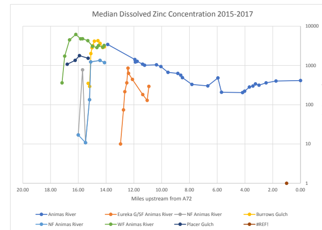
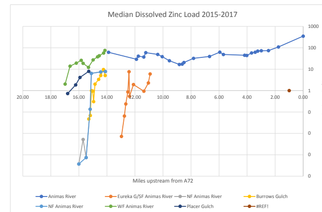
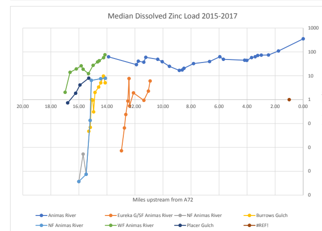
Station	Description	Dist from A72	Fall 2015 Dissolved Zn	Fall 2015 Discharge	Fall 2015 Dissolved Zn load	Fall 2016 Dissolved Zn	Fall 2016 Discharge	Fall 2016 Dissolved Zn load	Fall 2017 Dissolved Zn	Fall 2017 Discharge	Fall 2017 Dissolved Zn load	Median Dissolved Zn	Median Discharge	Median Dissolved Zn load		
	Eureka G/SF Animas River															
EG1	Eureka Gulch Headwaters, above the Clipper	12.96	10	0.0208	0.001122	10	0.2774	0.014962	20	0.067	0.007228	10	0.067	0.007228		
EG3	Eureka Gulch Headwaters above confluence	12.75	78.1	0.195	0.082145	60.4	Not Meası	#VALUE!	73.8	0.12	0.047767	73.8	0.1575	0.064956		
EG3A	Blw headwaters confluence. Flows into stope and dayligh	12.65	215	0.0784	0.090917	85.7	Not Meası	#VALUE!	349	0.205	0.385898	215	0.1417	0.238408		
EG5	Eureka Gulch below Ben Franklin Mine	12.51	228	Not Meası	#VALUE!	529	0.4935	1.408107	361	0.169	0.329069	361	0.33125	0.868588		
A39A	Eureka Gulch above Terry Tunnel but below Ben Franklin	12.42	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	857	1.6593	7.670058	857	1.6593	7.670058		
A39	Eureka above Terry Tunnel	12.39	393	Not Meası	#VALUE!	630	0.1592	0.540974	728	No flow	#VALUE!	630	0.1592	0.540974		
EG6	Eureka Gulch below Terry Tunnel	12.11	429	0.2193	0.507445	456	0.8317	2.045617	441	0.8067	1.918861	441	0.8067	1.918861		
A37	Eureka Gulch above South Fork	11.36	143	0.6162	0.475281	247	0.7009	0.933783	181	1.0624	1.037193	181	0.7009	0.933783		
EG9	Eureka Gulch below South Fork	11.04	91.2	1.7421	0.856961	129	4.8502	3.374755	139	3.038	2.277694	129	3.038	2.277694		
A34	Eureka Gulch above Animas	10.92	307	2.6006	4.306305	224	4.9928	6.03233	293	4.0764	6.442246	293	4.0764	6.03233		
	Mouth of Eureka	9.81										293	4.0764	6.03233		
	NF Animas River															
A01	NF Animas above Denver Lake	16.01	17	0.00405	0.000371	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	17	0.00405	0.000371		
A02	NF Animas below Lucky Jack Mine	15.70	774	0.00125	0.005218	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	774	0.00125	0.005218		
A04	NF Animas above Horseshoe Creek	15.48	10.8	0.0128	0.000746	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	10.8	0.0128	0.000746		
A05	NF Animas below Horseshoe Creek	15.20	142	0.0949	0.072685	134	0.857	0.61941	125	0.2	0.134844	134	0.2	0.134844		
	Confluence with Burrows	15.16														
A08	NF Animas below Burrows Creek	15.11	1220	0.2884	1.897789	1240	1.6105	10.77148	1230	0.9656	6.406123	1230	0.9656	6.406123		
UA5	NF Animas River	14.44	1410	0.5396	4.103779	1280	1.5775	10.89111	#N/A	#N/A	#N/A	1345	1.05855	7.497445		
A09	NF Animas above California Gulch	14.12	1380	0.45	3.349535	1180	Not Meası	#VALUE!	1170	1.9454	12.27687	1180	1.1977	7.813202		
	Confluence with WF Animas (California)	14.09										1180	1.1977	7.813202		
	Animas River															
A14	Animas below California Gulch	13.88	3800	1.79	36.68846	2190	5.4335	64.18251	3430	3.3447	61.87913	3430	3.3447	61.87913		
UA8		11.93	1420	Not Measured		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1420	#NUM!	#NUM!		
A28	Animas below Burns Gulch	11.90	1330	3.9075	28.03132	#N/A	#N/A	#N/A	1110	5.0564	30.27313	1220	4.48195	29.15222		
A30	blw Burns and Silver Wing	11.76	1410	5.5767	42.41205	#N/A	#N/A	#N/A	1140	6.3252	38.89305	1275	5.95095	40.65255		
A30A	Upstream of Tom Moore Adit and Waste Rock	11.37	#N/A	#N/A	#N/A	1030	Not Meası	#VALUE!	1130	6.0848	37.08665	1080	6.0848	37.08665		
A30B	Downstream of Tom Moore Adit and Waste rock and abc	11.23	#N/A	#N/A	#N/A	1020	15.8093	86.97726	1010	5.7938	31.56296	1015	10.80155	59.27011		
A31	Animas above Niagara	10.38	1130	5.6921	34.69316	952	12.3465	63.39773	#N/A	#N/A	#N/A	1041	9.0193	49.04544		
A33	Animas above Eureka	10.06	949	4.2218	21.6101	929	14.2706	71.50737	938	7.6523	38.71575	938	7.6523	38.71575		
A35	Animas below Eureka	9.55	693	6.3051	23.56775	662	14.0495	50.16626	668	6.8892	24.82208	668	6.8892	24.82208		
A40A	Animas abv FQ	8.84	586	2.0781	6.56836	628	Not Meası	#VALUE!	714	6.9771	26.8699	628	4.5276	16.71913		
A40	Animas above Minnie Gulch (AKA Animas above Minnie)	8.63	506	2.8349	7.737152	566	13.7557	41.99446	654	4.9269	17.37978	566	4.9269	17.37978		
A41A	Animas below Minnie	8.50	490	3.3925	8.966208	321	15.844	27.43233	553	6.8967	20.57119	490	6.8967	20.57119		
LA3	Animas below Maggie	7.82	329	9.0069	15.98321	324	27.1932	47.52238	409	14.6112	32.2331	329	14.6112	32.2331		
A45	Animas above Pride of the West Mill	6.68	229	18.8639	23.30021	310	38.3201	64.07391	302	24.2442	39.49187	302	24.2442	39.49187		
A53AC	Animas at bridge in Howardsville	5.95	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	482	24.0777	62.5972	482	24.0777	62.5972		
A55	Gaging station below Howardsville	5.69	233	26	32.67549	183	65.7336	64.88307	#N/A	#N/A	#N/A	208	45.8668	48.77928		
A56	Animas Abv Arrastra	4.18	203	26.4891	29.00388	204	66.7698	73.46883	231	35.9338	44.77216	204	35.9338	44.77216		
A60	Animas downstream of Arrastra Creek and downstream (	4.02	225	41.117	49.89957	#N/A	#N/A	#N/A	217	32.2276	37.72077	221	36.6723	43.81017		
A61	Animas below Arrastra	3.68	283	35.7428	54.55919	#N/A	#N/A	#N/A	282	39.6839	60.36099	282.5	37.71335	57.46009		
A64	Animas downstream of Boulder and Aspen creeks	3.43	317	39.24	67.09361	#N/A	#N/A	#N/A	282	37.9166	57.67285	299.5	38.5783	62.38323		
T4	On Jamie's sharepoint list - sed and surface water	3.25	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	339	38.4993	70.39558	339	38.4993	70.39558		
A65	Animas near wetland downstream of venture snowboarc	2.99	326	41.572	73.09899	243	75.6514	99.15534	315	37.1479	63.11574	315	41.572	73.09899		
A66	Animas at destroyed bridge	2.48	383	35.917	74.19792	280	77.9449	117.7168	361	32.0845	62.47343	361	35.917	74.19792		
A68	14th Street Gauge @ 13th Street Bridge	1.77	401	37	80.02745	320	78.4	135.319	409	49.5	109.1997	401	49.5	109.1997		107.0638
A72	Animas Gauge below Silverton	0.00				361	220	428.3737	465	110	275.8916	413	165	352.1326	NOTE: A72 limited to 2016-2017 due to change in treatment	367.5588
	Burrows Gulch															
BG1A	Burrow Gulch Above Mining	15.29	393	Not Meası	#VALUE!	350	0.025	0.047196	277	No flow	#VALUE!	350	0.025	0.047196		
A07G	Burrows Gulch likely above most mining to help assessa	15.19	#N/A	#N/A	#N/A	303	0.042	0.068641	281	No flow	#VALUE!	292	0.042	0.068641		
	Downstream of small drainage that is below small mine and															
A07F	apparently above Red Cloud Mine	15.10	#N/A	#N/A	#N/A	1360	0.136	0.997633	2650	No flow	#VALUE!	2005	0.136	0.997633		
A07E	Upstream of Boston Mine	15.01	#N/A	#N/A	#N/A	2120	0.11	1.257829	3530	0.0338	0.643553	2825	0.0719	0.950691		
A07D	Below Boston and above Dewitt	14.95	#N/A	#N/A	#N/A	2830	0.02	0.305288	3560	No flow	#VALUE!	3195	0.02	0.305288		
A07C	Abv London Mine - Burrows Gulch Above London Mine	14.85	4490	0.0208	0.503736	3840	0.169	3.500345	#N/A	#N/A	#N/A	4165	0.0949	2.00204		
A07B	Blw London Mine - Burrows Creek Below London Mine	14.59	4340	0.0468	1.095541	4280	0.4143	9.564265	3830	0.163	3.36728	4280	0.163	3.36728		
A07A	Burrows Creek below London Mine	14.44	3860	0.0832	1.732222	3660	0.6516	12.86338	3650	0.2578	5.075381	3660	0.2578	5.075381		
BG4	Abv Large Fault - Burrows Creek Above Large Fault	14.25	#N/A	#N/A	#N/A	2860	0.6291	9.704622	#N/A	#N/A	#N/A	2860	0.6291	9.704622		
A07	BC abv NF - Burrows Creek above Animas	14.13	3240	0.13	2.271858	2920	0.5	7.874913	2970	No flow	#VALUE!	2970	0.315	5.073385		
	Confluence with NF Animas	14.09										2970	0.315	5.073385		
	NF Animas River															
A01	NF Animas above Denver Lake	16.01	17	0.00405	0.000371	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	17	0.00405	0.000371		
A04	NF Animas above Horseshoe Creek	15.48	10.8	0.0128	0.000746	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	10.8	0.0128	0.000746		
	Confluence with Horseshoe Creek	15.46														
A05	NF Animas below Horseshoe Creek	15.20	142	0.0949	0.072685	134	0.857	0.61941	125	0.2	0.134844	134	0.2	0.134844		
	Confluence with Burrows	15.16														
A08	NF Animas below Burrows Creek	15.11	1220	0.2884	1.897789	1240	1.6105	10.77148	1230	0.9656	6.406123	1230	0.9656	6.406123		
UA5	NF Animas River	14.44	1410	0.5396	4.103779	1280	1.5775	10.89111	#N/A	#N/A	#N/A	1345	1.05855	7.497445		
A09	NF Animas above California Gulch	14.12	1380	0.45	3.349535	1180	Not Meası	#VALUE!	1170	1.9454	12.27687	1180	1.1977	7.813202		
	Confluence with WF Animas (California)	14.09										1180	1.1977	7.813202		
	WF Animas River															
A19	California Gulch above Mountain Queen	17.50	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#NUM!	#NUM!	#NUM!		
A18	California Gulch below Mountain Queen	17.18	#N/A	#N/A	#N/A	360	Not Meası	#VALUE!	#N/A	#N/A	#N/A	360	#NUM!	#NUM!		
A18A	California Gulch above Indian Chief	16.98	#N/A	#N/A	#N/A	1260	Not Meası	#VALUE!	2200	0.17	2.017272	1730	0.17	2.017272		
A18B	California Gulch Below Silver Chord.	16.63	#N/A	#N/A	#N/A	3740	0.6122	12.34974	5230	0.5506	15.53212	4485	0.5814	13.94093		
CG3	California Gulch above DM11-16	16.18	7610	0.47	19.29192	5140	1.2884	35.71961	6160	0.432	14.35348	6160	0.47	19.29192		
CG3A	California Gulch above DM11-16	16.03	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#NUM!	#NUM!	#NUM!		
CG4	California Gulch below DM11-16	15.84	6270	0.55	18.60044	4240	2.2417	51.2668	4770	1.0092	25.96501	4770	1.0092	25.96501		
CG6	California Gulch below Vermillion Mine Tributary	15.70	5310	0.4213	12.06643	3700	1.7495	34.91472	4780	0.7283	18.77721	4780	0.7283	18.77721		
CG6A	California Gulch below Vermillion Mine Tributary	15.61	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#NUM!	#NUM!	#NUM!		
A15	California Gulch above Placer Gulch	15.32	5100	0.4459	12.26593	3450	3.5999	66.98883	4280	0.519	11.9813	4280	0.519	12.26593		
	Placer Gulch	15.02														
A13	California Gulch below Placer Gulch	14.99	3920	1.16	24.52658	2360	4.5751	58.23787	3080	1.6452	27.33143	3080	1.6452	27.33143		
CG9	Btw Frisco and Bagley Ponds ? California Gulch below Ba	14.66	3880	1.3016	27.23969	2430	4.861	63.71252	2850	2.4775	38.08478	2850	2.4775	38.08478		
A11	California Gulch below Bagley Mill Tailings	14.55	4110	1.9221	42.60992	2410	3.8865	50.52061	3200	2.1722	37.49235	3200	2.1722	42.60992		
CG11	CG abv Columbus ? California Gulch above Columbus Mi	14.23	3930	1.275	27.02686	2380	7.3641	94.53432	2910	3.6495	57.28214	2910	3.6495	57.28214		
A10	California Gulch above Animas Confluence	14.14	4560	1.4132	34.75853	2630	5.3183	75.44344	3230	4.8305	84.15647	3230	4.8305	75.44344		
	Confluence with Animas	14.09										3230	4.8305	75.44344		
	Placer Gulch															
A23	Place Gulch below Gold Prince	16.80	999	0.0832	0.448313	#N/A	#N/A	#N/A	1150	0.163	1.011063	1074.5	0.1231	0.729688		
A22	Placer Gulch above Sunbank adit	16.23	1150	0.137	0.849789	1380	1.1828	8.804066	1350	0.254	1.849526	1350	0.254	1.849526		
A21	Place Gulch below Sunbank Adit	15.92	1780	0.169	1.622556	1560	1.1466	9.647825	1810	0.421	4.110111	1780	0.421	4.110111		
A20	Placer Gulch	15.30	1710	0.4953	4.568328	1220	1.7715	11.65719	1530	0.9603	7.924854	1530	0.9603	7.924854		
	Confluence with WF	15.02										1530	0.9603	7.924854		
	Mainstem Mineral Creek															
M02L	Lake above Longfellow	10.33	#N/A	#N/A	#N/A	10	0		20	No flow	#VALUE!	15	0	#NUM!		
M02E	Pond Below Longfellow and Junction Mines	10.16	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#NUM!	#NUM!	#NUM!		
M02	Upper Mineral	10.05	#N/A	#N/A	#N/A	16400	0.051	4.511354	18400	0.035	3.473592	17400	0.043	3.992473		
M04	Mineral Creek above Carbon Lakes Confluence	9.62	#N/A	#N/A	#N/A	1110	0.996	5.963143	4230	0.1781	4.063471	2670	0.58705	5.013307		
M05	Mineral Creek below Carbon Lakes Tributary	9.50	#N/A	#N/A	#N/A	1170	0.4252	2.683317	3480	0.2702	5.071746	2325	0.3477	3.877531		
M06A	Mineral Creek Above Silver Ledge Mine	9.20	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	2840	0.2754	4.218666	2840	0.2754	4.218666		
M06C	Mineral Creek at Silver Ledge Mine	9.12	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	4490	0.3923	9.500742	4490	0.3923	9.500742		
M06D	Mineral Creek Below Silver Ledge Mine	9.02	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1700	1.0344	9.484847	1700	1.0344	9.484847		
M07	Mineral Creek Above Chattanooga	8.56	#N/A	#N/A	#N/A	460	4.5021	11.17033	1170	2.4318	15.3464	815	3.46695	13.25836		
M10A	Mineral Creek Above Mill Creek	8.27	#N/A	#N/A	#N/A	475	4.7301	12.11872	987	2.6773	14.25303	731	3.7037	13.18587		
M11	Mineral Creek Below Mill Creek	8.07	#N/A	#N/A	#N/A	215	13.1427	15.24109	375	7.3038	14.77315	295	10.22325	15.00712		
M13A	Mineral Creek Above Imogene	7.62	#N/A	#N/A	#N/A	218	13.2161	15.54006	331	7.7072	13.75997	274.5	10.46165	14.65002		
M13B	Mineral Creek above Browns Gulch	7.12	#N/A	#N/A	#N/A	245	14.1155	18.65328	356	8.815	16.92642	300.5	11.46525	17.78985		
M13D	Mineral Creek Below Browns Gulch	6.92	#N/A	#N/A	#N/A	268	14.0913	20.36942	377	8.8544	18.00501	322.5	11.47285	19.18722		
M14A	Mineral Creek above Unnamed Gulch @ Ophir Pass Rd.	6.63	#N/A	#N/A	#N/A	212	14.1221	16.14835	349	8.9901	16.92321	280.5	11.5561	16.53578		
M14B	Mineral Creek below Unnamed Gulch	6.28	#N/A	#N/A	#N/A	220	16.1379	19.14973	319	9.2063	15.84049	269.5	12.6721	17.49511		
		6.10														
M27A	Mineral Creek Below Middle Fork	5.99	#N/A	#N/A	#N/A	205	28.2828	31.27297	285	15.4754	23.78919	245	21.8791	27.53108		
M27A2	Mineral Creek between M27 and M27A	5.40	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	305	14.5762	23.97933	305	14.5762	23.97933		
M27	Mineral Creek	3.96	#N/A	#N/A	#N/A	220	32.8243	38.95032	269	15.9207	23.09975	244.5	24.3725	31.02504		
		3.70														
M29A	Mineral Creek Above Zuni Creek	3.53	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	158	33.5	28.54926	158	33.5	28.54926		
M29	Mineral Creek above Bear Creek	2.77	#N/A	#N/A	#N/A	128	73.9665	51.06672	175	34.6507	32.70717	151.5	54.3086	41.88694		
M32	Mineral Creek above North Star	1.79	#N/A	#N/A	#N/A	94.5	105.063	53.55185	145	36.1845	28.29981	119.75	70.62375	40.92583		
M33	Mineral Creek Below North Star	1.49	#N/A	#N/A	#N/A	98.1	104.2564	55.16513	157	42.7934	36.23843	127.55	73.5249	45.70178		
M34	Mineral Creek Above Animas River	1.03				98	88.2	46.62164	158	38.6	32.89556	128	63.4	39.7586		
M38	Mineral Creek at Confluence with Animas River	0.80	#N/A	#N/A	#N/A	96.5	117.1285	60.96531	163	44.3475	38.98968	129.75	80.738	49.97749		
	Mouth of Mineral Creek	0.77														
	Middle Fork Mineral															
M16G	Above Paradise in Middle Fork	8.60	#N/A	#N/A	#N/A	37	1.4197	0.283329	44	1.0841	0.257285	40.5	1.2519	0.270307		
M16E	Paradise Above Adit #1, below Adit #2, #3, #4	8.38	#N/A	#N/A	#N/A	63.9	2.3921	0.824467	89.1	2.1387	1.027828	76.5	2.2654	0.926147		
M16A	Paradise Adit Downstream	8.35	#N/A	#N/A	#N/A	718	Not Meası	#VALUE!	734	No flow	#VALUE!	726	#NUM!	#NUM!		
M16H	Paradise Downstream in Middle Fork	8.33	#N/A	#N/A	#N/A	148	4.0069	3.198623	211	2.3435	2.667106	179.5	3.1752	2.932865		
M17	Middle Fork of Mineral Creek below Paradise Mine	8.18	#N/A	#N/A	#N/A	146	4.4332	3.491106	#N/A	#N/A	#N/A	146	4.4332	3.491106		
M17A	Middle Fork Above Red Tributary	7.46	#N/A	#N/A	#N/A	109	7.9083	4.64946	143	4.45	3.432329	126	6.17915	4.040895		
M19	Middle Fork below Red Tributary	7.32	#N/A	#N/A	#N/A	140	7.5518	5.70258	197	6.7587	7.181618	168.5	7.15525	6.442099		
M20	Middle Fork above Bonner Mine/Independence Mine	7.02	#N/A	#N/A	#N/A	129	13.0695	9.09372	186	5.4894	5.507198	157.5	9.27945	7.300459		
M22	Middle Fork Mineral Creek	6.60	#N/A	#N/A	#N/A	154	9.5527	7.934869	213	5.1355	5.900044	183.5	7.3441	6.917456		
	Mouth of MF Mineral Creek	6.31														
	South Fork Mineral															
M23	Bandora Background	10.26	#N/A	#N/A	#N/A	40	16.3776	3.533484	51.3	5.4036	1.49518	45.65	10.8906	2.514332		
M25	Bandora Downstream in South Fork	10.05	#N/A	#N/A	#N/A	111	20.7576	12.42776	153	6.0293	4.975666	132	13.39345	8.701715		
M26B	South Fork Mineral Creek below Campground	7.65	#N/A	#N/A	#N/A	40.2	39.5161	8.568267	47	10.8667	2.75479	43.6	25.1914	5.661528		
M26D	South Fork Mineral Creek US of M28	4.85	#N/A	#N/A	#N/A	24.6	42.7962	5.678494	16.4	15.9403	1.410046	20.5	29.36825	3.54427		
M28	South Fork Mineral Creek Above Confluence	4.07	#N/A	#N/A	#N/A	16.9	51.8836	4.72944	21.3	17.4086	2.000029	19.1	34.6461	3.364734		
	Cement Creek															
CC01S	Queen Anne tributary upstream of confluence with Ceme	10.78				3110	0.3	5.032393	NOTE: 2016 were much more con			3110	0.3	5.032393		
CC01T	Cement Creek downstream of the Queen Anne tributary	10.75				2160	0.7054	8.218302				2160	0.7054	8.218302		
CC02I	Combined flow of the Mogul Sublevel 1 drainages just up	10.70				2110	0.7792	8.867971				2110	0.7792	8.867971		
CC01U	Cement Creek downstream of the sublevel 1 tributaries.	10.67				2160	0.8428	9.819088				2160	0.8428	9.819088		
CC02C	Cement Creek Above North Fork	10.27				2050	0.747	8.259758				2050	0.747	8.259758		
CC02B	Cement Creek downstream of MTD-4 confluence but ups	10.19				#N/A	#N/A	#N/A				#NUM!	#NUM!	#NUM!		
CC03A	CC below FD-1 Cement Creek Above North Fork	10.15				4370	2.0992	49.47982				4370	2.0992	49.47982		
CC02	Cement Creek Above North Fork	9.78				3780	1.8746	38.22023				3780	1.8746	38.22023		
CC03BF	Cement Creek Above North Fork	9.42				3540	2.1775	41.57711				3540	2.1775	41.57711		
CC03B	Cement Creek immediately upstream of Red and Bonita (	9.36				3630	1.9053	37.30464				3630	1.9053	37.30464		
CC03	Cement Creek downstream of the Red and Bonita conflu	9.19				6240	4.8219	162.2915				6240	4.8219	162.2915		
CC18B	Cement Creek upstream of the American Tunnel confluer	9.12				6130	3.1674	104.7264				6130	3.1674	104.7264		
CC18	Cement Creek downstream of the American Tunnel confl	8.89				6820	3.9625	145.7627				6820	3.9625	145.7627		
CC20H	Culvert under road at Gladstone	8.81				#N/A	#N/A	#N/A				#NUM!	#NUM!	#NUM!		
CC20	Cement Creek btw N Fork and S Fork	8.74					4.5269	0				#NUM!	4.5269	0		
CC21	Cement Creek below SF confluence	8.53	NOTE: Cement Creek data limited to 2017. 2015 were pre-treatment plant and 2016 were problematic and not comparable to other years.						3180	6.805	116.7208	3180	6.805	116.7208		
CC21B	Cement Creek upstream of Prospect Gulch but downstre:	7.59							#N/A	#N/A	#N/A	#NUM!	#NUM!	#NUM!		
CC27	Cement Creek below Prospect	7.46							2230	9.7105	116.7991	2230	9.7105	116.7991		
CC28	Cement Creek below Bog	7.32							#N/A	#N/A	#N/A	#NUM!	#NUM!	#NUM!		
CC28E	CC upstream of Mammoth Tunnel	7.27							2130	11.6777	134.1621	2130	11.6777	134.1621		
CC28C	CC upstream of Tiger Gulch	7.23							2110	11.2011	127.4782	2110	11.2011	127.4782		
CC28D	CC downstream of Mammoth Tunnel	7.18							2080	10.6775	119.7914	2080	10.6775	119.7914		
CC30N	CC upstream of Fairview Gulch	6.68							#N/A	#N/A	#N/A	#NUM!	#NUM!	#NUM!		
CC34	CC upstream of Minnesota Gulch	6.06							#N/A	#N/A	#N/A	#NUM!	#NUM!	#NUM!		
CC39B	Cement Creek above Porcupine Gulch	5.82							1930	14.2811	148.6661	1930	14.2811	148.6661		
CC39C	Upgradient of Anglo Saxon Mine	5.68							1890	13.2281	134.8504	1890	13.2281	134.8504		
CC39	Cement Creek below Porcupine	5.67							1830	14.0237	138.4225	1830	14.0237	138.4225		
CC39D	Downgradient of Anglo Saxon Mine	5.62							1790	13.1996	127.4403	1790	13.1996	127.4403		
CC40B		5.22							#N/A	#N/A	#N/A	#NUM!	#NUM!	#NUM!		
CC41	Cement Creek above Illinois Gulch and downstream of O	5.13							1760	15.4306	146.4834	1760	15.4306	146.4834		
CC43E	Cement Creek Below Yukon Tunnel	4.90							1590	14.9679	128.3663	1590	14.9679	128.3663		
CC44B	CC upstream from Topeka Gulch	4.78							#N/A	#N/A	#N/A	#NUM!	#NUM!	#NUM!		
CC45K	CC upstream of Niagara Gulch	4.29							#N/A	#N/A	#N/A	#NUM!	#NUM!	#NUM!		
CC46B	CC upstream from Hancock Gulch	4.11							#N/A	#N/A	#N/A	#NUM!	#NUM!	#NUM!		
CC47C	CC upstream of Soda Gulch	3.03							#N/A	#N/A	#N/A	#NUM!	#NUM!	#NUM!		
CC48	Cement Creek upstream from Animas	2.44							1420	14.1	107.9942	1420	14.1	107.9942		
CC49	Above Animas Confluence	1.66							#N/A	#N/A	#N/A	#NUM!	#NUM!	#NUM!		
	Mouth Cement	1.60														
	South Fork Cement Creek															
CC15	South Fork upstream of Silver Ledge discharge								47.7	0.2762	0.07	47.7	0.2762	0.071062		
CC15A	South Fork below Natalie/Occidental and above Big Colorado								469	1.3139	3.32	469	1.3139	3.323748		
CC16B	South Fork below Natalie/Occidental and Big Colorado								447	1.7478	4.21	447	1.7478	4.213977		
CC20	South Fork Cement above Gladstone								#N/A	#N/A	#N/A	#NUM!	#NUM!	#NUM!		
CC17	South Fork above Cement Creek								588	4.0858	12.96	588	4.0858	12.95828		
	Mouth South Fork Cement Creek	8.57														
	North Fork Cement Creek															
	See Sources															







NOTE: Fall 2012 is most complete synoptic data. Normalize these data with 2016-17 median for A72. Reduce concentration by 44%, discharge by 122% and loading by 25%

			Fall 2014	Fall 2014	Fall 2014	Fall 2012	Fall 2012	Fall 2012	Sorine 201	Sorine 201	Spring 2013			
	Animas River below Silverton													
A72	Animas Gage below Silverton	0.00	362	247	482.2791	745	102	410		486	0	553.5	247	409.873
A73	Animas Upstream of Elk Creek	-5.10	327		0	682	78.7579	290				504.5	78.7579	144.8576
A73B	Animas Downstream of Elk Creek	-5.15	180		0	561	83.0381	251				370.5	83.0381	125.6328
A75D	Animas upstream of Cascade Creek	-18.27	152		0	427	94.8219	218				289.5	94.8219	109.1942
A75B	Animas downstream of Cascade Creek	-18.36	149	687	552.1231	442	116.8278	279		1320	0	295.5	687	278.5232
Bakers Bri	Durango Resort and RV Park	-29.45	87.7		0	241	120.3015	156				164.35	120.3015	78.18996
James Ran	James Ranch	-32.92	80.5		0							80.5	#NUM!	0
32nd St Br	Animas@32nd Bridge	-46.89	57.5		0							57.5	#NUM!	0
Lightner C	Anmias@Lightner Creek	-50.55	41.5	947	211.9781							41.5	947	211.9781
Purple Clif	Animas@PurpleCliffs	-51.34	34.7	949	177.6187							34.7	949	177.6187

Gray cells indicate discharge using USGS gage

			Median	Median	Median	Fall 2012	Fall 2012	Fall 2012	Difference	Difference	Difference
A72	Animas Gage below Silverton		413	165	352	745	102	409.873	-45%	62%	-14%
						Fall 2014	Fall 2014	Fall 2014			
						362	247	482.2791	14%	-33%	-27%

Reduced

	Animas River below Silverton												
A72	Animas Gage below Silverton	0.00	413	165	368	413	165	352			413.000	165	352.133
A73	Animas Upstream of Elk Creek	-5.10	373			378	127	249			378.075	127	248.902
A73B	Animas Downstream of Elk Creek	-5.15	205			311	134	216			310.997	134	215.869
A75D	Animas upstream of Cascade Creek	-18.27	173			237	153	188			236.713	153	187.623
A75B	Animas downstream of Cascade Creek	-18.36	170	459	421	245	189	239			245.028	189	239.287
Bbridge	Durango Resort and RV Park	-29.45	100			134	195	134			133.601	195	134.350
James Ran	James Ranch	-32.92	92								91.841		
Animas@I	Animas@32nd Bridge	-46.89	66								65.601		
Anmias@L	Anmias@Lightner Creek	-50.55	47	633	155						47.347	633	154.774
Animas@P	Animas@PurpleCliffs	-51.34	40	634	130						39.589	634	129.687

Station	Description	Catchment	Dist from A72	Fall 2015 Dissolved Zn	Fall 2015 Discharge	Fall 2015 Dissolved Zn load	Fall 2016 Dissolved Zn	Fall 2016 Discharge	Fall 2016 Dissolved Zn load	Fall 2017 Dissolved Zn	Fall 2017 Discharge	Fall 2017 Dissolved Zn load	Median Dissolved Zn	Median Discharge	Median Dissolved Zn load
	Eureka G/SF Animas River														
A34	Eureka Gulch above Animas	Animas River	9.94	307	2.6006	4.306305	224	4.9928	6.032329752	293	4.0764	6.442245921	293	4.0764	6.03233

REACH LOADS

Station		Net Reach Load	
CC46B	CC upstream from Hancock Gulch	0	Confirmed 2015 and 2017; Niagara Gu
A75B	Animas downstream of Cascade Creek	53	Need more data
CC41	Cement Creek above Illinois Gulch and downstream of Ohio Gulch.	19	Not confirmed; inconsistent between
CC39	Cement Creek below Porcupine	4	Not confirmed; inconsistent between
CC21B	Cement Creek upstream of Prospect Gulch but downstream of Dry Gulch. Acces	0	Not confirmed; inconsistent between
CC39B	Cement Creek above Porcupine Gulch	29	Not confirmed; inconsistent between
A68	14th Street Gauge @ 13th Street Bridge	37	Mayflower
A72	Animas Gauge below Silverton	92	Uncertain; could be sediment source
A10	California Gulch above Animas Confluence	26	Columbus
A30B	Downstream of Tom Moore Adit and Waste rock and above small trib on far ba	24	Tom Moore
M38	Mineral Creek at Confluence with Animas River	14	Q increase; C constant
A53AC	Animas at bridge in Howardsville	23	Colorado Goldfields
CG11	CG abv Columbus ? California Gulch above Columbus Mine	20	Q increase (below Bagley)
M29	Mineral Creek above Bear Creek	7	Q increase; C increase; fen on right ba
CC03	Cement Creek downstream of the Red and Bonita confluence and upstream of t	70	Not confirmed; inconsistent between
A61	Animas below Arrastra	14	Mayflower
A45	Animas above Pride of the West Mill	14	Q increase; C decrease
A30	blw Burns and Silver Wing	12	Silver Wing
M07	Mineral Creek Above Chattanooga	8	Silver Ledge
CG4	California Gulch below DM11-16	10	Q increase; C decrease
CG9	Btw Frisco and Bagley Ponds ? California Gulch below Bagley Adit Discharge	9	Bagley
T4	On Jamie's sharepoint list - sed and surface water	8.0	Mayflower
LA3	Animas below Maggie	7.4	Q increase; C decrease
A13	California Gulch below Placer Gulch	7.1	Q increase; C decrease
A39A	Eureka Gulch above Terry Tunnel but below Ben Franklin in steep gulch/cascadi	7.0	Q increase; C increase; 1 year only
M25	Bandora Downstream in South Fork	5.6	Not all adit discharge accounted
CC01S	Queen Anne tributary upstream of confluence with Cement Creek. Park at tailin	4.6	Queen Anne
A64	Animas downstream of Boulder and Aspen creeks	4.9	Mayflower
BG4	Abv Large Fault - Burrows Creek Above Large Fault	4.6	Not confirmed; C decrease
M04	Mineral Creek above Carbon Lakes Confluence	1.4	Q increase; C decrease
A34	Eureka Gulch above Animas	4.3	Q increase; C increase; confirmed
CC20	South Fork Cement above Gladstone	0.0	Unknown; duplicate station name
A08	NF Animas below Burrows Creek	1.2	Unknown
A20	Placer Gulch	3.8	Q increase; C decrease
CC01U	Cement Creek downstream of the sublevel 1 tributaries. Sample just upstream	1.0	Mogul North mine?
CC03BF	Cement Creek Above North Fork	3.4	DS of left bank fen
M27	Mineral Creek	7.7	Not confirmed; no load change in 2017
M27A	Mineral Creek Below Middle Fork	4.2	C decrease
A41A	Animas below Minnie	3.0	lack of Minnie data
M13B	Mineral Creek above Browns Gulch	3.1	Imogene?
CC17	South Fork above Cement Creek	8.7	Middle Fork and Minnehaha; Blackhawk?
M23	Bandora Background	3.5	other mines? Big Three, Rolling Mountain; background?
A18A	California Gulch above Indian Chief	1.9	Background?
A07C	Abv London Mine - Burrows Gulch Above London Mine	1.8	DeWitt
A21	Placer Gulch below Sunbank Adit	1.3	Sunbank not from the adit
CG3	California Gulch above DM11-16	1.7	Background?
	Downstream of small drainage that is below small mine and apparently above		
A07F	Red Cloud Mine	1.4	Background?
M20	Middle Fork above Bonner Mine/Independence Mine	3.4	Q increase; C decrease
A60	Animas downstream of Arrastra Creek and downstream of Bridge	1.3	No obvious source; not the waterfall sampled by SGC
M17	Middle Fork of Mineral Creek below Paradise Mine	0.3	probably sediment
A22	Placer Gulch above Sunbank adit	1.1	Sound Democrat mill
UA5	NF Animas River	1.1	Three tiny mines or sediment
M33	Mineral Creek Below North Star	-2.3	North Star mill
M32	Mineral Creek above North Star	1.96	Columbine
M16E	Paradise Above Adit #1, below Adit #2, #3, #4	0.53	Background?
M02	Upper Mineral	1.25	probably related to Koehler/Junction
A23	Placer Gulch below Gold Prince	0.73	
M17A	Middle Fork Above Red Tributary	1.16	
M14B	Mineral Creek below Unnamed Gulch	2.77	
EG9	Eureka Gulch below South Fork	0.57	
CC28E	CC upstream of Mammoth Tunnel	17.36	
M06A	Mineral Creek Above Silver Ledge Mine	0.00	
M28	South Fork Mineral Creek Above Confluence	-0.95	
CC16B	South Fork below Natalie/Occidental and Big Colorado	0.89	
A09	NF Animas above California Gulch	0.32	
EG5	Eureka Gulch below Ben Franklin Mine	0.29	
M16G	Above Paradise in Middle Fork	0.28	
A65	Animas near wetland downstream of venture snowboard	0.24	Mayflower
CC15	South Fork upstream of Silver Ledge discharge	0.07	
EG3A	Blw headwaters confluence. Flows into stope and daylights But of Ben Franklin A	0.10	
M19	Middle Fork below Red Tributary	-1.18	
A05	NF Animas below Horseshoe Creek	0.05	
EG3	Eureka Gulch Headwaters above confluence	0.05	
BG1A	Burrow Gulch Above Mining	0.05	
A07G	Burrows Gulch likely above most mining to help assess natural contribution	0.02	
EG1	Eureka Gulch Headwaters, above the Clipper	0.0072	
#REF!	#REF!	#REF!	
A01	NF Animas above Denver Lake	0.00037	
A04	NF Animas above Horseshoe Creek	0.000	
M11	Mineral Creek Below Mill Creek	1.38	
A40	Animas above Minnie Gulch (AKA Animas above Minnie)	-0.30	
A07E	Upstream of Boston Mine	-0.38	
A11	California Gulch below Bagley Mill Tailings	-0.59	Bagley
M22	Middle Fork Mineral Creek	-1.16	
M10A	Mineral Creek above Mill Creek	0.95	
A66	Animas at destroyed bridge	-0.70	Mayflower
A07D	Below Boston and above Dewitt	-0.75	
M13A	Mineral Creek Above Imogene	0.30	
A37	Eureka Gulch above South Fork	-1.2	
M14A	Mineral Creek above Unnamed Gulch @ Ophir Pass Rd.	-4.2	
M13D	Mineral Creek Below Browns Gulch	-1.5	
M26D	South Fork Mineral Creek US of M28	-2.9	
CC02C	Cement Creek Above North Fork	-1.6	
CC03B	Cement Creek immediately upstream of Red and Bonita confluence. Site is strai	-4.3	
M05	Mineral Creek below Carbon Lakes Tributary	-3.3	
A07	BC abv NF - Burrows Creek above Animas	-4.6	
CC21	Cement Creek below SF confluence	-42.1	
A30A	Upstream of Tom Moore Adit and Waste Rock	-5.2	
EG6	Eureka Gulch below Terry Tunnel	1.4	
M26B	South Fork Mineral Creek below Campground	-6.2	
CC01T	Cement Creek downstream of the Queen Anne tributary and upstream of confl	-3.9	
CC03A	CC below FD-1 Cement Creek Above North Fork	-8.8	
A15	California Gulch above Placer Gulch	-7.0	
CC28C	CC upstream of Tiger Gulch	-6.7	
M29A	Mineral Creek Above Zuni Creek	0.0	
CG6	California Gulch below Vermillion Mine Tributary	-7.2	
A31	Animas above Niagara	-8.6	
A40A	Animas abv FQ	-9.5	
A73	Animas Upstream of Elk Creek	-108	
CC02	Cement Creek Above North Fork	-11	
A56	Animas Abv Arrastra	-12	
A33	Animas above Eureka	-12	
CC15A	South Fork below Natalie/Occidental and above Big Colorado	-1	
A55	Gaging station below Howardsville	-13	

MINE SOURCES

Station		Source Load
CC03D	Red and Bonita at road	54.79645
CC03C	Red and Bonita Adit discharge	0
CC19	America Tunnel Discharge	28.544
MTD-4	Mogul tailings drainage just upstream of conflue	0
CC02D	Mogul at flume	21.34522
CC14	Natalie/Occidental Mine discharge	4.119
0	Silver Chord	11.9237
CC02I	Combined flow of the Mogul Sublevel 1 drainage	0
CC01H	Cement Creek upstream of Queen Anne tributar	7.120863
M33A	North Star Adit	3.934
M02K	Koehler Mine adit	3.102
M24B	Bandora Adit Discharge #2 -"Middle Adit"	3.2913
0	London	1.631
CC01C2	Collective Grand Mogul discharge	1.58577
CC37	Anglo Saxon Mine drainage	1.414248
0	London	1.312
Effluent	0	0.053
M16	Paradise Adit #1	2.347
A12	Bagley Tunnel Mine Drainage	1.286
A11A	Columbus Adit Discharge	0.539
A21A	Comet Lower Adit	0.971
CG5A	Vermillion Mine Drainage at road	0.000
M02B	Junction Adit	0.154
A19A	Mountain Queen Adit Discharge	0.109
M16C	Paradise Adit #3	0.011
M24C	Bandora Adit Discharge #3 - "Lower Adit"	0.005

TRIBUTARY LOADS

Station		Tributary Load
CC48	Cement Creek	107.994
A10	F Animas (California Gulch) at mou	84.156
M34	Mineral Creek	60.965
FD-1	Fen drainage upstream of conflue	28.65532
0	South Fork Cement Cr.	12.95828
0	Placer Gulch	7.92
A09	NF Animas above California Gulch	7.813202
M22	Middle Fork Mineral Creek	7.935
A34	Eureka Gulch above Animas	6.032
A73EC	Elk Creek	4.226563
M28	South Fork Mineral Creek	4.729
M12	Browns Gulch	3.224
CC26	Prospect Gulch above Cement Cr	3.074196
A58	Arrastra Gulch	2.942
M26	Clear Creek	2.294
A27	Burns Gulch	2.278782
A07	Burrows Creek at mouth	5.073385
M18	Red Tributary	2.229
M10	Mill Creek	1.738
A48	Cunningham Creek	1.728
0	North Fork Cement Cr.	1.097094
CC07	North Fork above CC confluence	1.097
A36	South Fork above Eureka Gulch	0.860
CC38	Porcupine Gulch above road	0.728893
CC42	Illinois Gulch at mouth	0.639
A75CC	Cascade Creek	0.618127
M32B	Belcher Creek	0.305
M14	Unnamed Gulch	0.233
EG4	Eureka Gulch below Lake Emma/	0.188
A03	Horseshoe Creek at mouth	0.08061
M16F	Crystal Creek	0.044
CC01F	Cement Creek upstream of Grand	0
M03	Carbon Lakes Stream	0.054
CC21D	Dry Gulch (includes Evelyn CC21C	0.018448
EG2	Eureka Gulch below Lake Emma	0.008
M01	Mineral Creek Headwaters	0.016
A02	Animas below Lucky Jack Mine	0.005218
MC0	Mouth of McCarty	0.019
A32	Niagara Gulch	0.001942

Animas@P	Animas@PurpleCliffs	-26
CC18B	Cement Creek upstream of the American Tunnel confluence but downstream of	-59
CC18	Cement Creek downstream of the American Tunnel confluence	11
CC47C	CC upstream of Soda Gulch	0
M34	Mineral Creek Above Animas River	-9
A35	Animas below Eureka	-20
CC43E	Cement Creek Below Yukon Tunnel	-19
A14	Animas below California Gulch	-30
CC39C	Upgradient of Anglo Saxon Mine	-16
A28	Animas below Burns Gulch	-35
CC27	Cement Creek below Prospect	-3
A75D	Animas upstream of Cascade Creek	-29
A73B	Animas Downstream of Elk Creek	-39
CC39D	Downgradient of Anglo Saxon Mine	-11
CC48	Cement Creek upstream from Animas	-20
Anmias@L	Anmias@Lightner Creek	21
Bbridge	Durango Resort and RV Park	-110

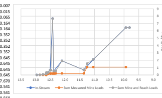
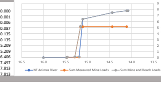
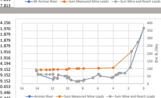
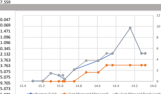
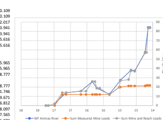
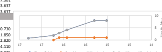
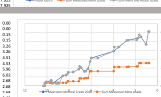
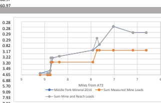
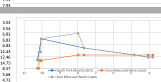
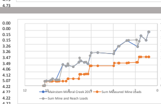
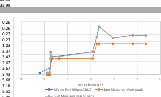
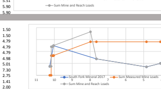
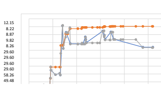
Source	Median Dissolved Zn load lb./day
Mayflower	63
Red and Bonita at road	55
Bagley	30
America Tunnel Discharge	29
Columbus	27
Tom Moore Reach Load	24
Colorado Goldfields	23
Mogul at flume	21
Silver Chord	11.9
Silver Wing area	11.5
Silver Ledge Area 2017	11.1
Black hawk	8.7
Silver Ledge Area 2016	8.5
Cement Creek upstream of Queen Anne tributary but d	7.1
Ransom?	4.3
Natalie/Occidental Mine discharge	4.1
North Star Adit	3.9
Bandora Adit Discharge #2 -"Middle Adit"	3.3
Browns Gulch	3.2
Koehler Mine adit	3.1
Prospect Gulch above Cement Creek	3.1
London	2.9
Arrastra Gulch	2.9
Paradise Adit #1	2.3
Burns Gulch	2.3
Dewitt	1.8
Anglo Saxon Mine drainage	1.4
Sewell?	1.4
Eureka Gulch below Terry Tunnel	1.0
Comet Lower Adit	0.97
Vermillion Tunnel	0.52

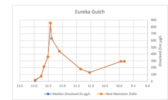
Colors
Signficant net reach load
Reach load attirbuted to a source
Adit Load
Significant Tributary Load

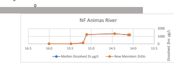
Station	In-Stream	Dist from A72 miles	Median Dissolved Zn µg/L	Median Discharge cfs	Median Dissolved Zn load lb./day	Load calculated from medians	Selected Load	Reach Load	Net Reach Load
	Eureka Gulch								
EG1	Eureka Gulch Headwaters, above the Clinne	12.964	10	0.067	0.007228	0.003614	0.00723	0.0072	0.0072
EG3	Eureka Gulch Headwaters above confluence	12.752	73.8	0.1575	0.064956	0.062695	0.06496	0.058	0.049
EG3A	Blw headwaters confluence. Flows into ston	12.653	215	0.1417	0.238408	0.164324	0.16432	0.099	0.099
EG5	Eureka Gulch below Ben Franklin Mine	12.511	361	0.33125	0.868588	0.644994	0.64499	0.4807	0.293
A39A	Eureka Gulch above Terry Tunnel but below	12.424	857	1.6593	7.670058	7.670058	7.67006	7.0251	7.025
A39	Eureka above Terry Tunnel	12.386	630	0.1592	0.540974	0.540974	0.54097	-7.1291	-7.129
EG6	Eureka Gulch below Terry Tunnel	12.109	441	0.8067	1.919	1.918861	1.91886	1.378	1.36
A37	Eureka Gulch above South Fork	11.364	181	0.7009	0.934	0.68427	0.68427	-1.235	-1.235
EG9	Eureka Gulch below South Fork	11.044	129	3.038	2.278	2.113832	2.11383	1.430	0.57
A34	Eureka Gulch above Animas	9.937	293	4.0764	6.032	6.442246	6.44225	4.328	4.33
	Mouth of Eureka	9.815	293	4.0764	6.03233	6.442246	6.44225	Blue cells just carry the values to the mouth	
	NF Animas River								
A01	NF Animas above Denver Lake	16.01	17	0.00405	0.000371	0.000371	0.00037	0.00037	0.00037
A04	NF Animas above Horseshoe Creek	15.48	10.8	0.0128	0.000746	0.000746	0.00075	0.00037	0.00037
A05	NF Animas below Horseshoe Creek	15.20	134	0.2	0.134844	0.144553	0.13484	0.134	0.048
	Confluence with Burrows	15.16							
A08	NF Animas below Burrows Creek	15.112	1230	0.9656	6.406	6.406123	6.40612	6.271	1.20
UA5	NF Animas River	14.444	1345	1.05855	7.497	7.679387	7.497	1.091	1.091
A09	NF Animas above California Gulch	14.12	1180	1.1977	7.813202	7.622948	7.8132	0.316	0.316
	Mouth of NF Animas	14.09	1180	1.1977	7.813202	7.622948	7.8132		
	Animas River								
A14	Animas below California Gulch	13.88	3430	3.3447	61.87913	61.87913	61.8791	61.879	-30.091
UA8		11.93	1420	#NUM!					
A28	Animas below Burns Gulch	11.90	1220	4.48195	29.15222	29.49305	29.1522	-32.727	-35.042
A30	blw Burns and Silver Wing	11.76	1275	5.95095	40.65255	40.92506	40.6526	11.500	11.500
A30A	Upstream of Tom Moore Adit and Waste Ro	11.37	1080	6.0848	37.08665	35.44565	35.4457	-5.207	-5.207
A30B	Downstream of Tom Moore Adit and Waste	11.230	1015	10.8016	59.270	59.13506	59.2701	23.824	23.824
A31	Animas above Niagara	10.38	1041	9.0193	49.04544	50.64265	50.6427	-8.627	-8.627
A33	Animas above Eureka	10.06	938	7.6523	38.71575	38.71575	38.7158	-11.927	-11.929
A35	Animas below Eureka	9.55	668	6.8892	24.82208	24.82208	24.8221	-13.894	-19.926
A40A	Animas abv FQ	8.84	628	4.5276	16.71913	15.3363	15.3363	-9.486	-9.486
A40	Animas above Minnie Gulch (AKA Animas ab	8.63	566	4.9269	17.37978	15.04122	15.0412	-0.295	-0.295
A41A	Animas below Minnie	8.50	490	6.8967	20.57119	18.22763	18.2276	3.186	3.002
LA3	Animas below Maggie	7.82	329	14.6112	32.2331	25.92834	25.9283	7.701	7.437
A45	Animas above Pride of the West Mill	6.68	302	24.2442	39.49187	39.49187	39.4919	13.564	13.564
A53AC	Animas at bridge in Howardsville	5.95	482	24.0777	62.5972	62.5972	62.5972	23.105	23.105
A55	Gaging station below Howardsville	5.69	208	45.8668	48.77928	51.45821	51.4582	-11.139	-12.867
A56	Animas Abv Arrastra	4.18	204	35.9338	44.77216	39.53905	39.539	-11.919	-11.919
A60	Animas downstream of Arrastra Creek and c	4.02	221	36.6723	43.81017	43.71428	43.8102	4.271	1.329
A61	Animas below Arrastra	3.681	282.5	37.7134	57.460	57.4654	57.4601	13.650	13.65
A64	Animas downstream of Boulder and Aspen c	3.43	299.5	38.5783	62.38323	62.32077	62.3832	4.923	4.92
T4	On Jamie's sharepoint list - sed and surface v	3.25	339	38.4993	70.39558	70.39558	70.3956	8.012	8.01
A65	Animas near wetland downstream of ventu	2.99	315	41.572	73.09899	70.63246	70.6325	0.237	0.237
A66	Animas at destroyed bridge	2.48	361	35.917	74.19792	69.9359	69.9359	-0.697	-0.697
A68	14th Street Gauge @ 13th Street Bridge	1.766	401	49.5	109.200	107.0638	107.064	37.128	37.13
		1.60	625						
		0.77	306						
A72	Animas Gauge below Silverton	0.00	413	165	352.1326	367.5588	367.559	260.495	91.536
	Burrows Gulch								
BG1A	Burrow Gulch Above Mining	15.29	350	0.025	0.05	0.05	0.05	0.047	0.047
A07G	Burrows Gulch likely above most mining to t	15.19	292	0.042	0.07	0.07	0.069	0.0214	0.021
A07F	Downstream of small drainage that is below	15.10	2005	0.136	1.00	1.47	1.47	1.4021	1.40
A07E	Upstream of Boston Mine	15.01	2825	0.0719	0.95	1.10	1.10	-0.375	-0.375
A07D	Below Boston and above Dewitt	14.95	3195	0.02	0.31	0.34	0.34	-0.751	-0.751
A07C	Abv London Mine - Burrows Gulch Above Lo	14.849	4165	0.0949	2.00	2.13	2.13	1.787	1.79
		14.720							
A07B	Blw London Mine - Burrows Creek Below Lo	14.590	4280	0.163	3.37	3.76	3.76	1.631	
A07A	Burrows Creek below London Mine	14.437	3660	0.2578	5.08	5.09	5.08	1.312	
BG4	Abv Large Fault - Burrows Creek Above Larg	14.25	2860	0.6291	9.70	9.70	9.70	4.6292	4.629
A07	BC abv NF - Burrows Creek above Animas	14.13	2970	0.315	5.07	5.05	5.07	-4.631	-4.631
	Mouth of Burrows	14.09	2970	0.315	5.07	5.05	5.07		
	WF Animas River								
A19	California Gulch above Mountain Queen	17.50		#NUM!					
A18	California Gulch below Mountain Queen	17.18	360	#NUM!					
A18A	California Gulch above Indian Chief	16.98	1730	0.17	2.017272	1.586309	2.01727	2.0173	1.908
A18B	California Gulch Below Silver Chord.	16.633	4485	0.5814	13.941	14.0647	13.9409	11.9237	
CG3	California Gulch above DM11-16	16.185	6160	0.47	19.292	15.61606	15.6161	1.675	1.675
CG3A	California Gulch above DM11-16	16.028		#NUM!					
CG4	California Gulch below DM11-16	15.835	4770	1.0092	25.965	25.96501	25.965	10.349	10.349
CG6	California Gulch below Vermillion Mine Trib	15.699	4780	0.7283	18.777	18.77721	18.7772	-7.188	-7.188
CG6A	California Gulch below Vermillion Mine Trib	15.612		#NUM!					
A15	California Gulch above Placer Gulch	15.318	4280	0.519	12.266	11.9813	12.2659	-6.511	-7.031
	Placer Gulch	15.020							
A13	California Gulch below Placer Gulch	14.985	3080	1.6452	27.331	27.33143	27.3314	15.065	7.141
CG9	Btw Frisco and Bagley Ponds ? California Gu	14.664	2850	2.4775	38.085	38.08478	38.0848	10.753	9.468
A11	California Gulch below Bagley Mill Tailings	14.549	3200	2.1722	42.610	37.49235	37.4924	-0.592	-0.592
CG11	CG abv Columbus ? California Gulch above C	14.235	2910	3.6495	57.282	57.28214	57.2821	19.790	19.790
		14.188							
A10	California Gulch above Animas Confluence	14.142	3230	4.8305	75.443	84.15647	84.1565	26.874	26.336
	Mouth of WF Animas	14.09	3230	4.8305	75.44344	84.15647	84.1565		
	Placer Gulch								
A23	Placer Gulch below Gold Prince	16.80	1074.5	0.1231	0.729688	0.71344	0.72969	0.730	0.730
A22	Placer Gulch above Sunbank adit	16.229	1350	0.254	1.850	1.849526	1.84953	1.120	1.120
A21	Placer Gulch below Sunbank Adit	15.923	1780	0.421	4.110	4.041988	4.11011	2.261	1.290
A20	Placer Gulch	15.299	1530	0.9603	7.925	7.924854	7.92485	3.815	3.815
	Mouth of Placer	15.02	1530	0.9603	7.924854	7.924854	7.92485		
	Mainstem Mineral Creek 2016								
M02L	Lake above Longfellow	10.33	10	0.00					
M02E	Pond Below Longfellow and Junction Mines	10.1618	#N/A	#N/A					
M02	Upper Mineral	10.0477	16400	0.05	4.51	4.511354	4.51	4.5114	1.25
M04	Mineral Creek above Carbon Lakes Confluen	9.62	1110	1.00	5.96	5.963143	5.96314	1.4518	1.44
M05	Mineral Creek below Carbon Lakes Tributary	9.50	1170	0.43	2.68	2.683317	2.68332	-3.2798	-3.33
M06A	Mineral Creek Above Silver Ledge Mine	9.20	#N/A	#N/A	#N/A	#N/A	#N/A		
M06C	Mineral Creek at Silver Ledge Mine	9.12	#N/A	#N/A					
M06D	Mineral Creek Below Silver Ledge Mine	9.02	#N/A	#N/A					
M07	Mineral Creek Above Chattanooga	8.56	460	4.50	11.17	11.17033	11.1703	8.4870	8.49
M10A	Mineral Creek above Mill Creek	8.27	475	4.73	12.12	12.11872	12.1187	0.9484	0.95
M11	Mineral Creek Below Mill Creek	8.07	215	13.14	15.24	15.24109	15.2411	3.1224	1.38
M13A	Mineral Creek Above Imogene	7.62	218	13.22	15.54	15.54006	15.5401	0.2990	0.30
M13B	Mineral Creek above Browns Gulch	7.12	245	14.12	18.65	18.65328	18.6533	3.1132	3.11
M13D	Mineral Creek Below Browns Gulch	6.92	268	14.09	20.37	20.36942	20.3694	1.7161	-1.51
M14A	Mineral Creek above Unnamed Gulch @ Op	6.63	212	14.12	16.15	16.14835	16.1483	-4.2211	-4.22
M14B	Mineral Creek below Unnamed Gulch	6.28	220	16.14	19.15	19.14973	19.1497	3.0014	2.77
M27A	Mineral Creek Below Middle Fork	5.99	205	28.28	31.27	31.27297	31.273	12.1232	4.19
M27A2	Mineral Creek between M27 and M27A	5.40	#N/A	#N/A					
M27	Mineral Creek	3.96	220	32.82	38.95	38.95032	38.9503	7.6773	7.68
M29A	Mineral Creek Above Zuni Creek	3.53	#N/A	#N/A	#N/A	#N/A	#N/A		
M29	Mineral Creek above Bear Creek	2.77	128	73.97	51.07	51.06672	51.0667	12.1164	7.39
M32	Mineral Creek above North Star	1.79	94.5	105.06	53.55	53.55185	53.5519	2.4851	1.96
M33	Mineral Creek Below North Star	1.49	98.1	104.26	55.17	55.16513	55.1651	1.61	-2.32
M34	Mineral Creek Above Animas River	1.03	98	88.20	46.62	46.62164	46.6216	-8.54	-8.54
M38	Mineral Creek at Confluence with Animas Ri	0.80	96.5	117.13	60.97	60.96531	60.9653	14.34	14.34
	Mouth of Mineral Creek	0.77	96.5	117.129	60.96531	60.96531	60.9653		
	Middle Fork Mineral 2016								
M16G	Above Paradise in Middle Fork	8.60	37	1.42	0.28	0.283329	0.28333	0.2833	0.28
M16E	Paradise Above Adit #1, below Adit #2, #3, #	8.38	63.9	2.39	0.82	0.824467	0.82447	0.5411	0.53
M16H	Paradise Downstream in Middle Fork	8.33	148	4.01	3.20	3.198623	3.19862	2.3742	-0.02
M17	Middle Fork of Mineral Creek below Paradis	8.18	146	4.43	3.49	3.491106	3.49111	0.2925	0.29
M17A	Middle Fork Above Red Tributary	7.46	109	7.91	4.65	4.64946	4.64946	1.1584	1.16
M19	Middle Fork below Red Tributary	7.32	140	7.55	5.70	5.70258	5.70258	1.0531	-1.176
M20	Middle Fork above Bonner Mine/Independe	7.02	129	13.07	9.09	9.09372	9.09372	3.3911	3.39
M22	Middle Fork Mineral Creek	6.60	154	9.55	7.93	7.934869	7.93487	-1.1589	-1.16
	Mouth of MF Mineral Creek	6.31	154	9.5527	7.934869	7.934869	7.93487		
	South Fork Mineral 2016								
M23	Bandora Background	10.26	40	16.38	3.53	3.533484	3.53348	3.5335	3.53
M25	Bandora Downstream in South Fork	10.05	111	20.76	12.43	12.42776	12.4278	8.8943	5.60
M26B	South Fork Mineral Creek below Campgrour	7.65	40.2	39.52	8.57	8.568267	8.56827	-3.8595	-6.19
M26D	South Fork Mineral Creek US of M28	4.85	24.6	42.80	5.68	5.678494	5.67849	-2.8898	-2.89
M28	South Fork Mineral Creek Above Confluence	4.07	16.9	51.88	4.73	4.72944	4.72944	-0.9491	-0.95
	Mouth of SF Mineral Creek	3.80		51.8836	4.72944	4.72944	4.72944		
	Mainstem Mineral Creek 2017								
M02L	Lake above Longfellow	10.33	20	No flow					
M02E	Pond Below Longfellow and Junction Mines	10.1618	#N/A	#N/A					
M02	Upper Mineral	10.0477	18400	0.04	3.47	3.473592	3.47359	3.4736	0.22
M04	Mineral Creek above Carbon Lakes Confluen	9.62	4230	0.18	4.06	4.063471	4.06347	0.5899	0.57
M05	Mineral Creek below Carbon Lakes Tributary	9.50	3480	0.27	5.07	5.071746	5.07175	1.0083	0.95
M06A	Mineral Creek Above Silver Ledge Mine	9.20	2840	0.28	4.22	4.218666	4.21867	-0.8531	-0.85
M06C	Mineral Creek at Silver Ledge Mine	9.12	#N/A	#N/A					
M06D	Mineral Creek Below Silver Ledge Mine	9.02	#N/A	#N/A					
M07	Mineral Creek Above Chattanooga	8.56	1170	2.43	15.35	15.3464	15.3464	11.1277	11.13
M10A	Mineral Creek above Mill Creek	8.27	987	2.68	14.25	14.25303	14.253	-1.0934	-1.09
M11	Mineral Creek Below Mill Creek	8.07	375	7.30	14.77	14.77315	14.7731	0.5201	-1.22
M13A	Mineral Creek Above Imogene	7.62	331	7.71	13.76	13.75997	13.76	-1.0132	-1.01
M13B	Mineral Creek above Browns Gulch	7.12	356	8.82	16.93	16.92642	16.9264	3.1665	3.17
M13D	Mineral Creek Below Browns Gulch	6.92	377	8.85	18.01	18.00501	18.005	1.0786	-2.14
M14A	Mineral Creek above Unnamed Gulch @ Op	6.63	349	8.99	16.92	16.92321	16.9232	-1.0818	-1.08
M14B	Mineral Creek below Unnamed Gulch	6.28	319	9.21	15.84	15.84049	15.8405	-1.0827	-1.32
M27A	Mineral Creek Below Middle Fork	5.99	285	15.48	23.79	23.78919	23.7892	7.9487	2.05
M27A2	Mineral Creek between M27 and M27A	5.40	305	14.58	23.98	23.97933	23.9793	0.19	0.19
M27	Mineral Creek	3.96	269	15.92	23.10	23.09975	23.0998	-0.8796	-0.88
M29A	Mineral Creek Above Zuni Creek	3.53	158	33.50	28.55	28.54926	28.5493	5.4495	3.45
M29	Mineral Creek above Bear Creek	2.77	175	34.65	32.71	32.70717	32.7072	4.1579	4.16
M32	Mineral Creek above North Star	1.79	145	36.18	28.30	28.29981	28.2998	-4.4074	-4.93
M33	Mineral Creek Below North Star	1.49	157	42.79	36.24	36.23843	36.2384	7.94	4.00
M34	Mineral Creek Above Animas River	1.03	158	38.60	32.90	32.89556	32.8956	-3.34	-3.34
M38	Mineral Creek at Confluence with Animas Ri	0.80	163	44.35	38.99	38.98968	38.9897	6.09	6.09
	Mouth of Mineral Creek	0.77	163	44.3475	38.98968	38.98968	38.9897		
	Middle Fork Mineral 2017								
M16G	Above Paradise in Middle Fork	8.60	44	1.08	0.26	0.257285	0.25729	0.2573	0.26
M16E	Paradise Above Adit #1, below Adit #2, #3, #	8.38	89.1	2.14	1.03	1.027828	1.02783	0.7705	0.76
M16H	Paradise Downstream in Middle Fork	8.33	211	2.34	2.67	2.667106	2.66711	1.6393	-0.75
M17	Middle Fork of Mineral Creek below Paradis	8.18	#N/A	#N/A	#N/A	#N/A	#N/A		
M17A	Middle Fork Above Red Tributary	7.46	143	4.45	3.43	3.432329	3.43233	0.7652	0.77
M19	Middle Fork below Red Tributary	7.32	197	6.76	7.18	7.181618	7.18162	3.7493	1.520
M20	Middle Fork above Bonner Mine/Independe	7.02	186	5.49	5.51	5.507198	5.5072	-1.6744	-1.67
M22	Middle Fork Mineral Creek	6.60	213	5.14	5.90	5.900044	5.90004	0.3928	0.39
	Mouth of MF Mineral Creek	6.31	213	5.1355	5.900044	5.900044	5.90004		
	South Fork Mineral 2017								
M23	Bandora Background	10.26	51.3	5.40	1.50	1.49518	1.49518	1.4952	1.50
M25	Bandora Downstream in South Fork	10.05	153	6.03	4.98	4.975666	4.97567	3.4805	0.18
M26B	South Fork Mineral Creek below Campgrour	7.65	47	10.87	2.75	2.75479	2.75479	-2.2209	-4.55
M26D	South Fork Mineral Creek US of M28	4.85	16.4	15.94	1.41	1.410046	1.41005	-1.3447	-1.34
M28	South Fork Mineral Creek Above Confluence	4.07	21.3	17.41	2.00	2.000029	2.00003	0.5900	0.59
	Mouth of SF Mineral Creek	3.80		17.4086	2.000029	2.000029	2.00003		
	Cement Creek								
CC01S	Queen Anne tributary upstream of confluen	10.78	3110	0.30	5.03	5.032393	5.03239	5.0324	4.63
CC01T	Cement Creek downstream of the Queen An	10.75	2160	0.71	8.22	8.218302	8.2183	3.1859	-3.93
CC02I	Combined flow of the Mogul Sublevel 1 drai	10.70	2110	0.78	8.87	8.867971	8.86797	0.6497	0.65
CC01U	Cement Creek downstream of the sublevel 1	10.67	2160	0.84	9.82	9.819088	9.81909	0.9511	0.95
CC02C	Cement Creek Above North Fork	10.27	2050	0.75	8.26	8.259758	8.25976	-1.5593	-1.56
CC02B	Cement Creek downstream of MTD-4 conflu	10.19		#NUM!					
CC03A	CC below FD-1 Cement Creek Above North F	10.15	4370	2.10	49.48	49.47982	49.4798	41.2201	-8.78

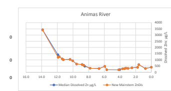
Station	Sources Scribe	Dist from A72 miles	Median Dissolved Zn µg/L	Median Discharge cfs	Median Dissolved Zn load lb./day
EG2	Eureka Gulch below Lake	12.86	382	0.004	0.008
DM32	Ben Franklin Prospect Dr.	12.64	6143.4	#NUM!	
EG4	Eureka Gulch below Lake	12.64	1660	0.0278	0.188
BF1	Ben Franklin Adit (RB)	12.58	11600	#NUM!	
BF3	Seeps on or around	12.58	12700	#NUM!	
BF2	Below BF Vein Intersecti	12.58	#NUM!	#NUM!	
EGTrib1	Trib to Eureka Gulch (RB)		#NUM!	#NUM!	
EGTrib2	Trib to Eureka Gulch (RB)		#NUM!	#NUM!	
ARD1	Drainage of BF waste pile	12.48	#NUM!	#NUM!	
	Paired gain/loss				
A38	Terry Tunnel	12.35	1210	#NUM!	
MC0	Mouth of McCarty	12.32	42.6	0.095	0.019
A36	South Fork above Eureka	11.25	80.7	2.0897	0.860
	Ransom?				
A02	Animas below Lucky Jack	15.48	774	0.00125	0.00522
A03	Horseshoe Creek at mout	15.46	85.4	0.175	0.08061
A06	Unnamed tributary below	15.29	10	0.0072	0.00039
A07	Burrows Creek at mouth	15.16	2970	0.315	5.07339
A10	Animas (California Gulch) at	14.09	3230	4.8305	84.156
A09	NF Animas above Califor	14.12	1180	1.1977	7.8132
					-2.684
A24	Cinnamon Creek	13.50	10	#NUM!	
A25	Grouse Gulch	12.80	#NUM!	#NUM!	
A26	Picayune Gulch	12.34	10	0.6783	0.03659
A27	Burns Gulch	11.90	812	0.5203	2.27878
					-0.061
A29A	ost treatment, PVC pipe c	11.86	#NUM!	#NUM!	
A29	Silver Wing Adit Discharg	11.86	4185	#NUM!	
	Silver Wing area				
DM22	Tom Moore Adit	11.29	619	#NUM!	
	Tom Moore Reach Load		936	4.717	
				-1.782	
A32	Niagara Gulch	10.17	10.7	0.03	0.00194
DM24	Senator Mine Adit	10.09	60.3	#NUM!	
				-1.397	
A34	Eureka Gulch above Anim	9.81	293	4.0764	6.032
				-4.840	
				-2.362	
A41C	Forest Queen	8.79	#NUM!	#NUM!	
A42	Minnie at Culvert (Minnie	8.52	10	3.424	0.185
A43	Maggie	7.92	10	4.88555	0.264
	GW gain				
	GW gain		261	9.633	
	Colorado Goldfields				
A48	Cunningham Creek	5.94	34.6	9.2588	1.728
A47	Hematite Gulch	5.89	16	#NUM!	
A58	Arrastra Gulch	4.01	195.5	2.79245	2.942
	Mayflower Mill/Silver Lake Mill				
CC48	Cement Creek	1.60	1420	14	107.994
M34	Mineral Creek	0.77	97	117	60.965
	Sewell??				
	Boston				
	Dewitt				
	London				1.631
	London				1.312
	Paired gain/loss				
A19A	Mountain Queen Adit Dis	17.25	5870	0.0034	0.109
	Silver Chord				11.9237
A17A	Little Ida Adit	16.25	#NUM!	#NUM!	
A17B	Burrows Mine Adit Disch.	16.06	6840	#NUM!	
	Trib from south?				
CG5A	Vermillion Mine Drainage	15.76	#NUM!	#NUM!	
	Consistent loss 2015 to 2017				
A16	Vermillion Tunnel	15.65	902	0.101	0.520
	Not a consistent loss. Large gain 2016.				
	Placer Gulch	15.02	1530.00	0.96	7.92
	Gain in 2 of 3 years.				
A12	Bagley Tunnel Mine Drai	14.74	5565	0.0392	1.286
A11A	Columbus Adit Discharge		262500	0.0004125	0.539
A21A	Comet Lower Adit	16.10	4800	0.0365	0.971
M02D	Longfellow Mine	10.2678	10	0.011	0.001
M02B	Junction Adit	10.21	7145	0.0042	0.154
M02K1	Koehler Mine pipe	10.20	#NUM!	#NUM!	
M02K	Koehler Mine adit	10.1996	41150	0.014	3.102
M01	Mineral Creek Headwate	9.77	15	0.1504	0.016
M03	Carbon Lakes Stream	9.59	428	0.029	0.054
M06B	Silver Ledge Discharge	9.09	12200	#NUM!	
M06	Porphyry Gulch	9.09	#NUM!	#NUM!	
M06E	Big Horn Gulch	8.90	132	#NUM!	
	Silver Ledge Area				
M10	Mill Creek	8.11	43.9	7.3415	1.738
	Probably not Imogene. Tailings?				
M12	Browns Gulch	7.05	1505	0.39475	3.224
M14	Unnamed Gulch	6.47	156	0.2798	0.233
M22	Middle Fork Mineral Cree	6.10	183.5	7.3441	7.935
	MF is lower in zinc.				
	Q gain. Not a zinc source.				
M28	South Fork Mineral Creek	3.90	19.1	34.6461	4.729
M29B	Zuni Creek	3.46	#NUM!	#NUM!	
	Q gain. Not a zinc source.				
M30	Bear Creek	2.61	10	4.09795	0.221
M32B	Belcher Creek	1.89	144	0.393	0.305
M33A	North Star Adit	1.64	857	0.851	3.934
	Paired gain/loss				
	Mouth	0.77			
M16D	Paradise Adit #4	8.44	706	#NUM!	
M16C	Paradise Adit #3	8.42	52.15	0.037	0.011
M16B	Paradise Adit #2	8.40	10	#NUM!	
M16	Paradise Adit #1	8.37	733	0.606	2.347
M16F	Crystal Creek	8.37	12.8	0.6366	0.044
M18	Red Tributary	7.37	291	1.43855	2.229
	Paired gain/loss				
	Mouth	6.31			
M24C	Bandora Adit Discharge #	10.18	280	0.0016	0.005
M24B	Bandora Adit Discharge #	10.17	11250	0.054	3.2913
M24A	Bandora Adit Discharge #	10.0926	9295	#NUM!	
M24D	Bandora Adit Downstrea	10.0926	4677.5	#NUM!	
	Probably associated with Bandora				
M24E	M24E	10.0404	10	0.5798	0.03127
M26	Clear Creek	7.97806	29	14.6688	2.294
M02D	Longfellow Mine	10.2678	10	0.011	0.001
M02B	Junction Adit	10.21	7145	0.0042	0.154
M02K1	Koehler Mine pipe	10.20	#NUM!	#NUM!	
M02K	Koehler Mine adit	10.1996	41150	0.014	3.102
M01	Mineral Creek Headwate	9.77	15	0.1504	0.016
M03	Carbon Lakes Stream	9.59	428	0.029	0.054
M06B	Silver Ledge Discharge	9.09	12200	#NUM!	
M06	Porphyry Gulch	9.09	#NUM!	#NUM!	
M06E	Big Horn Gulch	8.90	132	#NUM!	
M10	Mill Creek	8.11	43.9	7.3415	1.738
	Paired gain/loss. Tailings?				
M12	Browns Gulch	7.05	1505	0.39475	3.224
M14	Unnamed Gulch	6.47	156	0.2798	0.233
M22	Middle Fork Mineral Cree	6.10	183.5	7.3441	5.900
M28	South Fork Mineral Creek	3.90	19.1	34.6461	2.000
	Q gain. Not a zinc source.				
M29B	Zuni Creek	3.46	#NUM!	#NUM!	
	Unknown. Right bank fen?				
M30	Bear Creek	2.61	10	4.09795	0.221
M32B	Belcher Creek	1.89	144	0.393	0.305
	Paired gain/loss.				
M33A	North Star Adit	1.64	857	0.851	3.934
	Paired gain/loss.				
	Empire tunnel/Little Dora/Hercules?				
	Mouth	0.77			
M16D	Paradise Adit #4	8.44	706	#NUM!	
M16C	Paradise Adit #3	8.42	52.15	0.037	0.011
M16B	Paradise Adit #2	8.40	10	#NUM!	
M16	Paradise Adit #1	8.37	733	0.606	2.347
M16F	Crystal Creek	8.37	12.8	0.6366	0.044
M18	Red Tributary	7.37	291	1.43855	2.229
	Mouth	6.31			
M24C	Bandora Adit Discharge #	10.18	280	0.0016	0.005
M24B	Bandora Adit Discharge #	10.17	11250	0.054	3.2913
M24A	Bandora Adit Discharge #	10.0926	9295	#NUM!	
M24D	Bandora Adit Downstrea	10.0926	4677.5	#NUM!	
M24E	M24E	10.0404	10	0.5798	0.03127
M26	Clear Creek	7.97806	29	14.6688	2.294
QA Adit	Queen Anne Adit dischar	11.22	2760	0.027	0.40194
	Columbia? Upper Queen Anne?				
	Grand Mogul group - all goes to CC01H				
CC01F	Cement Creek upstream of Grand Mo		454	#NUM!	
CC01C1	Grand Mogul north seep at source		31600	#NUM!	
CC01C	Grand Mogul Adit		#NUM!	#NUM!	
CC01C2	Collective Grand Mogul discharge		14700	0.02	1.58577
CC01H	Cement Creek upstream	10.76	1610	0.82	7.12086
	Mogul Group				
CC02D	Mogul at flume	10.21	32200	0.1229	21.3452
MTD-4	Mogul tailings drainage i	10.21	24700	#NUM!	
CC02I	Combined flow of the Mo	10.21	#N/A	#N/A	
FD-1	Fen drainage upstream o	10.18	4980	1.0668	28.6553

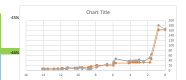
Baseline

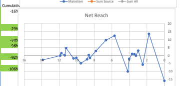














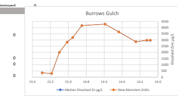


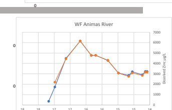


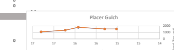


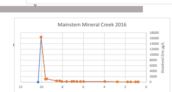


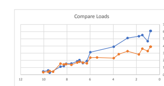


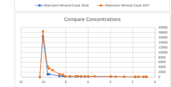


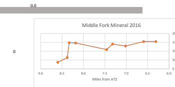


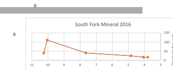


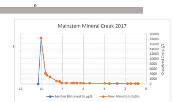


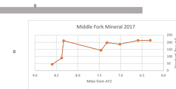


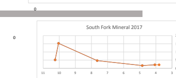


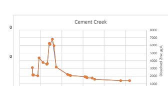




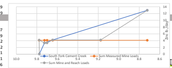


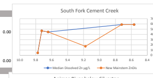


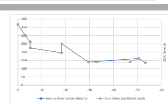


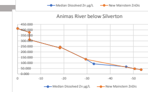


CC02	Cement Creek Above North Fork	9.78	3780	1.87	38.22	38.22023	38.2202	-11.2596	-11.26							9.78	57.523	38.22			38.220	3780.0			
CC03BF	Cement Creek Above North Fork	9.42	3540	2.18	41.58	41.57711	41.5771	3.3569	3.36		Paired gain/loss					9.42	57.523	41.58			41.577	3540.0			
CC03B	Cement Creek immediately upstream of Rec	9.36	3630	1.91	37.30	37.30464	37.3046	-4.2725	-4.27							9.36	57.523	37.30			37.305	3630.0			
											Red and Bonita group						57.523	37.30			37.305	#N/A			
										CC03C	Red and Bonita Adit disc	9.33	13900	0.489			57.523	37.30				#N/A			
										CC03D	Red and Bonita at road	9.33	13600	0.747	54.7964	9.33	112.320	92.10	0.00	0.00	92.101	#N/A	55	0	
										CC03E	Red and Bonita Inflow	9.33	#NUM!	#NUM!			112.320	92.10				#N/A			
CC03	Cement Creek downstream of the Red and F	9.19	6240	4.82	162.29	162.2915	162.291	124.9868	70.19		Large load paired with large loss.					9.19	112.320	162.29			162.291	6240.0			
											North Fork Cement Cr.	9.17		#N/A	1.09709	9.17	113.417	163.39		-1.10	164.486	#N/A			
CC18B	Cement Creek upstream of the American Tu	9.12	6130	3.17	104.73	104.7264	104.726	-57.5650	-58.66							9.12	113.417	104.73			105.430	6171.2			
										ATS-1	American Tunnel Seep #1	8.96	#NUM!	#NUM!			113.417	104.73				#N/A			
										CC19C	American Tunnel Mine adit. Sample		#NUM!	#NUM!			113.417	104.73				#N/A			
										CC19C	American Tunnel (at Cement Creek i		#NUM!	#NUM!			113.417	104.73				#N/A			
										CC19	America Tunnel Discharge	8.92	17800	0.2973	28.5435	8.92	141.960	133.27	0.00	0.00	133.973	#N/A	29	0	
CC18	Cement Creek downstream of the American	8.89	6820	3.96	145.76	145.7627	145.763	41.0363	11.40		Cement Creek has large swings in load					8.89	141.960	144.67			145.429	6804.4			
CC20H	Culvert under road at Gladstone	8.81		#NUM!												8.81	141.960	144.67			145.429				Removed because Q is much lower than US and DS values
										Effluent		8.79	8.92	1.11	0.05341	8.79	142.014	144.72			145.483	#N/A			
CC20	Cement Creek btw N Fork and S Fork	8.74		4.53												8.74	142.014	144.72			145.483	5958.2			
											South Fork Cement Cr.	8.57	588	4.0858	12.9583	8.57	154.972	157.68		0.00	158.441	#N/A			
CC21	Cement Creek below SF confluence	8.53	3180	6.81	116.72	116.7208	116.721	-29.04	-42.05							8.53	154.972	115.62			116.184	3165.4			
										CC21C	Evelyn Mine	7.90	1230	#NUM!		7.90	154.972	115.62			116.184	#N/A			
										CC21D	Dry Gulch (includes Evely	7.90	698	0.0049	0.01845	7.90	154.991	115.64			116.202	#N/A			
CC21B	Cement Creek upstream of Prospect Gulch b	7.59		#NUM!												7.59	154.991	115.64			116.202	#N/A			
										CC26	Prospect Gulch above Ce	7.55	1200	0.47465	3.0742	7.55	158.065	118.72	0.00	0.00	119.276	#N/A	3.1	0	
CC27	Cement Creek below Prospect	7.46	2230	9.71	116.80	116.7991	116.799	0.08	-3.01							7.46	158.065	115.70			116.248	2219.5			
CC28	Cement Creek below Bog	7.32		#NUM!												7.32	158.065	115.70			116.248	#N/A			
CC28E	CC upstream of Mammoth Tunnel	7.27	2130	11.68	134.16	134.1621	134.162	17.36	17.36		Cement Creek has large swings in load					7.27	158.065	133.06			133.693	2122.5			
											Mammoth group						158.065	133.06				#N/A			
										CC29B	Mammoth Tunnel mine drainage		#NUM!	#NUM!			158.065	133.06				#N/A			
										CC29D	Mammoth Mine drainage in storage		#NUM!	#NUM!			158.065	133.06				#N/A			
										CC29	Mammoth Tunnel	7.24	#NUM!	#NUM!		7.24	158.065	133.06			133.693	#N/A			
CC28C	CC upstream of Tiger Gulch	7.23	2110	11.20	127.48	127.4782	127.478	-6.68	-6.68							7.23	158.065	126.38			126.977	2101.7			
CC28D	CC downstream of Mammoth Tunnel	7.18	2080	10.68	119.79	119.7914	119.791	-7.69	-7.69							7.18	158.065	118.69			119.254	2070.7			
CC30N	CC upstream of Fairview Gulch	6.68		#NUM!												6.68	158.065	118.69			119.254	#N/A			
										CC33	Cascade Gulch	6.26	10	0.3452	0.01862	6.26	158.083	118.71			119.273	#N/A			
CC34	CC upstream of Minnesota Gulch	6.06		#NUM!												6.06	158.083	118.71			119.273	#N/A			
CC39B	Cement Creek above Porcupine Gulch	5.82	1930	14.28	148.67	148.6661	148.666	28.87	28.86		Cement Creek has large swings in load					5.82	158.083	147.57			148.265	1924.8			
										CC37	Anglo Saxon Mine draina	5.71	2850	0.092	1.41425	5.71	159.498	148.98	0.00	0.00	149.679	#N/A	1.4	0	
										CC38	Porcupine Gulch above r	5.71	1640	0.0824	0.72889	5.71	160.227	149.71			150.412	#N/A			
CC39C	Upgradient of Anglo Saxon Mine	5.68	1890	13.23	134.85	134.8504	134.85	-13.82	-15.96							5.68	160.227	133.75			134.378	1883.4			
CC39	Cement Creek below Porcupine	5.67	1830	14.02	138.42	138.4225	138.422	3.57	3.57		Cement Creek has large swings in load					5.67	160.227	137.33			137.967	1824.0			
CC39D	Downgradient of Anglo Saxon Mine	5.62	1790	13.20	127.44	127.4403	127.44	-10.98	-10.98							5.62	160.227	126.34			126.934	1782.9			
CC40B		5.22		#NUM!												5.22	160.227	126.34			126.934	#N/A			
										CC40	Ohio Gulch at mouth abo	5.17	#NUM!	#NUM!		5.17	160.227	126.34			126.934	#N/A			
CC41	Cement Creek above Illinois Gulch and dowr	5.13	1760	15.43	146.48	146.4834	146.483	19.04	19.04		Cement Creek has large swings in load					5.13	160.227	145.39			146.066	1755.0			
										CC42	Illinois Gulch at mouth	5.05	104	1.14	0.63949	5.05	160.866	146.03			146.708	#N/A			
										CC43C	Yukon Tunnel at pipe in I	5.02	108	#NUM!		5.02	160.866	146.03			146.708	#N/A			
										CC43D	Pond below Yukon Tunne	4.96	#NUM!	#NUM!		4.96	160.866	146.03			146.708	#N/A			
CC43E	Cement Creek Below Yukon Tunnel	4.90	1590	14.97	128.37	128.3663	128.366	-18.12	-18.76							4.90	160.866	127.27			127.864	1583.8			
CC44B	CC upstream from Topeka Gulch	4.78		#NUM!												4.78	160.866	127.27			127.864	#N/A			
CC45K	CC upstream of Niagara Gulch	4.29		#NUM!												4.29	160.866	127.27			127.864	#N/A			
CC46B	CC upstream from Hancock Gulch	4.11		#NUM!												4.11	160.866	127.27			127.864	#N/A			
CC47C	CC upstream of Soda Gulch	3.03		#NUM!												3.03	160.866	127.27			127.864	#N/A			
CC48	Cement Creek upstream from Animas	2.44	1420	14.10	107.99	107.9942	107.994	-20.37	-20.37							2.44	160.866	106.90			107.397	1412.1			
CC49	Above Animas Confluence	1.66		#NUM!												1.66	160.866	106.90			107.397	#N/A			
	Mouth Cement	1.60	1420	14.1	107.9942	107.9942	107.994				Mouth	1.60				1.60	160.866	106.90			107.397	1412.1		0.00	
	North Fork Cement Creek																								
										CC06	Upper Gold King 7th Level east adit														
CC07	North Fork above CC confluence immediatel	9.17	#N/A	#N/A	1.097				1.10								1.097	2.19			2.194	#N/A			
	Mouth of North Fork Cement Creek	9.17	#N/A	#N/A	1.097094							9.17				9.17	1.097	2.19			2.194	#N/A			
	South Fork Cement Creek																								
CC15	South Fork upstream of Silver Ledge dischar	9.78	47.7	0.28	0.07	0.071062	0.07106	0.07	0.07							9.78		0.07			0.071	47.7			
		9.73								CC14	Natalie/Occidental Mine	9.78	664	1.1501	4.119	9.78	4.119	4.19	0.00	0.00	4.190	#N/A	4.1	0.00	
CC15A	South Fork below Natalie/Occidental and ab	9.73	469	1.31	3.32	3.323748	3.32375	3.25	-0.87							9.73	4.119	3.32			3.324	469.0			
											Big Colorado	9.70	#N/A	#N/A		9.70	4.119	3.32			3.324	#N/A			
CC16B	South Fork below Natalie/Occidental and Bi	9.65	447	1.75	4.21	4.213977	4.21398	0.89	0.89							9.65	4.119	4.21			4.214	447.0			
CC20	South Fork Cement above Gladstone	9.18		4.53												9.18	4.119	4.21			4.214	172.6			
CC17	South Fork above Cement Creek	8.72	588	4.09	12.96	12.95828	12.9583	8.744	8.74		Middle Fork (Black Hawk, Occidental)					8.72	4.119	12.96	0.00	0	12.958	588.0	8.7	0.00	
	Mouth South Fork Cement Creek	8.57	588	4.09	12.96	12.96	12.9583									8.57	4.119	12.96			12.958	588.0			
	Animas River below Silverton																								
A72	Animas Gage below Silverton	0.00	413.000	165	352	367.6	367.6	368								0.00	0.000	367.559		0.56	367.001	412.37			
A73	Animas Upstream of Elk Creek	-5.10	378.075	127	249	259.8	259.8	-107.753	-108		large Q loss					-5.10	0.000	259.806			259.412	377.50			
										A73EC	Elk Creek	-5.13	10	78.36	4.22656	-5.13	4.227	264.032			263.632	#N/A			
A73B	Animas Downstream of Elk Creek	-5.15	310.997	134	216	225.3	225.3	-34.480	-39							-5.15	4.227	225.326			224.984	310.53			
A75D	Animas upstream of Cascade Creek	-18.27	236.713	153	188	195.8	195.8	-29.483	-29							-18.27	4.227	195.843			195.545	236.35			
										A75CC	Cascade Creek	-18.30	10	11.46	0.61813	-18.30	4.845	196.461			196.162	#N/A			
A75B	Animas downstream of Cascade Creek	-18.36	245.028	189	239	249.8	249.8	53.927	53							-18.36	4.845	249.769			249.390	244.66			
Bbridge	Durango Resort and RV Park	-29.45	133.601	195	134	140.2	140.2	-109.534	-110							-29.45	4.845	140.236			140.023	133.40			
James Rar	James Ranch	-32.92	91.841	0	0											-32.92	4.845	140.236			140.023	#N/A			
Animas@3	Animas@32nd Bridge	-46.89	65.601	0	0											-46.89	4.845	140.236			140.023	#N/A			
Anmias@	Anmias@Lightner Creek	-50.55	47.347	633	155	161.6	161.6	21.319	21							-50.55	4.845	161.555			161.309	47.27			
										Lightner C	Lightner Creek	-50.6	41.5	#NUM!		-50.60	4.845	161.555			161.309	#N/A			
Animas@	Animas@PurpleCliffs	-53.34	39.589	634	130	135.4	135.4	-26.186	-26.2							-53.34	4.845	135.368			135.163	39.53			



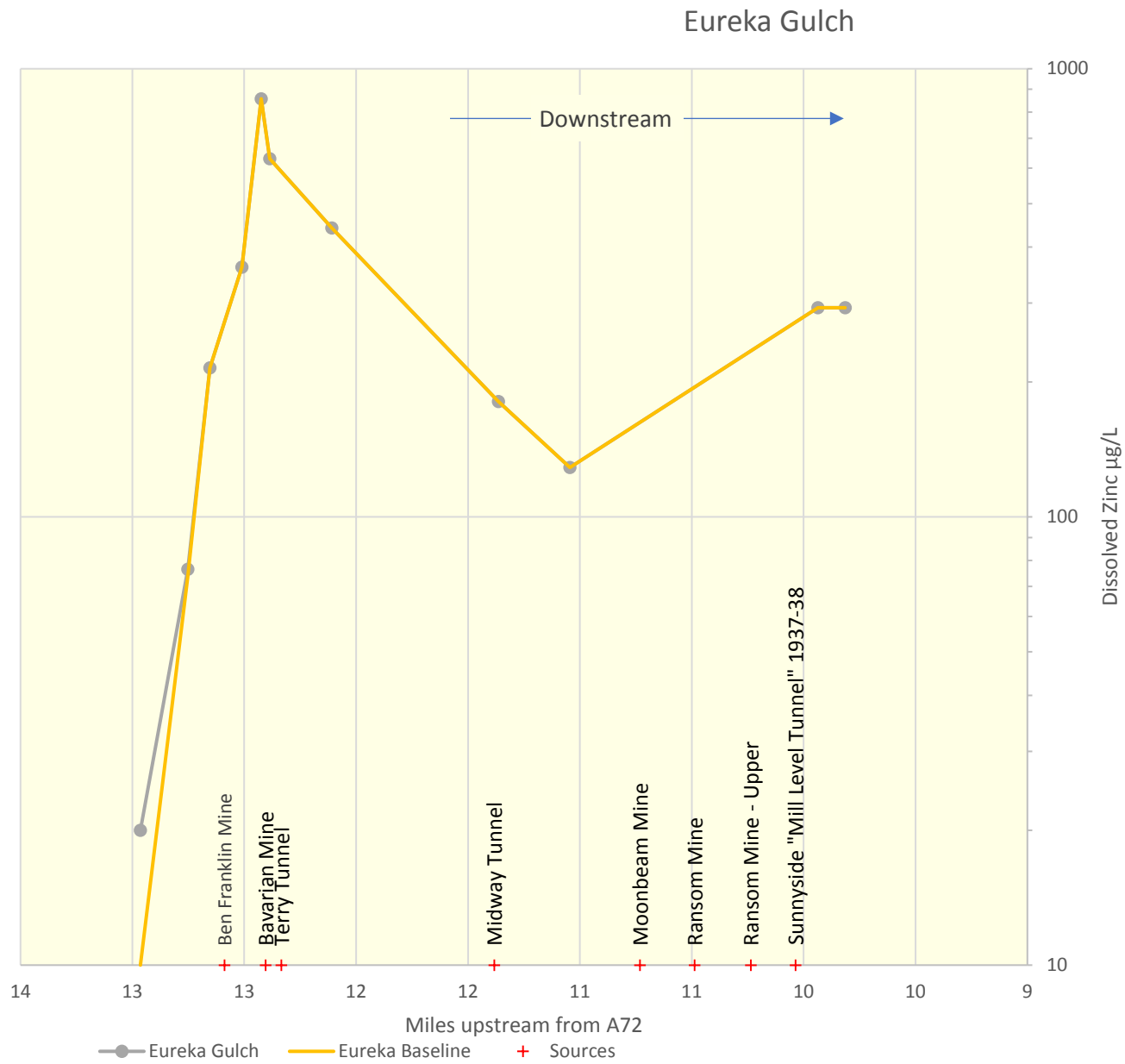






-0.390	Summed carry forward inputs	0.0
-0.3897001	Summed all reductions	
0.000	Net reductions	

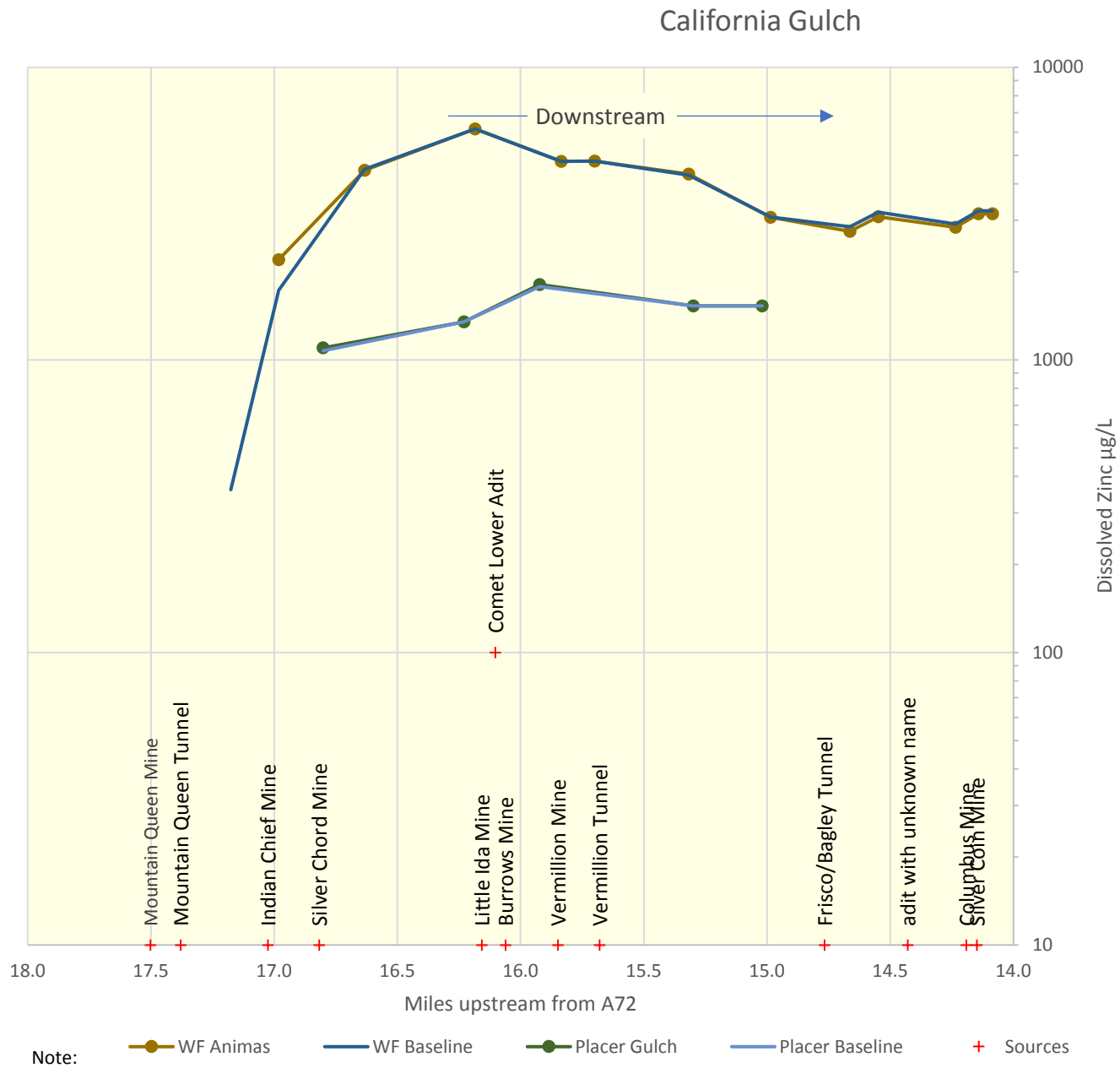
0%
50%
75%
90%
100%



Note:

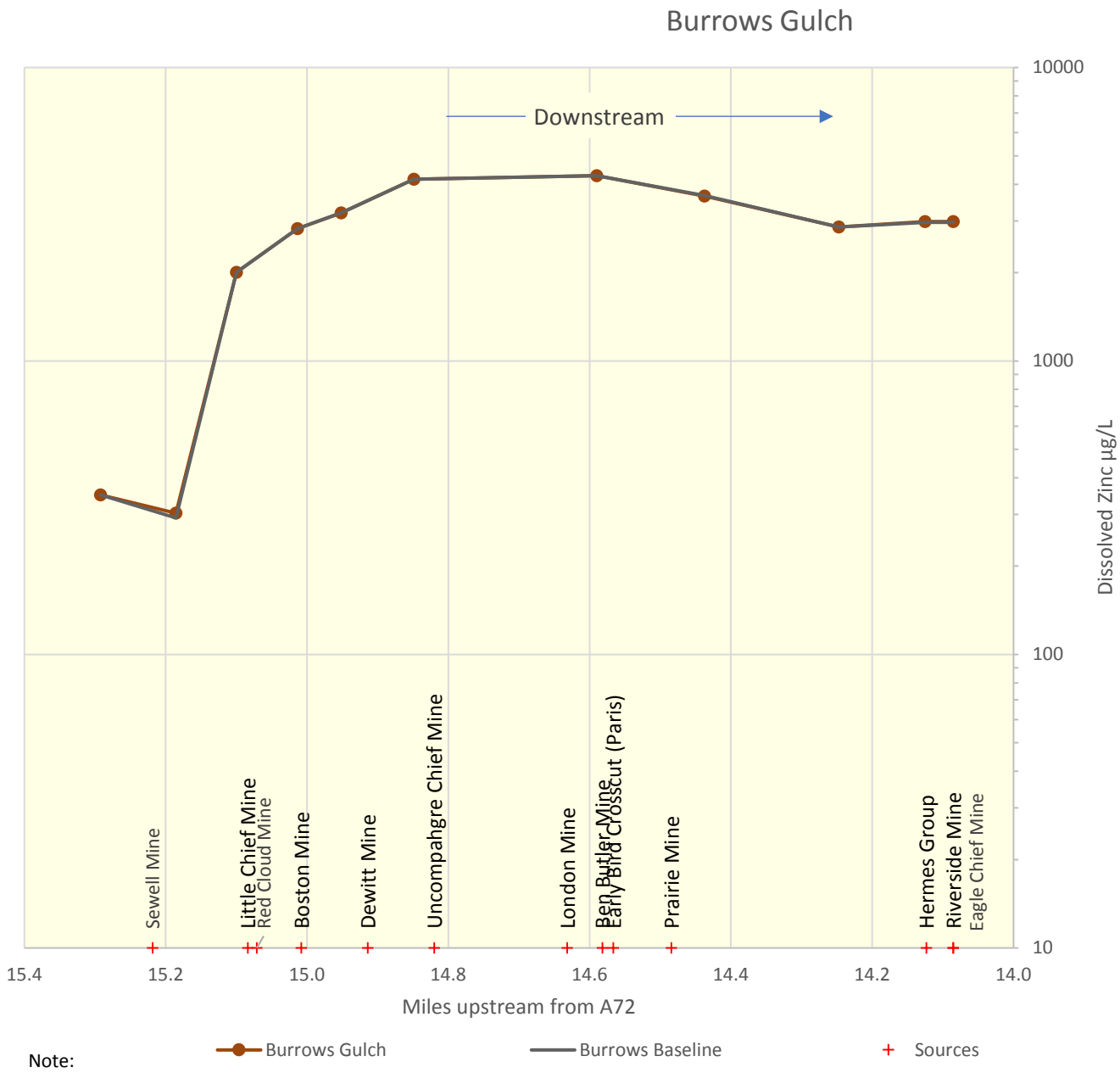
Zn Load	Sources	Reduction
4.3	Lower Gulch Ransom?	

6.44	Total Load at Mouth
0	Removed at Mouth
0.0	Grand Total Removed



Zn Load	Sources	Reduction
30	Bagley	
26	Columbus	
11.9	Silver Chord	
0.52	Vermillion Tun.	
	Placer Gulch	
0.97	Comet	

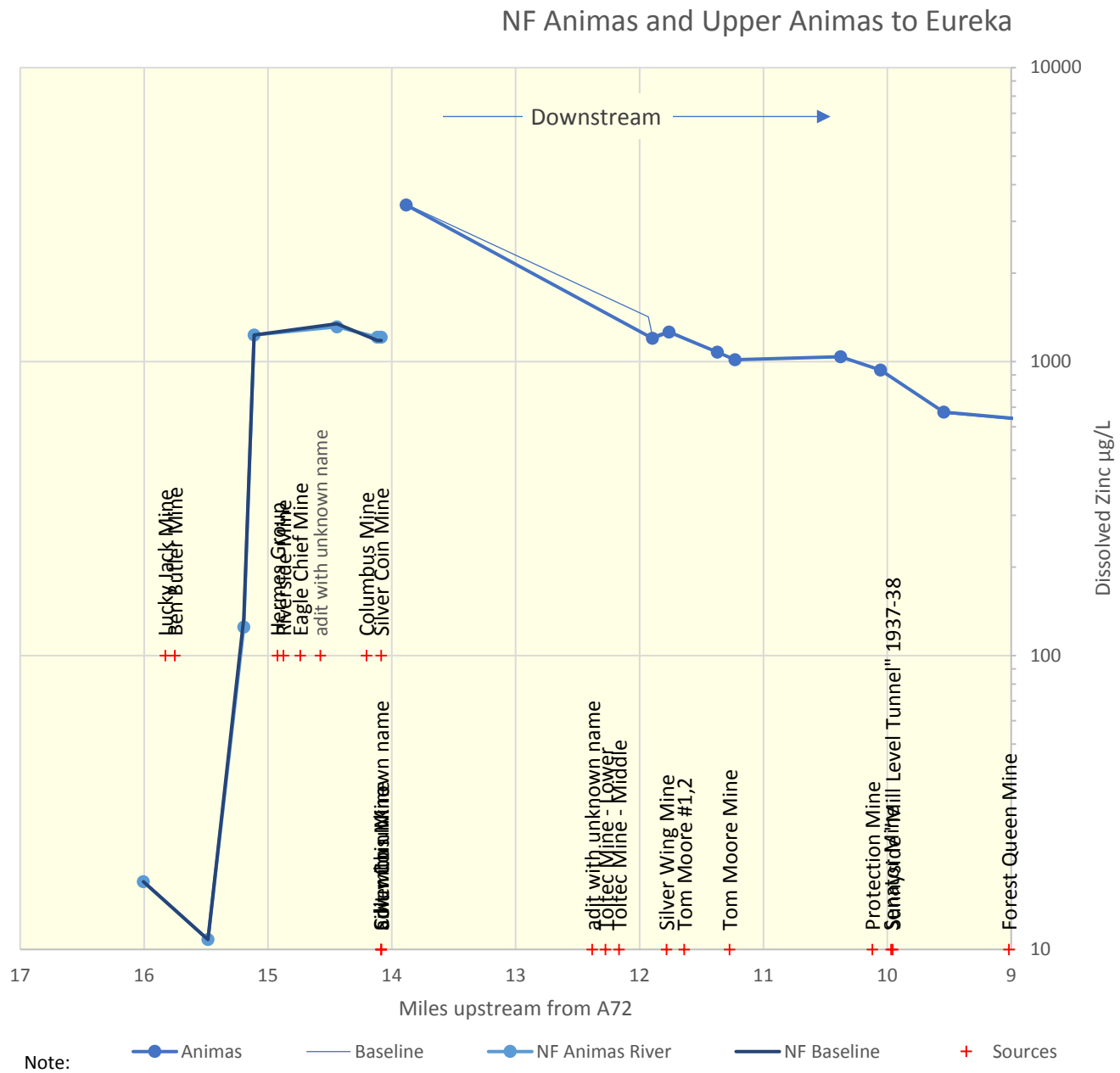
84	Total Load at Mouth
0.0	Removed at Mouth
0.0	Grand Total Removed



Note:

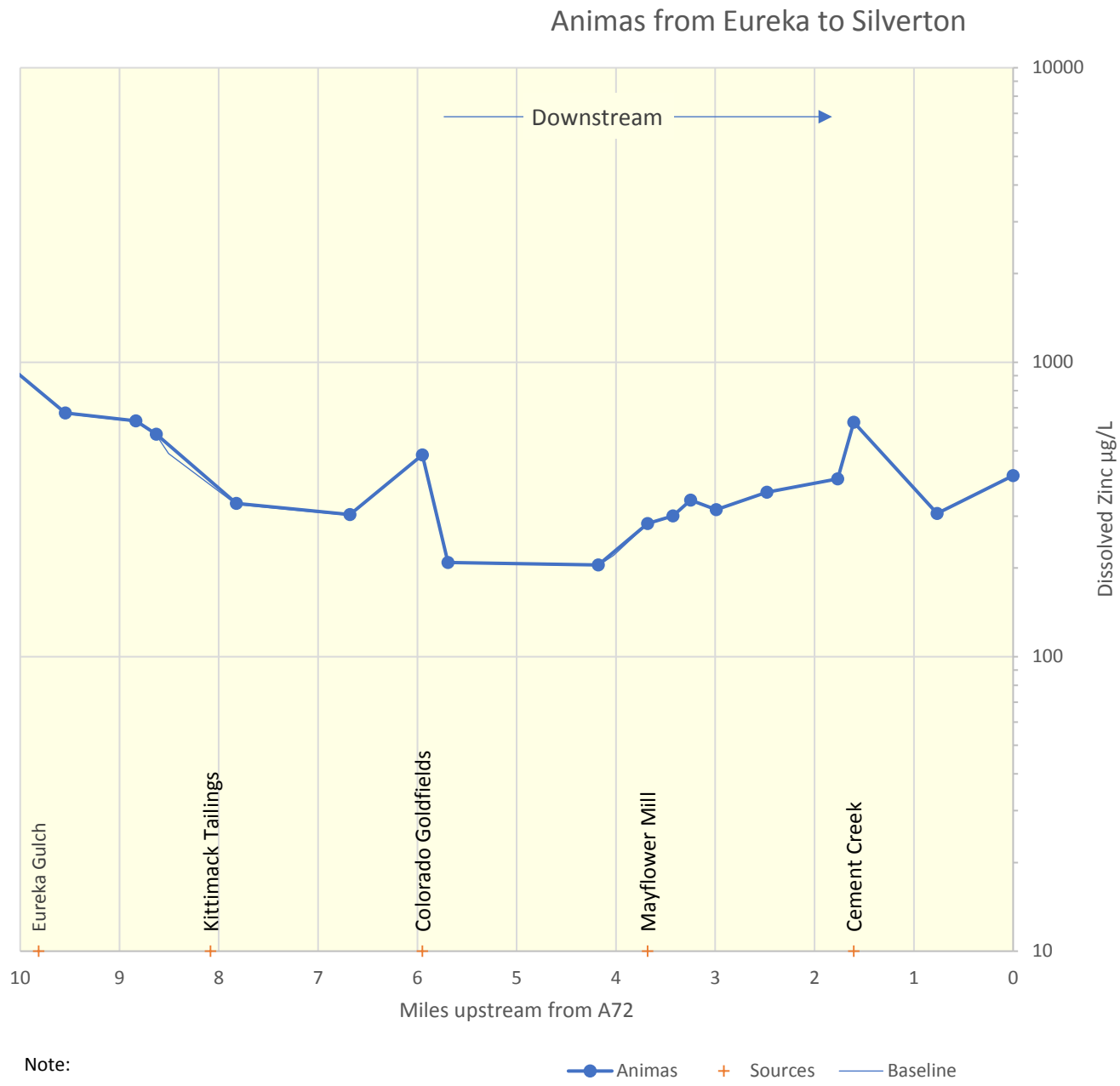
Zn Load	Sources	Reduction
2.9	London	
1.8	Dewitt	
1.4	Sewell?	

5.07	Total Load at Mouth
0	Removed at Mouth
0.0	Grand Total Removed



Zn Load	Sources	Reduction
30	Bagley Tunnel	
27	Columbus	
24	Tom Moore reach	
11.5	Silver Wing	
11.9	Silver Chord	
2.9	London	
0.97	Comet	

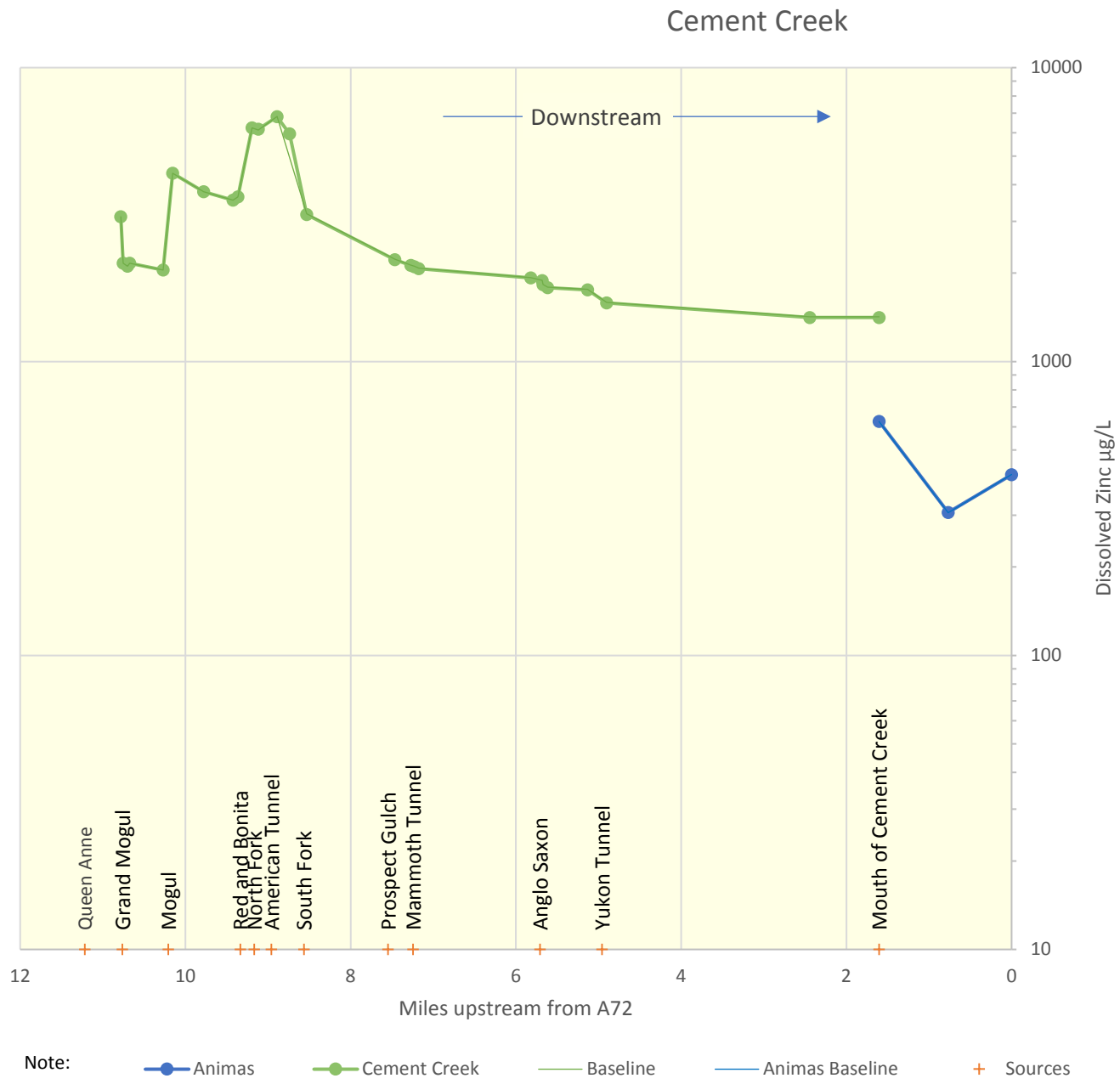
24.8	Total Load at Eureka
0	Removed at Eureka
0.0	Grand Total Removed



Note:

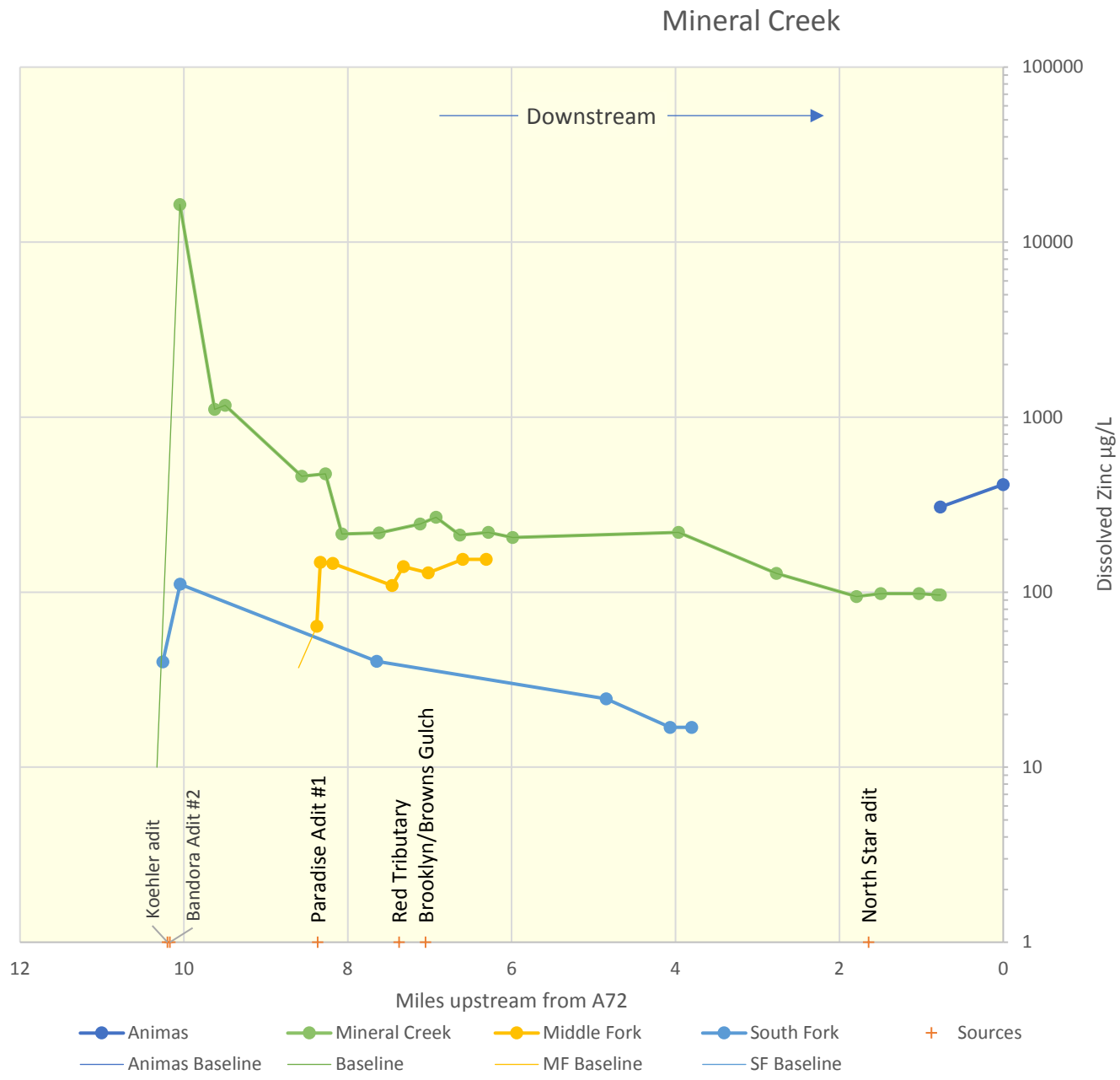
Zn Load	Sources	Reduction
63	Mayflower reaches	
23	Colorado Goldfields	

367.	Total Load at A72
0	Removed this reach
0.0	Grand Total Removed



Zn Load	Sources	Reduction
55	Red and Bonita	
29	American Tunnel	
21	Mogul	
8.7	Black Hawk	
7.1	Grand Mogul	
4.1	Natalie/Occid	
3.1	Prospect Gulch	
1.4	Anglo Saxon	

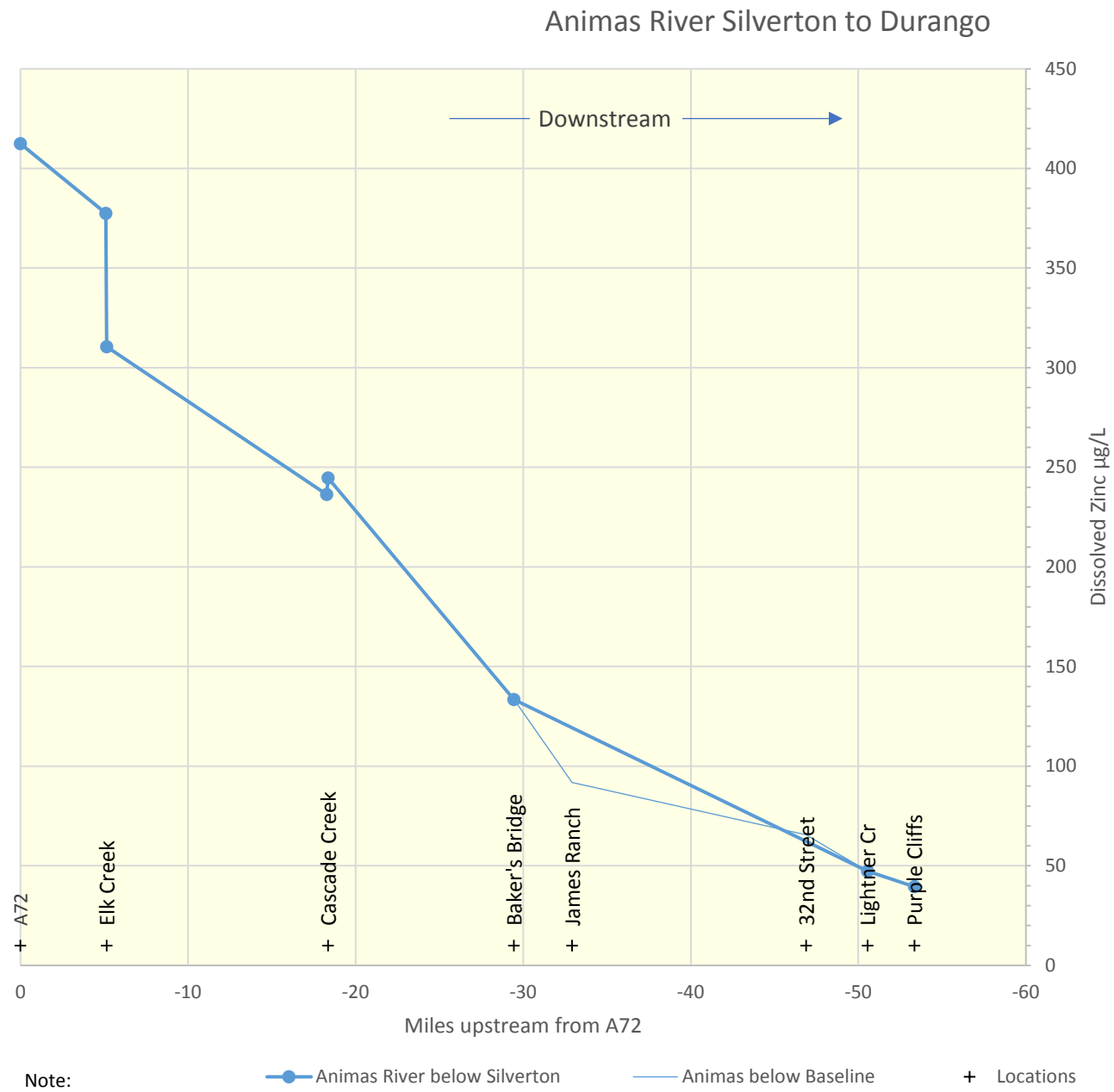
107.	Total Load Cement Cr.
0.00	Removed Cement Cr
0.0	Grand Total Removed



Zn Load	Sources	Reduction
8.5	Silver Ledge	
3.9	North Star adit	
3.1	Koehler adit	
3.2	Brooklyn	
	South Fork	
3.3	Bandora adit #2	
	Middle Fork	
2.3	Paradise adit #1	

Note: Mineral Creek 2016 data

60.9	Total Load Mineral Cr.
0.0	Removed Mineral Cr.
0.0	Grand Total Removed



Zn Load	Sources	Reduction
63	Mayflower	
55	Red and Bonita	
30	Bagley	
29	American Tun.	
27	Columbus	
24	Tom Moore	
23	Colorado Goldfields	
21	Mogul	
11.9	Silver Chord	
11.5	Silver Wing	
8.7	Black Hawk	
8.5	Silver Ledge	

352.	Total Load at A72
0.0	Grand Total Removed

Assumptions
Water is conservative. All inflows stay in the streams. This is violated in Animas River.
Metals are conservative. All metals stay in the streams. This is violated in Animas below Silverton. Probably also in Cement and upper tribs of Animas.
Based on these assumptions, reductions from user input is applied to loads which is mathmatically equal to reducing concentrations.
Negative loads are assumed to be variable based on the upstream loads.

All data errors are insignificant. Measurement errors are expected to be insignifiant at less thean 5%. A more significant source of error is the variability over the course of the sampling event. Impossible to get a true synoptic event due to the size of the site and variability in flows.

Worksheet	Notes
Raw Data	Imported 2012-2017 data from EPA QLIK database
Raw Data	Gold King adit discharge not included; Gladstone WTP effluent not included
Raw Data	All concentrations are µg/L, discharges are cfs, loads are lb./day
In-Stream Data and Sources	Assigned distance from A72 to all stations
In-Stream Data and Sources	Queried Raw Data worksheet for each station
In-Stream Data and Sources	Calculated medians for three years. Omitted 2015 for Cement Creek due to fall samples being collected before WTP started.
In-Stream Data and Sources	Segregated by subwatershed
In-Stream Data and Sources	Animas downstream of Silverton did not have detailed data for 2015-2016. Used 2012 and normalized to median of 2016-17 at A72.
CalcsMedian	Arranged instream data upstream to downstream
CalcsMedian	Arranged sources upstream to downstream
CalcsMedian	Fluffed columns' to place one result per line
CalcsMedian	Summed sources and generated graph with instream loads and summed source loads
CalcsMedian	Generated reach loads by subtracting upstream load from downstream load between stations
CalcsMedian	Reach loads included positive (gains) and negative loads (losses)
CalcsMedian	Added column with net reach loads (reach load minus source inputs)
CalcsMedian	Summed sources and net reach loads and added to graph
CalcsMedian	Selected important net reach loads for use in SourcesSorted worksheet
Sources Sorted	Put source loads and important net reach loads on worksheet and sorted by load
CalcsMedian	For largest loads, added a Control with pick list of percentages for user input
CalcsMedian	Converted user input to percentage
CalcsMedian	Calculated load reductions based on user input.
CalcsMedian	Negative reach loads are recalculated to be a percentage of upstream load. This allows negative loads to be variable when input loads are changed based on user input.
CalcsMedian	Created column of summed loads per subwatershed. The summation includes all reductions.
CalcsMedian	Brought last value from upstream segments to downstream segments as inputs and highlighted in purple. If problems are seen in graphs, double check these links.
CalcsMedian	Created column to convert new loads to concentrations. All assumes that discharge values are unchanged. If routing water over multiple stations, this may need to be accounted for.
All charts with user input	Plotted new concentrations versus distance. Added Controls from selected sources. No shortcuts to add several at a time. Copy, paste, edit the controls.
All charts with user input	Added new loads for each source that recalculated with user input.
All charts with user input	Added total load at A72 as baseline (median) and new based on user input.
CalcsMedian and Charts	Added reset button. This is a macro and it may be disabled based on security settings.
CalcsMedian	Named range "UserInput" for use in the reset button macro.

To do

Colors
Tributary to use as Input in downstream water body
Signficant net reach load
Reach load attirbuted to a source
Dissolved Zinc load at individual station
Carry values to the mouth
Negative net reach load
Adit Load
Signifcant Tributary Load
Not detected concentration
Discharge derived from analysis

REVISIONS 10/17/2018

Scribe Data; Scribe Q	Added Scribe data
In-Stream Data Scribe; Sources Scri	Compiled Scribe data
CalcsMedian	Changed queries to use Scribe data. QLIK data are no longer used.
CalcsMedian	Modified Subtract Load column to include reach loads at a variable rate similar to negative reach loads.
CalcsMedian	Fixed Bandora station - moved M24D to sources
CalcsMedian	Deleted data for CC20H. Q was off.
CalcsMedian	Added Effluent station for Gladstone WTP. Took Q from Removal Branch Scribe db
CalcsMedian	Refined sources with user input. Added some sources based on reach load where station description indicated upstream/downstream of sources
CalcsMedian	Merged Mayflower reaches into a single user input
CalcsMedian	Added column to track reductions generated by user input
CalcsMedian	Changed load to reflect median of loads (green cells) except when this was unavailable, then used calculated loads based on available data (yellow)
All charts with user input	Generally added more sources. Removed Animas return flow. Added Colorado Goldfields
All charts with user input	Changed lookup values for total and removals at bottom to reflect user input

Revisions 10/22/2018

CalcsMedian	Modified how changes to reach and source loads are calculated. Reaches are dependent on ambient upstream conditions to avoid subtracting more load than is available. This applies to significant reach loads and reach loads attributed to a source. Sources (adits and tributaries) can still remove 100%.

Revisions 11/26/2018

In-Stream Data Scribe	Limited Cement Creek downstream of Gladstone to 2017 data
In-Stream Data Scribe	Revised the USGS discharge values from the provisional data in the SARs to the approved data in NWISWeb for the four gaging stations.
Addressed EPA comments	Many minor changes. Major points described below.
Scribe Data	Verified discharge data with SARs. A few errors or missing data found. Called out when no data were collected. "No Flow" from the 2017 SAR interpreted as not measured instread of zero cfs.
CalcsMedian	Based on the comments, rearranged some stations that were in the wrong order.
CalcsMedian	Consolidated some loads into a single load. Example: Mayflower summed five reach loads into one.
CalcsMedian	Simplified load subtraction and new load calculatons.

		Distance	Plot (y-axi	Plot label		
Cement Creek						
QA Adit	Queen Anne Adit discharge	11.22	10	Queen Anne		Change the blue cell to change all plot values
CC01H	Cement Creek upstream of Queen Anne tributary but downstream of confluence with [CDM No	10.76	10	Grand Mogul		
CC02I	Combined flow of the Mogul Sublevel 1 drainages just upstream of the confluence with Cemen	10.21	10	Mogul		
CC03D	Red and Bonita at road	9.33	10	Red and Bonita		
	North Fork	9.17	10	North Fork		
ATS-1	American Tunnel Seep #1. This is the largest seep near the American Tunnel drainage. It comes	8.96	10	American Tunnel		
	South Fork	8.57	10	South Fork		
CC26	Prospect Gulch above Cement Creek	7.55	10	Prospect Gulch		
CC29	Mammoth Tunnel	7.24	10	Mammoth Tunnel		
CC37	Anglo Saxon Mine drainage	5.71	10	Anglo Saxon		
CC43D	Pond below Yukon Tunnel	4.96	10	Yukon Tunnel		
	Mouth	1.60	10	Mouth of Cement Creek		
Mineral Creek						
M02C	Koehler Mine adit	10.20	1	Koehler adit		
M24B	Bandora Adit Discharge #2 -"Middle Adit"	10.17	1	Bandora Adit #2		
M16	Paradise Adit #1	8.37	1	Paradise Adit #1		
M18	Red Tributary	7.37	1	Red Tributary		
	Brooklyn/Browns Gulch	7.05	1	Brooklyn/Browns Gulch		
M33A	North Star Adit	1.64	1	North Star adit		
Middle Animas						
		9.81	10	Eureka Gulch		
		8.0827	10	Kittimack Tailings		
		5.95	10	Colorado Goldfields		
		3.681	10	Mayflower Mill		
		1.60	10	Cement Creek		
Upper Animas						
		9.85	10	Eureka		
		14.10	10	Animas Forks		
Lower Animas						
A72	Animas Gage below Silverton	0.00	10	A72		
A73B	Animas Downstream of Elk Creek	-5.15	10	Elk Creek		
A75B	Animas downstream of Cascade Creek	-18.36	10	Cascade Creek		
Bbridge	Durango Resort and RV Park	-29.45	10	Baker's Bridge		
James Ranch	James Ranch	-32.92	10	James Ranch		
Animas@32nd Bridge	Animas@32nd Bridge	-46.89	10	32nd Street		
Anmias@Lightner Creel	Anmias@Lightner Creek	-50.55	10	Lightner Cr		
Animas@PurpleCliffs	Animas@PurpleCliffs	-53.34	10	Purple Cliffs		
Eureka Gulch						
EG2A	Eureka Gulch above Sunnyside Mine [CDM NOTE: This plots below the mine. Could Call it the M	12.9	10			########
EG4	Eureka Gulch below Lake Emma/Sunnyside Confluence [CDM NOTE: The confluence has been a	12.7	10			########
EG3A	Blw headwaters confluence. Flows into stope and daylights out of Ben Franklin Adit (DM32)	12.7	10			########
EG5	Eureka Gulch below Ben Franklin Mine	12.5	10			########
A39	Eureka above Terry Tunnel	12.4	10			########
EG6	Eureka Gulch below Terry Tunnel	12.1	10			########
A37	Eureka Gulch above South Fork	11.4	10			########
EG9	Eureka Gulch below South Fork	11.0	10			########
A34	Eureka Gulch above Animas	9.9	10		0.121969697	########
		13.5	10			
A38	Terry Tunnel	12.2	10			########
			10			
	Animas River	9.815	10			########
			10			
	Ben Franklin Mine	12.6	10			########
	Bavarian Mine	12.4	10			########
	Terry Tunnel	12.3	10			########
	Midway Tunnel	11.4	10			########
	Moonbeam Mine	10.7	10			########
	Ransom Mine	10.5	10			########
	Ransom Mine - Upper	10.2	10			########
	Sunnyside "Mill Level Tunnel" 1937-38	10.0	10			########
Cal Gulch	Mouth	14.09	10			########
	Mountain Queen Mine	17.5	10			########
	Mountain Queen Tunnel	17.4	10			########
	Indian Chief Mine	17.0	10			########
	Silver Chord Mine	16.8	10			########
	Little Ida Mine	16.2	10			########
	Burrows Mine	16.1	10			########
	Vermillion Mine	15.8	10			########
	Vermillion Tunnel	15.7	10			########
	Frisco/Bagley Tunnel	14.8	10			########
	adit with unknown name	14.4	10			########
	Columbus Mine	14.2	10			########
	Silver Coin Mine	14.1	10			########
	Comet Lower Adit	16.10	100			
Burrows Gulch	Mouth	14.09				########
	Sewell Mine	15.2	10			########
	Little Chief Mine	15.1	10			########
	Red Cloud Mine	15.1	10			########
	Boston Mine	15.0	10			########
	Dewitt Mine	14.9	10			########
	Uncompahgre Chief Mine	14.8	10			########
	London Mine	14.6	10			########
	Ben Butler Mine	14.6	10			########
	Early Bird Crosscut (Paris)	14.6	10			########
	Prairie Mine	14.5	10			########
	Hermes Group	14.1	10			########
	Eagle Chief Mine	14.1	10			########
	Riverside Mine	14.1	10			########

NF Animas	Mouth	14.09		#########
	adit with unknown name	14.6	100	1.47746
	Ben Butler Mine	15.8	100	0.30221
	Columbus Mine	14.2	100	1.848802
	Eagle Chief Mine	14.7	100	1.313967
	Hermes Group	14.9	100	1.13038
	Lucky Jack Mine	15.8	100	0.22393
	Riverside Mine	14.9	100	1.178224
	Silver Coin Mine	14.1	100	1.96784
Upper Animas				
A72	Animas Gauge below Silverton	0		14.09
	adit with unknown name	14.1	10	0.000
	Columbus Mine	14.1	10	0.000
	Silver Coin Mine	14.1	10	0.000
	adit with unknown name	12.4	10	1.703
	Toltec Mine - Lower	12.3	10	1.811
	Toltec Mine - Middle	12.2	10	1.919
	Silver Wing Mine	11.8	10	2.303
	Tom Moore #1,2	11.6	10	2.445
	Tom Moore Mine	11.3	10	2.813
	Protection Mine	10.1	10	3.964
	Senator Mine	10.0	10	4.115
	Sunnyside "Mill Level Tunnel" 1937-38	10.0	10	4.128
	Forest Queen Mine	9.0	10	5.067
	Auburn Tunnel	8.2	10	5.925
	Legal Tender Mine (Howardsville quadrangle)	7.3	10	6.791
	Progressive Mine	6.5	10	7.631
	Union Tunnel (Silver Star)	6.0	10	8.074
	Hidden Treasure Mine	5.7	10	8.375
	Little Nation Mine	5.6	10	8.444
	Joseph Neff Mine	5.2	10	8.921
	Valley Forge Mine	4.1	10	9.963
	Mayflower Mill Repository #1	3.7	10	10.371
	Aspen Mine	3.5	10	10.598
	Amy Tunnel	3.5	10	10.613
	Mayflower Mill Repository #2	3.4	10	10.718
	Mayflower Mill Repository #3	3.3	10	10.808
	Blair Mountain Tunnel	3.2	10	10.887
	Mayflower Mill Repository #4	2.8	10	11.303
	Last Chance Mine	2.6	10	11.498
	Lackawanna Mine	2.4	10	11.676
	Mighty Monarch Mine	1.5	10	12.550
	Idaho Mine	1.3	10	12.794
	Kendall Lode	1.1	10	12.967
	Empire Tunnel (Little Dora/Hercules Mine)	0.8	10	13.305
	Ajax Tunnel (Montezuma/Boston Tunnel)	0.8	10	13.312
	Ricker Tunnel	0.6	10	13.502
	Little Dora Mine	0.6	10	13.505
	Diamond Mine (Silverton quadrangle)	0.5	10	13.539
	Marcella Mine	0.4	10	13.704
	Jenny Parker Mine	0.3	10	13.789
	Ideal Placer	0.3	10	13.795
	Pittsburg Tunnel of Champion Mine	-0.1	10	14.217
	Champion Mine #4 Level	-0.1	10	14.230
	Fairview Mine	-0.1	10	14.233
	Champion #3 Level/Mystery Gold Group	-0.2	10	14.247
	Thunder Tunnel	-0.3	10	14.402
	Alletha Mine	-0.3	10	14.431
	Turk Tunnel (King Mine)	-0.7	10	14.769
	King Tunnel	-0.8	10	14.851

Zn tool

Drainage	Site ID	Comment	Progress	Response
Mineral	M01	I believe that M01 should be the headwaters of Mineral. not M02 comelex of sites. as M02 is more of a "source" while M01 is	No change	Agreed, but the way it is arranged allows the M02 sources to be enumerated in a linear fashion rather than an impacted tributary.
Mineral	M18	On the Mineral Chart tab. the Red Tributary is a recentized natural source of metal loadine. and "treatment" of this load is no	Done	It was initially included since it was a large source.
Mineral	M34	Discharge is unreliable here. 2017 concentration is used in the calculation of median load, even though discharge was not rep	Done	Agreed. Eliminated the reach load from the CalcsMedian sheet.
General	All Charts	Would it be possible to have a chart for each subwatershed instead of having them all on the same chart? ie a. Mineral Creel	Done	
Mineral	**General**	**There is good spatial data coverrage in 2016 and 2017 in Mineral Creek. Whv not complete this loadine analysis for each v**	**Done**	**Loads were higher in 2016**
Mineral	M19	I believe that the flow value at M20 in the fall of 2016 is not accurate. Flow nearly doubles between M19 (7.63 and M20 (13.1	Done	Large problem in 2016. Deleted that station from the CalcsMedian. Not bad for 2017 and left in.
General		There is a onictical difference between a measured non-detect / no flow condition and a situation where the flow or concent	Done	I have set no Flow to 0 which ends ups as 0 load as well. ND values were converted to the RL and colored bright green with a comment of 'U'. I don't have a better way to flag missing data, but will think on it.
Animas	A07	Fall 2017 has a flow input of zero, when it appears that flow actually wasn't measured. Has implications in CalcsMedian.	Done	In the 2017 SAR tables 43 through 54, the Flow Measurement column either has values or "No Flow." I took "No Flow" to mean no flow measurement. Does it mean zero cfs? This is not clear.
Animas	M03	Fall 2015 and 2016 has a flow input of zero. when it appears that flow actually wasn't measured. Has implications in CalcsM	Done	This was changed to "Not Measured" in the data table. These are ignored in the median calculation.
Animas	A02	In CalcsMedian tab, A02 is listed as both an instream station and a source station...	Done	Rearranged these stations based on maps in QAPP. A02 looks like a trib.
Mineral	M24D	M24D is listed as an instream sample in the Instream Data tab. but not in the Calcs Median tab. Probably not a problem. Just	Done	It was in both the In-stream and Sources worksheets. Deleted from in-stream. Discharge is zero or not measured, so doesn't make a difference in CalcsMedian.
Animas	A06	A06 comes in downstream of A05, not above... (CalcsMedian tab)	Done	Rearranged these stations based on maps in QAPP.
Animas	A09A	Huge increase, then loss of Zn load. Appears to be driven by large increases in both flow and Zn concentration. Data gap?	Done	Yes, general lack of data. The discharge value from Sept 2016 was not in scribe. It has been added to this spreadsheet. The CalcsMedian now has a paired gain/loss of nearly equal value. Not good data at this location.
Mineral	M06C	Data missing for fall 2017 when that data actually exists.	Done	Typo had the station name with a trailing space and the lookup failed. Fixed.
Mineral	M06D	Data missing for fall 2017 when that data actually exists.	Done	Typo had the station name with a trailing space and the lookup failed. Fixed.
Mineral	M01	It might make more sense to have M01 serve as the instream headwaters for Mineral Creek given that it has more flow than	No change	Agreed, but the way it is arranged allows the M02 sources to be enumerated in a linear fashion rather than an impacted tributary.
Cement	CC02	According to the viewer, this should come in between CC01T and CC01U instead of where it is currently in CalcsMedian tab.	Done	Revised.
General	Colums AF	What is hapoenine in colums AF on the CalcsMedian tab? With no reductions input in. most of these cells are 0. However. a	Done	Following the revisions above, all values reset themselves to zero.
Cement	CC07 and CC17	Station ID missing in CalcsMedian tab.	No change	The last line of each subwatershed is at the mouth, downstream of the last station, so the station label is on the correct line. The mouth does not have a station ID except A72 which was not at the mouth of anything.
New				
Cement	All CC	Lower Cement creek showed wild swings in loading. Problems with the 2016 data.	Done	Limited Cement Creek below Gladstone to the 2017 data. This fixed the swings in loading. Seems to implicate Mammoth Tunnel as a source, but no access to that site and older data indicate it's a small load. Unfortunately, Cement Creek upstream of Gladstone had limited data in 2017, so left 2016 and 2017 data in this reach. Created a small bust at the transition.