JH

USDA United States Department of Agriculture | Forest Service | Plumas National Forest

159 Lawrence Street
Quincy, CA 95971-6025
(530) 283-2050 Voice
(530) 534-7984 Text (TDD)

File Code: 2540
Date: January 7, 2014

Mr. Steve Rosenbaum
California Regional Water Quality Control
Board Central Valley Region
11020 Sun Center Drive
Suite 200

Dear Mr. Rosenbaum:

Attached please find the complete 2013 water quality monitoring report by the U.S. Department of Agriculture, Forest Service, Plumas National Forest, for the Walker Mine Tailings in Plumas County, California. The report includes data from quarterly monitoring from June, July, and October, 2013.

All field sampling and testing was performed by Sierra Environmental of Quincy, CA and water samples were then analyzed by Fruit Growers Laboratories in Chico, CA.

Please contact Ryan Nupen of this office at (530) 283-7712 if you have any questions.

Sincerely,

EARL W. FORD
Forest Supervisor

cc: Dennis J Geiser, Gail Bakker

RECEIVED
SACRAMENTO
CVRWQCB
14 JAN 10 PM 1:49

ANNUAL WATER QUALITY MONITORING REPORT

WALKER MINE TAILINGS
PLUMAS COUNTY, CALIFORNIA

DECEMBER, 2013

Prepared for:

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

11020 Sun Center Drive, #200
Rancho Cordova, CA 95670

Prepared by:

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

PLUMAS NATIONAL FOREST

159 Lawrence Street
Quincy, CA 95971

TABLE OF CONTENTS

Section **Page**

1.0 INTRODUCTION 1

2.0 WATER QUALITY MONITORING FIELD ACTIVITIES 2

2.1 Surface and Ground Water Sampling 2

3.0 WATER QUALITY MONITORING RESULTS 3

3.1 Groundwater Elevation Monitoring 3

3.2 Groundwater Analytical Results 3

3.3 Surface Water Analytical Results 3

3.4 Stream Gaging Results 4

4.0 SUMMARY 5

FIGURES

Figure 1 Site Location Map
Figure 2 Site Layout Map
Figure 3 Copper Concentration Trends in Little Grizzly Creek – 1991 to 2013
Figure 4 Copper Concentration Trends in Little Grizzly Creek – 2007 to 2013
Figure 5 Copper Concentration Trends in Dolly Creek – 1991 to 2013
Figure 6 Copper Concentration Trends in Dolly Creek – 2007 to 2013
Figure 7 Groundwater Contours at Walker Mine Tailings Site
Figure 8 Groundwater Elevations at Walker Mine Tailings Site – 1991 to 2013
Figure 9 Copper Concentration Trends in Groundwater at Walker Mine Tailings Site– 1991 to 2013

TABLES

Table 1 Metals Concentrations in Surface Water at Walker Mine Tailings Site
Table 2 Groundwater Depths and Elevations at Walker Mine Tailings Site
Table 3 Metals Concentrations in Groundwater at Walker Mine Tailings

APPENDICES

Appendix A Field Sheets
Appendix B Laboratory Data Packages

1.0 INTRODUCTION

This report documents surface and groundwater quality monitoring being conducted by the USDA Forest Service at the Walker Mine Tailings Site (Site). The Site is located approximately three quarters of a mile southwest of Walker Mine at the confluence of Dolly Creek (DC) and Little Grizzly Creek (LGC), Plumas County, California (Figure 1).

The Walker Mine, located on private land, is the source of the tailings material disposed of on National Forest System lands at the Site. The Walker Mine produced significant quantities of copper and minor amounts of gold and silver during its operation between 1915 and 1941. A mill located at the mine, produced tailings as a slurry which flowed by gravity to the Site.

The Walker Mine and the mine tailings sites have long histories of heavy metals impacts to DC and LGC. In 1987, the California Regional Water Quality Control Board, Central Valley Region (CVRWQCB) installed a concrete seal in the mine portal to reduce discharge of acid mine drainage and heavy metals into DC. The seal has been effective in reducing, but not eliminating heavy metal discharge from the mine.

DC flows across the tailings and into LGC. Prior to the concrete seal installation at Walker Mine, discharge from the mine and the Site resulted in significant impacts to aquatic organisms in LGC for approximately seven miles downstream of the Site. The concrete seal reduced these impacts to a reach of approximately one mile downstream of the Site. During 2007, the Forest Service constructed a diversion structure and a lined diversion channel to carry DC flow across the tailings in a lined channel. In 2009, the diversion was modified to capture more subsurface flow.

Since 1991, the Forest Service has been conducting surface and groundwater monitoring at the Site at six surface water locations (R-1 through R-6) and at seven groundwater well locations (W-1 through W-7). In 2007, well W-1 was destroyed during lined channel construction and was replaced by well W-1A in 2008. In 2013, four additional surface water monitoring locations were added to the monitoring program (R-7 through R-10). Surface and groundwater monitoring locations are shown on Figure 2.

This report documents field activities and results of laboratory analyses performed on samples collected during the 2013 water quality monitoring events. The monitoring events included monitoring groundwater levels in all the Site wells and collecting stream flow measurements at all flowing surface sample locations. Groundwater and surface water samples were collected and submitted for laboratory analysis.

2.0 WATER QUALITY MONITORING FIELD ACTIVITIES

2.1 Surface and Ground Water Sampling

Stream flow rates and surface water grab samples were collected from all flowing surface water sample locations, R-1 to R-10. R-6 is overflow from the on-site pond and rarely flows, and R-2 and R-10 typically flow only during the May/June sampling event. Surface water samples were collected using bottles supplied by the analytical laboratory and according to the protocols described in the Field Sampling Plan.

Surface water samples are collected three times annually, in May or June when the Site becomes accessible after snowmelt, in July or August, and in September or October before the Site is blocked by snow. Surface water samples were collected on June 2nd and 3rd, July 23rd, and September 11th of 2013.

Depths to water and groundwater samples were collected from all on-site wells, W-1A to W-7. Well W-1 was destroyed during lined channel construction in 2007 and Well W-1A was installed to replace it in 2008. Well W-1A has not been surveyed so groundwater elevations are not calculated for this well. Wells were purged and samples collected according to the protocols described in the Field Sampling Plan.

Groundwater samples are collected twice annually in May or June when groundwater elevations are higher and in September or October when they are low. Groundwater samples were collected on June 2nd and September 11th of 2013.

Field data was recorded for each sample location and is provided in Appendix A. Surface and groundwater samples were labeled, placed in a cooler with ice, and shipped to Fruit Growers Laboratory, a California-certified laboratory located in Chico, California, for analysis. A chain-of-custody record accompanied all sample shipments and is included with the laboratory data packages in Appendix B. Duplicate samples were collected for quality assurance purposes. The duplicate samples were analyzed for the same constituents as the regular samples.

Surface and groundwater samples were tested in the field using field meters for the following:

- pH
- Temperature
- Specific conductance
- Turbidity

Surface and groundwater samples were analyzed at the laboratory for the following constituents:

- Hardness (as $CaCO_3$) using test method EPA 130.2
- Alkalinity (as $CaCO_3$) using test method SM2320 B
- Sulfate using test method EPA 300.0
- Dissolved copper using test method EPA 6010 B
- Dissolved iron using test method EPA 6010 B
- Dissolved zinc using test method EPA 6010 B

3.0 WATER QUALITY MONITORING RESULTS

The following sections present field data and results of laboratory analyses performed on surface water and groundwater samples collected during the 2013 water monitoring events at the Site. Table 1 lists copper, iron, and zinc concentrations in surface water from 1991 through 2013. Figures 3 and 4 illustrate trends in copper concentrations in LGC for 1991 through 2013 and for 2007 through 2013, respectively. Figures 5 and 6 illustrate copper concentrations in DC for 1991 through 2013 and 2007 through 2013, respectively.

Table 2 lists depth to groundwater and groundwater surface elevations and Figure 7 shows groundwater surface contours. Table 3 lists copper, iron, and zinc concentrations in groundwater. Figure 8 shows groundwater elevations from 1991 through 2013 and Figure 9 shows trends in copper concentrations in groundwater from 1991 through 2013.

3.1 Groundwater Elevation Monitoring

Table 2 presents the depth-to-water measurements and resulting groundwater elevations in feet above mean sea level recorded from 1993 through 2013. The depth-to-groundwater measured in Site wells ranged from 0.44 feet to 24.17 feet below top of casing.

Groundwater flow in the tailings is generally from the eastern and northern slopes toward the former DC channel and LGC as shown on Figure 7. This is consistent with previous data.

3.2 Groundwater Analytical Results

The results of laboratory analyses performed on groundwater samples collected during the 2013 sampling event are summarized in Table 3. The data was used to prepare charts of copper concentrations over time in groundwater. Complete laboratory reports and data packages are provided in Appendix B.

Results for copper, iron and zinc in groundwater are within historical levels and concentrations for copper and zinc have remained below water quality goals since 2010. Iron has exceeded its water quality goal in well W-5 since 2007.

3.3 Surface Water Analytical Results

The results of laboratory analyses performed on surface water samples collected during the 2013 sampling events are summarized in Table 1. The data was used to prepare charts of copper concentrations over time in DC and LGC. Complete laboratory reports and data packages are provided in Appendix B.

Results indicate that drainage from the Walker Mine to DC consistently contains copper concentrations higher than the water quality goal of 5.0 μg/L at the Forest boundary (R-1). In 2013, copper concentrations in the lined diversion channel for DC are similar to but often higher than concentrations at the Forest boundary. The former DC channel, which discharges to LGC during spring and early summer, generally contains copper concentrations that are higher than those in the mine discharge.

Since the installation of the diversion and lined DC channel in 2007, average copper concentrations at the compliance point in LGC have dropped by an order of magnitude and the percentage of samples that exceed the water quality goal for copper dropped by 60 percent. However, due to the input of mine drainage, copper concentrations at the LGC compliance location were at or just above the water quality goal during 2013.

Copper concentrations at Compliance point R-5 exceeded the water quality goal in both June and October. Copper concentrations at R-1, between Walker Mine and the tailings area exceeded water quality goals during each of the three sampling events.

Copper concentration in W-3, W-5 and W-7 were all within the water quality goals in both the June and October sampling events.

3.4 Stream Gaging Results

Stream flow rates were measured at all flowing surface water sample locations and recorded on field sheets. Stream flow rates were within historical ranges for each location. The following locations do not have constant flow:

- Location R-2 at the outlet of the former DC channel typically flows only during spring and early summer.
- Location R-6 at the pond discharge rarely flows.
- New Location R-10 in the lower third of the former DC channel flows only during spring and early summer.

4.0 SUMMARY

The following observations in surface water characteristics are noted:

- Drainage from Walker Mine into DC generally contains copper concentrations greater than 5.0 μg/L and is contributing to water quality impacts in LGC.

- Installation of the lined DC channel and diversion structure has improved water quality in DC and LGC but has not completely eliminated copper exceedences at compliance point R-5 in LGC due to mine drainage.

- Newly established monitoring location results in the lined DC channel show that copper and zinc generally increase and iron decreases from the upstream end to the downstream end. Differences in metals concentrations may be due to inherent variability in stream samples or that water in the lined channel is being impacted by blowing dust. Additional monitoring data is needed to determine if trends are actually present

- Although iron commonly occurs in both streams, early summer flow through the former DC channel contains the highest concentrations of all metals and impacts LGC when DC discharges at the sediment dam.

- Copper is present in the upstream monitoring location in LGC (R-3), occasionally at concentrations greater than 5.0 μg/L. The reason for this is unknown.

The following observations of groundwater are noted:

- Groundwater generally flows from the slopes east and north of the tailings toward LGC and the former DC channel.

- Metals concentrations in groundwater are low and rarely exceed water quality goals.

FIGURES

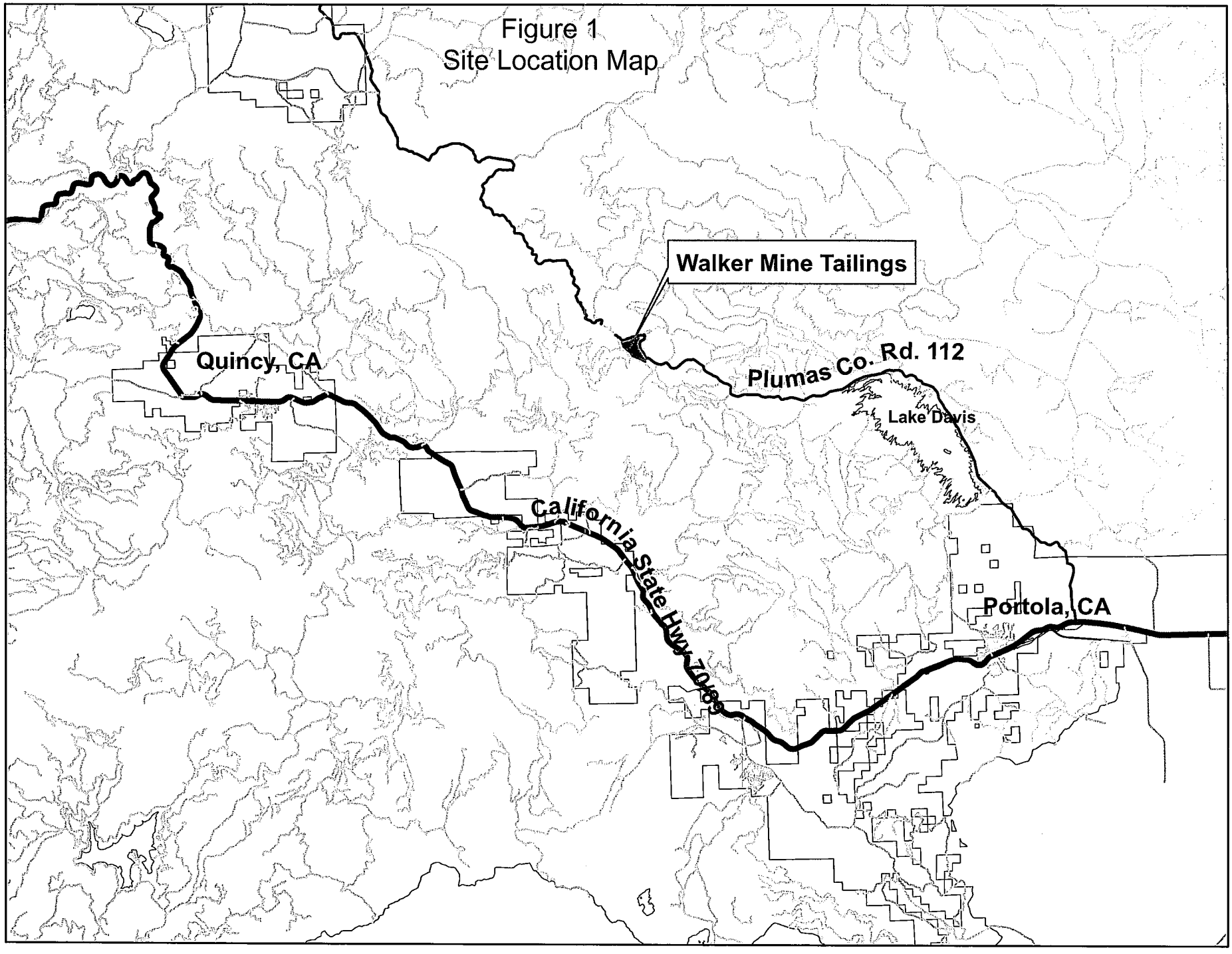
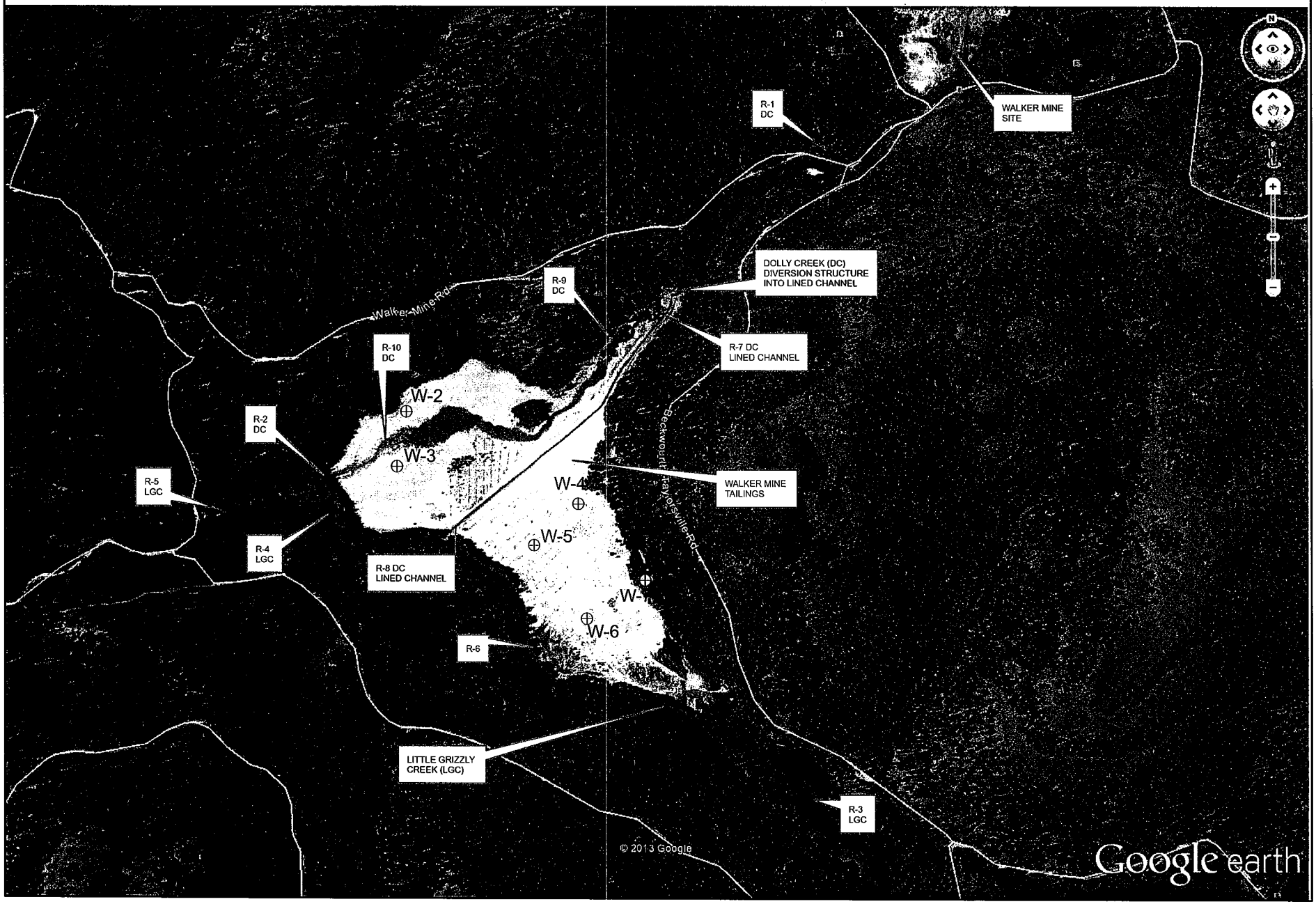


Figure 1
Site Location Map

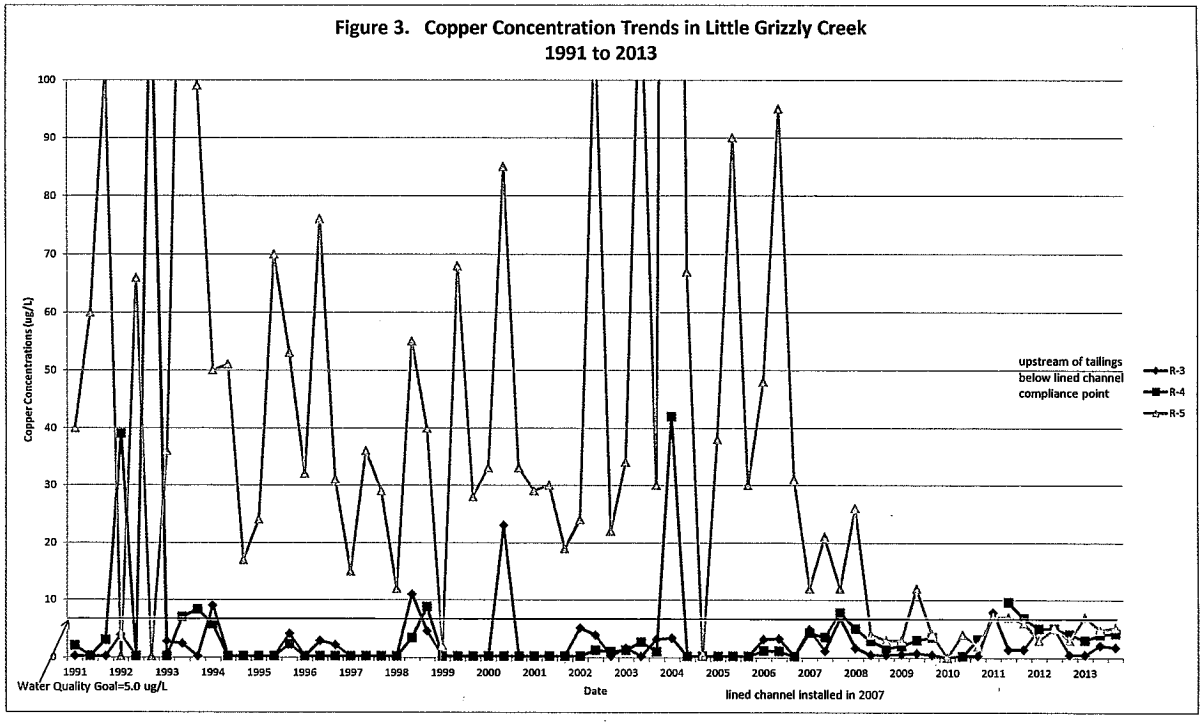
FIGURE 2
WALKER MINE TAILINGS
SITE LAYOUT MAP



Walker Mine
Copper Concentration Trends in Little Grizzly Creek

Water quality goal at station R-5 = 5.0 ug/L

		Little Grizzly Creek		
Month	Year	R-3 (ug/L)	R-4 (ug/L)	R-5 (ug/L)
May/June	1991	0.25	2.0	40
July		0.25	0.25	60
September		0.25	3.0	102
May/June	1992	3.9	39	0.25
July		0.25	0.3	66
September		120	120	0.25
May/June	1993	2.8	0.25	36
July		2.4	7.0	140
September		0.25	8.3	99
May/June	1994	9	5.7	50
July		0.25	0.25	51
September		0.25	0.25	17
May/June	1995	0.25	0.25	24
July		0.25	0.25	70
September		4.1	2.3	53
May/June	1996	0.25	0.25	32
July		2.9	0.25	76
September		2.2	0.25	31
May/June	1997	0.25	0.25	15
July		0.25	0.25	36
September		0.25	0.25	29
May/June	1998	0.25	0.25	12
July		11	3.4	55
September		4.6	8.8	40
May/June	1999	0.25	0.25	2
July		0.25	0.25	68
September		0.25	0.25	28
May/June	2000	0.25	0.25	33
July		23	0.25	85
September		0.25	0.25	33
May/June	2001	0.25	0.25	29
July		0.25	0.25	30
September		0.25	0.25	19
May/June	2002	5.1	0.25	24
July		3.9	1.3	110
September		0.25	1.0	22
May/June	2003	1.7	1.3	34
July		0.25	2.7	120
September		3.2	1.0	30
May/June	2004	3.4	42	380
July		0.25	0.25	67
September		0.25	0.25	0.25
May/June	2005	0.25	0.25	38
July		0.25	0.25	90
September		0.25	0.25	30
May/June	2006	3.2	1.2	48
July		3.3	1.1	95
September		0.25	0.25	31
May/June	2007	4.9	4.3	12
July		1.2	3.5	21
September		6.9	7.8	12
May/June	2008	1.7	5	26
July		0.5	2.9	4
September		0.5	1.6	3
May/June	2009	0.6	2	3
July		0.8	3	12
September		0.5	3.5	4
May/June	2010	0.025		0
July		0.34	0.25	4
September		0.34	3.1	2
May/June	2011	7.9		7
July		1.48	9.6	7
September		1.44	6.8	6
May/June	2012	5	5	3
July		5	5	5
September		1	4	3
May/June	2013	0.5	3	7
July		2.11	3.97	4.73
September		1.8	4.2	5.2

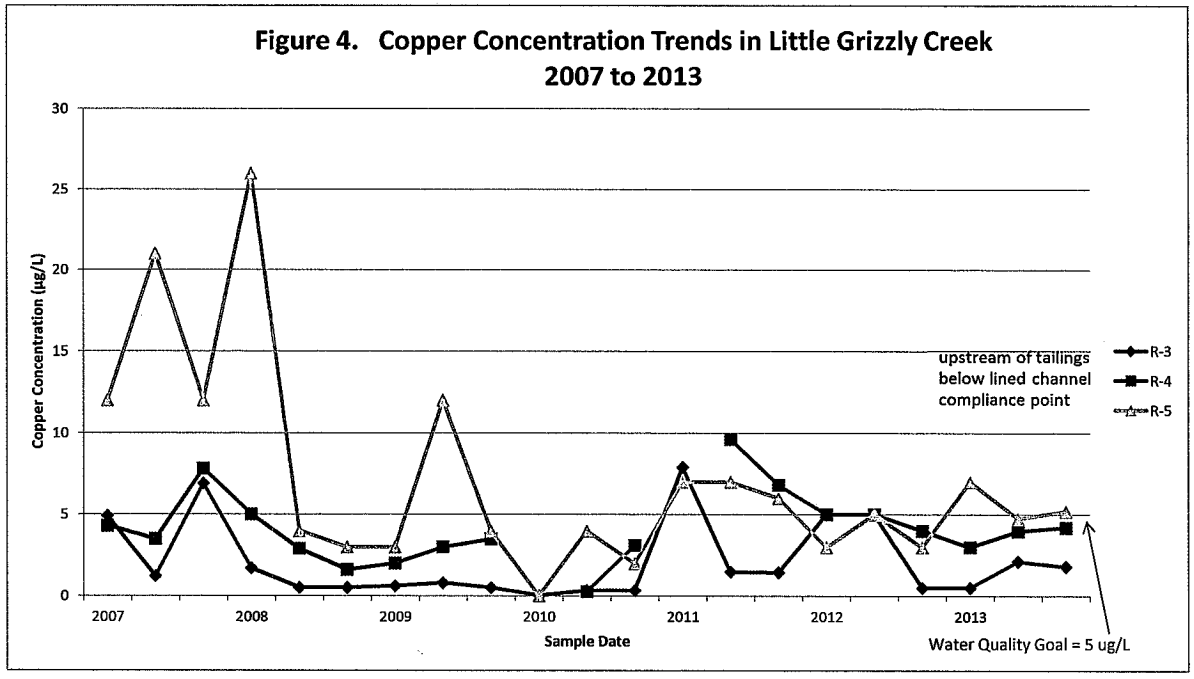


R-1 (Dolly Crk. between Walker Mine and tailings area.)
R-2 (Confluence of Dolly and Grizzly Crks. below tailings.)
R-3 (Grizzly Crk. upstream of tailings.)
R-4 (Grizzly Crk. upstream of confluence w/Dolly Crk.)
R-5 (Compliance point in Grizzly Crk. approx. 800 ft. below confluence w/Dolly Crk.)
R-6 (Grizzly Crk. between sampling points R-3 and R-4.)
Results in red are above Board Order limitation of 5 ug/L.

Walker Mine Copper Concentrations in Dolly and Grizzly Creeks
Water quality goal at station R-5 = 5.0 ug/L

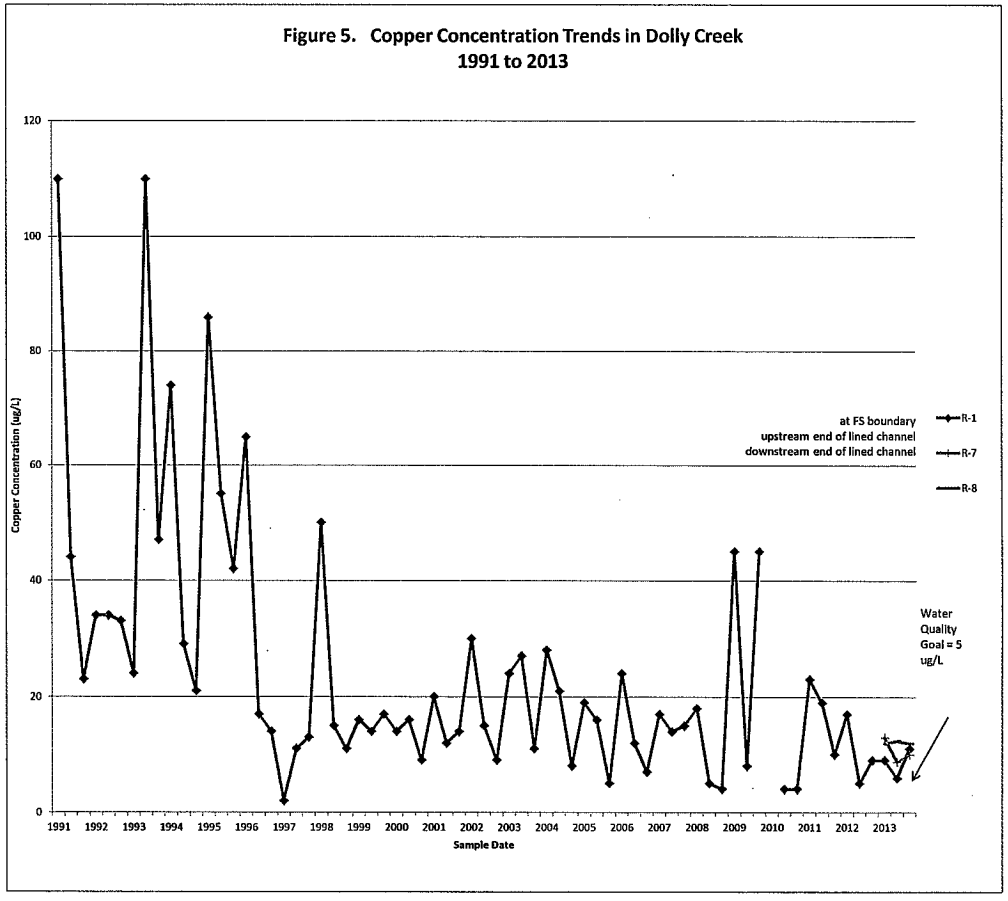
R-1 (Dolly Crk. between Walker Mine and tailings area.)
R-2 (Confluence of Dolly and Grizzly Crks. below tailings.)
R-3 (Grizzly Crk. upstream of tailings.)
R-4 (Grizzly Crk. upstream of confluence w/Dolly Crk.)
R-5 (Compliance point in Grizzly Crk. approx. 800 ft. below confluence w/Dolly Crk.)
R-6 (Grizzly Crk. between sampling points R-3 and R-4.)
Results in red are above Board Order limitation of 5 ug/L.

		Little Grizzly Creek		
Month	Year	R-3 (ug/L)	R-4 (ug/L)	R-5 (ug/L)
May/June	2007	4.9	4.3	12
July		1.2	3.5	21
September		6.9	7.8	12
May/June	2008	1.7	5	26
July		0.5	2.9	4
September		0.5	1.6	3
May/June	2009	0.6	2	3
July		0.8	3	12
September		0.5	3.5	4
May/June	2010	0.025		0
July		0.34	0.25	4
September		0.34	3.1	2
May/June	2011	7.9		7
July		1.48	9.6	7
September		1.44	6.8	6
May/June	2012	5	5	3
July		5	5	5
September		1	4	3
May/June	2013	0.5	3	7
July		2.11	3.97	4.73
September		1.8	4.2	5.2



Walker Mine Tailings Copper Concentrations
Water quality goal at station R-5 = 5.4 µg/L
Results in red are above Board Order limitation of 5 µg/L.
See Figure 2 for surface water sample locations.

Month	Year	Dolly Ck. between mine & Tailings R-1 (µg/L)	Former Dolly Ck. tailings outflow R-2 (µg/L)	Grizzly Ck. upstream of tailings R-3 (µg/L)	Grizzly Ck. confluence w/former Dolly Ck. Channel R-4 (µg/L)	Grizzly Ck. compliance location R-5 (µg/L)	Grizzly Ck. pond overflow location R-6 (µg/L)	Sampling of these locations commenced in 2013. Upstream end lined channel R-7 (µg/L)	Downstream end lined channel R-8 (µg/L)	Upper reach former Dolly Ck. channel R-9 (µg/L)	Lower reach former Dolly Ck. channel R-10 (µg/L)
May/June	1991	110	572	0.25	2	40					
July		44	256	0.25	0.25	60					
September		23	362	0.25	3	102					
May/June	1992	34	250	3.9	39	3					
July		34	360	0.25	0.25	66					
September		33	240	120	120	3					
May/June	1993	24	370	2.8	0.25	36					
July		110	450	2.4	7	140					
September		47	230	0.25	8.3	99					
May/June	1994	74	500	9	5.7	50					
July		29	210	0.25	0.25	51					
September		21	88	0.25	0.25	17					
May/June	1995	86	190	0.25	0.25	24					
July		55	220	0.25	0.25	70					
September		42	100	4.1	0.25	53					
May/June	1996	65	150	0.25	0.25	32					
July		17	180	2.9	0.25	76					
September		14	66	2.2	0.25	31					
May/June	1997	2	92	0.25	0.25	15					
July		11	82	0.25	0.25	36					
September		13	60	0.25	0.25	29					
May/June	1998	50	150	0.25	0.25	12					
July		15	180	11	3.4	55					
September		11	80	4.6	1.5	40					
May/June	1999	16	17	0.25	0.25	2					
July		14	180	0.25	0.25	68					
September		17	71	0.25	0.25	28					
May/June	2000	14	310	0.25	0.25	33					
July		16	220	23	0.25	85					
September		9	96	0.25	0.25	33					
May/June	2001	20	270	0.25	0.25	29					
July		12	130	0.25	0.25	30					
September		14	42	0.25	0.25	19					
May/June	2002	30	450	5.1	0.25	24					
July		15	310	3.9	1.3	110					
September		9	92	0.25	3.7	22					
May/June	2003	24	97	1.7	1.3	34					
July		27	320	0.25	2.7	120					
September		11	100	3.2	1	30					
May/June	2004	28	3	3.4	42	380					
July		21	220	0.25	0.25	67					
September		8	52	0.25	0.25	3					
May/June	2005	19	260	0.25	0.25	38					
July		16	290	0.25	0.25	90					
September		5	100	0.25	0.25	30					
May/June	2006	24	240	3.2	1.2	48					
July		12	230	3.3	1.1	95					
September		7	78	0.25	0.25	31					
May/June	2007	17	76	4.9	4.3	12					
July		14	59	1.2	3.5	21					
September		15	34	6.9	7.8	12					
May/June	2008	18	42	1.7	5	26					
July		5	14	0.5	2.9	4					
September		4	10	0.5	1.6	3					
May/June	2009	45	103	0.6	2	3					
July		8	83	0.8	3	12					
September		45		3.3	3.5	4					
May/June	2010					0					
July		4		0.25	0.25	4					
September		4	103	3.4	3.1	2					
May/June	2011	23	128			7					
July		19	95	7.9	9.6	7					
September		10		1.5	6.8	6					
May/June	2012	17	37	5	5	3					
July		5		5	5	5					
September		9		1	4	3					
May/June	2013	9	53	0.5	3	7		13	12	25	31
July		5.98		2.11	3.97	4.73		8.73	12.4	16.8	
September		11		1.8	4.2	5.2		10	12	14	



Dolly Creek channel lined during summer 2007.

Walker Mine Tailings Copper Concentration Trends
Water quality goal at station R-5 = 5 µg/L
Results in red are above Board Order limitation of 5µg/L.

R-1 (Dolly Crk. between Walker Mine and tailings area.)
R-2 (Confluence of Dolly and Grizzly Crks. below tailings.)
R-3 (Grizzly Crk. upstream of tailings.)
R-4 (Grizzly Crk. upstream of confluence w/Dolly Crk.)
R-5 (Compliance point in Grizzly Crk. approx. 800 ft. below confluence w/Dolly Crk.)
R-6 (Grizzly Crk. between sampling points R-3 and R-4.)
R-7 (Upstream end of lined Dolly Crk. Channel.)
R-8 (Downstream end of lined Dolly Crk. Channel.)
R-9 (Upper reach of former Dolly Crk. Channel.)
R-10 (Lower reach of former Dolly Crk. Channel.)

Month	Year	R-1 (ug/L)	R-7 (µg/L)	R-8 (µg/L)
May/June	2007	17		
July		14		
September		15		
May/June	2008	18		
July		5		
September		4		
May/June	2009	45		
July		8		
September		45		
May/June	2010			
July		4		
September		4		
May/June	2011	23		
July		19		
September		10		
May/June	2012	17		
July		5		
September		9		
May/June	2013	9	13	12
July		5.98	8.73	12.4
September		11.1	10	12.0

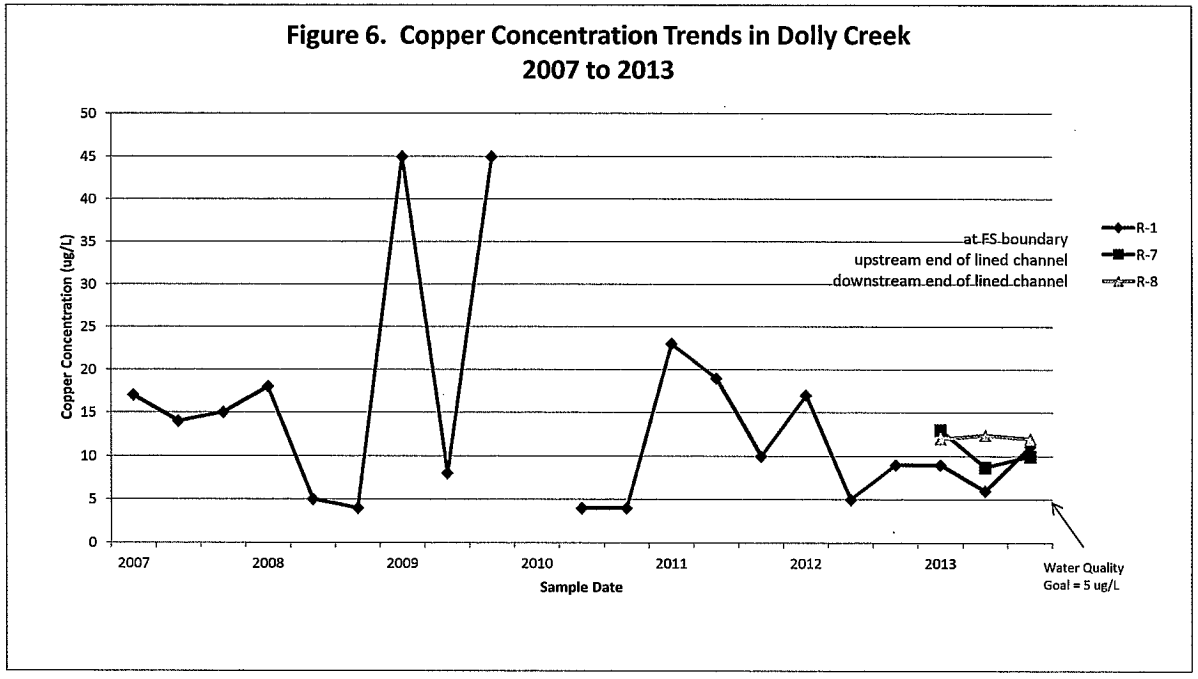


Figure 7
Groundwater Contours at Walker Mine Tailings Site
September, 2013 Groundwater Elevation and
Elevation Isopleths

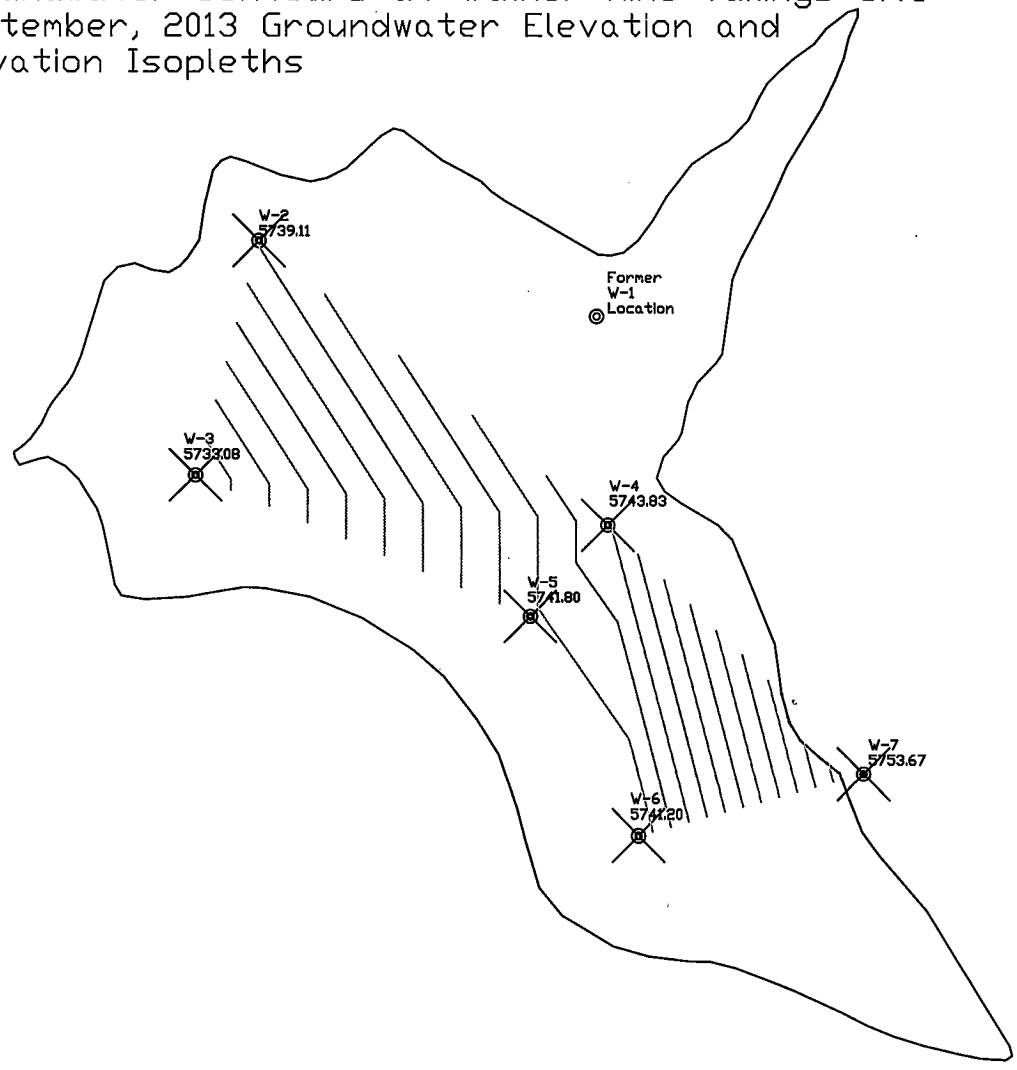
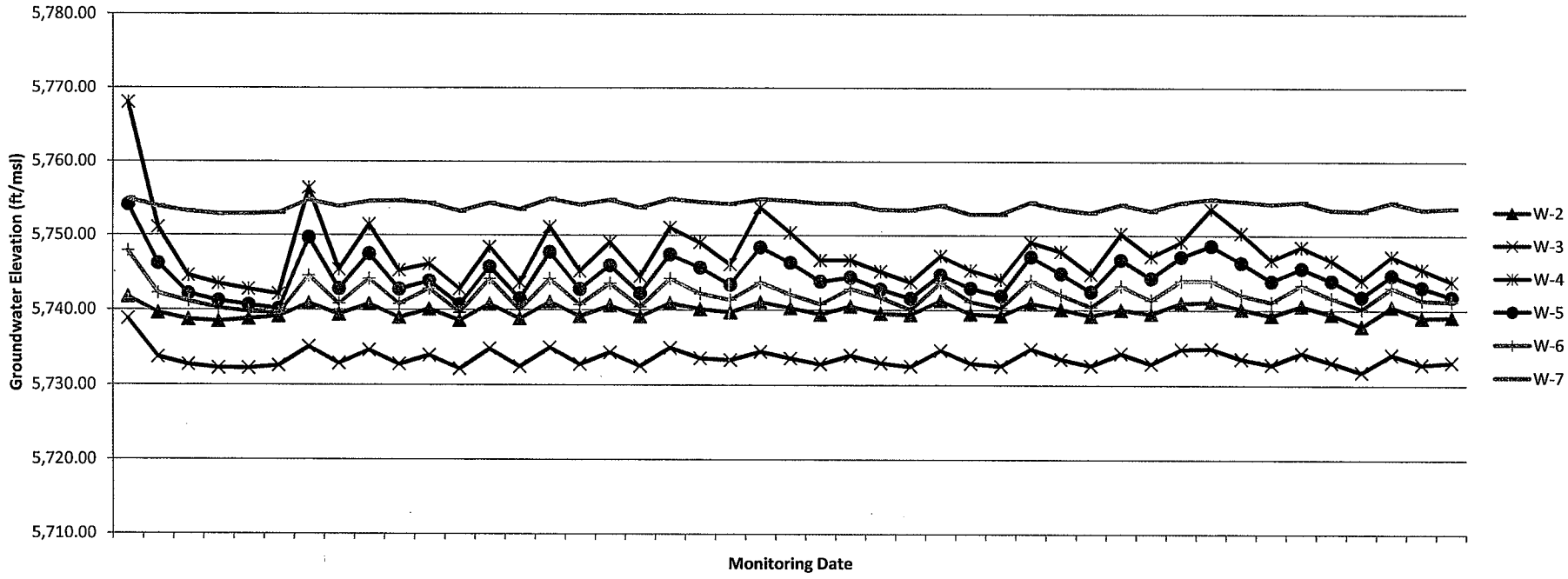


Figure 8. Groundwater Elevations at Walker Mine Tailings Site 1993 to 2013



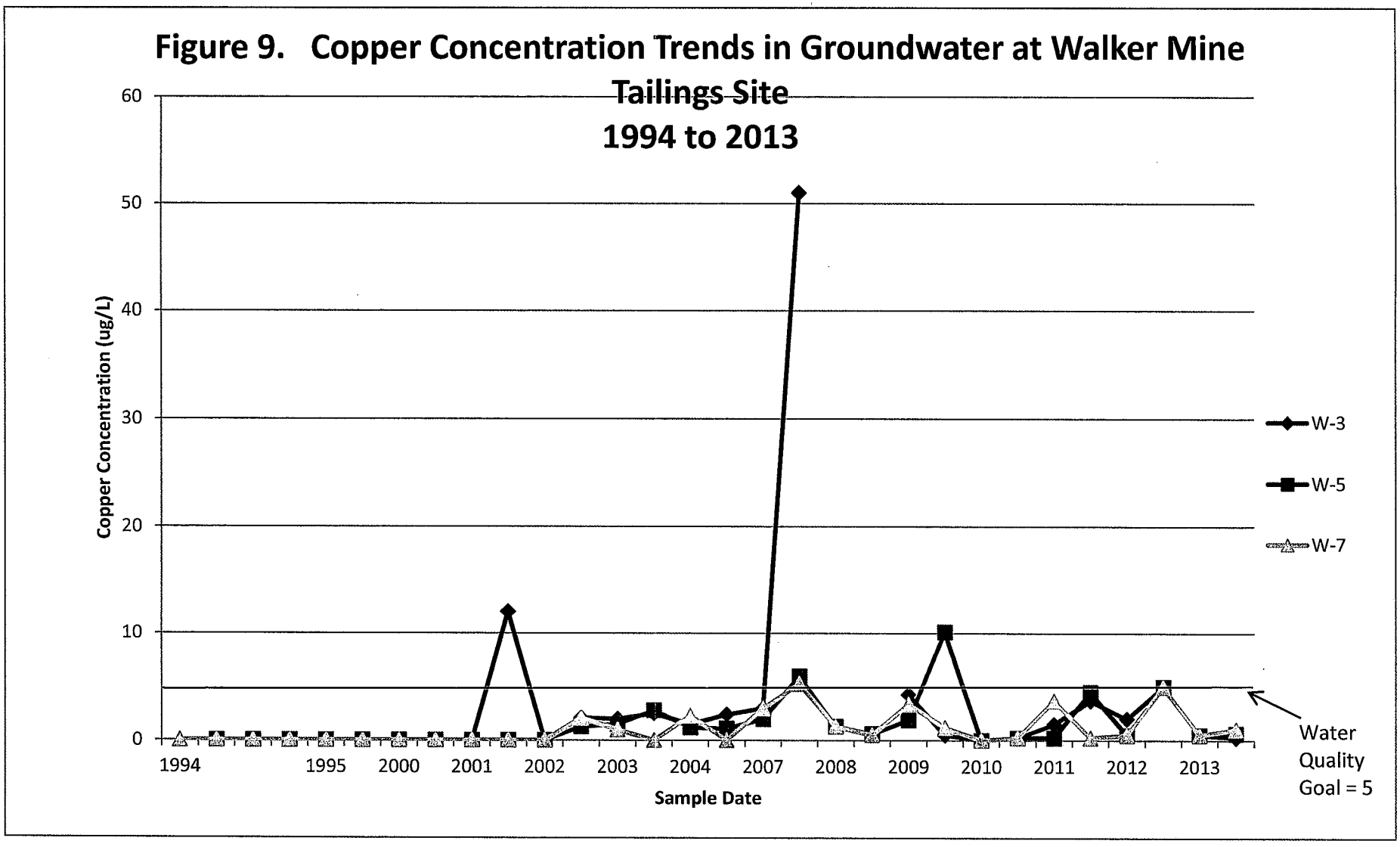


Figure 9. Copper Concentration Trends in Groundwater at Walker Mine Tailings Site
1994 to 2013
Copper Concentration (ug/L)
60
50
40
30
20
10
0
1994
1995
2000
2001
2002
2003
2004
2007
2008
2009
2010
2011
2012
2013
Sample Date
W-3
W-5
W-7
Water Quality Goal = 5

TABLES

Table 1. Metals Concentrations in Surface Water at Walker Mine Tailings Site

		R-1 (µg/L)			R-2 (µg/L)			R-3 (µg/L)			R-4 (µg/L)			R-5 (µg/L)			R-7 (µg/L)			R-8 (µg/L)			R-9 (µg/L)			R-10 (µg/L)		
Month	Year	Cu	Zn	Fe	Cu	Zn	Fe	Cu	Zn	Fe	Cu	Zn	Fe	Cu	Zn	Fe	Cu	Zn	Fe	Cu	Zn	Fe	Cu	Zn	Fe	Cu	Zn	Fe
May/June	1991	110	13	123	572			0.25	12	140	2	12	263	69	12	235												
July/Aug		44			256			0.25	9	240	0.25	10	829	123	11	401												
September/October		23			362			0.25	29	240	3	28	514	1020	30	452												
May/June	1992	34			250			3.9	8.4	210	39	4.5	680	73	6	400												
July/Aug		34			360			0.25	55	280	0.25		750	66	15	550												
September/October		33			240			120	28	250	120	61	400	42	17	330												
May/June	1993	24			370			2.8	7.6	110	0.25	2.6	110	63	7	210												
July/Aug		110			450			2.4	5.3	200	7	6.9	410	140	8	520												
September/October		47			230			0.25	6.1	930	8.3	12	490	99	10	630												
May/June	1994	74			500			9	25.6	280	5.7		540	67	0.025	460												
July/Aug		29			210			0.25		410	0.25		1400	51	0.025	1000												
September/October		21			88			0.25		360	0.25		510	17	0.025	460												
May/June	1995	86			190			0.25			0.25		100	24	0.025	110												
July/Aug		55			220			0.25		240	0.25		510	72	3	720												
September/October		42			100			4.1	160	160	0.25	38	510	130	30	930												
May/June	1996	65			150			0.25		120	0.25		190	32	0.025	210												
July/Aug		17			180			2.9	2.8	180	0.25	5.1	490	78	12	630												
September/October		14			66			2.2	5.3	180	0.25		400	31	4	590												
May/June	1997	2			92			0.25	21	100	0.25		200	31	0.025	330												
July/Aug		11			82			0.25	8.7	200	0.25		390	36	0.025	510												
September/October		13			60			0.25		210	0.25		430	29	7	590												
May/June	1998	50			150			0.25		48	0.25		49	12	6	72												
July/Aug		15			180			11	7.9	200	3.4	7	270	55	38	360												
September/October		11			80			4.6	1.9	300	1.5		380	40	0.025	500												
May/June	1999	16			17			0.25		52	0.25		69	2	0.025	130												
July/Aug		14			180			0.25		200	0.25		460	68	0.025	630												
September/October		17			71			0.25		240	0.25		540	28	0.025	540												
May/June	2000	14			310			0.25			0.25			33														
July/Aug		16			220			23			0.25			85														
September/October		9			96			0.25			0.25			33	0.025	520												
May/June	2001	20			270			0.25			0.25			29	0.025	300												
July/Aug		12			130			0.25			0.25			30	0.025	440												
September/October		14			42			0.25			0.25			19	0.025	180												
May/June	2002	30			450			5.1			0.25			24	2	90												
July/Aug		15			310			3.9			1.3			110	14	440												
September/October		9			92			0.25			3.7			22	3	240												
May/June	2003	24			97			1.7			1.3			34	0.025	110												
July/Aug		27			320			0.25			2.7			120	15	850												
September/October		11			100			3.2			1			30	2	400												
May/June	2004	28			3			3.4			42			380	27	630												
July/Aug		21			220			0.25			0.25			67	7	568												
September/October		8			52			0.25			0.25			3	0.025	0.025												
May/June	2005	19			260			0.25			0.25			38	2	160												
July/Aug		16			290			0.25			0.25			90	5	570												
September/October		5			100			0.25			0.25			30	2	300												
May/June	2006	24			240			3.2			1.2			48	6	260												
July/Aug		12			230			3.3			1.1			95	6	820												
September/October		7			78			0.25			0.25			31	3	470												
May/June	2007	17	5.9	360	76	6.8	850	4.9	12.0	230	4.3	8.0	300	12	3.7	350												
July/Aug		14	5.7	500	59	17.0	1700	1.2	3.7	430	3.5	6.7	430	21	5.0	940												
September/October		15	8.8	290	34	16.0	950	6.9	13.0	135	7.8	12.0	280	12	12.0	180												
May/June	2008	18	7.4	185	42	13.0	414	1.7	2.4	86	5	11.0	136	26	61.5	146												
July/Aug		5	12.9	94	14	2.6	133	0.5	3.1	155	2.9	10.4	169	4	7.9	228												
September/October		4	2.8	136	10	3.8	231	0.5	1.8	168	1.6	1.6	104	3	0.8	111												
May/June	2009	44.8	6.4	344	103	12.9	933	0.6	28.1	104	2	0.9	114	3.4	1.1	132												
July/Aug		7.6	2.1	222	82.5	15.9	1,020	0.8	5.3	453	3	1	670	11.8	2.8	671												
September/October		45	8.6	1,560				0.5	1.6	322	3.3	1.8	544	3.5	2.2	479												
May/June	2010	0.025	0.025	0.025	0.025	0.072	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.07												
July/Aug		4.3	4.8	0.13				0.34	1.7	0.3	2.7	4.9	0.38	3.7	3.7	0.35												
September/October		3.7	1.6	0.13				0.34	0.5	0.2	3.1	3.1	0.26	2.4	1.0	0.31												
May/June	2011	23.2	6	90	128	64	160	7.9	4	90	9.6	6	120	7.1	5	100												
July/Aug		18.9	2.57	162	94.6	99.5	345	1.48	4.85	287	6.82	2.35	372	7.4	3	374												
September/October		9.59	1.66	200				1.44	1.29	300	7.92	5.73	340	5.86	8.13	230												
May/June	2012	17	5.00	130	37	10	25	5	10.00	170	5	5.00	220	3	5.00	240												
July/Aug		5	10.00	130				5	10.00	250	5	10.00	260	5	10.00	250												
September/October		9	20.00	200				1	10.00	300	4	10.00	160	3	10.00	120												
May/June	2013	9	5.00	180	53	30	100	0.5	5.00	180	3	5.00	340	7	5.00	470	13	5	300	12	5	210	25	20	70	56	30	110
July/Aug		5.98	1.60	249				2.11	3.17	345	3.97	1.58	448	4.73	1.86	373	8.73	3.25	204	12	6.09	199	16.8	8.28	9.22			
September/October		11.1	4.1	221				1.8	4.26	267	4.2	16.50	389	5.2	6.50	441	10.2	2.37	276	12	3.02	180	14.2	5.71	4.65			
ave prior to 2007		28	N/A	N/A	200	N/A	N/A	4.5	23	234	5.2	17	440	80	6.7	431	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ave since 2007		14	5.9	250	56	22.4	528	2.1	6	205	4.2	5	265	7.2	7.4	278	11	4	260	12	5	196	19	11	28	56	30	110
count prior to 2007		48	1	1	48	0	0	48	27	27	48	27	27	48	46	46	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
count since 2007		21	21	21	13	13	13	21	21	21	21	21	21	21	21	21	3	3	3	3	3	3	3	3	3	1	1	1
SD prior to 2007		25	N/A	N/A	132	N/A	N/A	17	38	165	19	18	276	150	9.1	232	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SD since 2007		12	4.5	324	39	28.4	517	2.3	6.4	132	2.3	4.4	182	6.3	13	234	2.2	1.3	50.0	0.5	1.6	15.2	5.6	7.6	36.5	N/A	N/A	N/A
max prior to 2007		110	N/A	N/A	572	N/A	N/A	120	160	930	120	61	1400	1020	38	1000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
max since 2007		45	20	1560	128	100	1700	7.9	28	453	9.6	17	670	26	62	940	13	5	300	12	6.09	210	25	20	70	56	30	110
min prior to 2007		2	N/A	N/A	3	N/A	N/A	0.25	1.9	48	0.25	2.6	49	2.4	0.025	0.025	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
min since 2007		0	0.025	0.025	0	0.072	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0	0	0	8.73	2.37	204	12	3.02	180	14.2	5.71	4.65	56	30	110
# exceedances before 2007		46	N/A	N/A	48	N/A	N/A	6	1	0	7	0	1	46	0	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
# exceedances since 2007		10	0	1	9	1	2	1	0	0	4	0	0	6	0	0	2	0	0	2	0	0	2	0	0	1	0	0
% samples that exceeded WQGs before 2007		96	N/A	N/A	100	N/A	N/A	13	4	0	15	0	4	96	0	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
% samples that exceeded WQGs since 2007		48	0	5	69	8	15	5	0	0	19	0	0	29	0	0	67	0	0	67	0	0	67	0	0	100	0	0

Notes:
R-1 (Dolly Crk. between Walker Mine and tailings area.)
R-2 (Confluence of Dolly and Grizzly Crks. below tailings.)
R-3 (Grizzly Crk. upstream of tailings.)
R-4 (Grizzly Crk. upstream of confluence w/Dolly Crk.)
R-5 (Compliance point in Grizzly Crk. approx. 800 ft. below confluence w/Dolly Crk.)
R-6 (Grizzly Crk. at pond discharge between sampling points R-3 and R-4.)
R-7 (Dolly Crk. At upstream end of lined channel.)
R-8 (Dolly Crk. At downstream end of lined channel.)
R-9 (Upper third of former Dolly Crk. Channel on tailings.)
R-10 (Lower third of former Dolly Crk. Channel on tailings.)

Water quality goals at station R-5 : Cu= 5.0 µg/L, Zn=66 µg/L, Fe=1,000 µg/L
Shaded cells indicate concentrations greater than water quality goals.
Where known, one half of reporting limit is used when results are not detected.
Blank cells indicate no samples were collected due to no flow conditions or where results were below detection limits and the detection limit is not known.
From 1991 through 1999, samples were taken monthly between May and Dec. (if the site was accessible)
The highest metals results from the paired months were used in this spreadsheet.
Dolly Creek channel diversion modified Aug. - Nov. 2007
Sample location R-6 rarely flows and limited data from this location was not included in this table.
Monitoring at sample locations R-7, R-8, R-9, and R-10 began in 2013.

Table 2. Groundwater Depths and Elevations at Walker Mine Tailings Site
1993 to 2013

		Groundwater Elevation (ft above MSL)							
Month	Year	W-1	W-1A	W-2	W-3	W-4	W-5	W-6	W-7
		5,759.24		5,741.74	5,738.83	5,768.00	5,754.09	5,747.87	5,754.91
July	1993	5,745.90		5,739.60	5,733.71	5,751.04	5,746.19	5,742.23	5,753.85
July	1994	5,744.18		5,738.74	5,732.72	5,744.57	5,742.15	5,741.13	5,753.20
Aug		5,743.89		5,738.48	5,732.24	5,743.48	5,741.21	5,740.24	5,752.84
Sept		5,743.75		5,738.80	5,732.21	5,742.75	5,740.63	5,739.73	5,752.86
Oct		5,743.65		5,739.14	5,732.55	5,742.10	5,740.12	5,739.54	5,753.00
June	1995	5,748.07		5,740.88	5,735.07	5,756.39	5,749.66	5,744.54	5,754.78
Nov		5,744.49		5,739.40	5,732.85	5,745.36	5,742.77	5,740.78	5,753.88
May	2000	5,746.70		5,740.79	5,734.61	5,751.42	5,747.47	5,744.14	5,754.58
Sept		5,744.44		5,738.97	5,732.75	5,745.24	5,742.75	5,740.78	5,754.66
May	2001	5,745.18		5,740.13	5,733.94	5,746.12	5,743.83	5,742.82	5,754.34
Sept		5,743.97		5,738.58	5,732.14	5,742.79	5,740.70	5,739.62	5,753.23
May	2002	5,746.06		5,740.80	5,734.81	5,748.44	5,745.74	5,744.14	5,754.35
Sept		5,744.28		5,738.82	5,732.43	5,743.63	5,741.50	5,740.00	5,753.48
May	2003	5,746.79		5,741.06	5,734.97	5,751.14	5,747.70	5,744.12	5,754.91
Sept		5,744.70		5,739.16	5,732.75	5,745.16	5,742.74	5,740.71	5,754.12
May	2004	5,746.13		5,740.58	5,734.32	5,749.07	5,745.92	5,743.53	5,754.78
Sept		5,744.67		5,739.11	5,732.53	5,744.48	5,742.20	5,740.43	5,753.71
June	2005	5,746.93		5,740.92	5,734.94	5,751.05	5,747.40	5,744.17	5,754.91
July		5,745.98		5,740.11	5,733.57	5,749.04	5,745.64	5,742.21	5,754.49
Sept		5,745.15		5,739.72	5,733.33	5,746.06	5,743.39	5,741.35	5,754.23
June_1	2006	5,748.05		5,741.06	5,734.44	5,753.76	5,748.41	5,743.67	5,754.91
June_2		5,746.61		5,740.26	5,733.56	5,750.37	5,746.32	5,742.07	5,754.68
Sept		5,745.36		5,739.43	5,732.78	5,746.66	5,743.80	5,740.81	5,754.32
June	2007	5,745.57		5,740.50	5,733.94	5,746.66	5,744.37	5,742.84	5,754.28
July		5,745.13		5,739.55	5,732.93	5,745.14	5,742.77	5,741.69	5,753.47
Sept				5,739.37	5,732.50	5,743.73	5,741.57	5,740.03	5,753.40
June	2008			5,741.27	5,734.60	5,747.23	5,744.68	5,743.66	5,754.04
July				5,739.49	5,732.91	5,745.31	5,742.92	5,741.14	5,752.86
Sept				5,739.25	5,732.54	5,744.07	5,741.89	5,740.28	5,752.86
May	2009			5,740.96	5,734.82	5,749.11	5,747.11	5,743.93	5,754.45
July				5,740.12	5,733.44	5,747.83	5,744.86	5,742.05	5,753.52
Sept				5,739.25	5,732.59	5,744.77	5,742.46	5,740.42	5,753.06
July	2010			5,740.04	5,734.22	5,750.27	5,746.71	5,743.24	5,754.16
Aug				5,739.52	5,732.84	5,747.17	5,744.26	5,741.37	5,753.30
Oct				5,740.96	5,734.82	5,749.16	5,747.11	5,743.93	5,754.45
June	2011			5,741.09	5,734.87	5,753.56	5,748.61	5,743.96	5,754.91
Aug				5,740.15	5,733.52	5,750.34	5,746.33	5,742.05	5,754.60
Oct				5,739.29	5,732.76	5,746.72	5,743.87	5,741.09	5,754.26
June	2012			5740.58	5734.27	5748.46	5745.57	5743.35	5754.52
Aug				5739.48	5733.04	5746.64	5743.92	5741.66	5753.42
Oct				5737.88	5731.76	5744.01	5741.79	5740.18	5753.29
June	2013			5740.46	5734.09	5747.21	5744.63	5743.01	5754.47
July				5739.02	5732.81	5745.46	5743.08	5741.37	5753.51
Oct				5739.11	5733.08	5743.83	5741.8	5741.2	5753.67

Elevations are in feet above mean sea level.
Well W-1 was destroyed during liner construction in 2007.
Well W-1A was installed in 2012 but has not been surveyed.

Table 3. Metals Concentrations in Groundwater at Walker Mine Tailings Site
1994 to 2013

		Copper					Iron					Zinc		
		W-3	W-5	W-7			W-3	W-5	W-7			W-3	W-5	W-7
Month	**Year**	(µg/L)	(µg/L)	(µg/L)	**Month**	**Year**	(µg/L)	(µg/L)	(µg/L)	**Month**	**Year**	(µg/L)	(µg/L)	(µg/L)
July	1994			ND	July	1994				July	1994			
August		ND	ND	ND	August		ND	100	450	August		ND	ND	ND
Sept		ND	ND	ND	Sept		170	ND	960	Sept		ND	ND	ND
Oct		ND	ND	ND	Oct		700	2200	1100	Oct		ND	ND	ND
June	1995	ND	ND	ND	June	1995	ND	1900	ND	June	1995	ND	ND	ND
Nov		ND	ND	ND	Nov		40	150	670	Nov		ND	ND	10
May	2000	ND	ND	ND	May	2000	21	68	79	May	2000	ND	ND	ND
Sept		ND	ND	ND	sept		ND	740	180	sept		ND	ND	ND
May	2001	ND	ND	ND	May	2001	ND	1200	140	May	2001	ND	ND	ND
Sept		12	ND	ND	Sept		ND	ND	ND	Sept		ND	ND	ND
May	2002	ND	ND	ND	May	2002	ND	140	280	May	2002	ND	ND	ND
Sept		2.1	1.3	2.1	Sept		ND	120	100	Sept		ND	ND	3.4
May	2003	2	1.5	1	May	2003	ND	ND	ND	May	2003	3.2	ND	3.4
Sept		2.5	2.8	ND	Sept		ND	ND	ND	Sept		ND	5.6	3.9
May	2004	1.5	1.2	2.3	May	2004	62	ND	ND	May	2004	6.9	5.4	9
Sept		2.4	1.1	ND	Sept		ND	ND	ND	Sept		1.6	ND	4.9
May	2007	3	2	3	May	2007	360	9400	ND	May	2007	120	8.8	5.1
Sept		51	6	5.3	Sept		330	19000	88	Sept		210	14	11
June	2008		1.3	1.3	June	2008		11200	ND	June	2008		7.7	5.3
Sept			0.6	0.5	Sept			15700	31	Sept			10.7	20.5
May	2009	4.3	1.9	3.4	May	2009	881	21400	2960	May	2009	1.9	2.4	7.2
Sept		0.5	10.1	1.2	Sept		681	15100	828	Sept		1.8	4.8	3.7
June	2010	ND	ND	ND	June	2010	ND	1100	ND	June	2010	ND	ND	ND
Sept		0.25	0.25	0.25	Sept		610	30000	8	Sept		0.9	1.7	1.9
June	2011	1.5	0.25	3.7	June	2011	740	32500	18000	June	2011	6	13	10
Oct		3.7	4.5	0.25	Oct		550	24400	ND	Oct		2.7	7.16	ND
June	2012	2	0.5	0.5	June	2012	120	9370	25	June	2012	5	5	5
Oct		5	5	5	Oct		680	24800	25	Oct		10	10	60
June	2013	0.5	0.5	0.5	June	2013	25	18400	25	June	2013	5	5	5
Oct		0.246	0.629	1.02	Oct		558	19100	36.4	Oct		53.8	3.5	5.66

Notes:

Water quality goals: Cu= 5.0 µg/L, Zn=66 µg/L, Fe=1,000 µg/L

Shaded cells indicate concentrations greater than water quality goals.

Where known, one half of reporting limit is used when results are not detected.

Blank cells indicate that samples were not collected.

For the June 2010 sampling event, the laboratory reporting limit was 50 mg/L for all metals. All results were below the detection limit.
ND was used in the table to prevent an anomalous spike in the chart.

APPENDIX A

FIELD FORMS

WALKER TAILINGS
GROUNDWATER MONITORING PROGRAM

FLUID LEVEL GAUGING

SITE LOCATION: Walker Mine DATE: 6/2/13
COMPANY NAME: Sierra Env
PERSONNEL: Flynn

WELL	TIME	DEPTH TO WATER	COMMENTS
W-1A	1326	9.24	
2	1225	1.28	
3	1233	4.74	
4	1141	20.79	
5	1055	9.46	
6	1157	4.86	
7	0948	0.44	

Water-Quality Sampling Information

Project Number: —

Page 1 of 1

Project Name: Walker Mine Tailings

Date: 6/2/13

Project Location: Walker Mine

Day: M T W Th F S (S)

Site Conditions/Weather: Wet Areas / Clear - Cool - Breeze

Staff: Flynn

Comments : ~~W~~

SAMPLING METHOD

- [ ] Centrifugal Pump
- [ ] Submersible Pump
- [ ] Hand Bail
- [x] Disposable Bailer
- [ ] Teflon Bailer
- [ ] _____ (other)

Sample Number: W-7

- [ ] FB: _____
- [ ] DUP: _____

Analysis Requested

Dis. Cu, Hardness, Fe, Zn
SO4, Alk

Number and Types of Bottle Used

Method of shipment

FGL
(lab name)

- [x] Courier
- [ ] Hand Deliver

Well Number: W-7

Depth of Water: 0.44

Well Depth: 11.00

Height of Water Column: 10.56

Volume in Well: (gallons) 1.69

3 Well Volumes: (gallons) 5.07

Well Diameter: 2"

- [x] 2" (0.16 gallon / feet)
- [ ] 4" (0.65 gallon/ feet)
- [ ] 5" (1.02 gallon/ feet)
- [ ] 6" (1.47 gallon/ feet)

Calculation Area

Height of water column =

Depth to water =

80% DTW _____

Time	Depth to Water	Volume Purged (gallons)	Totalizer Reading	Temperature °C	pH	Cond. ms/ cm	Turbidity (NTU)	Remarks
1002								Start Purge
1007		2		8.7	6.35	63.5	11.9	Low TB / No odor
1012		4		7.2	6.10	54.4	20.5	" "
1018		6		6.8	6.08	53.1	44.9	" "
1028								Sample W-7

Inlet Depth: _____

Signed: _____ Date: _____

Water-Quality Sampling Information

Project Number: —

Page 1 of 1

Project Name: Walker Mine Tailings

Date: 6/2/13

Project Location: Walker Mine

Day: M T W Th F S (S)

Site Conditions/Weather: Dry / Warm - Clear - Breeze

Staff: Flynn

Comments :

SAMPLING METHOD

- [ ] Centrifugal Pump
- [ ] Submersible Pump
- [ ] Hand Bail
- [x] Disposable Bailer
- [ ] Teflon Bailer
- [ ] _____ (other)

Sample Number: W-5

- [ ] FB:
- [ ] DUP:

Analysis Requested

Dis Co, Hardness, Fe, Zn
SO4, Alk

Number and Types of Bottle Used

Calculation Area

Height of water column =
Depth to water =

80% DTW

Method of shipment

FGL
(lab name)

- [x] Courier
- [ ] Hand Deliver

Well Number: W-5
Depth of Water: 9.46
Well Depth: 40.30
Height of Water Column: 30.84
Volume in Well: (gallons) 4.93
3 Well Volumes: (gallons) 14.80

Well Diameter: 2

- [x] 2" (0.16 gallon / feet)
- [ ] 4" (0.65 gallon/ feet)
- [ ] 5" (1.02 gallon/ feet)
- [ ] 6" (1.47 gallon/ feet)

Time	Depth to Water	Volume Purged (gallons)	Totalizer Reading	Temperature °C	pH	Cond. ms/ cm	Turbidity (NTU)	Remarks
1101								Start Purge
1110		5		10.7	6.80	325	21.6	Low Tb / No odor
1119		10		9.3	6.85	319	11.7	" "
1129		15		9.4	6.84	324	7.4	" "
1133								Sample W-5

Inlet Depth:

Signed: Date:

Water-Quality Sampling Information

Project Number: —

Page 1 of 1

Project Name: Walker Mine Tailings

Date: 6/2/13

Project Location: Walker Mine

Day: M T W Th F S (S)

Site Conditions/Weather: Dry / Clear Warm, Breeze

Staff: Flynn

Comments: Sample Field Blanks @ 1250, Field Duplicates of W-8 @ 0935

SAMPLING METHOD

- [ ] Centrifugal Pump
- [ ] Submersible Pump
- [ ] Hand Bail
- [x] Disposable Bailer
- [ ] Teflon Bailer
- [ ] _____ (other)

Sample Number: W-3

- [ ] FB:
- [ ] DUP:

Analysis Requested: Dis Co Hardness Fe Zn SO4, Alk

Number and Types of Bottle Used

Method of shipment: FGL (lab name)

- [x] Courier
- [ ] Hand Deliver

Well Number: W-3

Depth of Water: 4.74

Well Depth: 34.25

Height of Water Column: 29.51

Volume in Well: (gallons) 4.72

3 Well Volumes: (gallons) 14.16

Well Diameter: 2"

- [x] 2" (0.16 gallon / feet)
- [ ] 4" (0.65 gallon/ feet)
- [ ] 5" (1.02 gallon/ feet)
- [ ] 6" (1.47 gallon/ feet)

Calculation Area

Height of water column =

Depth to water =

80% DTW

Time	Depth to Water	Volume Purged (gallons)	Totalizer Reading	Temperature °F	pH	Cond. ms/ cm	Turbidity (NTU)	Remarks
1235								Start Purge
1244		5		12.1	7.73	293	11.7	Low TB/No odor
1253		10		10.5	7.87	281	7.1	" "
1302		15		10.4	7.87	282	3.7	" "
1308								Sample W-3

Inlet Depth: _____

Signed: _____ Date: _____

9-275 (May 1971)

WALKER MINE TAILINGS MONITORING PROGRAM

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....
Comp. by .....
Checked by .....

Sta. No. R-1

Dolly Creek above Tailings @ Road M2

Date 6/3/13 Party Flynn & Bennett

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method 0.6 No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Har. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Pygmy

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ✓ ..... after .....

Meas. plots ..... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather Clear

Other ..... Air 80.4 °F @ 1613

Gage ..... Water 15.4 °C @ 1604 PDT

..... Record removed ..... Intake flushed .....

Observer .....

Control Turbs: 2.26

pH 8.05

CONDUCTANCE 107.0 umhos/cm

G. H. of zero flow ..... ft.

Samples @ 1605

Look upstream

.0 .10 .20 .30 .40 .50 .60 .70 .75

River at—

	Angle coef. Intent	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
LB		0.75		0								
		0.95		0.90				0				
		1.0		0.98		10	44	0.23				
		1.25		1.0		18	43	0.42				
		1.50		1.0		15	41	0.37				
		1.75		0.95		12	42	0.29				
		2		0.70		11	42	0.26				
		2.25		0.70		10	44	0.23				
		2.50		0.70		8	41	0.20				
		2.75		0.60		6	45	0.13				
		3		0.40		3	40	0.08				
		3.3		0.35				0				
RB		3.4		0								

.0 .10 .20 .30 .40 .50

WALKER MINE TAILINGS MONITORING PROGRAM

9-275ep (May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

Meas. No. .....

Comp. by .....

Checked by .....

DISCHARGE MEASUREMENT NOTES

Sta. No. R-2

Dolly Creek below Tailings Dam

Date 6/3/13, 19.... Party Flynn & Berrock

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method Bucket No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Pygmy

Date rated .... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots .... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather Clear

Other ..... Air 78.2 °C @ 1330 PDT

Gage ..... Water 21.0 °C @ 1330

..... Record removed ..... Intake flushed .....

Observer .....

Control .....

Turbi 2.18

pH 8.32

CONDUCTANCE 193.0 umhos/cm

G. H. of zero flow .....

Samples @ 1330 / Field Duplicates @ R-11 @ 1242

Angle coefficient	Distance from initial point	Width	Depth	Depth at vel. obs.	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	~~WASTE~~										
				5 secs							
	5 gal			23.85							
				23.65							
				23.50							

WALKER MINE TAILINGS MONITORING PROGRAM

9-275
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....
Comp. by .....
Checked by .....

Sta. No. R-3

Little Grizzly Creek above Tailings

Date 6/3/13 ..... Party Flynn/Benoit

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method 0.6 No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

Type of meter Gurley

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots ..... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

GAGE READINGS				
Time		Recorder	Inside	Outside
	Steady			
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather Clear 18.6°F

Other ..... Air ~~[illegible]~~ °C @ 1525

Gage ..... Water 17.9 °C @ 1505

..... Record removed ..... Intake flushed .....

Observer .....

Control Turbi 1.13

pH 7.88

CONDUCTANCE 75.8 umhos/cm

G. H. of zero flow ..... ft.

Samples @ 1505

River st.—

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	Velocity At point	Velocity Mean in vertical	Adjusted for hor. angle or	Area	Discharge
LB	1.55		0								
	2		0.20				0				
	2.5		0.30				0				
	3		0.35		25	41	0.61				
	3.5		0.50		34	42	0.81				
	4		0.60		35	41	0.85				
	4.5		0.80		25	41	0.61				
	5		0.85		4	44	0.09				
	5.5		0.95		5	46	0.11				
	6		1.05		9	46	0.20				
	6.5		1.15		28	42	0.67				
	7		0.85		33	41	0.80				
	7.5	.45	0.45 / 0.56		25	41	0.61				
	8		0.30		48	41	1.17				
	8.5		0.15				0				
RB	8.85		0				0				

19.15 18.35

WALKER MINE TAILINGS MONITORING PROGRAM

9-2766-a (May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Meas. No. .....
Comp. by .....
Checked by .....

DISCHARGE MEASUREMENT NOTES

Sta. No. R-4

Little Grizzly Creek below Tailings

Date 6/3/13 Party Flynn - Benoit

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method 6/10 No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
	Steady			
Weighted M. G. H.				
G. H. correction				
Corrected M. G. H.				

Type of meter Pygmy

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots ..... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), (fair (8%)), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather Clear

Other ..... Air 75.2 °C @ 1400

Gage ..... Water 16.4 °C @ 1400 PDT

..... Record removed ..... Intake flushed .....

Observer .....

Control Tundi 1.66

pH 8.04

CONDUCTANCE 925 umhos/cm

G. H. of zero flow ..... ft.

Samples @ 1355

River at

Angle coef. Meter	Dist. from initial point	Width	Depth	Observation depth	Revolution	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
LB RB	0.9		0								
	1.0		0.3				0				
	1.5		0.25				0				
	2		0.35		9	43	0.21				
	2.5		0.35		19	43	0.44				
	3		0.25		30	42	0.71				
	3.5		0.30		33	41	0.80				
	4.0		0.35		37	41	0.90				
	4.5		0.40		36	41	0.88				
	5.0		0.55		34	42	0.81				
	5.5		~~0.55~~ 0.60		29	41	0.71				
	6		0.60		40	41	0.98				
	6.5		0.60		31	41	0.76				
	7		0.65		36	41	0.88				
	7.5		0.65		30	41	0.73				
	8		0.60		20	42	0.48				
	8.5		0.65		35	41	0.85				
	9		0.75		28	41	0.68				
	9.5		0.55		19	41	0.46				
	10		~~0.55~~		11	41	0.27				
	10.3		0.60				0				
	10.55	RB									

WALKER MINE TAILINGS MONITORING PROGRAM

9-2767
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....
Comp. by .....
Checked by .....

Sta. No. R-5
Little Grizzly Creek @ Brown's Cabin
Date 6/3/13 Party Flynn & Benedi
Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....
Method 0.6 No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....
Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS

Time		Recorder	Inside	Outside
	Gaddy			

Weighted M. G. H. .....
G. H. correction .....
Correct M. G. H. .....

Type of meter Pygmy
Date rated ..... for rod, other
Meter ..... ft. above bottom of weight
Spin before meas. ..... after .....
Meas. plots ..... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....
Check-bar, found .....
changed to ..... at .....
Correct .....
Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather Clear
Other ..... Air 75.8 °F @ 1715
Gage ..... Water 17.4 °C @ 1710
..... Record removed ..... Intake flushed .....
Observer .....
Control .....
Turb: 4.06
pH 8.12
CONDUCTANCE 114.4 umhos/cm
G. H. of zero flow ..... ft.

Samples @ 1710

River at ____

Angle coefficient	Distance from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	Velocity at point	Velocity mean in vertical	Adjusted for hor. angle or	Area	Discharge
LB	0.7		0								
	1		0.03				0				
	1.5		0.20		5	43	0.12				
	2		0.30		6	44	0.14				
	2.5		0.65		15	42	0.36				
	3		0.60		19	41	0.46				
	3.5		0.80		46	41	1.12				
	4		0.75		64	40	1.6				
	4.5		0.65		48	41	1.17				
	5		0.70		19	40	0.48				
	5.5		0.80		12	41	0.29				
	6		0.85		7	41	0.17				
	6.5		0.85		4	46	0.09				
	7		0.85		6	43	0.14				
	7.5		0.85		16	41	0.39				
	8		0.80		39	41	0.95				
	8.5		0.70		36	40	0.9				
	9		0.60		44	41	1.07				
	9.5		0.45		40	40	1.00				
	10		0.10		19	41	0.46				
RB	10.5		0								

WALKER MINE TAILINGS MONITORING PROGRAM

9-276
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Meas. No. .....
Comp. by .....
Checked by .....

DISCHARGE MEASUREMENT NOTES

Sta. No. R-7

Date 6/2/2013 Party Flynn & Benoit

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method 6/10 No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. Pygmy

GAGE READINGS				
Time		Recorder	Inside	Outside
Steady Flow				
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter .....

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots .... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow Straight Flow Lines Weather Clear & Warm

Other ..... Air 77.8°F @ 1431

Gage ..... Water 15.1 °C @ 1435

..... Record removed ..... Intake flushed .....

Observer .....

Control Turbity = 1.77 NTU

pH 7.58

CONDUCTANCE 106 umhos/cm

G. H. of zero flow ..... ft.

Samples @ 1410 on 6/2/13

Left Bank Upstream

River at—

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	Velocity At point	Velocity Mean in vertical	Adjusted for hor. angle or	Area	Discharge
LB	1.10		0.0								
	1.20		0.3				0				
	1.50		0.3				0				
1.0	2.00		0.3		6	42	0.14				
	2.50		0.4		28	42	0.67				
	2.75		0.3		40	41	0.98				
	3.00		0.35		54	44	1.23				
	3.25		0.20		61	41	1.49				
	3.50		0.15		45	41	1.10				
	3.75		0.20		32	41	0.78				
	4.00		0.20		29	41	0.71				
1.0	4.25		0.15		16	40	0.40				
RB	4.35		0.0				0				

Field Blank @ 1135 (taken @ R-8)

9-276
(May 1971)

WALKER MINE TAILINGS MONITORING PROGRAM

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Meas. No. .....
Comp. by .....
Checked by .....

DISCHARGE MEASUREMENT NOTES

Sta. No. R-8

Date 6/3/13 Party Flynn & Bennett

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method 0.6 No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. Pygmy 15

GAGE READINGS				
Time		Recorder	Inside	Outside
Standby				
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter .....

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots ..... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather Clear

Other ..... Air 71.3 °F @ 1113

Gage ..... Water 14.5 °C @ 1110 PDT

..... Record removed ..... Intake flushed .....

Observer .....

Control Turb: 1.54 NTU

pH 7.68

CONDUCTANCE 1.05 umhos/cm

G. H. of zero flow ..... ft.

Samples @ 1120 / Field Blank @ 1135

River at—

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
LB	1.8										
1.9	~~0.10~~		0.1			42	0				
	2.5		0.2		14	~~42~~	0.33				
	2.75		0.2		27	42	0.64				
	3.0		0.25		74	41	1.80				
	3.25		0.30		75	41	1.83				
	3.5		0.30		65	41	1.59				
	3.75		0.30		55	41	1.34				
	4.0		0.20		75	45	1.67				
	4.5		0.30		49	41	1.20				
	4.75		0.15		36	41	0.88				
RB	5.15						0				

9-276
(May 1971)

WALKER MINE TAILINGS MONITORING PROGRAM

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Meas. No. .....
Comp. by .....
Checked by .....

DISCHARGE MEASUREMENT NOTES

Sta. No. R-~~89~~

6/2 Date 6/3/13 Party Flynn & Bennett

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method Bucket No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Steady

Type of meter .....

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots ..... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather Warm - Breeze

Other ..... Air 77.6°F @ 1553

Gage ..... Water 15.4°C @ 1545

..... Record removed ..... Intake flushed .....

Observer .....

Control Turb = 1.14 NTU

pH 7.17

CONDUCTANCE 100.9 umhos/cm

G. H. of zero flow ..... ft.

Samples on 6/2/13 @ 1535

River at—

Angle coef. factor	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
				5 secs							
	1.75	gal.	9.02								
			8.97								
			9.22								

WALKER MINE TAILINGS MONITORING PROGRAM

9-2757
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Meas. No. .....

Comp. by .....

Checked by .....

DISCHARGE MEASUREMENT NOTES

Sta. No. R-10

Date 6/3/2013 Party Flynn Benoit

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method ..... No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. Pygmy

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter .....

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots .... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather .....

Other ..... Air 78.6 °F @ 1210

Gage ..... Water 21.8 °C @ 1205

..... Record removed ..... Intake flushed .....

Observer .....

Control Turbidity = 3.16 NTU

pH 7.89

CONDUCTANCE 189.9 umhos/cm

G. H. of zero flow ..... ft.

Samples @ 1202

River at—

Angle coef. factor	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
RB	2.4										
	2.75		.20		17	43	0.46				
	3.0		.20		16	42	0.38				
	3.25		.15		12	41	0.29				
LB	3.55										

WALKER TAILINGS
GROUNDWATER MONITORING PROGRAM

FLUID LEVEL GAUGING

SITE LOCATION: Walker Mine DATE: 7/23/13
COMPANY NAME: Sierra Environmental
PERSONNEL: Flynn

WELL	TIME	DEPTH TO WATER	COMMENTS
W-1A	0845	10.28	
2	0904	2.72	
3	0911	6.02	
4	0822	22.54	
5	0828	11.01	
6	0836	6.50	
7	0812	1.40	

WALKER MINE TAILINGS MONITORING PROGRAM

9-2767
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....
Comp. by .....
Checked by .....

Sta. No. R-1

Date 7/23/13 Party Flynn

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method 6/10 No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. Empiricy

GAGE READINGS				
Time		Recorder	Inside	Outside
	Steady			
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter .....
Date rated .... for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots .... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....
Check-bar, found .....
changed to ..... at .....
Correct .....
Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather Cloudy & Warm

Other ..... Air 64.8 °C @ 1656

Gage ..... Water 13.1 °C @ 1654

..... Record removed ..... Intake flushed .....

Observer No Wind

Control Turbidity = 1.64 NTU

pH 7.84

CONDUCTANCE 113 umhos/cm

G. H. of zero flow ..... ft.

Sample @ 1650

.0 .10 .20 .30 .40 .50 .60 .70 .75

River at—

Angle coef. factor	Dist. from initial point	Width	Depth	Observed total depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
LB	0.9										
	1.25		.35		19	42	0.45				
	1.5		.45		19	42	0.45				
	1.75		.5		14	40	0.35				
	2		.5		16	41	0.39				
	2.25		.5		12	42	0.29				
	2.5		.5		19	41.3	0.46				
	2.75		.45		C2						
RB	2.80										

.0 .10 .20 .30 .40 .50 .60

WALKER MINE TAILINGS MONITORING PROGRAM

9-275-F (May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Meas. No. ....
Comp. by ....
Checked by ....

DISCHARGE MEASUREMENT NOTES

Sta. No. R-2

Date 7/23/13 19 Party Flynn

Width .... Area .... Vel. .... G. H. .... Disch. ....

Method .... No. secs. .... G. H. change .... in .... hrs. Susp. ....

Method coef. .... Hor. angle coef. .... Susp. coef. .... Meter No. ....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter ....
Date rated .... for rod, other.
Meter .... ft. above bottom of weight.
Spin before meas. .... after ....
Meas. plots .... % diff. from rating ....
Wading, cable, ice, boat, upstr., downstr., side bridge .... feet, mile, above, below gage, and ....
Check-bar, found ....
changed to .... at ....
Correct ....
Levels obtained ....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section ....

Flow None Weather ....

Other .... Air ....°C@ ....

Gage .... Water ....°C@ ....

.... Record removed .... Intake flushed ....

Observer ....

Control ....

pH ....

CONDUCTANCE .... umhos/cm

G. H. of zero flow .... ft.

No Flow

River at—

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	No Flow										

WALKER MINE TAILINGS MONITORING PROGRAM

(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....
Comp. by .....
Checked by .....

Sta. No. R-3

Date 7/23/13 Party Flynn

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method 6/10 No. secs. ..... G. H. change ..... in ..... hrs. Supp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. Pygmy

GAGE READINGS				
Time		Recorder	Inside	Outside
	Steady			
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter .....

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots ..... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%) good (5%) fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather Cloudy - Warm

Other ..... Air 66°F @ 1605

Gage ..... Water 18.4 °C @ 1602

..... Record removed ..... Intake flushed .....

Observer No Wind

Control Turbidity = 2.31 NTU

pH 7.93

CONDUCTANCE 103 umhos/cm

G. H. of zero flow ..... ft.

Samples @ 1558

River at—

Angle coef. factor	Distance from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for bar, angle or	Area	Discharge
LB	1.75										
	2		.1		0		~~0~~				
	2.5		.3		0		~~0~~				
	2.75		.4		8	42.5	0.19				
	3		.35		24	42	0.57				
	3.25		.4		14	43.5	0.32				
	3.5		.35		16	42	0.38				
	3.75		.25		23	40.5	0.57				
	4		.3		16	40	0.40				
	4.25		.25		18	42	0.43				
	4.5		.25		11	40	0.28				
	4.75		.25		11	40	0.28				
	5		.15		8	40	0.20				
	5.25		.1		~~0~~		~~0~~				
	5.5		.05		~~0~~		~~0~~				
RB	5.8										

WALKER MINE TAILINGS MONITORING PROGRAM

9-2756-a
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....
Comp. by .....
Checked by .....

Sta. No. R-24

Date 7/23/13 19.... Party Flynn

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method 6/10 No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. Lysmy

GAGE READINGS				
Time		Recorder	Inside	Outside
	Steady			
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter .....

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots .... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow Straight Lines Weather Cloudy / Warm

Other ..... Air 71°F °C @ 1431

Gage ..... Water 77.6 °C @ 1428

..... Record removed ..... Intake flushed .....

Observer light wind / Big drop in Temp.

Control Turbidity = 2.73 NTU

pH 7.98

CONDUCTANCE 154 umhos/cm

G. H. of zero flow ..... ft.

Samples @ 1425

River at—

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
LB	1.1										
	1.25		.15		~~0~~		~~0~~				
	1.5		.15		~~0~~		~~0~~				
	2		.175		8	43	0.19				
	2.5		.15		14	46	0.35				
	3		.15		13	42	0.31				
	3.5		.15		18	41		0.44			
	4		.2		16	42	0.38				
	4.5		.3		9	41	0.22				
	5		.35		9	43	0.21				
	5.5		.5		14	42	0.33				
	6		.5		15	42	0.36				
	6.5		.5		11	43	0.26				
	7		.45		9	41	0.22				
	7.5		.45		~~0~~		~~0~~				
	8		.5		8	42	0.19				
	8.5		.5		5	43	0.12				
	9		.55		3	40	0.08				
	9.5		.4		~~0~~		~~0~~				
	10		.4		~~0~~		~~0~~				
	10.35		.4		~~0~~		~~0~~				
RB	10.5										

9-275-p
(May 1971)

WALKER MINE TAILINGS MONITORING PROGRAM

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Meas. No. .....
Comp. by .....
Checked by .....

DISCHARGE MEASUREMENT NOTES

Sta. No. R-5

Date 7/23/13 Party Flynn

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method 6/10 No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. Pygmy

GAGE READINGS				
Time		Recorder	Inside	Outside
	Steady			
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter .....

Date rated .... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots ..... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather Cloudy/Warm

Other ..... Air 62 °F @ 1733

Gage ..... Water 17.5 °C @ 1735

Record removed ..... Intake flushed .....

Observer No Wind

Control Turbidity = 2.31 NTU

pH 8.10

CONDUCTANCE 152 umhos/cm

G. H. of zero flow ..... ft.

Samples @ 1745

River at

Point coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
LB	1.05										
	1.25		.025		~~0~~						
	1.5		.05		~~0~~						
	1.75		.45		~~0~~						
	2		.5		~~0~~						
	2.5		.6		~~0~~						
	3		.6		10	41	0.24				
	3.5		.65		22	40	0.55				
	4		.6		14	43	0.33				
	4.5		.55		4	43	0.09				
	5		.5		0						
	5.5		.7		0						
	6		.75		0						
	6.5		.6		0						
	7		.6		0						
	7.5		.55		7	45	0.16				
	8		.4		8	45	0.18				
	8.5		.25		0						
	9		.10		0						
RB	9.1										

9-275-F (May 1971)

WALKER MINE TAILINGS MONITORING PROGRAM

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. ....
Comp. by ....
Checked by ....

Sta. No. R-6

Sediment Basin Outlet

Date 7/23, 2013 Party ....

Width .... Area .... Vel. .... G. H. .... Disch. ....

Method .... No. secs. .... G. H. change .... in .... hrs. Susp. ....

Method coef. .... Hor. angle coef. .... Susp. coef. .... Meter No. ....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter ....
Date rated .... for rod, other.
Meter .... ft. above bottom of weight.
Spin before meas. .... after ....
Meas. plots .... % diff. from rating ....
Wading, cable, ice, boat, upstr., downstr., side bridge .... feet, mile, above, below gage, and ....
Check-bar, found ....
changed to .... at ....
Correct ....
Levels obtained ....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section ....

Flow None

Other .... Weather ....

Gage .... Air .... °C

.... Record removed .... Water .... °C

Observer .... Intake flushed ....

Control ....

pH ....

CONDUCTANCE .... umhos/cm

G. H. of zero flow .... ft.

No Flow

Angle coef.	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	Velocity At point	Velocity Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	No Flow										

9-275
(May 1971)

WALKER MINE TAILINGS MONITORING PROGRAM

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Meas. No. .....
Comp. by .....
Checked by .....

DISCHARGE MEASUREMENT NOTES

Sta. No. R-7

Date 7/23/13 Party Flynn

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method 6/10 No. rev. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. Pygmy

GAGE READINGS				
Time		Recorder	Inside	Outside
	Steady			
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter .....

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots ..... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather Warm / Part Cloudy

Other ..... Air 77°F @ 0957

Gage ..... Water 11.7 °C @ 0956

..... Record removed ..... Intake flushed .....

Observer No Wind

Control Turbidity = 2.49 NTU

pH 7.55

CONDUCTANCE 110 umhos/cm

G. H. of zero flow ..... ft.

Samples 1000

River at—

Angle coefficient	Dist. from initial point	Width	Depth	Quarter-depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
LB	1.625										
	1.75		.2		22	41.5	0.53				
	2		.3		20	43	0.47				
	2.5		.35		31	41.5	0.75				
	3		.4		13	43	0.30				
	3.5		.4		4	41	0.10				
	4		.3		5	41.5	0.12				
	4.5		.3		23	41	0.56				
	5		.2		12	42	0.29				
	5.5		.25		0		0				
RB	5.9										

Field Blanks @ 1220

9-276
(May 1971)

WALKER MINE TAILINGS MONITORING PROGRAM

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Meas. No. ____
Comp. by ____
Checked by ____

DISCHARGE MEASUREMENT NOTES

Sta. No. R-8

Date 7/23/13 19__ Party Flynn
Width ____ Area ____ Vel. ____ G. H. ____ Disch. ____
Method 6/10 No. secs. ____ G. H. change ____ in ____ hrs. Susp. ____
Method coef. ____ Hor. angle coef. ____ Susp. coef. ____ Meter No. Y49my

GAGE READINGS

Time		Reminder	Inside	Outside
	Steady			
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter ____
Date rated ____ for rod, other.
Meter ____ ft. above bottom of weight.
Spin before meas. ____ after ____
Meas. plots ____ % diff. from rating ____
Wading, cable, ice, boat, upstr., downstr., side bridge ____ feet, mile, above, below gage, and ____
Check-bar, found ____
changed to ____ at ____
Correct ____
Levels obtained ____

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section ____
Flow ____ Weather Warm / Part Cloudy
Other ____ 83°F Air ____ °C @ 1238
Gage ____ Water 22.1 °C @ 1245
____ Record removed ____ Intake flushed ____
Observer No Wind

Control Turbidity = 2.19 NTU

pH 8.31

CONDUCTANCE 1.06 umhos/cm

G. H. of zero flow ____

Sample 1230 (R-8) / Field Dup @ R-11 @ 0920

River at ____

Angle coef. factor	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or ____	Area	Discharge
LB	0.6										
	1		.2		5	48	0.10				
	1.25		.3		52	41	1.27				
	1.5		.4		46	41	1.12				
	1.75		.3		20	40	0.50				
	2		.3		6		6				
	2.25		.35		19	43	0.44				
	2.5		.3		12	44	0.27				
	2.75		.2		10	42	0.24				
	3		.25		9	48	0.19				
	3.25		.25		39	41	0.95				
	3.5		.15		40	41	0.98				
RB	3.8										

9-275
(May 1971)

WALKER MINE TAILINGS MONITORING PROGRAM

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. ____
Comp. by ____
Checked by ____

Sta. No. R-9

Date 7/23/13 Party Flynn
Meas. Bucket Area ____ Vel. ____ G. H. ____ Disch. ____
Method ____ No. secs. ____ G. H. change ____ in ____ hrs. Susp. ____
Method coef. ____ Hor. angle coef. ____ Susp. coef. ____ Meter No. ____

GAGE READINGS

Time		Recorder	Inside	Outside
	Steady			
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter ____
Date rated ____ for rod, other.
Meter ____ ft. above bottom of weight.
Spin before meas. ____ after ____
Meas. plots ____ % diff. from rating ____
Wading, cable, ice, boat, upstr., downstr., side bridge ____ feet, mile, above, below gage, and ____
Check-bar, found ____ changed to ____ at ____
Correct ____
Levels obtained ____

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section ____

Flow ____ Weather Cloudy — Warm
Other ____ 79°F Air ____ @ 1152
Gage ____ Water 15.2 °C @ 1155
____ Record removed ____ Intake flushed ____
Observer No Wind

Control Turbidity = 0.97 NTU

pH 7.17

CONDUCTANCE 111 umhos/cm

G. H. of zero flow ____ ft.

Samples @ 1200

River at—

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	Velocity At point	Velocity Mean in vertical	Adjusted for hor. angle or ____	Area	Discharge
						seconds					
	1.75 gallon					21.68					
						21.87					
						22.56					

WALKER TAILINGS
GROUNDWATER MONITORING PROGRAM

FLUID LEVEL GAUGING

SITE LOCATION: Walker Mine DATE: 9/11/13
COMPANY NAME: Sierra Environmental
PERSONNEL: Flynn

WELL	TIME	DEPTH TO WATER	COMMENTS
W-1A	0700	11.02	
2	0716	2.63	
3	0737	5.75	
4	0940	24.17	
5	0947	12.29	
6	0729	6.67	
7	0902	1.24	

Water-Quality Sampling Information

Project Number: —

Page 1 of 1

Project Name: Walker Mine Tailings

Date: 9/11/13

Project Location: Walker Mine

Day: M T (W) Th F S S

Site Conditions/Weather: Dry / Cool, partly cloudy, No Wind

Staff: Flynn

Comments: A field blank was collected at this well (at 0748) and also a field duplicate as W-8 (alotted time 0734)

SAMPLING METHOD

- [ ] Centrifugal Pump
- [ ] Submersible Pump
- [ ] Hand Bail
- [x] Disposable Bailer
- [ ] Teflon Bailer
- [ ] _____ (other)

Sample Number: W-3

- [ ] FB: _____
- [ ] DUP: _____

Analysis Requested

Diss Cu, Fe, Zn, Hardness
SO_4, Alk

Number and Types of Bottle Used

Method of shipment

FGL
(lab name)

- [ ] Courier
- [x] Hand Deliver

Calculation Area

Height of water column =
Depth to water =

80% DTW _____

Well Number: W-3
Depth of Water: 5.75
Well Depth: 34.25
Height of Water Column: 28.50
Volume in Well: (gallons) 4.56
3 Well Volumes: (gallons) 13.68

Well Diameter: 2"

- [x] 2" (0.16 gallon / feet)
- [ ] 4" (0.65 gallon/ feet)
- [ ] 5" (1.02 gallon/ feet)
- [ ] 6" (1.47 gallon/ feet)

Time	Depth to Water	Volume Purged (gallons)	Totalizer Reading	Temperature °F °C	pH	Cond. ms/ cm	Turbidity (NTU)	Remarks
0759								Start Purge
0806		5		9.6	7.70	281	6.22	Low TB / No odor
0816		10		9.0	7.73	270	5.57	" "
0826		15		9.0	7.66	268	6.09	" "
0832								Sample W-3
								Field dups as
								W-8 at 0734 hrs.

Inlet Depth: _____

Signed: _____ Date: _____

Water-Quality Sampling Information

Project Number: —

Page 1 of 1

Project Name: Walker Mine Tailings

Date: 9/11/13

Project Location: Walker Mine

Day: M T (W) Th F S S

Site Conditions/Weather: Dry / Cool, partly cloudy, No Wind

Staff: Flynn

Comments :

SAMPLING METHOD

- [ ] Centrifugal Pump
- [ ] Submersible Pump
- [ ] Hand Bail
- [x] Disposable Bailer
- [ ] Teflon Bailer
- [ ] _____ (other)

Sample Number: W-7

- [ ] FB:
- [ ] DUP:

Analysis Requested

Diss Cu, Fe, Zn, Hardness
SO4, Alk

Number and Types of Bottle Used

Method of shipment

FGL
(lab name)

- [ ] Courier
- [x] Hand Deliver

Well Number: W-7
Depth of Water: 1.24
Well Depth: 11.00
Height of Water Column: 9.76
Volume in Well: (gallons) 1.56
3 Well Volumes: (gallons) 4.68

Well Diameter: 2"

- [x] 2" (0.16 gallon / feet)
- [ ] 4" (0.65 gallon/ feet)
- [ ] 5" (1.02 gallon/ feet)
- [ ] 6" (1.47 gallon/ feet)

Calculation Area

Height of water column =
Depth to water =

80% DTW

Time	Depth to Water	Volume Purged (gallons)	Totalizer Reading	Temperature °C	pH	Cond. ms/ cm	Turbidity (NTU)	Remarks
0905								Start Purge
0908		2		8.1	6.19	58.7	17.8	Low TB / No odor
0914		4		7.7	6.06	55.6	47.5	" "
0920		6		7.6	5.99	54.7	97.8	Mod TB / No odor
0924								Sample W-7
								Well recharges
								pretty fast
								samples had
								Low turbidity

Inlet Depth:

Signed: _____ Date: _____

Water-Quality Sampling Information

Project Number: —

Page 1 of 1

Project Name: Walker Mine Tailings

Date: 9/17/13

Project Location: Walker Mine

Day: M T (W) Th F S S

Site Conditions/Weather: Dry / Warm, Partly Cloudy / Light Breeze

Staff: Flynn

Comments :

SAMPLING METHOD

- [ ] Centrifugal Pump
- [ ] Submersible Pump
- [ ] Hand Bail
- [x] Disposable Bailer
- [ ] Teflon Bailer
- [ ] _____ (other)

Sample Number: W-5

- [ ] FB:
- [ ] DUP:

Analysis Requested

Diss Cu, Fe, Zn
SO4, Alk

Number and Types of Bottle Used

Method of shipment

FGL
(lab name)

- [x] Courier
- [ ] Hand Deliver

Well Number: W-5
Depth of Water: 12.29
Well Depth: 40.30
Height of Water Column: 28.01
Volume in Well: (gallons) 4.48
3 Well Volumes: (gallons) 13.44

Well Diameter: 2"

- [x] 2" (0.16 gallon / feet)
- [ ] 4" (0.65 gallon/ feet)
- [ ] 5" (1.02 gallon/ feet)
- [ ] 6" (1.47 gallon/ feet)

Calculation Area

Height of water column =
Depth to water =

80% DTW

Time	Depth to Water	Volume Purged (gallons)	Totalizer Reading	Temperature °C	pH	Cond. ms/ cm	Turbidity (NTU)	Remarks
0954								Start Purge
1002		5		9.2	6.74	300	20.4	Low TB/No odor
1010		10		9.1	6.89	299	11.3	" "
1018		15		9.2	6.88	300	11.9	" "
1025								Sample W-5

Inlet Depth:

Signed: Date:

WALKER MINE TAILINGS MONITORING PROGRAM

9-275-P
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....
Comp. by .....
Checked by .....

Sta. No. R-7

Date 9/11/13 Party Flynn

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method 6/10 No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots ..... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather Warm / Partly Cloudy

Other ..... Air 65 °F @ 1052

Gage ..... Water 9.7 °C @ 1049

..... Record removed ..... Intake flushed .....

Observer Very Slight Breeze

Control Turbidity = 1.87 NTU

pH 8.28

CONDUCTANCE 106.4 umhos/cm

G. H. of zero flow ..... ft.

Samples @ 1055

LB = 0.9

River at—

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	1.0		.2				.31				
	1.25		.25				.21				
	1.5		.3				.81				
	1.75		.3				.77				
	2		.3				.35				
	2.25		.35				.17				
	2.5		.4				.01				
	2.75		.4				0				
	3		.35				0				
	3.25		.3				.18				
	3.5		.35				.22				
	3.75		.3				.49				
	4		.1				.52				
	4.25		.15				.23				
⊙	4.5		.2				.03				
	4.75		.25				0				
	5		.1				0				
RB	5.25										

WALKER MINE TAILINGS MONITORING PROGRAM

9-276
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Meas. No. .....
Comp. by .....
Checked by .....

DISCHARGE MEASUREMENT NOTES

Sta. No. R-9

Date 9/11/13, 19.. Party Flynn

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method Bucket No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
	Steady			
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter .....

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots .... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather Warm / Partly Cloudy

Other ..... Air 75°F @ 1140

Gage ..... Water 11.3°C @ 1141

..... Record removed ..... Intake flushed .....

Observer Slight Breeze

Control Turbidity = 1.07 NTU

pH 7.32

CONDUCTANCE 100 umhos/cm

G. H. of zero flow ..... ft.

Samples @ 1148

River at—

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
						Seconds					
	1.75 gallon					18.31					
	"					19.50					
	"					18.81					

9-276
(May 1971)

WALKER MINE TAILINGS MONITORING PROGRAM

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Meas. No. .....
Comp. by .....
Checked by .....

DISCHARGE MEASUREMENT NOTES

Sta. No. R-8 Field Blanks @ 1220
9/11/13
Date " Party Flynn
Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....
Method G&10 No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....
Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney
Date rated ..... for rod, other
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots ..... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....
Check-bar, found .....
changed to ..... at .....
Correct .....
Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....
Flow ..... Weather Warm - Partly Cloudy
Other ..... 70 Air °F @ 1215
Gage ..... Water 17.2 °C @ 1218
..... Record removed ..... Intake flushed .....
Observer Breeze
Control Turbidity = 1.56 NTU
pH 8.37
CONDUCTANCE 121 umhos/cm
G. H. of zero flow ..... ft.

R-8 Samples @ 1226 / Field Dups as R-11 @ 1255

River at—

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
LB	1.0										
	1.25		.1				0				
	1.5		.1				0				
	1.75		.2				.05				
	2		.3				.17				
	2.25		.25				.51				
	2.5		.25				.72				
	2.75		.3				.52				
	3		.3				.39				
	3.25		.3				.35				
	3.5		.3				.36				
	3.75		.3				.58				
	4		.2				.05				
	4.25		.15				0				
⊙	4.5		.5				0				
	4.75		<.5				0				
RB	4.9										

WALKER MINE TAILINGS MONITORING PROGRAM

9-2767
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Meas. No. .....

Comp. by .....

DISCHARGE MEASUREMENT NOTES

Checked by .....

Sta. No. R-4

Date 9/11/13 Party Flynn

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method 6/10 No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots ..... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather Warm / Mostly Cloudy

Other ..... Air 66°F @ 1333

Gage ..... Water 11.9 °C @ 1331

..... Record removed ..... Intake flushed .....

Observer No Wind

Control Turbidity = 2.61 NTU

pH 7.95

CONDUCTANCE 132 umhos/cm

G. H. of zero flow ..... ft.

Samples @ 1338

.0 .10 .20 .30 .40 .50 .60 .70 .75

River at—

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
LB	1										
	1.5		.1				0				
	2		.2				.07				
	2.5		.35				.24				
	3		.35				.27				
	3.5		.55				.26				
	4		.6				.33				
	4.5		.6				.24				
	5		.65				.24				
	5.5		.65				.28				
	6		.5				.30				
	6.5		.5				.22				
	7		.55				.08				
	7.5		.55				.07				
	8		.55				.07				
	8.5		.4				.04				
	9		.4				.04				
	9.25		.3				.02				
RB	9.4										

.0 .10 .20 .30 .40 .50 .60 .70 .75

WALKER MINE TAILINGS MONITORING PROGRAM

9-276
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Meas. No. .....
Comp. by .....
Checked by .....

DISCHARGE MEASUREMENT NOTES

Sta. No. R-3

Date 9/11/13 Party Flynn

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method 6/10 No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS

Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney

Date rated ..... for rod, other.

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots ..... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather Warm/Partly Cloudy

Other ..... Air 70°F @ 1443

Gage ..... Water 14.4°C @ 1440

..... Record removed ..... Intake flushed .....

Observer Slight Breeze

Control Turbidity = 1.79 NTU

pH pH = 7.96

CONDUCTANCE 113 umhos/cm

G. H. of zero flow ..... ft.

Samples @ 1448

River at—

	Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
	LB	.9										
		1		.05				0				
		1.5		.05				0				
		2		.1				.05				
		2.25		.15				.18				
		2.5		.2				0				
		2.75		.2				0				
		3		.25				.45				
		3.25		.25				.63				
		3.5		.2				.91				
		3.75		.2				.46				
		4		.2				.28				
		4.25		.15				.16				
		4.5		.2				.06				
⊙		4.75		.15				0				
		5		.2				.08				
		5.5		.3				.02				
		6		.3				.26				
		6.5		.225				.05				
		7		.15				0				
		7.5		<.05				0				
	RB	7.65										

WALKER MINE TAILINGS MONITORING PROGRAM

9-2765
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....
Comp. by .....
Checked by .....

Sta. No. R-1

Date 9/11/13 Party Flynn

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method 6/10 No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS

Time		Recorder	Inside	Outside
	Very Steady			
	Flow!			
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney

Date rated ..... for rod, other:

Meter ..... ft. above bottom of weight.

Spin before meas. ..... after .....

Meas. plots ..... % diff. from rating .....

Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....

Check-bar, found .....

changed to ..... at .....

Correct .....

Levels obtained .....

Measurement rated excellent (2%), good (5%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather Warm/Partly Cloudy

Other ..... Air 71°F @ 1605

Gage ..... Water 12.0°C @ 1607

..... Record removed ..... Intake flushed .....

Observer No Wind

Control Turbidity = 1.78 NTU

pH 7.18

CONDUCTANCE 112 umhos/cm

G. H. of zero flow ..... ft.

Samples @ 1600

.0 .10 .20 .30 .40 .50 .60 .70 .75

River at—

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for hor. angle or	Area	Discharge
LB	1.70										
	2		.15				.06				
	2.25		.55				.26				
	2.5		.65				.29				
	2.75		.7				.29				
	3		.75				.27				
	3.25		.6				.27				
	3.5		.5				.27				
	3.75		.5				.22				
	3.9		.3				.17				
RB	4.0										

.0 .10 .20 .30 .40 .50 .60 .70 .75

WALKER MINE TAILINGS MONITORING PROGRAM

9-2754
(May 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

DISCHARGE MEASUREMENT NOTES

Meas. No. .....
Comp. by .....
Checked by .....

Sta. No. R-5

Date 9/11/13, Party Flynn

Width ..... Area ..... Vel. ..... G. H. ..... Disch. .....

Method 6/10 No. secs. ..... G. H. change ..... in ..... hrs. Susp. .....

Method coef. ..... Hor. angle coef. ..... Susp. coef. ..... Meter No. .....

GAGE READINGS				
Time		Recorder	Inside	Outside
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Marsh McBirney
Date rated ..... for rod, other.
Meter ..... ft. above bottom of weight.
Spin before meas. ..... after .....
Meas. plots ..... % diff. from rating .....
Wading, cable, ice, boat, upstr., downstr., side bridge ..... feet, mile, above, below gage, and .....
Check-bar, found .....
changed to ..... at .....
Correct .....
Levels obtained .....

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section .....

Flow ..... Weather Warm / Partly Cloudy
Other ..... Air 71°F °C @ 1646
Gage ..... Water 12.8 °C @ 1644
Record removed ..... Intake flushed .....

Observer Very Slight Breeze

Control Turbidity = 2.44 NTU

pH 8.11

CONDUCTANCE 137 umhos/cm

G. H. of zero flow ..... ft.

Samples @ 1652

River at—

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY At point	VELOCITY Mean in vertical	Adjusted for bar, angle or	Area	Discharge
LB	1.8										
	2		.05				0				
	2.5		.4				.03				
	3		.5				.06				
	3.5		.55				.28				
	4		.55				.46				
	4.5		.5				.59				
	5		.5				.41				
	5.5		.5				.21				
	6		.5				.02				
	6.5		.5				.04				
	7		.5				.08				
	7.5		.4				.13				
	8		.4				.32				
⊙	8.5		.25				.22				
	9		.1				.10				
	9.5		<.05				0				
RB	9.7										

APPENDIX B

LABORATORY DATA PACKAGES

July 29, 2013

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Lab ID : CH 1373129
Customer : 7-10917

Laboratory Report

Introduction: This report package contains total of 20 pages divided into 3 sections:

Case Narrative	(2 pages)	: An overview of the work performed at FGL.
Sample Results	(16 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
W-8	06/02/2013	06/04/2013	CH 1373129-001	N/A
W-7	06/02/2013	06/04/2013	CH 1373129-002	N/A
W-5	06/02/2013	06/04/2013	CH 1373129-003	N/A
Field Blank	06/02/2013	06/04/2013	CH 1373129-004	N/A
W-3	06/02/2013	06/04/2013	CH 1373129-005	N/A
R-7	06/02/2013	06/04/2013	CH 1373129-006	N/A
R-9	06/02/2013	06/04/2013	CH 1373129-007	N/A
R-8	06/03/2013	06/04/2013	CH 1373129-008	N/A
Field Blank	06/03/2013	06/04/2013	CH 1373129-009	N/A
R-10	06/03/2013	06/04/2013	CH 1373129-010	N/A
R-11	06/03/2013	06/04/2013	CH 1373129-011	N/A
R-2	06/03/2013	06/04/2013	CH 1373129-012	N/A
R-4	06/03/2013	06/04/2013	CH 1373129-013	N/A
R-3	06/03/2013	06/04/2013	CH 1373129-014	N/A
R-1	06/03/2013	06/04/2013	CH 1373129-015	N/A
R-5	06/03/2013	06/04/2013	CH 1373129-016	N/A

Sampling and Receipt Information: All samples were received, prepared and analyzed within the method specified holding times. 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 29, 2013
Plumas National Forest

Lab ID : CH 1373129
Customer : 7-10917

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

Inorganic - Metals QC

200.7	06/11/2013:208440 All analysis quality controls are within established criteria.
	06/11/2013:206522 All preparation quality controls are within established criteria, except: The following note applies to Iron: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery. The following note applies to Iron, Magnesium: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
200.8	06/10/2013:208415 All analysis quality controls are within established criteria.
	06/10/2013:206500 All preparation quality controls are within established criteria, except: The following note applies to Zinc: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

Inorganic - Wet Chemistry QC

2320B	06/07/2013:208246 All analysis quality controls are within established criteria.
	06/06/2013:206341 All preparation quality controls are within established criteria.
300.0	06/09/2013:208641 All analysis quality controls are within established criteria.
	06/07/2013:206627 All preparation 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: 2013-07-29

July 29, 2013

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Description : W-8
Project : Water Testing

Lab ID : CH 1373129-001
Customer ID : 7-10917

Sampled On : June 2, 2013-09:35
Sampled By : Patrick Flynn
Received On : June 4, 2013-15:15
Matrix :

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	ND	1	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Total Hardness as CaCO3	182	2.5	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Calcium	63	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Magnesium	6	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Iron	540	50	ug/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Zinc	ND	10	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	170	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Bicarbonate	210	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Carbonate	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Hydroxide	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Sulfate	65	2	mg/L		300.0	06/07/13:206627	300.0	06/09/13:208641

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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 29, 2013

Lab ID : CH 1373129-002
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : June 2, 2013-10:28
Sampled By : Patrick Flynn
Received On : June 4, 2013-15:15
Matrix :

Description : W-7
Project : Water Testing

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	ND	1	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Total Hardness as CaCO3	30.7	2.5	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Calcium	9	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Magnesium	2	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Iron	ND	50	ug/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Zinc	ND	10	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	80	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Bicarbonate	90	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Carbonate	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Hydroxide	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Sulfate	ND	2	mg/L		300.0	06/07/13:206627	300.0	06/09/13:208641

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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 29, 2013

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Description : W-5
Project : Water Testing

Lab ID : CH 1373129-003
Customer ID : 7-10917

Sampled On : June 2, 2013-11:33
Sampled By : Patrick Flynn
Received On : June 4, 2013-15:15
Matrix :

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	ND	1	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Total Hardness as CaCO3	176	2.5	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Calcium	64	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Magnesium	4	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Iron	18400	50	ug/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Zinc	ND	10	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	100	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Bicarbonate	120	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Carbonate	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Hydroxide	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Sulfate	135	2	mg/L		300.0	06/07/13:206627	300.0	06/09/13:208641

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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 29, 2013

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Description : Field Blank
Project : Water Testing

Lab ID : CH 1373129-004
Customer ID : 7-10917

Sampled On : June 2, 2013-12:50
Sampled By : Patrick Flynn
Received On : June 4, 2013-15:15
Matrix :

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Diss[P,1]								
Copper	ND	1	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Total Hardness as CaCO3	ND	2.5	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Calcium	ND	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Magnesium	ND	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Iron	ND	50	ug/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Zinc	ND	10	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Wet Chemistry[P,1]								
Alkalinity (as CaCO3)	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Bicarbonate	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Carbonate	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Hydroxide	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Sulfate	ND	2	mg/L		300.0	06/07/13:206627	300.0	06/09/13:208641

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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 29, 2013

Lab ID : CH 1373129-005
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : June 2, 2013-13:08
Sampled By : Patrick Flynn
Received On : June 4, 2013-15:15
Matrix :

Description : W-3
Project : Water Testing

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	ND	1	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Total Hardness as CaCO3	183	2.5	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Calcium	62	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Magnesium	7	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Iron	ND	50	ug/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Zinc	ND	10	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	160	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Bicarbonate	190	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Carbonate	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Hydroxide	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Sulfate	67	2	mg/L		300.0	06/07/13:206627	300.0	06/09/13:208641

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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 29, 2013

Lab ID : CH 1373129-006
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : June 2, 2013-14:10
Sampled By : Patrick Flynn
Received On : June 4, 2013-15:15
Matrix :

Description : R-7
Project : Water Testing

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	13	1	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Total Hardness as CaCO3	59.6	2.5	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Calcium	14	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Magnesium	6	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Iron	300	50	ug/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Zinc	ND	10	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	120	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Bicarbonate	140	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Carbonate	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Hydroxide	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Sulfate	ND	2	mg/L		300.0	06/07/13:206627	300.0	06/09/13:208641

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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 29, 2013

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Description : R-9
Project : Water Testing

Lab ID : CH 1373129-007
Customer ID : 7-10917

Sampled On : June 2, 2013-15:35
Sampled By : Patrick Flynn
Received On : June 4, 2013-15:15
Matrix :

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	25	1	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Total Hardness as CaCO3	47.3	2.5	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Calcium	14	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Magnesium	3	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Iron	70	50	ug/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Zinc	20	10	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	110	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Bicarbonate	130	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Carbonate	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Hydroxide	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Sulfate	4	2	mg/L		300.0	06/07/13:206627	300.0	06/09/13:208641

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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 29, 2013

Lab ID : CH 1373129-008
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : June 3, 2013-11:20
Sampled By : Patrick Flynn
Received On : June 4, 2013-15:15
Matrix :

Description : R-8
Project : Water Testing

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P,1]								
Copper	12	1	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Total Hardness as CaCO3	59.6	2.5	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Calcium	14	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Magnesium	6	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Iron	210	50	ug/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Zinc	ND	10	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Wet Chemistry[P,1]								
Alkalinity (as CaCO3)	110	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Bicarbonate	140	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Carbonate	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Hydroxide	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Sulfate	ND	2	mg/L		300.0	06/07/13:206627	300.0	06/09/13:208641

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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 29, 2013

Lab ID : CH 1373129-009
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : June 3, 2013-11:35
Sampled By : Patrick Flynn
Received On : June 4, 2013-15:15
Matrix :

Description : Field Blank
Project : Water Testing

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P,1]								
Copper	ND	1	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Total Hardness as CaCO3	ND	2.5	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Calcium	ND	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Magnesium	ND	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Iron	ND	50	ug/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Zinc	ND	10	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Wet Chemistry[P,1]								
Alkalinity (as CaCO3)	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Bicarbonate	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Carbonate	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Hydroxide	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Sulfate	ND	2	mg/L		300.0	06/07/13:206627	300.0	06/09/13:208641

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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 29, 2013

Lab ID : CH 1373129-010
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : June 3, 2013-12:02
Sampled By : Patrick Flynn
Received On : June 4, 2013-15:15
Matrix :

Description : R-10
Project : Water Testing

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P,1]								
Copper	31	1	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Total Hardness as CaCO3	81.3	2.5	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Calcium	26	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Magnesium	4	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Iron	ND	50	ug/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Zinc	20	10	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Wet Chemistry[P,1]								
Alkalinity (as CaCO3)	110	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Bicarbonate	140	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Carbonate	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Hydroxide	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Sulfate	30	2	mg/L		300.0	06/07/13:206627	300.0	06/09/13:208641

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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 29, 2013

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Description : R-11
Project : Water Testing

Lab ID : CH 1373129-011
Customer ID : 7-10917

Sampled On : June 3, 2013-12:42
Sampled By : Patrick Flynn
Received On : June 4, 2013-15:15
Matrix :

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	56	1	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Total Hardness as CaCO3	81.3	2.5	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Calcium	26	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Magnesium	4	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Iron	110	50	ug/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Zinc	30	10	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	100	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Bicarbonate	130	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Carbonate	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Hydroxide	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Sulfate	31	2	mg/L		300.0	06/07/13:206627	300.0	06/09/13:208641

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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 29, 2013

Lab ID : CH 1373129-012
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : June 3, 2013-13:30
Sampled By : Patrick Flynn
Received On : June 4, 2013-15:15
Matrix :

Description : R-2
Project : Water Testing

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	53	1	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Total Hardness as CaCO3	81.3	2.5	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Calcium	26	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Magnesium	4	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Iron	100	50	ug/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Zinc	30	10	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	120	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Bicarbonate	140	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Carbonate	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Hydroxide	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Sulfate	32	2	mg/L		300.0	06/07/13:206627	300.0	06/09/13:208641

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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 29, 2013

Lab ID : CH 1373129-013
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : June 3, 2013-13:55
Sampled By : Patrick Flynn
Received On : June 4, 2013-15:15
Matrix :

Description : R-4
Project : Water Testing

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	3	1	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Total Hardness as CaCO3	48.9	2.5	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Calcium	13	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Magnesium	4	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Iron	340	50	ug/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Zinc	ND	10	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	110	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Bicarbonate	130	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Carbonate	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Hydroxide	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Sulfate	4	2	mg/L		300.0	06/07/13:206627	300.0	06/09/13:208641

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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 29, 2013

Lab ID : CH 1373129-014
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : June 3, 2013-15:05
Sampled By : Patrick Flynn
Received On : June 4, 2013-15:15
Matrix :

Description : R-3
Project : Water Testing

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P,1]								
Copper	ND	1	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Total Hardness as CaCO3	34.8	2.5	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Calcium	9	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Magnesium	3	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Iron	180	50	ug/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Zinc	ND	10	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Wet Chemistry[P,1]								
Alkalinity (as CaCO3)	110	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Bicarbonate	130	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Carbonate	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Hydroxide	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Sulfate	ND	2	mg/L		300.0	06/07/13:206627	300.0	06/09/13:208641

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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 29, 2013

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Description : R-1
Project : Water Testing

Lab ID : CH 1373129-015
Customer ID : 7-10917

Sampled On : June 3, 2013-16:05
Sampled By : Patrick Flynn
Received On : June 4, 2013-15:15
Matrix :

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Diss[P:1]								
Copper	9	1	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Total Hardness as CaCO3	59.6	2.5	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Calcium	14	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Magnesium	6	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Iron	180	50	ug/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Zinc	ND	10	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	120	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Bicarbonate	150	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Carbonate	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Hydroxide	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Sulfate	ND	2	mg/L		300.0	06/07/13:206627	300.0	06/09/13:208641

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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 29, 2013

Lab ID : CH 1373129-016
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : June 3, 2013-17:10
Sampled By : Patrick Flynn
Received On : June 4, 2013-15:15
Matrix :

Description : R-5
Project : Water Testing

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	7	1	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Total Hardness as CaCO3	48.9	2.5	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Calcium	13	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Magnesium	4	1	mg/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Iron	470	50	ug/L		200.7	06/11/13:206522	200.7	06/11/13:208440
Zinc	ND	10	ug/L		200.8	06/10/13:206500	200.8	06/10/13:208415
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	110	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Bicarbonate	140	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Carbonate	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Hydroxide	ND	10	mg/L		2320B	06/06/13:206341	2320B	06/07/13:208246
Sulfate	4	2	mg/L		300.0	06/07/13:206627	300.0	06/09/13:208641

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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 29, 2013
Plumas National Forest

Lab ID : CH 1373129
Customer : 7-10917

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Calcium	200.7		MS	mg/L	12.00	76.6 %	75-125	
		(CH 1373129-001)	MSD	mg/L	12.00	118 %	75-125	
			MSRPD	mg/L	798.8	6.6%	≤20.0	
			MS	mg/L	12.00	86.7 %	75-125	
		(CH 1373129-011)	MSD	mg/L	12.00	112 %	75-125	
			MSRPD	mg/L	798.8	8.1%	≤20.0	
	200.7	06/11/13:208440AC	CCV	ppm	25.00	101 %	90-110	
			CCB	ppm		0.009	1.0	
			CCV	ppm	25.00	100 %	90-110	
			CCB	ppm		0.01	1.0	
			CCV	ppm	25.00	99.5 %	90-110	
			CCB	ppm		0.009	1.0	
			CCV	ppm	25.00	98.8 %	90-110	
			CCB	ppm		0.009	1.0	
Iron	200.7		MS	ug/L	3992	79.3 %	75-125	
		(CH 1373129-001)	MSD	ug/L	3992	126 %	75-125	435
			MSRPD	ug/L	798.8	40.1%	≤20.0	435
			MS	ug/L	3992	92.8 %	75-125	
		(CH 1373129-011)	MSD	ug/L	3992	119 %	75-125	
			MSRPD	ug/L	798.8	24.2%	≤20.0	435
	200.7	06/11/13:208440AC	CCV	ppm	5.000	99.9 %	90-110	
			CCB	ppm		0.0029	0.05	
			CCV	ppm	5.000	99.3 %	90-110	
			CCB	ppm		0.0025	0.05	
			CCV	ppm	5.000	99.1 %	90-110	
			CCB	ppm		0.0020	0.05	
			CCV	ppm	5.000	99.3 %	90-110	
			CCB	ppm		0.0017	0.05	
Magnesium	200.7		MS	mg/L	12.00	77.8 %	75-125	
		(CH 1373129-001)	MSD	mg/L	12.00	123 %	75-125	
			MSRPD	mg/L	798.8	29.9%	≤20.0	435
			MS	mg/L	12.00	90.4 %	75-125	
		(CH 1373129-011)	MSD	mg/L	12.00	116 %	75-125	
			MSRPD	mg/L	798.8	19.0%	≤20.0	
	200.7	06/11/13:208440AC	CCV	ppm	25.00	97.5 %	90-110	
			CCB	ppm		0.003	1.0	
			CCV	ppm	25.00	97.7 %	90-110	
			CCB	ppm		0.002	1.0	
			CCV	ppm	25.00	98.3 %	90-110	
			CCB	ppm		0.002	1.0	
			CCV	ppm	25.00	98.3 %	90-110	
			CCB	ppm		0.005	1.0	
Copper	200.8		MS	ug/L	5.000	116 %	75-125	
		(CH 1373129-001)	MSD	ug/L	5.000	101 %	75-125	
			MSRPD	ug/L	5.000	14.1%	≤20	
			MS	ug/L	5.000	123 %	75-125	
		(CH 1373129-011)	MSD	ug/L	5.000	76.8 %	75-125	
			MSRPD	ug/L	5.000	3.8%	≤20	
	200.8	06/10/13:208415AC	CCV	ppb	120.0	104 %	90-110	
			CCB	ppb		-0.040	0.5	
			CCV	ppb	120.0	103 %	90-110	
			CCB	ppb		-0.024	0.5	
			CCV	ppb	120.0	108 %	90-110	
			CCB	ppb		0.039	0.5	
			CCV	ppb	120.0	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 29, 2013
Plumas National Forest

Lab ID : CH 1373129
Customer : 7-10917

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Copper	200.8	06/10/13:208415AC	CCB	ppb		0.015	0.5	
Zinc	200.8		MS	ug/L	5.000	126 %	75-125	435
		(CH 1373129-001)	MSD	ug/L	5.000	110 %	75-125	
			MSRPD	ug/L	5.000	0.80	≤10	
			MS	ug/L	5.000	147 %	<¼	
		(CH 1373129-011)	MSD	ug/L	5.000	107 %	75-125	
			MSRPD	ug/L	5.000	2.0	≤10	
	200.8	06/10/13:208415AC	CCV	ppb	120.0	101 %	90-110	
			CCB	ppb		-0.05	10	
			CCV	ppb	120.0	101 %	90-110	
			CCB	ppb		0.01	10	
			CCV	ppb	120.0	103 %	90-110	
			CCB	ppb		0.1	10	
			CCV	ppb	120.0	104 %	90-110	
			CCB	ppb		0.1	10	
Wet Chem								
Alkalinity (as CaCO3)	2320B	(SP 1305631-018)	Dup	mg/L		0.0%	3.42	
		(CH 1373129-003)	Dup	mg/L		0.4%	3.42	
	2320B	06/07/13:208246AMB	CCV	mg/L	234.9	100 %	80-120	
			CCV	mg/L	234.9	102 %	80-120	
Bicarbonate	2320B	(SP 1305631-018)	Dup	mg/L		0.0%	4.78	
		(CH 1373129-003)	Dup	mg/L		0.4%	4.78	
Carbonate	2320B	(SP 1305631-018)	Dup	mg/L		0.0	10	
		(CH 1373129-003)	Dup	mg/L		0.0	10	
Hydroxide	2320B	(SP 1305631-018)	Dup	mg/L		0.0	10	
		(CH 1373129-003)	Dup	mg/L		0.0	10	
Sulfate	300.0	06/07/13:206627CHL	LCS	mg/L	50.00	95.5 %	90-110	
			MS	mg/L	1000	97.6 %	92-113	
		(CH 1373129-001)	MSD	mg/L	1000	96.2 %	92-113	
			MSRPD	mg/L	500.0	1.3%	≤4	
	300.0	06/09/13:208641CHL	CCB	ppm		0.68	2	
			CCV	ppm	50.00	99.0 %	90-110	
			CCB	ppm		0.49	2	
			CCV	ppm	50.00	98.1 %	90-110	
			CCB	ppm		0.57	2	
			CCV	ppm	50.00	100 %	90-110	
			CCB	ppm		0.46	2	
			CCV	ppm	50.00	100 %	90-110	

Definition

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.
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.
<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

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

August 9, 2013

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Lab ID : CH 1374884
Customer : 7-10917

Laboratory Report

Introduction: This report package contains total of 14 pages divided into 3 sections:

Case Narrative	(2 pages)	: An overview of the work performed at FGL.
Sample Results	(9 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
R11	07/23/2013	07/24/2013	CH 1374884-001	SW
R7	07/23/2013	07/24/2013	CH 1374884-002	SW
R9	07/23/2013	07/24/2013	CH 1374884-003	SW
Field Blanks	07/23/2013	07/24/2013	CH 1374884-004	SW
R8	07/23/2013	07/24/2013	CH 1374884-005	SW
R4	07/23/2013	07/24/2013	CH 1374884-006	SW
R3	07/23/2013	07/24/2013	CH 1374884-007	SW
R1	07/23/2013	07/24/2013	CH 1374884-008	SW
R5	07/23/2013	07/24/2013	CH 1374884-009	SW

Sampling and Receipt Information: All samples were received, prepared and analyzed within the method specified holding times. 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	07/29/2013:206825 All analysis quality controls are within established criteria.
	07/30/2013:206825 All analysis quality controls are within established criteria.
	08/05/2013:211380 All analysis quality controls are within established criteria.
	07/25/2013:210825 All analysis quality controls are within established criteria, except: The following note applies to Calcium, Iron, Magnesium: 360 CCV above Acceptance Range (AR). Samples which were non detect for this analyte were accepted.

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

August 9, 2013
Plumas National Forest

Lab ID : CH 1374884
Customer : 7-10917

Inorganic - Metals QC

200.7	07/25/2013:208436 All preparation quality controls are within established criteria, except: The following note applies to Calcium, Magnesium, Iron: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
	08/05/2013:208846 All preparation quality controls are within established criteria.
200.8	07/25/2013:210823 All analysis quality controls are within established criteria.
	07/26/2013:210913 All analysis quality controls are within established criteria.
	07/25/2013:208427 All preparation quality controls are within established criteria, except: The following note applies to Copper: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

Inorganic - Wet Chemistry QC

2320B	07/29/2013:210915 All analysis quality controls are within established criteria.
	07/26/2013:208451 All preparation quality controls are within established criteria.
300.0	08/02/2013:211546 All analysis quality controls are within established criteria.
	08/01/2013:209004 All preparation 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:CEA

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2013-08-09

August 9, 2013

Lab ID : CH 1374884-001
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : July 23, 2013-09:20
Sampled By : Pat Flynn
Received On : July 24, 2013-16:05
Matrix : Surface Water

Description : R11
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	9.71	1	ug/L		200.8	07/25/13:208427	200.8	07/25/13:210823
Total Hardness as CaCO3	68.1	--	mg/L		200.7	07/25/13:208436	200.7	07/29/13:206825
Calcium	15.7	1	mg/L		200.7	07/25/13:208436	200.7	07/29/13:206825
Magnesium	7.02	1	mg/L		200.7	07/25/13:208436	200.7	07/29/13:206825
Iron	0.182	0.02	mg/L		200.7	07/25/13:208436	200.7	07/29/13:206825
Zinc	2.66	2	ug/L		200.8	07/25/13:208427	200.8	07/25/13:210823
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	84.0	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Bicarbonate	102	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Carbonate	ND	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Hydroxide	ND	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Sulfate	0.824	1	mg/L		300.0	08/01/13:209004	300.0	08/02/13:211546

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

August 9, 2013

Lab ID : CH 1374884-002
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : July 23, 2013-10:00
Sampled By : Pat Flynn
Received On : July 24, 2013-16:05
Matrix : Surface Water

Description : R7
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	8.73	1	ug/L		200.8	07/25/13:208427	200.8	07/25/13:210823
Total Hardness as CaCO3	71.0	--	mg/L		200.7	07/25/13:208436	200.7	07/29/13:206825
Calcium	16.2	1	mg/L		200.7	07/25/13:208436	200.7	07/29/13:206825
Magnesium	7.44	1	mg/L		200.7	07/25/13:208436	200.7	07/29/13:206825
Iron	0.204	0.02	mg/L		200.7	07/25/13:208436	200.7	07/29/13:206825
Zinc	3.25	2	ug/L		200.8	07/25/13:208427	200.8	07/25/13:210823
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	80.0	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Bicarbonate	97.6	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Carbonate	ND	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Hydroxide	ND	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Sulfate	0.791	1	mg/L		300.0	08/01/13:209004	300.0	08/02/13:211546

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

August 9, 2013

Lab ID : CH 1374884-003
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : July 23, 2013-12:00
Sampled By : Pat Flynn
Received On : July 24, 2013-16:05
Matrix : Surface Water

Description : R9
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	16.8	1	ug/L		200.8	07/25/13:208427	200.8	07/25/13:210823
Total Hardness as CaCO3	56.5	--	mg/L		200.7	07/25/13:208436	200.7	07/29/13:206825
Calcium	16.0	1	mg/L		200.7	07/25/13:208436	200.7	07/29/13:206825
Magnesium	4.03	1	mg/L		200.7	07/25/13:208436	200.7	07/29/13:206825
Iron	0.00922	0.02	mg/L		200.7	07/25/13:208436	200.7	07/25/13:210825
Zinc	8.28	2	ug/L		200.8	07/25/13:208427	200.8	07/25/13:210823
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	76.0	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Bicarbonate	92.7	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Carbonate	ND	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Hydroxide	ND	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Sulfate	2.50	1	mg/L		300.0	08/01/13:209004	300.0	08/02/13:211546

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

August 9, 2013

Lab ID : CH 1374884-004
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : July 23, 2013-12:20
Sampled By : Pat Flynn
Received On : July 24, 2013-16:05
Matrix : Surface Water

Description : Field Blanks
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	1.19	1	ug/L		200.8	07/25/13:208427	200.8	07/25/13:210823
Total Hardness as CaCO3	0.0246	--	mg/L		200.7	07/25/13:208436	200.7	07/25/13:210825
Calcium	ND	1	mg/L		200.7	07/25/13:208436	200.7	07/25/13:210825
Magnesium	0.00599	1	mg/L		200.7	07/25/13:208436	200.7	07/25/13:210825
Iron	ND	0.02	mg/L		200.7	07/25/13:208436	200.7	07/25/13:210825
Zinc	ND	2	ug/L		200.8	07/25/13:208427	200.8	07/25/13:210823
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	6.00	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Bicarbonate	7.32	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Carbonate	ND	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Hydroxide	ND	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Sulfate	0.525	1	mg/L		300.0	08/01/13:209004	300.0	08/02/13:211546

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

August 9, 2013

Lab ID : CH 1374884-005
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : July 23, 2013-12:30
Sampled By : Pat Flynn
Received On : July 24, 2013-16:05
Matrix : Surface Water

Description : R8
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P;]								
Copper	12.4	1	ug/L		200.8	07/25/13:208427	200.8	07/25/13:210823
Total Hardness as CaCO3	67.5	--	mg/L		200.7	07/25/13:208436	200.7	07/29/13:206825
Calcium	15.5	1	mg/L		200.7	07/25/13:208436	200.7	07/29/13:206825
Magnesium	7.00	1	mg/L		200.7	07/25/13:208436	200.7	07/29/13:206825
Iron	0.199	0.02	mg/L		200.7	07/25/13:208436	200.7	07/29/13:206825
Zinc	6.09	2	ug/L		200.8	07/25/13:208427	200.8	07/25/13:210823
Wet Chemistry[P;]								
Alkalinity (as CaCO3)	84.0	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Bicarbonate	102	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Carbonate	ND	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Hydroxide	ND	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Sulfate	0.764	1	mg/L		300.0	08/01/13:209004	300.0	08/02/13:211546

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

August 9, 2013

Lab ID : CH 1374884-006
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : July 23, 2013-14:25
Sampled By : Pat Flynn
Received On : July 24, 2013-16:05
Matrix : Surface Water

Description : R4
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	3.97	1	ug/L		200.8	07/25/13:208427	200.8	07/26/13:210913
Total Hardness as CaCO3	83.4	--	mg/L		200.7	07/25/13:208436	200.7	07/30/13:206825
Calcium	22.5	1	mg/L		200.7	07/25/13:208436	200.7	07/30/13:206825
Magnesium	6.63	1	mg/L		200.7	07/25/13:208436	200.7	07/30/13:206825
Iron	0.448	0.02	mg/L		200.7	07/25/13:208436	200.7	07/30/13:206825
Zinc	1.58	2	ug/L		200.8	07/25/13:208427	200.8	07/26/13:210913
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	84.0	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Bicarbonate	102	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Carbonate	ND	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Hydroxide	ND	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Sulfate	11.9	1	mg/L		300.0	08/01/13:209004	300.0	08/02/13:211546

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

August 9, 2013

Lab ID : CH 1374884-007
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : July 23, 2013-15:58
Sampled By : Pat Flynn
Received On : July 24, 2013-16:05
Matrix : Surface Water

Description : R3
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	2.11	1	ug/L		200.8	07/25/13:208427	200.8	07/26/13:210913
Total Hardness as CaCO3	48.5	--	mg/L		200.7	07/25/13:208436	200.7	07/30/13:206825
Calcium	12.4	1	mg/L		200.7	07/25/13:208436	200.7	07/30/13:206825
Magnesium	4.28	1	mg/L		200.7	07/25/13:208436	200.7	07/30/13:206825
Iron	0.345	0.02	mg/L		200.7	07/25/13:208436	200.7	07/30/13:206825
Zinc	3.17	2	ug/L		200.8	07/25/13:208427	200.8	07/26/13:210913
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	68.0	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Bicarbonate	83.0	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Carbonate	ND	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Hydroxide	ND	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Sulfate	0.506	1	mg/L		300.0	08/01/13:209004	300.0	08/02/13:211546

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

August 9, 2013

Lab ID : CH 1374884-008
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : July 23, 2013-16:50
Sampled By : Pat Flynn
Received On : July 24, 2013-16:05
Matrix : Surface Water

Description : R1
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	5.98	1	ug/L		200.8	07/25/13:208427	200.8	07/26/13:210913
Total Hardness as CaCO3	69.2	--	mg/L		200.7	08/05/13:208846	200.7	08/05/13:211380
Calcium	15.3	1	mg/L		200.7	08/05/13:208846	200.7	08/05/13:211380
Magnesium	7.54	1	mg/L		200.7	08/05/13:208846	200.7	08/05/13:211380
Iron	0.249	0.02	mg/L		200.7	08/05/13:208846	200.7	08/05/13:211380
Zinc	1.60	2	ug/L		200.8	07/25/13:208427	200.8	07/26/13:210913
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	88.0	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Bicarbonate	107	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Carbonate	ND	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Hydroxide	ND	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Sulfate	0.673	1	mg/L		300.0	08/01/13:209004	300.0	08/02/13:211546

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

August 9, 2013

Lab ID : CH 1374884-009
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : July 23, 2013-17:45
Sampled By : Pat Flynn
Received On : July 24, 2013-16:05
Matrix : Surface Water

Description : R5
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	4.73	1	ug/L		200.8	07/25/13:208427	200.8	07/26/13:210913
Total Hardness as CaCO3	76.7	--	mg/L		200.7	08/05/13:208846	200.7	08/05/13:211380
Calcium	20.6	1	mg/L		200.7	08/05/13:208846	200.7	08/05/13:211380
Magnesium	6.16	1	mg/L		200.7	08/05/13:208846	200.7	08/05/13:211380
Iron	0.373	0.02	mg/L		200.7	08/05/13:208846	200.7	08/05/13:211380
Zinc	1.86	2	ug/L		200.8	07/25/13:208427	200.8	07/26/13:210913
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	84.0	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Bicarbonate	102	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Carbonate	ND	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Hydroxide	ND	10	mg/L		2320B	07/26/13:208451	2320B	07/29/13:210915
Sulfate	11.5	1	mg/L		300.0	08/01/13:209004	300.0	08/02/13:211546

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

August 9, 2013
Plumas National Forest

Lab ID : CH 1374884
Customer : 7-10917

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Calcium	200.7		MS	mg/L	12.00	161 %	75-125	435
		(STK1335435-002)	MSD	mg/L	12.00	188 %	75-125	435
			MSRPD	mg/L	798.8	5.8%	≤20.0	
	200.7	07/25/13:210825AC	CCV	ppm	25.00	102 %	90-110	
			CCB	ppm		0.004	1.0	
			CCV	ppm	25.00	117 %	90-110	360
			CCB	ppm		0.01	1.0	
	200.7	07/29/13:206825AC	CCV	ppm	25.00	99.6 %	90-110	
			CCB	ppm		-0.09	1.0	
			CCV	ppm	25.00	102 %	90-110	
			CCB	ppm		-0.05	1.0	
	200.7		MS	mg/L	12.00	104 %	75-125	
		(CH 1374884-008)	MSD	mg/L	12.00	98.8 %	75-125	
			MSRPD	mg/L	4.000	2.0%	≤20.0	
	200.7	08/05/13:211380AC	CCV	ppm	25.00	96.2 %	90-110	
			CCB	ppm		0.03	1.0	
			CCV	ppm	25.00	96.7 %	90-110	
			CCB	ppm		0.02	1.0	
Iron	200.7		MS	ug/L	3992	124 %	75-125	
		(STK1335435-002)	MSD	ug/L	3992	132 %	75-125	435
			MSRPD	ug/L	798.8	6.6%	≤20.0	
	200.7	07/25/13:210825AC	CCV	ppm	5.000	100 %	90-110	
			CCB	ppm		0.0016	0.05	
			CCV	ppm	5.000	117 %	90-110	360
			CCB	ppm		0.0015	0.05	
	200.7	07/29/13:206825AC	CCV	ppm	5.000	100 %	90-110	
			CCB	ppm		-0.0231	0.05	
			CCV	ppm	5.000	100 %	90-110	
			CCB	ppm		-0.0019	0.05	
	200.7		MS	ug/L	3992	108 %	75-125	
		(CH 1374884-008)	MSD	ug/L	3992	109 %	75-125	
			MSRPD	ug/L	4.000	1.2%	≤20.0	
	200.7	08/05/13:211380AC	CCV	ppm	5.000	98.1 %	90-110	
			CCB	ppm		0.0037	0.05	
			CCV	ppm	5.000	95.8 %	90-110	
			CCB	ppm		-0.0089	0.05	
Magnesium	200.7		MS	mg/L	12.00	130 %	75-125	435
		(STK1335435-002)	MSD	mg/L	12.00	140 %	75-125	435
			MSRPD	mg/L	798.8	5.3%	≤20.0	
	200.7	07/25/13:210825AC	CCV	ppm	25.00	98.8 %	90-110	
			CCB	ppm		0.009	1.0	
			CCV	ppm	25.00	113 %	90-110	360
			CCB	ppm		0.002	1.0	
	200.7	07/29/13:206825AC	CCV	ppm	25.00	99.4 %	90-110	
			CCB	ppm		-0.12	1.0	
			CCV	ppm	25.00	101 %	90-110	
			CCB	ppm		-0.02	1.0	
	200.7		MS	mg/L	12.00	106 %	75-125	
		(CH 1374884-008)	MSD	mg/L	12.00	106 %	75-125	
			MSRPD	mg/L	4.000	0.05%	≤20.0	
	200.7	08/05/13:211380AC	CCV	ppm	25.00	97.4 %	90-110	
			CCB	ppm		-0.004	1.0	
			CCV	ppm	25.00	96.4 %	90-110	
			CCB	ppm		0.03	1.0	
Copper	200.8		MS	ug/L	5.000	77.2 %	75-125	

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

August 9, 2013
Plumas National Forest

Lab ID : CH 1374884
Customer : 7-10917

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Copper	200.8	(CH 1374753-001)	MSD	ug/L	5.000	107 %	75-125	
			MSRPD	ug/L	5.000	27.6%	≤20	435
	200.8	07/25/13:210823AC	CCV	ppb	120.0	97.2 %	90-110	
			CCB	ppb		0.139	0.5	
			CCV	ppb	120.0	99.5 %	90-110	
			CCB	ppb		-0.003	0.5	
	200.8	07/26/13:210913AC	CCV	ppb	120.0	98.7 %	90-110	
			CCB	ppb		-0.005	0.5	
			CCV	ppb	120.0	101 %	90-110	
			CCB	ppb		0.020	0.5	
Zinc	200.8		MS	ug/L	5.000	278 %	<¼	
		(CH 1374753-001)	MSD	ug/L	5.000	465 %	<¼	
			MSRPD	ug/L	5.000	9.3	≤10	
	200.8	07/25/13:210823AC	CCV	ppb	120.0	97.3 %	90-110	
			CCB	ppb		0.05	10	
			CCV	ppb	120.0	99.3 %	90-110	
			CCB	ppb		-0.2	10	
	200.8	07/26/13:210913AC	CCV	ppb	120.0	97.4 %	90-110	
			CCB	ppb		0.09	10	
			CCV	ppb	120.0	98.1 %	90-110	
			CCB	ppb		-0.03	10	
Wet Chem								
Alkalinity (as CaCO3)	2320B	(CC 1382748-001)	Dup	mg/L		0.0%	3.42	
	2320B	07/29/13:210915AMB	CCV	mg/L	234.9	107 %	80-120	
			CCV	mg/L	234.9	106 %	80-120	
Bicarbonate	2320B	(CC 1382748-001)	Dup	mg/L		0.0%	4.78	
Carbonate	2320B	(CC 1382748-001)	Dup	mg/L		0.0	10	
Hydroxide	2320B	(CC 1382748-001)	Dup	mg/L		0.0	10	
Sulfate	300.0	08/01/13:209004CHL	LCS	mg/L	50.00	91.4 %	90-110	
			MS	mg/L	1000	95.0 %	92-113	
		(STK1337503-001)	MSD	mg/L	1000	94.9 %	92-113	
			MSRPD	mg/L	500.0	0.1%	≤4	
			LCS	mg/L	50.00	94.4 %	90-110	
			MS	mg/L	1000	96.3 %	92-113	
		(CH 1374884-001)	MSD	mg/L	1000	96.6 %	92-113	
			MSRPD	mg/L	500.0	0.3%	≤4	
	300.0	08/02/13:211546CHL	CCB	ppm		0.50	2	
			CCV	ppm	50.00	93.7 %	90-110	
			CCB	ppm		0.45	2	
			CCV	ppm	50.00	94.3 %	90-110	
			CCB	ppm		0.40	2	
			CCV	ppm	50.00	93.7 %	90-110	

Definition

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.
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.

August 9, 2013
Plumas National Forest

Lab ID : CH 1374884
Customer : 7-10917

Quality Control - Inorganic

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

October 3, 2013

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Lab ID : CH 1376283
Customer : 7-10917

Laboratory Report

Introduction: This report package contains total of 20 pages divided into 3 sections:

Case Narrative	(3 pages)	: An overview of the work performed at FGL.
Sample Results	(14 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
W-8	09/11/2013	09/13/2013	CH 1376283-001	GW
Field Blanks	09/11/2013	09/13/2013	CH 1376283-002	GW
W-3	09/11/2013	09/13/2013	CH 1376283-003	GW
W-7	09/11/2013	09/13/2013	CH 1376283-004	GW
W-5	09/11/2013	09/13/2013	CH 1376283-005	GW
R-7	09/11/2013	09/13/2013	CH 1376283-006	SW
R-9	09/11/2013	09/13/2013	CH 1376283-007	SW
Field Blanks	09/11/2013	09/13/2013	CH 1376283-008	SW
R-8	09/11/2013	09/13/2013	CH 1376283-009	SW
R-11	09/11/2013	09/13/2013	CH 1376283-010	SW
R-4	09/11/2013	09/13/2013	CH 1376283-011	SW
R-3	09/11/2013	09/13/2013	CH 1376283-012	SW
R-1	09/11/2013	09/13/2013	CH 1376283-013	SW
R-5	09/11/2013	09/13/2013	CH 1376283-014	SW

Sampling and Receipt Information: All samples were received, prepared and analyzed within the method specified holding times. 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	09/17/2013:213760 All analysis quality controls are within established criteria.
	09/17/2013:210653 All preparation quality controls are within established criteria, except:

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

October 3, 2013
Plumas National Forest

Lab ID : CH 1376283
Customer : 7-10917

Inorganic - Metals QC

200.7	The following note applies to Iron, Magnesium: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
200.8	09/18/2013:213806 All analysis quality controls are within established criteria.
	09/18/2013:213807 All analysis quality controls are within established criteria.
	09/19/2013:213916 All analysis quality controls are within established criteria.
	09/18/2013:210700 All preparation quality controls are within established criteria, except: The following note applies to Zinc: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery. The following note applies to Zinc: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

Inorganic - Wet Chemistry QC

2320B	09/18/2013:213805 All analysis quality controls are within established criteria.
	09/18/2013:210691 All preparation quality controls are within established criteria.
300.0	09/25/2013:214250 All analysis quality controls are within established criteria.
	09/26/2013:214428 All analysis quality controls are within established criteria.
	09/26/2013:214598 All analysis quality controls are within established criteria.
	09/24/2013:210980 All preparation quality controls are within established criteria, except: The following note applies to Sulfate: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery. The following note applies to Sulfate: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
	09/26/2013:211229 All preparation quality controls are within established criteria.
	09/26/2013:211340 All preparation quality controls are within established criteria, except:

October 3, 2013
Plumas National Forest

Lab ID : CH 1376283
Customer : 7-10917

Inorganic - Wet Chemistry QC

300.0	The following note applies to Sulfate: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

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: 2013-10-03

October 3, 2013

Lab ID : CH 1376283-001
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : September 11, 2013-07:34
Sampled By : Patrick Flynn
Received On : September 13, 2013-09:10
Matrix : Ground Water

Description : W-8
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	0.322	1	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213806
Total Hardness as CaCO3	177	--	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Calcium	60.8	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Magnesium	6.20	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Iron	0.559	0.02	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Zinc	2.85	2	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213806
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	116	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Bicarbonate	141	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Carbonate	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Hydroxide	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Sulfate	68.9	1	mg/L		300.0	09/24/13:210980	300.0	09/25/13:214250

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

October 3, 2013

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Description : Field Blanks
Project : Water Quality Monitoring

Lab ID : CH 1376283-002
Customer ID : 7-10917

Sampled On : September 11, 2013-07:48
Sampled By : Patrick Flynn
Received On : September 13, 2013-09:10
Matrix : Ground Water

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	ND	1	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Total Hardness as CaCO3	ND	--	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Calcium	ND	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Magnesium	ND	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Iron	ND	0.02	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Zinc	ND	2	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	1.45	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Bicarbonate	1.71	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Carbonate	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Hydroxide	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Sulfate	0.446	1	mg/L		300.0	09/26/13:211340	300.0	09/26/13:214598

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

October 3, 2013

Lab ID : CH 1376283-003
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : September 11, 2013-08:32
Sampled By : Patrick Flynn
Received On : September 13, 2013-09:10
Matrix : Ground Water

Description : W-3
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	0.246	1	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Total Hardness as CaCO3	175	--	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Calcium	60.0	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Magnesium	6.14	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Iron	0.558	0.02	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Zinc	53.8	2	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	114	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Bicarbonate	139	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Carbonate	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Hydroxide	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Sulfate	68.3	1	mg/L		300.0	09/26/13:211340	300.0	09/26/13:214598

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

October 3, 2013

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Description : W-7
Project : Water Quality Monitoring

Lab ID : CH 1376283-004
Customer ID : 7-10917

Sampled On : September 11, 2013-09:24
Sampled By : Patrick Flynn
Received On : September 13, 2013-09:10
Matrix : Ground Water

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	1.02	1	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Total Hardness as CaCO3	27.9	--	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Calcium	8.13	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Magnesium	1.86	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Iron	0.0364	0.02	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Zinc	5.66	2	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	36.4	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Bicarbonate	44.4	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Carbonate	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Hydroxide	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Sulfate	1.68	1	mg/L		300.0	09/26/13:211229	300.0	09/26/13:214428

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

October 3, 2013

Lab ID : CH 1376283-005
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : September 11, 2013-10:25
Sampled By : Patrick Flynn
Received On : September 13, 2013-09:10
Matrix : Ground Water

Description : W-5
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Diss[P:1]								
Copper	0.629	1	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Total Hardness as CaCO3	154	--	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Calcium	56.4	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Magnesium	3.26	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Iron	19.1	0.02	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Zinc	3.50	2	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	54.6	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Bicarbonate	66.6	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Carbonate	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Hydroxide	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Sulfate	119	1	mg/L		300.0	09/26/13:211229	300.0	09/26/13:214428

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

October 3, 2013

Lab ID : CH 1376283-006
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : September 11, 2013-10:55
Sampled By : Patrick Flynn
Received On : September 13, 2013-09:10
Matrix : Surface Water

Description : R-7
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	10.2	1	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Total Hardness as CaCO3	69.2	--	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Calcium	15.8	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Magnesium	7.24	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Iron	0.276	0.02	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Zinc	2.37	2	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	73.1	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Bicarbonate	89.3	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Carbonate	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Hydroxide	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Sulfate	2.75	1	mg/L		300.0	09/26/13:211229	300.0	09/26/13:214428

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

October 3, 2013

Lab ID : CH 1376283-007
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : September 11, 2013-11:48
Sampled By : Patrick Flynn
Received On : September 13, 2013-09:10
Matrix : Surface Water

Description : R-9
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	14.2	1	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Total Hardness as CaCO3	55.9	--	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Calcium	15.4	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Magnesium	4.25	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Iron	0.00465	0.02	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Zinc	5.71	2	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	62.2	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Bicarbonate	75.9	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Carbonate	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Hydroxide	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Sulfate	3.28	1	mg/L		300.0	09/26/13:211229	300.0	09/26/13:214428

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

October 3, 2013

Lab ID : CH 1376283-008
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : September 11, 2013-12:20
Sampled By : Patrick Flynn
Received On : September 13, 2013-09:10
Matrix : Surface Water

Description : Field Blanks
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	ND	1	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Total Hardness as CaCO3	ND	--	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Calcium	ND	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Magnesium	ND	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Iron	ND	0.02	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Zinc	ND	2	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Bicarbonate	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Carbonate	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Hydroxide	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Sulfate	1.66	1	mg/L		300.0	09/26/13:211229	300.0	09/26/13:214428

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

October 3, 2013

Lab ID : CH 1376283-009
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : September 11, 2013-12:26
Sampled By : Patrick Flynn
Received On : September 13, 2013-09:10
Matrix : Surface Water

Description : R-8
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	11.5	1	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Total Hardness as CaCO3	65.7	--	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Calcium	15.1	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Magnesium	6.81	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Iron	0.180	0.02	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Zinc	3.02	2	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	67.5	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Bicarbonate	82.5	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Carbonate	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Hydroxide	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Sulfate	2.64	1	mg/L		300.0	09/26/13:211229	300.0	09/26/13:214428

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

October 3, 2013

Lab ID : CH 1376283-010
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : September 11, 2013-12:55
Sampled By : Patrick Flynn
Received On : September 13, 2013-09:10
Matrix : Surface Water

Description : R-11
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	14.0	1	ug/L		200.8	09/18/13:210700	200.8	09/19/13:213916
Total Hardness as CaCO3	66.8	--	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Calcium	15.5	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Magnesium	6.84	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Iron	0.173	0.02	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Zinc	128	2	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	70.1	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Bicarbonate	85.6	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Carbonate	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Hydroxide	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Sulfate	2.70	1	mg/L		300.0	09/26/13:211229	300.0	09/26/13:214428

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

October 3, 2013

Lab ID : CH 1376283-011
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : September 11, 2013-13:38
Sampled By : Patrick Flynn
Received On : September 13, 2013-09:10
Matrix : Surface Water

Description : R-4
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss[P:1]								
Copper	4.19	1	ug/L		200.8	09/18/13:210700	200.8	09/19/13:213916
Total Hardness as CaCO3	80.1	--	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Calcium	21.5	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Magnesium	6.43	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Iron	0.389	0.02	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Zinc	16.5	2	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	75.3	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Bicarbonate	92.0	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Carbonate	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Hydroxide	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Sulfate	11.1	1	mg/L		300.0	09/26/13:211229	300.0	09/26/13:214428

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

October 3, 2013

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Description : R-3
Project : Water Quality Monitoring

Lab ID : CH 1376283-012
Customer ID : 7-10917

Sampled On : September 11, 2013-14:48
Sampled By : Patrick Flynn
Received On : September 13, 2013-09:10
Matrix : Surface Water

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Diss[P:1]								
Copper	1.82	1	ug/L		200.8	09/18/13:210700	200.8	09/19/13:213916
Total Hardness as CaCO3	53.3	--	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Calcium	13.4	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Magnesium	4.83	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Iron	0.267	0.02	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Zinc	4.26	2	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	63.3	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Bicarbonate	77.1	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Carbonate	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Hydroxide	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Sulfate	1.70	1	mg/L		300.0	09/26/13:211229	300.0	09/26/13:214428

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

October 3, 2013

Lab ID : CH 1376283-013
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : September 11, 2013-16:00
Sampled By : Patrick Flynn
Received On : September 13, 2013-09:10
Matrix : Surface Water

Description : R-1
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Diss[P:1]								
Copper	11.1	1	ug/L		200.8	09/18/13:210700	200.8	09/19/13:213916
Total Hardness as CaCO3	70.5	--	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Calcium	15.9	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Magnesium	7.50	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Iron	0.221	0.02	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Zinc	4.08	2	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	73.2	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Bicarbonate	89.3	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Carbonate	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Hydroxide	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Sulfate	2.71	1	mg/L		300.0	09/26/13:211229	300.0	09/26/13:214428

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

October 3, 2013

Lab ID : CH 1376283-014
Customer ID : 7-10917

Plumas National Forest
Walker Mine Tailings
159 Lawerence St
Quincy, CA 95971

Sampled On : September 11, 2013-16:52
Sampled By : Patrick Flynn
Received On : September 13, 2013-09:10
Matrix : Surface Water

Description : R-5
Project : Water Quality Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Diss[P:1]								
Copper	5.20	1	ug/L		200.8	09/18/13:210700	200.8	09/19/13:213916
Total Hardness as CaCO3	79.9	--	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Calcium	21.5	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Magnesium	6.39	1	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Iron	0.441	0.02	mg/L		200.7	09/17/13:210653	200.7	09/17/13:213760
Zinc	6.50	2	ug/L		200.8	09/18/13:210700	200.8	09/18/13:213807
Wet Chemistry[P:1]								
Alkalinity (as CaCO3)	74.3	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Bicarbonate	90.8	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Carbonate	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Hydroxide	ND	10	mg/L		2320B	09/18/13:210691	2320B	09/18/13:213805
Sulfate	11.4	1	mg/L		300.0	09/26/13:211229	300.0	09/26/13:214428

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡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

October 3, 2013
Plumas National Forest

Lab ID : CH 1376283
Customer : 7-10917

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Calcium	200.7		MS	mg/L	12.00	79.8 %	75-125	
		(CH 1376283-001)	MSD	mg/L	12.00	91.0 %	75-125	
			MSRPD	mg/L	798.8	1.9%	≤20.0	
			MS	mg/L	12.00	82.6 %	75-125	
		(CH 1376283-011)	MSD	mg/L	12.00	118 %	75-125	
			MSRPD	mg/L	798.8	12.5%	≤20.0	
	200.7	09/17/13:213760AC	CCV	ppm	25.00	98.3 %	90-110	
			CCB	ppm		-0.005	1.0	
			CCV	ppm	25.00	99.8 %	90-110	
			CCB	ppm		-0.02	1.0	
			CCV	ppm	25.00	101 %	90-110	
			CCB	ppm		-0.01	1.0	
			CCV	ppm	25.00	106 %	90-110	
			CCB	ppm		-0.02	1.0	
Iron	200.7		MS	ug/L	3992	97.6 %	75-125	
		(CH 1376283-001)	MSD	ug/L	3992	111 %	75-125	
			MSRPD	ug/L	798.8	11.1%	≤20.0	
			MS	ug/L	3992	90.4 %	75-125	
		(CH 1376283-011)	MSD	ug/L	3992	123 %	75-125	
			MSRPD	ug/L	798.8	28.3%	≤20.0	435
	200.7	09/17/13:213760AC	CCV	ppm	5.000	98.7 %	90-110	
			CCB	ppm		-0.0130	0.05	
			CCV	ppm	5.000	99.9 %	90-110	
			CCB	ppm		-0.0156	0.05	
			CCV	ppm	5.000	101 %	90-110	
			CCB	ppm		-0.0154	0.05	
			CCV	ppm	5.000	105 %	90-110	
			CCB	ppm		-0.0155	0.05	
Magnesium	200.7		MS	mg/L	12.00	98.5 %	75-125	
		(CH 1376283-001)	MSD	mg/L	12.00	110 %	75-125	
			MSRPD	mg/L	798.8	7.5%	≤20.0	
			MS	mg/L	12.00	87.7 %	75-125	
		(CH 1376283-011)	MSD	mg/L	12.00	121 %	75-125	
			MSRPD	mg/L	798.8	20.8%	≤20.0	435
	200.7	09/17/13:213760AC	CCV	ppm	25.00	99.4 %	90-110	
			CCB	ppm		-0.004	1.0	
			CCV	ppm	25.00	100 %	90-110	
			CCB	ppm		-0.004	1.0	
			CCV	ppm	25.00	102 %	90-110	
			CCB	ppm		-0.006	1.0	
			CCV	ppm	25.00	108 %	90-110	
			CCB	ppm		-0.002	1.0	
Copper	200.8		MS	ug/L	5.000	89.0 %	75-125	
		(SP 1309611-001)	MSD	ug/L	5.000	96.4 %	75-125	
			MSRPD	ug/L	5.000	6.4%	≤20	
			MS	ug/L	5.000	88.4 %	75-125	
		(CH 1376283-009)	MSD	ug/L	5.000	96.0 %	75-125	
			MSRPD	ug/L	5.000	2.4%	≤20	
	200.8	09/18/13:213806AC	ICV	ppb	120.0	102 %	90-110	
			ICB	ppb		0.148	0.5	
			CCV	ppb	120.0	104 %	90-110	
			CCB	ppb		0.106	0.5	
	200.8	09/18/13:213807AC	ICV	ppb	120.0	105 %	90-110	
			ICB	ppb		0.017	0.5	
			CCV	ppb	120.0	101 %	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

October 3, 2013
Plumas National Forest

Lab ID : CH 1376283
Customer : 7-10917

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Copper	200.8	09/18/13:213807AC	CCB	ppb		0.053	0.5	
	200.8	09/19/13:213916AC	ICV	ppb	120.0	99.6 %	90-110	
			ICB	ppb		0.012	0.5	
			CCB	ppb		0.008	0.5	
			CCV	ppb	120.0	102 %	90-110	
			CCV	ppb	120.0	99.5 %	90-110	
			CCB	ppb		0.151	0.5	
Zinc	200.8		MS	ug/L	5.000	-2260 %	<¼	
		(SP 1309611-001)	MSD	ug/L	5.000	-3090 %	<¼	
			MSRPD	ug/L	5.000	41	≤10	435
			MS	ug/L	5.000	116 %	75-125	
		(CH 1376283-009)	MSD	ug/L	5.000	194 %	75-125	435
			MSRPD	ug/L	5.000	3.9	≤10	
	200.8	09/18/13:213806AC	ICV	ppb	120.0	96.6 %	90-110	
			ICB	ppb		0.1	10	
			CCV	ppb	120.0	96.7 %	90-110	
			CCB	ppb		2.3	10	
	200.8	09/18/13:213807AC	ICV	ppb	120.0	100 %	90-110	
			ICB	ppb		0.03	10	
			CCV	ppb	120.0	99.8 %	90-110	
			CCB	ppb		0.08	10	
			CCV	ppb	120.0	104 %	90-110	
			CCB	ppb		0.09	10	
Wet Chem								
Alkalinity (as CaCO3)	2320B	(CC 1383287-001)	Dup	mg/L		0.8%	3.42	
		(CH 1376283-009)	Dup	mg/L		1.4%	3.42	
	2320B	09/18/13:213805amb	CCV	mg/L	234.9	93.5 %	90-110	
			CCV	mg/L	234.9	93.4 %	90-110	
			CCV	mg/L	234.9	93.5 %	90-110	
Bicarbonate	2320B	(CC 1383287-001)	Dup	mg/L		0.7%	4.78	
		(CH 1376283-009)	Dup	mg/L		1.2%	4.78	
Carbonate	2320B	(CC 1383287-001)	Dup	mg/L		0.0	10	
		(CH 1376283-009)	Dup	mg/L		0.0	10	
Hydroxide	2320B	(CC 1383287-001)	Dup	mg/L		0.0	10	
		(CH 1376283-009)	Dup	mg/L		0.0	10	
Sulfate	300.0	09/24/13:210980SBL	Blank	mg/L		ND	<2	
			LCS	mg/L	50.00	94.5 %	90-110	
			MS	mg/L	1000	83.1 %	92-113	435
		(CH 1376283-001)	MSD	mg/L	1000	92.2 %	92-113	
			MSRPD	mg/L	500.0	9.6%	≤4	435
	300.0	09/25/13:214250CHL	CCB	ppm		0.45	2	
			CCV	ppm	50.00	97.7 %	90-110	
			CCB	ppm		0.46	2	
			CCV	ppm	50.00	94.6 %	90-110	
	300.0	09/26/13:211229CHL	Blank	mg/L		ND	<2	
			LCS	mg/L	50.00	99.0 %	90-110	
			MS	mg/L	1000	98.3 %	92-113	
		(CH 1376070-001)	MSD	mg/L	1000	97.5 %	92-113	
			MSRPD	mg/L	100.0	0.8%	≤4	
			MS	mg/L	1000	94.6 %	92-113	
		(CH 1376071-001)	MSD	mg/L	1000	93.9 %	92-113	
			MSRPD	mg/L	100.0	0.7%	≤4	
	300.0	09/26/13:211340CHL	Blank	mg/L		ND	<2	
			LCS	mg/L	50.00	103 %	90-110	

October 3, 2013
Plumas National Forest

Lab ID : CH 1376283
Customer : 7-10917

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Sulfate	300.0		MS	mg/L	1000	93.5 %	92-113	
		(CH 1376283-002)	MSD	mg/L	1000	91.9 %	92-113	
			MSRPD	mg/L	500.0	1.7%	≤4	
			MS	mg/L	1000	92.7 %	92-113	
		(CH 1376283-003)	MSD	mg/L	1000	91.0 %	92-113	435
			MSRPD	mg/L	500.0	1.7%	≤4	
	300.0	09/26/13:214428CHL	CCB	ppm		1.69	2	
			CCV	ppm	50.00	97.4 %	90-110	
			CCB	ppm		1.59	2	
			CCV	ppm	50.00	97.7 %	90-110	
			CCB	ppm		1.56	2	
			CCV	ppm	50.00	98.8 %	90-110	
	300.0	09/26/13:214598CHL	CCB	ppm		0.39	2	
			CCV	ppm	50.00	90.6 %	90-110	
			CCB	ppm		0.37	2	
			CCV	ppm	50.00	91.7 %	90-110	

Definition

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

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