#### **Screening Values**

<u>Screening values</u> 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, <u>EPA Regional Screening Levels (RSLs)</u> 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 <u>EPA's Guidelines for the Reuse of Waters for Irrigation</u>. 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.

			D. I	t- W CV (-1)		Irrigation Waters	(ug/L) [NAS, 1972]	Uta	The state of the s		or San Juan R	iver
			Health-Based	ring Water CV (ppb)				1C	3B	issolved a	metals]	
Analyte	CAS#	Units	Comparison Value for Water Ingestion (CV) [Total Metals]	CV Type and Source	Livestock Water (ug/L)	Long-Term	Short-Term	(Domestic)	(warm water fish) [1-hour]	(warm water fish) [4-day]	(agriculture)	·
Hardness	-	mg/L			180 mg/L (UA)		8					Hardness
Aluminum	7429-90-5	µg/L	10,000	Child Intermediate EMEG	5,000 (NAS)	5,000	20,000		750	87		Aluminum
Antimony	7440-36-0	µg/L	4	Child RMEG	No Data Available	No Data Available	No Data Available					Antimony
Arsenic	7440-38-2	µg/L	3	Child RMEG & Chronic EMEG	200 (NAS)	100	2,000	10	340	150	100	Arsenic
Barium	7440-39-3	µg/L	2,000	Child Intermediate EMEG	No Data Available	No Data Available	No Data Available	1000	3		5	Barium
Beryllium	7440-41-7	µg/L	20	Child RMEG & Chronic EMEG	No Data Available	No Data Available	No Data Available	<4			(	Beryllium
Cadmium	7440-43-9	µg/L	5	Child Intermediate EMEG	50 (NAS)	10	50	10	2	0.25	10	Cadmium
Calcium	7440-70-2	µg/L	-	No CVs available	500,000 (UA)	No Data Available	No Data Available					Calcium
Chromium	7440-47-3	µg/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	µg/L	100	Child Intermediate EMEG	1,000 (NAS)	50	5,000					Cobalt
Copper	7440-50-8	µg/L	100	Child Intermediate EMEG	500 (NAS)	200	5,000		13	9	200	Copper
	7439-89-6		14000	Chiper	Limit Not Considered	5 000	20.000		1000	1000		
	7439-89-0	1.10	14,000	Child RSL, non-cancer	Necessary (NAS)	5,000	20,000	45	1000	1000		Iron Lead
	7.37.75.13.55.15.	10		Child non-carcinogenic RSL	100 (NAS)	15.RSIEVSII	(** (** ******************************	15	65	2.5	100	
Magnesium	/439-95-4	µg/L		No CVs available	250,000 (UA)	No Data Available	No Data Available					Magnesium
Manganese	7439-96-5	μg/L	500	Child RMEG	Limit Not Considered Necessary (NAS)	200	10,000					Manganese
Molyebdenum	7439-98-7	μg/L	50	Child RMEG	No Data Available	10	50					Molyebdem
Nickel	7440-02-0	µg/L	200	Child RMEG	No Data Available	200	2,000		468	52		Nickel
Potassium	7440-22-4	µg/L	×	No CVs available	No Data Available	No Data Available	No Data Available					Potassium
Selenium	7782-49-2	µg/L	50	Child RMEG	50 (NAS)	20	20	50	18.4	4.6	50	Selenium
Silver	7440-22-4	µg/L	50	Child RMEG	No Data Available	No Data Available	No Data Available	50	1.6			Silver
Sodium	7440-23-5	µg/L		No CVs available	1,000,000 (UA)	No Data Available	No Data Available		ĵ			Sodium
Thallium	7440-28-0	μg/L	0.2	Child non-carcinogenic RSL	No Data Available	No Data Available	No Data Available					Thallium
Vanadium	7440-62-2	µg/L	100	Child Intermediate EMEG	100 (NAS)	100	1,000					Vanadium
Zinc	7440-66-6	µg/L	3,000	Child Intermediate EMEG	25,000 (NAS)	2,000	10,000		120	120		Zinc
Mercury	7439-97-6	µg/L	0.63	Child non-carcinogenic RSL, elemental Hg, µg/L	10 (NAS)	No Data Available	No Data Available	2	-	0.012		Mercury
TDS		mg/L	33350		1200 (Utah)		000,000 (NAS)					
					6.5-9 (Utah)		(NAS)					

### **Drinking Water - Total Metals**

				Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Molyebdenum	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc
	Health Based Comparison Va	lues for Wa	ter Ingestion	10,000	4	3	2,000	20	5	(blank)	60	10	00	14,000	15	(blank)	500	0.63	50	200	(blank)	5	0	(blank)	0.2	100	3,000
Monitoring		Collection		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ua/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
Location	Site Description	Date	Time			_		_		_	_			_		_	_			_	_				_		_
		8/8/2015	1:23 PM	47,400	ND	12.5		_		336			41.4	24,800	44.5	56,300	2,320	ND	ND	40.5	12,200	ND	ND	38,600	ND	61.2	
		8/9/2015	12:02 PM	33,900	ND	12.3		_	0.907	108	17.4		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			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		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		_	0.632	78.8	15.5	14.7	49.7	26,500	_	15,300	887	ND	ND	18.4	7,180	ND	ND	29,500	ND	41.5	137
4954000	San Juan R @ US160 Xing in	8/10/2015 8/10/2015	9:11 AM 2:06 PM	39,900	ND	11	1,730			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
4554000	co	8/11/2015	8:50 AM	43,700	ND	12.3	889	_	0.884	86.7	23.7 29.5	25.4	69.7	39,100	_	20,100	1,390	ND 0.407	ND	30.8	8,890	ND	ND	38,500	ND	53.4	897
		8/11/2015	1:17 PM	77,000	ND ND	19.9 14.2			1.2 0.916	109 95	29.5	37	76.7	54,800 40,300	_	24,900 20,000	1,930 1,440	0.187 ND	ND ND	39.4 29.6	11,800	ND ND	ND ND	42,900 37,400	ND ND	69.4 51.8	223 159
		8/12/2015	9:50:00 AM	56,900 31,100	ND	11.1	766		0.905	164	16.1	18.6	43.7	22,600	47.4	24,700	1,440	ND	ND	28.9	9,650 7,900	ND	ND	32,700	ND	43.7	131
		8/12/2015	2:04:00 PM	28,500	ND	9.21	683	_	0.641	146	13.2	14.5	34.3	18,100	35.8	24,700	1,130	ND	ND	20.9	7,370	ND	ND	28,700	ND	41.4	96.2
		8/13/2015	10:01:00 AM		ND	12	1.110		0.941	124		28.9	79.3	31,100	_	22,500	1,670	0.153	ND	28.9	8,540	ND	ND	45,000	ND	51	177
		8/14/2015	2:33:00 PM	44,300	0.413	_	- 1	_	0.984	114	23.7	27.1	70.5	39,100	64.3	22,400	1,360	ND	ND	34.5	10,400	ND	ND	54,800	ND	60	197
		8/8/2015	2:54 PM	67,300	ND		1,590	_	2.49	390		41.1	82.4	50,400	_	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		_	0.707	93.7	17.3	18.3	56.4	29,700	_	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		1,700		0.881	97.1	22.1	23.2	_	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	_		0.998	99.7		25.1	_	40,200	_	22,500	1,410	ND	ND	29.3	9,630	ND	ND	36,900	ND	55.2	166
4953990	San Juan R @ Town of	8/11/2015	2:20 PM	54,700	ND	15	1,060	5.16		102	24.2	29.1	_	44,700	70.2	24,000	1,570	ND	ND	32.4	9,470	ND	ND	38,600	ND	58.4	183
1000000	Montezuma	8/12/2015	10:37:00 AM		ND	10.2			0.855	108	14.7	19.5	51.7	24,400	_	18,400	1,190	ND	ND	22.7	7,040	ND	ND	33,000	ND	38.6	131
		8/12/2015	2:57:00 PM	35,000	ND	10.7		_	0.916	130	17	19.5	51.4	26,500	_	20,500	1,130	ND	ND	27.7	8,290	ND	ND	34,500	ND	40.8	144
		8/13/2015	4:46:00 PM	23,700	ND	10.1	722	_	0.708	127	9.33	17.3	47.9	17,800	44.3	20,800	1,120	ND	ND	19.3	6,730	ND	ND	34,200	ND	34.2	109
		8/14/2015	9:55:00 AM	62,000	ND	16	1,400	7.03		153	29.9	39.8	106	54,300	_	32,900	2,060	0.247	ND	48.4	12,700	ND	ND	59,500	ND	76.4	265
		8/8/2015	4:19 PM	55,700	ND		1,090	_		252		34.3	80.8	47,800	_	33,800	1,700	0.158	ND	65.8	13,300	_	ND	58,800	ND	64.7	242
		8/10/2015	11:15 AM	27,000	ND		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	_	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	_	3.87		98.9		22.6	61.6	37,000	_	22,200	1,310	ND	ND	27.7	9,340	ND	ND	36,400	ND	52.7	167
4953250	San Juan R @ Sand Island	8/11/2015	3:01 PM	48,700	ND	12	900	4.23		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
		8/12/2015	11:12:00 AM		ND	14.9		_	0.94	109	20	27.9	76.7	34,600	67.4	21,900	1,670	ND	ND	30.3	8,430	ND	ND	38,400	ND	51.4	176
		8/12/2015	5:06:00 PM	30,600	ND	10.3		_	0.712	90.9	13.6	19.2	53.4	23,700	_	17,300	1,190	ND	ND	21.7	6,840	ND	ND	33,200	ND	38	126
		8/13/2015	11:28:00 AM	-	ND	8.77	661	_	0.744	168	8.79	13.6	33.6	12,900		22,800	1,190	ND	ND	18.8	6,830	ND	ND	31,600	ND	32.9	92.7
		8/14/2015	11:02:00 AM		ND		1,460	_		148		41.8	116	58,200	96	35,600	2,160	0.27	ND	49.2	12,500	ND	ND	55,700	ND	77.4	288
		8/8/2015	5:40 PM	63,400	ND		1,540	_		167		41.5	103	51,900	_	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		2,300	7.61		314	43.1	40.2	72.8	43,400		57,000	3,230	ND	ND	70.9	19,700		ND	46,100	ND	80	843
		8/10/2015	4:44 PM	80,600	ND	22.7				254		32.8	69.8	38,100	171	49,400	2,430	ND	ND	58.4	18,100		ND	52,600	ND	83.3	815
		8/11/2015	11:31 AM	111,000	ND	22.2		8.13		259	43.5	38.5	_	47,300	102	57,400	2,710	0.175	ND	64.6	22,200	ND	ND	57,800	ND	88.4	209
4953000	San Juan R @ Mexican Hat	8/11/2015	3:43 PM	56,400	0.345					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
	US163 Xing	8/12/2015	12:09:00 PM	54,700	ND		1,350	_		186		33.2	80.8	37,500	_		2,170	ND	ND	38.9	10,700		ND	44,400	ND	63.7	190
		8/12/2015	5:50:00 PM	71,400	ND		2,010	8.74		282	28.5	40.1	82.4	38,600	101	47,900	3,070	0.18	ND	51.7	14,000	ND	ND	55,600	ND	78.5	210
		8/13/2015	12:05:00 PM		ND		1,450			246	18.3	25	49.5	21,600	62.5	41,900	1,840	ND	ND	39.2	12,500	ND	ND	48,800	ND	66.1	145
		8/14/2015	11:43:00 AM		ND		4,320	15.2		720	51.1	59.6	84.2	46,900	166	-	5,630	0.372	ND	111	30,400	-	ND	78,600	ND	115	270
10500.10	B 1 B 0 0 1 11	8/13/2015	2:42:00 PM	42,900	ND	_	1,760			355	15.6		_		83.4	49,700		0.185	ND	35.7	11,500		ND	52,000	ND	64.3	162
4952940	San Juan R @ Clay Hills	8/14/2015	2:33:00 PM		ND		2,040			422		35.1	59.7	34,700	89.2	63,400		0.168	ND	62.9	17,300	ND	ND	59,700	ND	84.5	
	No Exceedence		Prior to Plun											.,. 50			,,				. ,			-,-			
	Above Screening Level		Estimated P			1																					
			Post Plume			1																					

### **Domestic Source Water - Dissolved Metals**

				Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Molyebdenum	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc
	<u> </u>		tic Source Criteria	(blanl	()	10	1000	4	10	(blank)	50		(blank)		15	(blar	ık)	2	-	blank)	1	51	)		(blar	ık)	
Monitoring	Cita Danasinsian	Collection	C-Uti Ti	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
Location	Site Description	<b>Date</b> 8/8/2015	Collection Time 1:23:00 PM	217	ND	ND	222	ND	ND	51.5	ND	ND	2.24	ND	ND	7,850	2.94	ND	ND	ND	2.960	ND	ND	32,200		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	6.860	2.69	ND	2.01	ND	2,860	ND	ND	28,500	ND	4.00 ND	18.5
		8/9/2015	9:02:00 PM	329	ND	ND	341	ND	ND	46	ND	ND	3.47	198	ND	6,300	4.14	ND	ND	ND	2,380	ND		30,000	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	6,010	4.14 ND	ND	2.03	ND	2,510	ND		34,100	ND	ND	19.7
		8/10/2015	2:06:00 PM	1,050	ND	ND	220	ND	ND	44.2	ND	ND	3.35	732	ND	6,020	12.8	ND	ND		2,720	ND		35,100	ND	ND	18
4954000	San Juan R @ US160	8/11/2015	8:50:00 AM	3,290	ND	ND	451	ND	ND	39.8	ND	ND	4.85	1520	ND	5,050	19	ND	ND	ND	3,000	ND		43,700	ND	ND	19.1
4004000	Xing in CO	8/11/2015	1:17:00 PM	720	ND	ND	334	ND	ND	41.7	ND	ND	3.03	366	ND	5,110	5.1	ND	ND		2,910	ND		37,000	ND	ND	14.9
		8/12/2015	9:50:00 AM	104	0.59	ND	178	ND	ND	52.1	ND	ND	2.39	ND	ND	7,200	ND	ND	ND		2,790	ND		30,300	ND	ND	14.8
		8/12/2015	2:04:00 PM	155	0.55	ND	151	ND	ND	47.9	ND	ND	2.61	ND	ND	6.970	ND	ND	ND		2,740	ND		27,300	ND	ND	16.5
		8/13/2015	10:01:00 AM	257	ND	ND	213	ND	ND	48.3	ND	ND	3.67	148	ND	6,480	3.16	ND	ND	ND	2,870	ND		42,500	ND	ND	21.9
		8/14/2015	2:33:00 PM	ND	ND	ND	72.3	ND	ND	53.4	ND	ND	3.86	ND	ND	6,610	ND	ND	3.65		3,660	ND		52,400	ND	ND	ND
		8/8/2015	2:54:00 PM	136	ND	ND	223	ND	ND	71.5	ND	ND	2.72	ND	ND	9.920	ND	ND	2.62	3.14 ND	3,840	ND		43,500	ND	ND	21
		8/10/2015	10:13:00 AM	218	ND	ND	262	ND	ND	49.8	ND	ND	3.24	144	ND	7.700	3.22	ND	2.03	ND	2.690	ND		32,100	ND	ND	17.3
	San Juan R @ Town of Montezuma	8/10/2015	2:58:00 PM	ND	ND	ND	200	ND	ND	48.6	ND	ND	2.48	ND	ND	7,700	ND	ND	2.32	ND	2,590	ND		31,800	ND	ND	14.6
		8/11/2015	9:44:00 AM	462	ND	ND	314	ND	ND	44.6	ND	ND	2.46	227	ND	6.490	3.31	ND	ND	ND	2,640	ND		37,100	ND	ND	12.9
4953990		8/11/2015	2:20:00 PM	1,400	ND	ND	298	ND	ND	44.8	ND	ND	3.47	668	ND		9.99	ND	ND	ND	2,960	ND		38,300	ND	ND	14.3
4000000		8/12/2015	10:37:00 AM	ND	0.8	ND	202	ND	ND	48.3	ND	ND	2.49	ND	ND	7.230	9.99 ND	ND	ND	ND	2,860	ND		31,900	ND	ND	13.5
		8/12/2015	2:57:00 PM	375	0.82	ND	176	ND	ND	48.9	ND	ND	4.34	296	ND	7,500	2.28	ND	ND		2,840	ND		33,800	ND	ND	15.9
		8/13/2015	4:46:00 PM	330	ND	ND	240	ND	ND	49.4	ND	ND	3.75	192	ND	8.080	5.3	ND	ND	ND	2,640	ND		32,900	ND	ND	32.7
		8/14/2015	9:55:00 AM	ND	ND	ND	85.1	ND	ND	55.1	ND	ND	3.79	ND	ND	7,810	ND	ND	2.84		3,510	ND		53,000	ND	ND	ND
		8/8/2015	4:19:00 PM	214	ND	ND	294	ND	ND	73.7	ND	ND	3.86	104	ND	9.240	2.55	ND	3.3		4,110			51,200	ND	ND	19
		8/10/2015	11:15:00 AM	124	ND	ND	192	ND	ND	53.2	ND	ND	2.07	ND	ND	8,400	2.55 ND	ND	2.38	ND	2,860	ND		28,400	ND	ND	13.7
		8/10/2015	3:58:00 PM	108	ND	ND	184	ND	ND	48.4	ND	ND	ND	ND	ND	7,830	ND	ND	2.26		2,670	ND		30,600	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	6,930	4.12	ND	ND		2,720	ND		36,800	ND	ND	13.7
4953250	  San Juan R @ Sand Island		3:01:00 PM	158	ND	ND	251	ND	ND	45.3	ND	ND	2.69	ND	ND	6,650	ND ND	ND	ND		2,760	ND		36,600	ND	ND	14.9
4000200	Can ocan re & Cana lolana	8/12/2015	11:12:00 AM	623	1.08	ND	205	ND	ND	46.8	ND	ND	3.44	310	ND	6,980	4.47	ND	ND	ND	2,910	ND		37,800	ND	ND	14.5
		8/12/2015	5:06:00 PM	605	1.78	ND	260	ND	ND	46.6	ND	ND	2.98	314	ND		5.16	ND	ND		2,790	ND		33,500	ND	ND	13.2
		8/13/2015	11:28:00 AM	509	ND	ND	156	ND	ND	53.6	ND	ND	3.1	275	ND	8,210	8.9	ND	ND	ND	2,960	ND		29,200	ND	ND	20.4
		8/14/2015	11:02:00 AM	ND	ND	2.03	78.6	ND	ND	53.2	ND	ND	3.31	ND	ND	8,260	7.02	ND	5.31		3,270	ND		49,500		5.88	ND
		8/8/2015	5:40:00 PM	264	ND	ND	308	ND	ND	49.2	ND	ND	3.95	144	ND	5,750	2.81	ND	3.15		4,150	ND		62,600	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	7.840	2.55	ND	2.43		3,410			43,600	_	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	7,870	ND	ND	2.63	ND	3,350	ND		41,900		6.67	18.5
4953000		8/11/2015	11:31:00 AM	907	ND	ND	391	ND	ND	37.2	ND	ND	3.13	382	ND	6,720	4.55	ND	2.46	ND	3,290	ND		51,300		7.82	12.4
	San Juan R @ Mexican	8/11/2015	3:43:00 PM	1,790	ND	ND	445	ND	ND	43.6	ND	ND	5.28	787	ND	7,190	11.6	ND	ND	ND	3,110	ND		41,400	ND	4.55	17.4
	Hat US163 Xing	8/12/2015	12:09:00 PM	125	1.41	ND	245	ND	ND	59.8	ND	ND	3.34	ND	ND	7,130	ND	ND	2.27	ND	3,090	ND		42,100	ND	4.55 ND	14.2
		8/12/2015	5:50:00 PM	105	2.23	ND	185	ND	ND	48.9	ND	ND	3.19	ND	ND	7,220	ND	ND	2.64	ND	3,160	ND		48,700	ND	ND	16.1
		8/13/2015	12:05:00 PM	293	ND	2.06	201	ND	ND	42.6	ND	ND	3.46	143	ND	7,220	3.54	ND	2.33	ND	3,300	ND		44,400		7.13	19.8
		8/14/2015	11:43:00 AM	120	ND	2.33	157	ND	ND	46.2	ND	ND	5.86	ND	ND	10,500		ND	5.87	ND	4,290	ND		68,000		8.06	ND
		8/13/2015	2:42:00 PM	643	ND	2.33 ND	411	ND	ND	52.3	ND	ND	4.36	388	ND	7.500	13.8	ND	2.16	ND	3.090	ND	ND	47,000	ND	4.99	19.2
4952940	San Juan R @ Clay Hills	8/14/2015	2:33:00 PM	ND	ND	ND	121	ND	ND	51.1	ND	ND	3.6	ND	ND	8,230	ND	ND	3.3	ND	3,690	ND		49,800		5.38	ND
		3/14/2013	2.33.30 1 191	ND	IND	ND	121	IND	IND	31.1	IND	IND	5.0	ND	שאו	10,200	ND	ND	J.J	ND	0.000	IND	TYD	45,000	LIND	0.00	ND

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 <a href="Utah's water quality standards">Utah's water quality standards</a> protective of source water for domestic use.

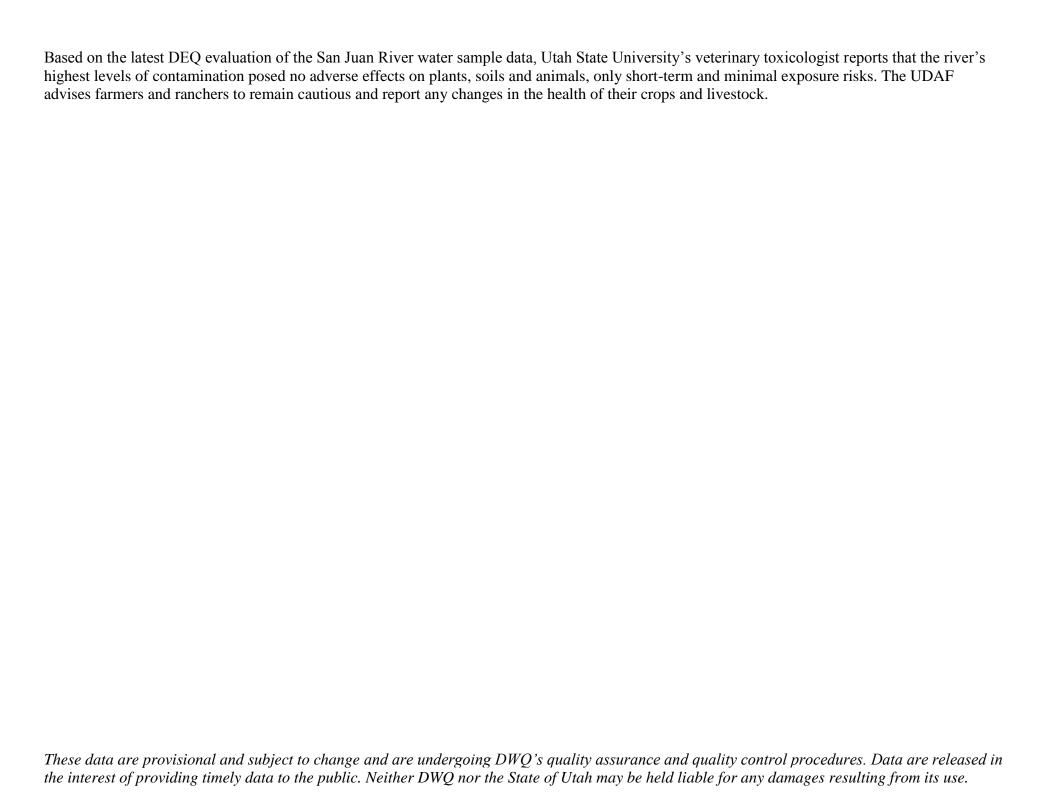
For drinking water quality, it is best to use the total metals analysis result to determine how safe the water is to drink because the MCL is based on the total metals analysis and the total metals results are considered to be more protective of public health.

The <u>Water Quality Interpretation Tool</u> 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.

## **Agricultural Uses**

				Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Molyebdenum	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Sulfphate	Total Dissolved Solids
			Livestock Water		(blank)		<u> </u>		50	500		000		(blank)		250,000	, ,	10		(blanl			(blank)	-,,	(blank)			(blank)	
			t-term NAS, 1972		(blank)		<u> </u>		$\overline{}$	(blank)	100	50	200		000	(blank)		(blank)	10	_	(blank)			(blank)				, ,	500,000
			g-term NAS, 1972						50	(blank)	1,000	5,0				(blank)	10,000	, ,	50	2,000	(blank)			(blank)		1000	10,000	(bl	lank)
	Uta	h DWQ Agricultu	ral Use Criteria 4	(bl	ank)	100	(bla	ank)	10	(blank)	100	(blank)	200	(blank)	100			(blan	k)			50			(blank)				1,200
Monitoring Location	Site Description	Collection Date	Collection Time	ug/L	ug/L	ug/L	ug/L	ug/L  ι	ıg/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
		8/8/2015	1:23:00 PM	217	ND	ND	222	ND	ND	51.5	ND	ND	2.24	ND	ND	7,850	2.94	ND	ND	ND	2,960	ND	ND	32,200	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		ND	6,860	2.69	ND	2.01	ND	2,610	ND	ND	28,500	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	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	99.1	410
		8/9/2015	9:02:00 PM	329	ND	ND	341		ND	46	ND	ND	3.47		ND	6,300	4.14	ND	ND	ND	2,380	ND	ND	30,000	ND	ND	15.4	97.3	430
4954000	San Juan R @ US160 Xing	8/10/2015	9:11:00 AM	172	ND	ND	233		ND	44.6	ND	ND	3.21	103	ND	6,010	ND	ND	2.03	ND	2,510	ND	ND	34,100	ND	ND	19.7	99.7	380
4954000	in CO	8/10/2015 8/11/2015	2:06:00 PM 8:50:00 AM	1,050 3,290	ND ND	ND ND	220 451	_	ND ND	44.2 39.8	ND ND	ND ND	3.35 4.85		ND ND	6,020 5.050	12.8 19	ND ND	ND ND	ND ND	2,720 3.000	ND ND	ND ND	35,100 43,700	ND ND	ND ND	18 19.1	102 100	490 380
		8/11/2015	1:17:00 PM	720	ND	ND	334	_	ND	41.7	ND	ND	3.03		ND	5,110	5.1	ND	ND	ND	2,910	ND	ND	45,700 37,000	ND	ND	14.9	99.2	290
		8/12/2015	9:50:00 AM	104	0.586	ND	178		ND	52.1	ND	ND	2.39		ND	7,200	ND ND	ND	ND	ND	2,790	ND	ND	30,300	ND	ND	14.8	118	620
		8/12/2015	2:04:00 PM	155	0.548	ND	151	_	ND	47.9	ND	ND	2.61		ND	6,970	ND	ND	ND	ND	2,740	ND	ND	27,300	ND	ND	16.5	102	450
		8/13/2015	10:01:00 AM	257	ND	ND	213		ND	48.3	ND	ND	3.67	148	ND	6.480	3.16	ND	ND	ND	2.870	ND	ND	42,500	ND	ND	21.9	121	450
		8/14/2015	2:33:00 PM	ND	ND	ND	72.3	_	ND	53.4	ND	ND	3.86		ND	6,610	ND	ND	3.65	3.14	3,660	ND	ND	52,400	ND	ND	ND	NS	NS
		8/8/2015	2:54:00 PM	136	ND	ND	223		ND	71.5	ND	ND	2.72		ND	9,920	ND	ND	2.62	ND	3,840	ND	ND	43,500	ND	ND	21	195	610
	San Juan R @ Town of Montezuma	8/10/2015	10:13:00 AM	218	ND	ND	262	ND	ND	49.8	ND	ND	3.24	144	ND	7,700	3.22	ND	2.03	ND	2,690	ND	ND	32,100	ND	ND	17.3	115	610
		8/10/2015	2:58:00 PM	ND	ND	ND	200	ND	ND	48.6	ND	ND	2.48	ND	ND	7,350	ND	ND	2.32	ND	2,590	ND	ND	31,800	ND	ND	14.6	108	460
		8/11/2015	9:44:00 AM	462	ND	ND	314	ND	ND	44.6	ND	ND	2.66	227	ND	6,490	3.31	ND	ND	ND	2,640	ND	ND	37,100	ND	ND	12.9	110	460
4953990		8/11/2015	2:20:00 PM	1,400	ND	ND	298	_	ND	44.8	ND	ND	3.47		ND	6,570	9.99	ND	ND	ND	2,960	ND	ND	38,300	ND	ND	14.3	110	620
		8/12/2015	10:37:00 AM	ND	0.799	ND	202	_	ND	48.3	ND	ND	2.49		ND	7,230	ND	ND	ND	ND	2,670	ND	ND	31,900	ND	ND	13.5	114	560
		8/12/2015	2:57:00 PM	375	0.822	ND	176		ND	48.9	ND	ND	4.34		ND	7,500	2.28	ND	ND	ND	2,840	ND	ND	33,800	ND	ND	15.9	123	460
		8/13/2015	4:46:00 PM	330	ND	ND	240	_	ND	49.4	ND	ND	3.75		ND	8,080	5.3	ND	ND	ND	2,620	ND	ND	32,900	ND	ND	32.7	125	370
		8/14/2015	9:55:00 AM	ND	ND	ND	85.1	_	ND	55.1	ND	ND	3.79		ND	7,810	ND	ND	2.84	ND	3,510	ND	ND	53,000	ND	ND	ND	NS	NS
		8/8/2015 8/10/2015	4:19:00 PM 11:15:00 AM	214 124	ND	ND ND	294 192	_	ND	73.7 53.2	ND ND	ND ND	3.86		ND ND	9,240	2.55 ND	ND ND	3.3 2.38	ND ND	4,110	ND ND	ND	51,200	ND ND	ND ND	19 13.7	226	640 370
		8/10/2015	3:58:00 PM	108	ND ND	ND	184		ND ND	48.4	ND	ND	ND	ND	ND	7,830	ND	ND	2.38	ND	2,860 2.670	ND	ND ND	28,400 30,600	ND	ND	13.7	124 118	490
		8/11/2015	10:53:00 AM	684	ND	ND	278		ND ND	45.8	ND	ND	2.87		ND	6,930	4.12	ND	2.26 ND	ND	2,720	ND	ND	36,800	ND	ND	13.7	114	390
4953250	San Juan R @ Sand Island	8/11/2015	3:01:00 PM	158	ND	ND	251	_	ND	45.3	ND	ND	2.69		ND	6,650	ND ND	ND	ND	ND	2,760	ND	ND	36,600	ND	ND	14.9	112	360
		8/12/2015	11:12:00 AM	623	1.08	ND	205	_	ND	46.8	ND	ND	3.44		ND	6,980	4.47	ND	ND	ND	2,910	ND	ND	37,800	ND	ND	14.5	112	450
		8/12/2015	5:06:00 PM	605	1.78	ND	260	_	ND	46.6	ND	ND	2.98		ND	7,070	5.16	ND	ND	ND	2,790	ND	ND	33,500	ND	ND	13.2	109	410
		8/13/2015	11:28:00 AM	509	ND	ND	156	ND	ND	53.6	ND	ND	3.1	275	ND	8,210	8.9	ND	ND	ND	2,960	ND	ND	29,200	ND	ND	20.4	121	450
		8/14/2015	11:02:00 AM	ND	ND	2.03	78.6	ND	ND	53.2	ND	ND	3.31	ND	ND	8,260	7.02	ND	5.31	2.38	3,270	ND	ND	49,500	ND	5.88	ND	NS	NS
		8/8/2015	5:40:00 PM	264	ND	ND	308	ND	ND	49.2	ND	ND	3.95	144	ND	5,750	2.81	ND	3.15	ND	4,150	ND	ND	62,600	ND	ND	14.2	154	730
		8/10/2015	11:53:00 AM	325	ND	ND	299	ND	ND	44.6	ND	ND	2.95	140	ND	7,840	2.55	ND	2.43	ND	3,410	ND	ND	43,600	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	7,870	ND	ND	2.63	ND	3,350	ND	ND	41,900	ND	6.67	18.5	132	660
	San Juan R @ Mexican Hat	8/11/2015	11:31:00 AM	907	ND	ND	391		ND	37.2	ND	ND	3.13		ND	6,720	4.55	ND	2.46		3,290	ND	ND	51,300	ND	7.82	12.4	117	980
4953000	US163 Xing	8/11/2015	3:43:00 PM	1,790	ND	ND	445		ND	43.6	ND	ND	5.28		ND	7,190	11.6	ND	ND	ND	3,110	ND	ND	41,400	ND	4.55	17.4	129	600
		8/12/2015	12:09:00 PM	125	1.41	ND	245	_	ND	59.8	ND	ND	3.34		ND	7,860	ND	ND	2.27	ND	3,090	ND	ND	42,100	ND	ND	14.2	157	450
		8/12/2015 8/13/2015	5:50:00 PM 12:05:00 PM	105	2.23	ND	185		ND	48.9	ND	ND	3.19		ND	7,220	ND 2.54	ND	2.64	ND	3,160	ND	ND	48,700	ND	ND 7.13	16.1	143	470
		8/13/2015	12:05:00 PM 11:43:00 AM	293 120	ND ND	2.06		_	ND ND	42.6 46.2	ND ND	ND ND	3.46 5.86	143 ND	ND ND	7,210	3.54 2.43	ND ND	2.33 5.87	ND ND	3,300 4,290	ND ND	ND ND	44,400 68,000	ND ND	7.13 8.06	19.8 ND	135 NS	490 NS
		8/13/2015	2:42:00 PM	643	ND ND	2.33 ND	411		ND ND	52.3	ND	ND ND	4.36	388	ND	7,500	13.8	ND ND	2.16	ND	3,090	ND	ND ND	47,000	ND ND	4.99	19.2	158	500
4952940	San Juan R @ Clay Hills	8/14/2015	2:33:00 PM	ND	ND	ND	121		ND	51.1	ND	ND	3.6	ND ND	ND	8,230	ND	ND	3.3	ND	3,690	ND	ND	49,800	ND	5.38	ND	NS	NS
		371472010	2.00.00 1 141	IND	IND	TAD	121	IND	14D	31.1	ND	IND	5.0	IND	IND	0,200	IND	IND	0.0	1 140	0,000	IND	140	40,000	IND	3.30	IND	140	1 140

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



# **Aquatic Life Uses**

Maintaing   Site Description   Cale					Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Molyebdenum	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc
Collection   Col		Utah Ad	uatic Life Use	e Criteria 1-hr	750		_	_ •	blank) 2 (		, ,	_										-		1.6				120
Coation   Site Description   Date   Site Description   Date   Site Description   Site D		Utah Aqu			87	(blank)	150	(bla	nk)	0.25	(blank)	74	(blank)	9	1,000	2.5	(blai	nk)	0.01	(blank)	52	(blank)	4.6		(bla	nk)		120
## 453000  ## 56300  ## 5630000  ## 5630000  ## 5630000  ## 5630000  ## 5630000  ## 5630000  ## 56300000  ## 5630000  ## 5630000  ## 5630000  ## 5630000  ## 5630000  ## 5630000  ## 5630000  ## 56300000  ## 56300000  ## 56300000  ## 563000000  ## 5630000000  ## 5630000000  ## 56300000000  ## 56300000000  ## 563000000000000000000000000000000000000	•	Sia- Danningian			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  ## 505200  ## 8062016   202200 PM   298   No. NO. 274   No.	Location	Site Description			217	ND	NID	222	ND	NID	- 50	NID	ND	2	ND	ND	7 050	2	NID	ND	NID	2.000	NID	ND	22.200	ND	Ε	15
## 495-3000  ***San Juan R @ US160 Xing in CO***  ***San Juan R @ San J														2				3										19
## 1954000   San Juan R @ US160 Xing in CO   CO   San Juan R @ US160 Xing in CO   San Juan R @ US160 Xing in CO   San Juan R @ US160 Xing in CO   San Juan R @ Sa									<del></del>					3	_			4			_							15
San Juan R @ US160 Xing in CO   San Juan R @ US160 Xing in C														3			_	ND			_	<del></del>				-		20
A953900  San Juan R @ Usited Xing in CO  San Juan R @ Usited Xing in CO  San Juan R @ Usited Xing in CO  San Juan R @ San Juan R & San Juan R @ San Juan R & San														3			_											18
## 149010   ## 149	4954000				<del>'</del>									5							_							19
## 8/12/2015   9:500 AM   104   1 N0   178   ND   ND   52   ND   ND   22   ND   ND   22   ND   ND		0												_	_						_					-		15
## 8/12/015   20-04/0 PM   156			8/12/2015	9:50:00 AM	104	1	ND	178	ND	ND		-	ND	2		ND	7,200	ND	ND	ND	ND		ND	ND	30,300	ND	ND	15
8/3/2016   10,010 0 AM   257   ND   ND   213   ND   ND   48   ND   ND   4,18   ND   6,840   3   ND   ND   0,287   ND   ND   ND   52,200   ND   ND   ND   ND   1,000   ND   ND   ND   1,000   ND   ND   ND   ND   ND   ND   ND			8/12/2015	2:04:00 PM	155	1	ND	151	ND	ND			ND	3	ND	ND	6,970	ND	ND	ND	ND	2,740	ND	ND	27,300	ND	ND	17
## 4953990  **San Juan R @ Town of Montezuma**  **Mark 22015**  **Ban Juan R @ Town of Montezuma**  **Mark 22015**  **Ban Juan R @ Town of Montezuma**  **Mark 22015**  **Ban Juan R @ Town of Montezuma**  **Mark 22015**  **Ban Juan R @ Town of Montezuma**  **Mark 22015**  **Ban Juan R @ Town of Montezuma**  **Mark 22015**  **Ban Juan R @ Town of Montezuma**  **Mark 22015**  **Ban Juan R @ Town of Montezuma**  **Mark 22015**  **Ban Juan R @ Town of Montezuma**  **Mark 22015**  **Ban Juan R @ Town of Montezuma**  **Mark 22015**  **Ban Juan R @ Town of Montezuma**  **Mark 22015**  **Ban Juan R @ Town of Montezuma**  **Mark 22015**  **			8/13/2015	10:01:00 AM	257	ND	ND	213	ND	ND	48	ND	ND	4	148	ND	6,480	3	ND	ND	ND	2,870	ND	ND	42,500	ND	ND	22
## 495390  **San Juan R @ Town of Montezuma**  **San Juan R @ Mexican Hat US163 Xing  **San Juan R @ Mexican Hat U			8/14/2015	2:33:00 PM	ND	ND	ND	72	ND	ND	53	ND	ND	4	ND	ND	6,610	ND	ND	4	3	3,660	ND	ND	52,400	ND	ND	ND
#963990  **San Juan R @ Town of Montezuma**  **Bar Juan R @ Sand Island**  **Bar Juan R @ Sand Island**  **Bar Juan R @ Mexican Hat US163 Xing**  **Bar Juan R @ Mexican Hat U			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
A953990 Page 14			8/10/2015	10:13:00 AM	218	ND	ND	262	ND	ND	50	ND	ND	3	144	ND	7,700	ω	ND	2	ND	2,690	ND	ND	32,100	ND	ND	17
## 4953990    San Juan R @ Identity   San Juan R @ Identity   San Juan R @ Sand Island   San Juan R @ San Juan R & San			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
## 3933990 Montezuma  ## A17/2016   10:37:00 AM   No   1   ND   202   ND   ND   A4   ND   ND   2   ND   ND   7,700   2   ND   ND   ND   2,840   ND   ND   33,800   ND   ND   ND   ND   33,800   ND   ND   ND   ND   33,800   ND   ND   ND   ND   34,800   ND   ND			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
## 8/12/2015   10/37/00 AM   ND   1   ND   202   ND   ND   48   ND   ND   2,2   ND   ND   ND   ND   ND   ND   2,6 70   ND   ND   ND   ND   ND   ND   ND   N	4953990			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				10:37:00 AM	ND	1	ND	202	ND	ND	48	ND	ND	2	ND	ND	7,230	ND	ND	ND	ND	2,670	ND	ND	31,900	ND	ND	14
8/14/2015   9:55:00 AM					_				ND					4				2			_		ND			-		16
## 4953250  ## 5000 PM														4			_	5										33
## 4953250  **San Juan R @ Sand Island**  **San Juan R @ Sand Island**  **B/10/2015**  **San Juan R @ Sand Island**  **San Juan R @ Mexican Hat US163 Xing**  **San Juan R @ Mexican Hat US1					_													ND			_							ND
## 4953250  **San Juan R @ Sand Island**  **San Juan R @ Mexican Hat US163 Xing**  **San Juan R @ Mexican Hat US163 Xing Xing Xing Xing Xing Xing Xing Xing									_								_	3			_					_		19
4953250 San Juan R @ Sand Island   8/11/2015					_									_							_	-,						14
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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.

One <u>important caveat</u> 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.