0088449

FIELD SCREENING
FINAL DATA DELIVERABLE COVER SHEET

Date: Monday, April 17, 2006

Sample Authorization Form (SAF) Number: F05-016

SDG Number (assigned by Sample Management): FP0291

Attachments (check all that apply or N/A):

RECEIVED
JUN 0 3 2010
EDMC

X	Test Results
N/A	Narrative Summary
X	Chain of Custody(s)
X	Logbook Pages
N/A	Anomaly Report

Total number of pages (including cover sheet): 106

Comments:
KR-4 Treatability Test Phase 1 - [Field Parameters (pH, Temperature, Conductivity, Oxidation-Reduction Potential, Dissolved Oxygen), Hexavalent Chromium, Nitrate/Nitrite, Sulfate, and Total/Ferrous Iron]

THESE TESTS WERE CONDUCTED USING QC-1

D. J. Alexander
Analyst Signature

APR 1 7 2006
Date

Reviewer's Signature

4/23/08
Date

Distribution: CPP Sample Management A0-21
Project (Specify)

Requires distribution to listed project personnel by Sample Management (check if applicable)

00000001

On-Site Measurement of Cr +6

100-KR-4 Treatability Test - Phase 1

SAF: F05-016

Procedure: GRP-EE-05-1.17

Logbook: HNF-N-296 4 Page 70

6/27/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1DDM0	F05-016	6/27/2005	15:16	DJA	Water	6/28/2005	10:15	DJA	0.070

Logbook: HNF-N-296 4 Page 74

6/30/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1DDR4	F05-016	6/30/2005	11:19	DJA	Water	6/30/2005	16:10	DJA	0.065

Logbook: HNF-N-296 4 Page 80

7/5/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1DF00	F05-016	7/5/2005	11:32	DJA	Water	7/5/2005	14:18	DJA	0.022

Logbook: HNF-N-296 4 Page 84

7/6/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1DF32	F05-016	7/6/2005	10:53	DJA	Water	7/6/2005	12:57	DJA	0.034

Logbook: HNF-N-296 4 Page 89

7/8/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1DF33	F05-016	7/8/2005	12:10	DJA	Water	7/8/2005	13:35	DJA	0.018

Logbook: HNF-N-296 4 Page 92

7/12/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1DFH0	F05-016	7/12/2005	15:05	DJA	Water	7/12/2005	16:40	DJA	0.023

Logbook: HNF-N-296 4 Page 96

7/14/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1DFK3	F05-016	7/14/2005	10:17	DJA	Water	7/14/2005	12:10	DJA	<0.005

Logbook: HNF-N-296 4 Page 100

7/18/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1DFK5	F05-016	7/18/2005	11:18	DJA	Water	7/18/2005	12:45	DJA	<0.005
199-K-126	B1DFK7	F05-016	7/18/2005	11:20	DJA	Water	7/18/2005	12:45	DJA	0.005

Logbook: HNF-N-296 4 Page 108

7/20/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1DFK8	F05-016	7/20/2005	11:45	DJA	Water	7/20/2005	14:47	DJA	0.009
199-K-126	B1DFK9	F05-016	7/20/2005	11:48	DJA	Water	7/20/2005	14:47	DJA	0.011

Logbook: HNF-N-296 4 Page 112

7/22/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1DFL0	F05-016	7/22/2005	10:35	DJA	Water	7/22/2005	15:10	DJA	<0.005
199-K-126	B1DFL1	F05-016	7/22/2005	10:38	DJA	Water	7/22/2005	15:10	DJA	<0.005

00000002

On-Site Measurement of Cr +6

100-KR-4 Treatability Test - Phase 1

SAF: F05-016

Procedure: GRP-EE-05-1.17

Logbook: HNF-N-296 4 Page 118

7/25/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1DJY4	F05-016	7/25/2005	9:06	DJA	Water	7/25/2005	10:55	DJA	0.009

Logbook: HNF-N-296 4 Page 123

7/27/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1DJY5	F05-016	7/27/2005	8:12	DJA	Water	7/27/2005	11:00	DJA	<0.005

Logbook: HNF-N-296 4 Page 127

7/28/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1DJY6	F05-016	7/28/2005	9:20	DJA	Water	7/28/2005	15:50	DJA	<0.005

Logbook: HNF-N-296 4 Page 132

8/2/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1BJY7	F05-016	8/2/2005	10:43	DJA	Water	8/2/2005	14:15	DJA	0.005
199-K-126	B1DJY8	F05-016	8/2/2005	10:50	DJA	Water	8/2/2005	14:15	DJA	0.049
199-K-126	B1DJY9	F05-016	8/2/2005	11:15	DJA	Water	8/2/2005	14;15	DJA	<0.005

Logbook: HNF-N-296 4 Page 136

8/3/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1DLH4	F05-016	8/3/2005	11:25	DJA	Water	8/3/2005	16:11	DJA	<0.005

Logbook: HNF-N-296 4 Page 140

8/5/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1DLH5	F05-016	8/5/2005	10:02	DJA	Water	8/5/2005	11:32	DJA	<0.005

Logbook: HNF-N-296 4 Page 144

8/8/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1DLH6	F05-016	8/8/2005	11:23	DJA	Water	8/8/2005	13:05	DJA	<0.005

Logbook: HNF-N-296 5 Page 2

8/10/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1DMD9	F05-016	8/10/2005	9:29	DJA	Water	8/10/2005	12:55	DJA	<0.005
199-K-126	B1DMF0	F05-016	8/10/2005	9:37	DJA	Water	8/10/2005	12:55	DJA	<0.005
199-K-126	B1DMF1	F05-016	8/10/2005	10:37	DJA	Water	8/10/2005	12:55	DJA	<0.005

Logbook: HNF-N-296 5 Page 9

8/17/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Cr +6 (mg/L)
199-K-126	B1BNP9	F05-016	8/17/2005	9:21	DJA	Water	8/17/2005	16:19	DJA	<0.005
199-K-126	B1DNR0	F05-016	8/17/2005	9:29	DJA	Water	8/17/2005	16:19	DJA	<0.005
199-K-126	B1DNR1	F05-016	8/17/2005	10:08	DJA	Water	8/17/2005	16:19	DJA	<0.005

Analyst: DJ Alexander Date: 4/14/2006

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00000003

On-Site Measurement of Nitrate and Nitrite

100-KR-4 Treatability Test - Phase 1

SAF: F05-016

Procedure: HACH DR2010 Manual

Logbook: HNF-N-296 4 Page 72

6/29/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DDM0	F05-016	6/27/2005	15:16	DJA	Water	6/29/2005	12:45	DJA	4.4	0.006

Logbook: HNF-N-296 4 Page 75

6/30/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DDR4	F05-016	6/30/2005	11:19	DJA	Water	6/30/2005	18:30	DJA	1.6	0.006

Logbook: HNF-N-296 4 Page 81

7/5/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DF00	F05-016	7/5/2005	11:32	DJA	Water	7/5/2005	15:00	DJA	ND	0.028

Logbook: HNF-N-296 4 Page 85

7/6/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DF32	F05-016	7/6/2005	10:53	DJA	Water	7/8/2005	13:20	DJA	ND	0.058

Logbook: HNF-N-296 4 Page 90

7/8/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DF33	F05-016	7/8/2005	12:10	DJA	Water	7/8/2005	14:55	DJA	1.1	0.071

Logbook: HNF-N-296 4 Page 93

7/12/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DFH0	F05-016	7/12/2005	15:05	DJA	Water	7/12/2005	17:20	DJA	ND	0.039

Logbook: HNF-N-296 4 Page 97

7/14/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DFK3	F05-016	7/14/2005	10:17	DJA	Water	7/14/2005	12:45	DJA	ND	0.084

Logbook: HNF-N-296 4 Page 101

7/18/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DFK5**	F05-016	7/18/2005	11:18	DJA	Water	7/18/2005	13:20	DJA	1.3	0.868
199-K-126	B1DFK7**	F05-016	7/18/2005	11:20	DJA	Water	7/18/2005	13:20	DJA	1.4	1.128

Logbook: HNF-N-296 4 Page 109

7/20/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DFK8	F05-016	7/20/2005	11:45	DJA	Water	7/20/2005	15:45	DJA	ND	0.163
199-K-126	B1DFK9	F05-016	7/20/2005	11:48	DJA	Water	7/20/2005	15:45	DJA	ND	0.154

On-Site Measurement of Nitrate and Nitrite

100-KR-4 Treatability Test - Phase 1

SAF: F05-016

Procedure: HACH DR2010 Manual

Logbook: HNF-N-296 4 Page 113

7/22/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DFL0*	F05-016	7/22/2005	10:35	DJA	Water	7/22/2005	15:55	DJA	ND	0.290
199-K-126	B1DFL1*	F05-016	7/22/2005	10:38	DJA	Water	7/22/2005	15:55	DJA	ND	0.290

Logbook: HNF-N-296 4 Page 119

7/25/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DJY4**	F05-016	7/25/2005	9:06	DJA	Water	7/25/2005	11:15	DJA	0.5	0.640

Logbook: HNF-N-296 4 Page 124

7/28/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DJY5*	F05-016	7/27/2005	8:12	DJA	Water	7/28/2005	14:55	DJA	ND	0.288

Logbook: HNF-N-296 4 Page 128

7/28/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DJY6	F05-016	7/28/2005	9:20	DJA	Water	7/28/2005	14:55	DJA	ND	0.174

Logbook: HNF-N-296 4 Page 133

8/2/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DJY7*	F05-016	8/2/2005	10:43	DJA	Water	8/2/2005	14:30	DJA	1	1.000
199-K-126	B1DJY8	F05-016	8/2/2005	10:50	DJA	Water	8/2/2005	14:30	DJA	ND	0.231
199-K-126	B1DJY9	F05-016	8/2/2005	11:15	DJA	Water	8/2/2005	14:30	DJA	ND	0.286

Logbook: HNF-N-296 4 Page 137

8/3/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DLH4*	F05-016	8/3/2005	11:25	DJA	Water	8/3/2005	15:45	DJA	ND	0.330

Logbook: HNF-N-296 4 Page 141

8/5/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DLH5*	F05-016	8/5/2005	10:02	DJA	Water	8/5/2005	11:20	DJA	ND	0.260

Logbook: HNF-N-296 4 Page 145

8/8/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DLH6	F05-016	8/8/2005	11:23	DJA	Water	8/8/2005	12:35	DJA	ND	0.249

Logbook: HNF-N-296 5 Page 3

8/10/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DMD9**	F05-016	8/10/2005	9:29	DJA	Water	8/10/2005	12:35	DJA	ND	0.720
199-K-126	B1DMF0	F05-016	8/10/2005	9:37	DJA	Water	8/10/2005	12:35	DJA	ND	0.265
199-K-126	B1DMF1	F05-016	8/10/2005	10:37	DJA	Water	8/10/2005	12:35	DJA	ND	0.274

On-Site Measurement of Nitrate and Nitrite

100-KR-4 Treatability Test - Phase 1

SAF: F05-016

Procedure: HACH DR2010 Manual

Logbook: HNF-N-296 5 Page 10

8/17/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	NO_3^{2-} (mg/L)	NO_3^- (mg/L)
199-K-126	B1DNP9*	F05-016	8/17/2005	9:21	DJA	Water	8/17/2005	17:05	DJA	1	0.352
199-K-126	B1DNR0	F05-016	8/17/2005	9:29	DJA	Water	8/17/2005	17:05	DJA	ND	0.271
199-K-126	B1DNR1*	F05-016	8/17/2005	10:08	DJA	Water	8/17/2005	17:05	DJA	ND	0.296

*2X Dilution
**4X Dilution
ND = Not Detected

Analyst: DJ Alexander Date: 4/14/2006

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On-Site Measurement of SO_4

100-KR-4 Treatability Test - Phase 1

SAF: F05-016

Procedure: GRP-EE-05-1.18

Logbook: HNF-N-296 4 Page 98

7/14/2005

Location	Heis Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	SO_4 (mg/L)
199-K-126	B1DFK3	F05-016	7/14/2005	10:17	DJA	Water	7/14/2005	13:00	DJA	63

Logbook: HNF-N-296 4 Page 102

7/18/2005

Location	Heis Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	SO_4 (mg/L)
199-K-126	B1DFK5*	F05-016	7/18/2005	11:18	DJA	Water	7/18/2005	14:25	DJA	70
199-K-126	B1DFK7*	F05-016	7/18/2005	11:20	DJA	Water	7/18/2005	14:25	DJA	72

Logbook: HNF-N-296 4 Page 110

7/20/2005

Location	Heis Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	SO_4 (mg/L)
199-K-126	B1DFK8	F05-016	7/20/2005	11:45	DJA	Water	7/20/2005	15:45	DJA	63
199-K-126	B1DFK9	F05-016	7/20/2005	11:48	DJA	Water	7/20/2005	15:45	DJA	60

Logbook: HNF-N-296 4 Page 114

7/22/2005

Location	Heis Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	SO_4 (mg/L)
199-K-126	B1DFL0	F05-016	7/22/2005	10:35	DJA	Water	7/22/2005	16:15	DJA	63
199-K-126	B1DFL1	F05-016	7/22/2005	10:38	DJA	Water	7/22/2005	16:15	DJA	61

Logbook: HNF-N-296 4 Page 120

7/25/2005

Location	Heis Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	SO_4 (mg/L)
199-K-126	B1DJY4**	F05-016	7/25/2005	9:06	DJA	Water	7/25/2005	11:31	DJA	78

Logbook: HNF-N-296 4 Page 125

7/28/2005

Location	Heis Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	SO_4 (mg/L)
199-K-126	B1DJY5	F05-016	7/27/2005	8:12	DJA	Water	7/28/2005	15:20	DJA	67

Logbook: HNF-N-296 4 Page 129

7/28/2005

Location	Heis Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	SO_4 (mg/L)
199-K-126	B1DJY6*	F05-016	7/28/2005	9:20	DJA	Water	7/28/2005	15:20	DJA	74

Logbook: HNF-N-296 4 Page 134

8/2/2005

Location	Heis Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	SO_4 (mg/L)
199-K-126	B1DJY7*	F05-016	8/2/2005	10:43	DJA	Water	8/2/2005	15:30	DJA	110
199-K-126	B1DJY8	F05-016	8/2/2005	10:50	DJA	Water	8/2/2005	15:30	DJA	46
199-K-126	B1DJY9	F05-016	8/2/2005	11:15	DJA	Water	8/2/2005	15:30	DJA	67

Logbook: HNF-N-296 4 Page 138

8/3/2005

Location	Heis Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	SO_4 (mg/L)
199-K-126	B1DLH4*	F05-016	8/3/2005	11:25	DJA	Water	8/3/2005	16:14	DJA	80

00000007

On-Site Measurement of SO_4

100-KR-4 Treatability Test - Phase 1

SAF: F05-016

Procedure: GRP-EE-05-1.18

Logbook: HNF-N-296 4 Page 142

8/5/2005

Location	Heis Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	SO_4 (mg/L)
199-K-126	B1DLH5*	F05-016	8/5/2005	10:02	DJA	Water	8/5/2005	11:46	DJA	66

Logbook: HNF-N-296 4 Page 146

8/8/2005

Location	Heis Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	SO_4 (mg/L)
199-K-126	B1DLH6*	F05-016	8/8/2005	11:23	DJA	Water	8/8/2005	12:57	DJA	66

Logbook: HNF-N-296 5 Page 4

8/10/2005

Location	Heis Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	SO_4 (mg/L)
199-K-126	B1DMD9*	F05-016	8/10/2005	9:29	DJA	Water	8/10/2005	12:35	DJA	56
199-K-126	B1DMF0*	F05-016	8/10/2005	9:37	DJA	Water	8/10/2005	12:35	DJA	84
199-K-126	B1DMF1*	F05-016	8/10/2005	10:37	DJA	Water	8/10/2005	12:35	DJA	68

Logbook: HNF-N-296 5 Page 11

8/17/2005

Location	Heis Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	SO_4 (mg/L)
199-K-126	B1DNP9*	F05-016	8/17/2005	9:21	DJA	Water	8/17/2005	16:43	DJA	72
199-K-126	B1DNR0*	F05-016	8/17/2005	9:29	DJA	Water	8/17/2005	16:43	DJA	82
199-K-126	B1DNR1*	F05-016	8/17/2005	10:08	DJA	Water	8/17/2005	16:43	DJA	74

* 2X Dilution

Analyst: DJ Alexander Date: 4/14/2006

\\ap014\afsfieldsc\cr6data\Ktreatability Test\kttso4_phase1.xls

00000008

On-Site Measurement of Ferrous and Total Iron

100-KR-4 Treatability Test - Phase 1

SAF: F05-016

Procedure: HACH DR2010 Manual

Logbook: HNF-N-296 5 Page 5

8/10/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Fe+2 (mg/L)	Fe-Total (mg/L)
199-K-126	B1DMD9	F05-016	8/10/2005	9:29	DJA	Water	8/10/2005	13:25	DJA	ND	0.59
199-K-126	B1DMF0	F05-016	8/10/2005	9:37	DJA	Water	8/10/2005	13:25	DJA	0.02	0.28
199-K-126	B1DMF1	F05-016	8/10/2005	10:37	DJA	Water	8/10/2005	13;25	DJA	0.02	0.34

Logbook: HNF-N-296 5 Page 12

8/17/2005

Location	HEIS Number	SAF	Date Collected	Time Collected	Sampler (Initials)	Sample Media	Date Analyzed	Time Analyzed	Analyst (Initials)	Fe+2 (mg/L)	Fe-Total (mg/L)
199-K-126	B1DNP9	F05-016	8/17/2005	9:21	DJA	Water	8/17/2005	18:48	DJA	0.01	0.02
199-K-126	B1DNR0	F05-016	8/17/2005	9:29	DJA	Water	8/17/2005	18:48	DJA	ND	ND
199-K-126	B1DNR1	F05-016	8/17/2005	10:08	DJA	Water	8/17/2005	18:48	DJA	0.06	0.01

ND = Not Detected

Analyst: DJ Alexander Date: 4/14/2006

\\ap014\afsfieldsc\cr6data\Ktreatability Test\kttFe_phase1.xls.

00000009

On-Site Measurement of Field Parameters

100-KR-4 Treatability Test - Phase 1

SAF: F05-016

Procedure: HACH and Orion Instrument Manuals

Logbook: HNF-N-296 4 Page 69

6/27/2006

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DDM0	6/27/2005	15:16	6/27/2005	15:20	DJA	7.38	19.7	289	250.3	7.7

Logbook: HNF-N-296 4 Page 73

6/27/2006

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DDR4	6/30/2005	11:19	6/27/2005	11:25	DJA	7.92	22.4	349	169.9	7.3

Logbook: HNF-N-296 4 Page 79

7/5/2005

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DF00	7/5/2005	11:32	7/5/2005	11:37	DJA	8.19	22.700	471	-96.4	6.4
Injection feed	B1DF02	7/5/2005	12:10	7/5/2005	12:15	DJA	10.43	25.8	1229	-500.2	0.2

Logbook: HNF-N-296 4 Page 83

7/6/2005

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DF32	7/6/2005	10:53	7/6/2005	10:58	DJA	8.27	22.5	450	-105.2	6.7

Logbook: HNF-N-296 4 Page 88

7/8/2005

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DF33	7/8/2005	12:10	7/8/2005	12:15	DJA	8.02	21.5	446	73.3	5.2

Logbook: HNF-N-296 4 Page 91

7/12/2005

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DFH0	15:05	12:10	7/12/2005	15:10	DJA	8.09	22.4	478	-130.3	6.3

Logbook: HNF-N-296 4 Page 95

7/14/2005

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DFK3	7/14/2005	10:17	7/14/2005	10:28	DJA	8.49	21.7	538	-190.5	3.4
Injection feed	B1DFK4	7/14/2005	10:22	7/14/2005	10:35	DJA	10.71	22.8	16830	-504.0	0.2

Logbook: HNF-N-296 4 Page 99

7/18/2005

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DFK5	7/18/2005	11:18	7/18/2005	11:25	DJA	7.28	23.2	422	-60.2	1.8
199-K-126	B1DFK7	7/18/2005	11:20	7/18/2005	11:30	DJA	8.00	23.6	420	-77.8	3.1

Logbook: HNF-N-296 4 Page 107

7/20/2005

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DFK8	7/20/2005	11:45	7/20/2005	11:53	DJA	7.86	23.4	519	-194.3	5.4
199-K-126	B1DFK9	7/20/2005	11:48	7/20/2005	11:58	DJA	7.93	23.0	494	-193.9	5.5

Logbook: HNF-N-296 4 Page 111

7/22/2005

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DFL0	7/22/2005	10:35	7/22/2005	10:42	DJA	9.01	22.0	575	-309.5	2.3
199-K-126	B1DFL1	7/22/2005	10:38	7/22/2005	10:48	DJA	8.99	21.6	566	-307.0	2.5

0000010

On-Site Measurement of Field Parameters

100-KR-4 Treatability Test - Phase 1

SAF: F05-016

Procedure: HACH and Orion Instrument Manuals

Logbook: HNF-N-296 4 Page 117

7/25/2005

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DJY4	7/25/2005	9:06	7/25/2005	9:10	DJA	8.40	21.0	482	-245.8	3.3

Logbook: HNF-N-296 4 Page 122

7/27/2005

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DJY5	7/27/2005	8:12	7/27/2005	8:15	DJA	8.65	22.3	636	-344.1	1.3

Logbook: HNF-N-296 4 Page 126

7/28/2005

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DJY6	7/28/2005	9:20	7/28/2005	9:25	DJA	8.93	23.9	654	-380.6	0.7

Logbook: HNF-N-296 4 Page 131

8/2/2005

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DJY7	8/2/2005	10:43	8/2/2005	10:45	DJA	7.39	20.8	491	-249.5	3.9
199-K-126	B1DJY8	8/2/2005	10:50	8/2/2005	10:53	DJA	8.73	20.1	487	-278.2	3.6
199-K-126	B1DJY9	8/2/2005	11:15	8/2/2005	11:18	DJA	8.76	20.6	533	-288.8	3.5

Logbook: HNF-N-296 4 Page 135

8/3/2005

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DLH4	8/3/2005	11:25	8/3/2005	11:28	DJA	8.98	21.0	583	-336.3	2.2

Logbook: HNF-N-296 4 Page 139

8/5/2005

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DLH5	8/5/2005	10:02	8/5/2005	10:05	DJA	9.15	21.2	586	-401.9	0.4

Logbook: HNF-N-296 4 Page 143

8/8/2005

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DLH6	8/8/2005	11:23	8/8/2005	11:25	DJA	8.90	21.8	528	-289.2	2.0

Logbook: HNF-N-296 5 Page 1

8/10/2005

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DMD9	8/10/2005	9:29	8/10/2005	9:43	DJA	8.69	21.0	554	-329.8	1.0
199-K-126	B1DMF0	8/10/2005	9:37	8/10/2005	9:40	DJA	8.76	21.0	562	-304.9	2.9
199-K-126	B1DMF1	8/10/2005	10:37	8/10/2005	10:40	DJA	8.93	21.9	566	-310.6	1.8

Logbook: HNF-N-296 5 Page 8

8/17/2005

Location	HEIS Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Analyst (Initials)	pH (no units)	Temp. (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	B1DNP9	8/17/2005	9:21	8/17/2005	9:25	DJA	8.43	19.5	550	-89.9	3.8
199-K-126	B1DNR0	8/17/2005	9:29	8/17/2005	9:33	DJA	8.60	19.7	553	-259.0	4.6
199-K-126	B1DNR1	8/17/2005	10:08	8/17/2005	10:12	DJA	8.78	19.6	555	-273.9	4.1

Analyst: DJ Alexander Date: 4/14/2006

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100-KR4 Treatability Test
Zero Sample

DJAlexander/GS
6-28-05

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100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings
6-27-05

Logbook No. HNF-N-296-4

1130 Initial, unable to sample 1445 second try	D. J. Alexander arrived at the treatability test site at 199-K-126 to calibrate pH, conductivity, and turbidity meters to support 100-KR-4 Groundwater Treatability Test sampling (SAF F05-016).
1450	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 036307-24, expires 12/05. Meter reading 7.112. Second calibration point with pH 10.00 buffer, lot number 040904-24, expires 04/06. Meter reading 10.026. Calibration slope 102.5.
1452	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1415 μS/cm). Lot number: 3330, expires 02/04/2006. Adjusted meter to 1415 μS/cm. Cal cell = 0.468.
1454	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235. Instrument passed self-test check - Ready for use - Yes.
1457	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 231.0 mV at 25°C. Actual reading: 231.3 mV at 25°C.

Sample Location	Valve Number	Time	Date	FS HEIS Number	WSCF, Lionville	pH	Temperature (°C)	Conductivity (μS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well	15:16	06/27/2005	B1DDM0	B1DDM1	7.378	19.7	289 (20.0°C)	250.3 (25°C)	7.7

Sample Bottle Lot Numbers: 500 mL Poly - 007743; 250-L Poly - L/2 3223020; 125-mL P - L/4 4044040; 250-mL aG - F 2241080; 60 mL aG - G/2 3275030.

WSCF Analysis:		
Chromium Hex - 7196	Bottle Size	500 mL Poly
	Preservative	Cool 4°C
ICP/MS - 200.8 (TAL) ICP/MS 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly
	Preservative	HN03 to pH <2
TOC - 9060	Bottle Size	250 mL aG
	Preservative	HN03 to pH <2

IC Anions - 300.0	Bottle Size	120 mL P	
	Preservative	None	
Alkalinity - 310.1	Bottle Size	120 mL P	
	Preservative	None	

Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
		Preservative	Cool 4°C
	Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None
Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
		Preservative	H2SO4 to pH <2
	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	Cool 4°C

DJ Alexander
6-28-05

DJ. ALEXANDER
DJAlexander 6-28-05

Reviewed
By DAVID TODAR 7-20-05

0000012

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100-KR4 Treatability Test
Zero Sample
HNF-N-296 4

DJAlexander/
GS/DJAlexander

Hexavalent Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 06/28/05

DJAlexander 6-28-05

1000	D. J. Alexander and M. R. Adams on-site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium in soil using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
1005	Prepared 0.10 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1015	Analyzed sample.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (us/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std.	---	---	0.103	---	---	---	---
B1DDM0	199-K-126	F05-016	0.070	6/27/05	15:16	DJA	289 ---
B1DDM0 split *	199-K-126	F05-016	0.071	6/27/05	15:16	DJA	89 ---
0.10 mg/L std.	---	---	0.104	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

DJA 6-28-05

Data recorded real time using a laptop computer.

DJA 6-28-05

00000013

DJAlexander 6-28-05
D.J. ALEXANDER

Reviewed
By DAVID TODAK 7-20-05

K Treatability Test Zero Sample
Nitrate / Nitrite Analysis
HNF-N-296 4

DJ Alexander
GS/DJAlexander

Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 06/29/05

DJAlexander 6-29-05

~~1415~~ 1200	D.J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 371-Nitrite and 361-Nitrate.
~~1420~~ 1215 ~~1245~~	Prepared 10 mg/L standard by adding 2.04 mL of 100 mg/L HACH Nitrate Nitrogen Standard Solution, Lot # N5223, no expiration, to 27.96 mL of deionized water. Nitrite standard is on order, so only the samples were run.
~~1430~~	Analyzed samples.

DJA 6-15-05

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	---	---	---	---	---
0.10 mg/L std.	---	--	---	---	---	---	---
B1DDM0	199-K-126	F05-016	0.006	6-27-05	15:16	DJA	None
B1DDM0 split*	199-K-126	F05-016	0.003	6-27-05	15:16	DJA	None
0.10 mg/L std.	---	---	---	---	---	---	---
Blank	---	---	---	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	1.2	---	---	---	---
10.0 mg/L std.	---	---	10.1	---	---	---	---
B1DDM0	199-K-126	F05-016	4.4	6-27-05	15:16	DJA	None
B1DDM0 split*	199-K-126	F05-016	4.4	6-27-05	15:16	DJA	None
8.0 mg/L std.	---	---	9.7	---	---	---	---
Blank	---	---	1.1	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Data recorded real time using a laptop computer.

DJA 6-29-05

DJAlexander 6-29-05
D.J. ALEXANDER

00000014

Reviewed by: mradams
Maja Adams

OCT 12 2005

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K Treatability Test - Second Sample
Field Parameters

D Alexander / GS Hofelander

100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings
6-30-05

Logbook No. HNF-N-296-4

D. Alexander 6-30-05

1100	D. J. Alexander arrived at the treatability test site at 199-K-126 to calibrate pH, conductivity, dissolved oxygen, and oxidation-reduction potential meters to support 100-KR-4 Groundwater Treatability Test sampling (SAF F05-016).
1106	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 036307-24, expires 12/05. Meter reading 7.109. Second calibration point with pH 10.00 buffer, lot number 040904-24, expires 04/06. Meter reading 10.040. Calibration slope 102.3.
1108	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1415 μS/cm). Lot number: 3330, expires 02/04/2006. Adjusted meter to 1415 μS/cm. Cal cell = 0.490.
1108	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235. Instrument passed self-test check - Ready for use - Yes.
1115	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 218.0 mV at 30°C. Actual reading: 218.5 mV at 30°C.

Sample Location	Valve Number	Time	Date	FS HEIS Number	WSCF, Lionville	pH	Temperature (°C)	Conductivity (μS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well	11:19	06/30/2005	B1DDR4	B1DDR3	7.920	22.4	349 (22.8°C)	169.9	7.3

Sample Bottle Lot Numbers: 500 mL Poly - L 3045020; 250-L Poly - L/2 7092040; 125-mL P - N/A; 250-mL aG - G 2008010; 60 mL aG - G/2 8126070.

WSCF Analysis:		
Chromium Hex - 7196	Bottle Size	500 mL Poly
	Preservative	Cool 4°C
ICP/MS - 200.8 (TAL) ICP/MS 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly
	Preservative	HN03 to pH <2
TOC - 9060	Bottle Size	250 mL aG
	Preservative	HCl to pH <2

IC Anions - 300.0	Bottle Size	120 mL P	
	Preservative	None	
Alkalinity - 310.1	Bottle Size	120 mL P	
	Preservative	None	

Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
		Preservative	Cool 4°C
	Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None
Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
		Preservative	H2SO4 to pH <2
	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	Cool 4°C

Comments: Went back at 12:45 to take ORP and pH measurements on CPS stream from bottom of filter unit, for Kris Hedquist. Readings were as follows: ORP = -490.4 mV; pH = 10.192 at 27.2 °C.

D. Alexander 6-30-05
D.J. ALEXANDER

Reviewed by: M. Adams
Mya Adams

OCT 12 2005

00000015

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K Treatability Test - Second Sample
Cr+6 Analysis
HNF-N-2964

DJ Alexander / OS/djalexander

Hexavalent Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 06/30/05

DJalexander 6-30-05

1530	D. J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
1545	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1610	Analyzed sample.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (us/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std.	---	---	0.107	---	---	---	---
B1DDR4	199-K-126	F05-016	0.065	6/30/05	11:19	DJA	349 ~~D~~
B1DDR4 split *	199-K-126	F05-016	0.065	6/30/05	11:19	DJA	--- 349 ~~D~~
0.10 mg/L std.	---	---	0.102	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Data recorded real time using a laptop computer.

DJA 6-30-05

Reviewed
By DAVID TODAR 7-21-05

DJalexander 6-30-05
D.J. ALEXANDER

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K Treatability Test - Second Sample
NO_2^- / NO_3^- Analysis
HNF-N-2964

DJAlexander
GS/gjalexander

Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 06/30/05

gjalexander 6-30-05

1530	D.J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 371-Nitrite and 361-Nitrate.
1800	Prepared 8.0 mg/L standard by adding 2.04 mL of 100 mg/L HACH Nitrate Nitrogen Standard Solution, Lot # N5223, no expiration, to 27.96 mL of deionized water. Nitrite standard is on order, so only the samples were run.
1830	Analyzed samples.

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	---	---	---	---	---
0.10 mg/L std.	---	--	---	---	---	---	---
B1DDR4	199-K-126	F05-016	0.006	6-30-05	11:19	DJA	None
B1DDR4 Split*	199-K-126	F05-016	0.005	6-30-05	11:19	DJA	None
0.10 mg/L std.	---	---	---	---	---	---	---
Blank	---	---	---	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	1.2	---	---	---	---
8.0 mg/L std.	---	---	7.8	---	---	---	---
B1DDR4	199-K-126	F05-016	1.6	6-30-05	11:19	DJA	None
B1DDR4 Split*	199-K-126	F05-016	1.6	6-30-05	11:19	DJA	None
8.0 mg/L std.	---	---	7.9	---	---	---	---
Blank	---	---	0.9	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Data recorded real time using a laptop computer.

~~djA 6-30-05~~

gjalexander 6-30-05
D.J. ALEXANDER

Reviewed
By David Todak 7-21-05

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K Treatability Test - Third Sample
Field Parameters

DJ Alexander / GS/[illegible]

100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings
07-05-05

Logbook No. HNF-N-296-4

1110	D. J. Alexander arrived at the treatability test site at 199-K-126 to calibrate pH, conductivity, and turbidity meters to support 100-KR-4 Groundwater Treatability Test sampling (SAF F05-016).
1125	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 036075-24, expires 12/05. Meter reading 7.112. Second calibration point with pH 10.00 buffer, lot number 040904-24, expires 04/06. Meter reading 10.020. Calibration slope 103.4.
1128	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1415 μS/cm). Lot number: 3330, expires 02/04/2006. Adjusted meter to 1415 μS/cm. Cal cell = 0.467.
1128	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235. Instrument passed self-test check - Ready for use - Yes.
1129	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 231.0 mV at 25°C or 224.5 mV at 30°C. Actual reading: 227.3 mV at ~28°C.

Sample Location	Valve Number	Time	Date	FS HEIS Number	WSCF, Lionville, (WSCF)	pH	Temperature (°C)	Conductivity (μS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well	11:32	07/05/2005	B1DF00	B1DF01 (B1DF04)	8.194	22.7	471	-96.4	6.4
Injection Well Infeed	N/A	12:10	07/05/2005	B1DF02	B1DF03 (B1DF05)	10.432	25.8	1229	-500.2	0.2

Sample Bottle Lot Numbers: 500 mL Poly - L 3045020; 250-L Poly - L/2 7092040; 125-mL P - L/4 4044040; 250-mL aG - F 2175020; 125-mL aG - G 2008010; 60 mL aG - G/2 8126070.

WSCF Analysis:						
Chromium Hex - 7196	Bottle Size	500 mL Poly	IC Anions - 300.0	Bottle Size	120 mL P	
	Preservative	Cool 4°C		Preservative	None	
ICP/MS - 200.8 (TAL) ICP/MS 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly	Alkalinity - 310.1	Bottle Size	120 mL P	
	Preservative	HN03 to pH <2		Preservative	None	
TOC - 9060	Bottle Size	250 mL aG				
	Preservative	HCl to pH <2				

Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
		Preservative	Cool 4°C
	Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None
Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
		Preservative	H2SO4 to pH <2
	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	Cool 4°C

DJ Alexander 7-5-05

Reviewed By [signature] 7-12-05
DAVID TODAK

DJ Alexander 7-5-05
D.J. ALEXANDER

0000018

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K Treatability Test - Third Sample
Cr+6 Analysis
HNF-N-2964

DJ Alexander
/GS/ djalexander

djalexander 7-5-05

Hexavalent Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 07/05/05

1345	D. J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
1405	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1416~~8~~	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (µS/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std.	---	---	0.107	---	---	---	---
B1DF00	199-K-126	F05-016	0.022	7/05/05	11:32	DJA	471
B1DF00 split *	199-K-126	F05-016	0.021	7/05/05	11:32	DJA	471
B1DF02	Injection wells	F05-016	See note below	7/05/05	12:10	DJA	1229
0.10 mg/L std.	---	---	0.104	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Note: Sample B1DF02, collected from Injection Well system was not able to be analyzed for hexavalent chromium due to a yellow coloration in the sample, which would interfere with the hexavalent chrome colorimetric test.

Data recorded real time using a laptop computer.

djA 7-5-05

Reviewed
By David Todak 7-22-05

djalexander 7-5-05
D.J. ALEXANDER

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K Treatability Test - Third Sample
NO2/NO3 Analysis

DJ Alexander
/GS/DJ Alexander

Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 07/05/05

DJ Alexander 7-5-05

HNF-N-2964

1345	D.J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 371-Nitrite and 361-Nitrate.
1445	Prepared 8.0 mg/L standard by adding 2.04 mL of 100 mg/L HACH Nitrate Nitrogen Standard Solution, Lot # N5223, no expiration, to 27.96 mL of deionized water. Nitrite standard is on order, so only the samples were run.
1500	Analyzed samples.

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	---	---	---	---	---
0.10 mg/L std.	---	--	---	---	---	---	---
B1DF00	199-K-126	F05-016	0.028	7-05-05	11:32	DJA	None
B1DF00 Split*	199-K-126	F05-016	0.025	7-05-05	11:32	DJA	None
B1DF02	Injection wells	F05-016	See note below	7-05-05	12:10	DJA	None
0.10 mg/L std.	---	---	---	---	---	---	---
Blank	---	---	---	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	~~1.2~~ 1.1 MRA 10/17/05	---	---	---	---
8.0 mg/L std.	---	---	~~7.8~~ 8.4 DJA 7-25-05	---	---	---	---
B1DF00	199-K-126	F05-016	Not detected	7-05-05	11:32	DJA	None
B1DF00 Split*	199-K-126	F05-016	Not detected	7-05-05	11:32	DJA	None
B1DF02	Injection wells	F05-016	See note below	7-05-05	12:10	DJA	None
8.0 mg/L std.	---	---	~~7.9~~ 8.4 DJA 7-25-05	---	---	---	---
Blank	---	---	~~0.9~~ 1.1 MRA 10/17/05	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Note: Sample B1DF02, collected from Injection Well system was not able to be analyzed for nitrate or nitrite due to a yellow coloration in the sample, which would interfere with the colorimetric tests for nitrate and nitrite.

Data recorded real time using a laptop computer.

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DJ Alexander 7-5-05
D.J. ALEXANDER

Reviewed by: MRAdams
Maja Adams

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DJ Alexander / GS Alexander

K Treatability Test - Fourth Sample
Field Parameters

100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings
07-06-05

Logbook No. HNF-N-296-4

1045	D. J. Alexander arrived at the treatability test site at 199-K-126 to calibrate pH, conductivity, and turbidity meters to support 100-KR-4 Groundwater Treatability Test sampling (SAF F05-016).
1046	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 036075-24, expires 12/05. Meter reading 7.111. Second calibration point with pH 10.00 buffer, lot number 040904-24, expires 04/06. Meter reading 10.033. Calibration slope 102.8.
1048	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1415 µS/cm). Lot number: 3330, expires 02/04/2006. Adjusted meter to 1415 µS/cm. Cal cell = 0.495.
1048	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235. Instrument passed self-test check - Ready for use - Yes.
1050	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 224.5 mV at 30°C. Actual reading-site conditions: 225.7 mV at ~28°C.

Sample Location	Valve Number	Time	Date	FS HEIS Number	WSCF, Lionville, (WSCF)	pH	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well	10:53	07/06/2005	B1DF32	N/A	8.270	22.5	450	-105.2	6.7

Sample Bottle Lot Numbers: 500 mL Poly - L 3045020; 250-L Poly - N/A; 125-mL P - N/A; 250-mL aG - N/A; 125-mL aG - N/A; 60 mL aG - G/2 8126070.

WSCF Analysis:		
Chromium Hex - 7196	Bottle Size	500 mL Poly
	Preservative	Cool 4°C
ICP/MS - 200.8 (TAL) ICP/MS - 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly
	Preservative	HN03 to pH <2
TOC - 9060	Bottle Size	250 mL aG
	Preservative	HCl to pH <2

IC Anions - 300.0	Bottle Size	120 mL P	
	Preservative	None	
Alkalinity - 310.1	Bottle Size	120 mL P	
	Preservative	None	
Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
		Preservative	Cool 4°C
	Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None
Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
		Preservative	H2SO4 to pH <2
	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	Cool 4°C

DJ Alexander 7-6-05

DJ Alexander 7-6-05

D.J. ALEXANDER

Reviewed
By David Todak 7-22-05

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K Treatability Test - Fourth Sample Cr+6 Analysis

DJ Alexander/ GS/ DJ Alexander

HNF-N-296 4

DJ Alexander 7-6-05

Hexavalent Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 07/06/05

1200	D. J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
1245	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1257	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (µS/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std.	---	---	0.106	---	---	---	---
B1DF32	199-K-126	F05-016	0.034	7/06/05	10:53	DJA	450
B1DF32 split *	199-K-126	F05-016	0.031	7/06/05	10:53	DJA	450
0.10 mg/L std.	---	---	0.103	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Data recorded real time using a laptop computer.

DJA 7-6-05

DJ Alexander 7-6-05

D.J. ALEXANDER

Reviewed By DAVID TODAK 7-22-05

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K Treatability Test - Fourth Sample
NO2/NO3 Analysis
HNF-N-2964

DJ Alexander / GS/DJ Alexander

DJ Alexander 7-6-05

Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 07/06/05

1200	D.J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 371-Nitrite and 361-Nitrate.
1305	Prepared 8.0 mg/L standard by adding 2.04 mL of 100 mg/L HACH Nitrate Nitrogen Standard Solution, Lot # N5223, no expiration, to 27.96 mL of deionized water. Nitrite standard is on order, so only the samples were run.
1320	Analyzed samples.

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	---	---	---	---	---
0.10 mg/L std.	---	--	---	---	---	---	---
B1DF32	199-K-126	F05-016	0.058	7-06-05	10:53	DJA	None
B1DF32 Split*	199-K-126	F05-016	0.059	7-06-05	10:53	DJA	None
0.10 mg/L std.	---	---	---	---	---	---	---
Blank	---	---	---	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.9	---	---	---	---
8.5 mg/L std.	---	---	8.7	---	---	---	---
B1DF32	199-K-126	F05-016	Not detected	7-06-05	10:53	DJA	None
B1DF32 Split*	199-K-126	F05-016	Not detected	7-06-05	10:53	DJA	None
8.5 mg/L std.	---	---	8.8	---	---	---	---
Blank	---	---	0.8	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Data recorded real time using a laptop computer.

DJA 7-6-05

DJ Alexander 7-6-05
D.J. ALEXANDER

Reviewed
By DAVID TODAR 7-22-05

100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings
07-08-05

Logbook No. HNF-N-296-4

1150	D. J. Alexander arrived at the treatability test site at 199-K-126 to calibrate pH, conductivity, dissolved oxygen, and oxidation-reduction potential (ORP) meters to support 100-KR-4 Groundwater Treatability Test sampling (SAF F05-016).
1155	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 036075-24, expires 12/05. Meter reading 7.112. Second calibration point with pH 10.00 buffer, lot number 040904-24, expires 04/06. Meter reading 10.017. Calibration slope 102.5.
1157	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1415 µS/cm). Lot number: 3330, expires 02/04/2006. Adjusted meter to 1415 µS/cm. Cal cell = 0.461.
1157	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235. Instrument passed self-test check - Ready for use - Yes.
1159	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 224.5 mV at 30°C. Actual reading: 224.0 mV at ~27°C.

Sample Location	Valve Number	Time	Date	FS HEIS Number	WSCF, Lionville, (WSCF)	pH	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well	12:10	07/08/2005	B1DF33	N/A	8.016	21.5	446	+73.3	5.2

Sample Bottle Lot Numbers: 500 mL Poly - L 3045020; 250-L Poly - N/A; 125-mL P - N/A; 250-mL aG - N/A; 125-mL aG - N/A; 60 mL aG - G/2 8126070.

WSCF Analysis:						
Chromium Hex - 7196	Bottle Size	500 mL Poly	IC Anions - 300.0	Bottle Size	120 mL P	
	Preservative	Cool 4°C		Preservative	None	
ICP/MS - 200.8 (TAL) ICP/MS - 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly	Alkalinity - 310.1	Bottle Size	120 mL P	
	Preservative	HN03 to pH <2		Preservative	None	
TOC - 9060	Bottle Size	250 mL aG				
	Preservative	HCl to pH <2				

Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
		Preservative	Cool 4°C
	Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None
Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
		Preservative	H2SO4 to pH <2
	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	Cool 4°C

DJ Alexander
GS/Alexander

K Treatability Test - Fifth Sample
Field Parameters

D.J. Alexander 7-8-05

D.J. ALEXANDER
JUL 0 8 2005

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Reviewed
By David Todak 7-22-05

K Treatability Test - Fifth Sample
Cr^{+6} Analysis
HNF-N-296 4

DJAlexander/
GS/DJAlexander

Hexavalent Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 07/08/05

DJAlexander
7-8-05

1245	D. J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
1325	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1335	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (µS/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std.	---	---	0.104	---	---	---	---
B1DF33	199-K-126	F05-016	0.018	7/08/05	12:10	DJA	446
B1DF33 split *	199-K-126	F05-016	0.020	7/08/05	12:10	DJA	446
0.10 mg/L std.	---	---	0.103	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Data recorded real time using a laptop computer.

DJA JUL 0 8 2005

DJAlexander JUL 0 8 2005
D.J. ALEXANDER

Reviewed
By DAVID TOOAK 7-22-05

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K Treatability Test - Fifth Sample
NO_2/NO_3 Analysis
HNF-N-2964

DJ Alexander
GS/DJalexander

DJalexander 7-8-05

Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 07/08/05

1245	D.J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 375-Nitrite and 361-Nitrate.
1430	Prepared 10.0 mg/L Nitrate standard by adding 2.01 mL of 100 mg/L HACH Nitrate Nitrogen Standard Solution, Lot # N5223, no expiration, to 18.01 mL of deionized water. Prepared a 0.125 mg/L Nitrite standard by adding 10 µL of 250 µg/mL HACH Nitrite Nitrogen Standard Solution, Lot # 5160, expiration 09-2005, to 19.99 mL of deionized water.
1455	Analyzed samples.

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.004	---	---	---	---
0.10 mg/L std.	---	--	0.134	---	---	---	---
B1DF33	199-K-126	F05-016	0.071	7-08-05	12:10	DJA	None
B1DF33 Split*	199-K-126	F05-016	0.071	7-08-05	12:10	DJA	None
0.10 mg/L std.	---	---	0.135	---	---	---	---
Blank	---	---	0.004	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	1.1	---	---	---	---
10.0 mg/L std.	---	---	13.9	---	---	---	---
B1DF33	199-K-126	F05-016	1.1	7-08-05	12:10	DJA	None
B1DF33 Split*	199-K-126	F05-016	0.9	7-08-05	12:10	DJA	None
10.0 mg/L std.	---	---	14.0	---	---	---	---
Blank	---	---	1.1	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Data recorded real time using a laptop computer.

DJalexander JUL 0 8 2005
D.J. ALEXANDER

Reviewed
By David Todak 7/22/05

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DJAlexander/GS/ DJAlexander

K Treatability Test - Sample 6 Field Parameters

100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings

07-12-05

Logbook No. HNF-N-296-4

1430	D. J. Alexander arrived at the treatability test site at 199-K-126 to calibrate pH, conductivity, dissolved oxygen, and oxidation-reduction potential (ORP) meters to support 100-KR-4 Groundwater Treatability Test sampling (SAF F05-016).
1458	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 036075-24, expires 12/05. Meter reading 7.114. Second calibration point with pH 10.00 buffer, lot number 040904-24, expires 04/06. Meter reading 10.020. Calibration slope 103.2.
1459	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1415 µS/cm). Lot number: 3330, expires 02/04/2006. Adjusted meter to 1415 µS/cm. Cal cell = 0.460.
1501	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235. Instrument passed self-test check - Ready for use - **Yes.**
1502	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 224.5 mV at 30°C. Actual reading: 223.3 mV at ~28°C.

Sample Location	Valve Number	Time	Date	FS HEIS Number	WSCF, Lionville	pH	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well	15:05	07/12/2005	B1DFH0	B1DFH1	8.085	22.4	478.0 (23.0° C)	-130.3	6.3

Sample Bottle Lot Numbers: 500 mL Poly - L 3045020; 250-L Poly - L/2 7092040; 125-mL P - L/4 4044040; 250-mL aG - F 2175020; 125-mL aG - G 2008010; 60 mL aG - G/2 8126070.

WSCF Analysis:		
Chromium Hex - 7196	Bottle Size	500 mL Poly
	Preservative	Cool 4°C
ICP/MS - 200.8 (TAL) ICP/MS 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly
	Preservative	HN03 to pH <2
TOC - 9060	Bottle Size	250 mL aG
	Preservative	HCl to pH <2

IC Anions - 300.0	Bottle Size	120 mL P	
	Preservative	None	
Alkalinity - 310.1	Bottle Size	120 mL P	
	Preservative	None	
Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
		Preservative	Cool 4°C
	Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None
Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
		Preservative	H2SO4 to pH <2
	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	Cool 4°C

DJAlexander 7-12-05

DJAlexander

D.J. ALEXANDER JUL 12 2005

Reviewed By David Jordan 7-22-05

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KTreatability Study - Sample 6
Cr+6 Analysis
HNF-N-2964

DJ Alexander/GS/
DJAlexander

DJAlexander
7-12-05

Hexavalent Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 07/12/05

1555	D. J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
1605	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1640	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (µS/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std.	---	---	0.104	---	---	---	---
B1DFH0	199-K-126	F05-016	0.023	7/12/05	15:05	DJA	478
B1DFH0 split *	199-K-126	F05-016	0.025	7/12/05	15:05	DJA	478
0.10 mg/L std.	---	---	0.099	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Data recorded real time using a laptop computer.

JUL 12 2005

DJAlexander
D.J. ALEXANDER JUL 12 2005

Reviewed
By David Todd 7-22-05

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K Treatability Test - Sample 6
Nitrate / Nitrite Analysis
HNF-N-296 4

DJ Alexander
GS / DJ Alexander

Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 07/12/05

DJ Alexander 7-12-05

1555	D.J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 375-Nitrite and 361-Nitrate.
1700	Prepared 10.0 mg/L Nitrate standard by adding 2.01 mL of 100 mg/L HACH Nitrate Nitrogen Standard Solution, Lot # N5223, no expiration, to 18.01 mL of deionized water. Prepared a 0.125 mg/L Nitrite standard by adding 10 μL of 250 μg/mL HACH Nitrite Nitrogen Standard Solution, Lot # 5160, expiration 09-2005, to 19.99 mL of deionized water.
1720	Analyzed samples.

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.003	---	---	---	---
0.10 mg/L std.	---	--	0.148	---	---	---	---
B1DFH0	199-K-126	F05-016	0.039	7-12-05	15:05	DJA	None
B1DFH0 Split*	199-K-126	F05-016	0.039	7-12-05	15:05	DJA	None
0.10 mg/L std.	---	---	0.148	---	---	---	---
Blank	---	---	0.003	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.8	---	---	---	---
10.0 mg/L std.	---	---	13.6	---	---	---	---
B1DFH0	199-K-126	F05-016	ND**	7-12-05	15:05	DJA	None
B1DFH0 Split*	199-K-126	F05-016	ND**	7-12-05	15:05	DJA	None
10.0 mg/L std.	---	---	13.7	---	---	---	---
Blank	---	---	0.8	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.
** ND = Not Detected

Data recorded real time using a laptop computer.

DJ Alexander
D.J. ALEXANDER JUL 12 2005

Reviewed
By DAVID TODAK 7-22-05

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K Treatability Test - Sample & 7 Field Parameters

DJ Alexander / GS Hallenander 7-18-05

100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings
07-14-05

Logbook No. HNF-N-296-4

0945	D. J. Alexander arrived at the treatability test site at 199-K-126 to calibrate pH, conductivity, dissolved oxygen, and oxidation-reduction potential (ORP) meters to support 100-KR-4 Groundwater Treatability Test sampling (SAF F05-016).
1013	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 036075-24, expires 12/05. Meter reading 7.109. Second calibration point with pH 10.00 buffer, lot number 040904-24, expires 04/06. Meter reading 10.039. Calibration slope 102.0.
1010	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1415 μS/cm). Lot number: 3330, expires 02/04/2006. Adjusted meter to 1415 μS/cm. Cal cell = 0.490.
1007	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235. Instrument passed self-test check - Ready for use - ***Yes***.
1050	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 237.5 at 20°C, 231.0 at 25°C, and 224.5 mV at 30°C. Actual reading: 234.0 mV at ~23°C.

Sample Location	Valve Number	Time	Date	FS HEIS Number	WSCF, Lionville	pH	Temperature (°C)	Conductivity (μS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well	~~10:22~~ 1017	07/14/2005	B1DFK3	N/A	8.493	21.7	538 (21.7°C)	-190.5	3.4
CPS Injection	Valve at base of filter	10:22	07/14/2005	B1DFK4	N/A	10.707	22.8	16830 (22.7°C)	-504.0	0.2

Sample Bottle Lot Numbers: 500 mL Poly - L 3045020; 250-L Poly - L/2 7092040; 125-mL P - N/A; 250-mL aG - N/A; 125-mL aG - N/A; 60 mL aG - G/2 8126070.

WSCF Analysis:

Chromium Hex - 7196	Bottle Size	500 mL Poly
	Preservative	Cool 4°C
ICP/MS - 200.8 (TAL) ICP/MS 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly
	Preservative	HN03 to pH <2
TOC - 9060	Bottle Size	250 mL aG
	Preservative	HCl to pH <2

IC Anions - 300.0	Bottle Size	120 mL P
	Preservative	None
Alkalinity - 310.1	Bottle Size	120 mL P
	Preservative	None

Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
		Preservative	Cool 4°C
	Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None

Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
		Preservative	H2SO4 to pH <2
	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	Cool 4°C

DJ Alexander 7-18-05

Reviewed By: David Todak 7-22-05

DJ Alexander
D.J. ALEXANDER

JUL 14 2005

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KTreatability Test- Sample #7 Cr+6 Data HNF-N-2964 DJA 7-18-05

DJ Alexander / GS / DJ Alexander

Hexavalent Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 07/14/05

DJ Alexander 7-14-05

1048	D. J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
1155	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1210	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (µS/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std.	---	---	0.100	---	---	---	---
B1DFK3	199-K-126	F05-016	ND**	7/14/05	10:17	DJA	538
B1DFK3 split *	199-K-126	F05-016	ND**	7/14/05	10:17	DJA	538
0.10 mg/L std.	---	---	0.100	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

** ND = Not detected.

Data recorded real time using a laptop computer.

DJA 7-14-05

Reviewed By David Todak 7-22-05

DJ Alexander

D.J. ALEXANDER

JUL 14 2005

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K Treatability Test - Sample 87 7-18-05 DJ Alexander 97
Nitrate / ~~Nitra~~ Nitrite Data OS / DJ Alexander
DJA 7-14-05
HNF-N-2964

Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 07/~~12~~14/05

DJ Alexander 7-14-05 DJA 4-14-06

1048	D.J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 375-Nitrite and 361-Nitrate.
1220	Unable to prepare a Nitrate standard – currently out of standard solution. Prepared a 0.125 mg/L Nitrite standard by adding 10 µL of 250 µg/mL HACH Nitrite Nitrogen Standard Solution, Lot # 5160, expiration 09-2005, to 19.99 mL of deionized water.
1245	Analyzed samples.

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.004	---	---	---	---
0.10 mg/L std.	---	--	0.154	---	---	---	---
B1DFK3	199-K-126	F05-016	0.084	7-14-05	10:17	DJA	None
B1DFK3 Split*	199-K-126	F05-016	0.081	7-14-05	10:17	DJA	None
0.10 mg/L std.	---	---	0.155	---	---	---	---
Blank	---	---	0.004	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.9	---	---	---	---
10.0 mg/L std.	---	---	N/A	---	---	---	---
B1DFK3	199-K-126	F05-016	ND**	7-14-05	10:17	DJA	None
B1DFK3 Split*	199-K-126	F05-016	ND**	7-14-05	10:17	DJA	None
10.0 mg/L std.	---	---	N/A	---	---	---	---
Blank	---	---	1.0	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.
** ND = Not Detected

Data recorded real time using a laptop computer.

Reviewed By DAVID TODAK 7-22-05

DJ Alexander JUL 14 2005
D.J. ALEXANDER

K Treatability Test - Sample 8/7 DJ Alexander
Sulfate Data
HNF-N-296 4
7-18-05 GS/DJ Alexander

Sulfate Daily Activity Log
K Treatability Test / SAF F05-016
Logbook HNF-N-296 4
Date: 07/14/05

DJ Alexander 7-14-05

1048	D.J. Alexander arrives on-site at 200W, MO-612 field laboratory. Set up to analyze samples for sulfate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 952, sulfate.
1245	Prepared 50 mg/L standard by adding 1.5 mL of 1000 mg/L HACH sulfate standard, lot # N7108, no expiration, to 28.50 mL of deionized water.
1300	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler
Blank	---	---	0	---	---	---
50 mg/L std.	---	---	50	---	---	---
B1DFK3	199-K-126	F05-016	63	07/14/05	10:17	DJA
B1DFK3 split*	199-K-126	F05-016	63	07/14/05	10:17	DJA
50 mg/L std.	---	---	50	---	---	---
Blank	---	---	0	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Data recorded real time using a laptop computer.

DJA 7-14-05

DJ Alexander
D.J. ALEXANDER JUL 1 4 2005

Reviewed
By David Todak 7.22.05

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K Treatability Test - Sample 8
Field Parameters

DJ Alexander / GS/DJAlexander

100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings

07-18-05

Logbook No. HNF-N-296-4

1100	D. J. Alexander arrived at the treatability test site at 199-K-126 to calibrate pH, conductivity, dissolved oxygen, and oxidation-reduction potential (ORP) meters to support 100-KR-4 Groundwater Treatability Test sampling (SAF F05-016).
1103	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 036075-24, expires 12/05. Meter reading 7.112. Second calibration point with pH 10.00 buffer, lot number 040904-24, expires 04/06. Meter reading 10.020. Calibration slope 102.5.
1106	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1415 µS/cm). Lot number: 3330, expires 02/04/2006. Adjusted meter to 1415 µS/cm. Cal cell = 0.491.
1107	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235. Instrument passed self-test check - Ready for use - *Yes.*
1109	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 237.3 at 20°C, 231.0 at 25°C, and 224.5 mV at 30°C. Actual reading: 227.2 mV at ~27°C.

Sample Location	Valve Number	Time	Date	FS HEIS Number	WSCF, Lionville	pH	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well	11:18	07/18/2005	B1DFK5	N/A	7.278	23.2	422	-60.2	1.8
199-K-126 Duplicate	Tank in feed from well	11:20	07/18/2005	B1DFK7	N/A	7.997	23.6	420	-77.8	3.1

Sample Bottle Lot Numbers: 500 mL Poly - L 3045020; 250-L Poly - L/2 7092040; 125-mL P - N/A; 250-mL aG - N/A; 125-mL aG - N/A; 60 mL aG - G/2 8126070.

WSCF Analysis:		
Chromium Hex - 7196	Bottle Size	500 mL Poly
	Preservative	Cool 4°C
ICP/MS - 200.8 (TAL) ICP/MS - 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly
	Preservative	HN03 to pH <2
TOC - 9060	Bottle Size	250 mL aG
	Preservative	HCl to pH <2

IC Anions - 300.0	Bottle Size	120 mL P	
	Preservative	None	
Alkalinity - 310.1	Bottle Size	120 mL P	
	Preservative	None	

Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
		Preservative	Cool 4°C
	Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None

Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
		Preservative	H2SO4 to pH <2
	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	Cool 4°C

Reviewed
By DAVID TODAK 7-22-05

DJ Alexander

JUL 18 2005
D.J. ALEXANDER

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K Treatability Test - Sample 8
Cr +6 Data
HNF-N-2964

DJ Alexander/
GS/DJAlexander

Hexavalent Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 07/18/05

DJAlexander
7-18-05

1230	D. J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
1235	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1245	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (µS/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std.	---	---	0.107	---	---	---	---
B1DFK5	199-K-126	F05-016	<0.005	7/18/05	11:18	DJA	420 ~~422~~ mra 10/12/05
B1DFK7 (Duplicate)	199-K-126	F05-016	0.005	7/18/05	11:20	DJA	422 ~~420~~ mra 10/12/05
0.10 mg/L std.	---	---	0.105	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

Data recorded real time using a laptop computer.

JUL 18 2005

OCT 12 2005

DJAlexander
D.J. ALEXANDER JUL 18 2005

Reviewed by MRAdams
Mja Adams

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K Treatability Test - Sample 8
Nitrate / Nitrite Data
HNF-N-296 4

DJ Alexander/
GS/DJalexander

Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 07/18/05

DJalexander
7-18-05

1245	D.J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 375-Nitrite and 361-Nitrate.
1255	Unable to prepare a Nitrate standard – currently out of standard solution. Prepared a 0.125 mg/L Nitrite standard by adding 10 µL of 250 µg/mL HACH Nitrite Nitrogen Standard Solution, Lot # 5160, expiration 09-2005, to 19.99 mL of deionized water.
1320	Analyzed samples.

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.003	---	---	---	---
0.10 mg/L std.	---	--	0.163	---	---	---	---
B1DFK5*	199-K-126	F05-016	0.868	7-18-05	11:18	DJA	4X
B1DFK7* (Duplicate)	199-K-126	F05-016	1.128	7-18-05	11:20	DJA	4X
0.10 mg/L std.	---	---	0.165	---	---	---	---
Blank	---	---	0.003	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	1.0	---	---	---	---
10.0 mg/L std.	---	---	N/A	---	---	---	---
B1DFK5	199-K-126	F05-016	1.3	7-18-05	11:18	DJA	None
B1DFK7 (Duplicate)	199-K-126	F05-016	1.4	7-18-05	11:20	DJA	None
10.0 mg/L std.	---	---	N/A	---	---	---	---
Blank	---	---	1.0	---	---	---	---

* Sample diluted 4X.

Data recorded real time using a laptop computer.

JUL 18 2005 DJA

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DJalexander
D.J. ALEXANDER

JUL 18 2005

Reviewed by: MEC OCT 12 2005
Maja Adams

K Treatability Test - Sample 8
SO_4^{2-} Data

DJAlexander / OS/DJalexander

DJalexander 7-18-05

Sulfate Daily Activity Log
K Treatability Test / SAF F05-016
Logbook HNF-N-296 4
Date: 07/18/05

1245	D.J. Alexander arrives on-site at 200W, MO-612 field laboratory. Set up to analyze samples for sulfate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 952, sulfate.
1405	Prepared 50 mg/L standard by adding 1.5 mL of 1000 mg/L HACH sulfate standard, lot # N7108, no expiration, to 28.50 mL of deionized water.
1425	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler
Blank	---	---	0	---	---	---
50 mg/L std.	---	---	49	---	---	---
B1DFK5*	199-K-126	F05-016	70	07/18/05	11:18	DJA
B1DFK7* (Duplicate)	199-K-126	F05-016	72	07/18/05	11:20	DJA
50 mg/L std.	---	---	49	---	---	---
Blank	---	---	0	---	---	---

* Sample diluted 2X.

Data recorded real time using a laptop computer.

DJA JUL 18 2005

DJalexander JUL 18 2005

D.J. ALEXANDER

Reviewed by: MEAdams Mary E Adams OCT 12 2005

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K Treatability Test - Sample 9 Field Parameters

DJ Alexander / GS Hallexander

100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings
07-20-05

Logbook No. HNF-N-296-4

1125	D. J. Alexander arrived at the treatability test site at 199-K-126 to calibrate pH, conductivity, dissolved oxygen, and oxidation-reduction potential (ORP) meters to support 100-KR-4 Groundwater Treatability Test sampling (SAF F05-016).
1132	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 036075-24, expires 12/05. Meter reading 7.110. Second calibration point with pH 10.00 buffer, lot number 040904-24, expires 04/06. Meter reading 10.028. Calibration slope 101.8.
1134	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1415 µS/cm). Lot number: 3330, expires 02/04/2006. Adjusted meter to 1415 µS/cm. Cal cell = 0.493.
1132	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235. Instrument passed self-test check - Ready for use -YES
1135	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 237.3 at 20°C, 231.0 at 25°C, and 224.5 mV at 30°C. Actual reading: 228.9 mV at ~28°C.

Sample Location	Valve Number	Time	Date	FS HEIS Number	WSCF, Lionville	pH	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well	11:45	07/20/2005	B1DFK8	B1D3K6	7.861	23.4	519	-194.3	5.4
199-K-126 Duplicate	Tank in feed from well	11:48	07/20/2005	B1DFK9	N/A	7.934	23.0	494	-193.9	5.5

Sample Bottle Lot Numbers: 500 mL Poly - L 3045020; 250-L Poly - L/2 7092040; 125-mL P - L/4 4044040; 250-mL aG - F 2175020; 125-mL aG - G 2008010; 60 mL aG - G/2 8126070.

WSCF Analysis:			IC Anions - 300.0	Bottle Size	120 mL P
Chromium Hex - 7196	Bottle Size	500 mL Poly		Preservative	None
	Preservative	Cool 4°C	Alkalinity - 310.1	Bottle Size	120 mL P
ICP/MS - 200.8 (TAL) ICP/MS - 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly		Preservative	None
	Preservative	HN03 to pH <2			
TOC - 9060	Bottle Size	250 mL aG			
	Preservative	HCl to pH <2			

Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
		Preservative	Cool 4°C
	Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None
Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
		Preservative	H2SO4 to pH <2
	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	Cool 4°C

DJ Alexander 7-20-05

Reviewed By DAVID TODAK 7-22-05

DJ ALEXANDER JUL 20 2005

00000038

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K Treatability Test - Sample 9
Cr+6 Data
HNF-N-2964

DJ Alexander /GS/
djalexander

djalexander
7-20-05

Hexavalent Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 07/20/05

1300	D. J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
1350	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1447	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (µS/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std.	---	---	0.104	---	---	---	---
B1DFK8	199-K-126	F05-016	0.009	7/20/05	11:45	DJA	519
B1DFK9 (Duplicate)	199-K-126	F05-016	0.011	7/20/05	11:48	DJA	494
0.10 mg/L std.	---	---	0.102	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

Data recorded real time using a laptop computer.

djA JUL 20 2005

djalexander
D.J. ALEXANDER JUL 20 2005

00000039
OCT 12 2005

Reviewed by: m e adams
Marie Adams

K Treatability Test – Sample 9
Nitrate/Nitrite Data
HNF-N-296 4

DJ Alexander
GS/DJAlexander

Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 07/20/05

DJAlexander 7-20-05

1300	D.J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 375-Nitrite and 361-Nitrate.
1515	Unable to prepare a Nitrate standard – currently out of standard solution. Prepared a 0.125 mg/L Nitrite standard by adding 10 µL of 250 µg/mL HACH Nitrite Nitrogen Standard Solution, Lot # 5160, expiration 09-2005, to 19.99 mL of deionized water.
1545	Analyzed samples.

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.006	---	---	---	---
0.125 mg/L std.	---	--	0.145	---	---	---	---
B1DFK8	199-K-126	F05-016	0.163	7-20-05	11:45	DJA	None
B1DFK9 (Duplicate)	199-K-126	F05-016	0.154	7-20-05	11:48	DJA	None
0.125 mg/L std.	---	---	0.143	---	---	---	---
Blank	---	---	0.004	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	1.0	---	---	---	---
10.0 mg/L std.	---	---	N/A	---	---	---	---
B1DFK8	199-K-126	F05-016	ND*	7-20-05	11:45	DJA	None
B1DFK9 (Duplicate)	199-K-126	F05-016	ND*	7-20-05	11:48	DJA	None
10.0 mg/L std.	---	---	N/A	---	---	---	---
Blank	---	---	0.8	---	---	---	---

* ND = Not detected.

Data recorded real time using a laptop computer.

JUL 20 2005

Reviewed
By David Tooke 7-22-05

DJAlexander
D.J. ALEXANDER JUL 20 2005

00000040

K Treatability Test - Sample 9
SO_4^{2-} Data

DJAlexander
05/DJAlexander

DJAlexander
7-20-05

Sulfate Daily Activity Log
K Treatability Test / SAF F05-016
Logbook HNF-N-296 4
Date: 07/20/05

1300	D.J. Alexander arrives on-site at 200W, MO-612 field laboratory. Set up to analyze samples for sulfate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 952, sulfate.
1515	Prepared 50 mg/L standard by adding 1.5 mL of 1000 mg/L HACH sulfate standard, lot # N7108, no expiration, to 28.50 mL of deionized water.
1545	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler
Blank	---	---	0	---	---	---
50 mg/L std.	---	---	49	---	---	---
B1DFK8	199-K-126	F05-016	63	07/20/05	11:45	DJA
B1DFK9 (Duplicate)	199-K-126	F05-016	60	07/20/05	11:48	DJA
50 mg/L std.	---	---	49	---	---	---
Blank	---	---	0	---	---	---

Data recorded real time using a laptop computer.

DJA
JUL 20 2005

DJAlexander
D.J. ALEXANDER

JUL 20 2005

Reviewed
By DAVID TOOKE 7.22-05

00009041

100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings
07-22-05

Logbook No. HNF-N-296-4

1030	D. J. Alexander arrived at the treatability test site at 199-K-126 to calibrate pH, conductivity, dissolved oxygen, and oxidation-reduction potential (ORP) meters to support 100-KR-4 Groundwater Treatability Test sampling (SAF F05-016).
1041	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 036075-24, expires 12/05. Meter reading 7.112. Second calibration point with pH 10.00 buffer, lot number 040904-24, expires 04/06. Meter reading 10.018. Calibration slope 102.5.
1043	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1415 µS/cm). Lot number: 3330, expires 02/04/2006. Adjusted meter to 1415 µS/cm. Cal cell = 0.469.
1044	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235. Instrument passed self-test check - Ready for use - YES.
1042	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 237.3 at 20°C, 231.0 at 25°C, and 224.5 mV at 30°C. Actual reading: 227.6 mV at ~27°C.

Sample Location	Valve Number	Time	Date	FS HEIS Number	WSCF, Lionville	pH	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well	10:35	07/22/2005	B1DFL0	N/A	9.008	22.0	575	-309.5	2.3
199-K-126 Duplicate	Tank in feed from well	10:38	07/22/2005	B1DFL1	N/A	8.989	21.6	566	-307.0	2.5

Sample Bottle Lot Numbers: 500 mL Poly - L 3045020; 250-L Poly - L/2 7092040; 125-mL P - L/4 4044040; 250-mL aG - F 2175020; 125-mL aG - G 2008010; 60 mL aG - G/2 8126070.

WSCF Analysis:						
Chromium Hex - 7196	Bottle Size	500 mL Poly	IC Anions - 300.0	Bottle Size	120 mL P	
	Preservative	Cool 4°C		Preservative	None	
ICP/MS - 200.8 (TAL) ICP/MS 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly	Alkalinity - 310.1	Bottle Size	120 mL P	
	Preservative	HN03 to pH <2		Preservative	None	
TOC - 9060	Bottle Size	250 mL aG	Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
	Preservative	HCl to pH <2			Preservative	Cool 4°C
				Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None
			Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
					Preservative	H2SO4 to pH <2
				TIC - 415.1M	Bottle Size	125 mL aG
					Preservative	Cool 4°C

D.J. ALEXANDER JUL 22 2005

Reviewed by M Adams 10/12/05

00000042

100K Treatability Test - Field Parameters GS/DJ Alexander

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K Treatability Test - Chromium Data
HNF-N-296 4

DJ alexander / GS
DJ Alexander

Hexavalent Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 07/22/05

DJ alexander 7-22-05

1400	D. J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
1450	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1510	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (µS/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std.	---	---	0.107	---	---	---	---
B1DFL0	199-K-126	F05-016	ND*	7/22/05	10:35	DJA	575
B1DFL1 (Duplicate)	199-K-126	F05-016	ND*	7/22/05	10:38	DJA	566
0.10 mg/L std.	---	---	0.103	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

* ND = Not Detected. < 0.005 TMT 4-28-08

Data recorded real time using a laptop computer.

DJA 7-22-05

DJ alexander JUL 22 2005
D.J. ALEXANDER

Reviewed by meadams
Meg Adams OCT 12 2005

HNF-N-2964
K Treatability Test-Nitrate/Nitrite Data DJ Alexander GS/djalexander

djalexander 7-22-05

Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 07/22/05

1400	D.J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 375-Nitrite and 361-Nitrate.
1540	Poured 20-mL of 10mg/L HACH Nitrate Standard Solution, Lot # A5171, expiration 12-2009, into beaker for analysis. Prepared a 0.125 mg/L Nitrite standard by adding 10 μL of 250 μg/mL HACH Nitrite Nitrogen Standard Solution, Lot # 5160, expiration 09-2005, to 19.99 mL of deionized water.
1555	Analyzed samples.

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.003	---	---	---	---
0.125 mg/L std.	---	--	0.139	---	---	---	---
B1DFL0*	199-K-126	F05-016	0.290	7-22-05	10:35	DJA	*2X
B1DFL1* (Duplicate)	199-K-126	F05-016	0.290	7-22-05	10:38	DJA	*2X
0.125 mg/L std.	---	---	0.139	---	---	---	---
Blank	---	---	0.002	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.9	---	---	---	---
10.0 mg/L std.	---	---	13.4	---	---	---	---
B1DFL0	199-K-126	F05-016	ND**	7-22-05	10:35	DJA	None
B1DFL1 (Duplicate)	199-K-126	F05-016	ND**	7-22-05	10:38	DJA	None
10.0 mg/L std.	---	---	13.4	---	---	---	---
Blank	---	---	0.8	---	---	---	---

** ND = Not detected.

Data recorded real time using a laptop computer.

DJA 7-22-05

djalexander JUL 22 2005
D.J. ALEXANDER

Reviewed by: MRAdams
Mrj Adams OCT 12 2005

K Treatability Test-Sulfate Data

DJAlexander
CS/DJ Alexander

Sulfate Daily Activity Log
K Treatability Test / SAF F05-016
Logbook HNF-N-296 4
Date: 07/22/05

DJAlexander 7-22-05

1400	D.J. Alexander arrives on-site at 200W, MO-612 field laboratory. Set up to analyze samples for sulfate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 952, sulfate.
1600	Prepared 50 mg/L standard by adding 1.5 mL of 1000 mg/L HACH sulfate standard, lot # N7108, no expiration, to 28.50 mL of deionized water.
1615	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler
Blank	---	---	0	---	---	---
50 mg/L std.	---	---	48	---	---	---
B1DFL0	199-K-126	F05-016	63	07/22/05	10:35	DJA
B1DFL1 (Duplicate)	199-K-126	F05-016	61	07/22/05	10:38	DJA
50 mg/L std.	---	---	48	---	---	---
Blank	---	---	0	---	---	---

Data recorded real time using a laptop computer.

DJA 7-22-05

DJAlexander JUL 2 2 2005
D.J. ALEXANDER

Reviewed by MRAdams OCT 1 2 2005
MRAdams

K Treatability Test - Field Parameters

DJ Alexander
GS/DJ Alexander

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100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings
07-25-05

Logbook No. HNF-N-296-4

DJ Alexander 7-25-05

0849	D. J. Alexander arrived at the treatability test site at 199-K-126 to calibrate pH, conductivity, dissolved oxygen, and oxidation-reduction potential (ORP) meters to support 100-KR-4 Groundwater Treatability Test sampling (SAF F05-016).
0855	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 036075-24, expires 12/05. Meter reading 7.109. Second calibration point with pH 10.00 buffer, lot number 040904-24, expires 04/06. Meter reading 10.044. Calibration slope 102.5.
0852	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1415 µS/cm). Lot number: 3330, expires 02/04/2006. Adjusted meter to 1415 µS/cm. Cal cell = 0.486.
0852	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235 Instrument passed self-test check - Ready for use - YES.
0900	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 237.3 at 20°C, 231.0 at 25°C, and 224.5 mV at 30°C. Actual reading: 227.5 mV at ~27°C.

Sample Location	Valve Number	Time	Date	FS HEIS Number	WSCF, Lionville	pH	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well	9:06	07/25/2005	B1DJY4	N/A	8.402	21.0	482 (21.0°C)	-245.8	3.3

Sample Bottle Lot Numbers: 500 mL Poly - N/A; 250-L Poly - L/2 7092040; 125-mL P - N/A; 250-mL aG - N/A; 125-mL aG - N/A; 60 mL aG - G/2 8126070.

WSCF Analysis:						
Chromium Hex - 7196	Bottle Size	500 mL Poly	IC Anions - 300.0	Bottle Size	120 mL P	
	Preservative	Cool 4°C		Preservative	None	
ICP/MS - 200.8 (TAL) ICP/MS 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly	Alkalinity - 310.1	Bottle Size	120 mL P	
	Preservative	HN03 to pH <2		Preservative	None	
TOC - 9060	Bottle Size	250 mL aG				
	Preservative	HCl to pH <2				

Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
		Preservative	Cool 4°C
	Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None
Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
		Preservative	H2SO4 to pH <2
	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	Cool 4°C

DJ ALEXANDER JUL 2 5 2005

Reviewed by MR Albers OCT 1 2 2005

00000046

K Treatability Test - Chromium Data
HNF-N-2964

DJAlexander/65/
DJ Alexander

Hexavalent Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 07/25/05

DJAlexander 7-25-05

1025	D. J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
1042	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1055	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (µS/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std.	---	---	0.107	---	---	---	---
B1DJY4	199-K-126	F05-016	0.009	7/25/05	09:06	DJA	482
B1DJY4 (Split)	199-K-126	F05-016	0.006	7/25/05	09:06	DJA	482
0.10 mg/L std.	---	---	0.102	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Data recorded real time using a laptop computer.

DJA 7-25-05

DJAlexander JUL 25 2005
D.J. ALEXANDER

Reviewed by: MR Adams
MR Adams OCT 12 2005

K Treatability Test - Nitrate/Nitrite Data
HNF-N-29 u 4

DJ Alexander/GS/ DJalexander

Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 07/25/05

DJalexander 7-25-05

1025	D.J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 375-Nitrite and 361-Nitrate.
1042	Poured 20-mL of 10mg/L HACH Nitrate Standard Solution, Lot # A5171, expiration 12-2009, into beaker for analysis. Prepared a 0.125 mg/L Nitrite standard by adding 10 μL of 250 μg/mL HACH Nitrite Nitrogen Standard Solution, Lot # 5160, expiration 09-2005, to 19.99 mL of deionized water.
1115	Analyzed samples.

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.003	---	---	---	---
0.125 mg/L std.	---	--	0.129	---	---	---	---
B1DJY4*	199-K-126	F05-016	0.640	7-25-05	09:06	DJA	4 ~~2~~X mra 10/12/05
B1DJY4* (Split)	199-K-126	F05-016	0.640	7-25-05	09:06	DJA	4 ~~2~~X mra 10/12/05
0.125 mg/L std.	---	---	0.130	---	---	---	---
Blank	---	---	0.003	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.9	---	---	---	---
10.0 mg/L std.	---	---	11.7	---	---	---	---
B1DJY4	199-K-126	F05-016	0.5	7-25-05	09:06	DJA	None
B1DJY4 (Split)	199-K-126	F05-016	0.2	7-25-05	09:06	DJA	None
10.0 mg/L std.	---	---	11.6	---	---	---	---
Blank	---	---	0.9	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Data recorded real time using a laptop computer.

DJA 7-25-05

DJalexander JUL 25 2005
D.J. ALEXANDER

Reviewed by: MRAdams
MRAdams OCT 12 2005

K Treatability Test - Sulfate Data

Sulfate Daily Activity Log
K Treatability Test / SAF F05-016
Logbook HNF-N-296 4
Date: 07/25/05

DJAlexander 7-25-05

1025	D.J. Alexander arrives on-site at 200W, MO-612 field laboratory. Set up to analyze samples for sulfate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 952, sulfate.
1042	Prepared 50 mg/L standard by adding 1.5 mL of 1000 mg/L HACH sulfate standard, lot # N7108, no expiration, to 28.50 mL of deionized water.
1131	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler
Blank	---	---	0	---	---	---
50 mg/L std.	---	---	50	---	---	---
B1DJY4*	199-K-126	F05-016	78	07/25/05	09:06	DJA
B1DJY4* (Split**)	199-K-126	F05-016	74	07/25/05	09:06	DJA
50 mg/L std.	---	---	50	---	---	---
Blank	---	---	0	---	---	---

* Sample diluted 2X.

** Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Data recorded real time using a laptop computer.

DJA 7-25-05

DJAlexander JUL 2 5 2005
D.J. ALEXANDER

Reviewed by: MR Adams
Myra Adams OCT 1 2 2005

DJ Alexander
GS/Alexander

K Treatability Test - Field Parameters

100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings
07-27-05

Logbook No. HNF-N-296-4

1045	D. J. Alexander Set up to analyze grab sample of groundwater from 199-K-126/K Treatability Test. Sample was taken this morning and delivered to the Field Laboratory/MO-612 at the ZP-1 Pump and Treat site in 200W Area. Calibrated pH, conductivity, dissolved oxygen, and oxidation-reduction potential (ORP) meters to support this analysis under the 100-KR-4 Groundwater Treatability Test SAF F05-016.
1115	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 036075-24, expires 12/05. Meter reading 7.109. Second calibration point with pH 10.00 buffer, lot number 040904-24, expires 04/06. Meter reading 10.042. Calibration slope 102.3.
1118	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1415 µS/cm). Lot number: 3330, expires 02/04/2006. Adjusted meter to 1415 µS/cm. Cal cell = 0.489.
1118	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235. Instrument passed self-test check - Ready for use - YES.
1119	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 237.3 at 20°C, 231.0 at 25°C, and 224.5 mV at 30°C. Actual reading: 230.9 mV at 25°C.
Comments	Water is somewhat translucent/cloudy with a definate light green color. Will be performing hexavalent chromium analysis on the sample; the color should not interfere with the test.

Sample Location	Valve Number	Time	Date	FS HEIS Number	WSCF, Lionville	pH	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well	8:12	07/27/2005	B1DJY5	N/A	8.649	22.3	636	-344.1	1.3

Sample Bottle Lot Numbers: 500 mL Poly - N/A; 250-L Poly - N/A; 125-mL P - L/4 4044040; 250-mL aG - N/A; 125-mL aG - N/A; 60 mL aG - N/A.

WSCF Analysis:		
Chromium Hex - 7196	Bottle Size	500 mL Poly
	Preservative	Cool 4°C
ICP/MS - 200.8 (TAL) ICP/MS - 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly
	Preservative	HN03 to pH <2
TOC - 9060	Bottle Size	250 mL aG
	Preservative	HCl to pH <2

IC Anions - 300.0	Bottle Size	120 mL P	
	Preservative	None	
Alkalinity - 310.1	Bottle Size	120 mL P	
	Preservative	None	
Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
		Preservative	Cool 4°C
	Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None
Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
		Preservative	H2SO4 to pH <2
	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	Cool 4°C

D.J. ALEXANDER JUL 26 2005

Reviewed by: [illegible] OCT 12 2005

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K Treatability Study
Cr+6 Data
HNF-N-296 4

DJAlexander/GS/
djalexander

djalexander 7-26-05 27 99

Hexavalent Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 07/27/05

0915	D. J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
1050	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1100	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (µS/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std.	---	---	0.102	---	---	---	---
B1DJY5	199-K-126	F05-016	ND*	7/27/05	08:12	KH	636
B1DJY5 (Split)	199-K-126	F05-016	ND*	7/27/05	08:12	KH	636
0.10 mg/L std.	---	---	0.101	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

* ND = Not detected. < 0.005 Report first number in HEIS

Data recorded real time using a laptop computer.

TMT 4-28-08

dja JUL 27 2005

djalexander 27 99 JUL 26 2005

D.J. ALEXANDER

Reviewed by: MRAdams OCT 12 2005
MRAdams

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124

K Treatability Study
Nitrate/Nitrite Data
HNF-N-296 4

DJ Alexander
OS/DJalexander

Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 07/28/05

DJalexander 7-27-05

1345	D.J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 375-Nitrite and 361-Nitrate.
1418	Poured 20-mL of 10mg/L HACH Nitrate Standard Solution, Lot # A5171, expiration 12-2009, into beaker for analysis. Prepared a 0.125 mg/L Nitrite standard by adding 10 µL of 250 µg/mL HACH Nitrite Nitrogen Standard Solution, Lot # 5160, expiration 09-2005, to 19.99 mL of deionized water.
1455	Analyzed samples.

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.003	---	---	---	---
0.125 mg/L std.	---	--	0.164	---	---	---	---
B1DJY5*	199-K-126	F05-016	0.288	7-27-05	08:12	KH	2X
B1DJY5* (Split)	199-K-126	F05-016	0.244	7-27-05	08:12	KH	2X
0.125 mg/L std.	---	---	0.165	---	---	---	---
Blank	---	---	0.00~~3~~4 mrp 10/12/05	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.9	---	---	---	---
10.0 mg/L std.	---	---	12.9	---	---	---	---
B1DJY5*	199-K-126	F05-016	ND**	7-27-05	08:12	KH	None
B1DJY5* (Split)	199-K-126	F05-016	Not enough sample left for split analysis	7-27-05	08:12	KH	None
10.0 mg/L std.	---	---	13.0	---	---	---	---
Blank	---	---	0.9	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.
** ND = Not detected.
Data recorded real time using a laptop computer.

D.J. ALEXANDER
DJalexander
JUL 27 2005

Reviewed by: MRAdams OCT 12 2005
Major Adams

K Treatability Study
SO_4^{2-} Data

DJAlexander/
GS/djalexander

djalexander
7-27-05

Sulfate Daily Activity Log
K Treatability Test / SAF F05-016
Logbook HNF-N-296 4
Date: 07/28/05

1345	D.J. Alexander arrives on-site at 200W, MO-612 field laboratory. Set up to analyze samples for sulfate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 952, sulfate.
1424	Prepared 50 mg/L standard by adding 1.5 mL of 1000 mg/L HACH sulfate standard, lot # N7108, no expiration, to 28.50 mL of deionized water.
1520	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler
Blank	---	---	0	---	---	---
50 mg/L std.	---	---	46	---	---	---
B1DJY5	199-K-126	F05-016	67	07/27/05	08:12	KH
B1DJY5 (Split)	199-K-126	F05-016	Not enough sample left for split analysis	07/27/05	08:12	KH
50 mg/L std.	---	---	47	---	---	---
Blank	---	---	0	---	---	---

Data recorded real time using a laptop computer.

djalexander JUL 27 2005

D.J. ALEXANDER
djalexander JUL 27 2005

Reviewed by: MRAdams
Mary Adams OCT 12 2005

DJAlexander/GS

100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings
07-28-05

Logbook No. HNF-N-296-4

0915	D. J. Alexander arrived at the treatability test site at 199-K-126 to calibrate pH, conductivity, dissolved oxygen, and oxidation-reduction potential (ORP) meters to support 100-KR-4 Groundwater Treatability Test sampling (SAF F05-016).
0924	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 036075-24, expires 12/05. Meter reading 7.109. Second calibration point with pH 10.00 buffer, lot number 040904-24, expires 04/06. Meter reading 10.038. Calibration slope 102.1.
0928	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1415 µS/cm). Lot number: 3330, expires 02/04/2006. Adjusted meter to 1415 µS/cm. Cal cell = 0.489.
0930	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235. Instrument passed self-test check - Ready for use - YES.
0931	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 237.3 at 20°C, 231.0 at 25°C, and 224.5 mV at 30°C. Actual reading: 228.9 mV at ~27°C.

Sample Location	Valve Number	Time	Date	FS HEIS Number	WSCF, Lionville	pH	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well	9:20	07/28/2005	B1DJY6	B1DH90	8.931	23.9	654 (24.6°C)	-380.6	0.7

Sample Bottle Lot Numbers: 500 mL Poly - L 3045020; 250-L Poly - L/2 7092040; 125-mL P - L/4 4044040; 250-mL aG - F 2175020; 125-mL aG - G 2008010; 60 mL aG - G/2 8126070.

WSCF Analysis:		
Chromium Hex - 7196	Bottle Size	500 mL Poly
	Preservative	Cool 4°C
ICP/MS - 200.8 (TAL) ICP/MS - 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly
	Preservative	HN03 to pH <2
TOC - 9060	Bottle Size	250 mL aG
	Preservative	HCl to pH <2

IC Anions - 300.0	Bottle Size	120 mL P	
	Preservative	None	
Alkalinity - 310.1	Bottle Size	120 mL P	
	Preservative	None	
Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
		Preservative	Cool 4°C
	Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None
Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
		Preservative	H2SO4 to pH <2
	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	Cool 4°C

K Treatability Test Field Parameters

Reviewed by MRAdams

OCT 12 2005

JUL 28 2005

D.J. ALEXANDER

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KTreatability Test
Chromium Data

DJAlexander / GS
DJalexander

HNF-N-2964

Hexavalent Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 07/28/05

DJalexander 7-28-05

1345	D. J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
1428	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1550	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (µS/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std.	---	---	0.102	---	---	---	---
B1DJY6*	199-K-126	F05-016	ND**	7/28/05	09:20	DJA	654
B1DJY6* (Split)	199-K-126	F05-016	ND**	7/28/05	09:20	DJA	654
0.10 mg/L std.	---	---	0.101	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

** ND = Not Detected. <0.005 mmj 4-28-08

Data recorded real time using a laptop computer.

JUL 28 2005

DJA

D.J. ALEXANDER

JUL 28 2005

Reviewed by: M Adams
Maya Adams

OCT 12 2005

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K Treatability Test
Nitrate/Nitrite Data
HNF-N-296-4

DJ Alexander / GS / DJ Alexander

DJ Alexander 7-28-05

Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 07/28/05

1345	D.J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 375-Nitrite and 361-Nitrate.
1418	Poured 20-mL of 10mg/L HACH Nitrate Standard Solution, Lot # A5171, expiration 12-2009, into beaker for analysis. Prepared a 0.125 mg/L Nitrite standard by adding 10 µL of 250 µg/mL HACH Nitrite Nitrogen Standard Solution, Lot # 5160, expiration 09-2005, to 19.99 mL of deionized water.
1455	Analyzed samples.

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.003	---	---	---	---
0.125 mg/L std.	---	--	0.164	---	---	---	---
B1DJY6*	199-K-126	F05-016	0.174	7-28-05	09:20	DJA	None
B1DJY6* (Split)	199-K-126	F05-016	0.185	7-28-05	09:20	DJA	None
0.125 mg/L std.	---	---	0.165	---	---	---	---
Blank	---	---	0.004	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.9	---	---	---	---
10.0 mg/L std.	---	---	12.9	---	---	---	---
B1DJY6*	199-K-126	F05-016	ND**	7-28-05	09:20	DJA	None
B1DJY6* (Split)	199-K-126	F05-016	ND**	7-28-05	09:20	DJA	None
10.0 mg/L std.	---	---	13.0	---	---	---	---
Blank	---	---	0.9	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.
** ND = Not detected.
Data recorded real time using a laptop computer.

DJ Alexander JUL 28 2005
D.J. ALEXANDER

Reviewed by: MR Adams
Mary Adams OCT 12 2005

00000056

K Treatability Test
Sulfate Data

DJAlexander /GS/
DJalexander

Sulfate Daily Activity Log
K Treatability Test / SAF F05-016
Logbook HNF-N-296 4
Date: 07/28/05

DJalexander 7-28-05

1345	D.J. Alexander arrives on-site at 200W, MO-612 field laboratory. Set up to analyze samples for sulfate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 952, sulfate.
1424	Prepared 50 mg/L standard by adding 1.5 mL of 1000 mg/L HACH sulfate standard, lot # N7108, no expiration, to 28.50 mL of deionized water.
1520	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler
Blank	---	---	0	---	---	---
50 mg/L std.	---	---	46	---	---	---
B1DJY6* (1)	199-K-126	F05-016	74	07/28/05	09:20	DJA
B1DJY6* (1) (Split)	199-K-126	F05-016	76	07/28/05	09:20	DJA
50 mg/L std.	---	---	47	---	---	---
Blank	---	---	0	---	---	---

(1) *Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

DJA 11-7-05

Data recorded real time using a laptop computer.

* Sample diluted 2X.

DJA JUL 28 2005

DJalexander JUL 28 2005
D.J. ALEXANDER

Reviewed MRAdams NOV 28 2005
By: M.R. Adams

00000057

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DJ Alexander/GS/ djalexander

K Treatability Test Field Parameters

100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings
08-02-05

djalexander 8-2-05

Logbook No. HNF-N-296-4

1025	D. J. Alexander arrived at the treatability test site at 199-K-126 to calibrate pH, conductivity, dissolved oxygen, and oxidation-reduction potential (ORP) meters to support 100-KR-4 Groundwater Treatability Test sampling (SAF F05-016).
1030	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 036075-24, expires 12/05. Meter reading 7.109. Second calibration point with pH 10.00 buffer, lot number 040904-24, expires 04/06. Meter reading 10.048. Calibration slope 103.1.
1033	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1415 µS/cm). Lot number: 3330, expires 02/04/2006. Adjusted meter to 1415 µS/cm. Cal cell = 0.488.
1035	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235. Instrument passed self-test check - Ready for use - YES.
1037	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 237.3 at 20°C, 231.0 at 25°C, and 224.5 mV at 30°C. Actual reading: 232.1 mV at ~24°C.

Sample Location	Valve Number	Time	Date	FS HEIS Number	WSCF, Lionville	pH	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well	10:43	08/02/2005	B1DJY7	N/A	7.392	20.8	491 (21.5°C)	-249.5	3.9
199-K-126	Tank in feed from well	10:50	08/02/2005	B1DJY8	N/A	8.729	20.1	487 (20.3°C)	-278.2	3.6
199-K-126	Tank in feed from well	11:15	08/02/2005	B1DJY9	N/A	8.762	20.6	533 (20.8°C)	-288.8	3.5

Sample Bottle Lot Numbers: 500 mL Poly - N/A; 250-L Poly - L/2 7092040; 125-mL P - N/A; 250-mL aG - N/A; 125-mL aG - N/A; 60 mL aG - G/2 8126070.

WSCF Analysis:

Chromium Hex - 7196	Bottle Size	500 mL Poly
	Preservative	Cool 4°C
ICP/MS - 200.8 (TAL) ICP/MS - 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly
	Preservative	HN03 to pH <2
TOC - 9060	Bottle Size	250 mL aG
	Preservative	HCl to pH <2

IC Anions - 300.0	Bottle Size	120 mL P	
	Preservative	None	
Alkalinity - 310.1	Bottle Size	120 mL P	
	Preservative	None	
Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
		Preservative	Cool 4°C
	Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None
Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
		Preservative	H2SO4 to pH <2
	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	Cool 4°C

Reviewed by Meadows Cole OCT 12 2005

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AUG 02 2005

DJ Alexander
D.J. ALEXANDER

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KTreatability Test
Chromium Data

DJAlexander/GS/
DJalexander

HNF-N-296 4

Hexavalent Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 08/02/05

DJalexander 8-2-05

1300	D. J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
1356	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1415	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (µS/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std.	---	---	0.102	---	---	---	---
B1DJY7*	199-K-126	F05-016	0.005	8/02/05	10:43	DJA	491
B1DJY7* (Split)	199-K-126	F05-016	0.009	8/02/05	10:43	DJA	491
Sample taken with more than zero, but less than 50 gallons pumped from well.							
B1DJY8*	199-K-126	F05-016	~~ND**~~ 0.049	8/02/05	10:50	DJA	487
B1DJY8* (Split)	199-K-126	F05-016	~~ND**~~ 0.051 DJA 11-7-05	8/02/05	10:50	DJA	487
Sample taken with approximately 100 gallons pumped from well.							
B1DJY9*	199-K-126	F05-016	ND**	8/02/05	11:15	DJA	533
B1DJY9* (Split)	199-K-126	F05-016	ND**	8/02/05	11:15	DJA	533
Sample taken with approximately 500 gallons pumped from well.							
0.10 mg/L std.	---	---	0.100	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

** ND = Not Detected. <0.005 MM 4-28-08

Data recorded real time using a laptop computer.

DJA AUG 02 2005

DJalexander
D.J. ALEXANDER AUG 02 2005

Reviewed Marie Adams
By: M.R. Adams NOV 08 2005

K Treatability Test
Nitrate / Nitrite Data

DJ Alexander/05/
DJ Alexander

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Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 08/02/05

DJ Alexander 8-2-05

HNF-N-2964

1300	D.J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 375-Nitrite and 361-Nitrate.
1356	Poured 20-mL of 10mg/L HACH Nitrate Standard Solution, Lot # A5171, expiration 12-2009, into beaker for analysis. Prepared a 0.125 mg/L Nitrite standard by adding 10 µL of 250 µg/mL HACH Nitrite Nitrogen Standard Solution, Lot # 5160, expiration 09-2005, to 19.99 mL of deionized water.
1430	Analyzed samples.

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.002	---	---	---	---
0.125 mg/L std.	---	--	0.144	---	---	---	---
B1DJY7*	199-K-126	F05-016	1.000	8-02-05	10:43	DJA	mr 10/13/05 4 ~~2~~X
B1DJY7* (Split)	199-K-126	F05-016	0.960	8-02-05	10:43	DJA	mr 10/13/05 4 ~~2~~X
B1DJY8*	199-K-126	F05-016	0.231	8-02-05	10:50	DJA	None
B1DJY8* (Split)	199-K-126	F05-016	0.230	8-02-05	10:50	DJA	None
B1DJY9*	199-K-126	F05-016	0.286	8-02-05	11:15	DJA	None
B1DJY9* (Split)	199-K-126	F05-016	0.284	8-02-05	11:15	DJA	None
0.125 mg/L std.	---	---	0.145	---	---	---	---
Blank	---	---	0.002	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.8	---	---	---	---
10.0 mg/L std.	---	---	12.8	---	---	---	---
B1DJY7*	199-K-126	F05-016	1.0	8-02-05	10:43	DJA	None
B1DJY7* (Split)	199-K-126	F05-016	0.8	8-02-05	10:43	DJA	None
B1DJY8*	199-K-126	F05-016	ND**	8-02-05	10:50	DJA	None
B1DJY8* (Split)	199-K-126	F05-016	ND**	8-02-05	10:50	DJA	None
B1DJY9*	199-K-126	F05-016	ND**	8-02-05	11:15	DJA	None
B1DJY9* (Split)	199-K-126	F05-016	ND**	8-02-05	11:15	DJA	None
10.0 mg/L std.	---	---	12.8	---	---	---	---
Blank	---	---	0.8	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

** ND = Not detected.

Data recorded real time using a laptop computer.

DJ Alexander
D.J. ALEXANDER AUG 02 2005 00000060 Reviewed by mr adams Mary Adams OCT 13 2005

K Treatability Test
Sulfate Data

DJ Alexander/GS/
DJAlexander

DJAlexander
8-2-05

Sulfate Daily Activity Log
KR4 Treatability Test - 199-K-126
Logbook HNF-N-296-4 / SAF F05-016
Date: 08/02/05

1300	D.J. Alexander arrives on-site at 200W, MO-612 field laboratory. Set up to analyze samples for sulfate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 952, sulfate.
1356	Prepared 50 mg/L standard by adding 1.5 mL of 1000 mg/L HACH sulfate standard, lot # N7108, no expiration, to 28.50 mL of deionized water.
1530	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0	---	---	---	---
50.0 mg/L std.	---	---	49	---	---	---	---
B1DJY7*	199-K-126	F05-016	110	8/02/05	10:43	DJA	2X
B1DJY7* (Split)	199-K-126	F05-016	112	8/02/05	10:43	DJA	2X
Sample taken with more than zero, but less than 50 gallons pumped from well.							
B1DJY8*	199-K-126	F05-016	46	8/02/05	10:50	DJA	None
B1DJY8* (Split)	199-K-126	F05-016	47	8/02/05	10:50	DJA	None
Sample taken with approximately 100 gallons pumped from well.							
B1DJY9*	199-K-126	F05-016	67	8/02/05	11:15	DJA	None
B1DJY9* (Split)	199-K-126	F05-016	68	8/02/05	11:15	DJA	None
Sample taken with approximately 500 gallons pumped from well.							
50.0 mg/L std.	---	---	49	---	---	---	---
Blank	---	---	0	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Data recorded real time using a laptop computer.

AUG 02 2005

DJAlexander
D.J. ALEXANDER

AUG 02 2005

Reviewed by: MR Adams
MRAdams

OCT 13 2005

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DJAlexander/ GS/DJAlexander

K Treatability Test Field Parameters

100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings
08-03-05

DJAlexander 8-3-05

Logbook No. HNF-N-296-4

1110	D. J. Alexander arrived at the treatability test site at 199-K-126 to calibrate pH, conductivity, dissolved oxygen, and oxidation-reduction potential (ORP) meters to support 100-KR-4 Groundwater Treatability Test sampling (SAF F05-016).
1113	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 036075-24, expires 12/05. Meter reading 7.112. Second calibration point with pH 10.00 buffer, lot number 040904-24, expires 04/06. Meter reading 10.028. Calibration slope 103.0.
1116	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1415 µS/cm). Lot number: 3330, expires 02/04/2006. Adjusted meter to 1415 µS/cm. Cal cell = 0.478.
1111	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235. Instrument passed self-test check - Ready for use - YES.
1117	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 237.3 at 20°C, 231.0 at 25°C, and 224.5 mV at 30°C. Actual reading: 222.5 mV at ~28°C.

Sample Location	Valve Number	Time	Date	FS HEIS Number	WSCF, Lionville	pH	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well	11:25	08/~~02~~ 03/2005	B1DLH4	B1DLH7	8.982	21.0	583 (21.8°C)	-336.3	2.2

Sample Bottle Lot Numbers: 500 mL Poly - L 3045020; 250-L Poly - L/2 7092040; 125-mL P - L/4 4044040; 250-mL aG - F 2175020; 125-mL aG - G 2008010; 60 mL aG - G/2 8126070.

WSCF Analysis:						
Chromium Hex - 7196	Bottle Size	500 mL Poly	IC Anions - 300.0	Bottle Size	120 mL P	
	Preservative	Cool 4°C		Preservative	None	
ICP/MS - 200.8 (TAL) ICP/MS - 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly	Alkalinity - 310.1	Bottle Size	120 mL P	
	Preservative	HN03 to pH <2		Preservative	None	
TOC - 9060	Bottle Size	250 mL aG				
	Preservative	HCl to pH <2				

Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
		Preservative	Cool 4°C
	Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None
Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
		Preservative	H2SO4 to pH <2
	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	Cool 4°C

Reviewed by MRGlover OCT 13 2005

DJAlexander AUG 03 2005 D.J. ALEXANDER

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K Treatability Test
Chromium Data

HNF-N-296 4

DJ Alexander
OS/DJ Alexander

DJ Alexander
8-3-05

Hexavalent Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 08/03/05

1510	D. J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
1520	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1611	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (µS/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std	---	---	0.105	---	---	---	---
~~B1DLH4*~~ B1DLH4	199-K-126	F05-016	ND**	8/03/05	11:25	DJA	583
B1DLH4* (Split)	199-K-126	F05-016	ND**	8/03/05	11:25	DJA	583
0.10 mg/L std.	---	---	0.101	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

** ND = Not Detected. <0.005 TMJ 4-28-08

Data recorded real time using a laptop computer.

AUG 03 2005

DJ Alexander
AUG 03 2005
D.J. ALEXANDER

Reviewed by: MR Adams
Maja Adams OCT 13 2005

00000063

K Treatability Test
Nitrate/Nitrite Data
HNF-N-2964

DJAlexander/GS/
DJalexander

DJalexander
8-3-05

Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 08/03/05

1510	D.J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 375-Nitrite and 361-Nitrate.
1520	Poured 20-mL of 10mg/L HACH Nitrate Standard Solution, Lot # A5171, expiration 12-2009, into beaker for analysis. Prepared a 0.125 mg/L Nitrite standard by adding 10 µL of 250 µg/mL HACH Nitrite Nitrogen Standard Solution, Lot # 5160, expiration 09-2005, to 19.99 mL of deionized water.
1545	Analyzed samples.

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.003	---	---	---	---
0.125 mg/L std.	---	--	0.152	---	---	---	---
B1DLH4*	199-K-126	F05-016	0.330	8-03-05	11:25	DJA	2X
B1DLH4* (Split)	199-K-126	F05-016	0.332	8-03-05	11:25	DJA	2X
0.125 mg/L std.	---	---	0.154	---	---	---	---
Blank	---	---	0.003	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.9	---	---	---	---
10.0 mg/L std.	---	---	11.9	---	---	---	---
B1DLH4*	199-K-126	F05-016	ND**	8-03-05	11:25	DJA	None
B1DLH4* (Split)	199-K-126	F05-016	ND**	8-03-05	11:25	DJA	None
10.0 mg/L std.	---	---	12.2	---	---	---	---
Blank	---	---	0.9	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.
** ND = Not detected.
Data recorded real time using a laptop computer.

AUG 03 2005

DJalexander AUG 03 2005
D.J. ALEXANDER

Reviewed by: MRAdams
Maya Adams OCT 14 2005

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K Treatability Test
Sulfate Data

DJ Alexander / GS
DJ Alexander

DJ Alexander 8-3-05

Sulfate Daily Activity Log
KR4 Treatability Test - 199-K-126
Logbook HNF-N-296-4 / SAF F05-016
Date: 08/03/05

1510	D.J. Alexander arrives on-site at 200W, MO-612 field laboratory. Set up to analyze samples for sulfate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 952, sulfate.
1520	Prepared 50 mg/L standard by adding 1.5 mL of 1000 mg/L HACH sulfate standard, lot # N7108, no expiration, to 28.50 mL of deionized water.
1614	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0	---	---	---	---
50.0 mg/L std.	---	---	46	---	---	---	---
B1DLH4* (1)	199-K-126	F05-016	80	8/03/05	11:25	DJA	2X
B1DLH4* (1) (Split)	199-K-126	F05-016	80	8/03/05	11:25	DJA	2X
50.0 mg/L std.	---	---	46	---	---	---	---
Blank	---	---	0	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Data recorded real time using a laptop computer.

(1) 2X Dilution

DJ AUG 03 2005

DJ Alexander AUG 03 2005

D.J. ALEXANDER

Reviewed by: MR Adams
Maria Adams

OCT 14 2005

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D.J. Alexander / GS / DJAlexander

K Treatability Test Field Parameters

100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings
08-05-05

Logbook No. HNF-N-296-4

DJAlexander 8-5-05

0950	D. J. Alexander arrived at the treatability test site at 199-K-126 to calibrate pH, conductivity, dissolved oxygen, and oxidation-reduction potential (ORP) meters to support 100-KR-4 Groundwater Treatability Test sampling (SAF F05-016).
0951	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 036075-24, expires 12/05. Meter reading 7.112. Second calibration point with pH 10.00 buffer, lot number 040904-24, expires 04/06. Meter reading 10.026. Calibration slope 103.7.
0953	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1415 µS/cm). Lot number: 3330, expires 02/04/2006. Adjusted meter to 1415 µS/cm. Cal cell = 0.469.
0954	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235. Instrument passed self-test check - Ready for use - YES.
0956	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 237.3 at 20°C, 231.0 at 25°C, and 224.5 mV at 30°C. Actual reading: 227.8 mV at ~28°C.

Sample Location	Valve Number	Time	Date	FS HEIS Number	WSCF, Lionville	pH	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well	10:02	08/05/2005	B1DLH5	N/A	9.145	21.2	586 (22.2°C)	-401.9	0.4

Sample Bottle Lot Numbers: 500 mL Poly - N/A; 250-L Poly - L/2 7092040; 125-mL P - N/A; 250-mL aG - N/A; 125-mL aG - N/A; 60 mL aG - G/2 8126070.

WSCF Analysis:

Chromium Hex - 7196	Bottle Size	500 mL Poly
	Preservative	Cool 4°C
ICP/MS - 200.8 (TAL) ICP/MS 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly
	Preservative	HN03 to pH <2
TOC - 9060	Bottle Size	250 mL aG
	Preservative	HCl to pH <2

IC Anions - 300.0	Bottle Size	120 mL P	
	Preservative	None	
Alkalinity - 310.1	Bottle Size	120 mL P	
	Preservative	None	
Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
		Preservative	Cool 4°C
	Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None
Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
		Preservative	H2SO4 to pH <2
	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	Cool 4°C

Reviewed by M. Adams OCT 14 2005

D.J. ALEXANDER AUG 05 2005 DJAlexander

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K Treatability Test
Chromium Data
HNF-N-296 4

DJ Alexander / GS
DJ Alexander

Hexavalent Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 08/05/05

DJ Alexander 8-5-05

1035	D. J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
1048	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1132	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (µS/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std.	---	---	0.106	---	---	---	---
B1DLH5*	199-K-126	F05-016	ND**	8/05/05	10:02	DJA	586
B1DLH5* (Split)	199-K-126	F05-016	ND**	8/05/05	10:02	DJA	586
0.10 mg/L std.	---	---	0.101	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

** ND = Not Detected. < 0.005 TMJ 4-28-08

Data recorded real time using a laptop computer.

DJA

AUG 05 2005

DJ Alexander

D.J. ALEXANDER AUG 05 2005

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Reviewed by: mradams
Mya Adams

OCT 14 2005

K Treatability Test
Nitrate/Nitrite Data
HNF-N-2964

DJAlexander/
GS/DJAlexander

Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 08/05/05

DJAlexander
8-5-05

1035	D.J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 375-Nitrite and 361-Nitrate.
1048	Poured 20-mL of 10mg/L HACH Nitrate Standard Solution, Lot # A5171, expiration 12-2009, into beaker for analysis. Prepared a 0.125 mg/L Nitrite standard by adding 10 μL of 250 μg/mL HACH Nitrite Nitrogen Standard Solution, Lot # 5160, expiration 09-2005, to 19.99 mL of deionized water.
1120	Analyzed samples.

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.003	---	---	---	---
0.125 mg/L std.	---	--	0.180	---	---	---	---
B1DLH5*	199-K-126	F05-016	0.260	8-05-05	10:02	DJA	2X
B1DLH5* (Split)	199-K-126	F05-016	0.268	8-05-05	10:02	DJA	2X
0.125 mg/L std.	---	---	0.181	---	---	---	---
Blank	---	---	0.003	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.8	---	---	---	---
10.0 mg/L std.	---	---	11.1	---	---	---	---
B1DLH5*	199-K-126	F05-016	ND**	8-05-05	10:02	DJA	None
B1DLH5* (Split)	199-K-126	F05-016	ND**	8-05-05	10:02	DJA	None
10.0 mg/L std.	---	---	11.2	---	---	---	---
Blank	---	---	0.7	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.
** ND = Not detected.
Data recorded real time using a laptop computer.

AUG 05 2005

DJA

DJAlexander
D.J. ALEXANDER

AUG 05 2005

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Reviewed by: MRAdams
Mary Adams

OCT 14 2005

K Treatability Test
Sulfate Data

DJ Alexander/
GS/ DJ Alexander

Sulfate Daily Activity Log
KR4 Treatability Test - 199-K-126
Logbook HNF-N-296-4 / SAF F05-016
Date: 08/05/05

DJ Alexander
8-5-05

1035	D.J. Alexander arrives on-site at 200W, MO-612 field laboratory. Set up to analyze samples for sulfate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 952, sulfate.
1048	Prepared 50 mg/L standard by adding 1.5 mL of 1000 mg/L HACH sulfate standard, lot # N7108, no expiration, to 28.50 mL of deionized water.
1146	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0	---	---	---	---
50.0 mg/L std.	---	---	49	---	---	---	---
B1DLH5*	199-K-126	F05-016	66	8/05/05	10:02	DJA	2X
B1DLH5* (Split)	199-K-126	F05-016	66	8/05/05	10:02	DJA	2X
50.0 mg/L std.	---	---	50	---	---	---	---
Blank	---	---	0	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Data recorded real time using a laptop computer.

DJA AUG 05 2005

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DJ Alexander
D.J. ALEXANDER

AUG 05 2005

Reviewed by: MRAdams
Maxie Adams

OCT 17 2005

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DJAlexander
CS/DJAlexander

K Treatability Test
Field Parameters

100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings
08-08-05

DJAlexander 8-8-05

Logbook No. HNF-N-296-4

1105	D. J. Alexander arrived at the treatability test site at 199-K-126 to calibrate pH, conductivity, dissolved oxygen, and oxidation-reduction potential (ORP) meters to support 100-KR-4 Groundwater Treatability Test sampling (SAF F05-016).
1107	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 036075-24, expires 12/05. Meter reading 7.122. Second calibration point with pH 10.00 buffer, lot number 040904-24, expires 04/06. Meter reading 9.973. Calibration slope 103.9.
1109	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1415 µS/cm). Lot number: 3330, expires 02/04/2006. Adjusted meter to 1415 µS/cm. Cal cell = 0.428.
1111	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235. Instrument passed self-test check - Ready for use - YES.
1115	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 237.3 at 20°C, 231.0 at 25°C, and 224.5 mV at 30°C. Actual reading: 213.7 mV at ~34°C.

Sample Location	Valve Number	Time	Date	FS HEIS Number	WSCF, Lionville	pH	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well	11:23	08/08/2005	B1DLH6	N/A	8.902	21.8	528 (23.1°C)	-289.2	2.0

Sample Bottle Lot Numbers: 500 mL Poly - N/A; 250-L Poly - L/2 7092040; 125-mL P - N/A; 250-mL aG - N/A; 125-mL aG - N/A; 60 mL aG - G/2 8126070.

WSCF Analysis:						
Chromium Hex - 7196	Bottle Size	500 mL Poly	IC Anions - 300.0	Bottle Size	120 mL P	
	Preservative	Cool 4°C		Preservative	None	
ICP/MS - 200.8 (TAL) ICP/MS 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly	Alkalinity - 310.1	Bottle Size	120 mL P	
	Preservative	HN03 to pH <2		Preservative	None	
TOC - 9060	Bottle Size	250 mL aG				
	Preservative	HCl to pH <2				

Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
		Preservative	Cool 4°C
	Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None
Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
		Preservative	H2SO4 to pH <2
	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	Cool 4°C

DJAlexander

D.J. ALEXANDER AUG 08 2005

By: M.R. Adams NOV 08 2005

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K Treatability Test
Chromium Data
HNF-N-2964

DJ Alexander/
GS/DJ Alexander

Hexavalent Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 08/08/05

DJ Alexander 8-8-05

1200	D. J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
1209	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1305	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (µS/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std.	---	---	0.100	---	---	---	---
B1DLH6*	199-K-126	F05-016	ND**	8/08/05	11:23	DJA	528
B1DLH6* (Split)	199-K-126	F05-016	ND**	8/08/05	11:23	DJA	528
0.10 mg/L std.	---	---	0.099	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

** ND = Not Detected. <0.005 TMJ 4-28-08

Data recorded real time using a laptop computer.

DJA AUG 08 2005

DJ Alexander
D.J. ALEXANDER AUG 08 2005

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Reviewed by MRAdams
Meyi Adams OCT 17 2005

K Treatability Test
Nitrate/Nitrite Data
HNF-N-2964

DJAlexander/GS
DJAlexander

DJAlexander 8-8-05

Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 08/08/05

1200	D.J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 375-Nitrite and 361-Nitrate.
1209	Poured 20-mL of 10mg/L HACH Nitrate Standard Solution, Lot # A5171, expiration 12-2009, into beaker for analysis. Prepared a 0.125 mg/L Nitrite standard by adding 10 μL of 250 μg/mL HACH Nitrite Nitrogen Standard Solution, Lot # 5160, expiration 09-2005, to 19.99 mL of deionized water.
1235	Analyzed samples.

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.006	---	---	---	---
0.125 mg/L std.	---	--	0.149	---	---	---	---
B1DLH6*	199-K-126	F05-016	0.249	8-08-05	11:23	DJA	None
B1DLH6* (Split)	199-K-126	F05-016	0.248	8-08-05	11:23	DJA	None
0.125 mg/L std.	---	---	0.149	---	---	---	---
Blank	---	---	0.004	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.89 MM 10/17/05	---	---	---	---
10.0 mg/L std.	---	---	13.8	---	---	---	---
B1DLH6*	199-K-126	F05-016	ND**	8-08-05	11:23	DJA	None
B1DLH6* (Split)	199-K-126	F05-016	ND**	8-08-05	11:23	DJA	None
10.0 mg/L std.	---	---	13.5	---	---	---	---
Blank	---	---	0.8	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.
** ND = Not detected.
Data recorded real time using a laptop computer.

AUG 08 2005 DJA

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DJAlexander
D.J. ALEXANDER AUG 08 2005

Reviewed by MRAdams
MRAdams OCT 17 2005

KTreatability Test
Sulfate Data

DJAlexander/LOS
DJalexander

Sulfate Daily Activity Log
KR4 Treatability Test - 199-K-126
Logbook HNF-N-296-4 / SAF F05-016
Date: 08/08/05

DJalexander 8-8-05

1200	D.J. Alexander arrives on-site at 200W, MO-612 field laboratory. Set up to analyze samples for sulfate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 952, sulfate.
1209	Prepared 50 mg/L standard by adding 1.5 mL of 1000 mg/L HACH sulfate standard, lot # N7108, no expiration, to 28.50 mL of deionized water.
1257	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0	---	---	---	---
50.0 mg/L std.	---	---	50	---	---	---	---
B1DLH6*	199-K-126	F05-016	66	8/08/05	11:23	DJA	2X ~~None~~ TMS 4/22/08
B1DLH6* (Split)	199-K-126	F05-016	65	8/08/05	11:23	DJA	2X ~~None~~
50.0 mg/L std.	---	---	49	---	---	---	---
Blank	---	---	0	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Data recorded real time using a laptop computer.

~~2X~~ Dilution

AUG 08 2005

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DJalexander
D.J. ALEXANDER AUG 08 2005

Reviewed by MRAdams
Mrj Adams OCT 17 2005

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100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings
08-10-05

Logbook No. HNF-N-296-5

0850	D. J. Alexander arrived at the treatability test site at 199-K-126 to calibrate pH, conductivity, dissolved oxygen, and oxidation-reduction potential (ORP) meters to support 100-KR-4 Groundwater Treatability Test sampling (SAF F05-016).
0852	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 036075-24, expires 12/05. Meter reading 7.110. Second calibration point with pH 10.00 buffer, lot number 040904-24, expires 04/06. Meter reading 10.039. Calibration slope 101.9.
0854	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1423 µS/cm). Lot number: 3361, expires 04/13/2006. Adjusted meter to 1423 µS/cm. Cal cell = 0.489.
0856	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235. Instrument passed self-test check - Ready for use - YES.
0858	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 237.3 at 20°C, 231.0 at 25°C, and 224.5 mV at 30°C. Actual reading: 226.2 mV at ~27°C.

Sample Location	Valve Number	Time	Date	FS HEIS Number	WSCF, Lionville	pH	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well, >50 gals pumped	9:29	08/10/2005	B1DMD9	N/A	8.691	21.0	554 (21.2°C)	-329.8	1.0
199-K-126	Tank in feed from well, ~100 gals pumped	9:37	08/10/2005	B1DMF0	N/A	8.755	21.0	562 (21.5°C)	-304.9	2.9
199-K-126	Tank in feed from well, ~500 gals pumped	10:37	08/10/2005	B1DMF1	B1DMF2	8.934	21.9	566 (23.0°C)	-310.6	1.8

Sample Bottle Lot Numbers: 500 mL Poly - L 3045020; 250-L Poly - L/2 7092040; 125-mL P - L/4 4044040; 250-mL aG - F 2175020; 125-mL aG - G 2008010; 60 mL aG - G/2 8126070.

WSCF Analysis:						
Chromium Hex - 7196	Bottle Size	500 mL Poly	IC Anions - 300.0	Bottle Size	120 mL P	
	Preservative	Cool 4°C		Preservative	None	
ICP/MS - 200.8 (TAL) ICP/MS - 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly	Alkalinity - 310.1	Bottle Size	120 mL P	
	Preservative	HN03 to pH <2		Preservative	None	
TOC - 9060	Bottle Size	250 mL aG				
	Preservative	HCl to pH <2				

Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
		Preservative	Cool 4°C
	Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None
Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
		Preservative	H2SO4 to pH <2
	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	Cool 4°C

DJAlexander
GS/Alexander

K Treatability Test
Field Parameters

By: M.H. Adams

OCT 19 2005

DJ Alexander
AUG 16 2005
DJ ALEXANDER

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K Treatability Test - Chromium Data
HNF-N-296-5

DJAlexander/GS/
DJAlexander

Hexavalent & Total Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 08/10/05

DJAlexander 8-16-05

1200	D. J. Alexander and M.R. Adams on site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium and Method 100, total chromium.
1230	Prepared a sample and sample split from each sample collected today to analyze for hexavalent chromium. Prepared a sample and a sample split from the third sample collected today to analyze for total chromium.
1245	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1255	Analyzed samples. Note: Sample 1 collected when >50 gallons had been pumped from well. Sample 2 collected at ~100 gallons pumped from well. Sample 3 collected at ~500 gallons pumped from well.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (µS/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std.	---	---	0.102	---	---	---	---
B1DMD9*	199-K-126	F05-016	0.069	8/10/05	09:29	MRA/DJA	554
B1DMD9* (Split)	199-K-126	F05-016	0.060	8/10/05	09:29	MRA/DJA	554
B1DMF0*	199-K-126	F05-016	0.027	8/10/05	09:37	MRA/DJA	562
B1DMF0* (Split)	199-K-126	F05-016	0.023	8/10/05	09:37	MRA/DJA	562
B1DMF1*	199-K-126	F05-016	ND**	8/10/05	10:37	MRA/DJA	566
B1DMF1* (Split)	199-K-126	F05-016	ND**	8/10/05	10:37	MRA/DJA	566
0.10 mg/L std.	---	---	0.102	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

see note below

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.
** ND = Not Detected. <0.005 MJ 4-28-08

Note: These 6 samples (3 samples with a split each) were reanalyzed on 8-17-05 – No detection of hex Cr. on any sample. DJA 11-17-05

Data recorded real time using a laptop computer.

Note: Total chromium was also run on Sample B1DMF1 – the results were non detect for total chromium in both the sample and the sample split.

DJAlexander
D.J. ALEXANDER AUG 16 2005

Reviewed By: M.R Adams OCT 19 2005 MRAdams

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K Treatability Test - Nitrate/Nitrite Data
HNF-N-2965

DJ Alexander/
GS/DJAlexander

3

DJAlexander
8-16-05

Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 08/10/05

1200	D.J. Alexander and M.R. Adams on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 375-Nitrite and 361-Nitrate.
~~1209~~ 1202 mrt 10/19/05	Poured 20-mL of 10.0 mg/L HACH Nitrate Standard Solution, Lot # A5171, expiration 12-2009, into beaker for analysis. Prepared a 0.125 mg/L Nitrite standard by adding 10 μL of 250 μg/mL HACH Nitrite Nitrogen Standard Solution, Lot # 5160, expiration 09-2005, to 19.99 mL of deionized water.
mrt 10/19/05 ~~1235~~ 1218	Analyzed samples. Note: Sample 1 collected when >50 gallons had been pumped from well. Sample 2 collected at ~100 gallons pumped from well. Sample 3 collected at ~500 gallons pumped from well.

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.003	---	---	---	---
0.125 mg/L std.	---	--	0.195	---	---	---	---
B1DMD9*	199-K-126	F05-016	0.720	8-10-05	09:29	DJA/MRA	4X
B1DMD9* (Split)	199-K-126	F05-016	0.704	8-10-05	09:29	DJA/MRA	4X
B1DMF0*	199-K-126	F05-016	0.265	8-10-05	09:37	DJA/MRA	None
B1DMF0* (Split)	199-K-126	F05-016	0.263	8-10-05	09:37	DJA/MRA	None
B1DMF1*	199-K-126	F05-016	0.274	8-10-05	10:37	DJA/MRA	None
B1DMF1* (Split)	199-K-126	F05-016	0.264	8-10-05	10:37	DJA/MRA	None
0.125 mg/L std.	---	---	0.200	---	---	---	---
Blank	---	---	0.004	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.8	---	---	---	---
10.0 mg/L std.	---	---	11.1	---	---	---	---
B1DMD9*	199-K-126	F05-016	ND**	8-10-05	09:29	DJA/MRA	None
B1DMD9* (Split)	199-K-126	F05-016	ND**	8-10-05	09:29	DJA/MRA	None
B1DMF0*	199-K-126	F05-016	ND**	8-10-05	09:37	DJA/MRA	None
B1DMF0* (Split)	199-K-126	F05-016	ND**	8-10-05	09:37	DJA/MRA	None
B1DMF1*	199-K-126	F05-016	ND**	8-10-05	10:37	DJA/MRA	None
B1DMF1* (Split)	199-K-126	F05-016	ND**	8-10-05	10:37	DJA/MRA	None
10.0 mg/L std.	---	---	11.4	---	---	---	---
Blank	---	---	0.7	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.
** ND = Not detected.

Data recorded real time using a laptop computer.

D.J. ALEXANDER AUG 1 6 2005

Reviewed By: M.R. Adams

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OCT 1 9 2005

4 KTreatability Test - Sulfate Data DJAlexander/ GS/DJAlexander

DJAlexander 8-16-05

Sulfate Daily Activity Log
KR4 Treatability Test - 199-K-126
Logbook HNF-N-296-4 / SAF F05-016
Date: 08/10/05

1200	D.J. Alexander and M.R. Adams arrive on-site at 200W, MO-612 field laboratory. Set up to analyze samples for sulfate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 952, sulfate.
1225	Prepared 50 mg/L standard by adding 1.5 mL of 1000 mg/L HACH sulfate standard, lot # N7108, no expiration, to 28.50 mL of deionized water.
1235	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	1	---	---	---	---
50.0 mg/L std.	---	---	40	---	---	---	---
B1DMD9*	199-K-126	F05-016	56	8/10/05	09:29	MRA/DJA	2X
B1DMF0*	199-K-126	F05-016	84	8/10/05	09:37	MRA/DJA	2X
B1DMF1*	199-K-126	F05-016	68	8/10/05	10:37	MRA/DJA	2X
50.0 mg/L std.	---	---	41	---	---	---	---
Blank	---	---	1	---	---	---	---

* Sample 1 collected when >50 gallons had been pumped from well. Sample 2 collected at ~100 gallons pumped from well. Sample 3 collected at ~500 gallons pumped from well.

Data recorded real time using a laptop computer.

AUG 16 2005

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D.J. ALEXANDER
DJAlexander AUG 16 2005

Reviewed Margie Adams OCT 19 2005
By: M.R. Adams

K Treatability Test - Iron Data

DJ Alexander / GS / DJ Alexander

Total and Ferrous Iron Daily Activity Log
100-KR4 Treatability Test – 199-K-126
SAF F05-016 / Logbook No. HNF-N-296-4
Date: 08/10/05

DJ Alexander 8-16-05

1200	D.J. Alexander and M.R. Adams on-site at 200W, HO 68N-1985 mobile laboratory. Set up to analyze samples for ferrous iron and total iron in groundwater samples using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 257, ferrous iron and Method 267, total iron.
1315	Prepared 1.00 mg/L ferrous iron standard by adding 40 µL of 1000 mg/L HACH ferrous iron standard, lot # A4147, expiration date 5-2009, to 39.96 mL (39.96-g) of deionized water. Prepared standard weight = 40.0 g. Standard is split and used for both the ferrous and total iron standards; 20-mL for each standard.
1325	Analyzed samples. Note: Sample 1 collected when >50 gallons had been pumped from well. Sample 2 collected at ~100 gallons pumped from well. Sample 3 collected at ~500 gallons pumped from well.

Sample #	Well #	SAF #	Concentration Ferrous Iron (mg/L)	Concentration Total Iron (mg/L)	Date Sampled	Time Sampled	Sampler
Blank	---	---	0.00	0.00	---	---	---
1.00 mg/L std.	---	---	1.12	1.13	---	---	---
B1DMD9*	199-K-126	F05-016	ND**	0.59	8-10-05	09:29	DJA/MRA
B1DMD9*	199-K-126	F05-016	ND**	0.56	8-10-05	09:29	DJA/MRA
B1DMF0*	199-K-126	F05-016	0.02	0.28	8-10-05	09:37	DJA/MRA
B1DMF0*	199-K-126	F05-016	0.02	0.29	8-10-05	09:37	DJA/MRA
B1DMF1*	199-K-126	F05-016	0.02	0.34	8-10-05	10:37	DJA/MRA
B1DMF1*	199-K-126	F05-016	0.02	0.34	8-10-05	10:37	DJA/MRA
0.10 mg/L std.	---	---	1.12	1.12	---	---	---
Blank	---	---	0.00	0.00	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

** ND = Not detected.

Data recorded real time using a laptop computer.

AUG 16 2005 DJA

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D.J. ALEXANDER DJ Alexander AUG 16 2005

Reviewed By: M.R. Adams Mary Adams OCT 19 2005

100-KR-4 Groundwater Treatability Test
SAF F05-016

Field Instrument Readings

08-17-05

Logbook No. HNF-N-296-5

0905	D. J. Alexander arrived at the treatability test site at 199-K-126 to calibrate pH, conductivity, dissolved oxygen, and oxidation-reduction potential (ORP) meters to support 100-KR-4 Groundwater Treatability Test sampling (SAF F05-016).
0910	Calibrated Orion model 290A+ pH meter, SN 011878, with pH 7.00 buffer, lot number 044065-24, expires 10/06. Meter reading 7.107. Second calibration point with pH 10.00 buffer, lot number 5150, expires 05/31/06. Meter reading 10.054. Calibration slope 99.9.
0912	Calibrated Thermo Orion Model 135A Conductivity meter, S/N 067530-02, with One-Shot™ Conductivity calibrator (1423 µS/cm). Lot number: 3361, expires 04/13/2006. Adjusted meter to 1423 µS/cm. Cal cell = 0.510.
0913	Verified calibration of HACH Model HQ10 Dissolved Oxygen meter, SN 050500004235. Instrument passed self-test check - Ready for use - YES.
0915	Performed standard check of ORP electrode. Orion Model 290A meter, SN 004165 with Accumet Platinum KCl/AgCl ORP electrode. Meter should read Zobell's Standard Solution at 237.3 at 20°C, 231.0 at 25°C, and 224.5 mV at 30°C. Actual reading: 230.4 mV at ~25°C.

Sample Location	Valve Number/ Volume Pumped	Time	Date	FS HEIS Number	WSCF, Lionville	pH	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Tank in feed from well, <50 gals pumped from well	9:21	08/17/2005	B1DNP9	N/A	8.433	19.5	550 (19.6°C)	-89.9	3.8
199-K-126	Tank in feed from well, ~100 gals pumped from well	9:29	08/17/2005	B1DNR0	N/A	8.596	19.7	553 (19.6°C)	-259.0	4.6
199-K-126	Tank in feed from well, ~500 gals pumped from well	10:08	08/17/2005	B1DNR1	N/A	8.784	19.6	555 (19.5°C)	-273.9	4.1

Sample Bottle Lot Numbers: 500 mL Poly - L 3045020; 250-L Poly - N/A; 125-mL P - N/A; 250-mL aG - N/A; 125-mL aG - N/A; 60 mL aG - G/2 8126070.

WSCF Analysis:		
Chromium Hex - 7196	Bottle Size	500 mL Poly
	Preservative	Cool 4°C
ICP/MS - 200.8 (TAL) ICP/MS - 200.8 (Add-On) ICP Metals - 6010B (TAL)	Bottle Size	250 mL Poly
	Preservative	HN03 to pH <2
TOC - 9060	Bottle Size	250 mL aG
	Preservative	HCl to pH <2

IC Anions - 300.0	Bottle Size	120 mL P	
	Preservative	None	
Alkalinity - 310.1	Bottle Size	120 mL P	
	Preservative	None	

Field Screening	Chromium Hex - 7196	Bottle Size	60 mL aG
		Preservative	Cool 4°C
	Nitrate/Nitrite	Bottle Size / Preservative	250 mL P / None
Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P
		Preservative	H2SO4 to pH <2
	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	Cool 4°C

DJ Alexander / GS / Zobelpander

K Treatability Test - Field Parameters

Reviewed By: M.R. Adams

D.J. ALEXANDER

AUG 17 2005

OCT 19 2005

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K Treatability Test - Chromium Data
HNF-N-2965

DJ Alexander
GS/DJ Alexander

Hexavalent Chromium Daily Activity Log
KR4 Treatability Test - 199-K-126
Date: 08/17/05

DJ Alexander 8-17-05

1517	D. J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
1520	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
1619	Analyzed samples. Note: Sample 1 collected when >50 gallons had been pumped from well. Sample 2 collected at ~100 gallons pumped from well. Sample 3 collected at ~500 gallons pumped from well.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity (µS/cm)
Blank	---	---	<0.005	---	---	---	---
0.10 mg/L std.	---	---	0.104	---	---	---	---
B1DNP9*	199-K-126	F05-016	ND**	8/17/05	09:21	DJA	550 10/19/05 MRA
B1DNP9* (Split)	199-K-126	F05-016	ND**	8/17/05	09:21	DJA	550 MRA 10/19/05
B1DNR0*	199-K-126	F05-016	ND**	8/17/05	09:29	DJA	553 MRA 10/19/05
B1DNR0* (Split)	199-K-126	F05-016	ND**	8/17/05	09:29	DJA	553 MRA 10/19/05
B1DNR1*	199-K-126	F05-016	ND**	8/17/05	10:08	DJA	555 MRA 10/19/05
B1DNR1* (Split)	199-K-126	F05-016	ND**	8/17/05	10:08	DJA	555 MRA 10/19/05
0.10 mg/L std.	---	---	0.101	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

** ND = Not Detected. <0.005 TMJ 4-28-08

Data recorded real time using a laptop computer.

AUG 17 2005 DJA

DJ Alexander
D.J. ALEXANDER AUG 17 2005

00000080

Reviewed Margie Adams
By: M.R. Adams

NOV 08 2005

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HNF-N-296 5
K Treatability Test- Nitrate/Nitrite Data

DJAlexander/GS/DJalexander

DJalexander 8-17-05

Nitrate & Nitrite Daily Activity Log
199-K-126 / K Treatability Test
Date: 08/17/05

1517	D.J. Alexander on-site at 200W, MO-612 field laboratory. Set up to analyze samples for nitrite and nitrate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Methods 375-Nitrite and 361-Nitrate.
1520	Poured 20-mL of 10.0 mg/L HACH Nitrate Standard Solution, Lot # A5171, expiration 12-2009, into beaker for analysis. Prepared a 0.125 mg/L Nitrite standard by adding 10 μL of 250 μg/mL HACH Nitrite Nitrogen Standard Solution, Lot # 5160, expiration 09-2005, to 19.99 mL of deionized water.
1705	Analyzed samples. Note: Sample 1 collected when >50 gallons had been pumped from well. Sample 2 collected at ~100 gallons pumped from well. Sample 3 collected at ~500 gallons pumped from well.

Sample #	Well #	SAF #	Concentration Nitrite (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0.002	---	---	---	---
0.125 mg/L std.	---	---	0.143	---	---	---	---
B1DNP9*	199-K-126	F05-016	0.352	8-17-05	09:21	DJA	2X
B1DNP9* (Split)	199-K-126	F05-016	0.348	8-17-05	09:21	DJA	2X
B1DNR0*	199-K-126	F05-016	0.271	8-17-05	09:29	DJA	None
B1DNR0* (Split)	199-K-126	F05-016	0.276	8-17-05	09:29	DJA	None
B1DNR1*	199-K-126	F05-016	0.296	8-17-05	10:08	DJA	2X
B1DNR1* (Split)	199-K-126	F05-016	0.302	8-17-05	10:08	DJA	2X
0.125 mg/L std.	---	---	0.149	---	---	---	---
Blank	---	---	0.003	---	---	---	---

Sample #	Well #	SAF #	Concentration Nitrate (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	1.0	---	---	---	---
10.0 mg/L std.	---	---	8-17-05 ~~10.0~~ 10.9	---	---	---	---
B1DNP9*	199-K-126	F05-016	1	8-17-05	09:21	DJA	None
B1DNP9* (Split)	199-K-126	F05-016	1	8-17-05	09:21	DJA	None
B1DNR0*	199-K-126	F05-016	ND**	8-17-05	09:29	DJA	None
B1DNR0* (Split)	199-K-126	F05-016	ND**	8-17-05	09:29	DJA	None
B1DNR1*	199-K-126	F05-016	ND**	8-17-05	10:08	DJA	None
B1DNR1* (Split)	199-K-126	F05-016	ND**	8-17-05	10:08	DJA	None
10.0 mg/L std.	---	---	11.0	---	---	---	---
Blank	---	---	0.8	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.
** ND = Not detected.

Data recorded real time using a laptop computer.

DJalexander AUG 17 2005
D.J. ALEXANDER

00000081

Reviewed By: M.R. Adams OCT 19 2005

K Treatability Test-Sulfate Data

DJAlexander/ GS/DJAlexander

DJAlexander 8-17-05

Sulfate Daily Activity Log
KR4 Treatability Test - 199-K-126
Logbook HNF-N-296-5 / SAF F05-016
Date: 08/17/05

1517	D.J. Alexander arrive on-site at 200W, MO-612 field laboratory. Set up to analyze samples for sulfate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 952, sulfate.
1520	Prepared 50 mg/L standard by adding 1.5 mL of 1000 mg/L HACH sulfate standard, lot # N7108, no expiration, to 28.50 mL of deionized water.
1643	Analyzed samples. Note: Sample 1 collected when >50 gallons had been pumped from well. Sample 2 collected at ~100 gallons pumped from well. Sample 3 collected at ~500 gallons pumped from well.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0	---	---	---	---
50.0 mg/L std.	---	---	52	---	---	---	---
B1DNP9*	199-K-126	F05-016	72	08/17/05	09:21	DJA	2X
B1DNP9* (Split)	199-K-126	F05-016	80	08/17/05	09:21	DJA	2X
B1DNR0*	199-K-126	F05-016	82	08/17/05	09:29	DJA	2X
B1DNR0* (Split)	199-K-126	F05-016	84	08/17/05	09:29	DJA	2X
B1DNR1*	199-K-126	F05-016	74	08/17/05	10:08	DJA	2X
B1DNR1* (Split)	199-K-126	F05-016	70	08/17/05	10:08	DJA	2X
50.0 mg/L std.	---	---	52	---	---	---	---
Blank	---	---	0	---	---	---	---

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

Data recorded real time using a laptop computer.

AUG 17 2005 DJA

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DJAlexander AUG 17 2005

D.J. ALEXANDER

Reviewed By: M.R. Adams Maxie Adams

OCT 19 2005

K Treatability - Iron Data Test

DJ Alexander (GS) DJalexander

Total and Ferrous Iron Daily Activity Log
100-KR4 Treatability Test – 199-K-126
SAF F05-016 / Logbook No. HNF-N-296-5
Date: 08/17/05

DJalexander 8-17-05

1517	D.J. Alexander on-site at 200W, HO 68N-1985 mobile laboratory. Set up to analyze samples for ferrous iron and total iron in groundwater samples using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 257, ferrous iron and Method 267, total iron.
1520	Prepared 1.00 mg/L ferrous iron standard by adding 40 µL of 1000 mg/L HACH ferrous iron standard, lot # A4147, expiration date 5-2009, to 39.96 mL (39.96-g) of deionized water. Prepared standard weight = 40.0 g. Standard is split and used for both the ferrous and total iron standards; 20-mL for each standard.
1848	Analyzed samples. Note: Sample 1 collected when >50 gallons had been pumped from well. Sample 2 collected at ~100 gallons pumped from well. Sample 3 collected at ~500 gallons pumped from well.

Sample #	Well #	SAF #	Concentration Ferrous Iron (mg/L)	Concentration Total Iron (mg/L)	Date Sampled	Time Sampled	Sampler
Blank	---	---	0.00	0.00	---	---	---
1.00 mg/L std.	---	---	1.06	1.07	---	---	---
B1DNP9*	199-K-126	F05-016	0.01	0.02	8-17-05	09:21	DJA
B1DNP9*	199-K-126	F05-016	0.01	0.02	8-17-05	09:21	DJA
B1DNR0*	199-K-126	F05-016	ND**	ND**	8-17-05	09:29	DJA
B1DNR0*	199-K-126	F05-016	ND**	ND**	8-17-05	09:29	DJA
B1DNR1*	199-K-126	F05-016	0.06	0.01	8-17-05	10:08	DJA
B1DNR1*	199-K-126	F05-016	0.05	0.01	8-17-05	10:08	DJA
0.10 mg/L std.	---	---	1.06	~~1.12~~ 1.06 mao 10/19/05	---	---	---
Blank	---	---	0.00	0.00	---	---	---

Comments: (1) Iron is barely detectable in first sample and is half ferrous and half ferric in form. (2) No iron is detectable in the second sample. (3) Iron is present in the third sample and it is predominately in the ferrous form.

* Sample was split to allow for two analyses for result comparison purposes. Report first number in HEIS.

** ND = Not detected.

Data recorded real time using a laptop computer.

AUG 17 2005

00000083

D.J. ALEXANDER AUG 17 2005 DJalexander

Reviewed By: M.R. Adams Marjie Adams

OCT 19 2005

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-011	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
100-KR-4 (199-K-126)	100-KR-4 Groundwater Treatability Test	F05-016

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
		120535ES10	Government Vehicle

SHIPPED TO	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.
Field Analysis Activities	N/A	N/A

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	~~None~~	None	~~None~~
TYPE OF CONTAINER	aG	~~None~~	None	~~None~~
NO. OF CONTAINER(S)	1	~~1~~	1	~~1~~
VOLUME	60mL	~~100mL~~	~~50mL~~ 250mL P	~~10mL~~
SAMPLE ANALYSIS	Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B1DDM0	WATER	6-27-05	1516	✓	—	✓	—

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
DJ Alexander / DJ Alexander	6-27-05/1545	Refrigerator M0-612	6-27-05/1545
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Refrigerator M0-612	6-28-05/0830	DJ Alexander / DJ Alexander	6-28-05/0830
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD: RETURNED TO OU	DISPOSED BY: D.J. ALEXANDER / DJ Alexander	DATE/TIME: JUN 30 2005 / 1930

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-015	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**			
100-KR-4	100-KR-4 Groundwater Treatability Test		F05-016			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA**	**METHOD OF SHIPMENT**			
		120535ES10	Government Vehicle			
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**			
Field Analysis Activities	N/A		N/A			

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None	None							
TYPE OF CONTAINER	aG	None	None	P							
NO. OF CONTAINER(S)	1	1	1	1							
VOLUME	60mL	~~100mL~~	~~100mL~~ 500mL	~~250mL~~ DJA 6-30-05							
SAMPLE ANALYSIS	Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;							

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME										
31DDR4	WATER	6-30-05	1119	✓	—	✓	—						

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	**RECEIVED BY**	**TITLE**		**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD** RETURNED TO OU	**DISPOSED BY** D.J. ALEXANDER / DJ Alexander		**DATE/TIME** JUN 30 2005 / 1930

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-018	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
100-KR-4	100-KR-4 Groundwater Treatability Test	F05-016

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
		120535ES10	Government Vehicle

SHIPPED TO	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.
Field Analysis Activities	N/A	N/A

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None	None								
TYPE OF CONTAINER	aG	None	None	P								
NO. OF CONTAINER(S)	1	1	1	1								
VOLUME	60mL	50mL	50mL	250mL								
SAMPLE ANALYSIS	Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;								

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME											
B1DF00	WATER	7-5-05	1132	✓	—	—	✓							

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD RETURNED TO OU	DISPOSED BY D.J. ALEXANDER / DJ alexander	DATE/TIME JUL 05 2005 / 1600

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-021	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
100-KR-4	100-KR-4 Groundwater Treatability Test	F05-016

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
		120535ES10	Government Vehicle

SHIPPED TO	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.
Field Analysis Activities	N/A	N/A

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION				None	None	None	None					
TYPE OF CONTAINER				aG	None	None	P					
NO. OF CONTAINER(S)				1	1	1	1					
VOLUME				60mL	50mL	50mL	250mL					
SAMPLE ANALYSIS				Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;					
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME									
B1DF02	WATER	7-5-05	1210	✓	—	—	✓					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD: RETURNED TO OU	DISPOSED BY: D.J. ALEXANDER / DJ alexander	DATE/TIME: JUL 05 2005 / 1600

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-025	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**			
100-KR-4	100-KR-4 Groundwater Treatability Test		F05-016			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA**	**METHOD OF SHIPMENT**			
		120535ES10	Government Vehicle			
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**			
Field Analysis Activities	N/A		N/A			

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None	None								
TYPE OF CONTAINER	aG	None	None	P								
NO. OF CONTAINER(S)	1	1	1	1								
VOLUME	60mL	50mL	50mL	~~250mL~~ 500mL								
SAMPLE ANALYSIS	Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;								

ogA 7-6-05

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME										
31DF32	WATER	7-6-05	1053	✓	—	—	✓						

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD** RETURNED TO OU	**DISPOSED BY** D.J. ALEXANDER / DJ alexander	**DATE/TIME** JUL 06 2005 / 1400

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-026	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**			
100-KR-4	100-KR-4 Groundwater Treatability Test		F05-016			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA**	**METHOD OF SHIPMENT**			
		120535ES10	Government Vehicle			
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**			
Field Analysis Activities	N/A		N/A			

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None	None								
TYPE OF CONTAINER	aG	None	None	P								
NO. OF CONTAINER(S)	1	1	1	1								
VOLUME	60mL	50mL	50mL	~~250mL~~ 500mL								
SAMPLE ANALYSIS	Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;								

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME											
B1DF33	WATER	7-8-05	1210	✓	—	—	✓							

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD** RETURNED TO OU	**DISPOSED BY** D.J. ALEXANDER DJ alexander	**DATE/TIME** JUL 08 2005 1530

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-029	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
100-KR-4	100-KR-4 Groundwater Treatability Test	F05-016

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
		120535ES10	Government Vehicle

SHIPPED TO	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.
Field Analysis Activities	N/A	N/A

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None	None
TYPE OF CONTAINER	aG	None	None	P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	60mL	50mL	50mL	250mL
SAMPLE ANALYSIS	Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B1DFH0	WATER	7-12-05	1505	✓	—	—	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD RETURNED TO OU	DISPOSED BY D.J. ALEXANDER / DJ Alexander	DATE/TIME JUL 12 2005 / 1800

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-032	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
100-KR-4	100-KR-4 Groundwater Treatability Test	F05-016

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
		120535ES10	Government Vehicle

SHIPPED TO	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.
Field Analysis Activities	N/A	N/A

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None	None
TYPE OF CONTAINER	aG	None	None	P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	60mL	50mL	50mL	250mL
SAMPLE ANALYSIS	Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B1DFK3	WATER	7-14-05	1017	✓	—	—	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD: RETURNED TO OU	DISPOSED BY: D.J. ALEXANDER /DJ alexander	DATE/TIME: JUL 14 2005 / 1345

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-033	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
100-KR-4	100-KR-4 Groundwater Treatability Test	F05-016

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
		120535ES10	Government Vehicle

SHIPPED TO	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.
Field Analysis Activities	N/A	N/A

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None	None
TYPE OF CONTAINER	aG	None	None	P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	60mL	50mL	50mL	250mL
SAMPLE ANALYSIS	Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B1DFK4	WATER	7-14-05	1022	✓	—	—	✓
				DJA 7-14-05			

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD RETURNED TO OU	DISPOSED BY D.J. ALEXANDER / DJ alexander	DATE/TIME JUL 14 2005 / 1345

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-034	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
100-KR-4	100-KR-4 Groundwater Treatability Test	F05-016

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
		120535ES10	Government Vehicle

SHIPPED TO	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.
Field Analysis Activities	N/A	N/A

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None	None
TYPE OF CONTAINER	aG	None	None	P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	60mL	~~50mL~~	~~50mL~~	250mL
SAMPLE ANALYSIS	Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B1DFK5	WATER	7-18-05	1118	✓	—	—	✓
B1DFK7	WATER	7-18-05	1120	✓	—	—	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD RETURNED TO OU	DISPOSED BY D.J. ALEXANDER / DJalexander	DATE/TIME JUL 18 2005 / 1500

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-035	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
100-KR-4	100-KR-4 Groundwater Treatability Test	F05-016

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
		120535ES10	Government Vehicle

SHIPPED TO	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.
Field Analysis Activities	N/A	N/A

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION				None	None	None	None						
TYPE OF CONTAINER				aG	None	None	P						
NO. OF CONTAINER(S)				1	1	1	1						
VOLUME				60mL	50mL	50mL	250mL						
SAMPLE ANALYSIS				Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;						
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME										
B1DFK8	WATER	7-20-05	1145	✓	—	—	✓						
B1DFK9	WATER	7-20-05	1148	—	—	—	✓						

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD RETURNED TO OU	DISPOSED BY D.J. ALEXANDER DJ Alexander	DATE/TIME JUL 20 2005 1615

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-036	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
100-KR-4	100-KR-4 Groundwater Treatability Test	F05-016

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
		120535ES10	Government Vehicle

SHIPPED TO	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.
Field Analysis Activities	N/A	N/A

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION			None	None	None	None						
TYPE OF CONTAINER			aG	None	None	P						
NO. OF CONTAINER(S)			1	1	1	1						
VOLUME			60mL	50mL	50mL	250mL						
SAMPLE ANALYSIS			Chromium - Hex (Hexavalent Chromium)	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS (pH Measurement)	OXIDATION-REDUCTION POTENTIAL;						
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME									
B1DFL0	WATER	7-22-05	1035	✓	—	—	✓					
B1DFL1	WATER	7-22-05	1038	—	—	—	✓					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD: RETURNED TO OU	DISPOSED BY: D.J. ALEXANDER / DJalexander	DATE/TIME: JUL 22 2005 / 1645

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-039	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
100-KR-4	100-KR-4 Groundwater Treatability Test	F05-016

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
		120535ES10	Government Vehicle

SHIPPED TO	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.
Field Analysis Activities	N/A	N/A

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None	None
TYPE OF CONTAINER	aGs*	None	None	P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	60mL	50mL	50mL	250mL
SAMPLE ANALYSIS	Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B1DJY4	WATER	7-25-05	0906	✓	—	—	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD: RETURNED TO OU	DISPOSED BY: D.J. ALEXANDER / DJ alexander	DATE/TIME: JUL 2 5 2005 / 1230

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-040	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
100-KR-4	100-KR-4 Groundwater Treatability Test	F05-016

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
		120535ES10	Government Vehicle

SHIPPED TO	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.
Field Analysis Activities	N/A	N/A

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None	None
TYPE OF CONTAINER	aGs*	None	None	P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	60mL	50mL	50mL	250mL
SAMPLE ANALYSIS	Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
31DJY5	WATER	7-27-05	0812	✓	—	—	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD RETURNED TO OU	DISPOSED BY D.J. ALEXANDER / DJ alexander	DATE/TIME JUL 28 2005 / 1600

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-041	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
100-KR-4	100-KR-4 Groundwater Treatability Test	F05-016

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
		120535ES10	Government Vehicle

SHIPPED TO	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.
Field Analysis Activities	N/A	N/A

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None	None								
TYPE OF CONTAINER	aGs*	None	None	P								
NO. OF CONTAINER(S)	1	1	1	1								
VOLUME	60mL	50mL	50mL	250mL								
SAMPLE ANALYSIS	Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;								

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME											
31DJY6	WATER	7-28-05	0920	✓	—	—	✓							

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD RETURNED TO OU	DISPOSED BY D.J. ALEXANDER / DJ Alexander	DATE/TIME JUL 28 2005 / 1600

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-042	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
100-KR-4	100-KR-4 Groundwater Treatability Test	F05-016

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
		120535ES10	Government Vehicle

SHIPPED TO	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.
Field Analysis Activities	N/A	N/A

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION				None	None	None	None					
TYPE OF CONTAINER				aGs*	None	None	P					
NO. OF CONTAINER(S)				1	1	1	1					
VOLUME				60mL	50mL	50mL	250mL					
SAMPLE ANALYSIS				Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;					
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME									
31DJY7	WATER	8-2-05	1043	✓	—	—	✓					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD RETURNED TO OU	DISPOSED BY D.J. ALEXANDER / DJ alexander	DATE/TIME AUG 02 2005 / 1615

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-043	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
100-KR-4	100-KR-4 Groundwater Treatability Test	F05-016

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
		120535ES10	Government Vehicle

SHIPPED TO	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.
Field Analysis Activities	N/A	N/A

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None	None
TYPE OF CONTAINER	aGs*	None	None	P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	60mL	50mL	50mL	250mL
SAMPLE ANALYSIS	Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
31DJY8	WATER	8-2-05	1050	✓	—	—	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD: RETURNED TO OU	DISPOSED BY: D.J. ALEXANDER / DJ Alexander	DATE/TIME: AUG 0 2 2005 / 1615

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-044	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**			
100-KR-4	100-KR-4 Groundwater Treatability Test		F05-016			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA**	**METHOD OF SHIPMENT**			
		120535ES10	Government Vehicle			
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**			
Field Analysis Activities	N/A		N/A			

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION			None	None	None	None							
TYPE OF CONTAINER			aGs*	None	None	P							
NO. OF CONTAINER(S)			1	1	1	1							
VOLUME			60mL	50mL	50mL	250mL							
SAMPLE ANALYSIS			Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;							
SAMPLE NO.	**MATRIX***	**SAMPLE DATE**	**SAMPLE TIME**										
B1DJY9	WATER	8-2-05	1115	✓	—	—	✓						

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	**RECEIVED BY**		**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD** RETURNED TO OU	D.J. ALEXANDER	**DISPOSED BY** DJ Alexander	**DATE/TIME** AUG 0 2 2005 / 1615

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-045	PAGE 1 OF 1

COLLECTOR ALEXANDER,DJ	**COMPANY CONTACT** PETERSEN, SW	**TELEPHONE NO.** 372-9160	**PROJECT COORDINATOR** TRENT, SJ
SAMPLING LOCATION 100-KR-4	**PROJECT DESIGNATION** 100-KR-4 Groundwater Treatability Test		**SAF NO.** F05-016
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA** 120535ES10	**METHOD OF SHIPMENT** Government Vehicle
SHIPPED TO Field Analysis Activities	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A

PRICE CODE FIELD

AIR QUALITY ☐

DATA TURNAROUND 0 Days / 0 Days

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION			None	None	None	None							
TYPE OF CONTAINER			aGs*	None	None	P							
NO. OF CONTAINER(S)			1	1	1	1							
VOLUME			60mL	50mL	50mL	250mL							
SAMPLE ANALYSIS			Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;							
SAMPLE NO.	**MATRIX***	**SAMPLE DATE**	**SAMPLE TIME**										
B1DLH4	WATER	8-3-05	1125	✓	—	—	✓						

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	**RECEIVED BY**	**TITLE**		**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD** RETURNED TO OU	**DISPOSED BY** D.J. ALEXANDER / DJ Alexander		**DATE/TIME** AUG 03 2005 / 1645

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-046	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
100-KR-4	100-KR-4 Groundwater Treatability Test	F05-016

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
		120535ES10	Government Vehicle

SHIPPED TO	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.
Field Analysis Activities	N/A	N/A

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION				None	None	None	None					
TYPE OF CONTAINER				aGs*	None	None	P					
NO. OF CONTAINER(S)				1	1	1	1					
VOLUME				60mL	50mL	50mL	250mL					
SAMPLE ANALYSIS				Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;					
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME									
B1DLH5	WATER	8-5-05	1002	✓	—	—	✓					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD RETURNED TO OU	DISPOSED BY D.J. ALEXANDER / DJ Alexander	DATE/TIME AUG 05 2005 / 1230

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-047	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**			
100-KR-4	100-KR-4 Groundwater Treatability Test		F05-016			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA**	**METHOD OF SHIPMENT**			
		120535ES10	Government Vehicle			
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**			
Field Analysis Activities	N/A		N/A			

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION				None	None	None	None					
TYPE OF CONTAINER				aGs*	None	None	P					
NO. OF CONTAINER(S)				1	1	1	1					
VOLUME				60mL	50mL	50mL	250mL					
SAMPLE ANALYSIS				Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;					
SAMPLE NO.	**MATRIX***	**SAMPLE DATE**	**SAMPLE TIME**									
B1DLH6	WATER	8-8-05	1123	✓	—	—	✓					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD** RETURNED TO OU	**DISPOSED BY** D.J. ALEXANDER / DJ Alexander	**DATE/TIME** AUG 0 8 2005 / 1330

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-053	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
100-KR-4	100-KR-4 Groundwater Treatability Test	F05-016

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
		120535ES10	Government Vehicle

SHIPPED TO	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.
Field Analysis Activities	N/A	N/A

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION				None	None	None	None					
TYPE OF CONTAINER				aG	None	None	P					
NO. OF CONTAINER(S)				1	1	1	1					
VOLUME				60mL	50mL	50mL	250mL					
SAMPLE ANALYSIS				Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;					
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME									
B1DMD9	WATER	8-10-05	0929	✓	—	—	✓					
B1DMF0	WATER	8-10-05	0937	✓	—	—	✓					
B1DMF1	WATER	8-10-05	1037	✓	—	—	✓					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD: RETURNED TO OU	DISPOSED BY: D.J. ALEXANDER / DJ alexander	DATE/TIME: AUG 1 0 2005 / 1345

A-6003-618(03/03)

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F05-016-054	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	FIELD	DATA TURNAROUND
ALEXANDER,DJ	PETERSEN, SW	372-9160	TRENT, SJ	AIR QUALITY	☐	0 Days / 0 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
100-KR-4	100-KR-4 Groundwater Treatability Test	F05-016

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
		120535ES10	Government Vehicle

SHIPPED TO	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.
Field Analysis Activities	N/A	N/A

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None	None
TYPE OF CONTAINER	aG	None	None	P
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	60mL	60mL	60mL	250mL
SAMPLE ANALYSIS	Chromium - Hex {Hexavalent Chromium}	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS {pH Measurement}	OXIDATION-REDUCTION POTENTIAL;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B1DNP9	WATER	8-17-05	0921	✓	—	—	✓
B1DNR0	WATER	8-17-05	0929	✓	—	—	✓
B1DNR1	WATER	8-17-05	1008	✓	—	—	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD RETURNED TO OU	DISPOSED BY D.J. ALEXANDER / DJ alexander	DATE/TIME AUG 17 2005 / 1930

A-6003-618(03/03)