SDMS Document ID
1029029

SAMPLES AND CORRESPONDING ANALYSES SUMMARY TABLES

RICO, COLORADO

SUBMITTED TO

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REGION 8 RPM

SUBMITTED B Y
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July, 2003

Discussion

Early in 2003, Region 8 requested technical support at the NPL site and near the Rico, Colorado mine site (**CERCLIS #**), The City of Rico has been undergoing changes and the city wanted information pertinent to the possibility of applying for redevelopment grants, and to actually remediate the area. The Engineering Technical Support Center (ETSC) of the Office of Research and Development provides technical support to Regional Remedial Project Managers (RPMs) under CERCLA.

The Director, ETSC (David Reisman) began working with Carol Russell (Region 8 RPM) to develop a brief sampling and quality assurance plan to attempt to get an idea of the types and concentrations of the metals in the soil and sediment located in the different parts of the city, and near the river. Any development of local property would be in the areas sampled, and the city needed to know if a further study or remediation investigation would be required prior to developing any proposal for Brownfields or other grants.

In June, 2003, a draft Sampling Plan was developed by Region 8 detailing how the brief plan was accomplished. Those details are included in the plan which is a separate document. A scoping study was done using a hand-held XRF with a Garmin GPS device used to ascertain an exact position. In areas where the XRF had high readings for 4 metals, confirmatory sampling was done by securing a surface grab sample and storing it for delivery to the ORD laboratory in Cincinnati, Ohio. Table 1 shows the chemical analysis for all chemicals in each location, and Table 2 shows the approximate XRF readings for 4 metals at those locations. It should be noted that the accuracy of the XRF at some locations may be low because the readings were taken in the upper range limit of the equipment. Again, these estimates were completed to decide on sampling locations for confirmatory soil sampling.

Data from this study is limited to the selected sites. All quality assurance and control measures were taken both in the field and at the laboratory. Samples were immediately analyzed. Additional quality assurance data and numerical results are available from ETSC.

For further information on the results, contact David Reisman, Director, ETSC, 513-487-2588.

Rico, CO* Mine Waste Soils and Sediment 5/28-29/03

Lat N	Long W	Accuracy(ft)	Pb (ppm)	Zn (ppm)	Hg (ppm)	As (ppm)	Location	Sample # **
37- 41-415	108-02-061	21	240	1150	<75	<11	DR-4	DR0528003
37- 41-409	108-02-059	20	3050	4590	<99	<220		DR0528004-1
37- 41-772	108-02-103	23	736	<490	<130	<300		DR0528006
37- 41-730	108-02-109	23	498	828	<57	<97		DR0528007
37- 41-618	108-02-118	37	1640	2780	<88	<180	Shamrock	DR0528009-2
37- 41-370	108-02-214	16	<42	150	<34	<39	by Sulfur Ck Sam Patch	DR052800
37- 41-258	108-02-253	16					Collapse AMD	DR052800
37- 41-278	108-02-253	16	538	455	<76	<130	Collapse AMD	DR05280012
37- 41-640	108-01-958	19	9480	5500	<130	<310	Soda St trees	DR05280013-3
37- 41-660	108-01-968	21	752	1540	<64	<120	Well? River St.	DR05280015
37- 41-680	108-02-687	22	9140	26,900	<190	<420	Van? Shaft	DR05280016-4
37- 41-668	108-02-008	25	962	208	<49	<61	Harvey Develop.	DR05280021
			1070	178	<67	<140	TV Rock Syndicate Tun.	DR05280023
37- 40-993	108-01-584	26	<50	<110	<46	<45	Golden Fleece	DR0529025
37- 40-996	108-01-836	27	<33	<83	<33	<34	cool waste rock	DR0529026?
37- 40-794	108-01-961	17	229	423	<69	<51	Enterprise	DR0529027
37- 40-780	108-01-864	17	290	521	<97	<63		DR0529028
37- 41-677	108-01-691	25	8840	25,700	<970	<480	Shaft near houses	DR0529030-5-B1
37- 41-677	108-01-691	25	8080	22,90	270 ±110	<79	Mo-81 Sr81 FRON159,800?	DR0529031-7
37- 41-637	108-01-972	22	9220	1,440	187 ±110	<52		DR05290327
37- 41-693	108-01-962	15	no XRF	no XRF	no XRF	no XRF	Sed Silver Cr.	DR0529x1
37- 40-784	108-02-116	21	no XRF	no XRF	no XRF	no XRF	Sediment	DR05290x2
37- 40-779	108-02-122	16	no XRF	no XRF	no XRF	no XRF	Sediment	DR05290x3
37- 43-461	108-01-798	15	no XRF	no XRF	no XRF	no XRF	Sediment	DR05290x4
37-53-781	107-42-686	27	1140	473	620	<50	Longfellow/ Kohler	DR05290-B2
37- 53-774	107-42-682	22	3850	1190	471	<130	Sr767, Cd35	DR05290-B2

* - Location confirmation - (County corner 37-41-723/108-02-099)

* * The number after the dash means a confirmation sample was taken. Missing # are duplicate XRF readings

Rico, CO Mine Waste Soils And Sediment

RICO COLORADO SAMPLES, LOCATI

	Sample #	Lat N	Long W	Accuracy(ft)	Locaton	Al
#1	DR0528004	37- 41-409	108-02-059	20	Delores River	81
#2	DR0528009	37- 41-618	108-02-118	37	Shamrock	108
#3	DR05280013	37- 41-640	108-01-958	19	Soda St trees	63
#4	DR05280016	37- 41-680	108-01-687	22	Van? Shaft	28
#5	DR0529031D	37- 41-677	108-01-691	25	Mo-81 Sr81	24
#7	DR05290x1	37- 41-693	108-01-962	15	Sed Silver Cr.	28
#8	DR05290x2	37- 40-784	108-02-116	21	Sediment	7
#9	DR05290x3	37- 40-779	108-02-122	16	Sediment	5
#10	DR05290x4	37- 43-461	108-01-798	15	Sediment	4

	Sample #	Cr	Cu	Fe	K	Mg
		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
#1	DR0528004	30	749	2173	3693	10508
#2	DR0528009	20	414	3561	762	6744
#3	DR05280013	11	119	1652	2212	2870
#4	DR05280016	62	1297	1748	669	19836
#5	DR0529031D	28	522	4207	728	11244
#7	DR05290x1	5	115	1110	792	2217
#8	DR05290x2	6	17	1114	1204	4176
#9	DR05290x3	3	12	741	957	2809
#10	DR05290x4	3	9	393	642	1982

	Sample #	Sb	Se	Si	Sn	Ti
		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
#1	DR0528004	3	ND	521	1	82
#2	DR0528009	3	ND	322	ND	109
#3	DR05280013	1	ND	203	1	65
#4	DR05280016	4	ND	635	1	31
#5	DR0529031D	3	ND	194	ND	24
#7	DR05290x1	2	ND	121	ND	27
#8	DR05290x2	2	ND	263	ND	8
#9	DR05290x3	2	ND	216	ND	6
#10	DR05290x4	3	ND	164	1	5