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File Code: 2540
Date: January 16, 2008

Mr. Steve Rosenbaum
California Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, Suite #200
Rancho Cordova, CA 95670-6114

Dear Mr. Rosenbaum:

Enclosed please find a complete set of 2007 water quality monitoring reports by the U.S. Department of Agriculture, Forest Service, Plumas National Forest, for the Walker Mine Tailings in Plumas County, California. The four 2007 reports are (1-3) Quarterly Monitoring Report for May, July, and September 2007; and (4) the Annual Monitoring Report for 2007.

The May 2007 samples were all collected prior to construction of the Dolly Creek diversion and so reflect similar surface and ground conditions as in previous years. The July and September samplings were performed during construction of the diversion and so may reflect some differences due to the activity near the well and surface sampling sites. Samples continue to indicate that considerable levels of copper enter into solution as Dolly Creek flows over the tailings and into Little Grizzly Creek.

All water samples were transported to Henrici Water Laboratory near Quincy for analysis. The Henrici Laboratory sent portions of these samples to Sierra Foothill Laboratory in Jackson, California for metals analysis and North Coast Laboratory in Arcata, California for sulfate analysis.

The 2001 Amended Record of Decision for the Walker Mine Tailings site provided for the diversion of Dolly Creek around the tailings material. The construction of the Dolly Creek diversion was completed in October, 2007. This construction included a concrete intake and flood control structure and an impervious channel liner to separate the Dolly Creek surface flow from the tailings. Leakage under the intake structure was noted after construction and remedies are currently being proposed with further construction likely in 2008.

Please contact Forest Water Engineer, Ryan Nupen at (530) 283-7712, if you have any questions.

Sincerely,

Alice B. Carlton

ALICE B. CARLTON
Forest Supervisor

Enclosures

cc: Dennis J Geiser, Rose Mikovsky

ANNUAL MONITORING REPORT

Discharger: USDA Forest Service, Plumas National Forest

Facility: Walker Mine Tailings, Plumas County

Monitoring Period: Calendar Year 2007

Findings:

(1) Surface Water. Samples were collected in May, July, and September 2007. Adjusting for hardness at the compliance station on Little Grizzly Creek (R-5), the calculated limitation for dissolved copper for the three sampling periods ranged from 4.4 ug/L to 7.3 ug/L. This limitation was exceeded during each of the sampled months (the average dissolved copper concentration at R-5 was 15 ug/L down from an average of 58 ug/l in 2006). The limitations for iron and zinc were not exceeded in any of the R-5 samples collected. In fact, for the 15 samples collected, the only limitation exceedance for iron or zinc occurred in July at R-2 on Dolly Creek at the downstream end of the tailings (a measured iron concentration of 1,700 ug/L)

Low concentrations of dissolved copper were detected at R-3, the background station on Little Grizzly Creek, and at R-4, Little Grizzly Creek above the confluence with Dolly Creek, during two of the three sampling events (see Table 1 and attached Map). Reviewing the 77 copper testing results from 1991 to present for R-3 and R-4 indicates no significant trends. The average dissolved copper concentration for the two sites over this period is very similar (3.0 ug/L for R-3 and 3.5 ug/L for R-4). Copper concentrations above the laboratory detection limits were found in the waters of Little Grizzly Creek above the confluence with Dolly Creek just 29% (R-3) and 31% (R-4) of the time. However, the concentrations found frequently do not follow the hypothesis that the copper concentration in Little Grizzly Creek is increasing as it flows past the tailings material. Only 18% of the sampling events show higher dissolved copper concentrations at R-4 than at R-3 and there is no solid explanation for the detection of copper at the R-3 station. The only apparent contamination of Little Grizzly Creek at that location is the occasional drift of tailings material blown by the wind into this upstream area. Even with this minor contamination pathway, it does not seem plausible that concentrations of copper in samples taken at R-3 could be detected.

In all three of the sampling events, dissolved copper was found at R-1, Dolly Creek above the tailings area, in concentrations that equaled or exceeded the limitations established for freshwater aquatic life protection. The results from the R-2 samples, Dolly Creek below the tailings area, confirm the tailings area as the primary source of copper to the receiving waters. Over the three sampling events, the average increase in copper concentration from R-1 to R-2 amounted to 70% of the copper found at R-2 (see Table 2 and Chart 1).

The reduction in copper concentrations between stations R-2 and R-5, the compliance station on Little Grizzly Creek – presumably due to dilution - was 84% in June, 64% in July, and 65% in September. The 2007 water year was considered to be below average for precipitation and runoff. Table 3 displays flow rates for the sampling periods from 1991 through 2007.

(2) Groundwater. Groundwater samples were collected from three monitoring wells (W-3, W-5, and W-7) in May and September of 2007 (see attached map). A summary of the groundwater test results for sampling performed in 1994, 1995, 2000 – 2004, and 2007 is presented in Table 4 (samples were not collected from 1996 – 1999 or 2005-2006). Test results for total copper, iron and zinc in the 1994 and 1995 samples indicate that small concentrations of these metals are present in the tailings material, in both dissolved and non-dissolved states, throughout the site. The characterization of the tailings material in 1992 by Westec confirmed the presence of these constituents throughout the tailings area. The characterization program included not only the seven monitoring wells but also an additional seven boreholes.

Copper, iron and zinc were detected in each well during each sampling period with the exception of W-7, in which no iron was detected in May. A slight increase in dissolved copper was noted in W-3 where the May tests gave a dissolved copper content of 2.7 ug/l and the September test showed 51 ug/l. This increase is likely due to the construction activity and traffic near the well. There was also a notable increase in dissolved iron in W-5 where the May and September test results were 9400 ug/l and 19000 ug/l respectively. The elevated level of dissolved iron in September could be due to increased activity and traffic near the well during construction causing subsurface mobilization and increasing the risk of surface related contamination but the reason for the increased level in May, prior to the start of construction, is unclear. It is also possible that the increase in dissolved iron detected is due to a change in the groundwater flow regime caused by previous reclamation activities.

Previously, the detection of dissolved iron or zinc has been relatively rare in any of the wells. For the 36 samples analyzed for each metal from 2000 to 2004 and in 2007, iron was detected in 17 samples (47% detection) and zinc was detected in 16 samples (44% detection). The mean and median dissolved concentrations for samples with detected iron are 1883 ug/L and 140 ug/L (respectively). The median falls well below the prescribed water quality limitation at R-5 of 1000 ug/L but the mean was greatly increased due to the unexpectedly high laboratory results for W-5 in 2007. For zinc, the mean and median detected dissolved concentrations are 7.4 ug/L and 5.5 ug/L with a maximum detected concentration of 21.0 ug/L. All of these values are well below the prescribed limitation for zinc, which typically varies between 50 ug/L and 130 ug/L. (The zinc limitation is dependent upon the measured water hardness at R-5, which averaged 64.5 mg/L as CaCO3 for the 2000 – 2004 and 2007 surface water samples (with a median of 79 mg/L as CaCO3). The resulting zinc limitation for this average hardness value is 81.5 ug/L).

Well W-7 is situated up gradient and off of the tailings site and is used as the background well. When compared with W-7 sample results, dissolved iron and zinc concentrations detected in down gradient wells W-3 and W-5 (both wells situated on the tailings) did demonstrate an increase in the concentration of these metals as groundwater passes through the tailings material this year. But, when compared to the total number of samples for zinc, an increased down gradient concentration was observed in just 5 of the 24 sample events conducted from 2000 to 2004 and 2007. For iron, an increased down gradient concentration in W-3 or W-5 is documented in 7 of the 24 events.

In analyzing the groundwater sample results for copper, it is best to look closely at the samples collected from 2002 to 2004 and in 2007. These samples were analyzed using methods and instrumentation that allowed a very sensitive detection level of 1.0 ug/L from 2002 to 2004 and 0.50 ug/L in 2007 (the 2000 samples were analyzed with a detection level of 5.0 ug/L and the 2001 detection level was 10 ug/L). For the average R-5 surface water hardness of 64.5 mg/L as CaCO3, the prescribed copper limitation is 6.2 ug/L. For the 24 samples analyzed between 2002 and 2004, dissolved copper was detected in 19 samples. However, except in one instance, the copper concentration results were very low, much less than the typical R-5 prescribed limitation. The average detected dissolved copper concentration is 4.3 ug/L and the maximum concentration observed is 51 ug/L. The 51 ug/L concentration from W-3 in September of 2007 is believed to be anomalous and due to the nearby construction activity and traffic during the summer.

Additionally, only four of the 36 groundwater samples collected between 2000 and 2007 resulted in a dissolved copper concentration of more than 5.0 ug/L (the detection level used for the 2000 analyses). The sample at W-3 for September 2001 resulted in a dissolved copper concentration of 12 ug/L. Well W-3 is situated on the tailings very close to the Dolly Creek channel. The well-documented high concentrations of dissolved copper in the Dolly Creek surface water are a likely source for the elevated copper concentration in this groundwater sample. The September results for W-3, W-5, and W-7 were 51 ug/L, 6.1 ug/L, and 5.3 ug/L respectively. Elevated copper concentration in all three wells, including W-7 (background) are believed to be due to increased traffic by heavy machinery during construction.

As stated above, the low levels of dissolved copper observed in the twenty one of the 2002 to spring of 2007 groundwater samples measured between 1.0 and 3.0 ug/L. Moreover, a trend of increasing copper concentration as groundwater flows through the tailings is not demonstrated by the well data. For dissolved copper, an increased down gradient concentration in wells W-3 and W-5, when compared with the background well W-7, was observed in just 6 of the 14 sample events conducted from 2002 to spring of 2007. This 43% trend indicates – as do the rest of the groundwater metal data – that low groundwater copper concentrations are distributed practically at random across the tailings pile.

It was noted that the September 2007 copper concentrations increased in W-3, W-5 and the background well W-7. It is hypothesized that copper may have been mobilized

locally by vibration and/or compaction of the strata that decreased pore space or caused pumping that disturbed the groundwater and temporarily increased the concentrations.

With the elevation of the Little Grizzly Creek channel approximately 20 feet below the surface of the tailings area, there is a strong gradient towards Little Grizzly Creek all along its course with the tailings area. These site conditions indicate that the potential exists for contamination of Little Grizzly Creek due to groundwater seeping from the tailings pile.

The results of previous sampling did not indicate any significant trends for dissolved metal concentrations. Additionally, despite the almost continuous line of groundwater seeps along the base of the tailings area and the Little Grizzly Creek channel bank, the metals concentration results are nearly identical (as discussed above) for samples taken from Little Grizzly Creek above and below the tailings interface (at R-3 and R-4, both upstream of the confluence with Dolly Creek).

One can basically conclude that even though copper and zinc are present in the tailings material throughout the site, when left undisturbed, they are not entering into solution (except in surface water along the Dolly Creek channel). This is confirmed by the surface water-sampling program, in which samples taken at the base of the tailings in Little Grizzly Creek (R-4) generally indicate that these constituents are at non-detectable levels. It's only after Little Grizzly Creek mixes with Dolly Creek that soluble copper and zinc are detected.

Therefore, the groundwater pathway is demonstrated to be an unlikely pathway for tailings pollution on Little Grizzly Creek. The Forest Service will continue to monitor groundwater metals concentrations in wells W-3, W-5 and W-7. Each of the three wells should be sampled at least once in 2008 to determine if the increased level of dissolved metals is temporary or further, annual, sampling is necessary. If dissolved metal concentrations in the groundwater have returned to levels within the prescribed limitation then future groundwater quality will likely be sampled approximately every 3 years.

The water level in each well was measured in 2007 during each of the three sampling events. Maps displaying the groundwater flow gradient and direction were produced for each event (attached). Generally, the groundwater in the tailings area drains in two directions, towards the tailings dam near the end of Dolly Creek and towards the settling pond and Grizzly Creek near R-6. The groundwater gradient increases by the end of the summer season, dropping nearly five feet at the dam and ten feet at the settling pond.

Table 5 lists the measured groundwater depths for the years in which this data has been collected (1993 – 1995 and 2000 - 2007). Except for the driest year since monitoring began, water appears to flow over the tailings dam at all times; in August 1992, Dolly Creek flows did not reach the tailings dam during the heat of the day.

(3) Channel Substrate Analysis (Pebble Count). One of the measured changes that should occur as a result of rehabilitating the tailings area is a decreased transport of tailings

material to Little Grizzly Creek. Though most of the material moves during times of high flows when sampling does not normally occur, evidence of its occurrence should be measurable by analyzing channel substrate size classes. In past years, a "Wolman pebble count" has been conducted once a year in the fall to analyze the channel substrate.

Pebble counts at the two established pebble count transects were not monitored from 2004 to 2007. However, pebble count data for the previous four years (2000-2003) exhibited very similar results: the R-5 transect (on Little Grizzly Creek below its confluence with Dolly Creek) did contain sand-sized material, including the medium, fine and very fine sands found over most of the tailings area, whereas the R-6 (on Little Grizzly Creek above its confluence with Dolly Creek) transect did not. Based on the data collected and visible evidence made at the time the transects were established, most of the sands are being washed downstream during winter and spring flows, but material from the tailings area apparently continues to wash into Little Grizzly Creek for an extended period of time and some of it is trapped around the coarser material of the R-5 channel section.

It is expected that the lining and diverting of Dolly Creek will reduce transportation of fine material from the tailings and pebble counts will again be performed at the two established transects in 2008.

(4) 2007 Dolly Creek Diversion Construction

Construction of the Dolly Creek diversion structure and channel began in June of 2007 and was completed in October. The construction included a concrete intake structure with an engineered outlet for normal flows and a spillway for flood flows. Dolly Creek was removed from the existing channel and diverted into an impervious, lined, channel. In the lined channel, Dolly Creek now flows 2700 feet to a new juncture with Little Grizzly Creek about 1400 feet upstream of the previous confluence. The new lined channel should conduct Dolly Creek across the site while preventing direct contact with the tailings and limiting surface water contamination to wind blown particles.

Although construction of the diversion structure is complete some problems noted during the fall of 2007. Approximately 30% of the normal surface flow volume of Dolly Creek is piping beneath the concrete structure and returning to what is now the overflow channel rather than flowing out through the lined channel. This piping has undercut the new spillway and damaged some of the spillway gabions. Repairs for the spillway and remedies for the surface water loss are currently being proposed for construction in 2008.

Copper Concentrations at R-3 and R-4
Little Grizzly Creek Above and Below Walker Tailings

Table 1

Date	R-3 Copper mg/L	R-4 Copper mg/L
May 91	0	0.0020
Jun 91	0	0
Jul 91	0	0
Aug 91	0	0.0030
Sep 91	0	0
Oct 91	0	0
Nov 91	0	0
Dec 91	0	0.0030
Apr 92	0	0
May 92	0	0.0390
Jun 92	0.0039	0
Jul 92	0	0
Aug 92	0.0036	0
Sep 92	0.1200	0.1200
Oct 92	0	0.0024
Nov 92	0	0
May 93	0	0
Jun 93	0.0028	0
Jul 93	0.0024	0.0070
Aug 93	0	0
Sep 93	0	0.0083
Oct 93	0	0
Nov 93	0	0.0040
May 94	0	0
Jun 94	0.0090	0.0057
Jul 94	0	0
Aug 94	0	0
Sep 94	0	0
Oct 94	0	0
Jun 95	0	0
Jul 95	0	0
Aug 95	0.0041	0
Sep 95	0	0
Oct 95	0	0
Nov 95	0	0.0023
May 96	0	0
June 96	0	0
July 96	0.0029	0
Aug 96	0.0022	0
Sept 96	0	0
May 97	0	0
June 97	0	0
July 97	0	0
Aug 97	0	0
Sept 97	0	0
Oct 97	0	0
June 98	0	0
July 98	0.0110	0.0034
Aug 98	0.0046	0.0015
Sept 98	0	0
Oct 98	0.0130	0.0088
Jun 99	0	0
Jul 99	0	0
Aug 99	0	0
Sept 99	0	0
Oct 99	0	0

Date	R-3 Copper mg/L	R-4 Copper mg/L
May 00	0	0
Jul 00	0.0230	0
Sep 00	0	0
May 01	0	0
Jul 01	0	0
Sep 01	0	0
May 02	0.0051	0
Jul 02	0.0039	0.0013
Sep 02	0	0.0037
June 03	0.0017	0.0013
Jul 03	0	0.0027
Sep 03	0.0032	0.0010
May-04	0.0034	0.0420
Jul-04	0	0
Sep-04	0	0
Jun-05	0	0
Jul-05	0	0
Sep-05	0	0
Jun-06	0.0032	0.0012
Jul-06	0.0033	0.0011
Sep-06	0	0
May 07	0.0049	0.0043
July 07	0.0012	0.0035
Sep 07	0.0069	0.0078
x	0.0030	0.0035
n	80	80
s	0.0137	0.0147
max	0.1200	0.1200
min	ND	ND

Date	R-3 Copper mg/L	R-4 Copper mg/L
May 91	0	0.0020
Jun 91	0	0
Jul 91	0	0
Aug 91	0	0.0030
Sep 91	0	0
Oct 91	0	0
Nov 91	0	0
Dec 91	0	0.0030
Apr 92	0	0
May 92	0	0.0390
Jun 92	0.0039	0
Jul 92	0	0
Aug 92	0.0036	0
Sep 92	0.1200	0.1200
Oct 92	0	0.0024
Nov 92	0	0
May 93	0	0
Jun 93	0.0028	0
Jul 93	0.0024	0.0070
Aug 93	0	0
Sep 93	0	0.0083
Oct 93	0	0
Nov 93	0	0.0040
May 94	0	0
Jun 94	0.0090	0.0057
Jul 94	0	0
Aug 94	0	0
Sep 94	0	0
Oct 94	0	0
Jun 95	0	0
Jul 95	0	0
Aug 95	0.0041	0
Sep 95	0	0
Oct 95	0	0
Nov 95	0	0.0023
May 96	0	0
June 96	0	0
July 96	0.0029	0
Aug 96	0.0022	0
Sept 96	0	0
May 97	0	0
June 97	0	0
July 97	0	0
Aug 97	0	0
Sept 97	0	0
Oct 97	0	0
June 98	0	0
July 98	0.0110	0.0034
Aug 98	0.0046	0.0015
Sept 98	0	0
Oct 98	0.0130	0.0088
Jun 99	0	0
Jul 99	0	0
Aug 99	0	0
Sept 99	0	0
Oct 99	0	0
May 00	0	0
Jul 00	0.0230	0
Sep 00	0	0
May 01	0	0
Jul 01	0	0

Sep 01	0	0
May-02	0.0051	0
Jul-02	0.0039	0.0013
Sep-02	0.0000	0.0037
Jun-03	0.0017	0.0013
Jul-03	0.0000	0.0027
Sep-03	0.0032	0.0010
May-04	0.0034	0.0420
Jul-04	0	0
Sep-04	0	0
Jun-05	0	0
Jul-05	0	0
Sep-05	0	0
Jun-06	0.0032	0.0012
Jul-06	0.0033	0.0011
Sep-06	0.0000	0.0000
May 07	0.0049	0.0043
July 07	0.0012	0.0035
Sep 07	0.0069	0.0078
x	0.0030	0.0035
n	80	80
s	0.0137	0.0147
max	0.1200	0.1200
min	ND	ND
n>0	23	25
%>0	29%	31%

Summary of Copper Data for R-1, R-2 and R-5
1991-2007

Table 2

	R-1 Cu Conc. (mg/L)				R-2 Cu Conc. (mg/L)				R-5 Cu Conc. (mg/L)		
Year	**May/June**	**July**	**September**		**May/June**	**July**	**September**		**May/June**	**July**	**September**
1991	0.110	0.044	0.023		0.572	0.256	0.362		0.040	0.060	0.102
1992	0.034	0.034	0.033		0.250	0.360	0.240		0.000	0.066	0.000
1993	0.024	0.110	0.047		0.370	0.450	0.230		0.036	0.140	0.099
1994	0.074	0.029	0.021		0.500	0.210	0.088		0.050	0.051	0.017
1995	0.086	0.055	0.042		0.190	0.220	0.100		0.024	0.070	0.053
1996	0.065	0.017	0.014		0.150	0.180	0.066		0.032	0.076	0.031
1997	0.002	0.011	0.013		0.092	0.082	0.060		0.015	0.036	0.029
1998	0.050	0.015	0.011		0.150	0.180	0.080		0.012	0.055	0.040
1999	0.016	0.014	0.017		0.017	0.180	0.071		0.002	0.068	0.028
2000	0.014	0.016	0.009		0.310	0.220	0.096		0.033	0.085	0.033
2001	0.020	0.012	0.014		0.270	0.130	0.042		0.029	0.030	0.019
2002	0.030	0.015	0.009		0.450	0.310	0.092		0.024	0.110	0.022
2003	0.024	0.027	0.011		0.097	0.320	0.100		0.034	0.120	0.030
2004	0.028	0.021	0.008		0.003	0.220	0.052		0.380	0.067	0.000
2005	0.019	0.016	0.005		0.260	0.290	0.100		0.038	0.090	0.030
2006	0.024	0.012	0.007		0.240	0.230	0.078		0.048	0.095	0.031
2007	0.017	0.014	0.015		0.076	0.059	0.034		0.012	0.021	0.012
x	0.04	0.03	0.02	x	0.24	0.23	0.11	x	0.05	0.07	0.03
n	17	17	17	n	17	17	17	n	17	17	17
s	0.03	0.02	0.01	s	0.17	0.10	0.09	s	0.09	0.03	0.03
max	0.110	0.110	0.047	max	0.572	0.450	0.362	max	0.380	0.140	0.102
min	0.002	0.011	0.005	min	0.003	0.059	0.034	min	0.000	0.021	0.000

Summary of Flow Rates at R-1, R-2 and R-5
1991-2007

Table 3

	R-1 Flow Rate (cfs)				R-2 Flow Rate (cfs)				R-5 Flow Rate (cfs)		
Year	May/June	July	September		May/June	July	September		May/June	July	September
1991	0.88	0.52	0.60		1.28	0.31	0.28		19.62	0.84	1.35
1992	0.18	0.14	0.11		0.12	0.06	0.02		1.06	0.43	0.22
1993	7.28	1.31	0.73		7.28	1.25	0.57		46.10	3.53	1.10
1994	0.31	0.14	0.14		0.72	0.15	0.01		7.30	0.45	0.44
1995	6.97	2.48	1.05		8.22	2.38	2.01		97.20	7.46	1.88
1996	12.30	1.10	0.90		15.60	1.30	1.00		80.90	3.40	1.70
1997	5.05	1.24	0.66		5.69	1.18	0.86		54.09	1.43	1.34
1998	9.60	1.80	1.00		10.20	2.00	0.90		120.00	7.10	2.10
1999	5.24	1.30	0.78		5.74	1.13	0.72		34.97	3.74	1.35
2000	2.00	0.70	0.40		2.20	0.70	0.40		23.40	2.10	1.00
2001	0.44	0.18	0.24		0.42	0.13	0.28		3.99	0.52	0.73
2002	1.25	0.37	0.34		1.62	0.31	0.18		18.13	1.12	0.56
2003	3.41	0.77	0.45		3.78	0.75	0.38		22.05	1.67	1.20
2004	1.37	0.14	0.07		1.29	0.34	0.08		13.39	1.99	0.23
2005	2.88	0.66	0.52		2.91	0.98	0.57		22.78	2.34	1.16
2006	10.20	0.99	0.26		14.10	1.25	0.26		12.30	2.45	0.43
2007	0.19	0.07	0.07		0.19	0.08	0.06		1.48	0.19	0.14
x	4.09	0.82	0.49	x	4.79	0.84	0.50	x	34.04	2.40	1.00
n	17	17	17	n	17	17	17	n	17	17	17
s	3.92	0.67	0.33	s	4.85	0.68	0.50	s	35.03	2.15	0.60
max	12.30	2.48	1.05	max	15.60	2.38	2.01	max	120.00	7.46	2.10
min	0.18	0.07	0.07	min	0.12	0.06	0.01	min	1.06	0.19	0.14

GROUNDWATER QUALITY AT WALKER MINE TAILINGS
1994-2007

Table 4

		Copper		Iron		Zinc	
Well No.	Sample Date	Total (mg/L)	Filtered (mg/L)	Total (mg/L)	Filtered (mg/L)	Total (mg/L)	Filtered (mg/L)
W-3	07/18/1994	0.0200	-	1.4000	-	ND	-
W-3	08/24/1994	0.0200	ND	1.4000	ND	ND	ND
W-3	09/22/1994	ND	ND	0.7300	0.1700	ND	ND
W-3	10/25/1994	ND	ND	1.1000	0.7000	ND	ND
W-3	06/24/1995	ND	ND	1.6000	ND	ND	ND
W-3	11/13/1995	ND	ND	0.3600	0.0400	ND	ND
W-3	05/24/2000	-	ND	-	0.0210	ND	ND
W-3	09/13/2000	-	ND	-	ND	ND	ND
W-3	05/22/2001	-	ND	-	ND	-	ND
W-3	09/25/2001	-	0.0120	-	ND	-	ND
W-3	05/10/2002	-	ND	-	ND	-	ND
W-3	09/26/2002	-	0.0021	-	ND	-	ND
W-3	05/23/2003	-	0.0020	-	ND	-	0.0032
W-3	09/18/2003	-	0.0025	-	ND	-	ND
W-3	05/21/2004	-	0.0015	-	0.0620	-	0.0069
W-3	09/05/2004	-	0.0024	-	ND	-	0.0016
W-3	5/31/2007		0.0030		0.3600		0.0120
W-3	9/17/2007		0.0510		0.0330		0.0210
W-4	08/24/1994	0.8900	0.5500	93.0000	0.4100	0.0800	0.0400
W-4	09/22/1994	1.7000	0.6200	120.0000	0.4100	0.1500	0.0500
W-4	10/25/1994	0.9800	ND	100.0000	32.0000	0.1200	ND
W-4	06/24/1995	ND	ND	28.0000	28.0000	ND	ND
W-4	11/13/1995	ND	ND	47.0000	25.0000	ND	ND
W-5	07/18/1994	0.1100	-	32.0000	-	ND	-
W-5	08/24/1994	0.0400	ND	31.0000	0.1000	ND	ND
W-5	09/22/1994	0.0500	ND	30.0000	ND	ND	ND
W-5	10/25/1994	0.0600	ND	32.0000	2.2000	ND	ND
W-5	06/24/1995	ND	ND	2.5000	1.9000	ND	ND
W-5	11/13/1995	ND	ND	17.0000	0.1500	ND	ND
W-5	05/24/2000	-	ND	-	0.0680	ND	ND
W-5	09/13/2000	-	ND	-	0.7400	ND	ND
W-5	05/22/2001	-	ND	-	1.2000	-	ND
W-5	09/25/2001	-	ND	-	ND	-	ND
W-5	05/10/2002	-	ND	-	0.1400	-	ND
W-5	09/26/2002	-	0.0013	-	0.1200	-	ND
W-5	05/23/2003	-	0.0015	-	ND	-	ND
W-5	09/18/2003	-	0.0028	-	ND	-	0.0056
W-5	05/21/2004	-	0.0012	-	ND	-	0.0054
W-5	09/05/2004	-	0.0011	-	ND	-	ND
W-5	5/31/2007		0.0020		9.4000		0.0088
W-5	9/17/2007		0.0060		19.0000		0.0140
W-6	08/24/1994	0.4600	ND	14.0000	ND	0.0400	ND
W-6	09/22/1994	0.9900	0.0100	31.0000	0.6900	0.0800	ND
W-6	10/25/1994	0.7200	0.0100	23.0000	0.2700	0.0200	ND
W-6	06/24/1995	ND	ND	ND	ND	ND	ND
W-6	11/13/1995	0.0900	ND	3.9000	0.0600	ND	ND
W-7	07/18/1994	ND	ND	1.9000	-	0.0200	-
W-7	08/24/1994	0.0200	ND	30.0000	0.4500	0.0500	ND
W-7	09/22/1994	0.0400	ND	43.0000	0.9600	0.0700	ND
W-7	10/25/1994	0.0400	ND	52.0000	1.1000	0.0600	ND
W-7	06/24/1995	ND	ND	ND	ND	ND	ND
W-7	11/13/1995	0.0100	ND	14.0000	0.6700	0.0200	0.0100
W-7	05/24/2000	-	ND	-	0.0790	-	ND
W-7	09/13/2000	-	ND	-	0.1800	-	ND
W-7	05/22/2001	-	ND	-	0.1400	-	ND
W-7	09/25/2001	-	ND	-	ND	-	ND
W-7	05/10/2002	-	ND	-	0.2800	-	ND
W-7	09/26/2002	-	0.0021	-	0.1000	-	0.0034
W-7	05/23/2003	-	0.0010	-	ND	-	0.0034
W-7	09/18/2003	-	ND	-	ND	-	0.0039
W-7	05/21/2004	-	0.0023	-	ND	-	0.0090
W-7	09/05/2004	-	ND	-	ND	-	0.0049
W-7	5/31/2007		0.0030		ND		0.0051
W-7	9/17/2007		0.0053		0.0880		0.0110

fe median	0.14	mg/l
zn median	0.0055	mg/l
fe mean	1.8830	mg/l
zn mean	0.0074	mg/l

	44
	79
79	79
	93.6
	93
	166
	94
	95
	98
	73.4
	41
	53
	38
	49.7
	45
	78.8
	73
	85
	87
	93
	98
	66.78

Table 5

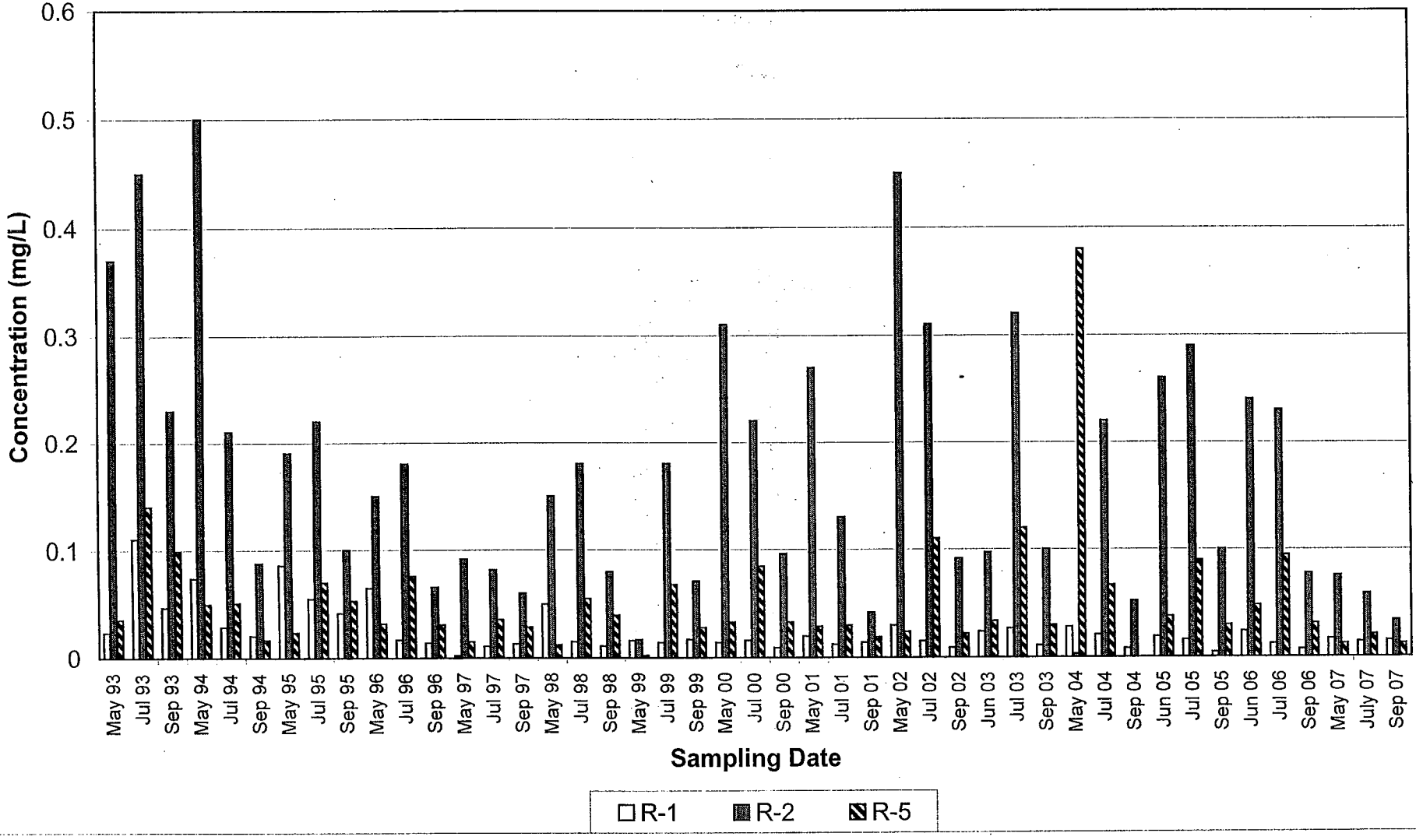
Groundwater Depths at Walker Mine Tailings
1993 - 2007

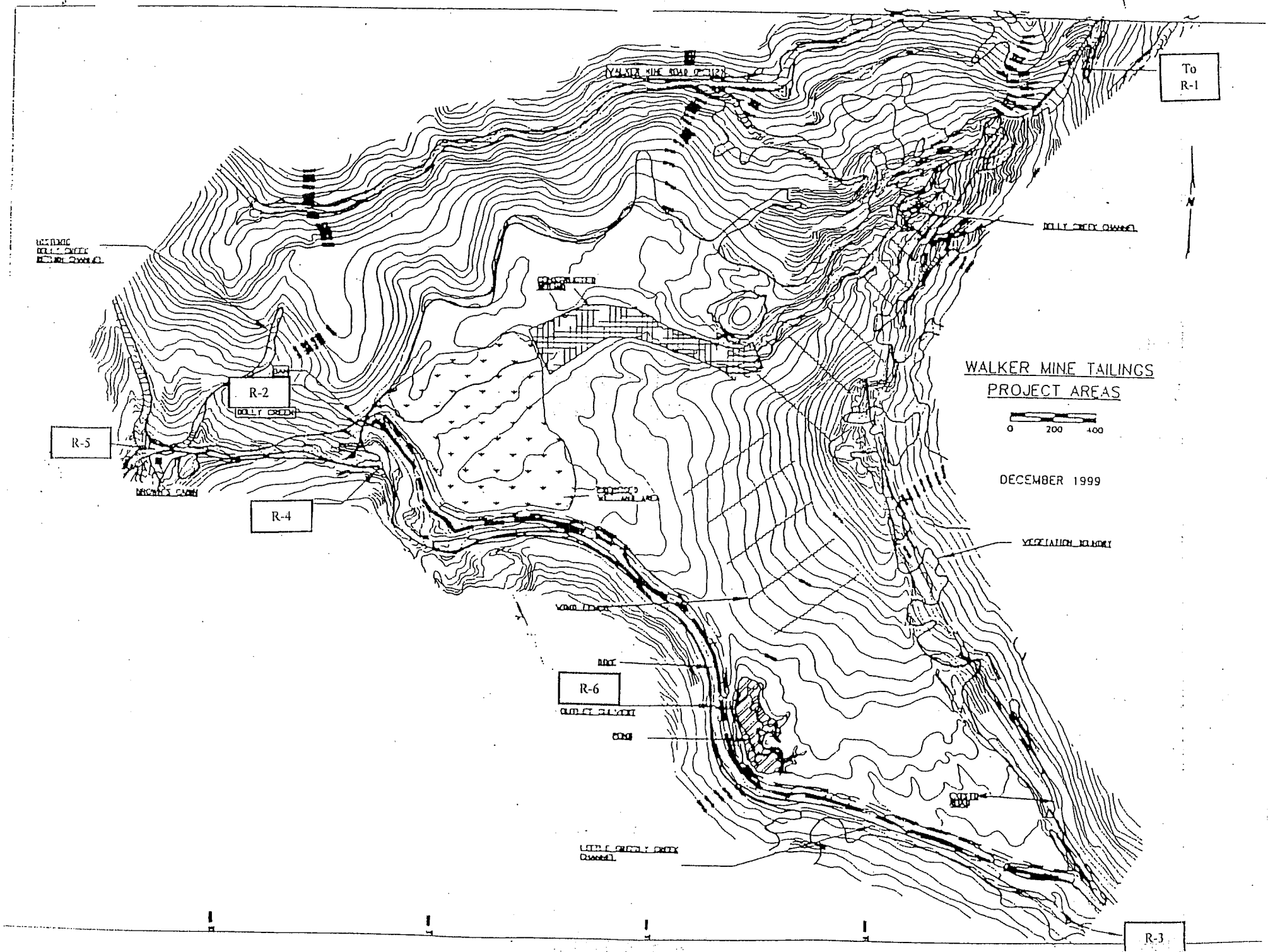
Depth to Groundwater From Top of Casing	Monitoring Well Number: Depth to Water (ft)							
	W-1	W-2	W-3	W-4	W-5	W-6	W-7	Average Depth (ft)
Top of Casing Elevation	5729.24	5741.74	5738.83	5768.00	5754.09	5747.87	5754.91	
07-17-1993	13.34	2.14	5.12	16.96	7.90	5.64	1.06	7.45
07-18-1994	15.06	3.00	6.11	23.43	11.94	6.74	1.71	9.71
08-24-1994	15.35	3.26	6.59	24.52	12.88	7.63	2.07	10.33
09-22-1994	15.49	2.94	6.62	25.25	13.46	8.14	2.05	10.56
10-25-1994	15.59	2.60	6.28	25.90	13.97	8.33	1.91	10.65
06-24-1995	11.17	0.86	3.76	11.61	4.43	3.33	0.13	5.04
11-13-1995	14.75	2.34	5.98	22.64	11.32	7.09	1.03	9.31
05-24-2000	12.54	0.95	4.22	16.58	6.62	3.73	0.33	6.42
09-13-2000	14.80	2.77	6.08	22.76	11.34	7.09	0.25	9.30
05-22-2001	14.06	1.61	4.89	21.88	10.26	5.05	0.57	8.33
09-25-2001	15.27	3.16	6.69	25.21	13.39	8.25	1.68	10.52
05-10-2002	13.18	0.94	4.02	19.56	8.35	3.73	0.56	7.19
09-26-2002	14.96	2.92	6.40	24.37	12.59	7.87	1.43	10.08
05-23-2003	12.45	0.68	3.86	16.86	6.39	3.75	0.00	6.28
09-18-2003	14.54	2.58	6.08	22.84	11.35	7.16	0.79	9.33
05-21-2004	13.11	1.16	4.51	18.93	8.17	4.34	0.13	7.19
09-05-2004	14.57	2.63	6.30	23.52	11.89	7.44	1.20	9.65
06-16-2005	12.31	0.82	3.89	16.95	6.69	3.70	0.00	6.34
07-22-2005	13.26	1.63	5.26	18.96	8.45	5.66	0.42	7.66
09-15-2005	14.09	2.02	5.50	21.94	10.70	6.52	0.68	8.78
06-14-2006	11.19	0.68	4.39	14.24	5.68	4.20	0.00	5.77
06-24-2006	12.63	1.48	5.27	17.63	7.77	5.80	0.23	7.26
09-19-2006	13.88	2.31	6.05	21.34	10.29	7.06	0.59	8.79
05-31-2007	13.67	1.24	4.89	21.34	9.72	5.03	0.63	8.07
07-26-2007	14.11	2.19	5.90	22.86	11.32	6.18	1.44	9.14
09-17-2007	N/A	2.37	6.33	24.27	12.52	7.84	1.51	9.14
Average Depth	13.80	1.98	5.39	20.60	9.82	6.01	0.82	8.35
n	23	23	23	23	23	23	23	23
s	1.33	0.89	1.00	3.86	2.78	1.70	0.70	1.70
max	15.59	3.26	6.69	25.90	13.97	8.33	2.07	10.65
min	11.17	0.68	3.76	11.61	4.43	3.33	0.00	5.04

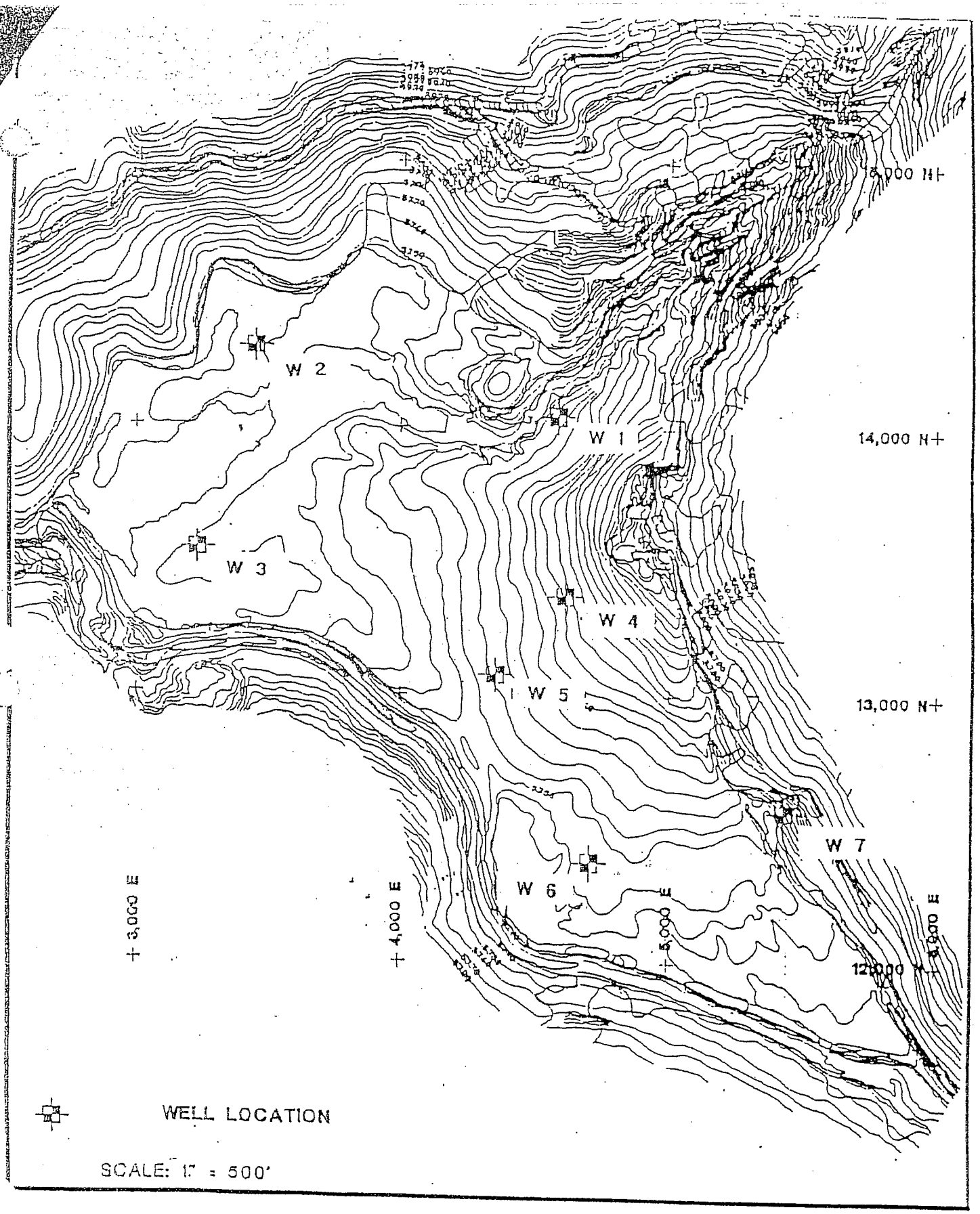
Well W-1 was lost during construction summer 2007

Chart 1

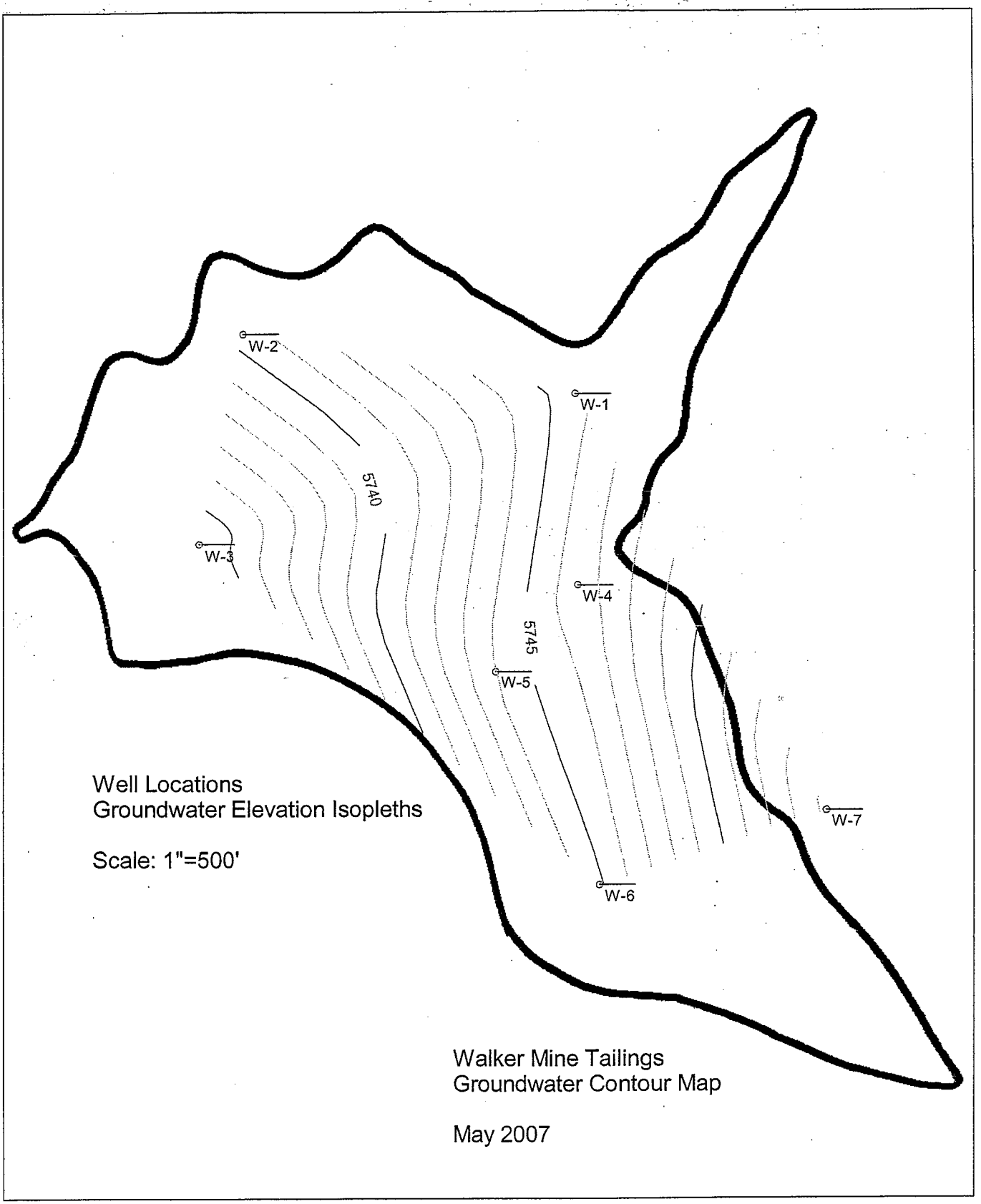
Copper Concentrations at R-1, R-2, & R-5
Dolly Creek and Little Grizzly Creek
1993-2007



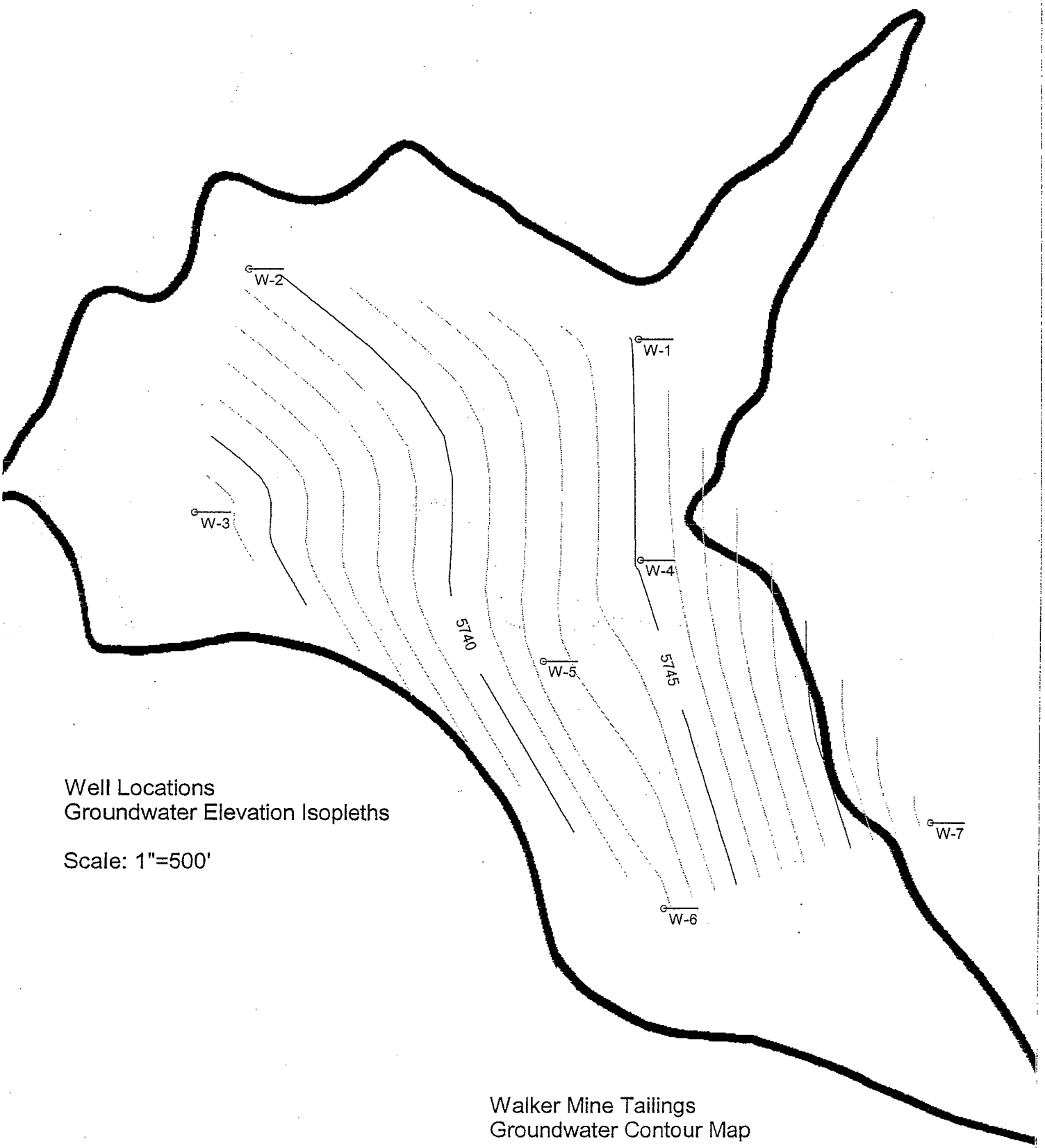

To
R-1
R-2
R-3
R-4
R-5
R-6
WALKER MINE TAILINGS
PROJECT AREAS
0 200 400
DECEMBER 1999
N



WALKER MINE TAILINGS


W-1
W-2
W-3
W-4
W-5
W-6
W-7
5740
5745
Well Locations
Groundwater Elevation Isopleths
Scale: 1"=500'
Walker Mine Tailings
Groundwater Contour Map
May 2007

TERRAIN Plan	Scale 1:5000	P. 1
C:\Documents and Settings\rn:...y\Walker wells July 2007.ter		07/12/14



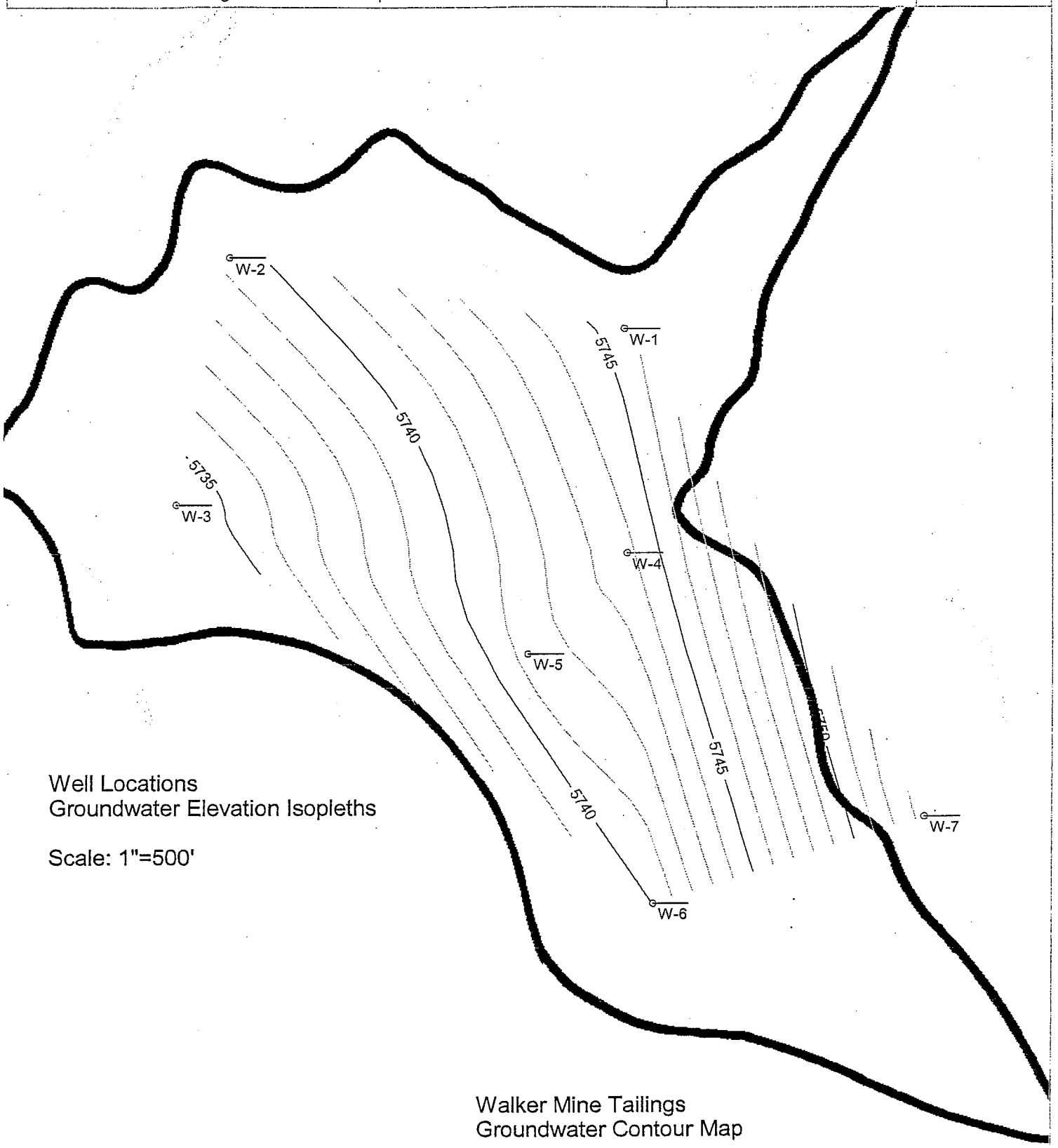
Well Locations
Groundwater Elevation Isopleths

Scale: 1"=500'

Walker Mine Tailings
Groundwater Contour Map

July 2007

TERRAIN Plan	Scale 1:5000	P. 1
C:\Documents and Settings\rn....ker wells September 2007.ter		07/12/14



Well Locations
Groundwater Elevation Isopleths

Scale: 1"=500'

Walker Mine Tailings
Groundwater Contour Map

September 2007

MAY 2007

SURFACE AND GROUND WATER TEST RESULTS AND SUPPORTING DOCUMENTATION

MONITORING REPORT

Discharger: USDA Forest Service, Plumas National Forest

Facility: Walker Mine Tailings, Plumas County

Reporting Frequency: Quarterly

Monitoring Period: May 2007

Findings:

(1) Surface water. Samples were collected on May 31, 2007. The surface water sample collected at the compliance station, R-5, Little Grizzly Creek near Brown's Cabin, continues to exceed the limitation for copper (see Table 1). The remaining R-5 constituents fall within the prescribed limitations for dissolved iron and zinc. The release of copper from the tailings area to Dolly Creek, as measured at R-2, also continues to exceed the limitation. Concentrations of zinc were detected in all of the 5 samples taken but none of these concentrations exceeded the limitation for zinc. The concentration of iron, highest at R-2, was within the limitation at all of the stations.

(2) Groundwater. Samples were collected on May 31, 2007. Table 2 summarizes the findings for groundwater samples collected from the site. Small concentrations of dissolved copper ($\leq$ 3.0 ug/l) were found in all three of the sampling wells (W-3, W-5, and W-7). Additionally, concentrations of dissolved zinc were found in all 3 wells, with a maximum zinc concentration of 12.0 ug/l at W-3. Dissolved iron was found in just one of the three wells with a measured concentration of 360 ug/l at W-3 and 9400 ug/l at W-5. The reason for the drastic increase in dissolved iron at W-5 is unclear but represents a 1400% increase over the dissolved iron from the May of 2004 sample. This result is under scrutiny and will require out-year testing of W-5 to confirm that a marked change has occurred in the groundwater iron concentrations at this location.

Groundwater elevations were measured in all seven wells installed at the site. Although measurements were taken at the same time last year, water levels were lower at all wells, 7.1 feet lower in the case of W-4. The results show a definite gradient towards Little Grizzly Creek of approximately 1% along the Dolly Creek channel and approximately 1.1% to the settling pond (R-6). With the elevation of the Little Grizzly Creek channel approximately 20 feet below the surface of the tailings area, there is a strong gradient towards Little Grizzly Creek all along its course with the tailings area.

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Table 1. SURFACE WATER SUMMARY

Map of the tailings area with the surface water monitoring sites

Discharge Measurement Notes

Chain-Of-Custody record for surface water samples

Henrici Water Laboratory Analysis Reports for surface water tests

Table 2. GROUND WATER SUMMARY

Map of the tailings area with the ground water monitoring sites

Map of tailings area with ground water elevations and flow direction

Water Level Data

Groundwater Monitoring, Water Sampling Field Data Sheet

Chain-Of-Custody record for ground water samples

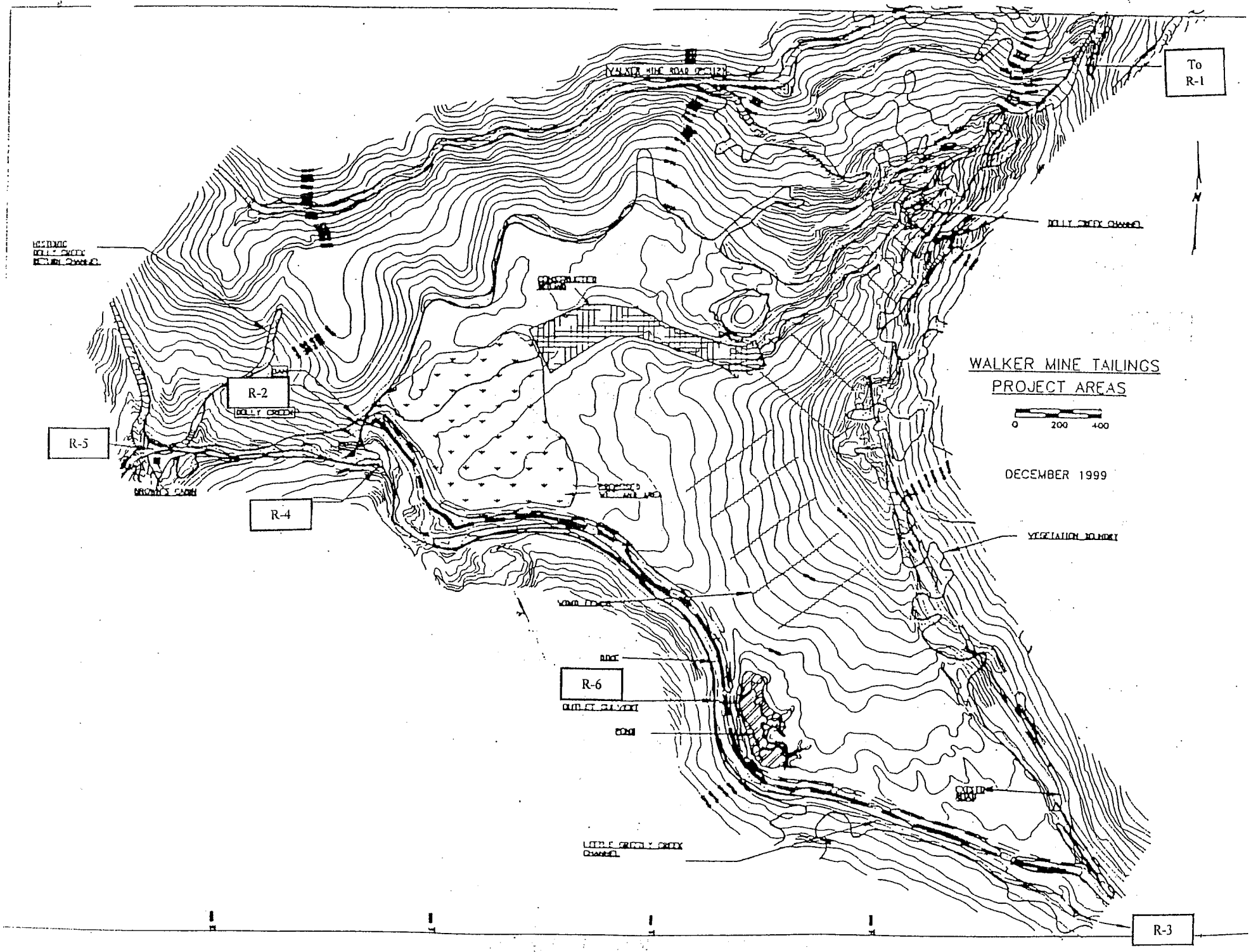
Henrici Water Laboratory Analysis Reports for ground water tests

Table 1. SURFACE WATER SUMMARY REPORT

U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE, PLUMAS NATIONAL FOREST
WALKER MINE TAILINGS, PLUMAS COUNTY
MAY 2007

CONSTITUENT	UNITS	DETECTION LIMITS	MONITORING STATIONS R-1	R-2	R-3[1]	R-4	R-5[2]	R-6	LIMITATION @ R-5[3]
Field Parameters									
Flow	cfs	N/A	0.19	0.19	0.92	1.20	1.48	0	N/A
pH	number	N/A	7.94	8.10	7.71	7.75	8.10	N/A	N/A
Specific Conductance	umhos/cm	N/A	108.2	120.7	62.4	67.7	81.2	N/A	N/A
Air Temperature	^{0}C	N/A	24.4	21.6	25.0	22.8	23.9	N/A	N/A
Water Temperature	^{0}C	N/A	14.8	17.1	15.2	12.3	15.9	N/A	N/A
Laboratory									
Total Hardness as CaCO3	mg/l	5	63	67	34	38	44	N/A	N/A
Total Alkalinity	mg/l	1	68	77	50	53	60	N/A	N/A
Sulfate	mg/l	0.5	1.5	5.3	<0.50	3.5	3.6	N/A	N/A
Turbidity	NTU	0.05	2.5	1.9	1.2	1.6	1.7	N/A	2.2
Dissolved Iron	ug/l	20	360	850	230	300	350	N/A	1000
Dissolved Copper	ug/l	0.5	17	76	4.9	4.3	12	N/A	4.4
Dissolved Zinc	ug/l	1.0	5.9	6.8	12	8	3.7	N/A	58.9

[1] R-3 is the background station located above the tailings area on Little Grizzly Creek.
[2] R-5 is the compliance station located near Brown's Cabin, downstream from the confluence of Dolly Creek with Little Grizzly Creek.
[3] The compliance values for copper and zinc are calculated with the R-5 hardness value of 44 mg/l as CaCO3.


To
R-1
R-2
R-3
R-4
R-5
R-6
WALKER MINE TAILINGS
PROJECT AREAS
0 200 400
DECEMBER 1999
N

LOCATION: R-1
DATE: 5/31/2007
MEASUREMENT METHOD: 6/10
METER TYPE: Marsh McBirney
MEASUREMENT RATING: Good

Channel Width (ft):	5.25	**X-sectional Area (ft^2):**	2.95
Hydraulic Depth (ft):	0.56	**Average Velocity (fps):**	0.06
		Discharge (cfs):	0.19

Distance (ft)	Width (ft)	Depth (ft)	Area (ft^2)	Velocity (fps)	Discharge (cfs)
0.65	LEW				
1.00	0.43	0.30	0.13	0.00	0.00
1.50	0.50	0.60	0.30	0.05	0.02
2.00	0.50	0.70	0.35	0.00	0.00
2.50	0.50	0.75	0.38	0.00	0.00
3.00	0.50	0.75	0.38	0.00	0.00
3.50	0.50	0.85	0.43	0.04	0.02
4.00	0.50	0.80	0.40	0.13	0.05
4.50	0.50	0.50	0.25	0.14	0.04
5.00	0.50	0.45	0.23	0.32	0.07
5.50	0.50	0.25	0.13	0.00	0.00
5.90	REW				
	4.93				

LOCATION: R-2
DATE: 5/31/2007
MEASUREMENT METHOD: 6/10
METER TYPE: Marsh McBirney
MEASUREMENT RATING: Good

Channel Width (ft):	4.20	**X-sectional Area (ft^2):**	1.34
Hydraulic Depth (ft):	0.32	**Average Velocity (fps):**	0.14
		Discharge (cfs):	0.19

Distance (ft)	Width (ft)	Depth (ft)	Area (ft^2)	Velocity (fps)	Discharge (cfs)
0.40	LEW				
1.00	0.55	0.20	0.11	0.07	0.01
1.50	0.50	0.40	0.20	0.12	0.02
2.00	0.50	0.40	0.20	0.18	0.04
2.50	0.50	0.20	0.10	0.18	0.02
3.00	0.50	0.65	0.33	0.14	0.05
3.50	0.50	0.45	0.23	0.19	0.04
4.00	0.50	0.35	0.18	0.10	0.02
4.50	0.50	0.00	0.00	0.00	0.00
4.60	REW				
	4.05				

LOCATION: R-3
DATE: 05/31/2007
MEASUREMENT METHOD: 6/10
METER TYPE: Marsh McBirney
MEASUREMENT RATING: Good

Channel Width (ft):	8.30	**X-sectional Area (ft^2):**	3.31
Hydraulic Depth (ft):	0.40	**Average Velocity (fps):**	0.28
		Discharge (cfs):	0.92

Distance (ft)	Width (ft)	Depth (ft)	Area (ft^2)	Velocity (fps)	Discharge (cfs)
0.60	LEW				
1.00	0.65	0.05	0.03	0.00	0.00
1.50	0.50	0.20	0.10	0.00	0.00
2.00	0.50	0.20	0.10	0.00	0.00
2.50	0.50	0.40	0.20	0.30	0.06
3.00	0.50	0.50	0.25	0.20	0.05
3.50	0.50	0.55	0.28	0.10	0.03
4.00	0.50	0.75	0.38	0.24	0.09
4.50	0.50	0.40	0.20	0.45	0.09
5.00	0.50	0.40	0.20	0.69	0.14
5.50	0.50	0.45	0.23	0.78	0.18
6.00	0.50	0.55	0.28	0.37	0.10
6.50	0.50	0.50	0.25	0.11	0.03
7.00	0.50	0.50	0.25	0.14	0.04
7.50	0.50	0.60	0.30	0.29	0.09
8.00	0.50	0.45	0.23	0.16	0.04
8.50	0.50	0.10	0.05	0.00	0.00
8.90	REW				
	8.15				

LOCATION: R-4
DATE: 05/31/2007
MEASUREMENT METHOD: 6/10
METER TYPE: Marsh McBirney
MEASUREMENT RATING: Good

Channel Width (ft):	9.80	**X-sectional Area (ft^2):**	5.34
Hydraulic Depth (ft):	0.54	**Average Velocity (fps):**	0.23
		Discharge (cfs):	1.20

Distance (ft)	Width (ft)	Depth (ft)	Area (ft^2)	Velocity (fps)	Discharge (cfs)
0.80	LEW				
1.00	0.45	0.20	0.09	0.00	0.00
1.50	0.50	0.40	0.20	0.10	0.02
2.00	0.50	0.55	0.28	0.21	0.06
2.50	0.50	0.60	0.30	0.12	0.04
3.00	0.50	0.45	0.23	0.21	0.05
3.50	0.50	0.60	0.30	0.28	0.08
4.00	0.50	0.60	0.30	0.28	0.08
4.50	0.50	0.55	0.28	0.29	0.08
5.00	0.50	0.70	0.35	0.23	0.08
5.50	0.50	0.60	0.30	0.34	0.10
6.00	0.50	0.65	0.33	0.20	0.07
6.50	0.50	0.75	0.38	0.31	0.12
7.00	0.50	0.60	0.30	0.29	0.09
7.50	0.50	0.60	0.30	0.27	0.08
8.00	0.50	0.65	0.33	0.21	0.07
8.50	0.50	0.70	0.35	0.26	0.09
9.00	0.50	0.50	0.25	0.15	0.04
9.50	0.50	0.50	0.25	0.17	0.04
10.00	0.50	0.50	0.25	0.10	0.03
10.50	0.50	0.00	0.00	0.00	0.00
10.60	REW				
	9.95				

LOCATION: R-5
DATE: 05/31/2007
MEASUREMENT METHOD: 6/10
METER TYPE: Marsh McBirney
MEASUREMENT RATING: Good

Channel Width (ft):	8.00	**X-sectional Area (ft^2):**	5.04
Hydraulic Depth (ft):	0.63	**Average Velocity (fps):**	0.29
		Discharge (cfs):	1.48

Distance (ft)	Width (ft)	Depth (ft)	Area (ft^2)	Velocity (fps)	Discharge (cfs)
1.45	LEW				
2.00	0.80	0.30	0.24	0.03	0.01
2.50	0.50	0.85	0.43	0.10	0.04
3.00	0.50	1.00	0.50	0.41	0.21
3.50	0.50	1.00	0.50	0.54	0.27
4.00	0.50	0.90	0.45	0.66	0.30
4.50	0.50	0.85	0.43	0.32	0.14
5.00	0.50	0.80	0.40	0.42	0.17
5.50	0.50	0.80	0.40	0.41	0.16
6.00	0.50	0.55	0.28	0.26	0.07
6.50	0.50	0.50	0.25	0.20	0.05
7.00	0.50	0.55	0.28	0.09	0.02
7.50	0.50	0.65	0.33	0.07	0.02
8.00	0.50	0.40	0.20	0.05	0.01
8.50	0.50	0.45	0.23	0.04	0.01
9.00	0.50	0.30	0.15	0.02	0.00
9.45	REW				
	7.80				

Walker Mine Tailings Job # 5-00-028

Henrici Water Laboratory Chain of Custody

Stream Samples

Purveyor:
USFS Plumas National Forest
159 Lawrence St.
Quincy, CA 95971
Attn: Joe Hoffman (530) 283-7868

Sampler's Signature: [signature] (530)927-7188

Type of Analyses

I.D. No.	Date	Time	Location	No. of Containers	Total Hardness as $CaCO_3$	Total Alkalinity as $CaCO_3$	Sulfate	Diss. Copper	Diss. Iron	Diss. Zinc	Turbidity	Remarks
	5/31/07	1108	R-2	1	X	X	X	X	X	X	X	Detection Limits
	5/31/07	1139	R-4	1	X	X	X	X	X	X	X	cu = 1 ug/L
	5/31/07	1235	R-3	1	X	X	X	X	X	X	X	zn - 2 ug/L
	5/31/07	1325	R-1	1	X	X	X	X	X	X	X	fe - 50 ug/L
	5/31/07	1356	R-5	1	X	X	X	X	X	X	X	
			Total	5								

Relinquished By	Date	Time	Received By
[signature]	5/31/07	1605	DM Henton

1832 Butterfly Valley Road, Quincy, CA 95971

Telephone & Fax (530) 281-6588

HENRICI WATER LABORATORY
1832 BUTTERFLY VALLEY ROAD, QUINCY, CALIFORNIA 95971
PHONE (530) 281-6588

Plumas National Forest
Supervisor's Office
P.O. Box 11500
Quincy, CA 95971

Account: 11616
Date: 11/12/07
Page: 1

ANALYSIS REPORT

Laboratory Number: C40743 Date Received: 05/31/07
Location: Walker Mine R-1
Date of Collection : 05/31/07 Time: 1325 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	08/06/07	SM 2340C	5.0	63	mg/L
Total Alkalinity	06/01/07	SM 2320 B	1	68	mg/L
Sulfate	06/27/07	EPA 300.0	0.50	1.5	mg/L
Turbidity	06/01/07	SM 2130B	0.05	2.5	NTU
Dissolved Iron	08/07/07	SM 3120B	20	360	ug/L
Dissolved Copper	08/09/07	SM 3120B	0.50	17	ug/L
Dissolved Zinc	08/03/07	SM 3120B	1.0	5.9	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director

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Account: 11616
Date: 11/12/07
Page: 1

ANALYSIS REPORT

Laboratory Number: C40744 Date Received: 05/31/07
Location: Walker Mine R-2
Date of Collection : 05/31/07 Time: 1108 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	08/06/07	SM 2340C	5.0	67	mg/L
Total Alkalinity	06/01/07	SM 2320 B	1	77	mg/L
Sulfate	06/27/07	EPA 300.0	0.50	5.3	mg/L
Turbidity	06/01/07	SM 2130B	0.05	1.9	NTU
Dissolved Iron	08/07/07	SM 3120B	20	850	ug/L
Dissolved Copper	08/09/07	SM 3120B	0.50	76	ug/L
Dissolved Zinc	08/03/07	SM 3120B	1.0	6.8	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director

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PHONE (530) 281-6588

Plumas National Forest
Supervisor's Office
P.O. Box 11500
Quincy, CA 95971

Account: 11616
Date: 11/12/07
Page: 1

ANALYSIS REPORT

Laboratory Number: C40745 Date Received: 05/31/07
Location: Walker Mine R-3
Date of Collection : 05/31/07 Time: 1235 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	08/06/07	SM 2340C	5.0	34	mg/L
Total Alkalinity	06/01/07	SM 2320 B	1	50	mg/L
Sulfate	06/27/07	EPA 300.0	0.50	<0.50	mg/L
Turbidity	06/01/07	SM 2130B	0.05	1.2	NTU
Dissolved Iron	08/07/07	SM 3120B	20	230	ug/L
Dissolved Copper	08/09/07	SM 3120B	0.50	4.9	ug/L
Dissolved Zinc	08/03/07	SM 3120B	1.0	12	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director

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Plumas National Forest
Supervisor's Office
P.O. Box 11500
Quincy, CA 95971

Account: 11616
Date: 11/12/07
Page: 1

ANALYSIS REPORT

Laboratory Number: C40746 Date Received: 05/31/07
Location: Walker Mine R-4
Date of Collection : 05/31/07 Time: 1139 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	08/06/07	SM 2340C	5.0	38	mg/L
Total Alkalinity	06/01/07	SM 2320 B	1	53	mg/L
Sulfate	06/27/07	EPA 300.0	0.50	3.5	mg/L
Turbidity	06/01/07	SM 2130B	0.05	1.6	NTU
Dissolved Iron	08/07/07	SM 3120B	20	300	ug/L
Dissolved Copper	08/09/07	SM 3120B	0.50	4.3	ug/L
Dissolved Zinc	08/03/07	SM 3120B	1.0	8.0	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

Dawn M. Henton
Laboratory Director

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PHONE (530) 281-6588

Plumas National Forest
Supervisor's Office
P.O. Box 11500
Quincy, CA 95971

Account: 11616
Date: 11/12/07
Page: 1

ANALYSIS REPORT

Laboratory Number: C40747 Date Received: 05/31/07
Location: Walker Mine R-5
Date of Collection : 05/31/07 Time: 1356 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	08/06/07	SM 2340C	5.0	44	mg/L
Total Alkalinity	06/01/07	SM 2320 B	1	60	mg/L
Sulfate	06/27/07	EPA 300.0	0.50	3.6	mg/L
Turbidity	06/01/07	SM 2130B	0.05	1.7	NTU
Dissolved Iron	08/07/07	SM 3120B	20	350	ug/L
Dissolved Copper	08/09/07	SM 3120B	0.50	12	ug/L
Dissolved Zinc	08/03/07	SM 3120B	1.0	3.7	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director

WALKER MINE TAILINGS MONITORING PROGRAM

9-275-W
(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

Dolly Creek above Tailings @ Road 112

Date 5/31/2007 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 MMC

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 Partly Cloudy/Warm

Other ..... Air 76 °F @ 1328

Gage ..... Water 14.8 °C @ 1326

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

Observer .....

Control .....

pH 7.94

CONDUCTANCE 108.2 umhos/cm

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

Samples @ 1325

.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	.65										
	1		.3				0				
	1.5		.6				.05				
	2		.7				0				
	2.5		.75				0				
	3		.75				0				
	3.5		.85				.04				
	4		.8				.13				
	4.5		.5				.14				
	5		.45				.32				
	5.5		.25				0				
RB	5.9										

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

9-275-P
(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-2
Dolly Creek below Tailings Dam

Date 5/31, 07 Party Flynn

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

Method C/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 MMC

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 / Clear

Other ..... Air 71° F @ 1112

Gage ..... Water 17.1 °C @ 1110

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

Observer .....

Control .....

pH 8.10

CONDUCTANCE 120.7 umhos/cm

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

Samples @ 1108

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	.4										
	1.		.2				.07				
	1.5		.4				.12				
	2		.4				.18				
	2.5		.2				.18				
	3		.65				.14				
	3.5		.45				.19				
	4		.35				.10				
	4.5		0				0				
RB	4.6										

WALKER MINE TAILINGS MONITORING PROGRAM

9-275-F
(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 5/31, 07 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 MMC

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 / Clear

Other ..... Air 77°F @ 1300

Gage ..... Water 15.2 °C @ 1237

..... Record removed ..... Intake flushed U L .....

Observer .....

Control .....

pH 7.71

CONDUCTANCE 62.4 umhos/cm

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

Samples @ 1235

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	.6										
	1		.05				0				
	1.5		.2				0				
	2		.2				0				
	2.5		.4				.30				
	3		.5				.20				
	3.5		.55				.10				
	4		.75				.24				
	4.5		.4				.45				
	5		.4				.69				
	5.5		.45				.78				
	6		.55				.37				
	6.5		.5				.11				
	7		.5				.14				
⊙	7.5		.6				.29				
	8		.45				.16				
	8.5		.1				0				
RB	8.9										

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-4

Little Grizzly Creek below Tailings

Date 5/31 ~~19~~ 07 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. .....

Type of meter MMS

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
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 Warm / Clear

Other ..... Air 73°F @ 1142

Gage ..... Water 12.3 °C @ 1141

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

Observer .....

Control .....

pH 7.15

CONDUCTANCE 67.7 umhos/cm

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

Samples @ 1139

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	.8										
	1		.2				0				
	1.5		.4				.10				
	2		.55				.21				
	2.5		.6				.12				
	3		.45				.21				
	3.5		.6				.28				
	4		.6				.28				
	4.5		.55				.29				
	5		.7				.23				
	5.5		.6				.34				
	6		.65				.20				
	6.5		.75				.31				
	7		.6				.29				
⊙	7.5		.6				.27				
	8		.65				.21				
	8.5		.7				.26				
	9		.5				.15				
	9.5		.5				.17				
	10		.5				.10				
	10.5		0				0				
RB	10.6										

WALKER MINE TAILINGS MONITORING PROGRAM

9-275-1
(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 5/31, 07 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 MMC

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 Huge Cloud above / Warm

Other ..... Air 75°F °C @ 1403

Gage ..... Water 15.9 °C @ 1357

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

Observer .....

Control .....

pH 8.10

CONDUCTANCE 81.2 umhos/cm

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

Samples @ 1356

.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	1.45										
	2		.3				.03				
	2.5		.85				.16				
	3		1.0				.41				
	3.5		1.0				.54				
	4		.9				.66				
	4.5		.85				.32				
	5		.8				.42				
	5.5		.8				.41				
	6		.55				.26				
	6.5		.5				.20				
	7		.55				.09				
	7.5		.65				.07				
	8		.4				.05				
⊙	8.5		.45				.04				
	9		.3				.02				
RB	9.45										

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

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-6
Sediment Basin Outlet

Date 5/31, 07 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 Warm / Clear

Other .... Air ......°C@ ......

Gage .... Water ......°C@ ......

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

Observer ....

Control ....

pH ....

CONDUCTANCE .... umhos/cm

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

No Samples / 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

Walker Mine Tailings Job # 5-00-028

Stream Samples

Henrici Water Laboratory Chain of Custody

Purveyor:
USFS Plumas National Forest
159 Lawrence St.
Quincy, CA 95971
Attn: Joe Hoffman (530) 283-7868

Sampler's Signature: Pat [illegible] (530)927-7188

Type of Analyses

I.D. No.	Date	Time	Location	No. of Containers	Total Hardness as $CaCO_3$	Total Alkalinity as $CaCO_3$	Sulfate	Diss. Copper	Diss. Iron	Diss. Zinc	Turbidity	Remarks
	5/31/07	1108	R-2	1	X	X	X	X	X	X	X	Detection Limits
	5/31/07	1139	R-4	1	X	X	X	X	X	X	X	cu = 1 ug/L
	5/31/07	1235	R-3	1	X	X	X	X	X	X	X	zn = 2 ug/L
	5/31/07	1325	R-1	1	X	X	X	X	X	X	X	fe = 50 ug/L
	5/31/07	1356	R-5	1	X	X	X	X	X	X	X	
			Total	5								

Relinquished By	Date	Time	Received By
Pat [illegible]	5/31/07	1605	DM Henton

1832 Butterfly Valley Road, Quincy, CA 95971 Telephone & Fax (530) 281-6588

MAY 2007

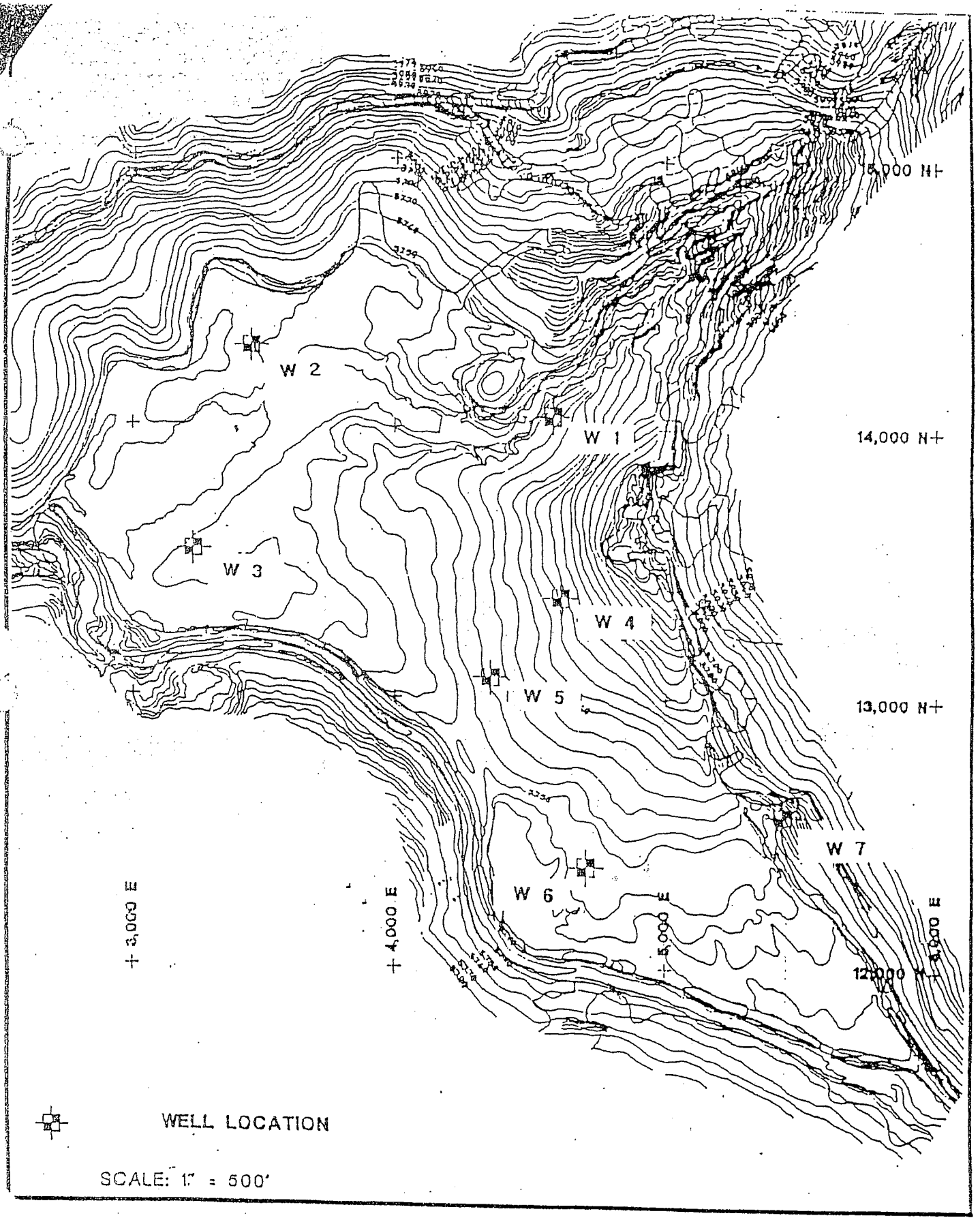
GROUND WATER TEST RESULTS
AND
SUPPORTING DOCUMENTATION

Table 2. GROUND WATER SUMMARY

U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE, PLUMAS NATIONAL FOREST
WALKER MINE TAILINGS, PLUMAS COUNTY
MAY 2007

CONSTITUENT	UNIT	DETECTION LIMIT	WELL SITES W-1	W-2	W-3	W-4	W-5	W-6	W-7*
Field Parameters									
Ground Surface Elevation	ft	0.01	5759.50	5742.05	5739.15	5768.27	5754.28	5748.04	5753.85
Top of Cap Elevation	ft	0.01	5759.24	5741.74	5738.83	5768.00	5754.09	5747.87	5754.91
Depth to Water	ft	0.01	13.67	1.24	4.89	21.34	9.72	5.03	0.63
Water Surface Elevation	ft	0.01	5745.57	5740.50	5733.94	5746.66	5744.37	5742.84	5754.28
Laboratory									
Total Hardness as CaCO3	mg/l	5.0	N/A	N/A	200.0	N/A	180.0	N/A	36.0
Total Alkalinity	mg/l	1.0	N/A	N/A	128.0	N/A	50.0	N/A	43.0
Sulfate	mg/l	0.5	N/A	N/A	92.0	N/A	170.0	N/A	<0.50
Dissolved Iron	ug/l	20.0	N/A	N/A	360.0	N/A	9400.0	N/A	<20
Dissolved Copper	ug/l	0.5	N/A	N/A	2.7	N/A	2.0	N/A	3.0
Dissolved Zinc	ug/l	1.0	N/A	N/A	12.0	N/A	8.8	N/A	5.1

*W-7 is located upgradient and off-site in a wet area. The data collected from this well are used for background comparisons.



WALKER MINE TAILINGS

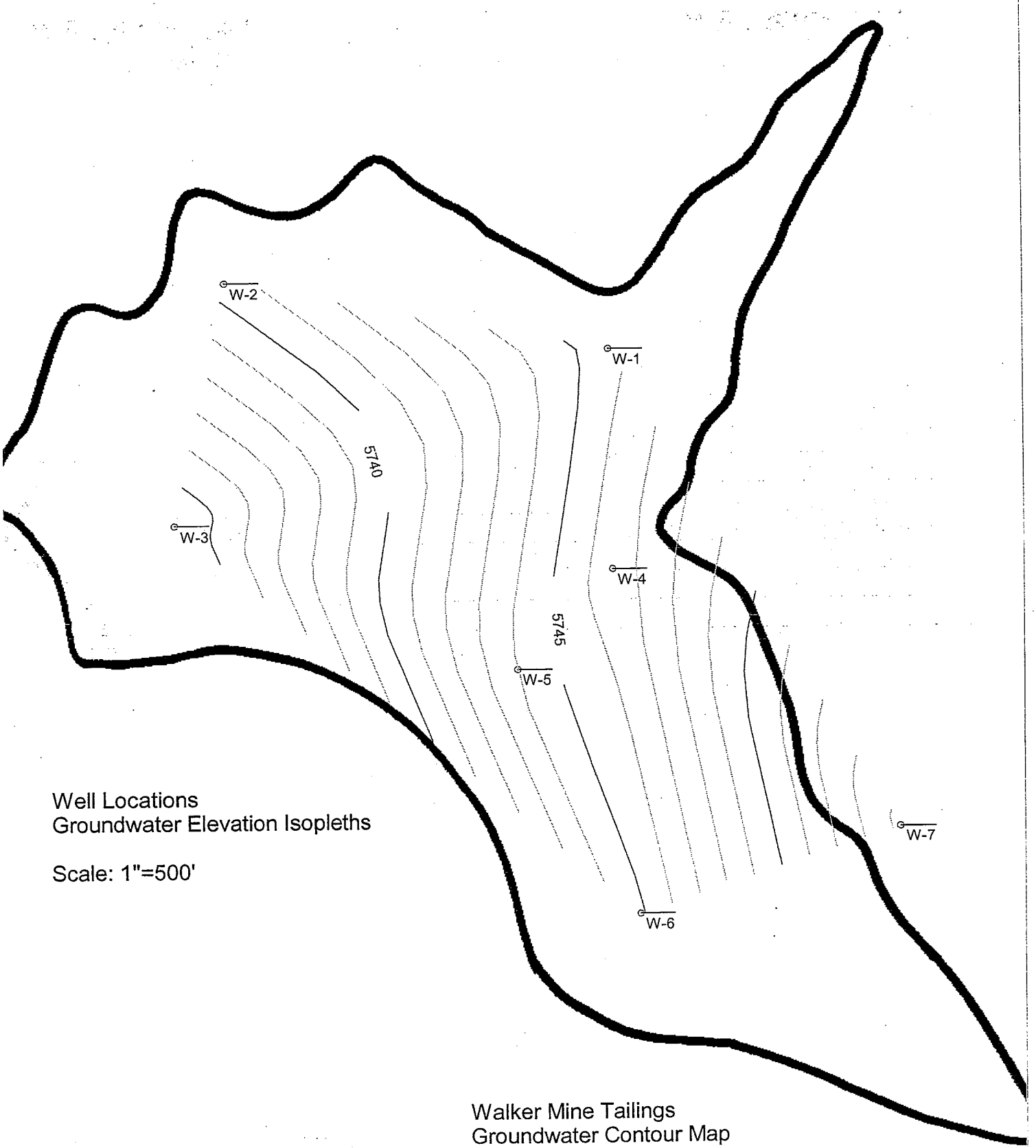
WALKER TAILINGS
GROUNDWATER MONITORING PROGRAM

FLUID LEVEL GAUGING

SITE LOCATION: Walker Mine DATE: 5/31/07
COMPANY NAME: USFS
PERSONNEL: P Flynn

WELL	TIME	DEPTH TO WATER	COMMENTS
W-1	0945	13.67'	
W-2	1008	1.24'	
W-3	0759	4.89	
W-4	0937	21.34'	
W-5	0855	9.72'	
W-6	1041	5.03'	
W-7	0701	0.63'	

TERRAIN Plan	Scale 1:5000	P. 1
C:\Documents and Settings\rn....ay\Walker wells May 2007.ter		07/12/14.



Well Locations
Groundwater Elevation Isopleths

Scale: 1"=500'

Walker Mine Tailings
Groundwater Contour Map

May 2007

SIERRA ENVIRONMENTAL
GROUNDWATER MONITORING SERVICES

May 31st, 2007 Invoice # 053107

USFS Plumas National Forest
159 Lawrence St.
Quincy, CA. 95971
Attn: Joe Hoffman

Re: Walker Mine Tailings – Project# 5-00-028

This invoice is for groundwater monitoring, streamflow readings and stream Sampling at the Walker Mine Tailings site for the Plumas Nat. Forest on 5/31/07

Total Due $ 850.00

Please remit to:
Patrick Flynn c/o Sierra Environmental
2874 State St. # D
Medford, OR. 97504

Thank You,
Patrick Flynn
Sierra Environmental

Water-Quality Sampling Information

Project Number: ——

Page 1 of 1

Project Name: Walker Mine Tailings

Date: 5/31/07

Project Location: Walker Mine

Day: M T W (Th) F S S

Site Conditions/Weather: Warm / Clear

Staff: Flynn

Comments :

SAMPLING METHOD

- [ ] Centrifugal Pump
- [x] Submersible Pump 2" Grundfos
- [ ] Hand Bail
- [ ] Disposable Bailer
- [ ] Teflon Bailer
- [ ] _____ (other)

Sample Number: W-3

- [ ] FB:
- [ ] DUP:

Analysis Requested: Hardness / Alkalinity / SO4 / Dis Cu / Dis Zn / Dis Fe

Number and Types of Bottle Used: 1 - .5 gl poly

Method of shipment: Henrici Water Lab (lab name)

- [ ] Courier
- [x] Hand Deliver

Calculation Area

Height of water column =

Depth to water =

80% DTW

Well Number: W-3

0759 Depth of Water: 4.89

Well Depth: 34.25

Height of Water Column: 29.36

Volume in Well: (gallons) 4.70

3 Well Volumes: (gallons) 14.09

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
0802								Start Purge
0810		5		10.5	7.27	320	33.4	Low Tb / No odor
0821		10		11.5	7.78	307	3.5	" "
0833		15		11.8	7.88	308	2.5	" "
0836								Sample W-3

Inlet Depth:

Signed: _____ Date: _____

Water-Quality Sampling Information

Project Number: ——

Page 1 of 1

Project Name: Walker Mine Tailings

Date: 5/31/07

Project Location: Walker Mine

Day: M T W (Th) F S S

Site Conditions/Weather: Warm / Clear

Staff: Flynn

Comments :

SAMPLING METHOD

- [ ] Centrifugal Pump
- [x] Submersible Pump 2" Grundfos
- [ ] Hand Bail
- [ ] Disposable Bailer
- [ ] Teflon Bailer
- [ ] _____ (other)

Sample Number: W-5

- [ ] FB:
- [ ] DUP:

Analysis Requested

Hardness / Alkalinity
SO4 / Dis Cu / Dis Zn
Dis Fe

Number and Types of Bottle Used

1 - .5 gl poly

Method of shipment

Henrici Water Lab
(lab name)

- [ ] Courier
- [x] Hand Deliver

Calculation Area

Height of water column =
Depth to water =

80% DTW

Well Number: W-5

0855 Depth of Water: 9.72

Well Depth: 40.3

Height of Water Column: 30.58

Volume in Well: (gallons) 4.89

3 Well Volumes: (gallons) 14.68

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 °C	pH	Cond. ms/ cm	Turbidity (NTU)	Remarks
0900								Start Purge
0906		5		11.5	7.09	345	24.3	Low T6 / No odor
0915		10		10.6	7.02	345	4.0	" "
0922		15		10.2	7.02	345	2.8	" "
0924								Sample W-5

Inlet Depth:

Signed: Date:

Water-Quality Sampling Information

Project Number: ——

Page 1 of 1

Project Name: Walker Mine Tailings

Date: 5/31/07

Project Location: Walker Mine

Day: M T W (Th) F S S

Site Conditions/Weather: Cold / Clear

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: Hardness / Alkalinity, SO4 / Dis Cu / Dis Zn, Dis Fe

Number and Types of Bottle Used: 1 - .5gl poly

Method of shipment: Henrici Water Lab (lab name)

- [ ] Courier
- [x] Hand Deliver

Calculation Area

Height of water column =

Depth to water =

80% DTW

Well Number: W-7

Depth of Water: 0.63

Well Depth: 11.00

Height of Water Column: 10.37

Volume in Well: (gallons) 1.66

3 Well Volumes: (gallons) 4.98

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
0700								Start Purge
0710		2		7.0	6.16	64.2	13.4	Low Tb / Wooder
0714		4		5.6	6.20	52.2	84	mid Tb / "
0719		6		5.3	6.18	51.3	162	High Tb / "
								Allow Recharge
0735							19.1	Sample W-7

Inlet Depth:

Signed: _____ Date: _____

Walker Tailings (Groundwater) Job # 5-00-028

Henrici Water Laboratory Chain of Custody

Purveyor:
Plumas National Forest
159 Lawrence St.
Quincy, CA 95971
Attn: Joe Hoffman (530) 283 7868

Sampler's Signature
Pat [illegible] (530) 927-7188

Type of Analyses

I.D. No.	Date	Time	Location	No. of Containers	Total Hardness as $CaCO_3$	Total Alkalinity as $CaCO_3$	Sulfate	Diss Copper	Diss Iron	Diss Zinc	Remarks
	5/31/07	0735	W-7	1	X	X	X	X	X	X	Detection Limits
	5/31/07	0836	W-3	1	X	X	X	X	X	X	Cu = 1 ug/L
	5/31/07	0924	W-5	1	X	X	X	X	X	X	Zn = 2 ug/L
											Fe = 50 ug/L
			Total	3							

Relinquished By	Date	Time	Received By
Pat [illegible]	5/31/07	1605	DM Henton

1832 Butterfly Valley Road, Quincy, CA 95971 Telephone & Fax (530) 281-6588

Walker Tailings (Groundwater) Job # 5-00-028

Henrici Water Laboratory Chain of Custody

Purveyor:
Plumas National Forest
159 Lawrence St.
Quincy, CA 95971
Attn: Joe Hoffman (530) 283 7868

Sampler's Signature
Pat [illegible] (530) 927-7188

Type of Analyses

I.D. No.	Date	Time	Location	No. of Containers	Total Hardness as $CaCO_3$	Total Alkalinity as $CaCO_3$	Sulfate	Diss Copper	Diss Iron	Diss Zinc	Remarks
	5/31/07	0735	W-7	1	X	X	X	X	X	X	Detection Limits
	5/31/07	0836	W-3	1	X	X	X	X	X	X	Cu = 1 ug/L
	5/31/07	0924	W-5	1	X	X	X	X	X	X	Zn = 2 ug/L
											Fe = 50 ug/L
			Total	3							

Relinquished By	Date	Time	Received By
Pat [illegible]	5/31/07	1605	DM Henton

1832 Butterfly Valley Road, Quincy, CA 95971

Telephone & Fax (530) 281-6588

HENRICI WATER LABORATORY
1832 BUTTERFLY VALLEY ROAD, QUINCY, CALIFORNIA 95971
PHONE (530) 281-6588

Plumas National Forest
Supervisor's Office
P.O. Box 11500
Quincy, CA 95971

Account: 11616
Date: 11/12/07
Page: 1

ANALYSIS REPORT

Laboratory Number: C40740 Date Received: 05/31/07
Location: Walker Mine W-3
Date of Collection : 05/31/07 Time: 0836 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	08/06/07	SM 2340C	5.0	200	mg/L
Total Alkalinity	06/01/07	SM 2320 B	1	128	mg/L
Sulfate	06/27/07	EPA 300.0	0.50	92	mg/L
Dissolved Iron	08/07/07	SM 3120B	20	360	ug/L
Dissolved Copper	08/09/07	SM 3120B	0.50	2.7	ug/L
Dissolved Zinc	08/03/07	SM 3120B	1.0	12	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director

HENRICI WATER LABORATORY
1832 BUTTERFLY VALLEY ROAD, QUINCY, CALIFORNIA 95971
PHONE (530) 281-6588

Plumas National Forest
Supervisor's Office
P.O. Box 11500
Quincy, CA 95971

Account: 11616
Date: 11/12/07
Page: 1

ANALYSIS REPORT

Laboratory Number: C40741 Date Received: 05/31/07
Location: Walker Mine W-5
Date of Collection : 05/31/07 Time: 0924 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	08/06/07	SM 2340C	5.0	180	mg/L
Total Alkalinity	06/01/07	SM 2320 B	1	50	mg/L
Sulfate	06/28/07	EPA 300.0	0.50	170	mg/L
Dissolved Iron	08/07/07	SM 3120B	20	9400	ug/L
Dissolved Copper	08/09/07	SM 3120B	0.50	2.0	ug/L
Dissolved Zinc	08/03/07	SM 3120B	1.0	8.8	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director

HENRICI WATER LABORATORY
1832 BUTTERFLY VALLEY ROAD, QUINCY, CALIFORNIA 95971
PHONE (530) 281-6588

Plumas National Forest
Supervisor's Office
P.O. Box 11500
Quincy, CA 95971

Account: 11616
Date: 11/12/07
Page: 1

ANALYSIS REPORT

Laboratory Number: C40742 Date Received: 05/31/07
Location: Walker Mine W-7
Date of Collection : 05/31/07 Time: 0735 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	08/06/07	SM 2340C	5.0	36	mg/L
Total Alkalinity	06/01/07	SM 2320 B	1	43	mg/L
Sulfate	06/27/07	EPA 300.0	0.50	<0.50	mg/L
Dissolved Iron	08/07/07	SM 3120B	20	<20	ug/L
Dissolved Copper	08/09/07	SM 3120B	0.50	3.0	ug/L
Dissolved Zinc	08/03/07	SM 3120B	1.0	5.1	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director

JULY 2007

SURFACE WATER TEST RESULTS
AND
SUPPORTING DOCUMENTATION

MONITORING REPORT

Discharger: USDA Forest Service, Plumas National Forest

Facility: Walker Mine Tailings, Plumas County

Monitoring Period: July 2007

Findings:

(1) Surface water. Samples were collected on July 26, 2007. The surface water sample collected at the compliance station, R-5, Little Grizzly Creek near Brown's Cabin, continues to exceed the limitation for copper (see Table 1). The remaining R-5 constituents are in compliance with the prescribed limitations. The release of copper from the tailings area to Dolly Creek, as measured at R-2, continues to far exceed the limitation. Concentrations of zinc were detected in all of the 5 samples taken but none of these concentrations exceeded the limitation for zinc. The concentration of iron, highest at R-2, was outside the limitation at only this station.

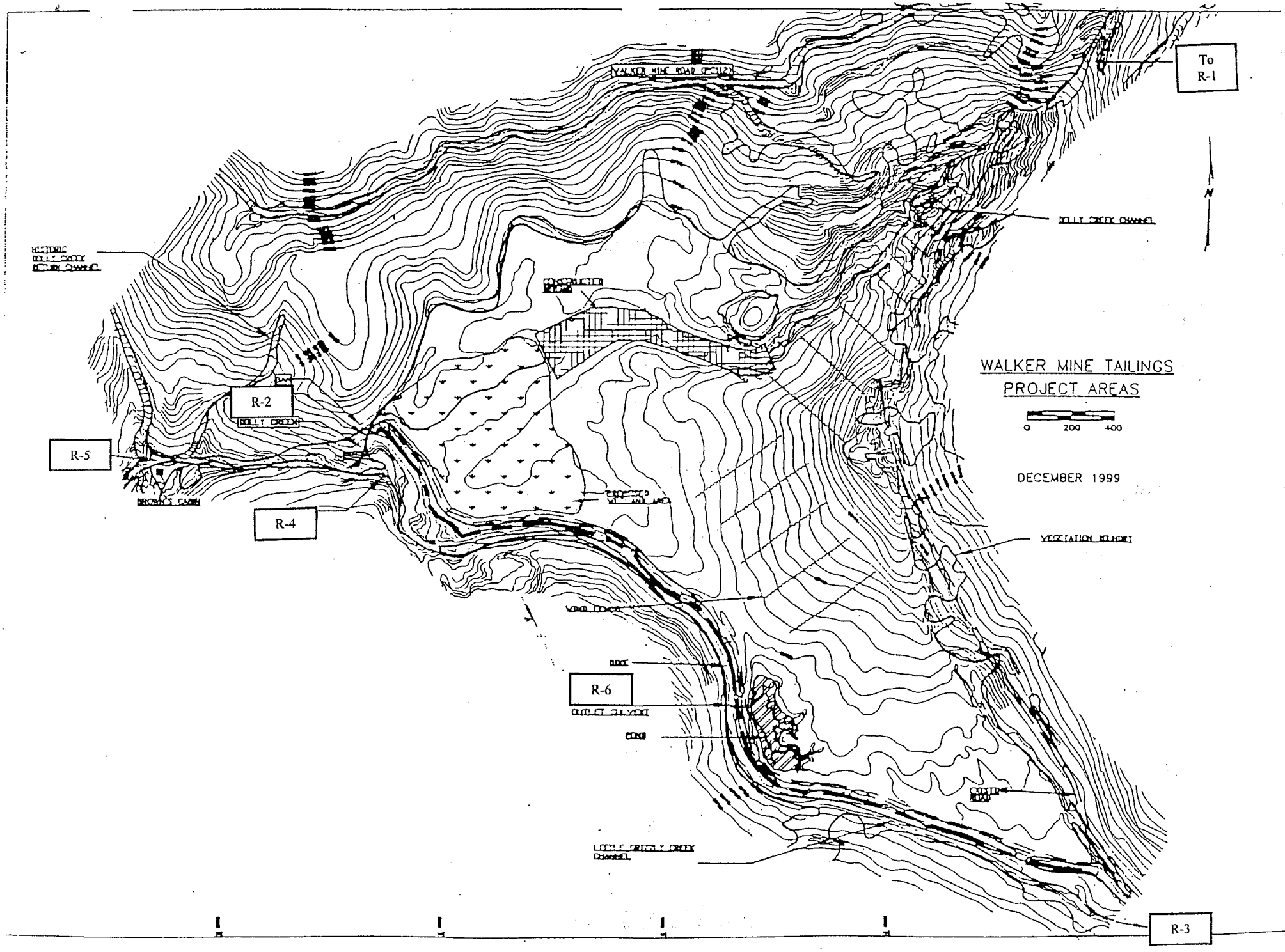
(2) Groundwater. No groundwater samples were collected for this monitoring event.

Table 1. SURFACE WATER SUMMARY REPORT

U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE, PLUMAS NATIONAL FOREST
WALKER MINE TAILINGS, PLUMAS COUNTY
JULY 2007

CONSTITUENT	UNITS	DETECTION LIMITS	MONITORING STATIONS R-1	R-2	R-3[1]	R-4	R-5[2]	R-6	LIMITATION @ R-5[3]
Field Parameters									
Flow	cfs	N/A	0.07	0.08	0.08	0.14	0.19	0	N/A
pH	number	N/A	7.78	8.01	7.83	7.72	8.16	N/A	N/A
Specific Conductance	umhos/cm	N/A	121.0	147.0	108.0	163.0	166.0	N/A	N/A
Air Temperature	^{0}C	N/A	27.2	25.6	28.9	25.6	28.3	N/A	N/A
Water Temperature	^{0}C	N/A	15.8	20.4	19.0	16.9	20.9	N/A	N/A
Laboratory									
Total Hardness as CaCO3	mg/l	5	75	75	52	83	79	N/A	N/A
Total Alkalinity	mg/l	1	76	81	70	70	71	N/A	N/A
Sulfate	mg/l	0.5	1.3	3	<0.50	18	13	N/A	N/A
Turbidity	NTU	0.05	1.4	3.9	3.2	4.1	2.3	N/A	4.2
Dissolved Iron	ug/l	20	500	1700	430	430	940	N/A	1000
Dissolved Copper	ug/l	0.5	14	59	1.2	3.5	21	N/A	7.3
Dissolved Zinc	ug/l	1.0	5.7	17	3.7	6.7	5	N/A	96.8

[1] R-3 is the background station located above the tailings area on Little Grizzly Creek.
[2] R-5 is the compliance station located near Brown's Cabin, downstream from the confluence of Dolly Creek with Little Grizzly Creek.
[3] The compliance values for copper and zinc are calculated with the R-5 hardness value of 79 mg/l as CaCO3.


To R-1
R-2
R-3
R-4
R-5
R-6
WALKER MINE TAILINGS
PROJECT AREAS
0 200 400
DECEMBER 1999
N

LOCATION: R-1
DATE: 7/26/2007
MEASUREMENT METHOD: 6/10
METER TYPE: Marsh McBirney
MEASUREMENT RATING: Good

Channel Width (ft):	4.90	**X-sectional Area (ft^2):**	2.30
Hydraulic Depth (ft):	0.47	**Average Velocity (fps):**	0.03
		Discharge (cfs):	0.07

Distance (ft)	Width (ft)	Depth (ft)	Area (ft^2)	Velocity (fps)	Discharge (cfs)
0.50	LEW				
1.00	0.50	0.45	0.23	0.00	0.00
1.50	0.50	0.55	0.28	0.00	0.00
2.00	0.50	0.70	0.35	0.00	0.00
2.50	0.50	0.60	0.30	0.02	0.01
3.00	0.50	0.70	0.35	0.03	0.01
3.50	0.50	0.60	0.30	0.05	0.02
4.00	0.50	0.40	0.20	0.14	0.03
4.50	0.50	0.35	0.18	0.08	0.01
5.00	0.50	0.25	0.13	0.00	0.00
5.40	REW				
	4.50				

LOCATION: R-2
DATE: 7/26/2007
MEASUREMENT METHOD: 6/10
METER TYPE: Marsh McBirney
MEASUREMENT RATING: Good

Channel Width (ft):	4.00	**X-sectional Area (ft^2):**	1.14
Hydraulic Depth (ft):	0.29	**Average Velocity (fps):**	0.07
		Discharge (cfs):	0.08

Distance (ft)	Width (ft)	Depth (ft)	Area (ft^2)	Velocity (fps)	Discharge (cfs)
0.80	LEW				
1.00	0.35	0.05	0.02	0.00	0.00
1.50	0.50	0.25	0.13	0.00	0.00
2.00	0.50	0.25	0.13	0.05	0.01
2.50	0.50	0.30	0.15	0.10	0.02
3.00	0.50	0.45	0.23	0.08	0.02
3.50	0.50	0.45	0.23	0.12	0.03
4.00	0.50	0.30	0.15	0.08	0.01
4.50	0.50	0.25	0.13	0.03	0.00
4.80	REW				
	3.85				

LOCATION: R-3
DATE: 7/26/2007
MEASUREMENT METHOD: 6/10
METER TYPE: Marsh McBirney
MEASUREMENT RATING: Good

Channel Width (ft):	6.10	**X-sectional Area (ft^2):**	1.55
Hydraulic Depth (ft):	0.25	**Average Velocity (fps):**	0.05
		Discharge (cfs):	0.08

Distance (ft)	Width (ft)	Depth (ft)	Area (ft^2)	Velocity (fps)	Discharge (cfs)
1.30	LEW				
1.50	0.45	0.05	0.02	0.00	0.00
2.00	0.50	0.10	0.05	0.03	0.00
2.50	0.50	0.25	0.13	0.01	0.00
3.00	0.50	0.25	0.13	0.20	0.03
3.50	0.50	0.30	0.15	0.19	0.03
4.00	0.50	0.35	0.18	0.00	0.00
4.50	0.50	0.40	0.20	0.02	0.00
5.00	0.50	0.30	0.15	0.09	0.01
5.50	0.50	0.25	0.13	0.00	0.00
6.00	0.50	0.45	0.23	0.02	0.00
6.50	0.50	0.30	0.15	0.02	0.00
7.00	0.50	0.10	0.05	0.00	0.00
7.40	REW				
	5.95				

LOCATION: R-4
DATE: 7/26/2007
MEASUREMENT METHOD: 6/10
METER TYPE: Marsh McBirney
MEASUREMENT RATING: Good

Channel Width (ft):	8.70	**X-sectional Area (ft^2):**	2.20
Hydraulic Depth (ft):	0.25	**Average Velocity (fps):**	0.06
		Discharge (cfs):	0.14

Distance (ft)	Width (ft)	Depth (ft)	Area (ft^2)	Velocity (fps)	Discharge (cfs)
0.30	LEW				
0.50	0.45	0.05	0.02	0.00	0.00
1.00	0.50	0.05	0.03	0.00	0.00
1.50	0.50	0.05	0.03	0.00	0.00
2.00	0.50	0.25	0.13	0.00	0.00
2.50	0.50	0.20	0.10	0.09	0.01
3.00	0.50	0.25	0.13	0.09	0.01
3.50	0.50	0.30	0.15	0.12	0.02
4.00	0.50	0.25	0.13	0.07	0.01
4.50	0.50	0.40	0.20	0.08	0.02
5.00	0.50	0.50	0.25	0.06	0.02
5.50	0.50	0.40	0.20	0.12	0.02
6.00	0.50	0.40	0.20	0.06	0.01
6.50	0.50	0.30	0.15	0.04	0.01
7.00	0.50	0.40	0.20	0.06	0.01
7.50	0.50	0.30	0.15	0.06	0.01
8.00	0.50	0.25	0.13	0.00	0.00
8.50	0.50	0.05	0.03	0.00	0.00
9.00	REW	0.05			
	8.45				

LOCATION: R-5
DATE: 7/26/2007
MEASUREMENT METHOD: 6/10
METER TYPE: Marsh McBirney
MEASUREMENT RATING: Good

Channel Width (ft):	3.90	**X-sectional Area (ft^2):**	1.83
Hydraulic Depth (ft):	0.47	**Average Velocity (fps):**	0.11
		Discharge (cfs):	0.19

Distance (ft)	Width (ft)	Depth (ft)	Area (ft^2)	Velocity (fps)	Discharge (cfs)
2.90	LEW				
3.00	0.35	0.50	0.18	0.00	0.00
3.50	0.50	0.65	0.33	0.24	0.08
4.00	0.50	0.55	0.28	0.19	0.05
4.50	0.50	0.30	0.15	0.12	0.02
5.00	0.50	0.40	0.20	0.09	0.02
5.50	0.50	0.50	0.25	0.04	0.01
6.00	0.50	0.50	0.25	0.03	0.01
6.50	0.50	0.40	0.20	0.05	0.01
6.80	REW				
	3.85				

Walker Mine Tailings

Job # 5-00-028

Henrici Water Laboratory Chain of Custody

Purveyor:
USFS Plumas National Forest
159 Lawrence St.
Quincy, CA 95971
Attn Joe Hoffmom 530 283 7868

Sampler's Signature

Type of Analyses

I.D. No.	Date	Time	Location	No. of Containers	Total Hardness as $CaCO_3$	Total Alkalinity as $CaCO_3$	Sulfate	Diss Copper	Diss Iron	Diss Zinc	Turbidity	Remarks
	7/26/07	1206	R-2	1	X	X	X	X	X	X	X	
		1252	R-4	1	X	X	X	X	X	X	X	
		1358	R-3	1	X	X	X	X	X	X	X	
		1451	R-1	1	X	X	X	X	X	X	X	
		1522	R-5	1	X	X	X	X	X	X	X	

Relinquished By	Date	Time	Received By
	7/26/07	1700 hrs.	Dawn M Henton 7/27/07

1832 Butterfly Valley Road, Quincy, CA 95971

Telephone & Fax (530) 281-6588

Walker Mine Tailings Job # 5-00-028

Henrici Water Laboratory Chain of Custody

Purveyor:
USFS Plumas National Forest
159 Lawrence St.
Quincy, CA 95971
Attn Joe Hoffmann 530 283 7868

Sampler's Signature

Type of Analyses

I.D. No.	Date	Time	Location	No. of Containers	Total Hardness as $CaCO_3$	Total Alkalinity as $CaCO_3$	Sulfate	Diss Copper	Diss Iron	Diss Zinc	Turbidity	Remarks
	7/26/07	1206	R-2	1	X	X	X	X	X	X	X	
	↓	1252	R-4	1	X	X	X	X	X	X	X	
		1358	R-3	1	X	X	X	X	X	X	X	
		1451	R-1	1	X	X	X	X	X	X	X	
		1522	R-5	1	X	X	X	X	X	X	X	

Relinquished By	Date	Time	Received By
	7/26/07	1700 MS	

1832 Butterfly Valley Road, Quincy, CA 95971 Telephone & Fax (530) 281-6588

HENRICI WATER LABORATORY
1832 BUTTERFLY VALLEY ROAD, QUINCY, CALIFORNIA 95971
PHONE (530) 281-6588

Plumas National Forest
Supervisor's Office
P.O. Box 11500
Quincy, CA 95971

Account: 11616
Date: 11/12/07
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ANALYSIS REPORT

Laboratory Number: C41219 Date Received: 07/27/07
Location: Walker Mine R-1
Date of Collection : 07/26/07 Time: 1451 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	08/06/07	SM 2340C	5.0	75	mg/L
Total Alkalinity	07/27/07	SM 2320 B	1	76	mg/L
Sulfate	08/01/07	EPA 300.0	0.50	1.3	mg/L
Turbidity	07/27/07	SM 2130B	0.05	1.4	NTU
Dissolved Iron	08/07/07	SM 3120B	20	500	ug/L
Dissolved Copper	08/07/07	SM 3120B	0.50	14	ug/L
Dissolved Zinc	08/03/07	SM 3120B	1.0	5.7	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director

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PHONE (530) 281-6588

Plumas National Forest
Supervisor's Office
P.O. Box 11500
Quincy, CA 95971

Account: 11616
Date: 11/12/07
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ANALYSIS REPORT

Laboratory Number: C41220 Date Received: 07/27/07
Location: Walker Mine R-2
Date of Collection : 07/26/07 Time: 1206 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	08/06/07	SM 2340C	5.0	75	mg/L
Total Alkalinity	07/27/07	SM 2320 B	1	81	mg/L
Sulfate	08/01/07	EPA 300.0	0.50	3.0	mg/L
Turbidity	07/27/07	SM 2130B	0.05	3.9	NTU
Dissolved Iron	08/07/07	SM 3120B	20	1700	ug/L
Dissolved Copper	08/09/07	SM 3120B	0.50	59	ug/L
Dissolved Zinc	08/03/07	SM 3120B	1.0	17	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director

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Quincy, CA 95971

Account: 11616
Date: 11/12/07
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ANALYSIS REPORT

Laboratory Number: C41221 Date Received: 07/27/07
Location: Walker Mine R-3
Date of Collection : 07/26/07 Time: 1358 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	08/06/07	SM 2340C	5.0	52	mg/L
Total Alkalinity	07/27/07	SM 2320 B	1	70	mg/L
Sulfate	08/01/07	EPA 300.0	0.50	<0.50	mg/L
Turbidity	07/27/07	SM 2130B	0.05	3.2	NTU
Dissolved Iron	08/07/07	SM 3120B	20	430	ug/L
Dissolved Copper	08/09/07	SM 3120B	0.50	1.2	ug/L
Dissolved Zinc	08/03/07	SM 3120B	1.0	3.7	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

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Laboratory Director

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Account: 11616
Date: 11/12/07
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ANALYSIS REPORT

Laboratory Number: C41222 Date Received: 07/27/07
Location: Walker Mine R-4
Date of Collection : 07/26/07 Time: 1252 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	08/06/07	SM 2340C	5.0	83	mg/L
Total Alkalinity	07/27/07	SM 2320 B	1	70	mg/L
Sulfate	08/01/07	EPA 300.0	0.50	18	mg/L
Turbidity	07/27/07	SM 2130B	0.05	4.1	NTU
Dissolved Iron	08/07/07	SM 3120B	20	430	ug/L
Dissolved Copper	08/09/07	SM 3120B	0.50	3.5	ug/L
Dissolved Zinc	08/03/07	SM 3120B	1.0	6.7	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director

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Plumas National Forest
Supervisor's Office
P.O. Box 11500
Quincy, CA 95971

Account: 11616
Date: 11/12/07
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ANALYSIS REPORT

Laboratory Number: C41223 Date Received: 07/27/07
Location: Walker Mine R-5
Date of Collection : 07/26/07 Time: 1522 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	08/06/07	SM 2340C	5.0	79	mg/L
Total Alkalinity	07/27/07	SM 2320 B	1	71	mg/L
Sulfate	08/01/07	EPA 300.0	0.50	13	mg/L
Turbidity	07/27/07	SM 2130B	0.05	2.3	NTU
Dissolved Iron	08/07/07	SM 3120B	20	940	ug/L
Dissolved Copper	08/09/07	SM 3120B	0.50	21	ug/L
Dissolved Zinc	08/03/07	SM 3120B	1.0	5.0	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director

WALKER MINE TAILINGS MONITORING PROGRAM

9-275-T
(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

Dolly Creek above Tailings @ Road 112

Date 7/26 2007 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. .....

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 .....

GAGE READINGS

Time		Recorder	Inside	Outside
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 Hot / Clear

Other ..... Air 81° F @ 1456

Gage ..... Water 15.8 °C @ 1455

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

Observer .....

Control .....

pH 7.78

CONDUCTANCE 121 umhos/cm

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

Samples @ 1451

.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	.5										
	1		.45				0				
	1.5		.55				0				
	2		.7				0				
	2.5		.6				.02				
	3		.7				.03				
	3.5		.6				.05				
	4		.4				.14				
	4.5		.35				.08				
	5		.25				0				
RB	5.4										

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

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-2
Dolly Creek below Tailings Dam

Date 7/26, 2007 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 / Clear

Other ..... Air 78° F @ 1213

Gage ..... Water 20.4 °C @ 1210

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

Observer .....

Control .....

pH 8.01

CONDUCTANCE 147 umhos/cm

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

Samples @ 1206

.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	.8										
	1		.05				0				
	1.5		.25				0				
	2		.25				.05				
	2.5		.30				.10				
	3		.45				.08				
	3.5		.45				.12				
	4		.30				.08				
	4.5		.25				.03				
RB	4.8										

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

WALKER MINE TAILINGS MONITORING PROGRAM

9-275-T
(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 7/26, 2007 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 Hot / Clear

Other ..... Air 84° F @ 1402

Gage ..... Water 19.0 °C @ 1403

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

Observer .....

Control .....

pH 7.83

CONDUCTANCE 108 umhos/cm

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

Samples @ 1358

.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	.6										
	1		.05				0				
	1.5		.1				0				
	2		.15				.04				
	2.5		.4				.11				
	3		.35				.02				
	3.5		.4				.04				
	4		.7				.01				
	4.5		.8				0				
	5		.8				.01				
	5.5		.8				.01				
	6		.25				.02				
RB	6.3										
	Did Not like the results from 1st run, so moved and did another cross section										
LB	1.3										
	1.5		.05				0				
	2		.1				.03				
	2.5		.25				.01				
	3		.25				.20				
	3.5		.3				.19				
	4		.55				0				
	4.5		.4				.02				
	5		.3				.09				
	5.5		.25				0				
	6		.45				.02				
	6.5		.3				.02				
	7		.1				0				
RB	7.4										

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

9-276-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-4

Little Grizzly Creek below Tailings

Date 7/26, 2007 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/Clear

Other ..... Air 78°F @ 1258

Gage ..... Water 16.9°C @ 1255

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

Observer .....

Control .....

pH 7.12

CONDUCTANCE 163 umhos/cm

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

Samples @ 1252

.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	0.5		.05				0				
	1		.05				0				
	1.5		.05				0				
	2		.25				0				
	2.5		.20				.09				
	3		.25				.09				
	3.5		.30				.12				
	4		.25				.07				
	4.5		.4				.08				
	5		.5				.06				
	5.5		.4				.12				
	6		.4				.06				
	6.5		.3				.04				
	7		.4				.06				
⊙	7.5		.3				.06				
	8		.25				0				
	8.5		.05				0				
RB	9										

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

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-5

Little Grizzly Creek @ Brown's Cabin

Date 7/26, 2007 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 Hot / Clear

Other ..... Air 83°F @ 1524

Gage ..... Water 20.9°C @ 1525

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

Observer .....

Control .....

pH 8.16

CONDUCTANCE 166 umhos/cm

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

Samples = 1522

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	2.9										
	3		.5				0				
	3.5		.65				.24				
	4		.55				.19				
	4.5		.3				.12				
	5		.4				.09				
	5.5		.5				.04				
	6		.5				.03				
	6.5		.4				.05				
RB	6.8										

WALKER MINE TAILINGS MONITORING PROGRAM

9-275-r
(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-6
Sediment Basin Outlet

Date 7/26 1979 Party Flynn

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

Method NA 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 NA

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 No Flow / No Samples Weather Hot / Clear

Other ..... Air .....°C@ .....

Gage ..... Water .....°C@ .....

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

Observer .....

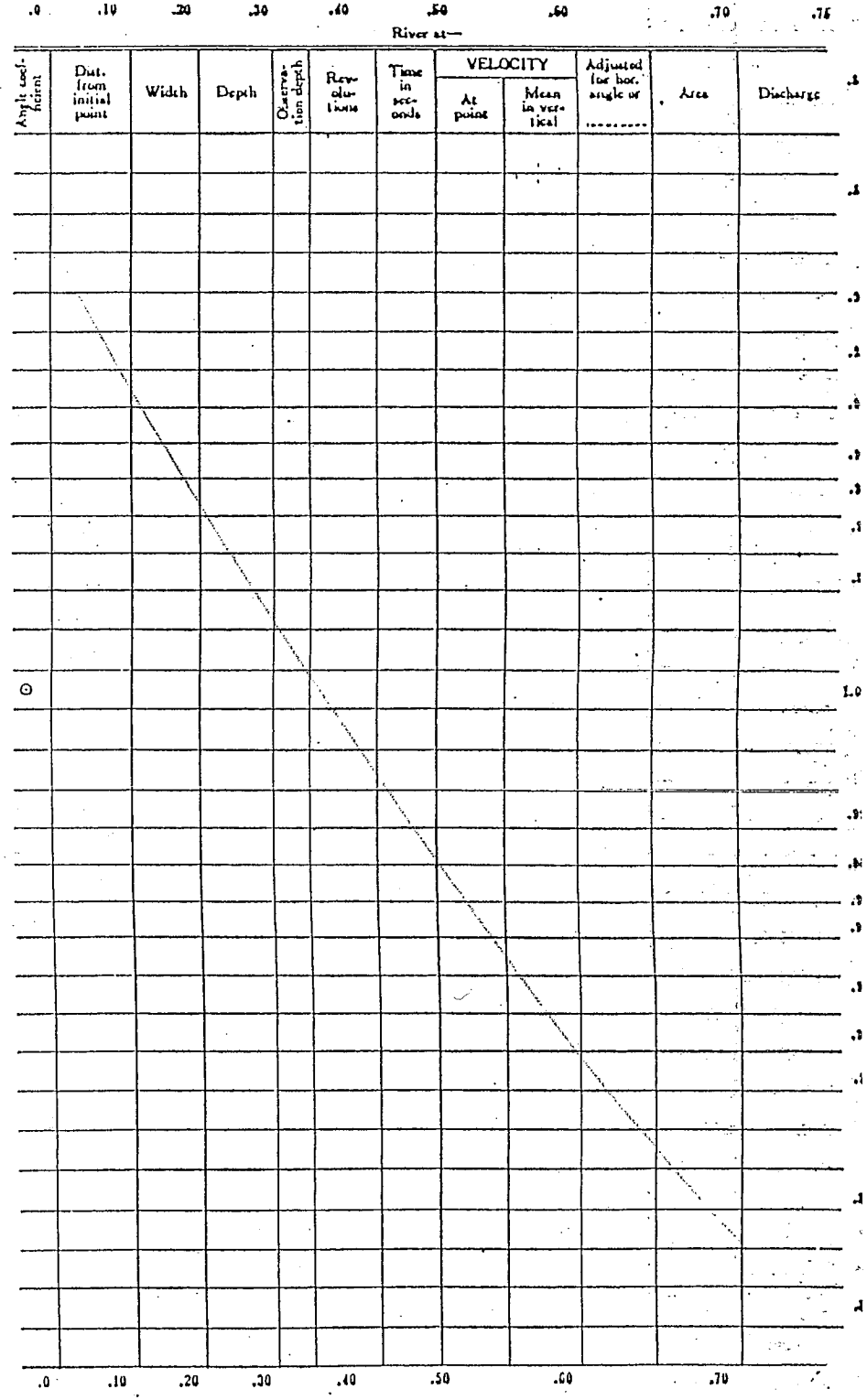
Control .....

pH .....

CONDUCTANCE ..... umhos/cm

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

No Flow - No Sample



JULY 2007

GROUND WATER TEST RESULTS
AND
SUPPORTING DOCUMENTATION

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Table 1. SURFACE WATER SUMMARY

Map of the tailings area with the surface water monitoring sites

Discharge Measurement Notes

Chain-Of-Custody record for surface water samples

Henrici Water Laboratory Analysis Reports for surface water tests

Table 2. GROUND WATER SUMMARY

Map of the tailings area with the ground water monitoring sites

Map of tailings area with ground water elevations and flow direction

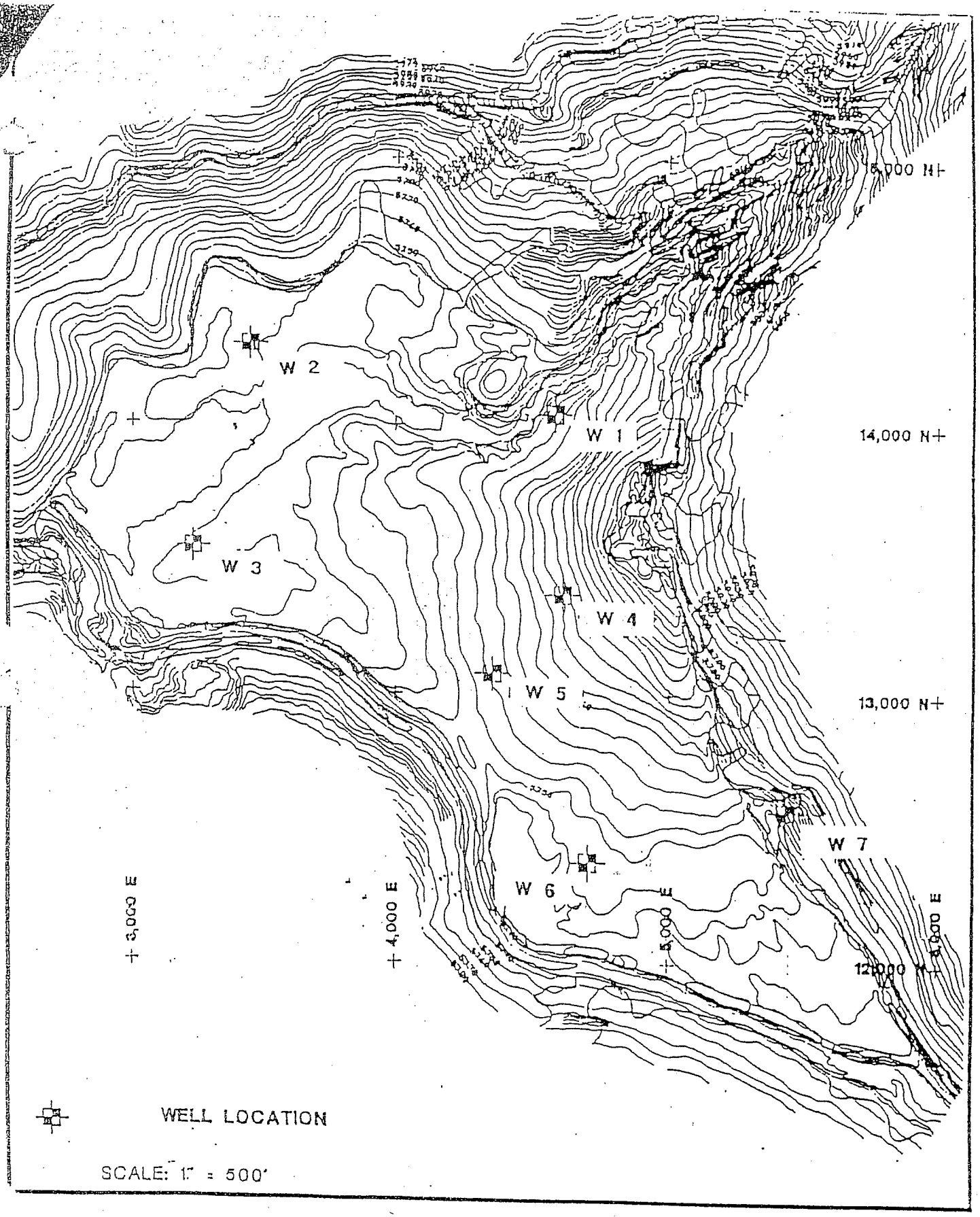
Water Level Data

Table 2. GROUND WATER SUMMARY

U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE, PLUMAS NATIONAL FOREST
WALKER MINE TAILINGS, PLUMAS COUNTY
July 2007

CONSTITUENT	UNIT	DETECTION LIMIT	WELL SITES W-1[1]	W-2	W-3	W-4	W-5	W-6	W-7*
Field Parameters									
Ground Surface Elevation	ft	0.01	5759.50	5742.05	5739.15	5768.27	5754.28	5748.04	5753.85
Top of Cap Elevation	ft	0.01	5759.24	5741.74	5738.83	5768.00	5754.09	5747.87	5754.91
Depth to Water	ft	0.01	14.11	2.19	5.90	22.86	11.32	6.18	1.44
Water Surface Elevation	ft	0.01	5745.13	5739.55	5732.93	5745.14	5742.77	5741.69	5753.47
Laboratory									
Total Hardness as CaCO3	mg/l	5.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Alkalinity	mg/l	1.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sulfate	mg/l	0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dissolved Iron	ug/l	20.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dissolved Copper	ug/l	0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dissolved Zinc	ug/l	1.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*W-7 is located upgradient and off-site in a wet area. The data collected from this well are used for background comparisons.
W-1[1] was destroyed during construction of the Dolly Creek Channel Summer of 2007.



WALKER MINE TAILINGS

SIERRA ENVIRONMENTAL
GROUNDWATER MONITORING SERVICES

July 26th, 2007 Invoice # 072607

USFS Plumas National Forest
159 Lawrence St.
Quincy, CA. 95971
Attn: Joe Hoffman

Re: Walker Mine Tailings – Project# 5-00-028

This invoice is for groundwater monitoring, streamflow readings and stream Sampling at the Walker Mine Tailings site for the Plumas Nat. Forest on 7/26/07.

Total Due $ 800.00

Please remit to:
Patrick Flynn c/o Sierra Environmental
2874 State St. # D
Medford, OR. 97504

RI ØØ63
TIN: 572882388

Thank You,
Patrick Flynn
Sierra Environmental

Pd 800.00
w/Corky's check
#660

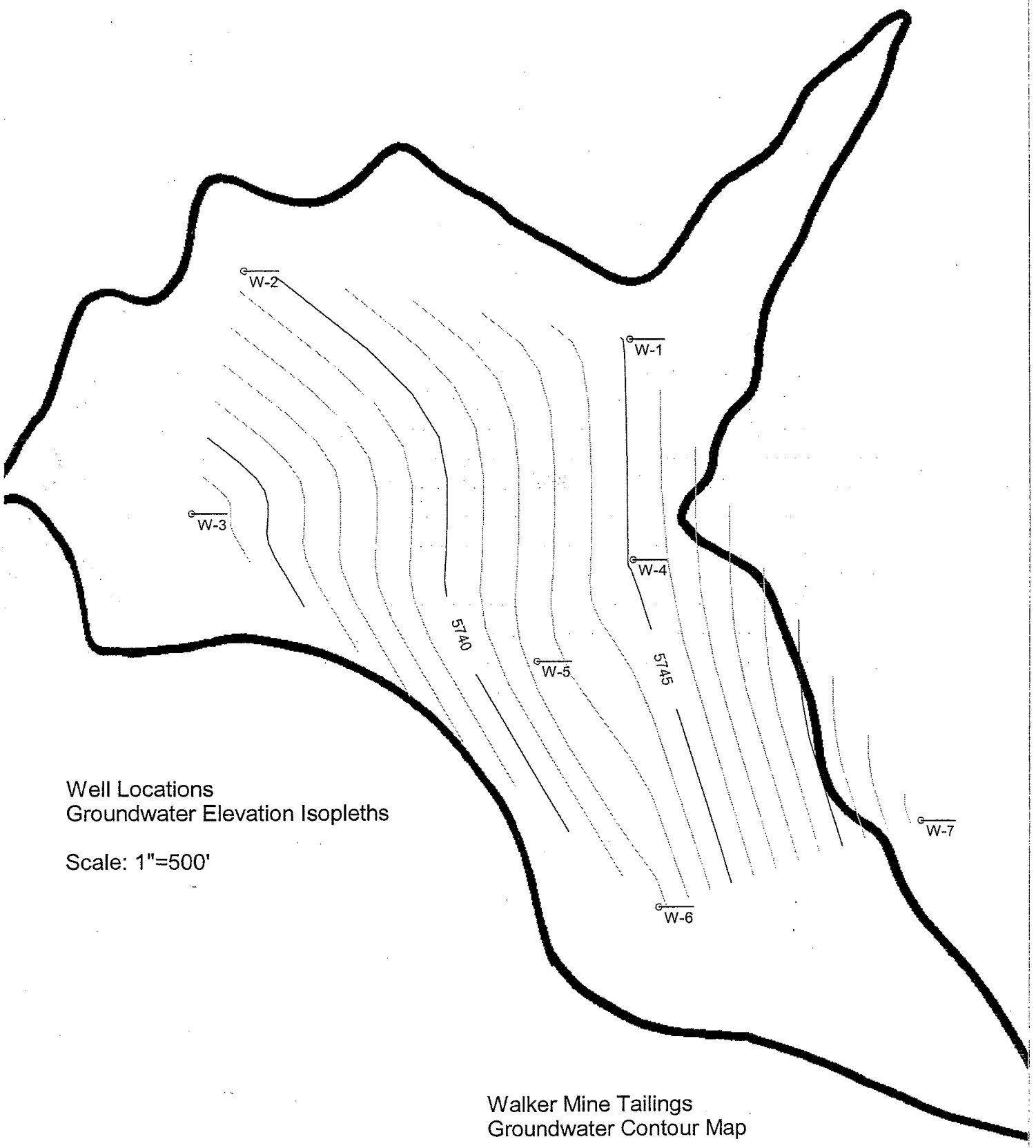
WALKER TAILINGS
GROUNDWATER MONITORING PROGRAM

FLUID LEVEL GAUGING

SITE LOCATION: Walker Mine Tailings DATE: 7/26/07
COMPANY NAME: Sierra Environmental
PERSONNEL: Flynn

WELL	TIME	DEPTH TO WATER	COMMENTS
MW-1	1014	14.11'	
MW-2	1036	2.19'	
MW-3	1134	5.90'	
MW-4	1120	22.86'	
MW-5	1116	11.32'	
MW-6	1107	6.78'	
MW-7	[redacted] 0957	1.44'	

TERRAIN Plan	Scale 1:5000	P. 1
C:\Documents and Settings\rn....y\Walker wells July 2007.ter		07/12/14



Well Locations
Groundwater Elevation Isopleths

Scale: 1"=500'

Walker Mine Tailings
Groundwater Contour Map

July 2007

SEPTEMBER 2007

SURFACE AND GROUND WATER TEST RESULTS AND SUPPORTING DOCUMENTATION

MONITORING REPORT

Discharger: USDA Forest Service, Plumas National Forest

Facility: Walker Mine Tailings, Plumas County

Reporting Frequency: Quarterly

Monitoring Period: September 2007

Findings:

(1) Surface water. Samples were collected on September 17, 2007. The surface water sample collected at the compliance station, R-5, Little Grizzly Creek near Brown's Cabin, continues to exceed the limitation for copper (see Table 1). Dissolved iron and zinc at R-5 fall within the prescribed limitation but the turbidity exceeded the limitation by 20 NTU's. The release of copper from the tailings area to Dolly Creek, as measured at R-2, also continues to exceed the limitation. Concentrations of zinc were detected in all of the 5 samples taken but none of these concentrations exceeded the limitation for zinc. The concentration of iron, highest at R-2, was within the limitation at all of the stations. Turbidity readings at each of the sampling sites exceeded the limitation with a maximum of 25 NTU at R-5. The increase in turbidity is attributed to active construction at the Dolly Creek/Grizzly Creek confluence.

(2) Groundwater. Samples were collected on September 27, 2007. Table 2 summarizes the findings for groundwater samples collected from the site. Increases in the concentrations of dissolved copper were found in all three of the sampling wells (W-3, W-5, and W-7) with W-3 being the highest at 51 ug/l. Additionally, concentrations of dissolved zinc were found in all 3 wells, with a maximum zinc concentration of 21.0 ug/l at W-3. Dissolved iron was also found in all three wells with a measured concentration of 19000 ug/l at W-5. Again, the reason for the drastic increase in dissolved iron at W-5 is unclear but represents a large increase over the dissolved iron from the May of 2004 sample and double the amount sampled in May of 2007. This result is also under scrutiny and will require out-year testing of W-5 to confirm that a marked change has occurred in the groundwater iron concentrations at this location. Well W-1 was lost to construction of the Dolly Creek diversion structure.

Groundwater elevations were measured in the remaining six wells installed at the site. Although measurements were taken at the same time last year, water levels were lower at all wells with W-4 being nearly 3 feet lower than it was in September of 2006. The results still show a gradient towards Little Grizzly Creek of approximately 0.9% along

the Dolly Creek channel and approximately 1.1% to the settling pond (R-6). With the elevation of the Little Grizzly Creek channel approximately 20 feet below the surface of the tailings area, there is a strong gradient towards Little Grizzly Creek all along its course with the tailings area.

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Map of the tailings area with the surface water monitoring sites

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Henrici Water Laboratory Analysis Reports for surface water tests

Table 2. GROUND WATER SUMMARY

Map of the tailings area with the ground water monitoring sites

Map of tailings area with ground water elevations and flow direction

Water Level Data

Groundwater Monitoring, Water Sampling Field Data Sheet

Chain-Of-Custody record for ground water samples

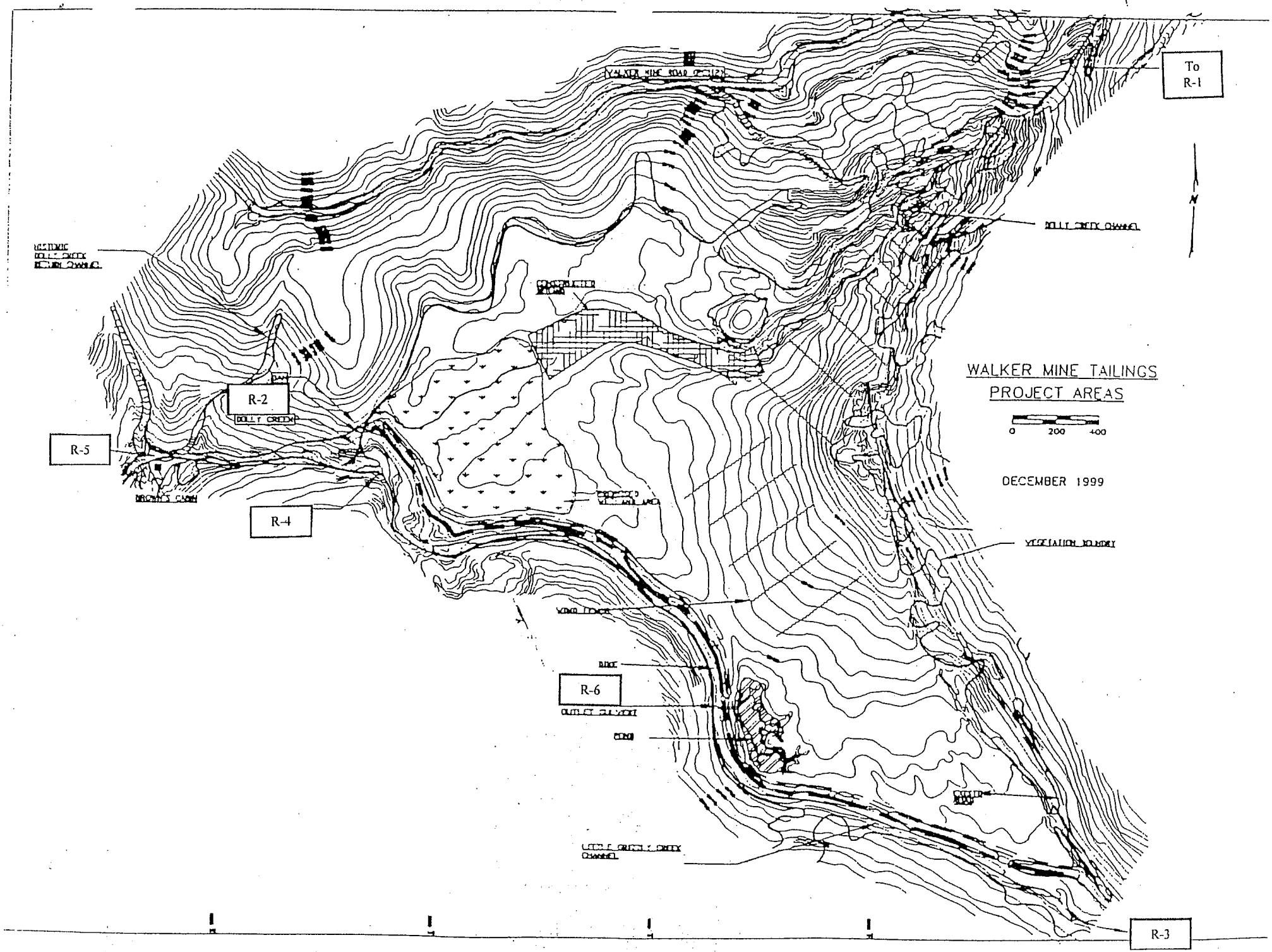
Henrici Water Laboratory Analysis Reports for ground water tests

Table 1. SURFACE WATER SUMMARY REPORT

U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE, PLUMAS NATIONAL FOREST
WALKER MINE TAILINGS, PLUMAS COUNTY
SEPTEMBER 2007

CONSTITUENT	UNITS	DETECTION LIMITS	MONITORING STATIONS R-1	R-2	R-3[1]	R-4	R-5[2]	R-6	LIMITATION @ R-5[3]
Field Parameters									
Flow	cfs	N/A	0.07	0.06	0.04	0.11	0.14	0	N/A
pH	number	N/A	7.94	8.11	7.67	7.96	8.18	N/A	N/A
Specific Conductance	umhos/cm	N/A	106.20	121.00	97.40	139.00	136.00	N/A	N/A
Air Temperature	^{0}C	N/A	20.00	15.00	18.90	17.80	15.60	N/A	N/A
Water Temperature	^{0}C	N/A	10.00	12.30	12.60	9.30	11.50	N/A	N/A
Laboratory									
Total Hardness as CaCO3	mg/l	5	71	75	56	87	79	N/A	N/A
Total Alkalinity	mg/l	1	70	82	72	84	81	N/A	N/A
Sulfate	mg/l	0.5	<0.50	2.1	<0.50	21	14	N/A	N/A
Turbidity	NTU	0.05	10	9.6	2.9	18	25	N/A	3.9
Dissolved Iron	ug/l	20	290	950	135	280	180	N/A	1000
Dissolved Copper	ug/l	0.5	15	34	6.9	7.8	12	N/A	7.3
Dissolved Zinc	ug/l	1.0	8.8	16	13	12	12	N/A	96.8

[1] R-3 is the background station located above the tailings area on Little Grizzly Creek.
[2] R-5 is the compliance station located near Brown's Cabin, downstream from the confluence of Dolly Creek with Little Grizzly Creek.
[3] The compliance values for copper and zinc are calculated with the R-5 hardness value of 79 mg/l as CaCO3.


To
R-1
R-2
R-3
R-4
R-5
R-6
WALKER MINE TAILINGS
PROJECT AREAS
0
200
400
DECEMBER 1999
N

LOCATION: R-1
DATE: 9/17/2007
MEASUREMENT METHOD: 6/10
METER TYPE: Marsh McBirney
MEASUREMENT RATING: Good

Channel Width (ft):	5.10	**X-sectional Area (ft^2):**	2.46
Hydraulic Depth (ft):	0.48	**Average Velocity (fps):**	0.03
		Discharge (cfs):	0.07

Distance (ft)	Width (ft)	Depth (ft)	Area (ft^2)	Velocity (fps)	Discharge (cfs)
0.90	LEW				
1.00	0.30	0.35	0.11	0.00	0.00
1.50	0.50	0.50	0.25	0.00	0.00
2.00	0.50	0.60	0.30	0.00	0.00
2.50	0.50	0.70	0.35	0.00	0.00
3.00	0.50	0.65	0.33	0.02	0.01
3.50	0.50	0.70	0.35	0.01	0.00
4.00	0.50	0.65	0.33	0.03	0.01
4.50	0.50	0.30	0.15	0.21	0.03
5.00	0.50	0.40	0.20	0.09	0.02
5.50	0.50	0.20	0.10	0.00	0.00
6.00	REW				
	4.80				

LOCATION: R-2
DATE: 9/17/2007
MEASUREMENT METHOD: 6/10
METER TYPE: Marsh McBirney
MEASUREMENT RATING: Good

Channel Width (ft):	3.90	**X-sectional Area (ft^2):**	0.67
Hydraulic Depth (ft):	0.17	**Average Velocity (fps):**	0.09
		Discharge (cfs):	0.06

Distance (ft)	Width (ft)	Depth (ft)	Area (ft^2)	Velocity (fps)	Discharge (cfs)
0.70	LEW				
1.00	0.40	0.10	0.04	0.00	0.00
1.50	0.50	0.15	0.08	0.00	0.00
2.00	0.50	0.15	0.08	0.06	0.00
2.50	0.50	0.25	0.13	0.16	0.02
3.00	0.50	0.25	0.13	0.12	0.02
3.50	0.50	0.20	0.10	0.09	0.01
4.00	0.50	0.15	0.08	0.13	0.01
4.50	0.50	0.10	0.05	0.08	0.00
4.60	REW				
	3.90				

LOCATION: R-3
DATE: 7/26/2007
MEASUREMENT METHOD: 6/10
METER TYPE: Marsh McBirney
MEASUREMENT RATING: Good

Channel Width (ft):	5.50	**X-sectional Area (ft^2):**	1.22
Hydraulic Depth (ft):	0.22	**Average Velocity (fps):**	0.03
		Discharge (cfs):	0.04

Distance (ft)	Width (ft)	Depth (ft)	Area (ft^2)	Velocity (fps)	Discharge (cfs)
1.60	LEW				
2.00	0.65	0.10	0.07	0.00	0.00
2.50	0.50	0.10	0.05	0.04	0.00
3.00	0.50	0.10	0.05	0.11	0.01
3.50	0.50	0.20	0.10	0.02	0.00
4.00	0.50	0.25	0.13	0.00	0.00
4.50	0.50	0.20	0.10	0.00	0.00
5.00	0.50	0.25	0.13	0.19	0.02
5.50	0.50	0.35	0.18	0.01	0.00
6.00	0.50	0.40	0.20	0.01	0.00
6.50	0.50	0.30	0.15	0.00	0.00
7.00	0.50	0.15	0.08	0.00	0.00
7.10	REW				
	5.65				

LOCATION: R-4
DATE: 7/26/2007
MEASUREMENT METHOD: 6/10
METER TYPE: Marsh McBirney
MEASUREMENT RATING: Good

Channel Width (ft):	7.50	**X-sectional Area (ft^2):**	1.72
Hydraulic Depth (ft):	0.23	**Average Velocity (fps):**	0.06
		Discharge (cfs):	0.11

Distance (ft)	Width (ft)	Depth (ft)	Area (ft^2)	Velocity (fps)	Discharge (cfs)
1.30	LEW				
1.50	0.45	0.05	0.02	0.00	0.00
2.00	0.50	0.10	0.05	0.01	0.00
2.50	0.50	0.15	0.08	0.04	0.00
3.00	0.50	0.20	0.10	0.07	0.01
3.50	0.50	0.25	0.13	0.09	0.01
4.00	0.50	0.20	0.10	0.05	0.01
4.50	0.50	0.30	0.15	0.11	0.02
5.00	0.50	0.20	0.10	0.08	0.01
5.50	0.50	0.30	0.15	0.13	0.02
6.00	0.50	0.40	0.20	0.04	0.01
6.50	0.50	0.30	0.15	0.07	0.01
7.00	0.50	0.35	0.18	0.04	0.01
7.50	0.50	0.25	0.13	0.06	0.01
8.00	0.50	0.20	0.10	0.04	0.00
8.50	0.50	0.20	0.10	0.00	0.00
8.80	REW				
	7.45				

LOCATION: R-5
DATE: 7/26/2007
MEASUREMENT METHOD: 6/10
METER TYPE: Marsh McBirney
MEASUREMENT RATING: Good

Channel Width (ft):	3.90	**X-sectional Area (ft^2):**	1.61
Hydraulic Depth (ft):	0.41	**Average Velocity (fps):**	0.09
		Discharge (cfs):	0.14

Distance (ft)	Width (ft)	Depth (ft)	Area (ft^2)	Velocity (fps)	Discharge (cfs)
2.10	LEW				
2.50	0.65	0.55	0.36	0.11	0.04
3.00	0.50	0.50	0.25	0.18	0.05
3.50	0.50	0.35	0.18	0.15	0.03
4.00	0.50	0.30	0.15	0.07	0.01
4.50	0.50	0.65	0.33	0.04	0.01
5.00	0.50	0.30	0.15	0.03	0.00
5.50	0.50	0.40	0.20	0.03	0.01
6.00	REW				
	3.65				

Walker Mine Tailings Job # 5-00-028

Henrici Water Laboratory Chain of Custody

Purveyor: USFS Plumas National Forest
159 Lawrence St.
Quincy, CA. 95971
Attn Joe Hoffman (530)283 7868

Sampler's Signature: [signature]

Type of Analyses

I.D. No.	Date	Time	Location	No. of Containers	Total Hardness as $CaCO_3$	Total Alkalinity as $CaCO_3$	Sulfate	Dis Copper	Dis Iron	Dis Zinc	Turbidity	Remarks
	9/17/07	1050	R-2	1	X	X	X	X	X	X	X	Detection Limits
	↓	1145	R-4	1	X	X	X	X	X	X	X	Cu = 1 ug/L
	↓	1409	R-3	1	X	X	X	X	X	X	X	Zn = 2 ug/L
	↓	1450	R-1	1	X	X	X	X	X	X	X	Fe = 50 ug/L
	↓	1530	R-5	1	X	X	X	X	X	X	X	

Relinquished By	Date	Time	Received By
[signature]	9/17/07	1730	DM Henrici

1832 Butterfly Valley Road, Quincy, CA 95971 Telephone & Fax (530) 281-6588

Walker Mine tailings Job # 5-00-028

Henrici Water Laboratory Chain of Custody

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	9/17/07	1050	R-2	1	X	X	X	X	X	X	X	Detection Limits
	↓	1145	R-4	1	X	X	X	X	X	X	X	Cu = 1 ug/L
	↓	1409	R-3	1	X	X	X	X	X	X	X	Zn = 2 ug/L
	↓	1450	R-1	1	X	X	X	X	X	X	X	Fe = 50 ug/L
	↓	1530	R-5	1	X	X	X	X	X	X	X	

Relinquished By	Date	Time	Received By
[signature]	9/17/07	1730	

1832 Butterfly Valley Road, Quincy, CA 95971 Telephone & Fax (530) 281-6588

WALKER MINE TAILINGS MONITORING PROGRAM

9-275a
(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

Dolly Creek above Tailings @ Road 112

Date 7/17, 2007 Party Flynn / Nupen

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 Master 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 / some clouds

Other ..... Air 68.0 °F @ 1455

Gage ..... Water 10.0 °C @ 1456

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

Observer .....

Control .....

pH 7.94

CONDUCTANCE 106.2 umhos/cm

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

Samples @ 1450

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	0.9										
	1.0		0.35				0				
	1.5		0.5				0				
	2.0		0.6				0				
	2.5		0.7				0				
	3.0		0.65				0.02				
	3.5		0.7				0.01				
	4.0		0.65				0.03				
	4.5		0.3				0.21				
	5.0		0.4				0.09				
	5.5		0.2				0				
RB	6.0										

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-2
Dolly Creek below Tailings Dam

Date 9/17, 2007 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 Master 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 / Some Clouds

Other ..... Air 59° F @ 1054

Gage ..... Water 12.3 °C @ 1052

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

Observer Creek bottom silted in!

Control .....

pH 8.11

CONDUCTANCE 121 umhos/cm

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

Samples @ 1050

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	.7										
	1		.1				0				
	1.5		.15				0				
	2		.15				.06				
	2.5		.25				.16				
	3		.25				.12				
	3.5		.2				.07				
	4		.15				.13				
	4.5		.1				.08				
RB	4.6										

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-3
Little Grizzly Creek above Tailings

Date 9/17, 2007 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 Master 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/Some Clouds

Other ..... Air 66° F @ 1414

Gage ..... Water 12.6 °C @ 1415

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

Observer .....

Control .....

pH 7.67

CONDUCTANCE 97.4 umhos/cm

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

Samples @ 1409

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	1.6										
	2		0.1				Ø				
	2.5		0.1				0.04				
	3		0.1				0.11				
	3.5		0.2				0.02				
	4		0.25				Ø				
	4.5		0.2				Ø				
	5		0.25				0.19				
	5.5		0.35				0.01				
	6		0.4				0.01				
	6.5		0.3				Ø				
	7		0.15				Ø				
RB	7.1										
	[illegible]										
⊙	[illegible]										

WALKER MINE TAILINGS MONITORING PROGRAM

9-275-T
(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-4

Little Grizzly Creek below Tailings

Date 9/17 ~~19~~2007 Party Flynn

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

Method C/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 Reece 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 / Some Clouds

Other ..... Air 64°F @ 1147

Gage ..... Water 9.3 °C @ 1149

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

Observer Water was milky in appearance

Control .....

pH 7.96

CONDUCTANCE 139 umhos/cm

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

Samples @ 1145

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	1.3										
	1.5		.05				0				
	2		.1				.01				
	2.5		.15				.04				
	3		.2				.07				
	3.5		.25				.09				
	4		.2				.05				
	4.5		.3				.11				
	5		.2				.08				
	5.5		.3				.13				
	6		.4				.04				
	6.5		.3				.07				
	7		.35				.04				
	7.5		.25				.06				
⊙	8		.2				.04				
	8.5		.2				0				
RB	8.8										

WALKER MINE TAILINGS MONITORING PROGRAM

9-275-1
(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 9/17, 2007 Party Flynn / Nupen

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 Mostar W/Battery

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 60.0°F @ 1532

Gage ..... Water 11.5 °C @ 1533

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

Observer Water was milky in appearance

Control .....

pH 8.18

CONDUCTANCE 136 umhos/cm

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

Samples @ 1530

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	2.1										
	2.5		0.55				0.11				
	3.0		0.5				0.18				
	3.5		0.35				0.15				
	4.0		0.3				0.07				
	4.5		0.65				0.09				
	5.0		0.3				0.03				
	5.5		0.4				0.03				
RB	6.0										

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-6
Sediment Basin Outlet
Date 9/17 2007 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 No Flow 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 – No Samples

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										

HENRICI WATER LABORATORY
1832 BUTTERFLY VALLEY ROAD, QUINCY, CALIFORNIA 95971
PHONE (530) 281-6588

Plumas National Forest
Supervisor's Office
P.O. Box 11500
Quincy, CA 95971

Account: 11616
Date: 11/12/07
Page: 1

ANALYSIS REPORT

Laboratory Number: C41353 Date Received: 09/18/07
Location: Walker Mine R-1
Date of Collection : 09/17/07 Time: 1450 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	10/25/07	SM 2340C	5.0	71	mg/L
Total Alkalinity	09/18/07	SM 2320 B	1	70	mg/L
Sulfate	09/21/07	EPA 300.0	0.50	<0.50	mg/L
Turbidity	09/18/07	SM 2130B	0.05	10	NTU
Dissolved Iron	10/24/07	SM 3120B	20	290	ug/L
Dissolved Copper	10/24/07	SM 3120B	0.50	15	ug/L
Dissolved Zinc	10/25/07	SM 3120B	1.0	8.8	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director

HENRICI WATER LABORATORY
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PHONE (530) 281-6588

Plumas National Forest
Supervisor's Office
P.O. Box 11500
Quincy, CA 95971

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ANALYSIS REPORT

Laboratory Number: C41354 Date Received: 09/18/07
Location: Walker Mine R-2
Date of Collection : 09/17/07 Time: 1050 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	10/25/07	SM 2340C	5.0	75	mg/L
Total Alkalinity	09/18/07	SM 2320 B	1	82	mg/L
Sulfate	09/21/07	EPA 300.0	0.50	2.1	mg/L
Turbidity	09/18/07	SM 2130B	0.05	9.6	NTU
Dissolved Iron	10/24/07	SM 3120B	20	950	ug/L
Dissolved Copper	10/24/07	SM 3120B	0.50	34	ug/L
Dissolved Zinc	10/25/07	SM 3120B	1.0	16	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director

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Quincy, CA 95971

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ANALYSIS REPORT

Laboratory Number: C41355 Date Received: 09/18/07
Location: Walker Mine R-3
Date of Collection : 09/17/07 Time: 1409 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	10/25/07	SM 2340C	5.0	56	mg/L
Total Alkalinity	09/18/07	SM 2320 B	1	72	mg/L
Sulfate	09/21/07	EPA 300.0	0.50	<0.50	mg/L
Turbidity	09/18/07	SM 2130B	0.05	2.9	NTU
Dissolved Iron	10/24/07	SM 3120B	20	135	ug/L
Dissolved Copper	10/24/07	SM 3120B	0.50	6.9	ug/L
Dissolved Zinc	10/25/07	SM 3120B	1.0	13	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director

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Quincy, CA 95971

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ANALYSIS REPORT

Laboratory Number: C41356 Date Received: 09/18/07
Location: Walker Mine R-4
Date of Collection : 09/17/07 Time: 1145 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	10/25/07	SM 2340C	5.0	87	mg/L
Total Alkalinity	09/18/07	SM 2320 B	1	84	mg/L
Sulfate	09/21/07	EPA 300.0	0.50	21	mg/L
Turbidity	09/18/07	SM 2130B	0.05	18	NTU
Dissolved Iron	10/24/07	SM 3120B	20	280	ug/L
Dissolved Copper	10/24/07	SM 3120B	0.50	7.8	ug/L
Dissolved Zinc	10/25/07	SM 3120B	1.0	12	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director

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1832 BUTTERFLY VALLEY ROAD, QUINCY, CALIFORNIA 95971
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Plumas National Forest
Supervisor's Office
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Quincy, CA 95971

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ANALYSIS REPORT

Laboratory Number: C41357 Date Received: 09/18/07
Location: Walker Mine R-5
Date of Collection : 09/17/07 Time: 1530 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	10/25/07	SM 2340C	5.0	79	mg/L
Total Alkalinity	09/18/07	SM 2320 B	1	81	mg/L
Sulfate	09/22/07	EPA 300.0	0.50	14	mg/L
Turbidity	09/18/07	SM 2130B	0.05	25	NTU
Dissolved Iron	10/24/07	SM 3120B	20	180	ug/L
Dissolved Copper	10/24/07	SM 3120B	0.50	12	ug/L
Dissolved Zinc	10/25/07	SM 3120B	1.0	12	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director

September 2007

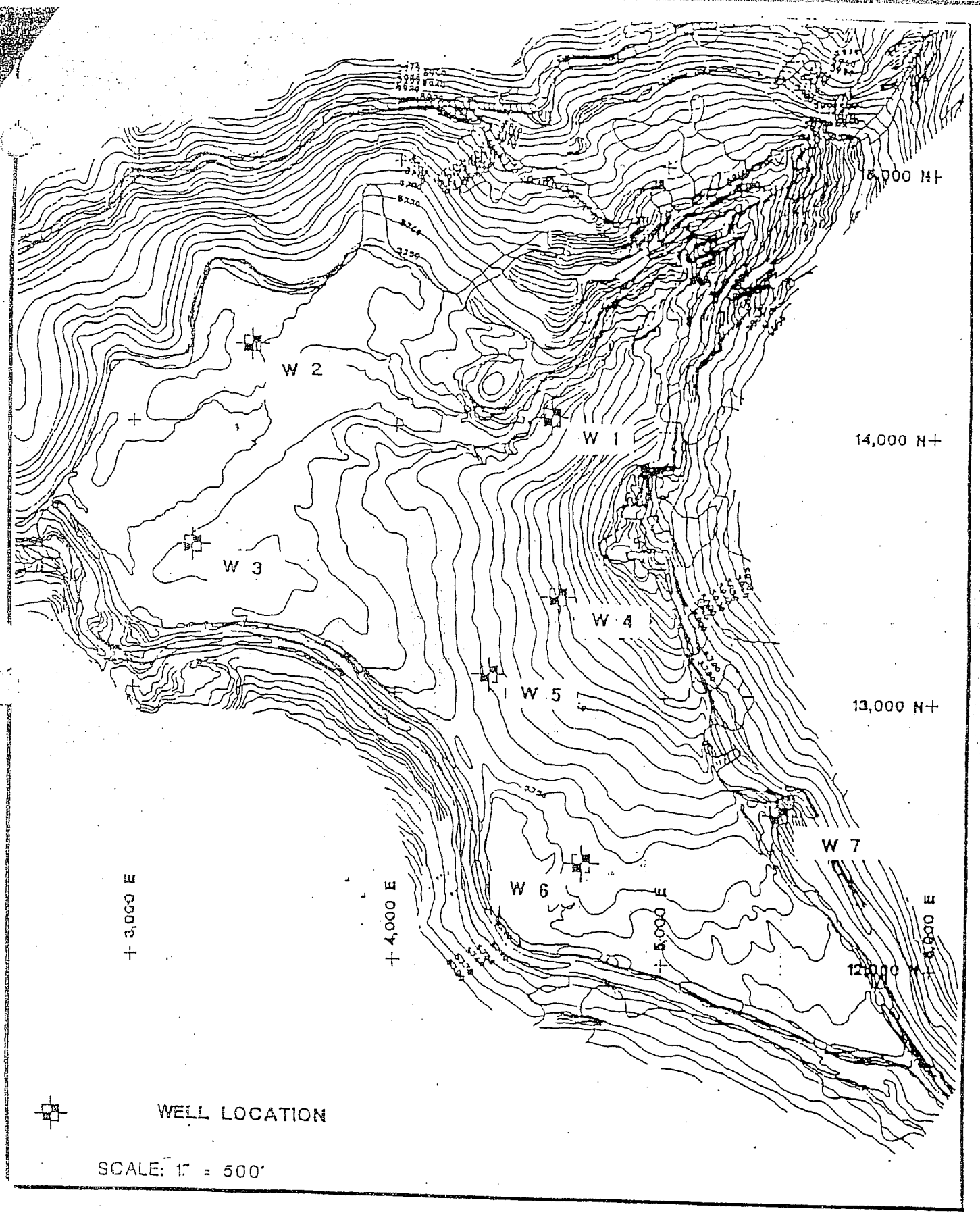
GROUND WATER TEST RESULTS AND SUPPORTING DOCUMENTATION

Table 2. GROUND WATER SUMMARY

U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE, PLUMAS NATIONAL FOREST
WALKER MINE TAILINGS, PLUMAS COUNTY
SEPTEMBER 2007

CONSTITUENT	UNIT	DETECTION LIMIT	WELL SITES W-1[1]	W-2	W-3	W-4	W-5	W-6	W-7*
Field Parameters									
Ground Surface Elevation	ft	0.01	x	5742.05	5739.15	5768.27	5754.28	5748.04	5753.85
Top of Cap Elevation	ft	0.01	x	5741.74	5738.83	5768.00	5754.09	5747.87	5754.91
Depth to Water	ft	0.01	x	2.37	6.33	24.27	12.52	7.84	1.51
Water Surface Elevation	ft	0.01	x	5739.37	5732.50	5743.73	5741.57	5740.03	5753.40
Laboratory									
Total Hardness as CaCO3	mg/l	5.0	x	N/A	200.0	N/A	170.0	N/A	36.0
Total Alkalinity	mg/l	1.0	x	N/A	131.0	N/A	59.0	N/A	54.0
Sulfate	mg/l	0.5	x	N/A	89.0	N/A	130.0	N/A	<0.50
Dissolved Iron	ug/l	20.0	x	N/A	33.0	N/A	19000.0	N/A	88.0
Dissolved Copper	ug/l	0.5	x	N/A	51.0	N/A	6.1	N/A	5.3
Dissolved Zinc	ug/l	1.0	x	N/A	21.0	N/A	14.0	N/A	11.0

*W-7 is located upgradient and off-site in a wet area. The data collected from this well are used for background comparisons.
W-1[1] was destroyed during construction of the Dolly Creek Channel Summer of 2007.



WALKER MINE TAILINGS

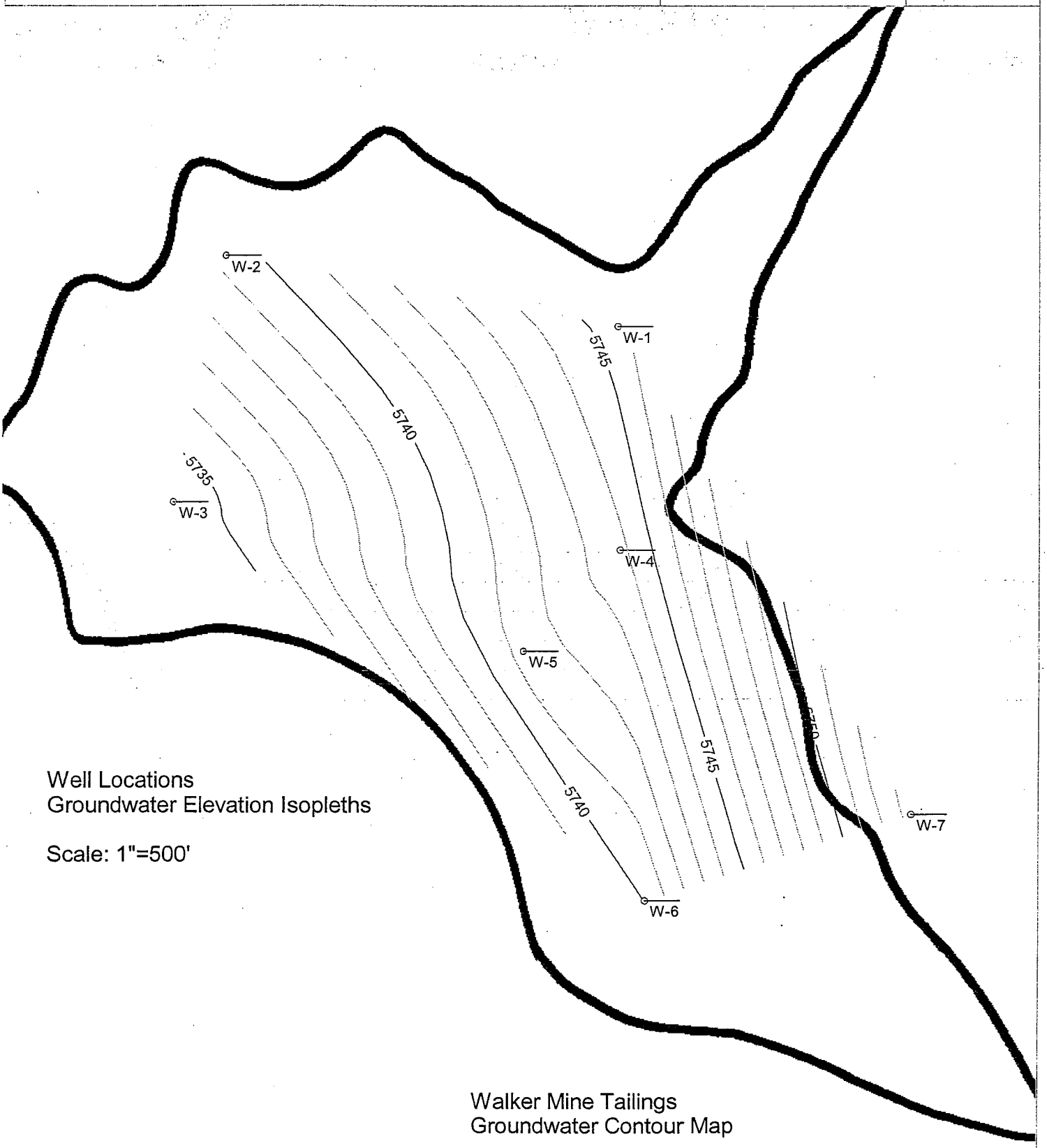
WALKER TAILINGS
GROUNDWATER MONITORING PROGRAM

FLUID LEVEL GAUGING

SITE LOCATION: Walker Tailings DATE: 9/17/07
COMPANY NAME: Plumas Nat Forest
PERSONNEL: Flynn

WELL	TIME	DEPTH TO WATER	COMMENTS
W-1	—	—	Well has been destroyed (Construction)
W-2	0917	2.37	Install Post @ well
W-3	0932	6.33	
W-4	0854	24.27	
W-5	0759	12.52	
W-6	0741	7.84	
W-7	1313	1.51	

TERRAIN Plan	Scale 1:5000	P. 1
C:\Documents and Settings\rn....ker wells September 2007.ter		07/12/14



Well Locations
Groundwater Elevation Isopleths

Scale: 1"=500'

Walker Mine Tailings
Groundwater Contour Map

September 2007

Water-Quality Sampling Information

Project Number: —

Project Name: Walker Mine Tailings

Project Location: Walker Mine

Site Conditions/Weather: Dry – Warm / Clear

Page 1 of 1

Date: 9/17/07

Day: (M) T W Th F S S

Staff: Flynn

Comments :

SAMPLING METHOD

- [ ] Centrifugal Pump 2"
- [x] Submersible Pump Grundfos
- [ ] Hand Bail
- [ ] Disposable Bailer
- [ ] Teflon Bailer
- [ ] _____ (other)

Sample Number: W-3

- [ ] FB:
- [ ] DUP:

Analysis Requested: Hardness / Alkalinity / SO_4 / Dis Cu / Dis Zn / Dis Fe

Number and Types of Bottle Used: 1-0.5 Gl Poly

Method of shipment: Henrici Water Lab (lab name)

- [ ] Courier
- [x] Hand Deliver

Calculation Area

Height of water column =

Depth to water =

80% DTW

Well Number: W-3

Depth of Water: 6.33

Well Depth: 34.25

Height of Water Column: 27.92

Volume in Well: (gallons) 4.47

3 Well Volumes: (gallons) 13.40

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
0938								Start Purge
0944		5		11.5	7.36	314	9.3	Low Tb / No odor
0953		10		11.4	7.11	306	1.9	" "
1003		15		11.3	7.84	304	2.0	" "
1012		20		11.3	7.85	303	2.0	" "
1014								Sample W-3

Inlet Depth:

Signed: _____ Date: _____

Water-Quality Sampling Information

Project Number: ——

Page 1 of 1

Project Name: Walker Mine Tailings

Date: 9/17/07

Project Location: Walker Mine

Day: (M) T W Th F S S

Site Conditions/Weather: Dry — Cool / Mostly Clear

Staff: Flynn

Comments :

SAMPLING METHOD

- [ ] Centrifugal Pump
- [x] Submersible Pump 2" Grundfos
- [ ] Hand Bail
- [ ] Disposable Bailer
- [ ] Teflon Bailer
- [ ] _____ (other)

Sample Number: W-5

- [ ] FB:
- [ ] DUP:

Analysis Requested

Hardness / Alkalinity
SO4 / Dis Cu / Dis Zn
Dis Fe

Number and Types of Bottle Used

1 - .5 gl Poly

Method of shipment

Henrici Water Lab
(lab name)

- [ ] Courier
- [x] Hand Deliver

Calculation Area

Height of water column =
Depth to water =

80% DTW

Well Number: W-5
Depth of Water: 12.52
Well Depth: 40.30
Height of Water Column: 27.78
Volume in Well: (gallons) 4.44
3 Well Volumes: (gallons) 13.33

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
0817								Start Purge
0823		5		8.6	6.42	299	55.9	Mod Tb / No odor
0830		10		8.6	6.67	294	4.0	Low Tb / No odor
0836		15		8.7	6.74	293	2.7	" "
0842		20		8.7	6.80	293	1.6	" "
0843								Sample W-5

Inlet Depth:

Signed: _____ Date: _____

Water-Quality Sampling Information

Project Number: —

Page 1 of 1

Project Name: Walker Mine Tailings

Date: 9/17/07

Project Location: Walker Mine

Day: (M) T W Th F S S

Site Conditions/Weather: Dry – Warm – Some Clouds

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: Hardness/Alkalinity, SO4/Dis Cu/Dis Zn, Dis Fe

Number and Types of Bottle Used: 1 – .5 gal Poly

Method of shipment: Henrici Water Lab (lab name)

- [ ] Courier
- [x] Hand Deliver

Calculation Area

Height of water column =

Depth to water =

80% DTW

Well Number: W-7

Depth of Water: 1.51

Well Depth: 11.00

Height of Water Column: 9.49

Volume in Well: (gallons) 1.52

3 Well Volumes: (gallons) 4.56

Well Diameter:

- [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
1315								Start Purge
1318		2		10.3	6.96	64	20.9	Low Tb / No odor
1323		4		8.7	6.58	58	114.8	Mod Tb / "
1329		6		8.3	6.36	56	99.4	" "
1334		8		7.7	6.35	56	118.7	" "
1355							21.9	Sample W-7

Inlet Depth:

Signed: _____ Date: _____

SIERRA ENVIRONMENTAL
GROUNDWATER MONITORING SERVICES

September 17th, 2007 Invoice # 091707

USFS Plumas National Forest
159 Lawrence St.
P.O. Box 11500
Quincy, CA. 95971
Attn: Joe Hoffman

Re: Walker Mine Tailings – Project# 5-00-028

This invoice is for groundwater monitoring, streamflow readings and stream Sampling at the Walker Mine Tailings site for the Plumas Nat. Forest on 9/17/07.

Batteries	$ 6.00
Total Due	$ 806.00

Please remit to:
Sierra Environmental
1126 Chandler Rd.
Quincy, CA. 95971

Thank You,
Patrick Flynn
Sierra Environmental

Pd w/ Corky's
Check #665
10-30-07

Walker Tailings (Groundwater) Job # 5-00-028

Henrici Water Laboratory Chain of Custody

Purveyor: USFS Plumas National Forest
159 Lawrence St
Quincy, Ca 95971
Attn Joe Hoffman (530) 283-7868

Sampler's Signature: Pat

Type of Analyses

I.D. No.	Date	Time	Location	No. of Containers	Total Hardness as $CaCO_3$	Total Alkalinity as $CaCO_3$	Sulfate	Dis Copper	Dis Iron	Dis Zinc	Remarks
	9/17/07	0843	W-5	1	X	X	X	X	X	X	Detection Limits
	9/17/07	1014	W-3	1	X	X	X	X	X	X	Cu = 1 ug/L
	9/17/07	1355	W-7	1	X	X	X	X	X	X	Zn = 2 ug/L
											Fe = 50 ug/L

Relinquished By	Date	Time	Received By
Pat	9/17/07	1730	DM Henton

1832 Butterfly Valley Road, Quincy, CA 95971

Telephone & Fax (530) 281-6588

Walker Tailings (Groundwater) Job # 5-00-028

Henrici Water Laboratory Chain of Custody

Purveyor: USFS Plumas National Forest
159 Lawrence St
Quincy, Ca 95971
Attn Joe Hoffman (530) 283-7868

Sampler's Signature: Pat

Type of Analyses

I.D. No.	Date	Time	Location	No. of Containers	Total Hardness as $CaCO_3$	Total Alkalinity as $CaCO_3$	Sulfate	Dis Copper	Dis Iron	Dis Zinc	Remarks
	9/17/07	0843	W-5	1	X	X	X	X	X	X	Detection Limits
	9/17/07	1014	W-3	1	X	X	X	X	X	X	Cu = 1 ug/L
	9/17/07	1355	W-7	1	X	X	X	X	X	X	Zn = 2 ug/L
											Fe = 50 ug/L

Relinquished By	Date	Time	Received By
Pat	9/17/07	1730	

1832 Butterfly Valley Road, Quincy, CA 95971

Telephone & Fax (530) 281-6588

HENRICI WATER LABORATORY
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PHONE (530) 281-6588

Plumas National Forest
Supervisor's Office
P.O. Box 11500
Quincy, CA 95971

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ANALYSIS REPORT

Laboratory Number: C41350 Date Received: 09/18/07
Location: Walker Mine W-3
Date of Collection : 09/17/07 Time: 1014 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	10/25/07	SM 2340C	5.0	200	mg/L
Total Alkalinity	09/18/07	SM 2320 B	1	131	mg/L
Sulfate	09/22/07	EPA 300.0	0.50	89	mg/L
Dissolved Iron	10/24/07	SM 3120B	20	33	ug/L
Dissolved Copper	10/24/07	SM 3120B	0.50	51	ug/L
Dissolved Zinc	10/25/07	SM 3120B	1.0	21	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director

HENRICI WATER LABORATORY
1832 BUTTERFLY VALLEY ROAD, QUINCY, CALIFORNIA 95971
PHONE (530) 281-6588

Plumas National Forest
Supervisor's Office
P.O. Box 11500
Quincy, CA 95971

Account: 11616
Date: 11/12/07
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ANALYSIS REPORT

Laboratory Number: C41351 Date Received: 09/18/07
Location: Walker Mine W-5
Date of Collection : 09/17/07 Time: 0843 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	10/25/07	SM 2340C	5.0	170	mg/L
Total Alkalinity	09/18/07	SM 2320 B	1	59	mg/L
Sulfate	09/22/07	EPA 300.0	0.50	130	mg/L
Dissolved Iron	10/24/07	SM 3120B	20	19,000	ug/L
Dissolved Copper	10/24/07	SM 3120B	0.50	6.1	ug/L
Dissolved Zinc	10/25/07	SM 3120B	1.0	14	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director

HENRICI WATER LABORATORY
1832 BUTTERFLY VALLEY ROAD, QUINCY, CALIFORNIA 95971
PHONE (530) 281-6588

Plumas National Forest
Supervisor's Office
P.O. Box 11500
Quincy, CA 95971

Account: 11616
Date: 11/12/07
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ANALYSIS REPORT

Laboratory Number: C41352 Date Received: 09/18/07
Location: Walker Mine W-7
Date of Collection : 09/17/07 Time: 1355 Collector: Flynn

Hardness, Dissolved Iron, Dissolved Copper, and Dissolved Zinc analysis by Sierra Foothill Laboratory, Jackson, CA.
Sulfate Analysis by North Coast Laboratory, Arcata, CA.

Analysis	Date of Analysis	Method	Detection Limits	Results	Units
Total Hardness	10/25/07	SM 2340C	5.0	36	mg/L
Total Alkalinity	09/18/07	SM 2320 B	1	54	mg/L
Sulfate	09/22/07	EPA 300.0	0.50	<0.50	mg/L
Dissolved Iron	10/24/07	SM 3120B	20	88	ug/L
Dissolved Copper	10/24/07	SM 3120B	0.50	5.3	ug/L
Dissolved Zinc	10/25/07	SM 3120B	1.0	11	ug/L

These results were obtained by following standard laboratory procedures: the liability of the laboratory shall not exceed the amount paid for this report.

DMH
Dawn M. Henton
Laboratory Director