

APPENDIX A
ISRM PUSH-PROBE ANALYTICAL DATA



WALL ALIGNMENT GP DATA
MONITORING WELL DATA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 Beach Dr. East
Port Orchard, Washington 98366

April 9, 2003

MEMORANDUM

SUBJECT: Field Hexavalent Chromium, pH, Dissolved Oxygen,
Conductivity, and Oxidation Reduction Potential Results
for the Frontier Hard Chrome Project Samples

FROM: *GH Dodo*
Gerald H. Dodo, Chemist
USEPA

TO: Sean Sheldrake
USEPA

Attached are summaries of hexavalent chromium, pH, dissolved oxygen, conductivity, and oxidation reduction potential analyses' results for samples collected at the Frontier Hard Chrome project site. These samples were collected from 03/05/03 thru 03/19/03. The samples were analyzed for hexavalent chromium using Hach test kits and a Hach spectrophotometer. The other measurements were acquired using an Orion 1230 and SA250 with the necessary specific ion probes. The analyses were performed on-site by the USEPA Region 10 Laboratory ESAT staff. All necessary QC measures were performed with acceptable results. The analyses' results were delivered as ESAT document number ES10-1-1770 under Technical Direction Form 1174. The project code for these samples is TEC-410T and the account number is 03T10P50102D1027LA00.

The results for hexavalent chromium are considered screening results and were qualified F. All results have been reported earlier to Vince Vermeul of PNNL.

Manchester Environmental Laboratory

Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP011-0250

Collected: 3/ 5/03
Matrix: Liquid
Sample Number: 03104050
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter	: Conductivity				
Method	:				
Prep Method:					
Analytes	: *90104	Specific Conductance at 25C	466	uS/cm	
Parameter	: Dissolved Oxygen				
Method	:				
Prep Method:					
Analytes	: *90182	Dissolved Oxygen	6.45	mg/L	
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-30	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	6.86		

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Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP011-0300

Collected: 3/ 5/03
Matrix: Liquid
Sample Number: 03104051
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter	: Conductivity				
Method	:				
Prep Method:					
Analytes	: *90104	Specific Conductance at 25C	409	uS/cm	
Parameter	: Dissolved Oxygen				
Method	:				
Prep Method:					
Analytes	: *90182	Dissolved Oxygen	5.14	mg/L	
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-31	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	6.88		

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Project Code:	TEC-410T	Collected:	3/ 5/03
Project Name:	FRONTIER HARD CHROME	Matrix:	Liquid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03104052
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	PP011-0350		

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter :	Conductivity				
Method :					
Prep Method:					
Analytes :	*90104	Specific Conductance at 25C	381	uS/cm	
Parameter :	Dissolved Oxygen				
Method :					
Prep Method:					
Analytes :	*90182	Dissolved Oxygen	6.05	mg/L	
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	-49	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	7.13		

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Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP012-0250

Collected: 3/ 6/03
Matrix: Liquid
Sample Number: 03104053
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter :	Conductivity				
Method :					
Prep Method:					
Analytes :	*90104	Specific Conductance at 25C	692	uS/cm	
Parameter :	Dissolved Oxygen				
Method :					
Prep Method:					
Analytes :	*90182	Dissolved Oxygen	5.9	mg/L	
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	16	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	6.82		

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Combined Final Report for Project TEC-410T

Project Code:	TEC-410T	Collected:	3/ 6/03
Project Name:	FRONTIER HARD CHROME	Matrix:	Liquid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03104054
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	PP012-0300		

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter :	Conductivity				
Method :					
Prep Method:					
Analytes :	*90104	Specific Conductance at 25C	390	uS/cm	
Parameter :	Dissolved Oxygen				
Method :					
Prep Method:					
Analytes :	*90182	Dissolved Oxygen	5.71	mg/L	
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	-11	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	6.8		

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Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP011-0310

Collected: 3/ 6/03
Matrix: Liquid
Sample Number: 03104055
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter	: Conductivity				
Method	:				
Prep Method:					
Analytes	: *90104	Specific Conductance at 25C	455	uS/cm	
Parameter	: Dissolved Oxygen				
Method	:				
Prep Method:					
Analytes	: *90182	Dissolved Oxygen	6.13	mg/L	
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	24	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	6.72		

03104055 Reg sample

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Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description:

Collected:
Matrix:
Sample Number: 03104055
Type: Matrix Spike

	Result	Units	Qlfr
FASP			
Parameter :	Hexavalent Chromium FASP		
Method :			
Prep Method:			
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	90 %Rec

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Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP013-0250

Collected: 3/ 7/03
Matrix: Liquid
Sample Number: 03104056
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	0.04	mg/L	F
GEN					
Parameter :	Conductivity				
Method :					
Prep Method:					
Analytes :	*90104	Specific Conductance at 25C	1193	uS/cm	
Parameter :	Dissolved Oxygen				
Method :					
Prep Method:					
Analytes :	*90182	Dissolved Oxygen	7.61	mg/L	
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	184	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	7.65		

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Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description:

Collected:
Matrix:
Sample Number: 03104056
Type: Duplicate

		Result	Units	Qlfr
FASP				
Parameter :	Hexavalent Chromium FASP			
Method :				
Prep Method:				
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	0.03	mg/L
				F

03104056 Duplicate

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Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP013-030

Collected: 3/ 7/03
Matrix: Liquid
Sample Number: 03104057
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter :	Conductivity				
Method :					
Prep Method:					
Analytes :	*90104	Specific Conductance at 25C	1163	uS/cm	
Parameter :	Dissolved Oxygen				
Method :					
Prep Method:					
Analytes :	*90182	Dissolved Oxygen	5.51	mg/L	
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	-53	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	7.27		

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Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP014-025

Collected: 3/10/03
Matrix: Liquid
Sample Number: 03114100
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter	: Conductivity				
Method	:				
Prep Method:					
Analytes	: *90104	Specific Conductance at 25C	1260	uS/cm	
Parameter	: Dissolved Oxygen				
Method	:				
Prep Method:					
Analytes	: *90182	Dissolved Oxygen	11.5	mg/L	
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	39	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	6.89		

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Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description:

Collected:
Matrix:
Sample Number: 03114100
Type: Matrix Spike

		Result	Units	Qlfr
FASP				
Parameter :	Hexavalent Chromium FASP			
Method :				
Prep Method:				
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	90	%Rec

03114100 Matrix Spike

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Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: MW-9
Collected: 3/10/03
Matrix: Liquid
Sample Number: 03114101
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.03	mg/L	F
GEN					
Parameter	: Conductivity				
Method	:				
Prep Method:					
Analytes	: *90104	Specific Conductance at 25C	1427	uS/cm	
Parameter	: Dissolved Oxygen				
Method	:				
Prep Method:					
Analytes	: *90182	Dissolved Oxygen	0	mg/L	
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	91	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	6.41		

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Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description:

Collected:
Matrix:
Sample Number: 03114101
Type: Matrix Spike

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	100	%Rec

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Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP014-030

Collected: 3/10/03
Matrix: Liquid
Sample Number: 03114102
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter :	Conductivity				
Method :					
Prep Method:					
Analytes :	*90104	Specific Conductance at 25C	1480	uS/cm	
Parameter :	Dissolved Oxygen				
Method :					
Prep Method:					
Analytes :	*90182	Dissolved Oxygen	8.29	mg/L	
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	27	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	6.86		

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Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description:

Collected:
Matrix:
Sample Number: 03114102
Type: Matrix Spike

		Result	Units	Qlfr
FASP				
Parameter :	Hexavalent Chromium FASP			
Method :				
Prep Method:				
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	80	%Rec

03114102 Matrix Spike

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Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP014-035

Collected: 3/10/03
Matrix: Liquid
Sample Number: 03114103
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter :	Hexavalent Chromium FASP			
Method :				
Prep Method:				
Analytes :	*7440473 Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN				
Parameter :	Conductivity			
Method :				
Prep Method:				
Analytes :	*90104 Specific Conductance at 25C	722	uS/cm	
Parameter :	Dissolved Oxygen			
Method :				
Prep Method:				
Analytes :	*90182 Dissolved Oxygen	9.2	mg/L	
Parameter :	Oxidation-Reduction Potential			
Method :				
Prep Method:				
Analytes :	*90204 Oxidation-reduction potential	-25	millivolts	
Parameter :	pH			
Method :				
Prep Method:				
Analytes :	*90075 pH	6.95		

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Combined Final Report for Project TEC-410T

Project Code:	TEC-410T	Collected:	3/10/03
Project Name:	FRONTIER HARD CHROME	Matrix:	Liquid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03114104
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	MW-5		

	Result	Units	Qlfr
FASP			
Parameter : Hexavalent Chromium FASP			
Method :			
Prep Method:			
Analytes : *7440473 Chromium, Hexavalent (Cr+6)	0.02	mg/L	F
GEN			
Parameter : Conductivity			
Method :			
Prep Method:			
Analytes : *90104 Specific Conductance at 25C	972	uS/cm	
Parameter : Dissolved Oxygen			
Method :			
Prep Method:			
Analytes : *90182 Dissolved Oxygen	0.54	mg/L	
Parameter : Oxidation-Reduction Potential			
Method :			
Prep Method:			
Analytes : *90204 Oxidation-reduction potential	-4	millivolts	
Parameter : pH			
Method :			
Prep Method:			
Analytes : *90075 pH	6.52		

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Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: MW-21

Collected: 3/11/03
Matrix: Liquid
Sample Number: 03114105
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter :	Conductivity				
Method :					
Prep Method:					
Analytes :	*90104	Specific Conductance at 25C	1088	uS/cm	
Parameter :	Dissolved Oxygen				
Method :					
Prep Method:					
Analytes :	*90182	Dissolved Oxygen	0.45	mg/L	
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	115	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	6.94		

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Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description:

Collected:
Matrix:
Sample Number: 03114105
Type: Matrix Spike

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	80	%Rec	

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Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP015-0230

Collected: 3/11/03
Matrix: Liquid
Sample Number: 03114106
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	0.05	mg/L	F
GEN					
Parameter :	Conductivity				
Method :					
Prep Method:					
Analytes :	*90104	Specific Conductance at 25C	1112	uS/cm	
Parameter :	Dissolved Oxygen				
Method :					
Prep Method:					
Analytes :	*90182	Dissolved Oxygen	7.83	mg/L	
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	115	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	6.96		

Manchester Environmental Laboratory Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP015-0275

Collected: 3/11/03
Matrix: Liquid
Sample Number: 03114107
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	:	Hexavalent Chromium FASP			
Method	:				
Prep Method:					
Analytes	:	*7440473 Chromium, Hexavalent (Cr+6)	0.02	mg/L	F
GEN					
Parameter	:	Conductivity			
Method	:				
Prep Method:					
Analytes	:	*90104 Specific Conductance at 25C	2050	uS/cm	
Parameter	:	Dissolved Oxygen			
Method	:				
Prep Method:					
Analytes	:	*90182 Dissolved Oxygen	5.96	mg/L	
Parameter	:	Oxidation-Reduction Potential			
Method	:				
Prep Method:					
Analytes	:	*90204 Oxidation-reduction potential	52	millivolts	
Parameter	:	pH			
Method	:				
Prep Method:					
Analytes	:	*90075 pH	6.97		

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Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP013-0310

Collected: 3/11/03
Matrix: Liquid
Sample Number: 03114108
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.19	mg/L	F
GEN					
Parameter	: Conductivity				
Method	:				
Prep Method:					
Analytes	: *90104	Specific Conductance at 25C	417	uS/cm	
Parameter	: Dissolved Oxygen				
Method	:				
Prep Method:					
Analytes	: *90182	Dissolved Oxygen	0.47	mg/L	
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	78	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	6.51		

Manchester Environmental Laboratory Combined Final Report for Project TEC-410T

Project Code:	TEC-410T	Collected:	3/11/03
Project Name:	FRONTIER HARD CHROME	Matrix:	Liquid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03114109
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	PP015-0315		

		Result	Units	Qlfr	
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter	: Conductivity				
Method	:				
Prep Method:					
Analytes	: *90104	Specific Conductance at 25C	1856	uS/cm	
Parameter	: Dissolved Oxygen				
Method	:				
Prep Method:					
Analytes	: *90182	Dissolved Oxygen	6.65	mg/L	
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	96	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	7.06		

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Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: MW-20

Collected: 3/12/03
Matrix: Liquid
Sample Number: 03114110
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter :	Conductivity				
Method :					
Prep Method:					
Analytes :	*90104	Specific Conductance at 25C	1699	uS/cm	
Parameter :	Dissolved Oxygen				
Method :					
Prep Method:					
Analytes :	*90182	Dissolved Oxygen	0.66	mg/L	
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	-27	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	5.02		

4/17/03
10:57:35

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Combined Final Report for Project TEC-410T

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Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP016-0230

Collected: 3/12/03
Matrix: Liquid
Sample Number: 03114111
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	22	mg/L	F
GEN					
Parameter	: Conductivity				
Method	:				
Prep Method:					
Analytes	: *90104	Specific Conductance at 25C	339	uS/cm	
Parameter	: Dissolved Oxygen				
Method	:				
Prep Method:					
Analytes	: *90182	Dissolved Oxygen	25.5	mg/L	
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	90	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	6.24		

03114111 Reg sample

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Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP016-0275

Collected: 3/12/03
Matrix: Liquid
Sample Number: 03114112
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	73	mg/L	F
GEN					
Parameter	: Conductivity				
Method	:				
Prep Method:					
Analytes	: *90104	Specific Conductance at 25C	675	uS/cm	
Parameter	: Dissolved Oxygen				
Method	:				
Prep Method:					
Analytes	: *90182	Dissolved Oxygen	16.6	mg/L	
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	199	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	6.97		

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Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP016-0315

Collected: 3/12/03
Matrix: Liquid
Sample Number: 03114113
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	41	mg/L	F
GEN					
Parameter :	Conductivity				
Method :					
Prep Method:					
Analytes :	*90104	Specific Conductance at 25C	494	uS/cm	
Parameter :	Dissolved Oxygen				
Method :					
Prep Method:					
Analytes :	*90182	Dissolved Oxygen	23.9	mg/L	
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	184	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	6.67		

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Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP016-0355

Collected: 3/13/03
Matrix: Liquid
Sample Number: 03114114
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.24	mg/L	F
GEN					
Parameter	: Conductivity				
Method	:				
Prep Method:					
Analytes	: *90104	Specific Conductance at 25C	461	uS/cm	
Parameter	: Dissolved Oxygen				
Method	:				
Prep Method:					
Analytes	: *90182	Dissolved Oxygen	14.5	mg/L	
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	188	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	7.03		

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Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP014-0310

Collected: 3/13/03
Matrix: Liquid
Sample Number: 03114115
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.05	mg/L	F
GEN					
Parameter	: Conductivity				
Method	:				
Prep Method:					
Analytes	: *90104	Specific Conductance at 25C	803	uS/cm	
Parameter	: Dissolved Oxygen				
Method	:				
Prep Method:					
Analytes	: *90182	Dissolved Oxygen	9.05	mg/L	
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	177	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	6.64		

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Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP016-0395

Collected: 3/13/03
Matrix: Liquid
Sample Number: 03114116
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter	: Conductivity				
Method	:				
Prep Method:					
Analytes	: *90104	Specific Conductance at 25C	766	uS/cm	
Parameter	: Dissolved Oxygen				
Method	:				
Prep Method:					
Analytes	: *90182	Dissolved Oxygen	5.27	mg/L	
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-5	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	7.01		

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Combined Final Report for Project TEC-410T

Project Code:	TEC-410T	Collected:	3/13/03
Project Name:	FRONTIER HARD CHROME	Matrix:	Liquid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03114117
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	PP015-0310		

	Result	Units	Qlfr
FASP			
Parameter : Hexavalent Chromium FASP			
Method :			
Prep Method:			
Analytes : *7440473 Chromium, Hexavalent (Cr+6)	0.22	mg/L	F
GEN			
Parameter : Conductivity			
Method :			
Prep Method:			
Analytes : *90104 Specific Conductance at 25C	1600	uS/cm	
Parameter : Dissolved Oxygen			
Method :			
Prep Method:			
Analytes : *90182 Dissolved Oxygen	2.22	mg/L	
Parameter : Oxidation-Reduction Potential			
Method :			
Prep Method:			
Analytes : *90204 Oxidation-reduction potential	158	millivolts	
Parameter : pH			
Method :			
Prep Method:			
Analytes : *90075 pH	6.76		

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Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP017-0220

Collected: 3/13/03
Matrix: Liquid
Sample Number: 03114118
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter :	Conductivity				
Method :					
Prep Method:					
Analytes :	*90104	Specific Conductance at 25C			NA
Parameter :	Dissolved Oxygen				
Method :					
Prep Method:					
Analytes :	*90182	Dissolved Oxygen			NA
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential			NA
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH			NA

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Combined Final Report for Project TEC-410T

Project Code: TEC-410T Project Name: FRONTIER HARD CHROME Project Officer: SEAN SHELDRAKE Account Code: 03T10P50102D1027LA00 Station Description: PP017-0275	Collected: 3/13/03 Matrix: Liquid Sample Number: 03114119 Type: Reg sample
---	---

	Result	Units	Qlfr
FASP			
Parameter : Hexavalent Chromium FASP			
Method :			
Prep Method:			
Analytes : *7440473 Chromium, Hexavalent (Cr+6)	20	mg/L	F
GEN			
Parameter : Conductivity			
Method :			
Prep Method:			
Analytes : *90104 Specific Conductance at 25C	374	uS/cm	
Parameter : Dissolved Oxygen			
Method :			
Prep Method:			
Analytes : *90182 Dissolved Oxygen	7.82	mg/L	
Parameter : Oxidation-Reduction Potential			
Method :			
Prep Method:			
Analytes : *90204 Oxidation-reduction potential	69	millivolts	
Parameter : pH			
Method :			
Prep Method:			
Analytes : *90075 pH	6.81		

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Combined Final Report for Project TEC-410T

Project Code:	TEC-410T	Collected:	3/13/03
Project Name:	FRONTIER HARD CHROME	Matrix:	Liquid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03114120
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	PP017-0315		

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.06	mg/L	F
GEN					
Parameter	: Conductivity				
Method	:				
Prep Method:					
Analytes	: *90104	Specific Conductance at 25C	624	uS/cm	
Parameter	: Dissolved Oxygen				
Method	:				
Prep Method:					
Analytes	: *90182	Dissolved Oxygen	4.72	mg/L	
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	85	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	6.97		

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Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP017-0355

Collected: 3/14/03
Matrix: Liquid
Sample Number: 03114121
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.36	mg/L	F
GEN					
Parameter	: Conductivity				
Method	:				
Prep Method:					
Analytes	: *90104	Specific Conductance at 25C	563	uS/cm	
Parameter	: Dissolved Oxygen				
Method	:				
Prep Method:					
Analytes	: *90182	Dissolved Oxygen			NA
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	39	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	6.57		

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Combined Final Report for Project TEC-410T

Project Code:	TEC-410T	Collected:	3/14/03
Project Name:	FRONTIER HARD CHROME	Matrix:	Liquid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03114122
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	PP016-0310		

			Result	Units	Qlfr
FASP					
Parameter	Hexavalent Chromium FASP				
Method					
Prep Method:					
Analytes	*7440473	Chromium, Hexavalent (Cr+6)	6.0	mg/L	F
GEN					
Parameter	Conductivity				
Method					
Prep Method:					
Analytes	*90104	Specific Conductance at 25C	419	uS/cm	
Parameter	Dissolved Oxygen				
Method					
Prep Method:					
Analytes	*90182	Dissolved Oxygen			NA
Parameter	Oxidation-Reduction Potential				
Method					
Prep Method:					
Analytes	*90204	Oxidation-reduction potential	23	millivolts	
Parameter	pH				
Method					
Prep Method:					
Analytes	*90075	pH	7.08		

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description:

Collected:
Matrix:
Sample Number: 03114122
Type: Duplicate

		Result	Units	Qlfr	
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	5.8	mg/L	F

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Combined Final Report for Project TEC-410T

Project Code:	TEC-410T	Collected:	3/14/03
Project Name:	FRONTIER HARD CHROME	Matrix:	Liquid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03114123
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	PP017-0385		

			Result	Units	Qlfr
FASP					
Parameter	Hexavalent Chromium FASP				
Method					
Prep Method:					
Analytes	*7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter	Conductivity				
Method					
Prep Method:					
Analytes	*90104	Specific Conductance at 25C	805	uS/cm	
Parameter	Dissolved Oxygen				
Method					
Prep Method:					
Analytes	*90182	Dissolved Oxygen			NA
Parameter	Oxidation-Reduction Potential				
Method					
Prep Method:					
Analytes	*90204	Oxidation-reduction potential	63	millivolts	
Parameter	pH				
Method					
Prep Method:					
Analytes	*90075	pH	6.79		

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Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP017-0310

Collected: 3/17/03
Matrix: Liquid
Sample Number: 03124150
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter :	Hexavalent Chromium FASP			
Method :				
Prep Method:				
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	0.37	mg/L F
GEN				
Parameter :	Conductivity			
Method :				
Prep Method:				
Analytes :	*90104	Specific Conductance at 25C	694	uS/cm
Parameter :	Dissolved Oxygen			
Method :				
Prep Method:				
Analytes :	*90182	Dissolved Oxygen	0.24	mg/L
Parameter :	Oxidation-Reduction Potential			
Method :				
Prep Method:				
Analytes :	*90204	Oxidation-reduction potential	-110	millivolts
Parameter :	pH			
Method :				
Prep Method:				
Analytes :	*90075	pH		NA

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Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP012-0310

Collected: 3/17/03
Matrix: Liquid
Sample Number: 03124151
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	0.06	mg/L	F
GEN					
Parameter :	Conductivity				
Method :					
Prep Method:					
Analytes :	*90104	Specific Conductance at 25C	331	uS/cm	
Parameter :	Dissolved Oxygen				
Method :					
Prep Method:					
Analytes :	*90182	Dissolved Oxygen	0.98	mg/L	
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	-73	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH			NA

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: SO-SS001-0040

Collected: 3/17/03
Matrix: Solid
Sample Number: 03124152
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	28.8	mg/Kg	F
GEN					
Parameter :	Conductivity				
Method :					
Prep Method:					
Analytes :	*90104	Specific Conductance at 25C			NA
Parameter :	Dissolved Oxygen				
Method :					
Prep Method:					
Analytes :	*90182	Dissolved Oxygen			NA
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential			NA
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH			NA

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Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: SO-SS001-1040

Collected: 3/18/03
Matrix: Solid
Sample Number: 03124153
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	:	Hexavalent Chromium FASP			
Method	:				
Prep Method:					
Analytes	:	*7440473 Chromium, Hexavalent (Cr+6)	24	mg/Kg	F
GEN					
Parameter	:	Conductivity			
Method	:				
Prep Method:					
Analytes	:	*90104 Specific Conductance at 25C			NA
Parameter	:	Dissolved Oxygen			
Method	:				
Prep Method:					
Analytes	:	*90182 Dissolved Oxygen			NA
Parameter	:	Oxidation-Reduction Potential			
Method	:				
Prep Method:					
Analytes	:	*90204 Oxidation-reduction potential			NA
Parameter	:	pH			
Method	:				
Prep Method:					
Analytes	:	*90075 pH			NA

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Combined Final Report for Project TEC-410T

Project Code:	TEC-410T	Collected:	3/18/03
Project Name:	FRONTIER HARD CHROME	Matrix:	Liquid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03124154
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	MW-22		

	Result	Units	Qlfr
FASP			
Parameter : Hexavalent Chromium FASP			
Method :			
Prep Method:			
Analytes : *7440473 Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN			
Parameter : Conductivity			
Method :			
Prep Method:			
Analytes : *90104 Specific Conductance at 25C	1436	uS/cm	
Parameter : Dissolved Oxygen			
Method :			
Prep Method:			
Analytes : *90182 Dissolved Oxygen	0.43	mg/L	
Parameter : Oxidation-Reduction Potential			
Method :			
Prep Method:			
Analytes : *90204 Oxidation-reduction potential	48	millivolts	
Parameter : pH			
Method :			
Prep Method:			
Analytes : *90075 pH			NA

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Combined Final Report for Project TEC-410T

Project Code:	TEC-410T	Collected:	3/18/03
Project Name:	FRONTIER HARD CHROME	Matrix:	Liquid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03124155
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	MW-6		

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	7.8	mg/L	F
GEN					
Parameter	: Conductivity				
Method	:				
Prep Method:					
Analytes	: *90104	Specific Conductance at 25C	655	uS/cm	
Parameter	: Dissolved Oxygen				
Method	:				
Prep Method:					
Analytes	: *90182	Dissolved Oxygen	0.72	mg/L	
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential			NA
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH			NA

Manchester Environmental Laboratory
Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: MW-7

Collected: 3/18/03
Matrix: Liquid
Sample Number: 03124156
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L UF
GEN				
Parameter	: Conductivity			
Method	:			
Prep Method:				
Analytes	: *90104	Specific Conductance at 25C	2320	uS/cm
Parameter	: Dissolved Oxygen			
Method	:			
Prep Method:				
Analytes	: *90182	Dissolved Oxygen	0.26	mg/L
Parameter	: Oxidation-Reduction Potential			
Method	:			
Prep Method:				
Analytes	: *90204	Oxidation-reduction potential		NA
Parameter	: pH			
Method	:			
Prep Method:				
Analytes	: *90075	pH		NA

Manchester Environmental Laboratory
Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: MW-77

Collected: 3/18/03
Matrix: Liquid
Sample Number: 03124157
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter	: Conductivity				
Method	:				
Prep Method:					
Analytes	: *90104	Specific Conductance at 25C			NA
Parameter	: Dissolved Oxygen				
Method	:				
Prep Method:					
Analytes	: *90182	Dissolved Oxygen			NA
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential			NA
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH			NA

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Combined Final Report for Project TEC-410T

Project Code:	TEC-410T	Collected:	3/18/03
Project Name:	FRONTIER HARD CHROME	Matrix:	Liquid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03124158
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	INJ 1		

	Result	Units	Qlfr
FASP			
Parameter : Hexavalent Chromium FASP			
Method :			
Prep Method:			
Analytes : *7440473 Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN			
Parameter : Conductivity			
Method :			
Prep Method:			
Analytes : *90104 Specific Conductance at 25C	1900	uS/cm	
Parameter : Dissolved Oxygen			
Method :			
Prep Method:			
Analytes : *90182 Dissolved Oxygen	0.24	mg/L	
Parameter : Oxidation-Reduction Potential			
Method :			
Prep Method:			
Analytes : *90204 Oxidation-reduction potential			NA
Parameter : pH			
Method :			
Prep Method:			
Analytes : *90075 pH			NA

Manchester Environmental Laboratory

Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: PP013-0220

Collected: 3/19/03
Matrix: Liquid
Sample Number: 03124159
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L
				UF
GEN				
Parameter	: Conductivity			
Method	:			
Prep Method:				
Analytes	: *90104	Specific Conductance at 25C	669	uS/cm
Parameter	: Dissolved Oxygen			
Method	:			
Prep Method:				
Analytes	: *90182	Dissolved Oxygen	5.34	mg/L
Parameter	: Oxidation-Reduction Potential			
Method	:			
Prep Method:				
Analytes	: *90204	Oxidation-reduction potential	213	millivolts
Parameter	: pH			
Method	:			
Prep Method:				
Analytes	: *90075	pH		NA

Manchester Environmental Laboratory

Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description:

Collected:
Matrix:
Sample Number: 03124159
Type: Duplicate

		Result	Units	Qlfr	
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF

Manchester Environmental Laboratory
Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: INJ 2

Collected: 3/19/03
Matrix: Liquid
Sample Number: 03124160
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L UF
GEN				
Parameter	: Conductivity			
Method	:			
Prep Method:				
Analytes	: *90104	Specific Conductance at 25C	229	uS/cm
Parameter	: Dissolved Oxygen			
Method	:			
Prep Method:				
Analytes	: *90182	Dissolved Oxygen	0.26	mg/L
Parameter	: Oxidation-Reduction Potential			
Method	:			
Prep Method:				
Analytes	: *90204	Oxidation-reduction potential	-125	millivolts
Parameter	: pH			
Method	:			
Prep Method:				
Analytes	: *90075	pH		NA

4/17/03
10:57:35

Manchester Environmental Laboratory

Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: MW-10

Collected: 3/19/03
Matrix: Liquid
Sample Number: 03124161
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hcxavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter	: Conductivity				
Method	:				
Prep Method:					
Analytes	: *90104	Specific Conductance at 25C	2130	uS/cm	
Parameter	: Dissolved Oxygen				
Method	:				
Prep Method:					
Analytes	: *90182	Dissolved Oxygen	0.24	mg/L	
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential			NA
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH			NA

Manchester Environmental Laboratory

Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description:

Collected:
Matrix:
Sample Number: 03124161
Type: Duplicate

		Result	Units	Qlfr
FASP				
Parameter :	Hexavalent Chromium FASP			
Method :				
Prep Method:				
Analytes :	*7440473 Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF

4/17/03
10:57:35

Manchester Environmental Laboratory Combined Final Report for Project TEC-410T

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: MW-4

Collected: 3/19/03
Matrix: Liquid
Sample Number: 03124162
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter :	Conductivity				
Method :					
Prep Method:					
Analytes :	*90104	Specific Conductance at 25C	2560	uS/cm	
Parameter :	Dissolved Oxygen				
Method :					
Prep Method:					
Analytes :	*90182	Dissolved Oxygen	0.23	mg/L	
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	-109	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH			NA

Project Code: TEC-410T
Project Name: FRONTIER HARD CHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: MW-3

Collected: 3/19/03
Matrix: Liquid
Sample Number: 03124163
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter	: Conductivity				
Method	:				
Prep Method:					
Analytes	: *90104	Specific Conductance at 25C	2420	uS/cm	
Parameter	: Dissolved Oxygen				
Method	:				
Prep Method:					
Analytes	: *90182	Dissolved Oxygen	0	mg/L	
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	162	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	7.09		

Manchester Environmental Laboratory
Combined Final Report for Project TEC-410T

Project Code:	TEC-410T	Collected:	3/19/03
Project Name:	FRONTIER HARD CHROME	Matrix:	Liquid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03124164
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	PP000-4000		

			Result	Units	Qlfr
FASP					
Parameter	Hexavalent Chromium FASP				
Method					
Prep Method:					
Analytes	*7440473	Chromium, Hexavalent (Cr+6)	0.02	mg/L	UF
GEN					
Parameter	Conductivity				
Method					
Prep Method:					
Analytes	*90104	Specific Conductance at 25C			NA
Parameter	Dissolved Oxygen				
Method					
Prep Method:					
Analytes	*90182	Dissolved Oxygen			NA
Parameter	Oxidation-Reduction Potential				
Method					
Prep Method:					
Analytes	*90204	Oxidation-reduction potential			NA
Parameter	pH				
Method					
Prep Method:					
Analytes	*90075	pH			NA



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

PUSH PROBE : WELL METAL
WALL ALIGNMENT CHARACT.

MAR/APR 2003

IN REPLY
REFER TO: OEA-095

April 22, 2003

RECEIVED
APR 24 2003

Per *[Signature]*

MEMORANDUM

SUBJECT: Frontier Hardchrome RD, CLP Metals Analysis, Data Validation
Case: 31509
SDG: MJONX9

FROM: *[Signature]*
Laura Castrilli, Chemist
Quality Assurance, Monitoring & Assessment Unit, OEA

TO: Sean Sheldrake, Project Manager
Office of Environmental Cleanup

CC: Bruce Woods, Region 10 CLP TPO
Paul Swift, Weston Solutions Inc.

The following is a validation of ICP-AES and mercury analyses of twenty water samples from the Frontier Hardchrome site. The analyses were performed following the USEPA Contract Laboratory Program Statement of Work for Inorganics Analysis Multi-media, Multi-Concentration, ILM04.1. Analyses were conducted by Compuchem, a division of Liberty Analytical Corporation, Cary, North Carolina. This validation was conducted for the following samples:

MJONX9	MJONY2	MJONY5	MJONY8	MJONZ1	MJONZ4	MJONZ7
MJONY0	MJONY3	MJONY6	MJONY9	MJONZ2	MJONZ5	MJONZ8
MJONY1	MJONY4	MJONY7	MJONZ0	MJONZ3	MJONZ6	

Data Qualifications

The following comments refer to Compuchem's performance in meeting quality control specifications outlined in the CLP Statement of Work (CLP-SOW) for Inorganic Analysis, rev. ILM04.1. The comments presented herein are based on the information provided for the review.

1.0 Timeliness - Acceptable

The technical (40 CFR part 136) holding time from the date of collection for mercury in water is 28 days. The holding time for the remaining metals in water is 180 days. The samples were collected between 03/05/03 and 03/19/03. Mercury analyses were completed on 03/26/03. ICP-AES analyses were completed on 03/26/03. All analyses were conducted within the technical water holding times, therefore no qualification was made based on holding time.

U. S. EPA - CLP

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PP011-0300

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJONX9

Lab Name: COMPUCHEM Contract: 68W00082
 Lab Code: LIBERTY Case No.: 31509 SAS No.: _____ SDG No.: MJONX9
 Matrix (soil/water): WATER Lab Sample ID: MJONX9-1
 Level (low/med): LOW Date Received: 03/21/03
 % Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.8	U		P
7440-36-0	Antimony	4.0	B	U	P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	51.7	B	J	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	42300			P
7440-47-3	Chromium	1.4	B	J	P
7440-48-4	Cobalt	12.2	B	J	P
7440-50-8	Copper	1.5	B	U	P
7439-89-6	Iron	436			P
7439-92-1	Lead	1.8	B	U	P
7439-95-4	Magnesium	14400			P
7439-96-5	Manganese	5150			P
7439-97-6	Mercury	0.10	U	NJ	CV
7440-02-0	Nickel	22.8	B	J	P
7440-09-7	Potassium	5500			P
7782-49-2	Selenium	3.4	B	J	P
7440-22-4	Silver	0.87	B	J	P
7440-23-5	Sodium	11900		NJ	P
7440-28-0	Thallium	4.4	U		P
7440-62-2	Vanadium	0.60	B	U	P
7440-66-6	Zinc	165		NJ	P

See 04/21/03

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____
 Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

PP011-0310

EPA SAMPLE NO.

MJONYO

Lab Name: COMPUCHEM Contract: 68W00082
 Lab Code: LIBRTY Case No.: 31509 SAS No.: _____ SDG No.: MJONX9
 Matrix (soil/water): WATER Lab Sample ID: MJONX9-2
 Level (low/med): LOW Date Received: 03/21/03
 % Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	11.8	U		P	
7440-36-0	Antimony	2.3	U		P	
7440-38-2	Arsenic	3.7	U		P	
7440-39-3	Barium	44.5	B	J	P	
7440-41-7	Beryllium	0.20	U		P	
7440-43-9	Cadmium	0.40	U		P	
7440-70-2	Calcium	50900			P	
7440-47-3	Chromium	21.0			P	
7440-48-4	Cobalt	3.7	B	U	P	
7440-50-8	Copper	1.9	B	U	P	
7439-89-6	Iron	250		U	P	
7439-92-1	Lead	1.4	B	U	P	
7439-95-4	Magnesium	16900			P	
7439-96-5	Manganese	3300			P	
7439-97-6	Mercury	0.10	U	NJ	CV	
7440-02-0	Nickel	3.0	B	J	P	
7440-09-7	Potassium	3520	B	J	P	
7782-49-2	Selenium	2.6	U		P	
7440-22-4	Silver	0.70	U		P	
7440-23-5	Sodium	8310		B	J	P
7440-28-0	Thallium	4.4	U		P	
7440-62-2	Vanadium	2.2	B	U	P	
7440-66-6	Zinc	2.2	B	*U	P	

See analysis

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____
 Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

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U. S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

PP012-0310

EPA SAMPLE NO.

MJONY1

Lab Name: COMPUCHEM

Contract: 68W00082

Lab Code: LIBRTY

Case No.: 31509

SAS No.:

SDG No.: MJONX9

Matrix (soil/water): WATER

Lab Sample ID: MJONX9-3

Level (low/med): LOW

Date Received: 03/21/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.8	U		P
7440-36-0	Antimony	2.3	U		P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	34.3	B	J	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	41400			P
7440-47-3	Chromium	158			P
7440-48-4	Cobalt	1.1	B	J	P
7440-50-8	Copper	2.1	B	J	P
7439-89-6	Iron	456			P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	13000			P
7439-96-5	Manganese	1280			P
7439-97-6	Mercury	0.10	U	NJ	CV
7440-02-0	Nickel	1.1	B	J	P
7440-09-7	Potassium	3640	B	J	P
7782-49-2	Selenium	2.6	U		P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	6450		EJ	P
7440-28-0	Thallium	4.4	U		P
7440-62-2	Vanadium	4.7	B	U	P
7440-66-6	Zinc	2.9	B	W	P

See 04/21/03

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

PP013-0310

EPA SAMPLE NO.

MJONY2

Lab Name: COMPUCHEM

Contract: 68W00082

Lab Code: LIBERTY

Case No.: 31509

SAS No.: _____

SDG No.: MJONX9

Matrix (soil/water): WATER

Lab Sample ID: MJONX9-4

Level (low/med): LOW

Date Received: 03/21/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.8	U		P
7440-36-0	Antimony	2.3	U		P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	25.7	B	J	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	55300			P
7440-47-3	Chromium	205			P
7440-48-4	Cobalt	0.82	B	J	P
7440-50-8	Copper	2.5	B	J	P
7439-89-6	Iron	79.3	B	U	P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	13300			P
7439-96-5	Manganese	154			P
7439-97-6	Mercury	0.10	U	NJ	CV
7440-02-0	Nickel	3.5	B	J	P
7440-09-7	Potassium	3930	B	J	P
7782-49-2	Selenium	2.6	U		P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	9230		EJ	P
7440-28-0	Thallium	4.4	U		P
7440-62-2	Vanadium	4.5	B	U	P
7440-66-6	Zinc	3.7	B	+UJ	P

2/24/03/03

Color Before: COLORLESS

Clarity Before: CLEAR

Texture: _____

Color After: COLORLESS

Clarity After: CLEAR

Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

PP014-0310

EPA SAMPLE NO.

MJONY3

Lab Name: COMPUCHEM

Contract: 68W00082

Lab Code: LIBRTY

Case No.: 31509

SAS No.: _____

SDG No.: MJONX9

Matrix (soil/water): WATER

Lab Sample ID: MJONX9-5

Level (low/med): LOW

Date Received: 03/21/03

8 Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.8	U		P
7440-36-0	Antimony	2.3	U		P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	130	B	J	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	101000			P
7440-47-3	Chromium	89.1			P
7440-48-4	Cobalt	10.3	B	J	P
7440-50-8	Copper	4.1	B	J	P
7439-89-6	Iron	178		U	P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	20400			P
7439-96-5	Manganese	2830			P
7439-97-6	Mercury	0.10	U	NJ	CV
7440-02-0	Nickel	16.2	B	J	P
7440-09-7	Potassium	20900			P
7782-49-2	Selenium	2.6	U		P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	25300		BJ	P
7440-28-0	Thallium	4.4	U		P
7440-62-2	Vanadium	1.7	B	U	P
7440-66-6	Zinc	4.6	B	*U	P

see 04 kilos

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

U. S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

PP015-0310

EPA SAMPLE NO.

MJONY4

Lab Name: COMPUCHEM Contract: 68W00082
 Lab Code: LIBRTY Case No.: 31509 SAS No.: _____ SDG No.: MJONX9
 Matrix (soil/water): WATER Lab Sample ID: MJONX9-6
 Level (low/med): LOW Date Received: 03/21/03
 % Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.8	U		P
7440-36-0	Antimony	2.3	U		P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	128	B	J	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	213000			P
7440-47-3	Chromium	371			P
7440-48-4	Cobalt	40.3	B	J	P
7440-50-8	Copper	34.9			P
7439-89-6	Iron	8.7	U		P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	57000			P
7439-96-5	Manganese	2260			P
7439-97-6	Mercury	0.10	U	NJ	CV
7440-02-0	Nickel	20.6	B	J	P
7440-09-7	Potassium	11600			P
7782-49-2	Selenium	2.6	U		P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	75200		EJ	P
7440-28-0	Thallium	4.4	U		P
7440-62-2	Vanadium	4.0	B	U	P
7440-66-6	Zinc	11.2	B	U	P

see 2/12/03

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____
 Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

PP016-0315

EPA SAMPLE NO.

MJONY5

Lab Name: COMPUCHEM

Contract: 68W00082

Lab Code: LIBRTY

Case No.: 31509

SAS No.: _____

SDG No.: MJONX9

Matrix (soil/water): WATER

Lab Sample ID: MJONX9-7

Level (low/med): LOW

Date Received: 03/21/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.8	U		P
7440-36-0	Antimony	2.3	U		P
7440-38-2	Arsenic	8.6	B	J	P
7440-39-3	Barium	31.6	B	J	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	58800			P
7440-47-3	Chromium	42000			P
7440-48-4	Cobalt	9.6	B	J	P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	8.7	U		P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	18400			P
7439-96-5	Manganese	465			P
7439-97-6	Mercury	0.10	U	NS	CV
7440-02-0	Nickel	5.5	B	J	P
7440-09-7	Potassium	5320			P
7782-49-2	Selenium	4.3	B	J	P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	8630		ES	P
7440-28-0	Thallium	4.4	U		P
7440-62-2	Vanadium	3.4	B	U	P
7440-66-6	Zinc	37.4		+J	P

See table/B

Color Before: YELLOW Clarity Before: CLEAR Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments: _____

INORGANIC ANALYSIS DATA SHEET

PP017-0275

EPA SAMPLE NO.

MJONY6

Lab Name: COMPUCHEM

Contract: 68W00082

Lab Code: LIBERTY

Case No.: 31509

SAS No.: _____

SDG No.: MJONX9

Matrix (soil/water): WATER

Lab Sample ID: MJONX9-8

Level (low/med): LOW

Date Received: 03/21/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.8	U		P
7440-36-0	Antimony	2.3	U		P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	36.2	B	J	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	42400			P
7440-47-3	Chromium	17500			P
7440-48-4	Cobalt	5.3	B	J	P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	8.7	U		P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	14200			P
7439-96-5	Manganese	765			P
7439-97-6	Mercury	0.10	U	WJ	CV
7440-02-0	Nickel	6.7	B	J	P
7440-09-7	Potassium	3980	B	J	P
7782-49-2	Selenium	3.3	B	J	P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	11400		EJ	P
7440-28-0	Thallium	4.4	U		P
7440-62-2	Vanadium	1.9	B	L	P
7440-66-6	Zinc	25.2		+J	P

Handwritten signature/initials

Color Before: YELLOW

Clarity Before: CLEAR

Texture: _____

Color After: YELLOW

Clarity After: CLEAR

Artifacts: _____

Comments: _____

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1

INORGANIC ANALYSIS DATA SHEET

MW-9

EPA SAMPLE NO.

MJONY7

Lab Name: COMPUCHEM Contract: 68W00082
 Lab Code: LIBRTY Case No.: 31509 SAS No.: _____ SDG No.: MJONX9
 Matrix (soil/water): WATER Lab Sample ID: MJONX9-9
 Level (low/med): LOW Date Received: 03/21/03
 % Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.8	U		P
7440-36-0	Antimony	2.3	U		P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	138	B	J	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	204000			P
7440-47-3	Chromium	50.7			P
7440-48-4	Cobalt	32.6	B	J	P
7440-50-8	Copper	9.7	B	J	P
7439-89-6	Iron	8.7	U		P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	43400			P
7439-96-5	Manganese	5760			P
7439-97-6	Mercury	0.10	U	NJ	CV
7440-02-0	Nickel	27.4	B	J	P
7440-09-7	Potassium	46200			P
7782-49-2	Selenium	2.8	B	J	P
7440-22-4	Silver	0.79	B	J	P
7440-23-5	Sodium	49000		EJ	P
7440-28-0	Thallium	4.4	U		P
7440-62-2	Vanadium	1.5	B	U	P
7440-66-6	Zinc	5.3	B	*UJ	P

see table

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____
 Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

INORGANIC ANALYSIS DATA SHEET

MW-5

EPA SAMPLE NO.

MJONY8

Lab Name: COMPUCHEM

Contract: 68W00082

Lab Code: LIBRTY

Case No.: 31509

SAS No.: _____

SDG No.: MJONX9

Matrix (soil/water): WATER

Lab Sample ID: MJONX9-10

Level (low/med): LOW

Date Received: 03/21/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	102	B	U	P
7440-36-0	Antimony	4.6	B	U	P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	117	B	J	P
7440-41-7	Beryllium	0.38	B	U	P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	117000			P
7440-47-3	Chromium	162			P
7440-48-4	Cobalt	10.6	B	J	P
7440-50-8	Copper	1.5	B	J	P
7439-89-6	Iron	1100			P
7439-92-1	Lead	1.3	B	U	P
7439-95-4	Magnesium	23100			P
7439-96-5	Manganese	3030			P
7439-97-6	Mercury	0.10	U	NJ	CV
7440-02-0	Nickel	19.6	B	J	P
7440-09-7	Potassium	25800			P
7782-49-2	Selenium	2.6	U		P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	28400		EJ	P
7440-28-0	Thallium	4.4	U	J	P
7440-62-2	Vanadium	1.8	B	U	P
7440-66-6	Zinc	6.3	B	*J	P

AE 04/01/03

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

MW-21

EPA SAMPLE NO.

MJONY9

Lab Name: COMPUCHEMContract: 68W00082Lab Code: LIBRTYCase No.: 31509

SAS No.: _____

SDG No.: MJONX9Matrix (soil/water): WATERLab Sample ID: MJONX9-11Level (low/med): LOWDate Received: 03/21/03% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	17.4	B	U	P
7440-36-0	Antimony	3.3	B	U	P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	230			P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	118000			P
7440-47-3	Chromium	1.9	B	J	P
7440-48-4	Cobalt	28.4	B	J	P
7440-50-8	Copper	2.2	B	J	P
7439-89-6	Iron	267		U	P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	26000			P
7439-96-5	Manganese	4360			P
7439-97-6	Mercury	0.10	U	NS	CV
7440-02-0	Nickel	14.4	B	J	P
7440-09-7	Potassium	74400			P
7782-49-2	Selenium	2.6	U		P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	42900		EJ	P
7440-28-0	Thallium	4.4	U	J	P
7440-62-2	Vanadium	1.9	B	U	P
7440-66-6	Zinc	2.8	B	*U	P

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

22

INORGANIC ANALYSIS DATA SHEET

MW-20

EPA SAMPLE NO.

MJONZO

Lab Name: COMPUCHEM

Contract: 68W00082

Lab Code: LIBRTY

Case No.: 31509

SAS No.: _____

SDG No.: MJONX9

Matrix (soil/water): WATER

Lab Sample ID: MJONX9-12

Level (low/med): LOW

Date Received: 03/21/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.8	U		P
7440-36-0	Antimony	2.9	B	U	P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	325			P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	221000			P
7440-47-3	Chromium	9.0	B	J	P
7440-48-4	Cobalt	36.1	B	J	P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	3120			P
7439-92-1	Lead	2.3	B	U	P
7439-95-4	Magnesium	28500			P
7439-96-5	Manganese	11500			P
7439-97-6	Mercury	0.10	U	NJ	CV
7440-02-0	Nickel	40.0			P
7440-09-7	Potassium	130000			P
7782-49-2	Selenium	4.8	B	J	P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	93600		EJ	P
7440-28-0	Thallium	4.4	U	J	P
7440-62-2	Vanadium	0.97	B	U	P
7440-66-6	Zinc	4.6	B	U	P

See 02/11/03

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

MW-22

EPA SAMPLE NO.

MJONZ1

Lab Name: COMPUCHEM

Contract: 68W00082

Lab Code: LIBRTY

Case No.: 31509

SAS No.: _____

SDG No.: MJONX9

Matrix (soil/water): WATER

Lab Sample ID: MJONX9-13

Level (low/med): LOW

Date Received: 03/21/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.8	U		P
7440-36-0	Antimony	3.7	B	U	P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	272			P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	170000			P
7440-47-3	Chromium	7.4	B	J	P
7440-48-4	Cobalt	44.3	B	J	P
7440-50-8	Copper	9.8	B	J	P
7439-89-6	Iron	354		U	P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	41700			P
7439-96-5	Manganese	4720			P
7439-97-6	Mercury	0.10	U	NJ	CV
7440-02-0	Nickel	27.5	B	J	P
7440-09-7	Potassium	76000			P
7782-49-2	Selenium	2.6	U		P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	62200		EJ	P
7440-28-0	Thallium	4.4	U	J	P
7440-62-2	Vanadium	2.5	B	J	P
7440-66-6	Zinc	3.8	B	*U	P

Handwritten signature/initials

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

MW-6

EPA SAMPLE NO.

MJONZ2

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 31509 SAS No.: _____ SDG No.: MJONX9

Matrix (soil/water): WATER Lab Sample ID: MJONX9-14

Level (low/med): LOW Date Received: 03/21/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.8	U		P
7440-36-0	Antimony	9.6	B	U	P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	82.5	B	J	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	84600			P
7440-47-3	Chromium	9260			P
7440-48-4	Cobalt	9.0	B	J	P
7440-50-8	Copper	17.5	B	J	P
7439-89-6	Iron	8.7	U		P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	7080			P
7439-96-5	Manganese	1760			P
7439-97-6	Mercury	0.10	U	NJ	CV
7440-02-0	Nickel	12.6	B	J	P
7440-09-7	Potassium	42200			P
7782-49-2	Selenium	2.6	U		P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	14500		EJ	P
7440-28-0	Thallium	4.4	U	J	P
7440-62-2	Vanadium	0.40	U		P
7440-66-6	Zinc	27.0		*J	P

04/21/03

Color Before: YELLOW Clarity Before: CLEAR Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

MW-7

EPA SAMPLE NO.

MJONZ3

Lab Name: COMPUCHEM

Contract: 68W00082

Lab Code: LIBRTY

Case No.: 31509

SAS No.: _____

SDG No.: MJONX9

Matrix (soil/water): WATER

Lab Sample ID: MJONX9-15

Level (low/med): LOW

Date Received: 03/21/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.3	B	(i)	P
7440-36-0	Antimony	6390			P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	171	B	J	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	292000			P
7440-47-3	Chromium	3.3	B	J	P
7440-48-4	Cobalt	109			P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	630			P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	88200			P
7439-96-5	Manganese	7800			P
7439-97-6	Mercury	0.10	U	NJ	CV
7440-02-0	Nickel	46.9			P
7440-09-7	Potassium	22700			P
7782-49-2	Selenium	2.6	U		P
7440-22-4	Silver	1000			P
7440-23-5	Sodium	138000		EJ	P
7440-28-0	Thallium	4.8	B	J	P
7440-62-2	Vanadium	0.40	U		P
7440-66-6	Zinc	5.5	B	+J	P

OK 04/21/03

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

MW-77

EPA SAMPLE NO.

MJONZ4

Lab Name: COMPUCHEM Contract: 68W00082
 Lab Code: LIBRTY Case No.: 31509 SAS No.: _____ SDG No.: MJONX9
 Matrix (soil/water): WATER Lab Sample ID: MJONX9-16
 Level (low/med): LOW Date Received: 03/21/03
 % Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.8	U		P
7440-36-0	Antimony	3.0	B	U	P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	161	B	J	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	274000			P
7440-47-3	Chromium	2.7	B	J	P
7440-48-4	Cobalt	102			P
7440-50-8	Copper	6.7	B	J	P
7439-89-6	Iron	574			P
7439-92-1	Lead	1.1	U		P
7439-95-4	Magnesium	82300			P
7439-96-5	Manganese	7400			P
7439-97-6	Mercury	0.10	U	NJ	CV
7440-02-0	Nickel	42.0			P
7440-09-7	Potassium	21200			P
7782-49-2	Selenium	2.6	U		P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	129000		BJ	P
7440-28-0	Thallium	4.4	U	J	P
7440-62-2	Vanadium	0.80	B	U	P
7440-66-6	Zinc	6.1	B	*J	P

at 03/21/03

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____
 Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

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U. S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

INJ-1

EPA SAMPLE NO.

MJONZ5

Lab Name: COMPUCHEM

Contract: 68W00082

Lab Code: LIBRTY

Case No.: 31509

SAS No.:

SDG No.: MJONX9

Matrix (soil/water): WATER

Lab Sample ID: MJONX9-17

Level (low/med): LOW

Date Received: 03/21/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.8	U		P
7440-36-0	Antimony	2.3	U		P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	160	B	J	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	211000			P
7440-47-3	Chromium	6.6	B	J	P
7440-48-4	Cobalt	37.4	B	J	P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	3740			P
7439-92-1	Lead	1.4	B	U	P
7439-95-4	Magnesium	36400			P
7439-96-5	Manganese	9000			P
7439-97-6	Mercury	0.10	U	NJ	CV
7440-02-0	Nickel	35.6	B	J	P
7440-09-7	Potassium	139000			P
7782-49-2	Selenium	2.6	B	J	P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	98000		EJ	P
7440-28-0	Thallium	4.4	U		P
7440-62-2	Vanadium	1.2	B	U	P
7440-66-6	Zinc	3.5	B	*UJ	P

see 04/21/03

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

INJ-2

EPA SAMPLE NO.

MJONZ6

Lab Name: COMPUCHEM

Contract: 68W00082

Lab Code: LIBRTY

Case No.: 31509

SAS No.: _____

SDG No.: MJONX9

Matrix (soil/water): WATER

Lab Sample ID: MJONX9-18

Level (low/med): LOW

Date Received: 03/21/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.8	U		P
7440-36-0	Antimony	3.1	B U		P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	237			P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	258000			P
7440-47-3	Chromium	19.6			P
7440-48-4	Cobalt	41.1	B	J	P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	4840			P
7439-92-1	Lead	1.6	B U		P
7439-95-4	Magnesium	34600			P
7439-96-5	Manganese	10200			P
7439-97-6	Mercury	0.10	U	NJ	CV
7440-02-0	Nickel	58.4			P
7440-09-7	Potassium	130000			P
7782-49-2	Selenium	3.2	B	J	P
7440-22-4	Silver	0.86	B	J	P
7440-23-5	Sodium	116000		EJ	P
7440-28-0	Thallium	6.1	B	J	P
7440-62-2	Vanadium	0.74	B U		P
7440-66-6	Zinc	1.9	B U		P

Handwritten signature/initials

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

U. S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

MW-10

EPA SAMPLE NO.

MJONZ7

Lab Name: COMPUCHEM

Contract: 68W00082

Lab Code: LIBRTY

Case No.: 31509

SAS No.:

SDG No.: MJONX9

Matrix (soil/water): WATER

Lab Sample ID: MJONX9-19

Level (low/med): LOW

Date Received: 03/21/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.8	U		P
7440-36-0	Antimony	2.3	U		P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	204			P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	316000			P
7440-47-3	Chromium	11.6			P
7440-48-4	Cobalt	46.1	B	J	P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	5760			P
7439-92-1	Lead	1.4	B	U	P
7439-95-4	Magnesium	49500			P
7439-96-5	Manganese	12600			P
7439-97-6	Mercury	0.10	U	NS	CV
7440-02-0	Nickel	66.3			P
7440-09-7	Potassium	140000			P
7782-49-2	Selenium	6.6			P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	143000		BJ	P
7440-28-0	Thallium	4.4	U	J	P
7440-62-2	Vanadium	0.44	B	U	P
7440-66-6	Zinc	2.8	B	U	P

all 2/21/03

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

MW-4

EPA SAMPLE NO.

MJONZ8

Lab Name: COMPUCHEM

Contract: 68W00082

Lab Code: LIBRTY

Case No.: 31509

SAS No.: _____

SDG No.: MJONX9

Matrix (soil/water): WATER

Lab Sample ID: MJONX9-20

Level (low/med): LOW

Date Received: 03/21/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.8	U		P
7440-36-0	Antimony	2.3	U		P
7440-38-2	Arsenic	3.7	U		P
7440-39-3	Barium	0.49	B	U	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	7.9	U	J	P
7440-47-3	Chromium	0.62	B	J	P
7440-48-4	Cobalt	0.50	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	8.7	U		P
7439-92-1	Lead	1.2	B	U	P
7439-95-4	Magnesium	46.8	B	U	P
7439-96-5	Manganese	0.24	B	U	P
7439-97-6	Mercury	0.10	U	NJ	CV
7440-02-0	Nickel	1.0	U		P
7440-09-7	Potassium	175	B	U	P
7782-49-2	Selenium	2.6	U		P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	99.3	U	EJ	P
7440-28-0	Thallium	4.4	U	J	P
7440-62-2	Vanadium	0.40	U		P
7440-66-6	Zinc	1.0	U	*J	P

see 04/21/03

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

U. S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

MW-3

EPA SAMPLE NO.

MJONZ9

Lab Name: COMPUCHEM

Contract: 68W00082

Lab Code: LIBRTY

Case No.: 31509

SAS No.:

SDG No.: MJONZ9

Matrix (soil/water): WATER

Lab Sample ID: MJONZ9-1

Level (low/med): LOW

Date Received: 03/21/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	41.4	B	U	P
7440-36-0	Antimony	2.4	B	J	P
7440-38-2	Arsenic	3.6	B	J	P
7440-39-3	Barium	213			P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	278000			P
7440-47-3	Chromium	5.6	B	J	P
7440-48-4	Cobalt	40.9	B	J	P
7440-50-8	Copper	1.8	B	J	P
7439-89-6	Iron	6560			P
7439-92-1	Lead	1.4	B	J	P
7439-95-4	Magnesium	37400			P
7439-96-5	Manganese	10200			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	49.5			P
7440-09-7	Potassium	212000		EJ	P
7782-49-2	Selenium	5.8			P
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	128000			P
7440-28-0	Thallium	11.7		NJ	P
7440-62-2	Vanadium	2.1	B	J	P
7440-66-6	Zinc	1.9	B	J	P

Handwritten signature/initials

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

11

INORGANIC ANALYSIS DATA SHEET

PP000-4000

EPA SAMPLE NO.

MJ0SS2

Lab Name: COMPUCHEM

Contract: 68W00082

Lab Code: LIBRTY

Case No.: 31509

SAS No.:

SDG No.: MJONZ9

Matrix (soil/water): WATER

Lab Sample ID: MJONZ9-2

Level (low/med): LOW

Date Received: 03/21/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	29.5	U		P
7440-36-0	Antimony	1.8	U		P
7440-38-2	Arsenic	3.6	U		P
7440-39-3	Barium	0.98	B	U	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	377	B	J	P
7440-47-3	Chromium	0.70	U		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.2	U		P
7439-89-6	Iron	122			P
7439-92-1	Lead	1.3	U		P
7439-95-4	Magnesium	152	B	U	P
7439-96-5	Manganese	12.7	B	J	P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.3	B	J	P
7440-09-7	Potassium	144	B	J	P
7782-49-2	Selenium	2.1	U		P
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	859	B	J	P
7440-28-0	Thallium	3.8	U	NJ	P
7440-62-2	Vanadium	0.70	U		P
7440-66-6	Zinc	15.0	B	J	P

1204/21/03

Color Before: COLORLESS

Clarity Before: CLEAR

Texture: _____

Color After: COLORLESS

Clarity After: CLEAR

Artifacts: _____

Comments: _____

12

APPENDIX B
SOURCE AREA DEBRIS ANALYTICAL DATA

Date of Report: July 16, 2003
Samples Submitted: July 2, 2003
Lab Reference: 07-020
Project: 20064-153-100-0030

**TOTAL METALS
EPA 6010B**

Date Extracted: 7-7-03
Date Analyzed: 7-8-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 07-020-01
Client ID: FHC-DD-CC038-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	11
Barium	6010B	100	2.6
Cadmium	6010B	ND	0.53
Chromium	6010B	96	0.53
Lead	6010B	74	5.3
Selenium	6010B	ND	11
Silver	6010B	ND	0.53

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This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 16, 2003
Samples Submitted: July 2, 2003
Lab Reference: 07-020
Project: 20064-153-100-0030

DEBRIS
PILE "A"

**TOTAL METALS
EPA 6010B**

Date Extracted: 7-7-03
Date Analyzed: 7-8-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 07-020-02
Client ID: FHC-DD-CC039-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	11
Barium	6010B	85	2.7
Cadmium	6010B	ND	0.54
Chromium	6010B	500	0.54
Lead	6010B	36	5.4
Selenium	6010B	ND	11
Silver	6010B	ND	0.54

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Date of Report: July 16, 2003
Samples Submitted: July 2, 2003
Lab Reference: 07-020
Project: 20064-153-100-0030

**TCLP CHROMIUM
EPA 1311/6010B**

Date Extracted: 7-14-03
Date Digested: 7-15-03
Date Analyzed: 7-15-03

Matrix: TCLP Extract
Units: mg/L (ppm)

Client ID	Lab ID	Result	PQL
FHC-DD-CC039-0000	07-020-02	2.1	0.020

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This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: July 16, 2003
Samples Submitted: July 14, 2003
Lab Reference: 07-077
Project: Frontier Hard Chrome

DEBRIS PILE "B"

**TOTAL METALS
EPA 6010B**

Date Extracted: 7-14-03
Date Analyzed: 7-14,15&16-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 07-077-01
Client ID: FHC-DD-CC040-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	10
Barium	6010B	64	2.5
Cadmium	6010B	ND	0.50
Chromium	6010B	23	0.50
Lead	6010B	ND	5.0
Selenium	6010B	ND	10
Silver	6010B	ND	0.50

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This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: July 18, 2003
Samples Submitted: July 11, 2003
Lab Reference: 07-068
Project: Frontier Hard Chrome

DEBRIS PILE "B"

**TOTAL METALS
EPA 6010B**

Date Extracted: 7-14-03
Date Analyzed: 7-14,15&16-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 07-068-02
Client ID: FHC-DD-CC041-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	10
Barium	6010B	190	2.5
Cadmium	6010B	0.98	0.50
Chromium	6010B	130	0.50
Lead	6010B	180	5.0
Selenium	6010B	ND	10
Silver	6010B	1.7	0.50

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This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 18, 2003
Samples Submitted: July 11, 2003
Lab Reference: 07-068
Project: Frontier Hard Chrome

TCLP Metals
EPA 1311/6010B

Date Prepared: 7-16-03
Date Extracted: 7-17-03
Date Analyzed: 7-17-03

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 07-068-02
Client ID: FHC-DD-CC041-0000

Analyte	Method	Result	PQL
Chromium	6010B	1.2	0.020
Lead	6010B	2.6	0.20

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 16, 2003
Samples Submitted: July 14, 2003
Lab Reference: 07-077
Project: Frontier Hard Chrome

DEBRIS PILE "B"

**TOTAL METALS
EPA 6010B**

Date Extracted: 7-14-03
Date Analyzed: 7-14,15&16-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 07-077-02
Client ID: FHC-DD-CC042-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	10
Barium	6010B	110	2.5
Cadmium	6010B	ND	0.50
Chromium	6010B	13	0.50
Lead	6010B	6.2	5.0
Selenium	6010B	ND	10
Silver	6010B	ND	0.50

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Date of Report: July 21, 2003
Samples Submitted: July 17, 2003
Lab Reference: 07-097
Project: 20064.153.100 0740

DEBRIS PILE "C"

**TOTAL METALS
EPA 6010B**

Date Extracted: 7-17-03
Date Analyzed: 7-18,21&22-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 07-097-01
Client ID: FHC-DD-CC043-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	10
Barium	6010B	64	2.5
Cadmium	6010B	ND	0.50
Chromium	6010B	9.2	0.50
Lead	6010B	6.5	5.0
Selenium	6010B	ND	10
Silver	6010B	ND	0.50

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Date of Report: July 21, 2003
Samples Submitted: July 17, 2003
Lab Reference: 07-097
Project: 20064.153.100 0740

DEBRIS PILE "C"

**TOTAL METALS
EPA 6010B**

Date Extracted: 7-17-03
Date Analyzed: 7-18,21&22-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 07-097-02
Client ID: FHC-DD-CC044-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	10
Barium	6010B	53	2.5
Cadmium	6010B	ND	0.50
Chromium	6010B	6.3	0.50
Lead	6010B	ND	5.0
Selenium	6010B	ND	10
Silver	6010B	ND	0.50

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This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 21, 2003
Samples Submitted: July 17, 2003
Lab Reference: 07-097
Project: 20064.153.100 0740

DEBRIS PILE "C"

**TOTAL METALS
EPA 6010B**

Date Extracted: 7-17-03
Date Analyzed: 7-18,21&22-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 07-097-03
Client ID: FHC-DD-CC045-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	10
Barium	6010B	68	2.5
Cadmium	6010B	ND	0.50
Chromium	6010B	6.5	0.50
Lead	6010B	ND	5.0
Selenium	6010B	ND	10
Silver	6010B	ND	0.50

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This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: July 28, 2003
Samples Submitted: July 23, 2003
Lab Reference: 0307-150
Project: 20064-153-100-0620

DEBRIS PILE "D"

**TOTAL METALS
EPA 6010B**

Date Extracted: 7-24-03
Date Analyzed: 7-25-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 07-150-01
Client ID: FHC-DD-CC046-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	10
Barium	6010B	55	2.5
Cadmium	6010B	ND	0.50
Chromium	6010B	8.2	0.50
Lead	6010B	ND	5.0
Selenium	6010B	ND	10
Silver	6010B	ND	0.50

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Date of Report: July 28, 2003
Samples Submitted: July 23, 2003
Lab Reference: 0307-150
Project: 20064-153-100-0620

DEBRIS PILE "D"

**TOTAL METALS
EPA 6010B**

Date Extracted: 7-24-03

Date Analyzed: 7-25-03

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 07-150-02

Client ID: FHC-DD-CC047-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	10
Barium	6010B	56	2.5
Cadmium	6010B	ND	0.50
Chromium	6010B	11	0.50
Lead	6010B	ND	5.0
Selenium	6010B	ND	10
Silver	6010B	ND	0.50

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This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: July 28, 2003
Samples Submitted: July 23, 2003
Lab Reference: 0307-150
Project: 20064-153-100-0620

DEBRIS PILE "E"

**TOTAL METALS
EPA 6010B**

Date Extracted: 7-24-03

Date Analyzed: 7-25-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 07-150-03
Client ID: FHC-DD-CC048-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	10
Barium	6010B	69	2.5
Cadmium	6010B	ND	0.50
Chromium	6010B	13	0.50
Lead	6010B	ND	5.0
Selenium	6010B	ND	10
Silver	6010B	ND	0.50

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Date of Report: July 28, 2003
Samples Submitted: July 23, 2003
Lab Reference: 0307-150
Project: 20064-153-100-0620

DE BEIS PILE "E"

**TOTAL METALS
EPA 6010B**

Date Extracted: 7-24-03
Date Analyzed: 7-25-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 07-150-04
Client ID: FHC-DD-CC049-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	10
Barium	6010B	71	2.5
Cadmium	6010B	ND	0.50
Chromium	6010B	8.7	0.50
Lead	6010B	ND	5.0
Selenium	6010B	ND	10
Silver	6010B	ND	0.50

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Date of Report: July 28, 2003
Samples Submitted: July 23, 2003
Lab Reference: 0307-150
Project: 20064-153-100-0620

DEBRIS PILE "E"

**TOTAL METALS
EPA 6010B**

Date Extracted: 7-24-03

Date Analyzed: 7-25-03

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 07-150-05

Client ID: FHC-DD-CC050-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	10
Barium	6010B	79	2.5
Cadmium	6010B	ND	0.50
Chromium	6010B	24	0.50
Lead	6010B	ND	5.0
Selenium	6010B	ND	10
Silver	6010B	ND	0.50

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This report pertains to the samples analyzed in accordance with the chain of custody,
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APPENDIX C
SOURCE AREA SOIL AND GROUNDWATER
CONFIRMATORY SAMPLE DATA

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SD-PPDIB-0070

Collected:
Matrix: Solid
Sample Number: 03263400
Type: Duplicate

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF

Manchester Environmental Laboratory

Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP018-0170 N14

Collected: 6/26/03
Matrix: Solid
Sample Number: 03263401
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	7	mg/Kg	UF

Manchester Environmental Laboratory

Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP018-0220 N14

Collected: 6/26/03
Matrix: Solid
Sample Number: 03263403
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	8	mg/Kg	UF

11:36:08

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FMC-SD-PP019-0070

Collected:
Matrix: Solid
Sample Number: 03263405
Type: Duplicate

	Result	Units	Qlfr
FASP			
Parameter : Hexavalent Chromium FASP			
Method :			
Prep Method:			
Analytes : *7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF

03263405 Duplicate

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FNC-SD-PP019-0170

Collected:
Matrix: Solid
Sample Number: 03263406
Type: Duplicate

			Result	Units	Olfr
FASP					
Parameter	:	Hexavalent Chromium FASP			
Method	:				
Prep Method:					
Analytes	:	*7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF

Manchester Environmental Laboratory

Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FMC-SO-PP019-0220

Collected:
Matrix: Solid
Sample Number: 03263409
Type: Duplicate

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF

Manchester Environmental Laboratory

Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP020-0070 A20

Collected: 6/27/03
Matrix: Solid
Sample Number: 03263410
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	8	mg/Kg	UF

Manchester Environmental Laboratory

Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER IIARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP020-0170 A20

Collected: 6/27/03
Matrix: Solid
Sample Number: 03263411
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method	:			
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	8	mg/Kg	UF

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP021-0070 E18

Collected: 7/ 2/03
Matrix: Solid
Sample Number: 03273400
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-375	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.28		

Manchester Environmental Laboratory Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP021-0170 E18

Collected: 7/ 2/03
Matrix: Solid
Sample Number: 03273401
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-410	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.39		

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP021-0190 E18

Collected: 7/ 2/03
Matrix: Liquid
Sample Number: 03273402
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-468	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.33		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP022-0070 G19

Collected: 7/ 2/03
Matrix: Solid
Sample Number: 03273403
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-457	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	11.97		

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP022-0170 G19

Collected: 7/ 2/03
Matrix: Solid
Sample Number: 03273404
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-418	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.15		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP022-0190 G19

Collected: 7/ 2/03
Matrix: Liquid
Sample Number: 03273405
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-487	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.33		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP023-0070 H18

Collected: 7/ 3/03
Matrix: Solid
Sample Number: 03273406
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential.				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-448	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	11.88		

Project Code:	TEC-410U	Collected:	7/ 3/03
Project Name:	FRONTIER HARDCHROME	Matrix:	Solid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03273407
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	FHC-SO-PP023-0170 H18		

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-419	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	11.82		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP023-0190 H18

Collected: 7/ 3/03
Matrix: Liquid
Sample Number: 03273408
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	:	Hexavalent Chromium FASP			
Method	:				
Prep Method:					
Analytes	:	*7440473 Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter	:	Oxidation-Reduction Potential			
Method	:				
Prep Method:					
Analytes	:	*90204 Oxidation-reduction potential	-529	millivolts	
Parameter	:	pH			
Method	:				
Prep Method:					
Analytes	:	*90075 pH	12.12		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP024-0070 J19

Collected: 7/ 3/03
Matrix: Solid
Sample Number: 03273409
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	-471	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	11.93		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP024-0170 J19

Collected: 7/ 3/03
Matrix: Solid
Sample Number: 03273410
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-463	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.37		

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Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP024-0190 J19

Collected: 7/ 3/03
Matrix: Liquid
Sample Number: 03273411
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-519	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.28		

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP025-0070 L20

Collected: 7/ 7/03
Matrix: Solid
Sample Number: 03283400
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-459	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.15		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP025-0170 L20

Collected: 7/ 7/03
Matrix: Solid
Sample Number: 03283401
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-466	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.1		

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Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP025-0220 L20 *

Collected: 7/ 7/03
Matrix: Liquid
Sample Number: 03283402
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN				
Parameter	: Oxidation-Reduction Potential			
Method	:			
Prep Method:				
Analytes	: *90204 Oxidation-reduction potential	-442	millivolts	
Parameter	: pH			
Method	:			
Prep Method:				
Analytes	: *90075 pH	11.92		

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Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-~~SO~~-PP025-0220 L20
G-W-

Collected: 7/7/03
Matrix: Solid Liquid
Sample Number: 03283403
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L UF
GEN				
Parameter	: Oxidation-Reduction Potential			
Method	:			
Prep Method:				
Analytes	: *90204	Oxidation-reduction potential	-497	millivolts
Parameter	: pH			
Method	:			
Prep Method:				
Analytes	: *90075	pH	10.65	

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP026-0070 M17

Collected: 7/ 8/03
Matrix: Solid
Sample Number: 03283404
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	-408	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	12.39		

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Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP026-0170 M17

Collected: 7/ 8/03
Matrix: Solid
Sample Number: 03283405
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg UF
GEN				
Parameter	: Oxidation-Reduction Potential			
Method	:			
Prep Method:				
Analytes	: *90204	Oxidation-reduction potential	-449	millivolts
Parameter	: pH			
Method	:			
Prep Method:				
Analytes	: *90075	pH	12.46	

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Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP026-0240 M17

Collected: 7/ 8/03
Matrix: Solid
Sample Number: 03283406
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-421	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.28		

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP027-0070 O19

Collected: 7/ 8/03
Matrix: Solid
Sample Number: 03283407
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	F
GEN					
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	-425	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	12.05		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP027-0170 O19

Collected: 7/ 8/03
Matrix: Solid
Sample Number: 03283408
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	26	mg/Kg F
GEN				
Parameter	: Oxidation-Reduction Potential			
Method	:			
Prep Method:				
Analytes	: *90204	Oxidation-reduction potential	-136	millivolts
Parameter	: pH			
Method	:			
Prep Method:				
Analytes	: *90075	pH	11.76	

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Project Code:	TEC-410U	Collected:	7/ 8/03
Project Name:	FRONTIER HARDCHROME	Matrix:	Liquid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03283409
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	FHC-GW-PP027-0230 O19		

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L
				UF
GEN				
Parameter	: Oxidation-Reduction Potential			
Method	:			
Prep Method:				
Analytes	: *90204	Oxidation-reduction potential	-499	millivolts
Parameter	: pH			
Method	:			
Prep Method:				
Analytes	: *90075	pH	10.85	

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP028-0170

Collected: 7/10/03
Matrix: Solid
Sample Number: 03283410
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-438	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	11.99		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP029-0170

Collected: 7/10/03
Matrix: Solid
Sample Number: 03283411
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-464	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	11.81		

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Combined Final Report for Project TEC-410U

Project Code:	TEC-410U	Collected:	7/14/03
Project Name:	FRONTIER HARDCHROME	Matrix:	Solid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03293400
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	FHC-SO PP031-0070		

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg UF
GEN				
Parameter	: Oxidation-Reduction Potential			
Method	:			
Prep Method:				
Analytes	: *90204	Oxidation-reduction potential	-451	millivolts
Parameter	: pH			
Method	:			
Prep Method:				
Analytes	: *90075	pH	12.2	

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO PP031-0170

Collected: 7/14/03
Matrix: Solid
Sample Number: 03293401
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-410	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.3		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO PP032-0070

Collected: 7/15/03
Matrix: Solid
Sample Number: 03293402
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-349	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.3		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO PP032-0170

Collected: 7/15/03
Matrix: Solid
Sample Number: 03293403
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-344	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.4		

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO PP033-0070 T8

Collected: 7/21/03
Matrix: Solid
Sample Number: 03303400
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-471	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	11.7		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO PP033-0170 T8

Collected: 7/21/03
Matrix: Solid
Sample Number: 03303401
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-429	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO PP034-0170 Q19

Collected: 7/21/03
Matrix: Solid
Sample Number: 03303402
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-430	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.2		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO PP035-0070 Q16

Collected: 7/22/03
Matrix: Solid
Sample Number: 03303403
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	-439	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	12		

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO PP035-0170 Q16

Collected: 7/22/03
Matrix: Solid
Sample Number: 03303404
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-462	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.2		

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Combined Final Report for Project TEC-410U

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Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP036-0070

Collected: 7/28/03
Matrix: Solid
Sample Number: 03313400
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg UF
GEN				
Parameter	: Oxidation-Reduction Potential			
Method	:			
Prep Method:				
Analytes	: *90204	Oxidation-reduction potential	-418	millivolts
Parameter	: pH			
Method	:			
Prep Method:				
Analytes	: *90075	pH	10.5	

03313400 Reg sample

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP036-0170
Collected: 7/28/03
Matrix: Solid
Sample Number: 03313401
Type: Reg sample

	Result	Units	Qlfr
--	--------	-------	------

FASP

Parameter : Hexavalent Chromium FASP
Method :
Prep Method:
Analytes : *7440473 Chromium, Hexavalent (Cr+6) 5 mg/Kg UF

GEN

Parameter : Oxidation-Reduction Potential
Method :
Prep Method:
Analytes : *90204 Oxidation-reduction potential -407 millivolts

Parameter : pH
Method :
Prep Method:
Analytes : *90075 pH 10.4

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U **Collected:** 8/ 4/03
Project Name: FRONTIER HARDCHROME **Matrix:** Solid
Project Officer: SEAN SHELDRAKE **Sample Number:** 03323400
Account Code: 03T10P50102D1027LA00 **Type:** Reg sample
Station Description: FHC-SO-PP037-0070

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-467	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	11.5		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP037-0170

Collected: 8/ 4/03
Matrix: Solid
Sample Number: 03323401
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-178	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	7.5		

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Combined Final Report for Project TEC-410U

Project Code:	TEC-410U	Collected:	8/ 5/03
Project Name:	FRONTIER HARDCHROME	Matrix:	Liquid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03323402
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	FHC-GW-PP038-0300		

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-130	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	6.8		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP039-0070

Collected: 8/ 5/03
Matrix: Solid
Sample Number: 03323403
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-380	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	10.8		

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Combined Final Report for Project TEC-410U

Project Code:	TEC-410U	Collected:	8/ 5/03
Project Name:	FRONTIER HARDCHROME	Matrix:	Solid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03323404
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	FHC-SO-PP039-0170		

		Result	Units	Qlfr
FASP				
Parameter :	Hexavalent Chromium FASP			
Method :				
Prep Method:				
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg UF
GEN				
Parameter :	Oxidation-Reduction Potential			
Method :				
Prep Method:				
Analytes :	*90204	Oxidation-reduction potential	-190	millivolts
Parameter :	pH			
Method :				
Prep Method:				
Analytes :	*90075	pH	11.5	

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Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP040-0250

Collected: 8/11/03
Matrix: Liquid
Sample Number: 03333400
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-377	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	9.8		

03333400 Reg sample

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Combined Final Report for Project TEC-410U

Project Code:	TEC-410U	Collected:	8/11/03
Project Name:	FRONTIER HARDCHROME	Matrix:	Liquid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03333401
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	FHC-GW-PP040-0300		

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	-67	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	8.1		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP041-0250

Collected: 8/11/03
Matrix: Liquid
Sample Number: 03333402
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-314	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	9.2		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP041-0300

Collected: 8/11/03
Matrix: Liquid
Sample Number: 03333403
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-124	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	7.2		

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP042-0250

Collected: 8/12/03
Matrix: Liquid
Sample Number: 03333406
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	60	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	7.5		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP042-0300

Collected: 8/12/03
Matrix: Liquid
Sample Number: 03333407
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	-65	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	7.3		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP043-0300

Collected: 8/12/03
Matrix: Liquid
Sample Number: 03333409
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	:	Hexavalent Chromium FASP			
Method	:				
Prep Method:					
Analytes	:	*7440473 Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter	:	Oxidation-Reduction Potential			
Method	:				
Prep Method:					
Analytes	:	*90204 Oxidation-reduction potential	46	millivolts	
Parameter	:	pH			
Method	:				
Prep Method:					
Analytes	:	*90075 pH	6.7		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP044-0250

Collected: 8/12/03
Matrix: Liquid
Sample Number: 03333410
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	48	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	7.6		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP044-0300

Collected: 8/12/03
Matrix: Liquid
Sample Number: 03333411
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-95	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	7.0		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP045-0070

Collected: 8/18/03
Matrix: Solid
Sample Number: 03343400
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	-235	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	11.8		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP045-0170
Collected: 8/19/03
Matrix: Solid
Sample Number: 03343401
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	:	Hexavalent Chromium FASP			
Method	:				
Prep Method:					
Analytes	:	*7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	:	Oxidation-Reduction Potential			
Method	:				
Prep Method:					
Analytes	:	*90204 Oxidation-reduction potential	-218	millivolts	
Parameter	:	pH			
Method	:				
Prep Method:					
Analytes	:	*90075 pH	10.2		

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Project Code:	TEC-410U	Collected:	8/18/03
Project Name:	FRONTIER HARDCHROME	Matrix:	Solid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03343403
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	FHC-SO-PP046-0070		

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg UF
GEN				
Parameter	: Oxidation-Reduction Potential			
Method	:			
Prep Method:				
Analytes	: *90204	Oxidation-reduction potential	-337	millivolts
Parameter	: pH			
Method	:			
Prep Method:				
Analytes	: *90075	pH	11.6	

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Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP046-0170

Collected: 8/18/03
Matrix: Solid
Sample Number: 03343404
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-124	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	10.0		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP046-0240

Collected: 8/18/03
Matrix: Liquid
Sample Number: 03343405
Type: Reg sample

			Result	Units	Olfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-527	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.0		

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP047-0700

Collected: 8/18/03
Matrix: Solid
Sample Number: 03343406
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg UF
GEN				
Parameter	: Oxidation-Reduction Potential			
Method	:			
Prep Method:				
Analytes	: *90204	Oxidation-reduction potential	-194	millivolts
Parameter	: pH			
Method	:			
Prep Method:				
Analytes	: *90075	pH	12.2	

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Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP047-0170

Collected: 8/18/03
Matrix: Solid
Sample Number: 03343407
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-172	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.2		

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Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP047-0200

Collected: 8/18/03
Matrix: Liquid
Sample Number: 03343408
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF

03343408 Reg sample

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Project Code:	TEC-410U	Collected:	8/19/03
Project Name:	FRONTIER HARDCHROME	Matrix:	Solid
Project Officer:	SEAN SHELDRAKE	Sample Number:	03343409
Account Code:	03T10P50102D1027LA00	Type:	Reg sample
Station Description:	FHC-SO-PP048-0070		

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP048-0170

Collected: 8/19/03
Matrix: Solid
Sample Number: 03343410
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method	:			
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN				
Parameter	: Oxidation-Reduction Potential			
Method	:			
Prep Method	:			
Analytes	: *90204 Oxidation-reduction potential	-205	millivolts	
Parameter	: pH			
Method	:			
Prep Method	:			
Analytes	: *90075 pH	10.2		

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP049-0070
Collected: 8/19/03
Matrix: Solid
Sample Number: 03343411
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-384	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.3		

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Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP049-0170

Collected: 8/19/03
Matrix: Solid
Sample Number: 03343412
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN				
Parameter	: Oxidation-Reduction Potential			
Method	:			
Prep Method:				
Analytes	: *90204 Oxidation-reduction potential	-297	millivolts	
Parameter	: pH			
Method	:			
Prep Method:				
Analytes	: *90075 pH	12.4		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP049-0250

Collected: 8/20/03
Matrix: Liquid
Sample Number: 03343413
Type: Reg sample

			<u>Result</u>	<u>Units</u>	<u>Qlfr</u>
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-283	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	11.7		

Manchester Environmental Laboratory Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP050-0070

Collected: 8/20/03
Matrix: Solid
Sample Number: 03343414
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN				
Parameter	: Oxidation-Reduction Potential			
Method	:			
Prep Method:				
Analytes	: *90204 Oxidation-reduction potential	-138	millivolts	
Parameter	: pH			
Method	:			
Prep Method:				
Analytes	: *90075 pH	11.6		

11:36:08

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP050-0170

Collected: 8/20/03
Matrix: Solid
Sample Number: 03343415
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	Hexavalent Chromium FASP			
Method	:			
Prep Method:	:			
Analytes	*7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg UF
GEN				
Parameter	Oxidation-Reduction Potential			
Method	:			
Prep Method:	:			
Analytes	*90204	Oxidation-reduction potential	-364	millivolts
Parameter	pH			
Method	:			
Prep Method:	:			
Analytes	*90075	pH	11.2	

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP050-0240

Collected: 8/20/03
Matrix: Liquid
Sample Number: 03343416
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-281	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	11.9		

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP051-0070

Collected: 8/20/03
Matrix: Solid
Sample Number: 03343417
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-164	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.4		

Manchester Environmental Laboratory Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP051-0170

Collected: 8/20/03
Matrix: Solid
Sample Number: 03343418
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-145	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	10.9		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP052-0070

Collected: 8/26/03
Matrix: Solid
Sample Number: 03353400
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-367	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	11.9		

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP052-0170

Collected: 8/26/03
Matrix: Solid
Sample Number: 03353401
Type: Reg sample

			<u>Result</u>	<u>Units</u>	<u>Qlfr</u>
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-319	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.3		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP053-0070

Collected: 8/26/03
Matrix: Solid
Sample Number: 03353402
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	-381	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	11.9		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP053-0170

Collected: 8/26/03
Matrix: Solid
Sample Number: 03353403
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-366	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	11.9		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP054-0070

Collected: 8/26/03
Matrix: Solid
Sample Number: 03353404
Type: Reg sample

	Result	Units	Qlfr
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FASP

Parameter : Hexavalent Chromium FASP
Method :
Prep Method:

Analytes : *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
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GEN

Parameter : Oxidation-Reduction Potential
Method :
Prep Method:

Analytes : *90204	Oxidation-reduction potential	-423	millivolts	
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Parameter : pH
Method :
Prep Method:

Analytes : *90075	pH	12.2		
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Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP054-0170

Collected: 8/26/03
Matrix: Solid
Sample Number: 03353405
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN				
Parameter	: Oxidation-Reduction Potential			
Method	:			
Prep Method:				
Analytes	: *90204 Oxidation-reduction potential	-355	millivolts	
Parameter	: pH			
Method	:			
Prep Method:				
Analytes	: *90075 pH	11.7		

1/26/04
11:36:08

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Combined Final Report for Project TEC-410U

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Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP057-0240

Collected: 8/27/03
Matrix: Liquid
Sample Number: 03353408
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-457	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	9.9		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP058-0240

Collected: 8/27/03
Matrix: Liquid
Sample Number: 03353409
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-480	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	10.5		

Manchester Environmental Laboratory Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP059-0240

Collected: 8/28/03
Matrix: Liquid
Sample Number: 03353410
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN				
Parameter	: Oxidation-Reduction Potential			
Method	:			
Prep Method:				
Analytes	: *90204 Oxidation-reduction potential	46	millivolts	
Parameter	: pH			
Method	:			
Prep Method:				
Analytes	: *90075 pH	8.0		

Manchester Environmental Laboratory Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-GW-PP060-0240

Collected: 8/27/03
Matrix: Liquid
Sample Number: 03353411
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	0.8	mg/L	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	112	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	8.5		

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Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP055-0070

Collected: 8/28/03
Matrix: Solid
Sample Number: 03353412
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-287	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.1		

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP055-0170

Collected: 8/28/03
Matrix: Solid
Sample Number: 03353413
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter	: Oxidation-Reduction Potential				
Method	:				
Prep Method:					
Analytes	: *90204	Oxidation-reduction potential	-424	millivolts	
Parameter	: pH				
Method	:				
Prep Method:					
Analytes	: *90075	pH	12.3		

Manchester Environmental Laboratory

Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP056-0070

Collected: 8/28/03
Matrix: Solid
Sample Number: 03353414
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter :	Hexavalent Chromium FASP				
Method :					
Prep Method:					
Analytes :	*7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN					
Parameter :	Oxidation-Reduction Potential				
Method :					
Prep Method:					
Analytes :	*90204	Oxidation-reduction potential	-470	millivolts	
Parameter :	pH				
Method :					
Prep Method:					
Analytes :	*90075	pH	12.2		

Manchester Environmental Laboratory Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-PP056-0170

Collected: 8/28/03
Matrix: Solid
Sample Number: 03353415
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF
GEN				
Parameter	: Oxidation-Reduction Potential			
Method	:			
Prep Method:				
Analytes	: *90204 Oxidation-reduction potential	-387	millivolts	
Parameter	: pH			
Method	:			
Prep Method:				
Analytes	: *90075 pH	12.5		

APPENDIX D
FLUFF SOIL ANALYTICAL DATA

Date of Report: August 5, 2003
Samples Submitted: August 1, 2003
Laboratory Reference: 0308-001
Project: 20064-153-100-0620

FLUFF SOIL PILE # 1

**TOTAL METALS
EPA 6010B**

Date Extracted: 8-1-03
Date Analyzed: 8-1&8-4-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-001-01
Client ID: FHC-SO-FL001-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	15
Barium	6010B	210	3.7
Cadmium	6010B	ND	0.75
Chromium	6010B	1200	7.5
Lead	6010B	210	7.5
Selenium	6010B	ND	15
Silver	6010B	ND	0.75

B
SEP 09 2003

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: August 7, 2003
Samples Submitted: August 1, 2003
Laboratory Reference: 0308-001
Project: 20064-153-100-0620

**TCLP METALS
EPA 1311/6010B**

Date Prepared: 8-5-03
Date Extracted: 8-6-03
Date Analyzed: 8-6-03

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 08-001-01
Client ID: FHC-SO-FL001-0000

Analyte	Method	Result	PQL
Chromium	6010B	3.1	0.020
Lead	6010B	2.4	0.20

Bz
SEP 09 2003

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This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: August 12, 2003
Samples Submitted: August 7, 2003
Laboratory Reference: 0308-047
Project: 20064-153-100-0620

TOTAL METALS
EPA 6010B

FLUFF SOIL PILE #2

Date Extracted: 8-7-03

Date Analyzed: 8-7-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-047-01
Client ID: FHC-SO-FL003-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	16
Barium	6010B	180	4.1
Cadmium	6010B	ND	0.82
Chromium	6010B	860	0.82
Lead	6010B	150	8.2
Selenium	6010B	ND	16
Silver	6010B	0.96	0.82

B
SEP 09 2003

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This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: August 12, 2003
Samples Submitted: August 7, 2003
Laboratory Reference: 0308-047
Project: 20064-153-100-0620

**TCLP Metals
EPA 1311/6010B**

Date Prepared: 8-11-03
Date Extracted: 8-12-03
Date Analyzed: 8-12-03

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 08-047-01
Client ID: FHC-SO-FL003-0000

Analyte	Method	Result	PQL
Chromium	6010B	ND	0.020
Lead	6010B	ND	0.20

SEP 09 2003

Date of Report: August 18, 2003
Samples Submitted: August 11, 2003
Laboratory Reference: 0308-071
Project: 20064-153-100-0620

**TOTAL METALS
EPA 6010B**

FLUFF SOIL PILE #3

Date Extracted: 8-11-03
Date Analyzed: 8-13-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-071-01
Client ID: FHC-SO-FL004-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	16
Barium	6010B	180	3.9
Cadmium	6010B	ND	0.78
Chromium	6010B	800	1.6
Lead	6010B	170	7.8
Selenium	6010B	ND	16
Silver	6010B	0.86	0.78

B
SEP 09 2003

Date of Report: August 18, 2003
Samples Submitted: August 11, 2003
Laboratory Reference: 0308-071
Project: 20064-153-100-0620

TCLP Metals
EPA 1311/6010B

FLUKE SOIL PILE #3

Date Prepared: 8-14-03
Date Extracted: 8-15-03
Date Analyzed: 8-15-03

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 08-071-01
Client ID: FHC-SO-FL004-0000

Analyte	Method	Result	PQL
Chromium	6010B	0.95	0.020
Lead	6010B	4.6	0.20


SEP 09 2003

Date of Report: August 19, 2003
Samples Submitted: August 15, 2003
Laboratory Reference: 0308-099
Project: 20064-153-100-0620

**TOTAL METALS
EPA 6010B**

FLUFF SOIL PILE # 4

Date Extracted: 8-18-03
Date Analyzed: 8-18-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-099-01
Client ID: FHC-SO-FL005-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	15
Barium	6010B	220	3.8
Cadmium	6010B	ND	0.77
Chromium	6010B	1200	7.7
Lead	6010B	230	7.7
Selenium	6010B	ND	15
Silver	6010B	ND	0.77

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Date of Report: August 19, 2003
Samples Submitted: August 15, 2003
Laboratory Reference: 0308-099
Project: 20064-153-100-0620

TCLP Metals
EPA 1311/6010B

Date Prepared: 8-15-03
Date Extracted: 8-18-03
Date Analyzed: 8-19-03

SOIL PILE #4

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 08-099-01
Client ID: FHC-SO-FL005-0000

Analyte	Method	Result	PQL
Chromium	6010B	0.042	0.020
Lead	6010B	ND	0.20

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This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: August 19, 2003
Samples Submitted: August 15, 2003
Laboratory Reference: 0308-099
Project: 20064-153-100-0620

**TOTAL METALS
EPA 6010B**

FLUFF SOIL PILE # 4

Date Extracted: 8-18-03

Date Analyzed: 8-18-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-099-02

Client ID: FHC-SO-FL006-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	17
Barium	6010B	190	4.2
Cadmium	6010B	ND	0.83
Chromium	6010B	1200	8.3
Lead	6010B	300	8.3
Selenium	6010B	ND	17
Silver	6010B	ND	0.83

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Date of Report: August 19, 2003
Samples Submitted: August 15, 2003
Laboratory Reference: 0308-099
Project: 20064-153-100-0620

TCLP Metals
EPA 1311/6010B

Date Prepared: 8-15-03
Date Extracted: 8-18-03
Date Analyzed: 8-19-03

SOIL FILE # 4

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 08-099-02
Client ID: FHC-SO-FL006-0000

Analyte	Method	Result	PQL
Chromium	6010B	ND	0.020
Lead	6010B	ND	0.20

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This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date Extracted: 8-18-03

Date Analyzed: 8-18-03

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 08-099-03

Client ID: FHC-SO-FL007-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	21
Barium	6010B	250	5.3
Cadmium	6010B	ND	1.1
Chromium	6010B	2200	11
Lead	6010B	320	11
Selenium	6010B	ND	21
Silver	6010B	ND	1.1

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: August 19, 2003
Samples Submitted: August 15, 2003
Laboratory Reference: 0308-099
Project: 20064-153-100-0620

TCLP Metals
EPA 1311/6010B

Date Prepared: 8-15-03
Date Extracted: 8-18-03
Date Analyzed: 8-19-03

SOIL PILE # 4

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 08-099-03
Client ID: FHC-SO-FL007-0000

Analyte	Method	Result	PQL
Chromium	6010B	ND	0.020
Lead	6010B	ND	0.20

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: August 19, 2003
Samples Submitted: August 15, 2003
Laboratory Reference: 0308-099
Project: 20064-153-100-0620

**TOTAL METALS
EPA 6010B**

FLY FF SOIL PILE # 5

Date Extracted: 8-18-03

Date Analyzed: 8-18-03

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 08-099-04

Client ID: FHC-SO-FL008-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	17
Barium	6010B	210	4.2
Cadmium	6010B	ND	0.83
Chromium	6010B	1800	8.3
Lead	6010B	260	8.3
Selenium	6010B	ND	17
Silver	6010B	ND	0.83

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This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: August 19, 2003
Samples Submitted: August 15, 2003
Laboratory Reference: 0308-099
Project: 20064-153-100-0620

TCLP Metals
EPA 1311/6010B

Date Prepared: 8-15-03
Date Extracted: 8-18-03
Date Analyzed: 8-19-03

SOIL PILE #5

Matrix: TCLP Extract
Units: mg/L (ppm)
Lab ID: 08-099-04
Client ID: FHC-SO-FL008-0000

Analyte	Method	Result	PQL
Chromium	6010B	ND	0.020
Lead	6010B	ND	0.20

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: August 19, 2003
Samples Submitted: August 15, 2003
Laboratory Reference: 0308-099
Project: 20064-153-100-0620

**TOTAL METALS
EPA 6010B**

FLUFF SOIL PILE # 5

Date Extracted: 8-18-03
Date Analyzed: 8-18-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-099-05
Client ID: FHC-SO-FL009-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	20
Barium	6010B	220	4.9
Cadmium	6010B	ND	0.98
Chromium	6010B	730	0.98
Lead	6010B	220	9.8
Selenium	6010B	ND	20
Silver	6010B	ND	0.98

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: August 19, 2003
Samples Submitted: August 15, 2003
Laboratory Reference: 0308-099
Project: 20064-153-100-0620

**TCLP Metals
EPA 1311/6010B**

Date Prepared: 8-15-03
Date Extracted: 8-18-03
Date Analyzed: 8-19-03

SOIL PILE # 5

Matrix: TCLP Extract
Units: mg/L (ppm)
Lab ID: 08-099-05
Client ID: FHC-SO-FL009-0000

Analyte	Method	Result	PQL
Chromium	6010B	0.057	0.020
Lead	6010B	ND	0.20

Date of Report: August 19, 2003
Samples Submitted: August 15, 2003
Laboratory Reference: 0308-099
Project: 20064-153-100-0620

**TOTAL METALS
EPA 6010B**

FLUFF SOIL PILE # 6

Date Extracted: 8-18-03
Date Analyzed: 8-18-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-099-06
Client ID: FHC-SO-FL010-0000

Analyte	Method	Result	PQL
Arsenic	6010B	37	19
Barium	6010B	260	4.6
Cadmium	6010B	ND	0.93
Chromium	6010B	920	0.93
Lead	6010B	430	9.3
Selenium	6010B	ND	19
Silver	6010B	ND	0.93

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This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: August 19, 2003
Samples Submitted: August 15, 2003
Laboratory Reference: 0308-099
Project: 20064-153-100-0620

TCLP Metals
EPA 1311/6010B

Date Prepared: 8-15-03
Date Extracted: 8-18-03
Date Analyzed: 8-19-03

SOIL PILE # 6

Matrix: TCLP Extract
Units: mg/L (ppm)
Lab ID: 08-099-06
Client ID: FHC-SO-FL010-0000

Analyte	Method	Result	PQL
Chromium	6010B	0.048	0.020
Lead	6010B	ND	0.20

Date of Report: August 19, 2003
Samples Submitted: August 15, 2003
Laboratory Reference: 0308-099
Project: 20064-153-100-0620

**TOTAL METALS
EPA 6010B**

Date Extracted: 8-18-03
Date Analyzed: 8-18-03

FLUFF SOIL PILE # 6

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-099-07
Client ID: FHC-SO-FL011-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	22
Barium	6010B	220	5.6
Cadmium	6010B	ND	1.1
Chromium	6010B	1200	1.1
Lead	6010B	270	11
Selenium	6010B	ND	22
Silver	6010B	ND	1.1

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: August 19, 2003
Samples Submitted: August 15, 2003
Laboratory Reference: 0308-099
Project: 20064-153-100-0620

TCLP Metals
EPA 1311/6010B

Date Prepared: 8-15-03
Date Extracted: 8-18-03
Date Analyzed: 8-19-03

SOIL PILE # 6

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 08-099-07
Client ID: FHC-SO-FL011-0000

Analyte	Method	Result	PQL
Chromium	6010B	ND	0.020
Lead	6010B	ND	0.20

Date of Report: August 21, 2003
Samples Submitted: August 18, 2003
Laboratory Reference: 0308-115
Project: 20064.153.100.0620

**TOTAL METALS
EPA 6010B**

FLUFF SOIL PILE # 7

Date Extracted: 8-19&20-03
Date Analyzed: 8-19&20-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-115-01
Client ID: FHC-SO-FL012-0000

Analyte	Method	Result	PQL
Arsenic	6010B	26	7.9
Barium	6010B	200	4.0
Cadmium	6010B	ND	0.79
Chromium	6010B	1100	0.79
Lead	6010B	240	7.9
Selenium	6010B	ND	7.9
Silver	6010B	ND	0.79

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: August 21, 2003
Samples Submitted: August 18, 2003
Laboratory Reference: 0308-115
Project: 20064.153.100.0620

**TCLP Metals
EPA 1311/6010B**

Date Prepared: 8-18-03
Date Extracted: 8-19-03
Date Analyzed: 8-20-03

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 08-115-01
Client ID: FHC-SO-FL012-0000

SOIL PILE # 7

Analyte	Method	Result	PQL
Chromium	6010B	1.5	0.020
Lead	6010B	0.24	0.20

Date of Report: August 21, 2003
Samples Submitted: August 18, 2003
Laboratory Reference: 0308-115
Project: 20064.153.100.0620

**TOTAL METALS
EPA 6010B**

Date Extracted: 8-19&20-03

Date Analyzed: 8-19&20-03

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 08-115-02

Client ID: FHC-SO-FL013-0000

ELUFF SOIL PILE # 7

Analyte	Method	Result	PQL
Arsenic	6010B	20	9.1
Barium	6010B	190	4.5
Cadmium	6010B	ND	0.91
Chromium	6010B	740	0.91
Lead	6010B	240	9.1
Selenium	6010B	ND	9.1
Silver	6010B	ND	0.91

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This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: August 21, 2003
Samples Submitted: August 18, 2003
Laboratory Reference: 0308-115
Project: 20064.153.100.0620

TCLP Metals
EPA 1311/6010B

Date Prepared: 8-18-03
Date Extracted: 8-19-03
Date Analyzed: 8-20-03

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 08-115-02
Client ID: FHC-SO-FL013-0000

SOIL PILE #7

Analyte	Method	Result	PQL
Chromium	6010B	0.26	0.020
Lead	6010B	ND	0.20

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This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: August 26, 2003
Samples Submitted: August 22, 2003
Laboratory Reference: 0308-152
Project: 20064-153-100-0620

**TOTAL METALS
EPA 6010B**

Date Extracted: 8-22-03
Date Analyzed: 8-22-03

FLUFF SOIL PILE #8

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-152-01
Client ID: FHC-SO-FL014-0000

Analyte	Method	Result	PQL
Arsenic	6010B	24	16
Barium	6010B	220	4.1
Cadmium	6010B	ND	0.82
Chromium	6010B	800	0.82
Lead	6010B	320	8.2
Selenium	6010B	ND	16
Silver	6010B	ND	0.82

Date of Report: August 26, 2003
Samples Submitted: August 22, 2003
Laboratory Reference: 0308-152
Project: 20064-153-100-0620

TCLP Metals
EPA 1311/6010B

Date Prepared: 8-22-03
Date Extracted: 8-25-03
Date Analyzed: 8-25-03

FLUFF SOIL PILE # 8

Matrix: TCLP Extract
Units: mg/L (ppm)
Lab ID: 08-152-01
Client ID: FHC-SO-FL014-0000

Analyte	Method	Result	PQL
Chromium	6010B	ND	0.020
Lead	6010B	ND	0.20

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: August 26, 2003
Samples Submitted: August 22, 2003
Laboratory Reference: 0308-152
Project: 20064-153-100-0620

**TOTAL METALS
EPA 6010B**

FLUFF SOIL PILE # 8

Date Extracted: 8-22-03
Date Analyzed: 8-22-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-152-02
Client ID: FHC-SO-FL015-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	17
Barium	6010B	190	4.3
Cadmium	6010B	ND	0.86
Chromium	6010B	690	0.86
Lead	6010B	180	8.6
Selenium	6010B	ND	17
Silver	6010B	ND	0.86

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: August 26, 2003
Samples Submitted: August 22, 2003
Laboratory Reference: 0308-152
Project: 20064-153-100-0620

TCLP Metals
EPA 1311/6010B

Date Prepared: 8-22-03
Date Extracted: 8-25-03
Date Analyzed: 8-25-03

FLUFF SOIL PILE #8

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 08-152-02
Client ID: FHC-SO-FL015-0000

Analyte	Method	Result	PQL
Chromium	6010B	ND	0.020
Lead	6010B	ND	0.20

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: August 26, 2003
Samples Submitted: August 25, 2003
Laboratory Reference: 0308-165
Project: 20064-153-100-0620

**TOTAL METALS
EPA 6010B**

Date Extracted: 8-25-03
Date Analyzed: 8-25-03

Matrix: Soil
Units: mg/kg (ppm)

FLUFF SOIL PILE # 9

Lab ID: 08-165-01
Client ID: FHC-SO-FL016-0000

Analyte	Method	Result	PQL
Arsenic	6010B	16	15
Barium	6010B	170	3.8
Cadmium	6010B	ND	0.77
Chromium	6010B	620	0.77
Lead	6010B	240	7.7
Selenium	6010B	ND	15
Silver	6010B	ND	0.77

Date of Report: August 26, 2003
Samples Submitted: August 25, 2003
Laboratory Reference: 0308-165
Project: 20064-153-100-0620

TCLP Metals
EPA 1311/6010B

Date Prepared: 8-25-03
Date Extracted: 8-26-03
Date Analyzed: 8-26-03

pile #9

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 08-165-01
Client ID: FHC-SO-FL016-0000

Analyte	Method	Result	PQL
Chromium	6010B	0.060	0.020
Lead	6010B	ND	0.20

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: August 26, 2003
Samples Submitted: August 25, 2003
Laboratory Reference: 0308-165
Project: 20064-153-100-0620

**TOTAL METALS
EPA 6010B**

Date Extracted: 8-25-03
Date Analyzed: 8-25-03

FLUFF SOIL PILE #9

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-165-02
Client ID: FHC-SO-FL017-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	16
Barium	6010B	160	3.9
Cadmium	6010B	ND	0.78
Chromium	6010B	720	0.78
Lead	6010B	330	7.8
Selenium	6010B	ND	16
Silver	6010B	ND	0.78

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: August 26, 2003
Samples Submitted: August 25, 2003
Laboratory Reference: 0308-165
Project: 20064-153-100-0620

TCLP Metals
EPA 1311/6010B

Date Prepared: 8-25-03
Date Extracted: 8-26-03
Date Analyzed: 8-26-03

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 08-165-02
Client ID: FHC-SO-FL017-0000

SOIL PILE #9

Analyte	Method	Result	PQL
Chromium	6010B	0.10	0.020
Lead	6010B	ND	0.20

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 3, 2003
Samples Submitted: August 28, 2003
Laboratory Reference: 0308-202
Project: 20064-153-100-0620

**TOTAL METALS
EPA 6010B**

Date Extracted: 8-28-03

Date Analyzed: 8-29-03

FLUFF SOIL PILE # 10

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 08-202-01

Client ID: FHC-SO-FL018-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	17
Barium	6010B	180	4.3
Cadmium	6010B	ND	0.86
Chromium	6010B	960	0.86
Lead	6010B	120	8.6
Selenium	6010B	ND	17
Silver	6010B	ND	0.86

Date of Report: September 3, 2003
Samples Submitted: August 28, 2003
Laboratory Reference: 0308-202
Project: 20064-153-100-0620

TCLP Metals
EPA 1311/6010B

Date Prepared: 8-28-03
Date Extracted: 8-29-03
Date Analyzed: 8-29-03

SOIL PILE # 10

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 08-202-01
Client ID: FHC-SO-FL018-0000

Analyte	Method	Result	PQL
Chromium	6010B	0.023	0.020
Lead	6010B	ND	0.20

Date of Report: September 3, 2003
Samples Submitted: August 28, 2003
Laboratory Reference: 0308-202
Project: 20064-153-100-0620

**TOTAL METALS
EPA 6010B**

Date Extracted: 8-28-03
Date Analyzed: 8-29-03

FLUFF SOIL PILE # 10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-202-02
Client ID: FHC-SO-FL019-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	17
Barium	6010B	150	4.2
Cadmium	6010B	ND	0.85
Chromium	6010B	750	0.85
Lead	6010B	110	8.5
Selenium	6010B	ND	17
Silver	6010B	ND	0.85

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 3, 2003
Samples Submitted: August 28, 2003
Laboratory Reference: 0308-202
Project: 20064-153-100-0620

TCLP Metals
EPA 1311/6010B

Date Prepared: 8-28-03
Date Extracted: 8-29-03
Date Analyzed: 8-29-03

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 08-202-02
Client ID: FHC-SO-FL019-0000

SOIL PILE # 10

Analyte	Method	Result	PQL
Chromium	6010B	0.040	0.020
Lead	6010B	ND	0.20

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 4, 2003
Samples Submitted: September 3, 2003
Laboratory Reference: 0309-012
Project: 20064.153.100.0620

TOTAL METALS
EPA 6010B

Date Extracted: 9-4-03
Date Analyzed: 9-4-03

Matrix: Soil
Units: mg/kg (ppm)

FLUFF SOIL PILE # 11

Lab ID: 09-012-01
Client ID: FHC-SO-FL020-0000

Analyte	Method	Result	PQL
Arsenic	6010B	ND	17
Barium	6010B	180	4.2
Cadmium	6010B	ND	0.85
Chromium	6010B	620	0.85
Lead	6010B	170	8.5
Selenium	6010B	ND	17
Silver	6010B	ND	0.85

Date of Report: September 4, 2003
Samples Submitted: September 3, 2003
Laboratory Reference: 0309-012
Project: 20064.153.100.0620

**TCLP Metals
EPA 1311/6010B**

Date Prepared: 9-3-03
Date Extracted: 9-4-03
Date Analyzed: 9-4-03

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 09-012-01
Client ID: FHC-SO-FL020-0000

SOIL PILE # 11

Analyte	Method	Result	PQL
Chromium	6010B	0.035	0.020
Lead	6010B	ND	0.20

APPENDIX E
TREATED SOIL COMPRESSIVE STRENGTH DATA

Carlson Testing, Inc.

Construction Inspection & Related Tests
Geotechnical Consulting

Main Office

P.O. Box 23814 • Tigard, Oregon 97281
Phone (503) 684-3460 • FAX (503) 684-0954

Salem Office

4060 Hudson Ave., NE • Salem, OR 97301
Phone (503) 589-1252 • FAX (503) 589-1309

Bend Office

P.O. Box 7918 • Bend, OR 97708
Phone (541) 330-9155 • FAX (541) 330-9163

REPORT OF 3 X 6 CONCRETE TEST SPECIMENS

Test Methods: ASTM D1633

Date Molded: 06/24, 20 03 Job No. T0303227 Permit No. _____

Client: WILLIAMS ENVIRONMENTAL - DARRIN PAYNE

Project: WILLIAMS ENVIRONMENTAL - LOW STRENGTH MATERIALS TESTING

Address: X Jurisdiction: ?

Contractor: WILLIAMS ENVIRONMENTAL - DARRI Sub Contractor: _____

Concrete Supplier: X Truck #: _____ Load #: _____ Ticket #: _____

Weather: _____ Air Temp. at Sampling Time: 70 Test Time: _____

Cylinders were cast for the following location: VARIOUS COLUMNS; SAMPLES MADE BY CLIENT

Total Concrete Placement Location: F-18

Cubic Yards
Max Agg

Strength Req'd 30 - PSI @ 28 Days - Conc. Temp. _____ - % Air: N/T - Slump: _____ - Cement Type: _____

Mix Number: _____ - Admix/Amount: _____

Set No.	Test @ Days	Register Number	Date Rec'd	Date Test	Total Load	Area	Unit PSI	Corrected PSI	Tested By
F-18	17	2671	07/11	07/11	1100	7.06	160		RLL
F-18	17	2671	07/11	07/11	995	7.06	140		RLL

MADE BY CLIENT

Remarks: _____

Proj Mngr: K. YOUNGER

Cast by: CLIENT REP

Reviewed by: Jim Hietpas

Our report pertains to the material tested/inspected only. Information contained herein is not to be reproduced, except in full, without reference to this report.

Carlson Testing, Inc.

Construction Inspection & Related Tests
Geotechnical Consulting

Main Office

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Phone (503) 684-3460 • FAX (503) 684-0954

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Bend Office

P.O. Box 7918 • Bend, OR 97708
Phone (541) 330-9155 • FAX (541) 330-9163

REPORT OF 3 X 6 CONCRETE TEST SPECIMENS

Test Methods: ASTM D1633

Date Molded: 06/24, 20 03 Job No. T0303227 Permit No: _____

Client: WILLIAMS ENVIRONMENTAL - DARRIN PAYNE

Project: WILLIAMS ENVIRONMENTAL - LOW STRENGTH MATERIALS TESTING

Address: X Jurisdiction: ?

Contractor: WILLIAMS ENVIRONMENTAL - DARRI Sub Contractor: _____

Concrete Supplier: X Truck #: _____ Load # _____ Ticket #: _____

Weather: _____ Air Temp. at Sampling Time: 70 Test Time: _____

Cylinders were cast for the following location: VARIOUS COLUMNS; SAMPLES MADE BY CLIENT

Total Concrete Placement Location: C-20

Cubic Yards
Max Agg

Strength Req'd 30 - PSI @ 28 Days - Conc. Temp. _____ - % Air: N/T - Slump: _____ - Cement Type: _____

Mix Number: _____ - Admix/Amount: _____

Set No.	Test @ Days	Register Number	Date Rec'd	Date Test	Total Load	Area	Unit PSI	Corrected PSI	Tested By
C-20	17	2670	07/11	07/11	905	7.06	130		RLL
C-20	17	2670	07/11	07/11				NOTEST	

REMARKS: MADE BY CLIENT * 2ND MOLD DAMAGED IN MOLD *

Proj Mngr: K. YOUNGER

Cast by: CLIENT REP

Reviewed by: Jim Hietpas

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Phone (503) 589-1252 • FAX (503) 589-1309

Bend Office

P.O. Box 7918 • Bend, OR 97708
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REPORT OF 3 X 6 CONCRETE TEST SPECIMENS

Test Methods: ASTM D1633

Date Molded: 06/24, 20 03 Job No. T0303227 Permit No: _____

Client: WILLIAMS ENVIRONMENTAL - DARRIN PAYNE

Project: WILLIAMS ENVIRONMENTAL - LOW STRENGTH MATERIALS TESTING

Address: X Jurisdiction: ?

Contractor: WILLIAMS ENVIRONMENTAL - DARRI Sub Contractor: _____

Concrete Supplier: X Truck #: _____ Load # _____ Ticket #: _____

Weather: _____ Air Temp. at Sampling Time: 70 Test Time: _____

Cylinders were cast for the following location: VARIOUS COLUMNS; SAMPLES MADE BY CLIENT

Total Concrete Placement Location: A-19

Cubic Yards
Max Agg

Strength Req'd 30 - PSI @ 28 Days - Conc. Temp. _____ - % Air: N/T - Slump: _____ - Cement Type: _____

Mix Number: _____ - Admix/Amount: _____

Set No.	Test @ Days	Register Number	Date Rec'd	Date Test	Total Load	Area	Unit PSI	Corrected PSI	Tested By
A-19	17	2667	07/11	07/11	890	7.06	130		RLL
A-19	17	2667	07/11	07/11	810	7.06	110		RLL

MADE BY CLIENT

Remarks: CC

Proj Mngr: K. YOUNGER

Tested by: CLIENT REP

Reviewed by: Jim Hietpas

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REPORT OF 3 X 6 CONCRETE TEST SPECIMENS

Test Methods: ASTM D1633

Date Molded: 06/24, 20 03 Job No. T0303227 Permit No. JUL 22 2003

Client: WILLIAMS ENVIRONMENTAL - DARRIN PAYNE

Project: WILLIAMS ENVIRONMENTAL - LOW STRENGTH MATERIALS TESTING

Address: X Jurisdiction: ?

Contractor: WILLIAMS ENVIRONMENTAL - DARRI Sub Contractor: _____

Concrete Supplier: X Truck #: _____ Load # _____ Ticket #: _____

Weather: _____ Air Temp. at Sampling Time: 70 Test Time: _____

Cylinders were cast for the following location: VARIOUS COLUMNS; SAMPLES MADE BY CLIENT

Total Concrete Placement Location: A-20

Cubic Yards
Max Agg

Strength Req'd 30 -PSI @ 28 Days - Conc. Temp. _____ - % Air: N/T - Slump: _____ - Cement Type: _____

Mix Number: _____ - Admix/Amount: _____

Set No.	Test @ Days	Register Number	Date Rec'd	Date Test	Total Load	Area	Unit PSI	Corrected PSI	Tested By
A-20	17	2668	07/11	07/11	660	7.06	90.0		RLL
A-20	17	2668	07/11	07/11	590	7.06	80.0		RLL

MADE BY CLIENT

Remarks: cc:

Proj Mngr: K. YOUNGER

Cast by: CLIENT REP

Reviewed by: Jim Hietpas

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REPORT OF 3 X 6 CONCRETE TEST SPECIMENS

Test Methods: ASTM D1633

Date Molded: 06/24, 20 03 Job No. T0303227 Permit No: _____

Client: WILLIAMS ENVIRONMENTAL - DARRIN PAYNE

Project: WILLIAMS ENVIRONMENTAL - LOW STRENGTH MATERIALS TESTING

Address: X Jurisdiction: ?

Contractor: WILLIAMS ENVIRONMENTAL - DARRI Sub Contractor: _____

Concrete Supplier: X Truck #: _____ Load # _____ Ticket #: _____

Weather: _____ Air Temp. at Sampling Time: 70 Test Time: _____

Cylinders were cast for the following location: VARIOUS COLUMNS; SAMPLES MADE BY CLIENT

Total Concrete Placement Location: C-17

Cubic Yards
Max Agg

Strength Req'd 30 -PSI @ 28 Days - Conc. Temp. _____ - % Air: N/T - Slump: _____ - Cement Type: _____

Mix Number: _____ - Admix/Amount: _____

Set No.	Test @ Days	Register Number	Date Rec'd	Date Test	Total Load	Area	Unit PSI	Corrected PSI	Tested By
C-17	17	2669	07/11	07/11	625	7.00	90.0		RLL
C-17	17	2669	07/11	07/11	735	7.00	110		RLL

MADE BY CLIENT

Remarks: _____

Proj Mngr: K. YOUNGER

Cast by: CLIENT REP

Reviewed by: Jim Hietpas

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AUG 04 2003

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REPORT OF 3 X 6 CONCRETE TEST SPECIMENS

Test Methods: ASTM D1633

Date Molded: 07/01, 20 03 Job No. T0303227 Permit No: _____

Client: WILLIAMS ENVIRONMENTAL - DARRIN PAYNE

Project: WILLIAMS ENVIRONMENTAL - LOW STRENGTH MATERIALS TESTING

Address: X Jurisdiction: ?

Contractor: WILLIAMS ENVIRONMENTAL - DARRI Sub Contractor: _____

Concrete Supplier: LAFORGE CEMENT Truck #: _____ Load # _____ Ticket #: _____

Weather: SUNNY Air Temp. at Sampling Time: 75 Test Time: _____

Cylinders were cast for the following location: SAMPLES MADE BY CLIENT

Total Concrete Placement Location: L-18

Cubic Yards
Max Agg

Strength Req'd 30 - PSI @ 28 Days - Conc. Temp. _____ - % Air: N/T - Slump: _____ - Cement Type: _____ PDX

Mix Number: _____ - Admix/Amount: _____

Set No.	Test @ Days	Register Number	Date Rec'd	Date Test	Total Load	Area	Unit PSI	Corrected PSI	Tested By
L-18	28	3153	07/30	07/30	219	6.92	31.6		GSG
HOLD		3153	07/30					NO TEST	

MADE BY CLIENT

Remarks: _____

Proj Mngr: K. YOUNGER

Cast by: CLIENT REP

Reviewed by: Jim Hietpas

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REPORT OF 3 X 6 CONCRETE TEST SPECIMENS

Test Methods: ASTM D1633

Date Molded: 07/02, 20 03 Job No. T0303227 Permit No: _____

Client: WILLIAMS ENVIRONMENTAL - DARRIN PAYNE

Project: WILLIAMS ENVIRONMENTAL - LOW STRENGTH MATERIALS TESTING

Address: X Jurisdiction: ?

Contractor: WILLIAMS ENVIRONMENTAL - DARRI Sub Contractor: _____

Concrete Supplier: LAFORGE CEMENT Truck #: _____ Load # _____ Ticket #: _____

Weather: SUNNY Air Temp. at Sampling Time: 73 Test Time: _____

Cylinders were cast for the following location: SAMPLES MADE BY CLIENT

Total Concrete Placement Location: N-18

Cubic Yards
Max Agg

Strength Req'd 30 - PSI @ 28 Days - Conc. Temp. _____ - % Air: N/T - Slump: _____ - Cement Type: _____ PDX

Mix Number: _____ - Admix/Amount: _____

Set No.	Test @ Days	Register Number	Date Rec'd	Date Test	Total Load	Area	Unit PSI	Corrected PSI	Tested By
N-18	28	3152	07/30	07/30	209	7.01	30.0		GSG
HOLD		3152	07/30					NOTEST	

MADE BY CLIENT

Remarks: _____

Proj Mngr: K. YOUNGER

Cast by: CLIENT REP

Reviewed by: Jim Hietpas

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REPORT OF 3 X 6 CONCRETE TEST SPECIMENS

Test Methods: ASTM D1633

Date Molded: 07/08, 20 03 Job No. T0303227 Permit No: _____

Client: WILLIAMS ENVIRONMENTAL - DARRIN PAYNE

Project: WILLIAMS ENVIRONMENTAL - LOW STRENGTH MATERIALS TESTING

Address: X Jurisdiction: ?

Contractor: WILLIAMS ENVIRONMENTAL - DARRI Sub Contractor: _____

Concrete Supplier: LAFORGE CEMENT Truck #: _____ Load # _____ Ticket #: _____

Weather: CLOUDY Air Temp. at Sampling Time: 73 Test Time: _____

Cylinders were cast for the following location: R-21

Total Concrete Placement Location: _____

Cubic Yards
Max Agg

Strength Req'd 30 -PSI @ 28 Days - Conc. Temp. _____ - % Air: N/T - Slump: _____ - Cement Type: _____

Mix Number: 1 - Admix/Amount: _____

Set No.	Test @ Days	Register Number	Date Rec'd	Date Test	Total Load	Area	Unit PSI	Corrected PSI	Tested By
R-21	35	3485	08/11	08/12	363	7.06	51.0		GSG

MADE BY CLIENT

Remarks: cc:

Proj Mngr: K. YOUNGER

Cast by: CLIENT REP

Reviewed by: Jim Hietpas

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REPORT OF 3 X 6 CONCRETE TEST SPECIMENS

Test Methods: ASTM 1433 METHOD A

Date Molded: 07/28, 20 03 Job No. TQ303227 Permit No: _____

Client: WILLIAMS ENVIRONMENTAL - DARRIN PAYNE

Project: WILLIAMS ENVIRONMENTAL - LOW STRENGTH MATERIALS TESTING

Address: X Jurisdiction: ?

Contractor: WILLIAMS ENVIRONMENTAL - DARRI Sub Contractor: _____

Concrete Supplier: LAARGE CORPORATION Truck #: _____ Load # _____ Ticket #: _____

Weather: SUNNY Air Temp. at Sampling Time: 80 Test Time: _____

Cylinders were cast for the following location: FRONTIER HARD CHROME

Total Concrete Placement Location: SAMPLES SUBMITTED BY CLIENT

Cubic Yards
Max Agg

Strength Req'd 30 - PSI @ 28 Days - Conc. Temp. _____ - % Air: N/T - Slump: _____ - Cement Type: _____ **FDX**

Mix Number: _____ - Admix/Amount: _____

Set No.	Test @ Days	Register Number	Date Rec'd	Date Test	Total Load	Area	Unit PSI	Corrected PSI	Tested By
T-13	28	3937	08/25	08/25	450	7.06	60.0		RLI
D-19	28	3937	08/25	08/25	350	7.06	50.0		RLI
P-11	28	3937	08/25	08/25	425	7.06	60.0		RLI
Q-10	28	3937	08/25	08/25	400	7.06	60.0		RLI
Q-17	28	3937	08/25	08/25	375	7.06	50.0		RLI
D-10	28	3937	08/25	08/25	225	7.06	30.0		RLI

Remarks: CC:

Proj Mngr: K. YOUNGER

Cast by: CLIENT REP

Reviewed by: Jim Hietpas

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REPORT OF 3 X 6 CONCRETE TEST SPECIMENS

Test Methods: ASTM D1633 METHOD A

Date Molded: 08/12, 20 03 Job No. T0303227 Permit No: _____

Client: WILLIAMS ENVIRONMENTAL - DARRIN FAYNE

Project: WILLIAMS ENVIRONMENTAL - LOW STRENGTH MATERIALS TESTING

Address: X Jurisdiction: ?

Contractor: WILLIAMS ENVIRONMENTAL - DARRI Sub Contractor: _____

Concrete Supplier: X Truck #: _____ Load # _____ Ticket #: _____

Weather: SUNNY Air Temp. at Sampling Time: 85 Test Time: _____

Cylinders were cast for the following location: SAMPLES MADE BY CLIENT

Total Concrete Placement Location: _____

Cubic Yards
Max Agg

Strength Req'd 30 - PSI @ 28 Days - Conc. Temp. _____ - % Air: N/T - Slump: _____ - Cement Type: _____

Mix Number: 1 - Admix/Amount: _____

Set No.	Test @ Days	Register Number	Date Rec'd	Date Test	Total Load	Area	Unit PSI	Corrected PSI	Tested By
B-10	28	4400	09/09	09/09		7.06		N/T	
CC-7	28	4400	09/09	09/09	1590	7.06	230		RLL
CC-5	28	4400	09/09	09/09	420	7.06	50.0		RLL
SS-8	28	4400	09/09	09/09	225	7.06	30.0		RLL
CC-8	28	4400	09/09	09/09	980	7.06	140		RLL
K-15	28	4400	09/09	09/09				N/T	
O-7	28	4400	09/09	09/09				N/T	
CC-E	28	4400	09/09	09/09	350	7.06	50.0		RLL

Remarks: MADE BY CLIENT ** N/T= WHEN SAMPLES WERE STRIPPED THEY FELL APART **
cc:

Proj Mngr: _____

Reviewed by: _____

Cast by: _____

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SEP 18 2003

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REPORT OF 3 X 6 CONCRETE TEST SPECIMENS

Test Methods: ASTM 1633 METHOD A

Date Molded: 09/13, 20 03 Job No. T0303227 Permit No: _____

Client: WILLIAMS ENVIRONMENTAL - DARRIN PAYNE

Project: WILLIAMS ENVIRONMENTAL - LOW STRENGTH MATERIALS TESTING

Address: X Jurisdiction: ?

Contractor: WILLIAMS ENVIRONMENTAL - DARRI Sub Contractor: _____

Concrete Supplier: X Truck #: _____ Load #: _____ Ticket #: _____

Weather: SUNNY Air Temp. at Sampling Time: 85 Test Time: _____

Cylinders were cast for the following location: SAMPLES MADE BY CLIENT

Total Concrete Placement Location: _____

Cubic Yards
Max Agg

Strength Req'd 30 -PSI @ 28 Days - Conc. Temp. _____ - % Air: N/T - Slump: _____ - Cement Type: _____

Mix Number: 1 - Admix/Amount: _____

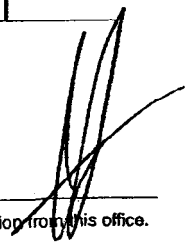
Set No.	Test @ Days	Register Number	Date Rec'd	Date Test	Total Load	Area	Unit PSI	Corrected PSI	Tested By
F-15	28	4402	09/09	09/10				N/T	
EE-7	28	4402	09/09	09/10	920	7.06	130		RLL
BB-6	28	4402	09/09	09/10				N/T	
L-11	28	4402	09/09	09/10				N/T	
J-15	28	4402	09/09	09/10	760	7.06	110		RLL
D-15	28	4402	09/09	09/10	680	7.06	100		RLL
A-14	28	4402	09/09	09/10	360	7.06	50.0		RLL
D-8	28	4402	09/09	09/10	480	7.06	70.0		RLL

Remarks: BY CLIENT ** N/T= WHEN SAMPLES WERE STRIPPED THEY FELL APART **
CC:

Cast by: _____ Proj Mngr: _____
Reviewed by: _____

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REPORT OF 3 X 6 CONCRETE TEST SPECIMENS

Test Methods: ASTM D1633 METHOD A

Date Molded: 09/13, 20 03 Job No. T0303227 Permit No: _____

Client: WILLIAMS ENVIRONMENTAL - DARRIN PAYNE

Project: WILLIAMS ENVIRONMENTAL - LOW STRENGTH MATERIALS TESTING

Address: X Jurisdiction: ?

Contractor: WILLIAMS ENVIRONMENTAL - DARRI Sub Contractor: _____

Concrete Supplier: X Truck #: _____ Load #: _____ Ticket #: _____

Weather: _____ Air Temp. at Sampling Time: _____ Test Time: _____

Cylinders were cast for the following location: SAMPLES MADE BY CLIENT

Total Concrete Placement Location: _____

Cubic Yards
Max Agg

Strength Req'd 30 - PSI @ 28 Days - Conc. Temp. _____ - % Air: N/T - Slump: _____ - Cement Type: _____

Mix Number: 1 - Admix/Amount: _____

Set No.	Test @ Days	Register Number	Date Rec'd	Date Test	Total Load	Area	Unit PSI	Corrected PSI	Tested By
K-16	28	4401	09/09	09/10				N/T	
RR11	28	4401	09/09	09/10	375	7.06	50.0		RLL
MM10	28	4401	09/09	09/10	325	7.06	50.0		RLL
HH-7	28	4401	09/09	09/10	475	7.06	70.0		RLL
X7	28	4401	09/09	09/10	250	7.06	40.0		RLL

~~MADE BY CLIENT ** N/T - WHEN SAMPLES WERE STRIPPED THEY FELL APART **~~

Remarks: cc:

Proj Mngr:

Reviewed by: Jim Hietpas

Cast by: CLIENT REP

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SEP 19 2003

September 15, 2003
T0303227.CTI
Permit No.

FIELD INSPECTION REPORT

DATES COVERED: September 12, 2003

PROJECT: Williams Environmental - Frontier Hard Chrome - Low Strength Materials Testing
ADDRESS: X
INSPECTOR: J. Hietpas, COP#343; WABO#HIE522831; ICBO#0873046-88,-86,-84; OBOA#205

09-12-03: As requested by Darrin Payne with Williams Environmental, CTI representative was on site and picked up 3x6 cylinders at 113Y St., Vancouver, WA. Cylinders were needed to replace damaged cylinders received on 09-09-03:

Cylinders:	B-10	K-15	O-7	K-16
	F-15	BB-6	L-11	

These tests will be reported under separate cover.

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If there are any further questions regarding this matter, please do not hesitate to contact this office.

Respectfully submitted,

CARLSON TESTING, INC.

James F. Hietpas
Operations Manager

JH/sab

cc: Williams Environmental - Darrin Payne

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REPORT OF 3 X 6 CONCRETE TEST SPECIMENS

SEP 19 2003

Test Methods: ASTM 1633 METHOD A

Date Molder: 09/11, 2003 Job No. T0303227 Permit No: _____

Client: WILLIAMS ENVIRONMENTAL - DARRIN PAYNE

Project: WILLIAMS ENVIRONMENTAL - LOW STRENGTH MATERIALS TESTING

Address: X Jurisdiction: ?

Contractor: WILLIAMS ENVIRONMENTAL - DARRI Sub Contractor: _____

Concrete Supplier: X Truck #: _____ Load #: _____ Ticket #: _____

Weather: _____ Air Temp. at Sampling Time: _____ Test Time: _____

Cylinders were cast for the following location: SAMPLES MADE BY CLIENT

Total Concrete Placement Location: _____

Cubic Yards
Max Age

Strength Req'd 30 - PSI @ 28 Days - Conc. Temp. _____ - % Air: N/T - Slump: _____ - Cement Type: _____

Mix Number: 1 - Admix/Amount: _____

Set No.	Test @ Days	Register Number	Date Rec'd	Date Test	Total Load	Area	Unit PSI	Corrected PSI	Tested By
3-10	1	4475	09/11	09/12	570	7.07	80.0		JH
K-15	1	4475	09/11	09/12	810	7.07	110		JH
Q-7	1	4475	09/11	09/12	620	7.07	90.0		JH
K-16	1	4475	09/11	09/12	950	7.07	130		JH
F-15	1	4475	09/11	09/12	280	7.07	40.0		JH
BB-6	1	4475	09/11	09/12	490	7.07	70.0		JH
L-11	1	4475	09/11	09/12	500	7.07	70.0		JH

Remarks: MADE BY CLIENT ** N/T= WHEN SAMPLES WERE STRIPPED THEY FELL APART **
cc:

Proj Mngr: J. HIETPAS

Cast by: CLIENT REP

Reviewed by: Jim Hietpas

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APPENDIX F
PERIMETER AIR SAMPLING DATA

-1-
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA018-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: 07092 SAS No.: N5735 SDG No.: FHC01
 Matrix (soil/water): FILTER Lab Sample ID: 0306314-01
 Level (low/med): LOW Date Received: 6/23/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

B
SEP 08 2003

Color Before: _____ Clarity Before: _____ Texture: _____
 Color After: _____ Clarity After: _____ Artifacts: _____
 Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA019-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: 07092 SAS No.: N5735 SDG No.: FHC01
 Matrix (soil/water): FILTER Lab Sample ID: 0306314-03
 Level (low/med): LOW Date Received: 6/23/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

B

SEP 08 2003

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA020-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: 07092 SAS No.: N5735 SDG No.: FHC01
 Matrix (soil/water): FILTER Lab Sample ID: 0306314-04
 Level (low/med): LOW Date Received: 6/23/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FL3

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

B
 SEP 08 2003

Color Before: _____ Clarity Before: _____ Texture: _____
 Color After: _____ Clarity After: _____ Artifacts: _____
 Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA021-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: 07092 SAS No.: N5735 SDG No.: FHC02
 Matrix (soil/water): FILTER Lab Sample ID: 0306320-01
 Level (low/med): LOW Date Received: 6/24/03
 % Solids: _____

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: _____ Clarity Before: _____ Texture: B
 Color After: _____ Clarity After: _____ Artifacts: _____
 Comments: _____

SEP 09 2003

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA022-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: 07092 SAS No.: N5735 SDG No.: FHC02
 Matrix (soil/water): FILTER Lab Sample ID: 0306320-02
 Level (low/med): LOW Date Received: 6/24/03
 % Solids: _____

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

B
SEP 09 2003

Color Before: _____ Clarity Before: _____ Texture: _____
 Color After: _____ Clarity After: _____ Artifacts: _____
 Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA023-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr

Lab Code: LAUCKS Case No.: 07092 SAS No.: N5735 SDG No.: FHC02

Matrix (soil/water): FILTER Lab Sample ID: 0306320-03

Level (low/med): LOW Date Received: 6/24/03

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): MG/FLT

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

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 SEP 09 2003

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA024-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: 07092 SAS No.: N5735 SDG No.: FHC02
 Matrix (soil/water): FILTER Lab Sample ID: 0306320-04
 Level (low/med): LOW Date Received: 6/24/03
 % Solids: _____

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

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 SEP 09 2003

Color Before: _____ Clarity Before: _____ Texture: _____
 Color After: _____ Clarity After: _____ Artifacts: _____
 Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA025-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: 07092 SAS No.: N5735 SDG No.: FHC02
 Matrix (soil/water): FILTER Lab Sample ID: 0306320-05
 Level (low/med): LOW Date Received: 6/24/03
 % Solids: _____

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

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 SEP 09 2003

Color Before: _____ Clarity Before: _____ Texture: _____
 Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA026-0000

Lab Name: Laucks Laboratories Contract: Frontier HardchrLab Code: LAUCKS Case No.: 07092 SAS No.: N5735 SDG No.: FHC02Matrix (soil/water): FILTER Lab Sample ID: 0306320-06Level (low/med): LOW Date Received: 6/24/03

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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SEP 09 2003

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA027-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: 07092 SAS No.: N5735 SDG No.: FHC03
 Matrix (soil/water): FILTER Lab Sample ID: 0306363-01
 Level (low/med): LOW Date Received: 6/26/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

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 SEP 09 2003

Color Before: _____ Clarity Before: _____ Texture: _____
 Color After: _____ Clarity After: _____ Artifacts: _____
 Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA028-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: 07092 SAS No.: N5735 SDG No.: FHC03
 Matrix (soil/water): FILTER Lab Sample ID: 0306363-02
 Level (low/med): LOW Date Received: 6/26/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FL1

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

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 SEP 09 2003

Color Before: _____ Clarity Before: _____ Texture: _____
 Color After: _____ Clarity After: _____ Artifacts: _____
 Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA029-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: 07092 SAS No.: N5735 SDG No.: FHC03
 Matrix (soil/water): FILTER Lab Sample ID: 0306363-03
 Level (low/med): LOW Date Received: 6/26/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

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SEP 09 2003

Color Before: _____ Clarity Before: _____ Texture: _____
 Color After: _____ Clarity After: _____ Artifacts: _____
 Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA030-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: N5735 SDG No.: FHC04
 Matrix (soil/water): FILTER Lab Sample ID: 0307001-01
 Level (low/med): LOW Date Received: 7/1/2003
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

B
 SEP 09 2003

Color Before: White Clarity Before: _____ Texture: Filter
 Color After: Colorless Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA031-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: N5735 SDG No.: FHC04
 Matrix (soil/water): FILTER Lab Sample ID: 0307001-02
 Level (low/med): LOW Date Received: 7/1/2003
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FL1

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

B

SEP 09 2003

Color Before: White Clarity Before: _____ Texture: Filter
 Color After: Colorless Clarity After: _____ Artifacts: _____
 Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA032-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: N5735 SDG No.: FHC04
 Matrix (soil/water): FILTER Lab Sample ID: 0307001-03
 Level (low/med): LOW Date Received: 7/1/2003
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

B
 SEP 09 2003

Color Before: White Clarity Before: _____ Texture: Filter
 Color After: Colorless Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA033-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: N5735 SDG No.: FHC05
 Matrix (soil/water): FILTER Lab Sample ID: 0307026-01
 Level (low/med): LOW Date Received: 7/2/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: _____
 Color After: Colorless Clarity After: _____ Artifacts: B

SEP 09 2003

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA034-0000

Lab Name: Laucks Laboratories

Contract: Frontier Hardchr

Lab Code: LAUCKS

Case No.: _____

SAS No.: N5735

SDG No.: FHC05

Matrix (soil/water): FILTER

Lab Sample ID: 0307026-02

Level (low/med): LOW

Date Received: 7/2/03

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White

Clarity Before: _____

Texture: B SEP 09 2003

Color After: Colorless

Clarity After: _____

Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA035-0000

Lab Name: Laucks Laboratories

Contract: Frontier Hardchr

Lab Code: LAUCKS

Case No.: _____

SAS No.: N5735

SDG No.: FHC05

Matrix (soil/water): FILTER

Lab Sample ID: 0307026-03

Level (low/med): LOW

Date Received: 7/2/03

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FL1

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White

Clarity Before: _____

Texture: B

Color After: Colorless

Clarity After: _____

Artifacts: SEP 09 2003

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA036-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: N5735 SDG No.: FHC06
 Matrix (soil/water): FILTER Lab Sample ID: 0307135-01
 Level (low/med): LOW Date Received: 7/10/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: Filter *B*
 Color After: Colorless Clarity After: _____ Artifacts: SEP 09 2003
 Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA037-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: N5735 SDG No.: FHC06
 Matrix (soil/water): FILTER Lab Sample ID: 0307135-02
 Level (low/med): LOW Date Received: 7/10/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FL1

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: Filter
 Color After: Colorless Clarity After: _____ Artifacts: _____

Comments: _____

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 SEP 19 2003

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA038-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: N5735 SDG No.: FHC06
 Matrix (soil/water): FILTER Lab Sample ID: 0307135-03
 Level (low/med): LOW Date Received: 7/10/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: Filter
 Color After: Colorless Clarity After: _____ Artifacts: B
 Comments: _____

SEP 09 2003

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA039-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: N5735 SDG No.: FHC07
 Matrix (soil/water): FILTER Lab Sample ID: 0307199-04
 Level (low/med): LOW Date Received: 7/16/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLI

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

B
 SEP 09 2003

Color Before: White Clarity Before: _____ Texture: Filter
 Color After: Colorless Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA040-0000

Lab Name: Laucks Laboratories

Contract: Frontier Hardchr

Lab Code: LAUCKS

Case No.: _____

SAS No.: N5735

SDG No.: FHC07

Matrix (soil/water): FILTER

Lab Sample ID: 0307199-05

Level (low/med): LOW

Date Received: 7/16/03

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

B

SEP 09 2003

Color Before: White

Clarity Before: _____

Texture: Filter

Color After: Colorless

Clarity After: _____

Artifacts: _____

Comments: _____

_____ 20

-1-
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA041-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: N5735 SDG No.: FHC07
 Matrix (soil/water): FILTER Lab Sample ID: 0307199-06
 Level (low/med): LOW Date Received: 7/16/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

B

SEP 09 2003

Color Before: White Clarity Before: _____ Texture: Filter

Color After: Colorless Clarity After: _____ Artifacts: _____

Comments: _____

21

-1-
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA042-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: N5735 SDG No.: FHC07
 Matrix (soil/water): FILTER Lab Sample ID: 0307199-01
 Level (low/med): LOW Date Received: 7/16/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLT

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: Filter

Color After: Colorless Clarity After: _____ Artifacts: _____

Comments: _____

B
 SEP 09 2003

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA043-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: N5735 SDG No.: FHC07
 Matrix (soil/water): FILTER Lab Sample ID: 0307199-02
 Level (low/med): LOW Date Received: 7/16/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FL

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

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 SEP 09 2003

Color Before: White Clarity Before: _____ Texture: Filter
 Color After: Colorless Clarity After: _____ Artifacts: _____

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA044-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: N5735 SDG No.: FHC07
 Matrix (soil/water): FILTER Lab Sample ID: 0307199-03
 Level (low/med): LOW Date Received: 7/16/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FL

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: Filter
 Color After: Colorless Clarity After: _____ Artifacts: _____

Comments: _____

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SEP 09 2003

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA045-0000

Lab Name: Laucks Laboratories Contract: Frontier Hard Ch
 Lab Code: LAUCKS Case No.: _____ SAS No.: N5735 SDG No.: FHC08
 Matrix (soil/water): FILTER Lab Sample ID: 0307239-01
 Level (low/med): LOW Date Received: 7/18/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

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SEP 09 2003

Color Before: White Clarity Before: _____ Texture: Filter
 Color After: Colorless Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA046-0000

Lab Name: Laucks Laboratories Contract: Frontier Hard Ch
 Lab Code: LAUCKS Case No.: _____ SAS No.: N5735 SDG No.: FHC08
 Matrix (soil/water): FILTER Lab Sample ID: 0307239-02
 Level (low/med): LOW Date Received: 7/18/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FL

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

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SEP 09 2003

Color Before: White Clarity Before: _____ Texture: Filter
 Color After: Colorless Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA047-0000

Lab Name: Laucks Laboratories Contract: Frontier Hard Ch
 Lab Code: LAUCKS Case No.: _____ SAS No.: N5735 SDG No.: FHC08
 Matrix (soil/water): FILTER Lab Sample ID: 0307239-03
 Level (low/med): LOW Date Received: 7/18/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLI

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

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 SEP 09 2003

Color Before: White Clarity Before: _____ Texture: Filter
 Color After: Colorless Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA048-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr

Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC09

Matrix (soil/water): FILTER Lab Sample ID: 0307292-01

Level (low/med): LOW Date Received: 7/23/03

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLT

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: Filter Paper

Color After: Colorless Clarity After: _____ Artifacts: _____

Comments: _____

SEP 09 2003

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA049-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC09
 Matrix (soil/water): FILTER Lab Sample ID: 0307292-02
 Level (low/med): LOW Date Received: 7/23/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FL1

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: Filter Paper

Color After: Colorless Clarity After: _____ Artifacts: B

Comments: _____

SEP 09 2003

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA050-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC09
 Matrix (soil/water): FILTER Lab Sample ID: 0307292-03
 Level (low/med): LOW Date Received: 7/23/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FL

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: Filter Paper
 Color After: Colorless Clarity After: _____ Artifacts: B

SEP 09 2003

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA051-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC10
 Matrix (soil/water): FILTER Lab Sample ID: 0307340-01
 Level (low/med): LOW Date Received: 7/25/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: Filter Paper
 Color After: Colorless Clarity After: _____ Artifacts: B
 Comments: _____

SEP 09 2003

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA052-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC10
 Matrix (soil/water): FILTER Lab Sample ID: 0307340-02
 Level (low/med): LOW Date Received: 7/25/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLI

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: Filter Paper
 Color After: Colorless Clarity After: _____ Artifacts: B
 Comments: _____

SEP 09 2003

18

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA053-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC11
 Matrix (soil/water): FILTER Lab Sample ID: 0307396-01
 Level (low/med): LOW Date Received: 7/30/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

M
08/10/03

Color Before: White Clarity Before: _____ Texture: Filter

Color After: Colorless Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA054-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC11
 Matrix (soil/water): FILTER Lab Sample ID: 0307396-02
 Level (low/med): LOW Date Received: 7/30/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Handwritten:
 08/11/03

Color Before: White Clarity Before: _____ Texture: Filter
 Color After: Colorless Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA055-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC11
 Matrix (soil/water): FILTER Lab Sample ID: 0307396-03
 Level (low/med): LOW Date Received: 7/30/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

*B
08/11/03*

Color Before: White Clarity Before: _____ Texture: Filter.

Color After: Colorless Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA056-0000

Lab Name: Laucks Laboratories Contract: Frontier Hard Ch
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC12
 Matrix (soil/water): FILTER Lab Sample ID: 0308033-01
 Level (low/med): LOW Date Received: 8/5/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FL

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Handwritten: 08/11/03

Color Before: White Clarity Before: _____ Texture: Filter
 Color After: Colorless Clarity After: _____ Artifacts: _____
 Comments: Analyzed 08/05/03

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA057-0000

Lab Name: Laucks Laboratories Contract: Frontier Hard Ch
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC12
 Matrix (soil/water): FILTER Lab Sample ID: 0308033-02
 Level (low/med): LOW Date Received: 8/5/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FL

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

R
08/11/03

Color Before: White Clarity Before: _____ Texture: Filter
 Color After: Colorless Clarity After: _____ Artifacts: _____
 Comments: Analyzed 08/05/03

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA058-0000

Lab Name: Laucks Laboratories Contract: Frontier Hard Ch
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC12
 Matrix (soil/water): FILTER Lab Sample ID: 0308033-03
 Level (low/med): LOW Date Received: 8/5/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

2
08/11/03

Color Before: White Clarity Before: _____ Texture: Filter
 Color After: Colorless Clarity After: _____ Artifacts: _____
 Comments: Analyzed 08/05/03

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA059-0000

Lab Name: Laucks Laboratories Contract: Frontier Hard Ch
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC13
 Matrix (soil/water): FILTER Lab Sample ID: 0308131-01
 Level (low/med): LOW Date Received: 8/8/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FL

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: Filter Paper
 Color After: Colorless Clarity After: _____ Artifacts: SEP 09 2003
 Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA060-0000

Lab Name: Laucks Laboratories Contract: Frontier Hard Ch
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC13
 Matrix (soil/water): FILTER Lab Sample ID: 0308131-02
 Level (low/med): LOW Date Received: 8/8/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLT

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: Filter Paper
 Color After: Colorless Clarity After: _____ Artifacts: _____
 Comments: _____

SEP 09 2003

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA061-0000

Lab Name: Laucks Laboratories Contract: Frontier Hard Ch
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC13
 Matrix (soil/water): FILTER Lab Sample ID: 0308131-03
 Level (low/med): LOW Date Received: 8/8/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: Filter Paper
 Color After: Colorless Clarity After: _____ Artifacts: SEP 09 2003
 Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA062-0000

Lab Name: Laucks Laboratories Contract: WESTON FHC
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC14
 Matrix (soil/water): FILTER Lab Sample ID: 0308220-01
 Level (low/med): LOW Date Received: 8/14/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLI

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: Filter Paper
 Color After: Colorless Clarity After: _____ Artifacts: SEP 09 2003
 Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA063-0000

Lab Name: Laucks Laboratories Contract: WESTON FHC
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC14
 Matrix (soil/water): FILTER Lab Sample ID: 0308220-02
 Level (low/med): LOW Date Received: 8/14/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FL

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: Filter Paper
 Color After: Colorless Clarity After: _____ Artifacts: SEP 09 2003

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA064-0000

Lab Name: Laucks Laboratories Contract: WESTON FHC
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC14
 Matrix (soil/water): FILTER Lab Sample ID: 0308220-03
 Level (low/med): LOW Date Received: 8/14/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: Filter Paper

Color After: Colorless Clarity After: _____ Artifacts: B

SEP 09 2003

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA065-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC15
 Matrix (soil/water): FILTER Lab Sample ID: 0308344-01
 Level (low/med): LOW Date Received: 8/22/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

B

SEP 09 2003

Color Before: White Clarity Before: _____ Texture: Filter Paper

Color After: Yellow Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA066-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC15
 Matrix (soil/water): FILTER Lab Sample ID: 0308344-02
 Level (low/med): LOW Date Received: 8/22/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FL1

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

B

SEP 09 2003

Color Before: White Clarity Before: _____ Texture: Filter Paper
 Color After: Yellow Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA067-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC15
 Matrix (soil/water): FILTER Lab Sample ID: 0308344-03
 Level (low/med): LOW Date Received: 8/22/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLT

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

B
 SEP 09 2003

Color Before: White Clarity Before: _____ Texture: Filter Paper

Color After: Yellow Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA068-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC16
 Matrix (soil/water): FILTER Lab Sample ID: 0308399-01
 Level (low/med): LOW Date Received: 8/28/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

B
 SEP 09 2003

Color Before: White Clarity Before: _____ Texture: Filter Paper

Color After: Colorless Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA069-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC16
 Matrix (soil/water): FILTER Lab Sample ID: 0308399-02
 Level (low/med): LOW Date Received: 8/28/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FL1

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

B
 SEP 09 2003

Color Before: White Clarity Before: _____ Texture: Filter Paper
 Color After: Colorless Clarity After: _____ Artifacts: _____
 Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA070-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC16
 Matrix (soil/water): FILTER Lab Sample ID: 0308399-03
 Level (low/med): LOW Date Received: 8/28/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

B
 SEP 09 2003

Color Before: White Clarity Before: _____ Texture: Filter Paper

Color After: Colorless Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA071-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC17
 Matrix (soil/water): FILTER Lab Sample ID: 0309051-01
 Level (low/med): LOW Date Received: 9/4/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLJ

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

B

SEP 09 2003

Color Before: White Clarity Before: _____ Texture: Filter Paper
 Color After: Colorless Clarity After: _____ Artifacts: _____
 Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA072-0000

Lab Name: Laucks Laboratories Contract: Frontier Hardchr
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC17
 Matrix (soil/water): FILTER Lab Sample ID: 0309051-02
 Level (low/med): LOW Date Received: 9/4/03
 % Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/FLI

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: Filter Paper
 Color After: Colorless Clarity After: _____ Artifacts: _____
 SEP 09 2003

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FHC-AA-AA073-0000

Name: Laucks Laboratories Contract: Frontier Hardchr

Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: FHC17

Matrix (soil/water): FILTER Lab Sample ID: 0309051-03

Level (low/med): LOW Date Received: 9/4/03

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/ELT

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0096	U		P
7440-41-7	Beryllium	0.0019	U		P
7440-43-9	Cadmium	0.0048	U		P
7440-47-3	Chromium	0.96	U		P
7440-50-8	Copper	0.96	U		P
7439-92-1	Lead	0.0288	U		P
7440-02-0	Nickel	0.0288	U		P
7440-66-6	Zinc	4.8	U		P

Color Before: White Clarity Before: _____ Texture: Filter Paper

Color After: Colorless Clarity After: _____ Artifacts: SEP 09 2003

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APPENDIX G
OFFSITE SOIL SAMPLING DATA

PERIMETER AND
OFFSITE SOIL
SAMPLES 3

Date of Report: September 8, 2003
Samples Submitted: September 4, 2003
Laboratory Reference: 0309-036
Project: 20064.153.100.0620

**TOTAL CHROMIUM
EPA 6010B**

Date Extracted: 9-5-03
Date Analyzed: 9-5-03

Matrix: Soil
Units: mg/kg (ppm)

Client ID	Lab ID	Result	PQL
FHC-SO-SS003-0000	09-036-01	210	0.51
FHC-SO-SS004-0000	09-036-02	24	0.50
FHC-SO-SS005-0000	09-036-03	84	0.51
FHC-SO-SS006-0000	09-036-04	23	0.50
FHC-SO-SS007-0000	09-036-05	26	0.51
FHC-SO-SS008-0000	09-036-06	14	0.51
FHC-SO-SS009-0000	09-036-07	42	0.50
FHC-SO-SS010-0000	09-036-08	7.4	0.51
FHC-SO-SS011-0000	09-036-09	22	0.51
FHC-SO-SS012-0000	09-036-10	21	0.51
FHC-SO-SS013-0000	09-036-11	15	0.51
FHC-SO-SS014-0000	09-036-12	17	0.51
FHC-SO-SS015-0000	09-036-13	32	0.50
FHC-SO-SS016-0000	09-036-14	36	0.51

OnSite Environmental, Inc. 14548 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 8, 2003
 Samples Submitted: September 4, 2003
 Laboratory Reference: 0309-036
 Project: 20064.153.100.0620

**TOTAL CHROMIUM
 EPA 6010B**

Date Extracted: 9-5-03
 Date Analyzed: 9-5-03
 Matrix: Soil
 Units: mg/kg (ppm)

Client ID	Lab ID	Result	PQL
FHC-SO-SS016-1000	09-036-15	45	0.51
FHC-SO-SS017-0000	09-036-16	21	0.51
FHC-SO-SS018-0000	09-036-17	24	0.51
FHC-SO-SS019-0000	09-036-18	46	0.51
FHC-SO-SS020-0000	09-036-19	47	0.52
FHC-SO-SS021-0000	09-036-20	92	0.52
FHC-SO-SS022-0000	09-036-21	110	0.52
FHC-SO-SS023-0000	09-036-22	50	0.52
FHC-SO-SS024-0000	09-036-23	990	0.51
FHC-SO-SS025-0000	09-036-24	51	0.54
FHC-SO-SS026-0000	09-036-25	300	0.53
FHC-SO-SS027-0000	09-036-26	280	0.54
FHC-SO-SS027-1000	09-036-27	300	0.54
FHC-SO-SS028-0000	09-036-28	120	0.52

OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,
 and is intended only for the use of the individual or company to whom it is addressed.

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Manchester Environmental Laboratory

Combined Final Report for Project TEC-410U

Page148

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-SS003

Collected: 9/ 3/03
Matrix: Solid
Sample Number: 03363400
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	8.0	mg/Kg	F

03363400 Reg sample

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-SS004

Collected: 9/ 3/03
Matrix: Solid
Sample Number: 03363401
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF

Manchester Environmental Laboratory

Combined Final Report for Project TEC-410U

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-SS006

Collected: 9/ 3/03
Matrix: Solid
Sample Number: 03363402
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-SS007
Collected: 9/ 3/03
Matrix: Solid
Sample Number: 03363403
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-SS008

Collected: 9/ 3/03
Matrix: Solid
Sample Number: 03363404
Type: Reg sample

		Result	Units	Qlfr	
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-SS009

Collected: 9/ 3/03
Matrix: Solid
Sample Number: 03363405
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	:	Hexavalent Chromium FASP			
Method	:				
Prep Method:					
Analytes	:	*7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-SS010

Collected: 9/ 3/03
Matrix: Solid
Sample Number: 03363406
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-SS011

Collected: 9/ 3/03
Matrix: Solid
Sample Number: 03363407
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter :	Hexavalent Chromium FASP			
Method :				
Prep Method:				
Analytes :	*7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-SS012

Collected: 9/ 3/03
Matrix: Solid
Sample Number: 03363408
Type: Reg sample

		Result	Units	Qlfr	
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-SS013

Collected: 9/ 3/03
Matrix: Solid
Sample Number: 03363409
Type: Reg sample

			Result	Units	Qlfr
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-SS014

Collected: 9/ 3/03
Matrix: Solid
Sample Number: 03363410
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-SS015

Collected: 9/ 3/03
Matrix: Solid
Sample Number: 03363411
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF

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Manchester Environmental Laboratory Combined Final Report for Project TEC-410U

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Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-SS016

Collected: 9/ 3/03
Matrix: Solid
Sample Number: 03363412
Type: Reg sample

		Result	Units	Qlfr	
FASP					
Parameter	: Hexavalent Chromium FASP				
Method	:				
Prep Method:					
Analytes	: *7440473	Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF

Project Code: TEC-410U
Project Name: FRONTIER HARDCHROME
Project Officer: SEAN SHELDRAKE
Account Code: 03T10P50102D1027LA00
Station Description: FHC-SO-SS017

Collected: 9/ 3/03
Matrix: Solid
Sample Number: 03363413
Type: Reg sample

		Result	Units	Qlfr
FASP				
Parameter	: Hexavalent Chromium FASP			
Method	:			
Prep Method:				
Analytes	: *7440473 Chromium, Hexavalent (Cr+6)	5	mg/Kg	UF

APPENDIX H
GROUNDWATER FLOW AND GRADIENT EVALUATION



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 10

1200 Sixth Avenue
Seattle, WA 98101

Reply To
Attn Of: OEA-095

December 22, 2003

MEMORANDUM

SUBJECT: Technical Memorandum - Hydraulic analysis for ground water flow direction and Hydraulic gradient for the Superfund site Frontier Hard Chrome, Vancouver, Washington

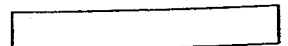
FROM: Bernie Zavala
Hydrogeologist

TO: Sean Sheldrake
Remedial Project Manager

Background

The Frontier Hard Chrome Superfund site located in Vancouver, Washington has undergone a remedial action for the treatment of hexavalent chromium in subsurface soils and for ground water. The treatment technologies which were used consisted of a source removal for the hexavalent chromium from the soil and a permeable treatment wall downgradient of the source removal. The treatment wall or Insitu Redox Manipulation (ISRM) Treatment Wall was design to treat the dissolve chromium in the ground water. The source area was defined by both soil and ground water concentration of hexavalent chromium above the site cleanup standards. The source area soil was treated by augering in the subsurface to depths of 20 to 25 feet while injecting a chemical reductant. The augering took place over the source area with the auger runs overlapping each auger run.

A current ground water flow direction and hydraulic gradient were needed to confirm earlier measurements which were conducted post Remedial Investigation. EPA-Region 10 collected depth to ground water measurements from monitoring wells throughout the site. The hope was to collect ground water depth



measurement monthly from the seasonal high ground water elevations to seasonal low ground water elevations. The EPA collected the ground water measurement starting in March 2003 through September 2003.

Field Work and Data Analysis

EPA-Region 10 wanted to collect depth to ground water measurements from monitoring wells which have been surveyed recently with a known datum. EPA's contractor Weston Solution contracted with Lawson Land Services Inc. to survey existing and new monitoring wells as well as the new injection wells which will be used for this remedial action. This survey resulted in Washington State Plane Coordinates (WSPC) for each well. This survey also included the top of the casing for each well elevation (M.S.L.). The official benchmark for the City of Vancouver, Washington, 1929 N.G.V.D Datum was used. Figure 1.0 shows the location of the Superfund site Frontier Hard Chrome and the monitoring and injection wells.

EPA-Region 10 started collecting depth to water measurements on March 13, 2003. Data collection took place during the following dates: March 13, April 8, May 12, July 15 and September 17, 2003, see Table 1.0-5.0. An attempt was made to contour the water table but the change in water table elevation for March 13, 2003 was only 0.01 of a foot over a distance of 2,670 feet. The data wasn't contoured but Figure 2.0-6.0 shows the ground water elevations at selected monitoring wells during the time of data collection. An additional attempt was made to illustrate graphically the differences in water elevations between the farthest up gradient well vs. farthest down gradient well and the Columbia River, Figure 7.0.

Figure 7.0 includes data from two monitoring wells and the stage height of the Columbia River. The gauging station for the river stage is located on the bridge at I-5 which crosses the Columbia River. This gauging station is maintained by the USGS and real-time data can be obtained through the USGS website (USGS, 2003). This bridge is located about 1.5 miles downstream of Frontier Hard Chrome Superfund site, Figure 8.0. Figure 7.0 illustrates a high water table during the months of March and April and low ground water elevation during the month of September. The difference between the up gradient and down gradient wells were minimal during this time period. The stage height of the Columbia River during most of this time period is lower than the water table height therefore groundwater is flowing to the river or the flow direction of ground water from

Frontier Hard Chrome is in southerly direction as it discharges to the Columbia River.

Conclusions and Recommendations

Ground water locally discharges to the Columbia River as shown on Figure 7.0 and the ground water flow direction follows the local topography or flows to the south southwest. The ground water flow direction is strongly influence by the stage or the height of the Columbia River and ground water flow reversal can and do occur during high stages of the river. The horizontal gradient is shallow as mentioned above, during the month of March the slope of the water table or the elevation difference between the farthest upgradient monitoring well and downgradient monitoring well was only a difference of 0.01 of a foot for a horizontal gradient of 0.0000037 ft/ft. The average horizontal gradient during this period was approximately 0.000028 ft/ft. Clusters of monitoring wells are located throughout the site. These monitoring well clusters have screen intervals at two different depths referred to as "A" (20-30 feet below the ground surface-BGS) and "B" (45-50 feet-BGS). The vertical gradient or the differences in water elevation were small and vertical gradients within this aquifer were considered neutral during this period of time. It should be noted that the Columbia river at this reach is tidally influenced and monitoring wells nearest the river reflects this influence. The tidal fluctuation in ground water is dampened at the Frontier Hard Chrome site.

Using the above information on the average horizontal gradient, 0.000028 ft/ft and site measured hydraulic conductivity by slug tests, grain size analysis and pumping tests (Weston, 2003) 5.0×10^{-1} cm/sec or 1417 ft/day and assuming 25% for effective porosity for the aquifer an average linear ground water velocity can be calculated. The average linear ground water velocity during this time period, under a natural gradient, would be 0.16 feet per day. The results of this hydraulic analysis are similar to one that was performed by EPA's contractor Weston in 1999 (Weston, 1999).

It is recommended that under the long-term ground water quality monitoring that water level or depth to water measurements be collected from selected monitoring wells within a 24-hour period. Also, information on stage height from the

Columbia River be obtained through the USGS web site from the gauging station on the I-5 bridge. This information can be used to confirm the flow direction and horizontal gradient.

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Weston Solution, 2003, Frontier Hard Chrome Institutional Control Plan, Vancouver, WA, draft, Prepared for U.S. EPA Region X, Seattle, WA, December 2003.

TABLES

Table 1.0 - FHC Ground Water Elevations March 13,2003

Table 2.0 - FHC Ground Water Elevations April 8,2003

Table 3.0 - FHC Ground Water Elevations May 12,2003

Table 4.0 - FHC Ground Water Elevations July 15,2003

Table 5.0 - FHC Ground Water Elevations September 17,2003

Table 6.0 - Ground water elevations at Monitoring wells W99-R5A, W85-3A and stage height for the Columbia River, March-September 2003.

Table 1.0
 Frontier Hard Chrome - Ground Water Elevation March 13, 2003

Well No.	Easting	Northing	Date/Time	Casing Elevation	Depth to Water	Water level Elevation
W99-R5A	1089743.59	110929.99	3-13/1247	32.26	24.38	7.88
W99-R5B	1089741.49	110927.24	/1303	32.33	24.45	7.88
W97-18A	1091919.98	112299.62	/1745	25.44	17.50	7.94
W97-18B	1091926.64	112299.13	/1755	25.36	17.65	7.71
B85-4	1091631.89	112324.18	/1434	25.38	17.50	7.88
B87-8	1091529.10	112344.00	/1421	25.95	18.08	7.87
W92-16B	1091445.85	112424.30	/1514	25.51	17.66	7.85
W92-16A	1091446.66	112438.05	/1530	25.62	17.50	8.12
W85-3B	1091514.26	112824.23	/1635	26.77	18.90	7.87
W85-3A	1091509.69	112824.50	/1622	26.40	18.51	7.89
W85-1B	1091623.45	112601.88	/1720	25.28	17.39	7.89
W92-15A	1091498.95	112486.10	/1647	26.03	18.10	7.93
W92-15B	1091514.65	112485.45	/1655	25.89	18.00	7.89

Table 2.0
 Frontier Hard Chrome - Ground Water Elevation April 8, 2003

Well No.	Easting	Northing	Date/Time	Casing Elevation	Depth to Water	Water level Elevation
W99-R5A	1089743.59	110929.99	4-08/1110	32.26	23.85	8.41
W99-R5B	1089741.49	110927.24	/1120	32.33	23.9	8.43
W97-18A	1091919.98	112299.62	/1143	25.44	17.0	8.44
W97-18B	1091926.64	112299.13	/1155	25.36	17.0	8.36
B85-4	1091631.89	112324.18	/1206	25.38	17.0	8.38
B87-8	1091529.10	112344.00	/1219	25.95	17.55	8.40
W92-16B	1091445.85	112424.30	/1244	25.51	17.1	8.41
W92-16A	1091446.66	112438.05	/1253	25.62	17.2	8.42
W85-3B	1091514.26	112824.23	/1321	26.77	18.35	8.42
W85-3A	1091509.69	112824.50	/1312	26.40	18.0	8.40
W85-1B	1091623.45	112601.88	/1431	25.28	16.85	8.43
W92-15A	1091498.95	112486.10	/1456	26.03	17.60	8.43
W92-15B	1091514.65	112485.45	/1458	25.89	17.45	8.44

Table 3.0
 Frontier Hard Chrome - Ground Water Elevation May 12, 2003

Well No.	Easting	Northing	Date/Time	Casing Elevation	Depth to Water	Water level Elevation
W99-R5A	1089743.59	110929.99	5-12/1213	32.26	24.20	8.06
W99-R5B	1089741.49	110927.24	/1221	32.33	24.30	8.03
W97-18A	1091919.98	112299.62	/1248	25.44	17.34	8.10
W97-18B	1091926.64	112299.13	/1250	25.36	17.25	8.11
B85-4	1091631.89	112324.18	/1320	25.38	17.30	8.08
B87-8	1091529.10	112344.00	/1330	25.95	17.80	8.15
W92-16B	1091445.85	112424.30	/1337	25.51	17.35	8.16
W92-16A	1091446.66	112438.05	/1348	25.62	17.45	8.17
W85-3B	1091514.26	112824.23	/1408	26.77	18.55	8.22
W85-3A	1091509.69	112824.50	/1404	26.40	18.15	8.25
MW-5	1091631.93	112464.46	/1445	25.71	17.60	8.11
MW-21	1091617.43	112462.58	/1447	25.77	17.60	8.17
MW-20	1091613.99	112462.35	/1449	25.75	17.20	8.55
MW-22	1091609.46	112460.86	/1451	25.70	17.55	8.15
MW-1	1091607.30	112441.82	/1511	25.69	17.60	8.09
MW-3	1091610.54	112433.24	/1521	25.69	17.55	8.14
MW-4	1091616.25	112424.34	/1518	25.62	17.50	8.12
MW-7	1091620.89	112442.22	/1508	25.66	17.52	8.14
Inj-2	1091608.07	112450.91	/1456	25.79	17.35	8.29
Inj-1	1091616.21	112447.61	/1505	25.94	17.85	8.09
MW-9	1091624.96	112478.11	/1443	26.07	17.95	8.12

Table 4.0
 Frontier Hard Chrome - Ground Water Elevation July 15, 2003

Well No.	Easting	Northing	Date/Time	Casing Elevation	Depth to Water	Water level Elevation
W99-R5A	1089743.59	110929.99	7-15/1434	32.26	26.22	6.04
W99-R5B	1089741.49	110927.24	/1440	32.33	26.29	6.04
W97-18A	1091919.98	112299.62	/1600	25.44	19.45	5.99
W97-18B	1091926.64	112299.13	/1605	25.36	19.20	6.16
B85-4	1091631.89	112324.18	/1615	25.38	19.35	6.03
B87-8	1091529.10	112344.00	/1630	25.95	19.95	6.00
W92-16B	1091445.85	112424.30	/1635	25.51	19.50	6.01
W92-16A	1091446.66	112438.05	/1640	25.62	19.63	5.99
W85-3B	1091514.26	112824.23	/1651	26.77	20.80	5.97
W85-3A	1091509.69	112824.50	/1700	26.40	20.45	5.95

Table 5.0
 Frontier Hard Chrome - Ground Water Elevation September 17, 2003

Well No.	Easting	Northing	Date/Time	Casing Elevation	Depth to Water	Water level Elevation
W99-R5A	1089743.59	110929.99	9-17/1143	32.26	28.53	3.73
W99-R5B	1089741.49	110927.24	/1145	32.33	28.60	3.73
W97-18A	1091919.98	112299.62	/1158	25.44	21.75	3.69
W97-18B	1091926.64	112299.13	/1205	25.36	21.70	3.66
B85-4	1091631.89	112324.18	/1219	25.38	21.70	3.68
B87-8	1091529.10	112344.00	/1226	25.95	22.25	3.70
W92-16B	1091445.85	112424.30	/1310	25.51	21.85	3.66
W92-16A	1091446.66	112438.05	/1312	25.62	21.95	3.67
W85-3B	1091514.26	112824.23	/1338	26.77	23.08	3.69
W85-3A	1091509.69	112824.50	/1343	26.40	22.75	3.65
RA-IW-8A	1091459.63	112477.29	/1320	25.50	21.83	3.67
RA-IW-8B	1091460.17	112480.54	/1326	25.52	21.85	3.67
RA-MW-12A	1091544.46	112479.92	/1424	26.17	22.45	3.72
RA-MW-12B	1091541.13	112480.85	/1425	26.16	22.50	3.66
RA-MW-12C	1091542.35	112484.97	/1428	26.01	22.52	3.49
RA-IW-3A	1091528.87	112484.11	/1430	26.09	22.30	3.79
RA-IW-3B	1091526.11	112484.97	/1431	26.00	22.35	3.65
RA-IW-2A	1091498.21	112482.82	/1436	26.36	22.55	3.81
RA-IW-2B	1091495.75	112484.49	/1438	26.49	22.60	3.89
RA-MW-11A	1091514.95	112482.47	/1433	26.17	22.45	3.72
RA-MW-11B	1091510.42	112479.76	/1434	26.17	22.52	3.65
RA-IW-5A	1091580.90	112452.33	/1547	25.68	22.05	3.63
RA-IW-5B	1091578.33	112452.78	/1549	25.72	22.10	3.62

Table 5.0 (continued)

Frontier Hard Chrome - Ground Water Elevation September 17, 2003

Well No.	Easting	Northing	Date/Time	Casing Elevation	Depth to Water	Water level Elevation
RA-MW-15B	1091557.10	112413.29	/1544	25.79	22.15	3.64
RA-MW-15A	1091561.36	112412.99	/1546	25.76	22.10	3.66
RA-MW-13A	1091594.97	112449.48	9-17/1550	25.69	22.05	3.64
RA-MW-13B	1091592.13	112448.39	/1551	25.61	22.00	3.61
RA-MW-13C	1091595.78	112453.33	/1553	25.55	21.90	3.65
RA-MW-17A	1091624.86	112478.04	/1646	25.96	22.30	3.66
MW-21	1091617.43	112462.58	/1647	25.77	22.12	3.65
MW-20	1091613.99	112462.35	/1648	25.75	22.10	3.65
Inj-2	1091608.07	112450.91	/1649	25.79	22.13	3.66
Inj-1	1091616.21	112447.61	/1650	25.94	22.30	3.64
MW-7	1091620.89	112442.22	/1651	25.66	22.00	3.66
MW-3	1091610.54	112433.24	/1652	25.69	22.08	3.61
MW-1	1091607.30	112441.82	/1654	25.69	22.05	3.64
MW-4	1091616.25	112424.34	/1655	25.62	21.95	3.67
RA-MW-16B	1091626.50	112414.70	/1656	25.45	21.80	3.65
RA-MW-16A	1091630.20	112413.87	/1658	25.14	21.50	3.64
RA-IW-6A	1091639.46	112449.10	/1659	25.22	21.55	3.67
RA-IW-6B	1091637.59	112451.53	/1700	25.32	21.70	3.62
RA-MW-14A	1091654.85	112447.10	/1702	25.06	21.40	3.66
RA-MW-14B	1091652.41	112444.72	/1703	25.00	21.35	3.65
RA-IW-7B	1091667.86	112449.32	/1705	24.72	21.10	3.62
RA-IW-7A	1091670.20	112447.22	/1707	24.75	21.10	3.65
RA-IW-4B	1091551.73	112467.82	/1542		22.32	
RA-IW-4A	1091554.62	112467.78	9-17/1540		21.70	

Table 6.0

Ground Water Elevations at Monitoring Wells W99-R5A, W85-3A and Stage height for the Columbia River, March-September 2003.

Station No.	Date	Water Elevation (MSL- feet)
W85-3A	3/13/2003	7.89
	4/8/2003	8.4
	5/12/2003	8.25
	7/15/2003	5.95
	9/17/2003	3.65
W99-R5A	3/13/2003	7.88
	4/8/2003	8.41
	5/12/2003	8.06
	7/15/2003	6.04
	9/17/2003	3.73
Columbia River at Vancouver, WA USGS14144700	3/13/2003	8.24
	4/8/2003	8.39
	5/12/2003	6.19
	7/15/2003	5.47
	9/17/2003	3.72

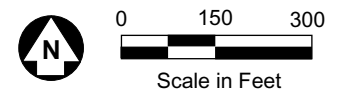
FIGURES

- Figure 1.0 Site Map of Frontier Hard Chrome and Monitoring Well locations
- Figure 2.0 Ground Water Elevations for Selected Monitoring Wells, March 13, 2003
- Figure 3.0 Ground Water Elevations for Selected Monitoring Wells, April 8, 2003
- Figure 4.0 Ground Water Elevations for Selected Monitoring Wells, May 12, 2003
- Figure 5.0 Ground Water Elevations for Selected Monitoring Wells, July 15, 2003
- Figure 6.0 Ground Water Elevations for Selected Monitoring Wells, September 17, 2003
- Figure 7.0 Ground-water elevations FHC upgradient (W85-3A) VS downgradient (W99-R5A) & Columbia River - March-September 2003.
- Figure 8.0 Frontier Hard Chrome Vancouver, Washington Vicinity Map (location of gauging station on I-5)



LEGEND

- W85-5B Monitoring Well Location and ID
- Fence



**Frontier Hard Chrome
Vancouver, Washington
Monitoring Well Locations**

Figure
1



Figure 2.0

W85-3A
⊕7.89

W92-15A
⊕7.93

B87-8
⊕7.87

B85-4
⊕7.88

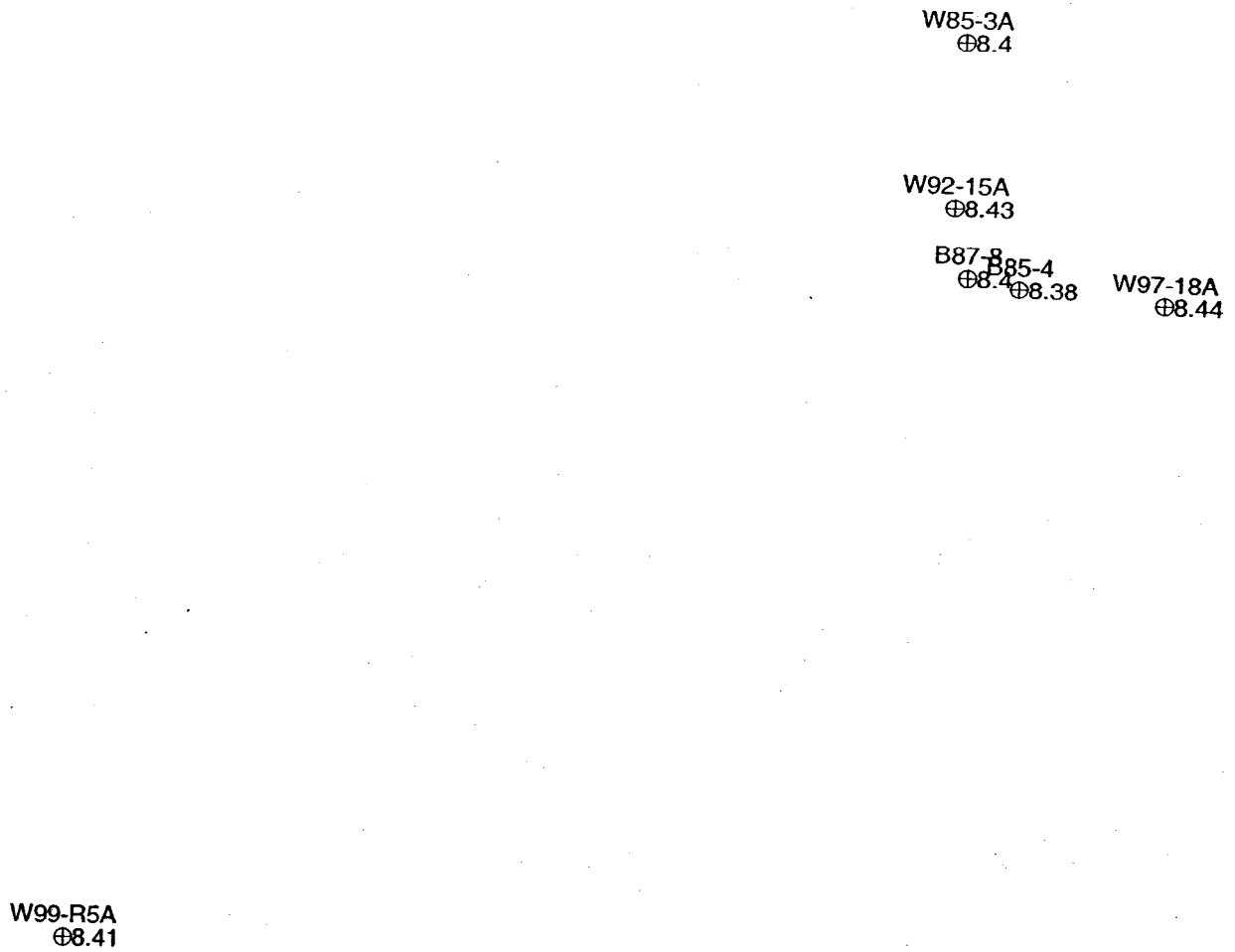
W97-18A
⊕7.94

W99-R5A
⊕7.88

Ground Water Elevations for Selected Monitoring Wells at Frontier Hard Chrome, March 13, 2003

(North is the top of the page)

Figure 3.0



Ground Water Elevation for Selected Monitoring Wells at
Frontier Hard Chrome, April 8, 2003

(North is the top of the page)

Figure 4.0

W85-3A
⊕8.25

W92-16A
⊕8.17

B87-8

⊕8.15

B85-4

⊕8.08

W97-18A
⊕8.1

W99-R5A
⊕8.06

Ground Water Elevation for Selected Monitoring Wells at Frontier Hard Chrome, May 12, 2003

(North is the top of the page)

Figure 5.0

W85-3A
⊕5.95

W92-16A
⊕5.99

B87-B
⊕6

B85-4
⊕6.03

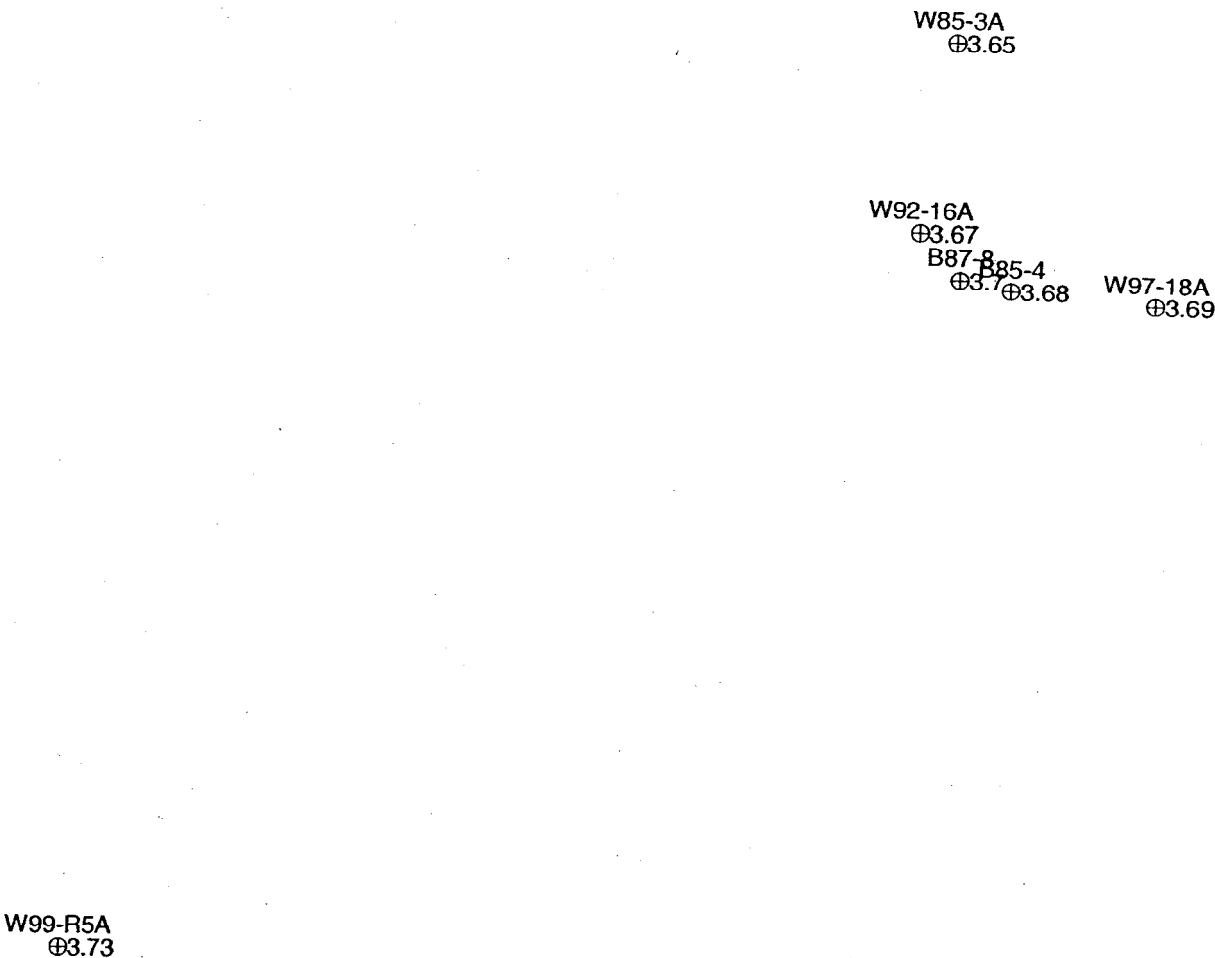
W97-18A
⊕5.99

W99-R5A
⊕6.04

Ground Water Elevation for Selected Monitoring Wells at
Frontier Hard Chrome, July 15, 2003

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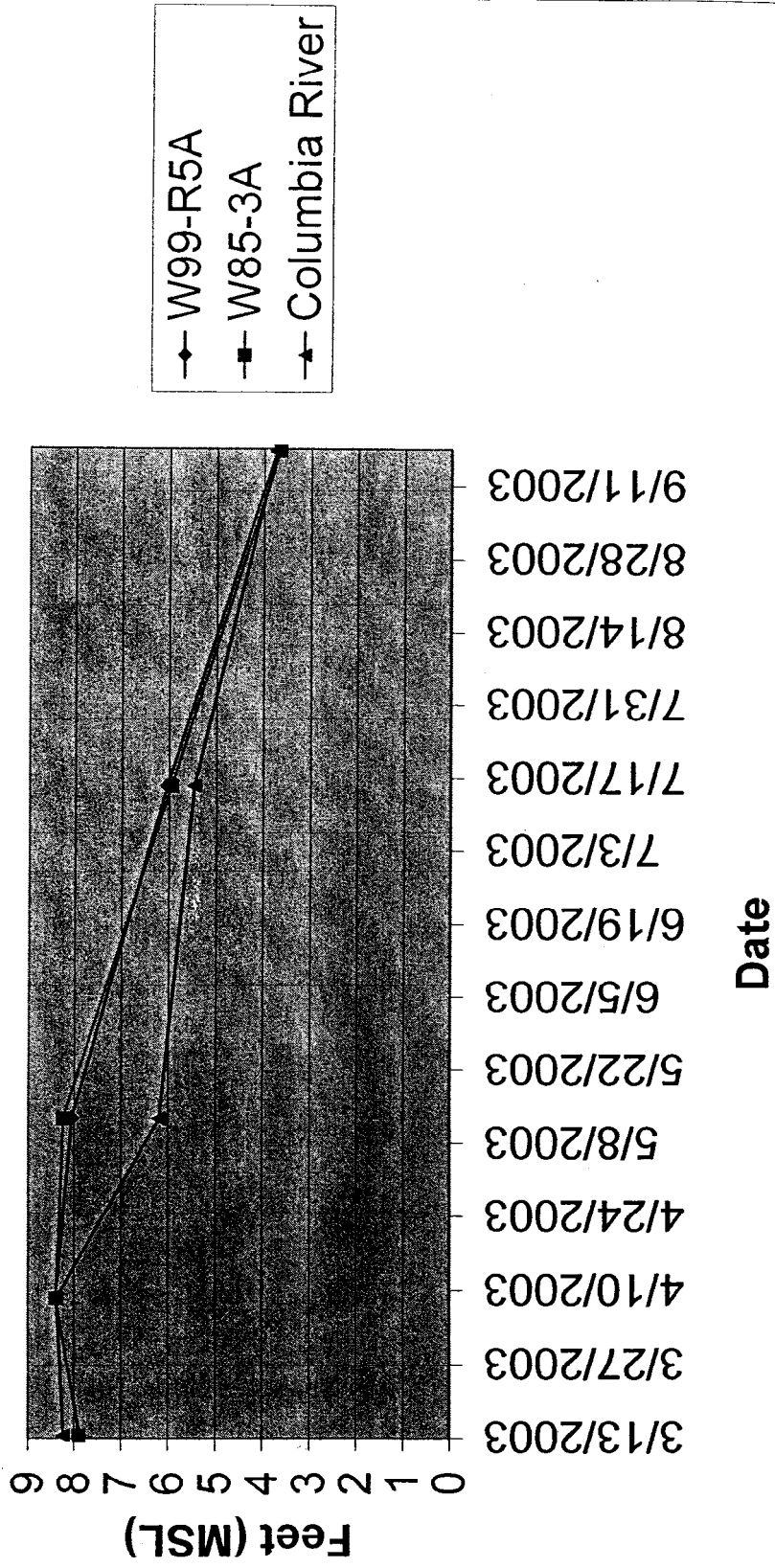
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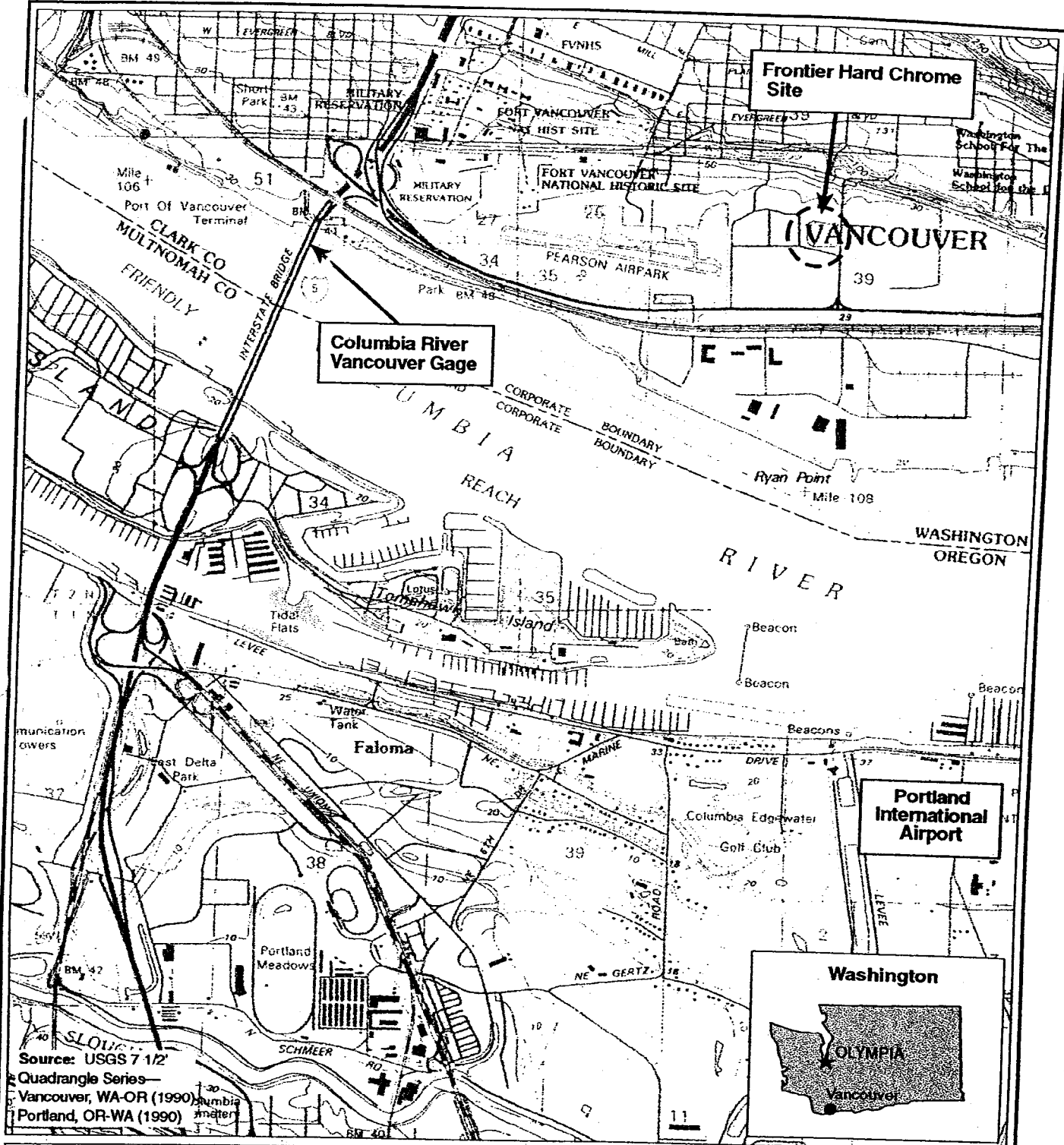


Ground Water Elevations for selected Monitoring Wells at
Frontier Hard Chrome, September 17, 2003

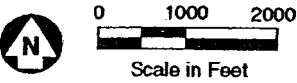
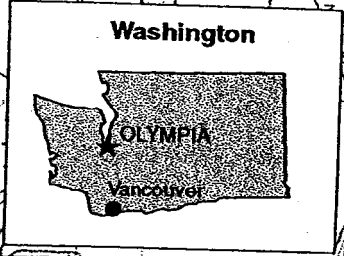
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**Figure 7.0 Ground-water elevations FHC
upgradient (W85-3A) VS downgradient (W99-R5A)
& Columbia River - March-September 2003**





Source: USGS 7 1/2
 Quadrangle Series—
 Vancouver, WA-OR (1990)
 Portland, OR-WA (1990)



Frontier Hard Chrome Vancouver, Washington Vicinity Map



FIGURE
8