

Screening Values

[Screening values](#) are taken from Agency for Toxic Substance and Disease Registry (ATSDR) comparison values (CVs) for drinking water when available. When ATSDR values were not available, [EPA Regional Screening Levels \(RSLs\)](#) for residential tap water were used. Total metal data was used for assessment of human-health based effects.

Agricultural Screening Values are derived from National Academy of Science (NAS) Water Quality Criteria, 1972 (the Blue Book). Those guidelines are reprinted in [EPA's Guidelines for the Reuse of Waters for Irrigation](#). Dissolved metal values were used for the assessment of agricultural use waters.

Contaminants that do not exceed screening values are not considered to pose a risk of adverse health effects.

Analyte	CAS #	Units	Drinking Water CV (ppb)		Irrigation Waters (ug/L) [NAS, 1972]			Utah WQ Standards for San Juan River [Dissolved metals]							
			Health-Based Comparison Value for Water Ingestion (CV) [Total Metals]	CV Type and Source	Livestock Water (ug/L)	Long-Term	Short-Term	1C (Domestic)	3B (warm water fish) [1-hour]	3B (warm water fish) [4-day]	4 (agriculture)				
Hardness	-	mg/L			180 mg/L (UA)										Hardness
Aluminum	7429-90-5	ug/L	10,000	Child Intermediate EMEG	5,000 (NAS)	5,000	20,000			750	87				Aluminum
Antimony	7440-36-0	ug/L	4	Child RMEG	No Data Available	No Data Available	No Data Available								Antimony
Arsenic	7440-38-2	ug/L	3	Child RMEG & Chronic EMEG	200 (NAS)	100	2,000	10	340	150	100				Arsenic
Barium	7440-39-3	ug/L	2,000	Child Intermediate EMEG	No Data Available	No Data Available	No Data Available	1000							Barium
Beryllium	7440-41-7	ug/L	20	Child RMEG & Chronic EMEG	No Data Available	No Data Available	No Data Available	<4							Beryllium
Cadmium	7440-43-9	ug/L	5	Child Intermediate EMEG	50 (NAS)	10	50	10	2	0.25	10				Cadmium
Calcium	7440-70-2	ug/L	-	No CVs available	500,000 (UA)	No Data Available	No Data Available								Calcium
Chromium	7440-47-3	ug/L	60	Child RSL, non-cancer, Cr(VI)	1,000 (NAS)	100	1,000	50	16 (VI);	11 (VI);				100	Chromium
Cobalt	7440-48-4	ug/L	100	Child Intermediate EMEG	1,000 (NAS)	50	5,000								Cobalt
Copper	7440-50-8	ug/L	100	Child Intermediate EMEG	500 (NAS)	200	5,000		13	9	200				Copper
Iron	7439-89-6	ug/L	14,000	Child RSL, non-cancer	Limit Not Considered Necessary (NAS)		5,000	20,000		1000	1000				Iron
Lead	7439-92-1	ug/L	15	Child non-carcinogenic RSL	100 (NAS)	5,000	10,000	15	65	2.5	100				Lead
Magnesium	7439-95-4	ug/L	-	No CVs available	250,000 (UA)	No Data Available	No Data Available								Magnesium
Manganese	7439-96-5	ug/L	500	Child RMEG	Limit Not Considered Necessary (NAS)	200	10,000								Manganese
Molybdenum	7439-98-7	ug/L	50	Child RMEG	No Data Available	10	50								Molybdenum
Nickel	7440-02-0	ug/L	200	Child RMEG	No Data Available	200	2,000		468	52					Nickel
Potassium	7440-22-4	ug/L	-	No CVs available	No Data Available	No Data Available	No Data Available								Potassium
Selenium	7782-49-2	ug/L	50	Child RMEG	50 (NAS)	20	20	50	18.4	4.6	50				Selenium
Silver	7440-22-4	ug/L	50	Child RMEG	No Data Available	No Data Available	No Data Available	50	1.6	-					Silver
Sodium	7440-23-5	ug/L	-	No CVs available	1,000,000 (UA)	No Data Available	No Data Available								Sodium
Thallium	7440-28-0	ug/L	0.2	Child non-carcinogenic RSL	No Data Available	No Data Available	No Data Available								Thallium
Vanadium	7440-62-2	ug/L	100	Child Intermediate EMEG	100 (NAS)	100	1,000								Vanadium
Zinc	7440-66-6	ug/L	3,000	Child Intermediate EMEG	25,000 (NAS)	2,000	10,000		120	120					Zinc
Mercury	7439-97-6	ug/L	0.63	Child non-carcinogenic RSL, elemental Hg, ug/L	10 (NAS)	No Data Available	No Data Available	2	-	0.012					Mercury
TDS		mg/L			1200 (Utah)		500,000-1,000,000 (NAS)								
pH					6.5-9 (Utah)		4.5-9 (NAS)								

RMEG: ATSDR Reference Dose Media Evaluation Guide
 EMEG: ATSDR Environmental Media Evaluation Guide
 RSL: EPA Regional Screening Level

Drinking Water - Total Metals

				Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc
Health Based Comparison Values for Water Ingestion				10,000	4	3	2,000	20	5	(blank)	60	100	100	14,000	15	(blank)	500	0.63	50	200	(blank)	50	(blank)	0.2	100	3,000	
Monitoring Location	Site Description	Collection Date	Collection Time	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
4954000	San Juan R @ US160 Xing in CO	8/8/2015	1:23 PM	47,400	ND	12.5	1,300	3.42	1.27	336	23.9	22.8	41.4	24,800	44.5	56,300	2,320	ND	ND	40.5	12,200	ND	ND	38,600	ND	61.2	147
		8/9/2015	12:02 PM	33,900	ND	12.3	702	2.62	0.907	108	17.4	16.8	59.3	29,400	151	20,300	1,100	ND	ND	23	9,040	ND	ND	29,800	ND	50.5	160
		8/9/2015	3:05 PM	26,700	ND	13.5	606	2.08	0.734	92.8	14.2	13.5	63	28,600	185	17,200	942	ND	ND	18.2	7,530	ND	ND	27,000	ND	41.6	172
		8/9/2015	6:00 PM	24,600	ND	10	532	ND	0.68	86.2	13.7	12.4	47.6	24,100	111	15,800	870	ND	ND	16.8	7,040	ND	ND	26,100	ND	37.8	138
		8/9/2015	9:02 PM	31,000	ND	9.59	554	2.25	0.632	78.8	15.5	14.7	49.7	26,500	83.5	15,300	887	ND	ND	18.4	7,180	ND	ND	29,500	ND	41.5	137
		8/10/2015	9:11 AM	39,900	ND	11	1,730	3.97	1.15	90.8	21	24.8	69.6	35,400	73.5	20,200	1,450	ND	ND	29.7	8,240	ND	ND	36,600	ND	48.2	668
		8/10/2015	2:06 PM	43,700	ND	12.3	889	4.04	0.884	86.7	23.7	25.4	69.7	39,100	69.3	20,100	1,390	ND	ND	30.8	8,890	ND	ND	38,500	ND	53.4	897
		8/11/2015	8:50 AM	77,000	ND	19.9	1,230	6.66	1.2	109	29.5	37	104	54,800	82.2	24,900	1,930	0.187	ND	39.4	11,800	ND	ND	42,900	ND	69.4	223
		8/11/2015	1:17 PM	56,900	ND	14.2	971	4.97	0.916	95	21.8	27.3	76.7	40,300	62.6	20,000	1,440	ND	ND	29.6	9,650	ND	ND	37,400	ND	51.8	159
		8/13/2015	10:01:00 AM	38,700	NS	NS	NS	NS	NS	124	NS	NS	NS	31,100	NS	22,500	NS	0.153	NS	NS	8,540	NS	NS	45,000	NS	NS	NS
4953990	San Juan R @ Town of Montezuma	8/8/2015	2:54 PM	67,300	ND	20.2	1,590	6.36	2.49	390	38.8	41.1	82.4	50,400	91.5	59,100	3,010	0.222	ND	75.8	17,700	ND	ND	51,700	ND	82.8	286
		8/10/2015	10:13 AM	32,300	ND	11.5	1,960	2.72	0.707	93.7	17.3	18.3	56.4	29,700	79.3	20,100	1,130	ND	ND	23.5	7,450	ND	ND	34,600	ND	43.8	821
		8/10/2015	2:58 PM	39,100	ND	11.8	1,700	3.71	0.881	97.1	22.1	23.2	67.3	35,800	75.8	22,500	1,400	ND	ND	29.6	8,490	ND	ND	34,900	ND	49	658
		8/11/2015	9:44 AM	52,800	ND	12.6	918	4.27	0.998	99.7	23.1	25.1	67.9	40,200	62.9	22,500	1,410	ND	ND	29.3	9,630	ND	ND	36,900	ND	55.2	166
		8/11/2015	2:20 PM	54,700	ND	15	1,060	5.16	1.04	102	24.2	29.1	80.3	44,700	70.2	24,000	1,570	ND	ND	32.4	9,470	ND	ND	38,600	ND	58.4	183
		8/13/2015	4:46:00 PM	23,700	NS	NS	NS	NS	NS	127	NS	NS	NS	17,800	NS	20,800	NS	NS	NS	NS	6,730	NS	NS	34,200	NS	NS	NS
4953250	San Juan R @ Sand Island	8/8/2015	4:19 PM	55,700	ND	15.9	1,090	5.21	1.99	252	32.4	34.3	80.8	47,800	147	33,800	1,700	0.158	ND	65.8	13,300	2.14	ND	58,800	ND	64.7	242
		8/10/2015	11:15 AM	27,000	ND	13.2	1,530	2.3	0.788	104	15.9	15.6	60	28,500	140	21,200	1,090	ND	ND	22.1	7,830	ND	ND	30,900	ND	44.3	664
		8/10/2015	3:58 PM	28,700	ND	10.7	726	2.61	0.713	99.9	16.1	17.3	54.7	27,700	84.7	20,400	1,170	ND	ND	22.3	7,290	ND	ND	33,200	ND	40.9	960
		8/11/2015	10:53 AM	47,800	ND	11.5	913	3.87	1.01	98.9	21.7	22.6	61.6	37,000	63.5	22,200	1,310	ND	ND	27.7	9,340	ND	ND	36,400	ND	52.7	167
		8/11/2015	3:01 PM	48,700	ND	12	900	4.23	1.04	102	21	23.6	64.2	36,800	63.4	22,400	1,400	ND	ND	28	9,460	ND	ND	38,200	ND	51.5	163
		8/13/2015	11:28:00 AM	19,300	NS	NS	NS	NS	NS	168	NS	NS	NS	12,900	NS	22,800	NS	ND	NS	NS	6,830	NS	NS	31,600	NS	NS	NS
4953000	San Juan R @ Mexican Hat US163 Xing	8/8/2015	5:40 PM	63,400	ND	16.3	1,540	7.23	1.5	167	29.4	41.5	103	51,900	86.7	30,600	2,800	0.18	ND	47.8	14,400	ND	ND	63,900	ND	70.5	261
		8/10/2015	11:53 AM	90,800	ND	20.6	2,300	7.61	1.53	314	43.1	40.2	72.8	43,400	82.1	57,000	3,230	ND	ND	70.9	19,700	ND	ND	46,100	ND	80	843
		8/10/2015	4:44 PM	80,600	ND	22.7	1,910	6.12	1.27	254	36.8	32.8	69.8	38,100	171	49,400	2,430	ND	ND	58.4	18,100	ND	ND	52,600	ND	83.3	815
		8/11/2015	11:31 AM	111,000	ND	22.2	2,430	8.13	1.39	259	43.5	38.5	74.3	47,300	102	57,400	2,710	0.175	ND	64.6	22,200	ND	ND	57,800	ND	88.4	209
		8/11/2015	3:43 PM	56,400	0.345	13.3	1,350	5.09	1.09	150	23.5	25.3	61	35,900	75.1	30,100	1,660	ND	ND	34.2	11,700	ND	ND	41,600	ND	57.2	168
		8/13/2015	12:05:00 PM	44,700	NS	NS	NS	NS	NS	246	NS	NS	NS	21,600	NS	41,900	NS	ND	NS	NS	12,500	NS	NS	48,800	NS	NS	NS
4952940	San Juan R @ Clay Hills	8/13/2015	2:42:00 PM	42,900	NS	NS	NS	NS	NS	355	NS	NS	NS	23,000	NS	49,700	NS	0.185	NS	NS	11,500	NS	NS	52,000	NS	NS	NS
	No Exceedence		Prior to Plume Arrival																								
	Above Screening Level		Estimated Plume Arrival																								
			Post Plume Arrival																								

The total metals analysis provides results for metals that are both dissolved and present as very small particles. This result is considered more protective of public health because the sampling data show both the dissolved and particle form of each metal tested. The comparison value (CV) is a health-based limit for exposure through ingestion. These values are typically based on short-term health exposure. Further analysis of this dataset was provided by UDOH in this [statement](#).

Comment [EG1]: Link to Craig's statement

These data are provisional and subject to change and are undergoing DWQ's quality assurance and quality control procedures. Data are released in the interest of providing timely data to the public. Neither DWQ nor the State of Utah may be held liable for any damages resulting from its use.

Drinking water systems can remove metals from the water through a treatment process such as filtration, or metals can be reduced by blending with water that has low or no total metals content.

Residents with a private well can call a [certified drinking water lab](#) to get it tested. The laboratories provide the required bottles, sampling instructions and return instructions.

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Domestic Source Water - Dissolved Metals

				Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc
Utah Domestic Source Criteria				(blank)		10	1000	4	10	(blank)	50		(blank)		15	(blank)		2	(blank)			50		(blank)			
Monitoring Location	Site Description	Collection Date	Collection Time	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
4954000	San Juan R @ US160 Xing in CO	8/8/2015	1:23:00 PM	217	ND	ND	222	ND	ND	51.5	ND	ND	2.24	ND	ND	7850	2.94	ND	ND	ND	2960	ND	ND	32200	ND	4.86	15.3
		8/9/2015	12:02:00 PM	258	ND	ND	274	ND	ND	50.6	ND	ND	2.48	119	ND	6860	2.69	ND	2.01	ND	2610	ND	ND	28500	ND	ND	18.5
		8/9/2015	9:02:00 PM	329	ND	ND	341	ND	ND	46	ND	ND	3.47	198	ND	6300	4.14	ND	ND	ND	2380	ND	ND	30000	ND	ND	15.4
		8/10/2015	9:11:00 AM	172	ND	ND	233	ND	ND	44.6	ND	ND	3.21	103	ND	6010	ND	ND	2.03	ND	2510	ND	ND	34100	ND	ND	19.7
		8/10/2015	2:06:00 PM	1050	ND	ND	220	ND	ND	44.2	ND	ND	3.35	732	ND	6020	12.8	ND	ND	ND	2720	ND	ND	35100	ND	ND	18
		8/11/2015	8:50:00 AM	3290	ND	ND	451	ND	ND	39.8	ND	ND	4.85	1520	ND	5050	19	ND	ND	ND	3000	ND	ND	43700	ND	ND	19.1
		8/11/2015	1:17:00 PM	720	ND	ND	334	ND	ND	41.7	ND	ND	3.03	366	ND	5110	5.1	ND	ND	ND	2910	ND	ND	37000	ND	ND	14.9
		8/13/2015	10:01:00 AM	257	NS	NS	NS	NS	NS	48.3	NS	NS	NS	148	NS	6480	NS	NS	NS	NS	2870	NS	NS	42500	NS	NS	NS
4953990	San Juan R @ Town of Montezuma	8/8/2015	2:54:00 PM	136	ND	ND	223	ND	ND	71.5	ND	ND	2.72	ND	ND	9920	ND	ND	2.62	ND	3840	ND	ND	43500	ND	ND	21
		8/10/2015	10:13:00 AM	218	ND	ND	262	ND	ND	49.8	ND	ND	3.24	144	ND	7700	3.22	ND	2.03	ND	2690	ND	ND	32100	ND	ND	17.3
		8/10/2015	2:58:00 PM	ND	ND	ND	200	ND	ND	48.6	ND	ND	2.48	ND	ND	7350	ND	ND	2.32	ND	2590	ND	ND	31800	ND	ND	14.6
		8/11/2015	9:44:00 AM	462	ND	ND	314	ND	ND	44.6	ND	ND	2.66	227	ND	6490	3.31	ND	ND	ND	2640	ND	ND	37100	ND	ND	12.9
		8/11/2015	2:20:00 PM	1400	ND	ND	298	ND	ND	44.8	ND	ND	3.47	668	ND	6570	9.99	ND	ND	ND	2960	ND	ND	38300	ND	ND	14.3
8/13/2015	4:46:00 PM	330	ND	ND	240	ND	ND	49.4	ND	ND	3.75	192	ND	8080	5.3	ND	ND	ND	2620	ND	ND	32900	ND	ND	32.7		
4953250	San Juan R @ Sand Island	8/8/2015	4:19:00 PM	214	ND	ND	294	ND	ND	73.7	ND	ND	3.86	104	ND	9240	2.55	ND	3.3	ND	4110	ND	ND	51200	ND	ND	19
		8/10/2015	11:15:00 AM	124	ND	ND	192	ND	ND	53.2	ND	ND	2.07	ND	ND	8400	ND	ND	2.38	ND	2860	ND	ND	28400	ND	ND	13.7
		8/10/2015	3:58:00 PM	108	ND	ND	184	ND	ND	48.4	ND	ND	ND	ND	ND	7830	ND	ND	2.26	ND	2670	ND	ND	30600	ND	ND	13.2
		8/11/2015	10:53:00 AM	684	ND	ND	278	ND	ND	45.8	ND	ND	2.87	328	ND	6930	4.12	ND	ND	ND	2720	ND	ND	36800	ND	ND	13.7
		8/11/2015	3:01:00 PM	158	ND	ND	251	ND	ND	45.3	ND	ND	2.69	ND	ND	6650	ND	ND	ND	2760	ND	ND	36600	ND	ND	14.9	
8/13/2015	11:28:00 AM	509	ND	ND	156	ND	ND	53.6	ND	ND	3.1	275	ND	8210	8.9	ND	ND	ND	2960	ND	ND	29200	ND	ND	20.4		
4953000	San Juan R @ Mexican Hat US163 Xing	8/8/2015	5:40:00 PM	264	ND	ND	308	ND	ND	49.2	ND	ND	3.95	144	ND	5750	2.81	ND	3.15	ND	4150	ND	ND	62600	ND	ND	14.2
		8/10/2015	11:53:00 AM	325	ND	ND	299	ND	ND	44.6	ND	ND	2.95	140	ND	7840	2.55	ND	2.43	ND	3410	ND	ND	43600	ND	7.59	17.6
		8/10/2015	4:44:00 PM	149	ND	ND	265	ND	ND	44.2	ND	ND	2.48	ND	ND	7870	ND	ND	2.63	ND	3350	ND	ND	41900	ND	6.67	18.5
		8/11/2015	11:31:00 AM	907	ND	ND	391	ND	ND	37.2	ND	ND	3.13	382	ND	6720	4.55	ND	2.46	ND	3290	ND	ND	51300	ND	7.82	12.4
		8/11/2015	3:43:00 PM	1790	ND	ND	445	ND	ND	43.6	ND	ND	5.28	787	ND	7190	11.6	ND	ND	ND	3110	ND	ND	41400	ND	4.55	17.4
8/13/2015	12:05:00 PM	293	ND	2.06	201	ND	ND	42.6	ND	ND	3.46	143	ND	7210	3.54	ND	2.33	ND	3300	ND	ND	44400	ND	7.13	19.8		
4952940	San Juan R @ Clay Hills	8/13/2015	2:42:00 PM	643	NS	NS	NS	NS	NS	52.3	NS	NS	NS	388	NS	7500	NS	ND	NS	NS	3090	NS	NS	47000	NS	NS	NS
	No Exceedence		Prior to Plume Arrival																								
	Above Screening Level		Estimated Plume Arrival																								
			Post Plume Arrival																								

Dissolved metals results should always be less than the total metals result. This is because dissolved metals are a subset of total metals; they make up part of the total metals result. Dissolved metals are usually considered more mobile and biologically available (can be absorbed by the body). The screening values used in this table are from [Utah's water quality standards](#) protective of source water for domestic use.

For drinking water quality, it is best to use the total metals analysis result to determine how safe the water is to drink because the MCL is based on the total metals analysis and the total metals results are considered to be more protective of public health.

These data are provisional and subject to change and are undergoing DWQ's quality assurance and quality control procedures. Data are released in the interest of providing timely data to the public. Neither DWQ nor the State of Utah may be held liable for any damages resulting from its use.

The [Water Quality Interpretation Tool](#) developed by Utah State University Extension Services allows users to enter their water quality data online and receive interpretation of those data pertaining to drinking water, irrigation water, livestock water, and environmental water state standards. The explanation of results from this tool provides information on the analyte health effects, the susceptible populations, and typical routes of exposure.

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Agricultural Uses

				Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Sulphate	Total Dissolved Solids	
Livestock Water				5000	(blank)	200	(blank)	50	500	1000	500	(blank)	100	250000	(blank)	10	(blank)	(blank)	(blank)	50	(blank)	1000000	(blank)	100	25000	(blank)	1200			
Irrigation Water Short-term NAS, 1972				5000	(blank)	100	(blank)	10	(blank)	100	50	200	5000	(blank)	200	(blank)	10	200	(blank)	20	(blank)	(blank)	100	2000	(blank)	500000				
Irrigation Water Long-term NAS, 1972				20000	(blank)	2000	(blank)	50	(blank)	1000	5000	20000	10000	(blank)	10000	(blank)	50	2000	(blank)	20	(blank)	(blank)	1000	10000	(blank)	(blank)				
Utah DWQ Agricultural Use Criteria 4				(blank)	100	(blank)	10	(blank)	100	(blank)	200	(blank)	100	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	1200	
Monitoring Location	Site Description	Collection Date	Collection Time	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	mg/L		
4954000	San Juan R @ US160 Xing in CO	8/8/2015	1:23:00 PM	217	ND	ND	222	ND	51.5	ND	ND	2.24	ND	ND	7850	2.94	ND	ND	ND	2960	ND	ND	32200	ND	4.86	15.3	111	460		
		8/9/2015	12:02:00 PM	258	ND	ND	274	ND	50.6	ND	ND	2.48	119	ND	6860	2.69	ND	2.01	ND	2610	ND	ND	28500	ND	ND	18.5	120	400		
		8/9/2015	3:05:00 PM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	112	350
		8/9/2015	6:00:00 PM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	99.1	410
		8/9/2015	9:02:00 PM	329	ND	ND	341	ND	46	ND	ND	3.47	198	ND	6300	4.14	ND	ND	ND	2380	ND	ND	30000	ND	ND	15.4	97.3	430		
		8/10/2015	9:11:00 AM	172	ND	ND	233	ND	44.6	ND	ND	3.21	103	ND	6010	ND	ND	2.03	ND	2510	ND	ND	34100	ND	ND	19.7	99.7	380		
		8/10/2015	2:06:00 PM	1050	ND	ND	220	ND	44.2	ND	ND	3.35	732	ND	6020	12.8	ND	ND	ND	2720	ND	ND	35100	ND	ND	18	102	490		
		8/11/2015	8:50:00 AM	3290	ND	ND	451	ND	39.8	ND	ND	4.85	1520	ND	5050	19	ND	ND	ND	3000	ND	ND	43700	ND	ND	19.1	100	380		
		8/11/2015	1:17:00 PM	720	ND	ND	334	ND	41.7	ND	ND	3.03	366	ND	5110	5.1	ND	ND	ND	2910	ND	ND	37000	ND	ND	14.9	99.2	290		
		8/13/2015	10:01:00 AM	257	NS	NS	NS	NS	48.3	NS	NS	NS	148	NS	6480	NS	NS	NS	NS	2870	NS	NS	42500	NS	NS	NS	NS	121	NS	
4953990	San Juan R @ Town of Montezuma	8/8/2015	2:54:00 PM	136	ND	ND	223	ND	71.5	ND	ND	2.72	ND	9820	ND	ND	2.62	ND	3840	ND	ND	43500	ND	ND	21	195	610			
		8/10/2015	10:13:00 AM	218	ND	ND	262	ND	49.8	ND	ND	3.24	144	ND	7700	3.22	ND	2.03	ND	2690	ND	ND	32100	ND	ND	17.3	115	610		
		8/10/2015	2:58:00 PM	ND	ND	ND	200	ND	48.6	ND	ND	2.48	ND	ND	7350	ND	ND	2.32	ND	2590	ND	ND	31800	ND	ND	14.6	108	460		
		8/11/2015	9:44:00 AM	462	ND	ND	314	ND	44.6	ND	ND	2.66	227	ND	6490	3.31	ND	ND	ND	2640	ND	ND	37100	ND	ND	12.9	110	460		
		8/11/2015	2:20:00 PM	1400	ND	ND	298	ND	44.8	ND	ND	3.47	668	ND	6570	9.99	ND	ND	ND	2960	ND	ND	38300	ND	ND	14.3	110	620		
4953250	San Juan R @ Sand Island	8/13/2015	4:46:00 PM	330	ND	ND	240	ND	49.4	ND	ND	3.75	192	ND	8080	5.3	ND	ND	ND	2620	ND	ND	32900	ND	ND	32.7	125	NS		
		8/8/2015	4:19:00 PM	214	ND	ND	294	ND	73.7	ND	ND	3.86	104	ND	9240	2.55	ND	3.3	ND	4110	ND	ND	51200	ND	ND	19	226	640		
		8/10/2015	11:15:00 AM	124	ND	ND	192	ND	53.2	ND	ND	2.07	ND	ND	8400	ND	ND	2.38	ND	2860	ND	ND	28400	ND	ND	13.7	124	370		
		8/10/2015	3:58:00 PM	108	ND	ND	184	ND	48.4	ND	ND	ND	ND	ND	7830	ND	ND	2.26	ND	2670	ND	ND	30600	ND	ND	13.2	118	490		
		8/11/2015	10:53:00 AM	684	ND	ND	278	ND	45.8	ND	ND	2.87	328	ND	6930	4.12	ND	ND	ND	2720	ND	ND	36800	ND	ND	13.7	114	390		
		8/11/2015	3:01:00 PM	158	ND	ND	251	ND	45.3	ND	ND	2.69	ND	ND	6650	ND	ND	ND	ND	2760	ND	ND	36600	ND	ND	14.9	112	360		
		8/13/2015	11:28:00 AM	509	ND	ND	156	ND	53.6	ND	ND	3.1	275	ND	8210	8.9	ND	ND	ND	2960	ND	ND	29200	ND	ND	20.4	121	NS		
4953000	San Juan R @ Mexican Hat US163 Xing	8/8/2015	5:40:00 PM	264	ND	ND	308	ND	49.2	ND	ND	3.95	144	ND	5750	2.81	ND	3.15	ND	4150	ND	ND	62600	ND	ND	14.2	154	730		
		8/10/2015	11:53:00 AM	325	ND	ND	299	ND	44.6	ND	ND	2.95	140	ND	7840	2.55	ND	2.43	ND	3410	ND	ND	43600	ND	ND	7.59	17.6	126	590	
		8/10/2015	4:44:00 PM	149	ND	ND	265	ND	44.2	ND	ND	2.48	ND	ND	7870	ND	ND	2.63	ND	3350	ND	ND	41900	ND	ND	6.67	18.5	132	660	
		8/11/2015	11:31:00 AM	907	ND	ND	391	ND	37.2	ND	ND	3.13	382	ND	6720	4.55	ND	2.46	ND	3290	ND	ND	51300	ND	ND	7.82	12.4	117	980	
		8/11/2015	3:43:00 PM	1790	ND	ND	445	ND	43.6	ND	ND	5.28	787	ND	7190	11.6	ND	ND	ND	3110	ND	ND	41400	ND	ND	4.55	17.4	129	600	
		8/13/2015	12:05:00 PM	293	ND	2.06	201	ND	42.6	ND	ND	3.46	143	ND	7210	3.54	ND	2.33	ND	3300	ND	ND	44400	ND	ND	7.13	19.8	135	NS	
4952940	San Juan R @ Clay Hills	8/13/2015	2:42:00 PM	643	NS	NS	NS	NS	52.3	NS	NS	NS	NS	388	NS	NS	NS	NS	NS	NS	3090	NS	NS	47000	NS	NS	NS	NS	NS	
No Exceedence			Prior to Plume Arrival																											
Above Screening Level			Estimated Plume Arrival																											
			Post Plume Arrival																											

The Utah Department of Agriculture and Food (UDAF) is lifting any advisories against using San Juan River water for crop irrigation and livestock watering.

Based on the latest DEQ evaluation of the San Juan River water sample data, Utah State University's veterinary toxicologist reports that the river's highest levels of contamination posed no adverse effects on plants, soils and animals, only short-term and minimal exposure risks. The UDAF advises farmers and ranchers to remain cautious and report any changes in the health of their crops and livestock.

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Aquatic Life Uses

				Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	
Utah Aquatic Life Use Criteria 1-hr				750	(blank)	340	(blank)	2	(blank)	570	(blank)	13	1,000	65	(blank)				468	(blank)	18.4	1.6	(blank)				120	
Utah Aquatic Life Use Criteria 4-day				87	(blank)	150	(blank)	0.25	(blank)	74	(blank)	9	1,000	2.5	(blank)				0.01	(blank)	52	(blank)	4.6	(blank)				120
Monitoring Location	Site Description	Collection Date	Collection Time	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
4954000	San Juan R @ US160 Xing in CO	8/8/2015	1:23:00 PM	217	ND	ND	222	ND	ND	52	ND	ND	2	ND	ND	7,850	3	ND	ND	ND	2,960	ND	ND	32,200	ND	5	15	
		8/9/2015	12:02:00 PM	258	ND	ND	274	ND	ND	51	ND	ND	2	119	ND	6,860	3	ND	2	ND	2,610	ND	ND	28,500	ND	ND	19	
		8/9/2015	9:02:00 PM	329	ND	ND	341	ND	ND	46	ND	ND	3	198	ND	6,300	4	ND	ND	ND	2,380	ND	ND	30,000	ND	ND	15	
		8/10/2015	9:11:00 AM	172	ND	ND	233	ND	ND	45	ND	ND	3	103	ND	6,010	ND	2	ND	2,510	ND	ND	34,100	ND	ND	20		
		8/10/2015	2:06:00 PM	1,050	ND	ND	220	ND	ND	44	ND	ND	3	732	ND	6,020	13	ND	ND	ND	2,720	ND	ND	35,100	ND	ND	18	
		8/11/2015	8:50:00 AM	3,290	ND	ND	451	ND	ND	40	ND	ND	5	1,520	ND	5,050	19	ND	ND	ND	3,000	ND	ND	43,700	ND	ND	19	
		8/11/2015	1:17:00 PM	720	ND	ND	334	ND	ND	42	ND	ND	3	366	ND	5,110	5	ND	ND	ND	2,910	ND	ND	37,000	ND	ND	15	
8/13/2015	10:01:00 AM	257	NS	NS	NS	NS	NS	48	NS	NS	NS	148	NS	6,480	NS	NS	NS	NS	2,870	NS	NS	42,500	NS	NS	NS			
4953990	San Juan R @ Town of Montezuma	8/8/2015	2:54:00 PM	136	ND	ND	223	ND	ND	72	ND	ND	3	ND	ND	9,920	ND	ND	3	ND	3,840	ND	ND	43,500	ND	ND	21	
		8/10/2015	10:13:00 AM	218	ND	ND	262	ND	ND	50	ND	ND	3	144	ND	7,700	3	ND	2	ND	2,690	ND	ND	32,100	ND	ND	17	
		8/10/2015	2:58:00 PM	ND	ND	ND	200	ND	ND	49	ND	ND	2	ND	ND	7,350	ND	ND	2	ND	2,590	ND	ND	31,800	ND	ND	15	
		8/11/2015	9:44:00 AM	462	ND	ND	314	ND	ND	45	ND	ND	3	227	ND	6,490	3	ND	ND	ND	2,640	ND	ND	37,100	ND	ND	13	
		8/11/2015	2:20:00 PM	1,400	ND	ND	298	ND	ND	45	ND	ND	3	668	ND	6,570	10	ND	ND	ND	2,960	ND	ND	38,300	ND	ND	14	
		8/13/2015	4:46:00 PM	330	ND	ND	240	ND	ND	49	ND	ND	4	192	ND	8,080	5	ND	ND	ND	2,620	ND	ND	32,900	ND	ND	33	
4953250	San Juan R @ Sand Island	8/8/2015	4:19:00 PM	214	ND	ND	294	ND	ND	74	ND	ND	4	104	ND	9,240	3	ND	3	ND	4,110	ND	ND	51,200	ND	ND	19	
		8/10/2015	11:15:00 AM	124	ND	ND	192	ND	ND	53	ND	ND	2	ND	ND	8,400	ND	ND	2	ND	2,860	ND	ND	28,400	ND	ND	14	
		8/10/2015	3:58:00 PM	108	ND	ND	184	ND	ND	48	ND	ND	ND	ND	ND	7,830	ND	ND	2	ND	2,670	ND	ND	30,600	ND	ND	13	
		8/11/2015	10:53:00 AM	684	ND	ND	278	ND	ND	46	ND	ND	3	328	ND	6,930	4	ND	ND	ND	2,720	ND	ND	36,800	ND	ND	14	
		8/11/2015	3:01:00 PM	158	ND	ND	251	ND	ND	45	ND	ND	3	ND	ND	6,650	ND	ND	ND	2,760	ND	ND	36,600	ND	ND	15		
		8/13/2015	11:28:00 AM	509	ND	ND	156	ND	ND	54	ND	ND	3	275	ND	8,210	9	ND	ND	ND	2,960	ND	ND	29,200	ND	ND	20	
4953000	San Juan R @ Mexican Hat US163 Xing	8/8/2015	5:40:00 PM	264	ND	ND	308	ND	ND	49	ND	ND	4	144	ND	5,750	3	ND	3	ND	4,150	ND	ND	62,600	ND	ND	14	
		8/10/2015	11:53:00 AM	325	ND	ND	299	ND	ND	45	ND	ND	3	140	ND	7,840	3	ND	2	ND	3,410	ND	ND	43,600	ND	8	18	
		8/10/2015	4:44:00 PM	149	ND	ND	265	ND	ND	44	ND	ND	2	ND	ND	7,870	ND	ND	3	ND	3,350	ND	ND	41,900	ND	7	19	
		8/11/2015	11:31:00 AM	907	ND	ND	391	ND	ND	37	ND	ND	3	382	ND	6,720	5	ND	2	ND	3,290	ND	ND	51,300	ND	8	12	
		8/11/2015	3:43:00 PM	1,790	ND	ND	445	ND	ND	44	ND	ND	5	787	ND	7,190	12	ND	ND	ND	3,110	ND	ND	41,400	ND	5	17	
		8/13/2015	12:05:00 PM	293	ND	2	201	ND	ND	43	ND	ND	3	143	ND	7,210	4	ND	2	ND	3,300	ND	ND	44,400	ND	7	20	
4952940	San Juan R @ Clay Hills	8/13/2015	2:42:00 PM	643	NS	NS	NS	NS	NS	52	NS	NS	NS	388	NS	7,500	NS	NS	NS	3,090	NS	NS	47,000	NS	NS	NS		
	No Exceedence		Prior to Plume Arrival																									
	Above Screening Level		Estimated Plume Arrival																									
			Post Plume Arrival																									

Most metals were screened against two different standards: the acute criterion that established thresholds that should not be exceeded to protect organisms from short term exposure, and the chronic criterion that protects against long-term exposure. The acute criterion is most relevant to the immediate threat of the plume to fish and wildlife.

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One important caveat with respect to interpreting the results is that the criteria have not been adjusted for pH or hardness. Given current conditions in the San Juan River, most metals criteria will become less stringent once these adjustments are made, so these results reflect a worst-case scenario. DEQ will update the table with these adjustments tomorrow.

Based on these results, aluminum is the only metal that is of potential threat to fish and wildlife. With one exception, aluminum concentrations do not exceed the acute criterion. The aluminum concentrations were equally high before and after the presence of the plume at the sample locations.

Overall, based on results received so far, DEQ concludes that any elevated concentration in metals that were caused from the mine release plume is not sufficiently high to threaten fish and wildlife.

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