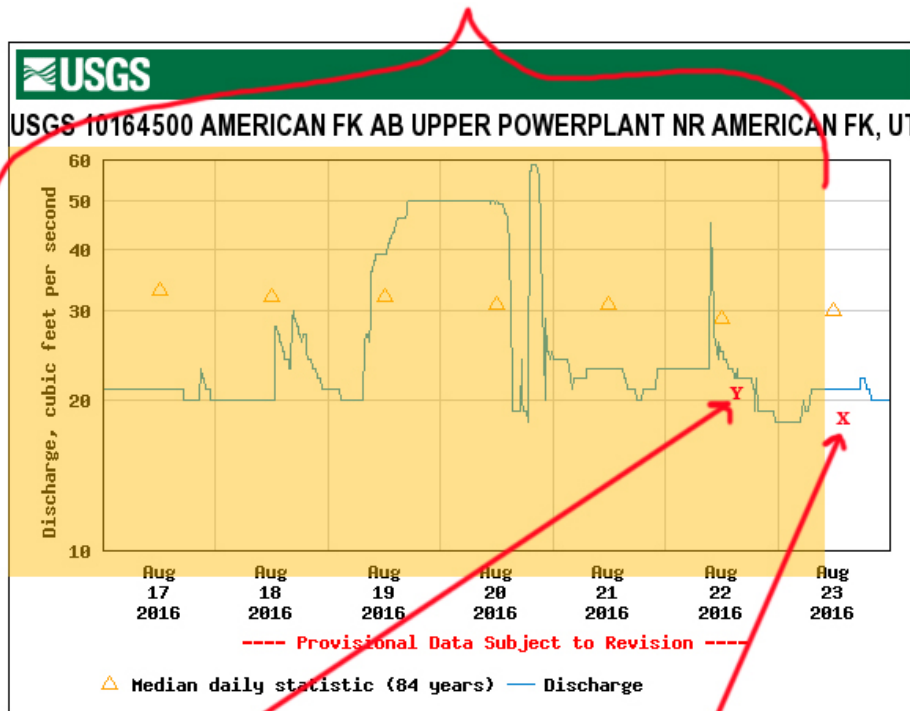


Tibble Fork vs. Gold King Mine

Tibble looks to be orders of magnitude worse but only if you look at all the known data. What is not known, is how many millions of pounds might have ended up in backyards of those who live in Highland, Cedar Hills, American Fork Cities. More than 700 acre feet of water, perhaps as high as 1000 acre feet delivered the estimated 8700 cubic yards of sediment below Tibble to the secondary irrigation system. Some sediment remains but the worse went downstream before DWQ sampling took place. A majority of this went into the irrigation system before DWQ obtained samples on Aug 23rd. NPS (Timp Monument- National Park Service samples and PPAFC samples must be added into the DEQ report on Tibble to better reflect what transpired so a commensurate clean up level will result. Failure to put in the DEQ "post mortem" report on Tibble Fork would be a disservice to all residents who live downstream. What we know is from credible sources below.

How much bad stuff went downstream before DWQ showed up and sampled? Looks to be about 120 hours or 5 days. Est. 100 million gallons before DWQ sampling est.



y= PPAFC Sample

x= DWQ takes samples on Aug 23rd 2016

Q. Where did all the heavy metals end up? Who is ultimately in charge?

Q. Who owns the remaining sediment in Tibble and why is it not on a removal order?

Q. Why has DEQ/ DWQ allowed abandoned mines owned by private interests to pollute the watershed and then the tax dollars are used to remove the heavy metals?

Q. Why has there not been an inventory of mines in LCC, BCC, AF Canyon and resources allocated to Division of Mining to identify the risks to watershed.

Q. Yankee Mine continues to put lead, arsenic, zinc into Tibble, why has this not been addressed and remediated? Who is ultimately in charge?

Q. Yankee Mine has potentially millions of gallons of backed up water. The Mary Ellen mines have acidic water. If there were a breach, and this went into Tibble where heavy metals are in sediment, the dissolving of heavy metals could be significant and impact the county and aquifer, why is this not being addressed by local control?

Q. EPA was lauded for the Dutchman and Pacific Mine clean up, but no one monitors them after the fact. Who is in charge of discharge from these "cleaned up mines"?

Q EPA was lauded for what they did in the past as was Trout Unlimited, yet local control is adamant on keeping EPA out of AF Canyon, this makes no sense unless local control has deep pockets, my concern is with all the Clean Air Violations and Clean Water Violations that Utah does need oversight from EPA to help get us back on track. AF Canyon is sadly the litmus test and local control is failing, in fact seems to prefer to diminish the intensity. State and Local Officials were brutal to EPA over the Gold King Mine Disaster. Where is the same outrage over Tibble? I hear crickets...

Q. Who will protect public health? Who is ultimately in charge?

Q. What is being done to warn citizens who might have lead in their yards, gardens?

Q. Who is ultimately in charge? Who signs off on the clean up?

Q. Standard for NPS in canyon is "unimpaired" why is this not the goal, and what will be done to make all downstream whole?

National Monument samples appear to be in higher concentrations than the PPAFC samples. This should be included in the final DEQ report.

PPAFC sample data indicates:

Tibble Aluminum 1.16 over Human Health standard. Tibble was 14.77 times worse than Gold King Mine.

Tibble Lead- 148 times over aquatic standard -13.48 times over human health standard. Tibble was 3.53 times worse than Gold King Mine.

Tibble Antimony- 3.46 times over Human Health Standard - 99 times worse than Gold King Mine
 Iron 17 times over aquatic standard- 3 times over the human health standard. 6.12 times worse than Gold King Mine.

Manganese 18.7 times over the aquatic standard- 1.1 times over the human health standard.
 1.23 times worse than Gold King Mine

Tibble Arsenic 50.3 times over aquatic standard. 8.96 times worse than Gold King Mine.

Tibble Cadmium 77 times over aquatic standard. Gold King Mine ruled this category, 283.87 times worse than Tibble Fork.

Tibble Chromium 6.8 times over aquatic standard. 21.21 times worse than Gold King Mine

Tibble Cobalt 2.18 times over aquatic standard. 4 times worse than Gold King Mine

Tibble Copper 32 times over aquatic standard. 4.86 times worse than Gold King Mine

Tibble Mercury 28.8 times over the aquatic standard. 48 times worse than Gold King Mine

Tibble Nickel 1.61 times over the aquatic standard. 2.15 times worse than Gold King Mine

Tibble Selenium 18.2 times over the aquatic standard. 12.2 times worse than Gold King Mine

Tibble Silver 12.8 times over the aquatic standard. 2.72 times worse than Gold King Mine

Tibble Zinc 76 times over the aquatic standard. 2.8 times worse than Gold King Mine.

	EPA Gold King Mine	Tibble Fork DWQ Sample	Tibble Fork PPAFC Sample	Human Health Screen Value	Aquatic Life Screen Value
Gold King vs Tibble Fork Disaster (Aluminum)	13,000	16,600	192,000	165,428	
Gold King vs Tibble Fork Disaster (Antimony)	2.3	12	229	66	
Gold King vs Tibble Fork Disaster (Arsenic)	55	49	493	753	9.8
Gold King vs Tibble Fork Disaster (Barium)	220	49	2,550	33,086	
Gold King vs Tibble Fork Disaster (Beryllium)	14		13.5	331	
Gold King vs Tibble Fork Disaster (Cadmium)	22,000	8	77.5	87	1
Gold King vs Tibble Fork Disaster (Chromium)	14	30	297	213,042	43.4
Gold King vs Tibble Fork Disaster (Cobalt)	27	13	109	1,654	50
Gold King vs Tibble Fork Disaster (Copper)	210	92	1020	1,654	31.6
Gold King vs Tibble Fork Disaster (Iron)	57,000	41,000	349,000	115,799	20,000
Gold King vs Tibble Fork Disaster (Lead)	1,500	522	5,300	400	35.8
Gold King vs Tibble Fork Disaster (Manganese)	7,000	616	8,610	7,775	460
Gold King vs Tibble Fork Disaster (Molybdenum)	12		18	827	
Gold King vs Tibble Fork Disaster (Mercury)	0.12	1	5.76	1158	0.2
Gold King vs Tibble Fork Disaster (Nickel)	17	36	36.6	3,309	22.7
Gold King vs Tibble Fork Disaster (Selenium)	3	0	36.6	827	2
Gold King vs Tibble Fork Disaster (Silver)	4.7	3	12.8	827	1
Gold King vs Tibble Fork Disaster (Strontium)			3,000		
Gold King vs Tibble Fork Disaster (Vanadium)	36	38	367	1654	
Gold King vs Tibble Fork Disaster (Zinc)	3300	916	9230	49628	121



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Certificate of Analysis

Protect & Preserve American Fork Canyon
PO Box 85
American Fork, UT 84003

PO#: _____
Receipt: 8/23/16 16:35 @ 24.3 °C
Date Reported: 2/3/2017
Project Name: [none]

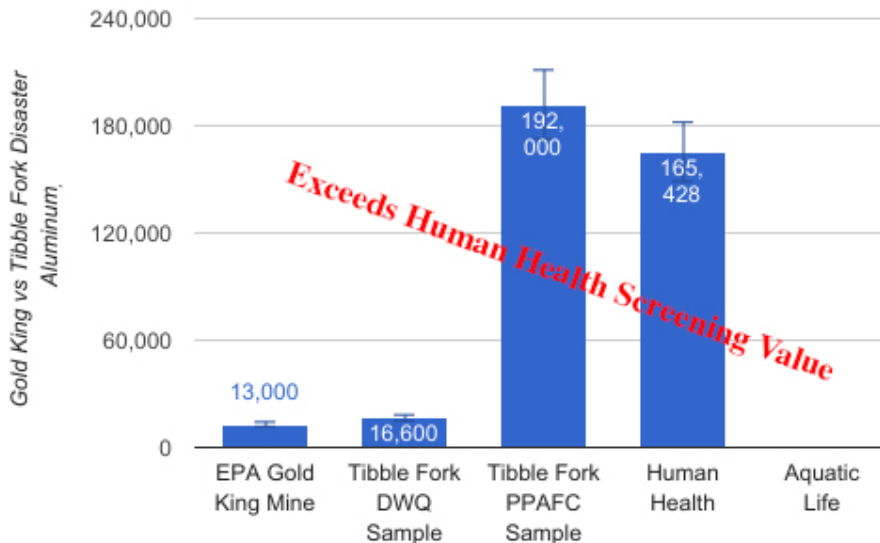
Sample ID: **N. Fork AF River Below Tibble Reservoir**
Matrix: **Solid**
Date Sampled: **8/22/16 17:00**

Sampled By: **Mark Allen**

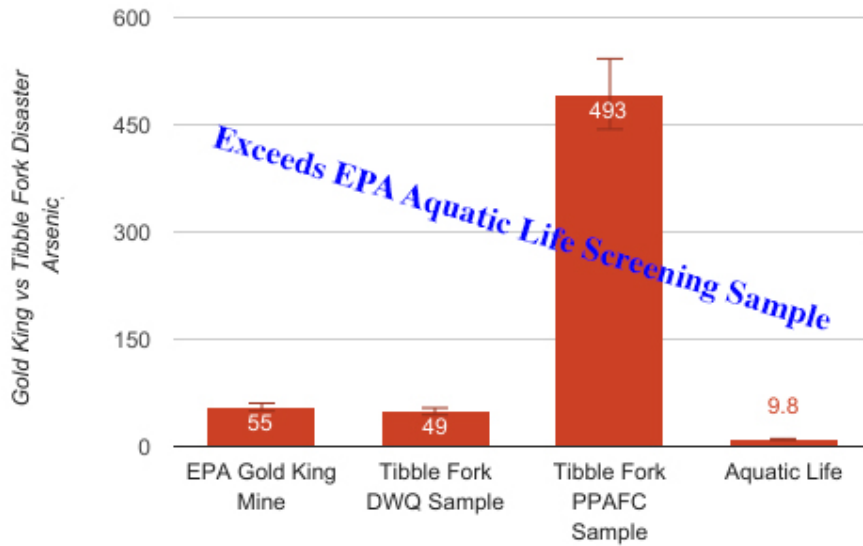
Lab ID: **16H1293-02**

Parameter	Result	Units	Minimum Reporting Limit	Method	Preparation Date/Time	Analysis Date/Time	Flag(s)
Inorganic							
Total Solids	0.2	%	0.1	SM 2540G	8/26/16	8/26/16	
Metals							
Aluminum, Total	192000	mg/kg dry	440	EPA 6010B/3050B	8/29/16	8/30/16	
Antimony, Total	229	mg/kg dry	88.0	EPA 6010B/3050B	8/29/16	8/30/16	
Arsenic, Total	493	mg/kg dry	440	EPA 6010B/3050B	8/29/16	8/30/16	
Barium, Total	2550	mg/kg dry	22.0	EPA 6010B/3050B	8/29/16	8/31/16	
Beryllium, Total	13.5	mg/kg dry	22.0	EPA 6010B/3050B	8/29/16	8/30/16	J
Cadmium, Total	77.5	mg/kg dry	22.0	EPA 6010B/3050B	8/29/16	8/30/16	
Chromium, Total	297	mg/kg dry	22.0	EPA 6010B/3050B	8/29/16	8/30/16	
Cobalt, Total	109	mg/kg dry	44.0	EPA 6010B/3050B	8/29/16	8/30/16	
Copper, Total	1020	mg/kg dry	22.0	EPA 6010B/3050B	8/29/16	8/30/16	
Iron, Total	349000	mg/kg dry	220	EPA 6010B/3050B	8/29/16	8/30/16	
Lead, Total	5300	mg/kg dry	220	EPA 6010B/3050B	8/29/16	8/30/16	
Manganese, Total	8610	mg/kg dry	22.0	EPA 6010B/3050B	8/29/16	8/30/16	
Mercury, Total	5.76	mg/kg dry	0.80	EPA 7471A	8/29/16	8/30/16	
Molybdenum, Total	18.0	mg/kg dry	44.0	EPA 6010B/3050B	8/29/16	8/31/16	J
Nickel, Total	401	mg/kg dry	22.0	EPA 6010B/3050B	8/29/16	8/30/16	
Selenium, Total	36.6	mg/kg dry	220	EPA 6010B/3050B	8/29/16	8/30/16	J
Silver, Total	12.8	mg/kg dry	22.0	EPA 6010B/3050B	8/29/16	8/30/16	J
Strontium, Total	3000	mg/kg dry	44.0	EPA 6010B/3050B	8/29/16	8/31/16	
Tin, Total	ND	mg/kg dry	88.0	EPA 6010B/3050B	8/29/16	8/31/16	
Vanadium, Total	367	mg/kg dry	44.0	EPA 6010B/3050B	8/29/16	8/30/16	
Zinc, Total	9230	mg/kg dry	44.0	EPA 6010B/3050B	8/29/16	8/30/16	

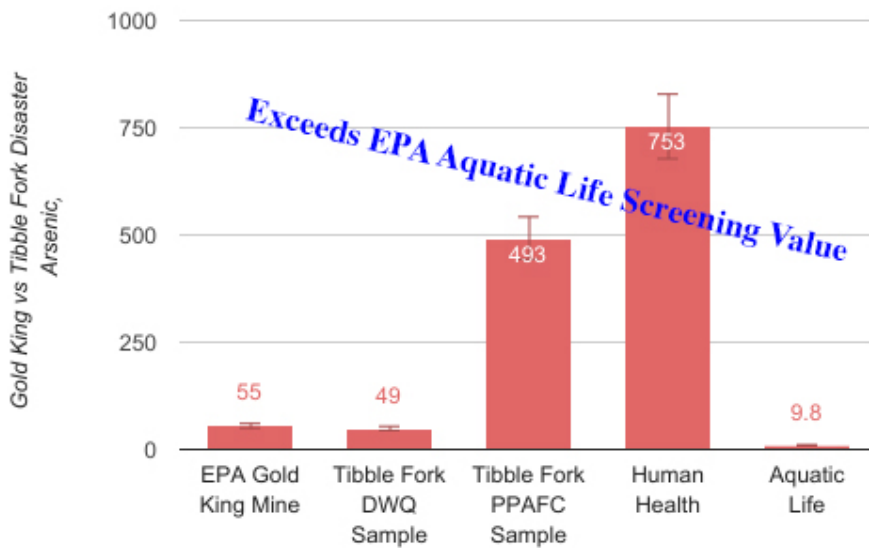
Gold King vs Tibble Fork Disaster (Aluminum)



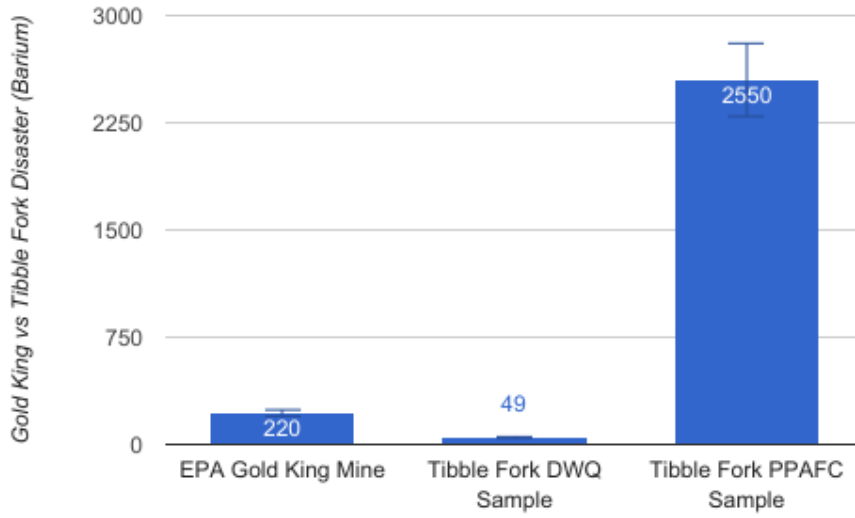
Gold King vs Tibble Fork Disaster (Arsenic)



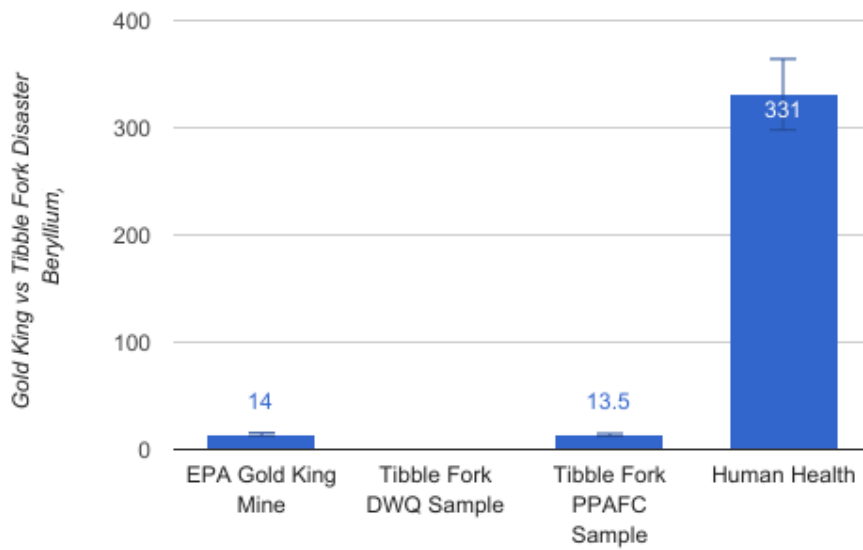
Gold King vs Tibble Fork Disaster (Arsenic)



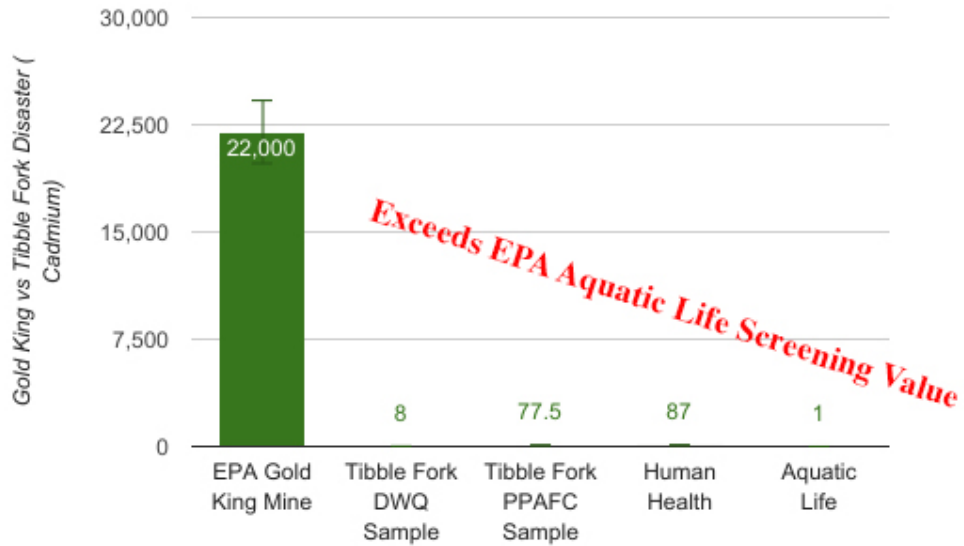
Gold King vs Tibble Fork Disaster (Barium)



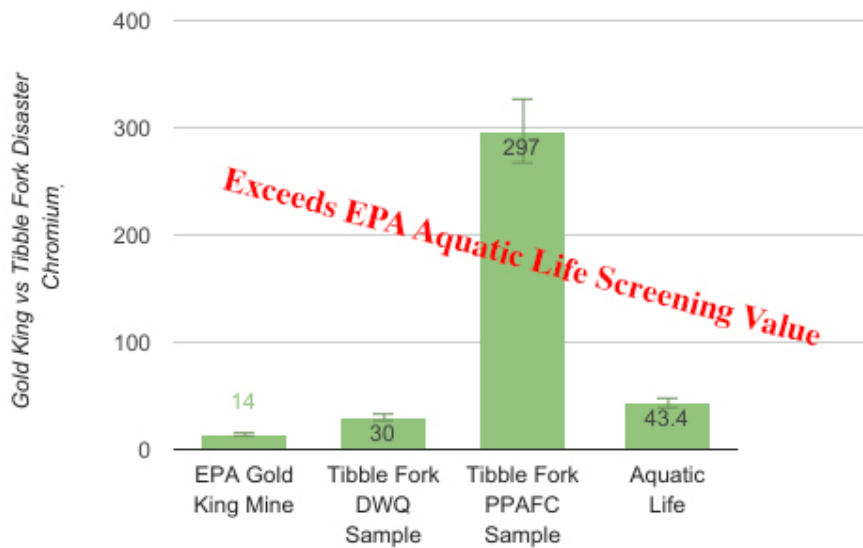
Gold King vs Tibble Fork Disaster (Beryllium)

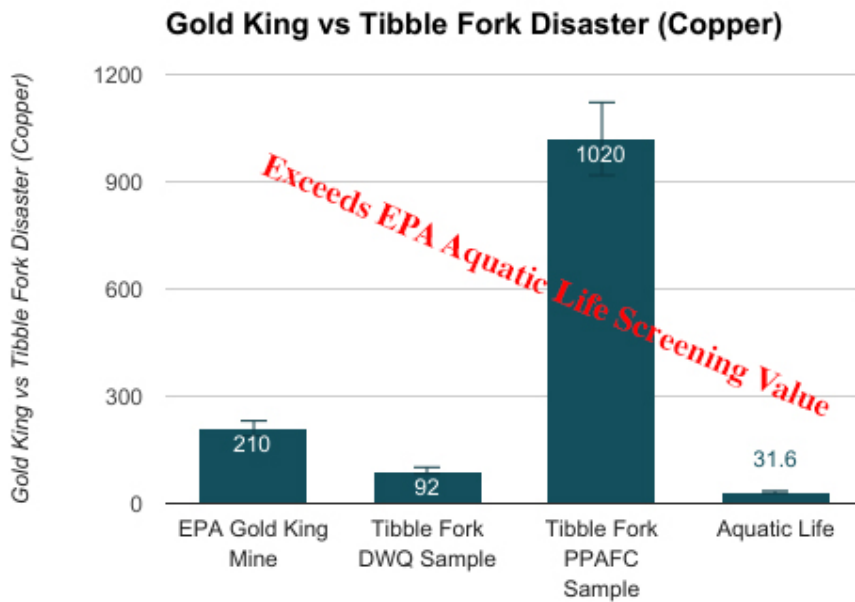
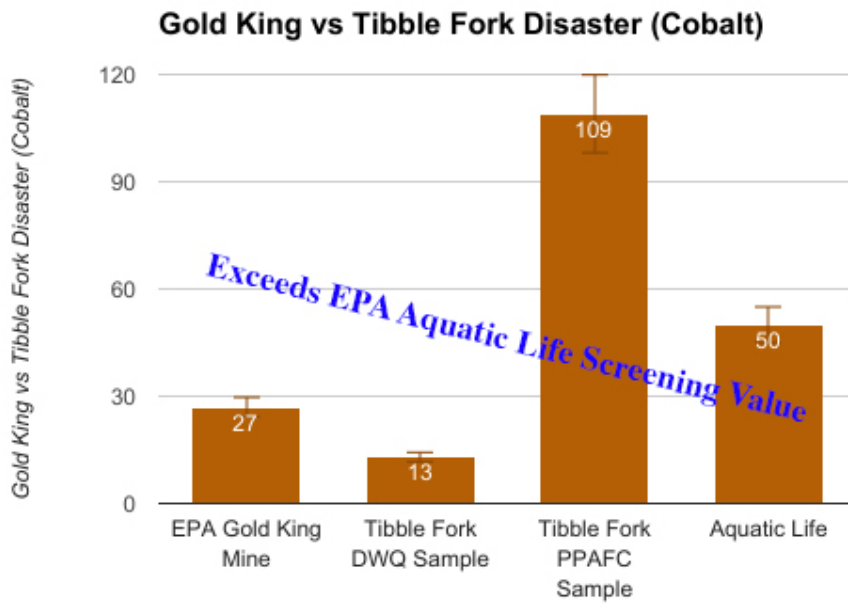


Gold King vs Tibble Fork Disaster (Cadmium)

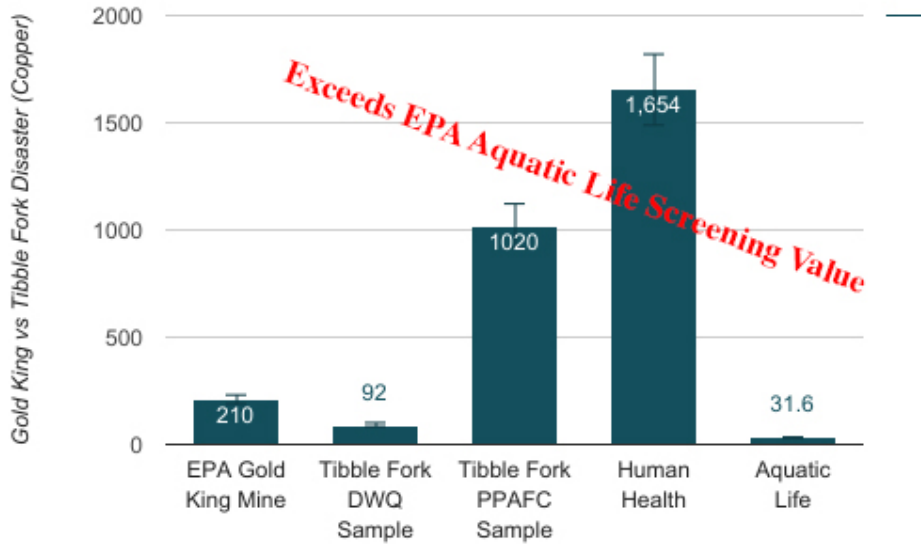


Gold King vs Tibble Fork Disaster (Chromium)

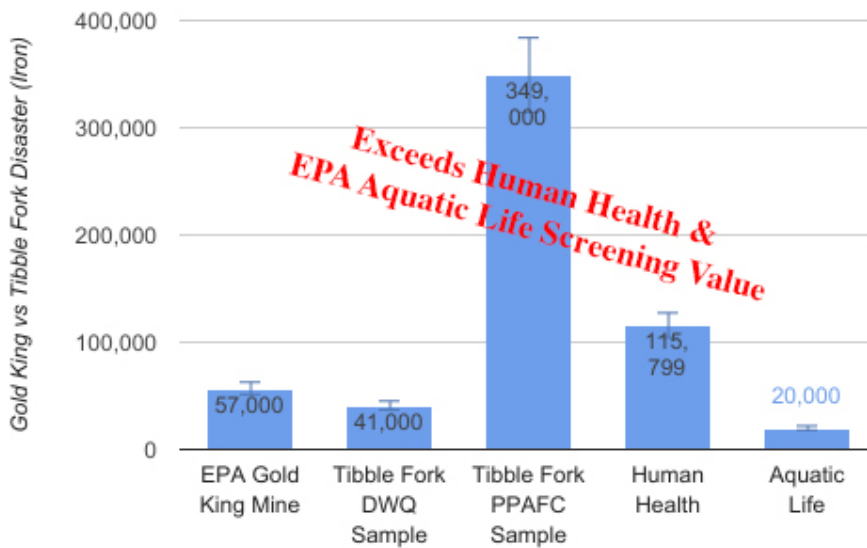




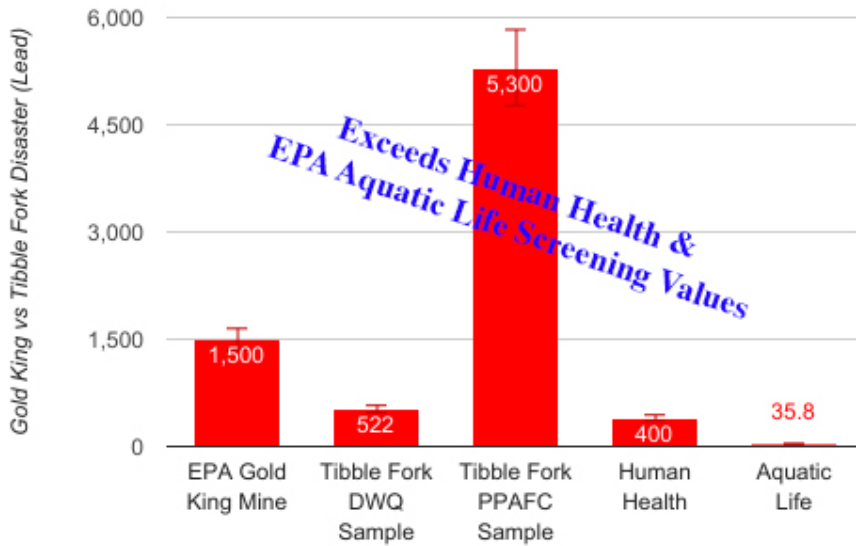
Gold King vs Tibble Fork Disaster (Copper)



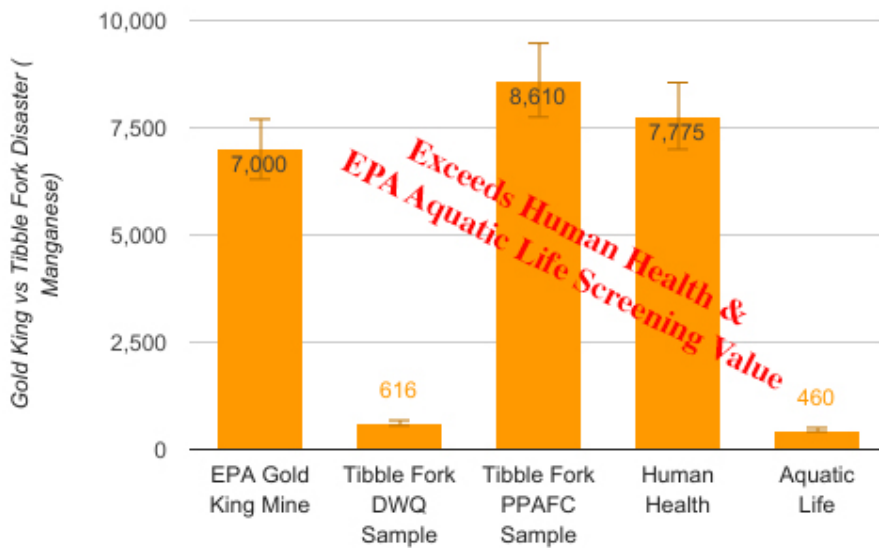
Gold King vs Tibble Fork Disaster (Iron)



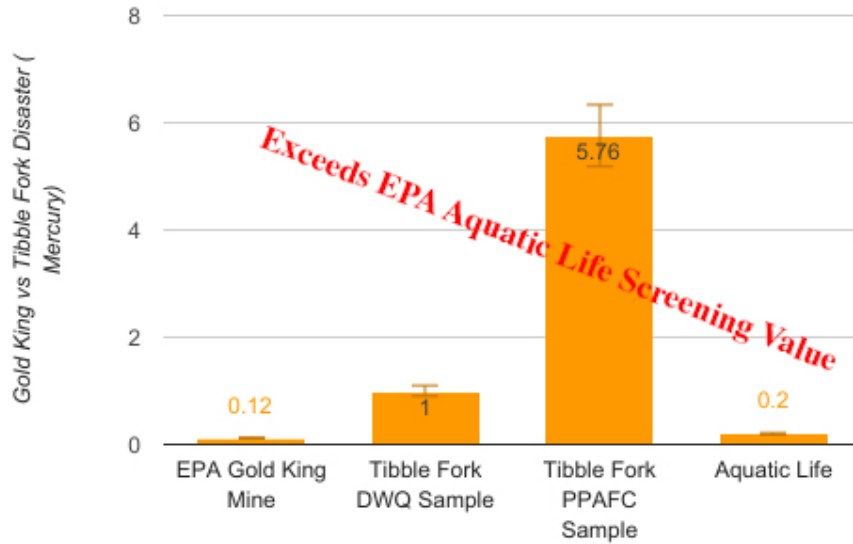
Gold King vs Tibble Fork Disaster (Lead)



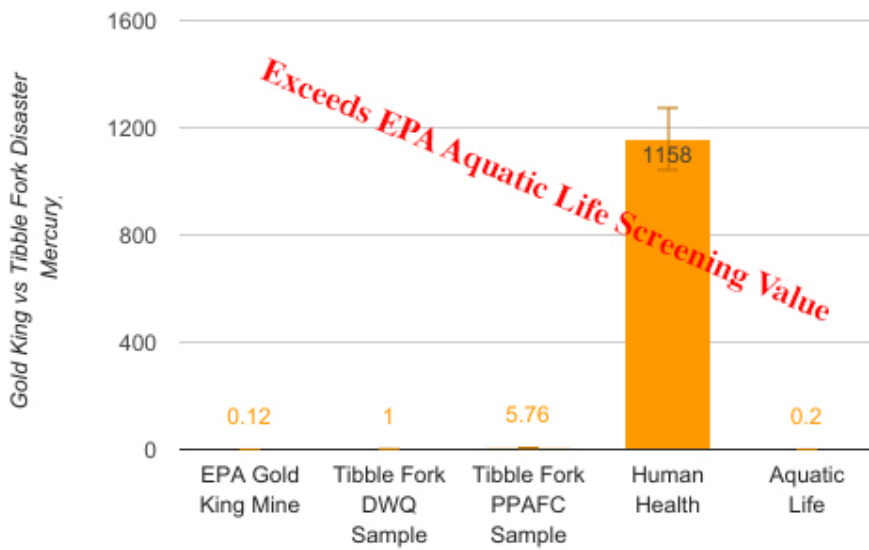
Gold King vs Tibble Fork Disaster (Manganese)



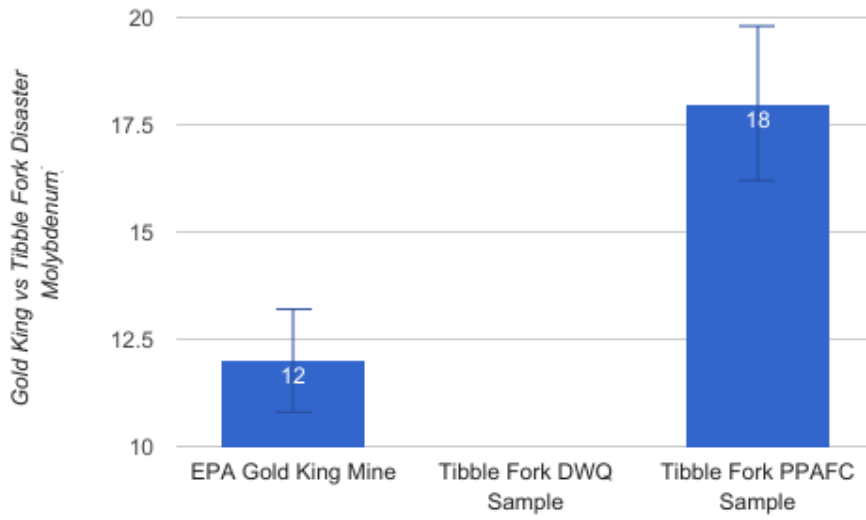
Gold King vs Tibble Fork Disaster (Mercury)



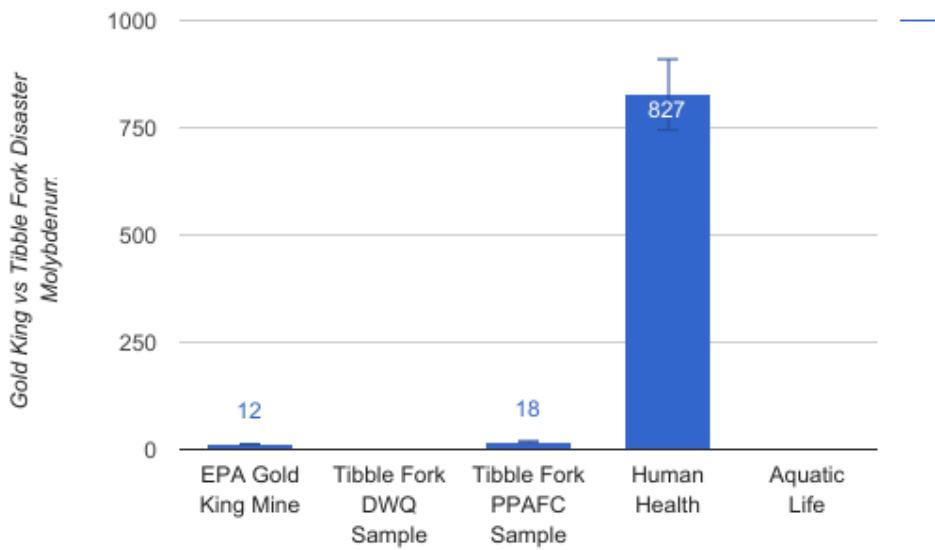
Gold King vs Tibble Fork Disaster (Mercury)



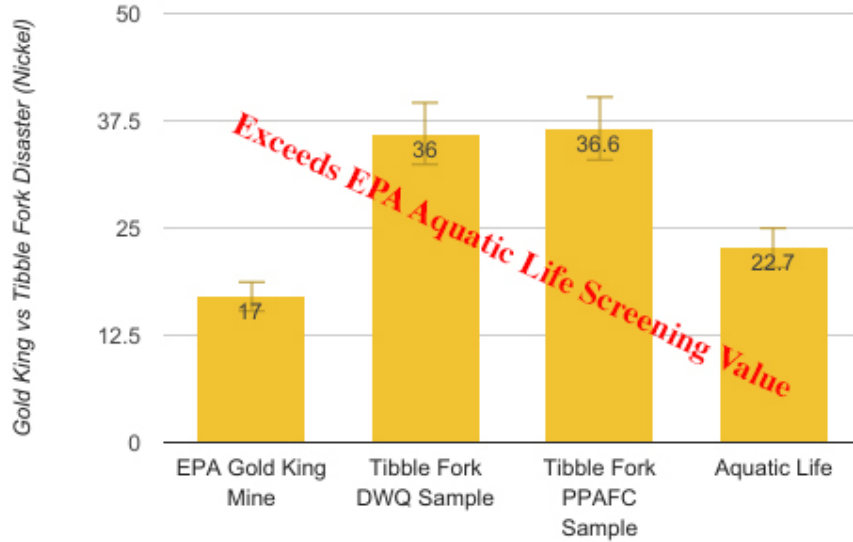
Gold King vs Tibble Fork Disaster (Molybdenum)



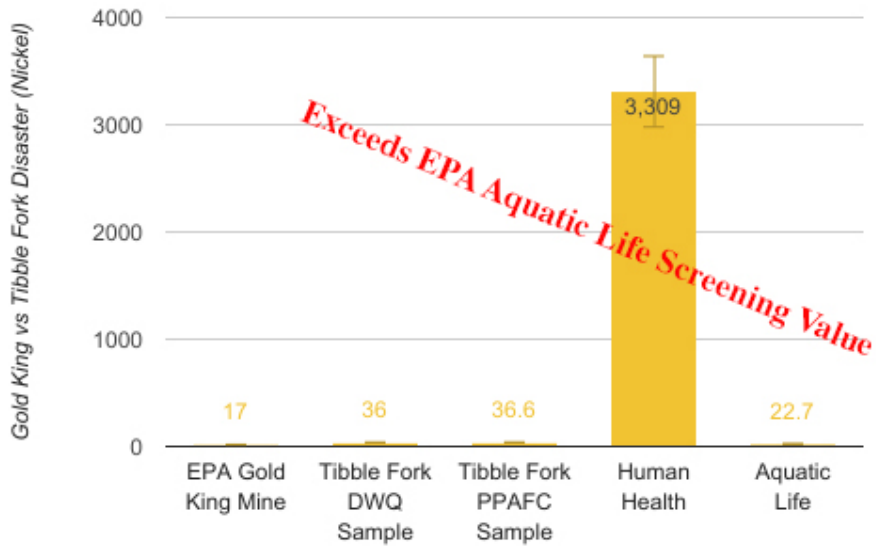
Gold King vs Tibble Fork Disaster (Molybdenum)



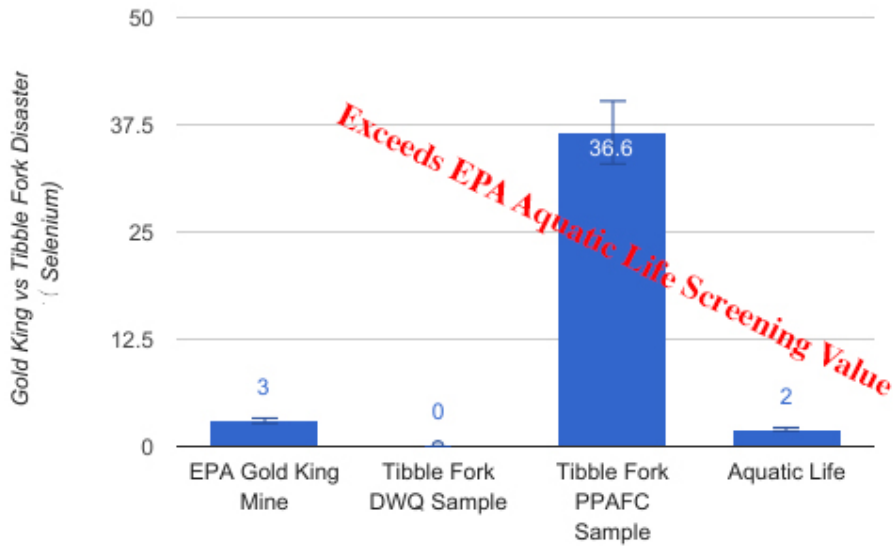
Gold King vs Tibble Fork Disaster (Nickel)



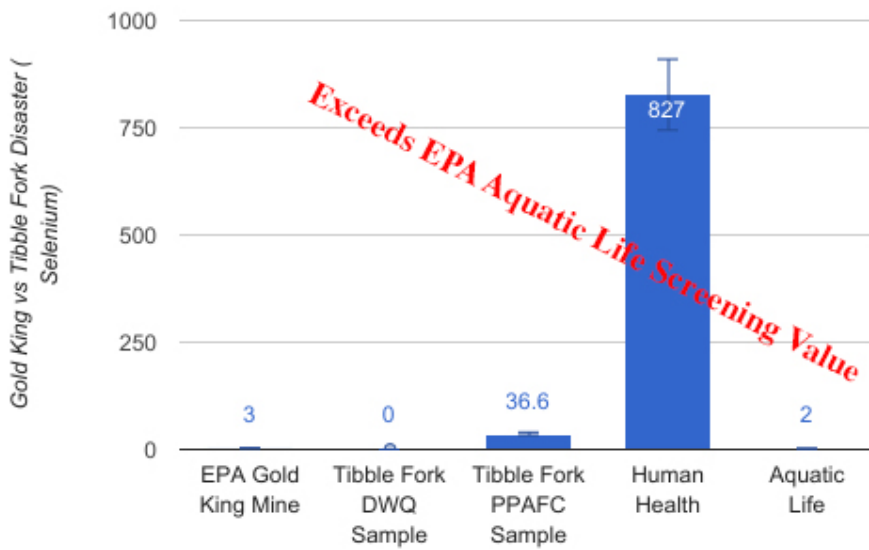
Gold King vs Tibble Fork Disaster (Nickel)



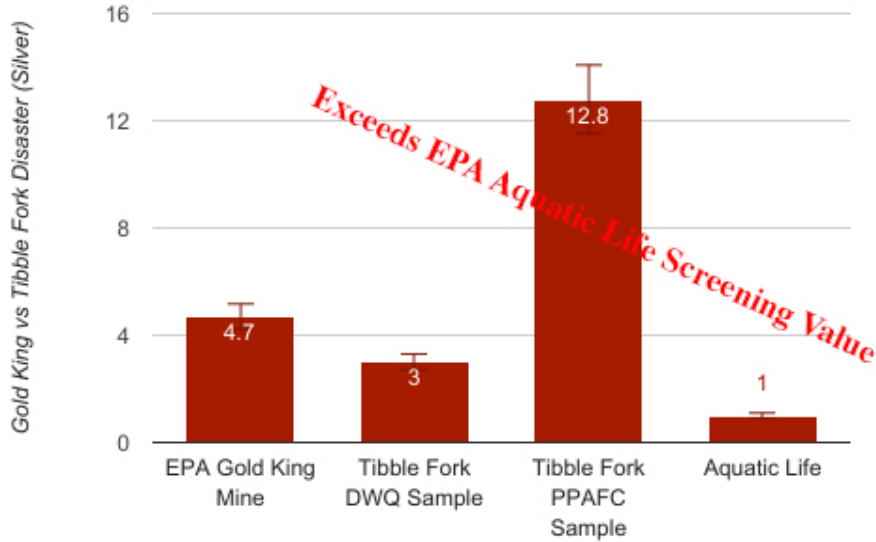
Gold King vs Tibble Fork Disaster (Selenium)



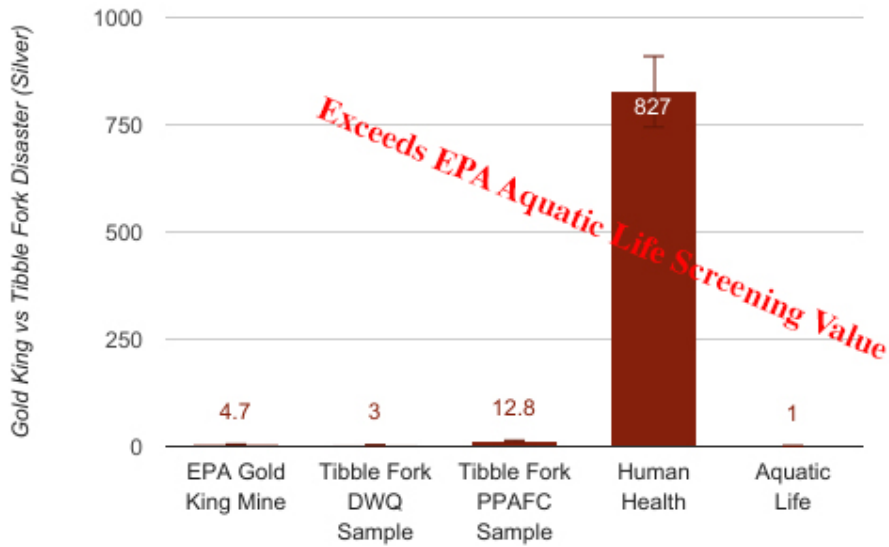
Gold King vs Tibble Fork Disaster (Selenium)



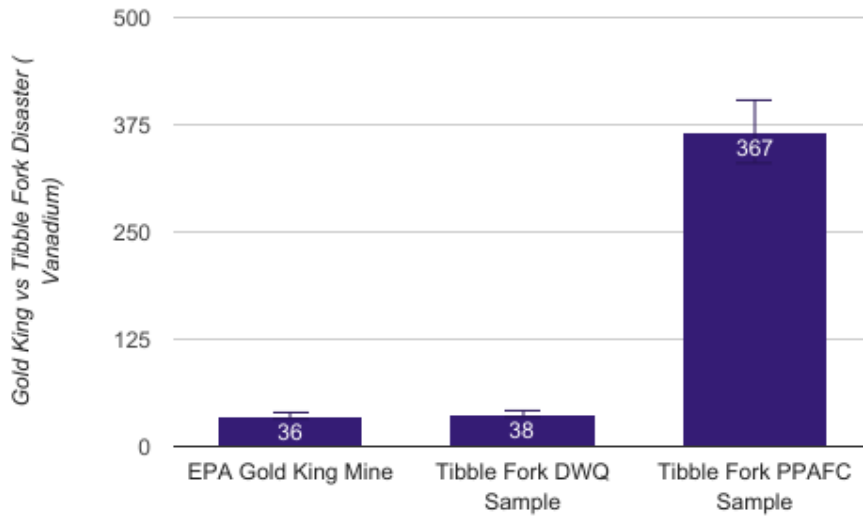
Gold King vs Tibble Fork Disaster (Silver)



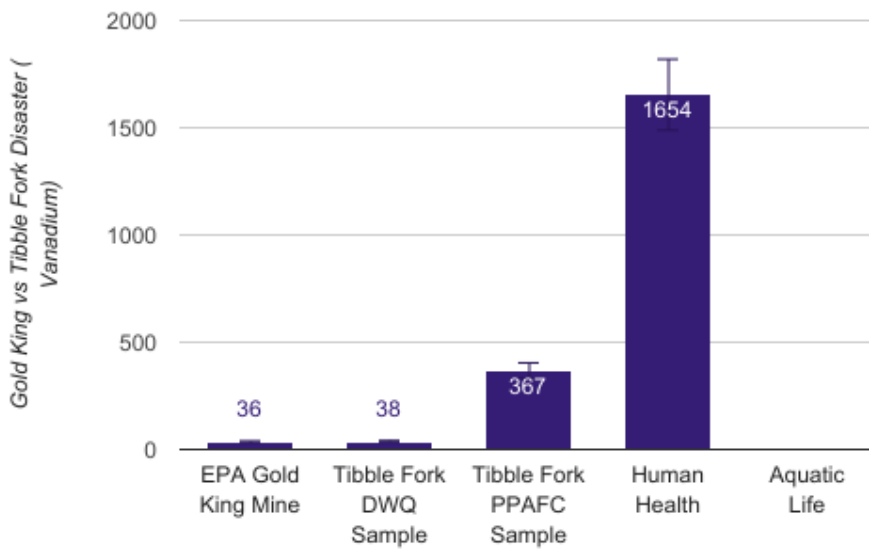
Gold King vs Tibble Fork Disaster (Silver)



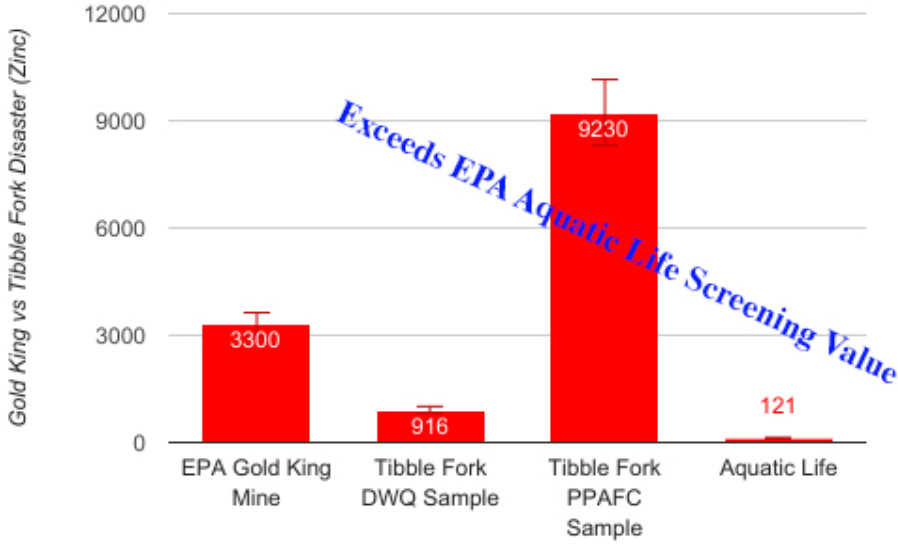
Gold King vs Tibble Fork Disaster (Vanadium)



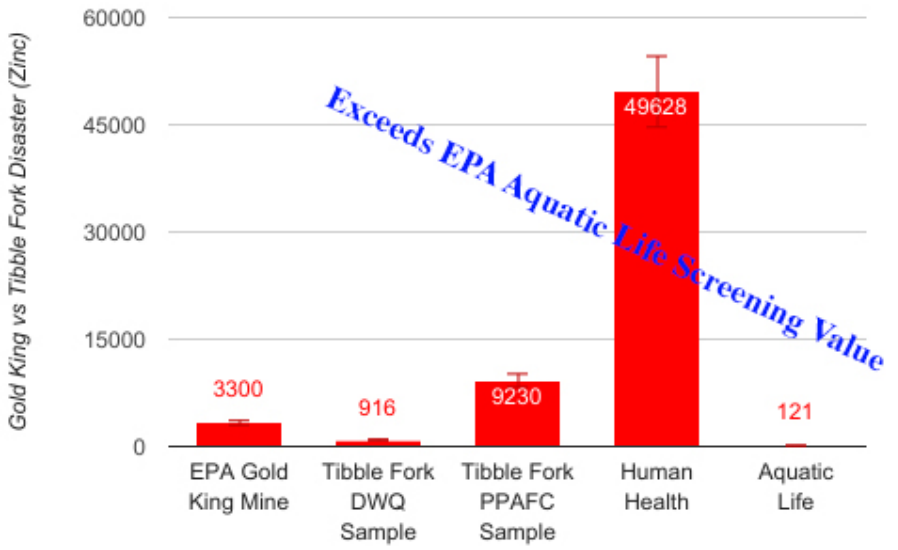
Gold King vs Tibble Fork Disaster (Vanadium)



Gold King vs Tibble Fork Disaster (Zinc)



Gold King vs Tibble Fork Disaster (Zinc)





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Certificate of Analysis

Protect & Preserve American Fork Canyon
PO Box 85
American Fork, UT 84003

PO#: _____
Receipt: **8/23/16 16:35 @ 24.3 °C**
Date Reported: **2/3/2017**
Project Name: **[none]**

Sample ID: **Mouth of American Fork River**

Matrix: **Solid**

Lab ID: **16H1293-01**

Date Sampled: **8/22/16 16:00**

Sampled By: **Mark Allen**

Parameter	Result	Units	Minimum Reporting Limit	Method	Preparation Date/Time	Analysis Date/Time	Flag(s)
Inorganic							
Total Solids	0.4	%	0.1	SM 2540G	8/26/16	8/26/16	
Metals							
Aluminum, Total	39700	mg/kg dry	210	EPA 6010B/3050B	8/29/16	8/30/16	
Antimony, Total	46.1	mg/kg dry	42.0	EPA 6010B/3050B	8/29/16	8/30/16	
Arsenic, Total	119	mg/kg dry	210	EPA 6010B/3050B	8/29/16	8/30/16	J
Barium, Total	442	mg/kg dry	10.5	EPA 6010B/3050B	8/29/16	8/31/16	
Beryllium, Total	2.84	mg/kg dry	10.5	EPA 6010B/3050B	8/29/16	8/30/16	J
Cadmium, Total	21.7	mg/kg dry	10.5	EPA 6010B/3050B	8/29/16	8/30/16	
Chromium, Total	64.3	mg/kg dry	10.5	EPA 6010B/3050B	8/29/16	8/30/16	
Cobalt, Total	20.5	mg/kg dry	21.0	EPA 6010B/3050B	8/29/16	8/30/16	J
Copper, Total	283	mg/kg dry	10.5	EPA 6010B/3050B	8/29/16	8/30/16	
Iron, Total	68900	mg/kg dry	105	EPA 6010B/3050B	8/29/16	8/30/16	
Lead, Total	1530	mg/kg dry	105	EPA 6010B/3050B	8/29/16	8/30/16	
Manganese, Total	1610	mg/kg dry	10.5	EPA 6010B/3050B	8/29/16	8/30/16	
Mercury, Total	0.49	mg/kg dry	0.43	EPA 7471A	8/29/16	8/30/16	
Molybdenum, Total	7.40	mg/kg dry	21.0	EPA 6010B/3050B	8/29/16	8/31/16	J
Nickel, Total	87.8	mg/kg dry	10.5	EPA 6010B/3050B	8/29/16	8/30/16	
Selenium, Total	ND	mg/kg dry	105	EPA 6010B/3050B	8/29/16	8/30/16	
Silver, Total	4.98	mg/kg dry	10.5	EPA 6010B/3050B	8/29/16	8/30/16	J
Strontium, Total	566	mg/kg dry	21.0	EPA 6010B/3050B	8/29/16	8/31/16	
Tin, Total	44.7	mg/kg dry	42.0	EPA 6010B/3050B	8/29/16	8/31/16	
Vanadium, Total	75.6	mg/kg dry	21.0	EPA 6010B/3050B	8/29/16	8/30/16	
Zinc, Total	2170	mg/kg dry	21.0	EPA 6010B/3050B	8/29/16	8/30/16	