BERYLLIUM CVS Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West	K2	WS-K02-080509	BARIUM	97.2	07/08/09	59166	Y	WS-K02-080509
West	K3	WS-K03-080509	BARIUM	79.8	07/08/09	59166	Y	WS-K03-080509
West	K4	WS-K04-080513	BARIUM	72.2	07/08/09	59166	Y	WS-K04-080513
West	K4	WS-K04-080513	BARIUM	65.5	07/24/09	59759	Y	DUP-10
West	K5	WS-K05-080509	BARIUM	68.9	07/08/09	59166	Y	WS-K05-080509
West	L1	WS-L01-080505	BARIUM	83.2	07/08/09	59166	Y	WS-L01-080505
West	L2	WS-L02-080508	BARIUM	79	07/08/09	59166	Y	WS-L02-080508
West	L3	WS-L03-080508	BARIUM	68.3	07/08/09	59166	Y	WS-L03-080508
West	L4	WS-L04-080508	BARIUM	93.1	07/08/09	59166	Y	WS-L04-080508
West	L4	WS-L04-080508	BARIUM	93.6	07/08/09	59166	Y	DUP-9
West	M1	WS-M01-080505	BARIUM	94.8	07/08/09	59166	Y	WS-M01-080505
West	M1	WS-M01-080505	BARIUM	95	07/08/09	59166	Y	DUP-7
West	M2	WS-M02-080507	BARIUM	82.6	07/24/09	59759	Y	WS-M02-080507
West	M3	WS-M03-080507	BARIUM	58	07/24/09	59622	Y	DUP-8
West	M3	WS-M03-080507	BARIUM	50.3	08/11/09	60090	Y	WS-M03-080507
West	M4	WS-M04-080507	BARIUM	57.7	08/11/09	60090	Y	WS-M04-080507
West	N1	WS-N01-080506	BARIUM	70.2	08/11/09	60090	Y	WS-N01-080506
West	N2	WS-N02-080506	BARIUM	70.3	07/13/09	59383	Y	WS-N02-080506
West	N3	WS-N03-080507	BARIUM	44.3	06/30/09	58730	Y	WS-N03-080507
West	O1	WS-O01-080506	BARIUM	65.4	07/13/09	59383	Y	WS-O01-080506
West	O2	WS-O02-080506	BARIUM	40.5	07/13/09	59383	Y	WS-O02-080506

Table B-1: Boron Data Quality Summary			
Laboratory Performance Criteria	Criteria	Measured	Comment
Minimum LCS Recovery	greater than 80%	82%	
Minimum Matrix Spike Recovery	greater than 70%	62%	low
Average LCS Recovery	N/A	93%	
Average Matrix Spike Recovery	N/A	85%	
Maximum LCS RPD	less than 20%	5%	
Maximum Laboratory Duplicate RPD	less than 20%	33%	high
Average LCS RPD	N/A	2%	
Average Laboratory Duplicate RPD	N/A	17%	
Measurement Quality Objectives	Critera	Measured	
NPS CRM	No vendor supplied data	Minimum Recovery =	3.70 mg/kg
EQIS CRM	See Note 1		
CVS Split Analysis RPD	RPD less than 35%	Maximum RPD =	96 %
CRM Split Analysis RPD	RPD less than 35%	Maximum RPD =	14 %
Overall QC Indicator Measurements	Criteria	Measured	
NPS CRM "Made to" (Bias measure)	N/A	Average Recovery =	NA %
NPS Replicate Test (Precision measure)	N/A	Standard Deviation =	3.28 mg/kg
Data Quality Relative to Remediation Goals			
Tier 1 Remediation Goal	31		
Tier 2 Remediation Goal	35		
QC Derived Reliance Level	32.9	See Note 2	

Comments: Boron analyses attained laboratory performance criteria related to accuracy. However, low minimum matrix spike recovery (62%) and low average matrix spike recovery (85%) indicate bias in boron measurements favoring low measurements. Also, precision problems are indicated by the observed maximum laboratory duplicate RPD (33%) that exceeds the laboratory performance criteria (20%) and also by a CVS Split Analysis RPD (96%) that exceeds the measurement quality objective (35%). Also, a high standard deviation for repeated measurements of the same sample (3.28 mg/kg) relative to its mean concentration (4.92mg/kg) suggests precision problems. The derived reliance level (32.9 mg/kg) is lower than the tier 2 RG; however, no CVS samples exhibit concentrations exceeding this value, so precision and accuracy inadequacies will not unacceptably influence decisions related to determining RG achievement. Therefore, it is concluded that the boron CVS measurements are of acceptable quality and may be used to determine RG achievemen.

Note 1: The QAPP required CRMs have only 4 analytes from each analyte group. Boron is not one of them.

Note 2: The derived reliance level must be calculated differently for boron, because there is no vendor supplied "made to" concentration for the NPS CRM. The average MS spike recovery (85%) is used to calculate the derived reliance level (32.9 mg/kg).
Derived reliance level is calculated as: (Tier 2 RG)(1.2)(Average Recovery)-(0.84)(Standard deviation) = (35)(1.2)(.85)-(0.84)(3.28) = 32.9 mg/kg (see comment above for special modification)

Table B-2: Boron - NPS CRMs				
Blind NPS CRM Results				
Sample	Result	Analysis Date	Batch	Detect
BOR Sample 1-BOR 56	5.6	5/1/09	57223	Y
BOR Sample 6-BOR 81	4.3	5/1/09	57284	Y
BOR Sample 4-BOR 82	3.7	5/11/09	57543	Y
BOR 83	4.7	5/24/09	57792	Y
BOR Sample 3-BOR 58	4.7	5/24/09	57792	Y
BOR 84	4.5	5/28/09	57847	Y
BOR Sample 7-BOR 105	4.7	5/28/09	57847	Y
BOR 85	4.5	6/9/09	58135	Y
BOR Sample 8-BOR 106	4.9	6/9/09	58135	Y
BOR 86	5	6/10/09	58212	Y
BOR 108	5.4	6/20/09	58565	Y
BOR 87	7.3	6/20/09	58565	Y
BOR 109	5	7/7/09	58728	Y
BOR 110	6.4	7/16/09	59381	Y
BOR Sample 9-BOR 107	5.4	7/27/09	59757	Y
BOR 111	3.7	7/29/09	59889	Y

CRMs		Vendor Supplied Information
Mean	4.99	*Made to*
Standard Error	0.23	
Median	4.80	
Standard Deviation	0.92	*Upper Acceptance Limit*
Sample Variance	0.84	
Kurtosis	1.77	
Skewness	1.06	*Lower Acceptance Limit*
Range	3.6	
Minimum	3.7	
Maximum	7.3	There is no Vendor Supplied
Sum	79.8	Information for Boron
Count	16	
Largest(2)	6.4	
Smallest(2)	3.7	

Table B-3: Boron - NPS Replicate Tests on a Background Sample				
Results of Replicate Analyses of a Single Sample				
Sample	Result	Analysis Date	Batch	Detect
BOR 112	7.2	5/1/09	57223	Y
BOR 59	3.5	5/1/09	57284	Y
BOR 60	2.9	5/11/09	57543	Y
BOR 113	4.2	5/24/09	57792	Y
BOR 61	3.5	5/24/09	57792	Y
BOR 62	3.9	6/10/09	58212	Y
BOR 63	4	6/20/09	58565	Y
BOR 89	3.6	6/20/09	58565	Y
BOR 115	5.2	7/7/09	58728	Y
BOR 64	4	7/8/09	59163	Y
BOR 91	2.3	7/8/09	59163	N
BOR 116	15.7	7/16/09	59381	Y
BOR 92	3.7	7/16/09	59381	Y
BOR 65	3.1	7/20/09	59621	Y
BOR 88	7	7/29/09	59889	Y

Replicate analyses of Single Sample	
Mean	4.92
Standard Error	0.85
Median	3.90
Standard Deviation	3.28
Sample Variance	10.76
Kurtosis	9.19
Skewness	2.87
Range	13.4
Minimum	2.3
Maximum	15.7
Sum	73.8
Count	15
Largest(2)	7.2
Smallest(2)	2.9

Table B-4: NPS and EQIS Duplicates

Sample	Result	Analysis Date	Batch	Split	Result	Analysis Date	RPD
BOR 503	6	5/1/09	57284	ES-T11-080530	2.1	6/10/2009	96
BOR 506	5.2	5/11/09	57543	ES-S10-080523	3.8	6/10/2009	31
BOR 504	9.2	5/24/09	57792	ES-M05-080527	7.2	5/28/2009	24
BOR 507	8.3	6/9/09	58135	ES-O09-080610			
BOR 508	14.6	6/20/09	58565	ES-Q11-080606	13.5	5/11/2009	8
BOR 501	6.4	7/8/09	59163	WS-L04-080508	8	7/8/2009	22
BOR 510	4.8	7/8/09	58728	OU-8HR-080605	3.4	5/1/2009	34
BOR 505	3.4	7/20/09	59621	WS-K03-080509	6.9	7/8/2009	68
BOR 502	9.8	7/27/09	59757	WS-F05-080612	7.3	8/25/2009	29
BOR 509	12	7/27/09	59757	WS-E06-080613	18.6	7/27/2009	43
DUP-11	12.7	5/1/09	57147	ES-J03-080513	7.7	6/20/2009	49
DUP-17	4	5/1/09	57284	ES-F01-080529	4.7	5/11/2009	16
DUP-15	10.8	5/11/09	57543	ES-J02-080527	21.1	5/24/2009	65
DUP-18	7.7	5/11/09	57543	ES-J04-080530	13.8	5/24/2009	57
DUP-12	8.2	5/24/09	57792	ES-P06-080515	5.6	6/9/2009	38
DUP-16	8.3	5/24/09	57792	ES-P04-080528	8.1	6/9/2009	2
DUP-19	4.1	5/28/09	57847	ES-K05-080605	4.9	5/28/2009	18
DUP-13	3.2	6/9/09	58135	ES-T08-080522	2.6	6/10/2009	21
DUP-14	3.9	6/10/09	58212	ES-T10-080523	3.7	6/10/2009	5
DUP-3	3.9	6/20/09	58565	WS-C01-080501	5.7	6/20/2009	38
DUP-4	3.5	6/20/09	58565	WS-G01-080501	6.4	7/7/2009	59
DUP-5	6	7/7/09	58728	WS-I01-080501	6.5	7/7/2009	8
DUP-6	7.2	7/7/09	58728	WS-J01-080505	7.3	7/7/2009	1
DUP-7	7.1	7/8/09	59163	WS-M01-080505	8.4	7/8/2009	17
DUP-9	6.9	7/8/09	59163	WS-L04-080508	8	7/8/2009	15
DUP-1	10.2	7/16/09	59381	WS-E02-080428	8.4	7/20/2009	19
DUP-2	9.5	7/16/09	59381	WS-D02-080429	8.7	7/20/2009	9
DUP-8	3.9	7/20/09	59621	WS-M03-080507	2.8	8/5/2009	33
DUP-10	12.5	7/27/09	59757	WS-K04-080513	14.1	7/8/2009	12

RPD of Sample Splits	
Mean	29.9
Standard Error	4.3
Median	23.3
Standard Deviation	23.0
Sample Variance	526.7
Kurtosis	1.1
Skewness	1.1
Range	94.9
Minimum	1.4
Maximum	96.3
Sum	836.6
Count	28
Largest(2)	68.0
Smallest(2)	2.4

Table B-5: Boron EQIS CRMs

Results of Duplicate Analysis of EQIS CRMs

Sample	Result	Date	Batch	Detect	Average	RPD
ES-Z09-080529A	34.7	5/1/09	57284	Y		
ES-Z09-080529B	36.8	5/1/09	57284	Y	35.75	6
ES-Z11-080605A	48.3	5/1/09	57147	Y		
ES-Z11-080605B	48.7	5/1/09	57147	Y	48.5	1
ES-Z12-080606A	38.3	5/1/09	57284	Y		
ES-Z12-080606B	38.3	5/1/09	57284	Y	38.3	0
ES-Z05-080519A	39.4	5/11/09	57543	Y		
ES-Z05-080519B	38.9	5/11/09	57543	Y	39.15	1
ES-Z06-080520A	38.5	5/11/09	57543	Y		
ES-Z06-080520B	36.4	5/11/09	57543	Y	37.45	6
ES-Z07-080522A	48	5/24/09	57792	Y		
ES-Z07-080522B	43.8	5/24/09	57792	Y	45.9	9
ES-Z13-080610A	41.2	5/28/09	57847	Y		
ES-Z13-080610B	45.7	5/28/09	57847	Y	43.45	10
ES-Z10-080602A	38.9	6/9/09	58135	Y		
ES-Z10-080602B	44.6	6/9/09	58135	Y	41.75	14
ES-Z08-080527A	38	6/10/09	58212	Y		
ES-Z08-080527B	42.8	6/10/09	58212	Y	40.4	12
ES-Z14-080611A	57	6/20/09	58565	Y		
ES-Z14-080611B	50.3	6/20/09	58565	Y	53.65	12
ES-Z06-080520C	44.2	7/7/09	58728	Y		
ES-Z06-080520D	42.3	7/7/09	58728	Y	43.25	4
ES-Z05-080519C	45.4	7/8/09	59163	Y		
ES-Z05-080519D	46.8	7/8/09	59163	Y	46.1	3
ES-Z19-080624A	52.4	7/16/09	59381	Y		
ES-Z19-080624B	56.6	7/16/09	59381	Y	54.5	8
WS-Z17-080618A	51.5	7/16/09	59381	Y		
WS-Z17-080618B	53.6	7/16/09	59381	Y	52.55	4
WS-Z15-080613A	42.4	7/20/09	59621	Y		
WS-Z15-080613B	44.2	7/20/09	59621	Y	43.3	4
WS-Z18-080620A	42.5	7/20/09	59621	Y		
WS-Z18-080620B	45.1	7/20/09	59621	Y	43.8	6
WS-Z16-080617A	48.8	7/29/09	59889	Y		
WS-Z16-080617B	50.4	7/29/09	59889	Y	49.6	3

Analysis of EQIS CRMs	
Mean	44.6
Standard Error	1.0
Median	44.2
Standard Deviation	5.8
Sample Variance	34.2
Kurtosis	-0.6
Skewness	0.4
Range	22.3
Minimum	34.7
Maximum	57.0
Sum	1514.8
Count	34
Largest(2)	56.6
Smallest(2)	36.4

RPD of EQIS CRMs	
Mean	6.09
Standard Error	
Median	5.61
Standard Deviation	4.17
Sample Variance	17.42
Kurtosis	-0.84
Skewness	0.43
Range	13.65
Minimum	0.00
Maximum	13.65
Sum	103.56
Count	17
Largest(2)	12.49
Smallest(2)	0.82

Table B-6: Boron Laboratory MS and LCS

Matrix Spike Recovery %	Batch	Order	LCS Recovery %	Batch	Order
102	7160081	1	94	49188	2
89	7160081	1	100	49191	3
91	49188	2	86	49538	4
93	49191	3	87	49540	5
80	49538	4	96	54626-627	6
79	49540	5	95	54821-822	7
92	54626-627	6	96	54891-892	8
91	54821-822	7	97	54915-916	9
85	54891-892	8	96	57147	10
81	54915-916	9	94	57223	11
84	57147	10	97	57543	12
92	57223	11	88	57792	13
78	57543	12	83	57847	14
72	57792	13	82	58135	15
72	57847	14	109	58212	16
62	58135	15	100	58565	17
105	58212	16	91	58728	18
87	58565	17	96	59163	19
81	58728	18	96	59163	19
82	59163	19	90	59381	20
81	59381	20	92	59621	21
84	59621	21	91	59757	22
84	59757	22	92	59889	23
79	59889	23	96	60088	24
89	60088	24	83	60439	25

Average MS Recovery = 85 % Average LCS Recovery = 93 %

Minimum MS Recovery = 62 % Minimum LCS Recovery = 82 %

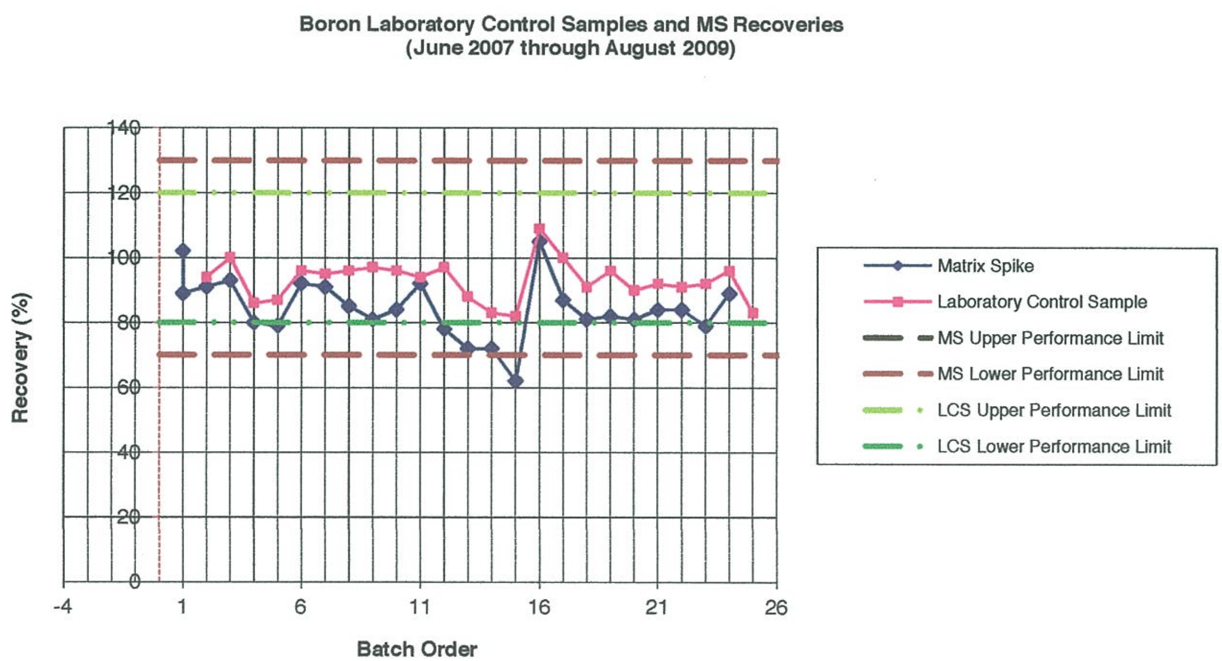
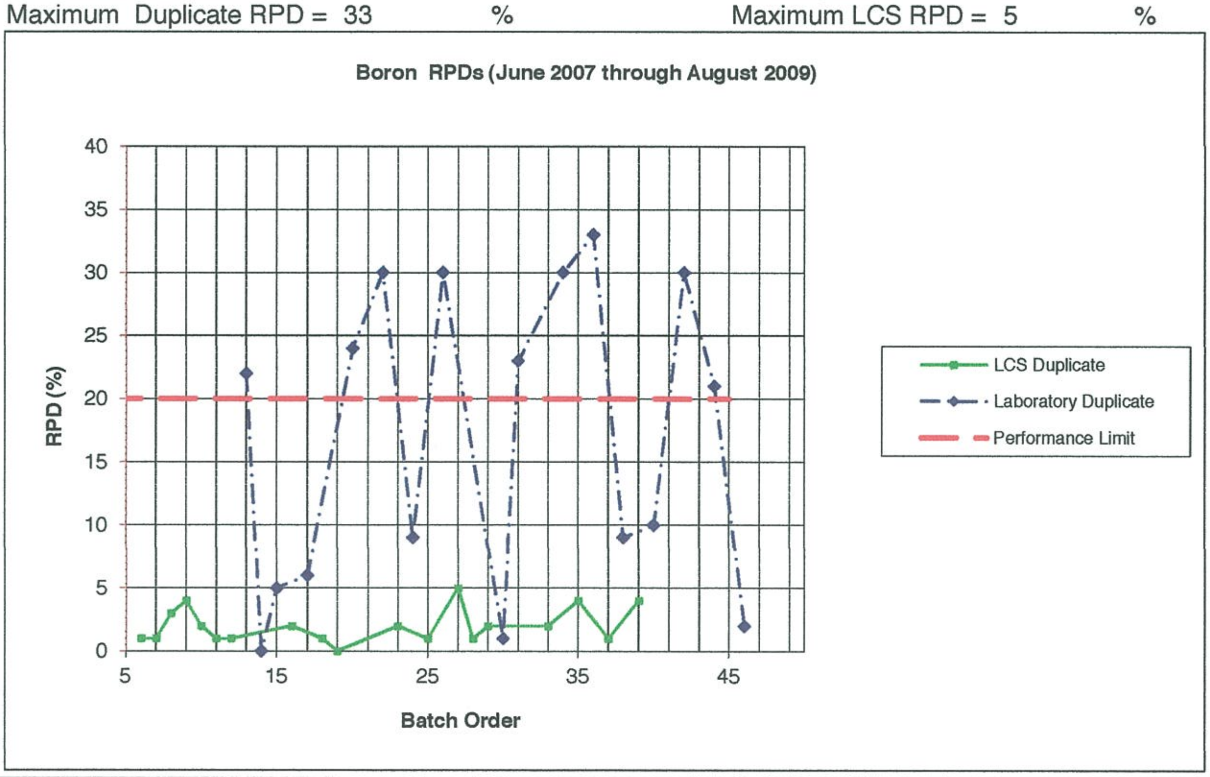


Table B-7: Boron - Laboratory Duplicate and LCS Duplicates

Laboratory Duplicate RPD	Batch	Order	LCS Duplicate RPD	Batch	Order
22	57147	13	1	54626-627	6
0	57223	14	1	54821-822	7
5	57284	15	3	54891-892	8
6	57543	17	4	54915-916	9
24	57792	20	2	57147	10
30	57847	22	1	57223	11
9	58135	24	1	57284	12
30	58212	26	2	57543	16
1	58565	30	1	57792	18
23	58728	31	0	57847	19
30	59163	34	2	58135	23
33	59381	36	1	58212	25
9	59621	38	5	58565	27
10	59757	40	1	58728	28
30	59889	42	2	59163	29
21	60088	44	2	59163	33
2	60439	46	4	59381	35
			1	59621	37
			4	59757	39
			1	59889	41
			3	60088	43
			0	60439	45
			0	60439	45

Average Duplicate RPD = 17 % Average LCS RPD = 2 %

Maximum Duplicate RPD = 33 % Maximum LCS RPD = 5 %



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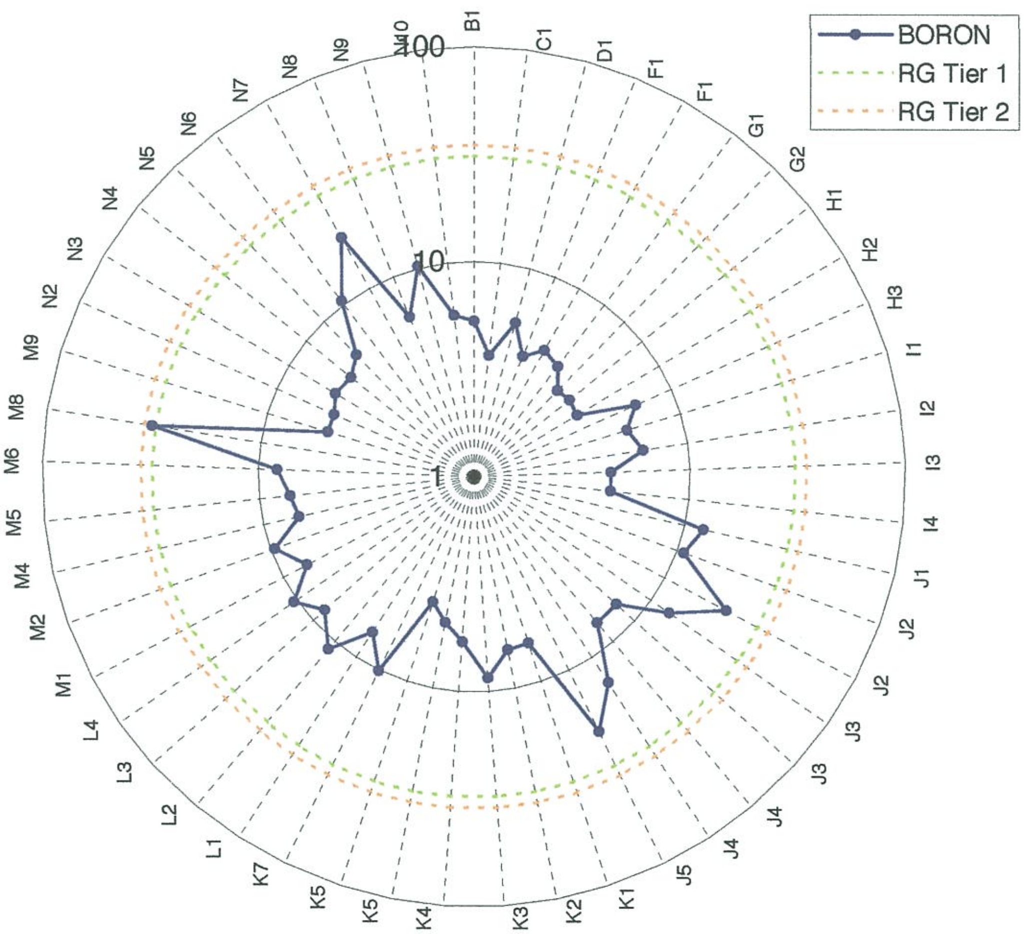
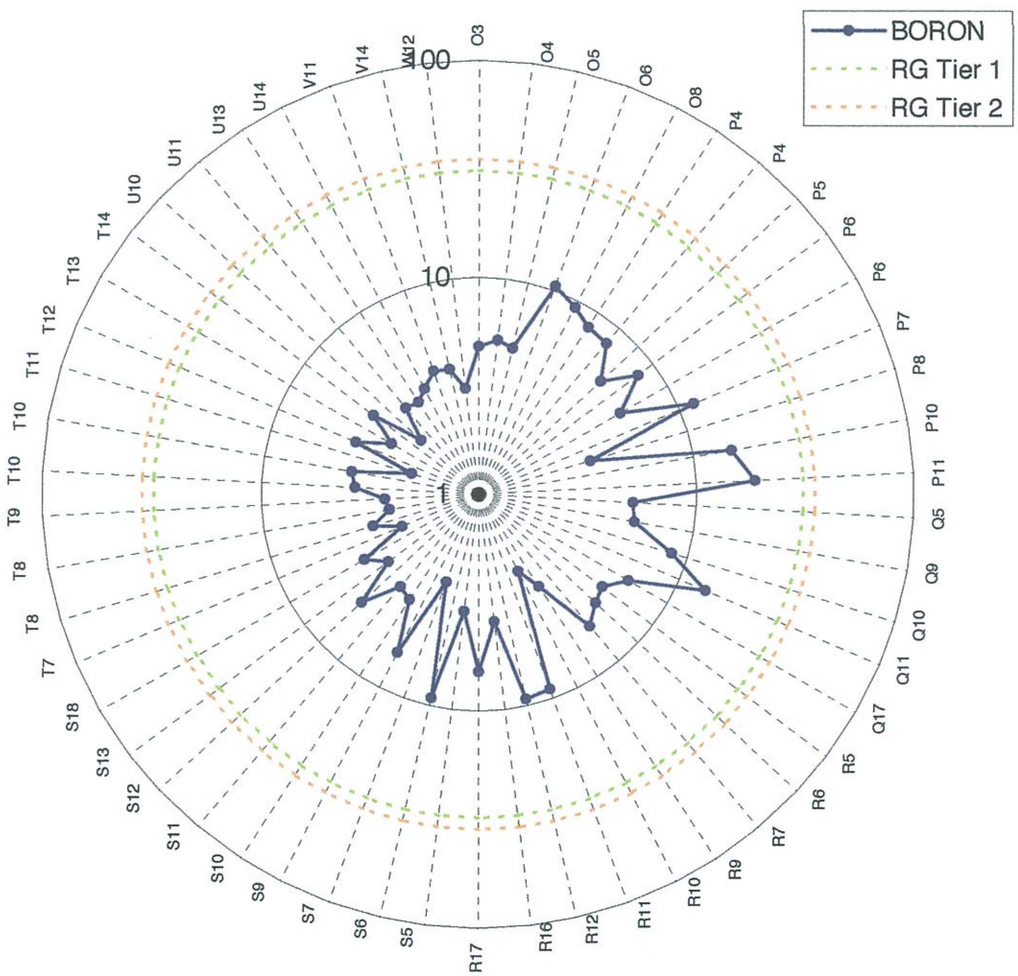
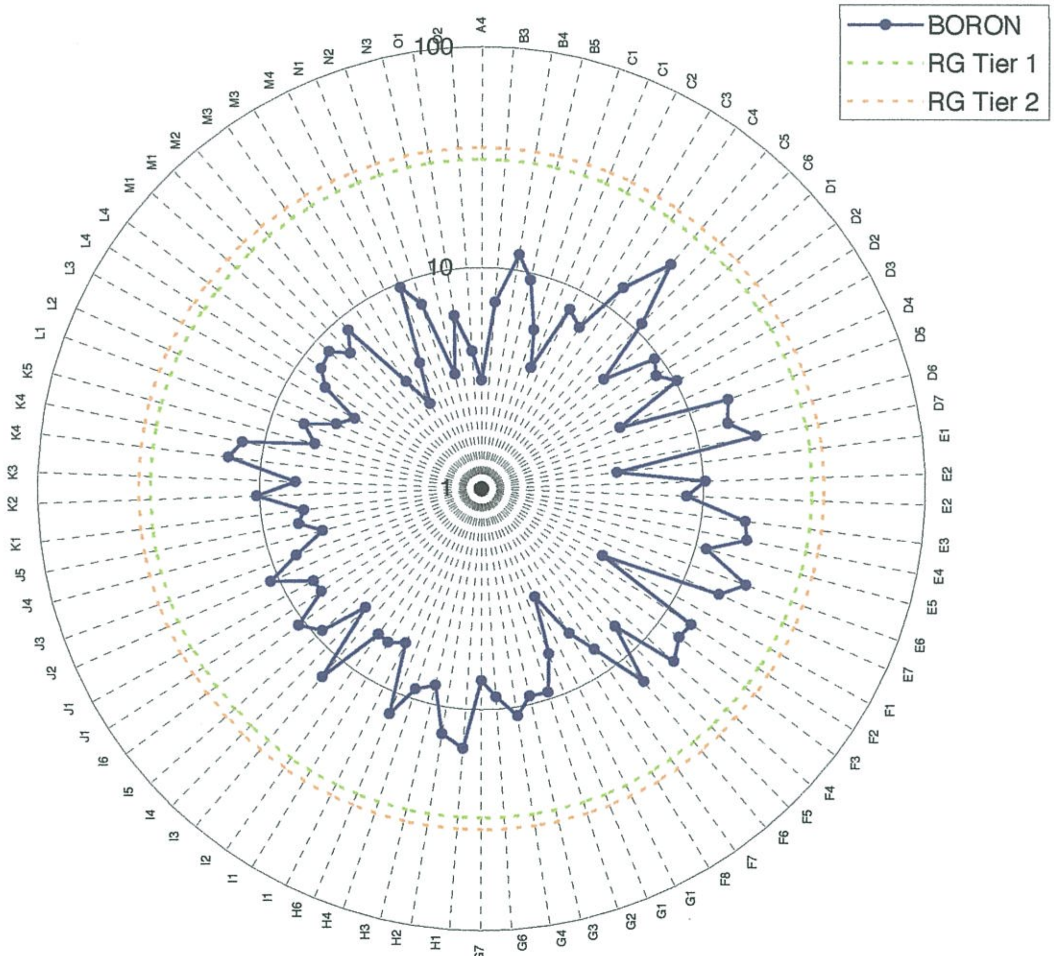
East Site
Grids A through N



East Site
Grids O through W



West Site



BORON Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East	B1	ES-B01-080623	BORON	5.3	05/01/09	57147	Y	ES-B01-080623
East	C1	ES-C01-080624	BORON	3.7	05/01/09	57147	Y	ES-C01-080624
East	D1	ES-D01-080624	BORON	5.5	06/09/09	58135	Y	ES-D01-080624
East	F1	ES-F01-080529	BORON	4	05/01/09	57284	Y	DUP-17
East	F1	ES-F01-080529	BORON	4.7	05/11/09	57543	Y	ES-F01-080529
East	G1	ES-G01-080529	BORON	4.4	05/11/09	57543	Y	ES-G01-080529
East	G2	ES-G02-080605	BORON	3.6	05/11/09	57543	Y	ES-G02-080605
East	H1	ES-H01-080528	BORON	3.7	05/11/09	57543	Y	ES-H01-080528
East	H2	ES-H02-080515	BORON	3.6	05/11/09	57543	Y	ES-H02-080515
East	H3	ES-H03-080605	BORON	6.6	05/24/09	57792	Y	ES-H03-080605
East	I1	ES-I01-080529	BORON	5.5	05/24/09	57792	Y	ES-I01-080529
East	I2	ES-I02-080514	BORON	6.2	05/24/09	57792	Y	ES-I02-080514
East	I3	ES-I03-080513	BORON	4.3	05/24/09	57792	Y	ES-I03-080513
East	I4	ES-I04-080602	BORON	4.3	05/24/09	57792	Y	ES-I04-080602
East	J1	ES-J01-080529	BORON	12.3	05/24/09	57792	Y	ES-J01-080529
East	J2	ES-J02-080527	BORON	10.8	05/11/09	57543	Y	DUP-15
East	J2	ES-J02-080527	BORON	21.1	05/24/09	57792	Y	ES-J02-080527
East	J3	ES-J03-080513	BORON	12.7	05/01/09	57147	Y	DUP-11
East	J3	ES-J03-080513	BORON	7.7	06/20/09	58565	Y	ES-J03-080513
East	J4	ES-J04-080530	BORON	7.7	05/11/09	57543	Y	DUP-18
East	J4	ES-J04-080530	BORON	13.8	05/24/09	57792	Y	ES-J04-080530
East	J5	ES-J05-080602	BORON	20.8	05/24/09	57792	Y	ES-J05-080602
East	K1	ES-K01-080602	BORON	6.5	05/24/09	57792	Y	ES-K01-080602
East	K2	ES-K02-080602	BORON	6.6	05/11/09	57543	Y	ES-K02-080602
East	K3	ES-K03-080514	BORON	8.7	05/24/09	57792	Y	ES-K03-080514
East	K4	ES-K04-080527	BORON	5.9	05/28/09	57847	Y	ES-K04-080527
East	K5	ES-K05-080605	BORON	4.9	05/28/09	57847	Y	ES-K05-080605
East	K5	ES-K05-080605	BORON	4.1	05/28/09	57847	Y	DUP-19
East	K7	ES-K07-080611	BORON	10.1	05/01/09	57284	Y	ES-K07-080611
East	L1	ES-L01-080625	BORON	7.3	05/28/09	57847	Y	ES-L01-080625
East	L2	ES-L02-080625	BORON	11.2	05/28/09	57847	Y	ES-L02-080625
East	L3	ES-L03-080604	BORON	8.5	05/28/09	57847	Y	ES-L03-080604
East	L4	ES-L04-080604	BORON	10.4	07/07/09	58565	Y	ES-L04-080604
East	M1	ES-M01-080527	BORON	7.5	05/28/09	57847	Y	ES-M01-080527
East	M2	ES-M02-080519	BORON	9.6	05/28/09	57847	Y	ES-M02-080519
East	M4	ES-M04-080515	BORON	6.8	05/28/09	57847	Y	ES-M04-080515
East	M5	ES-M05-080527	BORON	7.2	05/28/09	57847	Y	ES-M05-080527
East	M6	ES-M06-080520	BORON	8.2	05/28/09	57847	Y	ES-M06-080520
East	M8	ES-M08-080610	BORON	32.2	05/01/09	57284	Y	ES-M08-080610
East	M9	ES-M09-080611	BORON	5.1	05/01/09	57284	Y	ES-M09-080611
East	N2	ES-N02-080528	BORON	5.1	05/28/09	57847	Y	ES-N02-080528
East	N3	ES-N03-080520	BORON	5.6	05/28/09	57847	Y	ES-N03-080520
East	N4	ES-N04-080519	BORON	5.4	05/28/09	57847	Y	ES-N04-080519
East	N5	ES-N05-080519	BORON	6.1	05/28/09	57847	Y	ES-N05-080519
East	N6	ES-N06-080527	BORON	10.5	06/09/09	58135	Y	ES-N06-080527
East	N7	ES-N07-080530	BORON	18.6	06/09/09	58135	Y	ES-N07-080530

BORON Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East	N8	ES-N08-080610	BORON	6.3	05/01/09	57284	Y	ES-N08-080610
East	N9	ES-N09-080610	BORON	10.3	05/04/09	57284	Y	ES-N09-080610
East	N10	ES-N10-080610	BORON	5.7	05/01/09	57284	Y	ES-N10-080610
East	O3	ES-O03-080528	BORON	4.8	06/09/09	58135	Y	ES-O03-080528
East	O4	ES-O04-080515	BORON	5.2	06/09/09	58135	Y	ES-O04-080515
East	O5	ES-O05-080520	BORON	4.9	06/09/09	58135	Y	ES-O05-080520
East	O6	ES-O06-080529	BORON	10.5	06/09/09	58135	Y	ES-O06-080529
East	O8	ES-O08-080530	BORON	9.3	07/27/09	59757	Y	ES-O08-080530
East	P4	ES-P04-080528	BORON	8.3	05/24/09	57792	Y	DUP-16
East	P4	ES-P04-080528	BORON	8.1	06/09/09	58135	Y	ES-P04-080528
East	P5	ES-P05-080513	BORON	5.8	06/09/09	58135	Y	ES-P05-080513
East	P6	ES-P06-080515	BORON	8.2	05/24/09	57792	Y	DUP-12
East	P6	ES-P06-080515	BORON	5.6	06/09/09	58135	Y	ES-P06-080515
East	P7	ES-P07-080519	BORON	11.8	05/28/09	57847	Y	ES-P07-080519
East	P8	ES-P08-080530	BORON	3.4	06/09/09	58135	Y	ES-P08-080530
East	P10	ES-P10-080606	BORON	15	05/01/09	57284	Y	ES-P10-080606
East	P11	ES-P11-080606	BORON	18.6	05/01/09	57284	Y	ES-P11-080606
East	Q5	ES-Q05-080520	BORON	5.1	06/09/09	58135	Y	ES-Q05-080520
East	Q9	ES-Q09-080612	BORON	5.3	06/09/09	58135	Y	ES-Q09-080612
East	Q10	ES-Q10-080606	BORON	8.4	05/11/09	57543	Y	ES-Q10-080606
East	Q11	ES-Q11-080606	BORON	13.5	05/11/09	57543	Y	ES-Q11-080606
East	Q17	ES-Q17-080609	BORON	6.2	05/01/09	57147	Y	ES-Q17-080609
East	R5	ES-R05-080521	BORON	5.1	06/09/09	58135	Y	ES-R05-080521
East	R6	ES-R06-080521	BORON	5.4	06/20/09	58565	Y	ES-R06-080521
East	R7	ES-R07-080521	BORON	6.2	06/10/09	58212	Y	ES-R07-080521
East	R9	ES-R09-080520	BORON	3.2	06/10/09	58212	Y	ES-R09-080520
East	R10	ES-R10-080602	BORON	2.5	06/10/09	58212	N	ES-R10-080602
East	R11	ES-R11-080605	BORON	9	05/11/09	57543	Y	ES-R11-080605
East	R12	ES-R12-080611	BORON	9.3	05/11/09	57543	Y	ES-R12-080611
East	R16	ES-R16-080605	BORON	3.9	05/01/09	57147	Y	ES-R16-080605
East	R17	ES-R17-080606	BORON	6.6	05/01/09	57147	Y	ES-R17-080606
East	S5	ES-S05-080521	BORON	3.5	06/10/09	58212	Y	ES-S05-080521
East	S6	ES-S06-080521	BORON	9.2	06/10/09	58212	Y	ES-S06-080521
East	S7	ES-S07-080521	BORON	2.7	06/11/09	58212	Y	ES-S07-080521
East	S9	ES-S09-080522	BORON	6.6	06/10/09	58212	Y	ES-S09-080522
East	S10	ES-S10-080523	BORON	3.8	06/10/09	58212	Y	ES-S10-080523
East	S11	ES-S11-080528	BORON	3.6	06/10/09	58212	Y	ES-S11-080528
East	S12	ES-S12-080609	BORON	5.4	05/01/09	57147	Y	ES-S12-080609
East	S13	ES-S13-080610	BORON	3.3	05/01/09	57147	Y	ES-S13-080610
East	S18	ES-S18-080606	BORON	4	05/01/09	57147	Y	ES-S18-080606
East	T7	ES-T07-080612	BORON	2.4	06/10/09	58212	Y	ES-T07-080612
East	T8	ES-T08-080522	BORON	3.2	06/09/09	58135	Y	DUP-13
East	T8	ES-T08-080522	BORON	2.6	06/10/09	58212	Y	ES-T08-080522
East	T9	ES-T09-080522	BORON	2.7	06/10/09	58212	Y	ES-T09-080522
East	T10	ES-T10-080523	BORON	3.7	06/10/09	58212	Y	ES-T10-080523
East	T10	ES-T10-080523	BORON	3.9	06/10/09	58212	Y	DUP-14

BORON Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East	T11	ES-T11-080530	BORON	2.1	06/10/09	58212	N	ES-T11-080530
East	T12	ES-T12-080609	BORON	4.1	05/01/09	57147	Y	ES-T12-080609
East	T13	ES-T13-080609	BORON	2.9	05/01/09	57147	Y	ES-T13-080609
East	T14	ES-T14-080610	BORON	4	05/01/09	57147	Y	ES-T14-080610
East	U10	ES-U10-080523	BORON	2.3	06/10/09	58212	N	ES-U10-080523
East	U11	ES-U11-080602	BORON	3.3	06/20/09	58565	Y	ES-U11-080602
East	U13	ES-U13-080610	BORON	3.2	05/01/09	57284	Y	ES-U13-080610
East	U14	ES-U14-080610	BORON	3.5	05/01/09	57284	Y	ES-U14-080610
East	V11	ES-V11-080529	BORON	4	06/20/09	58565	Y	ES-V11-080529
East	V14	ES-V14-080605	BORON	3.9	05/01/09	57284	Y	ES-V14-080605
East	W12	ES-W12-080527	BORON	3.1	06/20/09	58565	Y	ES-W12-080527
West	A4	WS-A04-080626	BORON	3.1	07/16/09	59381	N	WS-A04-080626
West	B3	WS-B03-080502	BORON	7	07/16/09	59381	Y	WS-B03-080502
West	B4	WS-B04-080626	BORON	11.8	07/16/09	59381	Y	WS-B04-080626
West	B5	WS-B05-080626	BORON	9.3	07/27/09	59757	Y	WS-B05-080626
West	C1	WS-C01-080501	BORON	5.7	06/20/09	58565	Y	WS-C01-080501
West	C1	WS-C01-080501	BORON	3.9	06/20/09	58565	Y	DUP-3
West	C2	WS-C02-080428	BORON	8	07/20/09	59621	Y	WS-C02-080428
West	C3	WS-C03-080620	BORON	7.1	07/20/09	59621	Y	WS-C03-080620
West	C4	WS-C04-080623	BORON	12.9	07/20/09	59621	Y	WS-C04-080623
West	C5	WS-C05-080620	BORON	21.2	07/27/09	59757	Y	WS-C05-080620
West	C6	WS-C06-080624	BORON	10.9	07/27/09	59757	Y	WS-C06-080624
West	D1	WS-D01-080430	BORON	5.5	06/20/09	58565	Y	WS-D01-080430
West	D2	WS-D02-080429	BORON	9.5	07/16/09	59381	Y	DUP-2
West	D2	WS-D02-080429	BORON	8.7	07/20/09	59621	Y	WS-D02-080429
West	D3	WS-D03-080620	BORON	10.2	07/20/09	59621	Y	WS-D03-080620
West	D4	WS-D04-080623	BORON	4.8	08/25/09	60439	Y	WS-D04-080623
West	D5	WS-D05-080620	BORON	15.3	07/27/09	59757	Y	WS-D05-080620
West	D6	WS-D06-080619	BORON	14.1	07/27/09	59757	Y	WS-D06-080619
West	D7	WS-D07-080619	BORON	18.2	07/27/09	59757	Y	WS-D07-080619
West	E1	WS-E01-080430	BORON	4.1	06/20/09	58565	Y	WS-E01-080430
West	E2	WS-E02-080428	BORON	10.2	07/16/09	59381	Y	DUP-1
West	E2	WS-E02-080428	BORON	8.4	07/20/09	59621	Y	WS-E02-080428
West	E3	WS-E03-080619	BORON	15.8	07/20/09	59621	Y	WS-E03-080619
West	E4	WS-E04-080613	BORON	16.6	07/27/09	59757	Y	WS-E04-080613
West	E5	WS-E05-080613	BORON	11.2	07/27/09	59757	Y	WS-E05-080613
West	E6	WS-E06-080613	BORON	18.6	07/27/09	59757	Y	WS-E06-080613
West	E7	WS-E07-080613	BORON	14.9	07/27/09	59757	Y	WS-E07-080613
West	F1	WS-F01-080429	BORON	4.2	06/20/09	58565	Y	WS-F01-080429
West	F2	WS-F02-080429	BORON	13.4	07/20/09	59621	Y	WS-F02-080429
West	F3	WS-F03-080619	BORON	13	07/20/09	59621	Y	WS-F03-080619
West	F4	WS-F04-080616	BORON	14.7	07/29/09	59889	Y	WS-F04-080616
West	F5	WS-F05-080612	BORON	7.3	08/25/09	60439	Y	WS-F05-080612
West	F6	WS-F06-080612	BORON	13.8	07/29/09	59889	Y	WS-F06-080612
West	F7	WS-F07-080617	BORON	7.7	07/07/09	58728	Y	WS-F07-080617
West	F8	WS-F08-080618	BORON	5.8	07/07/09	58728	Y	WS-F08-080618

BORON Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West	G1	WS-G01-080501	BORON	3.5	06/20/09	58565	Y	DUP-4
West	G1	WS-G01-080501	BORON	6.4	07/07/09	58728	Y	WS-G01-080501
West	G2	WS-G02-080618	BORON	9.3	07/20/09	59621	Y	WS-G02-080618
West	G3	WS-G03-080619	BORON	9.2	07/20/09	59621	Y	WS-G03-080619
West	G4	WS-G04-080616	BORON	11	07/29/09	59889	Y	WS-G04-080616
West	G6	WS-G06-080616	BORON	8.8	07/29/09	59889	Y	WS-G06-080616
West	G7	WS-G07-080617	BORON	7.4	07/07/09	58728	Y	WS-G07-080617
West	H1	WS-H01-080501	BORON	15.1	07/07/09	58728	Y	WS-H01-080501
West	H2	WS-H02-080618	BORON	13.3	07/20/09	59621	Y	WS-H02-080618
West	H3	WS-H03-080619	BORON	8.2	07/29/09	59889	Y	WS-H03-080619
West	H4	WS-H04-080616	BORON	9	07/29/09	59889	Y	WS-H04-080616
West	H6	WS-H06-080617	BORON	12.6	07/07/09	58728	Y	WS-H06-080617
West	I1	WS-I01-080501	BORON	6	07/07/09	58728	Y	DUP-5
West	I1	WS-I01-080501	BORON	6.5	07/07/09	58728	Y	WS-I01-080501
West	I2	WS-I02-080618	BORON	6.4	07/27/09	59757	Y	WS-I02-080618
West	I3	WS-I03-080618	BORON	13	07/29/09	59889	Y	WS-I03-080618
West	I4	WS-I04-080617	BORON	5.6	07/29/09	59889	Y	WS-I04-080617
West	I5	WS-I05-080617	BORON	9.2	07/07/09	58728	Y	WS-I05-080617
West	I6	WS-I06-080617	BORON	10.7	07/07/09	58728	Y	WS-I06-080617
West	J1	WS-J01-080505	BORON	7.2	07/07/09	58728	Y	DUP-6
West	J1	WS-J01-080505	BORON	7.3	07/07/09	58728	Y	WS-J01-080505
West	J2	WS-J02-080624	BORON	10.9	07/07/09	58728	Y	WS-J02-080624
West	J3	WS-J03-080620	BORON	7.7	07/08/09	59163	Y	WS-J03-080620
West	J4	WS-J04-080617	BORON	5.5	07/08/09	59163	Y	WS-J04-080617
West	J5	WS-J05-080618	BORON	6.9	07/08/09	59163	Y	WS-J05-080618
West	K1	WS-K01-080505	BORON	6.4	07/08/09	59163	Y	WS-K01-080505
West	K2	WS-K02-080509	BORON	10.3	07/08/09	59163	Y	WS-K02-080509
West	K3	WS-K03-080509	BORON	6.9	07/08/09	59163	Y	WS-K03-080509
West	K4	WS-K04-080513	BORON	14.1	07/08/09	59163	Y	WS-K04-080513
West	K4	WS-K04-080513	BORON	12.5	07/27/09	59757	Y	DUP-10
West	K5	WS-K05-080509	BORON	6	07/08/09	59163	Y	WS-K05-080509
West	L1	WS-L01-080505	BORON	7.1	07/08/09	59163	Y	WS-L01-080505
West	L2	WS-L02-080508	BORON	5.2	07/08/09	59163	Y	WS-L02-080508
West	L3	WS-L03-080508	BORON	4.5	07/08/09	59163	Y	WS-L03-080508
West	L4	WS-L04-080508	BORON	6.9	07/08/09	59163	Y	DUP-9
West	L4	WS-L04-080508	BORON	8	07/08/09	59163	Y	WS-L04-080508
West	M1	WS-M01-080505	BORON	8.4	07/08/09	59163	Y	WS-M01-080505
West	M1	WS-M01-080505	BORON	7.1	07/08/09	59163	Y	DUP-7
West	M2	WS-M02-080507	BORON	8.6	07/27/09	59757	Y	WS-M02-080507
West	M3	WS-M03-080507	BORON	3.9	07/20/09	59621	Y	DUP-8
West	M3	WS-M03-080507	BORON	2.8	08/05/09	60088	N	WS-M03-080507
West	M4	WS-M04-080507	BORON	4.3	08/05/09	60088	Y	WS-M04-080507
West	N1	WS-N01-080506	BORON	9.6	08/05/09	60088	Y	WS-N01-080506
West	N2	WS-N02-080506	BORON	7.5	07/16/09	59381	Y	WS-N02-080506
West	N3	WS-N03-080507	BORON	3.4	07/07/09	58728	Y	WS-N03-080507
West	O1	WS-O01-080506	BORON	6.2	07/16/09	59381	Y	WS-O01-080506

BORON Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West	O2	WS-O02-080506	BORON	4.2	07/16/09	59381	Y	WS-O02-080506

Table Cd-1: Cadmium Data Quality Summary			
Laboratory Performance Criteria	Criteria	Measured	Comment
Minimum LCS Recovery	greater than 80%	80%	
Minimum Matrix Spike Recovery	greater than 70%	66%	low
Average LCS Recovery	N/A	93%	
Average Matrix Spike Recovery	N/A	87%	
Maximum LCS RPD	less than 20%	8%	
Maximum Laboratory Duplicate RPD	less than 20%	104%	high
Average LCS RPD	N/A	2%	
Average Laboratory Duplicate RPD	N/A	17%	
Measurement Quality Objectives	Critera	Measured	
NPS CRM	Recovery greater than 0.88	Minimum Recovery =	0.18 mg/kg
EQIS CRM	See Note 1		
CVS Split Analysis RPD	RPD less than 35%	Maximum RPD =	191 %
CRM Split Analysis RPD	RPD less than 35%	Maximum RPD =	26 %
Overall QC Indicator Measurements	Criteria	Measured	
NPS CRM "Made to" (Bias measure)	N/A	Average Recovery =	46.7 %
NPS Replicate Test (Precision measure)	N/A	Standard Deviation =	0.16 mg/kg
Data Quality Relative to Remediation Goals			
Tier 1 Remediation Goal	0.57		
Tier 2 Remediation Goal	1.3		
QC Derived Reliance Level	0.59 mg/kg	See Note 2	

Comments: Cadmium minimum laboratory control sample (LCS) recovery (80%) is acceptable; however, the low minimum matrix spike recovery (66%) and low average matrix spike recovery (87%) indicate a possible matrix interference and a propensity for low cadmium measurements. The maximum LCS duplicate RPD (8%) is acceptably low. However, the maximum laboratory duplicate RPD (104%) is very high, indicating qualified measurement precision. Qualified precision and recovery are also indicated by high maximum RPDs for CVS splits (191%) and CRM splits (52%) and a very low average recovery of the NPS CRM (46.7%). Furthermore, qualified precision is indicated by a large standard deviation (0.16 mg/kg) relative to its mean (0.28mg/kg) for repeated tests on the same sample. Equivocal measurement quality is reflected in a derived reliance level (0.59) that is significantly lower than the Tier 2 RG and very near the Tier 1 RG. Some grids had CVS results that exceeded the derived reliance level, but also exceeded the Tier 2 RG or failed to achieve the RG for another metal. These data were not needed, because these grids were re-sampled and the new CVS samples were used to evaluate cadmium RG achievement (the new CVS measurements are evaluated in DUR 2). Hence decisions related to such grids are not impacted by low cadmium data quality. However, fourteen CVS results exceeded the derived reliance level that did not also exceed the Tier 2 RG or that were not accompanied by an RG failure for another metal: West Site grids D1, E1, F7, F8, H1, H6, J3, J5, K2, K3, L2, L3, L4 and M1. The CVS samples corresponding to these grids were tested in laboratory batches 58565, 58728, or 59163. The QC data included herein is inadequate to determine that observed accuracy and precision problems do not occur within these batches. It is concluded that the integrity of decisions regarding attainment of the cadmium RG for the grids listed above may be significantly impacted by low measurement quality. Considering the acceptable data quality parameters for all batches other than these three, and that cadmium contamination would likely be accompanied by other metal contamination and this is not the case for the 14 listed grids, it is concluded that confidence regarding decisions made about the attainment of RGs using CVS cadmium data will not be significantly impacted by measurement problems. Therefore, it is concluded that cadmium CVS measurements are of acceptable quality and may be used to determine RG achievement.

Note 1: The QAPP required CRMs have only 4 analytes from each analyte group. Cadmium is not one of these analytes.

Note 2: Derived reliance level is calculated as: (Tier 2 RG)(1.2)(Average Recovery)-(0.84)(Standard deviation) = (1.3)(1.2)(.467)-(0.84)(.16) = 0.59 mg/kg

Table Cd-2: Cadmium - NPS CRMs				
Blind NPS CRM Results				
Sample	Result	Analysis Date	Batch	Detect
BOR 112	0.066	5/1/09	57223	Y
BOR 59	0.068	5/1/09	57284	Y
BOR 60	0.27	5/11/09	57543	Y
BOR 113	0.19	5/24/09	57792	Y
BOR 61	0.2	5/24/09	57792	Y
BOR 62	0.11	6/10/09	58212	Y
BOR 63	0.29	6/20/09	58565	Y
BOR 89	0.27	6/20/09	58565	Y
BOR 115	0.6	6/29/09	58728	Y
BOR 64	0.52	7/9/09	59163	Y
BOR 91	0.51	7/9/09	59163	Y
BOR 116	0.26	7/13/09	59381	Y
BOR 92	0.31	7/13/09	59381	Y
BOR 65	0.26	7/20/09	59621	Y
BOR 88	0.34	7/29/09	59889	Y

CRMs		Vendor Supplied Information
Mean	0.56	*Made to*
Standard Error	0.06	*1.20 mg/kg*
Median	0.62	
Standard Deviation	0.22	*Upper Acceptance Limit*
Sample Variance	0.05	*1.26 mg/kg*
Kurtosis	-0.76	
Skewness	-0.41	*Lower Acceptance Limit*
Range	0.76	*0.88 mg/kg*
Minimum	0.18	
Maximum	0.94	
Sum	8.97	
Count	16	
Largest(2)	0.76	
Smallest(2)	0.18	

Table Cd-3: Cadmium - NPS Replicate Tests on a Background Sample				
Results of Replicate Analyses of a Single Sample				
Sample	Result	Analysis Date	Batch	Detect
BOR 112	0.4	4/27/09	57238	Y
BOR 59	0.6	5/6/09	57447	Y
BOR 60	0.55	5/24/09	57705	Y
BOR 113	0.53	6/6/09	58141	Y
BOR 61	0.25	6/6/09	58141	Y
BOR 62	0.56	7/12/09	59326	Y
BOR 63	0.42	7/17/09	59325	Y
BOR 89	0.51	7/17/09	59325	Y
BOR 115	0.43	7/19/09	59422	Y
BOR 116	0.33	7/27/09	59707	Y
BOR 92	0.36	7/27/09	59707	Y
BOR 64	0.53	7/28/09	59706	Y
BOR 91	0.54	7/28/09	59706	Y
BOR 65	0.45	7/30/09	59931	Y
BOR 88	0.57	8/27/09	60257	Y

Replicate analyses of Single Sample	
Mean	0.28
Standard Error	0.04
Median	0.27
Standard Deviation	0.16
Sample Variance	0.03
Kurtosis	-0.10
Skewness	0.60
Range	0.534
Minimum	0.066
Maximum	0.6
Sum	4.264
Count	15
Largest(2)	0.52
Smallest(2)	0.068

Table Cd-4: Cadmium NPS and EQIS Duplicates

Sample	Result	Analysis Date	Batch	Split	Result	Analysis Date	RPD
BOR 503	0.013	5/1/09	57284	ES-T11-080530	0.013	6/10/2009	0
BOR 506	0.17	5/11/09	57543	ES-S10-080523	0.017	6/10/2009	164
BOR 504	0.14	5/24/09	57792	ES-M05-080527	0.01	5/28/2009	173
BOR 507	0.018	6/9/09	58135	ES-O09-080610			
BOR 508	0.24	6/20/09	58565	ES-Q11-080606	0.32	5/11/2009	29
BOR 510	0.63	6/29/09	58728	OU-8HR-080605	0.015	5/1/2009	191
BOR 501	0.69	7/9/09	59163	WS-L04-080508	0.63	7/9/2009	9
BOR 505	0.79	7/20/09	59621	WS-K03-080509	0.66	7/8/2009	18
BOR 502	0.11	7/27/09	59757	WS-F05-080612	0.85	8/18/2009	154
BOR 509	0.015	7/27/09	59757	WS-E06-080613	0.019	7/27/2009	24
DUP-11	0.015	5/1/09	57147	ES-J03-080513	0.24	6/20/2009	176
DUP-17	0.013	5/1/09	57284	ES-F01-080529	0.22	5/11/2009	178
DUP-15	0.34	5/11/09	57543	ES-J02-080527	0.14	5/24/2009	83
DUP-18	0.26	5/11/09	57543	ES-J04-080530	0.013	5/24/2009	181
DUP-12	0.051	5/24/09	57792	ES-P06-080515	0.014	6/9/2009	114
DUP-16	0.11	5/24/09	57792	ES-P04-080528	0.013	6/9/2009	158
DUP-19	0.015	5/28/09	57847	ES-K05-080605	0.012	5/28/2009	22
DUP-13	0.012	6/9/09	58135	ES-T08-080522	0.014	6/10/2009	15
DUP-14	0.05	6/10/09	58212	ES-T10-080523	0.014	6/10/2009	113
DUP-3	0.46	6/20/09	58565	WS-C01-080501	0.48	6/20/2009	4
DUP-4	0.71	6/20/09	58565	WS-G01-080501	0.53	6/29/2009	29
DUP-5	2.5	6/29/09	58728	WS-I01-080501	2.3	6/29/2009	8
DUP-6	1.6	6/29/09	58728	WS-J01-080505	1.5	6/29/2009	6
DUP-7	1	7/9/09	59163	WS-M01-080505	0.98	7/9/2009	2
DUP-9	0.72	7/9/09	59163	WS-L04-080508	0.63	7/9/2009	13
DUP-1	2.8	7/13/09	59381	WS-E02-080428	2.8	7/20/2009	0
DUP-2	0.18	7/13/09	59381	WS-D02-080429	0.13	7/20/2009	32
DUP-8	0.55	7/20/09	59621	WS-M03-080507	0.46	8/5/2009	18
DUP-10	0.014	7/27/09	59757	WS-K04-080513	0.25	7/8/2009	179

RPD of Sample Splits	
Mean	74.8
Standard Error	14.1
Median	28.8
Standard Deviation	74.6
Sample Variance	5567.6
Kurtosis	-1.7
Skewness	0.5
Range	190.7
Minimum	0.0
Maximum	190.7
Sum	2093.4
Count	28
Largest(2)	181.0
Smallest(2)	0.0

Table Cd-5: Cadmium EQIS CRMs

Results of Duplicate Analysis of EQIS CRMs

Sample	Result	Date	Batch	Detect	Average	RPD
ES-Z09-080529A	0.98	5/1/09	57284	Y		
ES-Z09-080529B	0.96	5/1/09	57284	Y	0.97	2
ES-Z11-080605A	1.1	5/1/09	57147	Y		
ES-Z11-080605B	1.1	5/1/09	57147	Y	1.1	0
ES-Z12-080606A	0.98	5/1/09	57284	Y		
ES-Z12-080606B	0.97	5/1/09	57284	Y	0.975	1
ES-Z05-080519A	1.1	5/11/09	57543	Y		
ES-Z05-080519B	1.1	5/11/09	57543	Y	1.1	0
ES-Z06-080520A	1.1	5/11/09	57543	Y		
ES-Z06-080520B	1.1	5/11/09	57543	Y	1.1	0
ES-Z07-080522A	1.3	5/24/09	57792	Y		
ES-Z07-080522B	1.2	5/24/09	57792	Y	1.25	8
ES-Z13-080610A	1	5/28/09	57847	Y		
ES-Z13-080610B	1.2	5/28/09	57847	Y	1.1	18
ES-Z10-080602A	1	6/9/09	58135	Y		
ES-Z10-080602B	1.3	6/9/09	58135	Y	1.15	26
ES-Z08-080527A	1.7	6/10/09	58212	Y		
ES-Z08-080527B	1.5	6/10/09	58212	Y	1.6	13
ES-Z14-080611A	1.4	6/20/09	58565	Y		
ES-Z14-080611B	1.4	6/20/09	58565	Y	1.4	0
ES-Z06-080520C	1.3	6/29/09	58728	Y		
ES-Z06-080520D	1.3	6/29/09	58728	Y	1.3	0
ES-Z05-080519C	1.2	7/9/09	59163	Y		
ES-Z05-080519D	1.3	7/9/09	59163	Y	1.25	8
ES-Z19-080624A	1.3	7/13/09	59381	Y		
ES-Z19-080624B	1.4	7/13/09	59381	Y	1.35	7
WS-Z17-080618A	1.4	7/13/09	59381	Y		
WS-Z17-080618B	1.3	7/13/09	59381	Y	1.35	7
WS-Z15-080613A	1.3	7/20/09	59621	Y		
WS-Z15-080613B	1.3	7/20/09	59621	Y	1.3	0
WS-Z18-080620A	1.3	7/20/09	59621	Y		
WS-Z18-080620B	1.3	7/20/09	59621	Y	1.3	0
WS-Z16-080617A	1.3	7/29/09	59889	Y		
WS-Z16-080617B	1.3	7/29/09	59889	Y	1.3	0

Analysis of EQIS CRMs	
Mean	1.2
Standard Error	0.0
Median	1.3
Standard Deviation	0.2
Sample Variance	0.0
Kurtosis	0.4
Skewness	0.3
Range	0.7
Minimum	1.0
Maximum	1.7
Sum	41.8
Count	34
Largest(2)	1.5
Smallest(2)	1.0

RPD of EQIS CRMs	
Mean	5.33
Standard Error	
Median	1.03
Standard Deviation	7.61
Sample Variance	57.92
Kurtosis	2.38
Skewness	1.63
Range	26.09
Minimum	0.00
Maximum	26.09
Sum	90.67
Count	17
Largest(2)	18.18
Smallest(2)	0.00

Table Cd-6: Cadmium Laboratory MS and LCS

Matrix Spike Recovery %	Batch	Order	LCS Recovery %	Batch	Order
92	7160081	1	91	49187	2
95	7160081	1	80	49189	3
82	49187	2	93	49537	4
78	49189	3	95	49539	5
92	49537	4	92	54626-627	6
89	49539	5	90	54821-822	7
96	54626-627	6	90	54891-892	8
88	54821-822	7	90	54915-916	9
84	54891-892	8	89	57147	10
85	54915-916	9	90	57223	11
86	57147	10	98	57543	12
82	57223	11	96	57792	13
89	57543	12	91	57847	14
84	57792	13	84	58135	15
80	57847	14	117	58212	16
66	58135	15	107	58565	17
118	58212	16	85	58728	18
96	58565	17	94	59163	19
73	58728	18	94	59163	19
82	59163	19	93	59381	20
88	59381	20	91	59621	21
88	59621	21	88	59757	22
82	59757	22	91	59889	23
84	59889	23	99	60088	24
96	60088	24			
87	60439	25			
Average MS Recovery = 87 %			Average LCS Recovery = 93 %		
Minimum MS Recovery = 66 %			Minimum LCS Recovery = 80 %		

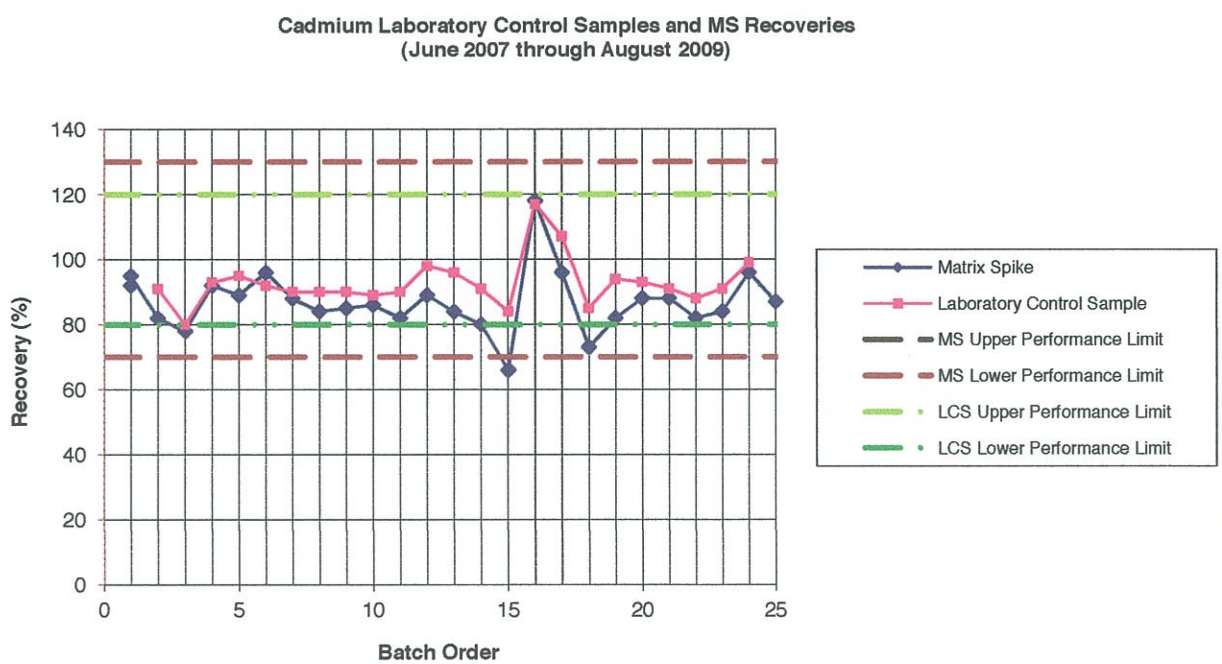
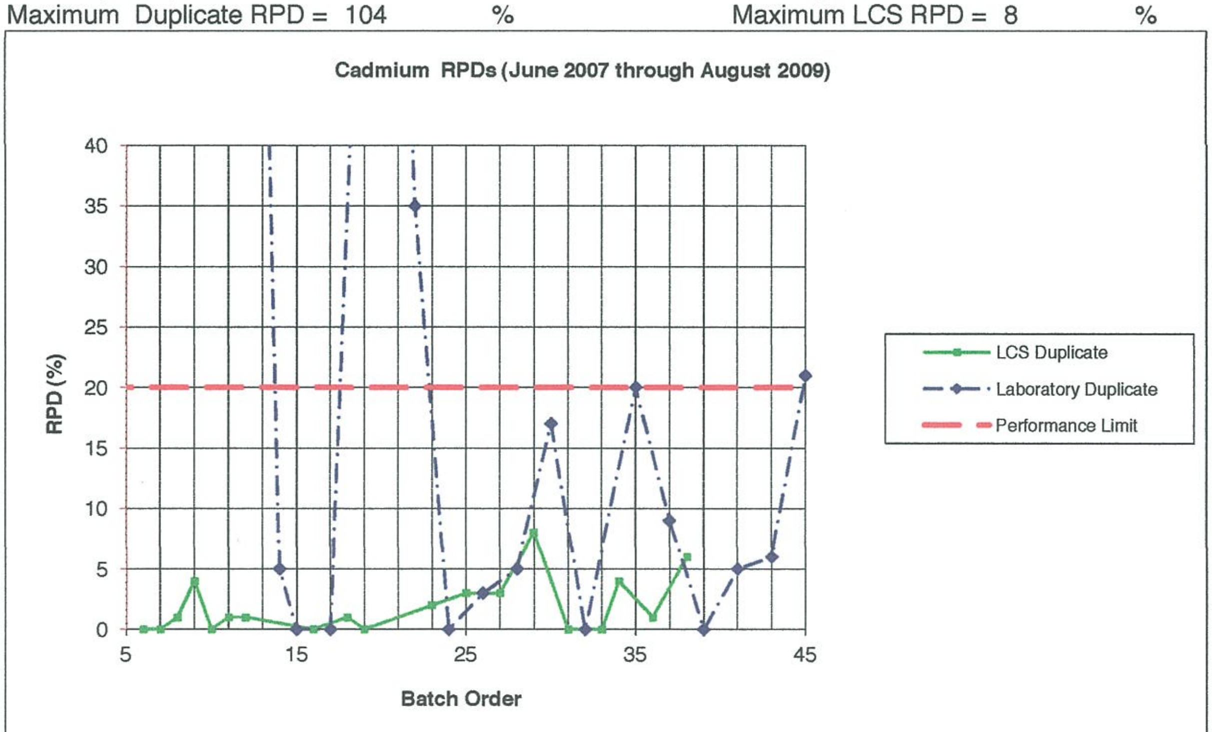


Table Cd-7: Cadmium - Laboratory Duplicates and LCS Duplicates

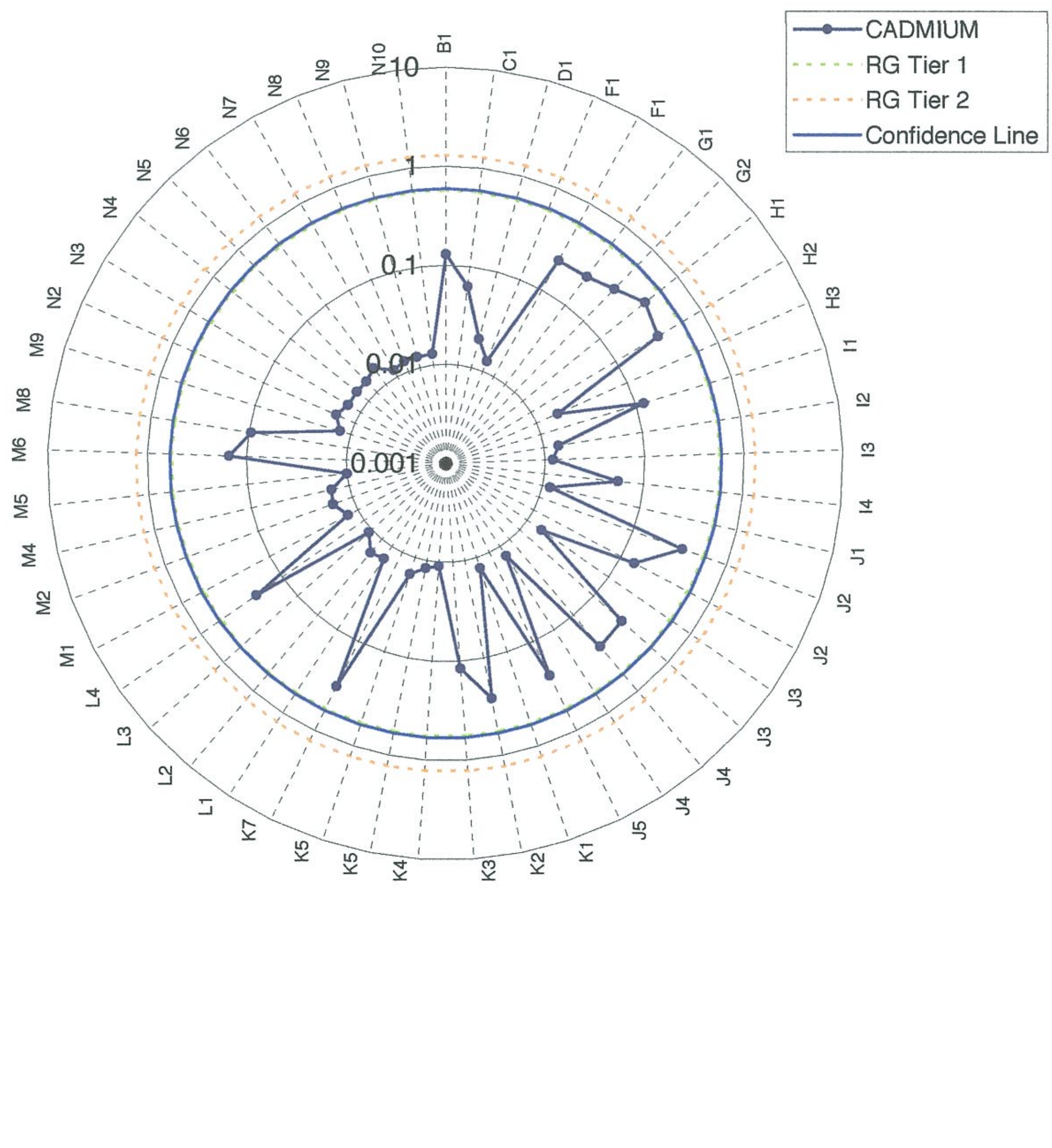
Laboratory Duplicate RPD	Batch	Order	LCS Duplicate RPD	Batch	Order
65	57147	13	0	54626-627	6
5	57223	14	0	54821-822	7
0	57284	15	1	54891-892	8
0	57543	17	4	54915-916	9
104	57792	20	0	57147	10
35	57847	22	1	57223	11
0	58135	24	1	57284	12
3	58212	26	0	57543	16
5	58565	28	1	57792	18
17	58728	30	0	57847	19
0	59163	32	2	58135	23
20	59381	35	3	58212	25
9	59621	37	3	58565	27
0	59757	39	8	58728	29
5	59889	41	0	59163	31
6	60088	43	0	59163	33
21	60439	45	4	59381	34
			1	59621	36
			6	59757	38
			2	59889	40
			3	60088	42
			1	60439	44
			1	60439	46

Average Duplicate RPD = 17 %   Average LCS RPD = 2 %

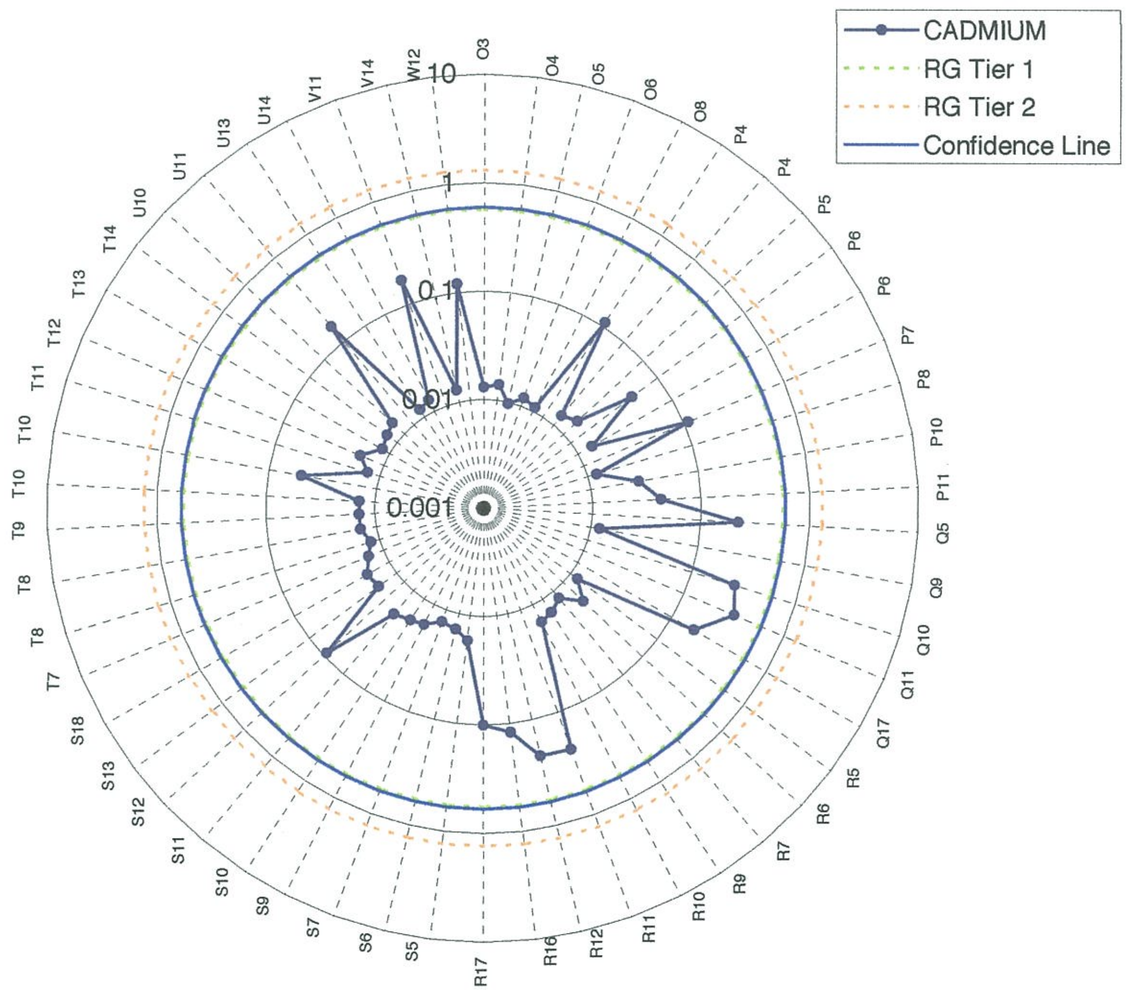
Maximum Duplicate RPD = 104 %   Maximum LCS RPD = 8 %



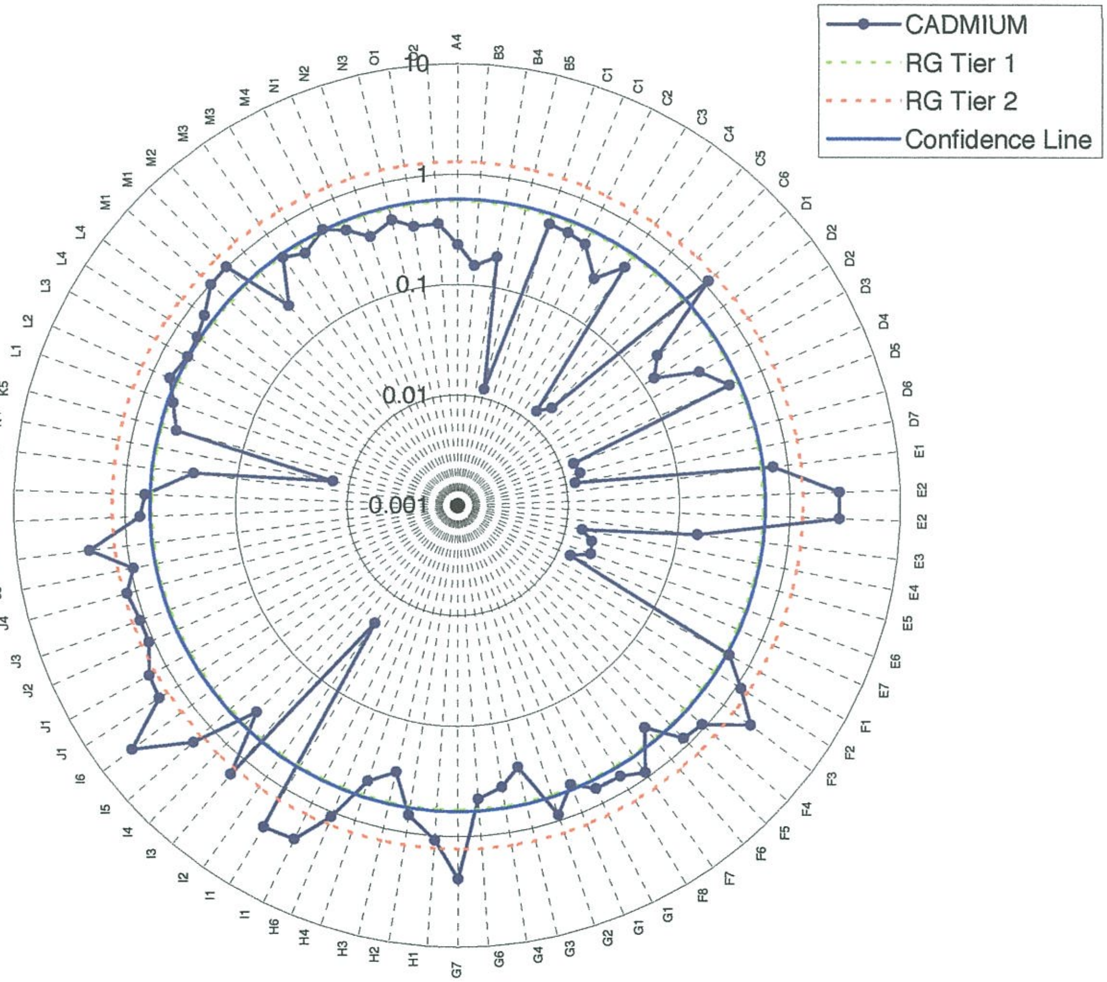
East Site
Grids A through N



East Site
Grids O through W



West Site



CADMIUM Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East	B1	ES-B01-080623	CADMIUM	0.13	05/01/09	57147	Y	ES-B01-080623
East	C1	ES-C01-080624	CADMIUM	0.063	05/01/09	57147	Y	ES-C01-080624
East	D1	ES-D01-080624	CADMIUM	0.02	06/09/09	58135	N	ES-D01-080624
East	F1	ES-F01-080529	CADMIUM	0.013	05/01/09	57284	N	DUP-17
East	F1	ES-F01-080529	CADMIUM	0.22	05/11/09	57543	Y	ES-F01-080529
East	G1	ES-G01-080529	CADMIUM	0.23	05/11/09	57543	Y	ES-G01-080529
East	G2	ES-G02-080605	CADMIUM	0.28	05/11/09	57543	Y	ES-G02-080605
East	H1	ES-H01-080528	CADMIUM	0.38	05/11/09	57543	Y	ES-H01-080528
East	H2	ES-H02-080515	CADMIUM	0.31	05/11/09	57543	Y	ES-H02-080515
East	H3	ES-H03-080605	CADMIUM	0.017	05/24/09	57792	Y	ES-H03-080605
East	I1	ES-I01-080529	CADMIUM	0.12	05/24/09	57792	Y	ES-I01-080529
East	I2	ES-I02-080514	CADMIUM	0.014	05/24/09	57792	N	ES-I02-080514
East	I3	ES-I03-080513	CADMIUM	0.012	05/24/09	57792	N	ES-I03-080513
East	I4	ES-I04-080602	CADMIUM	0.055	05/24/09	57792	Y	ES-I04-080602
East	J1	ES-J01-080529	CADMIUM	0.012	05/24/09	57792	N	ES-J01-080529
East	J2	ES-J02-080527	CADMIUM	0.34	05/11/09	57543	Y	DUP-15
East	J2	ES-J02-080527	CADMIUM	0.14	05/24/09	57792	Y	ES-J02-080527
East	J3	ES-J03-080513	CADMIUM	0.015	05/01/09	57147	N	DUP-11
East	J3	ES-J03-080513	CADMIUM	0.24	06/20/09	58565	Y	ES-J03-080513
East	J4	ES-J04-080530	CADMIUM	0.26	05/11/09	57543	Y	DUP-18
East	J4	ES-J04-080530	CADMIUM	0.013	05/24/09	57792	N	ES-J04-080530
East	J5	ES-J05-080602	CADMIUM	0.24	05/24/09	57792	Y	ES-J05-080602
East	K1	ES-K01-080602	CADMIUM	0.013	05/24/09	57792	N	ES-K01-080602
East	K2	ES-K02-080602	CADMIUM	0.26	05/11/09	57543	Y	ES-K02-080602
East	K3	ES-K03-080514	CADMIUM	0.12	05/24/09	57792	Y	ES-K03-080514
East	K4	ES-K04-080527	CADMIUM	0.011	05/28/09	57847	N	ES-K04-080527
East	K5	ES-K05-080605	CADMIUM	0.012	05/28/09	57847	N	ES-K05-080605
East	K5	ES-K05-080605	CADMIUM	0.015	05/28/09	57847	N	DUP-19
East	K7	ES-K07-080611	CADMIUM	0.32	05/01/09	57284	Y	ES-K07-080611
East	L1	ES-L01-080625	CADMIUM	0.014	05/28/09	57847	N	ES-L01-080625
East	L2	ES-L02-080625	CADMIUM	0.015	05/28/09	57847	N	ES-L02-080625
East	L3	ES-L03-080604	CADMIUM	0.011	05/28/09	57847	N	ES-L03-080604
East	L4	ES-L04-080604	CADMIUM	0.21	06/20/09	58565	Y	ES-L04-080604
East	M1	ES-M01-080527	CADMIUM	0.013	05/28/09	57847	N	ES-M01-080527
East	M2	ES-M02-080519	CADMIUM	0.016	05/28/09	57847	N	ES-M02-080519
East	M4	ES-M04-080515	CADMIUM	0.015	05/28/09	57847	N	ES-M04-080515
East	M5	ES-M05-080527	CADMIUM	0.01	05/28/09	57847	N	ES-M05-080527
East	M6	ES-M06-080520	CADMIUM	0.15	05/28/09	57847	Y	ES-M06-080520
East	M8	ES-M08-080610	CADMIUM	0.095	05/01/09	57284	Y	ES-M08-080610
East	M9	ES-M09-080611	CADMIUM	0.013	05/01/09	57284	N	ES-M09-080611
East	N2	ES-N02-080528	CADMIUM	0.016	05/28/09	57847	N	ES-N02-080528
East	N3	ES-N03-080520	CADMIUM	0.014	05/28/09	57847	N	ES-N03-080520
East	N4	ES-N04-080519	CADMIUM	0.014	05/28/09	57847	N	ES-N04-080519
East	N5	ES-N05-080519	CADMIUM	0.014	05/28/09	57847	N	ES-N05-080519
East	N6	ES-N06-080527	CADMIUM	0.016	06/09/09	58135	N	ES-N06-080527
East	N7	ES-N07-080530	CADMIUM	0.012	06/09/09	58135	N	ES-N07-080530
East	N8	ES-N08-080610	CADMIUM	0.013	05/01/09	57284	N	ES-N08-080610
East	N9	ES-N09-080610	CADMIUM	0.013	05/04/09	57284	N	ES-N09-080610
East	N10	ES-N10-080610	CADMIUM	0.013	05/01/09	57284	N	ES-N10-080610

CADMIUM Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East	O3	ES-O03-080528	CADMIUM	0.013	06/09/09	58135	N	ES-O03-080528
East	O4	ES-O04-080515	CADMIUM	0.014	06/09/09	58135	N	ES-O04-080515
East	O5	ES-O05-080520	CADMIUM	0.0097	06/09/09	58135	N	ES-O05-080520
East	O6	ES-O06-080529	CADMIUM	0.012	06/09/09	58135	N	ES-O06-080529
East	O8	ES-O08-080530	CADMIUM	0.011	07/27/09	59757	N	ES-O08-080530
East	P4	ES-P04-080528	CADMIUM	0.11	05/24/09	57792	Y	DUP-16
East	P4	ES-P04-080528	CADMIUM	0.013	06/09/09	58135	N	ES-P04-080528
East	P5	ES-P05-080513	CADMIUM	0.015	06/09/09	58135	N	ES-P05-080513
East	P6	ES-P06-080515	CADMIUM	0.051	05/24/09	57792	Y	DUP-12
East	P6	ES-P06-080515	CADMIUM	0.014	06/09/09	58135	N	ES-P06-080515
East	P7	ES-P07-080519	CADMIUM	0.11	05/28/09	57847	Y	ES-P07-080519
East	P8	ES-P08-080530	CADMIUM	0.012	06/09/09	58135	N	ES-P08-080530
East	P10	ES-P10-080606	CADMIUM	0.028	05/01/09	57284	Y	ES-P10-080606
East	P11	ES-P11-080606	CADMIUM	0.043	05/01/09	57284	Y	ES-P11-080606
East	Q5	ES-Q05-080520	CADMIUM	0.22	06/09/09	58135	Y	ES-Q05-080520
East	Q9	ES-Q09-080612	CADMIUM	0.012	06/09/09	58135	N	ES-Q09-080612
East	Q10	ES-Q10-080606	CADMIUM	0.26	05/11/09	57543	Y	ES-Q10-080606
East	Q11	ES-Q11-080606	CADMIUM	0.32	05/11/09	57543	Y	ES-Q11-080606
East	Q17	ES-Q17-080609	CADMIUM	0.17	05/01/09	57147	Y	ES-Q17-080609
East	R5	ES-R05-080521	CADMIUM	0.012	06/09/09	58135	N	ES-R05-080521
East	R6	ES-R06-080521	CADMIUM	0.018	06/20/09	58565	Y	ES-R06-080521
East	R7	ES-R07-080521	CADMIUM	0.012	06/10/09	58212	N	ES-R07-080521
East	R9	ES-R09-080520	CADMIUM	0.014	06/10/09	58212	N	ES-R09-080520
East	R10	ES-R10-080602	CADMIUM	0.015	06/10/09	58212	N	ES-R10-080602
East	R11	ES-R11-080605	CADMIUM	0.23	05/11/09	57543	Y	ES-R11-080605
East	R12	ES-R12-080611	CADMIUM	0.22	05/11/09	57543	Y	ES-R12-080611
East	R16	ES-R16-080605	CADMIUM	0.12	05/01/09	57147	Y	ES-R16-080605
East	R17	ES-R17-080606	CADMIUM	0.1	05/01/09	57147	Y	ES-R17-080606
East	S5	ES-S05-080521	CADMIUM	0.017	06/10/09	58212	N	ES-S05-080521
East	S6	ES-S06-080521	CADMIUM	0.014	06/10/09	58212	N	ES-S06-080521
East	S7	ES-S07-080521	CADMIUM	0.013	06/10/09	58212	N	ES-S07-080521
East	S9	ES-S09-080522	CADMIUM	0.016	06/10/09	58212	N	ES-S09-080522
East	S10	ES-S10-080523	CADMIUM	0.017	06/10/09	58212	N	ES-S10-080523
East	S11	ES-S11-080528	CADMIUM	0.019	06/10/09	58212	N	ES-S11-080528
East	S12	ES-S12-080609	CADMIUM	0.092	05/01/09	57147	Y	ES-S12-080609
East	S13	ES-S13-080610	CADMIUM	0.016	05/01/09	57147	N	ES-S13-080610
East	S18	ES-S18-080606	CADMIUM	0.017	05/01/09	57147	N	ES-S18-080606
East	T7	ES-T07-080612	CADMIUM	0.014	06/10/09	58212	N	ES-T07-080612
East	T8	ES-T08-080522	CADMIUM	0.012	06/09/09	58135	N	DUP-13
East	T8	ES-T08-080522	CADMIUM	0.014	06/10/09	58212	N	ES-T08-080522
East	T9	ES-T09-080522	CADMIUM	0.014	06/10/09	58212	N	ES-T09-080522
East	T10	ES-T10-080523	CADMIUM	0.014	06/10/09	58212	N	ES-T10-080523
East	T10	ES-T10-080523	CADMIUM	0.05	06/10/09	58212	Y	DUP-14
East	T11	ES-T11-080530	CADMIUM	0.013	06/10/09	58212	N	ES-T11-080530
East	T12	ES-T12-080609	CADMIUM	0.017	05/01/09	57147	N	ES-T12-080609
East	T13	ES-T13-080609	CADMIUM	0.012	05/01/09	57147	N	ES-T13-080609
East	T14	ES-T14-080610	CADMIUM	0.013	05/01/09	57147	N	ES-T14-080610
East	U10	ES-U10-080523	CADMIUM	0.014	06/10/09	58212	N	ES-U10-080523
East	U11	ES-U11-080602	CADMIUM	0.15	06/20/09	58565	Y	ES-U11-080602

CADMIUM Results from 09/11/09 database								
Site	quarter_acre _grid	sample_location	chemical_name	result_value	analysis _date	batch _id	detect _flag	sample_name
East	U13	ES-U13-080610	CADMIUM	0.012	05/01/09	57284	N	ES-U13-080610
East	U14	ES-U14-080610	CADMIUM	0.013	05/01/09	57284	N	ES-U14-080610
East	V11	ES-V11-080529	CADMIUM	0.17	06/20/09	58565	Y	ES-V11-080529
East	V14	ES-V14-080605	CADMIUM	0.013	05/01/09	57284	N	ES-V14-080605
East	W12	ES-W12-080527	CADMIUM	0.12	06/20/09	58565	Y	ES-W12-080527
West	A4	WS-A04-080626	CADMIUM	0.23	07/13/09	59381	Y	WS-A04-080626
West	B3	WS-B03-080502	CADMIUM	0.15	07/13/09	59381	Y	WS-B03-080502
West	B4	WS-B04-080626	CADMIUM	0.19	07/13/09	59381	Y	WS-B04-080626
West	B5	WS-B05-080626	CADMIUM	0.012	07/27/09	59757	N	WS-B05-080626
West	C1	WS-C01-080501	CADMIUM	0.48	06/20/09	58565	Y	WS-C01-080501
West	C1	WS-C01-080501	CADMIUM	0.46	06/20/09	58565	Y	DUP-3
West	C2	WS-C02-080428	CADMIUM	0.43	07/20/09	59621	Y	WS-C02-080428
West	C3	WS-C03-080620	CADMIUM	0.25	07/20/09	59621	Y	WS-C03-080620
West	C4	WS-C04-080623	CADMIUM	0.43	07/20/09	59621	Y	WS-C04-080623
West	C5	WS-C05-080620	CADMIUM	0.013	07/27/09	59757	N	WS-C05-080620
West	C6	WS-C06-080624	CADMIUM	0.017	07/27/09	59757	N	WS-C06-080624
West	D1	WS-D01-080430	CADMIUM	1.1	06/20/09	58565	Y	WS-D01-080430
West	D2	WS-D02-080429	CADMIUM	0.18	07/13/09	59381	Y	DUP-2
West	D2	WS-D02-080429	CADMIUM	0.13	07/20/09	59621	Y	WS-D02-080429
West	D3	WS-D03-080620	CADMIUM	0.31	07/20/09	59621	Y	WS-D03-080620
West	D4	WS-D04-080623	CADMIUM	0.48	08/18/09	60439	Y	WS-D04-080623
West	D5	WS-D05-080620	CADMIUM	0.013	07/27/09	59757	N	WS-D05-080620
West	D6	WS-D06-080619	CADMIUM	0.014	07/27/09	59757	N	WS-D06-080619
West	D7	WS-D07-080619	CADMIUM	0.012	07/27/09	59757	N	WS-D07-080619
West	E1	WS-E01-080430	CADMIUM	0.73	06/20/09	58565	Y	WS-E01-080430
West	E2	WS-E02-080428	CADMIUM	2.8	07/13/09	59381	Y	DUP-1
West	E2	WS-E02-080428	CADMIUM	2.8	07/20/09	59621	Y	WS-E02-080428
West	E3	WS-E03-080619	CADMIUM	0.15	07/20/09	59621	Y	WS-E03-080619
West	E4	WS-E04-080613	CADMIUM	0.014	07/27/09	59757	N	WS-E04-080613
West	E5	WS-E05-080613	CADMIUM	0.018	07/27/09	59757	N	WS-E05-080613
West	E6	WS-E06-080613	CADMIUM	0.019	07/27/09	59757	N	WS-E06-080613
West	E7	WS-E07-080613	CADMIUM	0.013	07/27/09	59757	N	WS-E07-080613
West	F1	WS-F01-080429	CADMIUM	0.62	06/20/09	58565	Y	WS-F01-080429
West	F2	WS-F02-080429	CADMIUM	1.1	07/20/09	59621	Y	WS-F02-080429
West	F3	WS-F03-080619	CADMIUM	2	07/20/09	59621	Y	WS-F03-080619
West	F4	WS-F04-080616	CADMIUM	0.92	07/29/09	59889	Y	WS-F04-080616
West	F5	WS-F05-080612	CADMIUM	0.85	08/18/09	60439	Y	WS-F05-080612
West	F6	WS-F06-080612	CADMIUM	0.42	07/29/09	59889	Y	WS-F06-080612
West	F7	WS-F07-080617	CADMIUM	0.89	06/29/09	58728	Y	WS-F07-080617
West	F8	WS-F08-080618	CADMIUM	0.72	06/29/09	58728	Y	WS-F08-080618
West	G1	WS-G01-080501	CADMIUM	0.71	06/20/09	58565	Y	DUP-4
West	G1	WS-G01-080501	CADMIUM	0.53	06/29/09	58728	Y	WS-G01-080501
West	G2	WS-G02-080618	CADMIUM	0.88	07/20/09	59621	Y	WS-G02-080618
West	G3	WS-G03-080619	CADMIUM	0.27	07/20/09	59621	Y	WS-G03-080619
West	G4	WS-G04-080616	CADMIUM	0.38	07/29/09	59889	Y	WS-G04-080616
West	G6	WS-G06-080616	CADMIUM	0.46	07/29/09	59889	Y	WS-G06-080616
West	G7	WS-G07-080617	CADMIUM	2.4	06/29/09	58728	Y	WS-G07-080617
West	H1	WS-H01-080501	CADMIUM	1.1	06/29/09	58728	Y	WS-H01-080501
West	H2	WS-H02-080618	CADMIUM	0.69	07/20/09	59621	Y	WS-H02-080618

CADMIUM Results from 09/11/09 database								
Site	quarter_acre _grid	sample_location	chemical_name	result_value	analysis _date	batch _id	detect _flag	sample_name
West	H3	WS-H03-080619	CADMIUM	0.3	07/29/09	59889	Y	WS-H03-080619
West	H4	WS-H04-080616	CADMIUM	0.42	07/29/09	59889	Y	WS-H04-080616
West	H6	WS-H06-080617	CADMIUM	1.1	06/29/09	58728	Y	WS-H06-080617
West	I1	WS-I01-080501	CADMIUM	2.3	06/29/09	58728	Y	WS-I01-080501
West	I1	WS-I01-080501	CADMIUM	2.5	06/29/09	58728	Y	DUP-5
West	I2	WS-I02-080618	CADMIUM	0.02	07/27/09	59757	N	WS-I02-080618
West	I3	WS-I03-080618	CADMIUM	1.5	07/29/09	59889	Y	WS-I03-080618
West	I4	WS-I04-080617	CADMIUM	0.4	07/29/09	59889	Y	WS-I04-080617
West	I5	WS-I05-080617	CADMIUM	1.6	06/29/09	58728	Y	WS-I05-080617
West	I6	WS-I06-080617	CADMIUM	4.7	06/29/09	58728	Y	WS-I06-080617
West	J1	WS-J01-080505	CADMIUM	1.6	06/29/09	58728	Y	DUP-6
West	J1	WS-J01-080505	CADMIUM	1.5	06/29/09	58728	Y	WS-J01-080505
West	J2	WS-J02-080624	CADMIUM	1.1	06/29/09	58728	Y	WS-J02-080624
West	J3	WS-J03-080620	CADMIUM	1.1	07/07/09	59163	Y	WS-J03-080620
West	J4	WS-J04-080617	CADMIUM	1.2	07/08/09	59163	Y	WS-J04-080617
West	J5	WS-J05-080618	CADMIUM	0.94	07/08/09	59163	Y	WS-J05-080618
West	K1	WS-K01-080505	CADMIUM	2.2	07/08/09	59163	Y	WS-K01-080505
West	K2	WS-K02-080509	CADMIUM	0.73	07/08/09	59163	Y	WS-K02-080509
West	K3	WS-K03-080509	CADMIUM	0.66	07/08/09	59163	Y	WS-K03-080509
West	K4	WS-K04-080513	CADMIUM	0.25	07/08/09	59163	Y	WS-K04-080513
West	K4	WS-K04-080513	CADMIUM	0.014	07/27/09	59757	N	DUP-10
West	K5	WS-K05-080509	CADMIUM	0.42	07/08/09	59163	Y	WS-K05-080509
West	L1	WS-L01-080505	CADMIUM	0.53	07/08/09	59163	Y	WS-L01-080505
West	L2	WS-L02-080508	CADMIUM	0.68	07/08/09	59163	Y	WS-L02-080508
West	L3	WS-L03-080508	CADMIUM	0.6	07/08/09	59163	Y	WS-L03-080508
West	L4	WS-L04-080508	CADMIUM	0.63	07/09/09	59163	Y	WS-L04-080508
West	L4	WS-L04-080508	CADMIUM	0.72	07/09/09	59163	Y	DUP-9
West	M1	WS-M01-080505	CADMIUM	0.98	07/09/09	59163	Y	WS-M01-080505
West	M1	WS-M01-080505	CADMIUM	1	07/09/09	59163	Y	DUP-7
West	M2	WS-M02-080507	CADMIUM	0.23	07/27/09	59757	Y	WS-M02-080507
West	M3	WS-M03-080507	CADMIUM	0.55	07/20/09	59621	Y	DUP-8
West	M3	WS-M03-080507	CADMIUM	0.46	08/05/09	60088	Y	WS-M03-080507
West	M4	WS-M04-080507	CADMIUM	0.6	08/05/09	60088	Y	WS-M04-080507
West	N1	WS-N01-080506	CADMIUM	0.49	08/05/09	60088	Y	WS-N01-080506
West	N2	WS-N02-080506	CADMIUM	0.36	07/13/09	59381	Y	WS-N02-080506
West	N3	WS-N03-080507	CADMIUM	0.45	06/29/09	58728	Y	WS-N03-080507
West	O1	WS-O01-080506	CADMIUM	0.36	07/13/09	59381	Y	WS-O01-080506
West	O2	WS-O02-080506	CADMIUM	0.36	07/13/09	59381	Y	WS-O02-080506

Table Cr-1: Chromium Data Quality Summary			
Laboratory Performance Criteria	Criteria	Measured	Comment
Minimum LCS Recovery	greater than 80%	82%	
Minimum Matrix Spike Recovery	greater than 70%	65%	
Average LCS Recovery	N/A	94%	
Average Matrix Spike Recovery	N/A	89%	
Maximum LCS RPD	less than 20%	17%	
Maximum Laboratory Duplicate RPD	less than 20%	13%	
Average LCS RPD	N/A	3%	
Average Laboratory Duplicate RPD	N/A	5%	
Measurement Quality Objectives	Critera	Measured	
NPS CRM	Recovery greater than 45.2	Minimum Recovery =	45 mg/kg
EQIS CRM	Recovery greater than 47.2	Minimum Recovery =	56.3 mg/kg
CVS Split Analysis RPD	RPD less than 35%	Maximum RPD =	41.9 %
CRM Split Analysis RPD	RPD less than 35%	Maximum RPD =	6.0 %
Overall QC Indicator Measurements	Criteria	Measured	
NPS CRM "Made to" (Bias measure)	N/A	Average Recovery =	81.4 %
NPS Replicate Test (Precision measure)	N/A	Standard Deviation =	5.4 mg/kg
Data Quality Relative to Remediation Goals			
Tier 1 Remediation Goal	31 mg/kg		
Tier 2 Remediation Goal	35 mg/kg		
QC derived reliance Level	29.6 mg/kg	See Note 1	

Comments: Low average matrix spike recovery (89%) and a minimum NPS CRM recovery (45.0 mg/kg) that is less than the vendor supplied lower acceptance limit (45.2 mg/kg) both indicate a measurement bias favoring low measurement of chromium concentration. Exceedance of the LPC for matrix spike recovery (batches 49189 and 57226), as well as exceedance of the MQO for a CVS Split RPD (sample DUP-8) also suggests precision issues. The derived reliance level (29.6 mg/kg) is lower than the RG (31 mg/kg) due to measurement bias and imprecision. However, less than desirable data quality will not influence decisions related to attainment of RGs because the grids in which measured chromium concentration exceeds the derived reliance level also have measured exceedances of the Tier 2 RG for chromium. Therefore, these grids were re-sampled and the new CVS samples were used to evaluate chromium RG achievement (the new CVS measurements are evaluated in DUR 2). Hence decisions related to such grids are not impacted by poor chromium data quality, and the risk of erroneously declaring a grid to have achieved the chromium RG is acceptably low. Therefore, it is concluded that the chromium CVS measurements are of acceptable quality and may be used to determine RG achievement.

Note 1: Derived reliance level is calculated as: (Tier 2 RG)(1.2)(Average Recovery)-(0.81)(Standard deviation) = (35)(1.2)(.814)-(0.84)(5.4) = 29.6

Table Cr-2: Chromium - NPS CRMs				
Blind NPS CRM Results				
Sample	Result	Analysis Date	Batch	Detect
BOR Sample 1-BOR 56	49.8	5/3/09	57226	Y
BOR Sample 4-BOR 82	45	5/8/09	57514	Y
BOR 83	50.3	5/27/09	57790	Y
BOR 84	50.1	5/27/09	57848	Y
BOR Sample 3-BOR 58	48.4	5/27/09	57790	Y
BOR Sample 7-BOR 105	48.4	5/27/09	57848	Y
BOR 85	45.8	6/5/09	58137	Y
BOR Sample 8-BOR 106	47	6/5/09	58137	Y
BOR 86	55.1	6/11/09	58213	Y
BOR 108	51.1	6/19/09	58563	Y
BOR 87	50.3	6/19/09	58563	Y
BOR 109	52	6/30/09	58729	Y
BOR 110	60	7/11/09	59382	Y
BOR Sample 9-BOR 107	53.3	7/24/09	59758	Y
BOR 111	49.9	7/30/09	59890	Y
BOR Sample 6-BOR 81	52.4	5/4/09	57400	Y

CRMs		Vendor Supplied Information
Mean	50.5563	*"Made to"*
Standard Error	0.91269	*62.1 mg/kg*
Median	50.2	
Standard Deviation	3.65	*Upper Acceptance Limit*
Sample Variance	13.328	*67.7 mg/kg*
Kurtosis	1.97	
Skewness	0.97	*Lower Acceptance Limit*
Range	15.0	*45.2 mg/kg*
Minimum	45.0	
Maximum	60.0	
Sum	808.9	
Count	16	
Largest(2)	55.1	
Smallest(2)	45.8	

Table Cr-3: Chromium - NPS Replicate Tests on a Background Sample

Results of Replicate Analyses of a Single Sample

Sample	Result	Analysis Date	Batch	Detect
BOR 112	23.8	5/3/09	57226	Y
BOR 59	17.2	5/4/09	57400	Y
BOR 60	17.9	5/8/09	57514	Y
BOR 113	16.5	5/27/09	57790	Y
BOR 61	16.6	5/27/09	57790	Y
BOR 62	18.1	6/11/09	58213	Y
BOR 63	16.3	6/19/09	58563	Y
BOR 89	14.9	6/19/09	58563	Y
BOR 115	18.6	6/30/09	58729	Y
BOR 64	16.7	7/8/09	59165	Y
BOR 91	17.3	7/8/09	59165	Y
BOR 116	36.7	7/11/09	59382	Y
BOR 92	22.3	7/11/09	59382	Y
BOR 65	17.5	7/22/09	59623	Y
BOR 88	16.9	7/30/09	59890	Y

Replicate analyses of Single Sample	
Mean	19.2
Standard Error	1.4
Median	17.3
Standard Deviation	5.4
Sample Variance	28.8
Kurtosis	8.9
Skewness	2.9
Range	21.8
Minimum	14.9
Maximum	36.7
Sum	287.3
Count	15
Largest(2)	23.8
Smallest(2)	16.3

Table Cr-4: Chromium NPS and EQIS Duplicates

Sample	Result	Analysis Date	Batch	Split	Result	Analysis Date	RPD
BOR 503	20.5	5/4/09	57400	ES-T11-080530	21.3	6/11/2009	4
BOR 506	20.6	5/8/09	57514	ES-S10-080523	21	6/11/2009	2
BOR 504	19.5	5/27/09	57790	ES-M05-080527	17.5	5/27/2009	11
BOR 507	14.7	6/5/09	58137	ES-O09-080610			
BOR 508	17.4	6/19/09	58563	ES-Q11-080606	20.3	5/8/2009	15
BOR 510	21.5	6/30/09	58729	OU-8HR-080605	21.8	5/3/2009	1
BOR 501	18.7	7/8/09	59165	WS-L04-080508	20.9	7/8/2009	11
BOR 505	18.2	7/22/09	59623	WS-K03-080509	17.4	7/8/2009	4
BOR 502	19.6	7/24/09	59758	WS-F05-080612	18.3	8/17/2009	7
BOR 509	18.3	7/24/09	59758	WS-E06-080613	18.2	7/24/2009	1
DUP-11	20.7	5/3/09	57100	ES-J03-080513	17.5	6/19/2009	17
DUP-17	16.7	5/4/09	57400	ES-F01-080529	17.7	5/8/2009	6
DUP-15	13.2	5/8/09	57514	ES-J02-080527	18.6	5/27/2009	34
DUP-18	18.1	5/8/09	57514	ES-J04-080530	18.5	5/27/2009	2
DUP-12	19.3	5/27/09	57790	ES-P06-080515	17.5	6/5/2009	10
DUP-16	19	5/27/09	57790	ES-P04-080528	18.5	6/5/2009	3
DUP-19	17.4	5/27/09	57848	ES-K05-080605	17.1	5/27/2009	2
DUP-13	18.5	6/5/09	58137	ES-T08-080522	20.5	6/11/2009	10
DUP-14	19.3	6/11/09	58213	ES-T10-080523	19.6	6/11/2009	2
DUP-3	19.6	6/19/09	58563	WS-C01-080501	17.3	6/19/2009	12
DUP-4	22.5	6/19/09	58563	WS-G01-080501	24.9	6/30/2009	10
DUP-5	18.5	6/30/09	58729	WS-I01-080501	20.5	6/30/2009	10
DUP-6	19.4	6/30/09	58729	WS-J01-080505	18.5	6/30/2009	5
DUP-7	18.4	7/8/09	59165	WS-M01-080505	17.7	7/8/2009	4
DUP-9	19	7/8/09	59165	WS-L04-080508	20.9	7/8/2009	10
DUP-1	26.7	7/11/09	59382	WS-E02-080428	23.5	7/22/2009	13
DUP-2	23.4	7/11/09	59382	WS-D02-080429	20.3	7/22/2009	14
DUP-8	17.6	7/22/09	59623	WS-M03-080507	11.5	8/11/2009	42
DUP-10	18.1	7/24/09	59758	WS-K04-080513	19.3	7/8/2009	6

RPD of Sample Splits	
Mean	9.547402
Standard Error	1.764131
Median	8.191984
Standard Deviation	9.334902
Sample Variance	87.1404
Kurtosis	5.712318
Skewness	2.210927
Range	41.37645
Minimum	0.547945
Maximum	41.9244
Sum	267.3272
Count	28
Largest(2)	33.96226
Smallest(2)	1.385681

Table Cr-5: Chromium EQIS CRMs

Results of Duplicate Analysis of EQIS CRMs

Sample	Result	Date	Batch	Detect	Average	RPD
ES-Z11-080605A	66.5	5/3/09	57100	Y		
ES-Z11-080605B	63.7	5/3/09	57100	Y	65.1	4
ES-Z09-080529A	63.8	5/4/09	57400	Y		
ES-Z09-080529B	63.6	5/4/09	57400	Y	63.7	0
ES-Z12-080606A	65.1	5/4/09	57400	Y		
ES-Z12-080606B	64.7	5/4/09	57400	Y	64.9	1
ES-Z05-080519A	58.8	5/8/09	57514	Y		
ES-Z05-080519B	58	5/8/09	57514	Y	58.4	1
ES-Z06-080520A	59	5/8/09	57514	Y		
ES-Z06-080520B	58.6	5/8/09	57514	Y	58.8	1
ES-Z07-080522A	57.2	5/27/09	57790	Y		
ES-Z07-080522B	58	5/27/09	57790	Y	57.6	1
ES-Z13-080610A	60.4	5/27/09	57848	Y		
ES-Z13-080610B	59.5	5/27/09	57848	Y	59.95	2
ES-Z10-080602A	57.3	6/5/09	58137	Y		
ES-Z10-080602B	56.3	6/5/09	58137	Y	56.8	2
ES-Z08-080527A	61.2	6/11/09	58213	Y		
ES-Z08-080527B	65	6/11/09	58213	Y	63.1	6
ES-Z14-080611A	63.2	6/19/09	58563	Y		
ES-Z14-080611B	61.4	6/19/09	58563	Y	62.3	3
ES-Z06-080520C	71	6/30/09	58729	Y		
ES-Z06-080520D	69.5	6/30/09	58729	Y	70.25	2
ES-Z05-080519C	63.7	7/8/09	59165	Y		
ES-Z05-080519D	62.5	7/8/09	59165	Y	63.1	2
ES-Z19-080624A	69.9	7/11/09	59382	Y		
ES-Z19-080624B	67.3	7/11/09	59382	Y	68.6	4
WS-Z17-080618A	66.3	7/11/09	59382	Y		
WS-Z17-080618B	68.6	7/11/09	59382	Y	67.45	3
WS-Z15-080613A	69.2	7/22/09	59623	Y		
WS-Z15-080613B	66.6	7/22/09	59623	Y	67.9	4
WS-Z18-080620A	67.9	7/22/09	59623	Y		
WS-Z18-080620B	69.4	7/22/09	59623	Y	68.65	2
WS-Z16-080617A	65.5	7/30/09	59890	Y		
WS-Z16-080617B	65	7/30/09	59890	Y	65.25	1

Analysis of EQIS CRMs		*RPD of EQIS CRMs*	
Mean	63.638	Mean	2.29
Standard Error	0.7264	Standard Error	
Median	63.75	Median	1.90
Standard Deviation	4.2356	Standard Deviation	1.55
Sample Variance	17.94	Sample Variance	2.41
Kurtosis	-1.0996	Kurtosis	0.43
Skewness	-0.0874	Skewness	0.89
Range	14.7	Range	5.71
Minimum	56.3	Minimum	0.31
Maximum	71	Maximum	6.02
Sum	2163.7	Sum	38.86
Count	34	Count	17
Largest(2)	69.9	Largest(2)	4.30
Smallest(2)	57.2	Smallest(2)	0.62

Table Cr-6: Chromium Laboratory MS and LCS

Matrix Spike Recovery %		Batch Order	LCS Recovery %		Batch Order
164.00	7160081	1	90	49187.00	2
92.00	7160081	1	88	49189.00	3
105.00	49187	2	99	49537.00	4
65.00	49189	3	100	49539.00	5
105.00	49537	4	91	54626-627	6
95.00	49539	5	96	54821-822	7
74.00	54626-627	6	87	54891-892	8
71.00	54821-822	7	87	54915-916	9
81.00	54891-892	8	95	57100.00	10
79.00	54915-916	9	86	57226.00	11
78.00	57100	10	92	57514.00	12
69.00	57226	11	82	57790.00	13
78.00	57514	12	86	57848.00	14
75.00	57790	13	84	58137.00	15
73.00	57848	14	119	58213.00	16
75.00	58137	15	109	58563.00	17
128.00	58213	16	104	58729.00	18
118.00	58563	17	94	59165.00	19
95.00	58729	18	93	59382.00	20
84.00	59165	19	96	59623.00	21
84.00	59382	20	95	59758.00	22
74.00	59623	21	92	59890.00	23
85.00	59758	22	88	60089.00	24
77.00	59890	23	97	60440.00	25
84.00	60089	24			
94.00	60440	25			

Average MS Recovery = 89 % Average LCS Recovery = 94 %

Minimum MS Recovery = 65 % Minimum LCS Recovery = 82 %

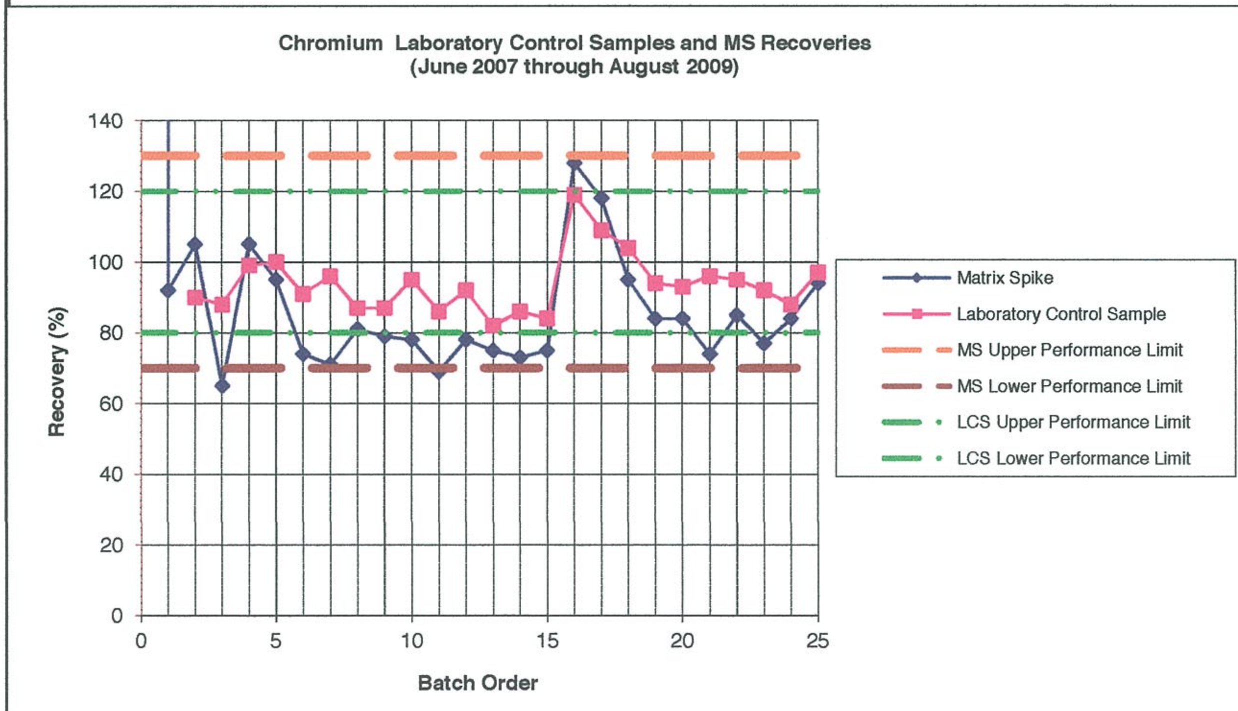
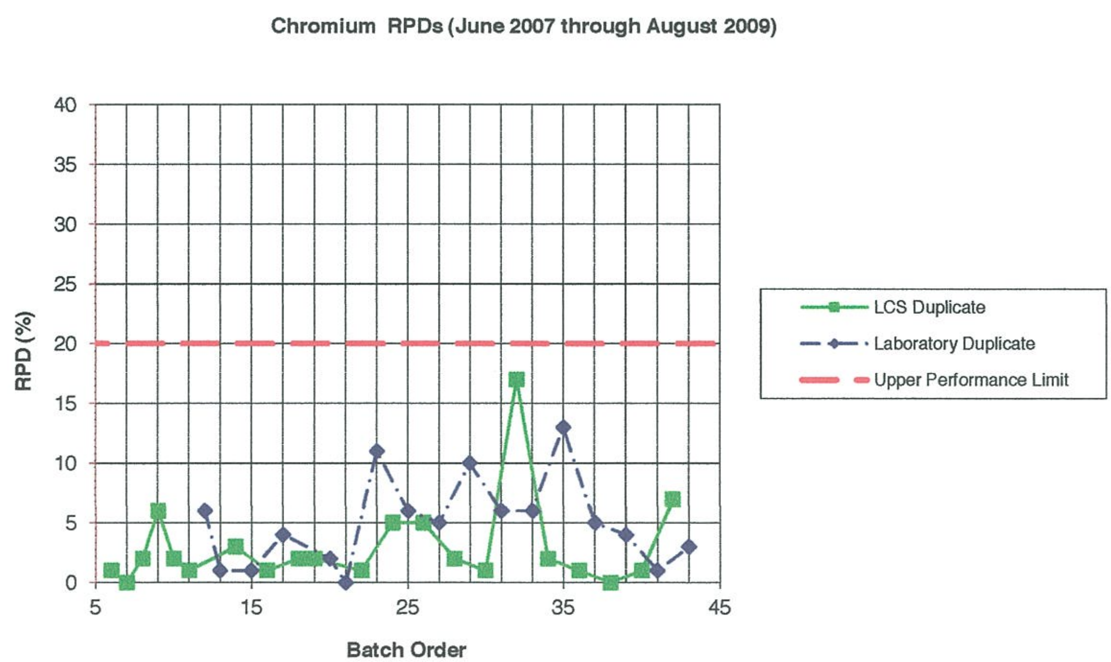


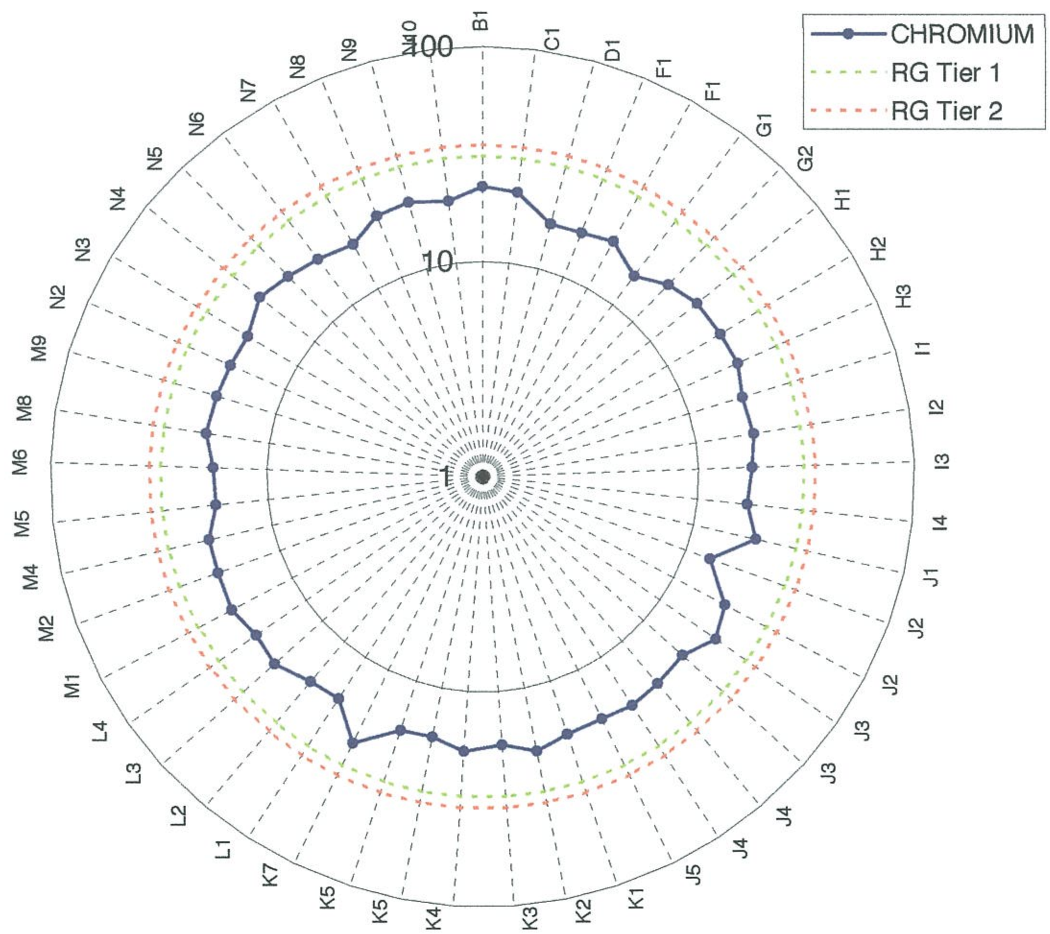
Table Cr-7: Chromium - Laboratory Duplicates and LCS Duplicates					
Laboratory Duplicate RPD		Batch Order	LCS RPD		Batch Order
6.00	57100	12	1.00	54626-627	6
1.00	57226	13	0.00	54821-822	7
1.00	57400	15	2.00	54891-892	8
4.00	57514	17	6.00	54915-916	9
2.00	57790	20	2.00	57100	10
0.00	57848	21	1.00	57226	11
11.00	58137	23	3.00	57400	14
6.00	58213	25	1.00	57514	16
5.00	58563	27	2.00	57790	18
10.00	58729	29	2.00	57848	19
6.00	59165	31	1.00	58137	22
6.00	59382	33	5.00	58213	24
13.00	59623	35	5.00	58563	26
5.00	59758	37	1.00	59165	30
4.00	59890	39	17.00	59382	32
1.00	60089	41	2.00	59623	34
3.00	60440	43	1.00	59758	36
			0.00	59890	38
			1.00	60089	40
			7.00	60440	42

Average Duplicate RPD = 5 %　　Average LCS RPD = 3 %

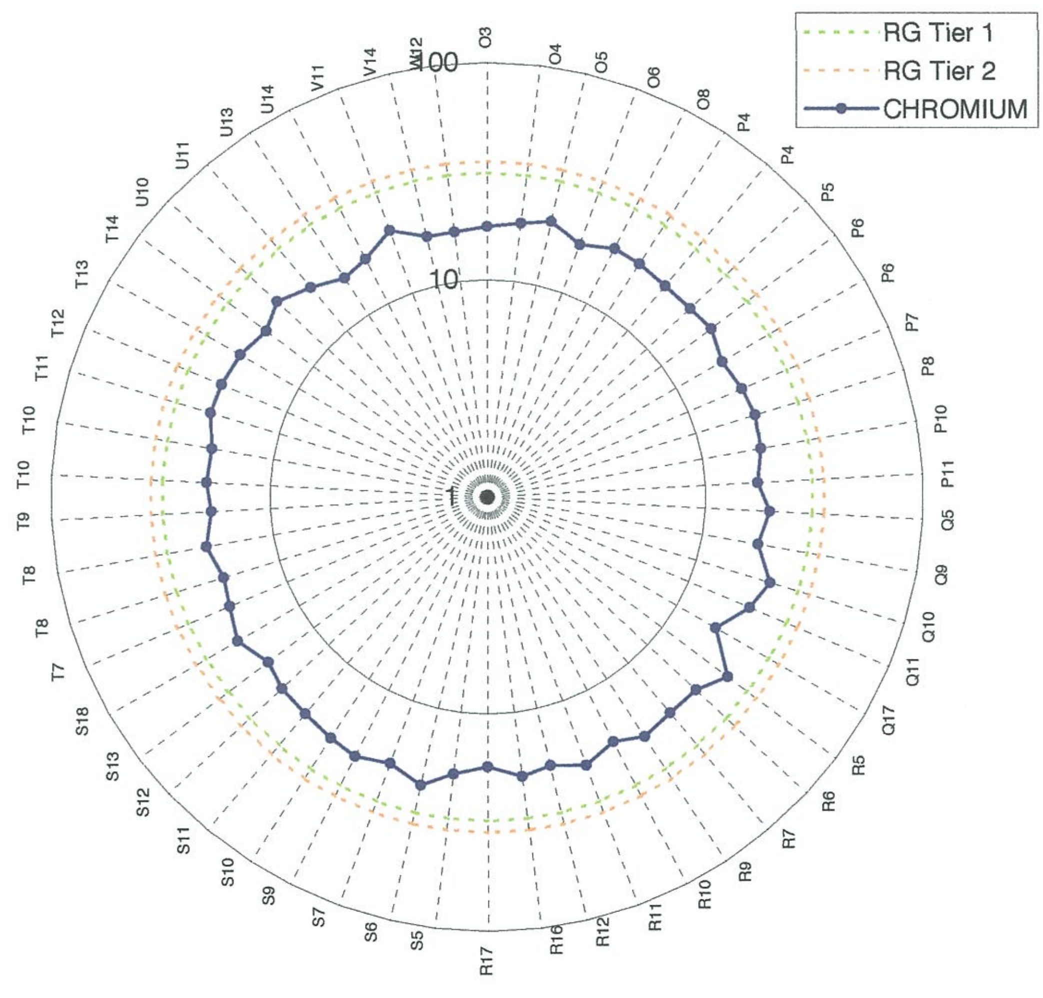
Maximum Duplicate RPD = 13 %　　Maximum LCS RPD = 17 %



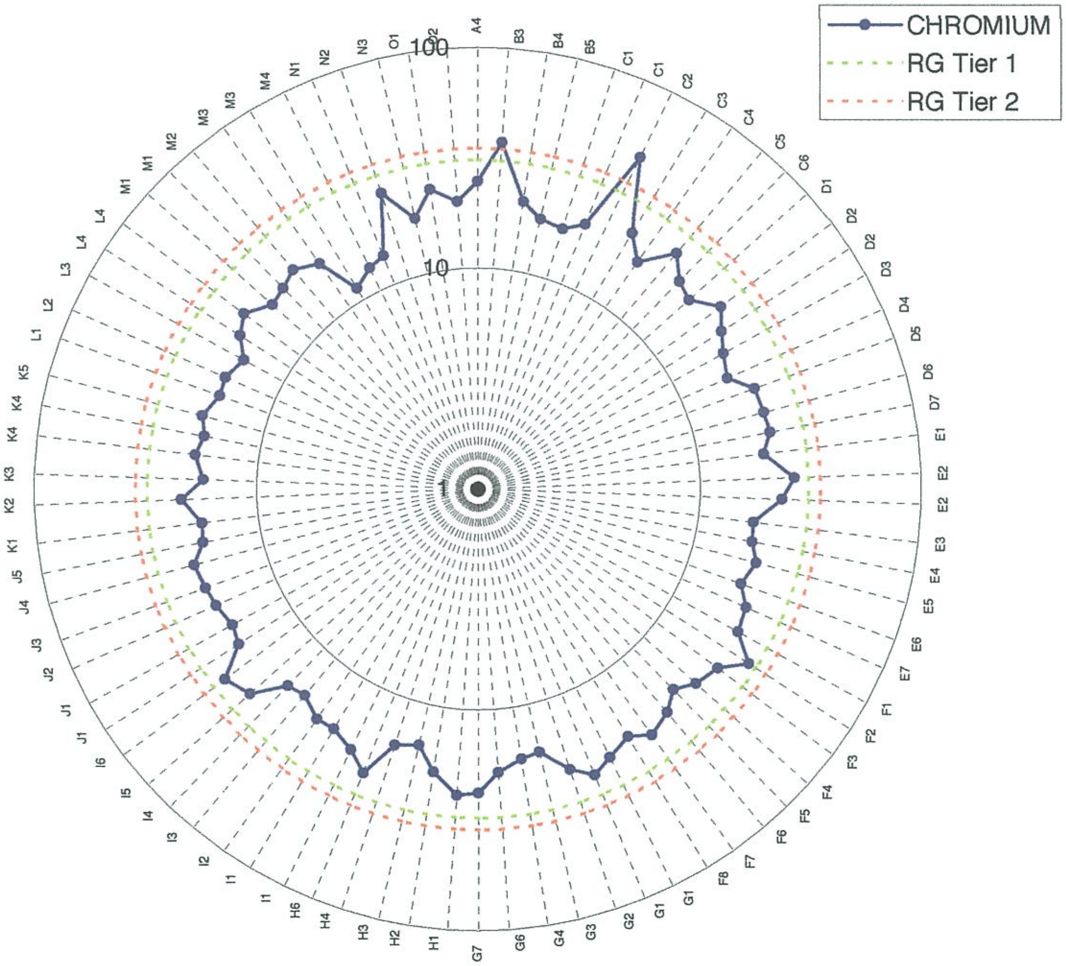
East Site
Grids A through N



East Site
Grids O through W



West Site



CHROMIUM CVS Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East	B1	ES-B01-080623	CHROMIUM	22.4	05/03/09	57100	Y	ES-B01-080623
East	C1	ES-C01-080624	CHROMIUM	21.5	05/03/09	57100	Y	ES-C01-080624
East	D1	ES-D01-080624	CHROMIUM	16.5	06/05/09	58137	Y	ES-D01-080624
East	F1	ES-F01-080529	CHROMIUM	16.7	05/04/09	57400	Y	DUP-17
East	F1	ES-F01-080529	CHROMIUM	17.7	05/08/09	57514	Y	ES-F01-080529
East	G1	ES-G01-080529	CHROMIUM	14.7	05/08/09	57514	Y	ES-G01-080529
East	G2	ES-G02-080605	CHROMIUM	17.4	05/08/09	57514	Y	ES-G02-080605
East	H1	ES-H01-080528	CHROMIUM	19	05/08/09	57514	Y	ES-H01-080528
East	H2	ES-H02-080515	CHROMIUM	19.3	05/08/09	57514	Y	ES-H02-080515
East	H3	ES-H03-080605	CHROMIUM	19.7	05/27/09	57790	Y	ES-H03-080605
East	I1	ES-I01-080529	CHROMIUM	18.2	05/27/09	57790	Y	ES-I01-080529
East	I2	ES-I02-080514	CHROMIUM	18.7	05/27/09	57790	Y	ES-I02-080514
East	I3	ES-I03-080513	CHROMIUM	17.8	05/27/09	57790	Y	ES-I03-080513
East	I4	ES-I04-080602	CHROMIUM	17.1	05/27/09	57790	Y	ES-I04-080602
East	J1	ES-J01-080529	CHROMIUM	19.9	05/27/09	57790	Y	ES-J01-080529
East	J2	ES-J02-080527	CHROMIUM	13.2	05/08/09	57514	Y	DUP-15
East	J2	ES-J02-080527	CHROMIUM	18.6	05/27/09	57790	Y	ES-J02-080527
East	J3	ES-J03-080513	CHROMIUM	20.7	05/03/09	57100	Y	DUP-11
East	J3	ES-J03-080513	CHROMIUM	17.5	06/19/09	58563	Y	ES-J03-080513
East	J4	ES-J04-080530	CHROMIUM	18.1	05/08/09	57514	Y	DUP-18
East	J4	ES-J04-080530	CHROMIUM	18.5	05/27/09	57790	Y	ES-J04-080530
East	J5	ES-J05-080602	CHROMIUM	17.9	05/27/09	57790	Y	ES-J05-080602
East	K1	ES-K01-080602	CHROMIUM	18.2	05/27/09	57790	Y	ES-K01-080602
East	K2	ES-K02-080602	CHROMIUM	20	05/08/09	57514	Y	ES-K02-080602
East	K3	ES-K03-080514	CHROMIUM	17.8	05/27/09	57790	Y	ES-K03-080514
East	K4	ES-K04-080527	CHROMIUM	19.1	05/27/09	57848	Y	ES-K04-080527
East	K5	ES-K05-080605	CHROMIUM	17.1	05/27/09	57848	Y	ES-K05-080605
East	K5	ES-K05-080605	CHROMIUM	17.4	05/27/09	57848	Y	DUP-19
East	K7	ES-K07-080611	CHROMIUM	23.9	05/04/09	57400	Y	ES-K07-080611
East	L1	ES-L01-080625	CHROMIUM	17	05/27/09	57848	Y	ES-L01-080625
East	L2	ES-L02-080625	CHROMIUM	17.5	05/27/09	57848	Y	ES-L02-080625
East	L3	ES-L03-080604	CHROMIUM	19.9	05/27/09	57848	Y	ES-L03-080604
East	L4	ES-L04-080604	CHROMIUM	19.2	06/19/09	58563	Y	ES-L04-080604
East	M1	ES-M01-080527	CHROMIUM	20.7	05/27/09	57848	Y	ES-M01-080527
East	M2	ES-M02-080519	CHROMIUM	20.1	05/27/09	57848	Y	ES-M02-080519
East	M4	ES-M04-080515	CHROMIUM	20	05/27/09	57848	Y	ES-M04-080515
East	M5	ES-M05-080527	CHROMIUM	17.5	05/27/09	57848	Y	ES-M05-080527
East	M6	ES-M06-080520	CHROMIUM	17.8	05/27/09	57848	Y	ES-M06-080520
East	M8	ES-M08-080610	CHROMIUM	19.8	05/04/09	57400	Y	ES-M08-080610
East	M9	ES-M09-080611	CHROMIUM	19.3	05/04/09	57400	Y	ES-M09-080611
East	N2	ES-N02-080528	CHROMIUM	18.9	05/27/09	57848	Y	ES-N02-080528
East	N3	ES-N03-080520	CHROMIUM	18.5	05/27/09	57848	Y	ES-N03-080520
East	N4	ES-N04-080519	CHROMIUM	21.3	05/27/09	57848	Y	ES-N04-080519

CHROMIUM CVS Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East	N5	ES-N05-080519	CHROMIUM	19.8	05/27/09	57848	Y	ES-N05-080519
East	N6	ES-N06-080527	CHROMIUM	18.5	06/05/09	58137	Y	ES-N06-080527
East	N7	ES-N07-080530	CHROMIUM	17.2	06/05/09	58137	Y	ES-N07-080530
East	N8	ES-N08-080610	CHROMIUM	20.3	05/04/09	57400	Y	ES-N08-080610
East	N9	ES-N09-080610	CHROMIUM	20.9	05/04/09	57400	Y	ES-N09-080610
East	N10	ES-N10-080610	CHROMIUM	19.6	05/04/09	57400	Y	ES-N10-080610
East	O3	ES-O03-080528	CHROMIUM	17.6	06/05/09	58137	Y	ES-O03-080528
East	O4	ES-O04-080515	CHROMIUM	18.6	06/05/09	58137	Y	ES-O04-080515
East	O5	ES-O05-080520	CHROMIUM	20	06/05/09	58137	Y	ES-O05-080520
East	O6	ES-O06-080529	CHROMIUM	17.2	06/05/09	58137	Y	ES-O06-080529
East	O8	ES-O08-080530	CHROMIUM	19.2	07/24/09	59758	Y	ES-O08-080530
East	P4	ES-P04-080528	CHROMIUM	19	05/27/09	57790	Y	DUP-16
East	P4	ES-P04-080528	CHROMIUM	18.5	06/05/09	58137	Y	ES-P04-080528
East	P5	ES-P05-080513	CHROMIUM	18.6	06/05/09	58137	Y	ES-P05-080513
East	P6	ES-P06-080515	CHROMIUM	19.3	05/27/09	57790	Y	DUP-12
East	P6	ES-P06-080515	CHROMIUM	17.5	06/05/09	58137	Y	ES-P06-080515
East	P7	ES-P07-080519	CHROMIUM	18.6	05/27/09	57848	Y	ES-P07-080519
East	P8	ES-P08-080530	CHROMIUM	19.3	06/05/09	58137	Y	ES-P08-080530
East	P10	ES-P10-080606	CHROMIUM	18.8	05/04/09	57400	Y	ES-P10-080606
East	P11	ES-P11-080606	CHROMIUM	17.4	05/04/09	57400	Y	ES-P11-080606
East	Q5	ES-Q05-080520	CHROMIUM	19.8	06/05/09	58137	Y	ES-Q05-080520
East	Q9	ES-Q09-080612	CHROMIUM	18.2	06/05/09	58137	Y	ES-Q09-080612
East	Q10	ES-Q10-080606	CHROMIUM	22.7	05/08/09	57514	Y	ES-Q10-080606
East	Q11	ES-Q11-080606	CHROMIUM	20.3	05/08/09	57514	Y	ES-Q11-080606
East	Q17	ES-Q17-080609	CHROMIUM	16.1	05/03/09	57100	Y	ES-Q17-080609
East	R5	ES-R05-080521	CHROMIUM	23.8	06/05/09	58137	Y	ES-R05-080521
East	R6	ES-R06-080521	CHROMIUM	20.1	06/19/09	58563	Y	ES-R06-080521
East	R7	ES-R07-080521	CHROMIUM	19.9	06/11/09	58213	Y	ES-R07-080521
East	R9	ES-R09-080520	CHROMIUM	20.7	06/11/09	58213	Y	ES-R09-080520
East	R10	ES-R10-080602	CHROMIUM	18.4	06/11/09	58213	Y	ES-R10-080602
East	R11	ES-R11-080605	CHROMIUM	20.6	05/08/09	57514	Y	ES-R11-080605
East	R12	ES-R12-080611	CHROMIUM	18.6	05/08/09	57514	Y	ES-R12-080611
East	R16	ES-R16-080605	CHROMIUM	19.8	05/03/09	57100	Y	ES-R16-080605
East	R17	ES-R17-080606	CHROMIUM	17.5	05/03/09	57100	Y	ES-R17-080606
East	S5	ES-S05-080521	CHROMIUM	19.3	06/11/09	58213	Y	ES-S05-080521
East	S6	ES-S06-080521	CHROMIUM	23	06/11/09	58213	Y	ES-S06-080521
East	S7	ES-S07-080521	CHROMIUM	20.2	06/11/09	58213	Y	ES-S07-080521
East	S9	ES-S09-080522	CHROMIUM	21.9	06/11/09	58213	Y	ES-S09-080522
East	S10	ES-S10-080523	CHROMIUM	21	06/11/09	58213	Y	ES-S10-080523
East	S11	ES-S11-080528	CHROMIUM	20.1	06/11/09	58213	Y	ES-S11-080528
East	S12	ES-S12-080609	CHROMIUM	19.6	05/03/09	57100	Y	ES-S12-080609
East	S13	ES-S13-080610	CHROMIUM	18.3	05/03/09	57100	Y	ES-S13-080610
East	S18	ES-S18-080606	CHROMIUM	21.2	05/03/09	57100	Y	ES-S18-080606

CHROMIUM CVS Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East	T7	ES-T07-080612	CHROMIUM	19.3	06/11/09	58213	Y	ES-T07-080612
East	T8	ES-T08-080522	CHROMIUM	18.5	06/05/09	58137	Y	DUP-13
East	T8	ES-T08-080522	CHROMIUM	20.5	06/11/09	58213	Y	ES-T08-080522
East	T9	ES-T09-080522	CHROMIUM	18.6	06/11/09	58213	Y	ES-T09-080522
East	T10	ES-T10-080523	CHROMIUM	19.6	06/11/09	58213	Y	ES-T10-080523
East	T10	ES-T10-080523	CHROMIUM	19.3	06/11/09	58213	Y	DUP-14
East	T11	ES-T11-080530	CHROMIUM	21.3	06/11/09	58213	Y	ES-T11-080530
East	T12	ES-T12-080609	CHROMIUM	21.2	05/03/09	57100	Y	ES-T12-080609
East	T13	ES-T13-080609	CHROMIUM	20.4	05/03/09	57100	Y	ES-T13-080609
East	T14	ES-T14-080610	CHROMIUM	18.7	05/03/09	57100	Y	ES-T14-080610
East	U10	ES-U10-080523	CHROMIUM	20.9	06/11/09	58213	Y	ES-U10-080523
East	U11	ES-U11-080602	CHROMIUM	18.2	06/19/09	58563	Y	ES-U11-080602
East	U13	ES-U13-080610	CHROMIUM	15.9	05/04/09	57400	Y	ES-U13-080610
East	U14	ES-U14-080610	CHROMIUM	17	05/04/09	57400	Y	ES-U14-080610
East	V11	ES-V11-080529	CHROMIUM	20.2	06/19/09	58563	Y	ES-V11-080529
East	V14	ES-V14-080605	CHROMIUM	17	05/04/09	57400	Y	ES-V14-080605
East	W12	ES-W12-080527	CHROMIUM	16.9	06/19/09	58563	Y	ES-W12-080527
West	A4	WS-A04-080626	CHROMIUM	24.8	07/11/09	59382	Y	WS-A04-080626
West	B3	WS-B03-080502	CHROMIUM	37.5	07/11/09	59382	Y	WS-B03-080502
West	B4	WS-B04-080626	CHROMIUM	20.8	07/11/09	59382	Y	WS-B04-080626
West	B5	WS-B05-080626	CHROMIUM	18	07/24/09	59758	Y	WS-B05-080626
West	C1	WS-C01-080501	CHROMIUM	17.3	06/19/09	58563	Y	WS-C01-080501
West	C1	WS-C01-080501	CHROMIUM	19.6	06/19/09	58563	Y	DUP-3
West	C2	WS-C02-080428	CHROMIUM	46.9	07/22/09	59623	Y	WS-C02-080428
West	C3	WS-C03-080620	CHROMIUM	22.4	07/22/09	59623	Y	WS-C03-080620
West	C4	WS-C04-080623	CHROMIUM	17.9	07/22/09	59623	Y	WS-C04-080623
West	C5	WS-C05-080620	CHROMIUM	24.6	07/24/09	59758	Y	WS-C05-080620
West	C6	WS-C06-080624	CHROMIUM	20.2	07/24/09	59758	Y	WS-C06-080624
West	D1	WS-D01-080430	CHROMIUM	19	06/19/09	58563	Y	WS-D01-080430
West	D2	WS-D02-080429	CHROMIUM	23.4	07/11/09	59382	Y	DUP-2
West	D2	WS-D02-080429	CHROMIUM	20.3	07/22/09	59623	Y	WS-D02-080429
West	D3	WS-D03-080620	CHROMIUM	18.4	07/22/09	59623	Y	WS-D03-080620
West	D4	WS-D04-080623	CHROMIUM	17	08/17/09	60440	Y	WS-D04-080623
West	D5	WS-D05-080620	CHROMIUM	21.3	07/24/09	59758	Y	WS-D05-080620
West	D6	WS-D06-080619	CHROMIUM	21.6	07/24/09	59758	Y	WS-D06-080619
West	D7	WS-D07-080619	CHROMIUM	21.9	07/24/09	59758	Y	WS-D07-080619
West	E1	WS-E01-080430	CHROMIUM	19.8	06/19/09	58563	Y	WS-E01-080430
West	E2	WS-E02-080428	CHROMIUM	26.7	07/11/09	59382	Y	DUP-1
West	E2	WS-E02-080428	CHROMIUM	23.5	07/22/09	59623	Y	WS-E02-080428
West	E3	WS-E03-080619	CHROMIUM	17.8	07/22/09	59623	Y	WS-E03-080619
West	E4	WS-E04-080613	CHROMIUM	18.1	07/24/09	59758	Y	WS-E04-080613
West	E5	WS-E05-080613	CHROMIUM	19.8	07/24/09	59758	Y	WS-E05-080613
West	E6	WS-E06-080613	CHROMIUM	18.2	07/24/09	59758	Y	WS-E06-080613

CHROMIUM CVS Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West	E7	WS-E07-080613	CHROMIUM	20.9	07/24/09	59758	Y	WS-E07-080613
West	F1	WS-F01-080429	CHROMIUM	21.7	06/19/09	58563	Y	WS-F01-080429
West	F2	WS-F02-080429	CHROMIUM	28.4	07/22/09	59623	Y	WS-F02-080429
West	F3	WS-F03-080619	CHROMIUM	22.3	07/22/09	59623	Y	WS-F03-080619
West	F4	WS-F04-080616	CHROMIUM	20.8	07/30/09	59890	Y	WS-F04-080616
West	F5	WS-F05-080612	CHROMIUM	18.3	08/17/09	60440	Y	WS-F05-080612
West	F6	WS-F06-080612	CHROMIUM	21	07/30/09	59890	Y	WS-F06-080612
West	F7	WS-F07-080617	CHROMIUM	22.9	06/30/09	58729	Y	WS-F07-080617
West	F8	WS-F08-080618	CHROMIUM	20.3	06/30/09	58729	Y	WS-F08-080618
West	G1	WS-G01-080501	CHROMIUM	22.5	06/19/09	58563	Y	DUP-4
West	G1	WS-G01-080501	CHROMIUM	24.9	06/30/09	58729	Y	080501
West	G2	WS-G02-080618	CHROMIUM	21.6	07/22/09	59623	Y	080618
West	G3	WS-G03-080619	CHROMIUM	16.7	07/22/09	59623	Y	080619
West	G4	WS-G04-080616	CHROMIUM	17.3	07/30/09	59890	Y	080616
West	G6	WS-G06-080616	CHROMIUM	19.3	07/30/09	59890	Y	080616
West	G7	WS-G07-080617	CHROMIUM	23.8	06/30/09	58729	Y	080617
West	H1	WS-H01-080501	CHROMIUM	24.5	06/30/09	58729	Y	WS-H01-080501
West	H2	WS-H02-080618	CHROMIUM	19.8	07/22/09	59623	Y	WS-H02-080618
West	H3	WS-H03-080619	CHROMIUM	15.5	07/30/09	59890	Y	WS-H03-080619
West	H4	WS-H04-080616	CHROMIUM	16.5	07/30/09	59890	Y	WS-H04-080616
West	H6	WS-H06-080617	CHROMIUM	24.4	06/30/09	58729	Y	WS-H06-080617
West	I1	WS-I01-080501	CHROMIUM	20.5	06/30/09	58729	Y	WS-I01-080501
West	I1	WS-I01-080501	CHROMIUM	18.5	06/30/09	58729	Y	DUP-5
West	I2	WS-I02-080618	CHROMIUM	18.6	07/24/09	59758	Y	WS-I02-080618
West	I3	WS-I03-080618	CHROMIUM	16.6	07/30/09	59890	Y	WS-I03-080618
West	I4	WS-I04-080617	CHROMIUM	17.3	07/30/09	59890	Y	WS-I04-080617
West	I5	WS-I05-080617	CHROMIUM	24.3	06/30/09	58729	Y	WS-I05-080617
West	I6	WS-I06-080617	CHROMIUM	26.9	06/30/09	58729	Y	WS-I06-080617
West	J1	WS-J01-080505	CHROMIUM	19.4	06/30/09	58729	Y	DUP-6
West	J1	WS-J01-080505	CHROMIUM	18.5	06/30/09	58729	Y	WS-J01-080505
West	J2	WS-J02-080624	CHROMIUM	19.6	06/30/09	58729	Y	WS-J02-080624
West	J3	WS-J03-080620	CHROMIUM	20.3	07/08/09	59165	Y	WS-J03-080620
West	J4	WS-J04-080617	CHROMIUM	21.1	07/08/09	59165	Y	WS-J04-080617
West	J5	WS-J05-080618	CHROMIUM	18.3	07/08/09	59165	Y	WS-J05-080618
West	K1	WS-K01-080505	CHROMIUM	18	07/08/09	59165	Y	WS-K01-080505
West	K2	WS-K02-080509	CHROMIUM	21.8	07/08/09	59165	Y	WS-K02-080509
West	K3	WS-K03-080509	CHROMIUM	17.4	07/08/09	59165	Y	WS-K03-080509
West	K4	WS-K04-080513	CHROMIUM	19.3	07/08/09	59165	Y	WS-K04-080513
West	K4	WS-K04-080513	CHROMIUM	18.1	07/24/09	59758	Y	DUP-10
West	K5	WS-K05-080509	CHROMIUM	19.3	07/08/09	59165	Y	WS-K05-080509
West	L1	WS-L01-080505	CHROMIUM	17.3	07/08/09	59165	Y	WS-L01-080505
West	L2	WS-L02-080508	CHROMIUM	17.6	07/08/09	59165	Y	WS-L02-080508
West	L3	WS-L03-080508	CHROMIUM	16.1	07/08/09	59165	Y	WS-L03-080508

CHROMIUM CVS Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West	L4	WS-L04-080508	CHROMIUM	19	07/08/09	59165	Y	DUP-9
West	L4	WS-L04-080508	CHROMIUM	20.9	07/08/09	59165	Y	WS-L04-080508
West	M1	WS-M01-080505	CHROMIUM	17.7	07/08/09	59165	Y	080505
West	M1	WS-M01-080505	CHROMIUM	18.4	07/08/09	59165	Y	DUP-7
West	M2	WS-M02-080507	CHROMIUM	19.8	07/24/09	59758	Y	080507
West	M3	WS-M03-080507	CHROMIUM	17.6	07/22/09	59623	Y	DUP-8
West	M3	WS-M03-080507	CHROMIUM	11.5	08/11/09	60089	Y	080507
West	M4	WS-M04-080507	CHROMIUM	13	08/11/09	60089	Y	080507
West	N1	WS-N01-080506	CHROMIUM	13.8	08/11/09	60089	Y	WS-N01-080506
West	N2	WS-N02-080506	CHROMIUM	25.6	07/11/09	59382	Y	WS-N02-080506
West	N3	WS-N03-080507	CHROMIUM	18.1	06/30/09	58729	Y	WS-N03-080507
West	O1	WS-O01-080506	CHROMIUM	23.7	07/11/09	59382	Y	080506
West	O2	WS-O02-080506	CHROMIUM	20.2	07/11/09	59382	Y	080506

Table Co-1: Cobalt Data Quality Summary			
Laboratory Performance Criteria	Criteria	Measured	Comment
Minimum LCS Recovery	greater than 80%	83%	
Minimum Matrix Spike Recovery	greater than 70%	70%	
Average LCS Recovery	N/A	93%	
Average Matrix Spike Recovery	N/A	89%	
Maximum LCS RPD	less than 20%	13%	
Maximum Laboratory Duplicate RPD	less than 20%	20%	
Average LCS RPD	N/A	4%	
Average Laboratory Duplicate RPD	N/A	6%	
Measurement Quality Objectives	Critera	Measured	
NPS CRM	Recovery greater than 28.8	Minimum Recovery =	28.9 mg/kg
EQIS CRM	See Note 1		
CVS Split Analysis RPD	RPD less than 35%	Maximum RPD =	16.78 %
CRM Split Analysis RPD	RPD less than 35%	Maximum RPD =	15.47 %
Overall QC Indicator Measurements	Criteria	Measured	
NPS CRM "Made to" (Bias measure)	N/A	Average Recovery =	81.7 %
NPS Replicate Test (Precision measure)	N/A	Standard Deviation =	0.76 mg/kg
Data Quality Relative to Remediation Goals			
Tier 1 Remediation Goal	21 mg/kg		
Tier 2 Remediation Goal	30 mg/kg		
QC Derived reliance Level	29 mg/kg	See Note 2	

Comments: All QC measurements for cobalt complied with laboratory performance criteria and measurement quality objectives. Measurement bias is indicated by low average matrix spike recovery (89%) and by low average recovery of cobalt in BOR CRMs (81.7%). The derived reliance level (29 mg/kg) is slightly lower than the Tier 2 RG (30 mg/kg), due primarily to measurement bias. However, all CVS sample cobalt measurements that exceeded the derived reliance level also exceeded the Tier 2 RG. Consequently, decisions related to cobalt RG attainment in these grids are not affected by bias in these measurements. Therefore, it is concluded that cobalt CVS measurements are of acceptable quality and may be used to determine RG achievement.

Note 1: The QAPP required CRMs have only 4 analytes from each analyte group, and cobalt is not one of those analytes.

Note 2: Derived reliance level is calculated as: (Tier 2 RG)(1.2)(Average Recovery)-(0.84)(Standard deviation) = (30)(1.2)(.817)-(0.84)(.76) = 29 mg/kg

Table Co-2: Cobalt - NPS CRMs

Blind NPS CRM Results

Sample	Result	Analysis Date	Batch	Detect
BOR Sample 1-BOR 56	36.2	5/1/09	57223	Y
BOR Sample 6-BOR 81	31.8	5/1/09	57284	Y
BOR Sample 4-BOR 82	32.3	5/11/09	57543	Y
BOR 83	32.9	5/24/09	57792	Y
BOR Sample 3-BOR 58	31.3	5/24/09	57792	Y
BOR 84	32.4	5/28/09	57847	Y
BOR Sample 7-BOR 105	32.8	5/28/09	57847	Y
BOR 85	28.9	6/9/09	58135	Y
BOR Sample 8-BOR 106	36.3	6/9/09	58135	Y
BOR 86	33.6	6/10/09	58212	Y
BOR 108	38.3	6/20/09	58565	Y
BOR 87	39	6/20/09	58565	Y
BOR 109	36.1	6/29/09	58728	Y
BOR 110	35.1	7/13/09	59381	Y
BOR Sample 9-BOR 107	36.3	7/27/09	59757	Y
BOR 111	35.9	7/29/09	59889	Y

CRMs		Vendor Supplied Information
Mean	34.325	*"Made to"*
Standard Error	0.68572	*42.0 mg/kg*
Median	34.35	
Standard Deviation	2.74287	*Upper Acceptance Limit*
Sample Variance	7.52333	*43.5 mg/kg*
Kurtosis	-0.50953	
Skewness	-0.10616	*Lower Acceptance Limit*
Range	10.1	*28.8 mg/kg*
Minimum	28.9	
Maximum	39	
Sum	549.2	
Count	16	
Largest(2)	38.3	
Smallest(2)	31.3	

Table Co-3: Cobalt - NPS Replicate Tests on a Background Sample				
Results of Replicate Analyses of a Single Sample				
Sample	Result	Analysis Date	Batch	Detect
BOR 112	9.6	5/1/09	57223	Y
BOR 59	8.5	5/1/09	57284	Y
BOR 60	9.4	5/11/09	57543	Y
BOR 113	9.2	5/24/09	57792	Y
BOR 61	9.1	5/24/09	57792	Y
BOR 62	9.7	6/10/09	58212	Y
BOR 63	9.7	6/20/09	58565	Y
BOR 89	9	6/20/09	58565	Y
BOR 115	11.1	6/29/09	58728	Y
BOR 64	10.9	7/9/09	59163	Y
BOR 91	10.8	7/9/09	59163	Y
BOR 116	10.2	7/13/09	59381	Y
BOR 92	10	7/13/09	59381	Y
BOR 65	10.1	7/20/09	59621	Y
BOR 88	10.5	7/29/09	59889	Y

Replicate analyses of Single Sample	
Mean	9.9
Standard Error	0.20
Median	9.7
Standard Deviation	0.76
Sample Variance	0.57
Kurtosis	-0.75
Skewness	0.06
Range	2.6
Minimum	8.5
Maximum	11.1
Sum	147.8
Count	15
Largest(2)	10.9
Smallest(2)	9

Table Co-4: NPS and EQIS

Sample	Result	Analysis Date	Batch	Split	Result	Analysis Date	RPD
BOR 503	10.5	5/1/09	57284	ES-T11-080530	10	6/10/2009	5
BOR 506	13.1	5/11/09	57543	ES-S10-080523	15.5	6/10/2009	17
BOR 504	12.2	5/24/09	57792	ES-M05-080527	12.7	5/28/2009	4
BOR 507	10.9	6/9/09	58135	ES-O09-080610			
BOR 508	13.5	6/20/09	58565	ES-Q11-080606	13.1	5/11/2009	3
BOR 510	12.8	6/29/09	58728	OU-8HR-080605	10.9	5/1/2009	16
BOR 501	13.7	7/9/09	59163	WS-L04-080508	14	7/9/2009	2
BOR 505	9.5	7/20/09	59621	WS-K03-080509	9.3	7/8/2009	2
BOR 502	11.8	7/27/09	59757	WS-F05-080612	11.5	8/18/2009	3
BOR 509	13.3	7/27/09	59757	WS-E06-080613	14.9	7/27/2009	11
DUP-11	7.7	5/1/09	57147	ES-J03-080513	8.4	6/20/2009	9
DUP-17	10	5/1/09	57284	ES-F01-080529	10.9	5/11/2009	9
DUP-15	14.3	5/11/09	57543	ES-J02-080527	13.6	5/24/2009	5
DUP-18	9.2	5/11/09	57543	ES-J04-080530	9.2	5/24/2009	0
DUP-12	13.7	5/24/09	57792	ES-P06-080515	13	6/9/2009	5
DUP-16	11.5	5/24/09	57792	ES-P04-080528	11.4	6/9/2009	1
DUP-19	8.2	5/28/09	57847	ES-K05-080605	8.1	5/28/2009	1
DUP-13	11.7	6/9/09	58135	ES-T08-080522	12.1	6/10/2009	3
DUP-14	12.6	6/10/09	58212	ES-T10-080523	12.3	6/10/2009	2
DUP-3	9.6	6/20/09	58565	WS-C01-080501	10.3	6/20/2009	7
DUP-4	14.9	6/20/09	58565	WS-G01-080501	14.5	6/29/2009	3
DUP-5	10.3	6/29/09	58728	WS-I01-080501	10.4	6/29/2009	1
DUP-6	12.6	6/29/09	58728	WS-J01-080505	12.5	6/29/2009	1
DUP-7	11.3	7/9/09	59163	WS-M01-080505	10.9	7/9/2009	4
DUP-9	14	7/9/09	59163	WS-L04-080508	14	7/9/2009	0
DUP-1	13.6	7/13/09	59381	WS-E02-080428	13.4	7/20/2009	1
DUP-2	12.5	7/13/09	59381	WS-D02-080429	13	7/20/2009	4
DUP-8	6.4	7/20/09	59621	WS-M03-080507	6.7	8/5/2009	5
DUP-10	8.1	7/27/09	59757	WS-K04-080513	8.2	7/8/2009	1

RPD of Sample Splits	
Mean	4.453886
Standard Error	0.821542
Median	3.184432
Standard Deviation	4.347193
Sample Variance	18.89809
Kurtosis	2.554608
Skewness	1.681429
Range	16.78322
Minimum	0
Maximum	16.78322
Sum	124.7088
Count	28
Largest(2)	16.03376
Smallest(2)	0

Table Co-5: Cobalt EQIS CRMs

Results of Duplicate Analysis of EQIS CRMs

Sample	Result	Date	Batch	Detect	Average	RPD
ES-Z09-080529A	34.1	5/1/09	57284	Y		
ES-Z09-080529B	33.5	5/1/09	57284	Y	33.8	2
ES-Z11-080605A	37.5	5/1/09	57147	Y		
ES-Z11-080605B	37.5	5/1/09	57147	Y	37.5	0
ES-Z12-080606A	33.9	5/1/09	57284	Y		
ES-Z12-080606B	33.8	5/1/09	57284	Y	33.85	0
ES-Z05-080519A	37.6	5/11/09	57543	Y		
ES-Z05-080519B	37.6	5/11/09	57543	Y	37.6	0
ES-Z06-080520A	36.6	5/11/09	57543	Y		
ES-Z06-080520B	36	5/11/09	57543	Y	36.3	2
ES-Z07-080522A	37.3	5/24/09	57792	Y		
ES-Z07-080522B	36.7	5/24/09	57792	Y	37	2
ES-Z13-080610A	33.4	5/28/09	57847	Y		
ES-Z13-080610B	35.3	5/28/09	57847	Y	34.35	6
ES-Z10-080602A	32.8	6/9/09	58135	Y		
ES-Z10-080602B	38.3	6/9/09	58135	Y	35.55	15
ES-Z08-080527A	38.2	6/10/09	58212	Y		
ES-Z08-080527B	38.9	6/10/09	58212	Y	38.55	2
ES-Z14-080611A	43.3	6/20/09	58565	Y		
ES-Z14-080611B	42.4	6/20/09	58565	Y	42.85	2
ES-Z06-080520C	39.8	6/29/09	58728	Y		
ES-Z06-080520D	42.1	6/29/09	58728	Y	40.95	6
ES-Z05-080519C	46.7	7/9/09	59163	Y		
ES-Z05-080519D	40.1	7/9/09	59163	Y	43.4	15
ES-Z19-080624A	38.3	7/13/09	59381	Y		
ES-Z19-080624B	38.3	7/13/09	59381	Y	38.3	0
WS-Z17-080618A	38.3	7/13/09	59381	Y		
WS-Z17-080618B	37.9	7/13/09	59381	Y	38.1	1
WS-Z15-080613A	38.7	7/20/09	59621	Y		
WS-Z15-080613B	39.1	7/20/09	59621	Y	38.9	1
WS-Z18-080620A	38.5	7/20/09	59621	Y		
WS-Z18-080620B	39.5	7/20/09	59621	Y	39	3
WS-Z16-080617A	39.8	7/29/09	59889	Y		
WS-Z16-080617B	39.5	7/29/09	59889	Y	39.65	1

Analysis of EQIS CRMs	
Mean	37.979
Standard Error	0.5109
Median	38.25
Standard Deviation	2.979
Sample Variance	8.8744
Kurtosis	1.2092
Skewness	0.5421
Range	13.9
Minimum	32.8
Maximum	46.7
Sum	1291.3
Count	34
Largest(2)	43.3
Smallest(2)	33.4

RPD of EQIS CRMs	
Mean	3.32
Standard Error	
Median	1.65
Standard Deviation	4.81
Sample Variance	23.17
Kurtosis	3.53
Skewness	2.09
Range	15.47
Minimum	0.00
Maximum	15.47
Sum	56.49
Count	17
Largest(2)	15.21
Smallest(2)	0.00

Table Co-6: Cobalt Laboratory MS and LCS

Matrix Spike Recovery %		Batch Order	LCS Recovery %		Batch Order
90	7160081	1	87	49187	2
90	7160081	1	83	49189	3
78	49187	2	91	49537	4
70	49189	3	95	49539	5
90	49537	4	93	54626-627	6
90	49539	5	90	54821-822	7
96	54626-627	6	85	54891-892	8
88	54821-822	7	85	54915-916	9
80	54891-892	8	91	57147	10
80	54915-916	9	91	57223	11
91	57147	10	99	57543	12
88	57223	11	92	57792	13
86	57543	12	87	57847	14
79	57792	13	93	58135	15
83	57847	14	119	58212	16
77	58135	15	109	58565	17
123	58212	16	84	58728	18
103	58565	17	90	59163	19
77	58728	18	90	59163	19
83	59163	19	95	59381	20
92	59381	20	94	59621	21
98	59621	21	101	59757	22
99	59757	22	93	59889	23
100	59889	23	101	60088	24
100	60088	24			
81	60439	25			

Average MS Recovery = 89 % Average LCS Recovery = 93 %

Minimum MS Recovery = 70 % Minimum LCS Recovery = 83 %

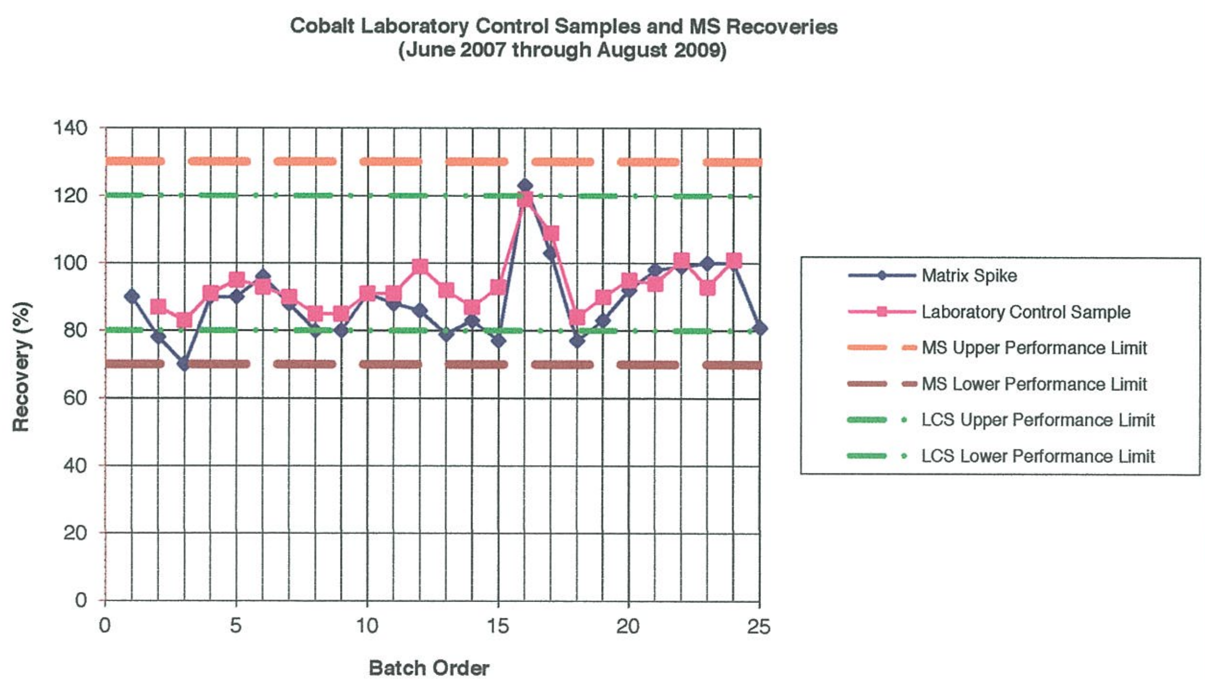
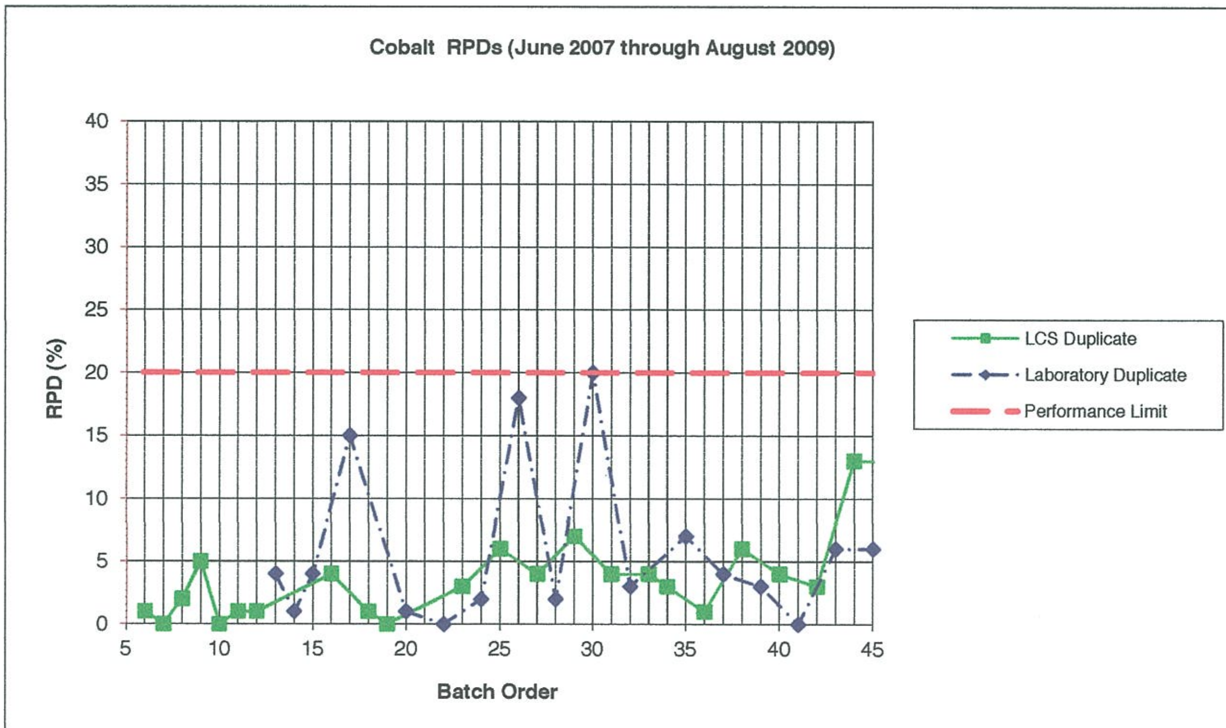


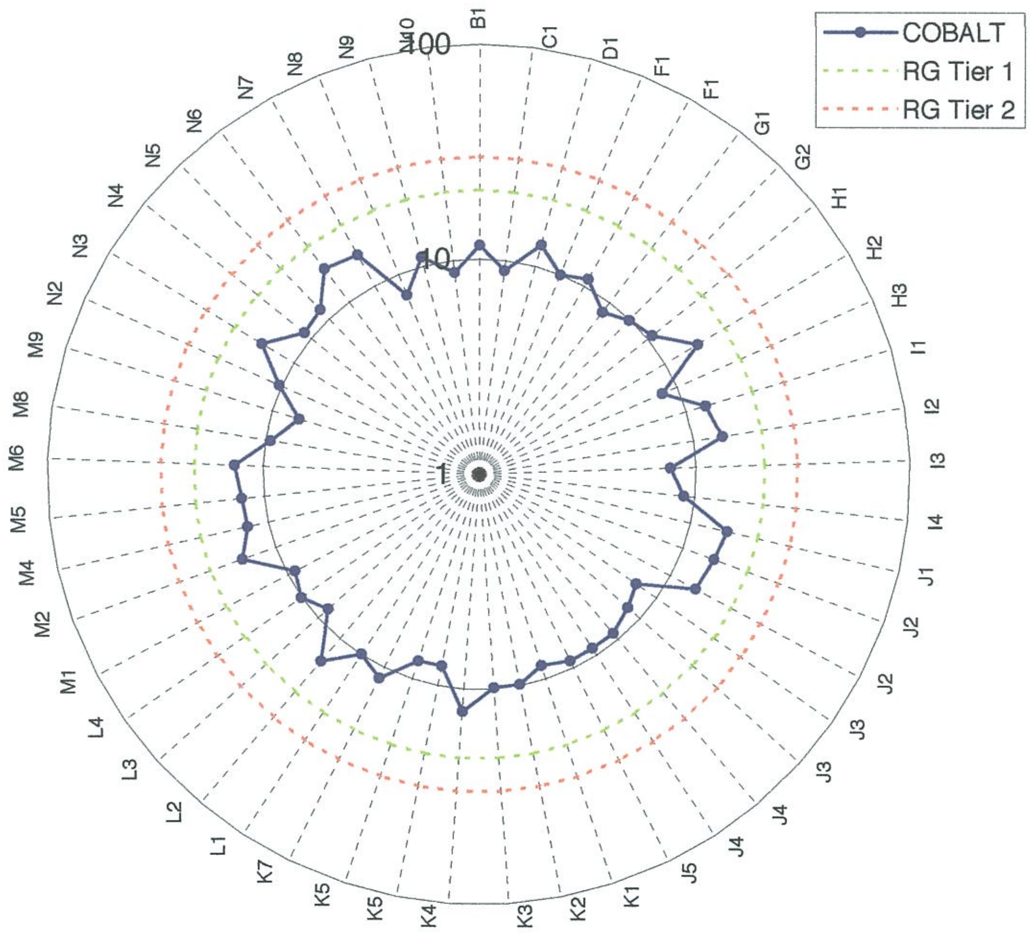
Table Co-7: Cobalt - Laboratory Duplicates and LCS Duplicates					
Laboratory Duplicate RPD		Batch Order	LCS RPD		Batch Order
4	57147	13	1	54626-627	6
1	57223	14	0	54821-822	7
4	57284	15	2	54891-892	8
15	57543	17	5	54915-916	9
1	57792	20	0	57147	10
0	57847	22	1	57223	11
2	58135	24	1	57284	12
18	58212	26	4	57543	16
2	58565	28	1	57792	18
20	58728	30	0	57847	19
3	59163	32	3	58135	23
7	59381	35	6	58212	25
4	59621	37	4	58565	27
3	59757	39	7	58728	29
0	59889	41	4	59163	31
6	60088	43	4	59163	33
6	60439	45	3	59381	34
			1	59621	36
			6	59757	38
			4	59889	40
			3	60088	42
			13	60439	44
			13	60439	46

Average Duplicate RPD = 6 %
Maximum Duplicate RPD = 20 %

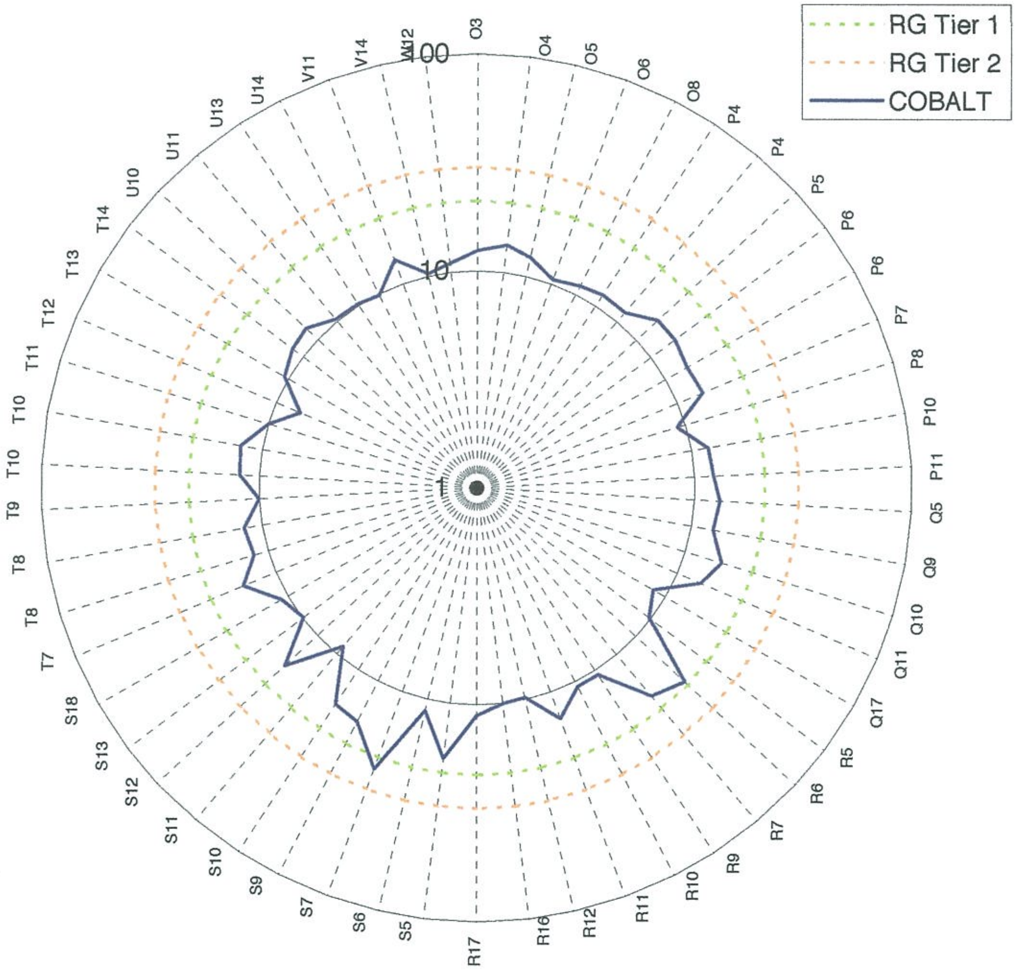
Average LCS RPD = 4 %
Maximum LCS RPD = 13 %



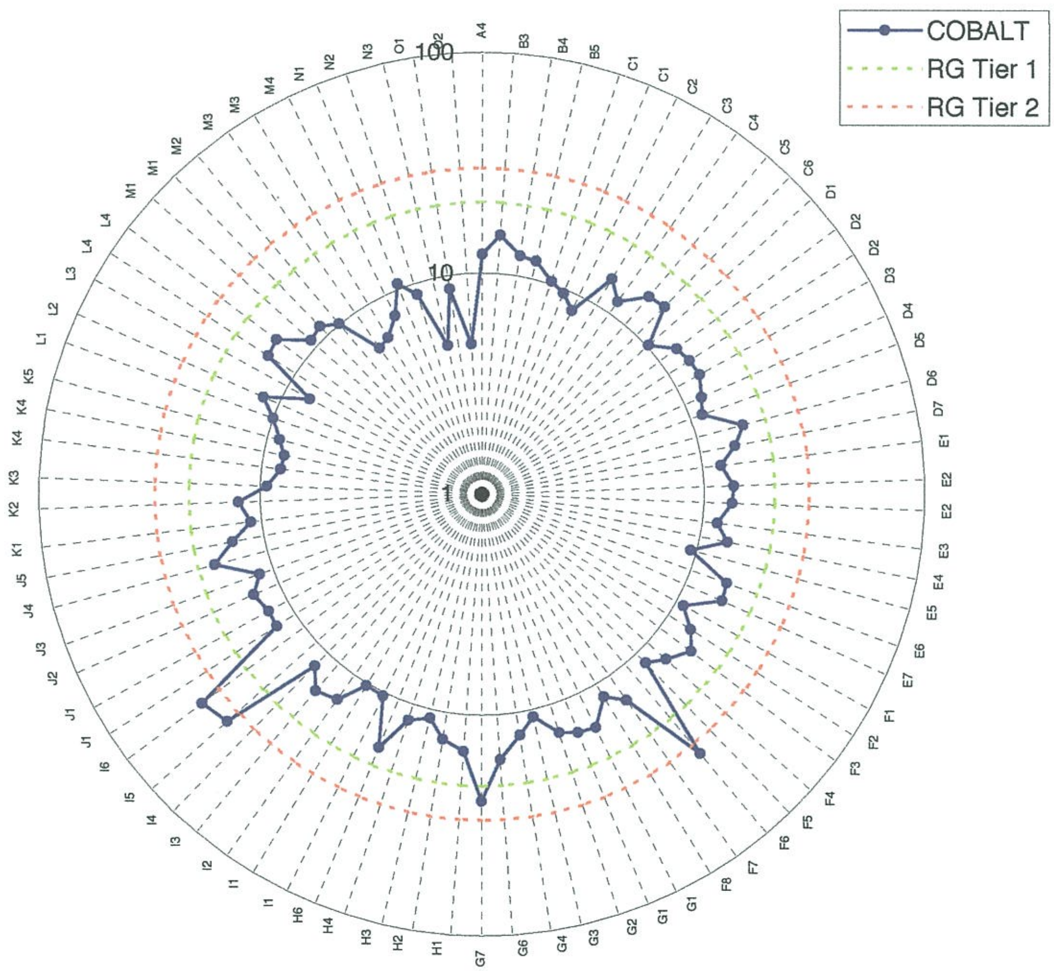
East Site
Grids A through N



East Site
Grids O through W



West Site



COBALT CVS Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	test_batch_id	detect_flag	sample_name
East	B1	ES-B01-080623	COBALT	11.6	05/01/09	57147	Y	ES-B01-080623
East	C1	ES-C01-080624	COBALT	9	05/01/09	57147	Y	ES-C01-080624
East	D1	ES-D01-080624	COBALT	12.7	06/09/09	58135	Y	ES-D01-080624
East	F1	ES-F01-080529	COBALT	10	05/01/09	57284	Y	DUP-17
East	F1	ES-F01-080529	COBALT	10.9	05/11/09	57543	Y	ES-F01-080529
East	G1	ES-G01-080529	COBALT	8.8	05/11/09	57543	Y	ES-G01-080529
East	G2	ES-G02-080605	COBALT	9.9	05/11/09	57543	Y	ES-G02-080605
East	#REF!	ES-H01-080528	COBALT	10.6	05/11/09	57543	Y	ES-H01-080528
East	H2	ES-H02-080515	COBALT	15	05/11/09	57543	Y	ES-H02-080515
East	H3	ES-H03-080605	COBALT	8.4	05/24/09	57792	Y	ES-H03-080605
East	I1	ES-I01-080529	COBALT	12.4	05/24/09	57792	Y	ES-I01-080529
East	I2	ES-I02-080514	COBALT	13.7	05/24/09	57792	Y	ES-I02-080514
East	I3	ES-I03-080513	COBALT	7.6	05/24/09	57792	Y	ES-I03-080513
East	I4	ES-I04-080602	COBALT	8.9	05/24/09	57792	Y	ES-I04-080602
East	J1	ES-J01-080529	COBALT	15	05/24/09	57792	Y	ES-J01-080529
East	J2	ES-J02-080527	COBALT	14.3	05/11/09	57543	Y	DUP-15
East	J2	ES-J02-080527	COBALT	13.6	05/24/09	57792	Y	ES-J02-080527
East	J3	ES-J03-080513	COBALT	7.7	05/01/09	57147	Y	DUP-11
East	J3	ES-J03-080513	COBALT	8.4	06/20/09	58565	Y	ES-J03-080513
East	J4	ES-J04-080530	COBALT	9.2	05/11/09	57543	Y	DUP-18
East	J4	ES-J04-080530	COBALT	9.2	05/24/09	57792	Y	ES-J04-080530
East	J5	ES-J05-080602	COBALT	9.2	05/24/09	57792	Y	ES-J05-080602
East	K1	ES-K01-080602	COBALT	8.6	05/24/09	57792	Y	ES-K01-080602
East	K2	ES-K02-080602	COBALT	9.9	05/11/09	57543	Y	ES-K02-080602
East	K3	ES-K03-080514	COBALT	9.9	05/24/09	57792	Y	ES-K03-080514
East	K4	ES-K04-080527	COBALT	12.8	05/28/09	57847	Y	ES-K04-080527
East	K5	ES-K05-080605	COBALT	8.1	05/28/09	57847	Y	ES-K05-080605
East	K5	ES-K05-080605	COBALT	8.2	05/28/09	57847	Y	DUP-19
East	K7	ES-K07-080611	COBALT	11.4	05/01/09	57284	Y	ES-K07-080611
East	L1	ES-L01-080625	COBALT	10	05/28/09	57847	Y	ES-L01-080625
East	L2	ES-L02-080625	COBALT	13.7	05/28/09	57847	Y	ES-L02-080625
East	L3	ES-L03-080604	COBALT	8.7	05/28/09	57847	Y	ES-L03-080604
East	L4	ES-L04-080604	COBALT	10.1	06/20/09	58565	Y	ES-L04-080604
East	M1	ES-M01-080527	COBALT	9.2	05/28/09	57847	Y	ES-M01-080527
East	M2	ES-M02-080519	COBALT	14.6	05/28/09	57847	Y	ES-M02-080519
East	M4	ES-M04-080515	COBALT	12.6	05/28/09	57847	Y	ES-M04-080515
East	M5	ES-M05-080527	COBALT	12.7	05/28/09	57847	Y	ES-M05-080527
East	M6	ES-M06-080520	COBALT	13.6	05/28/09	57847	Y	ES-M06-080520
East	M8	ES-M08-080610	COBALT	9.5	05/01/09	57284	Y	ES-M08-080610
East	M9	ES-M09-080611	COBALT	7.4	05/01/09	57284	Y	ES-M09-080611
East	N2	ES-N02-080528	COBALT	10.3	05/28/09	57847	Y	ES-N02-080528

COBALT CVS Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	test_batch_id	detect_flag	sample_name
East	N3	ES-N03-080520	COBALT	14.9	05/28/09	57847	Y	ES-N03-080520
East	N4	ES-N04-080519	COBALT	11	05/28/09	57847	Y	ES-N04-080519
East	N5	ES-N05-080519	COBALT	11.5	05/28/09	57847	Y	ES-N05-080519
East	N6	ES-N06-080527	COBALT	15.6	06/09/09	58135	Y	ES-N06-080527
East	N7	ES-N07-080530	COBALT	14.6	06/09/09	58135	Y	ES-N07-080530
East	N8	ES-N08-080610	COBALT	7.9	05/01/09	57284	Y	ES-N08-080610
East	N9	ES-N09-080610	COBALT	11.1	05/04/09	57284	Y	ES-N09-080610
East	N10	ES-N10-080610	COBALT	8.8	05/01/09	57284	Y	ES-N10-080610
East	O3	ES-O03-080528	COBALT	12.4	06/09/09	58135	Y	ES-O03-080528
East	O4	ES-O04-080515	COBALT	13.4	06/09/09	58135	Y	ES-O04-080515
East	O5	ES-O05-080520	COBALT	12.3	06/09/09	58135	Y	ES-O05-080520
East	O6	ES-O06-080529	COBALT	10.5	06/09/09	58135	Y	ES-O06-080529
East	O8	ES-O08-080530	COBALT	11.1	07/27/09	59757	Y	ES-O08-080530
East	P4	ES-P04-080528	COBALT	11.5	05/24/09	57792	Y	DUP-16
East	P4	ES-P04-080528	COBALT	11.4	06/09/09	58135	Y	ES-P04-080528
East	P5	ES-P05-080513	COBALT	13.6	06/09/09	58135	Y	ES-P05-080513
East	P6	ES-P06-080515	COBALT	13.7	05/24/09	57792	Y	DUP-12
East	P6	ES-P06-080515	COBALT	13	06/09/09	58135	Y	ES-P06-080515
East	P7	ES-P07-080519	COBALT	13.4	05/28/09	57847	Y	ES-P07-080519
East	P8	ES-P08-080530	COBALT	9.1	06/09/09	58135	Y	ES-P08-080530
East	P10	ES-P10-080606	COBALT	11.9	05/01/09	57284	Y	ES-P10-080606
East	P11	ES-P11-080606	COBALT	12.2	05/01/09	57284	Y	ES-P11-080606
East	Q5	ES-Q05-080520	COBALT	13.1	06/09/09	58135	Y	ES-Q05-080520
East	Q9	ES-Q09-080612	COBALT	12.6	06/09/09	58135	Y	ES-Q09-080612
East	Q10	ES-Q10-080606	COBALT	15	05/11/09	57543	Y	ES-Q10-080606
East	Q11	ES-Q11-080606	COBALT	13.1	05/11/09	57543	Y	ES-Q11-080606
East	Q17	ES-Q17-080609	COBALT	8.6	05/01/09	57147	Y	ES-Q17-080609
East	R5	ES-R05-080521	COBALT	9.8	06/09/09	58135	Y	ES-R05-080521
East	R6	ES-R06-080521	COBALT	20.2	06/20/09	58565	Y	ES-R06-080521
East	R7	ES-R07-080521	COBALT	17.7	06/10/09	58212	Y	ES-R07-080521
East	R9	ES-R09-080520	COBALT	10.6	06/10/09	58212	Y	ES-R09-080520
East	R10	ES-R10-080602	COBALT	10.6	06/10/09	58212	Y	ES-R10-080602
East	R11	ES-R11-080605	COBALT	13.5	05/11/09	57543	Y	ES-R11-080605
East	R12	ES-R12-080611	COBALT	9.8	05/11/09	57543	Y	ES-R12-080611
East	R16	ES-R16-080605	COBALT	10	05/01/09	57147	Y	ES-R16-080605
East	R17	ES-R17-080606	COBALT	11.2	05/01/09	57147	Y	ES-R17-080606
East	S5	ES-S05-080521	COBALT	18.1	06/10/09	58212	Y	ES-S05-080521
East	S6	ES-S06-080521	COBALT	11.3	06/10/09	58212	Y	ES-S06-080521
East	S7	ES-S07-080521	COBALT	23.9	06/10/09	58212	Y	ES-S07-080521
East	S9	ES-S09-080522	COBALT	16.2	06/10/09	58212	Y	ES-S09-080522
East	S10	ES-S10-080523	COBALT	15.5	06/10/09	58212	Y	ES-S10-080523

COBALT CVS Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	test_batch_id	detect_flag	sample_name
East	S11	ES-S11-080528	COBALT	9	06/10/09	58212	Y	ES-S11-080528
East	S12	ES-S12-080609	COBALT	16	05/01/09	57147	Y	ES-S12-080609
East	S13	ES-S13-080610	COBALT	9.9	05/01/09	57147	Y	ES-S13-080610
East	S18	ES-S18-080606	COBALT	10.8	05/01/09	57147	Y	ES-S18-080606
East	T7	ES-T07-080612	COBALT	14.5	06/10/09	58212	Y	ES-T07-080612
East	T8	ES-T08-080522	COBALT	11.7	06/09/09	58135	Y	DUP-13
East	T8	ES-T08-080522	COBALT	12.1	06/10/09	58212	Y	ES-T08-080522
East	T9	ES-T09-080522	COBALT	10	06/10/09	58212	Y	ES-T09-080522
East	T10	ES-T10-080523	COBALT	12.3	06/10/09	58212	Y	ES-T10-080523
East	T10	ES-T10-080523	COBALT	12.6	06/10/09	58212	Y	DUP-14
East	T11	ES-T11-080530	COBALT	10	06/10/09	58212	Y	ES-T11-080530
East	T12	ES-T12-080609	COBALT	7.6	05/01/09	57147	Y	ES-T12-080609
East	T13	ES-T13-080609	COBALT	10.5	05/01/09	57147	Y	ES-T13-080609
East	T14	ES-T14-080610	COBALT	11.5	05/01/09	57147	Y	ES-T14-080610
East	U10	ES-U10-080523	COBALT	11.9	06/10/09	58212	Y	ES-U10-080523
East	U11	ES-U11-080602	COBALT	10.3	06/20/09	58565	Y	ES-U11-080602
East	U13	ES-U13-080610	COBALT	10.2	05/01/09	57284	Y	ES-U13-080610
East	U14	ES-U14-080610	COBALT	9.9	05/01/09	57284	Y	ES-U14-080610
East	V11	ES-V11-080529	COBALT	13.1	06/20/09	58565	Y	ES-V11-080529
East	V14	ES-V14-080605	COBALT	10.3	05/01/09	57284	Y	ES-V14-080605
East	W12	ES-W12-080527	COBALT	11	06/20/09	58565	Y	ES-W12-080527
West	A4	WS-A04-080626	COBALT	12.2	07/13/09	59381	Y	WS-A04-080626
West	B3	WS-B03-080502	COBALT	15	07/13/09	59381	Y	WS-B03-080502
West	B4	WS-B04-080626	COBALT	12.4	07/13/09	59381	Y	WS-B04-080626
West	B5	WS-B05-080626	COBALT	12.1	07/27/09	59757	Y	WS-B05-080626
West	C1	080501	COBALT	10.3	06/20/09	58565	Y	WS-C01-080501
West	C1	080501	COBALT	9.6	06/20/09	58565	Y	DUP-3
West	C2	080428	COBALT	8.4	07/20/09	59621	Y	WS-C02-080428
West	C3	080620	COBALT	13.7	07/20/09	59621	Y	WS-C03-080620
West	C4	080623	COBALT	11.6	07/20/09	59621	Y	WS-C04-080623
West	C5	080620	COBALT	14.7	07/27/09	59757	Y	WS-C05-080620
West	C6	080624	COBALT	15.2	07/27/09	59757	Y	WS-C06-080624
West	D1	080430	COBALT	10.2	06/20/09	58565	Y	WS-D01-080430
West	D2	080429	COBALT	12.5	07/13/09	59381	Y	DUP-2
West	D2	080429	COBALT	13	07/20/09	59621	Y	WS-D02-080429
West	D3	080620	COBALT	13.2	07/20/09	59621	Y	WS-D03-080620
West	D4	080623	COBALT	12.1	08/18/09	60439	Y	WS-D04-080623
West	D5	080620	COBALT	11.4	07/27/09	59757	Y	WS-D05-080620
West	D6	080619	COBALT	16.5	07/27/09	59757	Y	WS-D06-080619
West	D7	080619	COBALT	14.4	07/27/09	59757	Y	WS-D07-080619
West	E1	WS-E01-080430	COBALT	12.1	06/20/09	58565	Y	WS-E01-080430

COBALT CVS Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	test_batch_id	detect_flag	sample_name
West	E2	WS-E02-080428	COBALT	13.6	07/13/09	59381	Y	DUP-1
West	E2	WS-E02-080428	COBALT	13.4	07/20/09	59621	Y	WS-E02-080428
West	E3	WS-E03-080619	COBALT	11.7	07/20/09	59621	Y	WS-E03-080619
West	E4	WS-E04-080613	COBALT	13.4	07/27/09	59757	Y	WS-E04-080613
West	E5	WS-E05-080613	COBALT	9.4	07/27/09	59757	Y	WS-E05-080613
West	E6	WS-E06-080613	COBALT	14.9	07/27/09	59757	Y	WS-E06-080613
West	E7	WS-E07-080613	COBALT	15.3	07/27/09	59757	Y	WS-E07-080613
West	F1	WS-F01-080429	COBALT	10.9	06/20/09	58565	Y	WS-F01-080429
West	F2	WS-F02-080429	COBALT	13.2	07/20/09	59621	Y	WS-F02-080429
West	F3	WS-F03-080619	COBALT	15.1	07/20/09	59621	Y	WS-F03-080619
West	F4	WS-F04-080616	COBALT	13	07/29/09	59889	Y	WS-F04-080616
West	F5	WS-F05-080612	COBALT	11.5	08/18/09	60439	Y	WS-F05-080612
West	F6	WS-F06-080612	COBALT	33.9	07/29/09	59889	Y	WS-F06-080612
West	F7	WS-F07-080617	COBALT	13.7	06/29/09	58728	Y	WS-F07-080617
West	F8	WS-F08-080618	COBALT	11.7	06/29/09	58728	Y	WS-F08-080618
West	G1	080501	COBALT	14.9	06/20/09	58565	Y	DUP-4
West	G1	080501	COBALT	14.5	06/29/09	58728	Y	WS-G01-080501
West	G2	080618	COBALT	13.6	07/20/09	59621	Y	WS-G02-080618
West	G3	080619	COBALT	10.8	07/20/09	59621	Y	WS-G03-080619
West	G4	080616	COBALT	12.7	07/29/09	59889	Y	WS-G04-080616
West	G6	080616	COBALT	16	07/29/09	59889	Y	WS-G06-080616
West	G7	080617	COBALT	24.6	06/29/09	58728	Y	WS-G07-080617
West	H1	080501	COBALT	14.7	06/29/09	58728	Y	WS-H01-080501
West	H2	080618	COBALT	13.3	07/20/09	59621	Y	WS-H02-080618
West	H3	080619	COBALT	11	07/29/09	59889	Y	WS-H03-080619
West	H4	080616	COBALT	11.9	07/29/09	59889	Y	WS-H04-080616
West	H6	080617	COBALT	17.3	06/29/09	58728	Y	WS-H06-080617
West	I1	WS-I01-080501	COBALT	10.4	06/29/09	58728	Y	WS-I01-080501
West	I1	WS-I01-080501	COBALT	10.3	06/29/09	58728	Y	DUP-5
West	I2	WS-I02-080618	COBALT	13.7	07/27/09	59757	Y	WS-I02-080618
West	I3	WS-I03-080618	COBALT	14.6	07/29/09	59889	Y	WS-I03-080618
West	I4	WS-I04-080617	COBALT	12.1	07/29/09	59889	Y	WS-I04-080617
West	I5	WS-I05-080617	COBALT	34.7	06/29/09	58728	Y	WS-I05-080617
West	I6	WS-I06-080617	COBALT	37.8	06/29/09	58728	Y	WS-I06-080617
West	J1	WS-J01-080505	COBALT	12.6	06/29/09	58728	Y	DUP-6
West	J1	WS-J01-080505	COBALT	12.5	06/29/09	58728	Y	WS-J01-080505
West	J2	WS-J02-080624	COBALT	13.3	06/29/09	58728	Y	WS-J02-080624
West	J3	WS-J03-080620	COBALT	11.6	07/07/09	59163	Y	WS-J03-080620
West	J4	WS-J04-080617	COBALT	17.6	07/08/09	59163	Y	WS-J04-080617
West	J5	WS-J05-080618	COBALT	13.9	07/08/09	59163	Y	WS-J05-080618
West	K1	WS-K01-080505	COBALT	11.2	07/08/09	59163	Y	WS-K01-080505

COBALT CVS Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	test_batch_id	detect_flag	sample_name
West	K2	WS-K02-080509	COBALT	12.5	07/08/09	59163	Y	WS-K02-080509
West	K3	WS-K03-080509	COBALT	9.3	07/08/09	59163	Y	WS-K03-080509
West	K4	WS-K04-080513	COBALT	8.2	07/08/09	59163	Y	WS-K04-080513
West	K4	WS-K04-080513	COBALT	8.1	07/27/09	59757	Y	DUP-10
West	K5	WS-K05-080509	COBALT	8.8	07/08/09	59163	Y	WS-K05-080509
West	L1	WS-L01-080505	COBALT	10	07/08/09	59163	Y	WS-L01-080505
West	L2	WS-L02-080508	COBALT	11.9	07/08/09	59163	Y	WS-L02-080508
West	L3	WS-L03-080508	COBALT	7.7	07/08/09	59163	Y	WS-L03-080508
West	L4	WS-L04-080508	COBALT	14	07/09/09	59163	Y	DUP-9
West	L4	WS-L04-080508	COBALT	14.4	07/09/09	59163	Y	WS-L04-080508
West	M1	080505	COBALT	10.9	07/09/09	59163	Y	WS-M01-080505
West	M1	080505	COBALT	11.3	07/09/09	59163	Y	DUP-7
West	M2	080507	COBALT	10.1	07/27/09	59757	Y	WS-M02-080507
West	M3	080507	COBALT	6.4	07/20/09	59621	Y	DUP-8
West	M3	080507	COBALT	6.7	08/05/09	60088	Y	WS-M03-080507
West	M4	080507	COBALT	7.9	08/05/09	60088	Y	WS-M04-080507
West	N1	080506	COBALT	10.6	08/05/09	60088	Y	WS-N01-080506
West	N2	080506	COBALT	8.9	07/13/09	59381	Y	WS-N02-080506
West	N3	080507	COBALT	4.9	06/29/09	58728	Y	WS-N03-080507
West	O1	080506	COBALT	8.7	07/13/09	59381	Y	WS-O01-080506
West	O2	080506	COBALT	4.8	07/13/09	59381	Y	WS-O02-080506

Table Cu-1: Copper Data Quality Summary			
Laboratory Performance Criteria	Criteria	Measured	Comment
Minimum LCS Recovery	greater than 80%	86%	
Minimum Matrix Spike Recovery	greater than 70%	78%	
Average LCS Recovery	N/A	94%	
Average Matrix Spike Recovery	N/A	89%	
Maximum LCS RPD	less than 20%	11%	
Maximum Laboratory Duplicate RPD	less than 20%	14%	
Average LCS RPD	N/A	3%	
Average Laboratory Duplicate RPD	N/A	3%	
Measurement Quality Objectives	Critera	Measured	
NPS CRM	Recovery greater than 52.6	Minimum Recovery =	52.1 mg/kg
EQIS CRM	Recovery greater than 55.9	Minimum Recovery =	65 mg/kg
CVS Split Analysis RPD	RPD less than 35%	Maximum RPD =	53 %
CRM Split Analysis RPD	RPD less than 35%	Maximum RPD =	6 %
Overall QC Indicator Measurements	Criteria	Measured	
NPS CRM "Made to" (Bias measure)	N/A	Average Recovery =	89.3 %
NPS Replicate Test (Precision measure)	N/A	Standard Deviation =	3.15 mg/kg
Data Quality Relative to Remediation Goals			
Tier 1 Remediation Goal	34		
Tier 2 Remediation Goal	None		
QC Derived Reliance Level	34	See Note 1	

Comments: Copper analyses attained laboratory performance criteria related to accuracy and precision. A low recovery of one NPS CRM and a high recovery of one EQIS CRM likely reflect precision problems. Precision problems are indicated by a high EQIS CRM maximum RPD (53%). An average matrix spike recovery of 89% suggests a bias favoring low measurements. As desired, the derived reliance level (34 mg/kg) is not less than the RG (34 mg/kg). A review of all QC data supports the determination that copper measurements are of acceptable quality. Therefore, it is concluded that the copper CVS measurements are of acceptable quality and may be used to determine RG achievement.

Note 1: Derived reliance level is calculated as: (Tier 1 RG)(1.2)(Average Recovery)-(0.84)(Standard deviation) = (34)(1.2)(.893)-(0.84)(3.15) = 34 mg/kg

Table Cu-2: Copper - NPS CRMs				
Blind NPS CRM Results				
Sample	Result	Analysis Date	Batch	Detect
BOR Sample 1-BOR 56	61.7	5/3/09	57225	Y
BOR Sample 4-BOR 82	55.4	5/6/09	57448	Y
BOR 83	63	5/27/09	57791	Y
BOR Sample 3-BOR 58	61	5/27/09	57791	Y
BOR 84	69.8	5/28/09	57849	Y
BOR Sample 7-BOR 105	64.9	5/28/09	57849	Y
BOR 85	55	6/5/09	58138	Y
BOR Sample 8-BOR 106	55.5	6/5/09	58138	Y
BOR 86	61	6/11/09	58214	Y
BOR 108	63.6	6/19/09	58564	Y
BOR 87	65.9	6/19/09	58564	Y
BOR 109	60.2	6/30/09	58730	Y
BOR 110	52.1	7/11/09	59383	Y
BOR Sample 9-BOR 107	64.5	7/24/09	59759	Y
BOR 111	58.9	7/30/09	59891	Y
BOR Sample 6-BOR 81	59.2	5/4/09	57431	Y

CRMs		Vendor Supplied Information
Mean	60.73	*Made to*
Standard Error	1.16	*68.0 mg/kg*
Median	61.00	
Standard Deviation	4.65	*Upper Acceptance Limit*
Sample Variance	21.61	*74.6 mg/kg*
Kurtosis	-0.23	
Skewness	-0.07	*Lower Acceptance Limit*
Range	17.7	*52.6 mg/kg*
Minimum	52.1	
Maximum	69.8	
Sum	971.7	
Count	16	
Largest(2)	65.9	
Smallest(2)	55	

Table Cu-3: Copper- NPS Replicate Tests on a Background Sample

Results of Replicate Analyses of a Single Sample

Sample	Result	Analysis Date	Batch	Detect
BOR 112	13.1	5/4/09	57225	Y
BOR 59	13.3	5/5/09	57431	Y
BOR 60	12.1	5/6/09	57448	Y
BOR 113	13.6	5/27/09	57791	Y
BOR 61	13.4	5/27/09	57791	Y
BOR 62	12	6/11/09	58214	Y
BOR 63	13.1	6/22/09	58564	Y
BOR 89	13.3	6/22/09	58564	Y
BOR 115	13.4	6/30/09	58730	Y
BOR 64	14.3	7/8/09	59166	Y
BOR 91	13.5	7/8/09	59166	Y
BOR 92	11.4	7/11/09	59383	Y
BOR 116	15.1	7/13/09	59383	Y
BOR 65	24.9	7/24/09	59622	Y
BOR 88	13.4	7/30/09	59891	Y

Replicate analyses of Single Sample	
Mean	13.99
Standard Error	0.81
Median	13.40
Standard Deviation	3.15
Sample Variance	9.90
Kurtosis	12.19
Skewness	3.34
Range	13.5
Minimum	11.4
Maximum	24.9
Sum	209.9
Count	15
Largest(2)	15.1
Smallest(2)	12

Table Cu-4: Copper NPS and EQIS Duplicates

Sample	Result	Analysis Date	Batch	Split	Result	Analysis Date	RPD
BOR 503	20.3	5/4/09	57431	ES-T11-080530	18.9	6/11/2009	7
BOR 506	21.8	5/6/09	57448	ES-S10-080523	22.2	6/11/2009	2
BOR 504	26.6	5/27/09	57791	ES-M05-080527	27.1	5/28/2009	2
BOR 507	46.5	6/5/09	58138	ES-O09-080610			
BOR 508	28.5	6/19/09	58564	ES-Q11-080606	25	5/6/2009	13
BOR 510	22.2	6/30/09	58730	OU-8HR-080605	22.2	5/3/2009	0
BOR 501	23.7	7/8/09	59166	WS-L04-080508	24.1	7/8/2009	2
BOR 502	37.2	7/24/09	59759	WS-F05-080612	31.6	8/18/2009	16
BOR 505	22.5	7/24/09	59622	WS-K03-080509	18.8	7/8/2009	18
BOR 509	34.8	7/24/09	59759	WS-E06-080613	34.3	7/24/2009	1
DUP-11	42.5	5/3/09	57101	ES-J03-080513	47.2	6/19/2009	10
DUP-17	18.6	5/4/09	57431	ES-F01-080529	18	5/6/2009	3
DUP-15	30.8	5/6/09	57448	ES-J02-080527	38.3	5/27/2009	22
DUP-18	67.1	5/6/09	57448	ES-J04-080530	66.7	5/27/2009	1
DUP-12	27.3	5/27/09	57791	ES-P06-080515	24.1	6/5/2009	12
DUP-16	34	5/27/09	57791	ES-P04-080528	27.8	6/5/2009	20
DUP-19	29.8	5/28/09	57849	ES-K05-080605	31.4	5/28/2009	5
DUP-13	20.6	6/5/09	58138	ES-T08-080522	23.2	6/11/2009	12
DUP-14	39.9	6/11/09	58214	ES-T10-080523	43	6/11/2009	7
DUP-3	27.5	6/19/09	58564	WS-C01-080501	28.1	6/19/2009	2
DUP-4	70.3	6/19/09	58564	WS-G01-080501	60.9	6/30/2009	14
DUP-5	30.6	6/30/09	58730	WS-I01-080501	27.7	6/30/2009	10
DUP-6	38	6/30/09	58730	WS-J01-080505	38	6/30/2009	0
DUP-7	22.3	7/8/09	59166	WS-M01-080505	21.7	7/8/2009	3
DUP-9	24.1	7/8/09	59166	WS-L04-080508	24.1	7/8/2009	0
DUP-1	36.4	7/11/09	59383	WS-E02-080428	46.2	7/24/2009	24
DUP-2	24.4	7/11/09	59383	WS-D02-080429	31.8	7/24/2009	26
DUP-10	80.5	7/24/09	59759	WS-K04-080513	46.9	7/8/2009	53
DUP-8	24.9	7/24/09	59622	WS-M03-080507	20.2	8/11/2009	21

RPD of Sample Splits	
Mean	11.0
Standard Error	2.2
Median	8.7
Standard Deviation	11.6
Sample Variance	133.8
Kurtosis	5.1
Skewness	1.9
Range	52.7
Minimum	0.0
Maximum	52.7
Sum	307.2
Count	28
Largest(2)	26.3
Smallest(2)	0.0

Table Cu-5: Copper EQIS CRMs

Results of Duplicate Analysis of EQIS CRMs

Sample	Result	Date	Batch	Detect	Average	RPD
ES-Z11-080605A	73.2	5/3/09	57101	Y		
ES-Z11-080605B	71.1	5/3/09	57101	Y	72.15	3
ES-Z09-080529A	72.8	5/4/09	57431	Y		
ES-Z09-080529B	73.4	5/4/09	57431	Y	73.1	1
ES-Z12-080606A	71.9	5/4/09	57431	Y		
ES-Z12-080606B	73.9	5/4/09	57431	Y	72.9	3
ES-Z05-080519A	71	5/6/09	57448	Y		
ES-Z05-080519B	67.2	5/6/09	57448	Y	69.1	5
ES-Z06-080520A	67.3	5/6/09	57448	Y		
ES-Z06-080520B	65.3	5/6/09	57448	Y	66.3	3
ES-Z07-080522A	74.4	5/27/09	57791	Y		
ES-Z07-080522B	72.5	5/27/09	57791	Y	73.45	3
ES-Z13-080610A	73.1	5/28/09	57849	Y		
ES-Z13-080610B	78	5/28/09	57849	Y	75.55	6
ES-Z10-080602A	66.9	6/5/09	58138	Y		
ES-Z10-080602B	67.6	6/5/09	58138	Y	67.25	1
ES-Z08-080527A	75.1	6/11/09	58214	Y		
ES-Z08-080527B	77.3	6/11/09	58214	Y	76.2	3
ES-Z14-080611A	82.8	6/19/09	58564	Y		
ES-Z14-080611B	80.4	6/19/09	58564	Y	81.6	3
ES-Z06-080520C	74.3	6/30/09	58730	Y		
ES-Z06-080520D	76.5	6/30/09	58730	Y	75.4	3
ES-Z05-080519C	75.3	7/8/09	59166	Y		
ES-Z05-080519D	76.3	7/8/09	59166	Y	75.8	1
ES-Z19-080624A	71.7	7/11/09	59383	Y		
ES-Z19-080624B	70.5	7/11/09	59383	Y	71.1	2
WS-Z17-080618A	70.8	7/11/09	59383	Y		
WS-Z17-080618B	71.2	7/11/09	59383	Y	71	1
WS-Z15-080613A	75.4	7/24/09	59622	Y		
WS-Z15-080613B	76	7/24/09	59622	Y	75.7	1
WS-Z18-080620A	76.4	7/24/09	59622	Y		
WS-Z18-080620B	76.3	7/24/09	59622	Y	76.35	0
WS-Z16-080617A	70.7	7/30/09	59891	Y		
WS-Z16-080617B	72	7/30/09	59891	Y	71.35	2

Analysis of EQIS CRMs	
Mean	73.2
Standard Error	0.7
Median	73.2
Standard Deviation	3.9
Sample Variance	14.9
Kurtosis	0.3
Skewness	0.1
Range	17.5
Minimum	65.3
Maximum	82.8
Sum	2488.6
Count	34
Largest(2)	80.4
Smallest(2)	66.9

RPD of EQIS CRMs	
Mean	2.36
Standard Error	
Median	2.59
Standard Deviation	1.68
Sample Variance	2.83
Kurtosis	1.31
Skewness	1.09
Range	6.35
Minimum	0.13
Maximum	6.49
Sum	40.17
Count	17
Largest(2)	5.50
Smallest(2)	0.56

Table Cu-6: Copper Laboratory LCS and MS					
Matrix Spike Recovery %	Batch	Order	LCS Recovery %	Batch	Order
84	7160081	1	91	49187	2
95	7160081	1	87	49189	3
86	49187	2	94	49537	4
80	49189	3	95	49539	5
94	49537	4	93	54626-627	6
89	49539	5	90	54821-822	7
98	54626-627	6	94	54891-892	8
89	54821-822	7	94	54915-916	9
88	54891-892	8	93	57101	10
90	54915-916	9	94	57225	11
84	57101	10	94	57448	12
87	57225	11	92	57791	13
82	57448	12	93	57849	14
84	57791	13	88	58138	15
85	57849	14	102	58214	16
78	58138	15	98	58564	17
121	58214	16	98	58730	18
91	58564	17	98	59166	19
102	58730	18	99	59383	20
90	59166	19	101	59622	21
88	59383	20	91	59759	22
86	59622	21	86	59891	23
84	59759	22	89	60090	24
78	59891	23	99	60441	25
87	60090	24			
90	60441	25			

Average MS Recovery = 89 % Average LCS Recovery = 94 %

Minimum MS Recovery = 78 % Minimum LCS Recovery = 86 %

Copper Laboratory Control Samples and MS Recoveries (June 2007 through August 2009)

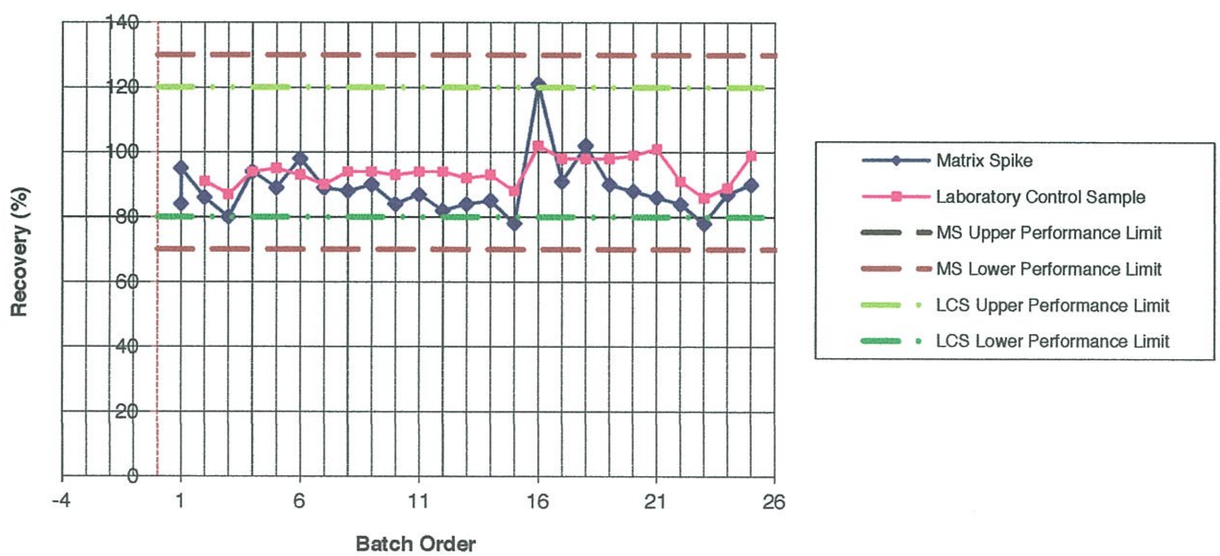
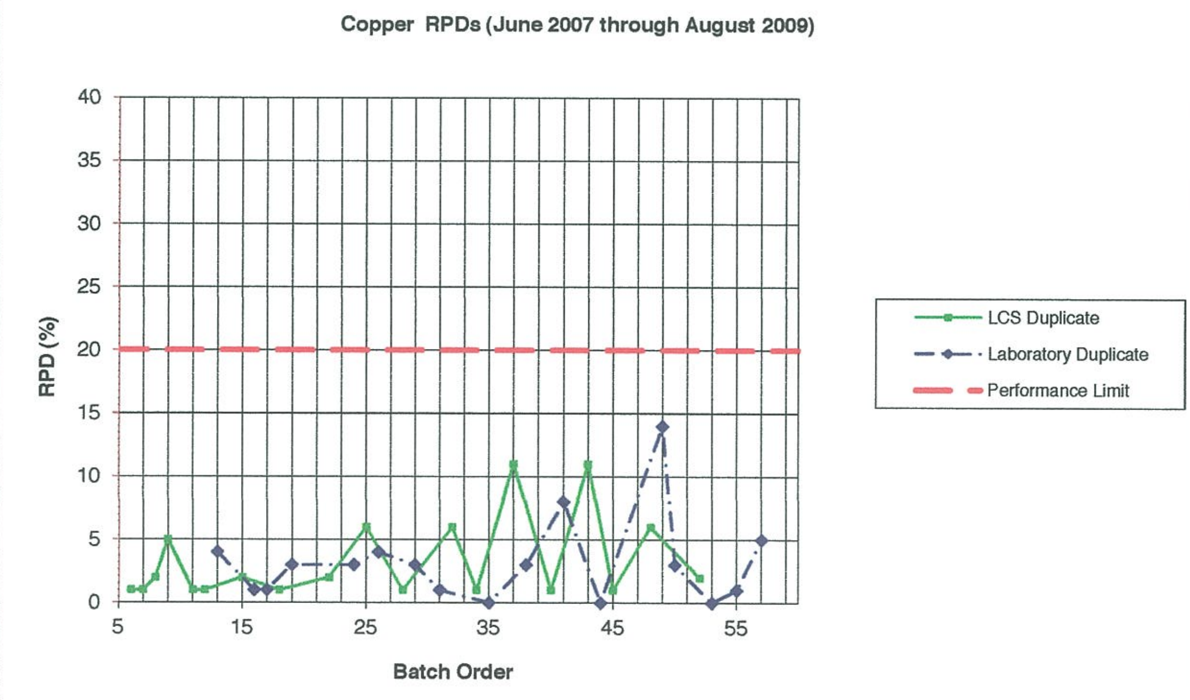


Table Cu-7: Copper - Laboratory Duplicates and LCS Duplicates

Laboratory Duplicate RPD	Batch	Order	LCS Duplicate RPD	Batch	Order
4	57101	13	1	54626-627	6
1	57225	16	1	54821-822	7
1	57431	17	2	54891-892	8
3	57448	19	5	54915-916	9
3	57791	24	1	57101	11
4	57849	26	1	57225	12
3	58138	29	2	57431	15
1	58214	31	1	57448	18
0	58564	35	2	57791	22
3	58730	38	6	57849	25
8	59166	41	1	58138	28
0	59383	44	6	58214	32
14	59622	49	1	58564	34
3	59759	50	11	58730	37
0	59891	53	1	59166	40
1	60090	55	11	59383	43
5	60441	57	1	59622	45
			6	59759	48
			2	59891	52
			2	60090	54
			2	60441	56

Average Duplicate RPD = 3 %   Average LCS RPD = 3 %

Maximum Duplicate RPD = 14 %   Maximum LCS RPD = 11 %



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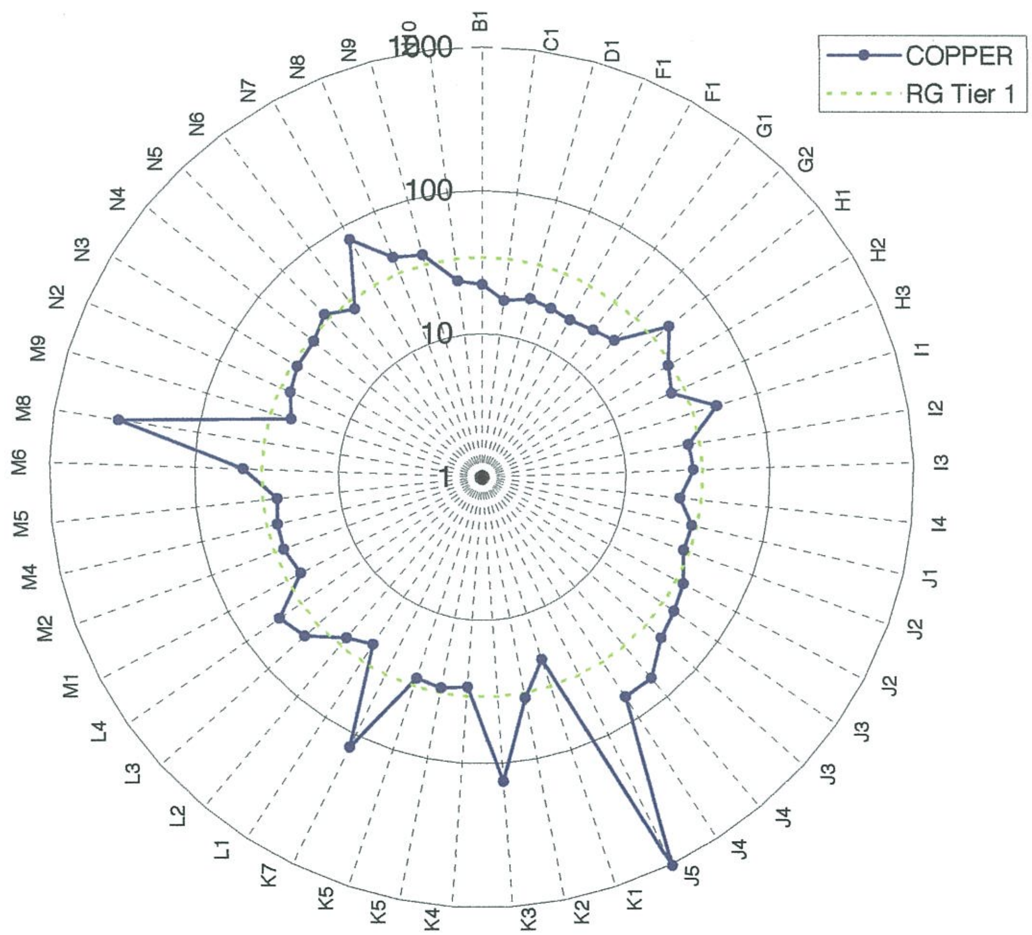
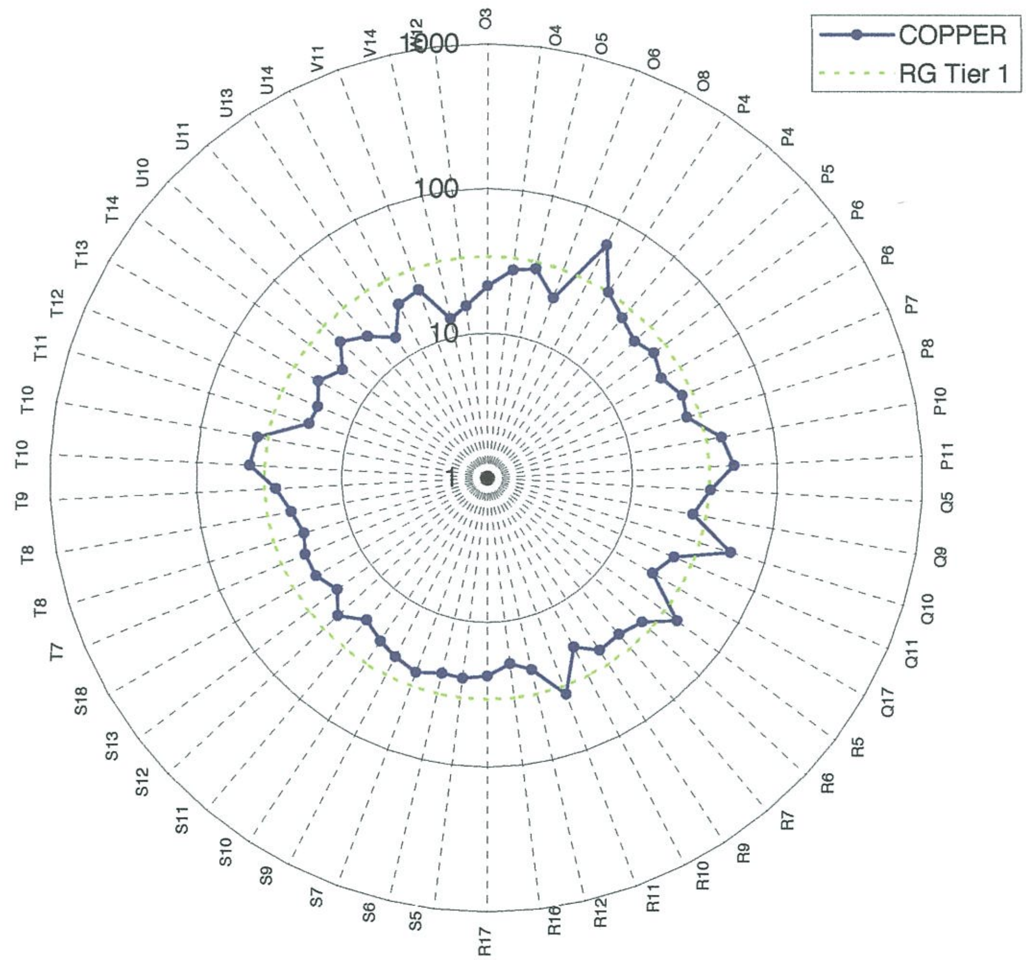
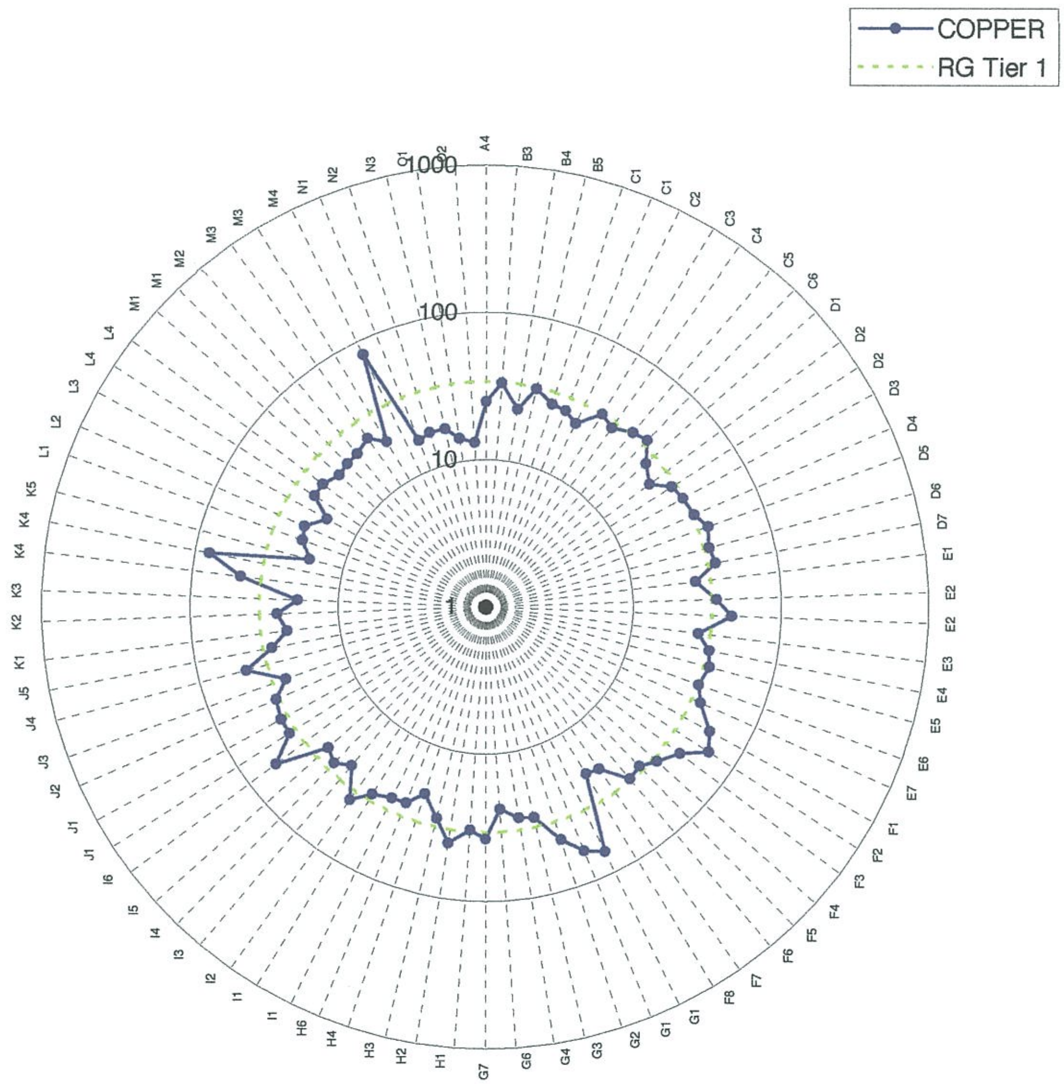
East Site
Grids A through N



East Site
Grids O through W



West Site



COPPER Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East	B1	ES-B01-080623	COPPER	22.1	05/03/09	57101	Y	ES-B01-080623
East	C1	ES-C01-080624	COPPER	17.4	05/03/09	57101	Y	ES-C01-080624
East	D1	ES-D01-080624	COPPER	19.4	06/05/09	58138	Y	ES-D01-080624
East	F1	ES-F01-080529	COPPER	18.6	05/04/09	57431	Y	DUP-17
East	F1	ES-F01-080529	COPPER	18	05/06/09	57448	Y	ES-F01-080529
East	G1	ES-G01-080529	COPPER	19.2	05/06/09	57448	Y	ES-G01-080529
East	G2	ES-G02-080605	COPPER	21.1	05/06/09	57448	Y	ES-G02-080605
East	H1	ES-H01-080528	COPPER	46.9	05/06/09	57448	Y	ES-H01-080528
East	H2	ES-H02-080515	COPPER	32.5	05/06/09	57448	Y	ES-H02-080515
East	H3	ES-H03-080605	COPPER	27.7	05/27/09	57791	Y	ES-H03-080605
East	I1	ES-I01-080529	COPPER	50.9	05/27/09	57791	Y	ES-I01-080529
East	I2	ES-I02-080514	COPPER	28.3	05/27/09	57791	Y	ES-I02-080514
East	I3	ES-I03-080513	COPPER	29.4	05/27/09	57791	Y	ES-I03-080513
East	I4	ES-I04-080602	COPPER	24.1	05/27/09	57791	Y	ES-I04-080602
East	J1	ES-J01-080529	COPPER	31.3	05/27/09	57791	Y	ES-J01-080529
East	J2	ES-J02-080527	COPPER	30.8	05/06/09	57448	Y	DUP-15
East	J2	ES-J02-080527	COPPER	38.3	05/27/09	57791	Y	ES-J02-080527
East	J3	ES-J03-080513	COPPER	42.5	05/03/09	57101	Y	DUP-11
East	J3	ES-J03-080513	COPPER	47.2	06/19/09	58564	Y	ES-J03-080513
East	J4	ES-J04-080530	COPPER	67.1	05/06/09	57448	Y	DUP-18
East	J4	ES-J04-080530	COPPER	66.7	05/27/09	57791	Y	ES-J04-080530
East	J5	ES-J05-080602	COPPER	1030	05/27/09	57791	Y	ES-J05-080602
East	K1	ES-K01-080602	COPPER	21.6	05/27/09	57791	Y	ES-K01-080602
East	K2	ES-K02-080602	COPPER	37	05/06/09	57448	Y	ES-K02-080602
East	K3	ES-K03-080514	COPPER	134	05/27/09	57791	Y	ES-K03-080514
East	K4	ES-K04-080527	COPPER	29.4	05/28/09	57849	Y	ES-K04-080527
East	K5	ES-K05-080605	COPPER	31.4	05/28/09	57849	Y	ES-K05-080605
East	K5	ES-K05-080605	COPPER	29.8	05/28/09	57849	Y	DUP-19
East	K7	ES-K07-080611	COPPER	125	05/04/09	57431	Y	ES-K07-080611
East	L1	ES-L01-080625	COPPER	24.5	05/28/09	57849	Y	ES-L01-080625
East	L2	ES-L02-080625	COPPER	29.1	05/28/09	57849	Y	ES-L02-080625
East	L3	ES-L03-080604	COPPER	45.4	05/28/09	57849	Y	ES-L03-080604
East	L4	ES-L04-080604	COPPER	52	06/19/09	58564	Y	ES-L04-080604
East	M1	ES-M01-080527	COPPER	26.7	05/28/09	57849	Y	ES-M01-080527
East	M2	ES-M02-080519	COPPER	29.3	05/28/09	57849	Y	ES-M02-080519
East	M4	ES-M04-080515	COPPER	28.7	05/28/09	57849	Y	ES-M04-080515
East	M5	ES-M05-080527	COPPER	27.1	05/28/09	57849	Y	ES-M05-080527
East	M6	ES-M06-080520	COPPER	45.7	05/28/09	57849	Y	ES-M06-080520
East	M8	ES-M08-080610	COPPER	355	05/04/09	57431	Y	ES-M08-080610
East	M9	ES-M09-080611	COPPER	24.3	05/04/09	57431	Y	ES-M09-080611
East	N2	ES-N02-080528	COPPER	28.6	05/28/09	57849	Y	ES-N02-080528
East	N3	ES-N03-080520	COPPER	31.4	05/28/09	57849	Y	ES-N03-080520
East	N4	ES-N04-080519	COPPER	32	05/28/09	57849	Y	ES-N04-080519
East	N5	ES-N05-080519	COPPER	37.7	05/28/09	57849	Y	ES-N05-080519
East	N6	ES-N06-080527	COPPER	29.5	06/05/09	58138	Y	ES-N06-080527
East	N7	ES-N07-080530	COPPER	78.4	06/05/09	58138	Y	ES-N07-080530

COPPER Results from 09/11/09 database								
Site	quarter_acre _grid	sample_location	chemical_name	result_value	analysis_ date	batch_ id	detect _flag	sample_name
East	N8	ES-N08-080610	COPPER	45	05/04/09	57431	Y	ES-N08-080610
East	N9	ES-N09-080610	COPPER	40.2	05/04/09	57431	Y	ES-N09-080610
East	N10	ES-N10-080610	COPPER	23.9	05/04/09	57431	Y	ES-N10-080610
East	O3	ES-O03-080528	COPPER	21.2	06/05/09	58138	Y	ES-O03-080528
East	O4	ES-O04-080515	COPPER	28	06/05/09	58138	Y	ES-O04-080515
East	O5	ES-O05-080520	COPPER	30.4	06/05/09	58138	Y	ES-O05-080520
East	O6	ES-O06-080529	COPPER	21	06/05/09	58138	Y	ES-O06-080529
East	O8	ES-O08-080530	COPPER	64.4	07/24/09	59759	Y	ES-O08-080530
East	P4	ES-P04-080528	COPPER	34	05/27/09	57791	Y	DUP-16
East	P4	ES-P04-080528	COPPER	27.8	06/05/09	58138	Y	ES-P04-080528
East	P5	ES-P05-080513	COPPER	24.3	06/05/09	58138	Y	ES-P05-080513
East	P6	ES-P06-080515	COPPER	27.3	05/27/09	57791	Y	DUP-12
East	P6	ES-P06-080515	COPPER	24.1	06/05/09	58138	Y	ES-P06-080515
East	P7	ES-P07-080519	COPPER	28.9	05/28/09	57849	Y	ES-P07-080519
East	P8	ES-P08-080530	COPPER	27.4	06/05/09	58138	Y	ES-P08-080530
East	P10	ES-P10-080606	COPPER	43.4	05/04/09	57431	Y	ES-P10-080606
East	P11	ES-P11-080606	COPPER	50.2	05/04/09	57431	Y	ES-P11-080606
East	Q5	ES-Q05-080520	COPPER	34.6	06/05/09	58138	Y	ES-Q05-080520
East	Q9	ES-Q09-080612	COPPER	27.4	06/05/09	58138	Y	ES-Q09-080612
East	Q10	ES-Q10-080606	COPPER	56.8	05/06/09	57448	Y	ES-Q10-080606
East	Q11	ES-Q11-080606	COPPER	25	05/06/09	57448	Y	ES-Q11-080606
East	Q17	ES-Q17-080609	COPPER	20.6	05/03/09	57101	Y	ES-Q17-080609
East	R5	ES-R05-080521	COPPER	43.5	06/05/09	58138	Y	ES-R05-080521
East	R6	ES-R06-080521	COPPER	28.7	06/19/09	58564	Y	ES-R06-080521
East	R7	ES-R07-080521	COPPER	25.7	06/11/09	58214	Y	ES-R07-080521
East	R9	ES-R09-080520	COPPER	26.3	06/11/09	58214	Y	ES-R09-080520
East	R10	ES-R10-080602	COPPER	20.4	06/11/09	58214	Y	ES-R10-080602
East	R11	ES-R11-080605	COPPER	39.1	05/06/09	57448	Y	ES-R11-080605
East	R12	ES-R12-080611	COPPER	22.9	05/06/09	57448	Y	ES-R12-080611
East	R16	ES-R16-080605	COPPER	19.6	05/03/09	57101	Y	ES-R16-080605
East	R17	ES-R17-080606	COPPER	23.5	05/03/09	57101	Y	ES-R17-080606
East	S5	ES-S05-080521	COPPER	24.9	06/11/09	58214	Y	ES-S05-080521
East	S6	ES-S06-080521	COPPER	24.4	06/11/09	58214	Y	ES-S06-080521
East	S7	ES-S07-080521	COPPER	26.9	06/11/09	58214	Y	ES-S07-080521
East	S9	ES-S09-080522	COPPER	24.5	06/11/09	58214	Y	ES-S09-080522
East	S10	ES-S10-080523	COPPER	22.2	06/11/09	58214	Y	ES-S10-080523
East	S11	ES-S11-080528	COPPER	19.2	06/11/09	58214	Y	ES-S11-080528
East	S12	ES-S12-080609	COPPER	25	05/03/09	57101	Y	ES-S12-080609
East	S13	ES-S13-080610	COPPER	19.3	05/03/09	57101	Y	ES-S13-080610
East	S18	ES-S18-080606	COPPER	22.7	05/03/09	57101	Y	ES-S18-080606
East	T7	ES-T07-080612	COPPER	22.6	06/11/09	58214	Y	ES-T07-080612
East	T8	ES-T08-080522	COPPER	20.6	06/05/09	58138	Y	DUP-13
East	T8	ES-T08-080522	COPPER	23.2	06/11/09	58214	Y	ES-T08-080522
East	T9	ES-T09-080522	COPPER	28.4	06/11/09	58214	Y	ES-T09-080522
East	T10	ES-T10-080523	COPPER	43	06/11/09	58214	Y	ES-T10-080523
East	T10	ES-T10-080523	COPPER	39.9	06/11/09	58214	Y	DUP-14

COPPER Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East	T11	ES-T11-080530	COPPER	18.9	06/11/09	58214	Y	ES-T11-080530
East	T12	ES-T12-080609	COPPER	18.2	05/03/09	57101	Y	ES-T12-080609
East	T13	ES-T13-080609	COPPER	21.7	05/03/09	57101	Y	ES-T13-080609
East	T14	ES-T14-080610	COPPER	17.3	05/03/09	57101	Y	ES-T14-080610
East	U10	ES-U10-080523	COPPER	23.8	06/11/09	58214	Y	ES-U10-080523
East	U11	ES-U11-080602	COPPER	18.9	06/19/09	58564	Y	ES-U11-080602
East	U13	ES-U13-080610	COPPER	14.3	05/04/09	57431	Y	ES-U13-080610
East	U14	ES-U14-080610	COPPER	22.1	05/04/09	57431	Y	ES-U14-080610
East	V11	ES-V11-080529	COPPER	24.1	06/19/09	58564	Y	ES-V11-080529
East	V14	ES-V14-080605	COPPER	13.4	05/04/09	57431	Y	ES-V14-080605
East	W12	ES-W12-080527	COPPER	15.7	06/22/09	58564	Y	ES-W12-080527
West	A4	WS-A04-080626	COPPER	24.8	07/11/09	59383	Y	WS-A04-080626
West	B3	WS-B03-080502	COPPER	33.6	07/11/09	59383	Y	WS-B03-080502
West	B4	WS-B04-080626	COPPER	22.8	07/11/09	59383	Y	WS-B04-080626
West	B5	WS-B05-080626	COPPER	33	07/24/09	59759	Y	WS-B05-080626
West	C1	WS-C01-080501	COPPER	28.1	06/19/09	58564	Y	WS-C01-080501
West	C1	WS-C01-080501	COPPER	27.5	06/19/09	58564	Y	DUP-3
West	C2	WS-C02-080428	COPPER	24.4	07/24/09	59622	Y	WS-C02-080428
West	C3	WS-C03-080620	COPPER	33.7	07/24/09	59622	Y	WS-C03-080620
West	C4	WS-C04-080623	COPPER	30.6	07/24/09	59622	Y	WS-C04-080623
West	C5	WS-C05-080620	COPPER	35.4	07/24/09	59759	Y	WS-C05-080620
West	C6	WS-C06-080624	COPPER	37.4	07/24/09	59759	Y	WS-C06-080624
West	D1	WS-D01-080430	COPPER	28.7	06/19/09	58564	Y	WS-D01-080430
West	D2	WS-D02-080429	COPPER	24.4	07/11/09	59383	Y	DUP-2
West	D2	WS-D02-080429	COPPER	31.8	07/24/09	59622	Y	WS-D02-080429
West	D3	WS-D03-080620	COPPER	33.7	07/24/09	59622	Y	WS-D03-080620
West	D4	WS-D04-080623	COPPER	35	08/17/09	60441	Y	WS-D04-080623
West	D5	WS-D05-080620	COPPER	40.2	07/24/09	59759	Y	WS-D05-080620
West	D6	WS-D06-080619	COPPER	36.7	07/24/09	59759	Y	WS-D06-080619
West	D7	WS-D07-080619	COPPER	38.2	07/24/09	59759	Y	WS-D07-080619
West	E1	WS-E01-080430	COPPER	26.9	06/19/09	58564	Y	WS-E01-080430
West	E2	WS-E02-080428	COPPER	36.4	07/11/09	59383	Y	DUP-1
West	E2	WS-E02-080428	COPPER	46.2	07/24/09	59622	Y	WS-E02-080428
West	E3	WS-E03-080619	COPPER	28.1	07/24/09	59622	Y	WS-E03-080619
West	E4	WS-E04-080613	COPPER	34.7	07/24/09	59759	Y	WS-E04-080613
West	E5	WS-E05-080613	COPPER	37	07/24/09	59759	Y	WS-E05-080613
West	E6	WS-E06-080613	COPPER	34.3	07/24/09	59759	Y	WS-E06-080613
West	E7	WS-E07-080613	COPPER	39.1	07/24/09	59759	Y	WS-E07-080613
West	F1	WS-F01-080429	COPPER	54.6	06/19/09	58564	Y	WS-F01-080429
West	F2	WS-F02-080429	COPPER	63.3	07/24/09	59622	Y	WS-F02-080429
West	F3	WS-F03-080619	COPPER	44.5	07/24/09	59622	Y	WS-F03-080619
West	F4	WS-F04-080616	COPPER	36.4	07/30/09	59891	Y	WS-F04-080616
West	F5	WS-F05-080612	COPPER	31.6	08/18/09	60441	Y	WS-F05-080612
West	F6	WS-F06-080612	COPPER	33.2	07/30/09	59891	Y	WS-F06-080612
West	F7	WS-F07-080617	COPPER	21.9	06/30/09	58730	Y	WS-F07-080617
West	F8	WS-F08-080618	COPPER	20.8	06/30/09	58730	Y	WS-F08-080618

COPPER Results from 09/11/09 database								
Site	quarter_acre _grid	sample_location	chemical_name	result_value	analysis_ date	batch_ id	detect _flag	sample_name
West	G1	WS-G01-080501	COPPER	70.3	06/19/09	58564	Y	DUP-4
West	G1	WS-G01-080501	COPPER	60.9	06/30/09	58730	Y	WS-G01-080501
West	G2	WS-G02-080618	COPPER	45.6	07/24/09	59622	Y	WS-G02-080618
West	G3	WS-G03-080619	COPPER	29.2	07/24/09	59622	Y	WS-G03-080619
West	G4	WS-G04-080616	COPPER	28	07/30/09	59891	Y	WS-G04-080616
West	G6	WS-G06-080616	COPPER	23.9	07/30/09	59891	Y	WS-G06-080616
West	G7	WS-G07-080617	COPPER	37.7	06/30/09	58730	Y	WS-G07-080617
West	H1	WS-H01-080501	COPPER	33.1	06/30/09	58730	Y	WS-H01-080501
West	H2	WS-H02-080618	COPPER	41.9	07/24/09	59622	Y	WS-H02-080618
West	H3	WS-H03-080619	COPPER	29.7	07/30/09	59891	Y	WS-H03-080619
West	H4	WS-H04-080616	COPPER	21.5	07/30/09	59891	Y	WS-H04-080616
West	H6	WS-H06-080617	COPPER	27.4	06/30/09	58730	Y	WS-H06-080617
West	I1	WS-I01-080501	COPPER	27.7	06/30/09	58730	Y	WS-I01-080501
West	I1	WS-I01-080501	COPPER	30.6	06/30/09	58730	Y	DUP-5
West	I2	WS-I02-080618	COPPER	39.8	07/24/09	59759	Y	WS-I02-080618
West	I3	WS-I03-080618	COPPER	25.5	07/30/09	59891	Y	WS-I03-080618
West	I4	WS-I04-080617	COPPER	29.9	07/30/09	59891	Y	WS-I04-080617
West	I5	WS-I05-080617	COPPER	26.9	06/30/09	58730	Y	WS-I05-080617
West	I6	WS-I06-080617	COPPER	59.8	06/30/09	58730	Y	WS-I06-080617
West	J1	WS-J01-080505	COPPER	38	06/30/09	58730	Y	DUP-6
West	J1	WS-J01-080505	COPPER	38	06/30/09	58730	Y	WS-J01-080505
West	J2	WS-J02-080624	COPPER	35.4	06/30/09	58730	Y	WS-J02-080624
West	J3	WS-J03-080620	COPPER	27.4	07/08/09	59166	Y	WS-J03-080620
West	J4	WS-J04-080617	COPPER	47.3	07/08/09	59166	Y	WS-J04-080617
West	J5	WS-J05-080618	COPPER	29.7	07/08/09	59166	Y	WS-J05-080618
West	K1	WS-K01-080505	COPPER	22.6	07/08/09	59166	Y	WS-K01-080505
West	K2	WS-K02-080509	COPPER	25.8	07/08/09	59166	Y	WS-K02-080509
West	K3	WS-K03-080509	COPPER	18.8	07/08/09	59166	Y	WS-K03-080509
West	K4	WS-K04-080513	COPPER	46.9	07/08/09	59166	Y	WS-K04-080513
West	K4	WS-K04-080513	COPPER	80.5	07/24/09	59759	Y	DUP-10
West	K5	WS-K05-080509	COPPER	17.2	07/08/09	59166	Y	WS-K05-080509
West	L1	WS-L01-080505	COPPER	20.8	07/08/09	59166	Y	WS-L01-080505
West	L2	WS-L02-080508	COPPER	22	07/08/09	59166	Y	WS-L02-080508
West	L3	WS-L03-080508	COPPER	16.9	07/08/09	59166	Y	WS-L03-080508
West	L4	WS-L04-080508	COPPER	24.1	07/08/09	59166	Y	WS-L04-080508
West	L4	WS-L04-080508	COPPER	24.1	07/08/09	59166	Y	DUP-9
West	M1	WS-M01-080505	COPPER	21.7	07/08/09	59166	Y	WS-M01-080505
West	M1	WS-M01-080505	COPPER	22.3	07/08/09	59166	Y	DUP-7
West	M2	WS-M02-080507	COPPER	22.6	07/24/09	59759	Y	WS-M02-080507
West	M3	WS-M03-080507	COPPER	24.9	07/24/09	59622	Y	DUP-8
West	M3	WS-M03-080507	COPPER	20.2	08/11/09	60090	Y	WS-M03-080507
West	M4	WS-M04-080507	COPPER	79.9	08/11/09	60090	Y	WS-M04-080507
West	N1	WS-N01-080506	COPPER	16.5	08/11/09	60090	Y	WS-N01-080506
West	N2	WS-N02-080506	COPPER	17.6	07/11/09	59383	Y	WS-N02-080506
West	N3	WS-N03-080507	COPPER	17.4	06/30/09	58730	Y	WS-N03-080507
West	O1	WS-O01-080506	COPPER	14.4	07/11/09	59383	Y	WS-O01-080506

COPPER Results from 09/11/09 database								
Site	quarter_acre _grid	sample_location	chemical_name	result_value	analysis_ date	batch_ id	detect _flag	sample_name
West	O2	WS-O02-080506	COPPER	13.1	07/11/09	59383	Y	WS-O02-080506

Table Pb-1: Lead Data Quality Summary			
Laboratory Performance Criteria	Criteria	Measured	Comment
Minimum LCS Recovery	greater than 80%	81%	
Minimum Matrix Spike Recovery	greater than 70%	77%	
Average LCS Recovery	N/A	92%	
Average Matrix Spike Recovery	N/A	96%	
Maximum LCS RPD	less than 20%	17%	
Maximum Laboratory Duplicate RPD	less than 20%	34%	
Average LCS RPD	N/A	3%	
Average Laboratory Duplicate RPD	N/A	11%	
Measurement Quality Objectives	Critera	Measured	
NPS CRM	Recovery greater than 169 r	Minimum Recovery =	169 mg/kg
EQIS CRM	Recovery greater than 166 r	Minimum Recovery =	167 mg/kg
CVS Split Analysis RPD	RPD less than 35%	Maximum RPD =	85 %
CRM Split Analysis RPD	RPD less than 35%	Maximum RPD =	5 %
Overall QC Indicator Measurements	Criteria	Measured	
NPS CRM "Made to" (Bias measure)	N/A	Average Recovery =	93.38 %
NPS Replicate Test (Precision measure)	N/A	Standard Deviation =	4.02 mg/kg
Data Quality Relative to Remediation Goals			
Tier 1 Remediation Goal	100 mg/kg		
Tier 2 Remediation Goal	none		
QC Derived reliance Level	108.7 mg/kg	See Note 1	

Comments: All QC accuracy measurements for lead complied with related laboratory performance criteria and measurement quality objectives. However, a laboratory precision problem is indicated by a high maximum laboratory duplicate RPD (34%). Frequent high CVS split RPDs suggest a precision problem as well. However, a precision problem is not indicated by CRM split test results (maximum RPD = 11%). Likewise, good precision is indicated by a low standard deviation (4.02 mg/kg) for repeated tests on the same sample relative to the expected mean (37.1 mg/kg). Consequently and as desired, the derived reliance level (108.7 mg/kg) is greater than the remediation goal (100 mg/kg). Considering the acceptable lead recovery from NPS and EQIS CRMs and an observed low standard deviation from repeated tests on the same sample, it is concluded that the risk of erroneously declaring a grid to have achieved the lead RG using CVS lead measurements is acceptably low. Therefore, it is concluded that lead CVS measurements are of acceptable quality and may be used to determine RG achievement.

Note 1: Derived reliance level is calculated as: (Tier 1 RG)(1.2)(Average Recovery)-(0.84)(Standard deviation) = (100)(1.2)(.934)-(0.84)(4.02) = 108.7 mg/kg

Table Pb-2: Lead - NPS CRMs				
Blind NPS CRM Results				
Sample	Result	Analysis Date	Batch	Detect
BOR Sample 1-BOR 56	188	5/3/09	57226	Y
BOR Sample 4-BOR 82	169	5/8/09	57514	Y
BOR 83	193	5/27/09	57790	Y
BOR 84	192	5/27/09	57848	Y
BOR Sample 3-BOR 58	183	5/27/09	57790	Y
BOR Sample 7-BOR 105	186	5/27/09	57848	Y
BOR 85	180	6/5/09	58137	Y
BOR Sample 8-BOR 106	180	6/5/09	58137	Y
BOR 86	200	6/11/09	58213	Y
BOR 108	191	6/19/09	58563	Y
BOR 87	189	6/19/09	58563	Y
BOR 109	183	6/30/09	58729	Y
BOR 110	180	7/11/09	59382	Y
BOR Sample 9-BOR 107	194	7/24/09	59758	Y
BOR 111	177	7/30/09	59890	Y
BOR Sample 6-BOR 81	203	5/4/09	57400	Y

CRMs		Vendor Supplied Information
Mean	186.8	*"Made to"*
Standard Error	2.20	*200 mg/kg*
Median	187.0	
Standard Deviation	8.79	*Lower Acceptance Limit*
Sample Variance	77.3	*169 mg/kg*
Kurtosis	-0.023	
Skewness	-0.008	*Upper Acceptance Limit*
Range	34.0	*204 mg/kg*
Minimum	169.0	
Maximum	203.0	
Sum	2988	
Count	16	
Largest(2)	200.0	
Smallest(2)	177.0	

Table Pb-3: Lead -NPS Replicate Tests on a Background Sample				
Results of Replicate Analyses of a Single Sample				
Sample	Result	Analysis Date	Batch	Detect
BOR 112	43.1	5/3/09	57226	Y
BOR 59	47.3	5/4/09	57400	Y
BOR 60	38.4	5/8/09	57514	Y
BOR 113	35	5/27/09	57790	Y
BOR 61	41.5	5/27/09	57790	Y
BOR 62	33.3	6/11/09	58213	Y
BOR 63	38.7	6/19/09	58563	Y
BOR 89	35.5	6/19/09	58563	Y
BOR 115	34.3	6/30/09	58729	Y
BOR 64	34	7/8/09	59165	Y
BOR 91	34.8	7/8/09	59165	Y
BOR 116	35.7	7/11/09	59382	Y
BOR 92	34	7/11/09	59382	Y
BOR 65	36.5	7/22/09	59623	Y
BOR 88	34.6	7/30/09	59890	Y

Replicate analyses of Single Sample	
Mean	37.1
Standard Error	1.04
Median	35.5
Standard Deviation	4.02
Sample Variance	16.1
Kurtosis	1.7
Skewness	1.5
Range	14.0
Minimum	33.3
Maximum	47.3
Sum	556.7
Count	15
Largest(2)	43.1
Smallest(2)	34.0

Table Pb-4: NPS and EQIS Duplicates

Sample	Result	Analysis Date	Batch	Split	Result	Analysis Date	RPD
BOR 503	29.7	5/4/09	57400	ES-T11-080530	12.5	6/11/2009	82
BOR 506	15.4	5/8/09	57514	ES-S10-080523	11.1	6/11/2009	32
BOR 504	14.9	5/27/09	57790	ES-M05-080527	16.9	5/27/2009	13
BOR 507	22	6/5/09	58137	ES-O09-080610			
BOR 508	10.2	6/19/09	58563	ES-Q11-080606	25.4	5/8/2009	85
BOR 510	13.2	6/30/09	58729	OU-8HR-080605	16.3	5/3/2009	21
BOR 501	17.5	7/8/09	59165	WS-L04-080508	17.1	7/8/2009	2
BOR 505	51.7	7/22/09	59623	WS-K03-080509	48.6	7/8/2009	6
BOR 502	107	7/24/09	59758	WS-F05-080612	106	8/17/2009	1
BOR 509	11.3	7/24/09	59758	WS-E06-080613	11.4	7/24/2009	1
DUP-11	38	5/3/09	57100	ES-J03-080513	26.5	6/19/2009	36
DUP-17	20.3	5/4/09	57400	ES-F01-080529	18.9	5/8/2009	7
DUP-15	13.1	5/8/09	57514	ES-J02-080527	17.3	5/27/2009	28
DUP-18	38.4	5/8/09	57514	ES-J04-080530	25.8	5/27/2009	39
DUP-12	14.7	5/27/09	57790	ES-P06-080515	12.1	6/5/2009	19
DUP-16	19.8	5/27/09	57790	ES-P04-080528	16.5	6/5/2009	18
DUP-19	22.9	5/27/09	57848	ES-K05-080605	18.7	5/27/2009	20
DUP-13	13.5	6/5/09	58137	ES-T08-080522	11.4	6/11/2009	17
DUP-14	17.3	6/11/09	58213	ES-T10-080523	16.2	6/11/2009	7
DUP-3	42.9	6/19/09	58563	WS-C01-080501	44.3	6/19/2009	3
DUP-4	34.9	6/19/09	58563	WS-G01-080501	34.9	6/30/2009	0
DUP-5	38.6	6/30/09	58729	WS-I01-080501	38.9	6/30/2009	1
DUP-6	49.7	6/30/09	58729	WS-J01-080505	46.3	6/30/2009	7
DUP-7	38.2	7/8/09	59165	WS-M01-080505	36.8	7/8/2009	4
DUP-9	17.1	7/8/09	59165	WS-L04-080508	17.1	7/8/2009	0
DUP-1	28.1	7/11/09	59382	WS-E02-080428	30.5	7/22/2009	8
DUP-2	12	7/11/09	59382	WS-D02-080429	11.2	7/22/2009	7
DUP-8	65.7	7/22/09	59623	WS-M03-080507	64.5	8/11/2009	2
DUP-10	32.5	7/24/09	59758	WS-K04-080513	31.1	7/8/2009	4

RPD of Sample Splits

Mean	16.80
Standard Error	4.15
Median	7.11
Standard Deviation	21.96
Sample Variance	482.13
Kurtosis	4.74
Skewness	2.17
Range	85.39
Minimum	0.00
Maximum	85.39
Sum	470.30
Count	28
Largest(2)	81.51659
Smallest(2)	0.00

Table Pb-5: Lead EQIS CRMs

Results of Duplicate Analysis of EQIS CRMs

Sample	Result	Date	Batch	Detect	Average	RPD
ES-Z11-080605A	194	5/3/09	57100	Y		
ES-Z11-080605B	198	5/3/09	57100	Y	196	2
ES-Z09-080529A	198	5/4/09	57400	Y		
ES-Z09-080529B	202	5/4/09	57400	Y	200	2
ES-Z12-080606A	206	5/4/09	57400	Y		
ES-Z12-080606B	204	5/4/09	57400	Y	205	1
ES-Z05-080519A	175	5/8/09	57514	Y		
ES-Z05-080519B	179	5/8/09	57514	Y	177	2
ES-Z06-080520A	175	5/8/09	57514	Y		
ES-Z06-080520B	176	5/8/09	57514	Y	175.5	1
ES-Z07-080522A	182	5/27/09	57790	Y		
ES-Z07-080522B	188	5/27/09	57790	Y	185	3
ES-Z13-080610A	189	5/27/09	57848	Y		
ES-Z13-080610B	188	5/27/09	57848	Y	188.5	1
ES-Z10-080602A	189	6/5/09	58137	Y		
ES-Z10-080602B	179	6/5/09	58137	Y	184	5
ES-Z08-080527A	183	6/11/09	58213	Y		
ES-Z08-080527B	192	6/11/09	58213	Y	187.5	5
ES-Z14-080611A	182	6/19/09	58563	Y		
ES-Z14-080611B	187	6/19/09	58563	Y	184.5	3
ES-Z06-080520C	200	6/30/09	58729	Y		
ES-Z06-080520D	197	6/30/09	58729	Y	198.5	2
ES-Z05-080519C	184	7/8/09	59165	Y		
ES-Z05-080519D	179	7/8/09	59165	Y	181.5	3
ES-Z19-080624A	177	7/11/09	59382	Y		
ES-Z19-080624B	170	7/11/09	59382	Y	173.5	4
WS-Z17-080618A	167	7/11/09	59382	Y		
WS-Z17-080618B	169	7/11/09	59382	Y	168	1
WS-Z15-080613A	196	7/22/09	59623	Y		
WS-Z15-080613B	192	7/22/09	59623	Y	194	2
WS-Z18-080620A	194	7/22/09	59623	Y		
WS-Z18-080620B	192	7/22/09	59623	Y	193	1
WS-Z16-080617A	195	7/30/09	59890	Y		
WS-Z16-080617B	193	7/30/09	59890	Y	194	1

Analysis of EQIS CRMs	
Mean	187.4
Standard Error	1.77
Median	188.5
Standard Deviation	10.3
Sample Variance	107.1
Kurtosis	-0.8
Skewness	-0.2
Range	39.0
Minimum	167.0
Maximum	206.0
Sum	6371.0
Count	34.0
Largest(2)	204.0
Smallest(2)	169.0

RPD of EQIS CRMs	
Mean	2.25
Standard Error	
Median	2.04
Standard Deviation	1.45
Sample Variance	2.09
Kurtosis	0.14
Skewness	0.91
Range	4.90
Minimum	0.53
Maximum	5.43
Sum	38.18
Count	17
Largest(2)	4.80
Smallest(2)	0.57

Table Pb-6: Lead Laboratory MS and LCS

Matrix Spike Recovery %	Batch	Order	LCS Recovery %	Batch	Order
94.00	7160081	1	99	49187	2
104.00	7160081	1	89	49189	3
86.00	49187	2	91	49537	4
77.00	49189	3	96	49539	5
95.00	49537	4	99	54626-627	6
104.00	49539	5	98	54821-822	7
98.00	54626-627	6	98	54891-892	8
86.00	54821-822	7	97	54915-916	9
97.00	54891-892	8	99	57100	10
103.00	54915-916	9	90	57226	11
103.00	57100	10	92	57514	12
80.00	57226	11	84	57790	13
91.00	57514	12	89	57848	14
96.00	57790	13	86	58137	15
99.00	57848	14	116	58213	16
88.00	58137	15	98	58563	17
109.00	58213	16	90	58729	18
126.00	58563	17	82	59165	19
107.00	58729	18	85	59382	20
89.00	59165	19	82	59623	21
88.00	59382	20	89	59758	22
105.00	59623	21	81	59890	23
97.00	59758	22	82	60089	24
81.00	59890	23	90	60440	25
90.00	60089	24			
106.00	60440	25			

Average MS Recovery = 96 % Average LCS Recovery = 92 %

Minimum MS Recovery = 77 % Minimum LCS Recovery = 81 %

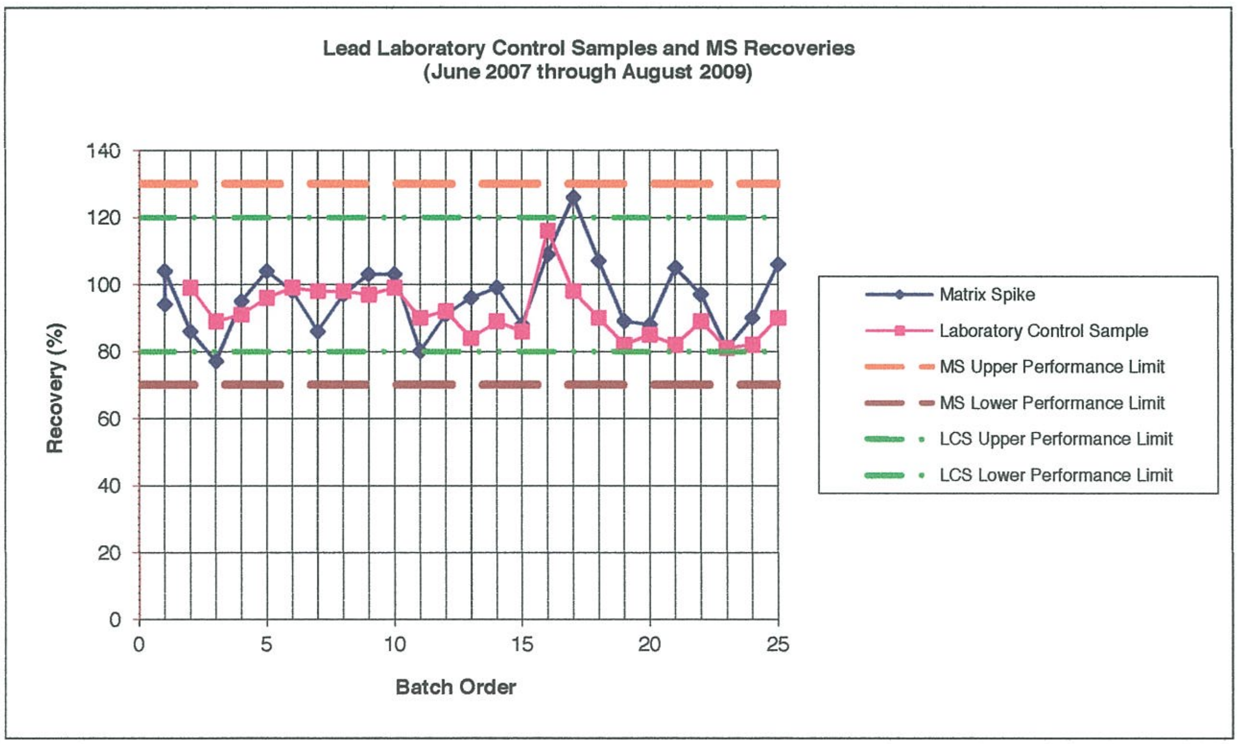
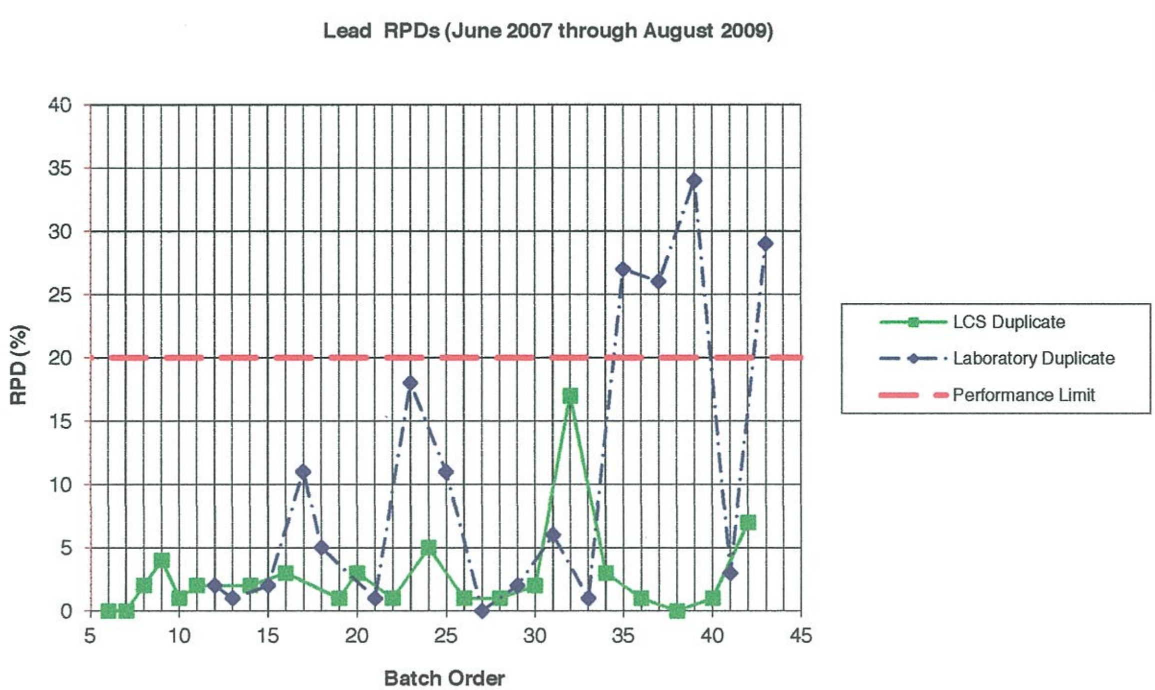


Table Pb-7: Lead - Laboratory Duplicates and LCS Duplicates

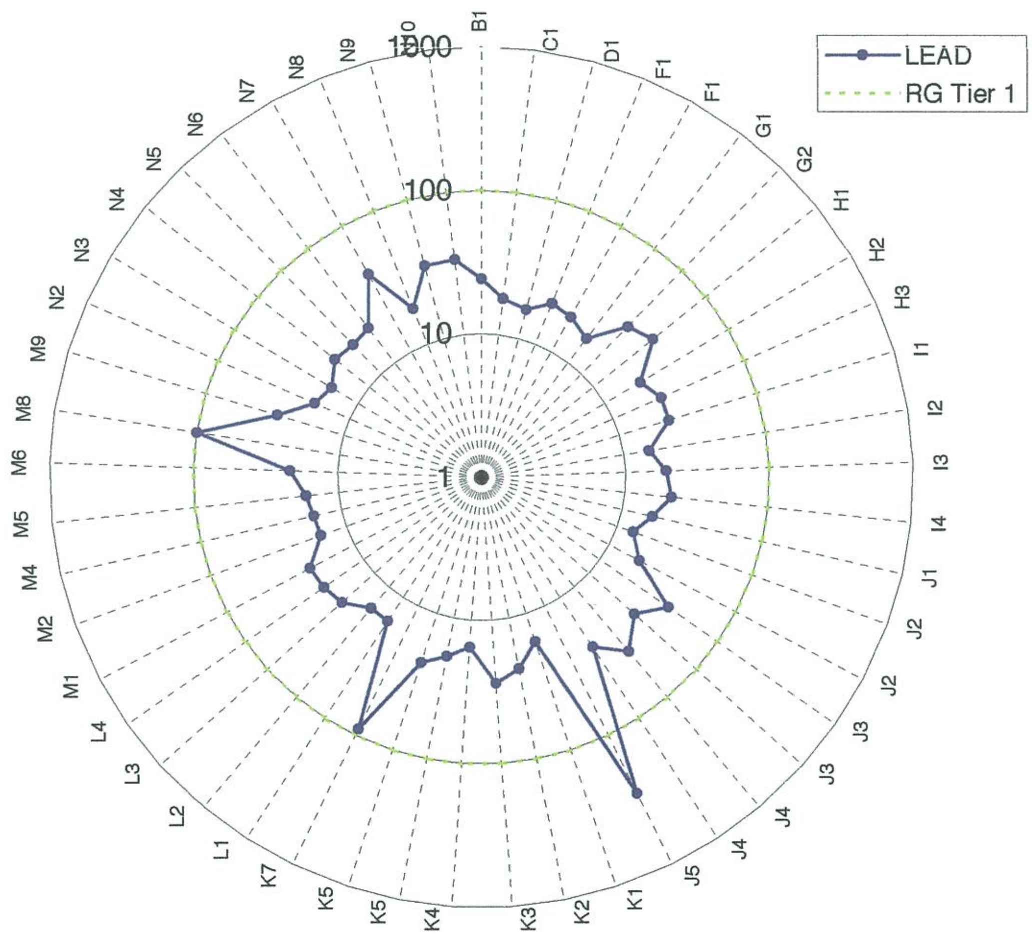
Laboratory Duplicate RPD		Batch Order	LCS Duplicate RPD		Batch Order
2.00	57100	12	0.00	54626-627	6
1.00	57226	13	0.00	54821-822	7
2.00	57400	15	2.00	54891-892	8
11.00	57514	17	4.00	54915-916	9
5.00	57790	18	1.00	57100	10
1.00	57848	21	2.00	57226	11
18.00	58137	23	2.00	57400	14
11.00	58213	25	3.00	57514	16
0.00	58563	27	1.00	57790	19
2.00	58729	29	3.00	57848	20
6.00	59165	31	1.00	58137	22
1.00	59382	33	5.00	58213	24
27.00	59623	35	1.00	58563	26
26.00	59758	37	2.00	59165	30
34.00	59890	39	17.00	59382	32
3.00	60089	41	3.00	59623	34
29.00	60440	43	1.00	59758	36
			0.00	59890	38
			1.00	60089	40
			7.00	60440	42

Average Duplicate RPD = 11 %
Maximum Duplicate RPD = 34 %

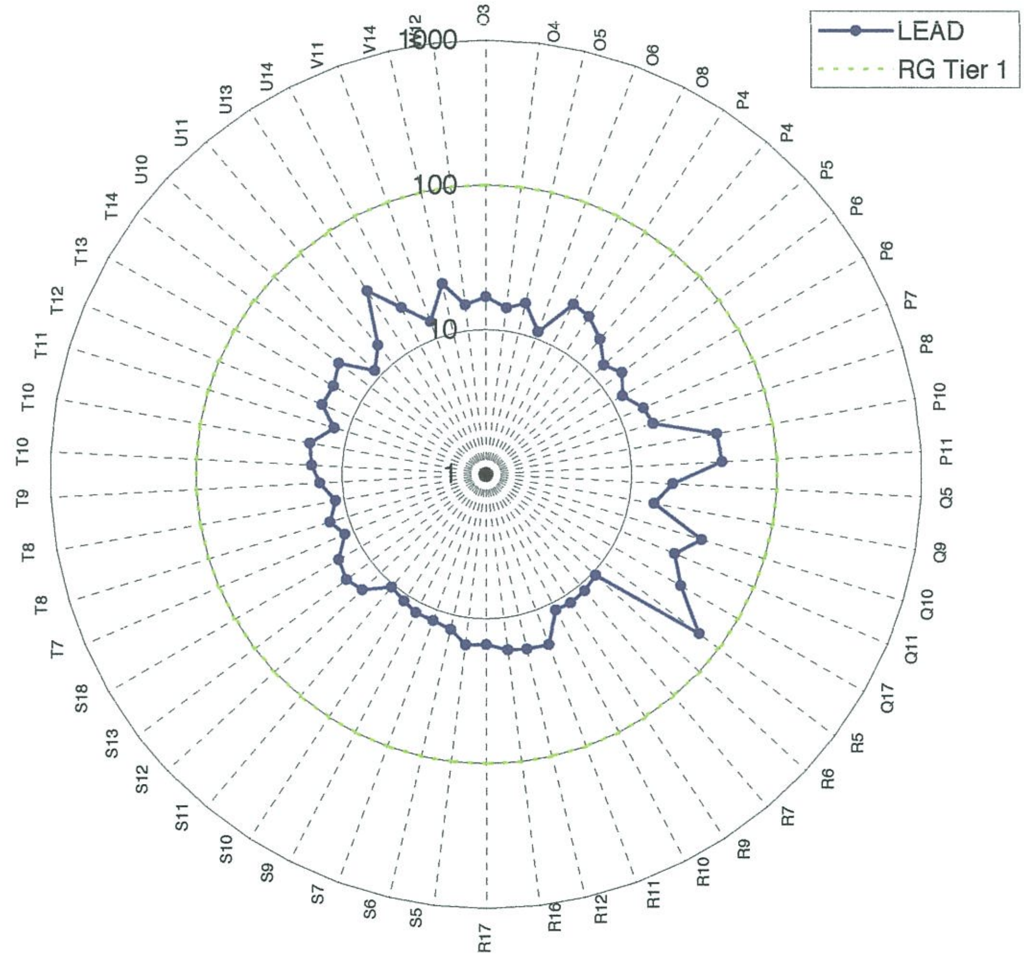
Average LCS RPD = 3 %
Maximum LCS RPD = 17 %



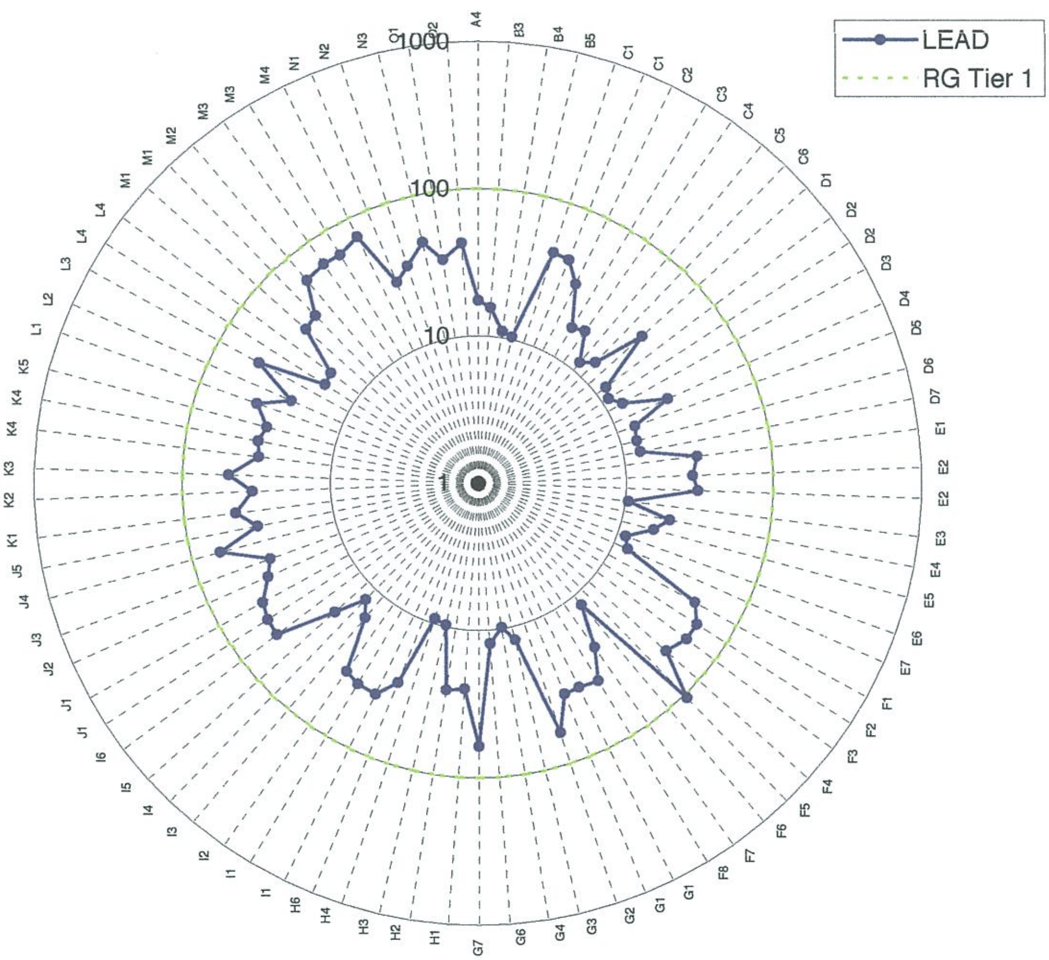
East Site
Grids A through N



East Site
Grids O through W



West Site



LEAD CVS Results from 09/11/09 database								
Site	quarter_acre _grid	sample_location	chemical_name	result_value	analysis_ date	batch_id	detect _flag	sample_name
East	B1	ES-B01-080623	LEAD	24.1	05/03/09	57100	Y	ES-B01-080623
East	C1	ES-C01-080624	LEAD	17.9	05/03/09	57100	Y	ES-C01-080624
East	D1	ES-D01-080624	LEAD	16.2	06/05/09	58137	Y	ES-D01-080624
East	F1	ES-F01-080529	LEAD	20.3	05/04/09	57400	Y	DUP-17
East	F1	ES-F01-080529	LEAD	18.9	05/08/09	57514	Y	ES-F01-080529
East	G1	ES-G01-080529	LEAD	16.3	05/08/09	57514	Y	ES-G01-080529
East	G2	ES-G02-080605	LEAD	28.7	05/08/09	57514	Y	ES-G02-080605
East	H1	ES-H01-080528	LEAD	33.7	05/08/09	57514	Y	ES-H01-080528
East	H2	ES-H02-080515	LEAD	19.3	05/08/09	57514	Y	ES-H02-080515
East	H3	ES-H03-080605	LEAD	23.1	05/26/09	57790	Y	ES-H03-080605
East	I1	ES-I01-080529	LEAD	22.9	05/27/09	57790	Y	ES-I01-080529
East	I2	ES-I02-080514	LEAD	15	05/27/09	57790	Y	ES-I02-080514
East	I3	ES-I03-080513	LEAD	19	05/27/09	57790	Y	ES-I03-080513
East	I4	ES-I04-080602	LEAD	21	05/27/09	57790	Y	ES-I04-080602
East	J1	ES-J01-080529	LEAD	16.4	05/27/09	57790	Y	ES-J01-080529
East	J2	ES-J02-080527	LEAD	13.1	05/08/09	57514	Y	DUP-15
East	J2	ES-J02-080527	LEAD	17.3	05/27/09	57790	Y	ES-J02-080527
East	J3	ES-J03-080513	LEAD	38	05/03/09	57100	Y	DUP-11
East	J3	ES-J03-080513	LEAD	26.5	06/19/09	58563	Y	ES-J03-080513
East	J4	ES-J04-080530	LEAD	38.4	05/08/09	57514	Y	DUP-18
East	J4	ES-J04-080530	LEAD	25.8	05/27/09	57790	Y	ES-J04-080530
East	J5	ES-J05-080602	LEAD	284	05/27/09	57790	Y	ES-J05-080602
East	K1	ES-K01-080602	LEAD	16	05/27/09	57790	Y	ES-K01-080602
East	K2	ES-K02-080602	LEAD	23	05/08/09	57514	Y	ES-K02-080602
East	K3	ES-K03-080514	LEAD	27.6	05/27/09	57790	Y	ES-K03-080514
East	K4	ES-K04-080527	LEAD	15.4	05/27/09	57848	Y	ES-K04-080527
East	K5	ES-K05-080605	LEAD	18.7	05/27/09	57848	Y	ES-K05-080605
East	K5	ES-K05-080605	LEAD	22.9	05/27/09	57848	Y	DUP-19
East	K7	ES-K07-080611	LEAD	89.6	05/04/09	57400	Y	ES-K07-080611
East	L1	ES-L01-080625	LEAD	15.7	05/27/09	57848	Y	ES-L01-080625
East	L2	ES-L02-080625	LEAD	15.6	05/27/09	57848	Y	ES-L02-080625
East	L3	ES-L03-080604	LEAD	20.2	05/27/09	57848	Y	ES-L03-080604
East	L4	ES-L04-080604	LEAD	21.8	06/19/09	58563	Y	ES-L04-080604
East	M1	ES-M01-080527	LEAD	22.4	05/27/09	57848	Y	ES-M01-080527
East	M2	ES-M02-080519	LEAD	15.4	05/27/09	57848	Y	ES-M02-080519
East	M4	ES-M04-080515	LEAD	15.7	05/27/09	57848	Y	ES-M04-080515
East	M5	ES-M05-080527	LEAD	16.9	05/27/09	57848	Y	ES-M05-080527
East	M6	ES-M06-080520	LEAD	21.4	05/27/09	57848	Y	ES-M06-080520
East	M8	ES-M08-080610	LEAD	99.1	05/04/09	57400	Y	ES-M08-080610
East	M9	ES-M09-080611	LEAD	30.2	05/04/09	57400	Y	ES-M09-080611
East	N2	ES-N02-080528	LEAD	18.4	05/27/09	57848	Y	ES-N02-080528
East	N3	ES-N03-080520	LEAD	16.3	05/27/09	57848	Y	ES-N03-080520
East	N4	ES-N04-080519	LEAD	20.3	05/27/09	57848	Y	ES-N04-080519
East	N5	ES-N05-080519	LEAD	19.2	05/27/09	57848	Y	ES-N05-080519

LEAD CVS Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East	N6	ES-N06-080527	LEAD	20.1	06/05/09	58137	Y	ES-N06-080527
East	N7	ES-N07-080530	LEAD	41.6	06/05/09	58137	Y	ES-N07-080530
East	N8	ES-N08-080610	LEAD	18.5	05/04/09	57400	Y	ES-N08-080610
East	N9	ES-N09-080610	LEAD	33.6	05/04/09	57400	Y	ES-N09-080610
East	N10	ES-N10-080610	LEAD	33.8	05/04/09	57400	Y	ES-N10-080610
East	O3	ES-O03-080528	LEAD	16.8	06/05/09	58137	Y	ES-O03-080528
East	O4	ES-O04-080515	LEAD	14.4	06/05/09	58137	Y	ES-O04-080515
East	O5	ES-O05-080520	LEAD	16.3	06/05/09	58137	Y	ES-O05-080520
East	O6	ES-O06-080529	LEAD	11.1	06/05/09	58137	Y	ES-O06-080529
East	O8	ES-O08-080530	LEAD	20.8	07/24/09	59758	Y	ES-O08-080530
East	P4	ES-P04-080528	LEAD	19.8	05/27/09	57790	Y	DUP-16
East	P4	ES-P04-080528	LEAD	16.5	06/05/09	58137	Y	ES-P04-080528
East	P5	ES-P05-080513	LEAD	12.7	06/05/09	58137	Y	ES-P05-080513
East	P6	ES-P06-080515	LEAD	14.7	05/27/09	57790	Y	DUP-12
East	P6	ES-P06-080515	LEAD	12.1	06/05/09	58137	Y	ES-P06-080515
East	P7	ES-P07-080519	LEAD	14.9	05/27/09	57848	Y	ES-P07-080519
East	P8	ES-P08-080530	LEAD	15.8	06/05/09	58137	Y	ES-P08-080530
East	P10	ES-P10-080606	LEAD	40.4	05/04/09	57400	Y	ES-P10-080606
East	P11	ES-P11-080606	LEAD	41.8	05/04/09	57400	Y	ES-P11-080606
East	Q5	ES-Q05-080520	LEAD	19.1	06/05/09	58137	Y	ES-Q05-080520
East	Q9	ES-Q09-080612	LEAD	14.7	06/05/09	58137	Y	ES-Q09-080612
East	Q10	ES-Q10-080606	LEAD	35.1	05/08/09	57514	Y	ES-Q10-080606
East	Q11	ES-Q11-080606	LEAD	25.4	05/08/09	57514	Y	ES-Q11-080606
East	Q17	ES-Q17-080609	LEAD	34.8	05/03/09	57100	Y	ES-Q17-080609
East	R5	ES-R05-080521	LEAD	67.4	06/05/09	58137	Y	ES-R05-080521
East	R6	ES-R06-080521	LEAD	10.6	06/19/09	58563	Y	ES-R06-080521
East	R7	ES-R07-080521	LEAD	11.2	06/11/09	58213	Y	ES-R07-080521
East	R9	ES-R09-080520	LEAD	11.5	06/11/09	58213	Y	ES-R09-080520
East	R10	ES-R10-080602	LEAD	11.3	06/11/09	58213	Y	ES-R10-080602
East	R11	ES-R11-080605	LEAD	17.9	05/08/09	57514	Y	ES-R11-080605
East	R12	ES-R12-080611	LEAD	17.3	05/08/09	57514	Y	ES-R12-080611
East	R16	ES-R16-080605	LEAD	16.7	05/03/09	57100	Y	ES-R16-080605
East	R17	ES-R17-080606	LEAD	15	05/03/09	57100	Y	ES-R17-080606
East	S5	ES-S05-080521	LEAD	15.4	06/11/09	58213	Y	ES-S05-080521
East	S6	ES-S06-080521	LEAD	12.6	06/11/09	58213	Y	ES-S06-080521
East	S7	ES-S07-080521	LEAD	11.9	06/11/09	58213	Y	ES-S07-080521
East	S9	ES-S09-080522	LEAD	11.8	06/11/09	58213	Y	ES-S09-080522
East	S10	ES-S10-080523	LEAD	11.1	06/11/09	58213	Y	ES-S10-080523
East	S11	ES-S11-080528	LEAD	10.4	06/11/09	58213	Y	ES-S11-080528
East	S12	ES-S12-080609	LEAD	14.8	05/03/09	57100	Y	ES-S12-080609
East	S13	ES-S13-080610	LEAD	16.2	05/03/09	57100	Y	ES-S13-080610
East	S18	ES-S18-080606	LEAD	15.1	05/03/09	57100	Y	ES-S18-080606
East	T7	ES-T07-080612	LEAD	11.5	06/11/09	58213	Y	ES-T07-080612
East	T8	ES-T08-080522	LEAD	13.5	06/05/09	58137	Y	DUP-13

LEAD CVS Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East	T8	ES-T08-080522	LEAD	11.4	06/11/09	58213	Y	ES-T08-080522
East	T9	ES-T09-080522	LEAD	14.2	06/11/09	58213	Y	ES-T09-080522
East	T10	ES-T10-080523	LEAD	16.2	06/11/09	58213	Y	ES-T10-080523
East	T10	ES-T10-080523	LEAD	17.3	06/11/09	58213	Y	DUP-14
East	T11	ES-T11-080530	LEAD	12.5	06/11/09	58213	Y	ES-T11-080530
East	T12	ES-T12-080609	LEAD	17	05/03/09	57100	Y	ES-T12-080609
East	T13	ES-T13-080609	LEAD	16.5	05/03/09	57100	Y	ES-T13-080609
East	T14	ES-T14-080610	LEAD	18.8	05/03/09	57100	Y	ES-T14-080610
East	U10	ES-U10-080523	LEAD	11.2	06/11/09	58213	Y	ES-U10-080523
East	U11	ES-U11-080602	LEAD	14.6	06/19/09	58563	Y	ES-U11-080602
East	U13	ES-U13-080610	LEAD	32.3	05/04/09	57400	Y	ES-U13-080610
East	U14	ES-U14-080610	LEAD	19.5	05/04/09	57400	Y	ES-U14-080610
East	V11	ES-V11-080529	LEAD	13.2	06/19/09	58563	Y	ES-V11-080529
East	V14	ES-V14-080605	LEAD	22.4	05/04/09	57400	Y	ES-V14-080605
East	W12	ES-W12-080527	LEAD	15.1	06/19/09	58563	Y	ES-W12-080527
West	A4	WS-A04-080626	LEAD	17.4	07/11/09	59382	Y	WS-A04-080626
West	B3	WS-B03-080502	LEAD	15.6	07/11/09	59382	Y	WS-B03-080502
West	B4	WS-B04-080626	LEAD	11	07/11/09	59382	Y	WS-B04-080626
West	B5	WS-B05-080626	LEAD	10.4	07/24/09	59758	Y	WS-B05-080626
West	C1	WS-C01-080501	LEAD	44.3	06/19/09	58563	Y	WS-C01-080501
West	C1	WS-C01-080501	LEAD	42.9	06/19/09	58563	Y	DUP-3
West	C2	WS-C02-080428	LEAD	31.8	07/22/09	59623	Y	WS-C02-080428
West	C3	WS-C03-080620	LEAD	17	07/22/09	59623	Y	WS-C03-080620
West	C4	WS-C04-080623	LEAD	18.2	07/22/09	59623	Y	WS-C04-080623
West	C5	WS-C05-080620	LEAD	11.7	07/24/09	59758	Y	WS-C05-080620
West	C6	WS-C06-080624	LEAD	13.8	07/24/09	59758	Y	WS-C06-080624
West	D1	WS-D01-080430	LEAD	30.8	06/19/09	58563	Y	WS-D01-080430
West	D2	WS-D02-080429	LEAD	12	07/11/09	59382	Y	DUP-2
West	D2	WS-D02-080429	LEAD	11.2	07/22/09	59623	Y	WS-D02-080429
West	D3	WS-D03-080620	LEAD	13	07/22/09	59623	Y	WS-D03-080620
West	D4	WS-D04-080623	LEAD	25.4	08/17/09	60440	Y	WS-D04-080623
West	D5	WS-D05-080620	LEAD	13.4	07/24/09	59758	Y	WS-D05-080620
West	D6	WS-D06-080619	LEAD	12.8	07/24/09	59758	Y	WS-D06-080619
West	D7	WS-D07-080619	LEAD	13	07/24/09	59758	Y	WS-D07-080619
West	E1	WS-E01-080430	LEAD	30.9	06/19/09	58563	Y	WS-E01-080430
West	E2	WS-E02-080428	LEAD	28.1	07/11/09	59382	Y	DUP-1
West	E2	WS-E02-080428	LEAD	30.5	07/22/09	59623	Y	WS-E02-080428
West	E3	WS-E03-080619	LEAD	10.5	07/22/09	59623	Y	WS-E03-080619
West	E4	WS-E04-080613	LEAD	20.7	07/24/09	59758	Y	WS-E04-080613
West	E5	WS-E05-080613	LEAD	16.8	07/24/09	59758	Y	WS-E05-080613
West	E6	WS-E06-080613	LEAD	11.4	07/24/09	59758	Y	WS-E06-080613
West	E7	WS-E07-080613	LEAD	12.6	07/24/09	59758	Y	WS-E07-080613
West	F1	WS-F01-080429	LEAD	47.2	06/19/09	58563	Y	WS-F01-080429
West	F2	WS-F02-080429	LEAD	57.8	07/22/09	59623	Y	WS-F02-080429

LEAD CVS Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West	F3	WS-F03-080619	LEAD	57.5	07/22/09	59623	Y	WS-F03-080619
West	F4	WS-F04-080616	LEAD	50.4	07/30/09	59890	Y	WS-F04-080616
West	F5	WS-F05-080612	LEAD	106	08/17/09	60440	Y	WS-F05-080612
West	F6	WS-F06-080612	LEAD	12	07/30/09	59890	Y	WS-F06-080612
West	F7	WS-F07-080617	LEAD	22.9	06/30/09	58729	Y	WS-F07-080617
West	F8	WS-F08-080618	LEAD	36.7	06/30/09	58729	Y	WS-F08-080618
West	G1	WS-G01-080501	LEAD	34.9	06/19/09	58563	Y	DUP-4
West	G1	WS-G01-080501	LEAD	34.9	06/30/09	58729	Y	WS-G01-080501
West	G2	WS-G02-080618	LEAD	60.3	07/22/09	59623	Y	WS-G02-080618
West	G3	WS-G03-080619	LEAD	12.3	07/22/09	59623	Y	WS-G03-080619
West	G4	WS-G04-080616	LEAD	9.8	07/30/09	59890	Y	WS-G04-080616
West	G6	WS-G06-080616	LEAD	12.3	07/30/09	59890	Y	WS-G06-080616
West	G7	WS-G07-080617	LEAD	61.2	06/30/09	58729	Y	WS-G07-080617
West	H1	WS-H01-080501	LEAD	25.2	06/30/09	58729	Y	WS-H01-080501
West	H2	WS-H02-080618	LEAD	26.3	07/22/09	59623	Y	WS-H02-080618
West	H3	WS-H03-080619	LEAD	9.7	07/30/09	59890	Y	WS-H03-080619
West	H4	WS-H04-080616	LEAD	9.2	07/30/09	59890	Y	WS-H04-080616
West	H6	WS-H06-080617	LEAD	28.7	06/30/09	58729	Y	WS-H06-080617
West	I1	WS-I01-080501	LEAD	38.9	06/30/09	58729	Y	WS-I01-080501
West	I1	WS-I01-080501	LEAD	38.6	06/30/09	58729	Y	DUP-5
West	I2	WS-I02-080618	LEAD	36	07/24/09	59758	Y	WS-I02-080618
West	I3	WS-I03-080618	LEAD	15.5	07/30/09	59890	Y	WS-I03-080618
West	I4	WS-I04-080617	LEAD	12.5	07/30/09	59890	Y	WS-I04-080617
West	I5	WS-I05-080617	LEAD	20.1	06/30/09	58729	Y	WS-I05-080617
West	I6	WS-I06-080617	LEAD	50.6	06/30/09	58729	Y	WS-I06-080617
West	J1	WS-J01-080505	LEAD	49.7	06/30/09	58729	Y	DUP-6
West	J1	WS-J01-080505	LEAD	46.3	06/30/09	58729	Y	WS-J01-080505
West	J2	WS-J02-080624	LEAD	35.9	06/30/09	58729	Y	WS-J02-080624
West	J3	WS-J03-080620	LEAD	31.3	07/08/09	59165	Y	WS-J03-080620
West	J4	WS-J04-080617	LEAD	63.6	07/08/09	59165	Y	WS-J04-080617
West	J5	WS-J05-080618	LEAD	32.9	07/08/09	59165	Y	WS-J05-080618
West	K1	WS-K01-080505	LEAD	44.6	07/08/09	59165	Y	WS-K01-080505
West	K2	WS-K02-080509	LEAD	33.5	07/08/09	59165	Y	WS-K02-080509
West	K3	WS-K03-080509	LEAD	48.6	07/08/09	59165	Y	WS-K03-080509
West	K4	WS-K04-080513	LEAD	31.1	07/08/09	59165	Y	WS-K04-080513
West	K4	WS-K04-080513	LEAD	32.5	07/24/09	59758	Y	DUP-10
West	K5	WS-K05-080509	LEAD	30	07/08/09	59165	Y	WS-K05-080509
West	L1	WS-L01-080505	LEAD	38.6	07/08/09	59165	Y	WS-L01-080505
West	L2	WS-L02-080508	LEAD	24.1	07/08/09	59165	Y	WS-L02-080508
West	L3	WS-L03-080508	LEAD	49	07/08/09	59165	Y	WS-L03-080508
West	L4	WS-L04-080508	LEAD	17.1	07/08/09	59165	Y	DUP-9
West	L4	WS-L04-080508	LEAD	17.6	07/08/09	59165	Y	WS-L04-080508
West	M1	WS-M01-080505	LEAD	36.8	07/08/09	59165	Y	WS-M01-080505
West	M1	WS-M01-080505	LEAD	38.2	07/08/09	59165	Y	DUP-7

LEAD CVS Results from 09/11/09 database								
Site	quarter_acre _grid	sample_location	chemical_name	result_value	analysis_ date	batch_id	detect _flag	sample_name
West	M2	WS-M02-080507	LEAD	62.9	07/24/09	59758	Y	WS-M02-080507
West	M3	WS-M03-080507	LEAD	65.7	07/22/09	59623	Y	DUP-8
West	M3	WS-M03-080507	LEAD	64.5	08/11/09	60089	Y	WS-M03-080507
West	M4	WS-M04-080507	LEAD	72.5	08/11/09	60089	Y	WS-M04-080507
West	N1	WS-N01-080506	LEAD	29.7	08/11/09	60089	Y	WS-N01-080506
West	N2	WS-N02-080506	LEAD	35.5	07/11/09	59382	Y	WS-N02-080506
West	N3	WS-N03-080507	LEAD	47.6	06/30/09	58729	Y	WS-N03-080507
West	O1	WS-O01-080506	LEAD	34.4	07/11/09	59382	Y	WS-O01-080506
West	O2	WS-O02-080506	LEAD	43.1	07/11/09	59382	Y	WS-O02-080506

Table Mn-1: Manganese Data Quality Summary			
Laboratory Performance Criteria	Criteria	Measured	Comment
Minimum LCS Recovery	greater than 80%	87%	
Minimum Matrix Spike Recovery	greater than 70%	21%	
Average LCS Recovery	N/A	97%	
Average Matrix Spike Recovery	N/A	90%	
Maximum LCS RPD	less than 20%	5%	
Maximum Laboratory Duplicate RPD	less than 20%	22%	
Average LCS RPD	N/A	2%	
Average Laboratory Duplicate RPD	N/A	3%	
Measurement Quality Objectives	Critera	Measured	
NPS CRM	Recovery greater than 1576 ı	Minimum Recovery =	1630 mg/kg
EQIS CRM	See Note 1		
CVS Split Analysis RPD	RPD less than 35%	Maximum RPD =	16 %
CRM Split Analysis RPD	RPD less than 35%	Maximum RPD =	12 %
Overall QC Indicator Measurements	Criteria	Measured	
NPS CRM "Made to" (Bias measure)	N/A	Average Recovery =	92.4 %
NPS Replicate Test (Precision measure)	N/A	Standard Deviation =	71.7 mg/kg
Data Quality Relative to Remediation Goals			
Tier 1 Remediation Goal	3650		
Tier 2 Remediation Goal	none		
QC Derived reliance Level	3987 mg/kg	See Note 2	

Comments: A very low matrix spike recovery is associated with laboratory batch 54821-822. This batch did not include CVS samples but rather included background samples used to verify comparability of CVS data with analogous RI measurements. The second and third lowest matrix spike recoveries for manganese (both 67%) are also lower than laboratory performance criteria (70%). This suggests a potential bias favoring low concentration measurements. The occurrence of a maximum laboratory duplicate RPD (22%) that exceeds laboratory performance criteria (20%) suggests a potential instrument or laboratory procedural problem. The CVS and CRM split maximum RPDs (16% and 24% respectively) are favorably low; the NPS replicate test standard deviation (71.7 mg/kg) is low relative to the mean concentration (754 mg/kg); and the average NPS CRM recovery (92.4%) is favorably high. These favorable QC values result in a derived reliance level that is greater than the RG, as desired. Therefore, it is concluded that manganese CVS measurements are of acceptable quality and may be used to determine RG achievement.

Note 1: The QAPP required CRMs have only 4 analytes from each analyte group, and manganese is not one of those analytes.

Note 2: Derived reliance level is calculated as: (Tier 1 RG)(1.2)(Average Recovery)-(0.84)(Standard deviation) = (3650)(1.2)(.924)-(0.84)(71.7) = 3987 mg/kg

Table Mn-2: Manganese - NPS CRMs				
Blind NPS CRM Results				
Sample	Result	Analysis Date	Batch	Detect
BOR Sample 1-BOR 56	1770	5/1/09	57223	Y
BOR Sample 6-BOR 81	1690	5/1/09	57284	Y
BOR Sample 4-BOR 82	1660	5/11/09	57543	Y
BOR 83	1760	5/24/09	57792	Y
BOR Sample 3-BOR 58	1700	5/24/09	57792	Y
BOR 84	1640	5/28/09	57847	Y
BOR Sample 7-BOR 105	1670	5/28/09	57847	Y
BOR 85	1890	6/9/09	58135	Y
BOR Sample 8-BOR 106	1890	6/9/09	58135	Y
BOR 86	1630	6/10/09	58212	Y
BOR 108	1780	6/20/09	58565	Y
BOR 87	1890	6/20/09	58565	Y
BOR 109	1830	6/29/09	58728	Y
BOR 110	1730	7/13/09	59381	Y
BOR Sample 9-BOR 107	1840	7/27/09	59757	Y
BOR 111	1730	7/29/09	59889	Y

CRMs		Vendor Supplied Information
Mean	1756	*"Made to"*
Standard Error	23	*1900 mg/kg*
Median	1745	
Standard Deviation	90	*Upper Acceptance Limit*
Sample Variance	8132	*1937 mg/kg*
Kurtosis	-1.23	
Skewness	0.27	*Lower Acceptance Limit*
Range	260	*1576 mg/kg*
Minimum	1630	
Maximum	1890	
Sum	28100	
Count	16	
Largest(2)	1890	
Smallest(2)	1640	

Table Mn-3: Manganese-NPS Replicate Tests on a Background Sample

Results of Replicate Analyses of a Single Sample

Sample	Result	Analysis Date	Batch	Detect
BOR 112	767	5/1/09	57223	Y
BOR 59	618	5/1/09	57284	Y
BOR 60	708	5/11/09	57543	Y
BOR 113	762	5/24/09	57792	Y
BOR 61	755	5/24/09	57792	Y
BOR 62	762	6/10/09	58212	Y
BOR 63	733	6/20/09	58565	Y
BOR 89	604	6/20/09	58565	Y
BOR 115	876	6/29/09	58728	Y
BOR 64	753	7/8/09	59163	Y
BOR 91	844	7/8/09	59163	Y
BOR 116	786	7/13/09	59381	Y
BOR 92	804	7/13/09	59381	Y
BOR 65	792	7/20/09	59621	Y
BOR 88	742	7/29/09	59889	Y

Replicate analyses of Single Sample	
Mean	754
Standard Error	19
Median	762
Standard Deviation	72
Sample Variance	5139
Kurtosis	1.00
Skewness	-0.71
Range	272
Minimum	604
Maximum	876
Sum	11306
Count	15
Largest(2)	844
Smallest(2)	618

Table Mn-4: Manganese NPS and EQIS Duplicates

Sample	Result	Analysis Date	Batch	Split	Result	Analysis Date	RPD
BOR 503	778	5/1/09	57284	ES-T11-080530	662	6/10/2009	16
BOR 506	309	5/11/09	57543	ES-S10-080523	348	6/10/2009	12
BOR 504	420	5/24/09	57792	ES-M05-080527	490	5/28/2009	15
BOR 507	334	6/9/09	58135	ES-O09-080610			
BOR 508	510	6/20/09	58565	ES-Q11-080606	501	5/11/2009	2
BOR 510	344	6/29/09	58728	OU-8HR-080605	308	5/1/2009	11
BOR 501	356	7/8/09	59163	WS-L04-080508	376	7/8/2009	5
BOR 505	329	7/20/09	59621	WS-K03-080509	331	7/8/2009	1
BOR 502	278	7/27/09	59757	WS-F05-080612	258	8/18/2009	7
BOR 509	466	7/27/09	59757	WS-E06-080613	472	7/27/2009	1
DUP-11	270	5/1/09	57147	ES-J03-080513	287	6/20/2009	6
DUP-17	753	5/1/09	57284	ES-F01-080529	774	5/11/2009	3
DUP-15	488	5/11/09	57543	ES-J02-080527	491	5/24/2009	1
DUP-18	303	5/11/09	57543	ES-J04-080530	293	5/24/2009	3
DUP-12	443	5/24/09	57792	ES-P06-080515	442	6/9/2009	0
DUP-16	278	5/24/09	57792	ES-P04-080528	290	6/9/2009	4
DUP-19	283	5/28/09	57847	ES-K05-080605	283	5/28/2009	0
DUP-13	308	6/9/09	58135	ES-T08-080522	320	6/10/2009	4
DUP-14	417	6/10/09	58212	ES-T10-080523	419	6/10/2009	0
DUP-3	403	6/20/09	58565	WS-C01-080501	431	6/20/2009	7
DUP-4	735	6/20/09	58565	WS-G01-080501	762	6/29/2009	4
DUP-5	688	6/29/09	58728	WS-I01-080501	699	6/29/2009	2
DUP-6	1020	6/29/09	58728	WS-J01-080505	999	6/29/2009	2
DUP-7	577	7/8/09	59163	WS-M01-080505	575	7/8/2009	0
DUP-9	369	7/8/09	59163	WS-L04-080508	376	7/8/2009	2
DUP-1	389	7/13/09	59381	WS-E02-080428	388	7/20/2009	0
DUP-2	438	7/13/09	59381	WS-D02-080429	448	7/20/2009	2
DUP-8	251	7/20/09	59621	WS-M03-080507	251	8/5/2009	0
DUP-10	308	7/27/09	59757	WS-K04-080513	304	7/8/2009	1

RPD of Sample Splits	
Mean	4.02
Standard Error	0.86
Median	2.17
Standard Deviation	4.56
Sample Variance	20.80
Kurtosis	1.58
Skewness	1.53
Range	16.11
Minimum	0.00
Maximum	16.11
Sum	112.62
Count	28
Largest(2)	15.38
Smallest(2)	0.00

Table Mn-5: Manganese EQIS CRMs

Results of Duplicate Analysis of EQIS CRMs

Sample	Result	Date	Batch	Detect	Average	RPD
ES-Z09-080529A	6300	5/1/09	57284	Y		
ES-Z09-080529B	6310	5/1/09	57284	Y	6305	0
ES-Z11-080605A	6990	5/1/09	57147	Y		
ES-Z11-080605B	6610	5/1/09	57147	Y	6800	6
ES-Z12-080606A	6450	5/1/09	57284	Y		
ES-Z12-080606B	6210	5/1/09	57284	Y	6330	4
ES-Z05-080519A	6740	5/11/09	57543	Y		
ES-Z05-080519B	6480	5/11/09	57543	Y	6610	4
ES-Z06-080520A	6490	5/11/09	57543	Y		
ES-Z06-080520B	6670	5/11/09	57543	Y	6580	3
ES-Z07-080522A	6630	5/24/09	57792	Y		
ES-Z07-080522B	6610	5/24/09	57792	Y	6620	0
ES-Z13-080610A	6430	5/28/09	57847	Y		
ES-Z13-080610B	6440	5/28/09	57847	Y	6435	0
ES-Z10-080602A	6780	6/9/09	58135	Y		
ES-Z10-080602B	7020	6/9/09	58135	Y	6900	3
ES-Z08-080527A	6190	6/10/09	58212	Y		
ES-Z08-080527B	6730	6/10/09	58212	Y	6460	8
ES-Z14-080611A	7420	6/20/09	58565	Y		
ES-Z14-080611B	7320	6/20/09	58565	Y	7370	1
ES-Z06-080520C	7360	6/29/09	58728	Y		
ES-Z06-080520D	8320	6/29/09	58728	Y	7840	12
ES-Z05-080519C	7440	7/8/09	59163	Y		
ES-Z05-080519D	7140	7/8/09	59163	Y	7290	4
ES-Z19-080624A	7100	7/13/09	59381	Y		
ES-Z19-080624B	6980	7/13/09	59381	Y	7040	2
WS-Z17-080618A	7080	7/13/09	59381	Y		
WS-Z17-080618B	7110	7/13/09	59381	Y	7095	0
WS-Z15-080613A	7260	7/20/09	59621	Y		
WS-Z15-080613B	6880	7/20/09	59621	Y	7070	5
WS-Z18-080620A	6590	7/20/09	59621	Y		
WS-Z18-080620B	7150	7/20/09	59621	Y	6870	8
WS-Z16-080617A	6630	7/29/09	59889	Y		
WS-Z16-080617B	6980	7/29/09	59889	Y	6805	5

Analysis of EQIS CRMs	
Mean	6848
Standard Error	76
Median	6760
Standard Deviation	443
Sample Variance	196270
Kurtosis	2.14
Skewness	1.02
Range	2130
Minimum	6190
Maximum	8320
Sum	232840
Count	34
Largest(2)	7440
Smallest(2)	6210

RPD of EQIS CRMs	
Mean	3.94
Standard Error	
Median	3.79
Standard Deviation	3.35
Sample Variance	11.25
Kurtosis	0.85
Skewness	0.96
Range	12.09
Minimum	0.16
Maximum	12.24
Sum	67.02
Count	17
Largest(2)	8.36
Smallest(2)	0.16

Table Mn-6: Manganese Laboratory MS and LCS

Matrix Spike Recovery %	Batch	Order	LCS Recovery %	Batch	Order
100.00	7160081	1	98	49187	2
96.00	7160081	1	94	49189	3
67.00	49187	2	106	49537	4
67.00	49189	3	103	49539	5
109.00	49537	4	96	54626-627	6
103.00	49539	5	97	54821-822	7
86.00	54626-627	6	95	54891-892	8
21.00	54821-822	7	96	54915-916	9
93.00	54891-892	8	94	57147	10
93.00	54915-916	9	94	57223	11
94.00	57147	10	100	57543	12
93.00	57223	11	98	57792	13
99.00	57543	12	92	57847	14
94.00	57792	13	94	58135	15
88.00	57847	14	116	58212	16
87.00	58135	15	108	58565	17
122.00	58212	16	87	58728	18
105.00	58565	17	90	59163	19
78.00	58728	18	90	59163	19
82.00	59163	19	96	59381	20
96.00	59381	20	94	59621	21
96.00	59621	21	93	59757	22
90.00	59757	22	92	59889	23
91.00	59889	23	101	60088	24
104.00	60088	24	99	60439	25
95.00	60439	25	99	60439	25

Average MS Recovery = 90 % Average LCS Recovery = 97 %

Minimum MS Recovery = 21 % Minimum LCS Recovery = 87 %

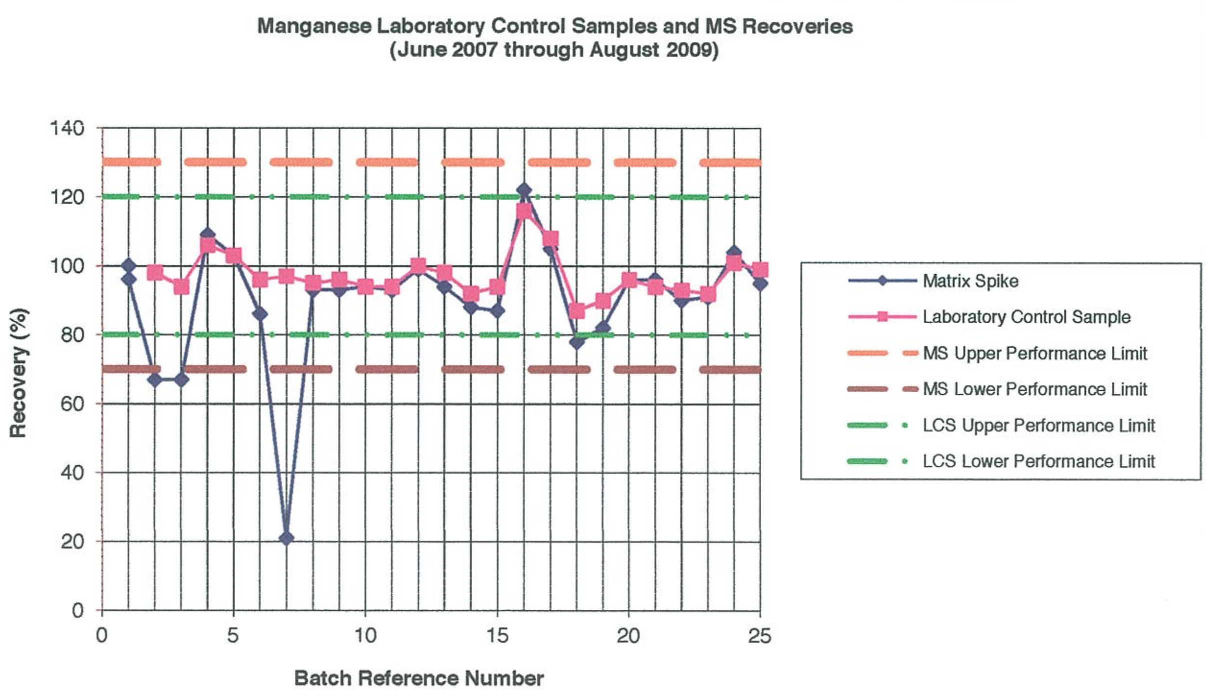
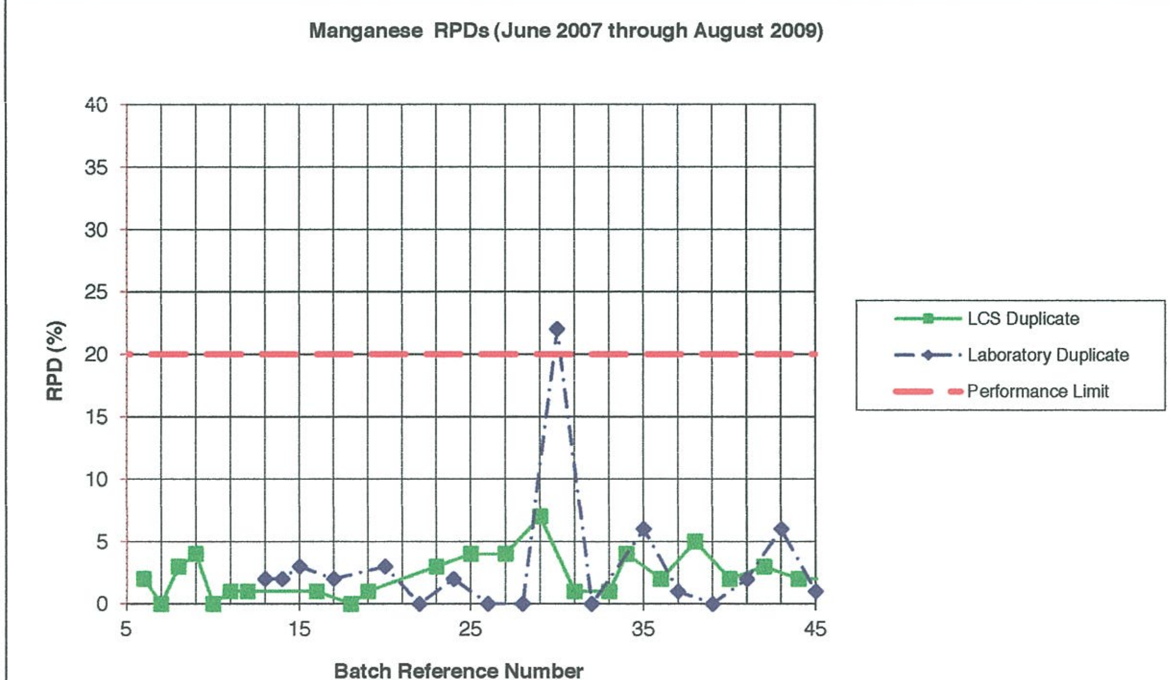
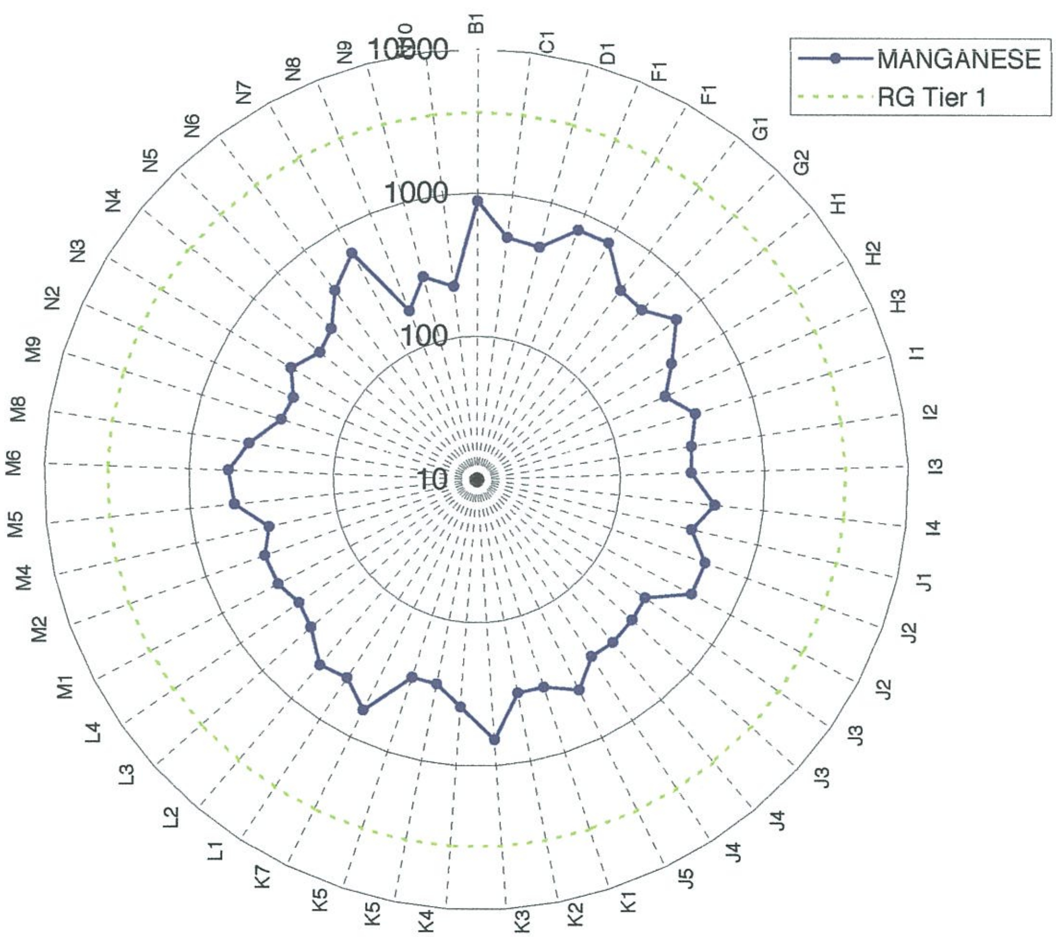


Table Mn-7: Manganese - Laboratory Duplicates and LCS Duplicates					
Laboratory Duplicate RPD		Batch Order	LCS Duplicate RPD		Batch Order
2.00	57147	13	2.00	54626-627	6
2.00	57223	14	0.00	54821-822	7
3.00	57284	15	3.00	54891-892	8
2.00	57543	17	4.00	54915-916	9
3.00	57792	20	0.00	57147	10
0.00	57847	22	1.00	57223	11
2.00	58135	24	1.00	57284	12
0.00	58212	26	1.00	57543	16
0.00	58565	28	0.00	57792	18
22.00	58728	30	1.00	57847	19
0.00	59163	32	3.00	58135	23
6.00	59381	35	4.00	58212	25
1.00	59621	37	4.00	58565	27
0.00	59757	39	1.00	59163	31
2.00	59889	41	1.00	59163	33
6.00	60088	43	4.00	59381	34
1.00	60439	45	2.00	59621	36
			5.00	59757	38
			2.00	59889	40
			3.00	60088	42
			2.00	60439	44
			2.00	60439	46

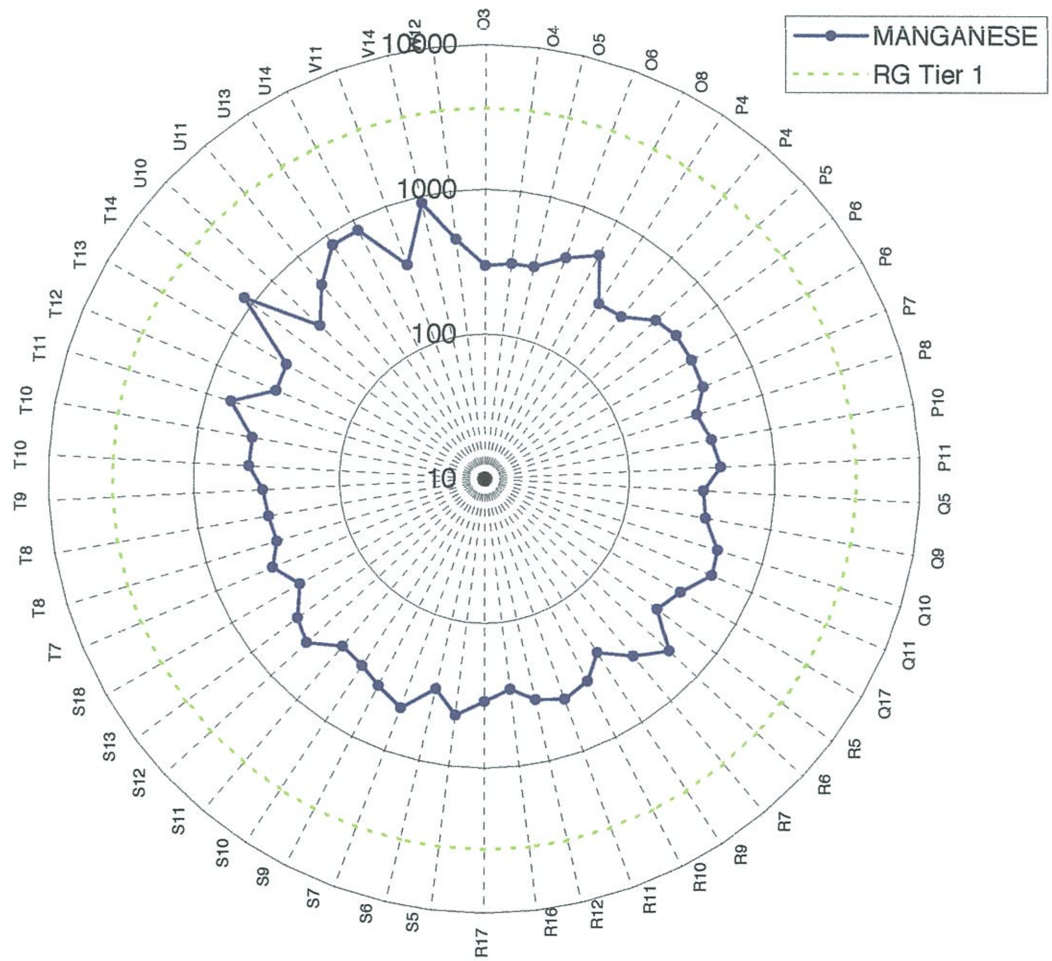
Average Duplicate RPD = 3 % Average LCS RPD = 2 %
Maximum Duplicate RPD = 22 % Maximum LCS RPD = 5 %



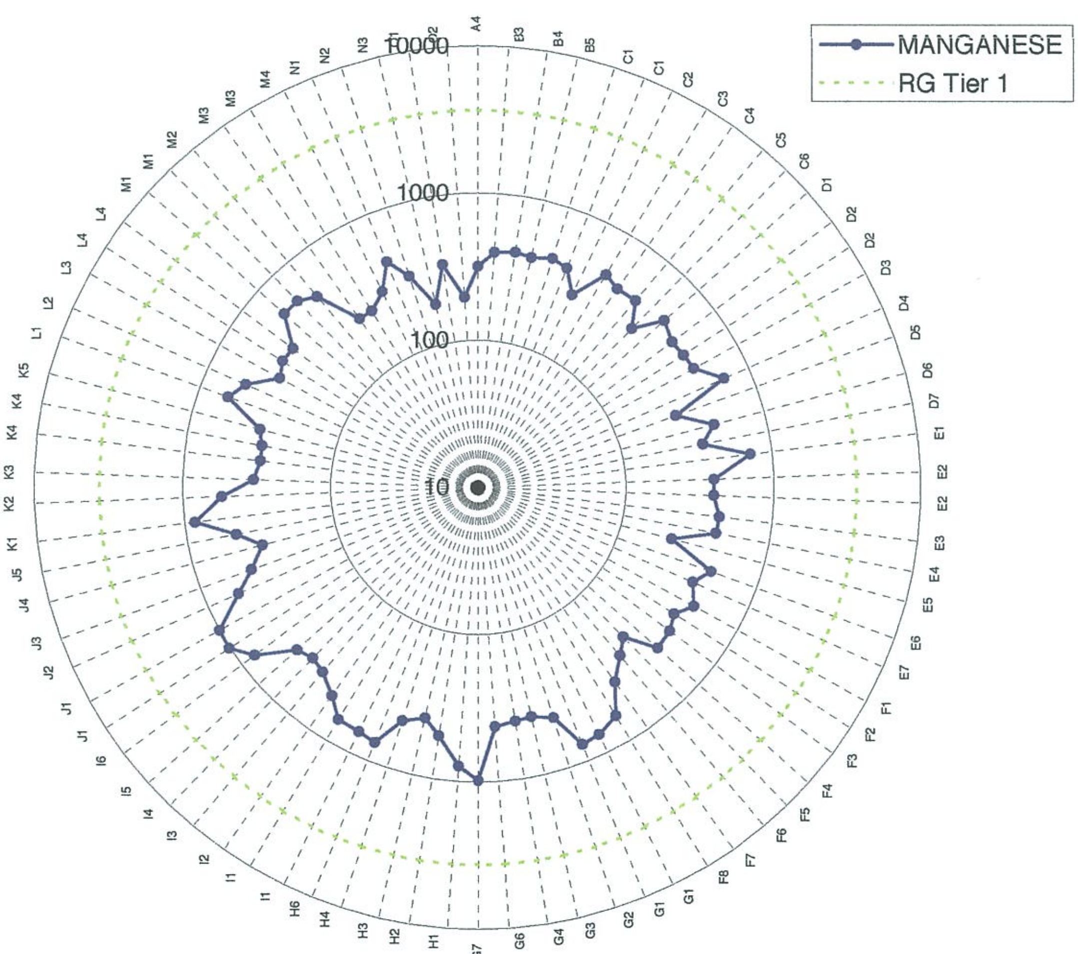
East Site
Grids A through N



East Site
Grids O through W



West Site



MANGANESE CVS Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East	B1	ES-B01-080623	MANGANESE	877	05/01/09	57147	Y	ES-B01-080623
East	C1	ES-C01-080624	MANGANESE	503	05/01/09	57147	Y	ES-C01-080624
East	D1	ES-D01-080624	MANGANESE	476	06/09/09	58135	Y	ES-D01-080624
East	F1	ES-F01-080529	MANGANESE	753	05/01/09	57284	Y	DUP-17
East	F1	ES-F01-080529	MANGANESE	774	05/11/09	57543	Y	ES-F01-080529
East	G1	ES-G01-080529	MANGANESE	452	05/11/09	57543	Y	ES-G01-080529
East	G2	ES-G02-080605	MANGANESE	444	05/11/09	57543	Y	ES-G02-080605
East	H1	ES-H01-080528	MANGANESE	601	05/11/09	57543	Y	ES-H01-080528
East	H2	ES-H02-080515	MANGANESE	378	05/11/09	57543	Y	ES-H02-080515
East	H3	ES-H03-080605	MANGANESE	271	05/24/09	57792	Y	ES-H03-080605
East	I1	ES-I01-080529	MANGANESE	387	05/24/09	57792	Y	ES-I01-080529
East	I2	ES-I02-080514	MANGANESE	325	05/24/09	57792	Y	ES-I02-080514
East	I3	ES-I03-080513	MANGANESE	307	05/24/09	57792	Y	ES-I03-080513
East	I4	ES-I04-080602	MANGANESE	457	05/24/09	57792	Y	ES-I04-080602
East	J1	ES-J01-080529	MANGANESE	339	05/24/09	57792	Y	ES-J01-080529
East	J2	ES-J02-080527	MANGANESE	488	05/11/09	57543	Y	DUP-15
East	J2	ES-J02-080527	MANGANESE	491	05/24/09	57792	Y	ES-J02-080527
East	J3	ES-J03-080513	MANGANESE	270	05/01/09	57147	Y	DUP-11
East	J3	ES-J03-080513	MANGANESE	287	06/20/09	58565	Y	ES-J03-080513
East	J4	ES-J04-080530	MANGANESE	303	05/11/09	57543	Y	DUP-18
East	J4	ES-J04-080530	MANGANESE	293	05/24/09	57792	Y	ES-J04-080530
East	J5	ES-J05-080602	MANGANESE	426	05/24/09	57792	Y	ES-J05-080602
East	K1	ES-K01-080602	MANGANESE	331	05/24/09	57792	Y	ES-K01-080602
East	K2	ES-K02-080602	MANGANESE	328	05/11/09	57543	Y	ES-K02-080602
East	K3	ES-K03-080514	MANGANESE	660	05/24/09	57792	Y	ES-K03-080514
East	K4	ES-K04-080527	MANGANESE	390	05/28/09	57847	Y	ES-K04-080527
East	K5	ES-K05-080605	MANGANESE	283	05/28/09	57847	Y	ES-K05-080605
East	K5	ES-K05-080605	MANGANESE	283	05/28/09	57847	Y	DUP-19
East	K7	ES-K07-080611	MANGANESE	621	05/01/09	57284	Y	ES-K07-080611
East	L1	ES-L01-080625	MANGANESE	448	05/28/09	57847	Y	ES-L01-080625
East	L2	ES-L02-080625	MANGANESE	492	05/28/09	57847	Y	ES-L02-080625
East	L3	ES-L03-080604	MANGANESE	352	05/28/09	57847	Y	ES-L03-080604
East	L4	ES-L04-080604	MANGANESE	319	06/20/09	58565	Y	ES-L04-080604
East	M1	ES-M01-080527	MANGANESE	361	05/28/09	57847	Y	ES-M01-080527
East	M2	ES-M02-080519	MANGANESE	367	05/28/09	57847	Y	ES-M02-080519
East	M4	ES-M04-080515	MANGANESE	303	05/28/09	57847	Y	ES-M04-080515
East	M5	ES-M05-080527	MANGANESE	490	05/28/09	57847	Y	ES-M05-080527
East	M6	ES-M06-080520	MANGANESE	531	05/28/09	57847	Y	ES-M06-080520
East	M8	ES-M08-080610	MANGANESE	398	05/01/09	57284	Y	ES-M08-080610
East	M9	ES-M09-080611	MANGANESE	263	05/01/09	57284	Y	ES-M09-080611
East	N2	ES-N02-080528	MANGANESE	249	05/28/09	57847	Y	ES-N02-080528

MANGANESE CVS Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East	N3	ES-N03-080520	MANGANESE	321	05/28/09	57847	Y	ES-N03-080520
East	N4	ES-N04-080519	MANGANESE	254	05/28/09	57847	Y	ES-N04-080519
East	N5	ES-N05-080519	MANGANESE	287	05/28/09	57847	Y	ES-N05-080519
East	N6	ES-N06-080527	MANGANESE	444	06/09/09	58135	Y	ES-N06-080527
East	N7	ES-N07-080530	MANGANESE	634	06/09/09	58135	Y	ES-N07-080530
East	N8	ES-N08-080610	MANGANESE	185	05/01/09	57284	Y	ES-N08-080610
East	N9	ES-N09-080610	MANGANESE	291	05/04/09	57284	Y	ES-N09-080610
East	N10	ES-N10-080610	MANGANESE	228	05/01/09	57284	Y	ES-N10-080610
East	O3	ES-O03-080528	MANGANESE	298	06/09/09	58135	Y	ES-O03-080528
East	O4	ES-O04-080515	MANGANESE	314	06/09/09	58135	Y	ES-O04-080515
East	O5	ES-O05-080520	MANGANESE	318	06/09/09	58135	Y	ES-O05-080520
East	O6	ES-O06-080529	MANGANESE	422	06/09/09	58135	Y	ES-O06-080529
East	O8	ES-O08-080530	MANGANESE	544	07/27/09	59757	Y	ES-O08-080530
East	P4	ES-P04-080528	MANGANESE	278	05/24/09	57792	Y	DUP-16
East	P4	ES-P04-080528	MANGANESE	290	06/09/09	58135	Y	ES-P04-080528
East	P5	ES-P05-080513	MANGANESE	406	06/09/09	58135	Y	ES-P05-080513
East	P6	ES-P06-080515	MANGANESE	443	05/24/09	57792	Y	DUP-12
East	P6	ES-P06-080515	MANGANESE	442	06/09/09	58135	Y	ES-P06-080515
East	P7	ES-P07-080519	MANGANESE	430	05/28/09	57847	Y	ES-P07-080519
East	P8	ES-P08-080530	MANGANESE	336	06/09/09	58135	Y	ES-P08-080530
East	P10	ES-P10-080606	MANGANESE	383	05/01/09	57284	Y	ES-P10-080606
East	P11	ES-P11-080606	MANGANESE	422	05/01/09	57284	Y	ES-P11-080606
East	Q5	ES-Q05-080520	MANGANESE	321	06/09/09	58135	Y	ES-Q05-080520
East	Q9	ES-Q09-080612	MANGANESE	350	06/09/09	58135	Y	ES-Q09-080612
East	Q10	ES-Q10-080606	MANGANESE	475	05/11/09	57543	Y	ES-Q10-080606
East	Q11	ES-Q11-080606	MANGANESE	501	05/11/09	57543	Y	ES-Q11-080606
East	Q17	ES-Q17-080609	MANGANESE	363	05/01/09	57147	Y	ES-Q17-080609
East	R5	ES-R05-080521	MANGANESE	309	06/09/09	58135	Y	ES-R05-080521
East	R6	ES-R06-080521	MANGANESE	545	06/20/09	58565	Y	ES-R06-080521
East	R7	ES-R07-080521	MANGANESE	395	06/10/09	58212	Y	ES-R07-080521
East	R9	ES-R09-080520	MANGANESE	268	06/10/09	58212	Y	ES-R09-080520
East	R10	ES-R10-080602	MANGANESE	370	06/10/09	58212	Y	ES-R10-080602
East	R11	ES-R11-080605	MANGANESE	415	05/11/09	57543	Y	ES-R11-080605
East	R12	ES-R12-080611	MANGANESE	368	05/11/09	57543	Y	ES-R12-080611
East	R16	ES-R16-080605	MANGANESE	292	05/01/09	57147	Y	ES-R16-080605
East	R17	ES-R17-080606	MANGANESE	346	05/01/09	57147	Y	ES-R17-080606
East	S5	ES-S05-080521	MANGANESE	443	06/10/09	58212	Y	ES-S05-080521
East	S6	ES-S06-080521	MANGANESE	310	06/10/09	58212	Y	ES-S06-080521
East	S7	ES-S07-080521	MANGANESE	485	06/10/09	58212	Y	ES-S07-080521
East	S9	ES-S09-080522	MANGANESE	401	06/10/09	58212	Y	ES-S09-080522
East	S10	ES-S10-080523	MANGANESE	348	06/10/09	58212	Y	ES-S10-080523

MANGANESE CVS Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East	S11	ES-S11-080528	MANGANESE	327	06/10/09	58212	Y	ES-S11-080528
East	S12	ES-S12-080609	MANGANESE	463	05/01/09	57147	Y	ES-S12-080609
East	S13	ES-S13-080610	MANGANESE	400	05/01/09	57147	Y	ES-S13-080610
East	S18	ES-S18-080606	MANGANESE	289	05/01/09	57147	Y	ES-S18-080606
East	T7	ES-T07-080612	MANGANESE	377	06/10/09	58212	Y	ES-T07-080612
East	T8	ES-T08-080522	MANGANESE	308	06/09/09	58135	Y	DUP-13
East	T8	ES-T08-080522	MANGANESE	320	06/10/09	58212	Y	ES-T08-080522
East	T9	ES-T09-080522	MANGANESE	334	06/10/09	58212	Y	ES-T09-080522
East	T10	ES-T10-080523	MANGANESE	419	06/10/09	58212	Y	ES-T10-080523
East	T10	ES-T10-080523	MANGANESE	417	06/10/09	58212	Y	DUP-14
East	T11	ES-T11-080530	MANGANESE	662	06/10/09	58212	Y	ES-T11-080530
East	T12	ES-T12-080609	MANGANESE	357	05/01/09	57147	Y	ES-T12-080609
East	T13	ES-T13-080609	MANGANESE	371	05/01/09	57147	Y	ES-T13-080609
East	T14	ES-T14-080610	MANGANESE	1170	05/01/09	57147	Y	ES-T14-080610
East	U10	ES-U10-080523	MANGANESE	352	06/10/09	58212	Y	ES-U10-080523
East	U11	ES-U11-080602	MANGANESE	553	06/20/09	58565	Y	ES-U11-080602
East	U13	ES-U13-080610	MANGANESE	840	05/01/09	57284	Y	ES-U13-080610
East	U14	ES-U14-080610	MANGANESE	839	05/01/09	57284	Y	ES-U14-080610
East	V11	ES-V11-080529	MANGANESE	371	06/20/09	58565	Y	ES-V11-080529
East	V14	ES-V14-080605	MANGANESE	894	05/01/09	57284	Y	ES-V14-080605
East	W12	ES-W12-080527	MANGANESE	464	06/20/09	58565	Y	ES-W12-080527
West	A4	WS-A04-080626	MANGANESE	318	07/13/09	59381	Y	WS-A04-080626
West	B3	WS-B03-080502	MANGANESE	400	07/13/09	59381	Y	WS-B03-080502
West	B4	WS-B04-080626	MANGANESE	414	07/13/09	59381	Y	WS-B04-080626
West	B5	WS-B05-080626	MANGANESE	400	07/27/09	59757	Y	WS-B05-080626
West	C1	WS-C01-080501	MANGANESE	431	06/20/09	58565	Y	WS-C01-080501
West	C1	WS-C01-080501	MANGANESE	403	06/20/09	58565	Y	DUP-3
West	C2	WS-C02-080428	MANGANESE	286	07/20/09	59621	Y	WS-C02-080428
West	C3	WS-C03-080620	MANGANESE	483	07/20/09	59621	Y	WS-C03-080620
West	C4	WS-C04-080623	MANGANESE	442	07/20/09	59621	Y	WS-C04-080623
West	C5	WS-C05-080620	MANGANESE	453	07/27/09	59757	Y	WS-C05-080620
West	C6	WS-C06-080624	MANGANESE	315	07/27/09	59757	Y	WS-C06-080624
West	D1	WS-D01-080430	MANGANESE	491	06/20/09	58565	Y	WS-D01-080430
West	D2	WS-D02-080429	MANGANESE	438	07/13/09	59381	Y	DUP-2
West	D2	WS-D02-080429	MANGANESE	448	07/20/09	59621	Y	WS-D02-080429
West	D3	WS-D03-080620	MANGANESE	461	07/20/09	59621	Y	WS-D03-080620
West	D4	WS-D04-080623	MANGANESE	657	08/18/09	60439	Y	WS-D04-080623
West	D5	WS-D05-080620	MANGANESE	264	07/27/09	59757	Y	WS-D05-080620
West	D6	WS-D06-080619	MANGANESE	446	07/27/09	59757	Y	WS-D06-080619
West	D7	WS-D07-080619	MANGANESE	349	07/27/09	59757	Y	WS-D07-080619
West	E1	WS-E01-080430	MANGANESE	709	06/20/09	58565	Y	WS-E01-080430

MANGANESE CVS Results from 09/11/09 database								
Site	quarter_acre _grid	sample_location	chemical_name	result_value	analysis_ date	batch_id	detect _flag	sample_name
West	E2	WS-E02-080428	MANGANESE	389	07/13/09	59381	Y	DUP-1
West	E2	WS-E02-080428	MANGANESE	388	07/20/09	59621	Y	WS-E02-080428
West	E3	WS-E03-080619	MANGANESE	435	07/20/09	59621	Y	WS-E03-080619
West	E4	WS-E04-080613	MANGANESE	429	07/27/09	59757	Y	WS-E04-080613
West	E5	WS-E05-080613	MANGANESE	225	07/27/09	59757	Y	WS-E05-080613
West	E6	WS-E06-080613	MANGANESE	472	07/27/09	59757	Y	WS-E06-080613
West	E7	WS-E07-080613	MANGANESE	384	07/27/09	59757	Y	WS-E07-080613
West	F1	WS-F01-080429	MANGANESE	463	06/20/09	58565	Y	WS-F01-080429
West	F2	WS-F02-080429	MANGANESE	379	07/20/09	59621	Y	WS-F02-080429
West	F3	WS-F03-080619	MANGANESE	418	07/20/09	59621	Y	WS-F03-080619
West	F4	WS-F04-080616	MANGANESE	426	07/29/09	59889	Y	WS-F04-080616
West	F5	WS-F05-080612	MANGANESE	258	08/18/09	60439	Y	WS-F05-080612
West	F6	WS-F06-080612	MANGANESE	308	07/29/09	59889	Y	WS-F06-080612
West	F7	WS-F07-080617	MANGANESE	409	06/29/09	58728	Y	WS-F07-080617
West	F8	WS-F08-080618	MANGANESE	642	06/29/09	58728	Y	WS-F08-080618
West	G1	WS-G01-080501	MANGANESE	735	06/20/09	58565	Y	DUP-4
West	G1	WS-G01-080501	MANGANESE	762	06/29/09	58728	Y	WS-G01-080501
West	G2	WS-G02-080618	MANGANESE	440	07/20/09	59621	Y	WS-G02-080618
West	G3	WS-G03-080619	MANGANESE	395	07/20/09	59621	Y	WS-G03-080619
West	G4	WS-G04-080616	MANGANESE	404	07/29/09	59889	Y	WS-G04-080616
West	G6	WS-G06-080616	MANGANESE	426	07/29/09	59889	Y	WS-G06-080616
West	G7	WS-G07-080617	MANGANESE	982	06/29/09	58728	Y	WS-G07-080617
West	H1	WS-H01-080501	MANGANESE	787	06/29/09	58728	Y	WS-H01-080501
West	H2	WS-H02-080618	MANGANESE	509	07/20/09	59621	Y	WS-H02-080618
West	H3	WS-H03-080619	MANGANESE	405	07/29/09	59889	Y	WS-H03-080619
West	H4	WS-H04-080616	MANGANESE	465	07/29/09	59889	Y	WS-H04-080616
West	H6	WS-H06-080617	MANGANESE	741	06/29/09	58728	Y	WS-H06-080617
West	I1	WS-I01-080501	MANGANESE	699	06/29/09	58728	Y	WS-I01-080501
West	I1	WS-I01-080501	MANGANESE	688	06/29/09	58728	Y	DUP-5
West	I2	WS-I02-080618	MANGANESE	533	07/27/09	59757	Y	WS-I02-080618
West	I3	WS-I03-080618	MANGANESE	434	07/29/09	59889	Y	WS-I03-080618
West	I4	WS-I04-080617	MANGANESE	408	07/29/09	59889	Y	WS-I04-080617
West	I5	WS-I05-080617	MANGANESE	446	06/29/09	58728	Y	WS-I05-080617
West	I6	WS-I06-080617	MANGANESE	780	06/29/09	58728	Y	WS-I06-080617
West	J1	WS-J01-080505	MANGANESE	1020	06/29/09	58728	Y	DUP-6
West	J1	WS-J01-080505	MANGANESE	999	06/29/09	58728	Y	WS-J01-080505
West	J2	WS-J02-080624	MANGANESE	594	06/29/09	58728	Y	WS-J02-080624
West	J3	WS-J03-080620	MANGANESE	427	07/07/09	59163	Y	WS-J03-080620
West	J4	WS-J04-080617	MANGANESE	322	07/08/09	59163	Y	WS-J04-080617
West	J5	WS-J05-080618	MANGANESE	465	07/08/09	59163	Y	WS-J05-080618
West	K1	WS-K01-080505	MANGANESE	853	07/08/09	59163	Y	WS-K01-080505

MANGANESE CVS Results from 09/11/09 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West	K2	WS-K02-080509	MANGANESE	544	07/08/09	59163	Y	WS-K02-080509
West	K3	WS-K03-080509	MANGANESE	331	07/08/09	59163	Y	WS-K03-080509
West	K4	WS-K04-080513	MANGANESE	304	07/08/09	59163	Y	WS-K04-080513
West	K4	WS-K04-080513	MANGANESE	308	07/27/09	59757	Y	DUP-10
West	K5	WS-K05-080509	MANGANESE	335	07/08/09	59163	Y	WS-K05-080509
West	L1	WS-L01-080505	MANGANESE	628	07/08/09	59163	Y	WS-L01-080505
West	L2	WS-L02-080508	MANGANESE	521	07/08/09	59163	Y	WS-L02-080508
West	L3	WS-L03-080508	MANGANESE	340	07/08/09	59163	Y	WS-L03-080508
West	L4	WS-L04-080508	MANGANESE	376	07/08/09	59163	Y	WS-L04-080508
West	L4	WS-L04-080508	MANGANESE	369	07/08/09	59163	Y	DUP-9
West	M1	WS-M01-080505	MANGANESE	577	07/08/09	59163	Y	DUP-7
West	M1	WS-M01-080505	MANGANESE	575	07/08/09	59163	Y	WS-M01-080505
West	M2	WS-M02-080507	MANGANESE	492	07/27/09	59757	Y	WS-M02-080507
West	M3	WS-M03-080507	MANGANESE	251	07/20/09	59621	Y	DUP-8
West	M3	WS-M03-080507	MANGANESE	251	08/05/09	60088	Y	WS-M03-080507
West	M4	WS-M04-080507	MANGANESE	301	08/05/09	60088	Y	WS-M04-080507
West	N1	WS-N01-080506	MANGANESE	448	08/05/09	60088	Y	WS-N01-080506
West	N2	WS-N02-080506	MANGANESE	323	07/13/09	59381	Y	WS-N02-080506
West	N3	WS-N03-080507	MANGANESE	188	06/29/09	58728	Y	WS-N03-080507
West	O1	WS-O01-080506	MANGANESE	340	07/13/09	59381	Y	WS-O01-080506
West	O2	WS-O02-080506	MANGANESE	196	07/13/09	59381	Y	WS-O02-080506

Table Hg-1: Mercury Data Quality Summary			
Laboratory Performance Criteria	Criteria	Measured	Comment
Minimum LCS Recovery	greater than 80%	92%	
Minimum Matrix Spike Recovery	greater than 70%	40%	
Average LCS Recovery	N/A	98%	
Average Matrix Spike Recovery	N/A	91%	
Maximum LCS RPD	less than 20%	5%	
Maximum Laboratory Duplicate RPD	less than 20%	4%	
Average LCS RPD	N/A	1%	
Average Laboratory Duplicate RPD	N/A	2%	
Measurement Quality Objectives	Critera	Measured	
NPS CRM	See Note 1		
EQIS CRM	See Note 2		
CVS Split Analysis RPD	RPD less than 35%	Maximum RPD =	16 %
CRM Split Analysis RPD	RPD less than 35%	Maximum RPD =	13 %
Overall QC Indicator Measurements	Criteria	Measured	
NPS CRM "Made to" (Bias measure)	See Note 1		
NPS Replicate Test (Precision measure)	See Note 1		
Data Quality Relative to Remediation Goals			
Tier 1 Remediation Goal		1.7	
Tier 2 Remediation Goal		2.4	
QC Derived Reliance Level		2.6 See Note 3	

Comments: Mercury analyses attained all laboratory performance criteria and all measurement quality objectives, except that the minimum matrix spike recovery (40%) is less than the laboratory performance criteria (70%). The low matrix spike recovery suggests a precision concern. The average matrix spike recovery (91 %) is high enough to indicate that a precision problem is not common. A derived reliance level (2.6 mg/kg) above the Tier 2 RG (2.4 mg/kg) suggests the data achieves desired quality. A review of all QC data supports the determination that mercury measurements are of acceptable quality. Therefore, it is concluded that mercury CVS measurements are of acceptable quality and may be used to determine RG achievement.

Note 1: NPS did not include CRMs or replicate sample QC for mercury for evaluation of data quality.

Note 2: The QAPP required CRMs have only 4 analytes from each analyte group, and mercury is not one of them.

Note 3: Due to the absence of NPS QC information for mercury, the derived reliance level (2.6 mg/kg) is calculated using an estimate of standard deviation (.0016 mg/kg) calculated from the results of CVS split RPDs and the average matrix spike recovery (91%).

Derived reliance level is calculated as: (Tier 2 RG)(1.2)(Average Recovery)-(0.84)(Standard deviation) = (2.4)(1.2)(.91)-(0.84)(.0016) = 2.62 mg/kg

Table Hg-2: Mercury - NPS CRMs				
Blind NPS CRM Results				
Sample	Result	Analysis Date	Batch	Detect
No NPS CRMs				

CRMs	Vendor Supplied Information
Mean	*Made to*
Standard Error	
Median	
Standard Deviation	*Upper Acceptance Limit*
Sample Variance	
Kurtosis	
Skewness	*Lower Acceptance Limit*
Range	
Minimum	
Maximum	
Sum	
Count	
Largest(2)	
Smallest(2)	

Table Hg-3: Mercury- NPS Replicate Tests on a Background Sample				
Results of Replicate Analyses of a Single Sample				
Sample	Result	Analysis Date	Batch	Detect
No repeated tests on a single sample				

Replicate analyses of Single Sample
Mean
Standard Error
Median
Standard Deviation
Sample Variance
Kurtosis
Skewness
Range
Minimum
Maximum
Sum
Count
Largest(2)
Smallest(2)

Table Hg-4: Mercury NPS and EQIS Duplicates

Sample	Result	Analysis Date	Batch	Split	Result	Analysis Date	RPD
DUP-27	0.028	6/16/09	58422	ES-S13-090602	0.028	6/16/09	0
DUP-26	0.018	6/18/09	58422	ES-T12-090602	0.019	6/16/09	5
DUP-25	0.031	6/18/09	58422	ES-U14-090601	0.03	6/16/09	3
DUP-29	0.027	6/24/09	58683	ES-S18-090604	0.023	6/18/09	16
DUP-28	0.039	6/24/09	58683	ES-V14-090602	0.034	6/16/09	14
DUP-30	0.021	7/9/09	59278	ES-D01-090608	0.022	6/18/09	5
DUP-31	0.021	7/9/09	59278	ES-G01-090608	0.021	6/18/09	0
DUP-32	0.04	8/12/09	60322	WS-C01-090709	0.04	7/31/09	0

RPD of Sample Splits	
Mean	5.4
Standard Error	2.2
Median	4.0
Standard Deviation	6.3
Sample Variance	39.1
Kurtosis	-0.4
Skewness	1.0
Range	16.0
Minimum	0.0
Maximum	16.0
Sum	43.0
Count	8
Largest(2)	13.7
Smallest(2)	0.0

Table Hg-5: Mercury EQIS CRMs

Results of Duplicate Analysis of EQIS CRMs

Sample	Result	Date	Batch	Detect	Average	RPD
ES-Z05-080519A	3	06/16/09	58417	Y		
ES-Z05-080519B	3	06/16/09	58417	Y	3	0
ES-Z06-080520A	2.8	06/16/09	58417	Y		
ES-Z06-080520B	3.2	06/16/09	58417	Y	3	13
ES-Z07-080522A	2.9	06/16/09	58422	Y		
ES-Z07-080522B	2.9	06/16/09	58422	Y	2.9	0
ES-Z08-080527A	3.1	06/24/09	58683	Y		
ES-Z08-080527B	3.1	06/24/09	58683	Y	3.1	0
ES-Z09-080529A	3.1	06/24/09	58683	Y		
ES-Z09-080529B	3.1	06/24/09	58683	Y	3.1	0
ES-Z10-080602A	3	07/09/09	59278	Y		
ES-Z10-080602B	3.1	07/09/09	59278	Y	3.05	3
ES-Z11-080605A	3	07/31/09	60029	Y		
ES-Z11-080605B	3.1	07/31/09	60029	Y	3.05	3
ES-Z12-080606A	3	08/12/09	60322	Y		
ES-Z12-080606B	3	08/12/09	60322	Y	3	0

Analysis of EQIS CRMs	
Mean	3.0
Standard Error	0.0
Median	3.0
Standard Deviation	0.1
Sample Variance	0.0
Kurtosis	0.5
Skewness	-0.6
Range	0.4
Minimum	2.8
Maximum	3.2
Sum	48.4
Count	16
Largest(2)	3.1
Smallest(2)	2.9

RPD of EQIS CRMs	
Mean	2.49
Standard Error	
Median	0.00
Standard Deviation	4.63
Sample Variance	21.40
Kurtosis	5.60
Skewness	2.31
Range	13.33
Minimum	0.00
Maximum	13.33
Sum	19.89
Count	8
Largest(2)	3.28
Smallest(2)	0.00

Table Hg-6: Mercury Laboratory MS and LCS					
Matrix Spike Recovery %	Batch	Order	LCS Recovery %	Batch	Order
96	7124036	1	94	49293	2
89	49293	2	92	49294	3
103	49294	3	98	49514	4
93	49514	4	96	49515	5
95	49515	5	96	58417	6
94	58417	6	95	58422	7
96	58422	7	110	58683	8
104	58683	8	100	59278	9
98	59278	9	100	60029	10
98	60029	10	95	60322	11
40	60322	11			

Average MS Recovery = 91 % Average LCS Recovery = 98 %
Minimum MS Recovery = 40 % Minimum LCS Recovery = 92 %

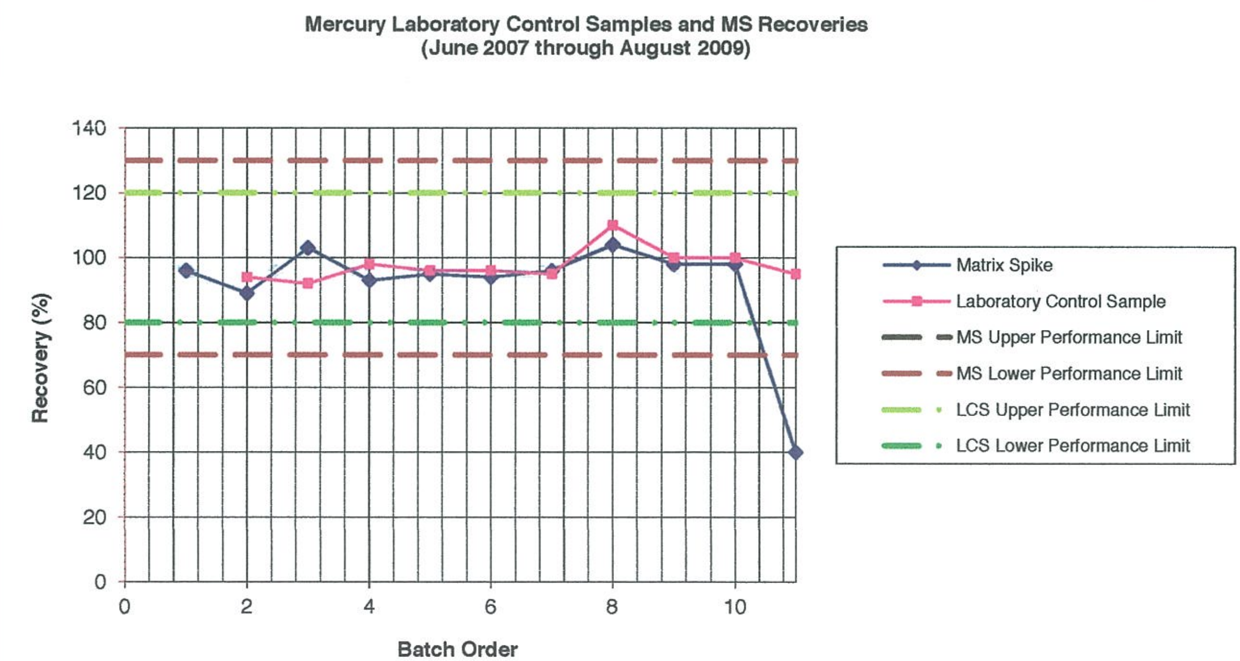
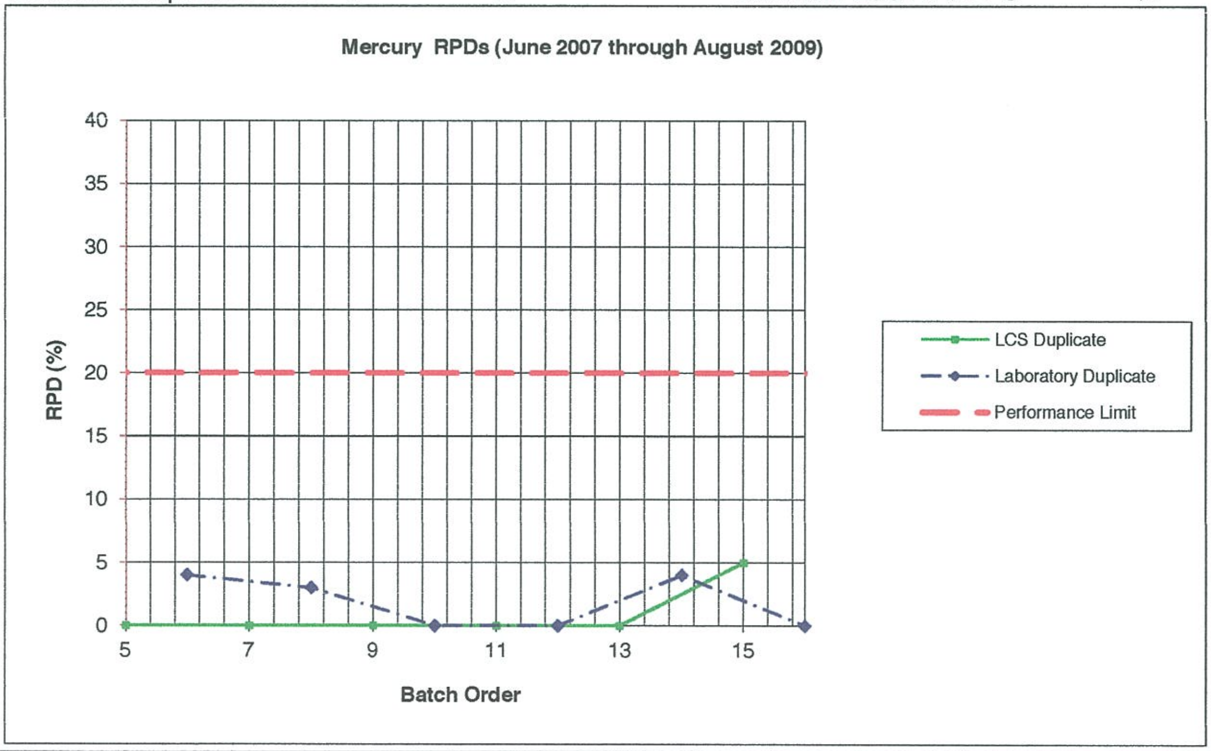


Table Hg-7: Mercury - Laboratory Duplicates and LCS Duplicates

Laboratory Duplicate RPD	Batch	Order	LCS Duplicate RPD	Batch	Order
4	58417	6	0	58417	5
3	58422	8	0	58422	7
0	58683	10	0	58683	9
0	59278	12	0	59278	11
4	60029	14	0	60029	13
0	60322	16	5	60322	15

Average Duplicate RPD = 2 % Average LCS RPD = 1 %
Maximum Duplicate RPD = 4 % Maximum LCS RPD = 5 %



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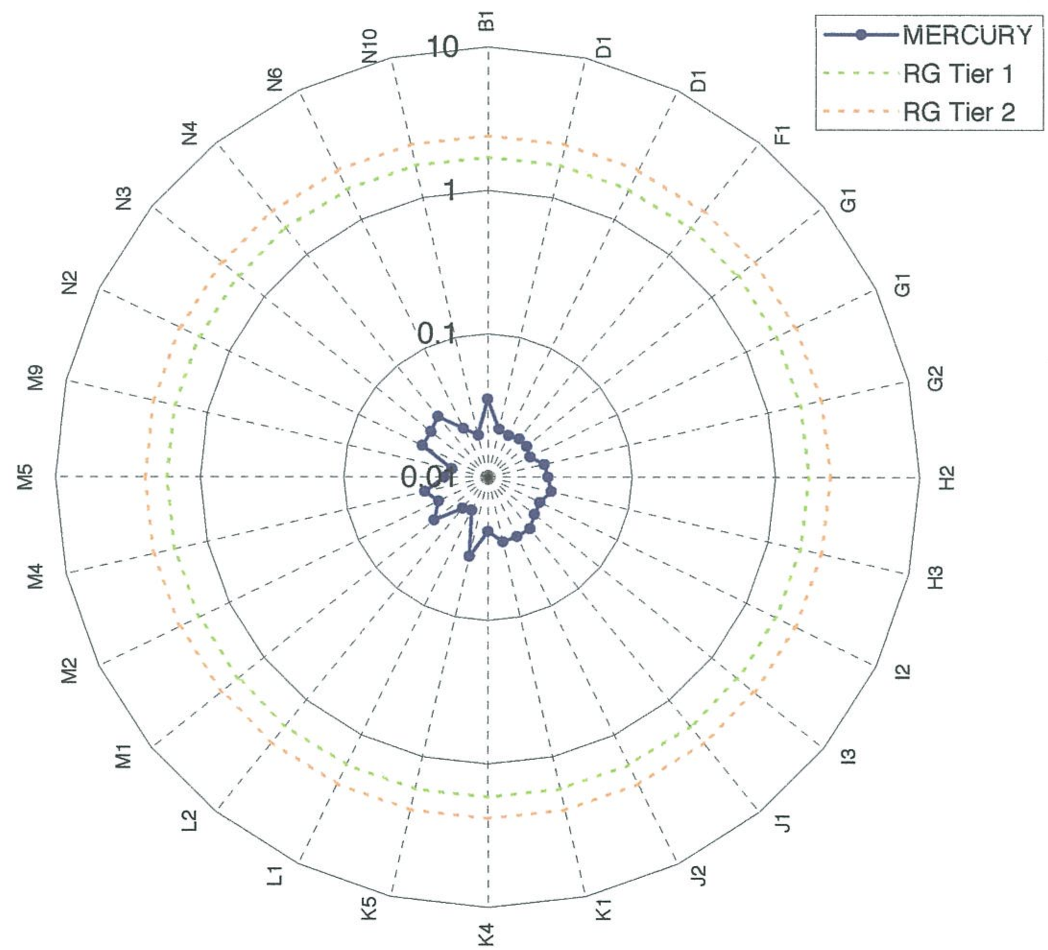
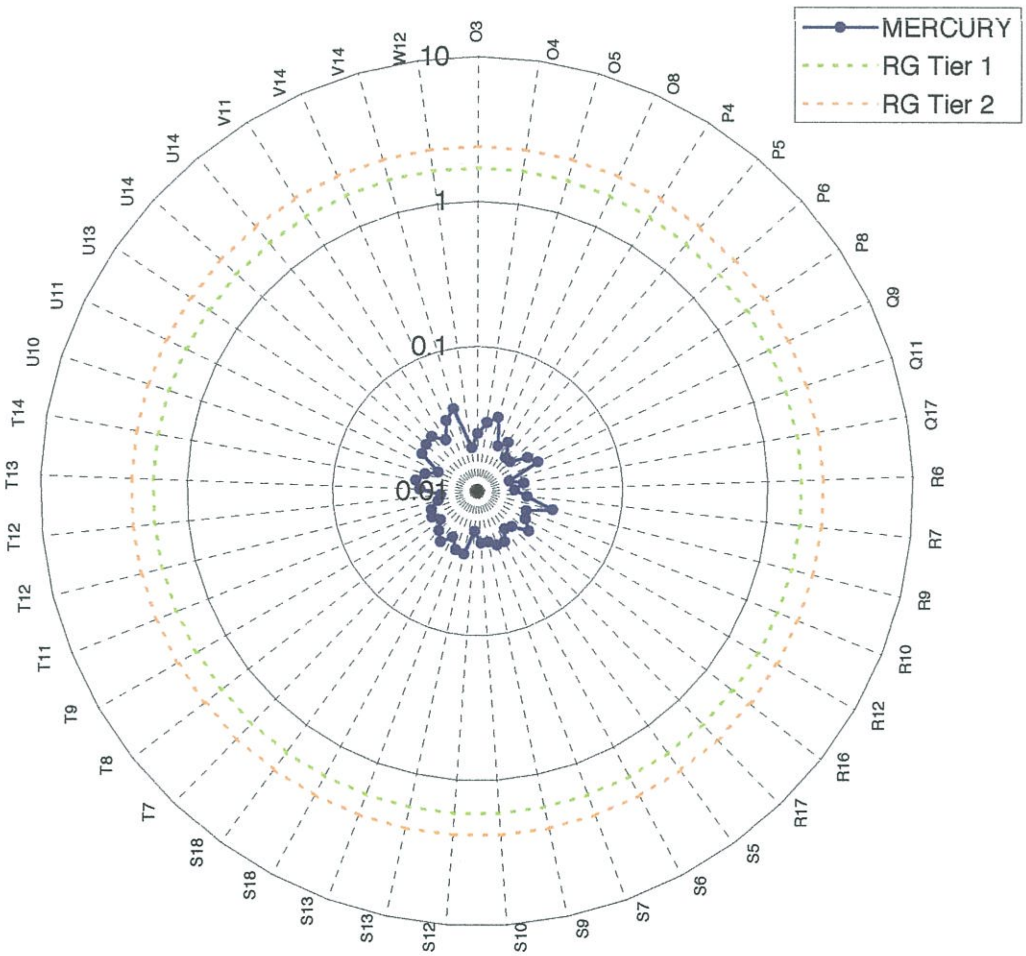
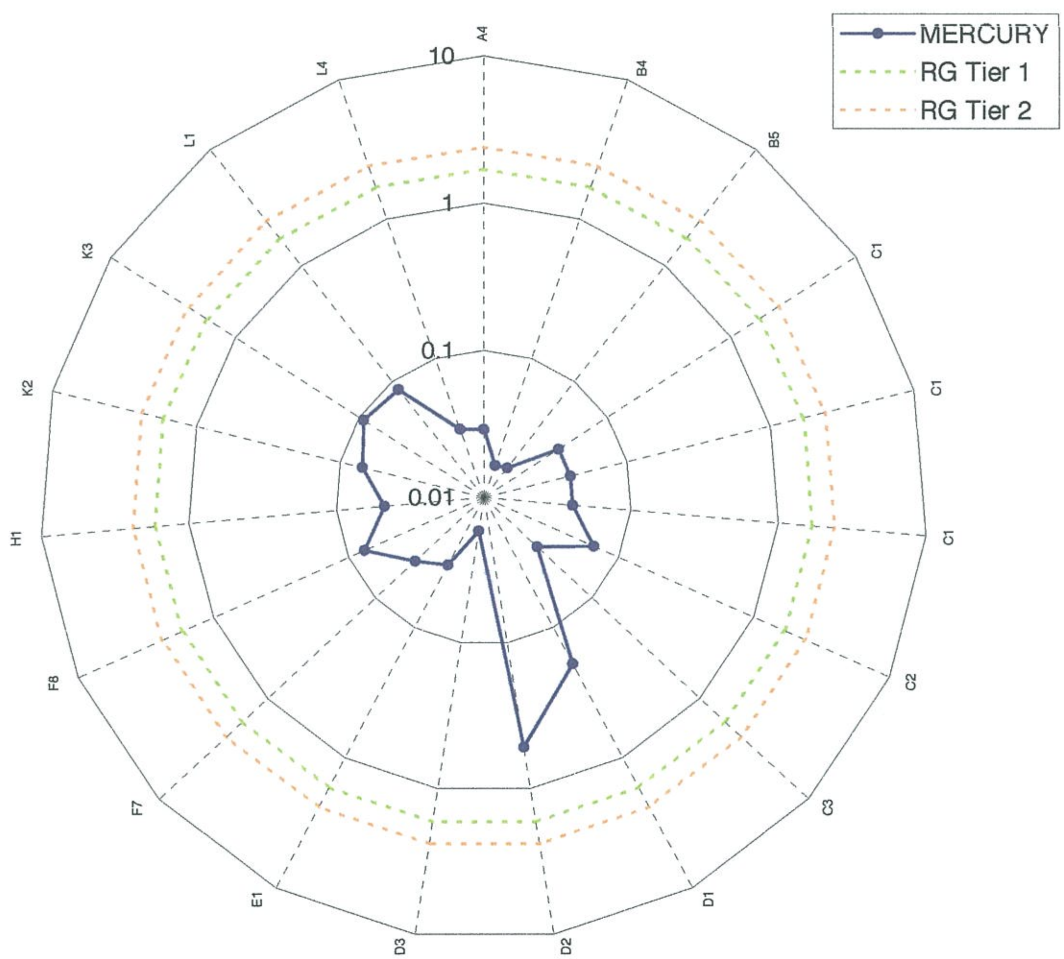
East Site
Grids A through N



East Site
Grids O through W



West Site



MERCURY
RG Tier 1
RG Tier 2
10
1
0.1
0.01
A4
B4
B5
C1
C1
C1
C2
C3
D1
D2
D3
E1
F7
F8
H1
K2
K3
L1
L4

MERCURY Results from 09/11/09 database								
Site	grid	sample_location	chemical_name	result_value	analysis _date	batch_id	detect _flag	sample_name
East	B1	ES-B01-090611	MERCURY	0.035	06/24/09	58683	Y	ES-B01-090611
East	D1	ES-D01-090608	MERCURY	0.022	06/18/09	58422	Y	ES-D01-090608
East	D1	ES-D01-090608	MERCURY	0.021	07/09/09	59278	Y	DUP-30
East	F1	ES-F01-090608	MERCURY	0.022	06/18/09	58422	Y	ES-F01-090608
East	G1	ES-G01-090608	MERCURY	0.022	06/18/09	58422	Y	ES-G01-090608
East	G1	ES-G01-090608	MERCURY	0.021	07/09/09	59278	Y	DUP-31
East	G2	ES-G02-090610	MERCURY	0.025	06/24/09	58683	Y	ES-G02-090610
East	H2	ES-H02-090605	MERCURY	0.026	06/18/09	58417	Y	ES-H02-090605
East	H3	ES-H03-090610	MERCURY	0.028	06/24/09	58683	Y	ES-H03-090610
East	I2	ES-I02-090612	MERCURY	0.025	06/24/09	58683	Y	ES-I02-090612
East	I3	ES-I03-090610	MERCURY	0.026	06/24/09	58683	Y	ES-I03-090610
East	J1	ES-J01-090609	MERCURY	0.029	06/18/09	58422	Y	ES-J01-090609
East	J2	ES-J02-090609	MERCURY	0.029	06/18/09	58422	Y	ES-J02-090609
East	K1	ES-K01-090611	MERCURY	0.029	06/24/09	58683	Y	ES-K01-090611
East	K4	ES-K04-090609	MERCURY	0.024	06/16/09	58422	Y	ES-K04-090609
East	K5	ES-K05-090609	MERCURY	0.037	06/16/09	58422	Y	ES-K05-090609
East	L1	ES-L01-090609	MERCURY	0.018	06/18/09	58422	Y	ES-L01-090609
East	L2	ES-L02-090609	MERCURY	0.019	06/18/09	58422	Y	ES-L02-090609
East	M1	ES-M01-090610	MERCURY	0.03	06/24/09	58683	Y	ES-M01-090610
East	M2	ES-M02-090609	MERCURY	0.024	06/16/09	58422	Y	ES-M02-090609
East	M4	ES-M04-090609	MERCURY	0.028	06/16/09	58422	Y	ES-M04-090609
East	M5	ES-M05-090610	MERCURY	0.02	06/24/09	58683	Y	ES-M05-090610
East	M9	ES-M09-090605	MERCURY	0.018	06/18/09	58417	Y	ES-M09-090605
East	N2	ES-N02-090612	MERCURY	0.032	06/24/09	58683	Y	ES-N02-090612
East	N3	ES-N03-090611	MERCURY	0.032	06/24/09	58683	Y	ES-N03-090611
East	N4	ES-N04-090611	MERCURY	0.035	06/24/09	58683	Y	ES-N04-090611
East	N6	ES-N06-090630	MERCURY	0.024	07/09/09	59278	Y	ES-N06-090630
East	N10	ES-N10-090604	MERCURY	0.02	06/18/09	58417	Y	ES-N10-090604
East	O3	ES-O03-090701	MERCURY	0.025	07/09/09	59278	Y	ES-O03-090701
East	O4	ES-O04-090629	MERCURY	0.03	07/09/09	59278	Y	ES-O04-090629
East	O5	ES-O05-090630	MERCURY	0.034	07/09/09	59278	Y	ES-O05-090630
East	O8	ES-O08-090710	MERCURY	0.022	07/31/09	60029	Y	ES-O08-090710
East	P4	ES-P04-090610	MERCURY	0.025	06/24/09	58683	Y	ES-P04-090610
East	P5	ES-P05-090701	MERCURY	0.02	07/09/09	59278	Y	ES-P05-090701
East	P6	ES-P06-090611	MERCURY	0.02	06/24/09	58683	Y	ES-P06-090611
East	P8	ES-P08-090630	MERCURY	0.026	07/09/09	59278	Y	ES-P08-090630
East	Q9	ES-Q09-090630	MERCURY	0.029	07/09/09	59278	Y	ES-Q09-090630
East	Q11	ES-Q11-090605	MERCURY	0.017	06/18/09	58417	Y	ES-Q11-090605
East	Q17	ES-Q17-090612	MERCURY	0.021	06/24/09	58683	Y	ES-Q17-090612
East	R6	ES-R06-090710	MERCURY	0.018	07/31/09	60029	Y	ES-R06-090710
East	R7	ES-R07-090710	MERCURY	0.022	07/31/09	60029	Y	ES-R07-090710
East	R9	ES-R09-090701	MERCURY	0.034	07/09/09	59278	Y	ES-R09-090701
East	R10	ES-R10-090707	MERCURY	0.023	07/31/09	60029	Y	ES-R10-090707
East	R12	ES-R12-090605	MERCURY	0.024	06/18/09	58417	Y	ES-R12-090605
East	R16	ES-R16-090604	MERCURY	0.028	06/18/09	58417	Y	ES-R16-090604
East	R17	ES-R17-090605	MERCURY	0.022	06/18/09	58417	Y	ES-R17-090605

MERCURY Results from 09/11/09 database								
Site	grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East	S5	ES-S05-090702	MERCURY	0.021	07/09/09	59278	Y	ES-S05-090702
East	S6	ES-S06-090702	MERCURY	0.025	07/09/09	59278	Y	ES-S06-090702
East	S7	ES-S07-090702	MERCURY	0.025	07/09/09	59278	Y	ES-S07-090702
East	S9	ES-S09-090629	MERCURY	0.023	07/09/09	59278	Y	ES-S09-090629
East	S10	ES-S10-090629	MERCURY	0.023	07/09/09	59278	Y	ES-S10-090629
East	S12	ES-S12-090605	MERCURY	0.019	06/18/09	58417	Y	ES-S12-090605
East	S13	ES-S13-090602	MERCURY	0.028	06/16/09	58422	Y	DUP-27
East	S13	ES-S13-090602	MERCURY	0.027	06/18/09	58417	Y	ES-S13-090602
East	S18	ES-S18-090604	MERCURY	0.023	06/18/09	58417	Y	ES-S18-090604
East	S18	ES-S18-090604	MERCURY	0.027	06/24/09	58683	Y	DUP-29
East	T7	ES-T07-090706	MERCURY	0.024	07/31/09	60029	Y	ES-T07-090706
East	T8	ES-T08-090706	MERCURY	0.021	07/31/09	60029	Y	ES-T08-090706
East	T9	ES-T09-090706	MERCURY	0.023	07/31/09	60029	Y	ES-T09-090706
East	T11	ES-T11-090701	MERCURY	0.022	07/09/09	59278	Y	ES-T11-090701
East	T12	ES-T12-090602	MERCURY	0.019	06/16/09	58417	Y	ES-T12-090602
East	T12	ES-T12-090602	MERCURY	0.018	06/18/09	58422	Y	DUP-26
East	T13	ES-T13-090602	MERCURY	0.025	06/16/09	58417	Y	ES-T13-090602
East	T14	ES-T14-090602	MERCURY	0.027	06/16/09	58417	Y	ES-T14-090602
East	U10	ES-U10-090707	MERCURY	0.024	07/31/09	60029	Y	ES-U10-090707
East	U11	ES-U11-090708	MERCURY	0.02	07/31/09	60029	Y	ES-U11-090708
East	U13	ES-U13-090602	MERCURY	0.029	06/16/09	58417	Y	ES-U13-090602
East	U14	ES-U14-090601	MERCURY	0.03	06/16/09	58417	Y	ES-U14-090601
East	U14	ES-U14-090601	MERCURY	0.031	06/18/09	58422	Y	DUP-25
East	V11	ES-V11-090708	MERCURY	0.026	07/31/09	60029	Y	ES-V11-090708
East	V14	ES-V14-090602	MERCURY	0.034	06/16/09	58417	Y	ES-V14-090602
East	V14	ES-V14-090602	MERCURY	0.039	06/24/09	58683	Y	DUP-28
East	W12	ES-W12-090707	MERCURY	0.02	07/31/09	60029	Y	ES-W12-090707
West	A4	WS-A04-090727	MERCURY	0.029	08/12/09	60322	Y	WS-A04-090727
West	B4	WS-B04-090727	MERCURY	0.017	08/12/09	60322	Y	WS-B04-090727
West	B5	WS-B05-090730	MERCURY	0.018	08/12/09	60322	Y	WS-B05-090730
West	C1	WS-C01-090709	MERCURY	0.04	07/31/09	60029	Y	WS-C01-090709
West	C1	WS-C01-090709	MERCURY	0.04	07/31/09	60029	Y	WS-C01-090709
West	C1	WS-C01-090709	MERCURY	0.04	08/12/09	60322	Y	DUP-32
West	C2	WS-C02-090730	MERCURY	0.065	08/12/09	60322	Y	WS-C02-090730
West	C3	WS-C03-090730	MERCURY	0.031	08/12/09	60322	Y	WS-C03-090730
West	D1	WS-D01-090709	MERCURY	0.19	07/31/09	60029	Y	WS-D01-090709
West	D2	WS-D02-090730	MERCURY	0.52	08/13/09	60322	Y	WS-D02-090730
West	D3	WS-D03-090727	MERCURY	0.017	08/12/09	60322	Y	WS-D03-090727
West	E1	WS-E01-090709	MERCURY	0.033	07/31/09	60029	Y	WS-E01-090709
West	F7	WS-F07-090728	MERCURY	0.043	08/12/09	60322	Y	WS-F07-090728
West	F8	WS-F08-090728	MERCURY	0.076	08/12/09	60322	Y	WS-F08-090728
West	H1	WS-H01-090728	MERCURY	0.047	08/12/09	60322	Y	WS-H01-090728
West	K2	WS-K02-090727	MERCURY	0.07	08/12/09	60322	Y	WS-K02-090727
West	K3	WS-K03-090727	MERCURY	0.092	08/12/09	60322	Y	WS-K03-090727
West	L1	WS-L01-090728	MERCURY	0.085	08/12/09	60322	Y	WS-L01-090728
West	L4	WS-L04-090728	MERCURY	0.031	08/12/09	60322	Y	WS-L04-090728

Table Mo-1:Molybdenum Data Quality Summary			
Laboratory Performance Criteria	Criteria	Measured	Comment
Minimum LCS Recovery	greater than 80%	89%	
Minimum Matrix Spike Recovery	greater than 70%	78%	
Average LCS Recovery	N/A	98%	
Average Matrix Spike Recovery	N/A	90%	
Maximum LCS RPD	less than 20%	6%	
Maximum Laboratory Duplicate RPD	less than 20%	26%	
Average LCS RPD	N/A	2%	
Average Laboratory Duplicate RPD	N/A	7%	
Measurement Quality Objectives	Critera	Measured	
NPS CRM	No vendor supplied data	Minimum Recovery =	0.98 mg/kg
EQIS CRM	See Note 1		
CVS Split Analysis RPD	RPD less than 35%	Maximum RPD =	23.26 %
CRM Split Analysis RPD	RPD less than 35%	Maximum RPD =	13.08 %
Overall QC Indicator Measurements	Criteria	Measured	
NPS CRM "Made to" (Bias measure)	N/A	Average Recovery =	N/A %
NPS Replicate Test (Precision measure)	N/A	Standard Deviation =	0.48 mg/kg
Data Quality Relative to Remediation Goals			
Tier 1 Remediation Goal	14 mg/kg		
Tier 2 Remediation Goal	16 mg/kg		
QC Derived reliance Level	16.9 mg/kg	See Note 2	

Comments: QC measurements for molybdenum complied with laboratory performance criteria and measurement quality objectives, except that the maximum laboratory duplicate RPD (26%) exceeded the laboratory performance criteria (20%). This is an indication of imprecision. However, the standard deviation of repeated tests on the same sample (0.48 mg/kg) is low relative to the estimated mean (3.3 mg/kg), indicating reasonably good precision. The reliance level (16.9 mg/kg) exceeds the Tier 2 value, indicating the desired data quality for molybdenum was achieved. A review of all QC data supports the determination that molybdenum measurements are of acceptable quality. Therefore, it is concluded that molybdenum CVS measurements are of acceptable quality and may be used to determine RG achievement.

Note 1: The QAPP required CRMs have only 4 analytes from each analyte group, and molybdenum is not one of those analytes..

Note 2: The QC derived reliance level must be calculated differently for molybdenum, because there is no vendor supplied "made to" concentration for the NPS CRM. The average MS spike recovery (90%) is used for the derived reliance level calculation to arrive at a value of 16.9 mg/kg.

Derived reliance level is calculated as: (Tier 2 RG)(1.2)(Average Recovery)-(0.84)(Standard deviation) = (16)(1.2)(.90)-(0.84)(.48) = 16.9 mg/kg

Table Mo-2:Molybdenum - NPS CRMs				
Blind NPS CRM Results				
Sample	Result	Analysis Date	Batch	Detect
BOR Sample 1-BOR 56	1.1	5/1/09	57223	Y
BOR Sample 6-BOR 81	1	5/1/09	57284	Y
BOR Sample 4-BOR 82	0.98	5/11/09	57543	Y
BOR 83	1.1	5/24/09	57792	Y
BOR Sample 3-BOR 58	1	5/24/09	57792	Y
BOR 84	1.3	5/28/09	57847	Y
BOR Sample 7-BOR 105	1.3	5/28/09	57847	Y
BOR 85	1.2	6/9/09	58135	Y
BOR Sample 8-BOR 106	1.3	6/9/09	58135	Y
BOR 86	1.2	6/10/09	58212	Y
BOR 108	1.3	6/20/09	58565	Y
BOR 87	2.3	6/20/09	58565	Y
BOR 109	1.3	6/29/09	58728	Y
BOR 110	1.2	7/13/09	59381	Y
BOR Sample 9-BOR 107	1.2	7/27/09	59757	Y
BOR 111	1.3	7/29/09	59889	Y

CRMs		Vendor Supplied Information
Mean	1.26	*"Made to"*
Standard Error	0.08	
Median	1.20	
Standard Deviation	0.30	*Upper Acceptance Limit*
Sample Variance	0.091	
Kurtosis	10.72	
Skewness	2.98	*Lower Acceptance Limit*
Range	1.32	
Minimum	0.98	
Maximum	2.30	No vendor supplied information
Sum	20.08	
Count	16	
Largest(2)	1.30	
Smallest(2)	1.00	

Table Mo-3:Molybdenum - NPS Replicate Tests on a Background Sample				
Results of Replicate Analyses of a Single Sample				
Sample	Result	Analysis Date	Batch	Detect
BOR 112	3.3	5/1/09	57223	Y
BOR 59	2.9	5/1/09	57284	Y
BOR 60	3	5/11/09	57543	Y
BOR 113	3.1	5/24/09	57792	Y
BOR 61	3.2	5/24/09	57792	Y
BOR 62	3.6	6/10/09	58212	Y
BOR 63	1.9	6/20/09	58565	Y
BOR 89	3.3	6/20/09	58565	Y
BOR 115	3.7	6/29/09	58728	Y
BOR 64	3.5	7/8/09	59163	Y
BOR 91	3.4	7/8/09	59163	Y
BOR 116	4	7/13/09	59381	Y
BOR 92	3.5	7/13/09	59381	Y
BOR 65	3.6	7/20/09	59621	Y
BOR 88	3.6	7/29/09	59889	Y

Replicate analyses of Single Sample	
Mean	3.3
Standard Error	0.12
Median	3.4
Standard Deviation	0.48
Sample Variance	0.23
Kurtosis	4.76
Skewness	-1.76
Range	2.1
Minimum	1.9
Maximum	4.0
Sum	49.6
Count	15
Largest(2)	3.7
Smallest(2)	2.9

Table Mo-4:Molybdenum NPS and EQIS Duplicates

Sample	Result	Analysis Date	Batch	Split	Result	Analysis Date	RPD
BOR 503	3.8	5/1/09	57284	ES-T11-080530	4.8	6/10/2009	23
BOR 506	3.1	5/11/09	57543	ES-S10-080523	3.5	6/10/2009	12
BOR 504	3.8	5/24/09	57792	ES-M05-080527	3.9	5/28/2009	3
BOR 507	4.9	6/9/09	58135	ES-O09-080610			
BOR 508	4.5	6/20/09	58565	ES-Q11-080606	4	5/11/2009	12
BOR 510	4.8	6/29/09	58728	OU-8HR-080605	3.9	5/1/2009	21
BOR 501	5.4	7/8/09	59163	WS-L04-080508	5.7	7/8/2009	5
BOR 505	5	7/20/09	59621	WS-K03-080509	4.7	7/8/2009	6
BOR 502	4.1	7/27/09	59757	WS-F05-080612	4.9	8/18/2009	18
BOR 509	4.4	7/27/09	59757	WS-E06-080613	4.6	7/27/2009	4
DUP-11	3.4	5/1/09	57147	ES-J03-080513	4	6/20/2009	16
DUP-17	3.7	5/1/09	57284	ES-F01-080529	3.8	5/11/2009	3
DUP-15	3.6	5/11/09	57543	ES-J02-080527	3.6	5/24/2009	0
DUP-18	3.1	5/11/09	57543	ES-J04-080530	3.3	5/24/2009	6
DUP-12	3.6	5/24/09	57792	ES-P06-080515	3.5	6/9/2009	3
DUP-16	2.9	5/24/09	57792	ES-P04-080528	2.8	6/9/2009	4
DUP-19	3.2	5/28/09	57847	ES-K05-080605	3	5/28/2009	6
DUP-13	3.4	6/9/09	58135	ES-T08-080522	3.6	6/10/2009	6
DUP-14	3.5	6/10/09	58212	ES-T10-080523	3.5	6/10/2009	0
DUP-3	3.3	6/20/09	58565	WS-C01-080501	3.5	6/20/2009	6
DUP-4	4.7	6/20/09	58565	WS-G01-080501	4.6	6/29/2009	2
DUP-5	4.3	6/29/09	58728	WS-I01-080501	4.1	6/29/2009	5
DUP-6	4.9	6/29/09	58728	WS-J01-080505	4.9	6/29/2009	0
DUP-7	4.1	7/8/09	59163	WS-M01-080505	4.1	7/8/2009	0
DUP-9	5.7	7/8/09	59163	WS-L04-080508	5.7	7/8/2009	0
DUP-1	5.6	7/13/09	59381	WS-E02-080428	5.1	7/20/2009	9
DUP-2	4.5	7/13/09	59381	WS-D02-080429	4.5	7/20/2009	0
DUP-8	4.4	7/20/09	59621	WS-M03-080507	4.8	8/5/2009	9
DUP-10	4.1	7/27/09	59757	WS-K04-080513	4.2	7/8/2009	2

RPD of Sample Splits	
Mean	6.47
Standard Error	1.22
Median	5.08
Standard Deviation	6.46
Sample Variance	41.74
Kurtosis	0.87
Skewness	1.24
Range	23.26
Minimum	0.00
Maximum	23.26
Sum	181.11
Count	28
Largest(2)	20.69
Smallest(2)	0.00

Table Mo-5:Molybdenum EQIS CRMs

Results of Duplicate Analysis of EQIS CRMs

Sample	Result	Date	Batch	Detect	Average	RPD
ES-Z09-080529A	17.2	5/1/09	57284	Y		
ES-Z09-080529B	17.3	5/1/09	57284	Y	17.25	1
ES-Z11-080605A	20.9	5/1/09	57147	Y		
ES-Z11-080605B	20.1	5/1/09	57147	Y	20.5	4
ES-Z12-080606A	18.1	5/1/09	57284	Y		
ES-Z12-080606B	17.5	5/1/09	57284	Y	17.8	3
ES-Z05-080519A	19.4	5/11/09	57543	Y		
ES-Z05-080519B	19.1	5/11/09	57543	Y	19.25	2
ES-Z06-080520A	18.9	5/11/09	57543	Y		
ES-Z06-080520B	18.1	5/11/09	57543	Y	18.5	4
ES-Z07-080522A	21.2	5/24/09	57792	Y		
ES-Z07-080522B	20.6	5/24/09	57792	Y	20.9	3
ES-Z13-080610A	18.3	5/28/09	57847	Y		
ES-Z13-080610B	20.3	5/28/09	57847	Y	19.3	10
ES-Z10-080602A	20	6/9/09	58135	Y		
ES-Z10-080602B	22.8	6/9/09	58135	Y	21.4	13
ES-Z08-080527A	24.3	6/10/09	58212	Y		
ES-Z08-080527B	24.7	6/10/09	58212	Y	24.5	2
ES-Z14-080611A	27	6/20/09	58565	Y		
ES-Z14-080611B	26.1	6/20/09	58565	Y	26.55	3
ES-Z06-080520C	22.9	6/29/09	58728	Y		
ES-Z06-080520D	25.1	6/29/09	58728	Y	24	9
ES-Z05-080519C	23.5	7/8/09	59163	Y		
ES-Z05-080519D	22.1	7/8/09	59163	Y	22.8	6
ES-Z19-080624A	23.9	7/13/09	59381	Y		
ES-Z19-080624B	23.1	7/13/09	59381	Y	23.5	3
WS-Z17-080618A	24.4	7/13/09	59381	Y		
WS-Z17-080618B	24.1	7/13/09	59381	Y	24.25	1
WS-Z15-080613A	23.4	7/20/09	59621	Y		
WS-Z15-080613B	24	7/20/09	59621	Y	23.7	3
WS-Z18-080620A	23.1	7/20/09	59621	Y		
WS-Z18-080620B	23.5	7/20/09	59621	Y	23.3	2
WS-Z16-080617A	24.5	7/29/09	59889	Y		
WS-Z16-080617B	23.8	7/29/09	59889	Y	24.15	3

Analysis of EQIS CRMs	
Mean	21.86
Standard Error	0.47
Median	22.85
Standard Deviation	2.75
Sample Variance	7.56
Kurtosis	-1.10
Skewness	-0.22
Range	9.8
Minimum	17.2
Maximum	27
Sum	743.3
Count	34
Largest(2)	26.1
Smallest(2)	17.3

RPD of EQIS CRMs	
Mean	4.25
Standard Error	
Median	3.37
Standard Deviation	3.49
Sample Variance	12.20
Kurtosis	1.55
Skewness	1.50
Range	12.50
Minimum	0.58
Maximum	13.08
Sum	72.17
Count	17
Largest(2)	10.36
Smallest(2)	1.24

Table Mo-6:Molybdenum Laboratory MS and LCS					
Matrix Spike Recovery %	Batch Order		LCS Recovery %	Batch Order	
94	7160081	1	101	49187	2
92	7160081	1	90	49189	3
89	49187	2	102	49537	4
85	49189	3	104	49539	5
100	49537	4	90	54626-627	6
96	49539	5	89	54821-822	7
84	54626-627	6	93	54891	8
83	54821-822	7	91	54915	9
81	54891	8	92	57147	10
89	54915	9	92	57223	11
87	57147	10	100	57543	12
85	57223	11	97	57792	13
82	57543	12	90	57847	14
83	57792	13	98	58135	15
81	57847	14	116	58212	16
80	58135	15	109	58565	17
120	58212	16	92	58728	18
97	58565	17	100	59163	19
78	58728	18	100	59163	19
87	59163	19	103	59381	20
96	59381	20	100	59621	21
93	59621	21	97	59757	22
90	59757	22	99	59889	23
89	59889	23	102	60088	24
99	60088	24	101	60439	25
94	60439	25	101	60439	25
Average MS Recovery = 90	%		Average LCS Recovery = 98	%	
Minimum MS Recovery = 78	%		Minimum LCS Recovery = 89	%	

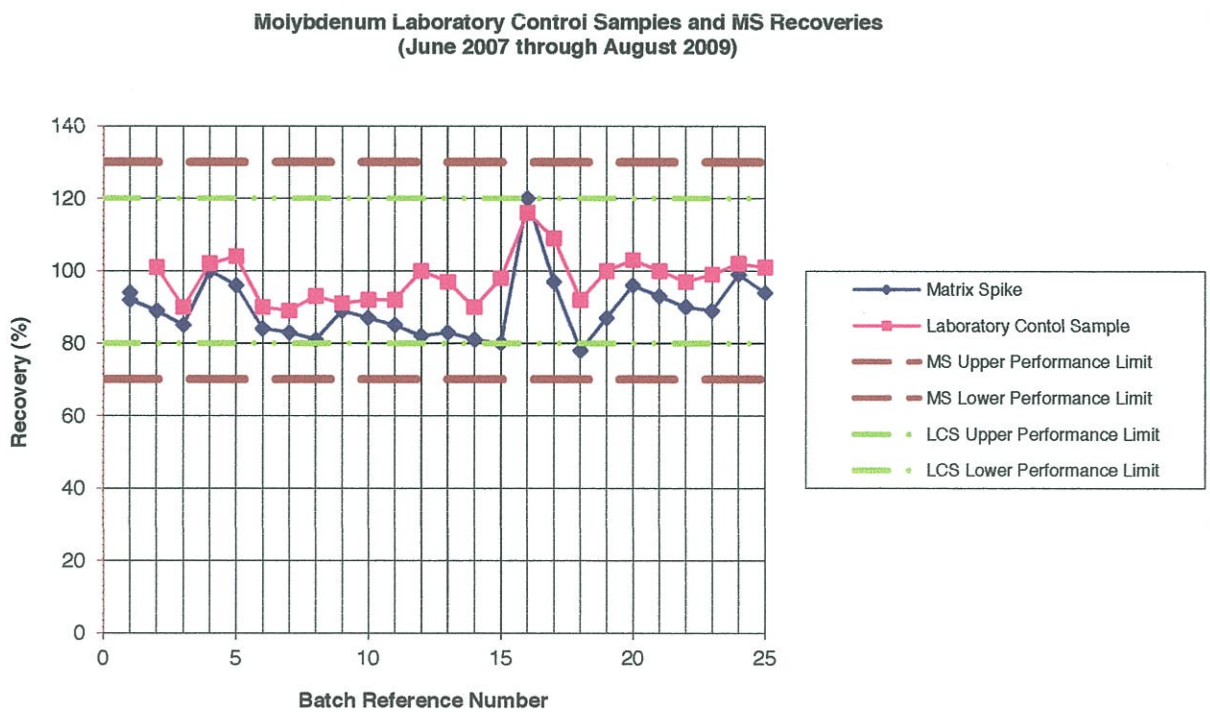
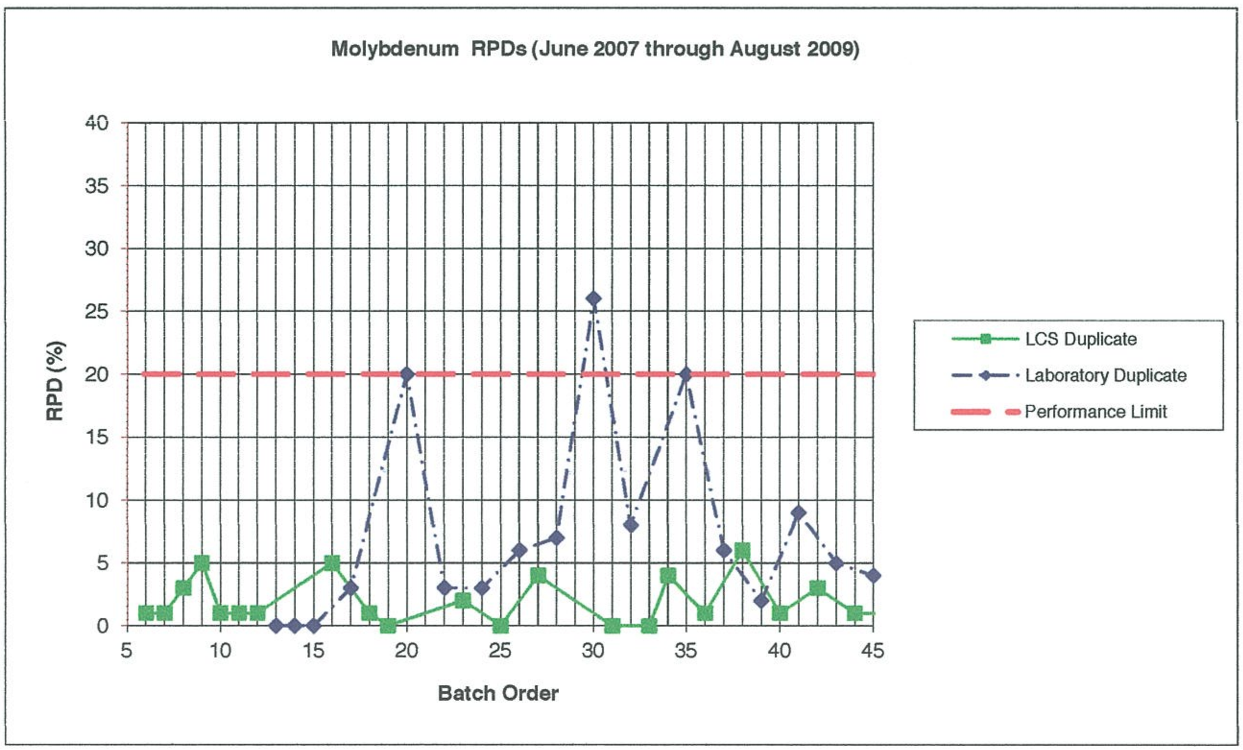


Table Mo-7:Molybdenum - Laboratory Duplicates and LCS Duplicates

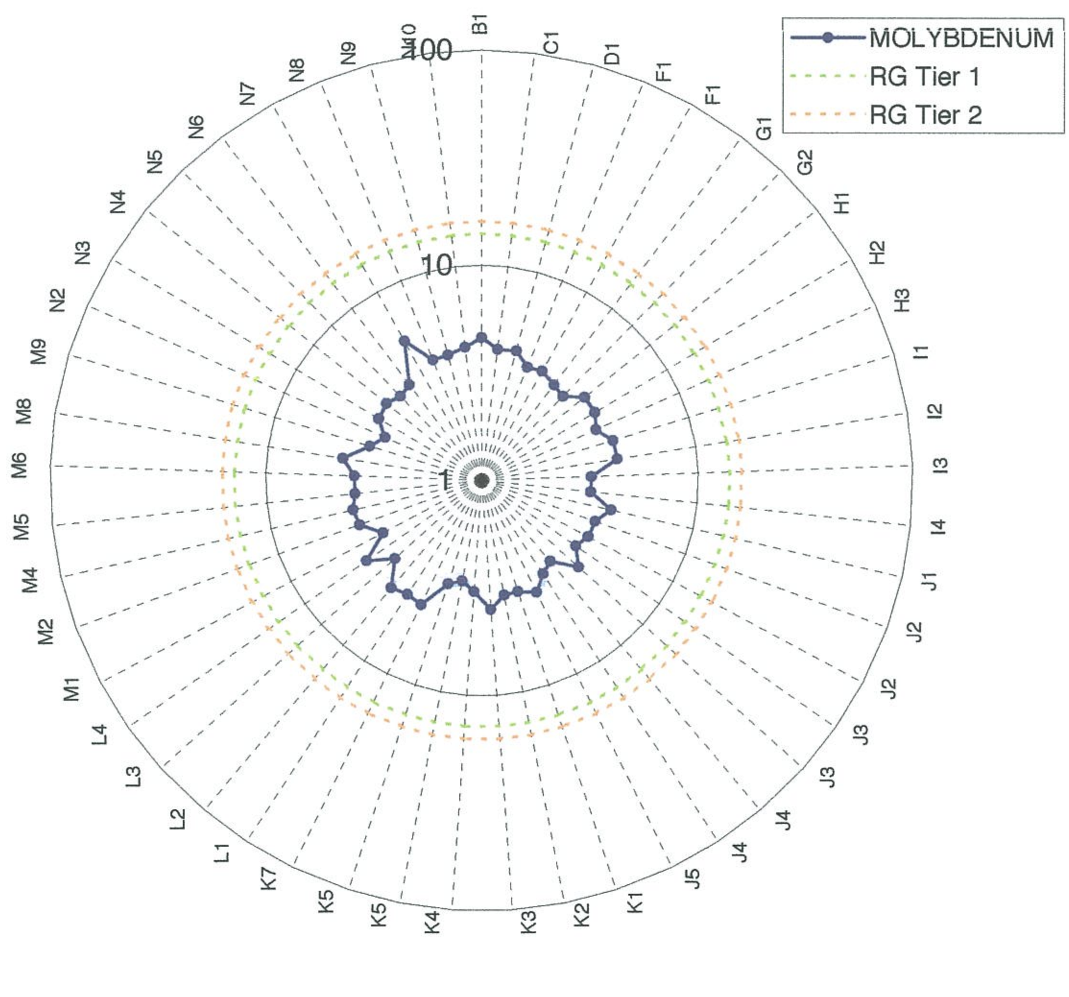
Laboratory Duplicate RPD	Batch	Order	LCS RPD	Batch	Order
0	57147	13	1	54626-627	6
0	57223	14	1	54821-822	7
0	57284	15	3	54891	8
3	57543	17	5	54915	9
20	57792	20	1	57147	10
3	57847	22	1	57223	11
3	58135	24	1	57284	12
6	58212	26	5	57543	16
7	58565	28	1	57792	18
26	58728	30	0	57847	19
8	59163	32	2	58135	23
20	59381	35	0	58212	25
6	59621	37	4	58565	27
2	59757	39	0	59163	31
9	59889	41	0	59163	33
5	60088	43	4	59381	34
4	60439	45	1	59621	36
			6	59757	38
			1	59889	40
			3	60088	42
			1	60439	44
			1	60439	46

Average Duplicate RPD = 7 %
Maximum Duplicate RPD = 26 %

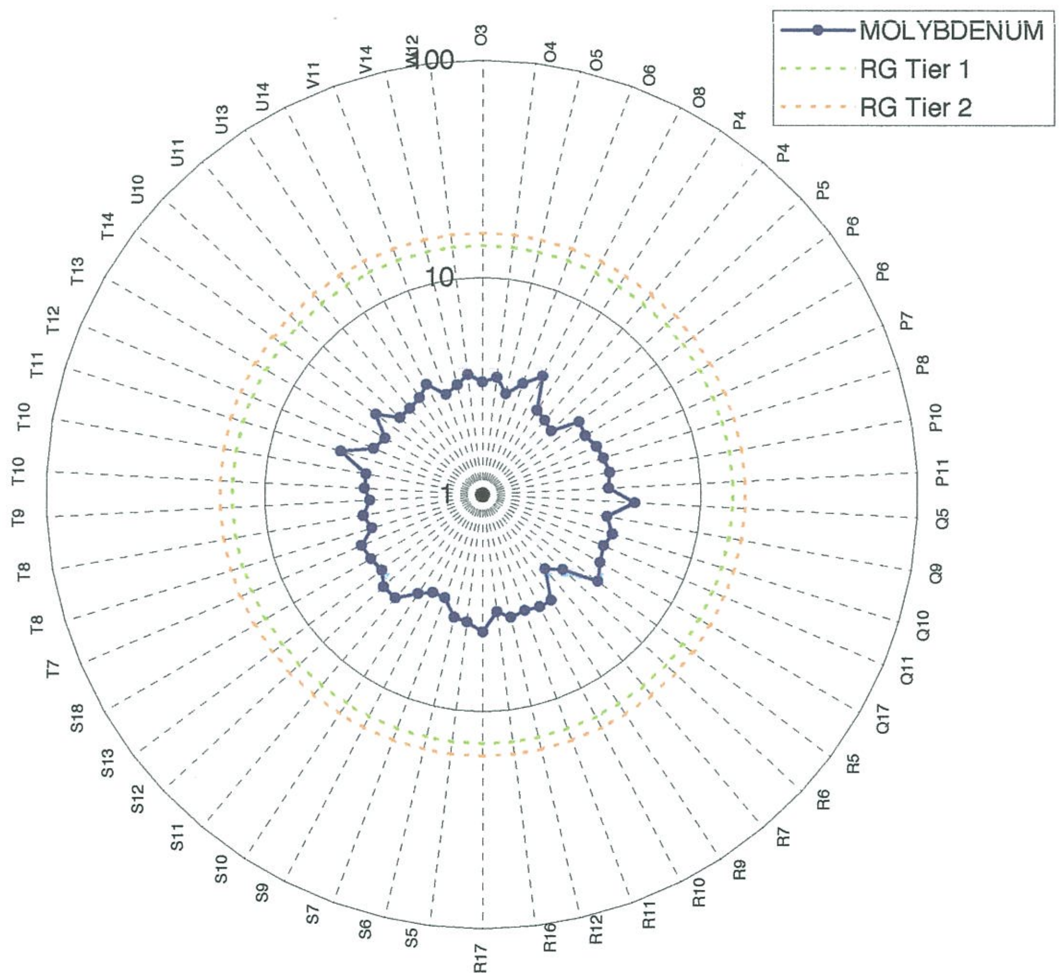
Average LCS RPD = 2 %
Maximum LCS RPD = 6 %



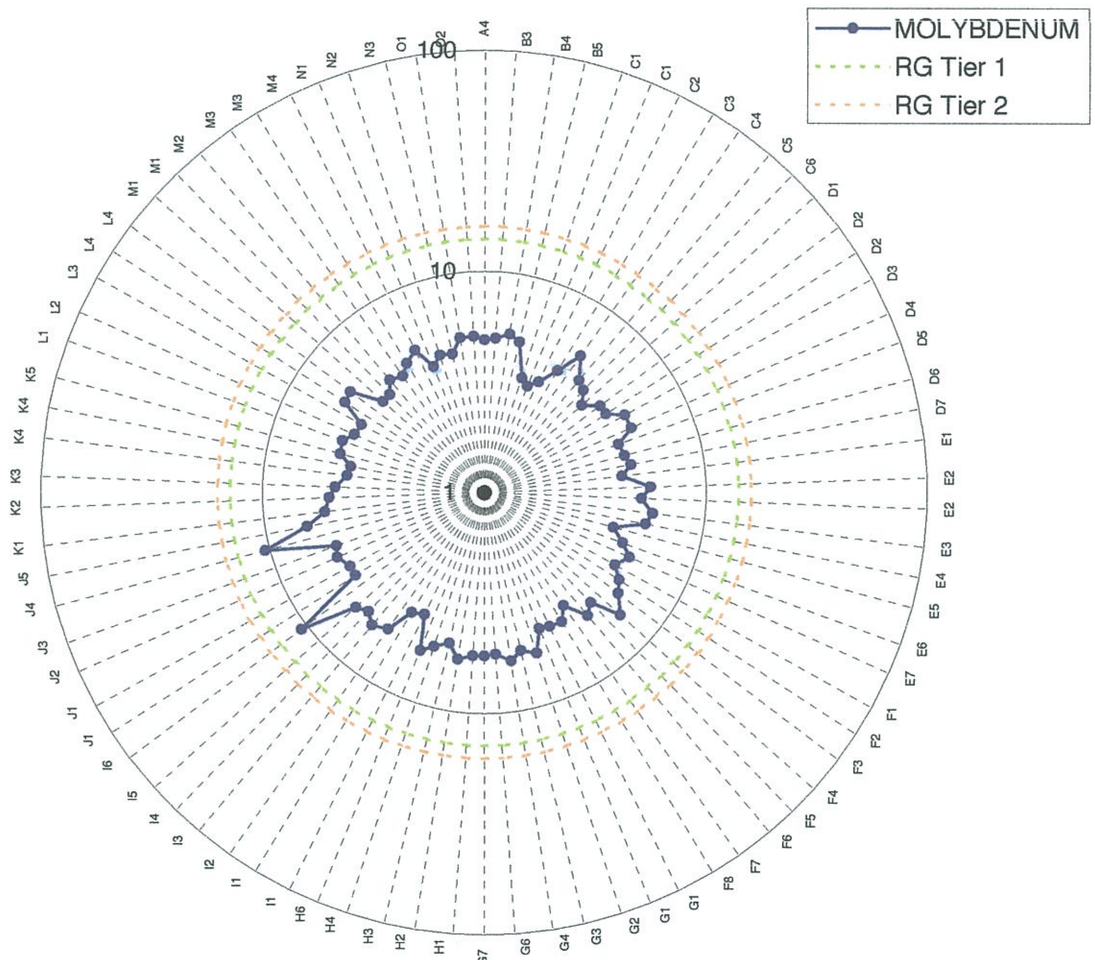
East Site
Grids A through N



East Site
Grids O through W



West Site



MOLYBDENUM Results from 09/11/09 database								
Site	grid	sample_location	chemical_name	result_value	date	batch_id	_flag	sample_name
East	B1	ES-B01-080623	MOLYBDENUM	4.6	05/01/09	57147	Y	ES-B01-080623
East	C1	ES-C01-080624	MOLYBDENUM	4.1	05/01/09	57147	Y	ES-C01-080624
East	D1	ES-D01-080624	MOLYBDENUM	4.2	06/09/09	58135	Y	ES-D01-080624
East	F1	ES-F01-080529	MOLYBDENUM	3.7	05/01/09	57284	Y	DUP-17
East	F1	ES-F01-080529	MOLYBDENUM	3.8	05/11/09	57543	Y	ES-F01-080529
East	G1	ES-G01-080529	MOLYBDENUM	3.6	05/11/09	57543	Y	ES-G01-080529
East	G2	ES-G02-080605	MOLYBDENUM	3.5	05/11/09	57543	Y	ES-G02-080605
East	H1	ES-H01-080528	MOLYBDENUM	4.1	05/11/09	57543	Y	ES-H01-080528
East	H2	ES-H02-080515	MOLYBDENUM	4.1	05/11/09	57543	Y	ES-H02-080515
East	H3	ES-H03-080605	MOLYBDENUM	3.8	05/24/09	57792	Y	ES-H03-080605
East	I1	ES-I01-080529	MOLYBDENUM	4.3	05/24/09	57792	Y	ES-I01-080529
East	I2	ES-I02-080514	MOLYBDENUM	4.3	05/24/09	57792	Y	ES-I02-080514
East	I3	ES-I03-080513	MOLYBDENUM	3.2	05/24/09	57792	Y	ES-I03-080513
East	I4	ES-I04-080602	MOLYBDENUM	3.2	05/24/09	57792	Y	ES-I04-080602
East	J1	ES-J01-080529	MOLYBDENUM	4.1	05/24/09	57792	Y	ES-J01-080529
East	J2	ES-J02-080527	MOLYBDENUM	3.6	05/11/09	57543	Y	DUP-15
East	J2	ES-J02-080527	MOLYBDENUM	3.6	05/24/09	57792	Y	ES-J02-080527
East	J3	ES-J03-080513	MOLYBDENUM	3.4	05/01/09	57147	Y	DUP-11
East	J3	ES-J03-080513	MOLYBDENUM	4	06/20/09	58565	Y	ES-J03-080513
East	J4	ES-J04-080530	MOLYBDENUM	3.1	05/11/09	57543	Y	DUP-18
East	J4	ES-J04-080530	MOLYBDENUM	3.3	05/24/09	57792	Y	ES-J04-080530
East	J5	ES-J05-080602	MOLYBDENUM	3.8	05/24/09	57792	Y	ES-J05-080602
East	K1	ES-K01-080602	MOLYBDENUM	3.5	05/24/09	57792	Y	ES-K01-080602
East	K2	ES-K02-080602	MOLYBDENUM	3.5	05/11/09	57543	Y	ES-K02-080602
East	K3	ES-K03-080514	MOLYBDENUM	4	05/24/09	57792	Y	ES-K03-080514
East	K4	ES-K04-080527	MOLYBDENUM	3.3	05/28/09	57847	Y	ES-K04-080527
East	K5	ES-K05-080605	MOLYBDENUM	3	05/28/09	57847	Y	ES-K05-080605
East	K5	ES-K05-080605	MOLYBDENUM	3.2	05/28/09	57847	Y	DUP-19
East	K7	ES-K07-080611	MOLYBDENUM	4.4	05/01/09	57284	Y	ES-K07-080611
East	L1	ES-L01-080625	MOLYBDENUM	4.3	05/28/09	57847	Y	ES-L01-080625
East	L2	ES-L02-080625	MOLYBDENUM	4.5	05/28/09	57847	Y	ES-L02-080625
East	L3	ES-L03-080604	MOLYBDENUM	3.5	05/28/09	57847	Y	ES-L03-080604
East	L4	ES-L04-080604	MOLYBDENUM	4.5	06/20/09	58565	Y	ES-L04-080604
East	M1	ES-M01-080527	MOLYBDENUM	3.3	05/28/09	57847	Y	ES-M01-080527
East	M2	ES-M02-080519	MOLYBDENUM	4	05/28/09	57847	Y	ES-M02-080519
East	M4	ES-M04-080515	MOLYBDENUM	4.1	05/28/09	57847	Y	ES-M04-080515
East	M5	ES-M05-080527	MOLYBDENUM	3.9	05/28/09	57847	Y	ES-M05-080527
East	M6	ES-M06-080520	MOLYBDENUM	3.9	05/28/09	57847	Y	ES-M06-080520
East	M8	ES-M08-080610	MOLYBDENUM	4.5	05/01/09	57284	Y	ES-M08-080610
East	M9	ES-M09-080611	MOLYBDENUM	3.5	05/01/09	57284	Y	ES-M09-080611
East	N2	ES-N02-080528	MOLYBDENUM	3.1	05/28/09	57847	Y	ES-N02-080528
East	N3	ES-N03-080520	MOLYBDENUM	3.6	05/28/09	57847	Y	ES-N03-080520
East	N4	ES-N04-080519	MOLYBDENUM	3.7	05/28/09	57847	Y	ES-N04-080519
East	N5	ES-N05-080519	MOLYBDENUM	3.5	05/28/09	57847	Y	ES-N05-080519
East	N6	ES-N06-080527	MOLYBDENUM	3.6	06/09/09	58135	Y	ES-N06-080527
East	N7	ES-N07-080530	MOLYBDENUM	5.5	06/09/09	58135	Y	ES-N07-080530
East	N8	ES-N08-080610	MOLYBDENUM	4	05/01/09	57284	Y	ES-N08-080610

MOLYBDENUM Results from 09/11/09 database								
Site	grid	sample_location	chemical_name	result_value	date	batch_id	_flag	sample_name
East	N9	ES-N09-080610	MOLYBDENUM	4	05/04/09	57284	Y	ES-N09-080610
East	N10	ES-N10-080610	MOLYBDENUM	4.2	05/01/09	57284	Y	ES-N10-080610
East	O3	ES-O03-080528	MOLYBDENUM	3.3	06/09/09	58135	Y	ES-O03-080528
East	O4	ES-O04-080515	MOLYBDENUM	3.5	06/09/09	58135	Y	ES-O04-080515
East	O5	ES-O05-080520	MOLYBDENUM	3	06/09/09	58135	Y	ES-O05-080520
East	O6	ES-O06-080529	MOLYBDENUM	3.5	06/09/09	58135	Y	ES-O06-080529
East	O8	ES-O08-080530	MOLYBDENUM	4.1	07/27/09	59757	Y	ES-O08-080530
East	P4	ES-P04-080528	MOLYBDENUM	2.9	05/24/09	57792	Y	DUP-16
East	P4	ES-P04-080528	MOLYBDENUM	2.8	06/09/09	58135	Y	ES-P04-080528
East	P5	ES-P05-080513	MOLYBDENUM	2.7	06/09/09	58135	Y	ES-P05-080513
East	P6	ES-P06-080515	MOLYBDENUM	3.6	05/24/09	57792	Y	DUP-12
East	P6	ES-P06-080515	MOLYBDENUM	3.5	06/09/09	58135	Y	ES-P06-080515
East	P7	ES-P07-080519	MOLYBDENUM	3.7	05/28/09	57847	Y	ES-P07-080519
East	P8	ES-P08-080530	MOLYBDENUM	3.8	06/09/09	58135	Y	ES-P08-080530
East	P10	ES-P10-080606	MOLYBDENUM	3.9	05/01/09	57284	Y	ES-P10-080606
East	P11	ES-P11-080606	MOLYBDENUM	3.8	05/01/09	57284	Y	ES-P11-080606
East	Q5	ES-Q05-080520	MOLYBDENUM	5	06/09/09	58135	Y	ES-Q05-080520
East	Q9	ES-Q09-080612	MOLYBDENUM	3.8	06/09/09	58135	Y	ES-Q09-080612
East	Q10	ES-Q10-080606	MOLYBDENUM	4.2	05/11/09	57543	Y	ES-Q10-080606
East	Q11	ES-Q11-080606	MOLYBDENUM	4	05/11/09	57543	Y	ES-Q11-080606
East	Q17	ES-Q17-080609	MOLYBDENUM	4.2	05/01/09	57147	Y	ES-Q17-080609
East	R5	ES-R05-080521	MOLYBDENUM	4.6	06/09/09	58135	Y	ES-R05-080521
East	R6	ES-R06-080521	MOLYBDENUM	3.2	06/20/09	58565	Y	ES-R06-080521
East	R7	ES-R07-080521	MOLYBDENUM	2.8	06/10/09	58212	Y	ES-R07-080521
East	R9	ES-R09-080520	MOLYBDENUM	3.8	06/10/09	58212	Y	ES-R09-080520
East	R10	ES-R10-080602	MOLYBDENUM	3.8	06/10/09	58212	Y	ES-R10-080602
East	R11	ES-R11-080605	MOLYBDENUM	3.7	05/11/09	57543	Y	ES-R11-080605
East	R12	ES-R12-080611	MOLYBDENUM	3.8	05/11/09	57543	Y	ES-R12-080611
East	R16	ES-R16-080605	MOLYBDENUM	3.5	05/01/09	57147	Y	ES-R16-080605
East	R17	ES-R17-080606	MOLYBDENUM	4.3	05/01/09	57147	Y	ES-R17-080606
East	S5	ES-S05-080521	MOLYBDENUM	3.9	06/10/09	58212	Y	ES-S05-080521
East	S6	ES-S06-080521	MOLYBDENUM	3.8	06/10/09	58212	Y	ES-S06-080521
East	S7	ES-S07-080521	MOLYBDENUM	3.2	06/10/09	58212	Y	ES-S07-080521
East	S9	ES-S09-080522	MOLYBDENUM	3.2	06/10/09	58212	Y	ES-S09-080522
East	S10	ES-S10-080523	MOLYBDENUM	3.5	06/10/09	58212	Y	ES-S10-080523
East	S11	ES-S11-080528	MOLYBDENUM	4.2	06/10/09	58212	Y	ES-S11-080528
East	S12	ES-S12-080609	MOLYBDENUM	4.2	05/01/09	57147	Y	ES-S12-080609
East	S13	ES-S13-080610	MOLYBDENUM	3.8	05/01/09	57147	Y	ES-S13-080610
East	S18	ES-S18-080606	MOLYBDENUM	3.9	05/01/09	57147	Y	ES-S18-080606
East	T7	ES-T07-080612	MOLYBDENUM	4	06/10/09	58212	Y	ES-T07-080612
East	T8	ES-T08-080522	MOLYBDENUM	3.4	06/09/09	58135	Y	DUP-13
East	T8	ES-T08-080522	MOLYBDENUM	3.6	06/10/09	58212	Y	ES-T08-080522
East	T9	ES-T09-080522	MOLYBDENUM	3.3	06/10/09	58212	Y	ES-T09-080522
East	T10	ES-T10-080523	MOLYBDENUM	3.5	06/10/09	58212	Y	ES-T10-080523
East	T10	ES-T10-080523	MOLYBDENUM	3.5	06/10/09	58212	Y	DUP-14
East	T11	ES-T11-080530	MOLYBDENUM	4.8	06/10/09	58212	Y	ES-T11-080530
East	T12	ES-T12-080609	MOLYBDENUM	3.5	05/01/09	57147	Y	ES-T12-080609

MOLYBDENUM Results from 09/11/09 database								
Site	grid	sample_location	chemical_name	result_value	date	batch_id	_flag	sample_name
East	T13	ES-T13-080609	MOLYBDENUM	3.3	05/01/09	57147	Y	ES-T13-080609
East	T14	ES-T14-080610	MOLYBDENUM	4.1	05/01/09	57147	Y	ES-T14-080610
East	U10	ES-U10-080523	MOLYBDENUM	3.3	06/10/09	58212	Y	ES-U10-080523
East	U11	ES-U11-080602	MOLYBDENUM	3.3	06/20/09	58565	Y	ES-U11-080602
East	U13	ES-U13-080610	MOLYBDENUM	3.4	05/01/09	57284	Y	ES-U13-080610
East	U14	ES-U14-080610	MOLYBDENUM	3.7	05/01/09	57284	Y	ES-U14-080610
East	V11	ES-V11-080529	MOLYBDENUM	3.1	06/20/09	58565	Y	ES-V11-080529
East	V14	ES-V14-080605	MOLYBDENUM	3.3	05/01/09	57284	Y	ES-V14-080605
East	W12	ES-W12-080527	MOLYBDENUM	3.6	06/20/09	58565	Y	ES-W12-080527
West	A4	WS-A04-080626	MOLYBDENUM	4.9	07/13/09	59381	Y	WS-A04-080626
West	B3	WS-B03-080502	MOLYBDENUM	5	07/13/09	59381	Y	WS-B03-080502
West	B4	WS-B04-080626	MOLYBDENUM	5.3	07/13/09	59381	Y	WS-B04-080626
West	B5	WS-B05-080626	MOLYBDENUM	5	07/27/09	59757	Y	WS-B05-080626
West	C1	WS-C01-080501	MOLYBDENUM	3.5	06/20/09	58565	Y	WS-C01-080501
West	C1	WS-C01-080501	MOLYBDENUM	3.3	06/20/09	58565	Y	DUP-3
West	C2	WS-C02-080428	MOLYBDENUM	3.6	07/20/09	59621	Y	WS-C02-080428
West	C3	WS-C03-080620	MOLYBDENUM	4.4	07/20/09	59621	Y	WS-C03-080620
West	C4	WS-C04-080623	MOLYBDENUM	5.7	07/20/09	59621	Y	WS-C04-080623
West	C5	WS-C05-080620	MOLYBDENUM	4.6	07/27/09	59757	Y	WS-C05-080620
West	C6	WS-C06-080624	MOLYBDENUM	4.4	07/27/09	59757	Y	WS-C06-080624
West	D1	WS-D01-080430	MOLYBDENUM	3.9	06/20/09	58565	Y	WS-D01-080430
West	D2	WS-D02-080429	MOLYBDENUM	4.5	07/13/09	59381	Y	DUP-2
West	D2	WS-D02-080429	MOLYBDENUM	4.5	07/20/09	59621	Y	WS-D02-080429
West	D3	WS-D03-080620	MOLYBDENUM	5.3	07/20/09	59621	Y	WS-D03-080620
West	D4	WS-D04-080623	MOLYBDENUM	5.3	08/18/09	60439	Y	WS-D04-080623
West	D5	WS-D05-080620	MOLYBDENUM	4.4	07/27/09	59757	Y	WS-D05-080620
West	D6	WS-D06-080619	MOLYBDENUM	4.5	07/27/09	59757	Y	WS-D06-080619
West	D7	WS-D07-080619	MOLYBDENUM	4.7	07/27/09	59757	Y	WS-D07-080619
West	E1	WS-E01-080430	MOLYBDENUM	4.2	06/20/09	58565	Y	WS-E01-080430
West	E2	WS-E02-080428	MOLYBDENUM	5.6	07/13/09	59381	Y	DUP-1
West	E2	WS-E02-080428	MOLYBDENUM	5.1	07/20/09	59621	Y	WS-E02-080428
West	E3	WS-E03-080619	MOLYBDENUM	5.8	07/20/09	59621	Y	WS-E03-080619
West	E4	WS-E04-080613	MOLYBDENUM	5.5	07/27/09	59757	Y	WS-E04-080613
West	E5	WS-E05-080613	MOLYBDENUM	4	07/27/09	59757	Y	WS-E05-080613
West	E6	WS-E06-080613	MOLYBDENUM	4.6	07/27/09	59757	Y	WS-E06-080613
West	E7	WS-E07-080613	MOLYBDENUM	5.2	07/27/09	59757	Y	WS-E07-080613
West	F1	WS-F01-080429	MOLYBDENUM	4.7	06/20/09	58565	Y	WS-F01-080429
West	F2	WS-F02-080429	MOLYBDENUM	5.3	07/20/09	59621	Y	WS-F02-080429
West	F3	WS-F03-080619	MOLYBDENUM	5.7	07/20/09	59621	Y	WS-F03-080619
West	F4	WS-F04-080616	MOLYBDENUM	6.7	07/29/09	59889	Y	WS-F04-080616
West	F5	WS-F05-080612	MOLYBDENUM	4.9	08/18/09	60439	Y	WS-F05-080612
West	F6	WS-F06-080612	MOLYBDENUM	5.3	07/29/09	59889	Y	WS-F06-080612
West	F7	WS-F07-080617	MOLYBDENUM	4.2	06/29/09	58728	Y	WS-F07-080617
West	F8	WS-F08-080618	MOLYBDENUM	4.8	06/29/09	58728	Y	WS-F08-080618
West	G1	WS-G01-080501	MOLYBDENUM	4.7	06/20/09	58565	Y	DUP-4
West	G1	WS-G01-080501	MOLYBDENUM	4.6	06/29/09	58728	Y	WS-G01-080501
West	G2	WS-G02-080618	MOLYBDENUM	5.8	07/20/09	59621	Y	WS-G02-080618