QUARTERLY MONITORING REPORT
JANUARY 2004

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

January 2004

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Patterson, CA 95363

January 2004

FIELD WORK CONDUCTED UNDER THE SUPERVISION OF AND REPORT PREPARED BY:

Tambrey A. Tosk	(DATE)
Registered Geologist	California No. 5848
Certified Hydrogeologist	California No. HG 439
Registered Civil Engineer	California No. C63813

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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 five monitoring wells.

The wells were constructed in March 2001 and samples have been collected on a quarterly basis since April 2001. This report presents the results of the quarterly samples collected January 9 and 29, 2004. All of the wells except MW-3 were sampled on January 9, 2004. The MW-3 site was inaccessible on January 9 because of muddy conditions, so it was sampled on January 29, 2004.

2. GROUNDWATER MONITORING WELLS

Two upgradient wells (MW-1 and MW-2) and three downgradient wells (MW-3, MW-4, and MW-5) are located at the plant site.

The wells have 15 feet of screen per well. The total depths range from 28 to 30 feet below ground surface (bgs). A summary of well characteristics is provided in **Table 1**.

Table 1
Well Construction Summary

	MW-1	MW-2	MW-3	MW-4	MW-5
Well Depth (ft)	28	29	28	30	29
Completion Type	Below	Above	Above	Above	Above
Slot Size (inch)	0.01	0.02	0.02	0.01	0.02
Elevation of Slab Surface	55.58	57.93	52.18	56.99	53.79
Elevation of Top of Casing	54.93	59.68	53.80	58.58	55.21
Northing	63170.83	65646.16	63426.28	64632.54	65640.07
Easting	27600.60	26971.88	29651.79	28630.20	28819.87

3. GROUNDWATER ELEVATIONS

Groundwater elevations measured to date are summarized in **Figure 1**. Groundwater elevations measured in 2004 are presented in **Table 2** and contoured on the map presented in **Figure 2**.

Table 2
2004 Groundwater Elevations
Patterson WWTP Monitoring Wells

	MW-1	MW-2	MW-3	MW-4	MW-5
Water Elevation 1/9/04 (ft msl)	35.97	35.55	NA	30.97	36.29
Water Elevation 1/29/04 (ft msl)	NA	NA	35.30	NA	NA

4. MONITORING WELL SAMPLING

The wells were purged and sampled according to the procedures specified in the workplan. Sampling was conducted by Ray Azevedo and Rich Chrun of GeoAnalytical Laboratories under the general supervision of Tambrey Tosk, RG, of LEE & RO, Inc. Purge logs are presented in **Appendix A**.

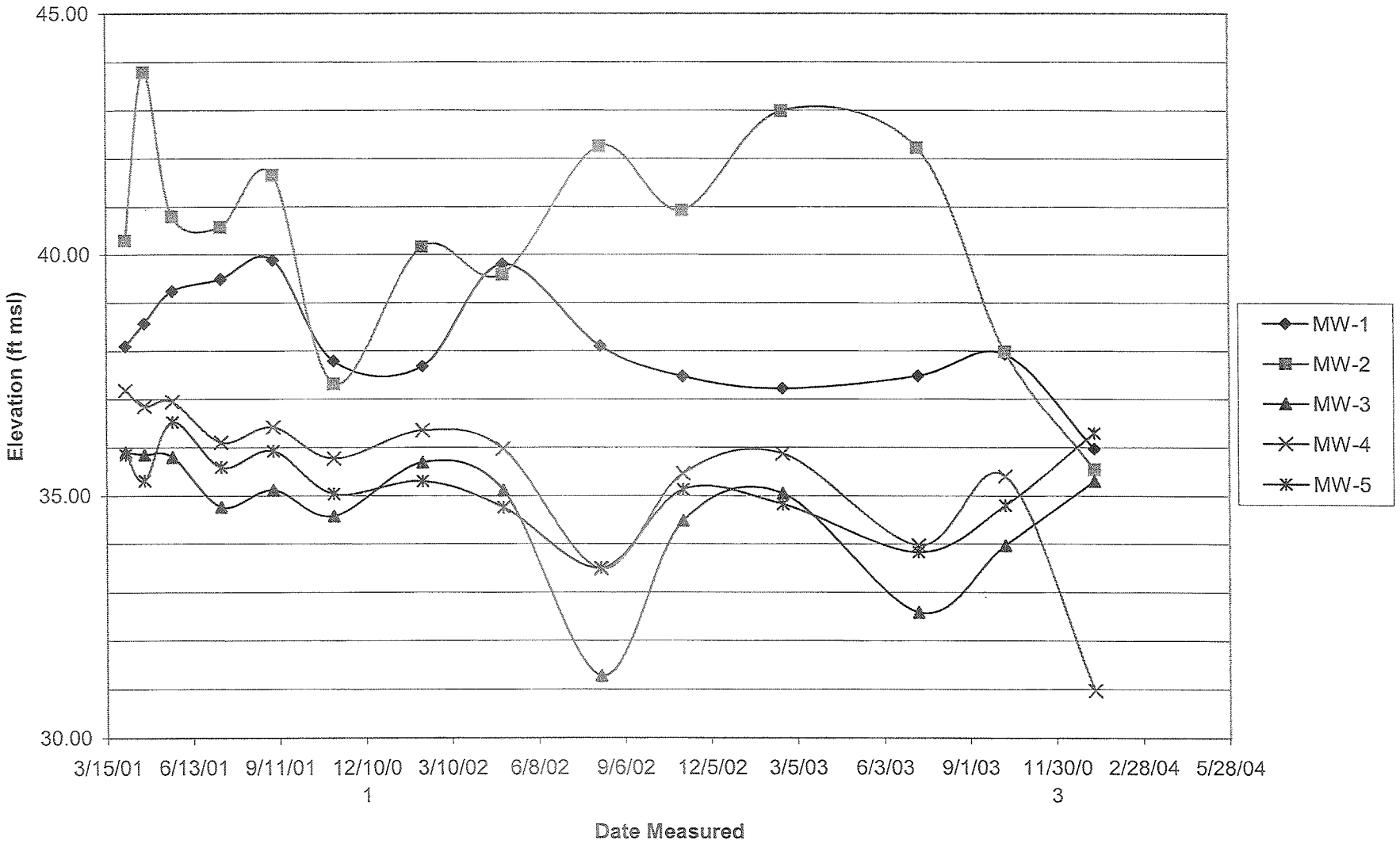
5. GROUNDWATER QUALITY RESULTS

The samples were analyzed by GeoAnalytical Laboratories, a state-certified environmental laboratory. Laboratory reports for the January 2004 quarterly samples are presented in **Appendix B**. Analytical results for the 2004 quarterly samples are presented in **Table 3**.

Table 3
Groundwater Analytical Results
January 2004

	Unit	MW-1	MW-2	MW-3	MW-4	MW-5
PH	Unit	7.4	7.3	6.9	7.0	6.5
Electrical Conductivity	uS/cm	2,970	2,960	4,050	3,030	2,620
Total Dissolved Solids	mg/L	1,730	1,590	2,670	1,730	1,420
Nitrate as Nitrogen	mg/L	5.3	6.1	15	1.2	5.3
Total Coliform Organisms	MPN/100 mL	<2	<2	<2	4	<2
Fecal Coliform Organisms	MPN/100 mL	<2	<2	<2	<2	<2

Figure 1
Groundwater Elevations in Patterson WWTP Monitoring Wells



PLANT NORTH

SCALE: 1"=400'

0 100 200 300 400
SCALE IN FEET

35

36.29
MW-5

36
POND 4

32 31

30.97
MW-4

31 32 33 34

35

35.30
MW-3

AIPS TREATMENT SYSTEM

CHLORINE CONTACT TANK

SECONDARY CLARIFIERS

ACTIVATED SLUDGE

PERCOLATION PONDS

POND 3C & 3B

EFFLUENT PUMPING STATION

POND 3A

POND 5

POND 10

POND 11

POND 12

SLUDGE DRYING BEDS

POND 2

POND 1

INFLUENT PUMPING STATION

SLUDGE DRYING BEDS
POND 6

POND 7

POND 8

POND 9

POPLAR AVE

MW-2

35.55

WALNUT AVE

MW-1

35.97

FIGURE 2
GROUNDWATER ELEVATION MAP
JANUARY 9 & 29, 2003

N:\PROJ\715\FIGURES\FIGURE3.DWG

APPENDIX A
PURGE LOGS

Measurement of Groundwater Levels

Project Name	Patterson WWTP	**Project No.**	721
		Recorded By	Ray Azevedo/GeoAnalytical
Location	Monitoring Wells	**Date**	1/9/2004 (except MW-3)
Equipment Type	Solinst Water Level Meter	**Checked By**	Tambrey Tosk
Equipment No.	1	**Date**	2/10/04

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	1:00 PM	TOC	54.93	18.96	35.97	-	-	-	27.52	
MW-2	1:45 PM	TOC	59.68	24.13	35.55	-	-	-	31.28	
MW-3	1:40 PM	TOC	53.80	18.50	35.30	-	-	-	30.88	1/29/04
MW-4	2:40 PM	TOC	58.58	27.61	30.97	-	-	-	31.64	
MW-5	2:18 PM	TOC	55.21	18.92	36.29	-	-	-	30.50	

Notes:

Report # Q009-10 **Field Log / Groundwater Sampling Form** Date 1-9-04

Client City of Patterson Well Name MW-1

Project Name Quarterly-Groundwater Monitoring Well Type: ☒ Monitor ☐ Extraction ☐ Other

Consultant

Proj. Manager Joel Cockrell/Rich Chrun(Geo) Sampler Ray Azevedo/~~Rich Chrun~~

WELL PURGING

Purge Method

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

Multiplier

Well Casing I.D. (in.)	Gal/Ft.
2"	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 27.5

Depth to Water 18.96

Water Column Length ~~27.54~~ 8.54

8.54 Water column length × .6527 Multiplier × 3 No. Volumes = 16.72 CALCULATED. Purge Vol.

16.72 Purge Vol / 2.5 Purge Rate = 6.69 TOTAL PURGE TIME

6.69 Total Purge Time / 3 # Volumes = 2.23 PURGE TIME/VOL.

Actual Values

Purge Time /Vol.	2
× No. Volumes	3
= Total Purge Time	6
× Purge Rate	2.5
= Actual Purge Vol.	7.5

GROUNDWATER PARAMETER MEASUREMENTS

	Time	Gallons	pH	Conductivity µmhos/cm	Temp. ☐ deg C ☐ deg F	Turbidity NTU	Color / Odor
Start	1:00	-	-	-	-	-	-
Vol 1	1:02	2.5	6.62	264 m	20.2		Clear
Vol 2	1:04	5	6.73	272	20.6		"
Vol 3	1:06	7.5	6.75	288	21.0		"
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
1:07	MW 1	x				Ltr, 100ml	2	4degrees C

COMMENTS/sampling:

1405 Kansas Ave.
Modesto, CA 95351

GeoAnalytical Laboratories, Inc.
Cert# 1157

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

Report # Q009-10 **Field Log / Groundwater Sampling Form** Date 1-8-04

Client City of Patterson Well Name MW-2

Project Name Quarterly-Groundwater Monitoring Well Type: ☒ Monitor ☐ Extraction ☐ Other

Consultant

Proj. Manager Joel Cockrell/Rich Chrun (Geo) Sampler Ray Azevedo/~~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 31.0

Depth to Water 24.13

Water Column Length 6.87

6.87 (Water column length) x .6527 (Multiplier) x 3 (No. Volumes) = 13.44 CALCULATED. Purge Vol.

13.44 (Purge Vol) / 2.5 (Purge Rate) = 5.38 TOTAL PURGE TIME

5.38 (Total Purge Time) / 3 (# Volumes) = 1.79 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.	7.5

GROUNDWATER PARAMETER MEASUREMENTS

	Time	Gallons	pH	Conductivity µmhos/cm	Temp. ☐ deg C ☐ deg F	Turbidity NTU	Color / Odor
Start	1:48	-	-	-	-	-	-
Vol 1	1:50	2.5	6.74	2.67 m	17.1		Clear
Vol 2	1:52	5	6.70	2.77 m	19.6		1
Vol 3	1:54	7.5	6.68	2.86 m	19.8		1
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
1:55	MW-2	x				Ltr, 100ml	2	4degrees C

COMMENTS/sampling:

Report # Q009-1Q **Field Log / Groundwater Sampling Form** Date 1-9-04

Client City of Patterson Well Name MW-5

Project Name Quarterly-Groundwater Monitoring Well Type : ☒ Monitor ☐ Extraction ☐ Other

Consultant

Proj. Manager Joel Cockrell/Rich Chrun (Geo) Sampler Ray Azevedo/~~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 31.0

Depth to Water 18.92

Water Column Length 12.08

12.08 (Water column length) x .6527 (Multiplier) x 3 (No. Volumes) = 23.65 CALCULATED. Purge Vol.

23.65 (Purge Vol) / 2.5 (Purge Rate) = 9.46 TOTAL PURGE TIME

9.46 (Total Purge Time) / 3 (# Volumes) = 3.15 PURGE TIME/VOL.

Actual Values

Purge Time /Vol.	3
X No. Volumes	3
= Total Purge Time	9
X Purge Rate	2.5
= Actual Purge Vol.	22.5

GROUNDWATER/AMBIENT MEASUREMENTS

	Time	Gallons	pH	Conductivity µmhos/cm	Temp. ☐ deg C ☐ deg F	Turbidity NTU	Color / Odor
Start	2:20	-	-	-	-	-	-
Vol 1	2:23	7.5	6.26	2.43 m	20.7		Clear
Vol 2	2:26	15.0	6.20	2.39 m	21.5		"
Vol 3	2:29	22.5	6.14	2.28 m	21.8		"
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
2:30	MW-5	x				Ltr, 100ml	2	4degrees C

COMMENTS/sampling:

Report # Q009-10 **Field Log / Groundwater Sampling Form** Date 1-9-04

Client City of Patterson Well MW-4

Project Name Quarterly Jan 2004 Well Type: ☐ Monitor ☐ Extraction ☐ Other

Consultant

Proj. Manager Sampler Ray Azevedo

WELL PURGING

Purge Method

- ☐ Bailer - Type
- ☐ Pump - Type
- ☐ 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 31.0

Depth to Water 27.61

Water Column Length 3.39

3.39 (Water column length) x 6527 (Multiplier) x 3 (No. Volumes) = 6.64 CALCULATED Purge Vol.

6.64 (Purge Vol) / 2.5 (Purge Rate) = 2.65 TOTAL PURGE TIME

2.65 (Total Purge Time) / 3 (# Volumes) = .89 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

FIELD WATER QUALITY MEASUREMENTS DURING PURGING

	Time	Gallons	pH	Conductivity µmhos/cm	Temp. ☐ deg C ☐ deg F	Turbidity NTU	Color / Odor
Start	2:40	-	-	-	-	-	-
Vol 1	2:41	2.5	6.54	2.74 M	18.2		Muddy
Vol 2	2:42	5	6.43	2.63 M	18.8		Clear
Vol 3	2:43	7.5	6.39	2.58 M	19.1		
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
2:44	MW-4						1	4degrees C

COMMENTS/sampling:

Report # _____

Field Log / Groundwater Sampling Form

Date 1/29/04

Client City of Patterson

Well Name MW-3

Project Name Quarterly Monitoring Wells

Well Type: [X] Monitor [ ] Extraction [ ] Other _____

Consultant _____

Proj. Manager Richard Chrun

Sampler Rich Chrun

WELL PURGING

Purge Method

- [ ] Bailer - Type _____
- [X] 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
- [X] 4 - inch
- [ ] other _____

Well Volume Purged
- [X] 3 volumes
- [ ] 4 volumes
- [ ] other _____

Total Well Depth 31.20

Depth to Water 18.50

Water Column Length 12.70

12.70 (Water column length) x 0.6527 (Multiplier) x 3 (No. Volumes) = 24.86 CALCULATED Purge Vol.

24.86 (Purge Vol) / 2.5 (Purge Rate) = 9.94 TOTAL PURGE TIME

9.94 (Total Purge Time) / 3 (# Volumes) = 3.34 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 MEASUREMENTS

	Time	Gallons	pH	Conductivity µmhos/cm	Temp. □ deg C □ deg F	DO	ORP	Color / Odor
Start	1:40	-	-	-	-	-	-	-
Vol 1	1:44	10	7.00	1639	19.5			clear / none
Vol 2	1:49	20	7.20	1604	17.3			"
Vol 3	1:52	30	7.20	1540	17.4			"
Vol 4								
Vol 5								

Meter Type IQ Scientific

Purge Water Storage / Disposal
- [X] Drummed onsite
- [ ] Onsite Treatment System
- [ ] Other _____

COMMENTS/purge: * 1to1 dilution on EC Readings

GROUNDWATER SAMPLING

Sampling Method
- [ ] Bailer - Type _____
- [X] Pump - Type _____
- [ ] Other _____

Time	Sample ID	Org	Dup	Split	Blank	Container Type	Number of Containers	Preservative
1:52	MW	X				Pl Litre	1	4°C
						100ml sterile	1	4°C

COMMENTS/sampling: _____

APPENDIX B
LABORATORY ANALYTICAL REPORT

GeoAnalytical Laboratories, Inc.

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

CERTIFICATE OF ANALYSIS

Report# Q009-10

Date: 1/15/04

City of Patterson
33 So. Del Puerto Ave.
Patterson CA 95363

Project: Quarterly Monitoring Wells

PO#

Date Rec'd: 1/09/04
Date Started: 1/09/04
Date Completed: 1/13/04

Date Sampled: 1/09/04
Sampler: R. Azevedo (Geo)

mple ID	Lab ID	Time	RL	Method	Analyte	Results	Units
MW - 1	Q300230	1:07pm	2	9221B,C	Total Coliform	<2	MPN/100ml
			2	9221E,C	Fecal Coliform	<2	MPN/100ml
MW - 2	Q300231	1:55pm	2	9221B,C	Total Coliform	<2	MPN/100ml
			2	9221E,C	Fecal Coliform	<2	MPN/100ml
litigation Well	Q300232	2:15pm	2	9221B,C	Total Coliform	<2	MPN/100ml
			2	9221E,C	Fecal Coliform	<2	MPN/100ml
MW - 5	Q300233	2:30pm	2	9221B,C	Total Coliform	<2	MPN/100ml
			2	9221E,C	Fecal Coliform	<2	MPN/100ml
MW - 4	Q300234	2:44pm	2	9221B,C	Total Coliform	4	MPN/100ml
			2	9221E,C	Fecal Coliform	<2	MPN/100ml

Kanti Gandhi

Donna Keller

GeoAnalytical Laboratories, Inc.

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

CERTIFICATE OF ANALYSIS

Report # Q009-10

Date: 1/13/04

City of Patterson
33 So. Del Puerto Ave.
Patterson CA 95363

Project: Quartely Monitoring Wells

PO#

Date Rec'd: 1/09/04
Date Started: 1/09/04
Date Completed: 1/12/04

Date Sampled: 1/09/04
Time:
Sampler: R. Azevedo (Geo)

Sample ID	Lab ID	RL	Method	Analyte	Results	Units
MW - 1	Q300230	NA	150.1	pH	7.4	Std. Units
		1.0	120.1	Electro Conductivity (EC)	2970	µmhos/cm
		10	160.1	TDS (Filterable Residue)	1730	mg/L
		0.25	300.0	Nitrate as N	5.3	mg/L
MW - 2	Q300231	NA	150.1	pH	7.3	Std. Units
		1.0	120.1	Electro Conductivity (EC)	2960	µmhos/cm
		10	160.1	TDS (Filterable Residue)	1590	mg/L
		0.25	300.0	Nitrate as N	6.1	mg/L
Mitigation Well	Q300232	NA	150.1	pH	7.2	Std. Units
		1.0	120.1	Electro Conductivity (EC)	2830	µmhos/cm
		10	160.1	TDS (Filterable Residue)	1580	mg/L
		0.25	300.0	Nitrate as N	5.2	mg/L
MW - 3	Q300233	NA	150.1	pH	6.7	Std. Units
		1.0	120.1	Electro Conductivity (EC)	2620	µmhos/cm
		10	160.1	TDS (Filterable Residue)	1420	mg/L
		0.25	300.0	Nitrate as N	5.3	mg/L
MW - 4	Q300234	NA	150.1	pH	7.0	Std. Units
		1.0	120.1	Electro Conductivity (EC)	3030	µmhos/cm
		10	160.1	TDS (Filterable Residue)	1730	mg/L
		0.25	300.0	Nitrate as N	1.2	mg/L

Rohit Bombaywala
Inorganic Supervisor

Certification # 1157

Donna Keller
Laboratory Director

GeoAnalytical Laboratories, Inc.

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

02/05/2004 10:59 2095720916 GED

QC REPORT

eport# Q009-10

ity of Patterson
3 So. Del Puerto Ave.
atterson CA 95363

nalyte	Method	Batch #	Dates Analyzed	Orig.	Dupl.	MS %Rec	MSD %Rec	RPD	LCS %Rec	Blank	Comments
Coliform	9221B,C	B00018	1/9/04-1/13/04	<2	<2			0.0		<2	

LCS/LCSD (see comments)

Kanti Gandhi
Chemist

Certification # 1157

Donna Keller
Laboratory Director

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GeoAnalytical Laboratories, Inc.

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

02/05/2004 10:59 2095720916 GEO

Report# Q009-10

QC REPORT

City of Patterson
33 So. Del Puerto Ave.
Patterson CA 95363

Analyte	Method	Batch #	Dates Analyzed	Orig.	Dupl.	MS %Rec	MSD %Rec	RPD	LCS %Rec	Blank	Comments
:	150.1	I00162	01/09/04	7.4	7.4			0.0		NA	
ctro Conductivity (EC)	120.1	I00124	1/12/04	2890	2820			2.5		NA	
S (Filterable Residue)	160.1	I00123	1/12/04-1/13/04	1440	1440			0.0		ND	
rate as N	300.0	I00113	1/09/04			92.0	92.0	0.0		ND	Sample analyte concentration too high to spike.

* LCS/LCSD (see comments)

Rohit Bombaywala
Inorganic Supervisor

Certification # 1157

Donna Keller
Laboratory Director

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GeoAnalytical Laboratories, Inc.

1405 Kansas Avenue
Modesto, CA 95351

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

Lab Report # Q009-10

Regulatory ☐ Yes ☐ No CC: ☐ Yes ☐ No

Regulator: _____

Phone: ( ) _____

Fax: ( ) _____

Original To: _____

C.C To: _____

Client: City Of Patterson

Address: 3350 Del Puerto Ave

City Patterson Zip 95363

CHAIN OF CUSTODY

☐ EDF ☐ EDT

☐ FIELD LOGS

Project ID Quarterly Monitoring Wells

Sampled By (Print Name) Ray Azevedo

(Signature) R Azevedo

Date	Time	Sample type: Grab	Sample type: Comp	Matrix	Sample ID	Container: Type	Container: Size	No. Of Containers	ANALYSIS: pH, EC, TDS	ANALYSIS: Nitrate as N	ANALYSIS: Bacti	Remarks	Lab Use Only: Lab ID #	Lab Use Only: Preservative
1-9-04	1:07 pm	X		NW	MW-1	P	Asst	2	X	X	X		Q300230	
	1:55 pm				MW-2								Q300231	
	2:15 pm				Mitigation Well								Q300232	
	2:30 pm				MW-5								Q300233	
	2:44 pm				MW-4				X	X	X		Q300234	

Remarks

	Date	Time		Date	Time
Relinquished by (Signature) R Azevedo	1-8-04	4:00	Received by (Signature) Linda Padilla	1/09/04	400
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 4 Hrs Mileage 40 miles

Approved By: _____

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

GeoAnalytical Laboratories, Inc.

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

CERTIFICATE OF ANALYSIS

Report # Q029-12

Date: 2/03/04

City of Patterson
33 So. Del Puerto Ave.
Patterson CA 95363

Project: Quarterly Monitoring Wells

PO#

Date Rec'd: 1/29/04
Date Started: 1/29/04
Date Completed: 2/02/04

Date Sampled: 1/29/04
Time: 1:52pm
Sampler: R. Chuun (Geo)

Sample ID: MW - 3
Lab ID: Q300704

Method	RL	Analyte	Results	Units
9221B,C	2	Total Coliform	<2	MPN/100ml

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CERTIFICATE OF ANALYSIS

Report # Q029-12

Date: 2/02/04

City of Patterson
33 So. Del Puerto Ave.
Patterson CA 95363

Project: Quarterly Monitoring Wells

PO#

Date Rec'd: 1/29/04
Date Started: 1/29/04
Date Completed: 1/30/04

Date Sampled: 1/29/04
Time: 1:52pm
Sampler: R. Chaun (Geo)

Sample ID: MW - 3
Lab ID: Q300704

Method	RL	Analyte	Results	Units
150.1	NA	pH	6.9	Std. Units
120.1	1.0	Specific Conductance (EC)	4050	µmhos/cm
160.1	10	TDS (Filterable Residue)	2670	mg/L
300.0	0.25	Nitrate as N	15	mg/L

Rohit Bombawala

Donna Keller

GeoAnalytical Laboratories, Inc.

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QC REPORT

eport# Q029-12

ity of Patterson
) So. Del Puerto Ave.
atterson CA 95363

nalyte	Method	Batch #	Dates Analyzed	Orig.	Dupl.	MS %Rec	MSD %Rec	RPD	LCS %Rec	Blank	Comments
Coliform	9221B,C	B00050	1/29/04-2/02/04	<2	<2			0.0		<2	

LCS/LCSD (see comments)

Kanti Gandhi
Chemist

Certification # 1157

Donna Keller
Laboratory Director

GeoAnalytical Laboratories, Inc.

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eport# Q029-12

QC REPORT

ity of Patterson
3 So. Del Puerto Ave.
atterson CA 95363

nalyte	Method	Batch #	Dates Analyzed	Orig.	Dupl.	MS %Rec	MSD %Rec		RPD	LCS %Rec	Blank	Comments
	150.1	I00449	1/29/04	7.3	7.3				0.0		NA	
ific Conductance (EC)	120.1	I00445	1/29/04	2140	2130				0.5		NA	
(Filterable Residue)	160.1	I00447	1/29/04-1/30/04	1210	1220				0.8		ND	
ate as N	300.0	I00464	1/30/04			92.0	92.0	*	0.0		ND	Sample analyte concentration too high to spike.

* LCS/LCSD (see comments)

Rohit Bombaywala
Inorganic Supervisor

Certification # 1157

Donna Keller
Laboratory Director

GeoAnalytical Laboratories, Inc.

1405 Kansas Avenue
Modesto, CA 95351

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

Lab Report # Q029-12
Regulatory ☐ Yes ☐ No CC: ☐ Yes ☐ No
Regulator:
Phone: (209) 892-8886
Fax: (209) 892-8993
Original To:
C.C To:

Client: City of Patterson
Address: 33 So. Del Puerto Ave.
City Patterson Zip 95363

CHAIN OF CUSTODY

☐ EDF ☐ EDT
☐ FIELD LOGS

Project ID Quarterly Monitoring Wells

Sampled By (Print Name) Richard Chrun
(Signature) Richard Chrun

Date	Time	Sample type: Grab	Sample type: Comp	Matrix	Sample ID	Container: Type	Container: Size	No. Of Containers	ANALYSIS: pH	EC	TDS	Nitrate as N	Bacti					Remarks	Lab Use Only: Lab ID #	Lab Use Only: Preservative
1-29-04	1:52 pm	X		WW	MW-3	P	Assort.	2	X	X	X								Q300704	

Remarks

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
Richard Chrun	1-29-04	2:30 pm	Shannon Simpson	1.29.04	2:30 p
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 Ye DAY Mileage 30 mi

Approved By: ____

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