LOS OSOS WATER RECYCLING FACILITY
BASELINE GROUNDWATER QUALITY MONITORING
JUNE 2013

Prepared for

SAN LUIS OBISPO COUNTY
DEPARTMENT OF PUBLIC WORKS

JULY 2013

CLEATH-HARRIS GEOLOGISTS
11545 Los Osos Valley Road, Suite C-3
San Luis Obispo, California 93405

(805) 543-1413

TABLE OF CONTENTS

SECTION PAGE

INTRODUCTION 1

MONITORING WELL NETWORK 1

WATER LEVELS 1

GROUNDWATER QUALITY 4
Water Quality Results 4
Nitrate as Nitrogen 6
Other Forms of Nitrogen 6
Total Dissolved Solids 7

CONCLUSIONS 7

REFERENCES 8

List of Tables
Table 1 Nitrate Monitoring Well Network
Table 2 Water Level Comparison, October 2006, August 2012 and June 2013
Table 3 June 2013 Water Quality Results

List of Figures
Figure 1 Groundwater Elevations, June 2013
Figure 2 Nitrate as Nitrogen Concentration, June 2013
Figure 3 Nitrate as Nitrogen Comparison, October 2006, August 2012, June 2013
Figure 4 TDS Comparison, October 2006, August 2012, June 2013

List of Appendices
Appendix A Sampling Procedures
Appendix B Groundwater Monitoring Field Logs
Appendix C Laboratory Reports

INTRODUCTION

A groundwater monitoring event for the Los Osos Water Recycling Facility project was performed in June 2013. The purpose of the monitoring event was to establish baseline groundwater quality in compliance with a California Water Code Section 132667 Order from the California Regional Water Quality Control Board (RWQCB) in correspondence to the County of San Luis Obispo dated April 27, 2012. The groundwater monitoring event conforms with Waste Discharge Requirements (WDR) Order No. R3-2011-0001 and its Monitoring and Reporting Program. This report presents the results of the June 2013 monitoring event.

MONITORING WELL NETWORK

The monitoring well network for WDR compliance monitoring consists of 26 wells, including 20 public agency wells and six private wells. Twenty five of these wells were sampled during the June 2013 monitoring event. One private well was not sampled, but may be part of future monitoring events, pending permission from the well owner. Monitoring network well construction information is summarized in Table 1. Well locations are presented in Figure 1.

The County of San Luis Obispo developed and operated a groundwater monitoring program from 1982 through 1998 (County of San Luis Obispo, 1999). In 2002, twelve monitoring network wells were reconstructed with deeper sanitary seals (Cleath & Associates, 2002), leading to the Los Osos Community Serviced District groundwater monitoring program that was operated through 2006 (Cleath & Associates, 2006).

The RWQCB requires semi-annual baseline water quality monitoring. The first sampling event was completed in August 2012 for the July-December 2012 monitoring period (CHG, 2012). The June 2013 sampling event was completed for the January-June 2013 monitoring period.

WATER LEVELS

Depth to groundwater was measured in 23 monitoring network wells between June 12 and 19, 2013 (Table 1). Estimated groundwater flow directions and hydraulic gradients for first water are shown in Figure 1. Groundwater on the west side is inferred to flow to the northwest at an estimated average hydraulic gradient of 0.011 vertical feet of head loss per horizontal foot of distance (ft/ft) between Redfield Woods and Cuesta-by-the-Sea (from Well 18N1 to Well 13G), and as low as 0.003 ft/ft beneath Sunset Terrace (from Well 13Q1 to Well 13L5). On the east side, groundwater is inferred to flow primarily to the northwest toward the bay from downtown Los Osos, shifting to a westerly flow direction across Baywood Park. Shallow water beneath the easternmost portions of Los Osos/Baywood Park flows to the east and northeast toward Los Osos Creek. A groundwater high is inferred across eastern Baywood Park (Figure 1).

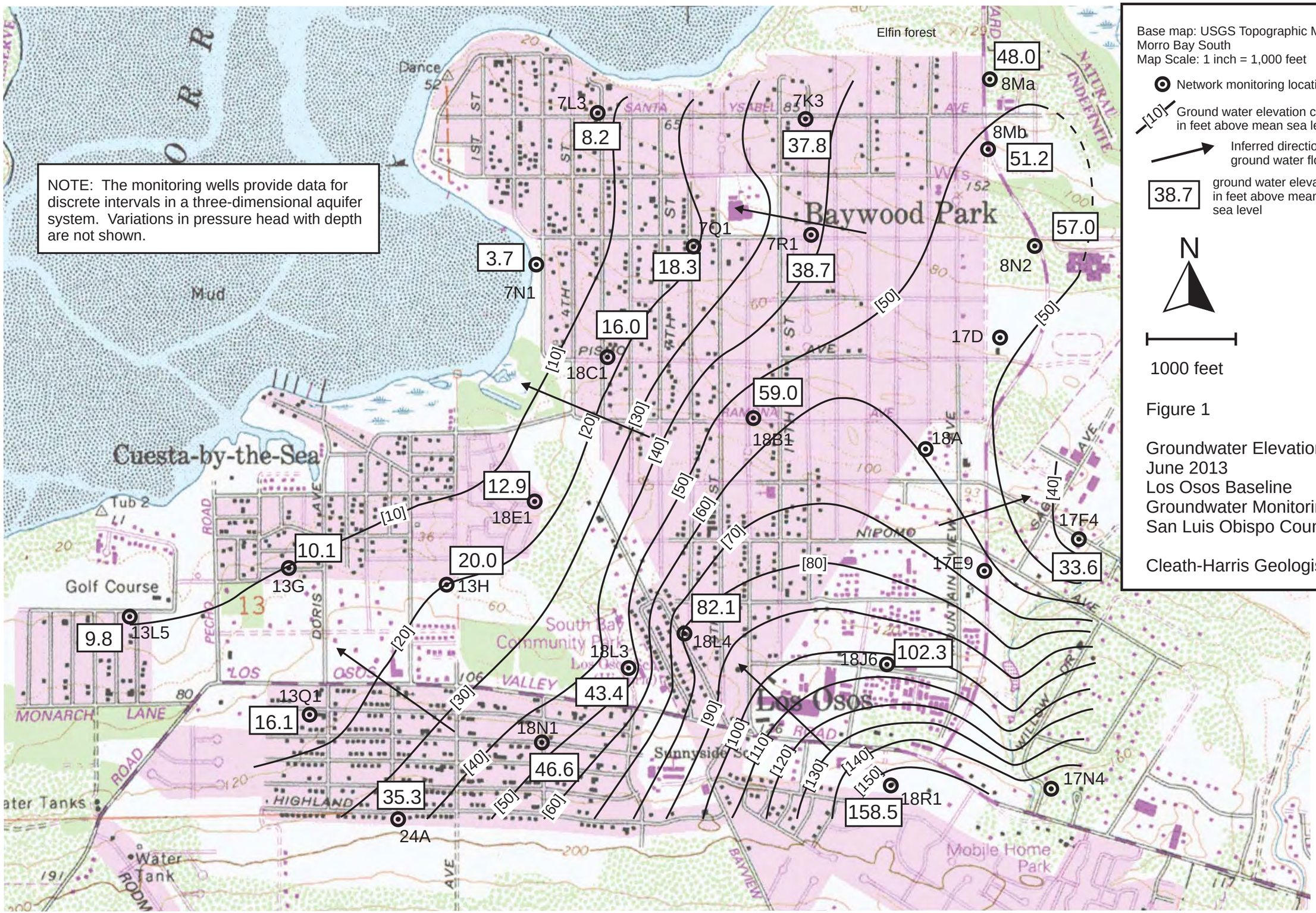
Table 1
Nitrate Monitoring Well Network

Well ID	Location	Type	Depth (ft)	Perforated interval (ft)	Well diam. (in)	R.P. Elev. (ft)	Water Depth* (ft)	Water Elevation (ft)
30S/10E								
13G	South Court	CSD mon	52	47-52	2	50.95	40.9	10.1
13H	Broderson/Skyline	CSD mon	34	29-34	2	49.33	29.35	20.0
13L5r	Howard/ Del Norte	CSD mon	37	26-36	2	32.63	22.81	9.8
13Q1r	Woodland Dr.	CSD mon	105	95-105	2	101.27	85.20	16.1
24A	Highland/ Alexander	CSD mon	164	154-164	2	193.04	157.77	35.3
30S/11E								
7K3r	12th/ Santa Ysabel	CSD mon	70	55-65	2	90.71	52.96	37.8
7L3r	Santa Ysabel/ 5th	CSD mon	50	40-50	2	45.76	37.60	8.2
7N1	3rd St.	CSD prod	83	61-71, 73-83	8	11	7.30	3.7
7Q1	El Moro/ 8th St.	CSD mon	75	29-43, 54-75	8	25.29	7.03	18.3
7R1r	El Moro/ 12th St.	CSD mon	35	25-35	2	61.93	23.19	38.7
8Ma	Sta. Ysabel/ South Bay	CSD mon	45	35-45	2	91	43.00	48.0
8Mb	South Bay/ 18th St.	CSD mon	47	37-47	2	95	43.84	51.2
8N2r	South Bay/ El Moro	CSD mon	50	40-50	2	95.99	39.03	57.0
17D	Pismo / 18th	Private	120	na	10	na	na	--
17E9	Nipomo / South Bay	CSD mon	204	184-194	2	105.85	93.05	12.8
17F4	Hollister Lane	Private	72	48-72	8	78.57	44.98	33.59
17N4	Willow Dr.	Private	60	40-60	6	162.61	na	--
18A	San Luis Ave	Private	40	na	6	na	na	--
18B1r	Ramona Ave./10th St.	CSD mon	35	25-35	2	79.89	20.90	59.0
18C1r	Pismo Ave / 5th St	CSD mon	35	25-35	2	34.55	18.56	16.0
18E1	Ramona/private road	Private	100	40-60	6	39.61	26.70	12.9
18J6r	Los Olivos/ Fairchild	CSD mon	35	25-35	2	125.74	23.49	102.25
18L3r	Palisades Ave.	CSD mon	55	43-53	2	88.02	44.63	43.4
18L4r	Ferrell Ave.	CSD mon	35	25-35	2	103.85	21.73	82.12
18N1r	Manzanita/ Ravenna	CSD mon	95	85-95	2	125.53	78.91	46.6
18R1	Los Osos Valley Rd.	Private	50	40-50	8	170.96	12.48	158.48

Notes: *See Table 3 for specific dates.
Well ID's ending with "r" are reconstructed wells.
Elevations in feet above mean sea level

R.P. = reference point
CSD = Los Osos CSD
na = not available

The hydraulic gradients for shallow water moving toward the bay on the east side range from 0.013 ft/ft westerly along Santa Ysabel Avenue (Well 7K3 to Well 7L3) up to 0.025 ft/ft northwesterly between Ramona and Pismo Avenues (Well 18B1 to Well 18C1). The hydraulic gradients beneath downtown Los Osos and east toward Willow and Los Osos Creeks are variable in direction but generally steep (0.04 ft/ft). The June 2013 groundwater flow directions and hydraulic gradients are similar to those from August 2012 and prior monitoring events between 2002 and 2006. The water level contour map in Figure 1 is a composite of perched and non-perched water zones (excludes data from network well 17E9, which is not under first water pressure). Overall, water levels averaged


Base map: USGS Topographic Map, Morro Bay South
Map Scale: 1 inch = 1,000 feet
Network monitoring location
[10] Ground water elevation contour in feet above mean sea level
Inferred direction of ground water flow
38.7 ground water elevation in feet above mean sea level
N
1000 feet
Figure 1
Groundwater Elevations
June 2013
Los Osos Baseline
Groundwater Monitoring
San Luis Obispo County
Cleath-Harris Geologists
NOTE: The monitoring wells provide data for discrete intervals in a three-dimensional aquifer system. Variations in pressure head with depth are not shown.
Baywood Park
Los Osos
Cuesta-by-the-Sea
Elfin forest
Mud
Golf Course
Mobile Home Park
7L3 8.2
7K3 37.8
48.0 8Ma
8Mb 51.2
7Q1 18.3
7R1 38.7
57.0 8N2
3.7 7N1
16.0 18C1
17D
59.0 18B1
18A
12.9 18E1
10.1 13G
20.0 13H
17F4 33.6
17E9
9.8 13L5
82.1 18L4
18L3 43.4
18J6 102.3
13Q1 16.1
18N1 46.6
35.3 24A
18R1 158.5
17N4
[10] [20] [30] [40] [50] [60] [70] [80] [90] [100] [110] [120] [130] [140] [150]

1.4 feet lower in June 2013, compared to August 2012. Table 2 below compares water levels between the three most recent monitoring events.

Table 2
Water Level Comparison

Well ID	Depth to Water (feet)		
	October 2006*	August 2012	June 2013
30S/10E-13G	39.33	40.25	40.90
30S/10E-13H	25.79	27.11	29.35
30S/10E-13L5	21.50	22.36	22.81
30S/10E-13Q1	83.58	84.48	85.20
30S/10E-24A	154.17	157.21	157.77
30S/11E-7K	51.17	51.96	52.96
30S/11E-7L3	36.46	36.80	37.60
30S/11E-7N1	6.25	3.45	7.30
30S/11E-7Q1	2.67	5.70	7.03
30S/11E-7R1	21.00	21.95	23.19
30S/11E-8Ma	39.83	41.25	43.00
30S/11E-8Mb	40.17	41.90	43.84
30S/11E-8N2	34.35	36.06	39.03
30S/11E-17E9	91.50	89.00	93.05
30S/11E-17F4	--	43.89	44.98
30S/11E-18B1	17.83	19.27	20.90
30S/11E-18C1	16.21	17.41	18.56
30S/11E-18E1	24.00	25.94	26.70
30S/11E-18J6	19.50	23.90	23.49
30S/11E-18L3	38.58	41.82	44.63
30S/11E-18L4	19.52	20.60	21.73
30S/11E-18N1	72.63	77.25	78.91
30S/11E-18R1	10.50	13.60	12.48

*October 2006 was last nitrate monitoring program sampling event prior to August 2012

GROUNDWATER QUALITY

A total of 25 groundwater samples were collected from monitoring network wells. These monitoring wells generally tap first water within the upper aquifer or the perched aquifer. First water is the interface where percolating waters, including precipitation and return flows from irrigation and wastewater, mix with groundwater. The upper aquifer includes all (non-perched) water bearing zones between first water and the regional clay aquitard. The perched aquifer is located on the east side of the basin, and includes downtown Los Osos. Sampling was conducted by CHG personnel. Sampling procedures are in Appendix A. Groundwater monitoring field logs are in Appendix B.

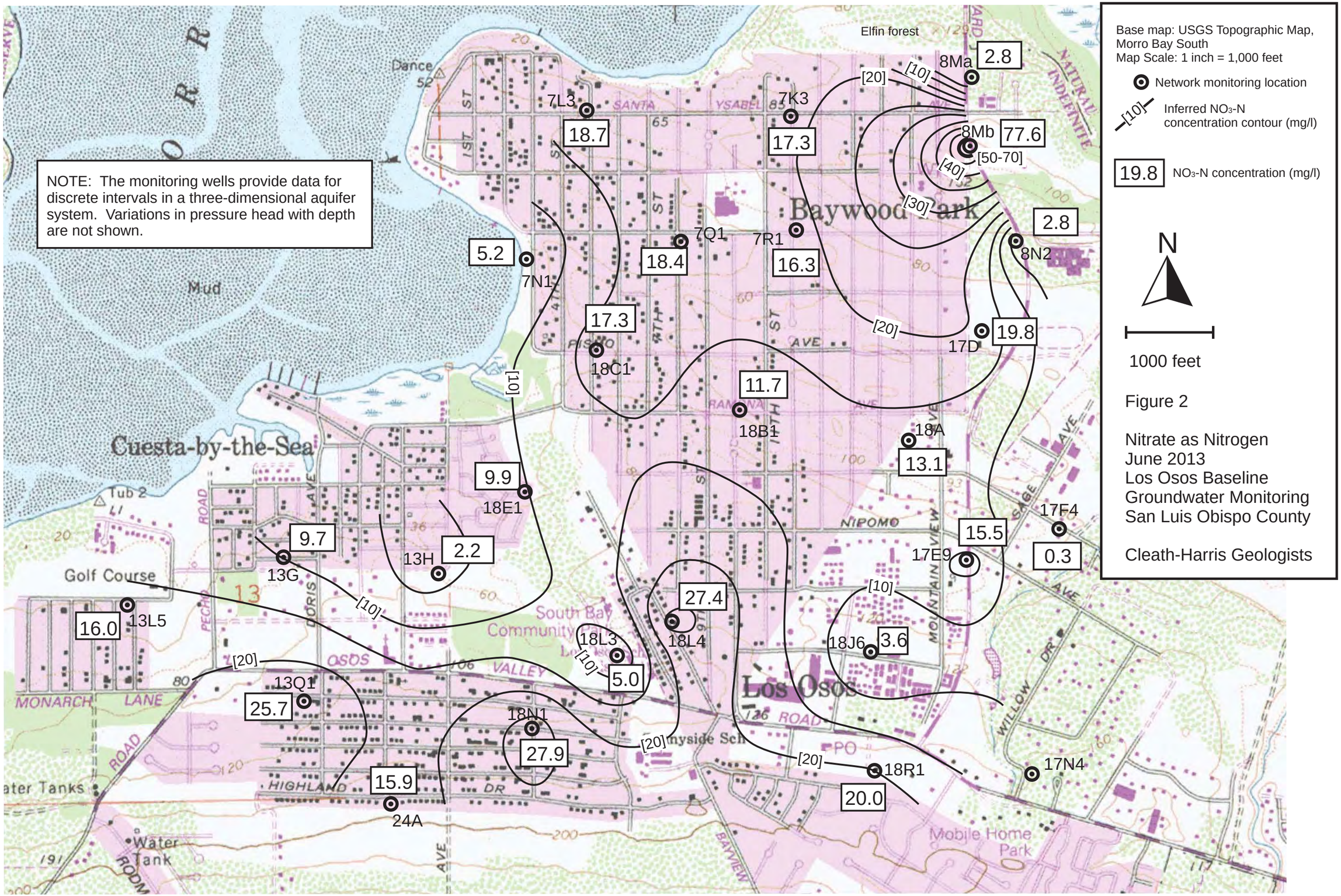
Water Quality Results

The water samples were analyzed by FGL Environmental Laboratories (Santa Paula, California). The constituents of analysis required for this monitoring event by the RWQCB included pH, total dissolved solids, total nitrogen as N (all forms identified), sodium, chloride, sulfate, and boron. Table 3 presents a summary of the analytical results of water samples for the June 2013 sampling event. Figure 2 shows the nitrate as nitrogen (NO_3-N) concentrations in groundwater at monitoring network wells. Laboratory reports are in Appendix C.

Table 3
June 2013 Water Quality Results

Well ID	Sample Date	pH units	TDS mg/l	Total N mg/l	NO_3-N mg/l	NO_2-N mg/l	NH_3-N mg/l	Org. N mg/l	TKN mg/l	Na mg/l	Cl mg/l	SO_4 mg/l	B mg/l	DTW feet
30S/10E-13G	6/12/13	6.3	290	10	9.7	ND	ND	ND	ND	45	74	18	ND	40.90
30S/10E-13H	6/19/13	6.7	110	2	2.2	ND	ND	ND	ND	14	14	20	ND	29.35
30S/10E-13L5	6/12/13	6.7	540	16	16.0	ND	ND	ND	ND	132	130	38	0.1	22.81
30S/10E-13Q1	6/12/13	6.4	650	27	25.7	ND	ND	1	1	77	183	33	0.1	85.20
30S/10E-24A	6/12/13	7.0	310	16	15.9	ND	ND	ND	ND	39	78	7	ND	157.77
30S/11E-7K3	6/17/13	6.9	600	17	17.3	ND	ND	ND	ND	91	177	40	0.2	52.96
30S/11E-7L3	6/13/13	6.7	430	19	18.7	ND	ND	ND	ND	73	89	41	0.1	37.60
30S/11E-7N1	6/19/13	7.1	190	5	5.2	ND	ND	ND	ND	22	34	9	ND	7.30
30S/11E-7Q1	6/19/13	6.5	500	18	18.4	ND	0.7	ND	ND	96	148	43	0.3	7.03
30S/11E-7R1	6/13/13	6.6	480	16	16.3	ND	ND	ND	ND	64	149	48	0.1	23.19
30S/11E-8Ma	6/19/13	7.1	190	4	2.8	ND	ND	1	1	26	51	12	ND	43.00
30S/11E-8Mb	6/14/13	7.0	970	78	77.6	0.3	ND	ND	ND	81	249	55	ND	43.84
30S/11E-8N2	6/14/13	7.0	70	3	2.8	ND	ND	ND	ND	8	16	7	ND	39.03
30S/11E-17D	6/18/13	6.6	400	20	19.8	ND	ND	ND	ND	58	97	27	ND	NA
30S/11E-17E9	6/17/13	6.9	370	16	15.5	ND	ND	ND	ND	45	65	26	ND	93.05
30S/11E-17F4	6/18/13	6.3	390	ND	0.7	ND	ND	ND	ND	70	136	16	ND	44.98
30S/11E-18A	6/18/13	6.4	380	13	13.1	ND	0.3	ND	ND	49	100	34	0.1	NA
30S/11E-18B1	6/20/13	6.5	460	12	11.7	ND	ND	ND	ND	61	133	33	0.1	20.90
30S/11E-18C1	6/13/13	6.3	520	17	17.3	ND	ND	ND	ND	75	148	49	0.1	18.56
30S/11E-18E1	6/17/13	6.5	290	10	9.9	ND	ND	ND	ND	45	66	22	ND	26.70
30S/11E-18J6	6/19/13	6.4	380	7	3.6	ND	2.9	ND	3	57	63	29	0.2	23.49
30S/11E-18L3	6/13/13	6.3	200	5	5.0	ND	ND	ND	ND	28	55	22	ND	44.63
30S/11E-18L4	6/13/13	6.5	490	27	27.4	ND	ND	ND	ND	57	133	31	ND	21.73
30S/11E-18N1	6/12/13	6.4	440	28	27.9	ND	ND	ND	ND	56	105	57	0.1	78.91
30S/11E-18R1	6/18/13	6.0	360	20	20.0	ND	ND	ND	ND	59	89	24	0.2	12.48

NOTES: TDS = Total Dissolved Solids; NO_3-N = Nitrate as Nitrogen; NO_2-N = Nitrite as Nitrogen; NH_3-N = Ammonia as Nitrogen; Org. N = Organic Nitrogen; TKN = Total Kjeldahl Nitrogen; Na = Sodium; Cl = chloride; SO_4 = Sulfate; B = Boron; DTW = depth to water; ND = Not Detected; See laboratory reports for practical quantitation limits.


NOTE: The monitoring wells provide data for discrete intervals in a three-dimensional aquifer system. Variations in pressure head with depth are not shown.
Base map: USGS Topographic Map, Morro Bay South
Map Scale: 1 inch = 1,000 feet
Network monitoring location
Inferred NO3-N concentration contour (mg/l)
19.8 NO3-N concentration (mg/l)
N
1000 feet
Figure 2
Nitrate as Nitrogen
June 2013
Los Osos Baseline
Groundwater Monitoring
San Luis Obispo County
Cleath-Harris Geologists
Elfin forest
Baywood Park
Cuesta-by-the-Sea
Los Osos
Golf Course
South Bay Community
Mobile Home Park
Water Tank
Mud
8Ma 2.8
8Mb 77.6
[50-70]
[40]
[30]
[20]
[10]
7L3 18.7
7K3 17.3
7Q1 18.4
7R1 16.3
7N1 5.2
8N2 2.8
17D 19.8
18C1 17.3
18B1 11.7
18A 13.1
18E1 9.9
13H 2.2
13G 9.7
17E9 15.5
17F4 0.3
13L5 16.0
18L4 27.4
18L3 5.0
18J6 3.6
13Q1 25.7
18N1 27.9
24A 15.9
18R1 20.0
17N4

Nitrate as Nitrogen

Sample results presented in Table 3 and Figure 2 show nitrate as nitrogen (NO_3-N) concentrations measured at monitoring network wells range from less than 1 milligrams per liter (mg/l) to 77.6 mg/l. The average NO_3-N concentration for the 25 wells is 16.0 mg/l (median value 15.9 mg/l). The greatest concentrations of NO_3-N are reported at wells in Baywood Park and south of Los Osos Valley Road, similar to the distribution reported in August 2012 and October 2006.

Nitrate as nitrogen concentrations at well 30S/11E-8Mb increased from 32.5 mg/l in August 2012 to 77.6 mg/l in June 2013, which is the greatest NO_3-N concentration measured in groundwater since nitrate monitoring began in 1982. The previous highest NO_3-N concentration was 52 mg/l in October 2005 (well 30S/11E-7N1). The elevated concentration at well 8Mb is likely transient (similar to the October 2005 detection at well 7N1), and related to the specific subsurface conditions at the time of sampling.

Isoconcentration contour lines for NO_3-N are included in Figure 2 as specified in the RWQCB California Water Code Section 132667 Order. These isoconcentration contours are based on the ordinary kriging interpolation method, which provides a best (least-squares) estimate of values at unsampled points based on the mapped values.

Figure 3 presents a bar graph comparing NO_3-N concentrations at network wells in October 2006, August 2012 and June 2013. Declining NO_3-N concentrations between these two monitoring events were reported at 9 wells, increased NO_3-N concentrations were reported at 16 wells. Individual fluctuations in NO_3-N concentrations across the network, when averaged together, showed a 2.6 mg/l increase between August 2012 and June 2013. The number of monitoring network wells with water quality in excess of the NO_3-N drinking water standard of 10 mg/l is presently 16 out of 25 wells tested.

Other Forms of Nitrogen

Total ammonia concentrations as nitrogen and other forms of nitrogen have been historically detected in groundwater collected from a few of the nitrate monitoring program wells. Many of the detections are isolated and/or at levels close to detection limits, but two wells have consistently been reported with total ammonia concentrations, including concentrations greater than 1 mg/l. These two wells are a former upper aquifer community supply well on 8th Street in Baywood Park (30S/11E-7Q1) and a monitoring well tapping the perched aquifer near downtown Los Osos (30S/11E-18J6).

Total ammonia includes NH_3 (ammonia) and it's ionized form, NH_4^+ (ammonium). The fate and transport of these compounds in the soil column depends on several factors, but subsurface conditions in Los Osos typically promote nitrification during the leaching process. Where the subsurface is deficient of oxygen, however, the conversion of ammonia/ammonium into nitrate can be inhibited. Ammonium is the principal form of dissolved nitrogen being discharged from septic tanks in Los

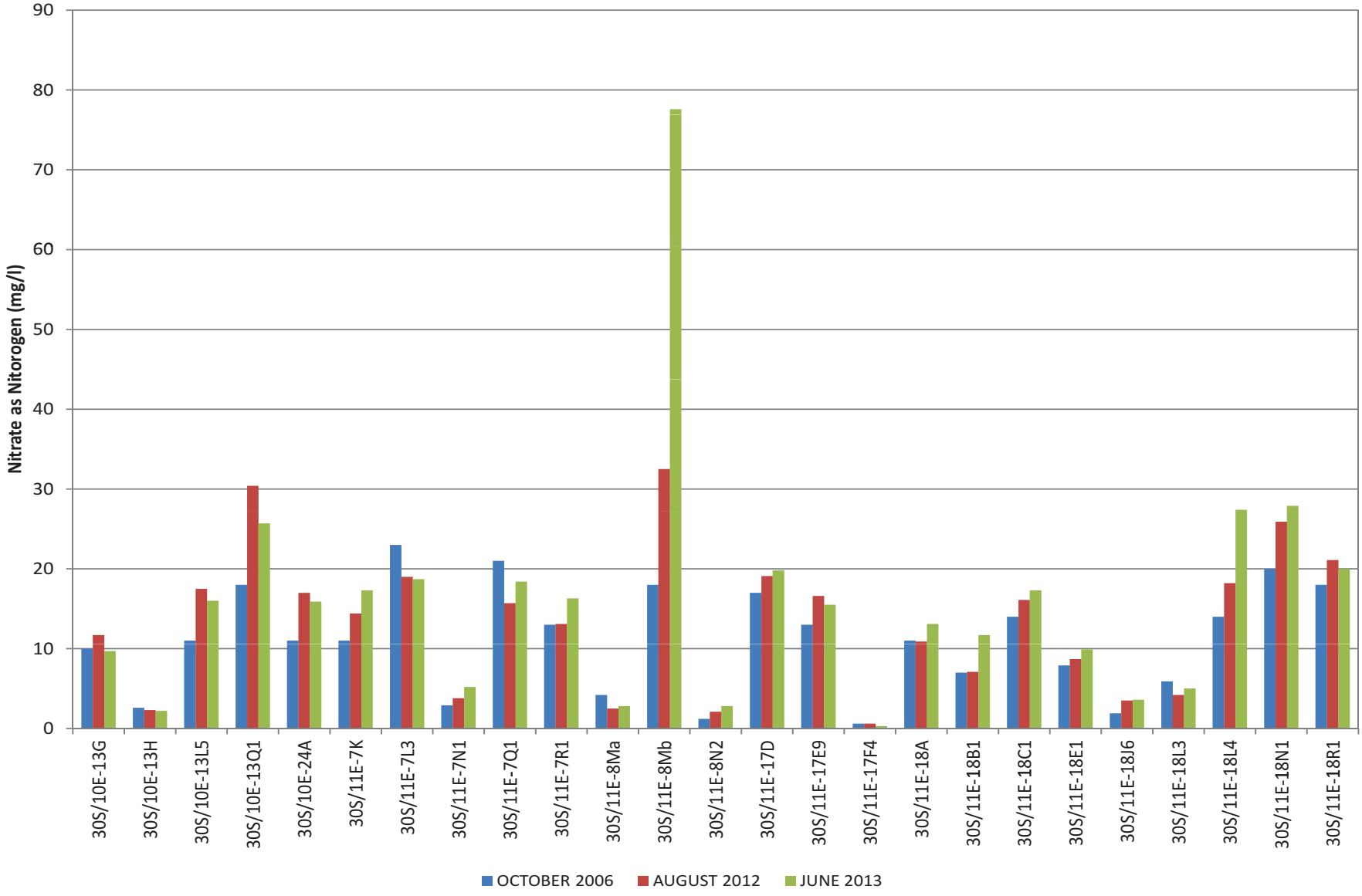


Figure 3

Nitrate as Nitrogen Comparison
October 2006, August 2012,
and June 2013
Baseline Groundwater Monitoring

Cleath-Harris Geologists

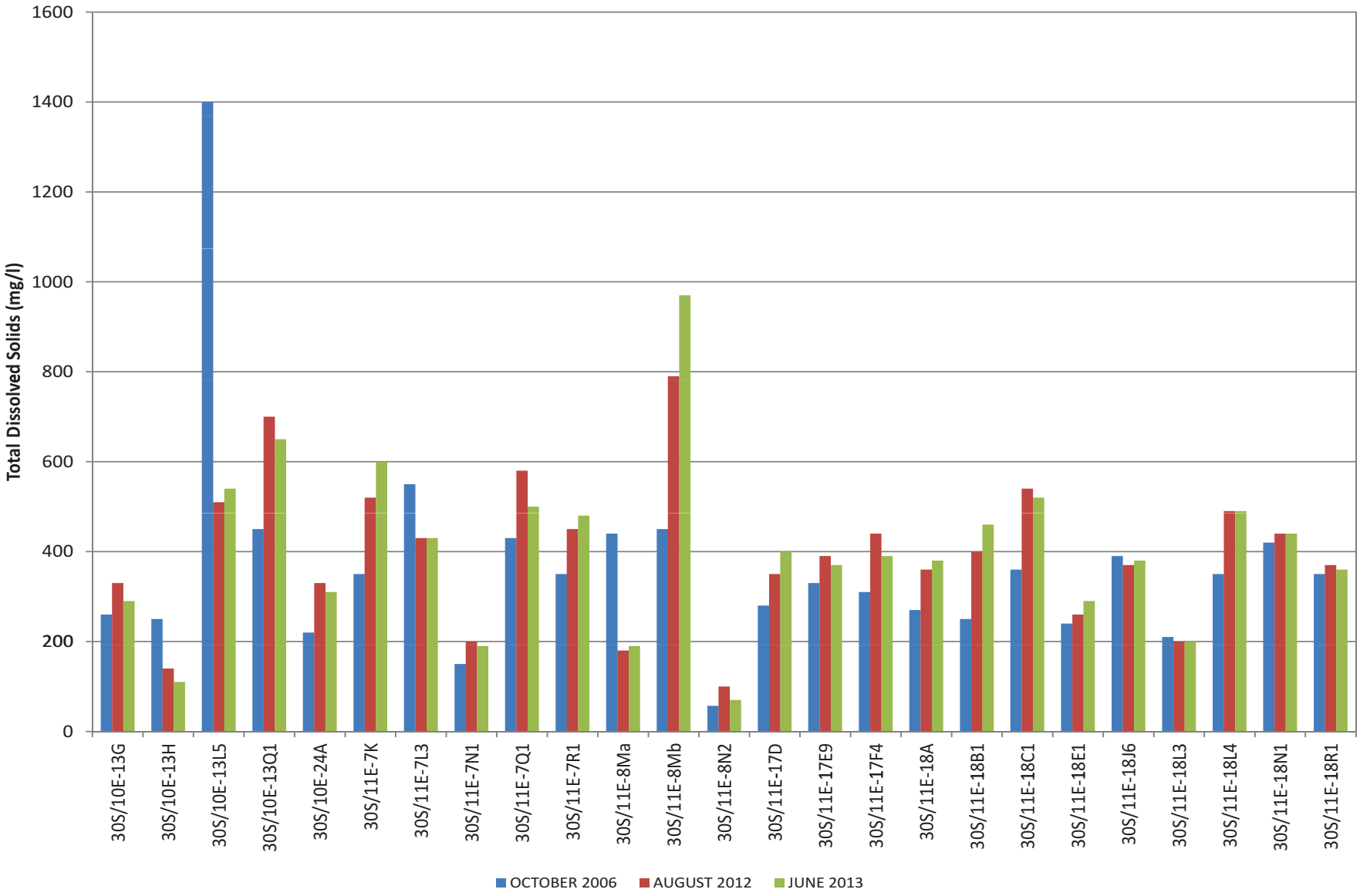


Figure 4

TDS Comparison
October 2006, August 2012,
and June 2013
Baseline Groundwater Monitoring

Cleath-Harris Geologists

Osos. Ammonium is also easily adsorbed onto clay or organic constituents in soils, and is much less mobile in groundwater than anionic nitrate compounds. Therefore, the persistent detections of significant total ammonia concentrations in groundwater from two wells in the monitoring program could be related to a combination of local deficiency of available oxygen in the subsurface and close proximity to septic system discharges.

Total Dissolved Solids

TDS concentrations in shallow groundwater during June 2013 were typically between 200 and 600 mg/l, with a low of 70 mg/l in well 8N2 along South Bay Boulevard and a high of 790 mg/l in Baywood Park monitoring well 8Mb. The average TDS concentration for the 25 network wells sampled was 400 mg/l (median value 390 mg/l).

Figure 4 presents a bar graph comparing TDS concentrations at network wells in October 2006, August 2012 and June 2013. A decline in TDS concentrations was reported at 11 wells, and 10 wells showed increased TDS concentrations, while four wells remained the same between August 2012 and June 2013. Individual fluctuations in TDS concentrations, when averaged together, increased by an average of 5.6 mg/l at monitoring network wells.

CONCLUSIONS

Shallow groundwater generally flows to the northwest toward the bay. On the east side of the basin, a portion of the shallow water moves toward Willow Creek and Los Osos Creek. The groundwater flow pattern for July 2013 is similar to historical flow patterns. Water levels averaged 1.4 feet lower in June 2013 compared to measurements in August 2012.

The average NO_3-N concentration for the 25 wells sampled is 16.0 mg/l (median value 15.9 mg/l). The greatest concentrations of NO_3-N are reported at wells in Baywood Park and south of Los Osos Valley Road. Individual fluctuations in NO_3-N concentrations across the network, when averaged together, showed a 2.6 mg/l increase between August 2012 and June 2013. The number of monitoring network wells with water quality in excess of the NO_3-N drinking water standard of 10 mg/l is presently 16 out of 25 wells tested.

The average TDS concentration for the 25 monitoring wells sampled is 400 mg/l (median value 390 mg/l). Individual fluctuations in TDS concentrations across the network, when averaged together, increased by an average of 5.6 mg/l between August 2012 and June 2013.

REFERENCES

Cleath & Associates, 2002. Los Osos Nitrate Monitoring Program, June-July 2002 Ground Water Monitoring, dated November 2002.

Cleath & Associates, 2006. Los Osos Nitrate Monitoring Program, October 2006 Ground Water Monitoring, dated December 2006.

Cleath-Harris Geologists, 2012. Los Osos Water Recycling Facility, Baseline Groundwater Quality Monitoring August 2012, dated October 2012.

County of San Luis Obispo, 1999. Baywood Groundwater Study, Fourth Quarter 1998, dated January 21, 1999.

APPENDIX A

Sampling Procedures

Sampling Procedures

Water sampling procedures for general mineral and nitrogen sampling are presented below. The purpose of the sampling procedures are to ensure that communication is established with the aquifer prior to sample collection.

Non-equipped monitoring wells:

1) Calibrate field monitoring instruments each day prior to sampling.
2) Inspect wellhead condition and note any maintenance required (perform at earliest convenience).
3) Measure depth to static water (record to 0.01 inches) from surveyed reference point.
4) Install temporary pump to at least three feet below the water surface (deeper setting may be needed if water level draw down is too great).
5) Begin well purge, record flow rate.
6) Measure discharge water EC (measured to 10 μmhos/cm), pH (measured to 0.01 units), and temperature (measured to 0.1 degrees C) at regular intervals during well purging. Record time and gallons purged. Note discharge water color, odor, and turbidity (visual).
7) A minimum of three casing volumes of water should be removed during purging, or one borehole volume for small diameter monitoring wells*. In addition, a set of at least three consecutive field monitoring measurements with stable values should be recorded. For EC, stability within 5 percent of the first value in the set is sufficient (typically within 20-30 μmhos/cm). For pH, stability within 1 percent of the first value is sufficient (typically within 0.07 units). For temperature, stability within 1 percent of the first value is sufficient (typically within 0.2 degrees).
8) Collect sample directly from discharge tube, note sample color, odor, turbidity (visual). Use only laboratory-provided containers.
9) Place samples on-ice for transport to the laboratory.
10) Remove temporary pump and rinse with clean water.
11) Close well and secure well box lid.

*note: If a well is pumped dry at the minimum pumping rate, the well may be allowed to recover and then sampled by bailer within 24 hours.

Equipped wells:

The sampling port for an equipped well must be upstream of any water filtration or chemical feeds. Sample from the discharge line as close to the wellhead as possible. Sampling procedures for equipped wells will vary. For active wells (i.e. wells used daily), the need for purging three casing volumes is unnecessary. The well should be turned on for a nominal 5 minutes and one set of EC, pH, and temperature readings collected prior to sampling. Samples taken from pressure/storage tanks require line flushing and one set of EC, pH, and temperature readings collected prior to sampling. For inactive wells, a field monitoring procedure similar to that described above for unequipped wells would be appropriate. Static water level measurements should also be taken before sampling, if a sounder access port is available. Water samples should always be transported on-ice to the laboratory.

APPENDIX B

Groundwater Monitoring Field Logs

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/12/2013
Operator: B. Pfeifle, B. House
Well number and location: 30S/10E-13G (South Ct.)
Site and wellhead conditions: Overcast/Fog

Vault damaged (needs replacement), flange missing, casing locked and plugged.

Static water depth (feet):	40.9
Well depth (feet):	52
Water column (feet):	11.1
Casing diameter (inches):	2
Borehole vol. W/pack (gal):	13
Purge rate (gpm):	1.3
Pumping water level (feet):	42.14
Pump setting (feet):	45
Minimum purge time (min):	10
Time begin purge:	16:47

Time	Gallons	EC	pH	Temp.	Comments*
16:51	5	477	6.11	17.9	Clear, colorless, odorless
16:55	10	476	6.06	17.7	Clear, colorless, odorless
16:59	15	476	6.07	17.7	Clear, colorless, odorless
17:03	20	476	6.13	17.6	Clear, colorless, odorless

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/18/2013
Operator: B. Pfeifle
Well number and location: 30S/10E-13H (Skyline & Broderson)
Site and wellhead conditions: Clearing fog
Casing locked, gasket and plug intact. Bolts not catching threads

Static water depth (feet): 29.35
Well depth (feet): 34
Water column (feet): 4.65
Casing diameter (inches): 2
Borehole vol. W/pack (gal): 6
Purge rate (gpm): 0.13 (Bailer)
Pumping water level (feet):
Pump setting (feet):
Minimum purge time (min): 46
Time begin purge: 9:40

Time	Gallons	EC	pH	Temp.	Comments*
9:48	1	213	7.29	17.8	Turbid, brown, odorless
9:56	2	229	7.97	16.7	Turbid, brown, odorless
10:07	3.5	206	7.82	18.1	Turbid, brown, odorless
10:28	6	208	7.51	18.1	Dry
					Recovery period
9:10		205	7.13	18.6	Sampled 6/19/13

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/12/2013
Operator: B. Pfeifle, B.House
Well number and location: 30S/10E-13L5 (Howard & Del Norte)
Site and wellhead conditions: Partly cloudy, light wind
Buried wellhead, casing locked, plug and gasket intact.

Static water depth (feet): 22.81
Well depth (feet): 37
Water column (feet): 14.19
Casing diameter (inches): 2
Borehole vol. W/pack (gal): 16
Purge rate (gpm): 1.25
Pumping water level (feet): 24.08
Pump setting (feet): 28
Minimum purge time (min): 8
Time begin purge: 15:28

Time	Gallons	EC	pH	Temp.	Comments
15:32	5	836	5.98	19.0	Clear, colorless, odorless
15:36	10	842	5.99	18.7	Clear, colorless, odorless. Sand
16:00	15	851	6.03	18.9	Clear, colorless, odorless
16:04	20	850	5.98	18.7	Clear, colorless, odorless

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/12/2013
Operator: B. Pfeifle, BH
Well number and location: 30S/10E-13Q1 (Woodland Dr.)
Site and wellhead conditions: Clearing fog
Lid bolted down, gasket intact, locked

Static water depth (feet): 85.2
Well depth (feet): 105
Water column (feet): 19.8
Casing diameter (inches): 2
Borehole vol. W/pack (gal): 22
Purge rate (gpm): 2.5
Pumping water level (feet): 98.53
Pump setting (feet): 90
Minimum purge time (min): 9
Time begin purge: 12:12

Time	Gallons	EC	pH	Temp.	Comments
12:14	5	945	6.74	18.7	Cloudy brown, odorless
12:16	10	948	6.27	18.5	Slightly turbid, light gray, odorless
12:18	15	945	6.03	18.5	Clear, colorless, odorless
12:20	20	941	5.96	18.4	Clear, colorless, odorless
12:23	25	940	5.92	18.4	Clear, colorless, odorless
12:25	30	957	5.91	18.5	Clear, colorless, odorless
12:27	35	941	5.93	18.5	Clear, colorless, odorless

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/12/2013
Operator: B. Pfeifle, B.House
Well number and location: 30S/10E-24A (Alexander & Highland)
Site and wellhead conditions:
Monument casing locked and plug intact

Static water depth (feet): 157.77
Well depth (feet): 165
Water column (feet): 7.23
Casing diameter (inches): 2
Borehole vol. W/pack (gal): 9
Purge rate (gpm): 1.3
Pumping water level (feet): 160.15
Pump setting (feet): 162
Minimum purge time (min): 7
Time begin purge: 11:00

Time	Gallons	EC	pH	Temp.	Comments*
11:07	5	483	6.31	18.5	Clear, colorless, odorless
11:10	10	481	6.31	18.2	Clear, colorless, odorless
11:15	15	478	6.28	18.1	Clear, colorless, odorless
11:19	20	482	6.28	18.1	Clear, colorless, odorless
11:24	25	481	6.27	18.2	Clear, colorless, odorless
11:28	30	483	6.28	18.3	Clear, colorless, odorless

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date:	6/17/2013
Operator:	B. Pfeifle, BH
Well number and location:	30S/11E-7K3 (Santa Ysabel & 12th St.)
Site and wellhead conditions:	Cloudy, cool
	Casing locked, plug and gasket intact

Static water depth (feet):	52.96
Well depth (feet):	70
Water column (feet):	17.04
Casing diameter (inches):	2
Borehole vol. W/pack (gal):	18
Purge rate (gpm):	1.7
Pumping water level (feet):	55
Pump setting (feet):	56
Minimum purge time (min):	10
Time begin purge:	10:05

Time	Gallons	EC	pH	Temp.	Comments*
10:08	5	970	6.90	18.5	Slightly turbid, colorless, odorless
10:11	10	968	6.91	18.6	Clear, colorless, odorless
10:14	15	966	6.97	18.4	Clear, colorless, odorless
10:18	20	964	6.89	18.5	Clear, colorless, odorless

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/13/2013
Operator: B. Pfeile, BH
Well number and location: 30S/11E-7L3 (Santa Ysabel & 5th St.)
Site and wellhead conditions: Clear skies, warm
Standing water in vault, casing unlocked, plug and gasket intact.

Static water depth (feet): 37.6
Well depth (feet): 50
Water column (feet): 12.4
Casing diameter (inches): 2
Borehole vol. W/pack (gal): 14
Purge rate (gpm): 1.7
Pumping water level (feet): 38.4
Pump setting (feet): 40
Minimum purge time (min): 8
Time begin purge: 10:59

Time	Gallons	EC	pH	Temp.	Comments*
11:02	5	706	6.69	19.1	Clear, colorless, odorless
11:05	10	713	6.59	18.9	Clear, colorless, odorless
11:08	15	710	6.57	18.9	Clear, colorless, odorless

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/19/2013
Operator: B. Pfeifle
Well number and location: 30S/ 11E-7N1 (3rd St.)
Site and wellhead conditions: Windy, cool, sunny
Operated daily. Sample from raw water sample point

Static water depth (feet): 7.3 (on 6/18/13)
Well depth (feet): 83
Water column (feet): 75.7
Casing diameter (inches): 8
Borehole vol. W/pack (gal) 623
Pump rate (gpm): NA
Pumping water level (feet): 50.8 (on 6/18/13)
Pump setting (feet): NA
Minimum purge time (min): 5
Time begin purge: (pumping)

Time	Gallons	EC	pH	Temp.	Comments*
13:25	0	301	7.00	19.5	Clear, colorless, odorless
13:35	5	290	7.01	19.1	Clear, colorless, odorless. Sampled

*Turbidity, color, odor, sheen, debris, etc.
NA represents information not available

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/19/2013
Operator: B. Pfeifle
Well number and location: 30S/11E-7Q1 (8th Street/El Moro Ave.)
Site and wellhead conditions: Sunny, Windy, Warm
Casing locked, plug intact

Static water depth (feet): 7.03
Well depth (feet): 67
Water column (feet): 59.97
Casing diameter (inches): 6
Borehole vol. W/pack (gal) 270
Purge rate (gpm): 2.5
Pumping water level (feet): 24.59
Pump setting (feet): 30
Minimum purge time (min): 108
Time begin purge: 11:15

Time	Gallons	EC	pH	Temp.	Comments*
11:16	5	948	7.26	18.0	Clear, colorless, odorless
11:18	10	952	7.09	17.3	Clear, colorless, odorless
11:19	15	937	7.07	17.6	Clear, colorless, odorless
11:21	20	933	6.95	17.8	Clear, colorless, odorless
11:22	25	930	6.92	17.7	Clear, colorless, odorless
11:24	30	924	6.90	17.8	Clear, colorless, odorless
11:34	50	930	7.13	18.0	Clear, colorless, odorless
11:42	70	920	6.69	17.7	Clear, colorless, odorless
11:50	90	921	6.54	17.6	Clear, colorless, odorless
11:58	110	923	6.53	17.9	Clear, colorless, odorless
12:06	130	928	6.49	17.7	Clear, colorless, odorless
12:14	150	930	6.48	17.7	Clear, colorless, odorless
12:22	170	924	6.51	17.7	Clear, colorless, odorless
12:30	190	923	6.48	17.7	Clear, colorless, odorless
12:38	210	920	6.48	17.6	Clear, colorless, odorless
12:46	230	925	6.47	17.6	Clear, colorless, odorless
12:54	250	924	6.46	17.6	Clear, colorless, odorless
13:02	270	922	6.44	17.6	Clear, colorless, odorless

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/13/2013
Operator: B. Pfeifle
Well number and location: 30S/11E-7R1 (El Moro Ave. & 12th St.)
Site and wellhead conditions: Windy, sunny
Locked, casing and plug intact. Threaded tab broken-off.

Static water depth (feet): 23.19
Well depth (feet): 35
Water column (feet): 11.81
Casing diameter (inches): 2
Borehole vol. W/pack (gal) 15
Purge rate (gpm): 0.9
Pumping water level (feet): 26.64
Pump setting (feet): 27
Minimum purge time (min): 17
Time begin purge: 16:18

Time	Gallons	EC	pH	Temp.	Comments*
16:26	5	843	6.33	18.8	Turbid, brown, odorless
16:32	10	809	6.39	18.4	Turbid, brown, odorless
16:35	15	829	6.21	18.1	Slightly turbid, odorless
16:40	20	832	6.40	18.1	Clear, colorless, odorless
16:45	25	826	6.28	18.1	Clear, colorless, odorless
16:50	30	829	6.23	18.0	Clear, colorless, odorless

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/18/2013
Operator: B. Pfeifle
Well number and location: 30S/11E-8Ma (South Bay Blvd. & Santa Yasabel)
Site and wellhead conditions: Windy, sunny
Casing, gasket and slip cap intact

Static water depth (feet): 43
Well depth (feet): 45
Water column (feet): 2
Casing diameter (inches): 2
Borehole vol. W/pack (gal) 5
Purge rate (gpm): 0.17 (Bailer)
Pumping water level (feet): NA
Pump setting (feet): NA
Minimum purge time (min): 29
Time begin purge: 16:18

Time	Gallons	EC	pH	Temp.	Comments*
16:26	5	843	6.33	18.8	Turbid, brown, odorless
16:32	10	809	6.39	18.4	Turbid, brown, odorless
16:35	15	829	6.21	18.1	Slightly turbid, odorless
16:40	20	832	6.40	18.1	Clear, colorless, odorless
16:45	25	826	6.28	18.1	Clear, colorless, odorless
16:50	30	829	6.23	18.0	Clear, colorless, odorless

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date:	6/14/2013
Operator:	B. Pfeifle
Well number and location:	30S/11E-8Mb (Santa Maria & 18th St.)
Site and wellhead conditions:	Sunny, breezy
	Gasket and cap intact

Static water depth (feet):	43.84
Well depth (feet):	47
Water column (feet):	3.16
Casing diameter (inches):	2
Borehole vol. W/pack (gal):	3
Purge rate (gpm):	0.2 (Bailer)
Pumping water level (feet):	NA
Pump setting (feet):	NA
Minimum purge time (min):	15
Time begin purge:	10:11

Time	Gallons	EC	pH	Temp.	Comments*
10:30	1	1487	6.41	19.9	Turbid, brown, odorless
10:45	2	1469	6.65	18.9	Turbid, brown, odorless
10:59	2.5	1454	6.62	18.0	Turbid, brown, odorless. Dry
					Redevelop well (remove sediment)
12:07	7.5	1364	6.83	19.0	Turbid, brown, odorless. Dry
12:15	8.6	1406	6.88	18.8	Turbid, brown, odorless. Dry
					Recovery
14:20		1464	6.42	19.5	Sampled

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date:	6/14/2013
Operator:	B. Pfeifle
Well number and location:	30S/11E-8N2 (South Bay Blvd.)
Site and wellhead conditions:	Warm breeze
	Plug and gasket intact, locked, flange missing

Static water depth (feet):	39.03
Well depth (feet):	50
Water column (feet):	10.97
Casing diameter (inches):	2
Borehole vol. W/pack (gal):	12
Purge rate (gpm):	1.1
Pumping water level (feet):	41
Pump setting (feet):	43
Minimum purge time (min):	11
Time begin purge:	13:07

Time	Gallons	EC	pH	Temp.	Comments*
13:09	5	172	7.49	19.5	Clear, colorless, odorless
13:12	10	144	7.16	18.6	Clear, colorless, odorless. Some sand
13:18	15	149	6.99	19.0	Clear, colorless, odorless. Decreased pumping rate
13:23	20	138	6.80	18.8	Clear, colorless, odorless
13:29	25	137	6.67	18.9	Clear, colorless, odorless
13:35	30	138	6.64	18.9	Clear, colorless, odorless
13:40	35	137	6.62	18.8	Clear, colorless, odorless

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/18/2013
Operator: B. Pfeifle
Well number and location: 30S/11E-17D (Pismo Ave. & 18th St.)
Site and wellhead conditions: Sunny, Breezy

Equipped private well with pressure tank. Sample from spigot near well.

Static water depth (feet): NA
Well depth (feet): 120
Water column (feet): NA
Casing diameter (inches): 10
Borehole vol. W/pack (gal): (active well)
Purge rate (gpm): 2.5
Pumping water level (feet): NA
Pump setting (feet): NA
Minimum purge time (min): 5
Time begin purge: 14:55

Time	Gallons	EC	pH	Temp.	Comments*
14:59	5	621	6.48	19.2	Clear, colorless, odorless
15:01	10	622	6.44	19.3	Clear, colorless, odorless
15:03	15	623	6.43	19.2	Clear, colorless, odorless. Sampled

*Turbidity, color, odor, sheen, debris, etc.
NA represents information not available

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/17/2013
Operator: B. Pfeifle
Well number and location: 30S/11E-17E9 (South Bay Blvd. Yard)
Site and wellhead conditions: Partly Sunny, Windy
Casing locked. Cap intact

Static water depth (feet): 93.05
Well depth (feet): 201
Water column (feet): 107.95
Casing diameter (inches): 2
Borehole vol. W/pack (gal): 186
Purge rate (gpm): 2
Pumping water level (feet): 114.59
Pump setting (feet): 118
Minimum purge time (min): 93
Time begin purge: 14:37

Time	Gallons	EC	pH	Temp.	Comments*
14:44	5	549	7.45	18.6	Turbid, white. Adjusted pump from 108' to 118'
14:47	10	558	7.84	18.5	Turbid, white, odorless
14:49	15	589	7.60	18.5	Turbid, white, odorless
14:52	20	591	7.09	18.4	Turbid, white, odorless
14:54	25	595	6.83	18.4	Turbid, white, odorless
14:56	30	596	6.70	18.5	Turbid, white, odorless
14:58	35	595	6.64	18.5	Turbid, white, odorless
15:00	40	596	6.60	18.5	Turbid, white, odorless
15:05	50	594	6.80	18.4	Slighty turbid, gray, odorless
15:10	60	594	6.62	18.5	Clear, colorless, odorless
15:15	70	594	6.61	18.4	Clear, colorless, odorless
15:20	80	593	6.88	18.4	Clear, colorless, odorless
15:25	90	595	6.62	18.4	Clear, colorless, odorless
15:30	100	592	6.56	18.5	Clear, colorless, odorless
15:35	110	593	6.55	18.5	Clear, colorless, odorless
15:40	120	593	6.58	18.5	Clear, colorless, odorless
15:44	130	596	6.60	18.4	Clear, colorless, odorless
15:49	140	593	6.57	18.6	Clear, colorless, odorless
15:54	150	599	6.57	18.3	Clear, colorless, odorless
15:59	160	591	6.69	18.3	Clear, colorless, odorless
16:04	170	595	6.60	18.3	Clear, colorless, odorless
16:09	180	594	6.59	18.4	Clear, colorless, odorless
16:14	190	593	6.58	18.3	Clear, colorless, odorless

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/18/2013
Operator: B. Pfeifle
Well number and location: 30S/11E-17F4 (Hollister Ln.)
Site and wellhead conditions: Sunny, Light Wind
Equipped private well with pressure tank, sample from spigot near well.

Static water depth (feet): 44.98
Well depth (feet): 72
Water column (feet): 27.02
Casing diameter (inches): 6
Borehole vol. W/pack: (active well)
Purge rate (gpm): 5
Pumping water level (feet): NA
Pump setting (feet): NA
Minimum purge time (min): 5
Time begin purge: 15:29

Time	Gallons	EC	pH	Temp.	Comments*
15:29	0	685	6.34	20.7	Clear, colorless, odorless
15:30	5	690	6.25	17.7	Clear, colorless, odorless
15:31	10	695	6.16	17.3	Clear, colorless, odorless
15:32	15	690	6.14	17.5	Clear, colorless, odorless
15:34	20	686	6.09	17.7	Clear, colorless, odorless
15:36	25	685	6.05	17.7	Clear, colorless, odorless. Sampled

*Turbidity, color, odor,sheen, debris, etc.
NA represents information not available

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/18/2013
Operator: B. Pfeifle
Well number and location: 30S/11E-18A (San Luis Ave.)
Site and wellhead conditions: Sunny, Breezy
Equipped private well with pressure tank, sample from spigot near well

Static water depth (feet): NA
Well depth (feet): 40
Water column (feet): NA
Casing diameter (inches): 6
Borehole vol. W/pack (gal): (active well)
Purge rate (gpm): 4
Pumping water level (feet): NA
Pump setting (feet): NA
Minimum purge time (min): 5
Time begin purge: 14:27

Time	Gallons	EC	pH	Temp.	Comments*
14:29	5	637	6.30	17.7	Clear, colorless, odorless
14:31	10	636	6.23	17.6	Clear, colorless, odorless
14:32	15	634	6.21	17.8	Clear, colorless, odorless
14:35	20	637	6.17	17.7	Clear, colorless, odorless. Sampled

*Turbidity, color, odor, sheen, debris, etc.
NA represents information not available

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/20/2013
Operator: B. Pfeifle
Well number and location: 30S/11E-18B1 (Ramona & 10th St.)
Site and wellhead conditions: Cool, sunny, windy
Plug and gasket intact, no lock, standing water in vault

Static water depth (feet): 20.9
Well depth (feet): 35
Water column (feet): 14.1
Casing diameter (inches): 2
Borehole vol. W/pack (gal): 18
Purge rate (gpm): 2.5
Pumping water level (feet): 23.82
Pump setting (feet): 27
Minimum purge time (min): 7.2
Time begin purge: 11:50

Time	Gallons	EC	pH	Temp.	Comments*
11:52	5	743	6.86	16.6	Slightly turbid, light brown, odorless
11:54	10	743	6.49	16.6	Slightly turbid, light brown, odorless
11:55	15	746	6.43	16.4	Clear, colorless, odorless
11:57	20	749	6.25	16.6	Clear, colorless, odorless
11:59	25	750	6.20	16.5	Clear, colorless, odorless
12:01	30	752	6.19	16.5	Clear, colorless, odorless
12:03	35	753	6.19	16.5	Clear, colorless, odorless. Sampled (12:05)

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/13/2013
Operator: B. Pfeifle
Well number and location: 30S/11E-18C1 (Pismo Ave. & 5th St.)
Site and wellhead conditions: Sunny and warm
Lock jammed, plug and gasket intact

Static water depth (feet): 18.56
Well depth (feet): 35
Water column (feet): 16.44
Casing diameter (inches): 2
Borehole vol. W/pack (gal): 19
Purge rate (gpm): 1.8
Pumping water level (feet): 19.2
Pump setting (feet): 25
Minimum purge time (min): 11
Time begin purge: 11:50

Time	Gallons	EC	pH	Temp.	Comments*
11:54	5	878	6.69	19.4	Clear, colorless, odorless
11:56	10	872	6.22	17.8	Clear, colorless, odorless
11:59	15	872	6.24	17.6	Clear, colorless, odorless
12:01	20	869	6.23	17.6	Clear, colorless, odorless
12:04	25	869	6.20	17.6	Clear, colorless, odorless

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/17/2013
Operator: B. Pfeifle, BH
Well number and location: 30S/11E-18E1 (Ramona Ave.)
Site and wellhead conditions: Cloudy, cool, windy. Slip cap intact.

Static water depth (feet): 26.7
Well depth (feet): 100
Water column (feet): 73.3
Casing diameter (inches): 6
Boarhole vol. W/pack (gal): 290
Purge rate (gpm): 5
Pumping water level (feet): 30.59
Pump setting (feet): 40 & 35
Minimum purge time (min): 58
Time begin purge: 12:06

Time	Gallons	EC	pH	Temp.	Comments*
12:07	5	493	7.14	17.9	Clear, colorless, odorless
12:10	15	497	6.96	17.3	Slighty turbid, light gray, odorless
12:12	25	473	6.76	17.4	Slighty turbid, light gray, odorless
12:16	50	470	6.93	17.2	Slighty turbid, light gray, odorless
12:21	100	481	6.46	17.4	Clear, colorless, odorless
12:26	150	478	6.47	17.2	Slighty turbid, light gray, odorless
12:36	200	475	6.50	17.3	Clear, colorless, odorless
12:41	225	476	6.38	17.4	Clear, colorless, odorless
12:46	250	476	6.43	17.3	Clear, colorless, odorless
12:51	275	476	6.42	17.2	Clear, colorless, odorless
12:56	300	476	6.38	17.3	Clear, colorless, odorless
13:01	325	476	6.37	17.3	Clear, colorless, odorless

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/18/2013
Operator: B. Pfeifle
Well number and location: 30S/11E-18J6 (Los Olivos & Fairchild)
Site and wellhead conditions: Sunny, Windy. Gasket and plug intact. Lock was off plug and sitting in casing in standing water. Lock too rusty to use.

Static water depth (feet): 23.49
Well depth (feet): 35
Water column (feet): 11.51
Casing diameter (inches): 2
Borehole vol. W/pack (gal): 12
Purge rate (gpm): 0.25 (Bailer)
Pumping water level (feet):
Pump setting (feet):
Minimum purge time (min): 48
Time begin purge: 11:20

Time	Gallons	EC	pH	Temp.	Comments*
11:22	1	683	6.73	199.4	Turbid, Brown, Odorless
11:25	2	670	6.45	18.5	Turbid, Brown, Odorless
11:28	3	651	6.37	18.6	Turbid, Brown, Odorless
11:31	4	646	6.35	18.6	Turbid, Brown, Odorless
11:34	5	642	6.35	18.5	Turbid, Brown, Odorless
11:37	6	633	6.35	18.6	Turbid, Brown, Odorless
11:39	7	627	6.37	18.7	Turbid, Brown, Odorless
11:43	8	652	6.35	18.5	Turbid, Brown, Odorless
11:47	9	639	6.37	18.5	Turbid, Brown, Odorless
11:50	10	632	6.35	18.6	Turbid, Brown, Odorless
11:57	11	640	6.37	18.6	Turbid, Brown, Odorless
12:00	12	649	6.37	18.5	Turbid, Brown, Odorless
12:03	13	644	6.37	18.4	Turbid, Brown, Odorless
					Recovery Period
9:40		704	6.55	18.8	Sampled 6/19/2013

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date:	6/13/2013
Operator:	B. Pfeifle, BH
Well number and location:	30S/11E-18L3 (Palisades Ave.)
Site and wellhead conditions:	Sunny, windy
	Casing locked, plug and gasket intact

Static water depth (feet):	44.63
Well depth (feet):	53
Water column (feet):	8.37
Casing diameter (inches):	2
Borehole vol. W/pack (gal):	9.5
Purge rate (gpm):	0.6
Pumping water level (feet):	45.35
Pump setting (feet):	46
Minimum purge time (min):	16
Time begin purge:	14:01

Time	Gallons	EC	pH	Temp.	Comments*
14:10	5	333	6.81	20.0	Slightly turbid, gray, odorless
14:17	10	342	6.22	19.2	Clear, colorless, odorless
14:26	15	347	6.20	19.1	Clear, colorless, odorless
14:33	20	348	6.20	19.1	Clear, colorless, odorless

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/13/2013
Operator: B. Pfeifle, BH
Well number and location: 30S/11E-18L4 (Ferrell Ave.)
Site and wellhead conditions: Sunny, light wind
Standing water in vault, casing locked, lock jammed, one bolt flange missing.

Static water depth (feet): 21.73
Well depth (feet): 35
Water column (feet): 13.27
Casing diameter (inches): 2
Borehole vol. W/pack (gal): 15
Purge rate (gpm): 1.9
Pumping water level (feet): 26.39
Pump setting (feet): 28
Minimum purge time (min): 8
Time begin purge: 15:14

Time	Gallons	EC	pH	Temp.	Comments*
15:16	5	817	6.10	18.4	Slightly turbid, gray, odorless
15:19	10	819	6.19	18.1	Slightly turbid, gray, odorless
15:22	15	807	6.22	18.2	Clear, colorless, odorless
15:24	20	810	6.19	18.1	Clear, colorless, odorless
15:27	25	809	6.16	18.0	Clear, colorless, odorless

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/12/2013
Operator: B. Pfeifle, BH
Well number and location: 30S/11E-18N1 (Manzanita & Ravenna)
Site and wellhead conditions: Sunny
Casing locked, plug and gasket intact. One bolt flange missing.

Static water depth (feet): 78.91
Well depth (feet): 95
Water column (feet): 16.09
Casing diameter (inches): 2
Borehole vol. W/pack (gal): 19
Purge rate (gpm): 1.2
Pumping water level (feet): 83.83
Pump setting (feet): 88
Minimum purge time (min): 16
Time begin purge: 14:00

Time	Gallons	EC	pH	Temp.	Comments*
14:04	5	722	6.84	21.0	Slightly turbid, light brown, odorless
14:09	10	718	6.23	19.7	Slightly turbid, light brown, odorless
14:13	15	719	6.09	19.4	Slightly turbid, very light brown, odorless
14:17	20	718	6.04	19.2	Clear, colorless, odorless
14:21	25	720	6.02	19.2	Clear, colorless, odorless
14:25	30	720	6.01	19.0	Clear, colorless, odorless

*Turbidity, color, odor, sheen, debris, etc.

Groundwater Monitoring Field Log
Los Osos Baseline

Date: 6/18/2013
Operator: B. Pfeifle
Well number and location: 30S/11E-18R1 (Ocean View Dr.)
Site and wellhead conditions:
Equipped private well with pressure tank. Sample from spigot near well.

Static water depth (feet): 12.48
Well depth (feet): 50
Water column (feet) 37.52
Casing diameter (inches): 8
Borehole vol. W/pack (gal): (active well)
Purge rate (gpm): NA
Pumping water level (feet): NA
Pump setting (feet): NA
Minimum purge time (min): NA
Time begin purge: 13:50

Time	Gallons	EC	pH	Temp.	Comments*
13:51	5	617	6.95	16.6	Clear, colorless, odorless
13:53	10	612	6.50	16.5	Clear, colorless, odorless
13:54	15	609	6.13	16.5	Clear, colorless, odorless
13:56	20	610	6.09	16.4	Clear, colorless, odorless
13:57	25	608	6.06	16.3	Clear, colorless, odorless
13:58	30	609	5.97	16.4	Clear, colorless, odorless. Sampled

*Turbidity, color, odor, sheen, debris, etc.

APPENDIX C

Laboratory Reports

NOTE: Review of case narrative pages of attached reports indicate that all samples were received, prepared, and analyzed within the method specified holding time except as noted below.

The required holding time for pH is 15 minutes. Analyses of pH exceeded the required holding time for all samples. Field pH values within the required holding time are reported on groundwater monitoring field logs in Appendix B.

The required holding time for nitrite as nitrogen (NO_2-N) is 48-hours. Two of the 25 samples are listed in the case narratives as exceeding the required 48-hour holding time for nitrite as nitrogen. A review of historical data indicate that nitrite as nitrogen is typically not detected in groundwater, consistent with the current results.

July 9, 2013

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Lab ID : CC 1382174
Customer : 8-514

Laboratory Report

Introduction: This report package contains total of 11 pages divided into 3 sections:

Case Narrative	(3 pages)	: An overview of the work performed at FGL.
Sample Results	(5 pages)	: Results for each sample submitted.
Quality Control	(3 pages)	: Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID #	Matrix
30S/10E-24A	06/12/2013	06/13/2013	CC 1382174-001	GW
30S/10E-13Q1	06/12/2013	06/13/2013	CC 1382174-002	GW
30S/11E-18N1	06/12/2013	06/13/2013	CC 1382174-003	GW
30S/10E-13L5	06/12/2013	06/13/2013	CC 1382174-004	GW
30S/10E-13G	06/12/2013	06/13/2013	CC 1382174-005	GW

Sampling and Receipt Information: All samples were received, prepared and analyzed within the method specified holding except those as listed in the table below. The holding time for pH is listed as immediate. Logistically this is very difficult to obtain. FGL policy is to analyze all samples requiring pH on the same day of receipt at the laboratory. If this presents any problem please call.

Lab ID	Analyte/Method	Required Holding Time	Actual Holding Time
CC 1382174-001	Nitrite	48	48.35 Hours
CC 1382174-001	Nitrite Nitrogen	48	48.35 Hours
CC 1382174-001	pH	15	3976.2 Minutes
CC 1382174-002	pH	15	3915 Minutes
CC 1382174-003	pH	15	3799.8 Minutes
CC 1382174-004	pH	15	3799.8 Minutes
CC 1382174-005	pH	15	3640.2 Minutes

All samples arrived on ice. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 9, 2013 Lab ID : CC 1382174
Cleath-Harris Geologists Customer : 8-514

Quality Control: All samples were prepared and analyzed according to the following tables:

Inorganic - Metals QC

200.7	06/18/2013:208829 All analysis quality controls are within established criteria.
3010	06/18/2013:206805 All preparation quality controls are within established criteria.

Inorganic - Wet Chemistry QC

2540CE	06/18/2013:206831 All preparation quality controls are within established criteria.
300.0	06/14/2013:208916 All analysis quality controls are within established criteria.
	07/06/2013:209854 All analysis quality controls are within established criteria.
	06/14/2013:206918 All preparation quality controls are within established criteria.
	07/05/2013:207663 All preparation quality controls are within established criteria.
351.2	06/17/2013:206723 All preparation quality controls are within established criteria.
4500-H B	06/15/2013:206733 All preparation quality controls are within established criteria.
4500HB	06/15/2013:208672 All analysis quality controls are within established criteria.
4500NH3B	06/28/2013:207304 All preparation quality controls are within established criteria, except: The following note applies to Ammonia Nitrogen: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery. The following note applies to Ammonia Nitrogen: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
4500NH3G	07/01/2013:209448 All analysis quality controls are within established criteria.
4500NO3F	07/01/2013:209474 All analysis quality controls are within established criteria.
	07/01/2013:207354 All preparation quality controls are within established criteria.
EPA351.2	06/18/2013:208782 All analysis quality controls are within established criteria.

July 9, 2013 Lab ID : CC 1382174
Cleath-Harris Geologists Customer : 8-514

Certification:: I certify that this data package is in compliance with NELAC standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2013-07-09

July 9, 2013

Lab ID : CC 1382174-001
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 12, 2013-11:29
Sampled By : B. Pfeifle/B. House
Received On : June 13, 2013-10:04
Matrix : Ground Water

Description : 30S/10E-24A
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	ND	0.1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Sodium	39	1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Wet Chemistry[P:1]								
Chloride	78	1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Nitrate Nitrogen	15.9	0.1	mg/L		4500NO3F	07/01/13:207354	4500NO3F	07/01/13:209474
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Nitrogen, Organic	ND	1	mg/L		4500NH3B	06/28/13:207304	4500NH3G	07/01/13:209448
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	06/28/13:207304	4500NH3G	07/01/13:209448
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/17/13:206723	EPA351.2	06/18/13:208782
Nitrogen, Total as Nitrogen	16	1	mg/L		351.2	06/17/13:206723	EPA351.2	06/18/13:208782
Nitrate + Nitrite as N	15.9	0.1	mg/L		4500NO3F	07/01/13:207354	4500NO3F	07/01/13:209474
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/17/13:206723	EPA351.2	06/18/13:208782
pH	7.0	--	units		4500-H B	06/15/13:206733	4500HB	06/15/13:208672
Solids, Total Dissolved (TDS)	310	20	mg/L		2540CE	06/18/13:206831	2540C	06/19/13:208859
Sulfate	7	2	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 9, 2013

Lab ID : CC 1382174-002
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 12, 2013-12:30
Sampled By : B. Pfeifle/B. House
Received On : June 13, 2013-10:04
Matrix : Ground Water

Description : 30S/10E-13Q1
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	0.1	0.1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Sodium	77	1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Wet Chemistry[P:1]								
Chloride	183	2*	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Nitrate Nitrogen	25.7	0.2*	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Nitrogen, Organic	1	1	mg/L		4500NH3B	06/28/13:207304	4500NH3G	07/01/13:209448
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	06/28/13:207304	4500NH3G	07/01/13:209448
Kjeldahl Nitrogen	1	1	mg/L		351.2	06/17/13:206723	EPA351.2	06/18/13:208782
Nitrogen, Total as Nitrogen	27	1	mg/L		351.2	06/17/13:206723	EPA351.2	06/18/13:208782
Nitrate + Nitrite as N	25.7	0.2*	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Kjeldahl Nitrogen	1	1	mg/L		351.2	06/17/13:206723	EPA351.2	06/18/13:208782
pH	6.4	--	units		4500-H B	06/15/13:206733	4500HB	06/15/13:208672
Solids, Total Dissolved (TDS)	650	20	mg/L		2540CE	06/18/13:206831	2540C	06/19/13:208859
Sulfate	33	2	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 9, 2013

Lab ID : CC 1382174-003
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 12, 2013-14:25
Sampled By : B. Pfeifle/B. House
Received On : June 13, 2013-10:04
Matrix : Ground Water

Description : 30S/11E-18N1
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	0.1	0.1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Sodium	56	1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Wet Chemistry[P:1]								
Chloride	105	1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Nitrate Nitrogen	27.9	0.2*	mg/L		4500NO3F	07/01/13:207354	4500NO3F	07/01/13:209474
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Nitrogen, Organic	ND	1	mg/L		4500NH3B	06/28/13:207304	4500NH3G	07/01/13:209448
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	06/28/13:207304	4500NH3G	07/01/13:209448
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/17/13:206723	EPA351.2	06/18/13:208782
Nitrogen, Total as Nitrogen	28	1	mg/L		351.2	06/17/13:206723	EPA351.2	06/18/13:208782
Nitrate + Nitrite as N	27.9	0.2*	mg/L		4500NO3F	07/01/13:207354	4500NO3F	07/01/13:209474
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/17/13:206723	EPA351.2	06/18/13:208782
pH	6.4	--	units		4500-H B	06/15/13:206733	4500HB	06/15/13:208672
Solids, Total Dissolved (TDS)	440	20	mg/L		2540CE	06/18/13:206831	2540C	06/19/13:208859
Sulfate	57	2	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 9, 2013

Lab ID : CC 1382174-004
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 12, 2013-14:25
Sampled By : B. Pfeifle/B. House
Received On : June 13, 2013-10:04
Matrix : Ground Water

Description : 30S/10E-13L5
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	0.1	0.1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Sodium	132	1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Wet Chemistry[P:1]								
Chloride	130	2*	mg/L		300.0	07/05/13:207663	300.0	07/06/13:209854
Nitrate Nitrogen	16.0	0.1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Nitrogen, Organic	ND	1	mg/L		4500NH3B	06/28/13:207304	4500NH3G	07/01/13:209448
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	06/28/13:207304	4500NH3G	07/01/13:209448
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/17/13:206723	EPA351.2	06/18/13:208782
Nitrogen, Total as Nitrogen	16	1	mg/L		351.2	06/17/13:206723	EPA351.2	06/18/13:208782
Nitrate + Nitrite as N	16.0	0.1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/17/13:206723	EPA351.2	06/18/13:208782
pH	6.7	--	units		4500-H B	06/15/13:206733	4500HB	06/15/13:208672
Solids, Total Dissolved (TDS)	540	20	mg/L		2540CE	06/18/13:206831	2540C	06/19/13:208859
Sulfate	38	2	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 9, 2013

Lab ID : CC 1382174-005
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 12, 2013-17:05
Sampled By : B. Pfeifle/B. House
Received On : June 13, 2013-10:04
Matrix : Ground Water

Description : 30S/10E-13G
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	ND	0.1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Sodium	45	1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Wet Chemistry[P:1]								
Chloride	74	1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Nitrate Nitrogen	9.7	0.1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Nitrogen, Organic	ND	1	mg/L		4500NH3B	06/28/13:207304	4500NH3G	07/01/13:209448
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	06/28/13:207304	4500NH3G	07/01/13:209448
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/17/13:206723	EPA351.2	06/18/13:208782
Nitrogen, Total as Nitrogen	10	1	mg/L		351.2	06/17/13:206723	EPA351.2	06/18/13:208782
Nitrate + Nitrite as N	9.7	0.1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/17/13:206723	EPA351.2	06/18/13:208782
pH	6.3	--	units		4500-H B	06/15/13:206733	4500HB	06/15/13:208672
Solids, Total Dissolved (TDS)	290	20	mg/L		2540CE	06/18/13:206831	2540C	06/19/13:208859
Sulfate	18	2	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 9, 2013 Lab ID : CC 1382174
Cleath-Harris Geologists Customer : 8-514

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Boron	200.7	06/18/13:208829AC	CCV	ppm	5.000	98.9 %	90-110	
			CCB	ppm		0.038	0.10	
			CCV	ppm	5.000	98.3 %	90-110	
			CCB	ppm		0.034	0.10	
			CCV	ppm	5.000	96.5 %	90-110	
			CCB	ppm		0.024	0.10	
Sodium	200.7	06/18/13:208829AC	CCV	ppm	25.00	95.2 %	90-110	
			CCB	ppm		0.008	1.0	
			CCV	ppm	25.00	94.6 %	90-110	
			CCB	ppm		0.04	1.0	
			CCV	ppm	25.00	94.1 %	90-110	
			CCB	ppm		0.07	1.0	
Boron	3010	06/18/13:206805amb	Blank	mg/L		ND	<0.1	
			LCS	mg/L	4.000	94.1 %	85-115	
			MS	mg/L	4.000	98.0 %	75-125	
		(CH 1373402-001)	MSD	mg/L	4.000	92.0 %	75-125	
			MSRPD	mg/L	0.7988	6.1%	≤20.0	
			PDS	mg/L	4.000	104 %	75-125	
Sodium	3010	06/18/13:206805amb	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	88.4 %	85-115	
			MS	mg/L	12.00	107 %	75-125	
		(CH 1373402-001)	MSD	mg/L	12.00	93.1 %	75-125	
			MSRPD	mg/L	0.7988	6.8%	≤20.0	
			PDS	mg/L	12.00	103 %	75-125	
Wet Chem								
Solids, Total Dissolved	2540CE	06/18/13:206831CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	998.4	98.7 %	90-110	
		(SP 1305926-001)	Dup	mg/L		3.9%	10.0	
Chloride	300.0	06/14/13:206918CHL	LCS	mg/L	25.00	105 %	90-110	
			MS	mg/L	500.0	104 %	94-113	
		(CC 1382174-001)	MSD	mg/L	500.0	105 %	94-113	
			MSRPD	mg/L	100.0	0.9%	≤3	
	300.0	06/14/13:208916CHL	ICV	ppm	50.00	102 %	90-110	
			ICB	ppm		0.44	1	
			CCB	ppm		0.58	1	
			CCV	ppm	25.00	105 %	90-110	
			CCB	ppm		0.61	1	
			CCV	ppm	25.00	106 %	90-110	
	300.0	07/05/13:207663CHL	LCS	mg/L	25.00	107 %	90-110	
			MS	mg/L	500.0	109 %	94-113	
		(CH 1373927-001)	MSD	mg/L	500.0	112 %	94-113	
			MSRPD	mg/L	100.0	2.6%	≤3	
	300.0	07/06/13:209854CHL	CCB	ppm		0.63	1	
			CCV	ppm	25.00	109 %	90-110	
			CCB	ppm		0.47	1	
			CCV	ppm	25.00	109 %	90-110	
Nitrate	300.0	06/14/13:206918CHL	LCS	mg/L	20.00	101 %	90-110	
			MS	mg/L	400.0	102 %	93-113	
		(CC 1382174-001)	MSD	mg/L	400.0	102 %	93-113	
			MSRPD	mg/L	100.0	0.1%	≤4	
	300.0	06/14/13:208916CHL	ICV	ppm	40.00	99.8 %	90-110	
			ICB	ppm		0.141	0.4	
			CCB	ppm		0.134	0.4	
			CCV	ppm	20.00	100 %	90-110	
Nitrite	300.0	06/14/13:206918CHL	LCS	mg/L	15.00	106 %	90-110	

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 9, 2013 Lab ID : CC 1382174
Cleath-Harris Geologists Customer : 8-514

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Nitrite	300.0		MS	mg/L	300.0	101 %	87-115	
		(CC 1382174-001)	MSD	mg/L	300.0	104 %	87-115	
			MSRPD	mg/L	100.0	3.0%	≤9	
	300.0	06/14/13:208916CHL	ICV	ppm	30.00	102 %	90-110	
			ICB	ppm		-0.267	0.3	
			CCB	ppm		-0.153	0.3	
			CCV	ppm	15.00	108 %	90-110	
			CCB	ppm		-0.076	0.3	
			CCV	ppm	15.00	107 %	90-110	
Sulfate	300.0	06/14/13:206918CHL	LCS	mg/L	50.00	104 %	90-110	
			MS	mg/L	1000	106 %	92-113	
		(CC 1382174-001)	MSD	mg/L	1000	107 %	92-113	
			MSRPD	mg/L	100.0	0.8%	≤4	
	300.0	06/14/13:208916CHL	ICV	ppm	100.0	102 %	90-110	
			ICB	ppm		0.81	2	
			CCB	ppm		0.81	2	
			CCV	ppm	50.00	104 %	90-110	
			CCB	ppm		0.93	2	
			CCV	ppm	50.00	105 %	90-110	
Nitrogen, Total Kjeldahl	351.2	06/17/13:206723jmg	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	105 %	73-124	
			MS	mg/L	12.00	98.2 %	54-136	
		(CC 1382133-001)	MSD	mg/L	12.00	84.1 %	54-136	
			MSRPD	mg/L	12.00	15.3%	≤27	
pH	4500-H B	(CC 1382190-001)	Dup	units		0.3%	4.80	
	4500HB	06/15/13:208672JAM	CCV	units	8.000	99.4 %	95-105	
			CCV	units	8.000	102 %	95-105	
			CCV	units	8.000	101 %	95-105	
Ammonia Nitrogen	4500NH3B	06/28/13:207304CJJ	Blank	mg/L		ND	<0.2	
			LCS	mg/L	6.000	80.3 %	68-103	
			MS	mg/L	6.000	64.1 %	74-105	435
		(CC 1382174-001)	MSD	mg/L	6.000	92.7 %	74-105	
			MSRPD	mg/L	6.000	36.5%	≤7	435
	4500NH3G	07/01/13:209448AMB	CCB	mg/L		0.003	0.2	
			CCV	mg/L	2.000	103 %	90-110	
			CCB	mg/L		-0.012	0.2	
			CCV	mg/L	2.000	100 %	90-110	
			CCB	mg/L		-0.048	0.2	
			CCV	mg/L	2.000	107 %	90-110	
Nitrate + Nitrite as N	4500NO3F		MS	mg/L	4.000	118 %	5-285	
		(CC 1382174-001)	MSD	mg/L	4.000	110 %	5-285	
			MSRPD	mg/L	4.000	1.5%	≤30.4	
	4500NO3F	07/01/13:209474AMB	CCB	mg/L		0.012	0.1	
			CCV	mg/L	4.000	101 %	90-110	
			CCB	mg/L		0.013	0.1	
			CCV	mg/L	4.000	101 %	90-110	
			CCB	mg/L		-0.064	0.1	
			CCV	mg/L	4.000	109 %	90-110	
			CCB	mg/L		-0.039	0.1	
			CCV	mg/L	4.000	108 %	90-110	
Nitrogen, Total Kjeldahl	EPA351.2	06/18/13:208782AMB	CCB	mg/L		0.033	0.5	
			CCV	mg/L	1.000	108 %	90-110	
			CCB	mg/L		0.082	0.5	
			CCV	mg/L	1.000	104 %	90-110	

July 9, 2013 | Lab ID : CC 1382174
Cleath-Harris Geologists | Customer : 8-514

Quality Control - Inorganic

Definition	
PDS	: PDS failed, matrix - Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte.
ICV	: Initial Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
ICB	: Initial Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
CCV	: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
CCB	: Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
Blank	: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
LCS	: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
MS	: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSD	: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries are an indication of how that sample matrix affects analyte recovery.
Dup	: Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis.
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
ND	: Non-detect - Result was below the DQO listed for the analyte.
DQO	: Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation	
435	: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

July 8, 2013

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Lab ID : CC 1382190
Customer : 8-514

Laboratory Report

Introduction: This report package contains total of 7 pages divided into 3 sections:

Case Narrative	(2 pages)	: An overview of the work performed at FGL.
Sample Results	(3 pages)	: Results for each sample submitted.
Quality Control	(2 pages)	: Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID #	Matrix
30S/11E-7L3	06/13/2013	06/13/2013	CC 1382190-001	GW
30S/11E-18C1	06/13/2013	06/13/2013	CC 1382190-002	GW
30S/11E-18L3	06/13/2013	06/13/2013	CC 1382190-003	GW

Sampling and Receipt Information: All samples were received, prepared and analyzed within the method specified holding except those as listed in the table below. The holding time for pH is listed as immediate. Logistically this is very difficult to obtain. FGL policy is to analyze all samples requiring pH on the same day of receipt at the laboratory. If this presents any problem please call.

Lab ID	Analyte/Method	Required Holding Time	Actual Holding Time
CC 1382190-001	pH	15	2554.8 Minutes
CC 1382190-002	pH	15	2500.2 Minutes
CC 1382190-003	pH	15	2350.2 Minutes

All samples arrived on ice. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Inorganic - Metals QC

200.7	06/18/2013:208829 All analysis quality controls are within established criteria.
3010	06/18/2013:206805 All preparation quality controls are within established criteria.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 8, 2013 Lab ID : CC 1382190
Cleath-Harris Geologists Customer : 8-514

Inorganic - Wet Chemistry QC

2540CE	06/18/2013:206831 All preparation quality controls are within established criteria.
300.0	06/14/2013:208916 All analysis quality controls are within established criteria.
	06/15/2013:208916 All analysis quality controls are within established criteria.
	07/02/2013:209754 All analysis quality controls are within established criteria.
	06/14/2013:206918 All preparation quality controls are within established criteria.
	07/01/2013:207604 All preparation quality controls are within established criteria.
351.2	06/18/2013:206809 All preparation quality controls are within established criteria, except: The following note applies to Nitrogen, Total Kjeldahl: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
4500-H B	06/15/2013:206733 All preparation quality controls are within established criteria.
4500HB	06/15/2013:208672 All analysis quality controls are within established criteria.
4500NH3B	07/01/2013:207388 All preparation quality controls are within established criteria.
4500NH3G	07/02/2013:209538 All analysis quality controls are within established criteria.
EPA351.2	06/19/2013:208849 All analysis quality controls are within established criteria.

Certification:: I certify that this data package is in compliance with NELAC standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2013-07-08

July 8, 2013

Lab ID : CC 1382190-001
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 13, 2013-11:10
Sampled By : B. Pfeifle/B. House
Received On : June 13, 2013-15:45
Matrix : Ground Water

Description : 30S/11E-7L3
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	0.1	0.1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Sodium	73	1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Wet Chemistry[P:1]								
Chloride	89	1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Nitrate Nitrogen	18.7	0.1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
Nitrogen, Total as Nitrogen	19	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
Nitrate + Nitrite as N	18.7	0.1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
pH	6.7	--	units		4500-H B	06/15/13:206733	4500HB	06/15/13:208672
Solids, Total Dissolved (TDS)	430	20	mg/L		2540CE	06/18/13:206831	2540C	06/19/13:208859
Sulfate	41	2	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 8, 2013

Lab ID : CC 1382190-002
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 13, 2013-12:05
Sampled By : B. Pfeifle/B. House
Received On : June 13, 2013-15:45
Matrix : Ground Water

Description : 30S/11E-18C1
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	0.1	0.1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Sodium	75	1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Wet Chemistry[P:1]								
Chloride	148	5*	mg/L		300.0	07/01/13:207604	300.0	07/02/13:209754
Nitrate Nitrogen	17.3	0.1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
Nitrogen, Total as Nitrogen	17	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
Nitrate + Nitrite as N	17.3	0.1	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
pH	6.3	--	units		4500-H B	06/15/13:206733	4500HB	06/15/13:208672
Solids, Total Dissolved (TDS)	520	20	mg/L		2540CE	06/18/13:206831	2540C	06/19/13:208859
Sulfate	49	2	mg/L		300.0	06/14/13:206918	300.0	06/14/13:208916

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 8, 2013

Lab ID : CC 1382190-003
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 13, 2013-14:35
Sampled By : B. Pfeifle/B. House
Received On : June 13, 2013-15:45
Matrix : Ground Water

Description : 30S/11E-18L3
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	ND	0.1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Sodium	28	1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Wet Chemistry[P:1]								
Chloride	55	1	mg/L		300.0	06/14/13:206918	300.0	06/15/13:208916
Nitrate Nitrogen	5.0	0.1	mg/L		300.0	06/14/13:206918	300.0	06/15/13:208916
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/14/13:206918	300.0	06/15/13:208916
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
Nitrogen, Total as Nitrogen	5	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
Nitrate + Nitrite as N	5.0	0.1	mg/L		300.0	06/14/13:206918	300.0	06/15/13:208916
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
pH	6.3	--	units		4500-H B	06/15/13:206733	4500HB	06/15/13:208672
Solids, Total Dissolved (TDS)	200	20	mg/L		2540CE	06/18/13:206831	2540C	06/19/13:208859
Sulfate	22	2	mg/L		300.0	06/14/13:206918	300.0	06/15/13:208916

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 8, 2013 Lab ID : CC 1382190
Cleath-Harris Geologists Customer : 8-514

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Boron	200.7	06/18/13:208829AC	CCV	ppm	5.000	98.3 %	90-110	
			CCB	ppm		0.034	0.10	
			CCV	ppm	5.000	96.5 %	90-110	
			CCB	ppm		0.024	0.10	
Sodium	200.7	06/18/13:208829AC	CCV	ppm	25.00	94.6 %	90-110	
			CCB	ppm		0.04	1.0	
			CCV	ppm	25.00	94.1 %	90-110	
			CCB	ppm		0.07	1.0	
Boron	3010	06/18/13:206805amb	Blank	mg/L		ND	<0.1	
			LCS	mg/L	4.000	94.1 %	85-115	
			MS	mg/L	4.000	98.0 %	75-125	
		(CH 1373402-001)	MSD	mg/L	4.000	92.0 %	75-125	
			MSRPD	mg/L	0.7988	6.1%	≤20.0	
			PDS	mg/L	4.000	104 %	75-125	
Sodium	3010	06/18/13:206805amb	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	88.4 %	85-115	
			MS	mg/L	12.00	107 %	75-125	
		(CH 1373402-001)	MSD	mg/L	12.00	93.1 %	75-125	
			MSRPD	mg/L	0.7988	6.8%	≤20.0	
			PDS	mg/L	12.00	103 %	75-125	
Wet Chem								
Solids, Total Dissolved	2540CE	06/18/13:206831CTL	Blank	mg/L		3.7	20	
			LCS	mg/L	998.4	100 %	90-110	
		(CH 1373365-001)	Dup	mg/L		3.7%	10.0	
Chloride	300.0	06/14/13:206918CHL	LCS	mg/L	25.00	106 %	90-110	
			MS	mg/L	500.0	105 %	94-113	
		(CC 1382178-001)	MSD	mg/L	500.0	105 %	94-113	
			MSRPD	mg/L	100.0	0.04%	≤3	
	300.0	06/14/13:208916CHL	CCB	ppm		0.51	1	
			CCV	ppm	25.00	105 %	90-110	
			CCB	ppm		0.64	1	
			CCV	ppm	25.00	107 %	90-110	
	300.0	07/01/13:207604CHL	LCS	mg/L	25.00	106 %	90-110	
			MS	mg/L	500.0	110 %	94-113	
		(SP 1306391-001)	MSD	mg/L	500.0	110 %	94-113	
			MSRPD	mg/L	100.0	0.08%	≤3	
	300.0	07/02/13:209754CHL	CCB	ppm		0.53	1	
			CCV	ppm	25.00	106 %	90-110	
			CCB	ppm		0.53	1	
			CCV	ppm	25.00	105 %	90-110	
Nitrate	300.0	06/14/13:206918CHL	LCS	mg/L	20.00	101 %	90-110	
			MS	mg/L	400.0	102 %	93-113	
		(CC 1382178-001)	MSD	mg/L	400.0	103 %	93-113	
			MSRPD	mg/L	100.0	0.8%	≤4	
	300.0	06/14/13:208916CHL	CCB	ppm		0.131	0.4	
			CCV	ppm	20.00	102 %	90-110	
			CCB	ppm		0.150	0.4	
			CCV	ppm	20.00	103 %	90-110	
Nitrite	300.0	06/14/13:206918CHL	LCS	mg/L	15.00	106 %	90-110	
			MS	mg/L	300.0	102 %	87-115	
		(CC 1382178-001)	MSD	mg/L	300.0	101 %	87-115	
			MSRPD	mg/L	100.0	0.8%	≤9	
	300.0	06/14/13:208916CHL	CCB	ppm		-0.202	0.3	
			CCV	ppm	15.00	109 %	90-110	
			CCB	ppm		-0.286	0.3	

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 8, 2013 Lab ID : CC 1382190
Cleath-Harris Geologists Customer : 8-514

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Nitrite	300.0	06/15/13:208916CHL	CCV	ppm	15.00	109 %	90-110	
Sulfate	300.0	06/14/13:206918CHL	LCS	mg/L	50.00	105 %	90-110	
			MS	mg/L	1000	106 %	92-113	
		(CC 1382178-001)	MSD	mg/L	1000	107 %	92-113	
			MSRPD	mg/L	100.0	1.0%	≤4	
	300.0	06/14/13:208916CHL	CCB	ppm		0.86	2	
			CCV	ppm	50.00	105 %	90-110	
			CCB	ppm		0.95	2	
			CCV	ppm	50.00	106 %	90-110	
Nitrogen, Total Kjeldahl	351.2	06/18/13:206809jmg	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	95.9 %	73-124	
			MS	mg/L	12.00	53.5 %	54-136	
		(CC 1382190-001)	MSD	mg/L	12.00	70.3 %	54-136	
			MSRPD	mg/L	12.00	27.9%	≤27	435
pH	4500-H B	(CC 1382190-001)	Dup	units		0.3%	4.80	
	4500HB	06/15/13:208672JAM	CCV	units	8.000	99.4 %	95-105	
			CCV	units	8.000	102 %	95-105	
Ammonia Nitrogen	4500NH3B	07/01/13:207388CJJ	Blank	mg/L		ND	<0.2	
			LCS	mg/L	6.000	93.1 %	68-103	
			MS	mg/L	6.000	90.7 %	74-105	
		(STK1335850-001)	MSD	mg/L	6.000	90.2 %	74-105	
			MSRPD	mg/L	6.000	0.5%	≤7	
	4500NH3G	07/02/13:209538AMB	ICB	mg/L		-0.170	0.2	
			ICV	mg/L	2.000	109 %	90-110	
			CCB	mg/L		0.000	0.2	
			CCV	mg/L	2.000	107 %	90-110	
Nitrogen, Total Kjeldahl	EPA351.2	06/19/13:208849AMB	ICV	mg/L	1.000	95.3 %	90-110	
			CCB	mg/L		-0.244	0.5	
			CCB	mg/L		-0.251	0.5	
			CCV	mg/L	1.000	91.8 %	90-110	

Definition

PDS	: PDS failed, matrix - Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte.
ICV	: Initial Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
ICB	: Initial Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
CCV	: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
CCB	: Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
Blank	: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
LCS	: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
MS	: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSD	: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries are an indication of how that sample matrix affects analyte recovery.
Dup	: Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis.
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
ND	: Non-detect - Result was below the DQO listed for the analyte.
DQO	: Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation

435	: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

July 8, 2013

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Lab ID : CC 1382211
Customer : 8-514

Laboratory Report

Introduction: This report package contains total of 10 pages divided into 3 sections:

Case Narrative	(3 pages)	: An overview of the work performed at FGL.
Sample Results	(4 pages)	: Results for each sample submitted.
Quality Control	(3 pages)	: Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID #	Matrix
30S/11E-18L4	06/13/2013	06/14/2013	CC 1382211-001	GW
30S/11E-7R1	06/13/2013	06/14/2013	CC 1382211-002	GW
30S/11E-8N2	06/14/2013	06/14/2013	CC 1382211-003	GW
30S/11E-8Mb	06/14/2013	06/14/2013	CC 1382211-004	GW

Sampling and Receipt Information: All samples were received, prepared and analyzed within the method specified holding except those as listed in the table below. The holding time for pH is listed as immediate. Logistically this is very difficult to obtain. FGL policy is to analyze all samples requiring pH on the same day of receipt at the laboratory. If this presents any problem please call.

Lab ID	Analyte/Method	Required Holding Time	Actual Holding Time
CC 1382211-001	pH	15	7045.2 Minutes
CC 1382211-002	pH	15	6964.8 Minutes
CC 1382211-003	pH	15	5715 Minutes
CC 1382211-004	pH	15	5665.2 Minutes

All samples arrived on ice. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 8, 2013 Lab ID : CC 1382211
Cleath-Harris Geologists Customer : 8-514

Quality Control: All samples were prepared and analyzed according to the following tables:

Inorganic - Metals QC

200.7	06/18/2013:208829 All analysis quality controls are within established criteria.
3010	06/18/2013:206805 All preparation quality controls are within established criteria.

Inorganic - Wet Chemistry QC

2540CE	06/19/2013:206895 All preparation quality controls are within established criteria.
300.0	06/22/2013:209325 All analysis quality controls are within established criteria.
	07/02/2013:209754 All analysis quality controls are within established criteria.
	06/21/2013:207239 All preparation quality controls are within established criteria.
	07/01/2013:207604 All preparation quality controls are within established criteria.
351.2	06/18/2013:206809 All preparation quality controls are within established criteria, except: The following note applies to Nitrogen, Total Kjeldahl: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
4500-H B	06/18/2013:206835 All preparation quality controls are within established criteria.
4500HB	06/18/2013:208815 All analysis quality controls are within established criteria.
4500NH3B	07/01/2013:207388 All preparation quality controls are within established criteria.
4500NH3G	07/02/2013:209538 All analysis quality controls are within established criteria.
4500NO2B	06/15/2013:208805 All analysis quality controls are within established criteria.
	06/15/2013:206828 All preparation quality controls are within established criteria.
4500NO3F	07/02/2013:209696 All analysis quality controls are within established criteria.
	07/02/2013:207431 All preparation quality controls are within established criteria.
EPA351.2	06/19/2013:208849 All analysis quality controls are within established criteria.

July 8, 2013 Lab ID : CC 1382211
Cleath-Harris Geologists Customer : 8-514

Certification:: I certify that this data package is in compliance with NELAC standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2013-07-08

July 8, 2013

Lab ID : CC 1382211-001
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 13, 2013-15:30
Sampled By : Bryce Pfeifle
Received On : June 14, 2013-15:30
Matrix : Ground Water

Description : 30S/11E-18L4
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	ND	0.1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Sodium	57	1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Wet Chemistry[P:1]								
Chloride	133	2*	mg/L		300.0	07/01/13:207604	300.0	07/02/13:209754
Nitrate Nitrogen	27.4	0.2*	mg/L		4500NO3F	07/02/13:207431	4500NO3F	07/02/13:209696
Nitrite Nitrogen	ND	0.1	mg/L		4500NO2B	06/15/13:206828	4500NO2B	06/15/13:208805
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
Nitrogen, Total as Nitrogen	27	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
Nitrate + Nitrite as N	27.4	0.2*	mg/L		4500NO3F	07/02/13:207431	4500NO3F	07/02/13:209696
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
pH	6.5	--	units		4500-H B	06/18/13:206835	4500HB	06/18/13:208815
Solids, Total Dissolved (TDS)	490	20	mg/L		2540CE	06/19/13:206895	2540C	06/20/13:208926
Sulfate	31	2	mg/L		300.0	06/21/13:207239	300.0	06/22/13:209325

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 8, 2013

Lab ID : CC 1382211-002
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 13, 2013-16:50
Sampled By : Bryce Pfeifle
Received On : June 14, 2013-15:30
Matrix : Ground Water

Description : 30S/11E-7R1
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	0.1	0.1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Sodium	64	1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Wet Chemistry[P:1]								
Chloride	149	2*	mg/L		300.0	07/01/13:207604	300.0	07/02/13:209754
Nitrate Nitrogen	16.3	0.1	mg/L		4500NO3F	07/02/13:207431	4500NO3F	07/02/13:209696
Nitrite Nitrogen	ND	0.1	mg/L		4500NO2B	06/15/13:206828	4500NO2B	06/15/13:208805
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
Nitrogen, Total as Nitrogen	16	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
Nitrate + Nitrite as N	16.3	0.1	mg/L		4500NO3F	07/02/13:207431	4500NO3F	07/02/13:209696
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
pH	6.6	--	units		4500-H B	06/18/13:206835	4500HB	06/18/13:208815
Solids, Total Dissolved (TDS)	480	20	mg/L		2540CE	06/19/13:206895	2540C	06/20/13:208926
Sulfate	48	2	mg/L		300.0	06/21/13:207239	300.0	06/22/13:209325

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 8, 2013

Lab ID : CC 1382211-003
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 14, 2013-13:40
Sampled By : Bryce Pfeifle
Received On : June 14, 2013-15:30
Matrix : Ground Water

Description : 30S/11E-8N2
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	ND	0.1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Sodium	8	1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Wet Chemistry[P:1]								
Chloride	16	1	mg/L		300.0	06/21/13:207239	300.0	06/22/13:209325
Nitrate Nitrogen	2.8	0.1	mg/L		4500NO3F	07/02/13:207431	4500NO3F	07/02/13:209696
Nitrite Nitrogen	ND	0.1	mg/L		4500NO2B	06/15/13:206828	4500NO2B	06/15/13:208805
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
Nitrogen, Total as Nitrogen	3	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
Nitrate + Nitrite as N	2.8	0.1	mg/L		4500NO3F	07/02/13:207431	4500NO3F	07/02/13:209696
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
pH	7.0	--	units		4500-H B	06/18/13:206835	4500HB	06/18/13:208815
Solids, Total Dissolved (TDS)	70	20	mg/L		2540CE	06/19/13:206895	2540C	06/20/13:208926
Sulfate	7	2	mg/L		300.0	06/21/13:207239	300.0	06/22/13:209325

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 8, 2013

Lab ID : CC 1382211-004
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 14, 2013-14:30
Sampled By : Bryce Pfeifle
Received On : June 14, 2013-15:30
Matrix : Ground Water

Description : 30S/11E-8Mb
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	ND	0.1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Sodium	81	1	mg/L		3010	06/18/13:206805	200.7	06/18/13:208829
Wet Chemistry[P:1]								
Chloride	249	5*	mg/L		300.0	06/21/13:207239	300.0	06/22/13:209325
Nitrate Nitrogen	77.6	0.5*	mg/L		4500NO3F	07/02/13:207431	4500NO3F	07/02/13:209696
Nitrite Nitrogen	0.3	0.1	mg/L		4500NO2B	06/15/13:206828	4500NO2B	06/15/13:208805
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
Nitrogen, Total as Nitrogen	78	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
Nitrate + Nitrite as N	77.6	0.5*	mg/L		4500NO3F	07/02/13:207431	4500NO3F	07/02/13:209696
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/18/13:206809	EPA351.2	06/19/13:208849
pH	7.0	--	units		4500-H B	06/18/13:206835	4500HB	06/18/13:208815
Solids, Total Dissolved (TDS)	970	20	mg/L		2540CE	06/19/13:206895	2540C	06/20/13:208926
Sulfate	55	2	mg/L		300.0	06/21/13:207239	300.0	06/22/13:209325

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 8, 2013 Lab ID : CC 1382211
Cleath-Harris Geologists Customer : 8-514

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Boron	200.7	06/18/13:208829AC	CCV	ppm	5.000	98.3 %	90-110	
			CCB	ppm		0.034	0.10	
			CCV	ppm	5.000	96.5 %	90-110	
			CCB	ppm		0.024	0.10	
Sodium	200.7	06/18/13:208829AC	CCV	ppm	25.00	94.6 %	90-110	
			CCB	ppm		0.04	1.0	
			CCV	ppm	25.00	94.1 %	90-110	
			CCB	ppm		0.07	1.0	
Boron	3010	06/18/13:206805amb	Blank	mg/L		ND	<0.1	
			LCS	mg/L	4.000	94.1 %	85-115	
			MS	mg/L	4.000	98.0 %	75-125	
		(CH 1373402-001)	MSD	mg/L	4.000	92.0 %	75-125	
			MSRPD	mg/L	0.7988	6.1%	≤20.0	
			PDS	mg/L	4.000	104 %	75-125	
Sodium	3010	06/18/13:206805amb	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	88.4 %	85-115	
			MS	mg/L	12.00	107 %	75-125	
		(CH 1373402-001)	MSD	mg/L	12.00	93.1 %	75-125	
			MSRPD	mg/L	0.7988	6.8%	≤20.0	
			PDS	mg/L	12.00	103 %	75-125	
Wet Chem								
Solids, Total Dissolved	2540CE	06/19/13:206895CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	998.4	100 %	90-110	
		(VI 1341791-001)	Dup	mg/L		3.6%	10.0	
			Blank	mg/L		ND	<20	
			LCS	mg/L	998.4	99.6 %	90-110	
		(SP 1305966-001)	Dup	mg/L		0.1%	10.0	
Chloride	300.0	06/21/13:207239CHL	LCS	mg/L	25.00	103 %	90-110	
			MS	mg/L	500.0	107 %	94-113	
		(SP 1306124-004)	MSD	mg/L	500.0	106 %	94-113	
			MSRPD	mg/L	100.0	1.0%	≤3	
	300.0	06/22/13:209325CHL	CCB	ppm		0.65	1	
			CCV	ppm	25.00	108 %	90-110	
			CCB	ppm		0.76	1	
			CCV	ppm	25.00	109 %	90-110	
	300.0	07/01/13:207604CHL	LCS	mg/L	25.00	106 %	90-110	
			MS	mg/L	500.0	110 %	94-113	
		(SP 1306391-001)	MSD	mg/L	500.0	110 %	94-113	
			MSRPD	mg/L	100.0	0.08%	≤3	
	300.0	07/02/13:209754CHL	CCB	ppm		0.53	1	
			CCV	ppm	25.00	106 %	90-110	
			CCB	ppm		0.53	1	
			CCV	ppm	25.00	105 %	90-110	
Sulfate	300.0	06/21/13:207239CHL	LCS	mg/L	50.00	104 %	90-110	
			MS	mg/L	1000	108 %	92-113	
		(SP 1306124-004)	MSD	mg/L	1000	107 %	92-113	
			MSRPD	mg/L	100.0	0.9%	≤4	
	300.0	06/22/13:209325CHL	CCB	ppm		1.53	2	
			CCV	ppm	50.00	109 %	90-110	
			CCB	ppm		1.54	2	
			CCV	ppm	50.00	109 %	90-110	
Nitrogen, Total Kjeldahl	351.2	06/18/13:206809jmg	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	95.9 %	73-124	
			MS	mg/L	12.00	53.5 %	54-136	
		(CC 1382190-001)	MSD	mg/L	12.00	70.3 %	54-136	

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 8, 2013 Lab ID : CC 1382211
Cleath-Harris Geologists Customer : 8-514

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Nitrogen, Total Kjeldahl	351.2	06/18/13:206809jmg	MSRPD	mg/L	12.00	27.9%	≤27	435
pH	4500-H B	(CC 1382178-001)	Dup	units		0.0%	4.80	
	4500HB	06/18/13:208815CJJ	CCV	units	8.000	100 %	95-105	
			CCV	units	8.000	99.9 %	95-105	
Ammonia Nitrogen	4500NH3B	07/01/13:207388CJJ	Blank	mg/L		ND	<0.2	
			LCS	mg/L	6.000	93.1 %	68-103	
			MS	mg/L	6.000	90.7 %	74-105	
		(STK1335850-001)	MSD	mg/L	6.000	90.2 %	74-105	
			MSRPD	mg/L	6.000	0.5%	≤7	
	4500NH3G	07/02/13:209538AMB	CCB	mg/L		0.000	0.2	
			CCV	mg/L	2.000	107 %	90-110	
			CCB	mg/L		0.000	0.2	
			CCV	mg/L	2.000	107 %	90-110	
Nitrite as Nitrogen	4500NO2B		MS	mg/L	0.2284	103 %	1-173	
		(CC 1382211-001)	MSD	mg/L	0.2284	102 %	1-173	
			MSRPD	mg/L	0.2284	0.0029	≤0.1	
	4500NO2B	06/15/13:208805MCA	CCV	mg/L	0.1522	103 %	90-110	
			CCB	mg/L		0.002	0.1	
			CCV	mg/L	0.1522	107 %	90-110	
			CCB	mg/L		0.004	0.1	
Nitrate + Nitrite as N	4500NO3F		MS	mg/L	4.000	31.3 %	5-285	
		(CC 1382211-001)	MSD	mg/L	4.000	33.6 %	5-285	
			MSRPD	mg/L	4.000	0.3%	≤30.4	
	4500NO3F	07/02/13:209696AMB	ICB	mg/L		0.004	0.1	
			ICV	mg/L	4.000	103 %	90-110	
			CCB	mg/L		-0.01	0.1	
			CCV	mg/L	4.000	104 %	90-110	
			CCB	mg/L		0.014	0.1	
			CCV	mg/L	4.000	105 %	90-110	
			CCB	mg/L		-0.023	0.1	
			CCV	mg/L	4.000	105 %	90-110	
			CCB	mg/L		-0.012	0.1	
			CCV	mg/L	4.000	104 %	90-110	
Nitrogen, Total Kjeldahl	EPA351.2	06/19/13:208849AMB	ICV	mg/L	1.000	95.3 %	90-110	
			CCB	mg/L		-0.244	0.5	
			CCB	mg/L		-0.251	0.5	
			CCV	mg/L	1.000	91.8 %	90-110	
			CCB	mg/L		-0.110	0.5	
			CCV	mg/L	1.000	94.1 %	90-110	

Definition

PDS	: PDS failed, matrix - Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte.
ICV	: Initial Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
ICB	: Initial Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
CCV	: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
CCB	: Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
Blank	: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
LCS	: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
MS	: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSD	: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries are an indication of how that sample matrix affects analyte recovery.
Dup	: Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis.

July 8, 2013 Lab ID : CC 1382211

Cleath-Harris Geologists Customer : 8-514

Quality Control - Inorganic

Definition	
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
ND	: Non-detect - Result was below the DQO listed for the analyte.
DQO	: Data Quality Objective - This is the criteria against which the quality control data is compared.
Explanation	
435	: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

July 8, 2013

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Lab ID : CC 1382226
Customer : 8-514

Laboratory Report

Introduction: This report package contains total of 9 pages divided into 3 sections:

Case Narrative	(3 pages)	: An overview of the work performed at FGL.
Sample Results	(3 pages)	: Results for each sample submitted.
Quality Control	(3 pages)	: Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID #	Matrix
30S/11E-7K3	06/17/2013	06/18/2013	CC 1382226-001	GW
30S/11E-18E1	06/17/2013	06/18/2013	CC 1382226-002	GW
30S/11E-17E9	06/17/2013	06/18/2013	CC 1382226-003	GW

Sampling and Receipt Information: All samples were received, prepared and analyzed within the method specified holding except those as listed in the table below. The holding time for pH is listed as immediate. Logistically this is very difficult to obtain. FGL policy is to analyze all samples requiring pH on the same day of receipt at the laboratory. If this presents any problem please call.

Lab ID	Analyte/Method	Required Holding Time	Actual Holding Time
CC 1382226-001	Nitrite	48	51.95 Hours
CC 1382226-001	Nitrite Nitrogen	48	51.95 Hours
CC 1382226-001	pH	15	4210.2 Minutes
CC 1382226-002	Nitrite	48	49.2 Hours
CC 1382226-002	Nitrite Nitrogen	48	49.2 Hours
CC 1382226-002	pH	15	4045.2 Minutes
CC 1382226-003	pH	15	4344 Minutes

All samples arrived on ice. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 8, 2013 Lab ID : CC 1382226
Cleath-Harris Geologists Customer : 8-514

Quality Control: All samples were prepared and analyzed according to the following tables:

Inorganic - Metals QC

200.7	06/25/2013:209220 All analysis quality controls are within established criteria, except: The following note applies to Boron: 360 CCV above Acceptance Range (AR). Samples which were non detect for this analyte were accepted.
	06/27/2013:209302 All analysis quality controls are within established criteria.
3010	06/21/2013:207025 All preparation quality controls are within established criteria, except: The following note applies to Sodium: 430 Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte.

Inorganic - Wet Chemistry QC

2540CE	06/20/2013:206956 All preparation quality controls are within established criteria.
300.0	06/19/2013:209321 All analysis quality controls are within established criteria.
	06/19/2013:207200 All preparation quality controls are within established criteria.
351.2	06/20/2013:206920 All preparation quality controls are within established criteria.
4500-H B	06/20/2013:206927 All preparation quality controls are within established criteria.
	06/20/2013:206981 All preparation quality controls are within established criteria.
4500HB	06/20/2013:208924 All analysis quality controls are within established criteria.
	06/20/2013:208984 All analysis quality controls are within established criteria.
4500NH3B	07/01/2013:207388 All preparation quality controls are within established criteria.
4500NH3G	07/02/2013:209538 All analysis quality controls are within established criteria.
4500NO3F	07/02/2013:209696 All analysis quality controls are within established criteria.
	07/02/2013:207431 All preparation quality controls are within established criteria.
EPA351.2	06/21/2013:209003 All analysis quality controls are within established criteria.

July 8, 2013 Lab ID : CC 1382226
Cleath-Harris Geologists Customer : 8-514

Certification:: I certify that this data package is in compliance with NELAC standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2013-07-08

July 8, 2013

Lab ID : CC 1382226-001
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 17, 2013-10:20
Sampled By : Bryce Pfeifle
Received On : June 18, 2013-09:00
Matrix : Ground Water

Description : 30S/11E-7K3
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Total[P:1'5]								
Boron	0.2	0.1	mg/L		3010	06/21/13:207025	200.7	06/25/13:209220
Sodium	91	1	mg/L		3010	06/21/13:207025	200.7	06/25/13:209220
Wet Chemistry[P:1]								
Chloride	177	2*	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Nitrate Nitrogen	17.3	0.1	mg/L		4500NO3F	07/02/13:207431	4500NO3F	07/02/13:209696
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/20/13:206920	EPA351.2	06/21/13:209003
Nitrogen, Total as Nitrogen	17	1	mg/L		351.2	06/20/13:206920	EPA351.2	06/21/13:209003
Nitrate + Nitrite as N	17.3	0.1	mg/L		4500NO3F	07/02/13:207431	4500NO3F	07/02/13:209696
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/20/13:206920	EPA351.2	06/21/13:209003
pH	6.9	--	units		4500-H B	06/20/13:206927	4500HB	06/20/13:208924
Solids, Total Dissolved (TDS)	600	20	mg/L		2540CE	06/20/13:206956	2540C	06/21/13:209001
Sulfate	40	2	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 8, 2013

Lab ID : CC 1382226-002
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 17, 2013-13:05
Sampled By : Bryce Pfeifle
Received On : June 18, 2013-09:00
Matrix : Ground Water

Description : 30S/11E-18E1
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	ND	0.1	mg/L		3010	06/21/13:207025	200.7	06/25/13:209220
Sodium	45	1	mg/L		3010	06/21/13:207025	200.7	06/25/13:209220
Wet Chemistry[P:1]								
Chloride	66	1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Nitrate Nitrogen	9.9	0.1	mg/L		4500NO3F	07/02/13:207431	4500NO3F	07/02/13:209696
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/20/13:206920	EPA351.2	06/21/13:209003
Nitrogen, Total as Nitrogen	10	1	mg/L		351.2	06/20/13:206920	EPA351.2	06/21/13:209003
Nitrate + Nitrite as N	9.9	0.1	mg/L		4500NO3F	07/02/13:207431	4500NO3F	07/02/13:209696
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/20/13:206920	EPA351.2	06/21/13:209003
pH	6.5	--	units		4500-H B	06/20/13:206927	4500HB	06/20/13:208924
Solids, Total Dissolved (TDS)	290	20	mg/L		2540CE	06/20/13:206956	2540C	06/21/13:209001
Sulfate	22	2	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 8, 2013

Lab ID : CC 1382226-003
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 17, 2013-16:15
Sampled By : Bryce Pfeifle
Received On : June 18, 2013-09:00
Matrix : Ground Water

Description : 30S/11E-17E9
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	ND	0.1	mg/L		3010	06/21/13:207025	200.7	06/25/13:209220
Sodium	45	1	mg/L		3010	06/21/13:207025	200.7	06/27/13:209302
Wet Chemistry[P:1]								
Chloride	65	1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Nitrate Nitrogen	15.5	0.1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	07/01/13:207388	4500NH3G	07/02/13:209538
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/20/13:206920	EPA351.2	06/21/13:209003
Nitrogen, Total as Nitrogen	16	1	mg/L		351.2	06/20/13:206920	EPA351.2	06/21/13:209003
Nitrate + Nitrite as N	15.5	0.1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/20/13:206920	EPA351.2	06/21/13:209003
pH	6.9	--	units		4500-H B	06/20/13:206981	4500HB	06/20/13:208984
Solids, Total Dissolved (TDS)	370	20	mg/L		2540CE	06/20/13:206956	2540C	06/21/13:209001
Sulfate	26	2	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 8, 2013 Lab ID : CC 1382226
Cleath-Harris Geologists Customer : 8-514

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Boron	200.7	06/25/13:209220AC	CCV	ppm	5.000	105 %	90-110	
			CCB	ppm		0.033	0.10	
			CCV	ppm	5.000	108 %	90-110	
			CCB	ppm		0.035	0.10	
			CCV	ppm	5.000	118 %	90-110	360
			CCB	ppm		0.040	0.10	
Sodium	200.7	06/25/13:209220AC	CCV	ppm	25.00	103 %	90-110	
			CCB	ppm		0.16	1.0	
			CCV	ppm	25.00	105 %	90-110	
			CCB	ppm		0.09	1.0	
	200.7	06/27/13:209302AC	CCV	ppm	25.00	92.9 %	90-110	
			CCB	ppm		0.07	1.0	
			CCV	ppm	25.00	91.3 %	90-110	
			CCB	ppm		0.04	1.0	
Boron	3010	06/21/13:207025amb	Blank	mg/L		ND	<0.1	
			LCS	mg/L	4.000	106 %	85-115	
			MS	mg/L	4.000	99.3 %	75-125	
		(CC 1382226-001)	MSD	mg/L	4.000	107 %	75-125	
			MSRPD	mg/L	0.7988	6.7%	≤20.0	
			PDS	mg/L	4.000	122 %	75-125	
Sodium	3010	06/21/13:207025amb	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	101 %	85-115	
			MS	mg/L	12.00	45.5 %	<¼	
		(CC 1382226-001)	MSD	mg/L	12.00	127 %	<¼	
			MSRPD	mg/L	0.7988	9.6%	≤20.0	
			PDS	mg/L	12.00	249 %	75-125	430
Wet Chem								
Solids, Total Dissolved	2540CE	06/20/13:206956CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	998.4	99.6 %	90-110	
		(SP 1306019-001)	Dup	mg/L		1.9%	10.0	
Chloride	300.0	06/19/13:207200CJJ	LCS	mg/L	25.00	103 %	90-110	
			MS	mg/L	500.0	107 %	94-113	
		(SP 1306124-001)	MSD	mg/L	500.0	108 %	94-113	
			MSRPD	mg/L	100.0	1.0%	≤3	
	300.0	06/19/13:209321CHL	ICV	ppm	50.00	103 %	90-110	
			ICB	ppm		0.43	1	
			CCB	ppm		0.44	1	
			CCV	ppm	25.00	106 %	90-110	
			CCB	ppm		0.52	1	
			CCV	ppm	25.00	106 %	90-110	
			CCB	ppm		0.48	1	
			CCV	ppm	25.00	108 %	90-110	
Nitrate	300.0	06/19/13:207200CJJ	LCS	mg/L	20.00	100 %	90-110	
			MS	mg/L	400.0	104 %	93-113	
		(SP 1306124-001)	MSD	mg/L	400.0	103 %	93-113	
			MSRPD	mg/L	100.0	0.8%	≤4	
	300.0	06/19/13:209321CHL	ICV	ppm	40.00	101 %	90-110	
			ICB	ppm		0.127	0.4	
			CCB	ppm		0.133	0.4	
			CCV	ppm	20.00	103 %	90-110	
Nitrite	300.0	06/19/13:207200CJJ	LCS	mg/L	15.00	107 %	90-110	
			MS	mg/L	300.0	102 %	87-115	
		(SP 1306124-001)	MSD	mg/L	300.0	102 %	87-115	
			MSRPD	mg/L	100.0	0.3%	≤9	
	300.0	06/19/13:209321CHL	ICV	ppm	30.00	103 %	90-110	

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 8, 2013 Lab ID : CC 1382226
Cleath-Harris Geologists Customer : 8-514

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Nitrite	300.0	06/19/13:209321CHL	ICB	ppm		-0.276	0.3	
			CCB	ppm		-0.259	0.3	
			CCV	ppm	15.00	109 %	90-110	
			CCB	ppm		-0.177	0.3	
			CCV	ppm	15.00	107 %	90-110	
			CCB	ppm		-0.234	0.3	
			CCV	ppm	15.00	108 %	90-110	
Sulfate	300.0	06/19/13:207200CJJ	LCS	mg/L	50.00	104 %	90-110	
			MS	mg/L	1000	108 %	92-113	
		(SP 1306124-001)	MSD	mg/L	1000	108 %	92-113	
			MSRPD	mg/L	100.0	0.06%	≤4	
	300.0	06/19/13:209321CHL	ICV	ppm	100.0	104 %	90-110	
			ICB	ppm		0.80	2	
			CCB	ppm		0.89	2	
			CCV	ppm	50.00	108 %	90-110	
			CCB	ppm		0.93	2	
			CCV	ppm	50.00	108 %	90-110	
			CCB	ppm		0.90	2	
			CCV	ppm	50.00	110 %	90-110	
Nitrogen, Total Kjeldahl	351.2	06/20/13:206920jmg	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	93.0 %	73-124	
			MS	mg/L	12.00	65.7 %	54-136	
		(CC 1382226-001)	MSD	mg/L	12.00	67.4 %	54-136	
			MSRPD	mg/L	12.00	2.7%	≤27	
pH	4500-H B	(SP 1306065-001)	Dup	units		0.3%	4.80	
	4500-H B	(VI 1341830-004)	Dup	units		0.0%	4.80	
	4500HB	06/20/13:208924JAM	CCV	units	8.000	99.6 %	95-105	
			CCV	units	8.000	101 %	95-105	
	4500HB	06/20/13:208984AMM	CCV	units	8.000	98.9 %	95-105	
			CCV	units	8.000	101 %	95-105	
Ammonia Nitrogen	4500NH3B	07/01/13:207388CJJ	Blank	mg/L		ND	<0.2	
			LCS	mg/L	6.000	93.1 %	68-103	
			MS	mg/L	6.000	90.7 %	74-105	
		(STK1335850-001)	MSD	mg/L	6.000	90.2 %	74-105	
			MSRPD	mg/L	6.000	0.5%	≤7	
	4500NH3G	07/02/13:209538AMB	CCB	mg/L		0.000	0.2	
			CCV	mg/L	2.000	107 %	90-110	
			CCB	mg/L		0.000	0.2	
			CCV	mg/L	2.000	107 %	90-110	
Nitrate + Nitrite as N	4500NO3F		MS	mg/L	4.000	31.3 %	5-285	
		(CC 1382211-001)	MSD	mg/L	4.000	33.6 %	5-285	
			MSRPD	mg/L	4.000	0.3%	≤30.4	
	4500NO3F	07/02/13:209696AMB	ICB	mg/L		0.004	0.1	
			ICV	mg/L	4.000	103 %	90-110	
			CCB	mg/L		-0.01	0.1	
			CCV	mg/L	4.000	104 %	90-110	
Nitrogen, Total Kjeldahl	EPA351.2	06/21/13:209003AMB	CCB	mg/L		0.000	0.5	
			CCV	mg/L	1.000	94.9 %	90-110	
			CCB	mg/L		-0.206	0.5	
			CCV	mg/L	1.000	93.2 %	90-110	

Definition

PDS : PDS failed, matrix - Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte.

ICV : Initial Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

July 8, 2013 Lab ID : CC 1382226

Cleath-Harris Geologists Customer : 8-514

Quality Control - Inorganic

Definition	
ICB	: Initial Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
CCV	: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
CCB	: Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
Blank	: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
LCS	: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
MS	: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSD	: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries are an indication of how that sample matrix affects analyte recovery.
Dup	: Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis.
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
ND	: Non-detect - Result was below the DQO listed for the analyte.
<¼	: High Sample Background - Spike concentration was less than one forth of the sample concentration.
DQO	: Data Quality Objective - This is the criteria against which the quality control data is compared.
Explanation	
360	: CCV above Acceptance Range (AR). Samples which were non detect for this analyte were accepted.
430	: Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte.

July 10, 2013

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Lab ID : CC 1382245
Customer : 8-514

Laboratory Report

Introduction: This report package contains total of 10 pages divided into 3 sections:

Case Narrative	(3 pages)	: An overview of the work performed at FGL.
Sample Results	(4 pages)	: Results for each sample submitted.
Quality Control	(3 pages)	: Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID #	Matrix
30S/11E-18R1	06/18/2013	06/18/2013	CC 1382245-001	GW
30S/11E-18A	06/18/2013	06/18/2013	CC 1382245-002	GW
30S/11E-17D	06/18/2013	06/18/2013	CC 1382245-003	GW
30S/11E-17F4	06/18/2013	06/18/2013	CC 1382245-004	GW

Sampling and Receipt Information: All samples were received, prepared and analyzed within the method specified holding except those as listed in the table below. The holding time for pH is listed as immediate. Logistically this is very difficult to obtain. FGL policy is to analyze all samples requiring pH on the same day of receipt at the laboratory. If this presents any problem please call.

Lab ID	Analyte/Method	Required Holding Time	Actual Holding Time
CC 1382245-001	pH	15	2550 Minutes
CC 1382245-002	pH	15	2515.2 Minutes
CC 1382245-003	pH	15	2487 Minutes
CC 1382245-004	pH	15	2943 Minutes

All samples arrived on ice. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 10, 2013 Lab ID : CC 1382245
Cleath-Harris Geologists Customer : 8-514

Quality Control: All samples were prepared and analyzed according to the following tables:

Inorganic - Metals QC

200.7	06/25/2013:209220 All analysis quality controls are within established criteria, except: The following note applies to Boron: 360 CCV above Acceptance Range (AR). Samples which were non detect for this analyte were accepted.
	06/27/2013:209302 All analysis quality controls are within established criteria.
3010	06/21/2013:207025 All preparation quality controls are within established criteria, except: The following note applies to Sodium: 430 Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte.

Inorganic - Wet Chemistry QC

2540CE	06/20/2013:206956 All preparation quality controls are within established criteria.
300.0	06/19/2013:209321 All analysis quality controls are within established criteria.
	07/06/2013:209854 All analysis quality controls are within established criteria.
	06/19/2013:207200 All preparation quality controls are within established criteria.
	07/05/2013:207663 All preparation quality controls are within established criteria.
351.2	06/24/2013:207043 All preparation quality controls are within established criteria, except: The following note applies to Nitrogen, Total Kjeldahl: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
4500-H B	06/20/2013:206927 All preparation quality controls are within established criteria.
	06/20/2013:206981 All preparation quality controls are within established criteria.
4500HB	06/20/2013:208924 All analysis quality controls are within established criteria.
	06/20/2013:208984 All analysis quality controls are within established criteria.
4500NH3B	07/08/2013:207630 All preparation quality controls are within established criteria, except: The following note applies to Ammonia Nitrogen: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

July 10, 2013 Lab ID : CC 1382245
Cleath-Harris Geologists Customer : 8-514

Inorganic - Wet Chemistry QC

4500NH3G	07/09/2013:209848 All analysis quality controls are within established criteria.
4500NO3F	07/09/2013:209906 All analysis quality controls are within established criteria.
	07/09/2013:207658 All preparation quality controls are within established criteria.
EPA351.2	06/25/2013:209141 All analysis quality controls are within established criteria.

Certification:: I certify that this data package is in compliance with NELAC standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2013-07-10

July 10, 2013

Lab ID : CC 1382245-001
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 18, 2013-14:00
Sampled By : Bryce Pfeifle
Received On : June 18, 2013-16:15
Matrix : Ground Water

Description : 30S/11E-18R1
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	0.2	0.1	mg/L		3010	06/21/13:207025	200.7	06/27/13:209302
Sodium	59	1	mg/L		3010	06/21/13:207025	200.7	06/27/13:209302
Wet Chemistry[P:1]								
Chloride	89	1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Nitrate Nitrogen	20.0	0.1	mg/L		4500NO3F	07/09/13:207658	4500NO3F	07/09/13:209906
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/08/13:207630	4500NH3G	07/09/13:209848
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	07/08/13:207630	4500NH3G	07/09/13:209848
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
Nitrogen, Total as Nitrogen	20	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
Nitrate + Nitrite as N	20.0	0.1	mg/L		4500NO3F	07/09/13:207658	4500NO3F	07/09/13:209906
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
pH	6.0	--	units		4500-H B	06/20/13:206927	4500HB	06/20/13:208924
Solids, Total Dissolved (TDS)	360	20	mg/L		2540CE	06/20/13:206956	2540C	06/21/13:209001
Sulfate	24	2	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 10, 2013

Lab ID : CC 1382245-002
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 18, 2013-14:35
Sampled By : Bryce Pfeifle
Received On : June 18, 2013-16:15
Matrix : Ground Water

Description : 30S/11E-18A
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	0.1	0.1	mg/L		3010	06/21/13:207025	200.7	06/27/13:209302
Sodium	49	1	mg/L		3010	06/21/13:207025	200.7	06/27/13:209302
Wet Chemistry[P:1]								
Chloride	100	1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Nitrate Nitrogen	13.1	0.1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/08/13:207630	4500NH3G	07/09/13:209848
Ammonia Nitrogen	0.3	0.2	mg/L		4500NH3B	07/08/13:207630	4500NH3G	07/09/13:209848
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
Nitrogen, Total as Nitrogen	13	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
Nitrate + Nitrite as N	13.1	0.1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
pH	6.4	--	units		4500-H B	06/20/13:206927	4500HB	06/20/13:208924
Solids, Total Dissolved (TDS)	380	20	mg/L		2540CE	06/20/13:206956	2540C	06/21/13:209001
Sulfate	34	2	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 10, 2013

Lab ID : CC 1382245-003
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 18, 2013-15:03
Sampled By : Bryce Pfeifle
Received On : June 18, 2013-16:15
Matrix : Ground Water

Description : 30S/11E-17D
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	ND	0.1	mg/L		3010	06/21/13:207025	200.7	06/25/13:209220
Sodium	58	1	mg/L		3010	06/21/13:207025	200.7	06/27/13:209302
Wet Chemistry[P:1]								
Chloride	97	1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Nitrate Nitrogen	19.8	0.1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/08/13:207630	4500NH3G	07/09/13:209848
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	07/08/13:207630	4500NH3G	07/09/13:209848
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
Nitrogen, Total as Nitrogen	20	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
Nitrate + Nitrite as N	19.8	0.1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
pH	6.6	--	units		4500-H B	06/20/13:206927	4500HB	06/20/13:208924
Solids, Total Dissolved (TDS)	400	20	mg/L		2540CE	06/20/13:206956	2540C	06/21/13:209001
Sulfate	27	2	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 10, 2013

Lab ID : CC 1382245-004
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 18, 2013-15:36
Sampled By : Bryce Pfeifle
Received On : June 18, 2013-16:15
Matrix : Ground Water

Description : 30S/11E-17F4
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	ND	0.1	mg/L		3010	06/21/13:207025	200.7	06/25/13:209220
Sodium	70	1	mg/L		3010	06/21/13:207025	200.7	06/27/13:209302
Wet Chemistry[P:1]								
Chloride	136	2*	mg/L		300.0	07/05/13:207663	300.0	07/06/13:209854
Nitrate Nitrogen	0.7	0.1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/08/13:207630	4500NH3G	07/09/13:209848
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	07/08/13:207630	4500NH3G	07/09/13:209848
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
Nitrogen, Total as Nitrogen	ND	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
Nitrate + Nitrite as N	0.7	0.1	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
pH	6.3	--	units		4500-H B	06/20/13:206981	4500HB	06/20/13:208984
Solids, Total Dissolved (TDS)	390	20	mg/L		2540CE	06/20/13:206956	2540C	06/21/13:209001
Sulfate	16	2	mg/L		300.0	06/19/13:207200	300.0	06/19/13:209321

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 10, 2013 Lab ID : CC 1382245
Cleath-Harris Geologists Customer : 8-514

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Boron	200.7	06/25/13:209220AC	CCV	ppm	5.000	108 %	90-110	
			CCB	ppm		0.035	0.10	
			CCV	ppm	5.000	118 %	90-110	360
			CCB	ppm		0.040	0.10	
	200.7	06/27/13:209302AC	CCV	ppm	5.000	95.6 %	90-110	
			CCB	ppm		0.050	0.10	
			CCV	ppm	5.000	93.5 %	90-110	
			CCB	ppm		0.032	0.10	
Sodium	200.7	06/27/13:209302AC	CCV	ppm	25.00	92.9 %	90-110	
			CCB	ppm		0.07	1.0	
			CCV	ppm	25.00	91.3 %	90-110	
			CCB	ppm		0.04	1.0	
			CCV	ppm	25.00	89.8 %	90-110	
			CCB	ppm		0.02	1.0	
Boron	3010	06/21/13:207025amb	Blank	mg/L		ND	<0.1	
			LCS	mg/L	4.000	106 %	85-115	
			MS	mg/L	4.000	99.3 %	75-125	
		(CC 1382226-001)	MSD	mg/L	4.000	107 %	75-125	
			MSRPD	mg/L	0.7988	6.7%	≤20.0	
			PDS	mg/L	4.000	122 %	75-125	
Sodium	3010	06/21/13:207025amb	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	101 %	85-115	
			MS	mg/L	12.00	45.5 %	<¼	
		(CC 1382226-001)	MSD	mg/L	12.00	127 %	<¼	
			MSRPD	mg/L	0.7988	9.6%	≤20.0	
			PDS	mg/L	12.00	249 %	75-125	430
Wet Chem								
Solids, Total Dissolved	2540CE	06/20/13:206956CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	998.4	99.6 %	90-110	
		(SP 1306019-001)	Dup	mg/L		1.9%	10.0	
Chloride	300.0	06/19/13:207200CJJ	LCS	mg/L	25.00	103 %	90-110	
			MS	mg/L	500.0	107 %	94-113	
		(SP 1306124-001)	MSD	mg/L	500.0	108 %	94-113	
			MSRPD	mg/L	100.0	1.0%	≤3	
	300.0	06/19/13:209321CHL	CCB	ppm		0.52	1	
			CCV	ppm	25.00	106 %	90-110	
			CCB	ppm		0.48	1	
			CCV	ppm	25.00	108 %	90-110	
	300.0	07/05/13:207663CHL	LCS	mg/L	25.00	107 %	90-110	
			MS	mg/L	500.0	109 %	94-113	
		(CH 1373927-001)	MSD	mg/L	500.0	112 %	94-113	
			MSRPD	mg/L	100.0	2.6%	≤3	
	300.0	07/06/13:209854CHL	CCB	ppm		0.63	1	
			CCV	ppm	25.00	109 %	90-110	
			CCB	ppm		0.47	1	
			CCV	ppm	25.00	109 %	90-110	
Nitrate	300.0	06/19/13:207200CJJ	LCS	mg/L	20.00	100 %	90-110	
			MS	mg/L	400.0	104 %	93-113	
		(SP 1306124-001)	MSD	mg/L	400.0	103 %	93-113	
			MSRPD	mg/L	100.0	0.8%	≤4	
	300.0	06/19/13:209321CHL	CCB	ppm		0.115	0.4	
			CCV	ppm	20.00	104 %	90-110	
			CCB	ppm		0.164	0.4	
			CCV	ppm	20.00	105 %	90-110	
Nitrite	300.0	06/19/13:207200CJJ	LCS	mg/L	15.00	107 %	90-110	

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 10, 2013 Lab ID : CC 1382245
Cleath-Harris Geologists Customer : 8-514

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Nitrite	300.0		MS	mg/L	300.0	102 %	87-115	
		(SP 1306124-001)	MSD	mg/L	300.0	102 %	87-115	
			MSRPD	mg/L	100.0	0.3%	≤9	
	300.0	06/19/13:209321CHL	CCB	ppm		-0.177	0.3	
			CCV	ppm	15.00	107 %	90-110	
			CCB	ppm		-0.234	0.3	
			CCV	ppm	15.00	108 %	90-110	
Sulfate	300.0	06/19/13:207200CJJ	LCS	mg/L	50.00	104 %	90-110	
			MS	mg/L	1000	108 %	92-113	
		(SP 1306124-001)	MSD	mg/L	1000	108 %	92-113	
			MSRPD	mg/L	100.0	0.06%	≤4	
	300.0	06/19/13:209321CHL	CCB	ppm		0.93	2	
			CCV	ppm	50.00	108 %	90-110	
			CCB	ppm		0.90	2	
			CCV	ppm	50.00	110 %	90-110	
Nitrogen, Total Kjeldahl	351.2	06/24/13:207043jmg	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	81.6 %	73-124	
			MS	mg/L	12.00	50.5 %	54-136	435
		(CC 1382245-001)	MSD	mg/L	12.00	40.6 %	54-136	435
			MSRPD	mg/L	12.00	21.7%	≤27	
pH	4500-H B	(SP 1306065-001)	Dup	units		0.3%	4.80	
	4500-H B	(VI 1341830-004)	Dup	units		0.0%	4.80	
	4500HB	06/20/13:208924JAM	CCV	units	8.000	99.6 %	95-105	
			CCV	units	8.000	101 %	95-105	
	4500HB	06/20/13:208984AMM	CCV	units	8.000	98.9 %	95-105	
			CCV	units	8.000	101 %	95-105	
Ammonia Nitrogen	4500NH3B	07/08/13:207630CJJ	Blank	mg/L		ND	<0.2	
			LCS	mg/L	6.000	77.3 %	68-103	
			MS	mg/L	6.000	89.7 %	74-105	
		(STK1335933-001)	MSD	mg/L	6.000	99.8 %	74-105	
			MSRPD	mg/L	6.000	11.0%	≤7	435
	4500NH3G	07/09/13:209848AMB	ICB	mg/L		0.009	0.2	
			ICV	mg/L	2.000	109 %	90-110	
			CCB	mg/L		0.088	0.2	
			CCV	mg/L	2.000	108 %	90-110	
Nitrate + Nitrite as N	4500NO3F		MS	mg/L	4.000	142 %	5-285	
		(CC 1382245-001)	MSD	mg/L	4.000	133 %	5-285	
			MSRPD	mg/L	4.000	1.5%	≤30.4	
	4500NO3F	07/09/13:209906AMB	ICB	mg/L		0.001	0.1	
			ICV	mg/L	4.000	99.8 %	90-110	
			CCB	mg/L		-0.005	0.1	
			CCV	mg/L	4.000	98.9 %	90-110	
Nitrogen, Total Kjeldahl	EPA351.2	06/25/13:209141AMB	ICV	mg/L	1.000	108 %	90-110	
			CCB	mg/L		-0.026	0.5	
			CCB	mg/L		0.027	0.5	
			CCV	mg/L	1.000	94.3 %	90-110	

Definition

PDS	: PDS failed, matrix - Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte.
ICV	: Initial Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
ICB	: Initial Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
CCV	: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
CCB	: Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
Blank	: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

July 10, 2013 | Lab ID : CC 1382245
Cleath-Harris Geologists | Customer : 8-514

Quality Control - Inorganic

Definition	
LCS	: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
MS	: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSD	: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries are an indication of how that sample matrix affects analyte recovery.
Dup	: Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis.
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
ND	: Non-detect - Result was below the DQO listed for the analyte.
<¼	: High Sample Background - Spike concentration was less than one forth of the sample concentration.
DQO	: Data Quality Objective - This is the criteria against which the quality control data is compared.
Explanation	
360	: CCV above Acceptance Range (AR). Samples which were non detect for this analyte were accepted.
430	: Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte.
435	: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

July 9, 2013

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Lab ID : CC 1382252
Customer : 8-514

Laboratory Report

Introduction: This report package contains total of 11 pages divided into 3 sections:

Case Narrative	(3 pages)	: An overview of the work performed at FGL.
Sample Results	(5 pages)	: Results for each sample submitted.
Quality Control	(3 pages)	: Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID #	Matrix
30S/10E-13H	06/19/2013	06/19/2013	CC 1382252-001	GW
30S/11E-18J6	06/19/2013	06/19/2013	CC 1382252-002	GW
30S/11E-8Ma	06/19/2013	06/19/2013	CC 1382252-003	GW
30S/11E-7Q1	06/19/2013	06/19/2013	CC 1382252-004	GW
30S/11E-7N1	06/19/2013	06/19/2013	CC 1382252-005	GW

Sampling and Receipt Information: All samples were received, prepared and analyzed within the method specified holding except those as listed in the table below. The holding time for pH is listed as immediate. Logistically this is very difficult to obtain. FGL policy is to analyze all samples requiring pH on the same day of receipt at the laboratory. If this presents any problem please call.

Lab ID	Analyte/Method	Required Holding Time	Actual Holding Time
CC 1382252-001	pH	15	1888.8 Minutes
CC 1382252-002	pH	15	1858.8 Minutes
CC 1382252-003	pH	15	1813.8 Minutes
CC 1382252-004	pH	15	1654.2 Minutes
CC 1382252-005	pH	15	1624.2 Minutes

All samples arrived on ice. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 9, 2013 Lab ID : CC 1382252
Cleath-Harris Geologists Customer : 8-514

Quality Control: All samples were prepared and analyzed according to the following tables:

Inorganic - Metals QC

200.7	06/25/2013:209220 All analysis quality controls are within established criteria, except: The following note applies to Boron: 360 CCV above Acceptance Range (AR). Samples which were non detect for this analyte were accepted.
	06/27/2013:209302 All analysis quality controls are within established criteria.
	06/27/2013:209344 All analysis quality controls are within established criteria.
3010	06/21/2013:207025 All preparation quality controls are within established criteria, except: The following note applies to Sodium: 430 Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte.
	06/25/2013:207096 All preparation quality controls are within established criteria, except: The following note applies to Sodium: 430 Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte.

Inorganic - Wet Chemistry QC

2540CE	06/21/2013:207027 All preparation quality controls are within established criteria.
300.0	06/20/2013:209000 All analysis quality controls are within established criteria.
	06/20/2013:206999 All preparation quality controls are within established criteria.
351.2	06/24/2013:207043 All preparation quality controls are within established criteria, except: The following note applies to Nitrogen, Total Kjeldahl: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
4500-H B	06/20/2013:206981 All preparation quality controls are within established criteria.
4500HB	06/20/2013:208984 All analysis quality controls are within established criteria.
4500NH3B	07/08/2013:207630 All preparation quality controls are within established criteria, except: The following note applies to Ammonia Nitrogen: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
4500NH3G	07/09/2013:209848 All analysis quality controls are within established criteria.

July 9, 2013 | Lab ID : CC 1382252
Cleath-Harris Geologists | Customer : 8-514

Inorganic - Wet Chemistry QC

EPA351.2	06/25/2013:209141 All analysis quality controls are within established criteria.

Certification:: I certify that this data package is in compliance with NELAC standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2013-07-09

July 9, 2013

Lab ID : CC 1382252-001
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 19, 2013-09:10
Sampled By : Bryce Pfeifle
Received On : June 19, 2013-14:15
Matrix : Ground Water

Description : 30S/10E-13H
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	ND	0.1	mg/L		3010	06/21/13:207025	200.7	06/25/13:209220
Sodium	14	1	mg/L		3010	06/21/13:207025	200.7	06/27/13:209302
Wet Chemistry[P:1]								
Chloride	14	1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Nitrate Nitrogen	2.2	0.1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/08/13:207630	4500NH3G	07/09/13:209848
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	07/08/13:207630	4500NH3G	07/09/13:209848
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
Nitrogen, Total as Nitrogen	2	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
Nitrate + Nitrite as N	2.2	0.1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
pH	6.7	--	units		4500-H B	06/20/13:206981	4500HB	06/20/13:208984
Solids, Total Dissolved (TDS)	110	20	mg/L		2540CE	06/21/13:207027	2540C	06/24/13:209083
Sulfate	20	2	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 9, 2013

Lab ID : CC 1382252-002
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 19, 2013-09:40
Sampled By : Bryce Pfeifle
Received On : June 19, 2013-14:15
Matrix : Ground Water

Description : 30S/11E-18J6
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	0.2	0.1	mg/L		3010	06/21/13:207025	200.7	06/27/13:209302
Sodium	57	1	mg/L		3010	06/21/13:207025	200.7	06/27/13:209302
Wet Chemistry[P:1]								
Chloride	63	1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Nitrate Nitrogen	3.6	0.1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/08/13:207630	4500NH3G	07/09/13:209848
Ammonia Nitrogen	2.9	0.2	mg/L		4500NH3B	07/08/13:207630	4500NH3G	07/09/13:209848
Kjeldahl Nitrogen	3	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
Nitrogen, Total as Nitrogen	7	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
Nitrate + Nitrite as N	3.6	0.1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Kjeldahl Nitrogen	3	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
pH	6.4	--	units		4500-H B	06/20/13:206981	4500HB	06/20/13:208984
Solids, Total Dissolved (TDS)	380	20	mg/L		2540CE	06/21/13:207027	2540C	06/24/13:209083
Sulfate	29	2	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 9, 2013

Lab ID : CC 1382252-003
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 19, 2013-10:25
Sampled By : Bryce Pfeifle
Received On : June 19, 2013-14:15
Matrix : Ground Water

Description : 30S/11E-8Ma
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	ND	0.1	mg/L		3010	06/21/13:207025	200.7	06/25/13:209220
Sodium	26	1	mg/L		3010	06/21/13:207025	200.7	06/27/13:209302
Wet Chemistry[P:1]								
Chloride	51	1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Nitrate Nitrogen	2.8	0.1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Nitrogen, Organic	1	1	mg/L		4500NH3B	07/08/13:207630	4500NH3G	07/09/13:209848
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	07/08/13:207630	4500NH3G	07/09/13:209848
Kjeldahl Nitrogen	1	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
Nitrogen, Total as Nitrogen	4	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
Nitrate + Nitrite as N	2.8	0.1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Kjeldahl Nitrogen	1	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
pH	7.1	--	units		4500-H B	06/20/13:206981	4500HB	06/20/13:208984
Solids, Total Dissolved (TDS)	190	20	mg/L		2540CE	06/21/13:207027	2540C	06/24/13:209083
Sulfate	12	2	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 9, 2013

Lab ID : CC 1382252-004
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 19, 2013-13:05
Sampled By : Bryce Pfeifle
Received On : June 19, 2013-14:15
Matrix : Ground Water

Description : 30S/11E-7Q1
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Total[P:1'5]								
Boron	0.3	0.1	mg/L		3010	06/25/13:207096	200.7	06/27/13:209344
Sodium	96	1	mg/L		3010	06/25/13:207096	200.7	06/27/13:209344
Wet Chemistry[P:1]								
Chloride	148	2*	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Nitrate Nitrogen	18.4	0.1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/08/13:207630	4500NH3G	07/09/13:209848
Ammonia Nitrogen	0.7	0.2	mg/L		4500NH3B	07/08/13:207630	4500NH3G	07/09/13:209848
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
Nitrogen, Total as Nitrogen	18	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
Nitrate + Nitrite as N	18.4	0.1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
pH	6.5	--	units		4500-H B	06/20/13:206981	4500HB	06/20/13:208984
Solids, Total Dissolved (TDS)	500	20	mg/L		2540CE	06/21/13:207027	2540C	06/24/13:209083
Sulfate	43	2	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 9, 2013

Lab ID : CC 1382252-005
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 19, 2013-13:35
Sampled By : Bryce Pfeifle
Received On : June 19, 2013-14:15
Matrix : Ground Water

Description : 30S/11E-7N1
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	ND	0.1	mg/L		3010	06/25/13:207096	200.7	06/25/13:209220
Sodium	22	1	mg/L		3010	06/25/13:207096	200.7	06/27/13:209344
Wet Chemistry[P:1]								
Chloride	34	1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Nitrate Nitrogen	5.2	0.1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/08/13:207630	4500NH3G	07/09/13:209848
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	07/08/13:207630	4500NH3G	07/09/13:209848
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
Nitrogen, Total as Nitrogen	5	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
Nitrate + Nitrite as N	5.2	0.1	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/24/13:207043	EPA351.2	06/25/13:209141
pH	7.1	--	units		4500-H B	06/20/13:206981	4500HB	06/20/13:208984
Solids, Total Dissolved (TDS)	190	20	mg/L		2540CE	06/21/13:207027	2540C	06/24/13:209083
Sulfate	9	2	mg/L		300.0	06/20/13:206999	300.0	06/20/13:209000

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 9, 2013 Lab ID : CC 1382252
Cleath-Harris Geologists Customer : 8-514

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Boron	200.7	06/25/13:209220AC	CCV	ppm	5.000	108 %	90-110	
			CCB	ppm		0.035	0.10	
			CCV	ppm	5.000	118 %	90-110	360
			CCB	ppm		0.040	0.10	
			CCV	ppm	5.000	106 %	90-110	
			CCB	ppm		0.039	0.10	
			CCV	ppm	5.000	104 %	90-110	
			CCB	ppm		0.034	0.10	
			CCV	ppm	5.000	107 %	90-110	
			CCB	ppm		0.046	0.10	
	200.7	06/27/13:209302AC	CCV	ppm	5.000	93.5 %	90-110	
			CCB	ppm		0.032	0.10	
			CCV	ppm	5.000	92.1 %	90-110	
			CCB	ppm		0.040	0.10	
	200.7	06/27/13:209344AC	CCV	ppm	5.000	95.6 %	90-110	
			CCB	ppm		0.011	0.10	
			CCV	ppm	5.000	96.6 %	90-110	
			CCB	ppm		0.029	0.10	
Sodium	200.7	06/27/13:209302AC	CCV	ppm	25.00	91.3 %	90-110	
			CCB	ppm		0.04	1.0	
			CCV	ppm	25.00	89.8 %	90-110	
			CCB	ppm		0.02	1.0	
	200.7	06/27/13:209344AC	CCV	ppm	25.00	93.7 %	90-110	
			CCB	ppm		0.09	1.0	
			CCV	ppm	25.00	94.8 %	90-110	
			CCB	ppm		0.09	1.0	
Boron	3010	06/21/13:207025amb	Blank	mg/L		ND	<0.1	
			LCS	mg/L	4.000	106 %	85-115	
			MS	mg/L	4.000	99.3 %	75-125	
		(CC 1382226-001)	MSD	mg/L	4.000	107 %	75-125	
			MSRPD	mg/L	0.7988	6.7%	≤20.0	
			PDS	mg/L	4.000	122 %	75-125	
	3010	06/25/13:207096amb	Blank	mg/L		ND	<0.1	
			LCS	mg/L	4.000	109 %	85-115	
			MS	mg/L	4.000	104 %	75-125	
		(CC 1382274-001)	MSD	mg/L	4.000	121 %	75-125	
			MSRPD	mg/L	0.7988	14.0%	≤20.0	
			PDS	mg/L	4.000	115 %	75-125	
Sodium	3010	06/21/13:207025amb	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	101 %	85-115	
			MS	mg/L	12.00	45.5 %	<¼	
		(CC 1382226-001)	MSD	mg/L	12.00	127 %	<¼	
			MSRPD	mg/L	0.7988	9.6%	≤20.0	
			PDS	mg/L	12.00	249 %	75-125	430
	3010	06/25/13:207096amb	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	104 %	85-115	
			MS	mg/L	12.00	-0.08 %	<¼	
		(CC 1382274-001)	MSD	mg/L	12.00	104 %	75-125	
			MSRPD	mg/L	0.7988	8.8%	≤20.0	
			PDS	mg/L	12.00	29.7 %	75-125	430
Wet Chem								
Solids, Total Dissolved	2540CE	06/21/13:207027CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	998.4	99.1 %	90-110	
		(CC 1382252-001)	Dup	mg/L		1.4%	10.0	
Chloride	300.0	06/20/13:206999CHL	LCS	mg/L	25.00	105 %	90-110	

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 9, 2013 Lab ID : CC 1382252
Cleath-Harris Geologists Customer : 8-514

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Chloride	300.0		MS	mg/L	500.0	107 %	94-113	
		(VI 1341880-001)	MSD	mg/L	500.0	107 %	94-113	
			MSRPD	mg/L	100.0	0.2%	≤3	
	300.0	06/20/13:209000CHL	CCB	ppm		0.46	1	
			CCV	ppm	25.00	107 %	90-110	
			CCB	ppm		0.46	1	
			CCV	ppm	25.00	104 %	90-110	
			CCB	ppm		0.44	1	
			CCV	ppm	25.00	105 %	90-110	
Nitrate	300.0	06/20/13:206999CHL	LCS	mg/L	20.00	102 %	90-110	
			MS	mg/L	400.0	104 %	93-113	
		(VI 1341880-001)	MSD	mg/L	400.0	105 %	93-113	
			MSRPD	mg/L	100.0	0.7%	≤4	
	300.0	06/20/13:209000CHL	CCB	ppm		0.108	0.4	
			CCV	ppm	20.00	103 %	90-110	
			CCB	ppm		0.115	0.4	
			CCV	ppm	20.00	100 %	90-110	
			CCB	ppm		0.130	0.4	
			CCV	ppm	20.00	103 %	90-110	
Nitrite	300.0	06/20/13:206999CHL	LCS	mg/L	15.00	108 %	90-110	
			MS	mg/L	300.0	104 %	87-115	
		(VI 1341880-001)	MSD	mg/L	300.0	102 %	87-115	
			MSRPD	mg/L	100.0	2.2%	≤9	
	300.0	06/20/13:209000CHL	CCB	ppm		-0.196	0.3	
			CCV	ppm	15.00	107 %	90-110	
			CCB	ppm		-0.150	0.3	
			CCV	ppm	15.00	106 %	90-110	
			CCB	ppm		-0.263	0.3	
			CCV	ppm	15.00	107 %	90-110	
Sulfate	300.0	06/20/13:206999CHL	LCS	mg/L	50.00	106 %	90-110	
			MS	mg/L	1000	109 %	92-113	
		(VI 1341880-001)	MSD	mg/L	1000	108 %	92-113	
			MSRPD	mg/L	100.0	1.0%	≤4	
	300.0	06/20/13:209000CHL	CCB	ppm		1.40	2	
			CCV	ppm	50.00	108 %	90-110	
			CCB	ppm		0.86	2	
			CCV	ppm	50.00	104 %	90-110	
			CCB	ppm		0.84	2	
			CCV	ppm	50.00	107 %	90-110	
Nitrogen, Total Kjeldahl	351.2	06/24/13:207043jmg	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	81.6 %	73-124	
			MS	mg/L	12.00	50.5 %	54-136	435
		(CC 1382245-001)	MSD	mg/L	12.00	40.6 %	54-136	435
			MSRPD	mg/L	12.00	21.7%	≤27	
pH	4500-H B	(VI 1341830-004)	Dup	units		0.0%	4.80	
	4500HB	06/20/13:208984AMM	CCV	units	8.000	98.9 %	95-105	
			CCV	units	8.000	101 %	95-105	
Ammonia Nitrogen	4500NH3B	07/08/13:207630CJJ	Blank	mg/L		ND	<0.2	
			LCS	mg/L	6.000	77.3 %	68-103	
			MS	mg/L	6.000	89.7 %	74-105	
		(STK1335933-001)	MSD	mg/L	6.000	99.8 %	74-105	
			MSRPD	mg/L	6.000	11.0%	≤7	435
	4500NH3G	07/09/13:209848AMB	ICB	mg/L		0.009	0.2	
			ICV	mg/L	2.000	109 %	90-110	

July 9, 2013 Lab ID : CC 1382252

Cleath-Harris Geologists Customer : 8-514

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Ammonia Nitrogen	4500NH3G	07/09/13:209848AMB	CCB	mg/L		0.088	0.2	
			CCV	mg/L	2.000	108 %	90-110	
Nitrogen, Total Kjeldahl	EPA351.2	06/25/13:209141AMB	ICV	mg/L	1.000	108 %	90-110	
			CCB	mg/L		-0.026	0.5	
			CCB	mg/L		0.027	0.5	
			CCV	mg/L	1.000	94.3 %	90-110	
			CCB	mg/L		0.160	0.5	
			CCV	mg/L	1.000	103 %	90-110	

Definition

PDS	: PDS failed, matrix - Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte.
ICV	: Initial Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
ICB	: Initial Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
CCV	: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
CCB	: Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
Blank	: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
LCS	: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
MS	: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSD	: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries are an indication of how that sample matrix affects analyte recovery.
Dup	: Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis.
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
ND	: Non-detect - Result was below the DQO listed for the analyte.
<¼	: High Sample Background - Spike concentration was less than one forth of the sample concentration.
DQO	: Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation

360	: CCV above Acceptance Range (AR). Samples which were non detect for this analyte were accepted.
430	: Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte.
435	: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

July 10, 2013

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Lab ID : CC 1382275
Customer : 8-514

Laboratory Report

Introduction: This report package contains total of 5 pages divided into 3 sections:

Case Narrative	(2 pages)	: An overview of the work performed at FGL.
Sample Results	(1 page)	: Results for each sample submitted.
Quality Control	(2 pages)	: Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID #	Matrix
30S/11E-18B1	06/20/2013	06/20/2013	CC 1382275-001	GW

Sampling and Receipt Information: The sample was received, prepared and analyzed within the method specified holding except those as listed in the table below. The holding time for pH is listed as immediate. Logistically this is very difficult to obtain. FGL policy is to analyze all samples requiring pH on the same day of receipt at the laboratory. If this presents any problem please call.

Lab ID	Analyte/Method	Required Holding Time	Actual Holding Time
CC 1382275-001	pH	15	6097.8 Minutes

All samples arrived on ice. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Inorganic - Metals QC

200.7	06/27/2013:209344 All analysis quality controls are within established criteria.
3010	06/25/2013:207096 All preparation quality controls are within established criteria, except: The following note applies to Sodium: 430 Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 10, 2013 | Lab ID : CC 1382275
Cleath-Harris Geologists | Customer : 8-514

Inorganic - Wet Chemistry QC

2540CE	06/25/2013:207119 All preparation quality controls are within established criteria.
300.0	06/21/2013:209325 All analysis quality controls are within established criteria.
	07/06/2013:209854 All analysis quality controls are within established criteria.
	06/21/2013:207239 All preparation quality controls are within established criteria.
	07/05/2013:207663 All preparation quality controls are within established criteria.
351.2	06/25/2013:207099 All preparation quality controls are within established criteria.
4500-H B	06/24/2013:207094 All preparation quality controls are within established criteria.
4500HB	06/24/2013:209135 All analysis quality controls are within established criteria.
4500NH3B	07/09/2013:207668 All preparation quality controls are within established criteria.
4500NH3G	07/10/2013:209902 All analysis quality controls are within established criteria.
EPA351.2	06/26/2013:209216 All analysis quality controls are within established criteria.

Certification:: I certify that this data package is in compliance with NELAC standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2013-07-10

July 10, 2013

Lab ID : CC 1382275-001
Customer ID : 8-514

Cleath-Harris Geologists
Attn: Spencer Harris
11545 Los Osos Valley Road, Cuite C-3
San Luis Obispo, CA 93405

Sampled On : June 20, 2013-12:05
Sampled By : Bryce Pfeifle
Received On : June 20, 2013-13:06
Matrix : Ground Water

Description : 30S/11E-18B1
Project : Baseline Groundwater Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[P:1'5]								
Boron	0.1	0.1	mg/L		3010	06/25/13:207096	200.7	06/27/13:209344
Sodium	61	1	mg/L		3010	06/25/13:207096	200.7	06/27/13:209344
Wet Chemistry[P:1]								
Chloride	133	2*	mg/L		300.0	07/05/13:207663	300.0	07/06/13:209854
Nitrate Nitrogen	11.7	0.1	mg/L		300.0	06/21/13:207239	300.0	06/21/13:209325
Nitrite Nitrogen	ND	0.1	mg/L		300.0	06/21/13:207239	300.0	06/21/13:209325
Nitrogen, Organic	ND	1	mg/L		4500NH3B	07/09/13:207668	4500NH3G	07/10/13:209902
Ammonia Nitrogen	ND	0.2	mg/L		4500NH3B	07/09/13:207668	4500NH3G	07/10/13:209902
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/25/13:207099	EPA351.2	06/26/13:209216
Nitrogen, Total as Nitrogen	12	1	mg/L		351.2	06/25/13:207099	EPA351.2	06/26/13:209216
Nitrate + Nitrite as N	11.7	0.1	mg/L		300.0	06/21/13:207239	300.0	06/21/13:209325
Kjeldahl Nitrogen	ND	1	mg/L		351.2	06/25/13:207099	EPA351.2	06/26/13:209216
pH	6.5	--	units		4500-H B	06/24/13:207094	4500HB	06/24/13:209135
Solids, Total Dissolved (TDS)	460	20	mg/L		2540CE	06/25/13:207119	2540C	06/26/13:209229
Sulfate	33	2	mg/L		300.0	06/21/13:207239	300.0	06/21/13:209325

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: H2SO4 pH < 2, HNO3 pH < 2 ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 10, 2013 Lab ID : CC 1382275
Cleath-Harris Geologists Customer : 8-514

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Boron	200.7	06/27/13:209344AC	CCV	ppm	5.000	97.3 %	90-110	
			CCB	ppm		0.021	0.10	
			CCV	ppm	5.000	95.6 %	90-110	
			CCB	ppm		0.011	0.10	
Sodium	200.7	06/27/13:209344AC	CCV	ppm	25.00	95.8 %	90-110	
			CCB	ppm		0.08	1.0	
			CCV	ppm	25.00	93.7 %	90-110	
			CCB	ppm		0.09	1.0	
Boron	3010	06/25/13:207096amb	Blank	mg/L		ND	<0.1	
			LCS	mg/L	4.000	109 %	85-115	
			MS	mg/L	4.000	104 %	75-125	
		(CC 1382274-001)	MSD	mg/L	4.000	121 %	75-125	
			MSRPD	mg/L	0.7988	14.0%	≤20.0	
			PDS	mg/L	4.000	115 %	75-125	
Sodium	3010	06/25/13:207096amb	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	104 %	85-115	
			MS	mg/L	12.00	-0.08 %	<¼	
		(CC 1382274-001)	MSD	mg/L	12.00	104 %	75-125	
			MSRPD	mg/L	0.7988	8.8%	≤20.0	
			PDS	mg/L	12.00	29.7 %	75-125	430
Wet Chem								
Solids, Total Dissolved	2540CE	06/25/13:207119CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	998.4	96.4 %	90-110	
		(STK1335947-001)	Dup	mg/L		0.9%	10.0	
Chloride	300.0	07/05/13:207663CHL	LCS	mg/L	25.00	107 %	90-110	
			MS	mg/L	500.0	109 %	94-113	
		(CH 1373927-001)	MSD	mg/L	500.0	112 %	94-113	
			MSRPD	mg/L	100.0	2.6%	≤3	
	300.0	07/06/13:209854CHL	CCB	ppm		0.63	1	
			CCV	ppm	25.00	109 %	90-110	
			CCB	ppm		0.47	1	
			CCV	ppm	25.00	109 %	90-110	
Nitrate	300.0	06/21/13:207239CHL	LCS	mg/L	20.00	103 %	90-110	
			MS	mg/L	400.0	104 %	93-113	
		(STK1336014-001)	MSD	mg/L	400.0	103 %	93-113	
			MSRPD	mg/L	100.0	1.0%	≤4	
	300.0	06/21/13:209325CHL	CCB	ppm		0.164	0.4	
			CCV	ppm	20.00	103 %	90-110	
			CCB	ppm		0.169	0.4	
			CCV	ppm	20.00	102 %	90-110	
Nitrite	300.0	06/21/13:207239CHL	LCS	mg/L	15.00	107 %	90-110	
			MS	mg/L	300.0	105 %	87-115	
		(STK1336014-001)	MSD	mg/L	300.0	105 %	87-115	
			MSRPD	mg/L	100.0	0.6%	≤9	
	300.0	06/21/13:209325CHL	CCB	ppm		-0.156	0.3	
			CCV	ppm	15.00	107 %	90-110	
			CCB	ppm		-0.203	0.3	
			CCV	ppm	15.00	108 %	90-110	
Sulfate	300.0	06/21/13:207239CHL	LCS	mg/L	50.00	109 %	90-110	
			MS	mg/L	1000	109 %	92-113	
		(STK1336014-001)	MSD	mg/L	1000	109 %	92-113	
			MSRPD	mg/L	100.0	0.3%	≤4	
	300.0	06/21/13:209325CHL	CCB	ppm		0.98	2	
			CCV	ppm	50.00	107 %	90-110	
			CCB	ppm		1.11	2	

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA NELAP Certification No. 01110CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

July 10, 2013 Lab ID : CC 1382275

Cleath-Harris Geologists Customer : 8-514

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Sulfate	300.0	06/21/13:209325CHL	CCV	ppm	50.00	106 %	90-110	
Nitrogen, Total Kjeldahl	351.2	06/25/13:207099jmg	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	86.9 %	73-124	
			MS	mg/L	12.00	80.0 %	54-136	
		(CC 1382275-001)	MSD	mg/L	12.00	68.0 %	54-136	
			MSRPD	mg/L	12.00	16.2%	≤27	
pH	4500-H B	(CC 1382275-001)	Dup	units		0.5%	4.80	
	4500HB	06/24/13:209135CJJ	CCV	units	8.000	99.2 %	95-105	
			CCV	units	8.000	99.8 %	95-105	
Ammonia Nitrogen	4500NH3B	07/09/13:207668CJJ	Blank	mg/L		ND	<0.2	
			LCS	mg/L	6.000	89.4 %	68-103	
			MS	mg/L	6.000	96.9 %	74-105	
		(STK1336069-015)	MSD	mg/L	6.000	93.5 %	74-105	
			MSRPD	mg/L	6.000	3.6%	≤7	
	4500NH3G	07/10/13:209902AMB	ICB	mg/L		0.007	0.2	
			ICV	mg/L	2.000	108 %	90-110	
			CCB	mg/L		-0.042	0.2	
			CCV	mg/L	2.000	109 %	90-110	
Nitrogen, Total Kjeldahl	EPA351.2	06/26/13:209216AMB	ICV	mg/L	1.000	98.3 %	90-110	
			CCB	mg/L		-0.231	0.5	
			CCB	mg/L		-0.229	0.5	
			CCV	mg/L	1.000	110 %	90-110	

Definition

PDS	: PDS failed, matrix - Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte.
ICV	: Initial Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
ICB	: Initial Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
CCV	: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
CCB	: Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
Blank	: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
LCS	: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
MS	: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSD	: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries are an indication of how that sample matrix affects analyte recovery.
Dup	: Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis.
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
ND	: Non-detect - Result was below the DQO listed for the analyte.
<¼	: High Sample Background - Spike concentration was less than one forth of the sample concentration.
DQO	: Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation

430	: Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte.