

**DRAFT**

**CLEAR CREEK WATERSHED MERCURY TMDL REVIEW  
CALIFORNIA**

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## SUMMARY

In 2004, the Central Coast Regional Water Quality Control Board (CCRWCB) adopted a Total Maximum Daily Load (TMDL) for mercury Clear Creek, located on Public lands in San Benito County, California.

The historic use of the area (circa 1850's to 1970's) for mercury mining is documented by EPA and they report over 12 abandoned mercury mines in the vicinity.

Up until 2008, BLM has also allowed widespread OHV use on over 500 miles of abandoned mine roads and trails throughout this 30,000 acre area. However, BLM will release in May 2010, a Final Environmental Impact Statement which will eliminate OHV use in this area.

The TMDL was established at 50 ng/L (0.05 micrograms/L) for low flow conditions in Clear Creek. After the adoption of this TMDL, BLM contracted with the USGS to perform water quality measurements to comply with the TMDL.

After the first three years BLM (via USGS sampling) reported to the CCRWCB that the TMDL was not being met and established a study to determine where additional mercury mine waste was located which were responsible for the failure to meet the TMDL.

Two additional abandoned mercury mines were located (Staging Area #2 and Staging Area #5) these sites were remediated in 2007, since that time BLM has met the CCRWQB mercury TMDL.

Since the closure of this area to OHV use and the additional mercury mine remediation, the TMDL has been met for three years, which is the metric for this TMDL.

## **2.0 SITE HISTORY AND SITE DESCRIPTION**

### **2.1 Environmental Setting and Background**

The Clear Creek watershed site is located in San Benito County approximately 55 miles south of Hollister, California in a remote area of the Diablo mountains at approximately 36° 22' 38"N, 120° 41' 57"W (WGS84/NAD83) on the USGS Quadrangle, (Figure 1). For the purposes of the preliminary investigation, the site was defined to include the area shown in Figure 1.

The Clear Creek watershed is the southern upland drainage area of the Pajaro River and drains steep upland areas of the Diablo mountain range. Clear Creek runs into the San Benito River just upstream of Hernandez Reservoir, with only about one mile of river between the creek and the reservoir. The climate in the watershed is temperate, with wet winters and dry summers. There is typically little or no precipitation during the period May-November.

Clear Creek runs roughly northwest-southeast and is bounded to the north and east by the Diablo Mountains and to the south and west by the San Benito River valley and the Gabilan Mountains. Clear Creek drains an area that is predominantly public land managed by the BLM. Most of the land is used for recreational purposes including off-road vehicle usage. Past land use has included a number of mining activities due to deposits of asbestos, chromium, mercury, and other metals.

According to the Total Maximum Daily Load for Clear Creek and Hernandez Reservoir, Clear Creek was placed on California's section 303(d) list as impaired due to levels of mercury that exceed water quality objectives for municipal use designation (WQCB, 2004). This report indicates that background concentrations for sediment in Clear Creek are approximately 0.2 mg/kg (this report modifies this level). The remediation goal for Clear Creek is to attain 0.05 ug/L (ppb) mercury for the municipal designation use. The TMDL concludes that neither mining nor ORV use are likely to be major sources of mercury to the creek and that sediment mercury concentrations were declining as of 2002. Recent soil data (BLM, 2006) showed mercury in soils associated with a botanical survey. Areas of highest soil results were near Staging Area 2, and near the Clear Creek mouth at 11.0 and 6.14 mg/kg (ppm). Mean of the other soil samples is 0.67 mg/kg (ppm).

### **2.2 Topography**

The area of interest is the upper Clear Creek watershed. Clear Creek runs through a narrow canyon bordered by steep hillsides of asbestos-bearing lithologies. Little vegetation grows on these slopes. The average elevation of Clear Creek in the site area ranges from 2,600 to 3,600 feet above mean sea level. Clear Creek forms an east-west valley in the serpentine rocks of the Diablo Mountains, that is dissected by north and south flowing ephemeral tributaries.

The major structures associated with the Clear Creek watershed are roads, off-road vehicle trails, and abandoned mercury mines including the Alpine Mine, Clear Creek Mine, Tirado and Shear, Tirado, and others.

## **2.3 Geology**

The watershed occurs in the Diablo mountains geologic province, which includes Franciscan Formation sedimentary rocks, and various igneous and metamorphic rocks, including serpentine, and silicate-carbonate rocks. A key geologic feature of the Clear Creek area is a large dome-shaped deposit of serpentine. This geologic feature is commonly described as “barrens” at the land surface because the material is generally fairly crusty and does not support much vegetation. The serpentine also contains asbestos and is managed as a hazardous area by BLM.

The largest mineral deposits in the region occur as fillings in fractures around the edges of this serpentine dome (for example the New Idria Mine). These deposits around the dome are generally outside the Clear Creek area, but smaller deposits have been found filling fractures in the serpentine dome area including the Alpine Mine. Metals rich sediment is common throughout the watershed, originating from natural rocks and soils, mining and human activities, including use of ORV.

## **2.4 Previous Investigations and Findings**

Over the last ten years, BLM has remediated eight (8) abandoned mercury mines, including the Alpine and Xanadu mines in the Clear Creek watershed and the Aurora Mine in the San Carlos Creek watershed. Remediation has consisted of constructed repositories, capping and drainage controls. Photomonitoring of the condition of these sites is required by the TMDL.

After a review of the last seven years of monitoring data, the BLM and USGS has concluded these observations:

- 1) There is a positive correlation between total mercury in water and streamflow (discharge).
- 2) HEC-1 computer models indicate that the 2 year storm flushes the majority of the estimated annual sediment load. The 10 year storm will completely flush all accumulated sediment (bedload and suspended sediment)
- 3) BLM land use restrictions (closure to OHV use) has reduced mercury enriched sediment loads in Clear Creek.
- 4) The designate beneficial use for Clear Creek is municipal and domestic water supply, which cannot be met due to elevated asbestos sediment, mercury and other heavy metals.
- 5) BLM’s remediation of abandoned mercury mine waste is effective in meeting the CCRWQCB TMDL.
- 6) Recent geologic investigations indicate that the background mercury concentrations are much higher than the CCRWQCB has estimated in the 2004 TMDL.

## **2.5 Surrounding Land Use and Populations**

Surrounding land use is mostly BLM or state lands held in open space.

Downgradient Hernandez Reservoir is managed by the San Benito County Water District as a source of and storage for municipal water. Access is restricted to the reservoir. In the mid-1990s draining of the reservoir resulted in the death of over five tons of fish (WQCB, 2004).

There are no residences in the BLM site although BLM manages a campground adjacent to the western boundary of the asbestos hazard area. There are several ORV staging areas within the site and hundreds of miles of ORV roads, tracks and trails. To the west of the site and downgradient on Clear Creek and the San Benito River are several ranches.

BLM closed this area in May 2008, OHV vehicles and camping due to asbestos concerns, however the Clear Creek County road (approx. 30 miles) remains open for public access. In the past, prior to the 2008 closure the area did receive over 50,000 visitor use days, mainly from ORV users.

## **2.6 Results of USGS Mercury Reporting to Regional Board (2004-2010)**

In 2004, 2005 and 2006, the TMDL was exceeded due in part to a combination of factors: High rainfall and associated streamflow discharge, high OHV use and two major sources of mine tailings which were discovered as actively eroding and depositing high concentrations of mercury into Clear Creek.

After the BLM evaluated the two additional abandoned mercury mine spoils, these were remediated and mercury contaminated soil & mine waste was placed into in-situ repositiories.

From 2007 until present (2010) the CCRQCB TMDL has been achieved for these past three years, thus meeting the conditions that were adopted for this area.

## Summary of USGS Water Quality Analysis Data 2004-2010

(Source: printed from internet & personal email)

## 11154700 CLEAR CREEK NEAR IDRIA, CA—Continued

## WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mercury water, fltrd, ug/L (71890)	Mercury water, unfltrd recover- able, ug/L (71900)	Molyb- denum, water, fltrd, ug/L (01060)	Nickel, water, fltrd, ug/L (01065)	Selen- ium, water, fltrd, ug/L (01145)	Silver, water, fltrd, ug/L (01075)	Stront- ium, water, fltrd, ug/L (01080)	Vanad- ium, water, fltrd, ug/L (01085)	Mercury bed sed <62.5um dry svd lab, total, ug/g (34912)
DEC 30...	.16	.49	<.4	2.85	e.3	<.2	36.7	.7	.24
FEB 25...	.07	8.10	.5	2.54	<.4	<.2	62.8	.3	.40
APR 28...	.09	.07	<.4	1.79	<.4	<.2	40.2	2.2	.20
JUL 12...	.11	.11	.5	1.61	.4	<.2	52.0	<.1	.36

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
DEC 30...	1342	4.3	9.0	392	4.6	--
FEB 25...	1143	47	8.0	10600	1350	62
APR 06...	1042	1.5	13.0	8	.03	--
APR 28...	1518	.84	26.0	2	<.01	--
JUN 09...	1147	.62	23.0	2	<.01	--
JUL 12...	1348	.19	32.0	8	<.01	--

Date	Suspnd. sedi- ment, sieve diametr percent <.125mm (70332)	Suspnd. sedi- ment, sieve diametr percent <.25mm (70333)	Suspnd. sedi- ment, sieve diametr percent <.5 mm (70334)	Suspnd. sedi- ment, sieve diametr percent <1 mm (70335)	Suspnd. sedi- ment, sieve diametr percent <2 mm (70336)
DEC 30...	--	--	--	--	--
FEB 25...	68	77	92	97	100
APR 06...	--	--	--	--	--
APR 28...	--	--	--	--	--
JUN 09...	--	--	--	--	--
JUL 12...	--	--	--	--	--

< Actual value is known to be less than value shown.  
e Estimated.

## 11154700 CLEAR CREEK NEAR IDRIA, CA—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005**

Part 3 of 4

[Remark codes: &lt;, less than.]

Date	Residue on evap. at 180degC wat flt mg/L (70300)	Alum- inum, water, fltred, ug/L (01106)	Barium, water, fltred, ug/L (01005)	Cobalt water, fltred, ug/L (01035)	Iron, water, fltred, ug/L (01046)	Lithium water, fltred, ug/L (01130)	Mangan- ese, water, fltred, ug/L (01056)	Mercury water, fltred, ug/L (71890)	Mercury water, unfltred recover- able, ug/L (71900)	Molyb- denum, water, fltred, ug/L (01060)	Nickel, water, fltred, ug/L (01065)	Selen- ium, water, fltred, ug/L (01145)	Silver, water, fltred, ug/L (01075)
Dec 16...	609	<2	66	.106	<6	19.1	.5	.15	.19	<4	1.90	<4	<2
Mar 30...	612	<2	60	.105	<6	5.6	.5	.17	.19	<4	2.53	.6	<2
May 26...	614	7	75	.111	<6	14.8	.4	.21	.21	<4	2.22	<4	<2
Aug 01...	613	<2	80	.103	<6	18.8	.6	.17	.23	<4	1.58	.6	<2

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2004 TO**  
**SEPTEMBER 2005**

Part 4 of 4

[Remark codes: &lt;, less than.]

Date	Stront- ium, water, fltred, ug/L (01080)	Vanad- ium, water, fltred, ug/L (01085)	Mercury bed sed <62.5um dry svd lab, total, ug/g (34912)
Dec 16...	35.8	<.1	.33
Mar 30...	45.5	<.1	.77
May 26...	34.7	<.1	1.5
Aug 01...	41.4	.1	1.1



## 11154700 Clear Creek near Idria, CA—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006**

Part 2 of 4

[Remark codes: &lt;, less than; E, estimated.]

Date	Potas- sium, water, fltnd, mg/L (00935)	Sodium adsorp- tion ratio (00931)	Sodium frac- tion of cations percent (00932)	Sodium, water, fltnd, mg/L (00930)	Alka- linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar- bonate, wat flt incrm. titr., field, mg/L (00453)	Carbon- ate, wat flt incrm. titr., field, mg/L (00452)	Chlor- ide, water, fltnd, mg/L (00940)	Fluor- ide, water, fltnd, mg/L (00950)	Silica, water, fltnd, mg/L (00955)	Sulfate water, fltnd, mg/L (00945)	Residue water, fltnd, sum of consti- tuents mg/L (70301)	Residue water, fltnd, tons/ acre-ft (70303)
Dec 27...	1.17	.2	3	11.6	643	705	39	21.2	E.09	2.70	5.67	601	.80
Mar 22...	.96	.1	2	7.41	606	680	29	15.5	E.08	4.09	5.24	558	.81
May 17...	.87	.1	2	6.92	609	670	35	15.2	<.40	4.42	4.87	560	.83
Jul 31...	.96	.1	3	7.81	656	698	50	17.0	<.10	3.44	4.63	583	.82

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006**

Part 3 of 4

[Remark codes: &lt;, less than; E, estimated.]

Date	Residue on evap. at 180degC wat flt mg/L (70300)	Alum- inum, water, fltnd, ug/L (01106)	Barium, water, fltnd, ug/L (01005)	Cobalt water, fltnd, ug/L (01035)	Iron, water, fltnd, ug/L (01046)	Lithium water, fltnd, ug/L (01130)	Mangan- ese, water, fltnd, ug/L (01056)	Mercury water, fltnd, ug/L (71890)	Mercury unfltnd recover- able, ug/L (71900)	Molyb- denum, water, fltnd, ug/L (01060)	Nickel, water, fltnd, ug/L (01065)	Selen- ium, water, fltnd, ug/L (01145)	Silver, water, fltnd, ug/L (01075)
Dec 27...	585	2.0	76	1.20	<6	15.4	.7	.284	.261	<.4	2.56	.11	<.2
Mar 22...	598	E.9	59	.234	<6	13.9	.6	.262	.307	<.4	2.58	.08	<.2
May 17...	613	3.7	70	.090	<6	14.4	.3	.276	.271	<.4	1.91	.11	<.2
Jul 31...	600	2.0	80	.18	E5	15.8	1.4	.241	.271	<.4	2.7	.10	<.2

## Water-Data Report 2007

## 11154700 Clear Creek near Idria, CA—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

Part 2 of 4

[Remark codes: &lt;, less than; E, estimated.]

Date	Potas- sium, water, fltred, mg/L (00935)	Sodium adsorp- tion ratio (00931)	Sodium frac- tion of cations percent (00932)	Sodium, water, fltred, mg/L (00930)	Alka- linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar- bonate, wat flt incrm. titr., field, mg/L (00453)	Carbon- ate, wat flt incrm. titr., field, mg/L (00452)	Chlor- ide, water, fltred, mg/L (00940)	Fluor- ide, water, fltred, mg/L (00950)	Silica, water, fltred, mg/L (00955)	Sulfate water, fltred, mg/L (00945)	Residue water, fltred, sum of consti- tuents mg/L (70301)	Residue water, fltred, tons/ acre-ft (70303)
Nov 15...	.97	.2	3	10.1	653	E712	E41.0	19.0	<.10	2.13	5.08	593	.80
Feb 06...	1.08	.2	3	10.9	671	E747	E35.0	21.1	E.07	2.47	5.71	618	.80
May 09...	1.36	.2	4	12.9	670	E727	E44.0	22.9	E.07	2.20	5.95	621	.84
Sep 26...	1.50	.4	6	22.7	723	E787	E46.0	36.3	<.10	2.75	8.10	686	1.06

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

Part 3 of 4

[Remark codes: &lt;, less than; E, estimated.]

Date	Residue on evap. at 180degC wat flt mg/L (70300)	Alum- inum, water, fltred, µg/L (01106)	Barium, water, fltred, µg/L (01005)	Cobalt water, fltred, µg/L (01035)	Iron, water, fltred, µg/L (01046)	Lithium water, fltred, µg/L (01130)	Mangan- ese, water, fltred, µg/L (01056)	Mercury water, fltred, µg/L (71890)	Mercury unfltred recover- able, µg/L (71900)	Molyb- denum, water, fltred, µg/L (01060)	Nickel, water, fltred, µg/L (01065)	Selen- ium, water, fltred, µg/L (01145)	Silver, water, fltred, µg/L (01075)
Nov 15...	591	E1.3	62	.11	<6	15.9	.7	E.010	.015	.1	1.5	.11	<.1
Feb 06...	588	E1.4	59	.09	<6	17.8	.6	.027	.029	.1	1.6	<.08	<.1
May 09...	620	E1.4	75	.10	<6	20.4	.6	.031	.026	.1	1.7	.16	<.1
Sep 26...	782	2.2	96	.10	<6	25.2	1.3	.036	.037	.2	1.6	.11	<.1

11154700 Clear Creek near Idria, CA—Continued

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2006  
TO SEPTEMBER 2007**

Part 4 of 4

[Remark codes: <, less than;  
E, estimated.]

Date	Strontium, water, fltrd, µg/L (01080)	Vanadium, water, fltrd, µg/L (01085)
<b>Nov</b>		
15...	32.3	.16
<b>Feb</b>		
06...	32.1	.17
<b>May</b>		
09...	40.3	.19
<b>Sep</b>		
26...	54.2	.28

**CHEMICAL ANALYSES OF  
SURFACE BED MATERIAL  
WATER YEAR OCTOBER 2006 TO  
SEPTEMBER 2007**

Date	Time	Instantaneous discharge, cfs (00061)	Mercury bed sed <62.5µm wet svd field, total, ug/g (34910)
<b>Nov</b>			
15...	1102	.94	.47
<b>Feb</b>			
06...	1205	1.0	.39
<b>May</b>			
09...	1122	.63	.46
<b>Sep</b>			
26...	1143	.12	.62

Water-Data Report 2008

11154700 Clear Creek near Idria, CA—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 3 of 4

[Remark codes: <, less than; A, average; E, estimated.]

Date	Residue on evap. at 180degC wat fit mg/L (70300)	Aluminum, water, fitrd, µg/L (01106)	Barium, water, fitrd, µg/L (01005)	Cobalt, water, fitrd, µg/L (01035)	Iron, water, fitrd, µg/L (01046)	Lithium, water, fitrd, µg/L (01130)	Manganese, water, fitrd, µg/L (01056)	Mercury, water, fitrd, µg/L (71890)	Mercury, unfiltrd recover-able, µg/L (71900)	Molybdenum, water, fitrd, µg/L (01060)	Nickel, water, fitrd, µg/L (01065)	Selenium, water, fitrd, µg/L (01145)	Silver, water, fitrd, µg/L (01075)
Dec 26...	716	E1.5	59	.07	<8	8.9	.5	E.007	E.009	E.2	1.3	.12	<.1
Mar 05...	564	E1.2	56	.14	<8	10.3	1.0	E.009	.019	E.1	2.7	.13	<.1
May 28...	647	1.8	61	.13	<8	16.1	.8	.018	E.007	E.1	1.9	.11	<.1
Jul 29...	652	2.3	79	.10	<8	25.7	.6	.010	<.010	E.1	1.7	.10	<.1

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007**  
**TO SEPTEMBER 2008**

Part 4 of 4

Date	Strontium, water, fitrd, µg/L (01080)	Vanadium, water, fitrd, µg/L (01085)
Dec 26...	39.6	.15
Mar 05...	33.6	.15
May 28...	36.9	.19
Jul 29...	49.8	.21

## 11154700 Clear Creek near Idria, CA—Continued

**CHEMICAL ANALYSES OF SURFACE BED  
MATERIAL  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**  
[Remark codes: <, less than.]

Date	Time	Instan- taneous dis- charge, ft <sup>3</sup> /s (00061)	Mercury bed sed <62.5um wet svd field, total, ug/g (34910)	Mercury bed sedimnt recover -able, ug/g (71921)
Dec 26...	1515	.21	.58	--
Mar 05...	1500	7.8	--	.296
May 28...	1430	1.9	--	.295
Jul 29...	1400	.63	--	<.180

**PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**  
[Remark codes: <, less than.]

Date	Time	Instan- taneous dis- charge, ft <sup>3</sup> /s (00061)	Temper- ature, water, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
Dec 26...	1306	.21	5.0	<0.5	<.01	--
Jan 24...	1448	7.0	3.0	450	8.5	56
Jan 29...	1250	24	5.5	1,140	74	36
Feb 19...	1414	5.0	11.0	68	.92	--
Mar 05...	1308	7.8	10.0	26	.55	--
May 28...	1126	2.4	17.0	4	.03	--
Jul 29...	1244	.63	27.0	2	<.01	--

Water-Data Report 2009

11154700 Clear Creek near Idria, CA—Continued

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Part 3 of 4

[Remark codes: <, less than; E, estimated.]

Date	Sulfate water, flt'd, mg/L (00945)	Alum- inum, water, flt'd, µg/L (01106)	Barium, water, flt'd, µg/L (01005)	Cobalt water, flt'd, µg/L (01035)	Iron, water, flt'd, µg/L (01046)	Lithium water, flt'd, µg/L (01130)	Mangan- ese, water, flt'd, µg/L (01056)	Mercury water, flt'd, µg/L (71890)	Mercury water, unflt'd recover- able, µg/L (71900)	Molyb- denum, water, flt'd, µg/L (01060)	Nickel, water, flt'd, µg/L (01065)	Silver, water, flt'd, µg/L (01075)	Stront- ium, water, flt'd, µg/L (01080)
Nov 19...	6.57	E2.6	66	.07	4	18.6	.7	<.010	<.010	.1	1.3	<.008	39.3
Feb 12...	5.84	--	57	.08	<4	16.2	.4	<.010	<.010	.1	1.7	<.008	32.6
May 21...	5.43	E2.1	71	.09	6	20.9	.5	<.010	<.010	.1	1.6	<.008	45.5
Jul 07...	5.79	E3.1	85	.11	5	21.6	.6	<.010	<.010	.1	1.6	<.008	44.6

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2008  
TO SEPTEMBER 2009**

Part 4 of 4

[Remark codes: <, less than;  
E, estimated.]

Date	Vana- dium, water, flt'd, µg/L (01085)	Selen- ium, water, flt'd, µg/L (01145)
Nov 19...	.20	.12
Feb 12...	.23	.13
May 21...	.21	.11
Jul 07...	.40	.12

## 11154700 Clear Creek near Idria, CA—Continued

**CHEMICAL ANALYSES OF SURFACE BED  
MATERIAL  
WATER YEAR OCTOBER 2008 TO  
SEPTEMBER 2009**

Date	Time	Instan- taneous dis- charge, ft <sup>3</sup> /s (00061)	Mercury bed sedimnt recover- able, µg/g (71921)
Nov 19...	1445	.35	.221
Feb 12...	1450	1.7	.147
May 21...	1345	.94	1.22
Jul 07...	1515	.35	.063

**SUSPENDED SEDIMENT DISCHARGE,  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

[Remark codes: <, less than.]

Date	Time	Instan- taneous dis- charge, ft <sup>3</sup> /s (00061)	Temper- ature, water, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Nov 19...	1212	.35	12.5	<.5	<.01
Jan 14...	1120	.44	5.0	1	<.01
Feb 12...	1350	1.5	10.0	2	.01
Mar 19...	1145	3.2	13.0	2	.02
Apr 17...	1109	1.9	13.5	1	.01
May 21...	1530	.94	28.0	2	.01
Jul 07...	1452	.35	30.5	1	<.01



Jeffrey B West  
<jbwest@usgs.gov>  
02/10/2011 01:56 PM

To: Timothy\_Moore@ca.blm.gov  
cc: Lawrence A Freeman <lfreeman@usgs.gov>  
bcc:  
Subject: First Quarter Mercury Results for Clear Cr. nr Idria

Hi Tim:

Here are the results for the first quarter mercury lab results. Not included in this table are the results for the bed mercury sample, which is usually very late in getting reported by our central lab.



Please inform me if you have any questions, Jeff [clear.qw11a](#)



DISTRICT CODE 06 UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY  
 PROCESS DATE 2-10-11  
 11154700 -- CLEAR C NR IDRIA CA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

pt	Baro- metric	Instan- taneous	Dis- solved	Specif- pH, ic	Dis- oxygen	Specif- water, conduc- unfltrd tance,	Alka- linity,	Bicar- bonate,	Carbon- ate,	wat fit Sam-	wat fit inf tit	wat fit infl pt	infl
Date	Time	sure,	charge,	of oxygen,	of sat- uration	std uS/cm @ 25 degC	water, deg C	Sampler type,	plng method,	field, titr.,	titr., mg/L as	CaCO3	mg/L
field,	field,	mm Hg	ft3/s	mg/L	uration	units	deg C	code	code	CaCO3	mg/L		
(00453)	(00452)	(00025)	(00061)	(00300)	(00301)	(00400)	(00095)	(00010)	(84164)	(82398)	(39086)		
DEC													
16...	1223	691	.86	10.8	95	9.0	1030	5.5	3071	70	647	720	33.7

DISTRICT CODE 06 UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY  
 PROCESS DATE 2-10-11  
 11154700 -- CLEAR C NR IDRIA CA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Date	Mercury water, unfltrd water, recover fltrd, -able, ug/L	Mercury water, unfltrd water, recover fltrd, -able, ug/L
	(71890)	(71900)
DEC		
16...	<.005	<.005

0Remark codes used in this table:  
 < -- less than