



UTAH DEPARTMENT of
ENVIRONMENTAL QUALITY

**WATER
QUALITY**

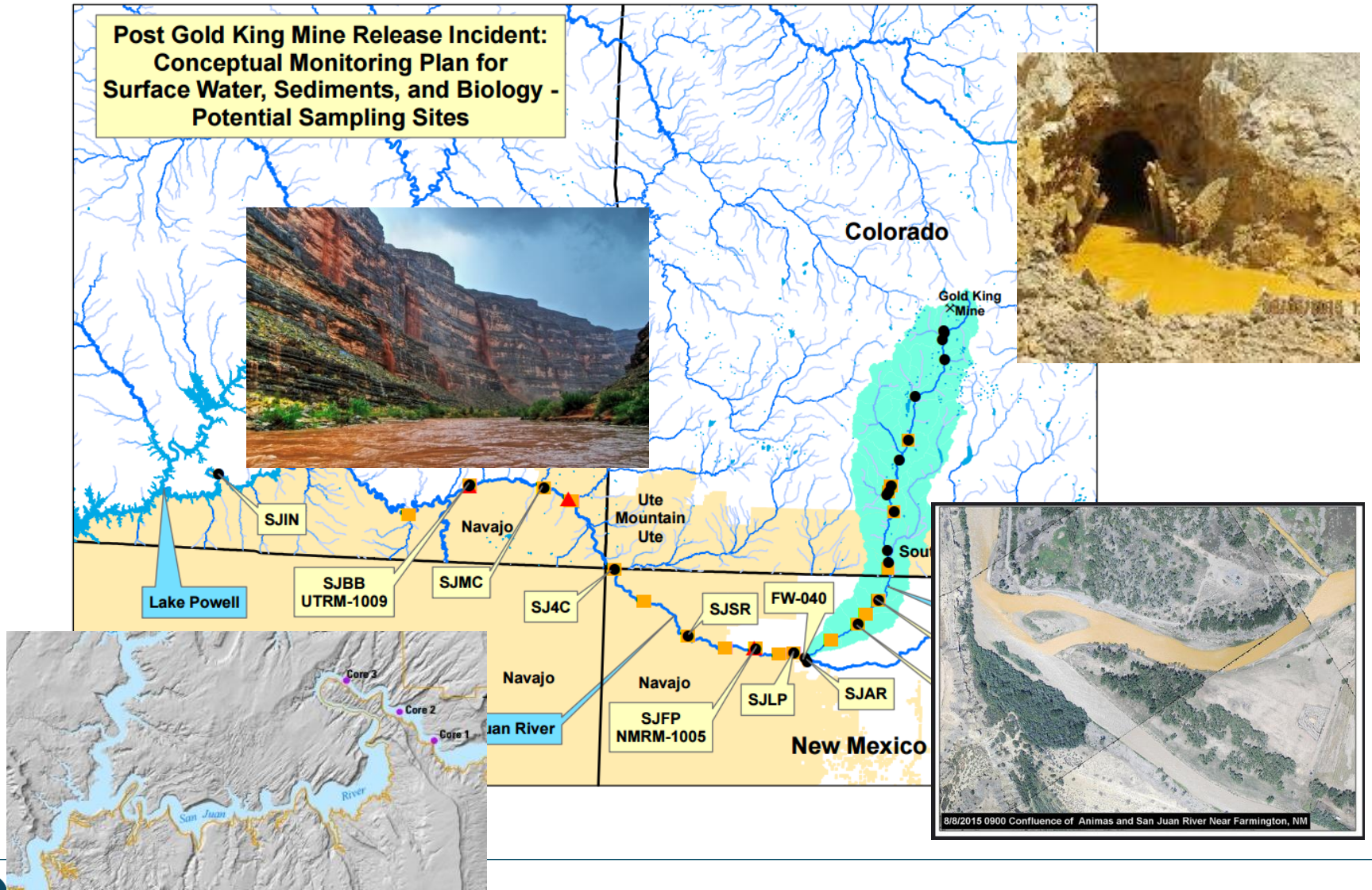
Abandoned and Legacy Mine Issues

Western States Water Council

June 24, 2021

Erica Brown Gaddis, PhD, Director

Gold King Mine Release – August 2015



Historic and ongoing discharge from Bonita Peak Mining District

- Estimated release of 8.6 million tons of tailings discharged to river system over life of the mines
- EPA estimates 5.5 million gallons per day of releases
- 1974 – 116,000 tons
- 1978 - 500 million gallon release



Figure 12.—Photograph taken on September 15, 2015, of drainage from the Silver Ledge Mine, which is located south of the Gold King Mine.



Figure 7.—Photograph showing the seepage outflow from the drain pipe at the American Tunnel at Gladstone, Colorado, as it appeared on September 3, 2015, with about 100 gpm of acid water flowing out.

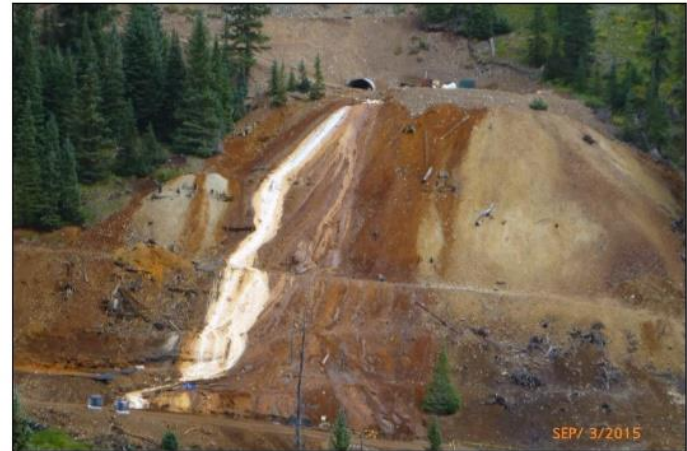
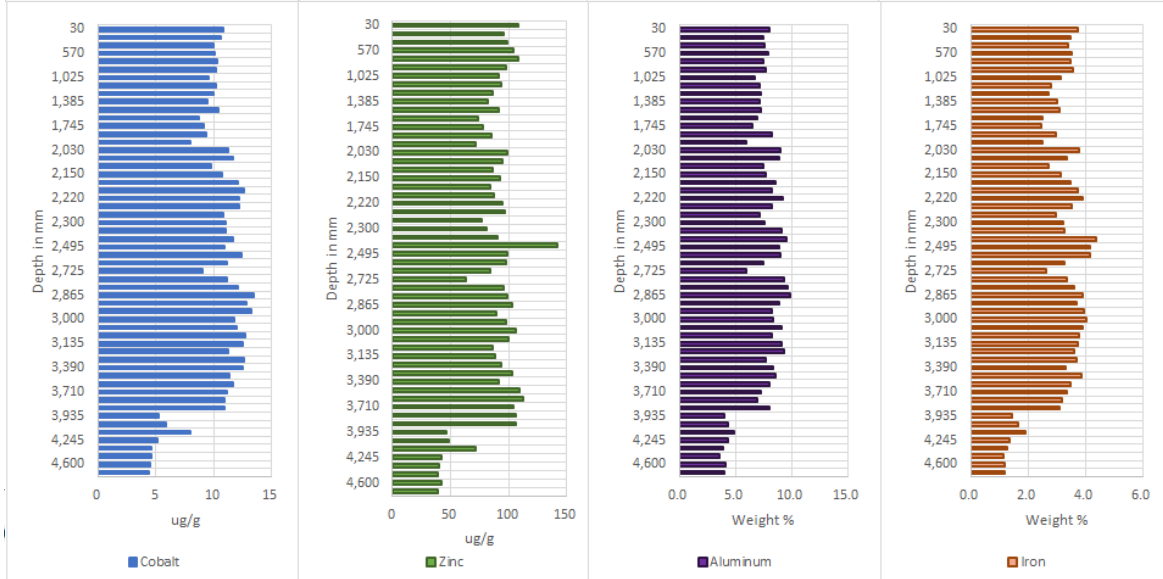
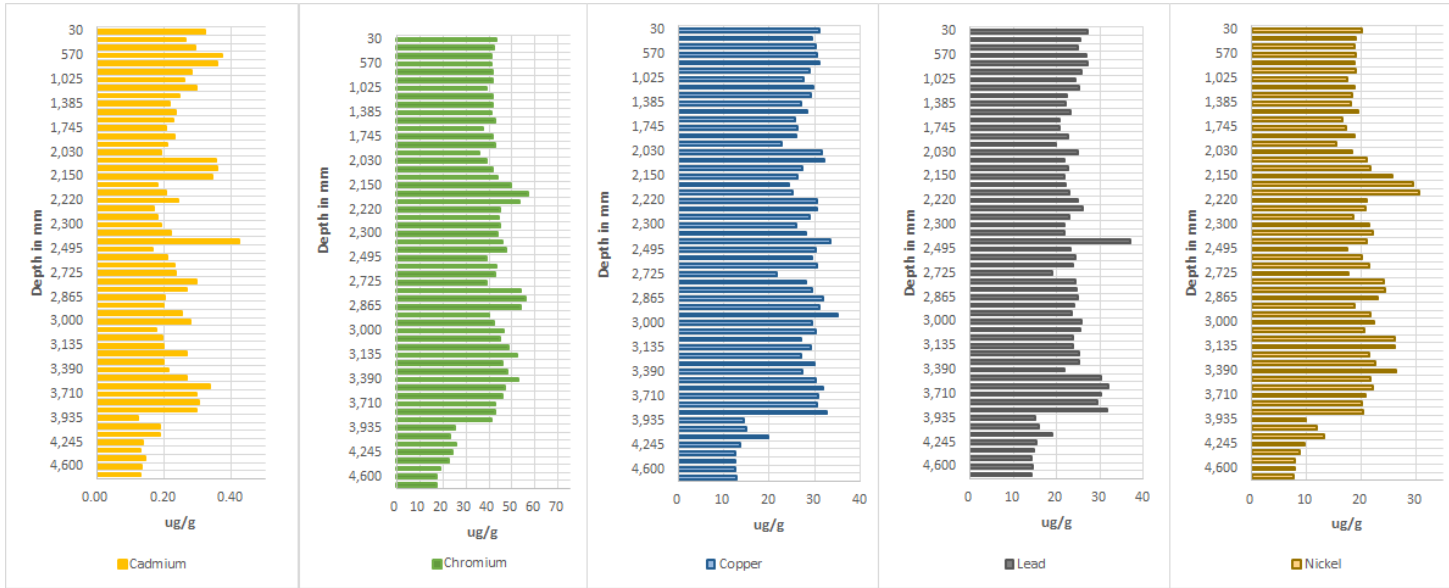


Figure 11.—Photograph showing acid drainage flowing out of the Red and Bonita Mine on September 3, 2015.

Lake Powell - San River Arm Core 3



From USGS 2014 - 1096

Tibble Fork Sediment Release



Sediment Contamination – A Regulatory Gap?

American Fork Sediment Contamination: Aquatic Life Screening Values

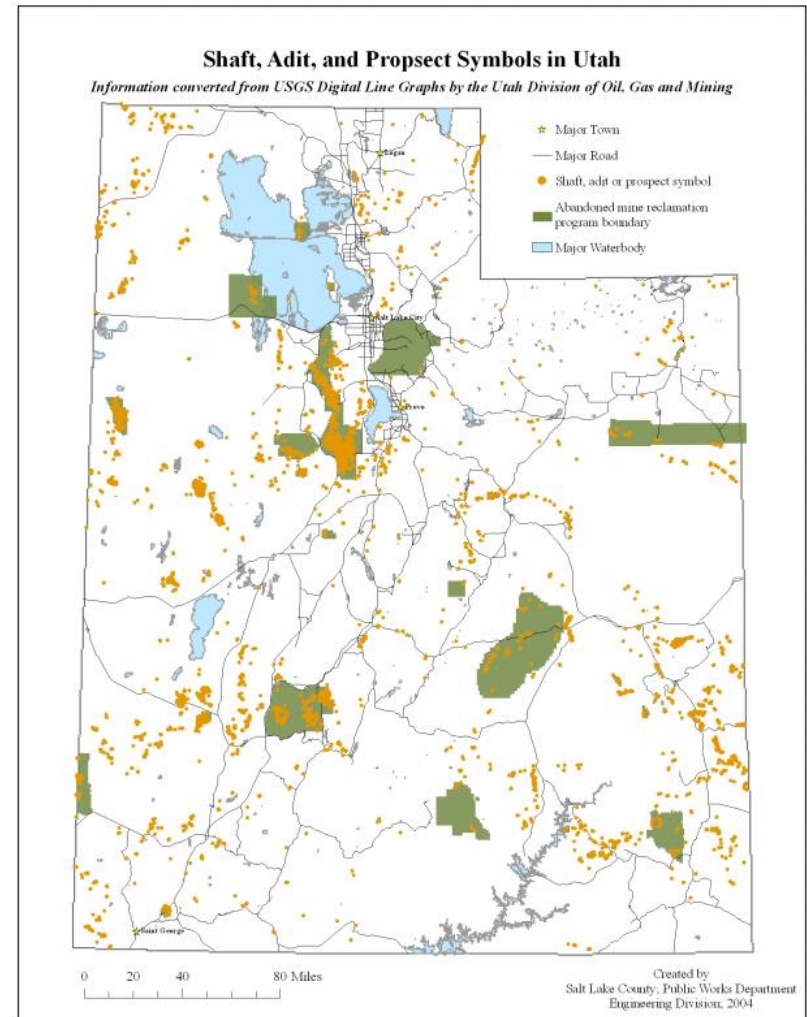
				No Exceedence																		Above Screening Level	
				Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Vanadium	Zinc	Molybdenum	
EPA Aquatic Life Screening Values						9.8			1.0	43.4	50.0	31.6	20,000.0	35.8	460.0	0.2	22.7	2.0	1.0		121.0		
Monitoring Location	Site Description	Collection Date	Collection Time	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
5912840	N FK American FK CK AB Tibble Fork Res	8/23/2016	2:25:00 PM	6,840	ND	13	60	ND	2	20	5	ND	17,300	40	466	0.1	21	ND	ND	26	213	ND	
		8/27/2016	8:55:00 AM	11,000	ND	17	54	ND	2	22	9	ND	18,900	70	563	ND	24	ND	ND	24	207	ND	
		8/28/2016	8:40:00 AM	10,300	ND	13	38	ND	2	26	7	ND	29,500	43	471	0.1	21	ND	ND	27	255	ND	
5912810	N FK American FK R BL Tibble Fork Res	8/23/2016	2:45:00 PM	7,760	ND	16	181	ND	2	22	6	ND	12,100	109	406	0.2	ND	ND	ND	35	280	ND	
		8/27/2016	9:27:00 AM	7,540	5	19	178	ND	2	17	6	23	23,900	114	442	0.2	ND	ND	ND	22	306	ND	
		8/28/2016	9:00:00 AM	7,950	ND	18	137	ND	2	16	6	20	25,000	105	391	0.2	ND	ND	ND	21	262	ND	
4994990	N FK American FK R AB confil S FK	8/23/2016	3:00:00 PM	11,700	9	34	162	ND	5	26	9	56	15,700	347	560	0.4	ND	ND	ND	42	601	ND	
		8/27/2016	9:45:00 AM	8,800	ND	20	158	ND	2	18	6	25	26,800	128	471	0.2	ND	ND	ND	22	342	ND	
		8/28/2016	9:20:00 AM	10,000	ND	21	181	ND	3	19	7	25	28,300	154	491	0.2	ND	ND	ND	23	370	ND	
4994984 - b	American Fork River BL Cave Camp Springs - Blw Water Line	9/1/2016	12:18:00 PM	NS	10	39	NS	0	6	23	NS	66	NS	415	NS	0.5	30	0	0	NS	650	NS	
4994984 - a	American Fork River BL Cave Camp Springs - Abv Water Line		12:18:00 PM	NS	0	22	NS	0	3	21	NS	33	NS	163	NS	0.2	0	0	0	NS	339	NS	
4994984	American Fork River BL Cave Camp Springs	8/27/2016	10:05:00 AM	7,660	4	19	139	ND	2	15	6	20	24,300	128	483	0.2	ND	ND	ND	19	321	ND	
		8/28/2016	9:35:00 AM	9,360	ND	15	107	ND	2	18	5	20	21,300	93	357	0.1	ND	ND	ND	24	235	ND	
4994980	American Fork River at mouth of Canyon	8/23/2016	12:25:00 PM	12,900	7	31	155	ND	4	26	9	43	18,400	267	576	0.3	28	ND	ND	38	509	ND	
		8/27/2016	10:20:00 AM	16,600	12	49	180	ND	8	30	13	92	41,000	522	616	0.6	38	ND	3	38	916	ND	
		8/28/2016	10:00:00 AM	9,560	ND	22	116	ND	3	18	7	31	23,100	170	440	0.3	ND	ND	ND	22	351	ND	



Abandoned Mine Drainage in American Fork Canyon

Abandoned Mine Management in Utah

- ❑ Multiagency management
 - Federal: USFS, BLM, EPA (CERCLA)
 - State: Division of Oil, Gas, and Mining; Division of Water Quality
- ❑ Implement BMPs primarily for safety
- ❑ Identify streams impacted by abandoned mines through assessment
- ❑ Inventory and characterization of discharging abandoned mines
 - Initial work Wasatch Mountains of Salt Lake County
- ❑ UPDES permitting



Discussion: WSWC Draft Position Elements

- ❑ Western Governors Association Position on good Samaritan protections
- ❑ Support for the Office of Mountains, Deserts, and Plains and/or specific initiatives for the office
- ❑ Renewed commitment and dedication of resources from federal land management agencies
- ❑ Close the funding and regulatory gaps between CERCLA and Clean Water Act programs
- ❑ EPA to assist states with CWA Sediment Standards
- ❑ \$16 billion identified in American Jobs Plan for “union jobs plugging oil and gas wells and restore and reclaiming abandoned coal, hardrock, and uranium mines.”

