas Avenue
Modesto, CA 95351

Phone: (209) 572-0900
Fax: (209) 572-0916

Lab Report # 264066

Regulatory ☐ Yes ☐ No CC: ☐ Yes ☐ No

Regulator: _____

Client: City of Patterson
Address: 33 S. Del Puerto
City Patterson, CA Zip 95363

Phone: (209) 892-8886
Fax: (209) 892-8993
Original To: Joel Cockrell
C.C To: Bob Goodwin

CHAIN OF CUSTODY

☐ EDF ☐ EDT
☒ FIELD LOGS

Project ID: Quarterly Monitoring Wells

Sampled By (Print Name): Richard Crum
(Signature): Richard Crum

Date	Time	Sample type: Grab	Sample type: Comp	Matrix	Sample ID	Container: Type	Container: Size	No. Of Containers	ANALYSIS: BOD (MPN)	ANALYSIS: TOC, NO3-N, NH3-N, TKN	ANALYSIS: Gen. Mineals	ANALYSIS: Metals*	Remarks	Lab Use Only: Lab ID #	Lab Use Only: Preservative
7-6-06	11:28pm	X	~~X~~		MW-1	G/P	100mL 500mL 250mL	4	X	X	X	X	X		
	12:01pm				MW-2			4							
	1:53pm				MW-3			4							
	1:12pm				MW-4			4							
	12:45pm				MW-5			4							
	3:08pm				MW-6			4							
	2:48pm				MW-7			4							
	2:28pm				MW-8			4							
	2:03pm				MW-10			4							
	12:15pm				Mitigation Well			4	X	X	X	X	X		

Remarks: * Metals - As, Ba, Cd, Cu, Pb, Hg, Mo, Ni, Se, Zn

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
Richard Crum	7-6-06	4:30			
Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time

Preservative: 1 4°C 2 HCL 3 NaOH 4 $Na_2S_2O_3$ 5 HNO_3 6 H_2SO_4 7 Other _____

Matrix: DW Drinking Water WW Waste Water HWW Hazardous Waste (Water) S Soil/Solid

Bailers _____ 55 Gallon Drums _____

Pump Truck ☒ Time 1 Day Mileage 37 miles

Turnaround Time ☐ Standard ☐ Silver Rush ☐ Gold Rush ☐ Platinum Rush ☐ Other

Approved By: _____

GeoAnalytical Laboratories, Inc.

1405 Kansas Avenue Modesto, CA 95351 Phone (209) 572-0900 Fax (209) 572-0916

R t # S6G0601
C y of Patterson
33 S. Del Puerto
Patterson, CA 95363

Project: Quarterly Monitoring Wells

PO#:

Date: 07/18/06
Date Rec'd: 07/06/06

Inorganic Chemistry - Quality Control
GeoAnalytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch S002326 - NO PREP				**Prepared & Analyzed: 07/07/06**						
Blank (S002326-BLK1)										
Total Kjeldahl Nitrogen	ND	1.00	mg/L							
LCS (S002326-BS1)										
Total Kjeldahl Nitrogen	98.8	1.00	mg/L	100		99	87-109			
LCS Dup (S002326-BSD1)										
Total Kjeldahl Nitrogen	98.3	1.00	mg/L	100		98	87-109	0.5	5	
Matrix Spike (S002326-MS1)		**Source: S6G0502-02**								
Total Kjeldahl Nitrogen	97.8	1.00	mg/L	100	ND	98	87-109			
Matrix Spike Dup (S002326-MSD1)		**Source: S6G0502-02**								
Total Kjeldahl Nitrogen	98.3	1.00	mg/L	100	ND	98	87-109	0.5	1.3	
Batch S002329 - NO PREP				**Prepared & Analyzed: 07/07/06**						
Blank (S002329-BLK1)										
Specific Conductance (EC)	ND	1.0	umhos/cm							
Duplicate (S002329-DUP1)		**Source: S6G0604-01**								
Specific Conductance (EC)	2090	1.0	umhos/cm		2000			4	5	
Batch S002332 - NO PREP				**Prepared & Analyzed: 07/06/06**						
Duplicate (S002332-DUP1)		**Source: S6G0601-01**								
pH	8.0		Std. Units		8.0			0	20	

GeoAnalytical Laboratories, Inc.

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R t # S6G0601
C y of Patterson
33 S. Del Puerto
Patterson, CA 95363

Project: Quarterly Monitoring Wells

PO#:

Date: 07/18/06
Date Rec'd: 07/06/06

Inorganic Chemistry - Quality Control
GeoAnalytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch S002333 - NO PREP				**Prepared & Analyzed: 07/07/06**						
Blank (S002333-BLK1)										
al Alkalinity as CaCO3	ND	20.0	mg/L							
Bicarbonate Alkalinity as CaCO3	ND	20.0	"							
bonate Alkalinity as CaCO3	ND	20.0	"							
droxide Alkalinity as CaCO3	ND	20.0	"							
LCS (S002333-BS1)										
al Alkalinity as CaCO3	41.8	20.0	mg/L	40.0		104	90-116			
LCS Dup (S002333-BSD1)										
Total Alkalinity as CaCO3	41.8	20.0	mg/L	40.0		104	90-116	0	2	
Batch S002336 - NO PREP				**Prepared & Analyzed: 07/07/06**						
Blank (S002336-BLK1)										
Methylene Blue Active Substances (MBAS)	ND	0.25	mg/L							
LCS (S002336-BS1)										
Methylene Blue Active Substances (MBAS)	0.54	0.25	mg/L	0.500		108	73-125			
LCS Dup (S002336-BSD1)										
ethylene Blue Active Substances (MBAS)	0.51	0.25	mg/L	0.500		102	73-125	6	14	
Matrix Spike (S002336-MS1)		**Source: S6G0601-01**								
ethylene Blue Active Substances (MBAS)	0.56	0.25	mg/L	0.500	ND	112	74-129			
Matrix Spike Dup (S002336-MSD1)		**Source: S6G0601-01**								
Methylene Blue Active Substances (MBAS)	0.58	0.25	mg/L	0.500	ND	116	74-129	4	14	

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33 S. Del Puerto
P terson, CA 95363

Project: Quarterly Monitoring Wells

PO#:

Date: 07/18/06
Date Rec'd: 07/06/06

Inorganic Chemistry - Quality Control
GeoAnalytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch S002337 - EPA 200.7				**Prepared & Analyzed: 07/07/06**						
Blank (S002337-BLK1)										
Copper	ND	0.05	mg/L							
Iron	ND	0.10	"							
Manganese	ND	0.02	"							
Zinc	ND	0.05	"							
LCS (S002337-BS1)										
Copper	0.48	0.05	mg/L	0.500		96	85-115			
Iron	0.51	0.10	"	0.500		102	85-115			
Manganese	0.51	0.02	"	0.500		102	85-115			
Zinc	0.50	0.05	"	0.500		100	80-120			
Matrix Spike (S002337-MS1)		Source: S6F2708-01								
Copper	0.50	0.05	mg/L	0.500	ND	100	80-120			
Iron	0.51	0.10	"	0.500	ND	102	80-120			
Manganese	0.52	0.02	"	0.500	ND	104	80-120			
Zinc	0.52	0.05	"	0.500	ND	104	80-120			
Matrix Spike Dup (S002337-MSD1)		Source: S6F2708-01								
Copper	0.50	0.05	mg/L	0.500	ND	100	80-120	0	20	
Iron	0.51	0.10	"	0.500	ND	102	80-120	0	20	
Manganese	0.51	0.02	"	0.500	ND	102	80-120	2	20	
Zinc	0.51	0.05	"	0.500	ND	102	80-120	2	20	
Batch S002342 - NO PREP				**Prepared & Analyzed: 07/10/06**						
Blank (S002342-BLK1)										
Ammonia as N	ND	1.00	mg/L							

GeoAnalytical Laboratories, Inc.

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R rt # S6G0601
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Patterson, CA 95363

Project: Quarterly Monitoring Wells

PO#:

Date: 07/18/06
Date Rec'd: 07/06/06

Inorganic Chemistry - Quality Control
GeoAnalytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch S002342 - NO PREP				**Prepared & Analyzed: 07/10/06**						
LCS (S002342-BS1)										
Ammonia as N	97.3	1.00	mg/L	100		97	92-102			
LCS Dup (S002342-BSD1)										
Ammonia as N	97.7	1.00	mg/L	100		98	92-102	0.4	3	
Matrix Spike (S002342-MS1)		**Source: S6G0707-01**								
Ammonia as N	97.0	1.00	mg/L	100	ND	97	77-113			
Matrix Spike Dup (S002342-MSD1)		**Source: S6G0707-01**								
Ammonia as N	97.4	1.00	mg/L	100	ND	97	77-113	0.4	4	
Batch S002345 - NO PREP				**Prepared & Analyzed: 07/07/06**						
Blank (S002345-BLK1)										
Nitrate as N	ND	0.25	mg/L							
LCS (S002345-BS1)										
Nitrate as N	1.03	0.25	mg/L	1.13		91	85-115			
LCS Dup (S002345-BSD1)										
Nitrate as N	1.02	0.25	mg/L	1.13		90	85-115	1	20	
Batch S002352 - NO PREP				**Prepared & Analyzed: 07/10/06**						
Blank (S002352-BLK1)										
Total Dissolved Solids (TDS)	ND	10.0	mg/L							

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33 S. Del Puerto
Patterson, CA 95363

Project: Quarterly Monitoring Wells

PO#:

Date: 07/18/06
Date Rec'd: 07/06/06

Inorganic Chemistry - Quality Control
GeoAnalytical Laboratories, Inc.

alyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch S002352 - NO PREP				**Prepared & Analyzed: 07/10/06**						
plicate (S002352-DUP1)				**Source: S6G0601-01**						
tal Dissolved Solids (TDS)	1570	10.0	mg/L		1560			0.6	7	
Batch S002355 - NO PREP				**Prepared & Analyzed: 07/10/06**						
ank (S002355-BLK1)										
Chloride	ND	1.0	mg/L							
Sulfate as SO4	ND	1.0	"							
CS (S002355-BS1)										
Chloride	4.6	1.0	mg/L	5.00		92	84-102			
Sulfate as SO4	4.8	1.0	"	5.00		96	85-115			
C p (S002355-BSD1)										
Chl	4.6	1.0	mg/L	5.00		92	84-102	0	7	
Sulfate as SO4	4.6	1.0	"	5.00		92	85-115	4	20	
atch S002380 - NO PREP				**Prepared & Analyzed: 07/11/06**						
Blank (S002380-BLK1)										
otal Organic Carbon	ND	1.0	mg/L							
LCS (S002380-BS1)										
Total Organic Carbon	5.0	1.0	mg/L	5.00		100	94-106			
LCS Dup (S002380-BSD1)										
Total Organic Carbon	4.9	1.0	mg/L	5.00		98	94-106	2	9	

GeoAnalytical Laboratories, Inc.

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R rt # S6G0601

C y of Patterson
3 S. Del Puerto
Patterson, CA 95363

Project: Quarterly Monitoring Wells

PO#:

Date: 07/18/06
Date Rec'd: 07/06/06

Inorganic Chemistry - Quality Control
GeoAnalytical Laboratories, Inc.

alyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch S002380 - NO PREP				**Prepared & Analyzed: 07/11/06**						
atrix Spike (S002380-MS1)		**Source: S6G0707-02**								
tal Organic Carbon	7.8	1.0	mg/L	5.00	3.2	92	87-116			
Matrix Spike Dup (S002380-MSD1)		**Source: S6G0707-02**								
tal Organic Carbon	8.0	1.0	mg/L	5.00	3.2	96	87-116	3	10	
Batch S002450 - EPA 200.8				**Prepared & Analyzed: 07/11/06**						
lank (S002450-BLK1)										
rium	ND	20	ug/L							
Arsenic	ND	1	"							
Cadmium	ND	0.1	"							
elenium	ND	1.0	"							
num	ND	10	"							
Nicke	ND	1.0	"							
Mercury	ND	1.0	"							
ead	ND	1.0	"							
LCS (S002450-BS1)										
Cadmium	24	0.1	ug/L	25.0		96	85-115			
Barium	58	20	"	62.5		93	85-115			
Lead	24	1.0	"	25.0		96	85-115			
Mercury	6	1.0	"	6.25		96	85-115			
Selenium	27	1.0	"	25.0		108	85-115			
Molybdenum	23.3	10	"	25.0		93	85-115			
Arsenic	25	1	"	25.0		100	85-115			
Nickel	26	1.0	"	25.0		104	85-115			

GeoAnalytical Laboratories, Inc.

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R t # S6G0601

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Patterson, CA 95363

Project: Quarterly Monitoring Wells

PO#:

Date: 07/18/06
Date Rec'd: 07/06/06

Inorganic Chemistry - Quality Control
GeoAnalytical Laboratories, Inc.

alyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch S002450 - EPA 200.8				**Prepared & Analyzed: 07/11/06**						
atrix Spike (S002450-MS1)		**Source: S6G0601-01**								
rium	96	20	ug/L	62.5	33	101	80-120			
Lead	26	1.0	"	25.0	ND	104	80-120			
olybdenum	39.0	10	"	25.0	14.3	99	80-120			
idmium	24	0.1	"	25.0	ND	96	80-120			
ercury	7	1.0	"	6.25	ND	112	80-120			
Selenium	36	1.0	"	25.0	10	104	80-120			
senic	28	1	"	25.0	2	104	80-120			
ickel	26	1.0	"	25.0	3	92	80-120			
Matrix Spike Dup (S002450-MSD1)		**Source: S6G0601-01**								
lercury	7	1.0	ug/L	6.25	ND	112	80-120	0	20	
ad	26	1.0	"	25.0	ND	104	80-120	0	20	
Cad n	24	0.1	"	25.0	ND	96	80-120	0	20	
Barium	97	20	"	62.5	33	102	80-120	1	20	
elenium	37	1.0	"	25.0	10	108	80-120	3	20	
lickel	27	1.0	"	25.0	3	96	80-120	4	20	
Molybdenum	39.2	10	"	25.0	14.3	100	80-120	0.5	20	
Arsenic	30	1	"	25.0	2	112	80-120	7	20	
Batch S002452 - EPA 200.7				**Prepared & Analyzed: 07/13/06**						
Blank (S002452-BLK1)										
Magnesium	ND	1.0	mg/L							
Calcium	ND	1.0	"							
Sodium	ND	1.0	"							
Potassium	ND	1.0	"							
Hardness as CaCO3	ND	1.0	"							

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Inorganic Chemistry - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch S002452 - EPA 200.7				**Prepared & Analyzed: 07/13/06**						
LCS (S002452-BS1)										
Calcium	23.5	1.0	mg/L	25.0		94	80-120			
Magnesium	24.90	1.0	"	25.00		100	80-120			
Sodium	25.7	1.0	"	25.0		103	80-120			
Potassium	21.2	1.0	"	25.0		85	80-120			
Hardness as CaCO3	160	1.0	"	165		97	80-120			
LCS (S002452-BS2)										
Calcium	23.9	1.0	mg/L	25.0		96	80-120			
Magnesium	25.10	1.0	"	25.00		100	80-120			
Sodium	26.1	1.0	"	25.0		104	80-120			
Potassium	21.4	1.0	"	25.0		86	80-120			
Hardness as CaCO3	160	1.0	"	165		97	80-120			