12/8/81 [illegible]

Barbara – Supply Data set # + Lab #s + folder so we merely discussed

RECEIVED DEC 07 1981

US EPA CENTRAL REGIONAL LAB.
536 S. CLARK STREET
CHICAGO, ILLINOIS 60605

INORGANICS QUALITY ASSURANCE

RMA Q.C. REPORT # 32

NOV 25 1981

145846 12-11-81 KRT

Transferred 12/7/81 by

Data Set EEIB 484 FS-8104-05

Cases(s): 673, 698

CHEMICAL RECOVERY
ED BRIESCH

Sample #: MT 8219 8IMC09513 → ME 8389 8IMC09518 → ME 8392 8IMC09523 → ME 8446

MT 8220 8IMC09514 → ME 8391 8IMC09519 → ME 8445 8IMC09524 → ME 8447

MT 8221 8IMC09515 → ME 8393 8IMC09520 → ME 8386 8IMC09525 → ME 8385

8IMC09511 → ME 8257 8IMC09516 → ME 8449 8IMC09521 → ME 8388 8IMC09526 → ME 8369

8IMC09512 → ME 8390 8IMC09517 → ME 8448 8IMC09522 → ME 8387 8IMC09527 → ME 8384

Contract Required Detection Limits

Task 1:

(mg/l)		(mg/kg)
0.010	Ag	1
0.200	Al	20
0.100	B	10
0.100	Ba	10
0.005	Be	0.5
0.010	Cr	1
0.050	Co	5
0.050	Cu	5
0.050	Fe	5
0.010	Mn	1
0.040	Ni	4
0.200	V	20
0.010	Zn	1

Task 2:

(mg/l)		(mg/kg)
0.010	As	1
0.001	Cd	0.1
0.0002	Hg	0.02
0.005	Pb	0.5
0.020	Sb	2
0.002	Se	0.2
0.020	Sn	2
0.010	Tl	1

Task 3:

(mg/l)		(mg/kg)
0.1	NH_3	10
0.01	CN^{-1}	1
0.05	S^{-2}	5

Footnotes:

(1) Detection limit raised due to sample matrix interference.
(2) Sample interference precluded analysis.
(3) Detection limit raised due to small volume of sample, necessitating dilution prior to analysis.

12/8/81 cmo
MAK 12/8/81

RMA Quality Control Report # 32 Case(s) 673, 698 No. of Samples 20 Date 25 Nov 81

NOV 25 1981

Task 1: mg/l or mg/kg

		Ag	Al	B	Ba	Be	Co	Cr	Cu	Fe	Mn	Ni	V	Zn
erence Std	Found	—	.24	.78	.50	.039	.44	.31	.19	.12	.10	.27	.13	.31
ce ELA	True	—	.24	.83	.52	.040	.42	.32	.19	.11	.10	.27	.14	.30
	% Recovery	—	100	94	96	98	105	97	100	109	100	100	93	93
Blank	Result	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
icate	Sample Result	ND	350	ND ~~2.6~~	30	ND	ND	ND	ND	250	180	ND	ND	3.0 ~~102~~
ple	Duplicate Result	ND	360	ND ~~2.7~~	NDL 18	ND	ND	ND	ND	340 ~~340~~	280	ND	ND	3.0
MT 8219	RPD %	—	2.8	~~3.4~~	50	—	—	—	—	31	43	—	—	0
ed	Dilution Factor	100	1000	100	100	100	100	100	100	~~1000~~	100	100	100	100
ple	Sample Result	<.01	.40	<.1 ~~.30~~	.13 ~~<.1~~	<.005	<.05	<.01	<.05	.32	1.0	<.04	.038	.041
MT8220	Spike Result	.50	.90	.54 ~~.72~~	.63	.47	.50	.53	.50	.80	1.5	.49	.060	.056
	Spike Added	.50	.50	.50	.50	.50	.50	.50	.50	.50	0.5	.50	.020	.50
	% Recovery	100	100	112 ~~92~~	100	94	100	106	100	96	100	96	110	104
tivity	Std #1 Conc	.50	.50	.30	.50	.50	.50	.50	.50	.50	.50	.50	.050	.50
	Std #1 Abs	.110	.004	.114	.01 ~~.110~~	.110	.061	.078	.124	.002	.100	.050	.071	.102
	Std #2 Conc	1.0	1.0	.50	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.100	1.0
	Std #2 Abs	.220	.005	.184	~~.221~~	.221	.120	.159	.246	.122	.200	.100	.139	.203
	Std. #3 Conc	2.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	—	2.0
	Std. #3 Abs	.440	.016	.354	~~.437~~	.437	.240	.309	.490	.240	.397	.200	—	.400

Task 2: mg/l or mg/kg

		As	Cd	Hg	Pb	Sb	Se	Sn	Tl
erence Std	Found	.010	.065	.0047	.22 ~~—~~	.050	.016	—	.05
ce ELA	True	.010	.062	.0019	.021	.047	.018	—	.051
	% Recovery	100	105	89	105	106	88	—	108
Blank	Result	ND	ND	ND	ND	ND	ND	ND	ND
icate	Sample Result	ND	0.84	ND	10	ND	ND	ND	ND
ple	Duplicate Result	ND	0.61	ND	10	ND	ND	ND	ND
MT 8219	RPD %	—	32	—	0	—	—	—	—
ed	Dilution Factor	100	100	100	100	100	100	100	100
ple	Sample Result	.005	<.001	<.0002	.20	<.002	<.002	.009	<.01
MT8220	Spike Result	.025	.50	.0011	.68	.018	.017	.029	.018
	Spike Added	.020	.50	.0010	.50	.020	85	.020	.020
	% Recovery	100	100	105	96	90		100	90
tivity	Std #1 Conc	.050	.25 ~~.50~~	.0005	.50	.050	.050	.050	.050
	Std #1 Abs	.160	.71	.031	.017	.086	.102	.069	.089
	Std #2 Conc	.100	.50	.0010	1.0	.100	.100	.100	.100
	Std #2 Abs	.312	.332	.060	.034	.170	203	.137	.175
	Std. #3 Conc	—	1.0	.0020	2.0	—	—	—	—
	Std. #3 Abs	—	.625	.116	.067	—	—	—	—

12/8/81 cn
12/8/81 MAK

U. S. ENVIRONMENTAL PROTECTION AGENCY - HWI Sample Management Office
114 North Columbus Street - Alexandria, Virginia 22314

Laboratory Name Rocky Mountain Analytical Lab Case No. 698 QC Report No. 32

NOV 25 1981

ASK 1. Units mg/l or mg/kg (circle one)

PA mple No.	RMA Sample No.	Ag	Al	B	Ba	Be	Cr	Co	Cu	Fe	Mn	Ni	V	Zn				
E 8257	1461-01	ND	3400	14	83	ND	3.2	ND	300	3900	300	28	ND	6100				
E 8390	02	ND	1300	47	16	ND	ND	10	150	2100	120	ND	ND	540				
E 8389	03	ND	2000	ND	24	ND	ND	14	14	1900	140	ND	ND	990				
E 8391	04	ND	3500	ND	63	ND	39	24	51	3600	450	7.8	ND	240				
E 8393	05	ND	880	ND	43	ND	ND	14	14	2100	340	ND	ND	50				
E 8449	06	ND	1900	17	180	ND	99	350	1800	4200	360	42	ND	620				
E 8448	07	ND	3800	12	63	ND	3.2	ND	14	2200	97	ND	ND	550				
E 8392	08	ND	3500	ND	37	ND	88	56	190	3700	360	23	ND	310				
E 8445	09	ND	1000	12	170	ND	120	34	120	2600	280	46	ND	320				
E 8356	10	ND	1300	ND	88	ND	130	6.5	42	5800	42	88	ND	210				

SK 2. Units mg/l or mg/kg (circle one)

A mple No.	RMA Sample No.	As	Cd	Hg	Pb	Sb	Se	Sn	Tl
E 8257	1461-01	3.3	14	ND	200	ND	ND	2.1	ND
E 8390	02	1.5	ND	ND	48	ND	ND	3.2	ND
E 8389	03	1.5	ND	ND	48	ND	ND	3.9	ND
E 8391	04	4.7	24	ND	240	3.0	ND	ND	ND
E 8393	05	1.6	6.2	ND	83	15	ND	ND	ND
E 8449	06	41	680	ND	1100	69	1.0	2.2	ND
E 8448	07	1.3	120	ND	1600	ND	ND	ND	ND
E 8392	08	4.4	33	ND	350	~~24~~ 11	ND	ND	ND
E 8445	09	7.2	18	ND	860	32	ND	2.8	ND

TASK 3. Units mg/l or mg/kg (circle one)

CN	NH_3	S

12/8/81 CM
12/8/81 MAK

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Laboratory Name Rocky Mountain Analytical Lab Case No. 698 QC Report No. 32

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ASK 1. Units mg/l or mg/kg (circle one)

PA mple No.	RMA Sample No.	Ag	Al	B	Ba	Be	Cr	Co	Cu	Fe	Mn	Ni	V	Zn				
1E 8388	1461-11	ND	1600	ND	54	ND	2.7	ND	18	5600	220	ND	ND	67				
E 8387	12	ND	1200	ND	37	ND	ND	ND	22	4400	280	ND	ND	29				
1E 8446	13	ND	1600	30	21	ND	2.7	8.1	19	3000	160	7.9	ND	53				
E 8447	14	ND	3400	20	38	ND	4.5	12	33	4800	190	10	ND	130				
E 8385	15	ND	3400	13	16	ND	ND	ND	7.5	5400	210	8.8	ND	16				
E 8369	16	ND	640	ND	77	ND	9.5	ND	26	2400	750	13	ND	41				
E 8384	17	ND	400	ND	ND	ND	ND	ND	ND	3600	400	ND	ND	3.5				

SK 2. Units mg/l or mg/kg (circle one)

A nple No.	RMA Sample No.	As	Cd	Hg	Pb	Sb	Se	Sn	Tl
E 8388	1461-11	1.3	1.1	ND	95	ND	ND	ND	ND
E 8387	12	1.2	2.5	ND	33	ND	ND	ND	ND
1E 8446	13	1.7	3.3	0.083	68	ND	ND	ND	ND
1E 8447	14	1.3	3.1	0.025	64	ND	ND	ND	ND
1E 8385	15	2.7	0.34	ND	16	ND	ND	8.0	ND
1E 8369	16	11	11	ND	47	ND	ND	ND	ND
1E 8384	17	ND	ND	ND	9.8	ND	ND	ND	ND

TASK 3. Units mg/l or mg/kg (circle one)

CN	NH_3	S