KINROSS Fort Knox

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March 23, 2010

Mr. Tim Pilon
State of Alaska
Department of Environmental Conservation
610 University Avenue
Fairbanks, Alaska 99709-3643

RE: Waste Management Permit # 2006-DB0043, Annual Report 2009

Dear Mr. Pilon:

Fairbanks Gold Mining, Inc. (FGMI) submits this Annual 2009 report for the Waste Management Permit # 2006-DB0043, prepared in conformance with the requirements in Section 1.8 of the permit. The report contains the analytical results from compliance monitoring, an evaluation of the interceptor well system and a summary of the spills during 4th Quarter 2009. The monitoring data has been collected and this report has been completed in accordance with the requirements of Waste Management Permit # 2006-DB0043.

Compliance Monitoring and Results of Sample Analysis

There was no significant weather or seismic events that could have potentially compromised the integrity of either the tailing or freshwater reservoir dams during 4th Qtr 2009. Surface water monitoring locations (Upper Wetlands, Lower Wetlands, Fresh Water Reservoir and Fresh Water Dam Seepage) and groundwater monitoring wells (MW-5, MW-6, MW-7, and MW-8) were sampled quarterly to demonstrate compliance. Neither surface water monitoring points or groundwater monitoring wells showed any evidence of seepage water from the tailing impoundment.

Monitoring data for the 4th quarter 2009 and the previous four (4) quarters is provided in Attachment A. The previous four quarters are included to provide an indication of any recent trends that might have developed. Attachment A contains the Fort Knox Mine Monitoring Data for process solutions, groundwater, surface water, and acid base accounting for tailing solids.

Monitoring of the tailing discharge for pH and Weak Acid Dissociable (WAD) cyanide levels continued in accordance with permit requirements. A composite sample for each 12-hour shift is collected and the samples are analyzed daily by FGMI laboratory personnel using
Method OIA-1677 to determine the WAD cyanide concentration. The pH is determined using a pH meter. Table 1 contains a summary of the tailing discharge pH range (minimum, maximum, and average) for the period October 1, 2009 through December 31, 2009.

TABLE 1
Tailing Discharge pH Levels

	Minimum	Maximum	Average
October	7.46	9.68	8.94
November	7.66	9.31	8.84
December	8.18	9.73	9.07

Tailing discharge WAD cyanide levels (parts per million) recorded for the period October 1, 2009, through December 31, 2009, have been included in Table 2.

TABLE 2
Tailing Discharge WAD Cyanide parts per million (ppm)

	Minimum	Maximum	Average
October	0.48	18.72	9.44
November	.15	13.67	8.32
December	5.11	15.47	9.72

All FGMI process records and daily logs for the cyanide detoxification circuit are available for inspection upon request.

FGMI collects monthly samples of seepage from the tailing impoundment. The samples are analyzed for As, Sb, Se and Pb to evaluate the presence of any trends in the concentration of these metals. The results of that sampling are provided in Attachment “D” with a graph of the data.

Quarterly analytical results from groundwater compliance sampling points MW-5, MW-6, & MW-7 and surface compliance sampling points Upper and Lower Wetlands indicate that the tailing impoundment continues to operate as a zero discharge facility. There was no exceedance of the Upper Tolerance Limits for surface water in 4th Qtr 2009. There was one exceedance in groundwater for the quarter in MW-6. The copper level on 10/13/2009 was .03 mg/L, over the limit of .02 mg/L. This site has never had a detectable level of copper before. A resample on 1/4/10 showed no detect.
Attachment A also provides the analytical results for ground water and surface water sampling for process water and compliance monitoring points.
Attachment C has compliance sampling water quality graphs.

Tailing Impoundment Dam

Monitoring data on the tailing impoundment includes piezometer data, tailing pond elevations, and seepage pumping rates. The monitoring data did not display any unusual trends. The monitoring data is consistent with the recent measurements during 3rd quarter 2009 and the historic seasonal trends measured in previous years.

Weekly visual monitoring is routinely conducted at the TSF and freshwater reservoir. The visual monitoring looks for signs of damage or potential damage from settlement, ponding, leakage, thermal instability, frost action, erosion and thawing of waste material. Operations at the site are monitored and recorded weekly by mill personnel.

All water within the seepage reclaim area below the TSF dam is collected and pumped back to the tailing storage facility in accordance with an approved design of the tailing dam. Groundwater and surface water compliance sampling points down gradient of the TSF continue to be free from cyanide.

Interceptor and Monitoring Wells

All interceptor wells were pumped continuously throughout the 4th quarter. This is to ensure a hydraulic break is maintained below the TSF in the Fish Creek Valley and that the impoundment continues to operate as a zero discharge facility.

The interceptor well system (IW-1, IW-2, IW-3, IW-4, IW-5, IW-6, IW-7, IW-8, IW-11, MW-1, MW-3, & Site 401) continued to perform successfully during the fourth quarter 2009 maintaining a cone of depression across the Fish Creek Valley down gradient of the tailing impoundment (Attachment "E"). Both depth to water measurements and water chemistry indicate the tailing impoundment is operating as a zero discharge facility.

Table 3 shows the depth of the wells, depth to the pump, current depth to water, and pumping rate for the interceptor wells and the monitoring wells. Table 4 contains construction information and depth to water measurements for the piezometers. Table 5 shows construction information and depth to water measurements for the 15 piezometers installed during the fourth quarter of 2008.

TABLE 3

Interceptor and Monitor Well Measurements and Change from the third Quarter 2009

	Top of Casing Elevation	*Depth of Well Feet*	*Depth to Pump Feet*	*Depth to Water Feet 9/27/09*	*Depth to Water Feet 12/27/09*	*Change* From 3rd Quarter	*Water Elevation at Pumping*	*Pumping Rate (gpm)*
IW-1	1198	320	283	254	261	-7	937	10
IW-2	1205	329	252	245	251	-6	954	10
IW-3	1174	310	283	264	254	+10	920	24
IW-4	1192	330	295	213	222	-9	970	20
IW-5	1177	380	294	249	263	-14	914	108
IW-6	1176	380	320	242	265	-23	911	17
IW-7	1243	197	160	97	103	-6	1140	36
IW-8	1267	184	172	53	59	-6	1208	46
IW-11	1429	296	275	237	240	-3	1189	16
MW-1	1178	305	232	211	160	+51	1018	9
MW-3	1174	296	253	228	253	-25	921	10
SITE 401	1206	35	25	12	15	-3	1191	9
MW-2	1176	279	N/A	208	237	-29	N/A	N/A
MW-4	1196	285	N/A	30	30	0	N/A	N/A
MW-5	1163	120	N/A	35	36	-1	N/A	N/A
MW-6	1178	150	N/A	61	62	-1	N/A	N/A
MW-7	1149	135	N/A	14	17	-3	N/A	N/A
MW-8	1160	156	N/A	Frozen	Frozen	N/A	N/A	N/A

Wells cleaned in 2009 include MW-1, IW-1, IW2, IW3, IW4, IW5, and IW6.

TABLE 4
Piezometer Measurements and Change from the 3rd Quarter 2009

	Well Depth	Angle	Vertical Depth Feet	Vertical D. to Water Feet 9/27/09	Vertical D. to Water Feet 12/27/09	Change Feet
PZ-1	420	60°	363.7	165.4	164.4	+1.0
PZ-2	450	60°	389.7	179.6	163.1	+16.5
PZ-3	445	60°	385.4	87.2	86.7	+.5
PZ-4	550	60°	477.1	27.3	27.5	-.2
PZ-5	450	60°	389.7	261.7	262.1	-.4
PZ-6	150	60°	129.9	135.2	137.4	-2.2
PZ-7	200	60°	173.5	115	115	0
KPPZ1	142	-	142	120.9	122	-1.1
KPPZ2	122	-	122	111.1	111.5	-.4
KPPZ3	133	-	133	118.7	120.4	-1.7
KPPZ4	119	-	119	115.2	117.7	-2.5
KPPZ5	124	-	124	112.5	114.7	-2.2
KPPZ6	112	-	112	104.9	105.6	-.7

Table 5
Piezometers
Measured on 12/3/09

	Well Depth	Depth to Water 9/25/09	Depth to Water 12/3/09	Change from 3rd Quarter
PZ08-01	120	73.86	75.23	-1.37
PZ08-02	120	47.54	47.23	+.31
PZ08-03	115	78.39	78.28	-.11
PZ08-04	96	Pipe collapsed	Pipe collapsed	N/A
PZ08-05	155	93.13	95.5	-2.37
PZ08-06	185	39.85	41.74	-1.89
PZ08-07	160	60.61	62.97	-2.36
PZ08-08	135	68.54	71.72	-3.18
PZ08-09	135	31.43	31.28	-.15
PZ08-10	100	72.71	71.46	+1.25
PZ08-11	100	Dry	Dry	N/A
PZ08-12	90	33.33	35.9	-2.57
PZ08-13	62	Dry	Dry	N/A
PZ08-14	37	11.69	14.21	-2.52
PZ08-15	82	53.92	56.57	-2.65

Heap Leach Sampling Results

Water samples and water levels were collected from the Heap Leach monitoring wells HL-1, HL-2, & HL-3, as well as the Pregnant Solution. Analytical results are located in Attachment B.

The initial Heap Leach Pad flood was started on October 16, 2009 and finished on November 18, 2009. Wad cyanide levels and water levels were measured daily in the Heap Leach wells during flooding. The data is located in Attachment B.

Pit Lake Evaluation

Analytical samples were collected monthly during 2009 from the dewatering wells located in and around the existing pit. An update is included by Water Management Consultants to evaluate the short- and long-term pit lake quality. Refer to the Technical Memo in Attachment "F".

Petroleum, Hazardous Substances, and Process Solution Spills

During the 4th Quarter 2009 Fort Knox had 9 petroleum spills. The spills were reported to the ADEC in accordance with discharge notification and reporting requirements, and there was no contamination of surface or groundwater. The Fort Knox Mine Spill Reporting Log, containing a list of the year to date spills, has been included in Attachment G for your review. If you have any questions or require additional information, please call me at (907) 488-4653 Ext 2702.

Inert Solid Waste Landfill Summary

Attachment H contains a summary of activity in the Fort Knox Landfill for 2009.

Financial Assurance Bond

Attachment I has the financial assurance bond amount.

Respectfully,

Dave Stewart

Dave Stewart
Environmental Coordinator

cc: (by PDF file)

Jim Vohden, ADNR
Brent Martellaro, ADNR
Steve McGroarty PE, ADNR
Mary Romero, ACOE
Cindi Godsey, EPA
Alvin Ott, ADNR-OHM&P
Lauren Roberts, FGMI

ATTACHMENT A
Compliance Monitoring Data Report

FORT KNOX MINE
2009 COMPLIANCE SAMPLING DATA

FAIRBANKS GOLD MINING, INC.
FORT KNOX MINE

FORT KNOX MINE COMPLIANCE SAMPLING DATABASE

This document comprises a hard copy of the Fort Knox Mine compliance sampling results for the fourth quarter of 2009. The previous four (4) quarters of compliance and baseline sample data are also included for tracking purposes. The objective of this monitoring program is to document and track local surface and groundwater conditions and characterizes overburden, waste, and ore rock for acid rock drainage potential, as specified in Waste Management Permit 2006-DB0043 at the Fort Knox Mine.

The data is divided into the following sections:

- Major ion chemistry
- Minor ion chemistry
- Trace ion chemistry
- HL-1, HL-2, HL-3 Monitoring Well Data, Pregnant Solution
- Upper Tolerance Limits Table for Water Quality Exceedances for Compliance Groundwater and Surface Water Sampling Points
- Meteoric Water Mobility
- Acid Rock Drainage Characterization

COMPLIANCE SURFACE WATER PROCESS WATER QUALITY DATA

FAIRBANKS GOLD MINING, INC.
FORT KNOX MINE

4th Quarter 2009

Process Surface Water - Major Ion Chemistry

Site	Date	Reason If NoSample	Bic Alk	Tot Alk	Ca	Cl	Ca Hard	Mg Hard	Mg	Lab pH	K	Si	Na	SS	Lab Cond.	SO4	Temp. (C)	TDS	TSS	Tur
501	10/14/2008		31	31	34.9	33	87	76	18.6	8	3.5	5.4	60.1	<0.1	640	141		390	<5	0.1
501	01/20/2009		30	30	35	31	88	76	18.4	7.8	3.1	4.9	57.1	<0.1	601	137		400	<5	0.2
501	04/07/2009		25	25	36.6	34	92	85	20.6	7.7	3.4	4.9	61.5	<0.1	695	142	3.5	440	<5	0.1
501	08/18/2009		37	37	32.7	33	82	72	17.5	7.6	3.5	6.8	62.3	<0.1	548	117		390	31	3.1
501	08/18/2009		37	37	32.5	33	81	71	17.3	7.6	3.5	6.5	61.1	<0.1	532	126		390	33	12.4
501	10/26/2009		37	37	31.8	32	80	67	16.3	7.8	3.5	4.2	60.3	<0.1	612	118	5.9	370	<5	0.3
Tailing Decant	10/07/2008		53	57	45.2	37	113	12	2.9	8.5	13.1	22.4	81.6	<0.1	655	132		430	226	214
Tailing Decant	01/21/2009		75	75	59.2	29	148	30	7.2	8.2	9.6	7.5	68.1	<0.1	661	144	2.9	430	14	10.2
Tailing Decant	04/13/2009		49	51	61.6	45	154	23	5.5	8.5	11.9	9.7	89.3	<0.1	786	162	4	500	37	41.9
Tailing Decant	07/29/2009		72	72	47.6	24	119	21	5.1	8.2	10.3	10.3	62.3	<0.1	599	121		380	20	31
Tailing Decant	10/12/2009		75	75	52.7	28	132	27	6.5	8.2	9.4	7.1	62.3	<0.1	610	133		380	15	19
Tailing Filtrate	10/08/2008		2	42	32.7	60	82	2	0.5	9.5	13	14.4	97.1	<0.1	688	137		450	81	120
Tailing Filtrate	01/27/2009		17	28	44.5	56	111	4	1	9	10.9	5.8	93	<0.1	658	152		480	10	28.5
Tailing Filtrate	04/14/2009		8	32	67.9	66	170	5	1.1	9.3	11.7	7.4	106	<0.1	840	158		560	25	6.7
Tailing Filtrate	08/19/2009		31	57	36.6	54	92	9	2.3	9.2	46.3	100	117	<0.1	564	112		500	1020	1690
Tailing Filtrate	10/13/2009		23	46	31.5	46	79	5	1.2	9.2	25.7	46.1	96.6	<0.1	623	118		390	258	690
Tailings Seepage	10/06/2008		78	78	70.8	28	177	63	15.4	8	5.5	5.8	44.7	<0.1	709	170		450	<5	0.4
Tailings Seepage	01/13/2009		86	86	73	30	183	66	16.1	7.7	5.9	6.1	46.4	<0.1	678	210		470	<5	0.5
Tailings Seepage	04/06/2009		86	86	73	28	183	69	16.7	7.8	5.8	5.6	47	<0.1	723	170	5.2	470	<5	0.3
Tailings Seepage	08/10/2009		93	93	76.9	28	192	68	16.6	7.9	6.4	6.8	48.5	<0.1	711	200		490	<5	0.5
Tailings Seepage	10/07/2009		95	95	71	27	178	61	14.9	7.9	5.5	5.8	42	<0.2	697	149		440	<5	0.7

Process Surface Water - Minor Ion Chemistry

Site	Date	Reason If NoSample	NH4	As	CN	F	Fe	Mn	NO3	NO2	P	TPH	WAD CN
501	10/14/2008		<0.05	0.0013	0.22	0.1	0.08	0.013	17.5	<0.01	<0.01		0.051
501	01/20/2009		<0.05	0.0006	0.218	0.2	0.09	0.014	15.2	<0.01	<0.01		0.063
501	04/07/2009		<0.05	0.0009	0.61	<0.1	0.23	0.014	21.9	<0.01	<0.01	<0.1	0.126
501	08/18/2009		<0.05	0.0013	0.287	0.2	1.13	0.037	18	<0.01	0.03	<0.1	0.054
501	08/18/2009		<0.05	0.0012	0.264	0.2	1.08	0.035	18	<0.01	0.03	<0.1	0.053
501	10/26/2009		<0.05	0.0011	0.331	0.2	0.12	0.012	18	<0.01	0.04	<0.1	0.051
Tailing Decant	10/07/2008		3.37	0.0346	1.84	0.7	3.62	0.08	12.4	0.69	0.21	<0.1	1.38
Tailing Decant	01/21/2009		3.73	0.012	0.63	0.5	0.48	0.14	11.8	0.84	0.02	<0.09	0.118
Tailing Decant	04/13/2009		4.74	0.0105	5.59	0.7	1	0.087	20.3	0.75	0.03	<0.1	4.33
Tailing Decant	07/29/2009		2.36	0.0202	0.034	0.6	0.54	0.073	11.3	1.14	0.08	<0.1	0.009
Tailing Decant	10/12/2009		1.76	0.0166	0.073	0.6	0.23	0.099	11	1.11	0.03	<0.1	0.029
Tailing Filtrate	10/08/2008		3.18	0.0273	13.4	0.9	1.73	0.011	14.9	0.81	0.07	<0.1	11.8
Tailing Filtrate	01/27/2009		4.36	0.0083	11	0.6	0.57	<0.005	25	1.01	0.03		9.3
Tailing Filtrate	04/14/2009		5.1	0.0189	14.7	0.8	1.16	<0.005	29.7	0.9	<0.01	<0.1	13.4
Tailing Filtrate	08/19/2009		1.66	0.082	12.1	1.2	6.09	0.08	14.3	0.77	0.27	<0.1	9.4
Tailing Filtrate	10/13/2009		3.85	0.065	12.6	1.1	2.01	0.02	13.1	1.19	0.27	<0.1	10.2
Tailings Seepage	10/06/2008		0.39	<0.0005	0.112	0.2	0.18	0.339	8.2	0.06	0.02	<0.1	0.02
Tailings Seepage	01/13/2009		0.56	<0.0005	0.085	0.2	0.08	0.437	7.6	0.09	<0.01		0.018
Tailings Seepage	04/06/2009		0.39	<0.0005	0.095	0.1	0.14	0.344	8.3	0.05	<0.01		0.028
Tailings Seepage	08/10/2009		0.5	<0.0005	0.101	0.1	0.16	0.421	9.5	0.08	0.01	<0.1	0.023
Tailings Seepage	10/07/2009		0.28	<0.0005	0.094	0.1	0.13	0.29	8.63	0.05	0.01	<0.09	0.022

Process Surface Water - Trace Ion Chemistry

Site	Date	Reason If NoSample	Sb	Ba	Bi	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Zn
501	10/14/2008		0.0186	0.011	<0.04	<0.0001		<0.01	<0.0001	0.0007	<0.01	0.0045	<0.01	<0.01
501	01/20/2009		0.0117	0.01	<0.04	<0.0001		<0.01	<0.0001	<0.0002	<0.01	0.0044	<0.01	0.01
501	04/07/2009		0.011	0.012	<0.04	<0.0001		<0.01	<0.0001	<0.0002	<0.01	0.0043	<0.01	0.02
501	08/18/2009		0.0129	0.014	<0.04	<0.0001	<0.01	<0.01	0.0012	<0.0002	<0.01	0.0032	<0.01	0.02
501	08/18/2009		0.0127	0.014	<0.04	<0.0001		<0.01	0.0011	<0.0002	<0.01	0.003	<0.01	0.02
501	10/26/2009		0.0124	0.01	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0027	<0.01	0.01
Tailing Decant	10/07/2008		0.05	0.169	<0.04	<0.0001		0.43	0.0098	<0.0002	0.04	0.0055	<0.01	<0.01
Tailing Decant	01/21/2009		0.0388	0.026	<0.04	<0.0002		<0.01	0.0072	<0.0002	<0.01	0.005	<0.01	<0.01
Tailing Decant	04/13/2009		0.0312	0.066	<0.04	0.0005		0.45	0.0183	<0.0002	0.02	0.007	<0.01	0.06
Tailing Decant	07/29/2009		0.0246	0.054	<0.04	<0.0001	<0.01	0.02	0.003	<0.0002	<0.01	0.0037	<0.01	<0.01
Tailing Decant	10/12/2009		0.0244	0.026	<0.04	<0.0001	<0.01	0.02	0.0015	<0.0002	<0.01	0.0028	<0.01	<0.01
Tailing Filtrate	10/08/2008		0.056	0.083	<0.04	0.0002		0.51	0.0039	<0.0002	0.03	0.0063	0.01	0.04
Tailing Filtrate	01/27/2009		0.035	0.013	<0.04	0.0007		0.28	0.0038	<0.0002	0.01	0.0067	<0.01	0.09
Tailing Filtrate	04/14/2009		0.0243	0.024	<0.04	0.001		0.45	0.0085	0.0007	0.02	0.0108	<0.01	0.13
Tailing Filtrate	08/19/2009		0.0159	1.26	<0.08	<0.0002	<0.02	0.14	0.0406	<0.0002	<0.02	0.0035	<0.02	0.04
Tailing Filtrate	10/13/2009		0.021	0.413	<0.04	<0.0002	<0.01	0.07	0.0197	<0.0002	<0.01	0.0036	<0.01	0.04
Tailings Seepage	10/06/2008		0.0423	0.014	<0.04	<0.0001		<0.01	0.0001	<0.0002	<0.01	0.002	<0.01	<0.01
Tailings Seepage	01/13/2009		0.039	0.017	<0.04	<0.0001		<0.01	<0.0001	<0.0002	<0.01	0.0018	<0.01	<0.01
Tailings Seepage	04/06/2009		0.046	0.014	<0.04	<0.0001		<0.01	<0.0001	<0.0002	<0.01	0.0018	<0.01	<0.01
Tailings Seepage	08/10/2009		0.0365	0.014	<0.04	<0.0001	<0.01	<0.01	0.0002	<0.0002	<0.01	0.0018	<0.01	<0.01
Tailings Seepage	10/07/2009		0.0347	0.014	<0.04	<0.0001	<0.01	<0.01	0.0001	<0.0002	<0.01	0.0016	<0.01	<0.01

COMPLIANCE SURFACE WATER
NON-PROCESS WATER QUALITY DATA

FAIRBANKS GOLD MINING, INC.
FORT KNOX MINE

4th Quarter 2009

Non-Process Surface Water - Major Ion Chemistry

Site	Date	Reason If NoSample	Bic Alk	Tot Alk	Ca	Cl	Ca Hard	Mg Hard	Mg	Lab pH	K	Si	Na	SS	Lab Cond.	SO4	Temp. (C)	TDS	TSS	Tur
Lower Wetlands	10/01/2008		80	80	29.2	<1	73	27	6.6	8.2	1.5	4.5	4.2	<0.1	214	14		130	<5	3.1
Lower Wetlands	01/21/2009		97	97	33.4	<1	84	29	7	7.9	1.3	5.5	4.5	<0.1	209	21	4.7	130	<5	9.7
Lower Wetlands	04/15/2009		100	100	34.8	<1	87	32	7.8	8.2	1.4	7.9	4.8	0.5	232	21	7.9	130	56	32.5
Lower Wetlands	07/15/2009		86	86	28.8	<1	72	24	5.8	8.2	1.3	3.2	4.1	<0.1	182	9		120	<5	5
Lower Wetlands	10/06/2009		96	96	29.9	<1	75	26	6.4	8.3	1.7	3.8	4	<0.1	202	11		130	<5	2.3
Rinse	01/21/2009		<2	<2	0.3		1		<0.2	6.3					2	<1		<10	<5	0.6
Rinse	04/16/2009		5	5	0.8	<1	2	1	0.2	7.2	<0.3	0.2	1.4	<0.1	14	<1	20.7	<10	<5	<0.1
Rinse	06/30/2009		5	5	0.7	<1	2	1	0.3	7.4	<0.3	0.2	1.5	<0.1	19	<1	21.4	<10	<5	0.3
Rinse	08/25/2009		<2	<2	<0.2	<1			<0.2	6.4	<0.3	<0.2	<0.3	<0.1	3	<1		<10	<5	0.2
Rinse	12/08/2009		<2	<2	<0.2				<0.2	6.1					2	<1		<10	<5	<0.1
Upper Wetlands	10/02/2008		102	102	32.9	<1	82	28	6.9	8.1	1.9	5.9	7.6	<0.1	254	7		150	<5	6.5
Upper Wetlands	01/14/2009		214	214	61.1	5	153	45	11	7.4	1.8	10.9	13.7	<0.1	418	3		320	61	35.1
Upper Wetlands	04/08/2009		246	246	67.4	<5	169	51	12.4	7.3	1.8	11	16.7	<0.1	502	<5	7.1	320	66	84.4
Upper Wetlands	07/15/2009		111	111	32.9	<1	82	25	6.2	8.2	1.2	3.1	7.9	<0.1	213	3		150	<5	4.2
Upper Wetlands	10/07/2009		120	120	34.3	<1	86	26	6.3	8.1	1.4	6	8.6	<0.1	251	5		150	19	6
Victoria Creek Lower	08/19/2009		45	45	16.1	<1	40	9	2.2	8	0.5	8	4.9	<0.1	109	7		80	<5	1.9
Victoria Creek Lower	10/06/2009		43	43	15.2	<1	38	10	2.4	8.1	0.8	5.8	4.5	<0.1	118	22	5.6	70	<5	0.7
Victoria Creek Lower	11/02/2009		48	48	16.7	<1	42	10	2.4	7.9	0.5	5.8	5.9	<0.1	133	16	3.6	90	<5	0.7
Victoria Creek Lower	12/14/2009		50	50	17.9	<1	45	10	2.4	7.8	0.6	6.1	5.8	<0.1	134	14	0.5	90	6	1.1
Victoria Creek Upper	08/19/2009		42	42	17.7	<1	44	5	1.2	8.1	0.5	7	2.7	<0.1	103	4		80	<5	0.1
Victoria Creek Upper	09/09/2009		49	49	17.6	<1	44	9	2.3	8	0.8	7.9	5.5	<0.1	113	11	10.2	90	<5	1.1
Victoria Creek Upper	09/09/2009		41	41	17.8	<1	45	5	1.2	8	0.6	7	2.7	<0.1	96	4	11.5	80	<5	<0.1
Victoria Creek Upper	10/06/2009		40	40	16.3	<1	41	5	1.2	8.1	0.5	5.6	2.4	<0.1	105	7	5.2	50	<5	0.1
Victoria Creek Upper	11/02/2009		39	39	15.6	<1	39	5	1.1	8	0.6	4.6	2.6	0.3	103	6	2.4	70	6	0.1
Victoria Creek Upper	12/14/2009		40	40	16.8	<1	42	5	1.2	7.9	0.6	4.8	2.5	<0.1	102	5	0.5	70	5	0.4
Water Dam Seepage	10/01/2008		81	81	23.4	<1	59	24	5.9	7.8	1.7	6.5	5.6	<0.1	197	11		340	<5	4.5
Water Dam Seepage	01/21/2009		86	86	26	1	65	27	6.6	7.6	1.8	6.7	6.2	<0.1	182	9	6.5	140	<5	6.2
Water Dam Seepage	04/01/2009		91	91	27.1	1	68	30	7.4	8.1	1.8	5.6	6.4	<0.1	206	15	9.7	160	8	5.8
Water Dam Seepage	07/14/2009		90	90	27.4	1	69	28	6.9	7.8	2.2	5.9	6.6	<0.1	200	14	7.1	140	<5	4.2
Water Dam Seepage	10/06/2009		80	80	23.5	<1	59	25	6	7.9	1.7	5.1	5.2	<0.1	183	13	6.1	130	<5	2.9
Water Reservoir	10/01/2008		41	41	16	<1	40	18	4.3	8	1	4.3	2.7	<0.1	129	12		90	<5	4
Water Reservoir	01/21/2009		55	55	19.6	1	49	21	5	7.8	1.1	5.2	3.1	<0.1	131	16	5.4	90	6	12.8
Water Reservoir	04/13/2009		63	63	23.1	<1	58	24	5.9	7.5	1.2	4.3	3.8	<0.1	165	11	5.7	100	<5	6.1
Water Reservoir	07/14/2009		51	51	18.4	<1	46	19	4.7	7.7	1.4	4.1	3.1	<0.1	125	12	9.8	100	<5	13.9
Water Reservoir	07/14/2009		51	51	18.4	<1	46	19	4.7	7.7	1.4	4.1	3.1	<0.1	125	12		100	<5	13.9
Water Reservoir	10/07/2009		49	49	16.5	<1	41	18	4.3	8	1	4.3	2.8	<0.1	132	14		80	<5	9.1

Non-Process Surface Water - Minor Ion Chemistry

Site	Date	Reason If NoSample	NH4	As	CN	F	Fe	Mn	NO3	NO2	P	TPH	WAD CN
Lower Wetlands	10/01/2008		<0.05	0.001	<0.005	0.1	0.67	0.083	0.04	<0.01	0.02	<0.09	<0.005
Lower Wetlands	01/21/2009		0.21	0.0018	<0.005	0.1	1.59	0.46	0.08	<0.01	0.03	<0.1	<0.005
Lower Wetlands	04/15/2009		0.23	0.0032	<0.002	0.1	3.92	0.506	0.04	<0.01	0.04	<0.1	<0.003
Lower Wetlands	07/15/2009		<0.05	0.0019	0.004	0.1	0.9	0.112	<0.02	<0.01	0.03	<0.1	0.004
Lower Wetlands	07/27/2009				0.005								<0.003
Lower Wetlands	10/06/2009		<0.05	0.0011	<0.003	<0.1	0.67	0.056	<0.02	<0.01	0.02	<0.1	<0.003
Rinse	01/21/2009		<0.05		<0.005				<0.02	<0.01	<0.01		<0.005
Rinse	04/16/2009		0.09	<0.0005	<0.002	<0.1	<0.02	<0.005	<0.02	<0.01	<0.01	<0.1	<0.003
Rinse	06/30/2009		<0.05	<0.0005	<0.003	0.1	<0.02	<0.005	0.03	<0.01	<0.01	0.3	<0.003
Rinse	08/25/2009		<0.05	<0.0005	<0.003	<0.1	<0.02	<0.005	<0.02	<0.01	<0.01		<0.003
Rinse	12/08/2009		<0.05		<0.003				<0.02	<0.01	<0.01		<0.003
Upper Wetlands	10/02/2008		<0.05	0.0019	<0.005	0.1	1.8	0.197	<0.02	<0.01	0.04	<0.1	<0.005
Upper Wetlands	10/06/2008				<0.005								<0.005
Upper Wetlands	10/13/2008				<0.005								<0.005
Upper Wetlands	10/20/2008				<0.005								<0.005
Upper Wetlands	10/27/2008				<0.005								<0.005
Upper Wetlands	11/03/2008				<0.005								<0.005
Upper Wetlands	11/10/2008				<0.005								<0.005
Upper Wetlands	11/17/2008				<0.005								<0.005
Upper Wetlands	11/24/2008				<0.005								<0.005
Upper Wetlands	12/01/2008				<0.005								<0.005
Upper Wetlands	12/08/2008				<0.005								<0.005
Upper Wetlands	12/15/2008				<0.005								<0.005
Upper Wetlands	12/22/2008				<0.005								<0.005
Upper Wetlands	12/29/2008				<0.005								<0.005
Upper Wetlands	01/05/2009				<0.03								<0.005
Upper Wetlands	01/14/2009		0.6	0.0189	<0.005	<0.5	27.3	1.5	<0.1	<0.05	0.27		<0.005
Upper Wetlands	01/26/2009				<0.005								<0.005
Upper Wetlands	02/02/2009				<0.005								<0.005
Upper Wetlands	02/09/2009				<0.005								<0.005
Upper Wetlands	02/16/2009				<0.005								<0.005
Upper Wetlands	02/23/2009				<0.005								<0.005
Upper Wetlands	03/02/2009				<0.005								<0.005
Upper Wetlands	04/08/2009		0.72	0.0201	<0.003	<0.1	25.7	1.41	<0.02	<0.01	0.35	<0.1	<0.005

Non-Process Surface Water - Minor Ion Chemistry

Site	Date	Reason If NoSample	NH4	As	CN	F	Fe	Mn	NO3	NO2	P	TPH	WAD CN
Upper Wetlands	07/15/2009		<0.05	0.0026	0.004	0.1	1.9	0.086	<0.2	<0.1	0.05	<0.1	0.004
Upper Wetlands	10/07/2009		<0.05	0.0023	<0.003	0.1	1.65	0.216	<0.02	<0.01	0.04	<0.1	<0.003
Victoria Creek Lower	08/19/2009		<0.05	<0.0005	<0.003	0.5	0.23	0.022	0.22	<0.01	<0.01	<0.09	<0.003
Victoria Creek Lower	10/06/2009		<0.05	<0.0005	<0.003	0.6	0.1	0.007	0.35	<0.01	0.01	<0.1	<0.003
Victoria Creek Lower	11/02/2009		<0.05	0.0009	<0.003	0.6	0.12	0.01	0.41	<0.01	<0.01	<0.1	<0.003
Victoria Creek Lower	12/14/2009		<0.05	<0.0005	<0.003	0.6	0.18	0.021	0.48	<0.01	<0.01	<0.1	<0.003
Victoria Creek Upper	08/19/2009		<0.05	<0.0005	<0.003	0.7	<0.02	<0.005	0.94	<0.01	<0.01	<0.1	<0.003
Victoria Creek Upper	09/09/2009		<0.05	0.0006	<0.003	0.6	0.18	0.02	0.22	<0.01	<0.01	<0.09	<0.003
Victoria Creek Upper	09/09/2009		<0.05	<0.0005	<0.003	0.7	0.04	<0.005	1.02	<0.01	<0.01	<0.09	<0.003
Victoria Creek Upper	10/06/2009		<0.05	<0.0005	0.003	0.7	<0.02	<0.005	1.02	<0.01	<0.01	<0.1	<0.003
Victoria Creek Upper	11/02/2009		<0.05	0.0008	<0.003	0.7	0.08	<0.005	1.16	<0.01	<0.01	<0.1	<0.003
Victoria Creek Upper	12/14/2009		<0.05	<0.0005	<0.003	0.7	0.08	<0.005	1.2	0.02	<0.01	<0.1	<0.003
Water Dam Seepage	10/01/2008		0.14	0.0031	<0.005	0.5	2.78	1.14	<0.02	<0.01	0.05	<0.1	<0.005
Water Dam Seepage	01/21/2009		0.2	0.0034	<0.005	0.4	3.43	1.36	<0.02	<0.01	0.06	<0.1	<0.005
Water Dam Seepage	04/01/2009		0.17	0.0034	<0.005	0.5	3.52	1.21	<0.02	<0.01	0.05	<0.09	<0.005
Water Dam Seepage	07/14/2009		0.13	0.0028	<0.003	0.4	3.48	1.14	0.05	<0.01	0.07	<0.09	0.004
Water Dam Seepage	10/06/2009		0.16	0.003	<0.003	0.4	2.85	1.2	<0.02	<0.01	0.04	<0.1	<0.003
Water Reservoir	10/01/2008		0.05	0.0013	<0.005	<0.1	1	0.182	0.04	<0.01	0.02	<0.09	<0.005
Water Reservoir	01/21/2009		<0.05	0.002	<0.005	<0.1	3.01	0.872	0.2	<0.01	0.04	<0.1	<0.005
Water Reservoir	04/13/2009		0.1	0.0008	<0.002	0.1	1.94	0.497	0.13	<0.01	0.02	2.8	<0.003
Water Reservoir	07/14/2009		0.07	0.0016	<0.003	<0.1	2.75	0.455	0.02	<0.01	0.04	0.34	<0.003
Water Reservoir	07/14/2009		0.07	0.0016	<0.003	<0.1	2.75	0.455	0.02	<0.01	0.04	0.34	<0.003
Water Reservoir	10/07/2009		0.07	0.0018	<0.003	<0.1	1.45	0.244	<0.02	<0.01	0.03	<0.1	<0.003

Non-Process Surface Water - Trace Ion Chemistry

Site	Date	Reason If NoSample	Sb	Ba	Bi	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Zn
Lower Wetlands	10/01/2008		<0.0004	0.028	<0.04	<0.0001		<0.01	<0.0001	<0.0002	<0.01	0.0001	<0.01	<0.01
Lower Wetlands	01/21/2009		<0.0004	0.026	<0.04	<0.0001		<0.01	<0.0001	<0.0002	<0.01	0.0002	<0.01	<0.01
Lower Wetlands	04/15/2009		<0.0004	0.037	<0.04	<0.0001		<0.01	0.0007	<0.0002	<0.01	0.0002	<0.01	<0.01
Lower Wetlands	07/15/2009		<0.0004	0.03	<0.04	<0.0001	<0.01	<0.01	0.0002	<0.0002	<0.01	<0.0001	<0.01	<0.01
Lower Wetlands	10/06/2009		<0.0004	0.028	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
Rinse	04/16/2009		<0.0004	<0.003	<0.04	<0.0001		<0.01	0.0003	<0.0002	<0.01	<0.0001	<0.01	0.01
Rinse	06/30/2009		<0.0004	<0.003	<0.04	<0.0001	<0.01	<0.01	0.0003	<0.0002	<0.01	<0.0001	<0.01	<0.01
Rinse	08/25/2009		<0.0004	<0.003	<0.04	<0.0001		<0.01	0.0005	<0.0002	<0.01	<0.0001	<0.01	<0.01
Upper Wetlands	10/02/2008		<0.0004	0.04	<0.04	<0.0001		<0.01	0.0002	<0.0002	0.01	<0.0001	<0.01	0.03
Upper Wetlands	01/14/2009		<0.0004	0.082	<0.04	<0.0001		0.01	0.0001	<0.0002	<0.01	0.0001	<0.01	<0.01
Upper Wetlands	04/08/2009		<0.0004	0.078	<0.04	<0.0001		<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
Upper Wetlands	07/15/2009		<0.0004	0.035	<0.04	<0.0001	<0.01	<0.01	0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
Upper Wetlands	10/07/2009		<0.0004	0.032	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	0.01	<0.0001	<0.01	<0.01
Victoria Creek Lower	08/19/2009		<0.0004	0.012	<0.04	<0.0001		<0.01	0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
Victoria Creek Lower	10/06/2009		<0.0004	0.01	<0.04	<0.0001	0.01	<0.01	0.0001	<0.0002	0.01	<0.0001	<0.01	<0.01
Victoria Creek Lower	11/02/2009		<0.0004	0.009	<0.04	<0.0001	<0.01	<0.01	0.0001	<0.0002	<0.01	<0.0001	0.01	<0.01
Victoria Creek Lower	12/14/2009		<0.0004	0.009	<0.04	<0.0001	<0.01	<0.01	0.0001	<0.0002	<0.01	0.0001	<0.01	<0.01
Victoria Creek Upper	08/19/2009		<0.0004	0.007	<0.04	<0.0001		<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
Victoria Creek Upper	09/09/2009		<0.0004	0.013	<0.04	<0.0001	<0.01	<0.01	0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
Victoria Creek Upper	09/09/2009		<0.0004	0.008	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
Victoria Creek Upper	10/06/2009		<0.0004	0.007	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
Victoria Creek Upper	11/02/2009		<0.0004	0.007	<0.04	<0.0001	<0.01	<0.01	0.0001	<0.0002	<0.01	0.0001	<0.01	<0.01
Victoria Creek Upper	12/14/2009		<0.0004	0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0001	<0.01	<0.01
Water Dam Seepage	10/01/2008		<0.0004	0.008	<0.04	<0.0001		<0.01	<0.0001	<0.0002	0.01	0.0001	<0.01	<0.01
Water Dam Seepage	01/21/2009		<0.0004	0.007	<0.04	<0.0001		<0.01	<0.0001	<0.0002	<0.01	0.0001	<0.01	<0.01
Water Dam Seepage	04/01/2009		<0.0004	0.008	<0.04	<0.0001		<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
Water Dam Seepage	07/14/2009		<0.0004	0.008	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
Water Dam Seepage	10/06/2009		<0.0004	0.007	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	0.01	<0.0001	<0.01	<0.01
Water Reservoir	10/01/2008		<0.0004	0.018	<0.04	<0.0001		<0.01	0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
Water Reservoir	01/21/2009		<0.0004	0.03	<0.04	0.0004		<0.01	0.0007	<0.0002	<0.01	0.0001	<0.01	0.07
Water Reservoir	04/13/2009		<0.0004	0.027	<0.04	<0.0001		<0.01	0.0003	<0.0002	<0.01	<0.0001	<0.01	0.01
Water Reservoir	07/14/2009		<0.0004	0.025	<0.04	<0.0001	<0.01	<0.01	0.0005	<0.0002	<0.01	<0.0001	<0.01	0.01
Water Reservoir	07/14/2009		<0.0004	0.025	<0.04	<0.0001	<0.01	<0.01	0.0005	<0.0002	<0.01	<0.0001	<0.01	0.01
Water Reservoir	10/07/2009		<0.0004	0.019	<0.04	<0.0001	<0.01	<0.01	0.0007	<0.0002	<0.01	<0.0001	<0.01	0.02

COMPLIANCE GROUNDWATER PROCESS WATER QUALITY DATA

FAIRBANKS GOLD MINING, INC.
FORT KNOX MINE

4th Quarter 2009

Process Ground Water - Major Ion Chemistry

Site	Date	Reason If NoSample	Bic Alk	Tot Alk	Ca	Cl	Ca Hard	Mg Hard	Mg	Lab pH	K	Si	Na	Lab Cond.	SO4	S	Temp. (C)	TDS	TSS	Tur
401	10/08/2008		59	59	34.4	8	83	35	8.5	7.5	1.3	5.1	4.5	257	38	<0.02		180	<5	2.3
401	01/20/2009		50	50	47.4	13	108	43	11.7	7.7	1.5	5.1	6.8	341	62	<0.02		210	<5	0.6
401	04/07/2009		48	48	46.6	16	112	48	10.9	7.3	1.4	5.4	6.4	394	77	<0.02	2.9	250	<5	1.1
401	08/12/2009			58	45.1	15	116	46	10.7	7.6	1.5	5.2	7.2	352	66	<0.02		230	<5	1.3
401	10/21/2009			58	40.7	12	104	42	9.9	7.6	1.3	5.1	6.6	318	56	<0.02		210	<5	1.2
IW-1	11/13/2008		183	183	84.9	7	217	62	14.9	8.2	4.3	6.6	8	501	83	<0.02	8.5	340	<5	0.1
IW-1	01/13/2009		183	183	84.1	7	197	58	14.7	8.2	4.2	7.2	7.9	482	79	<0.02		340	<5	<0.1
IW-1	04/20/2009		167	184	54.8	7	210	59	16.6	8.2	4.9	6.8	53.5	502	69	<0.02	2.9	300	<5	0.2
IW-1	10/26/2009		190	190	81.1	6	204	59	14.5	8.3	4.2	7.3	7.8	537	69	<0.02	2.9	320	<5	0.2
IW-11	10/14/2008		46	46	57.9	27	136	66	16.6	8	1.7	5.6	23.5	545	124	<0.02		320	<5	0.3
IW-11	01/20/2009		46	46	59.5	25	139	67	17.9	7.7	1.8	5.8	27.2	514	120	<0.02		340	<5	0.4
IW-11	04/07/2009		48	48	60.8	26	137	67	15.7	7.8	1.9	5.9	27.3	578	115	<0.02	4.9	350	<5	0.3
IW-11	08/11/2009			48	54.2	27	138	66	15.8	7.9	1.8	5.6	28.2	541	108	<0.02	6.3	350	<5	0.2
IW-2	10/01/2008		169	169	124	27	318	81	19.2	8.1	4.1	8	35.7	875	250	<0.02		590	321	216
IW-2	04/20/2009		176	200	133	26	330	81	20.9	8.1	5.2	9	38.8	826	194	<0.02	4.8	570	<5	2.7
IW-2	08/10/2009			194	122	26	310	77	19.7	8.1	4.4	9.3	37.6	836	240	<0.2		580	<5	1.4
IW-2	10/26/2009		208	208	123	26	318	81	19.3	8.1	4.2	9	36	869	220	<0.02	4.6	580	8	2.8
IW-3	10/01/2008		87	87	72.2	16	182	36	8.4	8.3	1.9	6.6	33.7	568	150	<0.02		370	<5	4.4
IW-3	01/13/2009		92	92	71.3	18	168	32	7.9	8.1	1.6	7	35.5	521	135	<0.02		370	<5	0.1
IW-3	04/06/2009		84	84	67.6	16	168	34	7.6	8.1	1.6	6.5	35.9	561	135	<0.02	4.3	340	33	3.4
IW-3	12/16/2009		87	87	65.9	17	168	32	7.6	8.1	1.9	6.5	36.7	537	143	0.05		360	<5	7.4
IW-4	10/08/2008		157	157	81.6	6	195	22	5.4	8.1	1.7	7.6	41.2	577	123	<0.02		410	<5	1.1
IW-4	01/14/2009		101	101	59.2	10	149	30	7.2	7.8	1.5	6.5	25.4	451	91	<0.02		310	14	2.7
IW-4	04/06/2009		134	134	67.6	7	164	18	4.1	8.1	1.7	7.3	44.8	551	110	<0.02	4.8	330	<5	0.2
IW-4	08/10/2009			146	67.1	7	175	17	4.3	8.3	1.6	8.3	45.8	538	124	<0.02		360	<5	0.7
IW-4	10/21/2009			143	70.4	8	183	19	4.4	8.3	1.6	7.6	44.5	548	120	<0.02		370	<5	0.3
IW-5	10/01/2008		118	118	96.6	30	242	68	16.2	8	9.5	6.1	44.6	809	220	<0.02		530	<5	0.6
IW-5	01/14/2009		126	126	94.1	31	232	63	15.7	8	8.6	6.7	43.2	772	210	<0.02		530	<5	1.4
IW-5	04/06/2009		127	127	97.5	30	238	69	16.2	7.9	8.6	6.4	45.1	805	199	<0.02	5.5	500	<5	1.4
IW-5	08/10/2009			134	94.6	29	238	64	16.4	8.1	9.2	7	45.7	791	220	<0.3		520	<5	2
IW-5	10/21/2009			137	96.1	29	233	64	16.3	8.1	8.2	6.4	43.7	771	210	<0.02		530	<5	2.9
IW-6	10/01/2008		143	143	101	19	253	61	14.6	8.2	3.6	8.3	30.6	722	170	<0.02		480	<5	0.7
IW-6	01/14/2009		168	168	90.4	15	228	51	12.2	8.1	2.8	9.5	26.8	647	125	<0.02		450	<5	1
IW-6	04/06/2009		160	160	96.6	17	242	59	13.3	8	3.2	9	30.4	680	146	<0.02	4.5	450	<5	1.7
IW-6	08/10/2009			167	94.6	17	249	56	13.4	8.2	3.2	9.4	30.1	683	166	<0.02		460	<5	1
IW-6	11/09/2009		162	162	99.8	15	249	56	13.5	8	3.3	9.5	31.1	676	148	<0.02	2.7	440	<5	0.6
IW-7	10/14/2008		93	93	55.3	11	136	39	9.5	8.1	1.7	5.1	4.6	370	52	<0.02		220	<5	0.5
IW-7	01/20/2009		96	96	58.4	9	133	38	10.3	7.9	1.9	5	5.2	333	48	<0.02		220	<5	0.5
IW-7	04/07/2009		96	96	55.1	10	133	39	9	7.7	1.6	5.3	4.6	388	50	<0.02	2.3	240	<5	0.2
IW-7	08/11/2009			102	53.7	11	142	38	8.9	8.2	1.8	5.1	5.1	360	52	<0.02	2.2	220	<5	0.2
IW-8	10/08/2008		46	46	40.6	12	99	37	8.9	7.8	1.4	5	8.6	313	60	<0.02		220	<5	0.3
IW-8	01/20/2009		45	45	55.4	18	128	47	12.7	7.8	1.8	5.1	13.5	392	87	<0.02		260	<5	0.2
IW-8	04/07/2009		47	47	54.1	21	133	52	11.7	7.6	1.7	5.2	12.7	470	91	<0.02	3	290	<5	0.2
IW-8	08/11/2009			49	52.5	20	132	46	11.3	7.9	2.1	5	14.3	432	87	<0.02	3.8	270	<5	0.2
MW-1	10/08/2008		273	273	137	23	348	91	21.8	8	6.4	7.9	28.3	858	160	<0.02		610	<5	2.6
MW-1	04/20/2009		465	523	175	3	450	110	27.3	7.8	2.8	12.7	17.4	926	22	0.03	4.9	590	<5	4.6
MW-1	08/10/2009			495	164	5	428	107	25.7	8	2.5	12.2	16.9	931	52	<0.2		610	<5	2.5
MW-1	10/26/2009		484	484	161	5	438	110	24.8	8	2.5	12.3	16.9	964	39	<0.02	5	590	<5	3.9
MW-2	10/08/2008		194	197	69.9	4	173	40	9.4	8.3	2.4	3.5	23.1	467	34	0.21		300	27	43.9

Process Ground Water - Major Ion Chemistry

Site	Date	Reason If NoSample	Bic Alk	Tot Alk	Ca	Cl	Ca Hard	Mg Hard	Mg	Lab pH	K	Si	Na	Lab Cond.	SO4	S	Temp. (C)	TDS	TSS	Tur
MW-2	01/20/2009		209	209	80.9	6	184	40	10.7	8.2	2.6	10.1	25.9	486	31	0.1		320	26	49.7
MW-2	04/07/2009		226	226	75.2	5	170	40	9.5	8.2	2.3	10	22.9	529	21	0.19	4.6	320	44	89.6
MW-2	12/16/2009		173	173	86.3	6	222	51	11.5	8	2.6	7.4	25.8	594	115	0.35		410	44	145
MW-3	10/08/2008		104	104	82.6	19	202	38	9.1	8.1	1.2	5.7	26	573	143	<0.02		390	<5	0.9
MW-3	01/21/2009		88	88	90.9	22	214	37	9.6	8.1	1.4	6.3	39.8	594	160	<0.02	4.8	400	<5	1.1
MW-3	01/21/2009		89	89	84.3	21	210	36	8.9	8.1	1.4	5.8	37	582	178	<0.02	4.8	390	<5	0.3
MW-3	08/11/2009			111	79.4	21	211	37	8.3	8.3	1.3	6.2	36.5	630	157	<0.02	3.2	400	<5	0.3

Process Ground Water - Minor Ion Chemistry

Site	Date	Reason If NoSample	NH4	As	CN	F	Fe	Mn	NO3	NO2	P	TPH	WAD CN
401	10/08/2008		<0.05	<0.0005	0.1	<0.1	0.34	0.108	3.71	<0.01	<0.01		0.027
401	10/20/2008				0.12								0.033
401	01/20/2009		<0.05	<0.0005	0.147	<0.1	0.06	0.011	5.57	<0.01	<0.01		0.029
401	04/07/2009		<0.05	<0.0005	0.135	<0.1	0.09	0.016	7.77	<0.01	<0.01		0.034
401	08/12/2009		<0.05	<0.0005	0.146	<0.1	0.12	0.017	5.29	<0.01	<0.01		0.03
401	10/21/2009		<0.05	<0.0005	0.106	<0.1	0.06	0.022	5.41	<0.01	<0.01		0.018
IW-1	11/13/2008		<0.05	0.0029	<0.005	<0.1	<0.02	0.071	0.1	0.1	<0.01		<0.005
IW-1	01/13/2009		<0.05	0.0036	0.005	0.1	<0.02	0.065	0.15	0.13	<0.01		0.006
IW-1	04/20/2009		0.08	0.0032	<0.002	<0.1	<0.02	0.055	0.19	0.15	0.04		<0.002
IW-1	10/26/2009		<0.05	0.003	<0.006	<0.1	<0.02	0.062	0.27	0.15	<0.01		<0.003
IW-11	10/14/2008		<0.05	<0.0005	0.282	<0.1	0.12	0.016	11.4	0.03	<0.01		0.047
IW-11	01/20/2009		<0.05	<0.0005	0.212	<0.1	0.06	<0.005	10.8	0.01	<0.01		0.047
IW-11	04/07/2009		<0.05	<0.0005	0.243	<0.1	0.12	0.008	12.9	0.02	<0.01		0.053
IW-11	08/11/2009		<0.05	<0.0005	0.272	<0.1	0.12	0.005	13.8	0.01	0.02		0.04
IW-2	10/01/2008		<0.05	<0.0005	<0.03	<0.1	0.72	0.651	0.02	<0.01	0.12		<0.005
IW-2	04/20/2009		0.11	<0.0005	0.003	<0.1	0.5	0.698	<0.02	<0.01	0.06		<0.002
IW-2	08/10/2009		<0.05	<0.0005	0.005	<0.1	0.42	0.679	<0.02	<0.01	0.01		<0.003
IW-2	10/26/2009		0.06	<0.0005	<0.006	<0.1	0.44	0.67	<0.02	<0.01	<0.01		<0.003
IW-3	10/01/2008		<0.05	0.0011	<0.005	0.2	<0.02	0.194	0.03	<0.01	0.03		<0.005
IW-3	01/13/2009		<0.05	0.0017	<0.005	0.1	0.03	0.159	0.03	<0.01	<0.01		<0.005
IW-3	04/06/2009		<0.05	0.0013	<0.005	0.3	0.14	0.11	0.04	<0.01	0.19		<0.005
IW-3	12/16/2009		<0.05	0.0012	<0.003	<0.1	0.02	0.118	<0.02	<0.01	<0.01		<0.003
IW-4	10/08/2008		<0.05	<0.0005	<0.005	0.2	0.32	0.033	0.11	<0.01	<0.01		<0.005
IW-4	01/14/2009		<0.05	0.0006	0.071	0.2	0.08	0.04	2.92	<0.01	<0.01		0.01
IW-4	04/06/2009		<0.05	0.0008	<0.005	0.4	0.44	0.069	0.09	<0.01	<0.01		<0.005
IW-4	08/10/2009		<0.05	0.0008	<0.003	0.5	0.11	0.084	<0.02	<0.01	0.01		0.005
IW-4	10/21/2009		<0.05	<0.0005	<0.003	0.4	0.09	0.099	0.07	<0.01	0.01		<0.003
IW-5	10/01/2008		0.29	<0.0005	0.009	0.1	0.2	0.523	2.92	0.03	<0.01		0.005
IW-5	01/14/2009		0.31	0.0008	0.008	0.1	0.31	0.548	3.29	0.02	<0.01		<0.005
IW-5	04/06/2009		0.32	0.0008	0.006	0.1	0.43	0.553	3.42	0.02	<0.01		<0.005
IW-5	08/10/2009		0.25	0.0008	0.012	0.1	0.33	0.556	3.63	0.03	0.01		0.003
IW-5	10/21/2009		0.25	<0.0005	0.012	0.1	0.51	0.562	3.03	0.01	<0.01		<0.003
IW-6	10/01/2008		<0.05	<0.0005	<0.005	<0.1	0.37	0.464	0.12	<0.01	<0.01		<0.005
IW-6	01/14/2009		<0.05	0.001	<0.005	<0.1	0.31	0.475	0.04	<0.01	<0.01		<0.005

Process Ground Water - Minor Ion Chemistry

Site	Date	Reason If NoSample	NH4	As	CN	F	Fe	Mn	NO3	NO2	P	TPH	WAD CN
IW-6	04/06/2009		<0.05	0.0009	<0.005	<0.1	0.37	0.489	0.05	<0.01	0.02		<0.005
IW-6	08/10/2009		<0.05	0.0009	<0.003	<0.1	0.4	0.48	0.06	<0.01	0.01		<0.003
IW-6	11/09/2009		<0.05	<0.0005	<0.003	<0.1	0.26	0.496	0.03	<0.01	<0.01		<0.003
IW-7	10/14/2008		<0.05	<0.0005	0.045	<0.1	0.05	0.017	3.5	<0.01	0.01		0.018
IW-7	01/20/2009		<0.05	<0.0005	0.04	<0.1	<0.02	<0.005	3.09	<0.01	0.02		0.014
IW-7	04/07/2009		<0.05	<0.0005	0.032	<0.1	0.02	<0.005	3.69	<0.01	<0.01		0.015
IW-7	08/11/2009		<0.05	<0.0005	0.04	<0.1	<0.02	<0.005	3.29	<0.01	0.01		0.013
IW-8	10/08/2008		<0.05	<0.0005	0.18	<0.1	0.09	<0.005	5.93	<0.01	<0.01		0.034
IW-8	01/20/2009		<0.05	<0.0005	0.194	<0.1	0.08	<0.005	8.17	<0.01	<0.01		0.04
IW-8	04/07/2009		<0.05	<0.0005	0.19	<0.1	0.09	0.011	9.9	<0.01	<0.01		0.043
IW-8	08/11/2009		<0.05	<0.0005	0.207	<0.1	0.09	<0.005	9.3	<0.01	0.03		0.034
MW-1	10/08/2008		0.14	<0.0005	<0.005	<0.1	0.66	0.526	1.59	0.08	0.01		<0.005
MW-1	04/20/2009		0.09	<0.0005	<0.002	<0.1	0.88	0.795	0.04	<0.01	0.03		<0.002
MW-1	08/10/2009		<0.05	<0.0005	<0.003	<0.1	0.69	0.665	1.55	0.05	0.02		<0.003
MW-1	10/26/2009		<0.05	<0.0005	<0.006	<0.1	0.75	0.675	0.18	<0.01	0.02		<0.003
MW-2	10/08/2008		<0.05	<0.0005	<0.005	<0.1	1.34	0.433	0.05	<0.01	0.03		<0.005
MW-2	01/20/2009		<0.05	0.0019	<0.005	0.1	4.85	0.589	<0.02	<0.01	0.02		<0.005
MW-2	04/07/2009		0.05	0.0015	<0.005	<0.1	5.57	0.575	<0.02	<0.01	0.03		<0.005
MW-2	12/16/2009		<0.05	<0.0005	<0.003	<0.1	4.61	0.68	0.05	0.02	0.08		<0.003
MW-3	10/08/2008		<0.05	0.0016	<0.005	<0.1	0.04	0.295	<0.02	<0.01	0.01		<0.005
MW-3	01/21/2009		<0.05	0.0016	<0.005	0.1	0.04	0.221	<0.02	<0.01	0.07		<0.005
MW-3	01/21/2009		<0.05	0.0014	<0.005	<0.1	0.03	0.205	<0.02	<0.01	0.02		<0.005
MW-3	08/11/2009		<0.05	0.0012	<0.003	0.1	0.03	0.229	<0.02	<0.01	0.02		<0.003

Process Ground Water - Trace Ion Chemistry

Site	Date	Reason If NoSample	Sb	Ba	Bi	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Zn
401	10/08/2008		<0.0004	0.008	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0006	<0.01	<0.01
401	01/20/2009		<0.0004	<0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	0.02	0.0015	<0.01	<0.01
401	04/07/2009		<0.0004	0.019	<0.04	<0.0001	<0.01	<0.01	<0.0001	0.0002	<0.01	0.0019	<0.01	<0.01
401	08/12/2009		<0.0004	0.021	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0017	<0.01	<0.01
401	10/21/2009		<0.0004	0.016	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0011	<0.01	<0.01
IW-1	11/13/2008		0.0015	0.039	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	0.01	0.0004	<0.01	<0.01
IW-1	01/13/2009		0.0016	0.037	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0005	<0.01	<0.01
IW-1	04/20/2009		0.0015	0.038	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0004	<0.01	<0.01
IW-1	10/26/2009		0.0013	0.039	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0004	<0.01	<0.01
IW-11	10/14/2008		0.0014	0.003	<0.04	<0.0001	<0.01	<0.01	0.0005	<0.0002	<0.01	0.0047	<0.01	<0.01
IW-11	01/20/2009		0.0012	<0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	0.01	0.0041	<0.01	<0.01
IW-11	04/07/2009		0.0012	<0.003	<0.04	<0.0001	<0.01	<0.01	0.0003	<0.0002	<0.01	0.0037	<0.01	0.01
IW-11	08/11/2009		0.001	<0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0029	<0.01	<0.01
IW-2	10/01/2008		0.0004	0.004	0.1	<0.0001	<0.01	<0.01	<0.0001	<0.0002	0.01	0.0001	<0.01	<0.01
IW-2	04/20/2009		0.0005	0.012	<0.04	<0.0001	<0.01	<0.01	0.0002	<0.0002	<0.01	<0.0001	<0.01	<0.01
IW-2	08/10/2009		<0.0004	0.013	<0.04	<0.0001	<0.01	<0.01	0.001	<0.0002	<0.01	<0.0001	<0.01	<0.01
IW-2	10/26/2009		0.0004	0.013	<0.04	<0.0001	<0.01	<0.01	0.0003	<0.0002	<0.01	<0.0001	<0.01	<0.01
IW-3	10/01/2008		0.0004	<0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
IW-3	01/13/2009		0.0006	0.006	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
IW-3	04/06/2009		<0.0004	0.008	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
IW-3	12/16/2009		<0.0004	0.008	0.1	<0.0001	<0.01	<0.01	0.0002	<0.0002	0.01	<0.0001	<0.01	<0.01
IW-4	10/08/2008		0.0006	<0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0011	<0.01	<0.01
IW-4	01/14/2009		0.0005	0.009	<0.04	<0.0001	<0.01	<0.01	0.0003	<0.0002	<0.01	0.0014	<0.01	<0.01
IW-4	04/06/2009		0.0005	0.003	<0.04	<0.0001	<0.01	<0.01	0.0001	<0.0002	<0.01	0.0006	<0.01	<0.01
IW-4	08/10/2009		0.0006	<0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0005	<0.01	<0.01
IW-4	10/21/2009		0.0005	<0.003	<0.04	<0.0001	<0.01	<0.01	0.0001	<0.0002	<0.01	0.0004	<0.01	<0.01
IW-5	10/01/2008		0.0097	0.017	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	0.02	0.0009	<0.01	<0.01
IW-5	01/14/2009		0.0099	0.026	<0.04	<0.0001	<0.01	<0.01	0.0005	<0.0002	0.02	0.0008	<0.01	<0.01
IW-5	04/06/2009		0.0103	0.026	<0.04	<0.0001	<0.01	<0.01	0.0006	<0.0002	0.02	0.0009	<0.01	<0.01
IW-5	08/10/2009		0.0117	0.029	<0.04	<0.0001	<0.01	<0.01	0.0015	<0.0002	0.02	0.0008	<0.01	<0.01
IW-5	10/21/2009		0.008	0.026	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	0.05	0.0007	<0.01	<0.01
IW-6	10/01/2008		0.0008	0.004	<0.04	<0.0001	<0.01	<0.01	0.0006	<0.0002	0.03	0.0001	<0.01	<0.01
IW-6	01/14/2009		0.0005	0.007	<0.04	<0.0001	<0.01	<0.01	0.0002	<0.0002	0.02	<0.0001	<0.01	<0.01
IW-6	04/06/2009		<0.0004	0.006	<0.04	<0.0001	<0.01	<0.01	0.0002	<0.0002	0.02	<0.0001	<0.01	<0.01
IW-6	08/10/2009		0.0005	0.008	<0.04	<0.0001	<0.01	<0.01	0.0021	<0.0002	<0.01	<0.0001	<0.01	<0.01
IW-6	11/09/2009		0.0004	0.005	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	0.01	<0.0001	<0.01	<0.01
IW-7	10/14/2008		<0.0004	0.009	<0.04	<0.0001	<0.01	<0.01	0.0005	<0.0002	<0.01	0.0005	<0.01	<0.01
IW-7	01/20/2009		<0.0004	<0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	0.02	0.0006	<0.01	<0.01
IW-7	04/07/2009		<0.0004	0.007	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0007	<0.01	<0.01
IW-7	08/11/2009		<0.0004	<0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0007	<0.01	<0.01
IW-8	10/08/2008		<0.0004	<0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0013	<0.01	<0.01
IW-8	01/20/2009		<0.0004	<0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0027	<0.01	<0.01
IW-8	04/07/2009		<0.0004	0.004	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0026	<0.01	<0.01
IW-8	08/11/2009		<0.0004	<0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0021	<0.01	<0.01
MW-1	10/08/2008		0.0061	0.011	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	0.06	0.0004	<0.01	0.01
MW-1	04/20/2009		<0.0004	0.011	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
MW-1	08/10/2009		<0.0004	0.013	<0.04	<0.0001	<0.01	<0.01	0.0006	<0.0002	<0.01	0.0001	<0.01	<0.01
MW-1	10/26/2009		<0.0004	0.012	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0001	<0.01	0.01
MW-2	10/08/2008		<0.0004	0.003	<0.04	<0.0001	<0.01	<0.01	0.0002	<0.0002	<0.01	<0.0001	<0.01	2.95

Process Ground Water - Trace Ion Chemistry

Site	Date	Reason If NoSample	Sb	Ba	Bi	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Zn
MW-2	01/20/2009		<0.0004	0.008	<0.04	<0.0001	<0.01	<0.01	0.0007	<0.0002	0.03	<0.0001	<0.01	0.79
MW-2	04/07/2009		<0.0004	0.008	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	0.37
MW-2	12/16/2009		<0.0004	0.008	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	0.04	0.0001	<0.01	0.5
MW-3	10/08/2008		0.0004	<0.003	<0.04	<0.0001	<0.01	<0.01	0.0001	<0.0002	0.01	<0.0001	<0.01	<0.01
MW-3	01/21/2009		<0.0004	0.011	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	0.02	<0.0001	<0.01	<0.01
MW-3	01/21/2009		<0.0004	0.007	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	0.02	<0.0001	<0.01	<0.01
MW-3	08/11/2009		<0.0004	<0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01

COMPLIANCE GROUNDWATER
NON-PROCESS WATER QUALITY DATA

FAIRBANKS GOLD MINING, INC.
FORT KNOX MINE

4th Quarter 2009

Non-Process Ground Water - Major Ion Chemistry

Site	Date	Reason If NoSample	Bic Alk	Tot Alk	Ca	Cl	Ca Hard	Mg Hard	Mg	Lab pH	K	Si	Na	Lab Cond.	SO4	S	Temp. (C)	TDS	TSS	Tur
MW-5	10/07/2008		290	290	91.8	2	221	42	10.6	7.9	1.7	12.2	27.7	556	<1	0.06		370	<5	4
MW-5	01/12/2009		375	375	115	<10	290	58	13.9	8	1.8	14.6	20.9	690	<10	0.05		470	<5	38.5
MW-5	04/08/2009		377	390	123	<5	290	61	14.3	7.6	1.5	13	20.5	742	<5	0.08	7.4	460	10	22.8
MW-5	08/12/2009			373	113	2	288	55	13.1	8	1.8	13.2	21.9	618	<1	0.06		460	<5	18.2
MW-5	10/13/2009			364	112	3	275	52	12.7	8	1.8	13	22.6	638	<1	0.05		430	<5	13.4
MW-6	10/07/2008		450	450	140	2	338	100	25.2	8	1.8	14.6	22.6	818	3	0.04		530	<5	6.4
MW-6	01/12/2009		461	461	144	2	338	102	26	8.1	2	16.4	21.3	830	7	0.06		520	<5	3.7
MW-6	04/08/2009		422	451	135	2	318	101	23.8	7.9	1.9	14.6	20.7	846	3	0.11	3.7	490	25	4
MW-6	08/12/2009			478	138	2	355	103	24.3	8.1	1.9	14.9	20.5	808	5	0.09		530	7	10
MW-6	10/13/2009			472	141	2	348	101	24.3	8.2	2.1	15	20.7	821	6	0.08		520	7	7.1
MW-7	10/06/2008		82	90	16	<1	38	4	0.7	8.7	1.2	6.4	36.1	235	18	<0.02		140	<5	0.2
MW-7	01/13/2009		92	100	17.4	<1	39	4	1	8.7	1.2	7.2	39.5	225	18	<0.02		150	<5	<0.1
MW-7	04/08/2009		96	101	17.1	<1	41	4	1	8.7	1.2	6.5	38.1	255	17	<0.02	1.8	140	<5	<0.1
MW-7	08/24/2009			105	17.6	<1	42	4	0.8	8.7	1.3	6.5	38.7	230	18	<0.02	3.7	150	<5	<0.1
MW-7	10/14/2009			105	16.2	<1	42	3	0.9	8.8	1.1	7	36.4	229	18	<0.02		130	<5	0.1
MW-8	10/10/2008		69	69	29.6	<1	73	16	3.9	8.3	1.2	4.3	5.9	198	30	<0.02		120	<5	1

Non-Process Ground Water - Minor Ion Chemistry

Site	Date	Reason If NoSample	NH4	As	CN	F	Fe	Mn	NO3	NO2	P	TPH	WAD CN
MW-5	10/07/2008		0.13	<0.0005	<0.005	0.1	5.15	1.01	<0.02	<0.01	0.02		<0.005
MW-5	10/13/2008				<0.005								<0.005
MW-5	10/20/2008				<0.005								<0.005
MW-5	10/27/2008				<0.005								<0.005
MW-5	11/03/2008				<0.005								<0.005
MW-5	11/10/2008				<0.005								<0.005
MW-5	11/17/2008				<0.005								<0.005
MW-5	11/24/2008				<0.005								<0.005
MW-5	12/01/2008				<0.005								<0.005
MW-5	12/08/2008				<0.005								<0.005
MW-5	12/15/2008				<0.005								<0.005
MW-5	12/22/2008				<0.005								<0.005
MW-5	12/29/2008				<0.005								<0.005
MW-5	01/05/2009				<0.03								<0.005
MW-5	01/12/2009		<0.3	0.0011	<0.005	<0.5	12.6	1.38	<0.02	0.02	0.05		<0.005
MW-5	01/26/2009				<0.005								<0.005
MW-5	02/02/2009				<0.005								<0.005
MW-5	02/09/2009				<0.005								<0.005
MW-5	02/16/2009				<0.005								<0.005
MW-5	02/23/2009				<0.005								<0.005
MW-5	03/02/2009				<0.005								<0.005
MW-5	04/08/2009		0.15	0.0009	<0.003	<0.1	11.9	1.45	<0.02	<0.01	0.02		<0.003
MW-5	08/12/2009		0.18	0.0007	<0.003	<0.1	9.67	1.31	<0.02	<0.01	0.04		<0.003
MW-5	10/13/2009		0.12	<0.0005	<0.003	<0.1	8.48	1.28	<0.02	<0.01	0.02		<0.003
MW-6	10/07/2008		<0.05	<0.0005	<0.005	<0.1	0.89	0.7	<0.02	<0.01	<0.01		<0.005
MW-6	10/13/2008				<0.005								<0.005
MW-6	10/20/2008				<0.005								<0.005
MW-6	10/27/2008				<0.005								<0.005
MW-6	11/03/2008				<0.005								<0.005
MW-6	11/10/2008				<0.005								<0.005
MW-6	11/17/2008				<0.005								<0.005
MW-6	11/24/2008				<0.005								<0.005
MW-6	12/01/2008				<0.005								<0.005
MW-6	12/08/2008				<0.005								<0.005

Non-Process Ground Water - Minor Ion Chemistry

Site	Date	Reason If NoSample	NH4	As	CN	F	Fe	Mn	NO3	NO2	P	TPH	WAD CN
MW-6	12/15/2008				<0.005								<0.005
MW-6	12/22/2008				<0.005								<0.005
MW-6	12/29/2008				<0.005								<0.005
MW-6	01/05/2009				<0.005								<0.005
MW-6	01/12/2009		<0.05	<0.0005	<0.005	<0.1	0.66	0.696	<0.02	<0.01	<0.01		<0.005
MW-6	01/26/2009				<0.005								<0.005
MW-6	02/02/2009				<0.005								<0.005
MW-6	02/09/2009				<0.005								<0.005
MW-6	02/16/2009				<0.005								<0.005
MW-6	02/23/2009				<0.005								<0.005
MW-6	03/02/2009				<0.005								<0.005
MW-6	04/08/2009		<0.05	<0.0005	<0.003	<0.1	0.68	0.703	<0.02	<0.01	<0.01		<0.003
MW-6	08/12/2009		<0.05	<0.0005	<0.003	<0.1	0.68	0.707	0.02	<0.01	0.04		<0.003
MW-6	10/13/2009		<0.05	<0.0005	<0.003	<0.1	0.67	0.716	<0.02	<0.01	0.01		<0.003
MW-7	10/06/2008		<0.05	0.0014	<0.005	0.8	<0.02	0.036	<0.02	<0.01	0.03		<0.005
MW-7	10/13/2008				<0.005								<0.005
MW-7	10/20/2008				<0.005								<0.005
MW-7	10/27/2008				<0.005								<0.005
MW-7	11/03/2008				<0.005								<0.005
MW-7	11/10/2008				<0.005								<0.005
MW-7	11/17/2008				<0.005								<0.005
MW-7	11/24/2008				<0.005								<0.005
MW-7	12/01/2008				<0.005								<0.005
MW-7	12/08/2008				<0.005								<0.005
MW-7	12/15/2008				<0.005								<0.005
MW-7	12/22/2008				<0.005								<0.005
MW-7	01/07/2009				<0.005								<0.005
MW-7	01/13/2009		<0.05	0.0015	<0.005	0.8	0.02	0.045	0.03	<0.01	0.01		<0.005
MW-7	01/26/2009				<0.005								<0.005
MW-7	02/02/2009				<0.005								<0.005
MW-7	02/09/2009				<0.005								<0.005
MW-7	02/16/2009				<0.005								<0.005
MW-7	02/23/2009				<0.005								<0.005
MW-7	03/02/2009				<0.005								<0.005

Non-Process Ground Water - Minor Ion Chemistry

Site	Date	Reason If NoSample	NH4	As	CN	F	Fe	Mn	NO3	NO2	P	TPH	WAD CN
MW-7	04/08/2009		<0.05	0.0014	<0.003	0.6	0.03	0.05	<0.02	<0.01	<0.01		<0.003
MW-7	08/24/2009		<0.05	0.0012	<0.003	0.7	<0.02	0.042	<0.02	<0.01	0.02		<0.003
MW-7	10/14/2009		<0.05	0.0012	<0.003	0.7	<0.02	0.042	<0.02	<0.01	0.02		<0.003
MW-8	10/10/2008		<0.05	0.0018	<0.005	<0.1	0.19	0.154	0.02	<0.01	0.02		<0.005
MW-8	10/13/2008				<0.005								<0.005
MW-8	10/20/2008				<0.005								<0.005
MW-8	11/03/2008				<0.005								<0.005
MW-8	11/17/2008				<0.005								<0.005
MW-8	11/24/2008				<0.005								<0.005

Non-Process Ground Water - Trace Ion Chemistry

Site	Date	Reason If NoSample	Sb	Ba	Bi	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Zn
MW-5	10/07/2008		<0.0004	0.033	0.05	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0005	<0.01	<0.01
MW-5	01/12/2009		<0.0004	0.047	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0003	<0.01	<0.01
MW-5	04/08/2009		<0.0004	0.045	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0001	<0.01	<0.01
MW-5	08/12/2009		<0.0004	0.04	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0004	<0.01	<0.01
MW-5	10/13/2009		<0.0004	0.034	<0.04	<0.0001	<0.01	0.02	<0.0001	<0.0002	0.02	0.0001	<0.01	<0.01
MW-6	10/07/2008		<0.0004	0.009	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	0.01	0.0009	<0.01	<0.01
MW-6	01/12/2009		<0.0004	<0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0002	<0.01	<0.01
MW-6	04/08/2009		<0.0004	0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
MW-6	08/12/2009		<0.0004	<0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	0.0013	<0.01	<0.01
MW-6	10/13/2009		<0.0004	<0.003	<0.04	<0.0001	<0.01	0.03	<0.0001	<0.0002	0.03	0.0002	<0.01	<0.01
MW-7	01/13/2009		<0.0004	0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
MW-7	04/08/2009		<0.0004	0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
MW-7	08/24/2009		<0.0004	<0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	0.05	0.0001	<0.01	<0.01
MW-7	10/06/2008		<0.0004	<0.003	0.05	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
MW-7	10/14/2009		<0.0004	<0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	<0.01
MW-8	10/10/2008		<0.0004	<0.003	<0.04	<0.0001	<0.01	<0.01	<0.0001	<0.0002	<0.01	<0.0001	<0.01	0.02

METEORIC WATER MOBILITY DATA

FAIRBANKS GOLD MINING, INC.
FORT KNOX MINE

4th Quarter 2009

Meteoric Water Mobility - Major Ion Chemistry

Site	Date	Reason If NoSample	Bic Alk	Tot Alk	Ca	Cl	Ca Hard	Mg Hard	Mg	Lab pH	K	Si	Na	Lab Cond.	SO4	TDS	TSS
Tailing Solids	10/16/2008				6.5				0.4		13.9		188				
Tailing Solids	01/16/2009				3.5				<0.2		4.9		135				
Tailing Solids	04/08/2009				6.1				0.6		8.6		95.2				
Tailing Solids	07/23/2009				1.3				<0.2		4.1		61.8				
Tailing Solids	09/30/2009				1.4				<0.2		2.8		66.8				
Tailing Solids	11/11/2009				4				<0.2		7.2		74.4				

Meteoric Water Mobility - Minor Ion Chemistry

Site	Date	Reason If NoSample	NH4	As	CN	F	Fe	Mn	NO3	NO2	P	TPH	WAD CN
Tailing Solids	10/16/2008			0.0209			0.03	<0.005					
Tailing Solids	01/16/2009			0.0496			0.04	<0.005					
Tailing Solids	04/08/2009			0.0255			0.11	<0.005					
Tailing Solids	07/23/2009			0.1			0.02	<0.005					
Tailing Solids	09/30/2009			0.0707			0.07	<0.005					
Tailing Solids	11/11/2009			0.0379			<0.02	<0.005					

Meteoric Water Mobility - Trace Ion Chemistry

Site	Date	Reason If NoSample	Sb	Ba	Bi	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Zn
Tailing Solids	10/16/2008		0.023	0.004	<0.04	0.0002	0.0033	<0.0005	<0.002	<0.0002	0.0023	0.0019	<5E-05	0.05
Tailing Solids	01/16/2009		0.0175	<0.003	<0.04	<0.0001	0.001	0.006	0.0015	<0.0002	<0.0006	0.0017	<5E-05	0.03
Tailing Solids	04/08/2009		0.0167	0.004	0.05	<0.0001	0.0012	0.003	0.0027	<0.0002	0.0009	0.001	0.00016	<0.01
Tailing Solids	07/23/2009		0.0129	<0.003	<0.04	<0.0001	0.0034	0.0008	0.0005	<0.0002	<0.0006	0.001	<5E-05	<0.01
Tailing Solids	09/30/2009		0.0106	<0.003	<0.04	<0.0001	0.009	0.0019	0.0009	<0.0002	<0.003	0.0008	<5E-05	0.05
Tailing Solids	11/11/2009		0.0118	<0.003	<0.04	<0.0001	0.0011	0.0017	<0.0001	<0.0002	<0.0006	0.001	0.00032	<0.01

ACID ROCK DRAINAGE CHARACTERIZATION DATA

FAIRBANKS GOLD MINING, INC.
FORT KNOX MINE

4th Quarter 2009

Static Acid/Base Accounting

Site	Date	Reason If NoSample	Acid Generation Potential AGP (tons/100tons)	Acid Neutralization Potential ANP (tons/100tons)	ANP/AGP
Tailing Solids	10/16/2008		<1	34	34
Low Grade Stockpile	12/02/2008		<1	68	68
Topsoil Sample	12/02/2008		<1	15	15
Tailing Solids	01/16/2009		<1	37	37
Tailing Solids	04/08/2009		<1	48	48
Tailing Solids	07/23/2009		<1	37	37
Tailing Solids	09/30/2009		<1	44	44
Tailing Solids	11/11/2009		<1	48	48

ATTACHMENT B
Heap Leach Compliance Monitoring Data Report

Heap Leach
Water Quality Data

FAIRBANKS GOLD MINING, INC.
FORT KNOX MINE

4th Quarter 2009

FacilityName	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining
Site Number	HL-1	HL-1	HL-1	HL-1	HL-1	HL-1
Sample Date	5/13/2008 10:30:00 AM	7/29/2008 9:30:00 AM	10/14/2008 4:00:00 PM	11/19/2008 2:45:00 PM	12/16/2008 2:30:00 PM	3/4/2009 2:30:00 PM
DupID	0	0	0	0	0	0
SampleIdentifier	FK0805137664401	HL080729401	FK0810147664405	FK0811197664401	FK0812167664402	HL0903047664402
Comments						
Alkalinity, Bicarbonate (mg/l as CaCO3)	33	45	<2	44	25	46
Ammonia (mg/l as N)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Antimony, Dissolved (mg/l)	<0.0004	0.0005	<0.0004	<0.0004	<0.0004	<0.0004
Arsenic, Dissolved (mg/l)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0024
Barium, Dissolved (mg/l)	0.009	0.01	0.006	<0.003	0.005	0.003
Cadmium, Dissolved (mg/l)	<0.0001	<0.0001	<0.0001	0.0006	<0.0001	0.0004
Calcium, Dissolved (mg/l)	15	18.1	15.6	19.5	13.1	21.1
Chloride, dissolved	3	2	1	<1	1	<1
Chromium, Dissolved (mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper, Dissolved (mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cyanide, Total (mg/l)	0.012	<0.005	<0.005	<0.005	<0.005	<0.005
Fluoride, Dissolved (mg/l)	<0.1	<0.1	<0.1	0.2	<0.1	0.5
Hardness Ca as CaCO3 mg/L	46	50	39	48	31	54
Hardness Mg as CaCO3 (mg/L)	23	27	13	14	12	14
Hardness, Total (mg/l as CaCO3)	69	77	52	63	42	67
Iron, Dissolved (mg/l)	0.06	0.23	0.03	0.04	0.07	0.04
Lead, Dissolved (mg/l)	0.0001	0.0002	0.0006	0.0004	<0.0001	0.0002
Magnesium, Dissolved (mg/l)	3.1	3.9	3.1	3.3	3.1	2.9
Magnesium, Total (mg/l)	5.6	6.6	3.2	3.5	2.9	3.3
Manganese, Dissolved (mg/l)	0.127	0.155	0.008	0.022	<0.005	<0.005
Mercury, Dissolved (mg/l)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel, Dissolved (mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrate Nitrogen, Dissolved (mg/l as N)	1.1	0.99	1.18	0.02	0.95	1.03
Nitrite Nitrogen, Dissolved (mg/l as N)	0.08	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite Plus Nitrate, Dissolved mg/l as Nitrogen	1.18	0.99	1.18	0.02	0.95	1.03
pH (Lab-su)	7.7	7.9	23	8	7.8	8.3
Potassium, Dissolved (mg/l)	1.2	1.5	1.1	0.9	1.1	1.4
Selenium, Dissolved (mg/l)	<0.0001	<0.0001	0.0002	<0.0001	0.0002	0.0001
Silica, Dissolved (mg/l as Si02)	15.3	17.1	15.9	15.9	16.6	15.3
SILICON, DISSOLVED (MG/L AS SI)	7.1	7.9	7.4	7.4	7.7	7.1
Silver, Dissolved (mg/l)	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium, Dissolved (mg/l)	3.6	4.1	3.5	4.5	3.8	4.6
Sulfide, Total (mg/l as S)	<0.02	0.06	<0.02	0.03	<0.02	<0.02
TDS Ratio	1.08	0.92	0.97	0.69	0.91	1.13
Turbidity,lab Nephelometric Turbidity Units, Ntu	156	590	3	12.8	3.8	4.6
Weak Acid Dissociable Cyanide, mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc, Dissolved (mg/l)	<0.01	<0.01	<0.01	0.04	<0.01	<0.01

FacilityName	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining
Site Number	HL-1	HL-1	HL-1	HL-1	HL-1	HL-1
Sample Date	3/25/2009 12:30:00 PM	4/22/2009 4:15:00 PM	5/20/2009 4:00:00 PM	6/30/2009 1:15:00 PM	7/22/2009 12:00:00 PM	8/26/2009 12:00:00 PM
DupID	0	0	0	0	0	0
SampleIdentifier	HL0903257664402	HL0904227664409	HL0905207664403	HL0906307664403		
Comments						
Alkalinity, Bicarbonate (mg/l as CaCO3)	44	46	54	70	60	
Ammonia (mg/l as N)	<0.05	<0.05	<0.05	0.15	<0.05	<0.05
Antimony, Dissolved (mg/l)	<0.0004	<0.0004	<0.0004	0.0004	<0.0004	<0.0004
Arsenic, Dissolved (mg/l)	0.0023	0.0012	<0.0005	0.0007	<0.0005	<0.0005
Barium, Dissolved (mg/l)	<0.003	<0.003	0.01	0.015	0.007	0.008
Cadmium, Dissolved (mg/l)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium, Dissolved (mg/l)	21.8	19.7	22.9	44.3	30.8	38.1
Chloride, dissolved	1	<1	<1	2	<1	1
Chromium, Dissolved (mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper, Dissolved (mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cyanide, Total (mg/l)	<0.005	<0.002	<0.002	0.009	<0.003	0.004
Fluoride, Dissolved (mg/l)	1.6	0.1	0.1	0.1	<0.1	<0.1
Hardness Ca as CaCO3 mg/L	54	51	54	104	76	99
Hardness Mg as CaCO3 (mg/L)	13	14	12	20	15	19
Hardness, Total (mg/l as CaCO3)	68	64	66	124	91	118
Iron, Dissolved (mg/l)	0.05	0.07	0.07	0.07	0.08	0.04
Lead, Dissolved (mg/l)	0.0002	0.0002	0.0004	0.0001	<0.0001	0.0003
Magnesium, Dissolved (mg/l)	3	3.1	2.7	5.4	3.5	4.4
Magnesium, Total (mg/l)	3.2	3.3	2.8	4.9	3.6	4.6
Manganese, Dissolved (mg/l)	<0.005	<0.005	0.023	<0.005	<0.005	<0.005
Mercury, Dissolved (mg/l)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel, Dissolved (mg/l)	<0.01	<0.01	<0.01	<0.01	0.02	0.04
Nitrate Nitrogen, Dissolved (mg/l as N)	0.91	0.81	0.74	10.4	4.23	7.68
Nitrite Nitrogen, Dissolved (mg/l as N)	<0.01	<0.01	<0.01	0.31	<0.01	<0.01
Nitrite Plus Nitrate, Dissolved mg/l as Nitrogen	0.91	0.81	0.74	10.7	4.23	7.68
pH (Lab-su)	7.7	8.3	8.2	8.1	8	8.1
Potassium, Dissolved (mg/l)	1	1	0.9	1.7	1.4	1.4
Selenium, Dissolved (mg/l)	0.0001	0.0001	<0.0001	0.0004	0.0002	0.0003
Silica, Dissolved (mg/l as Si02)	16.8	15	15.8	16.9	16	19
SILICON, DISSOLVED (MG/L AS SI)	7.8	7	7.3	7.9	7.4	8.8
Silver, Dissolved (mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium, Dissolved (mg/l)	3.5	3.3	3.2	7.7	4	5
Sulfide, Total (mg/l as S)	<0.02	<0.02	<0.02	0.03	<0.02	<0.02
TDS Ratio	1.01	1	0.94	1.12	1.22	1.01
Turbidity,lab Nephelometric Turbidity Units, Ntu	9.5	16.2	9.5	15	4.2	3
Weak Acid Dissociable Cyanide, mg/l	<0.005	<0.002	<0.002	0.004	<0.003	0.003
Zinc, Dissolved (mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

FacilityName	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining
Site Number	HL-1	HL-1	HL-1	HL-1	HL-1	HL-1
Sample Date	9/8/2009 12:30:00 PM	10/19/2009 12:05:00 PM	11/3/2009 11:10:00 AM	11/10/2009 10:15:00 AM	11/17/2009 10:15:00 AM	11/25/2009 11:45:00 AM
DupID	0	0	0	0	0	0
SampleIdentifier	HL0909087664401	HL090197664402	HL0911037664401	HL0911107664401	HL0911177664403	HL0911257664402
Comments						
Alkalinity, Bicarbonate (mg/l as CaCO3)						
Ammonia (mg/l as N)	<0.05	<0.05				
Antimony, Dissolved (mg/l)	<0.0004	<0.0004				
Arsenic, Dissolved (mg/l)	0.0006	<0.0005				
Barium, Dissolved (mg/l)	0.009	0.007				
Cadmium, Dissolved (mg/l)	<0.0001	<0.0001				
Calcium, Dissolved (mg/l)	40.2	29.2				
Chloride, dissolved	1	1				
Chromium, Dissolved (mg/l)	<0.01	<0.01				
Copper, Dissolved (mg/l)	<0.01	<0.01				
Cyanide, Total (mg/l)	0.005	<0.003	<0.003	<0.003	<0.003	0.006
Fluoride, Dissolved (mg/l)	<0.1	0.1				
Hardness Ca as CaCO3 mg/L	104	69				
Hardness Mg as CaCO3 (mg/L)	20	14				
Hardness, Total (mg/l as CaCO3)	124	82				
Iron, Dissolved (mg/l)	0.03	0.04				
Lead, Dissolved (mg/l)	<0.0001	<0.0001				
Magnesium, Dissolved (mg/l)	4.7	3.5				
Magnesium, Total (mg/l)	4.9	3.3				
Manganese, Dissolved (mg/l)	<0.005	<0.005				
Mercury, Dissolved (mg/l)	<0.0002	<0.0002				
Nickel, Dissolved (mg/l)	0.03	0.03				
Nitrate Nitrogen, Dissolved (mg/l as N)	14.6	2.55				
Nitrite Nitrogen, Dissolved (mg/l as N)	<0.01	<0.01				
Nitrite Plus Nitrate, Dissolved mg/l as Nitrogen	14.6	2.55				
pH (Lab-su)	8.1	8.1				
Potassium, Dissolved (mg/l)	2	1.2				
Selenium, Dissolved (mg/l)	0.0004	0.0002				
Silica, Dissolved (mg/l as Si02)	16.6	19.3				
SILICON, DISSOLVED (MG/L AS SI)	7.7	9				
Silver, Dissolved (mg/l)	<0.01	<0.01				
Sodium, Dissolved (mg/l)	9	3.9				
Sulfide, Total (mg/l as S)	<0.02	<0.02				
TDS Ratio	0.91	0.94				
Turbidity,lab Nephelometric Turbidity Units, Ntu	3.2	1.8				
Weak Acid Dissociable Cyanide, mg/l	0.004	<0.003	<0.003	<0.003	<0.003	0.005
Zinc, Dissolved (mg/l)	<0.01	<0.01				

FacilityName	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining
Site Number	HL-1	HL-1	HL-2	HL-2	HL-2	HL-2
Sample Date	11/30/2009 2:00:00 PM	12/21/2009 10:10:00 AM	4/22/2009 2:30:00 PM	5/20/2009 2:15:00 PM	6/30/2009 12:00:00 PM	8/26/2009 3:00:00 PM
DupID	0	0	0	0	0	0
SampleIdentifier	HL0911307664404	HL0912217664401	HL0904227664407	HL0905207664401		HL0908267664403
Comments						
Alkalinity, Bicarbonate (mg/l as CaCO3)	120	127	41	34	75	
Ammonia (mg/l as N)	0.26	0.31	<0.05	<0.05	<0.05	0.31
Antimony, Dissolved (mg/l)	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	0.0009
Arsenic, Dissolved (mg/l)	<0.0005	0.0011	0.0016	0.0006	0.0012	0.0015
Barium, Dissolved (mg/l)	0.061	0.056	0.006	0.012	0.019	0.07
Cadmium, Dissolved (mg/l)	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0001
Calcium, Dissolved (mg/l)	160	157	17.6	14.5	31	167
Chloride, dissolved	6	6	1	<1	2	6
Chromium, Dissolved (mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper, Dissolved (mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cyanide, Total (mg/l)	0.005	0.008	<0.002	<0.002	<0.003	0.018
Fluoride, Dissolved (mg/l)	<0.1	<0.1	0.1	<0.1	0.1	0.2
Hardness Ca as CaCO3 mg/L	418	408	44	34	72	315
Hardness Mg as CaCO3 (mg/L)	106	102	13	11	18	99
Hardness, Total (mg/l as CaCO3)	523	509	57	45	90	414
Iron, Dissolved (mg/l)	<0.02	0.02	0.07	0.18	1.01	3.35
Lead, Dissolved (mg/l)	<0.0001	<0.0001	0.0002	0.0003	<0.0001	0.0002
Magnesium, Dissolved (mg/l)	25	24.4	3.1	2.7	4.8	26.7
Magnesium, Total (mg/l)	25.7	24.7	3.2	2.6	4.4	24.2
Manganese, Dissolved (mg/l)	0.422	0.472	0.069	0.131	0.587	9.04
Mercury, Dissolved (mg/l)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel, Dissolved (mg/l)	0.02	0.01	<0.01	<0.01	<0.01	0.12
Nitrate Nitrogen, Dissolved (mg/l as N)	79	74	0.66	0.68	1.51	65
Nitrite Nitrogen, Dissolved (mg/l as N)	0.03	0.04	<0.01	<0.01	<0.01	1.18
Nitrite Plus Nitrate, Dissolved mg/l as Nitrogen	79	74	0.66	0.68	1.51	66
pH (Lab-su)	7.9	7.7	8.2	7.7	8	7.7
Potassium, Dissolved (mg/l)	3.6	3.5	1	0.7	1.7	3.5
Selenium, Dissolved (mg/l)	0.0006	0.0003	0.0002	0.0002	0.0001	0.0028
Silica, Dissolved (mg/l as Si02)	12.9	12.6	15	16.1	16.8	16.3
SILICON, DISSOLVED (MG/L AS SI)	6	5.8	7	7.5	7.8	7.6
Silver, Dissolved (mg/l)	0.02	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium, Dissolved (mg/l)	14.6	14.5	3.3	3.5	4.2	16.9
Sulfide, Total (mg/l as S)	<0.02	<0.02	<0.02	0.02	<0.02	<0.2
TDS Ratio	1.01	1.03	1.06	1.04	0.96	1.25
Turbidity,lab Nephelometric Turbidity Units, Ntu	1.6	8.4	13.8	9.6	19.2	350
Weak Acid Dissociable Cyanide, mg/l	<0.003	0.004	<0.002	<0.002	<0.003	0.018
Zinc, Dissolved (mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

FacilityName	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining
Site Number	HL-2	HL-2	HL-2	HL-2	HL-2	HL-2
Sample Date	9/8/2009 3:15:00 PM	10/14/2009 2:30:00 PM	11/3/2009 12:35:00 PM	11/10/2009 11:30:00 AM	11/17/2009 9:20:00 AM	11/25/2009 11:00:00 AM
DupID	0	0	0	0	0	0
SampleIdentifier	HL0909087664403	HL0910147664402	HL0911037664403	HL0911107664403	HL0911177664402	HL0911257664401
Comments						
Alkalinity, Bicarbonate (mg/l as CaCO3)						
Ammonia (mg/l as N)	0.45	0.12				
Antimony, Dissolved (mg/l)	<0.0004	<0.0004				
Arsenic, Dissolved (mg/l)	0.0007	<0.0005				
Barium, Dissolved (mg/l)	0.082	0.041				
Cadmium, Dissolved (mg/l)	<0.0001	<0.0001				
Calcium, Dissolved (mg/l)	255	165				
Chloride, dissolved	9	7				
Chromium, Dissolved (mg/l)	<0.01	<0.01				
Copper, Dissolved (mg/l)	0.02	<0.01				
Cyanide, Total (mg/l)	0.062	0.034	0.037	0.038	0.039	0.037
Fluoride, Dissolved (mg/l)	0.1	0.1				
Hardness Ca as CaCO3 mg/L	725	413				
Hardness Mg as CaCO3 (mg/L)	176	104				
Hardness, Total (mg/l as CaCO3)	901	517				
Iron, Dissolved (mg/l)	2.16	0.14				
Lead, Dissolved (mg/l)	<0.0001	<0.0001				
Magnesium, Dissolved (mg/l)	35.8	25				
Magnesium, Total (mg/l)	42.8	25.4				
Manganese, Dissolved (mg/l)	4.25	1.11				
Mercury, Dissolved (mg/l)	<0.0002	<0.0002				
Nickel, Dissolved (mg/l)	0.07	0.03				
Nitrate Nitrogen, Dissolved (mg/l as N)	131	97.9				
Nitrite Nitrogen, Dissolved (mg/l as N)	0.81	0.09				
Nitrite Plus Nitrate, Dissolved mg/l as Nitrogen	132	98				
pH (Lab-su)	7.8	7.7				
Potassium, Dissolved (mg/l)	5.2	3.7				
Selenium, Dissolved (mg/l)	0.0043	0.002				
Silica, Dissolved (mg/l as Si02)	15.3	17.1				
SILICON, DISSOLVED (MG/L AS SI)	7.1	7.9				
Silver, Dissolved (mg/l)	<0.01	<0.01				
Sodium, Dissolved (mg/l)	27.1	16.5				
Sulfide, Total (mg/l as S)	<0.02	0.03				
TDS Ratio	1.31	1.29				
Turbidity,lab Nephelometric Turbidity Units, Ntu	306	9.6				
Weak Acid Dissociable Cyanide, mg/l	0.043	0.028	0.032	0.033	0.029	0.032
Zinc, Dissolved (mg/l)	<0.01	<0.01				

FacilityName	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining
Site Number	HL-2	HL-2	HL-2	HL-3	HL-3	HL-3
Sample Date	11/30/2009 10:30:00 AM	12/14/2009 10:00:00 AM	12/21/2009 11:00:00 AM	4/22/2009 3:15:00 PM	5/20/2009 3:00:00 PM	6/30/2009 11:00:00 AM
DupID	0	0	0	0	0	0
SampleIdentifier	HL0911307664402	HL0912147664403	HL0912217664402	HL0904227664408	HL0905207664402	HL0906307664401
Comments						
Alkalinity, Bicarbonate (mg/l as CaCO3)	48			31	29	26
Ammonia (mg/l as N)	0.37			0.09	<0.05	<0.05
Antimony, Dissolved (mg/l)	<0.0004			0.0005	<0.0004	<0.0004
Arsenic, Dissolved (mg/l)	<0.0005			<0.0005	0.0018	<0.0005
Barium, Dissolved (mg/l)	0.051			0.01	0.28	0.017
Cadmium, Dissolved (mg/l)	0.0002			<0.0001	0.0004	<0.0001
Calcium, Dissolved (mg/l)	91.2			18.2	18	12.7
Chloride, dissolved	7			1	2	2
Chromium, Dissolved (mg/l)	<0.01			<0.01	0.05	<0.01
Copper, Dissolved (mg/l)	<0.01			<0.01	0.07	<0.01
Cyanide, Total (mg/l)	0.035	0.02	0.031	<0.002	<0.002	<0.003
Fluoride, Dissolved (mg/l)	<0.1			0.3	0.2	0.1
Hardness Ca as CaCO3 mg/L	242			51	51	41
Hardness Mg as CaCO3 (mg/L)	166			32	128	48
Hardness, Total (mg/l as CaCO3)	408			83	179	88
Iron, Dissolved (mg/l)	0.21			0.2	22.8	0.1
Lead, Dissolved (mg/l)	<0.0001			<0.0001	0.021	0.0001
Magnesium, Dissolved (mg/l)	36.3			5.3	7.5	3.8
Magnesium, Total (mg/l)	40.3			7.7	31.1	11.6
Manganese, Dissolved (mg/l)	4.83			0.381	0.731	0.13
Mercury, Dissolved (mg/l)	<0.0002			<0.0002	<0.0002	<0.0002
Nickel, Dissolved (mg/l)	0.13			<0.01	0.13	<0.01
Nitrate Nitrogen, Dissolved (mg/l as N)	0.02			1.76	0.99	1.32
Nitrite Nitrogen, Dissolved (mg/l as N)	0.05			0.27	<0.01	<0.01
Nitrite Plus Nitrate, Dissolved mg/l as Nitrogen	0.07			2.03	0.99	1.32
pH (Lab-su)	7.4			8	7.4	7.5
Potassium, Dissolved (mg/l)	2.9			3.3	3.9	1.5
Selenium, Dissolved (mg/l)	0.001			0.0004	0.0003	0.0002
Silica, Dissolved (mg/l as Si02)	17.1			12.5	32.4	17.9
SILICON, DISSOLVED (MG/L AS SI)	7.9			5.8	15.1	8.3
Silver, Dissolved (mg/l)	<0.01			<0.01	<0.01	<0.01
Sodium, Dissolved (mg/l)	12.9			6.4	3.8	4
Sulfide, Total (mg/l as S)	0.3			0.6	<0.3	0.6
TDS Ratio	2.58			0.94	0.59	0.94
Turbidity,lab Nephelometric Turbidity Units, Ntu	263			995	2070	643
Weak Acid Dissociable Cyanide, mg/l	0.029	0.012	0.027	<0.002	<0.002	<0.003
Zinc, Dissolved (mg/l)	<0.01			<0.01	0.08	<0.01

FacilityName	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining
Site Number	HL-3	HL-3	HL-3	HL-3	HL-3	HL-3
Sample Date	7/22/2009 10:15:00 AM	8/26/2009 10:45:00 AM	9/8/2009 1:45:00 PM	10/14/2009 4:15:00 PM	11/3/2009 11:45:00 AM	11/10/2009 11:00:00 AM
DupID	0	0	0	0	0	0
SampleIdentifier	HL0907227664401	HL0908267664401	HL0909087664402	HL0910147664403	HL0911037664402	HL0911107664402
Comments						
Alkalinity, Bicarbonate (mg/l as CaCO3)	27					
Ammonia (mg/l as N)	<0.05	<0.05	<0.05	<0.05		
Antimony, Dissolved (mg/l)	<0.0004	<0.0004	<0.0004	<0.0004		
Arsenic, Dissolved (mg/l)	<0.0005	<0.0005	<0.0005	<0.0005		
Barium, Dissolved (mg/l)	0.012	0.012	0.02	0.01		
Cadmium, Dissolved (mg/l)	<0.0001	<0.0001	<0.0001	<0.0001		
Calcium, Dissolved (mg/l)	12.9	13.6	13.8	12.2		
Chloride, dissolved	1	1	2	1		
Chromium, Dissolved (mg/l)	<0.01	<0.01	<0.01	<0.01		
Copper, Dissolved (mg/l)	<0.01	<0.01	<0.01	<0.01		
Cyanide, Total (mg/l)	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Fluoride, Dissolved (mg/l)	<0.1	<0.1	<0.1	<0.1		
Hardness Ca as CaCO3 mg/L	37	43	39	50		
Hardness Mg as CaCO3 (mg/L)	40	45	28	81		
Hardness, Total (mg/l as CaCO3)	77	88	66	132		
Iron, Dissolved (mg/l)	0.17	0.08	0.49	0.12		
Lead, Dissolved (mg/l)	<0.0001	0.0003	0.0011	0.0001		
Magnesium, Dissolved (mg/l)	3.5	3.7	3.7	3.3		
Magnesium, Total (mg/l)	9.6	10.9	6.7	19.8		
Manganese, Dissolved (mg/l)	0.098	0.067	0.1	0.051		
Mercury, Dissolved (mg/l)	<0.0002	<0.0002	<0.0002	<0.0002		
Nickel, Dissolved (mg/l)	0.03	0.05	0.04	0.01		
Nitrate Nitrogen, Dissolved (mg/l as N)	1.28	1.38	1.14	0.8		
Nitrite Nitrogen, Dissolved (mg/l as N)	<0.01	<0.01	<0.01	<0.01		
Nitrite Plus Nitrate, Dissolved mg/l as Nitrogen	1.28	1.38	1.14	0.8		
pH (Lab-su)	7.3	7.5	7.5	7.3		
Potassium, Dissolved (mg/l)	1.3	1.3	1.9	1.2		
Selenium, Dissolved (mg/l)	0.0002	0.0002	0.0002	0.0001		
Silica, Dissolved (mg/l as Si02)	15.7	18.6	16.6	18.2		
SILICON, DISSOLVED (MG/L AS SI)	7.3	8.6	7.7	8.5		
Silver, Dissolved (mg/l)	<0.01	<0.01	<0.01	<0.01		
Sodium, Dissolved (mg/l)	3.5	3.8	5.3	3.5		
Sulfide, Total (mg/l as S)	<0.08	0.2	<0.02	0.3		
TDS Ratio	1.27	1.01	1.35	0.63		
Turbidity,lab Nephelometric Turbidity Units, Ntu	298	443	426	614		
Weak Acid Dissociable Cyanide, mg/l	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Zinc, Dissolved (mg/l)	<0.01	<0.01	<0.01	<0.01		

FacilityName	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining	Fairbanks Gold Mining
Site Number	HL-3	HL-3	HL-3	HL-3	HL-3
Sample Date	11/17/2009 8:45:00 AM	11/25/2009 12:20:00 PM	11/30/2009 11:30:00 AM	12/14/2009 9:15:00 AM	12/21/2009 11:50:00 AM
DupID	0	0	0	0	0
SampleIdentifier	HL0911177664401	HL0911257664403	HL0911307664403	HL0912147664401	HL0912217664403
Comments					
Alkalinity, Bicarbonate (mg/l as CaCO3)			24		
Ammonia (mg/l as N)			0.06		
Antimony, Dissolved (mg/l)			<0.0004		
Arsenic, Dissolved (mg/l)			<0.0005		
Barium, Dissolved (mg/l)			0.009		
Cadmium, Dissolved (mg/l)			<0.0001		
Calcium, Dissolved (mg/l)			9.6		
Chloride, dissolved			<1		
Chromium, Dissolved (mg/l)			0.01		
Copper, Dissolved (mg/l)			<0.01		
Cyanide, Total (mg/l)	<0.003	<0.003	<0.003	<0.003	<0.003
Fluoride, Dissolved (mg/l)			0.1		
Hardness Ca as CaCO3 mg/L			27		
Hardness Mg as CaCO3 (mg/L)			19		
Hardness, Total (mg/l as CaCO3)			46		
Iron, Dissolved (mg/l)			0.1		
Lead, Dissolved (mg/l)			<0.0001		
Magnesium, Dissolved (mg/l)			3.5		
Magnesium, Total (mg/l)			4.5		
Manganese, Dissolved (mg/l)			0.056		
Mercury, Dissolved (mg/l)			<0.0002		
Nickel, Dissolved (mg/l)			0.01		
Nitrate Nitrogen, Dissolved (mg/l as N)			21.6		
Nitrite Nitrogen, Dissolved (mg/l as N)			0.48		
Nitrite Plus Nitrate, Dissolved mg/l as Nitrogen			22.1		
pH (Lab-su)			7.4		
Potassium, Dissolved (mg/l)			1.2		
Selenium, Dissolved (mg/l)			0.0002		
Silica, Dissolved (mg/l as Si02)			16.1		
SILICON, DISSOLVED (MG/L AS SI)			7.5		
Silver, Dissolved (mg/l)			0.01		
Sodium, Dissolved (mg/l)			3.7		
Sulfide, Total (mg/l as S)			<0.02		
TDS Ratio			0.48		
Turbidity,lab Nephelometric Turbidity Units, Ntu			118		
Weak Acid Dissociable Cyanide, mg/l	<0.003	<0.003	<0.003	<0.003	<0.003
Zinc, Dissolved (mg/l)			<0.01		

Process Surface Water - Major Ion Chemistry

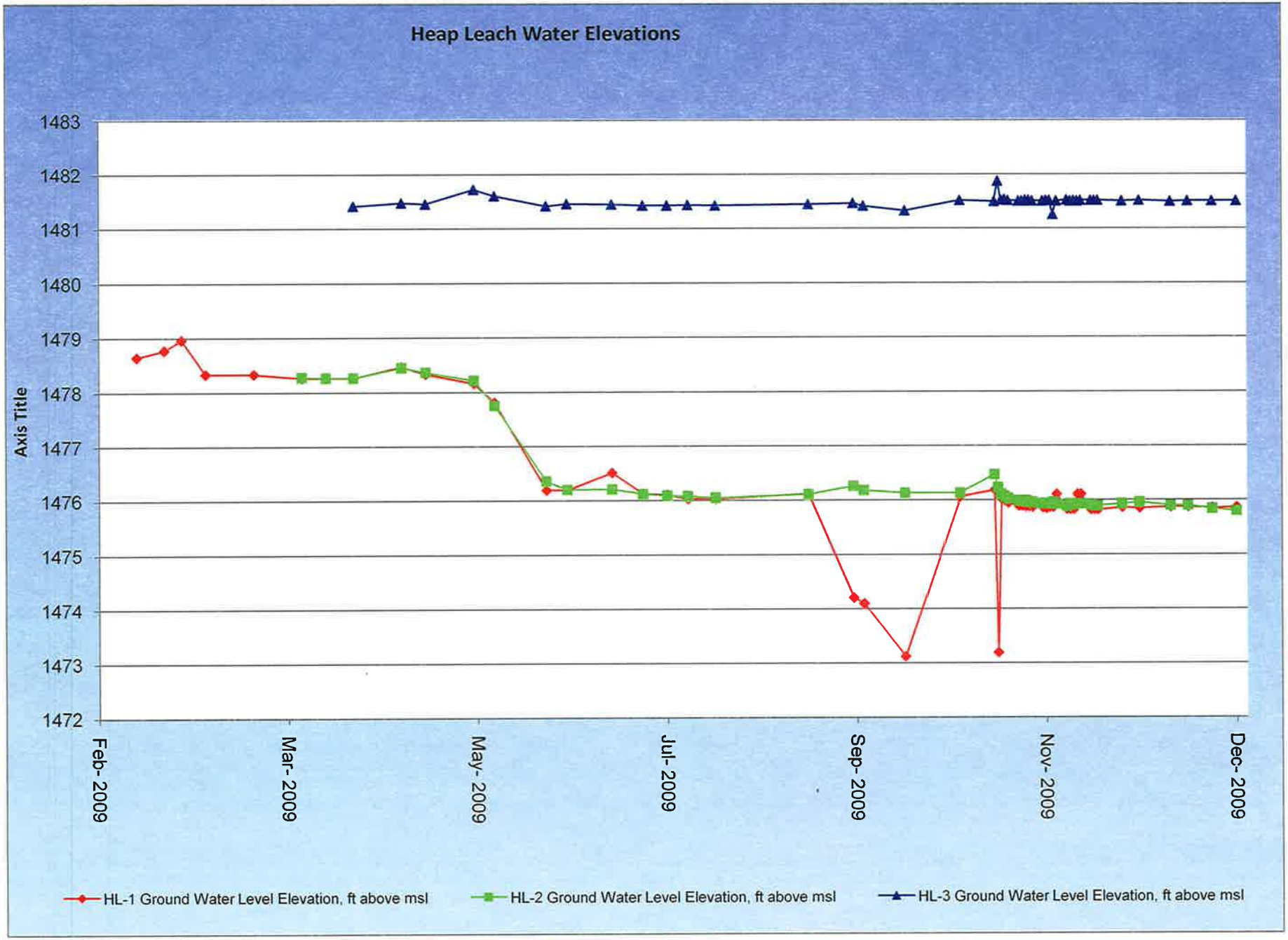
Site	Date	Reason If NoSample	Bic Alk	Tot Alk	Ca	Cl	Ca Hard	Mg Hard	Mg	Lab pH	K	Si	Na	SS	Lab Cond.	SO4	Temp. (C)	TDS	TSS	Tur
Pregnant Solution	12/16/2009		<2	452	192		480		<0.2	21					1750	95	11.3	890	<5	0.8

Process Surface Water - Minor Ion Chemistry

Site	Date	Reason If NoSample	NH4	As	CN	F	Fe	Mn	NO3	NO2	P	TPH	WAD CN
Pregnant Solution	12/16/2009		8.6		133				29.5	1.47	<0.01		131

Process Surface Water - Trace Ion Chemistry

Site	Date	Reason If NoSample	Sb	Ba	Bi	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Zn
Pregnant Solution	12/16/2009		0.0054	0.01	<0.04	0.003	0.01	0.11	0.0002	0.0022	0.02	0.0128	0.04	0.42


Heap Leach Water Elevations
Axis Title
1483
1482
1481
1480
1479
1478
1477
1476
1475
1474
1473
1472
Feb- 2009
Mar- 2009
May- 2009
Jul- 2009
Sep- 2009
Nov- 2009
Dec- 2009
HL-1 Ground Water Level Elevation, ft above msl
HL-2 Ground Water Level Elevation, ft above msl
HL-3 Ground Water Level Elevation, ft above msl

UPPER TOLERANCE LIMITS FOR GROUNDWATER & SURFACE WATER COMPLIANCE SAMPLING POINTS

FAIRBANKS GOLD MINING, INC.
FORT KNOX MINE

4th Quarter 2009

UTLs for Groundwater Monitoring Locations

Parameter	MW-5, MW-6, and MW-8 Upper Tolerance Limit (mg/L)	MW-7 Upper Tolerance Limit (mg/L)
As	0.005	0.002
Cu	0.02	0.02
Cl	17	26
CN WAD	ML	ML
NO_2	1	1
NO_3	3.87	13
NH_4	0.33	0.36
Sb	0.002	0.0155
SO_4	70	910

Dissolved Concentrations

Note: If the minimum level (ML) for any indicator parameter is greater than the calculated tolerance limit, the ML will be adopted as the tolerance limit

Outlined In the Fort Knox Compliance Monitoring Plan April 11, 2008

UTLs for Surface Water Monitoring Locations

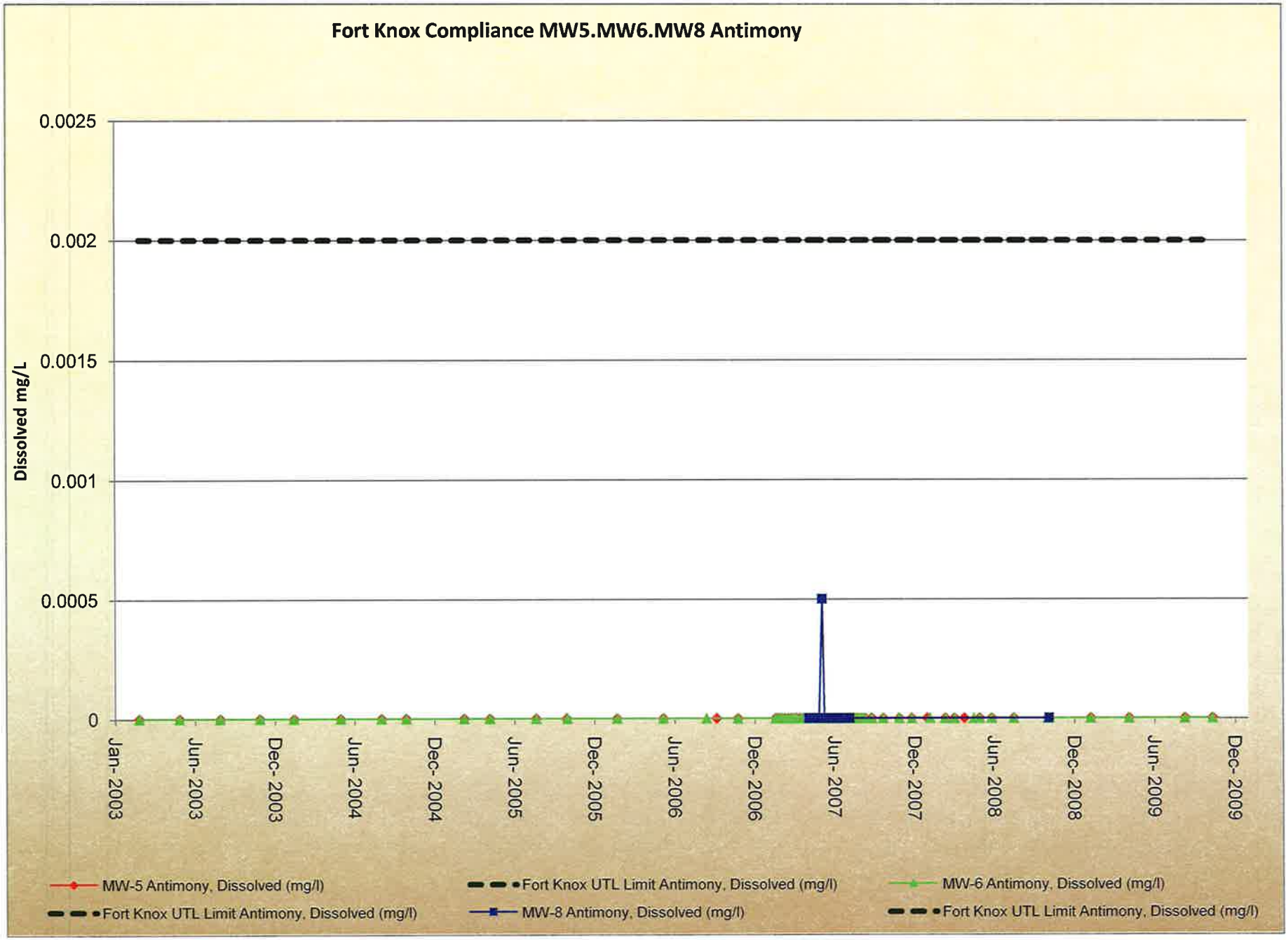
Parameter	Upper and Lower Wetlands Upper Tolerance Limit (mg/L)
As	0.0437
Cu	0.01
Cl	2.5
CN WAD	ML
NO_2	1
NO_3	1.4
NH_4	1.1
Sb	0.005
SO_4	53

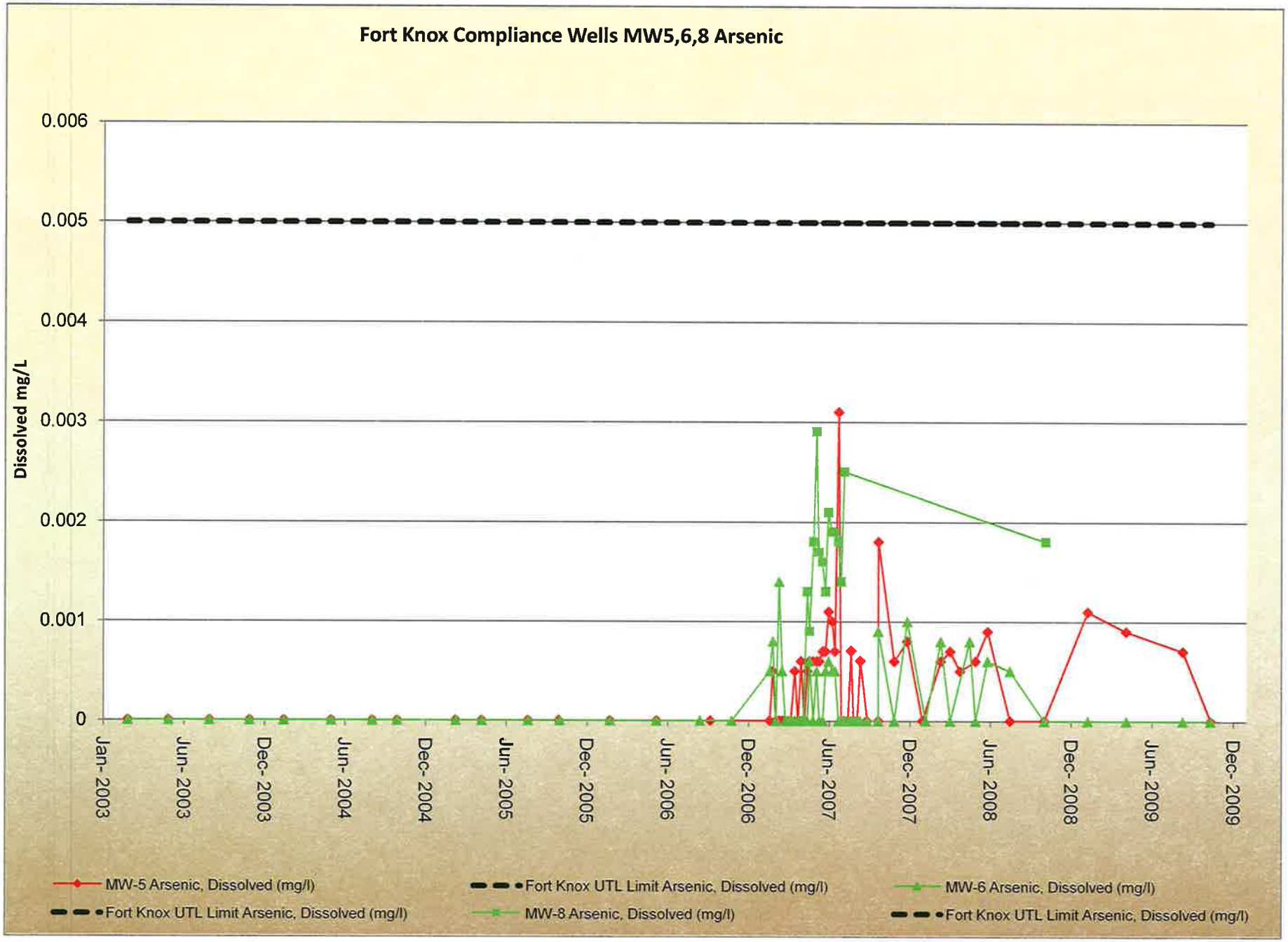
Total Concentrations

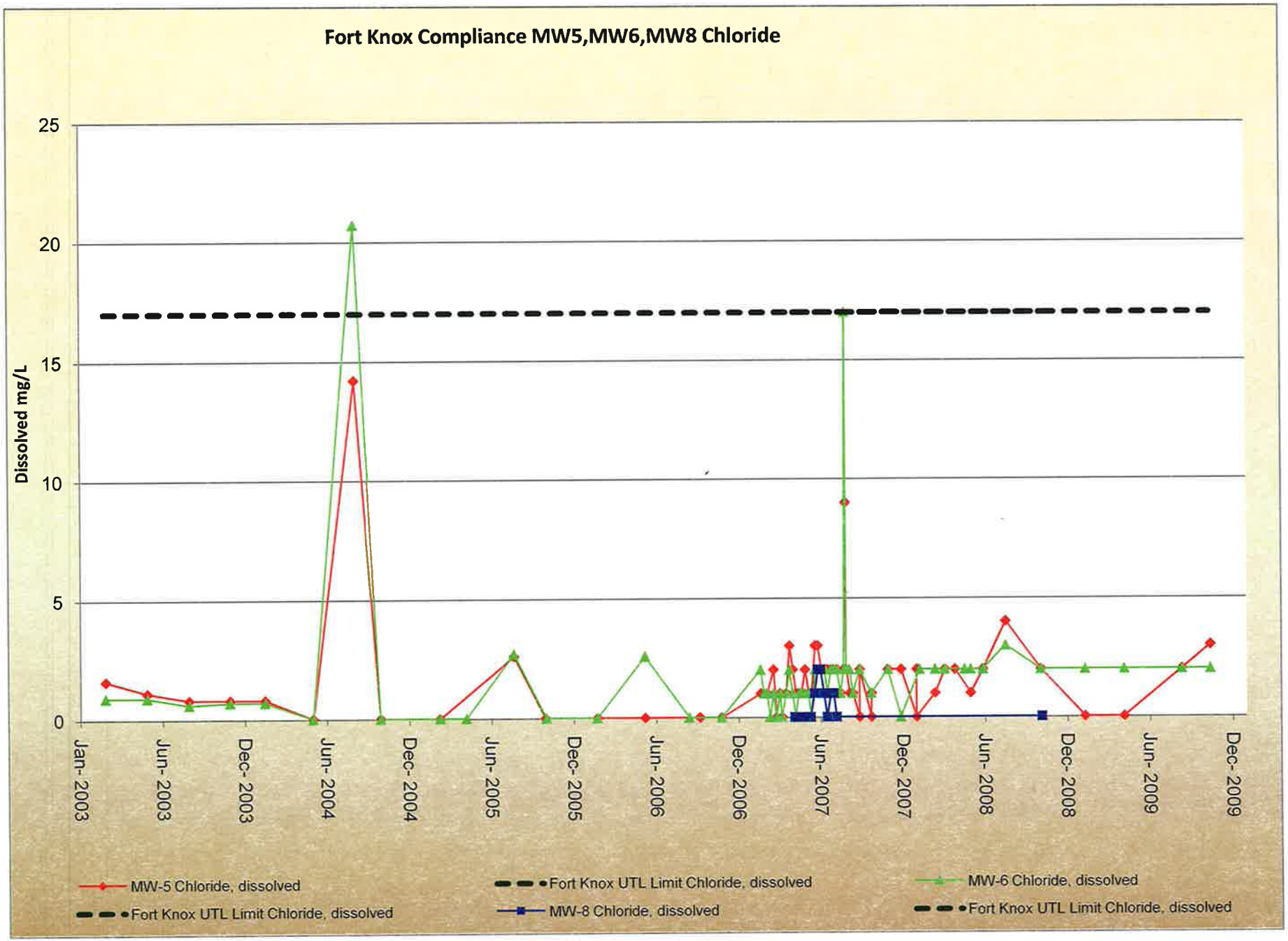
Note: If the minimum level (ML) for any indicator parameter is greater than the calculated tolerance limit, the ML will be adopted as the tolerance limit

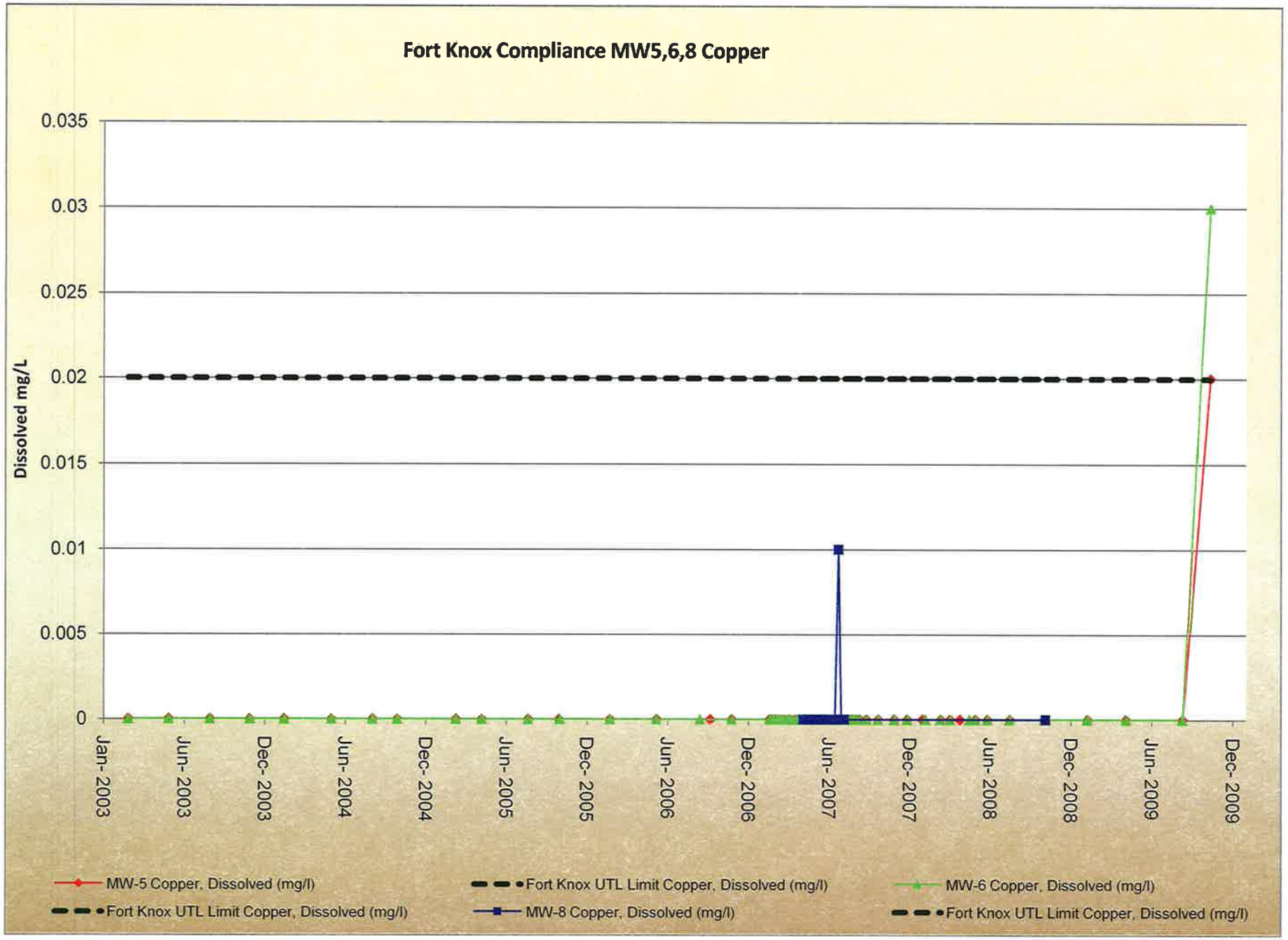
Outlined In the Fort Knox Compliance Monitoring Plan April 11, 2008

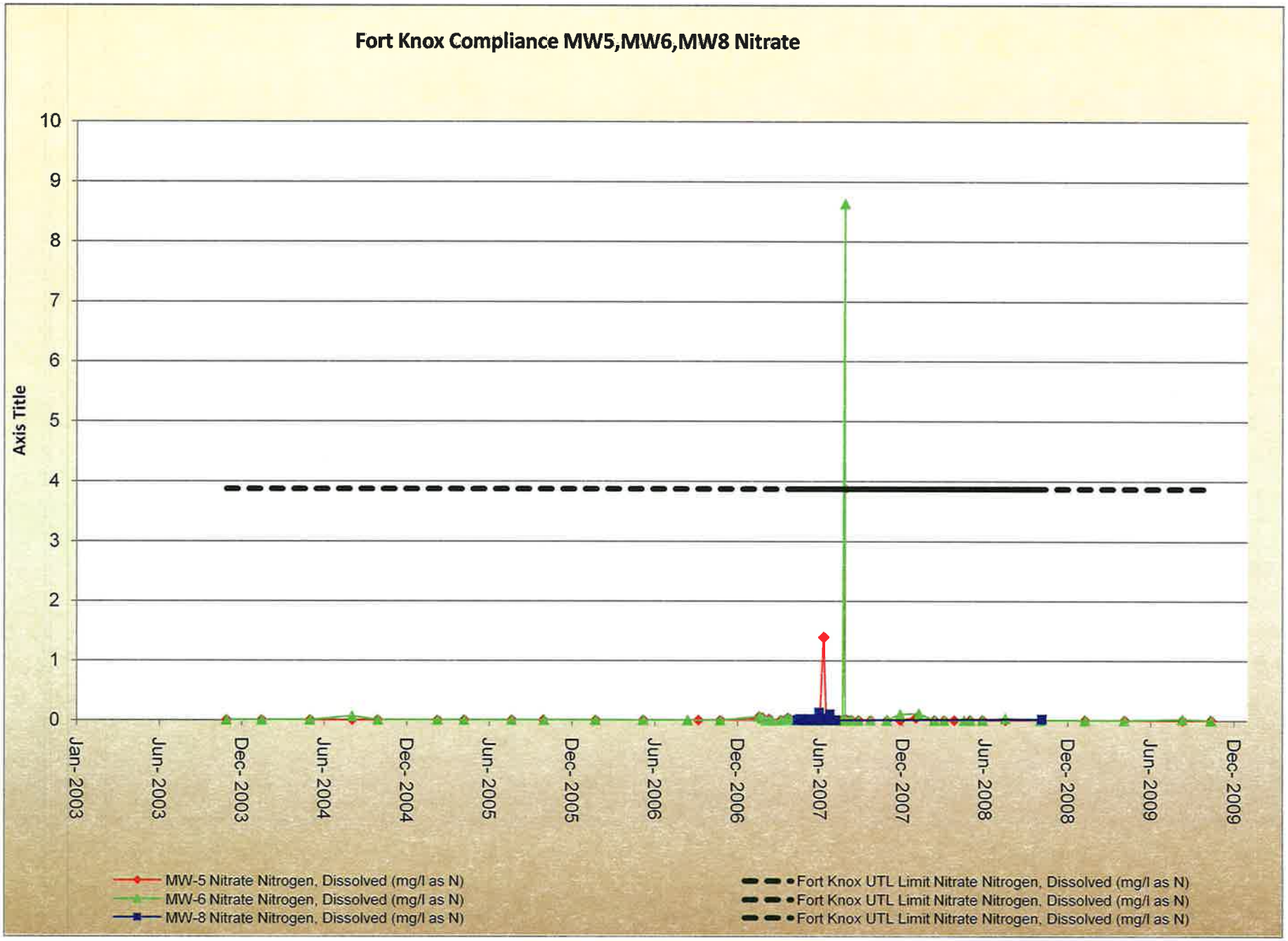
ATTACHMENT C
Compliance Sampling
Water Quality Graphs

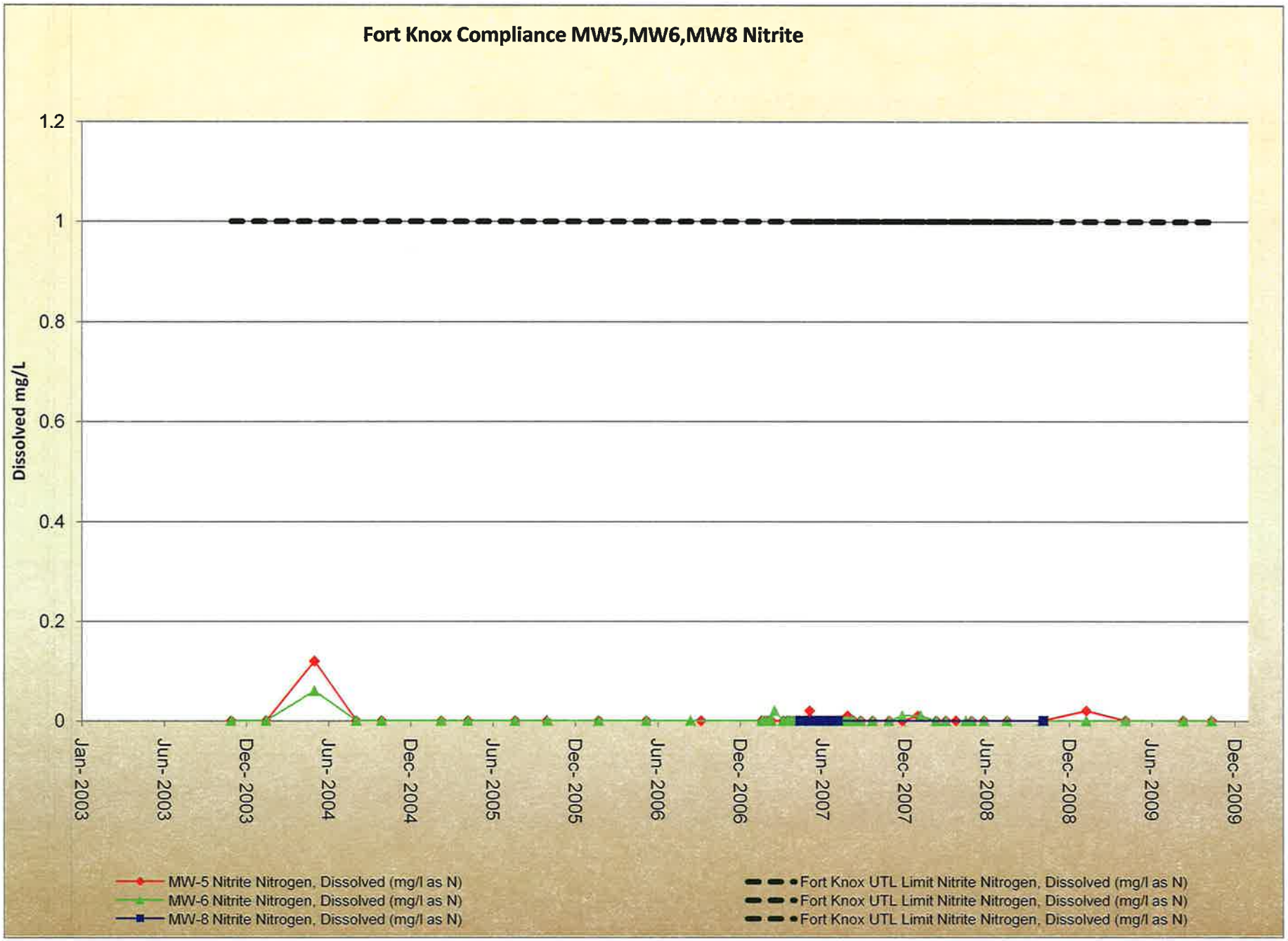

Fort Knox Compliance MW5.MW6.MW8 Antimony
Dissolved mg/L
0.0025
0.002
0.0015
0.001
0.0005
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
MW-5 Antimony, Dissolved (mg/l)
Fort Knox UTL Limit Antimony, Dissolved (mg/l)
MW-6 Antimony, Dissolved (mg/l)
Fort Knox UTL Limit Antimony, Dissolved (mg/l)
MW-8 Antimony, Dissolved (mg/l)
Fort Knox UTL Limit Antimony, Dissolved (mg/l)

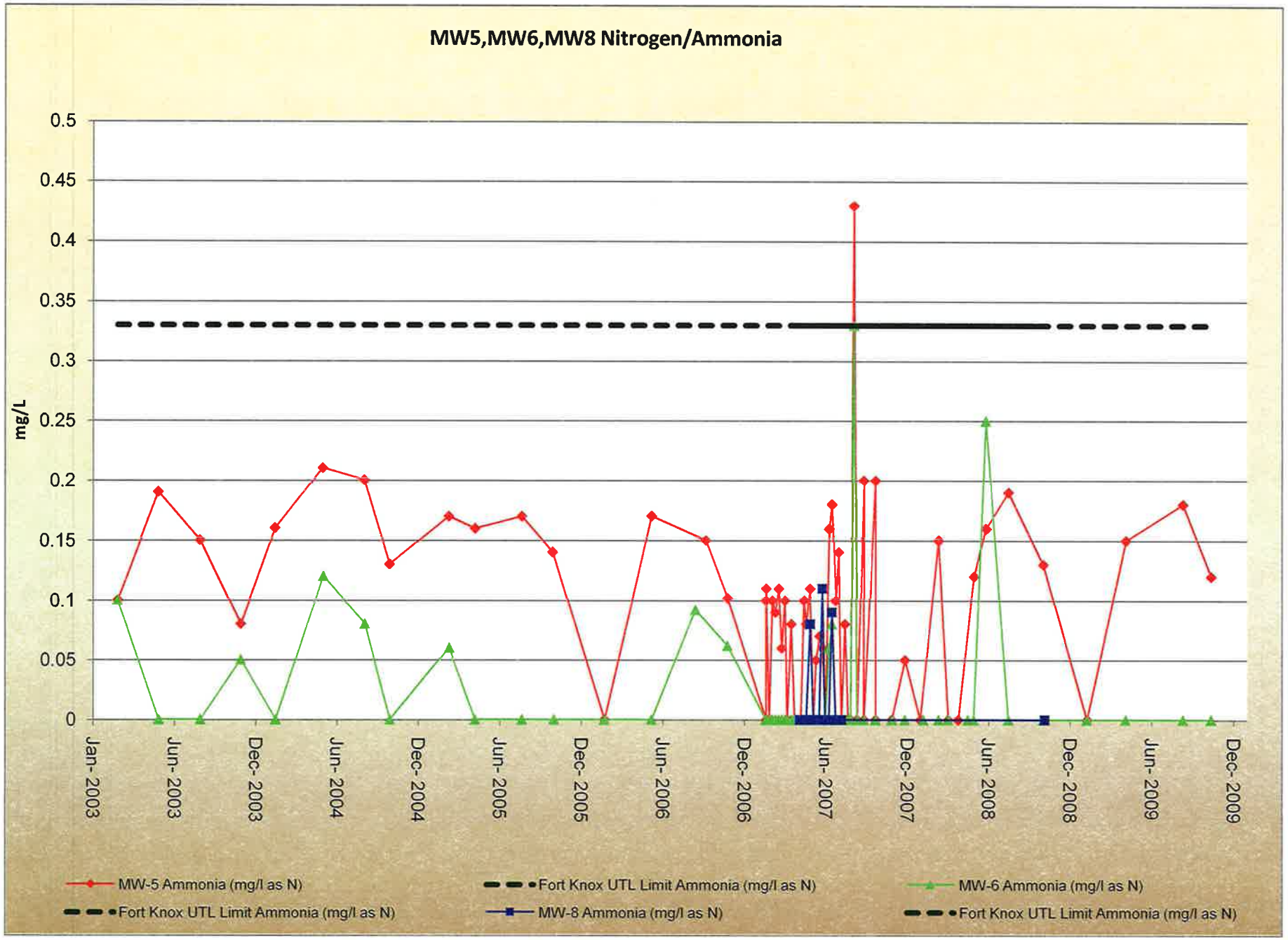

Fort Knox Compliance Wells MW5,6,8 Arsenic
Dissolved mg/L
0.006
0.005
0.004
0.003
0.002
0.001
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
MW-5 Arsenic, Dissolved (mg/l)
Fort Knox UTL Limit Arsenic, Dissolved (mg/l)
MW-6 Arsenic, Dissolved (mg/l)
Fort Knox UTL Limit Arsenic, Dissolved (mg/l)
MW-8 Arsenic, Dissolved (mg/l)
Fort Knox UTL Limit Arsenic, Dissolved (mg/l)

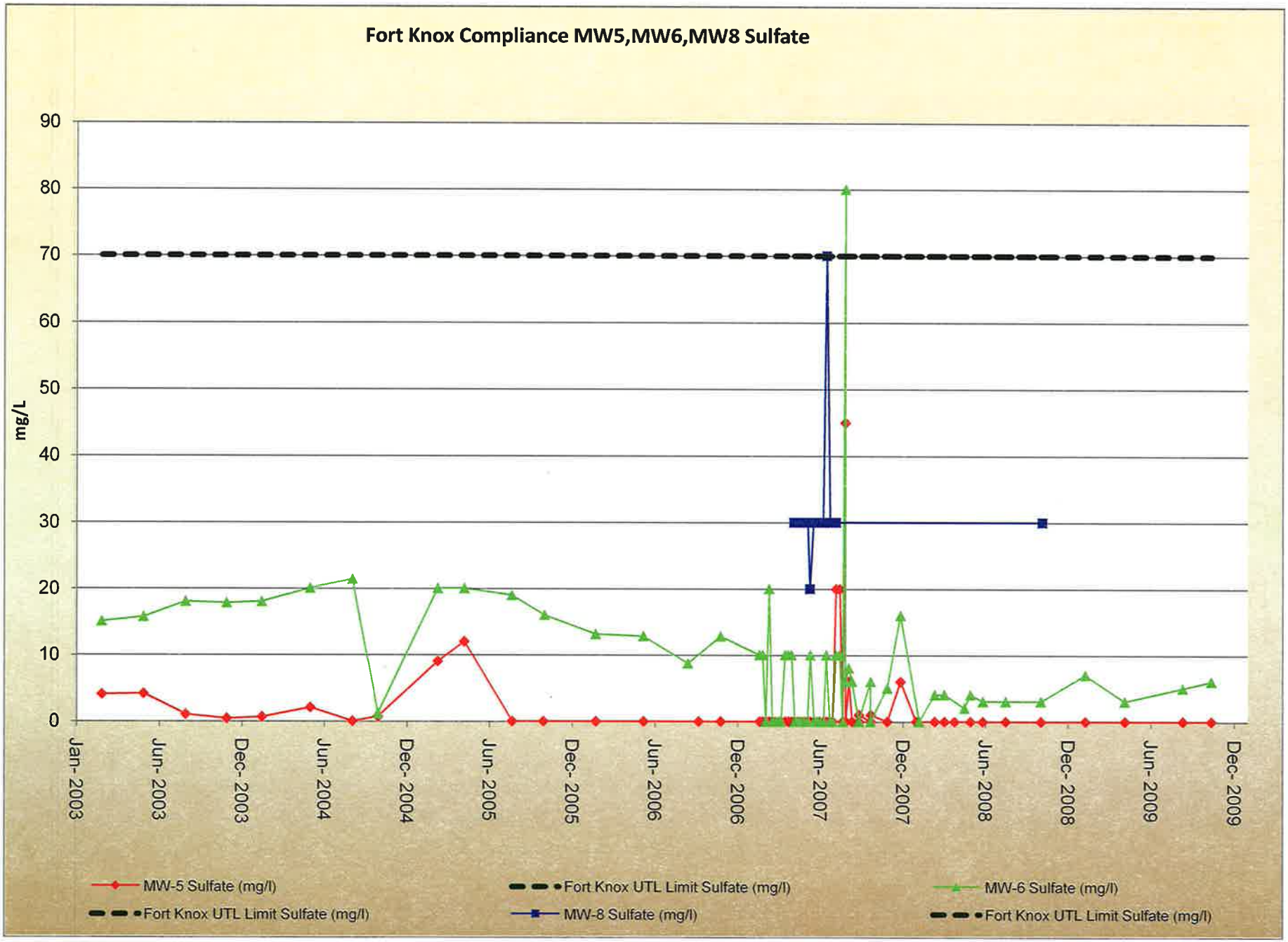

Fort Knox Compliance MW5,MW6,MW8 Chloride
Dissolved mg/L
25
20
15
10
5
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
MW-5 Chloride, dissolved
Fort Knox UTL Limit Chloride, dissolved
Fort Knox UTL Limit Chloride, dissolved
MW-8 Chloride, dissolved
MW-6 Chloride, dissolved
Fort Knox UTL Limit Chloride, dissolved

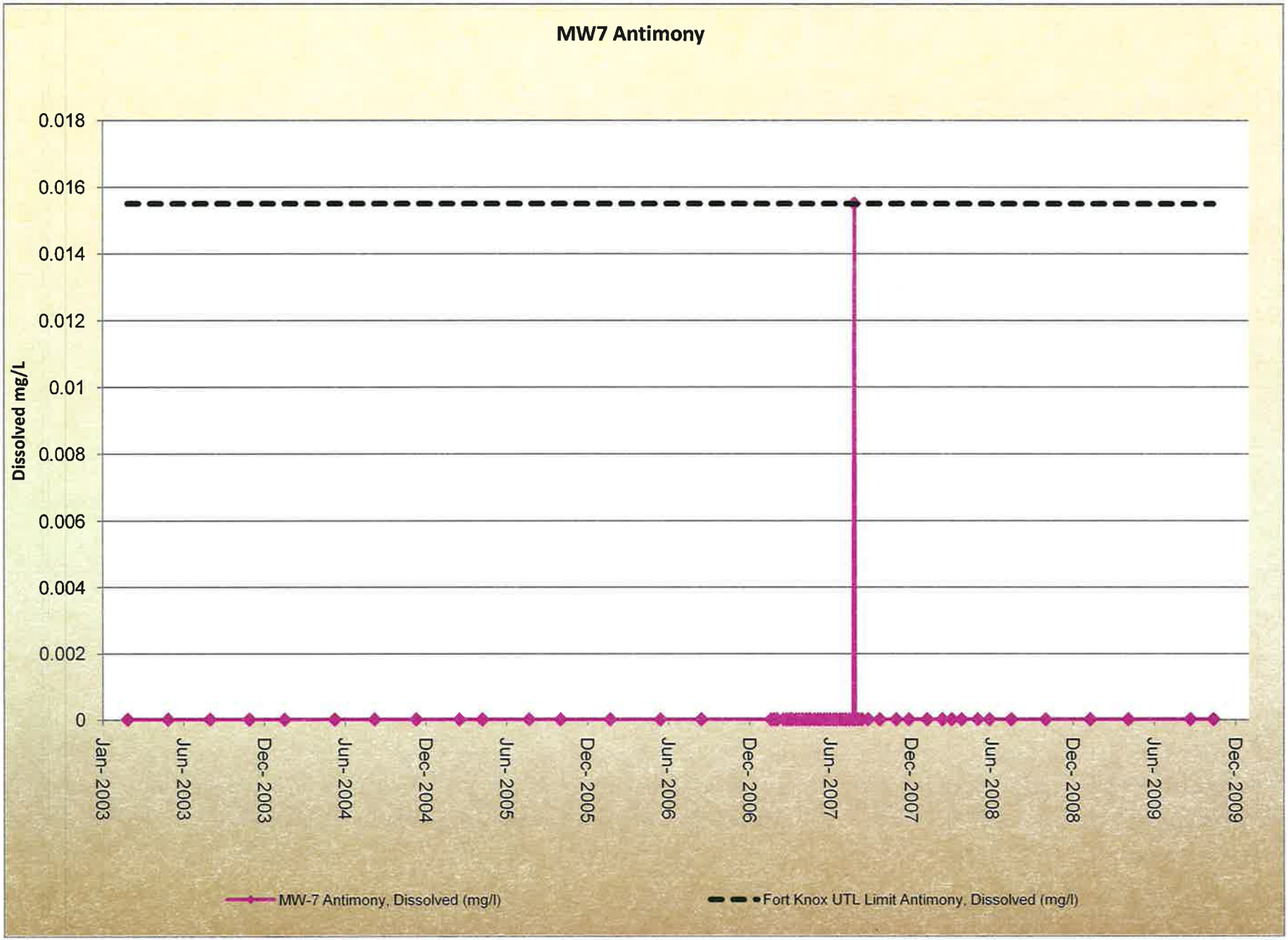

Fort Knox Compliance MW5,6,8 Copper
Dissolved mg/L
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
MW-5 Copper, Dissolved (mg/l)
Fort Knox UTL Limit Copper, Dissolved (mg/l)
MW-6 Copper, Dissolved (mg/l)
Fort Knox UTL Limit Copper, Dissolved (mg/l)
MW-8 Copper, Dissolved (mg/l)
Fort Knox UTL Limit Copper, Dissolved (mg/l)

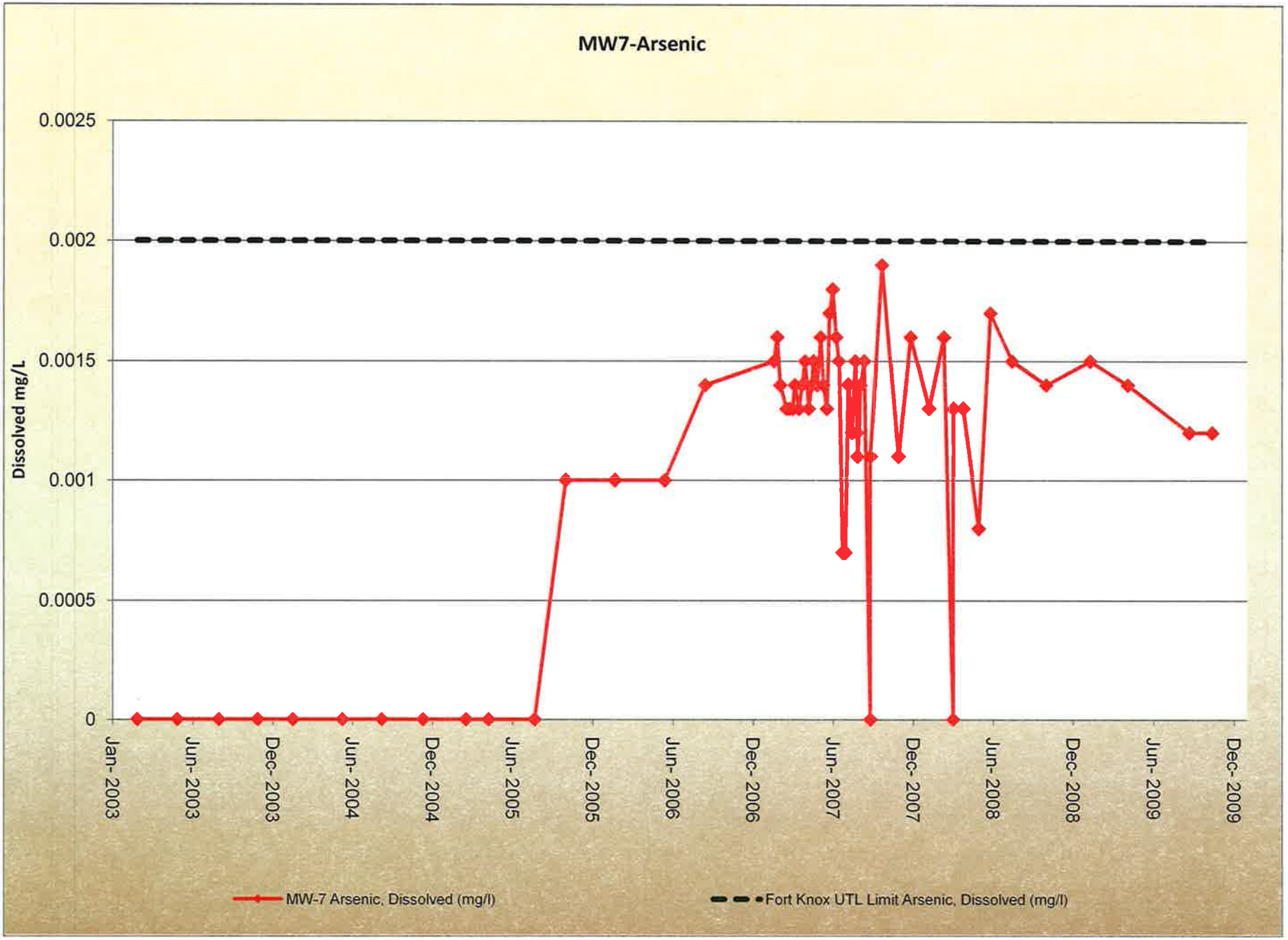

Fort Knox Compliance MW5,MW6,MW8 Nitrate
Axis Title
10
9
8
7
6
5
4
3
2
1
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
MW-5 Nitrate Nitrogen, Dissolved (mg/l as N)
MW-6 Nitrate Nitrogen, Dissolved (mg/l as N)
MW-8 Nitrate Nitrogen, Dissolved (mg/l as N)
Fort Knox UTL Limit Nitrate Nitrogen, Dissolved (mg/l as N)
Fort Knox UTL Limit Nitrate Nitrogen, Dissolved (mg/l as N)
Fort Knox UTL Limit Nitrate Nitrogen, Dissolved (mg/l as N)

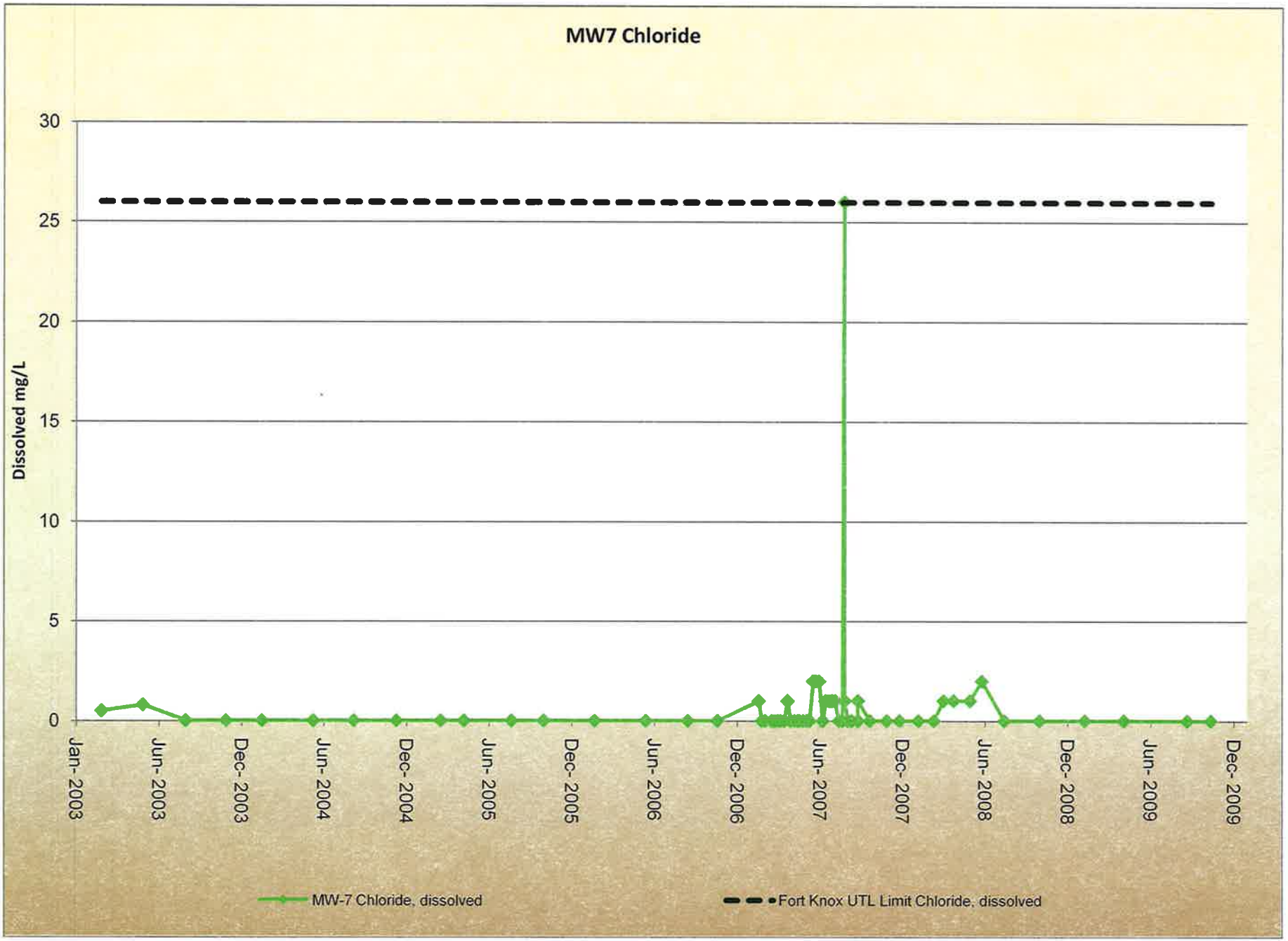

Fort Knox Compliance MW5,MW6,MW8 Nitrite
Dissolved mg/l
1.2
1
0.8
0.6
0.4
0.2
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
MW-5 Nitrite Nitrogen, Dissolved (mg/l as N)
MW-6 Nitrite Nitrogen, Dissolved (mg/l as N)
MW-8 Nitrite Nitrogen, Dissolved (mg/l as N)
Fort Knox UTL Limit Nitrite Nitrogen, Dissolved (mg/l as N)
Fort Knox UTL Limit Nitrite Nitrogen, Dissolved (mg/l as N)
Fort Knox UTL Limit Nitrite Nitrogen, Dissolved (mg/l as N)

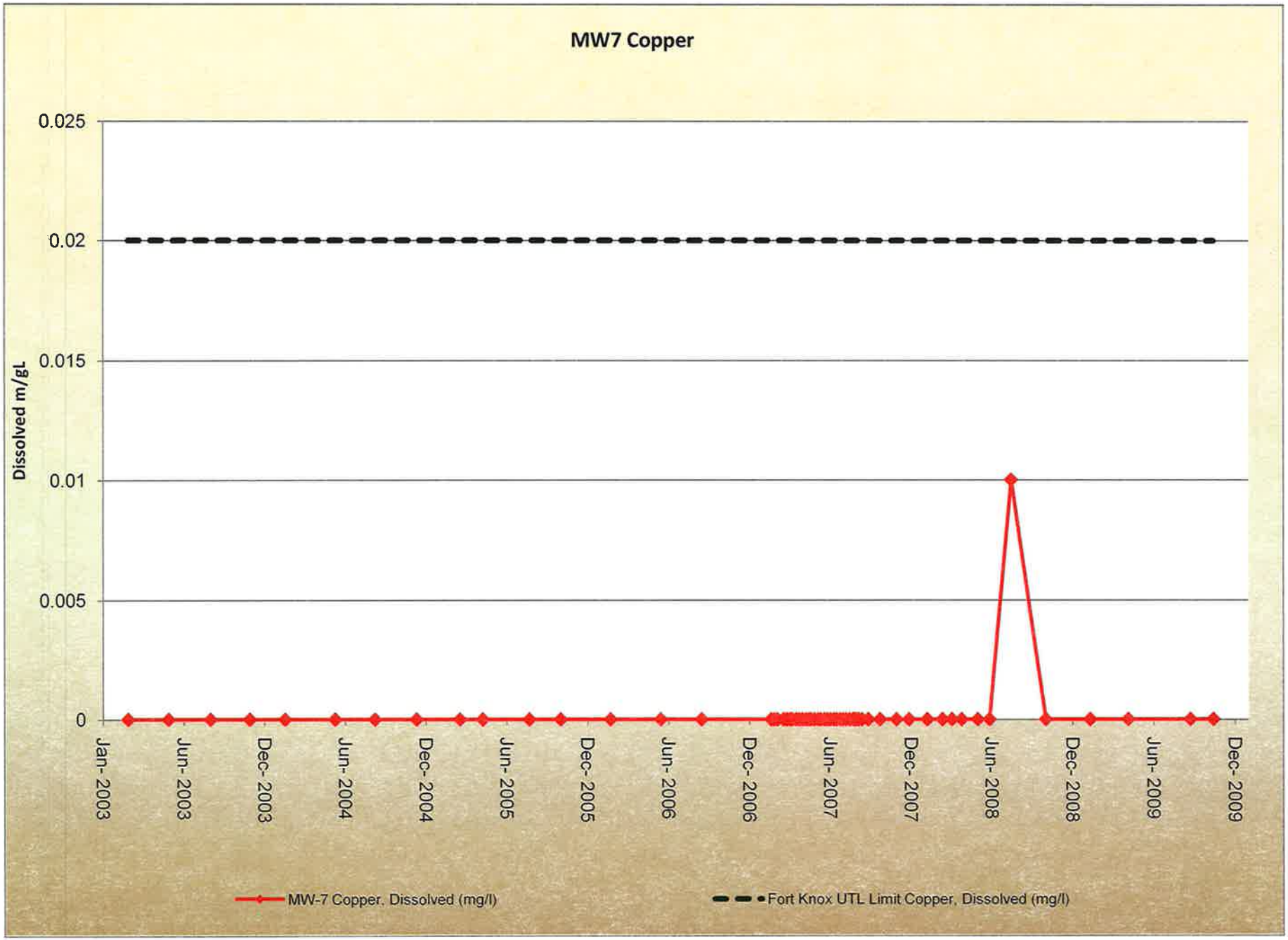

MW5,MW6,MW8 Nitrogen/Ammonia
mg/L
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
MW-5 Ammonia (mg/l as N)
Fort Knox UTL Limit Ammonia (mg/l as N)
MW-6 Ammonia (mg/l as N)
Fort Knox UTL Limit Ammonia (mg/l as N)
MW-8 Ammonia (mg/l as N)
Fort Knox UTL Limit Ammonia (mg/l as N)

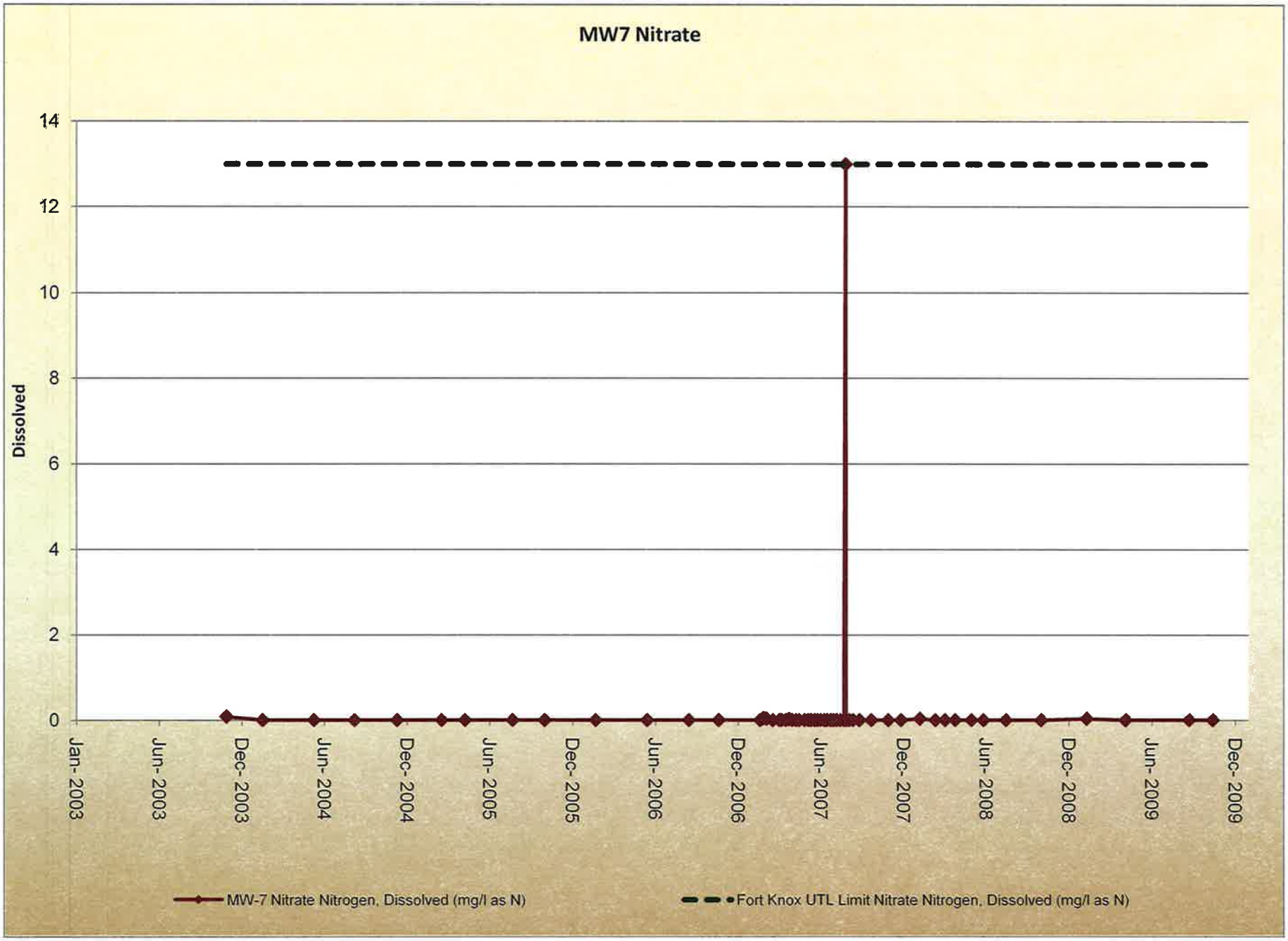

Fort Knox Compliance MW5,MW6,MW8 Sulfate
mg/L
90
80
70
60
50
40
30
20
10
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
MW-5 Sulfate (mg/l)
Fort Knox UTL Limit Sulfate (mg/l)
MW-6 Sulfate (mg/l)
Fort Knox UTL Limit Sulfate (mg/l)
MW-8 Sulfate (mg/l)
Fort Knox UTL Limit Sulfate (mg/l)

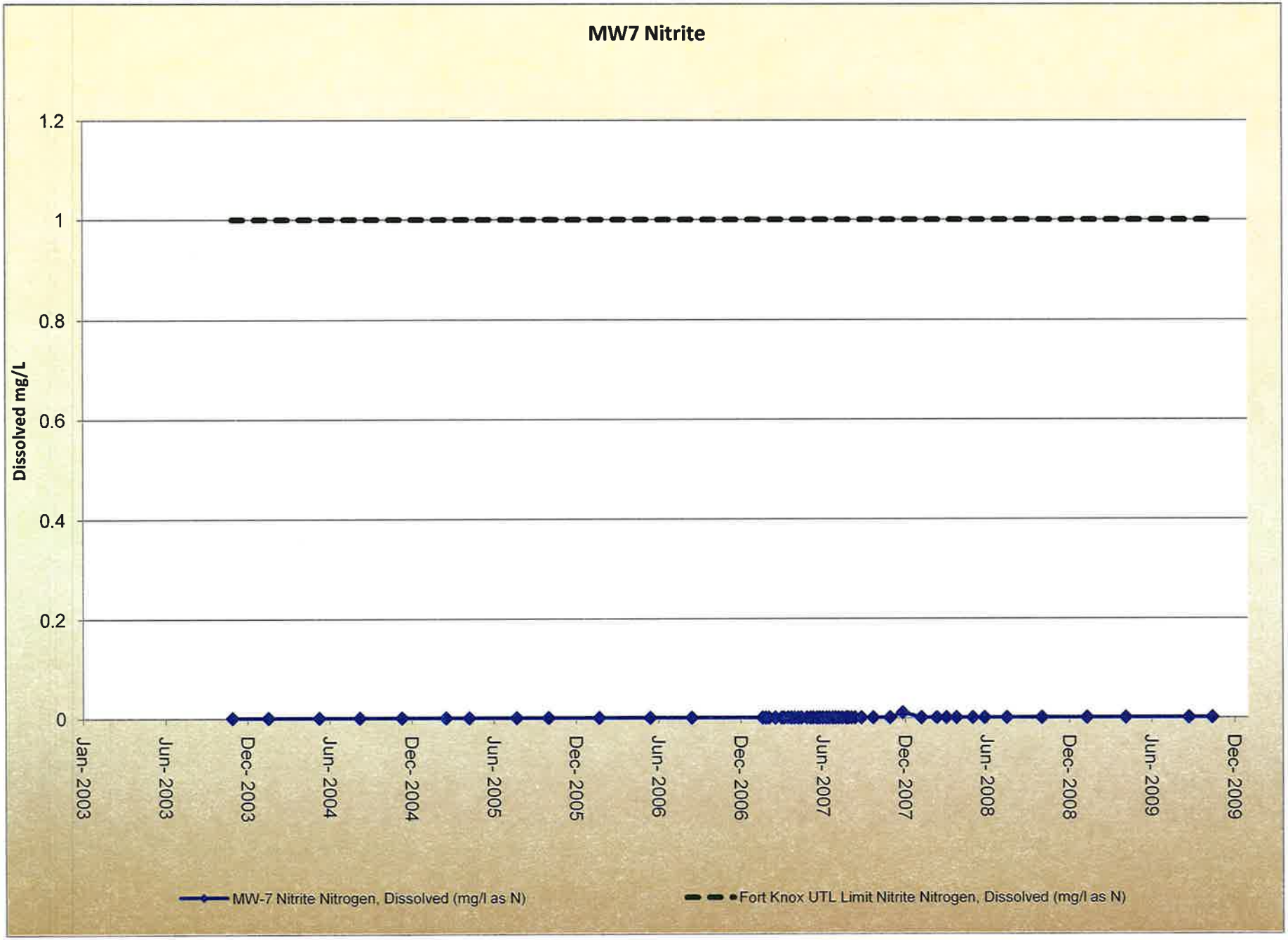

MW7 Antimony
Dissolved mg/L
0.018
0.016
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
MW-7 Antimony, Dissolved (mg/l)
Fort Knox UTL Limit Antimony, Dissolved (mg/l)

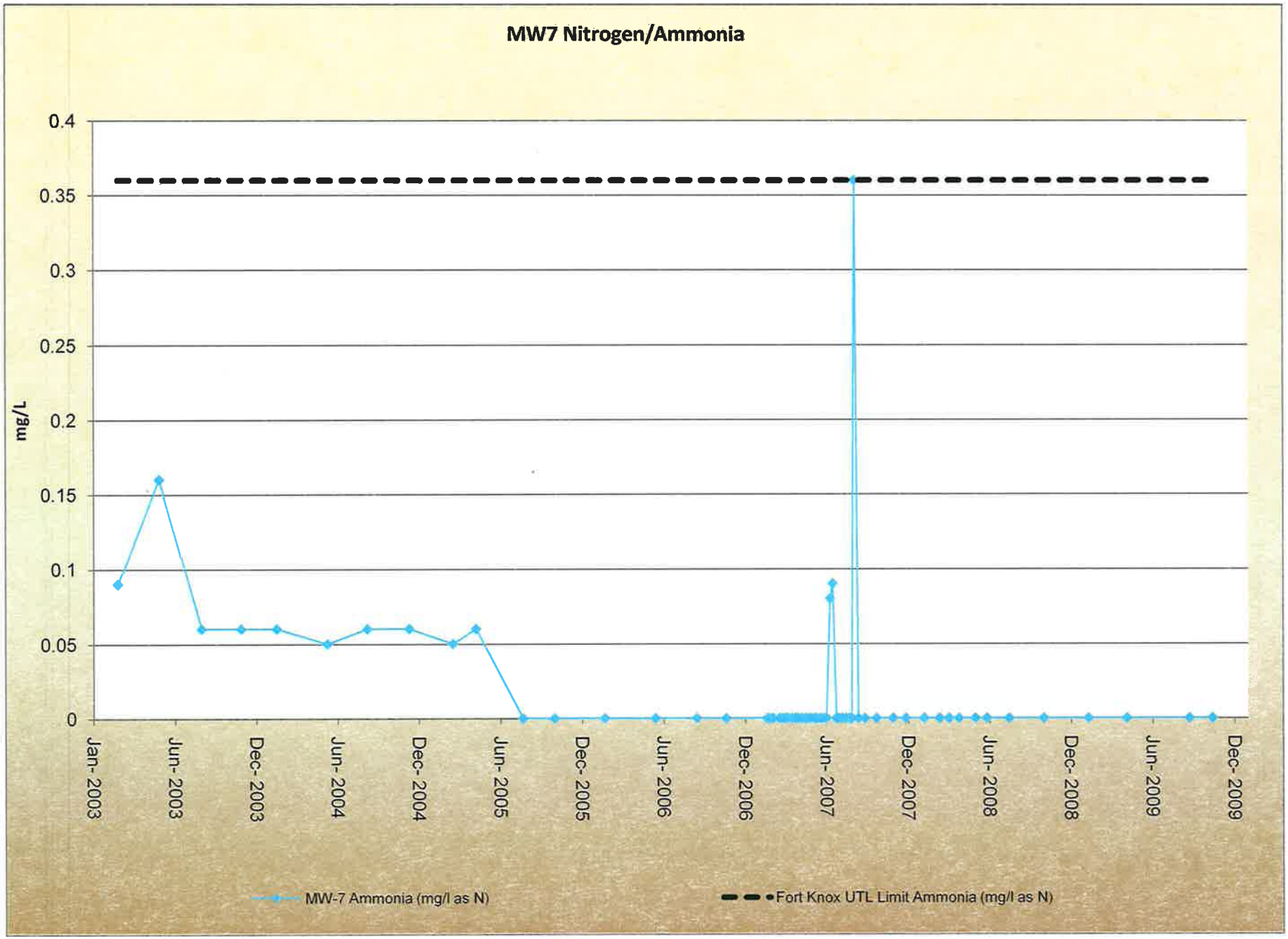

MW7-Arsenic
0.0025
0.002
0.0015
0.001
0.0005
0
Dissolved mg/L
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
MW-7 Arsenic, Dissolved (mg/l)
Fort Knox UTL Limit Arsenic, Dissolved (mg/l)

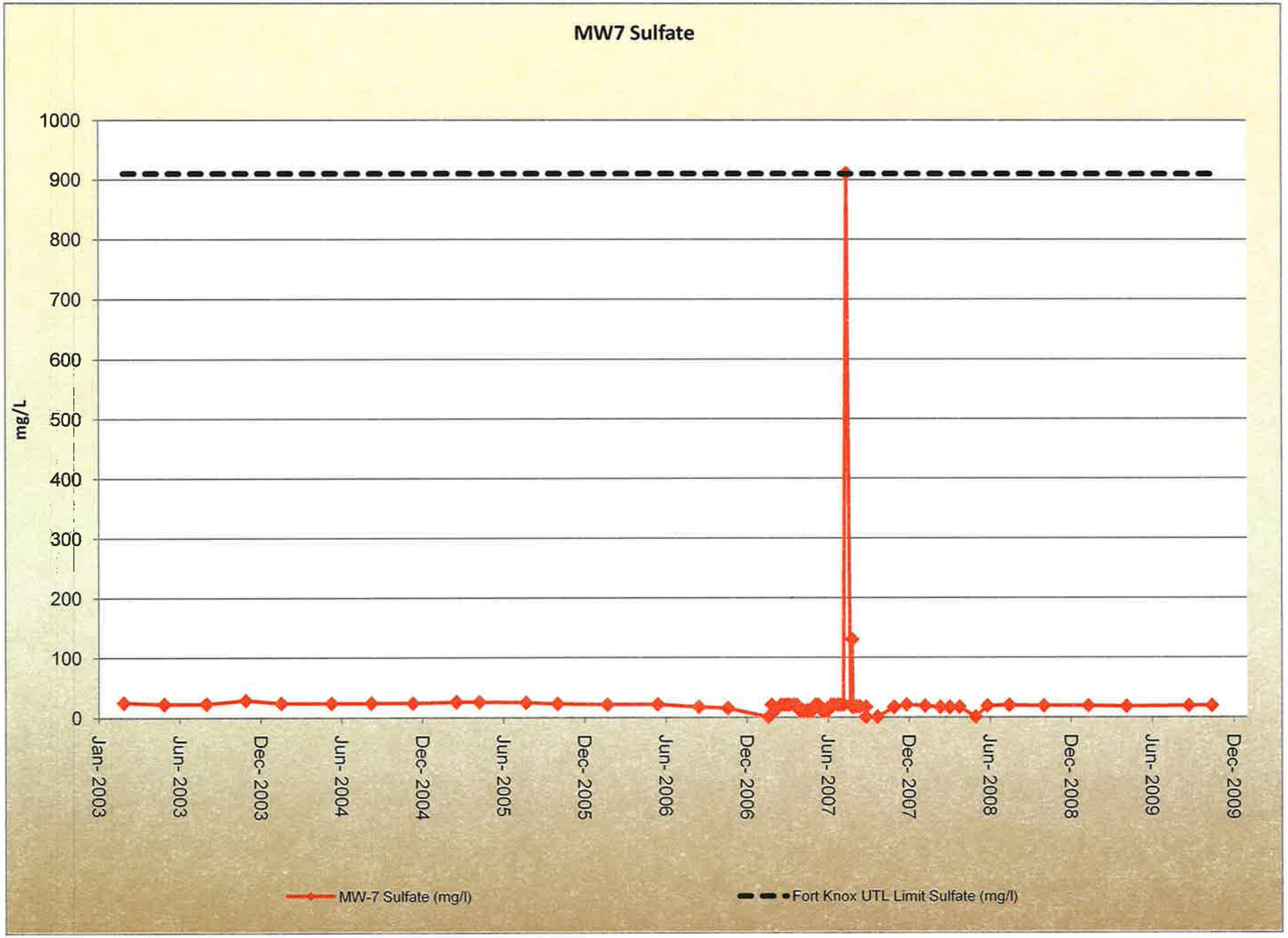

MW7 Chloride
Dissolved mg/L
30
25
20
15
10
5
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
MW-7 Chloride, dissolved
Fort Knox UTL Limit Chloride, dissolved

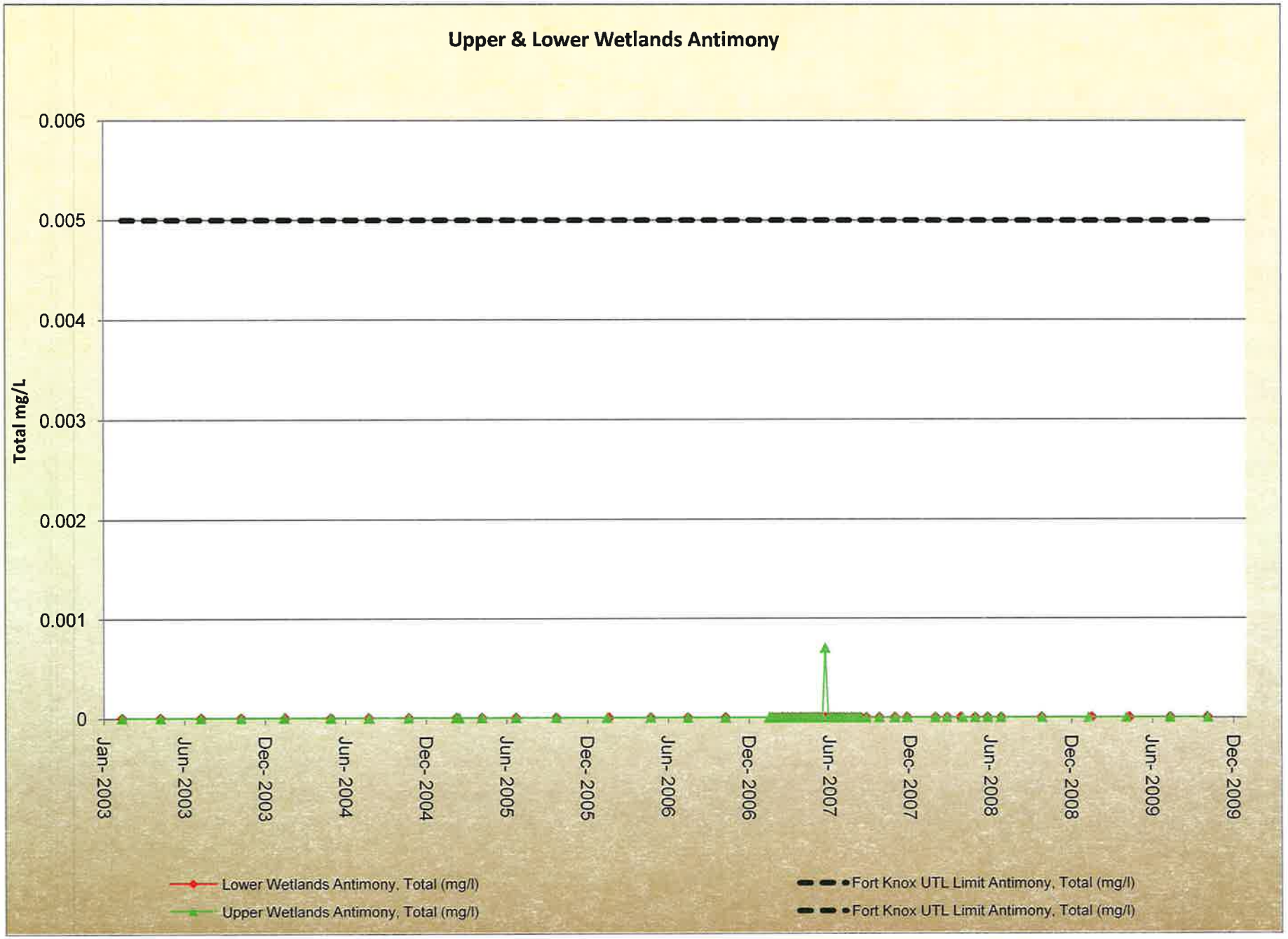

MW7 Copper
Dissolved mg/l
0.025
0.02
0.015
0.01
0.005
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
MW-7 Copper, Dissolved (mg/l)
Fort Knox UTL Limit Copper, Dissolved (mg/l)

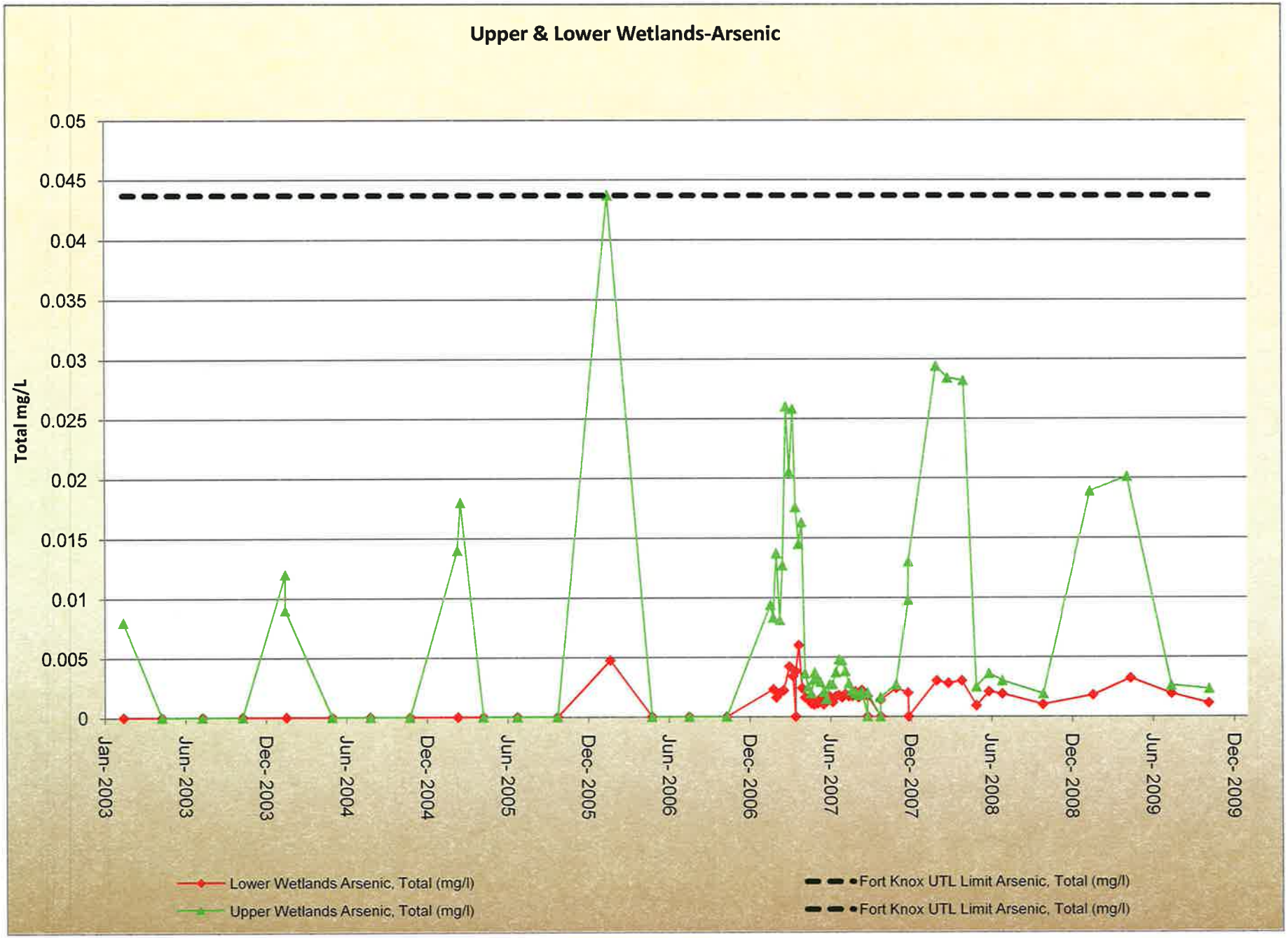

MW7 Nitrate
Dissolved
14
12
10
8
6
4
2
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
MW-7 Nitrate Nitrogen, Dissolved (mg/l as N)
Fort Knox UTL Limit Nitrate Nitrogen, Dissolved (mg/l as N)

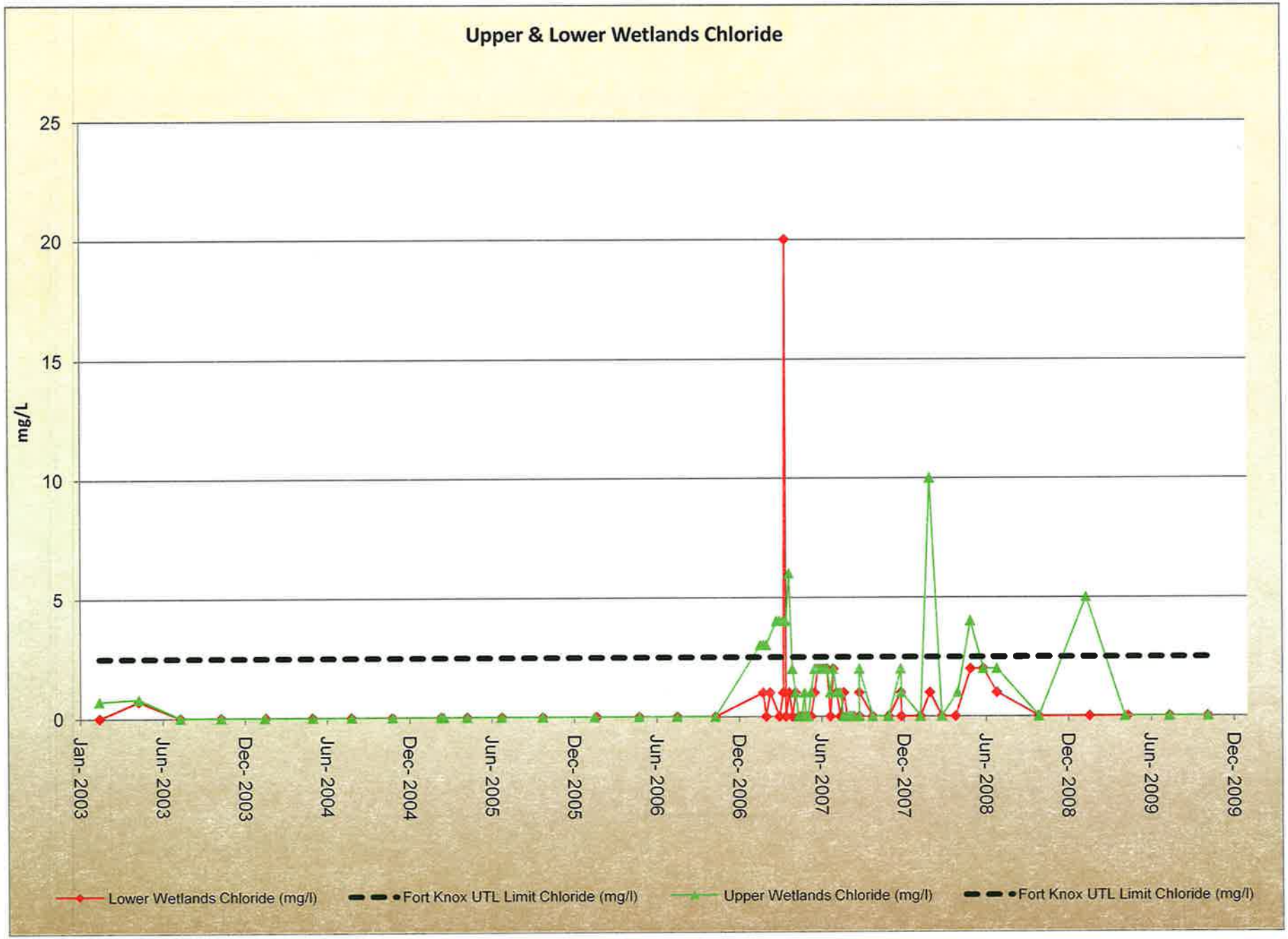

MW7 Nitrite
Dissolved mg/L
1.2
1
0.8
0.6
0.4
0.2
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
MW-7 Nitrite Nitrogen, Dissolved (mg/l as N)
Fort Knox UTL Limit Nitrite Nitrogen, Dissolved (mg/l as N)

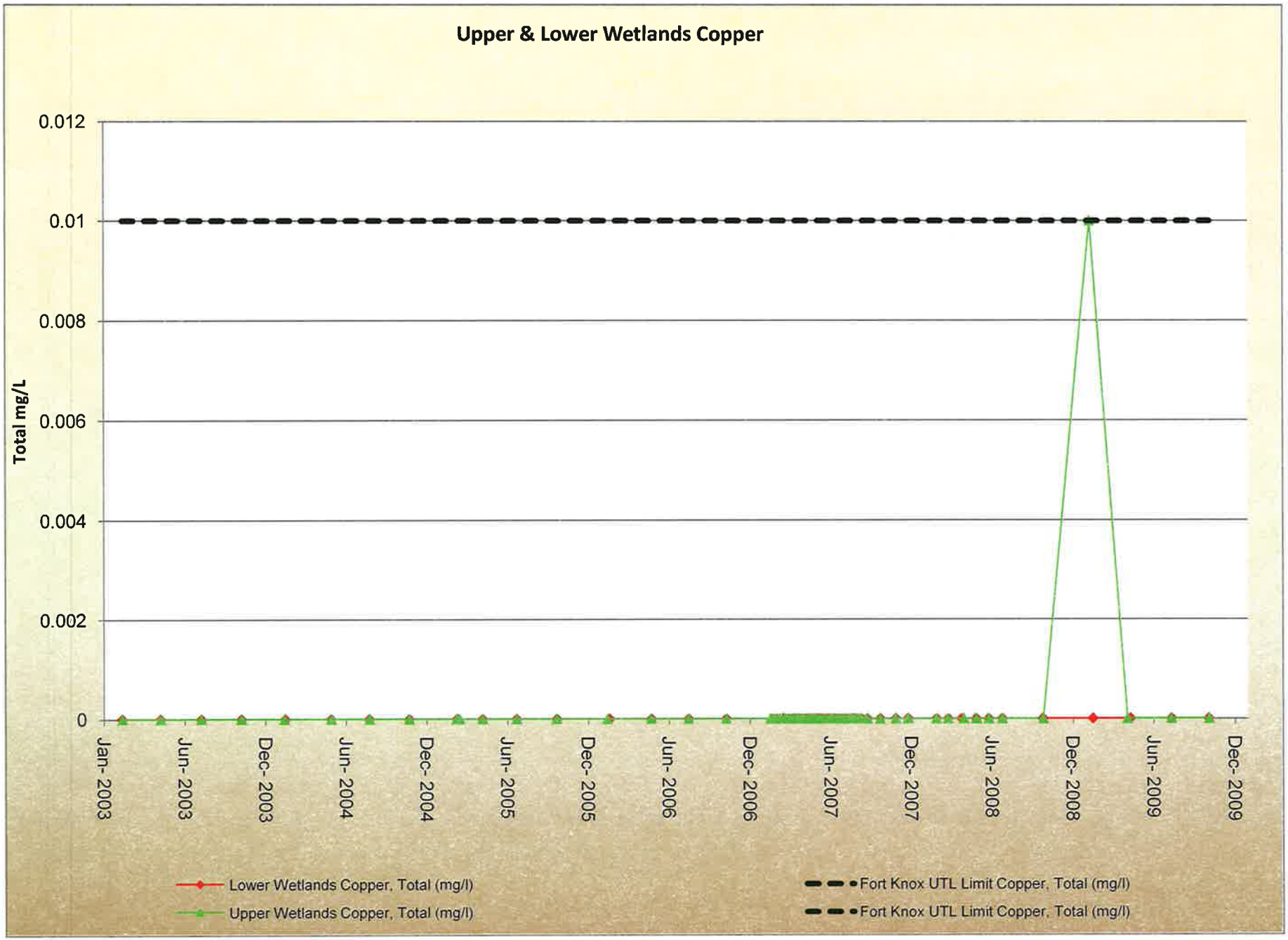

MW7 Nitrogen/Ammonia
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
mg/L
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
MW-7 Ammonia (mg/l as N)
Fort Knox UTL Limit Ammonia (mg/l as N)

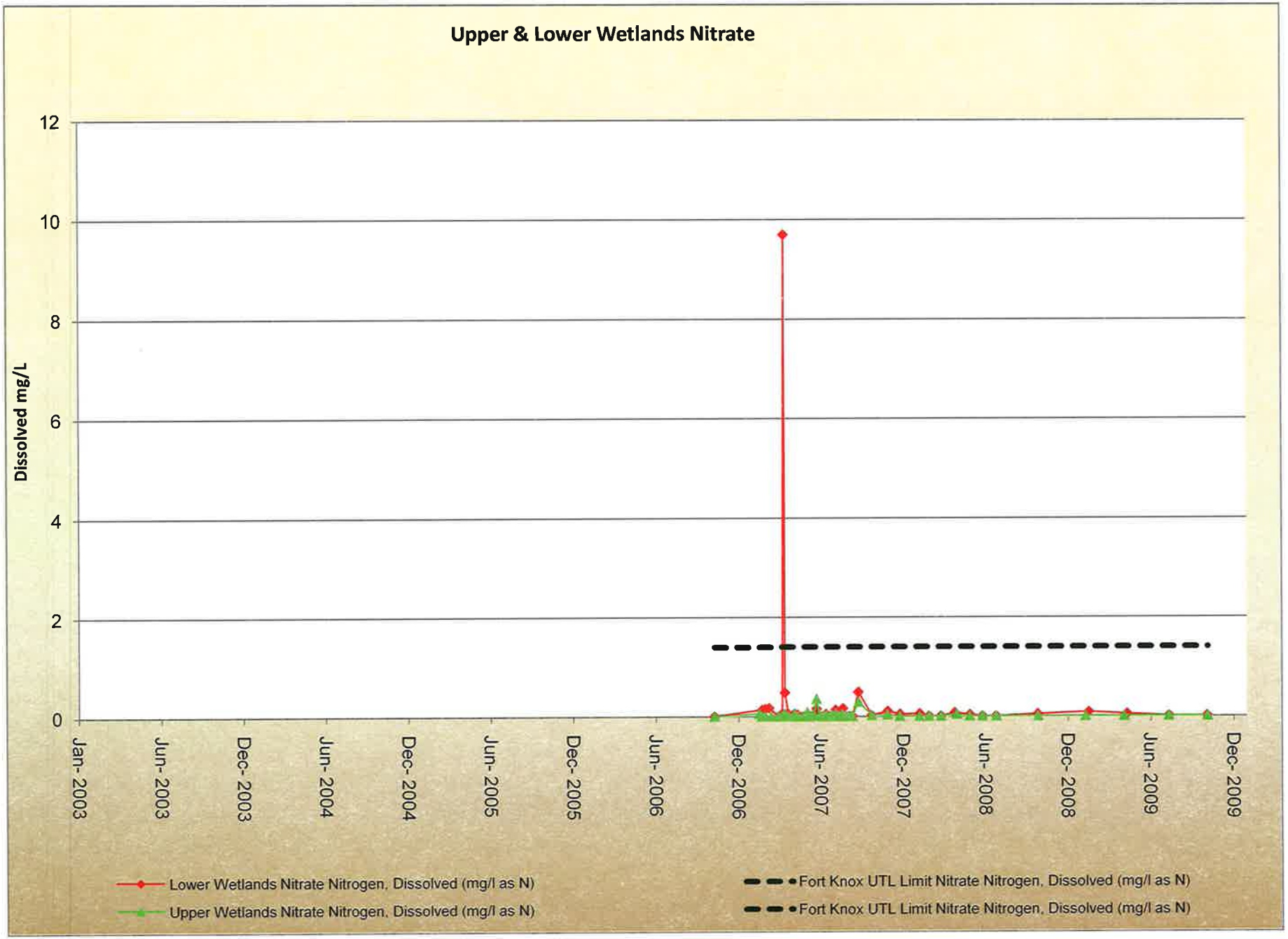

MW7 Sulfate
1000
900
800
700
600
500
400
300
200
100
0
mg/L
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
MW-7 Sulfate (mg/l)
Fort Knox UTL Limit Sulfate (mg/l)

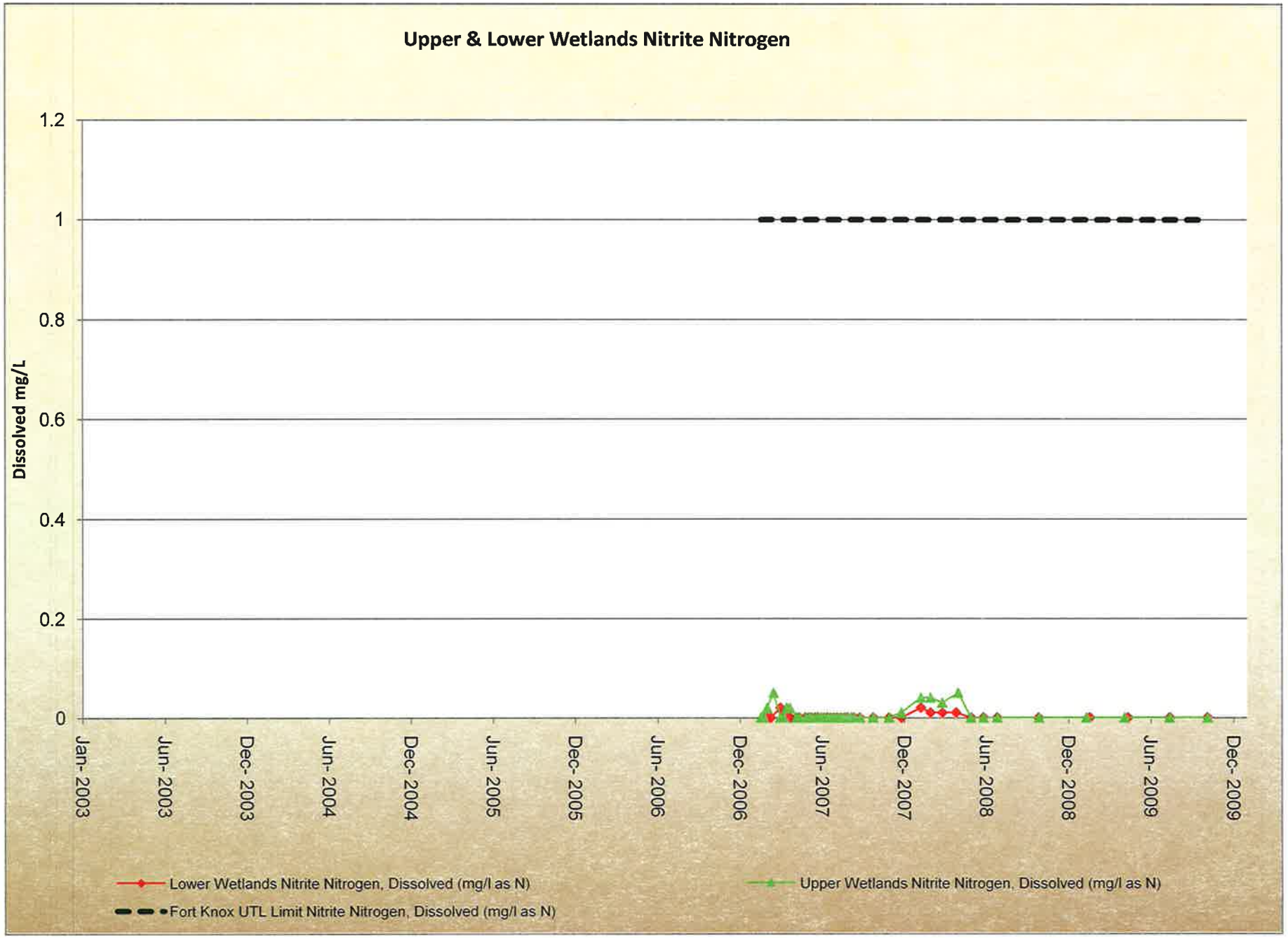

Upper & Lower Wetlands Antimony
Total mg/L
0.006
0.005
0.004
0.003
0.002
0.001
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
Lower Wetlands Antimony, Total (mg/l)
Upper Wetlands Antimony, Total (mg/l)
Fort Knox UTL Limit Antimony, Total (mg/l)
Fort Knox UTL Limit Antimony, Total (mg/l)

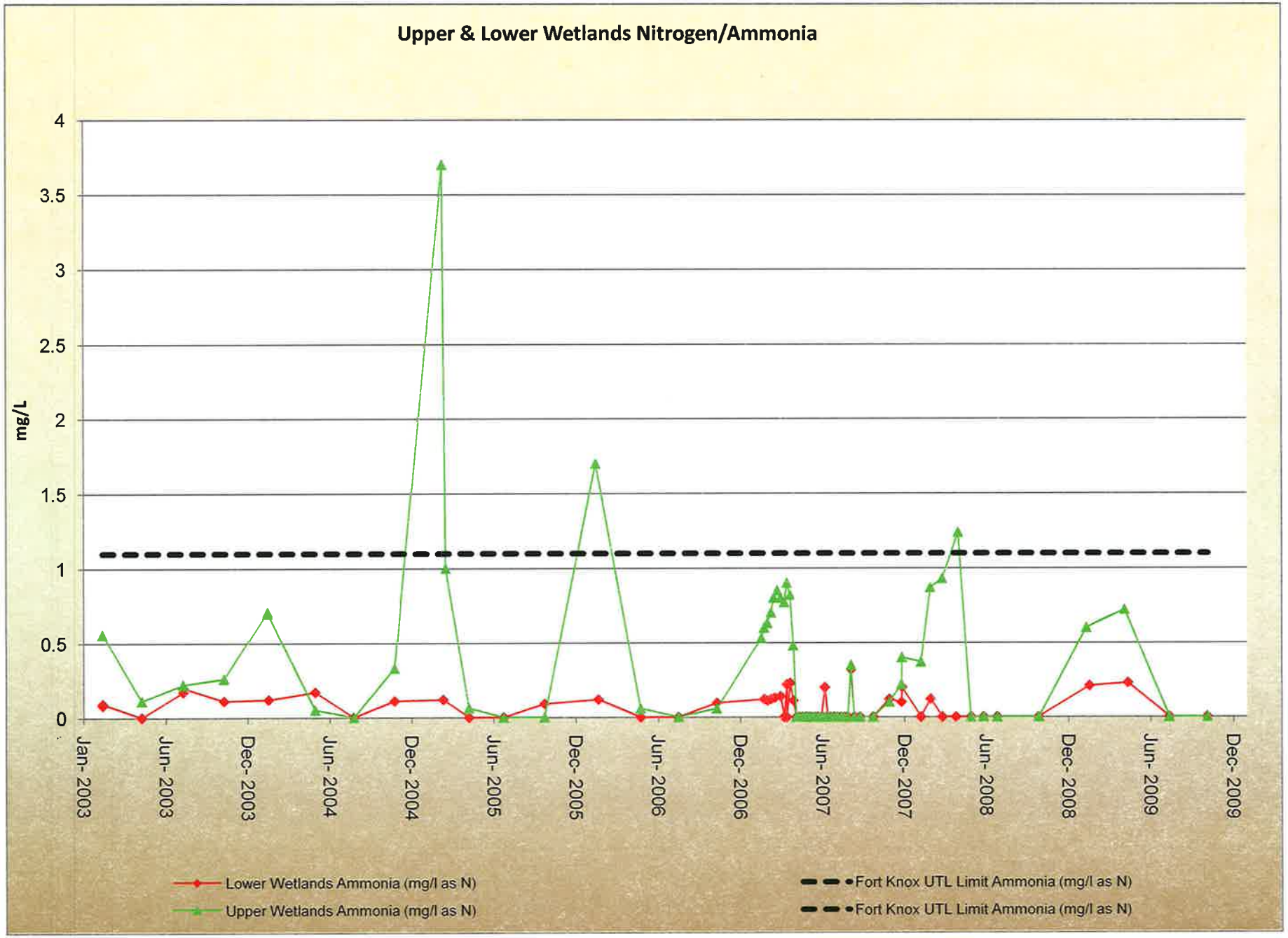

Upper & Lower Wetlands-Arsenic
Total mg/L
0.05
0.045
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
Lower Wetlands Arsenic, Total (mg/l)
Upper Wetlands Arsenic, Total (mg/l)
Fort Knox UTL Limit Arsenic, Total (mg/l)
Fort Knox UTL Limit Arsenic, Total (mg/l)

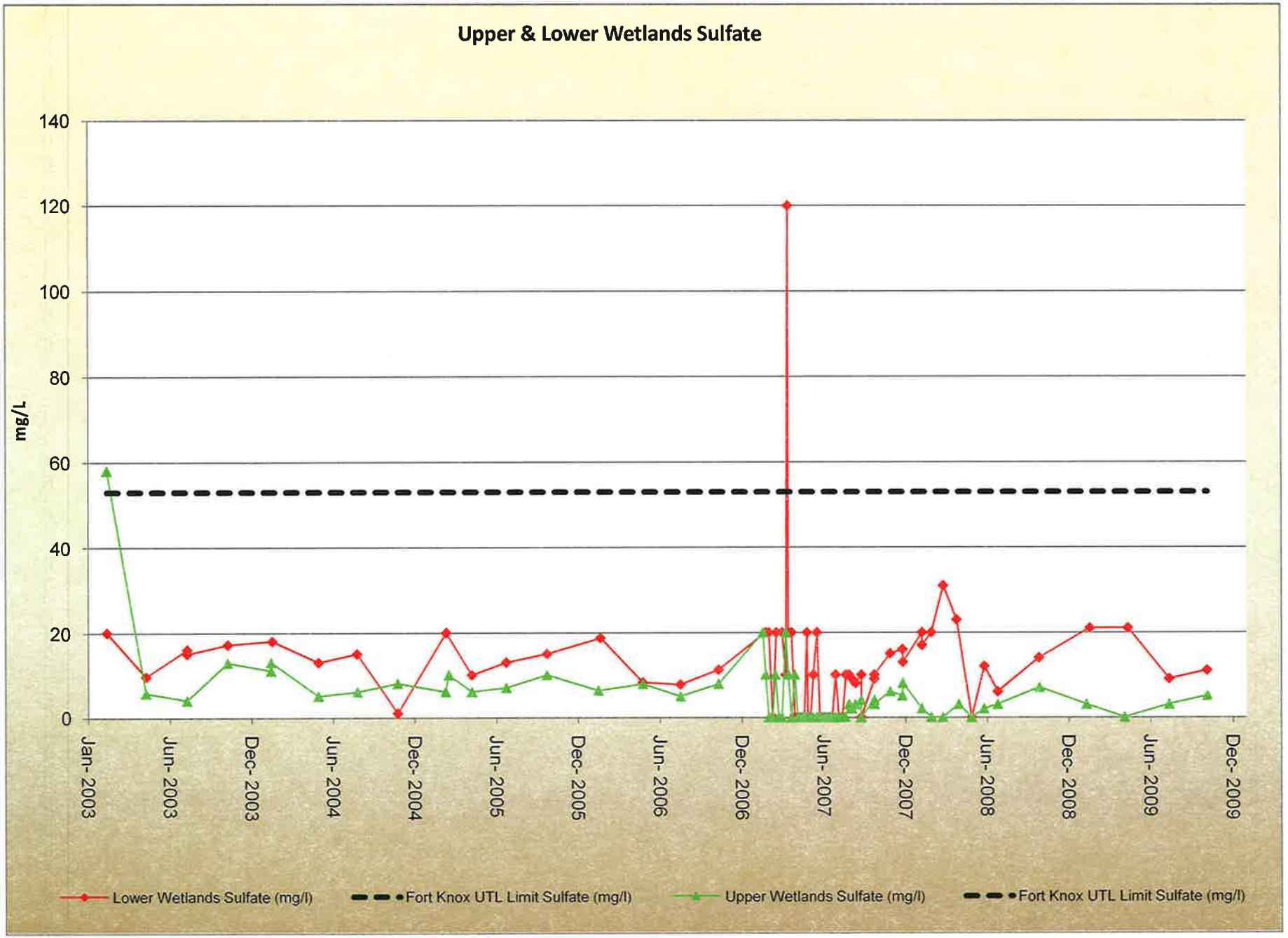

Upper & Lower Wetlands Chloride
25
20
15
10
5
0
mg/L
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
Lower Wetlands Chloride (mg/l)
Fort Knox UTL Limit Chloride (mg/l)
Upper Wetlands Chloride (mg/l)
Fort Knox UTL Limit Chloride (mg/l)


Upper & Lower Wetlands Copper
Total mg/L
0.012
0.01
0.008
0.006
0.004
0.002
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
Lower Wetlands Copper, Total (mg/l)
Upper Wetlands Copper, Total (mg/l)
Fort Knox UTL Limit Copper, Total (mg/l)
Fort Knox UTL Limit Copper, Total (mg/l)

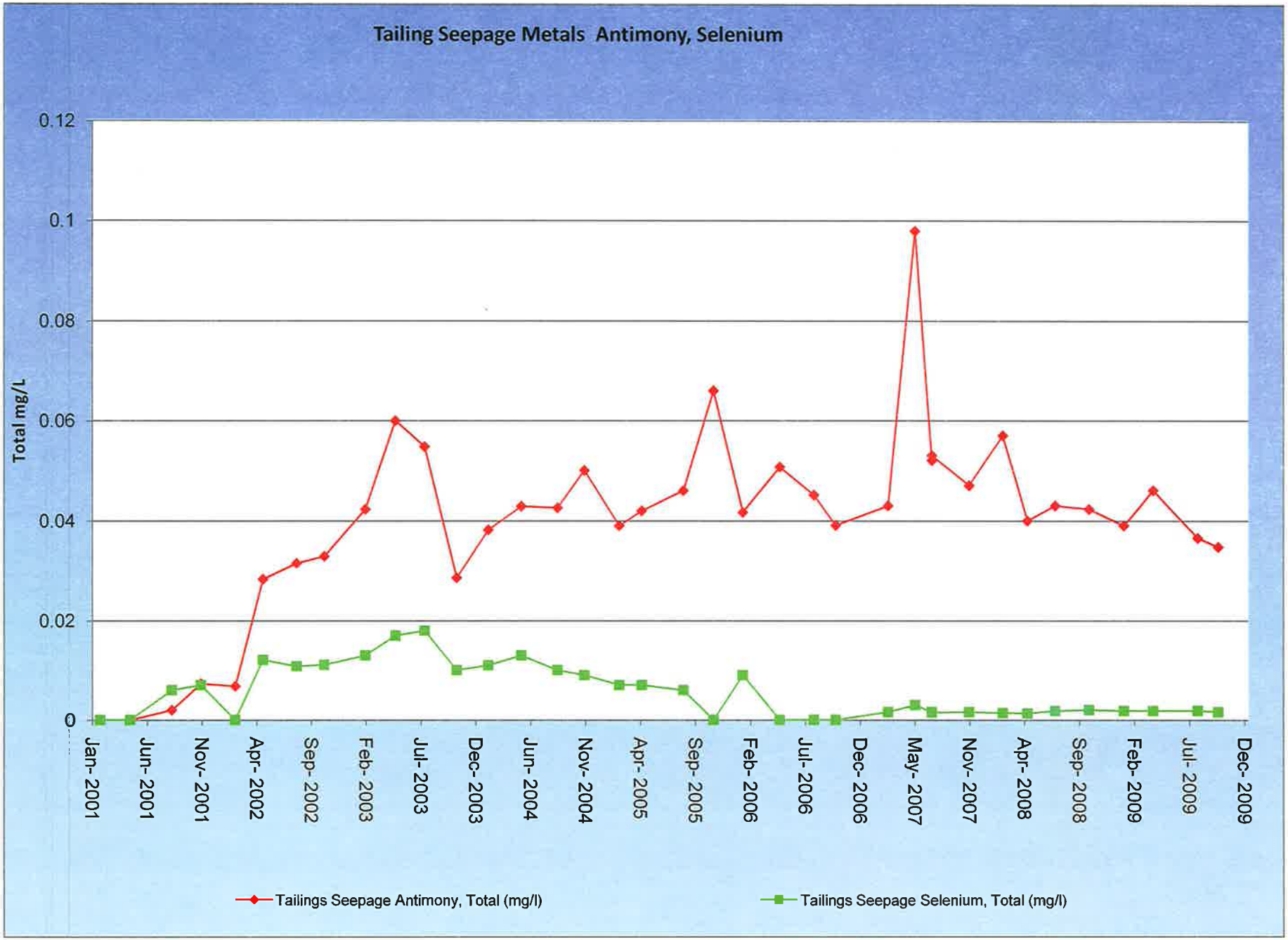

Upper & Lower Wetlands Nitrate
Dissolved mg/L
12
10
8
6
4
2
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
Lower Wetlands Nitrate Nitrogen, Dissolved (mg/l as N)
Upper Wetlands Nitrate Nitrogen, Dissolved (mg/l as N)
Fort Knox UTL Limit Nitrate Nitrogen, Dissolved (mg/l as N)
Fort Knox UTL Limit Nitrate Nitrogen, Dissolved (mg/l as N)

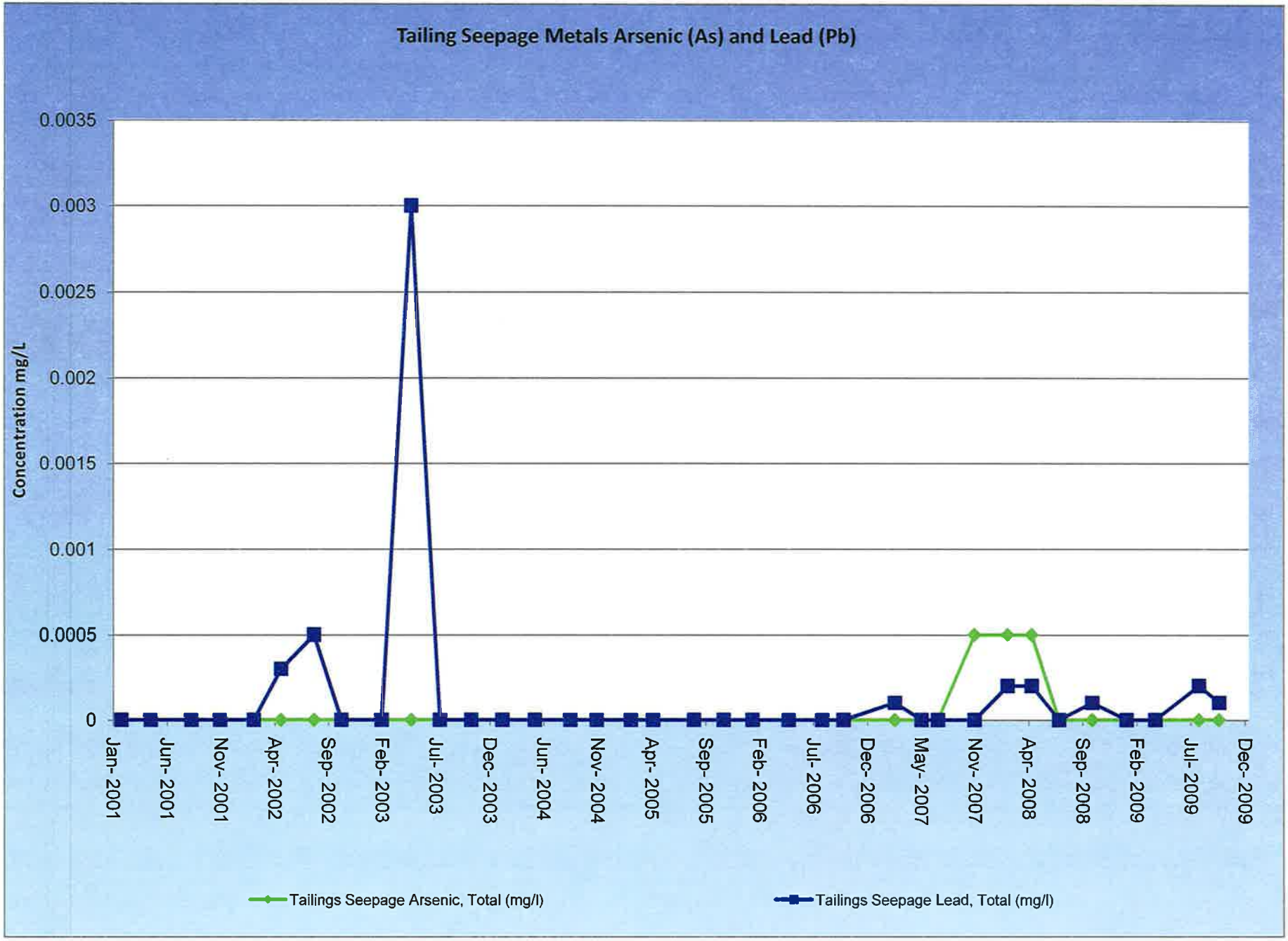

Upper & Lower Wetlands Nitrite Nitrogen
Dissolved mg/L
1.2
1
0.8
0.6
0.4
0.2
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
Lower Wetlands Nitrite Nitrogen, Dissolved (mg/l as N)
Upper Wetlands Nitrite Nitrogen, Dissolved (mg/l as N)
Fort Knox UTL Limit Nitrite Nitrogen, Dissolved (mg/l as N)


Upper & Lower Wetlands Nitrogen/Ammonia
mg/L
4
3.5
3
2.5
2
1.5
1
0.5
0
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
Lower Wetlands Ammonia (mg/l as N)
Upper Wetlands Ammonia (mg/l as N)
Fort Knox UTL Limit Ammonia (mg/l as N)
Fort Knox UTL Limit Ammonia (mg/l as N)


Upper & Lower Wetlands Sulfate
140
120
100
80
60
40
20
0
mg/L
Jan- 2003
Jun- 2003
Dec- 2003
Jun- 2004
Dec- 2004
Jun- 2005
Dec- 2005
Jun- 2006
Dec- 2006
Jun- 2007
Dec- 2007
Jun- 2008
Dec- 2008
Jun- 2009
Dec- 2009
Lower Wetlands Sulfate (mg/l)
Fort Knox UTL Limit Sulfate (mg/l)
Upper Wetlands Sulfate (mg/l)
Fort Knox UTL Limit Sulfate (mg/l)

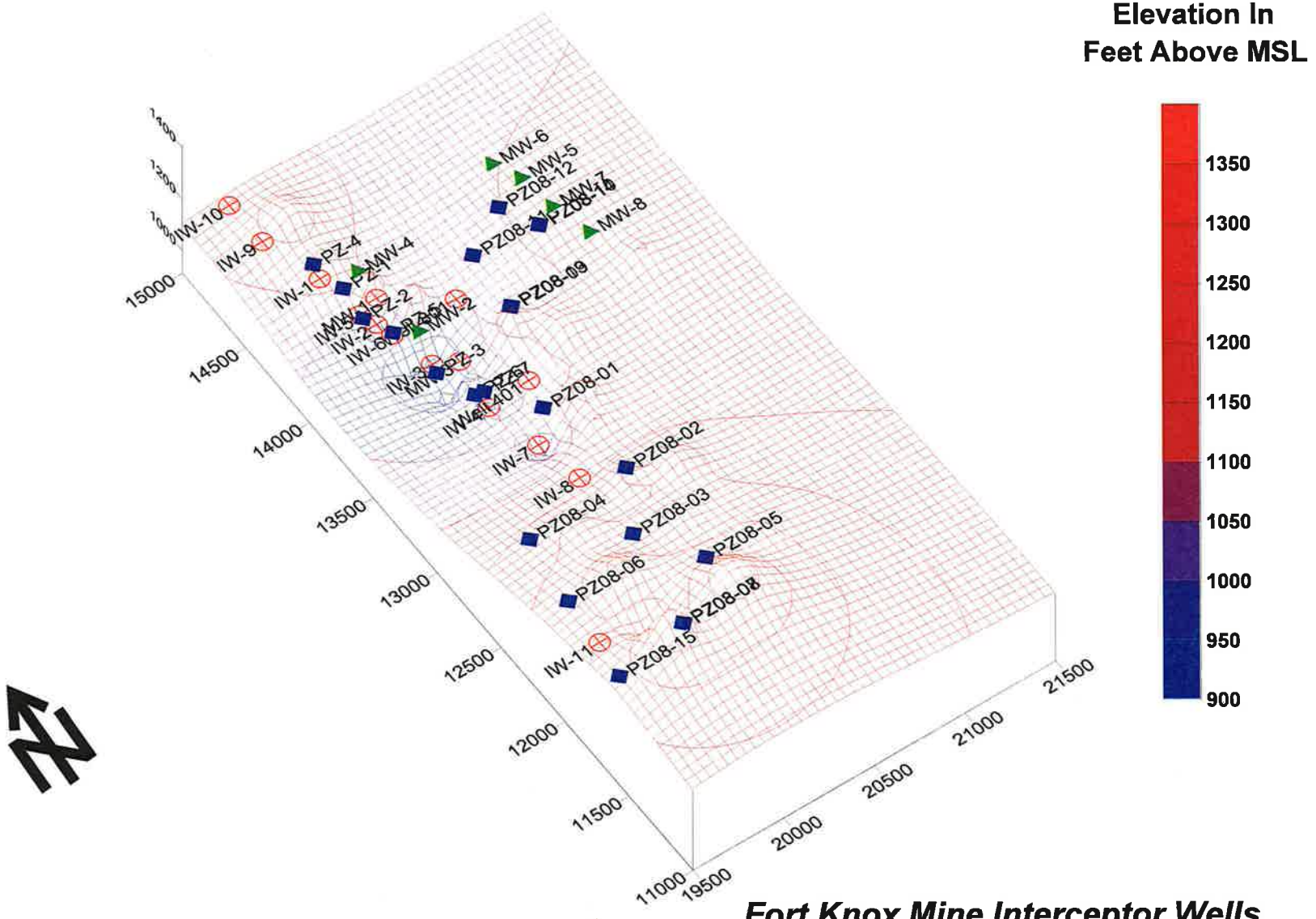
ATTACHMENT D
Monthly Metal Samples of Tailing Impoundment Seepage As, Sb, Pb, Se


Tailing Seepage Metals Antimony, Selenium
Total mg/L
0.12
0.1
0.08
0.06
0.04
0.02
0
Jan- 2001
Jun- 2001
Nov- 2001
Apr- 2002
Sep- 2002
Feb- 2003
Jul- 2003
Dec- 2003
Jun- 2004
Nov- 2004
Apr- 2005
Sep- 2005
Feb- 2006
Jul- 2006
Dec- 2006
May- 2007
Nov- 2007
Apr- 2008
Sep- 2008
Feb- 2009
Jul- 2009
Dec- 2009
Tailings Seepage Antimony, Total (mg/l)
Tailings Seepage Selenium, Total (mg/l)


Tailing Seepage Metals Arsenic (As) and Lead (Pb)
Concentration mg/L
0.0035
0.003
0.0025
0.002
0.0015
0.001
0.0005
0
Jan- 2001
Jun- 2001
Nov- 2001
Apr- 2002
Sep- 2002
Feb- 2003
Jul- 2003
Dec- 2003
Jun- 2004
Nov- 2004
Apr- 2005
Sep- 2005
Feb- 2006
Jul- 2006
Dec- 2006
May- 2007
Nov- 2007
Apr- 2008
Sep- 2008
Feb- 2009
Jul- 2009
Dec- 2009
Tailings Seepage Arsenic, Total (mg/l)
Tailings Seepage Lead, Total (mg/l)

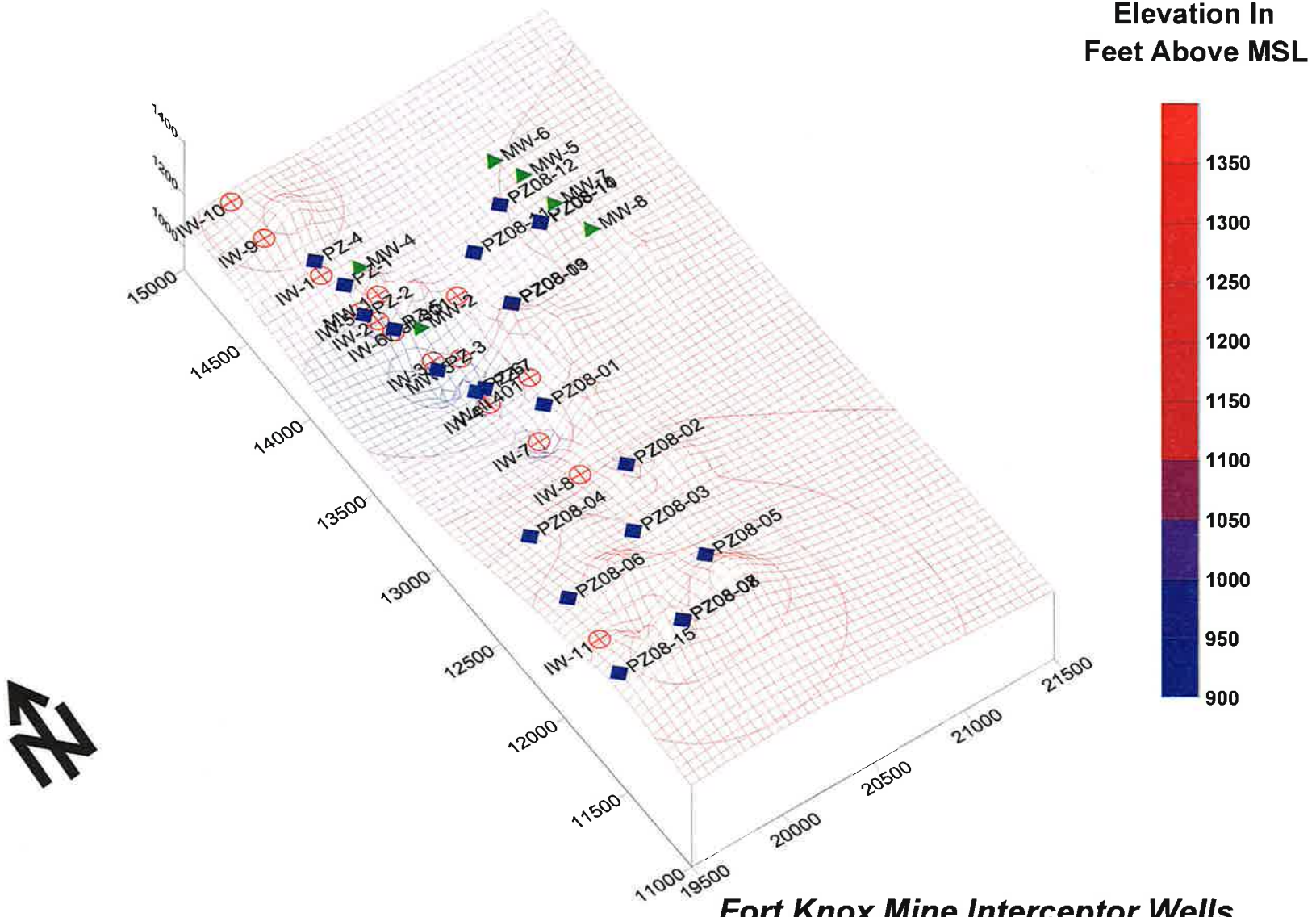
ATTACHMENT E

Interceptor and Monitoring Well Groundwater Contour



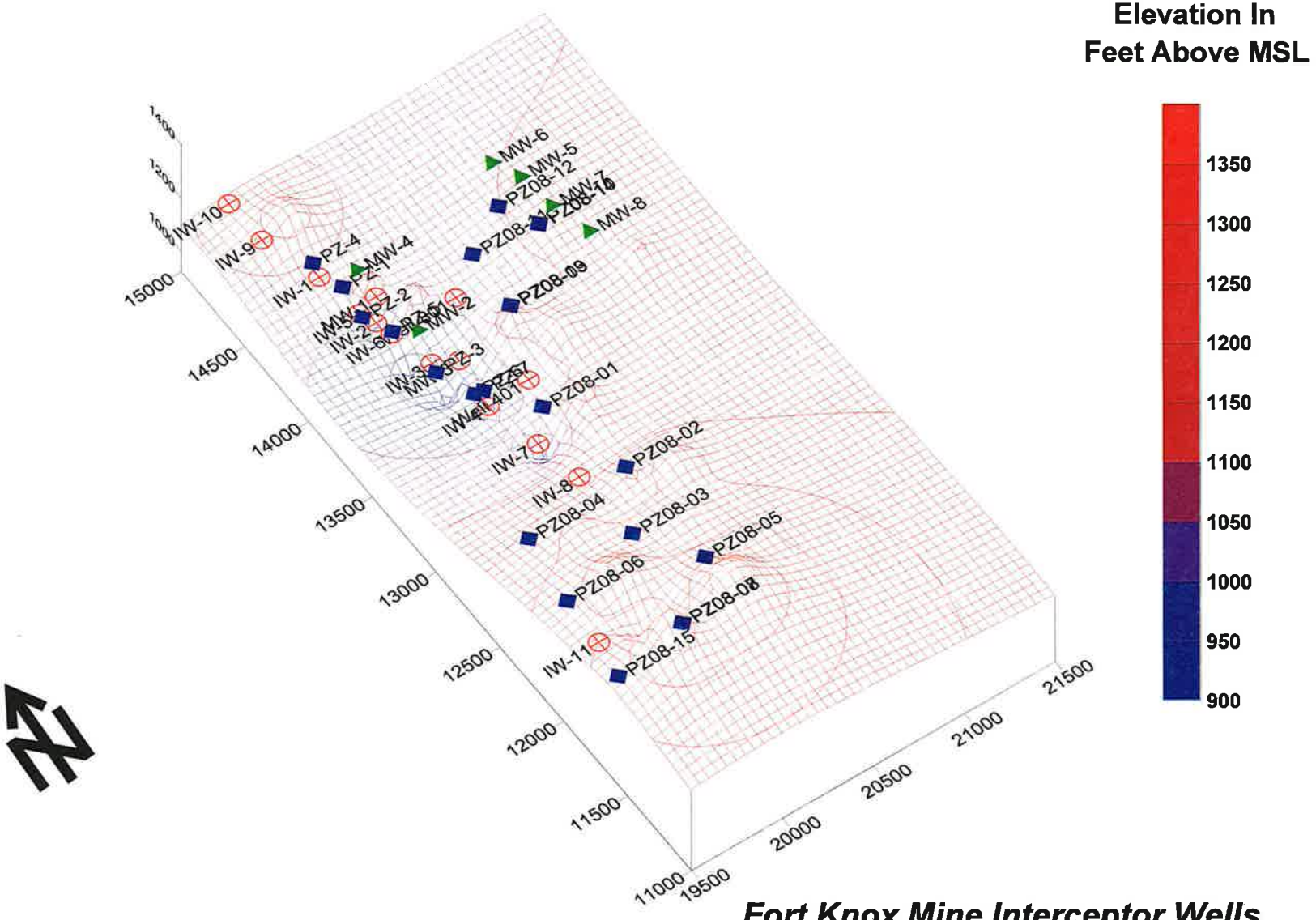
Fort Knox Mine Interceptor Wells

October 25, 2009 Groundwater Contours



Fort Knox Mine Interceptor Wells

November 25, 2009 Groundwater Contours



Fort Knox Mine Interceptor Wells

December 27, 2009 Groundwater Contours

ATTACHMENT F
Updated Pit Lake Evaluation

TECHNICAL MEMORANDUM

To: Delbert Parr
Company: Fairbanks Gold Mining, Inc.
Project No.: 2903
From: John Chahbandour and Pamela Rohal
Date: March 1, 2010

1875 LAWRENCE STREET, SUITE 500
DENVER, COLORADO 80202, USA

TELEPHONE: (303) 297 9005
TELEFAX: (303) 297 9007
www.water.slb.com

Subject: Fort Knox pit lake evaluation 2010 update

1 INTRODUCTION

This document presents an update to the Fort Knox pit lake evaluation technical memoranda (WMC, December 2006; WMC, February 2008; and WMC, February 2009), completed in support of the Reclamation and Closure Plan for the Fort Knox Mine. This pit lake modeling update reflects the revised closure strategy in support of the proposed mine expansion, which includes an enlarged pit and a modified centerline tailing dam raise. A site-wide water balance and chemical mixing model has been prepared in support of site closure analysis. Water balance and water quality results from this model are used in this updated pit lake evaluation; in addition, site dewatering well water quality data have been updated. The pit lake study was prepared to evaluate the short- and long-term pit lake quality following the solution management approach proposed for the Fort Knox Mine.

The Fort Knox Mine is located approximately 15 miles northeast of Fairbanks, Alaska. The site includes several sections in T2N, R2E and T2N, R3E, Fairbanks Meridian near the headwaters of the Fish Creek drainage. The site is located on land owned by the State of Alaska, the Alaska Mental Health Trust, and private parties.

1.1 Purpose

The proposed Reclamation and Closure Plan for the Fort Knox Mine incorporates pumping decant and seepage water from the Tailing Storage Facility (TSF) to the pit once mining/milling activity has been completed. In order to evaluate long-term water quality of the pit lake at the time discharge is predicted to occur, a straight-forward mixing model was completed that did not include geochemical modeling. The results of that analysis indicated that even under these conservative assumptions, water quality criteria would be met at the time discharge from the pit lake occurs.

The purpose of the evaluation presented in this document is to provide a more detailed analysis of pit lake quality during the recovery period and demonstrate the viability of the proposed solution management approach. This update incorporates recent water balance/flow data for the pit lake, revised water quality estimates, and the most recent dewatering well chemistry data (2008/2009 sampling data) as input to the pit lake model.

1.2 Objectives

The objectives of this update are to:

- present the revised water balance/flow data for the pit lake filling period
- present revised estimates of tailings decant and heap leach water quality
- present the updated groundwater quality data
- predict short and long-term, post-closure, pit lake water quality using the recent dataset
- demonstrate the viability of the current reclamation approach from a water quality perspective

2 PROJECT BACKGROUND

The December 2006 technical memo provides a description of the site climate, topography, hydrology and hydrogeology.

Following is a summary of the relevant elements of the Fort Knox Mine Reclamation and Closure Plan and TSF Closure Management Plan as they relate to the pit lake, including details of the site-wide water balance and mixing model prepared in support of closure.

The pit volume is based on the mine plan expansion, and a spill point elevation of 1,630 ft amsl. The site-wide water balance and chemistry mixing model were developed based on the actions listed below.

Discharge from the heap leach (draindown and rinse water) facility may be pumped to the pit or discharged to the TSF decant pond. Two scenarios were evaluated in the pit lake model: the Scenario 1 model update presents predicted pit lake water quality without including draindown/rinse water from the heap leach facility (this water would be directed to the decant pond). Scenario 2 includes heap leach draindown/rinse water pumped directly to the pit lake between years 10 and 14.

Once mining/milling is completed, the following activities will be initiated:

- TSF decant water will be pumped to the pit
- seepage collected from the interception system will be pumped back to the TSF and to the pit for a period of approximately five years (or as long as necessary to meet discharge quality standards)
- TSF decant water will be diluted over the pump-back period by the inflow of upgradient surface water
- operation of the heap leach will continue with remaining stockpiled ore and continued leaching (estimated additional 10 years, post-mining/milling)
- TSF decant water will be pumped to the pit to maintain freeboard elevation in TSF
- based on the mine plan and water balance model, TSF decant water will be periodically pumped to the pit for 10 years, post-mining.

3 MODELING APPROACH AND UPDATED DATA

The pit lake geochemical modeling approach is described in detail in the December 2006 memo. The same approach was used for this update.

The site-wide water balance model defines the magnitude and relative proportions of inflows to the pit during the recovery period. Time steps of 2, 5, 15, 75, and 94 years are used to evaluate water quality over time. According to the water balance model, the pit lake will reach the spill point at year 94, post-mining. The calculated inflow volumes are presented in Table 3.1. For Scenario 1, the same inflow volumes were used with the 7,428 acre-ft of heap leach draindown/rinse water, reporting to the decant pond rather than directly to the pit. The total amount of water being pumped to the pit from the TSF is approximately 15,694 acre-feet over 10 years (previous modeling estimates [2006-2009] were based on an estimated pumped volume of 5,500 acre-ft over 2 years). For Scenario 2, the total amount of heap leach draindown/rinse water pumped to the pit is approximately 7,428 acre-feet over years 10 to 14, post-mining.

Table 3.1 Inflow volumes to pit lake (Scenario 2)

Post-mining timestep (year)	Time period (years)		AVERAGE INFLOWS TO PIT LAKE (acre-feet per year)					
	Years	Duration	Direct precipitation to lake	Pit wall runoff	Surface water runoff to lake	TSF decant/seepage pumped water	Heap leach draindown/rinse	Groundwater Inflow
2	0-2	2	105	422	63	5,457	0	2,893
5	2-5	3	186	390	71	312	0	2,702
15	5-15	10	269	332	74	385	743	2,438
75	15-75	60	448	207	71	0	0	1,335
94	75-94	19	552	114	67	0	0	697
Total volume (acre-feet)			**40,812**	**19,896**	**6,599**	**15,694**	**7,428**	**131,593**

The site-wide water balance model also includes mixing calculations to estimate chemical concentrations over time for: the TSF decant pond, TSF seepage, heap leach draindown, and the pit lake based on observed water quality data, and accounting for direct precipitation, surface water runon, and evaporation based on site climate data. The mixing model is conservative in that it does not account for any geochemical reactions over time.

Input water quality data for the TSF decant water over the selected timesteps have been calculated based on the results of the mixing model. These data are presented in Table 3.2. During years 0 – 2, the decant pond water quality is dominated by the most recent water quality data (measured) from the decant pond (average 2009 water quality); during model years 2 – 5, the decant pond water reflects a mixture of initial pond chemistry, pumped seepage water, upgradient surface water runon, and direct precipitation; and during years 5 – 15, the decant pond chemistry is dominated by surface water runon and direct precipitation. This represents a change from previous modeling estimates (2006–2009) where decant and seepage water quality was assumed to remain constant over time (the previous models did not account for improvements in TSF decant water quality).

Table 3.2 Input chemistry data used in 2010 pit lake modeling update

Parameter	Precipitation	Groundwater	Surface Water	Pit Wall Runoff	Pit Wall Runoff	Tailings Decant Pond			Heap Leach Draindown
	Pure water equilibrated with atmospheric CO_2 and O_2	Average 2008/2009 dewatering well samples	Upper Barnes Creek, average background data	Average 2002/2004 MWMP "composite waste dump" samples Unscaled	Average 2002/2004 MWMP "composite waste dump" samples Scaled	Average chemistry years 0-2	Average chemistry years 2-5	Average chemistry years 5-15	Average composition over period of rinsing/draindown
pH (su)	5.6	8.3	7.0	8.5	8.5	8.3	7.5	7.0	7.5
Alkalinity as $CaCO_3$	0	85	15	67	4.0	69	71	24	15
Ammonia	0	0.035	0.010	0.95	0.057	2.0	1.0	0.19	0.27
Antimony	0	0.0022	0.0025	0.0053	0.00031	0.020	0.010	0.0029	0.0035
Arsenic	0	0.0072	0.0030	0.013	0.00075	0.0095	0.0052	0.0021	0.0041
Barium	0	0.0029	0.0050	0.0055	0.00033	0.024	0.012	0.0042	0.0031
Cadmium	0	0.000068	0.00010	0.00055	0.000033	0.000011	0.000024	0.000040	0.00035
Calcium	0	48.0	4.4	10.1	0.60	43	32	9.3	5.9
Chloride	0	1.3	0.70	4.9	0.29	20	10	2.2	1.3
Chromium	0	0.0052	0.0020	0.0025	0.00015	0.00022	0.00048	0.00080	0.00073
Copper	0	0.0055	0	0.014	0.00084	0.014	0.0074	0.0016	0.0023
Cyanide	0	0	0	0.026	0.0015	0.066	0.025	0.0042	0.010
Fluoride	0	0.26	0.060	1.1	0.064	0.41	0.25	0.076	0.051
Iron	0	0.041	0.22	0.13	0.0075	0.36	0.24	0.13	0.17
Lead	0	0.00025	0.0040	0.0013	0.000075	0.0039	0.0026	0.0019	0.0016
Magnesium	0	6.4	1.6	1.3	0.078	5.2	4.3	1.6	1.2
Manganese	0	0.014	0	0.0045	0.00027	0.11	0.12	0.032	0.029
Mercury	0	0.00010	0.00030	0.00015	0.000009	0.000034	0.000072	0.00012	0.00011
Nitrate, as N	0	0.69	0.25	0.46	0.028	0.60	0.29	0.061	0.038
Nitrite, as N	0	0.023	0.010	0.15	0.0090	8.4	4.1	0.90	0.71
Phosphorus	0	0.011	0.080	0.13	0.0075	0.029	0.029	0.034	0.030
Potassium	0	0.97	0.50	9.1	0.5	6.6	3.5	0.89	0.58
Selenium	0	0.00045	0.0020	0.0038	0.00022	0.0032	0.0019	0.0011	0.0012
Silver	0	0.0054	0.0010	0.0030	0.00018	0.00011	0.00024	0.00040	0.00036
Sodium	0	12.0	2.0	17.9	1.1	47	26	6.2	3.8
Sulfate	0	41.3	6.7	3.8	0.22	93	47	12	13
Zinc	0	0.015	0.003	0.0040	0.00024	0.0061	0.0043	0.0020	0.0016

All data is in mg/L, unless otherwise noted

If all analytical data for a constituent were reported below detection limits (non-detect), that value was set to zero for modeling.

Precipitation chemistry derived in geochemical model (PhreeqC) Groundwater and surface water data are based on analytical sample data from site.

Pit wall runoff chemistry based on meteoric water mobility procedure (MWMP) test data on site waste rock samples.

Tailings decant pond chemistry averages calculated using site water balance model. Decant pond chemistry is a mix of recent pond water quality data, upgradient surface water, and seepage chemistry.
Heap leach draindown chemistry average calculated using site water balance model. Chemistry is based on estimate of initial draindown chemistry and rinsing with decant pond water over time.

Similarly, the heap leach facility draindown is estimated in the site-wide water balance chemical mixing model based on estimates of initial draindown mixed with rinse water from the TSF decant pond over time. The water quality used in this pit lake model update is an average composition over the period that the draindown/rinse water is pumped to the pit lake. These data are also presented in Table 3.2.

The cyanide concentrations from the decant pond and the heap leach facility were decreased by 60 percent to account for volatilization and degradation.

For this update, dewatering well data from 2008 and 2009 were used to estimate the quality of groundwater inflow to the pit. These data are presented in Attachment 1.

Updated groundwater chemistry was calculated based on the mean composition of water quality from each dewatering well pumped during 2008 and 2009. For major ion chemistry, arithmetic averages were used, as these data are typically normally distributed. For trace metal chemistry, geometric mean data were used because these datasets are often skewed and a log-normal distribution best describes the data. By convention, if all analyses for a constituent in a well were non-detect, the concentration for that well was set to zero for calculating arithmetic and geometric means. If only some analyses were non-detect, the mean concentration for that well was calculated by substituting all non-detect values with one-half of the method detection limit for the analysis. All wells were weighted equally to calculate the groundwater inflow chemistry. The cyanide concentration was set to zero to be representative of groundwater that will flow into the pit during the post-mining period. The data used to represent groundwater chemistry for the revised modeling are presented in Table 3.2. In Table 3.3, the values are presented with the December 2006, February 2008, and February 2009 estimates for comparison.

4 REVISED PIT LAKE MODELING

The geochemical modeling process involves simulation of solution mixing, chemical reactions, and mineral surface adsorption to predict the pit lake composition at each selected time step. The process is detailed in the December 2006 memo.

Results of the revised modeling for Scenarios 1 and 2 are summarized in Tables 4.1 and 4.2, respectively, and compared to applicable water quality standards. Results from the December 2006, February 2008, and February 2009 modeling are also presented in Tables 4.3 through 4.5 for comparison. End notes for Tables 4.1 through 4.5, describing sources of the applicable water quality standards, are presented at the end of this memo. As presented in these tables, the predicted concentrations of pit lake water chemistry have improved slightly based on the updated water balance and chemical data; as a result, the conclusions described in the December 2006 memo are unchanged.

The dominant factor affecting the prediction of improved water quality in the pit lake is the significant increase in the amount of dilute TSF decant water entering the pit over approximately ten years, post-mining. As stated earlier, previous pit lake modeling used an estimate of 5,500 acre-feet of decant water pumped to the pit and did not account for any dilution by upgradient surface water or direct precipitation. Because of freeboard requirements for the TSF during heap leach operation, a larger volume of dilute TSF decant water (over 15,000 acre-feet) is planned to be pumped to the pit. This results in a significant dilution of pit lake water over the first several years of pit filling.

Pit lake water quality results were predicted for years 2, 5, 15, 75, and 94. Standards for cadmium, chromium, copper, lead, silver and zinc represent hardness-based aquatic standards, which were calculated using a hardness value of 103.7 mg/L as $CaCO_3$.

Table 3.3 Comparison of dewatering well chemistry data used in modeling updates

Parameter	February 2010 Modeling	February 2009 Modeling	February 2008 Modeling	December 2006 Modeling
	Groundwater	Groundwater	Groundwater	Groundwater
	Average/geomean data from dewatering wells (2008/2009 data)	Average/geomean data from dewatering wells (2008 data)	Weighted average data from dewatering wells (2007 data)	Weighted average data from dewatering wells (2000-2004)
pH (su)	8.34	8.37	8.2	8.0
Alkalinity as $CaCO_3$	85.5	85.4	86.2	78.6
Ammonia	0.035	0.030	0.100	0.103
Antimony	0.0022	0.0016	0.0013	0.0019
Arsenic	0.0072	0.0080	0.0080	0.0140
Barium	0.0029	0.0026	0.0024	0.0010
Cadmium	0.000068	0.000058	0.000054	0.00015
Calcium	48.0	40.2	37.5	35.6
Chloride	1.3	1.1	1.6	0.52
Chromium	0.0052	0.0053	0	0
Copper	0.0055	0.0053	0.0056	0.0051
Cyanide	0	0.0029	0.0032	0
Fluoride	0.26	0.22	0.20	0.29
Iron	0.041	0.020	0.039	0.13
Lead	0.00025	0.00017	0.000082	0.00071
Magnesium	6.4	6.6	6.6	6.5
Manganese	0.014	0.0084	0.012	0.045
Mercury	0.00010	0	0.00010	0.00020
Nitrate, as N	0.69	1.4	1.3	0.91
Nitrite, as N	0.023	0.013	0.061	0.054
Phosphorus	0.011	0	0	0.051
Potassium	0.97	1.0	1.1	1.1
Selenium	0.00045	0.00039	0.00044	0.00700
Silver	0.0054	0.0055	0.0056	0
Sodium	12	9.6	10.5	9.3
Sulfate	41.3	46.8	46.2	50.5
Zinc	0.015	0.0091	0.012	0.011

All data is in mg/L, unless otherwise noted.

If all analytical data for a constituent were reported below detection limits (non-detect), that value was set to zero for modeling.

Hardness was calculated based on the average calcium and magnesium concentrations in the lower wetland surface water samples collected between February 2000 and November 2005. Any surface water discharges from the TSF will report to this drainage. For comparison, the average hardness of the pit lake is predicted to be slightly higher at 143 mg/L as $CaCO_3$.

For both Scenarios 1 and 2, the predicted pH of the pit lake water remains above 7 su throughout filling and once discharge begins. The alkalinity values were predicted between 98 and 109 mg/L as $CaCO_3$, indicating excess buffering capacity of the pit lake water. During Years 1 through 5, concentrations of total cyanide, antimony, and manganese are predicted to be elevated compared to standards; total cyanide is predicted to remain above standards through year 15. The main source of these constituents is the tailings decant and seepage water that are pumped to the pit lake during the first two years. Volatilization over time (beyond the estimated level of volatilization occurring during the transfer from one facility to another) and other attenuation reactions were not included in the modeling, and will likely act to further reduce total cyanide concentrations.

The addition of heap leach draindown/rinse water directly to the pit between years 10 to 14 (Scenario 2) does not appear to have an effect on the predicted pit lake chemistry relative to Scenario 1.

Table 4.1
Scenario 1 – 2010 Update prediction of Fort Knox pit lake composition through time after closure

Parameter/ Analyte	Reference standards	Source	Timestep 1 Year 2	Timestep 2 Year 5	Timestep 3 Year 15	Timestep 4 Year 75	Timestep 5* Year 94
pH, std units	**6.5 - 8.5**	**18 AAC 70**	7.7	7.7	7.8	7.8	7.8
Alkalinity, as $CaCO_3$	NS		98	106	108	109	109
Chloride	NS		12	8.5	4.6	2.4	2.3
Fluoride	NS		0.34	0.30	0.25	0.22	0.22
Nitrate, as N	**10**	**MCL/Table 1**	7.0	4.8	2.6	1.4	1.3
Nitrite, as N	**1**	**MCL/Table 1**	<0.01	<0.01	<0.01	<0.01	<0.01
Ammonia	**2.43-6.67**	**Table VII chronic**	<0.01	<0.01	<0.01	<0.01	<0.01
Sulfate, as SO_4^{2-}	**250**	**SDWR**	71	58	44	37	37
Total cyanide	**0.0052****	**Table III chronic**	**0.041**	**0.026**	**0.012**	0.0050	0.0046
Antimony	**0.006**	**MCL/Table 1**	**0.013**	**0.0093**	0.0053	0.0031	0.003
Arsenic	**0.01**	**MCL/Table 1**	0.0025	0.0033	0.0039	0.0044	0.0044
Barium	NS		0.016	0.011	0.0065	0.0040	0.0038
Cadmium	**0.0003 H**	**Table III chronic**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	NS		35	31	25	23	22
Chromium	NS		<0.006	<0.006	<0.006	<0.006	<0.006
Copper	**0.009 H**	**Table III chronic**	<0.003	<0.003	<0.003	<0.003	<0.003
Iron	**1**	**Table III chronic**	<0.06	<0.06	<0.06	<0.06	<0.06
Lead	NS		0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Magnesium	NS		5.3	5.4	5.2	5.1	5.1
Manganese	**0.05**	**Table Va**	**0.071**	**0.053**	0.032	0.019	0.018
Mercury	NS		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Phosphorus	NS		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium	NS		4.4	3.2	1.9	1.3	1.2
Selenium	**0.005**	**Table III chronic**	0.0021	0.0015	<0.001	<0.001	<0.001
Silver	NS		0.0019	0.0028	0.0035	0.0040	0.0040
Sodium	NS		23	18	14	11	11
Zinc	**0.12 H**	**Table III acute**	0.0080	0.010	0.011	0.011	0.011
Hardness (Ca, Mg)	NS		110	99	85	77	77

Notes:
Water balance revised based on updated mine plan.
Tailings decant water chemistry based on site-wide water balance mixing model.
Groundwater chemistry input revised based on average 2008/2009 dewatering well analytical data.
All concentrations are in milligrams per liter, unless otherwise noted.
NS = No standard
< Analyte concentration result is below typical analytical detection limits. Value shown is the detection limit.
Exceedences of the reference standards are highlighted in bold.
** The reference standard applies to WAD cyanide; however, model results report total cyanide.

Table 4.2
Scenario 2 – 2010 Update prediction of Fort Knox pit lake composition, including heap leach facility draindown pumped to pit lake

Parameter/ Analyte	Reference standards	Source	Timestep 1 Year 2	Timestep 2 Year 5	Timestep 3 Year 15	Timestep 4 Year 75	Timestep 5* Year 94
pH, std units	**6.5 - 8.5**	**18 AAC 70**	7.7	7.7	7.7	7.8	7.8
Alkalinity, as $CaCO_3$	NS		98	106	99	106	105
Chloride	NS		12	8.5	4.2	2.3	2.1
Fluoride	NS		0.34	0.30	0.23	0.22	0.21
Nitrate, as N	**10**	**MCL/Table 1**	7.0	4.8	2.4	1.3	1.3
Nitrite, as N	**1**	**MCL/Table 1**	<0.01	<0.01	<0.01	<0.01	<0.01
Ammonia	**2.43-6.67**	**Table VII chronic**	<0.01	<0.01	<0.01	<0.01	<0.01
Sulfate, as SO_4^{2-}	**250**	**SDWR**	71	58	41	36	36
Total cyanide	**0.0052****	**Table III chronic**	**0.041**	**0.026**	**0.012**	0.0049	0.0045
Antimony	**0.006**	**MCL/Table 1**	**0.013**	**0.0093**	0.0051	0.0031	0.003
Arsenic	**0.01**	**MCL/Table 1**	0.0025	0.0033	0.0034	0.0042	0.0042
Barium	NS		0.016	0.011	0.0062	0.0038	0.0036
Cadmium	**0.0003 H**	**Table III chronic**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	NS		35	31	23	22	22
Chromium	NS		<0.006	<0.006	<0.006	<0.006	<0.006
Copper	**0.009 H**	**Table III chronic**	<0.003	<0.003	<0.003	<0.003	<0.003
Iron	**1**	**Table III chronic**	<0.06	<0.06	<0.06	<0.06	<0.06
Lead	NS		0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Magnesium	NS		5.3	5.4	4.8	5.0	4.9
Manganese	**0.05**	**Table Va**	**0.071**	**0.053**	0.032	0.019	0.018
Mercury	NS		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Phosphorus	NS		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium	NS		4.4	3.2	1.8	1.2	1.2
Selenium	**0.005**	**Table III chronic**	0.0021	0.0015	<0.001	<0.001	<0.001
Silver	NS		0.0019	0.0028	0.0032	0.0039	0.0039
Sodium	NS		23	18	12	10	10
Zinc	**0.12 H**	**Table III acute**	0.0080	0.010	0.010	0.011	0.011
Hardness (Ca, Mg)	NS		110	99	78	75	74

Notes:
Water balance revised based on updated mine plan.
Tailings decant water and heap leach pad draindown chemistry based on site-wide water balance mixing model.
Groundwater chemistry input revised based on average 2008/2009 dewatering well analytical data.
* Discharge from the pit occurs at Year 94, post filling.
All concentrations are in milligrams per liter, unless otherwise noted.
< Analyte concentration result is below typical analytical detection limits. Value shown is the detection limit.
NS = No standard
Exceedences of the reference standards are highlighted in bold.
** The reference standard applies to WAD cyanide; however, model results report total cyanide**.**

Table 4.3
2009 Update prediction of pit lake composition through time after closure

Parameter/ Analyte	Reference standards	Source	Timestep 1 Year 2	Timestep 2 Year 5	Timestep 3 Year 15	Timestep 4* Year 75	Timestep 5 Years 100
pH, std units	6.5 - 8.5	18 AAC 70	7.7	7.7	7.6	7.5	7.5
Alkalinity, as	NS		114	100	80	53	52
Chloride	NS		15.4	11.9	7.1	2.6	2.3
Fluoride	NS		0.40	0.33	0.24	0.13	0.12
Nitrate, as N	10	MCL/Table 1	6.6	5.2	3.2	1.3	1.17
Nitrite, as N	1	MCL/Table 1	<0.01	<0.01	<0.01	<0.01	<0.01
Ammonia	2.43-6.67	Table VII chronic	<0.01	<0.01	<0.01	<0.01	<0.01
Sulfate, as SO_4^{2-}	250	SDWR	198	154	95	38	35
Total cyanide	0.0052**	Table III chronic	**0.033**	**0.026**	**0.015**	0.0051	0.0044
Antimony	0.006	MCL/Table 1	**0.032**	**0.025**	**0.015**	0.0058	0.005
Arsenic	0.01	MCL/Table 1	0.00063	0.0008	0.0012	0.0018	0.0018
Barium	NS		0.017	0.014	0.0092	0.0051	0.0052
Cadmium	0.0003 H	Table III chronic	**0.00014**	**0.00013**	**0.00010**	<0.0001	<0.0001
Calcium	NS		76.6	61.0	39.6	18.1	16.7
Chromium	NS		<0.006	<0.006	<0.006	<0.006	<0.006
Copper	0.009 H	Table III chronic	**0.017**	**0.012**	0.0046	<0.003	<0.003
Iron	1	Table III chronic	<0.06	<0.06	<0.06	<0.06	<0.06
Lead	NS		0.0025	0.0018	0.0008	0.00023	0.00019
Magnesium	NS		14.5	11.7	7.8	3.9	3.7
Manganese	0.05	Table Va	**0.43**	**0.33**	**0.19**	**0.059**	0.050
Mercury	NS		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Phosphorus	NS		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium	NS		5.7	4.5	2.8	1.2	1.2
Selenium	0.005	Table III chronic	**0.015**	**0.012**	**0.0072**	0.0031	0.0029
Silver	NS		**0.0061**	**0.0051**	0.0038	0.0023	0.0022
Sodium	NS		23.3	18.7	12.3	5.9	5.5
Zinc	0.12 H	Table III acute	0.039	0.030	0.019	0.008	0.007
TDS	NS		455	368	249	125	118
Hardness	NS		251	200	131	61	57

Notes:
Groundwater chemistry input revised based on average 2008 dewatering well analytical data.
Input 5,500 ac-ft of TSF decant (550 ac-ft) and seepage (4,950 ac-ft) in 2 years.
* Discharge from the pit occurs at Year 88, post filling.
All concentrations are in milligrams per liter, unless otherwise noted.
< Analyte concentration result is below typical analytical detection limits. Value shown is the detection limit.
NS = No standard
Exceedences of the reference standards are highlighted in bold.
** The reference standard applies to WAD cyanide; however, model results report total cyanide.

Table 4.4
2008 Update prediction of pit lake composition through time after closure

Parameter/ Analyte	Reference standards	Source	Timestep 1 Year 2	Timestep 2 Year 5	Timestep 3 Year 15	Timestep 4* Year 75	Timestep 5 Years 100
pH, std units	6.5 - 8.5	18 AAC 70	7.7	7.7	7.6	7.4	7.4
Alkalinity, as	NS		113	99	78	51	50
Chloride	NS		15.5	11.9	7.2	2.7	2.4
Fluoride	NS		0.40	0.33	0.23	0.13	0.12
Nitrate, as N	10	MCL/Table 1	6.6	5.2	3.2	1.3	1.16
Nitrite, as N	1	MCL/Table 1	<0.01	<0.01	<0.01	<0.01	<0.01
Ammonia	2.43-6.67	Table VII chronic	<0.01	<0.01	<0.01	<0.01	<0.01
Sulfate, as SO_4^{2-}	250	SDWR	198	155	96	39	35
Total cyanide	0.0052**	Table III chronic	**0.033**	**0.026**	**0.015**	0.0052	0.0045
Antimony	0.006	MCL/Table 1	**0.032**	**0.025**	**0.015**	0.0058	0.005
Arsenic	0.01	MCL/Table 1	0.00062	0.0008	0.0012	0.0017	0.0018
Barium	NS		0.017	0.014	0.0091	0.0051	0.0051
Cadmium	0.0003 H	Table III chronic	0.00014	0.00012	0.00010	<0.0001	<0.0001
Calcium	NS		77.2	62.0	41.0	19.5	18.1
Chromium	NS		<0.006	<0.006	<0.006	<0.006	<0.006
Copper	0.009 H	Table III chronic	**0.017**	**0.011**	0.0044	<0.003	<0.003
Iron	1	Table III chronic	<0.06	<0.06	<0.06	<0.06	<0.06
Lead	NS		0.0024	0.0017	0.0008	0.00022	0.00019
Magnesium	NS		14.5	11.7	7.8	3.9	3.7
Manganese	0.05	Table Va	**0.43**	**0.33**	**0.19**	**0.060**	**0.051**
Mercury	NS		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Phosphorus	NS		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium	NS		5.7	4.5	2.8	1.3	1.2
Selenium	0.005	Table III chronic	**0.015**	**0.012**	**0.0072**	0.0031	0.0029
Silver	NS		**0.0061**	**0.0052**	0.0039	0.0024	0.0023
Sodium	NS		22.6	17.5	10.5	4.2	3.8
Zinc	0.12 H	Table III acute	0.039	0.031	0.020	0.009	0.008
TDS	NS		454	367	247	123	116
Hardness	NS		252	203	135	65	60

Notes:
Input 5,500 ac-ft of TSF decant (550 ac-ft) and seepage (4,950 ac-ft) in 2 years.
* Discharge from the pit occurs at Year 88, post filling.
Groundwater chemistry input revised based on average 2007 dewatering well analytical data.
All concentrations are in milligrams per liter, unless otherwise noted.
< Analyte concentration result is below typical analytical detection limits. Value shown is the detection limit.
NS = No standard
Exceedences of the reference standards are highlighted in bold.
** The reference standard applies to WAD cyanide; however, model results report total cyanide.

Table 4.5
2006 Prediction of pit lake composition through time after closure

Parameter/ Analyte	Reference standards	Source	Timestep 1	Timestep 2	Timestep 3	Timestep 4*	Timestep 5
			Year 2	Year 5	Year 15	Year 75	Years 100
pH, std units	6.5 - 8.5	18 AAC 70	7.7	7.7	7.6	7.4	7.4
Alkalinity, as $CaCO_3$	NS		113	98	78	51	50
Alkalinity, as $CaCO_3$	NS		15.4	11.8	6.9	2.5	2.2
Fluoride	NS		0.41	0.34	0.25	0.14	0.14
Nitrate, as N	10	MCL/Table 1	6.6	5.1	3.1	1.2	1.09
Nitrite, as N	1	MCL/Table 1	<0.01	<0.01	<0.01	<0.01	<0.01
Ammonia	2.43-6.67	Table VII chronic	<0.01	<0.01	<0.01	<0.01	<0.01
Sulfate, as SO_4^{2-}	250	SDWR	198	155	96	39	35
Total cyanide	0.0052**	Table III chronic	**0.033**	**0.025**	**0.014**	0.0046	0.0039
Antimony	0.006	MCL/Table 1	**0.033**	**0.025**	**0.015**	0.0059	0.0054
Arsenic	0.01	MCL/Table 1	0.00080	0.0012	0.0020	0.0026	0.0027
Barium	NS		0.017	0.014	0.0088	0.0048	0.0048
Cadmium	0.0003 H	Table III chronic	0.00015	0.00014	0.00012	<0.0001	0.00010
Calcium	NS		77.0	61.7	40.6	19.1	17.7
Chromium	NS		<0.006	<0.006	<0.006	<0.006	<0.006
Copper	0.009 H	Table III chronic	**0.016**	**0.010**	0.0034	<0.003	<0.003
Iron	1	Table III chronic	<0.06	<0.06	<0.06	<0.06	<0.06
Lead	NS		0.0023	0.0015	0.0006	0.00016	0.00015
Magnesium	NS		14.5	11.7	7.8	3.9	3.7
Manganese	0.05	Table Va	**0.43**	**0.33**	**0.20**	**0.066**	**0.057**
Mercury	NS		<0.0002	<0.0002	<0.0002	<0.0002	0.0002
Phosphorus	NS		<0.05	<0.05	<0.05	<0.05	0.054
Potassium	NS		5.7	4.5	2.8	1.3	1.2
Selenium	0.005	Table III chronic	**0.016**	**0.013**	**0.0086**	0.0044	0.0042
Silver	NS		**0.0056**	**0.0044**	0.0027	0.0012	0.0012
Sodium	NS		22.6	17.6	10.7	4.4	4.1
Zinc	0.12 H	Table III acute	0.039	0.031	0.019	0.008	0.008
TDS	NS		454	366	246	123	115
Hardness	NS		252	202	134	64	59

Notes:
Input 5,500 ac-ft of TSF decant (550 ac-ft) and seepage (4,950 ac-ft) in 2 years.
* Discharge from the pit occurs at Year 88, post-filling groundwater chemistry input based on average 2004 dewatering well analytical data.
All concentrations are in milligrams per liter, unless otherwise noted. < Analyte concentration result is below typical analytical detection limits. Value shown is the detection limit.
NS = No standard
Exceedences of the reference standards are highlighted in bold.
** The reference standard applies to WAD cyanide; however, model results report total cyanide.

5 CONCLUSIONS

The results of the updated pit lake modeling indicate the following:

- The proposed, updated mine plan and revised closure approach results in additional, relatively fresh water being pumped to the pit from the TSF.
- The revised water balance and decant pond chemistry estimates result in improvements to the predicted pit lake water quality relative to previous evaluations.
- Addition of heap leach draindown/rinse water to the pit lake following closure of that facility does not significantly or detrimentally affect pit lake water quality.
- The most recent groundwater chemistry data from dewatering wells is largely consistent with that used in the previous analyses.
- Water quality standards can be met with no active management or treatment after 15 years following cessation of dewatering.
- The overall conclusion that water quality standards will be met in the pit lake prior to discharge is still valid and not affected by the new data.
- Pumping decant/seepage water and heap leach draindown to the pit will have no short- or long-term effects on water quality.
- Over the short-term, the pit will act as a hydraulic sink with hydraulic gradients toward the pit lake; and over the long term, the pit lake water will comply with water quality standards.

REFERENCES

Water Management Consultants (WMC). December 2006. Fort Knox Pit Lake Evaluation, December 28, 2006.

WMC. February 2008. Fort Knox Pit Lake Evaluation, Updated 2007 groundwater analytical data, February 27, 2008.

WMC. February 2009. Fort Knox Pit Lake Evaluation, Updated using 2008 groundwater chemistry data, February 27, 2009.

END NOTES FOR TABLES 4.1 - 4.5

Applicable water quality standards

18 AAC 70	*Alaska Department of Environmental Conservation Water Quality Standards for fresh water uses, growth and propagation of fish, shellfish and other aquatic life and wildlife.*
MCL	*Maximum Contaminant Level (USEPA, 2004)*
SDWR	*Secondary Drinking Water Regulation (USEPA, 2004)*
Tables 1 - VIIa	*Water Quality Criteria for Toxic and Other Deleterious Organic and Inorganic Substances [Title XVIII, Chapter 70, Alaska Administrative Code (18 AAC 70)]* Table 1 - Drinking water maximum contaminant levels (MCL) Table III - Criteria for freshwater aquatic life Table V - Human health criteria for noncarcinogens Tables VI and VIIa = Specific criteria for ammonia
H	Standard is calculated based on a hardness of 103.7 mg/L as $CaCO_3$. Hardness is calculated based on the average calcium and magnesium concentrations in the lower wetland surface water samples collected between February 2000 and November 2005.

ATTACHMENT A

Attachment A Fort Knox dewatering well groundwater data 2008/2009

Site Number	Sample Date	Alkalinity, Total (mg/L as CaCO3)	Ammonia (mg/L as N)	Antimony, Dissolved (mg/L)	Arsenic, Dissolved (mg/L)	Barium, Dissolved (mg/L)	Bismuth, Dissolved (mg/L as Bi)	Cadmium, Dissolved (mg/L)	Calcium, Dissolved (mg/L)	Chloride, dissolved	Chromium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Cyanide, Total (mg/L)	Fluoride, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Lead, Dissolved (mg/L)	Magnesium, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Mercury, Dissolved (mg/L)	Nickel, Dissolved (mg/L)	Nitrate Nitrogen, Dissolved (mg/L as N)	Nitrite Nitrogen, Dissolved (mg/L as N)	pH (Lab-su)	Phosphorus (mg/L as P)	Potassium, Dissolved (mg/L)
DW East Lake	6/29/2009 12:45:00 PM	86	0.26	0.0041	0.0056	0.013	<0.04	<0.0001	77.4	3	<0.01	<0.01	0.02	0.6	<0.02	<0.0001	6.8	0.059	0.0005	<0.01	23.8	0.16	8.2	<0.01	2.7
DW West Lake	6/29/2009 12:15:00 PM	80	0.63	0.0076	0.0148	0.01	<0.04	<0.0001	59.7	2	<0.01	<0.01	<0.003	0.4	<0.02	0.0003	2.2	0.045	<0.0002	0.02	8.8	0.38	8.1	0.02	0.9
DW00-78	2/14/2008 8:00:00 AM		<0.05	0.0023	<0.0005	<0.003	<0.04	<0.0001	168	<1	<0.01	<0.01	<0.005	0.2	<0.02	<0.0001	11.8	0.291	<0.0002	<0.01	0.14	0.01	8.3		0.4
DW00-78	3/26/2008 8:15:00 AM		<0.3	0.0019	0.0007	<0.003	<0.04	0.0006	152	<1	<0.01	<0.01	<0.005	0.2	0.13	<0.0001	10.5	0.262	<0.0002	<0.01	0.18	<0.01	8.1		0.6
DW00-78	6/25/2008 2:55:00 PM		<0.05	0.0015	0.0034	0.004	<0.04	<0.0001	142	1	<0.01	<0.01	<0.005	0.2	0.1	<0.0001	9.8	0.294	<0.0002	<0.01	0.24	<0.01	8.3		<0.3
DW00-78	7/29/2008 10:30:00 AM		<0.05	0.0015	0.0029	<0.003	<0.04	<0.0001	125	1	<0.01	<0.01	<0.005	0.3	0.03	<0.0001	9.4	0.238	<0.0002	<0.01	0.22	<0.01	8.5		0.4
DW00-78	9/2/2008 1:30:00 PM		<0.05	0.0014	0.0023	<0.003	<0.04	<0.0001	129	<1	<0.01	<0.01	<0.005	0.3	0.02	<0.0001	9.1	0.147	<0.0002	<0.01	0.28	<0.01	8.4		0.4
DW00-78	11/12/2008 11:00:00 AM		<0.05	0.0016	0.0021	<0.003	<0.04	<0.0001	116	<1	<0.01	<0.01	<0.005	0.3	<0.02	<0.0001	8.1	0.064	<0.0002	<0.01	0.22	<0.01	8		0.4
DW00-78	12/3/2008 2:15:00 PM		<0.05	0.0015	0.0023	<0.003	<0.04	<0.0001	112	<1	<0.01	<0.01	<0.005	0.3	<0.02	<0.0001	7.9	0.053	<0.0002	<0.01	0.2	<0.01	8.2		<0.3
DW01-107	6/30/2008 8:30:00 AM		<0.05	<0.0004	<0.0005	<0.003	<0.04	<0.0001	21.3	1	<0.01	<0.01	<0.005	0.2	<0.02	0.0002	5.4	<0.005	<0.0002	<0.01	0.64	<0.01	8.3		0.8
DW01-107	9/1/2008 10:20:00 AM		<0.05	<0.0004	0.0009	<0.003	<0.04	<0.0001	21.3	<1	<0.01	<0.01	<0.005	0.1	0.03	0.0002	5.5	<0.005	<0.0002	<0.01	1.3	<0.01	8.3		1.1
DW01-107	10/15/2008 2:35:00 PM		<0.05	<0.0004	0.0012	<0.003	<0.04	<0.0001	18.8	<1	<0.01	<0.01	<0.005	<0.1	<0.02	0.0003	5.1	<0.005	<0.0002	<0.01	0.71	<0.01	8.3		1
DW01-107	6/29/2009 11:15:00 AM	55	<0.05	<0.0004	<0.0005	0.008	<0.04	<0.0001	23.5	<1	<0.01	<0.01	<0.003	0.1	0.13	0.0002	6.5	0.007	<0.0002	<0.01	1.35	<0.01	8.2	<0.01	1.2
DW03-108	1/22/2008 10:00:00 AM		<0.05	0.0043	0.04	0.01	<0.04	<0.0001	44.9	1	0.01	<0.01	<0.005	0.4	<0.02	0.0001	1.9	0.009	<0.0002	<0.01	0.04	0.02	8.4		0.6
DW03-108	2/11/2008 8:00:00 AM		<0.05	0.0061	0.0476	<0.003	<0.04	<0.0001	41.2	<1	<0.01	<0.01	<0.005	0.5	<0.02	0.0003	1.2	<0.005	<0.0002	<0.01	0.09	0.21	8.4		0.3
DW03-108	3/5/2008 7:45:00 AM		<0.3	0.0056	0.049	<0.003	<0.04	<0.0001	41.6	<1	<0.01	<0.01	<0.005	0.5	0.03	0.0008	1.2	0.009	<0.0002	<0.01	0.22	0.12	8.4		0.3
DW03-108	4/8/2008 12:00:00 PM		<0.3	0.0052	0.0499	0.004	<0.04	<0.0001	44.1	<1	<0.01	<0.01	<0.005	0.5	0.04	0.0004	1.4	0.022	<0.0002	<0.01	0.03	0.04	8.3		<0.3
DW03-108	6/18/2008 2:45:00 PM		<0.05	0.0045	0.0481	0.004	<0.04	<0.0001	44	<1	<0.01	<0.01	<0.005	0.5	<0.02	0.001	1.2	0.023	<0.0002	0.01	0.07	0.16	8.5		0.3
DW03-108	7/23/2008 9:15:00 AM		<0.05	0.0056	0.0584	0.004	<0.04	<0.0001	39.8	1	<0.01	<0.01	0.033	0.5	<0.02	0.0006	1.1	0.02	<0.0002	<0.01	0.23	0.28	8.4		<0.3
DW03-108	10/14/2008 3:45:00 PM		<0.05	0.0029	0.0439	<0.003	<0.04	<0.0001	39.6	<1	<0.01	<0.01	<0.005	0.3	<0.02	0.0002	2.4	0.013	<0.0002	<0.01	0.07	0.02	8.5		0.4
DW03-108	12/3/2008 2:00:00 PM		<0.05	0.0036	0.0497	<0.003	<0.04	<0.0001	39.2	<1	<0.01	<0.01	0.007	0.5	0.03	0.0003	1.9	0.02	<0.0002	<0.01	0.1	<0.01	8.4		0.3
DW03-112	6/25/2008 2:25:00 PM		<0.05	0.0012	0.0345	0.005	<0.04	<0.0001	39.4	1	<0.01	<0.01	<0.005	0.1	0.03	<0.0001	6.6	0.01	<0.0002	<0.01	0.22	<0.01	8.4		1.2
DW03-112	7/29/2008 10:00:00 AM		<0.05	0.0016	0.0425	<0.003	<0.04	<0.0001	36.3	1	<0.01	<0.01	<0.005	0.2	0.04	<0.0001	6.8	0.009	<0.0002	<0.01	0.05	<0.01	8.7		1.2
DW03-112	8/25/2008 12:00:00 PM		<0.05	0.0015	0.0415	<0.003	0.05	<0.0001	38.7	<1	<0.01	<0.01	<0.005	0.2	0.06	0.0001	6.5	<0.005	<0.0002	<0.01	0.06	<0.01	8.4		1.2
DW03-112	10/14/2008 3:15:00 PM		<0.05	<0.0004	0.0025	<0.003	<0.04	<0.0001	33.4	<1	<0.01	<0.01	<0.005	0.1	0.07	<0.0001	5.8	0.063	<0.0002	<0.01	0.07	<0.01	8.5		1.2
DW03-117	2/14/2008 9:00:00 AM		<0.05	0.0019	0.0133	0.003	<0.04	<0.0001	26.2	<1	<0.01	<0.01	<0.005	0.1	<0.02	<0.0001	5.3	0.014	<0.0002	<0.01	<0.02	<0.01	8.4		1.1
DW03-117	4/8/2008 12:30:00 PM		<0.05	0.0024	0.0151	0.007	<0.04	<0.0001	26.1	<1	0.01	<0.01	<0.005	<0.1	0.03	<0.0001	5.4	0.02	<0.0002	<0.01	<0.02	<0.01	8.2		1
DW03-117	6/18/2008 3:15:00 PM		<0.05	0.0015	0.0143	0.007	<0.04	<0.0001	27.2	<1	<0.01	<0.01	<0.005	0.1	<0.02	0.0002	5.6	0.023	<0.0002	<0.01	<0.02	<0.01	8.3		1.1
DW03-117	9/2/2008 12:50:00 PM		<0.05	0.0014	0.0152	0.004	<0.04	<0.0001	28.1	<1	<0.01	<0.01	<0.005	0.2	0.03	0.0001	5.4	0.017	<0.0002	<0.01	<0.02	<0.01	8.4		1.2
DW03-122	1/23/2008 2:40:00 PM		<0.5	0.0033	0.0318	<0.006	<0.08	<0.0001	42	2	0.01	<0.01	<0.005	0.2	<0.02	<0.0001	4.4	<0.005	<0.0002	<0.01	1.75	<0.01	8		1.1
DW03-122	3/25/2008 12:30:00 PM		<0.05	0.0047	0.0293	<0.003	<0.04	0.0106	55	<1	<0.01	<0.01	<0.005	0.2	<0.02	0.0012	4.4	<0.005	<0.0002	<0.01	0.84	<0.01	8.2		0.8
DW03-122	6/25/2008 9:05:00 AM		<0.05	0.0032	0.0363	<0.003	<0.04	<0.0001	46.2	1	<0.01	<0.01	<0.005	0.3	<0.02	0.0014	4.3	<0.005	<0.0002	<0.01	1.69	<0.01	8.4		0.8
DW03-122	7/28/2008 10:55:00 AM		<0.05	0.0034	0.0342	<0.003	<0.04	<0.0001	39.1	1	<0.01	<0.01	<0.005	0.2	<0.02	0.0022	4.3	<0.005	<0.0002	<0.01	1.7	<0.01	8.6		0.8
DW03-122	9/17/2008 1:00:00 PM		<0.05	0.0029	0.0319	<0.003	<0.04	<0.0001	39.9	<1	<0.01	<0.01	<0.005	0.3	<0.02	0.0002	3.9	<0.005	<0.0002	<0.01	2.52	<0.01	8.2		0.8
DW03-122	11/11/2008 2:30:00 PM		<0.05	0.0036	0.0331	<0.003	<0.04	<0.0001	41.1	<1	<0.01	<0.01	0.005	0.2	<0.02	0.0002	4	<0.005	<0.0002	<0.01	2.63	<0.01	8.2		0.7
DW03-122	12/23/2008 11:00:00 AM		<0.05	0.007	0.0427	<0.003	<0.04	<0.0001	41.9	1	<0.01	0.02	<0.005	0.3	<0.02	0.0003	3.9	<0.005	<0.0002	<0.01	1.64	<0.01	8.2		0.9
DW03-122	4/22/2009 9:45:00 AM	73	<0.05	0.0028	0.0266	<0.003	<0.04	<0.0001	52	<1	<0.01	<0.01	0.003	0.2	0.02	0.0001	4.6	<0.005	<0.0002	<0.01	1.98	<0.01	8.4	0.03	0.9
DW03-122	9/28/2009 3:15:00 PM	82	<0.05	0.0049	0.0353	<0.003	<0.04	<0.0001	40.1	<1	<0.01	<0.01	0.004	0.2	<0.02	<0.0001	4.6	<0.005	<0.0002	<0.01	2.13	<0.01	8.4	0.02	1.4
DW04-138	1/22/2008 3:30:00 PM		<0.05	0.016	0.013	0.011	<0.04	<0.001	51.6	2	<0.01	<0.01	<0.005	0.2	<0.02	<0.001	3.7	0.03	<0.0002	<0.01	0.9	0.11	8.2		1.7
DW04-138	3/12/2008 8:45:00 AM		<0.05	0.0087	0.0111	<0.003	<0.04	<0.0001	46.6	3	<0.01	<0.01	<0.005	<0.1	<0.02	<0.0001	3.9	0.046	<0.0002	<0.01	<0.02	<0.01	8.4		1.5
DW04-138	4/15/2008 10:00:00 AM		<0.05	0.0071	0.0105	<0.003	<0.04	<0.0001	52.5	2	<0.01	<0.01	<0.005	0.1	<0.02	0.0007	4.4	0.062	<0.0002	<0.01	<0.02	<0.01	8.3		1.2
DW04-138	6/25/2008 12:42:00 PM		<0.05	0.0221	0.0258	<0.003	<0.04	<0.0001	67.8	2	<0.01	<0.01	<0.005	0.2	<0.02	0.0002	6.5	0.019	<0.0002	0.01	0.26	<0.01	8.4		1.2
DW04-138	7/28/2008 11:45:00 AM		<0.05	0.0256	0.018	<0.003	<0.04	<0.0001	64.9	4	<0.01	<0.01	<0.005	0.1	<0.02	0.0003	6.6	0.037	<0.0002	0.02	0.97	0.15	8.7		1.5
DW04-138	9/1/2008 11:45:00 AM		<0.05	0.027	0.0162	0.007	<0.04	<0.0001	77.1	6	<0.01	<0.01	<0.005	<0.1	0.07	0.0007	7.5	0.047	<0.0002	0.02	2.7	0.27	8.3		1.6
DW04-138	10/14/2008 10:20:00 AM		<0.05	0.029	0.0157	<0.003	<0.04	<0.0001	74.7	8	<0.01	<0.01	0.008	<0.1	0.05	0.0008	7.2	0.096	<0.0002	<0.01	3.8	0.24	8.4		1.4
DW04-138	11/11/2008 1:00:00 PM		<0.05	0.0287	0.0131	<0.003	<0.04	<0.0001	77.5	9	<0.01	<0.01	0.018	<0.1	0.07	0.0008	7.1	0.132	<0.0002	<0.01	4.25	0.27	8.2		1.2
DW04-138	12/23/2008 2:15:00 PM		<0.05	0.0319	0.017	0.009	0.04	<0.0001	82.2	8	<0.01	0.02	<0.005	0.1	0.03	0.0011	7.8	0.109	<0.0002	<0.01	3.91	0.13	8.2		1.5
DW04-138	2/4/2009 10:00:00 AM	107	<0.05	0.0245	0.0079	<0.003	<0.04	<0.0001	69.2	8	<0.01	0.02	0.013	<0.1	<0.02	0.0154	5.9	0.108	<0.0002	<0.01	2.76	0.17	8.4	<0.01	1.4
DW04-138	2/4/2009 10:00:00 AM		<0.05	0.0245	0.0079	<0.003	<0.04	<0.0001	69.2	8	<0.01	0.02	0.013	<0.1	<0.02	0.0154	5.9	0.108	<0.0002	<0.01	2.76	0.17	8.4		1.4
DW04-145	7/29/2008 9:30:00 AM		<0.05	0.0025	0.0018	0.014	<0.04	<0.0001	47.3	1	<0.01	<0.01	<0.005	0.2	<0.02	<0.0001	16.8	<0.005	<0.0002	<0.01	0.57	<0.01	8.7		1.7
DW04-148	3/26/2008 9:00:00 AM		<0.3	0.0059	0.0168	<0.003	<0.04	0.0008	63.4	<1	<0.01	<0.01	<0.005	0.2	<0.02	0.0002	2.5	0.026	<0.0002	<0.01	2.93	0.65	8.3		0.8
DW04-148	6/25/2008 8:45:00 AM		<0.05	0.0066	0.0174	<0.003	<0.04	<0.0001	77.9	2	<0.01	<0.01	<0.005	0.4	<0.02	0.0004	2.8	0.016	<0.0002	<0.01	4.39	0.64	8.5		0.7
DW04-148	7/28/2008 11:15:00 AM		<0.05	0.0068	0.0171	0.004	<0.04	<0.0001	67.1	2	<0.01	<0.01	<0.005	0.3	0.03	0.0024	2.9	0.04	<0.0002	<0.01	3.5	0.63	8.7		0.6
DW04-148	9/17/2008 2:00:00 PM		<0.05	0.0058	0.0145	0.003	<0.04	<0.0001	88.5	2	<0.01	0.01	0.03	0.3	0.02	0.0002	3.5	0.037	<0.0002	<0.01	17.7	0.97	8.3		0.6
DW04-148	11/11/2008 3:00:00 PM		<0.05	0.0052	0.0128	<0.003	<0.04	<0.0001	90.3	2	<0.01	<0.01	0.012	0.2	<0.02	0.0002	3.5	0.03	<0.0002	<0.01	19.2	0.97	8.2		0.6
DW05-149A	4/15/2008 10:45:00 AM		0.93	0.125	0.0078	0.013	<0.04	<0.0001	104	21	<0.01	<0.01	0.55	0.2	0.21	0.0002	14.9	0.546	<0.0002	<0.01	10.6	0.23	8.3		5.2
DW05-149A	6/25/2008 11:15:00 AM		2.06	0.087	0.0258	0.011	<0.04	<0.0001	61.5	50	<0.01	1.29	4.8	0.6	0.6	<0.0001	7.2	0.128	<0.0002	0.07	15.9	0.73	8.3		6
DW05-149A	7/29/2008 11:30:00 AM		2.97	0.072	0.02	0.01	<0.04	<0.0001	64	39	<0.01	0.25	1.68	0.7	0.46	0.0001	8.2	0.108	<0.0002	0.05	15.5	0.92	8.6		6.5
DW05-149A	8/25/2008 10:45:00 AM		3.33	0.069	0.0156	0.004	<0.04	<0.0001	72.9	32	<0.01	<0.01	0.96	0.5	0.34	0.0014	9.5	0.137	<0.0002	<0.01	17.3	1.03	8.3		6.3
DW05-149A	9/17/2008 3:00:00 PM		3.44	0.05	0.0142	0.008	<0.04	0.0001	70.1	29	<0.01	0.27	2.8	0.6	0.38	0.0012	9.4	0.185	<0.0002	0.04	17.9	0.69	8.2		5.7
DW05-149A	12/3/2008 1:00:00 PM		3.65	0.064	0.012	0.01	<0.04	<0.0001	70.1	37	<0.01	0.76	3.85	0.5	0.31	0.0017	8.7	0.184	<0.0002	0.04	18.2	0.78	8.2		6.4
DW05-149A	2/4/2009 11:30:00 AM	132	1.01	0.05	0.0038	0.01	<0.04	<0.0001	81.5	15	<0.01	0.04	0.436	0.3	0.13	0.0004	12.4	0.25	<0.0002	<0.01	11	0.24	23	0.02	4.7
DW05-149A	2/4/2009 11:30:00 AM		1.01	0.05	0.0038	0.01	<0.04	<0.0001	81.5	15	<0.01	0.04	0.436	0.3	0.13	0.0004	12.4	0.25	<0.0002	<0.01	11	0.24	8.3		4.7
DW05-149A	3/24/2009 2:30:00 PM	165	0.72	0.074	<0.003	0.01	<0.04	<0.0001	90.8	15	<0.01	0.03	0.433	0.2	0.12	<0.0001	13.4	0.326	<0.0002	<0.01	12.4	0.56	8.3	<0.01	4.3
DW05-149A	4/22/2009 8:45:00 AM	179	0.7	0.108	0.0039	0.009	<0.04	<0.0001	99.3	15	<0.01	<0.01	0.29	0.2	0.12	0.0002	14	0.479	<0.0002	<0.01	8.2	1.18	8.4	0.04	4.4
DW05-149A	6/29/2009 8:30:00 AM	165	0.55	0.088	0.005	0.017	<0.04	<0.0001	95.2	18	<0.01	<0.01	0.416	0.3	0.11	0.0001	13.8	0.478	<0.0002	<0.01	9.1	0.6	8.1	<0.01	3.9
DW05-149A	7/28/2009 11:15:00 AM	161	0.47	0.064	0.0055	0.01	<0.04	<0.0001	87.5	15	<0.01	<0.01	0.424	0.2	0.16	0.0001	12.7	0.423	<0.0002	0.01	7.82	0.53	8	0.03	3.9
DW05-149B	6/25/2008 10:50:00 AM		1.54	0.076	0.0169	0.006	<0.04	<0.0001	69.5	43	<0.01	0.81	4.8	0.6	0.27	<0.0001	8.7	0.107	0.0003	0.08	16.1	0.67	8.4		5.2
DW05-149B	7/29/2008 11:30:00 AM		2.41	0.073	0.014	0.007	<0.04	<0.0001	67.6	37	<0.01	0.24	1.62	0.6	0.44	<0.0001	9.7	0.128	<0.0002	0.05	15	0.77	8.7		5.4
DW05-149B	12/3/2008 12:40:00 PM		1.91	0.0352	0.0072	0.007	<0.04	<0.0001	68.7	18	<0.01	0.27	0.91	0.3	0.13	0.0009	10.2	0.193	<0.0002	0.01	13.7	0.38	8.3		4.9
DW05-149B	3/24/2009 2:15:00 PM	137	0.34	0.0192	0.0037	0.006	<0.04	<0.0001	72.8	12	<0.01	<0.01	0.236	0.2	0.08	<0.0001	11.5	0.18	<0.0002	<0.01	10	0.28	8.4	<0.01	3.3
DW05-149B	4/22/2009 8:30:00 AM	144	0.38	0.0229	0.0035	0.004	<0.04	<0.0001	77.3	12	<0.01	<0.01	0.234	0.2	0.09	<0.0001	11.9	0.227	<0.0002	<0.01	8.9	0.42	8.5	0.04	3.6
DW05-151	6/25/2008 1:55:00 PM		<0.05	<0.0004	0.0027	0.003	<0.04	<0.0001	57.5	1	<0.01	<0.01	0.03	0.2	0.03	<0.0001	20.2	<0.005	<0.0002	<0.01	0.88	<0.01	8.4		1.5
DW05-151	7/29/2008 9:00:00 AM		<0.05	<0.0004	0.003	0.003	<0.04	<0.0001	53.1	1	<0.01	<0.01	<0.005	0.2	<0.02	<0.0001	19.8	<0.005	<0.0002	<0.01	0.88	<0.01	8.7		1.6
DW05-151	8/25/2008 2:20:00 PM		<0.05	<0.0004	0.0063	<0.003	<0.04	<0.0001	56.1	<1	<0.01	<0.01	<0.005	0.2	<0.02	0.001	19.9	<0.005	<0.0002	<0.01	1.23	<0.01	8.4		1.6
DW05-151	9/2/2008 11:30:00 AM		<0.05	<0.0004	0.0058	<0.003	<0.04	<0.0001	56.7	1	<0.01	<0.01	<0.005	0.2	<0.02	0.0005	19.3	<0.005	<0.0002	<0.01	1.29	<0.01	8.4		2
DW05-151	10/14/2008 2:20:00 PM		<0.05	<0.0004	0.0055	<0.003	<0.04	<0.0001	54.2	<1	<0.01	<0.01	<0.005	0.2	<0.02	0.0002	18.5	0.005	<0.0002	<0.01	1.27	<0.01	8.4		1.5
DW05-151	11/12/2008 12:15:00 PM		<0.05	<0.0004	0.0055	0.003	<0.04	<0.0001	53.7	<1	<0.01	<0.01	<0.005	0.2	<0.02	0.0003	17.9	<0.005	<0.0002	<0.01	1.25	<0.01	8.2		1.7

Attachment A Fort Knox dewatering well groundwater data 2008/2009

Site Number	Sample Date	Alkalinity, Total (mg/L as CaCO3)	Ammonia (mg/L as N)	Antimony, Dissolved (mg/L)	Arsenic, Dissolved (mg/L)	Barium, Dissolved (mg/L)	Bismuth, Dissolved (mg/L as Bi)	Cadmium, Dissolved (mg/L)	Calcium, Dissolved (mg/L)	Chloride, dissolved	Chromium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Cyanide, Total (mg/L)	Fluoride, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Lead, Dissolved (mg/L)	Magnesium, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Mercury, Dissolved (mg/L)	Nickel, Dissolved (mg/L)	Nitrate Nitrogen, Dissolved (mg/L as N)	Nitrite Nitrogen, Dissolved (mg/L as N)	pH (Lab-su)	Phosphorus (mg/L as P)	Potassium, Dissolved (mg/L)
DW05-151	7/27/2009 10:30:00 AM	117	<0.05	<0.0004	0.0043	<0.003	<0.04	<0.0001	57.2	<1	<0.01	<0.01	<0.003	0.2	<0.02	<0.0001	18.8	<0.005	<0.0002	<0.01	0.96	<0.01	8.4	0.03	1.6
DW05-151	9/28/2009 2:00:00 PM	116	<0.05	<0.0004	0.0048	0.007	<0.04	<0.0001	52.8	<1	<0.01	<0.01	<0.003	0.2	0.02	<0.0001	18.2	0.01	<0.0002	<0.01	1.09	<0.01	8.3	0.03	1.5
DW05-153	12/23/2008 3:45:00 PM		<0.05	0.0011	0.0036	0.005	<0.04	<0.0001	27.9	1	<0.01	<0.01	<0.005	0.2	0.04	<0.0001	7.8	0.041	<0.0002	<0.01	0.36	<0.01	8.2		1.4
DW05-153	2/4/2009 11:15:00 AM	102	<0.05	0.0018	0.0061	0.004	<0.04	<0.0001	31.8	<1	<0.01	<0.01	<0.005	0.1	0.03	<0.0001	10.3	0.02	<0.0002	<0.01	0.27	<0.01	8.4	<0.01	1.4
DW05-153	2/4/2009 11:15:00 AM		<0.05	0.0018	0.0061	0.004	<0.04	<0.0001	31.8	<1	<0.01	<0.01	<0.005	0.1	0.03	<0.0001	10.3	0.02	<0.0002	<0.01	0.27	<0.01	8.4		1.4
DW05-153	4/22/2009 10:45:00 AM	104	<0.05	0.0013	0.0053	<0.003	<0.04	<0.0001	31.3	<1	<0.01	<0.01	<0.002	0.2	0.04	<0.0001	9.9	0.033	<0.0002	<0.01	0.35	<0.01	8.5	0.03	1.1
DW05-153	5/25/2009 3:00:00 PM	109	<0.05	0.0013	0.0045	<0.003	<0.04	<0.0001	32.1	<1	<0.01	<0.01	<0.003	0.1	<0.02	<0.0001	10.9	0.013	<0.0002	<0.01	0.33	<0.01	8.5	<0.01	0.8
DW05-153	6/29/2009 10:00:00 AM	104	<0.05	0.0013	0.004	0.005	<0.04	<0.0001	31.5	<1	<0.01	<0.01	<0.003	0.2	<0.02	<0.0001	10.1	0.018	<0.0002	<0.01	0.34	<0.01	8.3	<0.01	1.2
DW05-153	7/27/2009 3:00:00 PM	106	<0.05	0.0012	0.0036	<0.003	<0.04	<0.0001	32.5	<1	<0.01	<0.01	<0.003	0.1	<0.02	<0.0001	10.5	0.015	<0.0002	<0.01	0.3	<0.01	8.4	0.03	1.2
DW05-153	9/15/2009 12:15:00 PM	102	<0.05	0.001	0.0082	<0.003	<0.04	<0.0001	29.6	<1	<0.01	<0.01	<0.003	0.1	0.47	0.0002	9.7	0.115	<0.0002	<0.01	0.48	<0.01	8.3	<0.01	1
DW05-160	6/30/2008 9:00:00 AM		<0.05	<0.0004	0.0046	<0.003	<0.04	<0.0001	20.9	1	<0.01	<0.01	<0.005	0.2	0.2	0.0001	4.6	<0.005	<0.0002	<0.01	3.29	0.01	8.3		0.9
DW05-160	9/1/2008 11:00:00 AM		<0.05	0.0005	0.0104	0.008	<0.04	<0.0001	21.3	<1	<0.01	<0.01	<0.005	0.3	0.05	0.0003	4.3	<0.005	<0.0002	<0.01	2.05	<0.01	8.3		0.9
DW05-160	10/15/2008 3:15:00 PM		<0.05	<0.0004	0.0134	<0.003	<0.04	<0.0001	20.6	<1	<0.01	<0.01	<0.005	0.1	0.07	0.0003	4.3	<0.005	<0.0002	<0.01	2.09	<0.01	8.3		1
DW06-170	7/30/2008 8:10:00 AM		<0.05	0.0111	0.0427	0.005	<0.04	<0.0001	61.4	2	<0.01	<0.01	<0.005	0.9	0.03	0.0005	6.9	0.02	<0.0002	<0.01	11.8	1.02	8.3		0.6
DW06-170	8/26/2008 1:45:00 PM		<0.05	0.0091	0.0346	0.004	<0.04	<0.0001	84.5	1	<0.01	0.01	0.012	0.7	0.09	0.001	10.1	0.022	<0.0002	<0.01	20.6	0.78	8.4		0.5
DW06-170	9/17/2008 12:30:00 PM		<0.05	0.0096	0.034	0.008	<0.04	<0.0001	75.7	1	<0.01	0.01	0.005	1.4	0.03	0.0008	8.5	0.026	<0.0002	<0.01	18.5	0.85	8.2		0.6
DW06-170	2/4/2009 9:30:00 AM	59	<0.05	0.0105	0.0364	0.005	<0.04	<0.0001	70.8	1	<0.01	0.01	<0.005	0.8	<0.02	0.0001	8.1	0.022	<0.0002	<0.01	14.5	1.42	8.2	0.02	1
DW06-170	2/4/2009 9:30:00 AM		<0.05	0.0105	0.0364	0.005	<0.04	<0.0001	70.8	1	<0.01	0.01	<0.005	0.8	<0.02	0.0001	8.1	0.022	<0.0002	<0.01	14.5	1.42	8.2		1
DW07-175	2/11/2008 9:00:00 AM		<0.05	0.0039	0.0057	<0.003	<0.04	<0.0001	23.9	<1	0.01	<0.01	<0.005	<0.1	<0.02	0.0002	4.4	0.012	<0.0002	<0.01	0.07	<0.01	8.3		0.8
DW07-175	3/5/2008 9:30:00 AM		<0.3	0.0052	0.0055	<0.003	<0.04	<0.0001	24.5	<1	<0.01	<0.01	<0.005	<0.1	0.17	0.0015	4.3	0.012	<0.0002	<0.01	0.06	<0.01	8.2		0.8
DW07-175	4/15/2008 8:34:00 AM		<0.05	0.0034	0.0033	<0.003	<0.04	<0.0001	28.3	<1	<0.01	<0.01	<0.005	<0.1	0.04	0.0003	4.8	0.029	<0.0002	<0.01	0.03	<0.01	8.4		0.8
DW07-180	1/23/2008 3:30:00 PM		<0.05	0.0016	0.0232	0.004	<0.04	<0.0001	36.2	2	0.01	<0.01	<0.005	0.4	<0.02	<0.0001	1.3	0.008	<0.0002	<0.01	0.38	0.1	8.3		0.8
DW07-180	3/25/2008 12:45:00 PM		<0.3	0.0025	0.0319	<0.003	<0.04	0.001	34.8	<1	<0.01	<0.01	<0.005	0.4	<0.02	0.0001	1.1	<0.005	<0.0002	<0.01	1.28	0.4	8.4		0.6
DW07-180	6/25/2008 9:25:00 AM		<0.05	0.0045	0.0432	<0.003	<0.04	<0.0001	36.2	1	<0.01	<0.01	<0.005	0.5	<0.02	0.0005	1	<0.005	<0.0002	<0.01	1.16	0.46	8.5		0.6
DW07-180	7/28/2008 10:30:00 AM		0.15	0.005	0.0415	<0.003	<0.04	<0.0001	31.9	1	<0.01	<0.01	<0.005	0.5	0.03	0.0003	1.2	0.008	<0.0002	<0.01	0.77	0.47	8.7		0.6
DW07-180	8/26/2008 2:30:00 PM		<0.05	0.0043	0.041	<0.003	<0.04	<0.0001	34.7	<1	<0.01	0.01	<0.005	0.5	0.04	0.0004	1.3	<0.005	<0.0002	<0.01	1.12	0.42	8.5		0.4
DW07-180	11/11/2008 1:45:00 PM		<0.05	0.0046	0.0435	<0.003	<0.04	<0.0001	33.2	<1	<0.01	<0.01	<0.005	0.6	0.06	0.0003	1	<0.005	<0.0002	<0.01	0.57	0.46	8.3		0.7
DW07-180	12/23/2008 11:30:00 AM		<0.05	0.0044	0.0368	0.009	0.05	<0.0001	39.9	1	<0.01	0.02	<0.005	0.6	<0.02	0.0003	1.3	0.006	<0.0002	<0.01	4.44	0.32	8.3		0.6
DW07-180	4/22/2009 10:00:00 AM	65	<0.05	0.0054	0.042	<0.003	<0.04	<0.0001	35.6	<1	<0.01	<0.01	0.002	0.5	<0.02	0.0005	1.2	0.007	<0.0002	<0.01	1.6	0.57	8.4	0.05	0.7
DW07-180	5/25/2009 2:00:00 PM	68	<0.05	0.0053	0.0408	0.004	<0.04	<0.0001	40.4	<1	<0.01	<0.01	0.006	0.5	<0.02	0.0002	1.7	0.013	<0.0002	<0.01	4.51	0.46	8.3	0.04	0.6
DW07-180	6/24/2009 2:00:00 PM	67	<0.05	0.0048	0.0334	0.008	<0.04	<0.0001	42.5	1	<0.01	<0.01	0.009	0.5	<0.02	0.0002	1.6	0.012	<0.0002	<0.01	6.39	0.47	8.3	<0.01	0.7
DW07-180	7/28/2009 10:00:00 AM	67	<0.05	0.0111	0.0525	0.004	<0.04	<0.0001	40.1	1	<0.01	<0.01	0.011	0.4	<0.02	0.0002	1.5	0.011	<0.0002	<0.01	6.17	0.33	8.3	0.05	0.6
DW07-189	2/4/2009 10:30:00 AM	56	<0.05	<0.0004	0.0006	<0.003	<0.04	<0.0001	21.6	<1	<0.01	<0.01	<0.005	0.2	<0.02	<0.0001	7.1	<0.005	<0.0002	<0.01	0.36	<0.01	8.2	<0.01	1.2
DW07-189	3/24/2009 1:15:00 PM	64	<0.05	<0.0004	0.0007	<0.003	<0.04	<0.0001	24.8	<1	<0.01	<0.01	<0.005	0.1	<0.02	<0.0001	7.9	<0.005	<0.0002	<0.01	0.31	<0.01	8.3	<0.01	1
DW07-189	3/24/2009 1:45:00 PM	103	<0.05	0.0011	0.0043	<0.003	<0.04	<0.0001	30.6	<1	<0.01	<0.01	<0.005	0.1	0.02	<0.0001	9.7	0.014	<0.0002	<0.01	0.4	<0.01	8.4	<0.01	0.9
DW07-189	4/22/2009 8:15:00 AM	69	<0.05	<0.0004	<0.0005	<0.003	<0.04	<0.0001	28.2	<1	<0.01	<0.01	<0.002	0.2	0.04	<0.0001	8.6	<0.005	<0.0002	<0.01	0.25	<0.01	8.3	0.04	1
DW07-189	6/29/2009 9:30:00 AM	73	<0.05	0.0005	0.0007	<0.003	<0.04	<0.0001	35.1	<1	<0.01	<0.01	<0.003	0.2	<0.02	<0.0001	10.7	<0.005	<0.0002	<0.01	0.29	<0.01	8.2	<0.01	1.5
DW07-189	7/28/2009 10:45:00 AM	77	<0.05	<0.0004	0.0008	<0.003	<0.04	<0.0001	34.7	1	<0.01	<0.01	0.003	0.1	<0.02	<0.0001	10.5	<0.005	<0.0002	<0.01	0.31	<0.01	8.2	0.06	1.3
DW08-188	2/4/2009 10:15:00 AM	93	<0.05	0.0056	0.0352	0.004	<0.04	<0.0001	76.5	2	<0.01	0.01	<0.005	0.1	<0.02	<0.0001	7.2	0.123	<0.0002	<0.01	0.07	<0.01	8.3	<0.01	1.5
DW08-188	5/25/2009 2:30:00 PM	101	<0.05	0.0041	0.0271	<0.003	<0.04	<0.0001	79.2	3	<0.01	<0.01	<0.003	0.1	<0.02	0.0006	7.9	0.126	<0.0002	<0.01	0.09	<0.01	8.4	0.05	1.1
DW08-188	6/24/2009 2:45:00 PM	94	<0.05	0.0075	0.0176	0.007	<0.04	<0.0001	77.4	3	<0.01	<0.01	<0.003	0.1	<0.02	0.001	7.6	0.12	<0.0002	<0.01	0.11	<0.01	8.3	<0.01	1.4
DW08-188	7/27/2009 11:45:00 AM	97	<0.05	0.0036	0.0214	<0.003	<0.04	<0.0001	79.7	3	<0.01	<0.01	<0.003	0.1	0.05	0.0009	7.4	0.134	<0.0002	0.01	0.03	<0.01	8.3	0.03	1.3
DW08-188	9/15/2009 10:30:00 AM	95	<0.05	0.0032	0.0199	<0.003	0.07	<0.0001	73.2	4	<0.01	<0.01	<0.003	0.1	0.04	0.0014	7.4	0.137	<0.0002	<0.01	0.04	<0.01	8.1	<0.01	1.1
DW08-191	2/4/2009 9:15:00 AM	67	<0.05	0.0074	0.0305	0.003	<0.04	<0.0001	55.6	2	<0.01	<0.01	<0.005	1	<0.02	0.0002	2.8	0.017	<0.0002	<0.01	11.3	0.74	8.3	<0.01	0.8
DW08-191	9/28/2009 3:45:00 PM	91	0.17	0.0074	0.0315	<0.003	<0.04	<0.0001	63.1	2	<0.01	<0.01	0.017	1	0.04	0.001	3.7	0.022	<0.0002	0.02	14.3	1.19	8.4	0.01	0.6
DW09-207	7/27/2009 1:30:00 PM	88	<0.05	0.0099	0.0111	<0.003	<0.04	<0.0001	35.9	<1	<0.01	<0.01	<0.003	0.1	0.09	<0.0001	1.2	0.047	<0.0002	0.01	0.52	0.04	8.4	0.04	0.8
DW09-207	9/15/2009 11:45:00 AM	78	<0.05	0.0017	0.0012	<0.003	<0.04	<0.0001	29.8	<1	<0.01	<0.01	<0.003	0.2	0.05	0.0001	0.9	0.04	<0.0002	<0.01	0.04	<0.01	8.2	<0.01	0.6
DW09-211	7/27/2009 11:15:00 AM	121	<0.05	0.0279	0.0009	0.006	<0.04	<0.0001	64.6	5	<0.01	<0.01	0.015	<0.1	0.11	0.0065	6.5	0.096	<0.0002	0.02	2.64	0.14	8.4	0.03	1.3
DW09-211	9/15/2009 11:30:00 AM	109	<0.05	0.0191	0.0044	0.005	<0.04	<0.0001	52.3	5	<0.01	<0.01	0.007	<0.1	0.04	0.0011	4.8	0.067	<0.0002	0.01	2.19	0.09	8.1	<0.01	1.5
DW-206	5/26/2009 10:30:00 AM	61	0.13	0.0046	0.0172	0.005	<0.04	<0.0001	53.5	1	<0.01	<0.01	0.015	0.2	<0.02	0.0005	2.6	0.007	<0.0002	<0.01	13	0.84	8.3	0.01	0.5
DW-206	7/28/2009 9:30:00 AM	61	<0.05	0.004	0.0165	0.005	<0.04	<0.0001	50.9	1	<0.01	<0.01	0.005	0.2	0.06	0.0005	1.9	0.02	<0.0002	<0.01	7.3	0.58	8.3	0.02	0.5
DW98-40	1/29/2008 9:00:00 AM		<0.05	0.0068	0.0176	0.004	<0.04	<0.0001	47.9	1	<0.01	<0.01	<0.005	0.4	0.03	<0.0001	1.6	0.048	<0.0002	<0.01	0.07	<0.01	8.2		<0.3
DW98-40	2/14/2008 7:30:00 AM		<0.05	0.0074	0.0151	<0.003	<0.04	<0.0001	50.9	<1	<0.01	<0.01	<0.005	0.4	0.06	<0.0001	1.6	0.043	<0.0002	<0.01	0.09	<0.01	8.3		0.3
DW98-40	3/12/2008 7:45:00 AM		<0.05	0.0068	0.0171	<0.003	<0.04	<0.0001	48	<1	<0.01	<0.01	<0.005	0.3	<0.02	<0.0001	1.5	0.027	<0.0002	<0.01	0.07	<0.01	8.6		0.4
DW98-40	4/15/2008 9:00:00 AM		<0.3	0.0073	0.02	<0.003	<0.04	<0.0001	49.9	<1	<0.01	<0.01	<0.005	0.4	<0.02	<0.0001	1.6	0.024	<0.0002	<0.01	0.09	<0.01	8.4		<0.3
DW98-40	6/25/2008 3:15:00 PM		<0.05	0.0033	0.0234	0.004	<0.04	<0.0001	45.5	<1	<0.01	<0.01	<0.005	0.6	<0.02	<0.0001	1.5	0.023	<0.0002	<0.01	0.28	<0.01	8.4		<0.3
DW98-40	7/29/2008 11:00:00 AM		<0.05	0.0034	0.023	0.004	<0.04	<0.0001	37.2	2	<0.01	<0.01	<0.005	0.4	0.03	<0.0001	1.5	0.022	<0.0002	<0.01	0.28	<0.01	8.6		0.3
DW98-51	1/22/2008 2:30:00 PM		<0.05	<0.0004	<0.0005	0.003	<0.04	<0.0001	34.2	1	0.02	<0.01	<0.005	0.1	<0.02	<0.0001	11.4	<0.005	<0.0002	<0.01	0.25	<0.01	8.3		2
DW98-51	2/11/2008 8:15:00 AM		<0.05	<0.0004	<0.0005	<0.003	<0.04	<0.0001	30.4	<1	<0.01	<0.01	<0.005	0.1	<0.02	0.0002	10.7	<0.005	<0.0002	<0.01	0.24	<0.01	8.3		1.5
DW98-51	3/5/2008 8:45:00 AM		<0.3	<0.0004	0.0006	<0.003	<0.04	<0.0001	31.4	<1	<0.01	<0.01	<0.005	0.1	<0.02	0.0001	11	<0.005	<0.0002	<0.01	0.24	<0.01	8.2		1.5
DW98-51	4/8/2008 1:15:00 PM		<0.05	<0.0004	0.001	<0.003	<0.04	<0.0001	33.2	<1	<0.01	<0.01	<0.005	<0.1	<0.02	0.0001	11.7	<0.005	<0.0002	<0.01	0.23	<0.01	8.2		1.4
DW98-51	6/18/2008 3:45:00 PM		<0.05	<0.0004	0.0009	<0.003	<0.04	0.0003	32.7	<1	<0.01	<0.01	<0.005	<0.1	<0.02	0.0001	11.6	<0.005	<0.0002	<0.01	0.27	<0.01	8.4		1.4
DW98-51	7/23/2008 10:45:00 AM		<0.05	<0.0004	0.0007	<0.003	<0.04	<0.0001	34.4	1	<0.01	<0.01	<0.005	0.1	<0.02	<0.0001	12	<0.005	<0.0002	<0.01	0.29	<0.01	8.4		1.6
DW98-51	8/25/2008 3:00:00 PM		<0.05	<0.0004	0.0008	<0.003	<0.04	<0.0001	31.7	<1	<0.01	<0.01	<0.005	0.1	<0.02	0.0036	10.9	<0.005	<0.0002	<0.01	0.41	<0.01	8.4		1.5
DW98-51	9/2/2008 12:15:00 PM		<0.05	<0.0004	0.0007	<0.003	<0.04	<0.0001	32.1	<1	<0.01	<0.01	<0.005	0.1	<0.02	0.0008	10.8	<0.005	<0.0002	<0.01	0.38	<0.01	8.4		1.8
DW98-51	10/14/2008 2:45:00 PM		<0.05	<0.0004	0.0007	<0.003	<0.04	<0.0001	30.2	<1	<0.01	<0.01	<0.005	<0.1	<0.02	0.0007	10.3	<0.005	<0.0002	<0.01	0.4	<0.01	8.4		1.4
DW98-51	11/12/2008 11:45:00 AM		<0.05	<0.0004	<0.0005	<0.003	<0.04	<0.0001	29.5	<1	<0.01	<0.01	<0.005	0.1	<0.02	0.0009	9.8	<0.005	<0.0002	<0.01	0.41	<0.01	8.2		1.5
DW98-51	12/3/2008 1:30:00 PM		<0.05	<0.0004	0.0007	<0.003	<0.04	<0.0001	29	<1	<0.01	<0.01	<0.005	0.1	<0.02	<0.0001	9.9	<0.005	<0.0002	<0.01	0.36	<0.01	8.3		1.3
DW98-51	7/27/2009 10:15:00 AM	76	<0.05	<0.0004	0.0006	<0.003	<0.04	<0.0001	24.8	<1	<0.01	<0.01	<0.003	0.1	<0.02	<0.0001	8.2	<0.005	<0.0002	<0.01	0.56	<0.01	8.3	0.02	1.3
DW98-51	9/28/2009 2:30:00 PM	98	<0.05	<0.0004	<0.0005	<0.003	<0.04	<0.0001	27.5	<1	<0.01	<0.01	<0.003	0.1	<0.02	<0.0001	9.4	<0.005	<0.0002	<0.01	0.4	<0.01	8.4	0.01	1.3
DW99-107	7/27/2009 2:15:00 PM	56	<0.05	<0.0004	<0.0005	<0.003	<0.04	<0.0001	25.1	<1	<0.01	<0.01	<0.003	0.1	0.13	<0.0001	7	<0.005	<0.0002	<0.01	1.66	<0.01	8.2	0.02	1.1

< Value not detected at the method detection limit (MDL). Value shown is MDL.

Attachment A Fort Knox dewatering well groundwater data 2008/2009

Site Number	Sample Date	Site Number	Selenium, Dissolved (mg/L)	Silver, Dissolved (mg/L)	Sodium, Dissolved (mg/L)	Specific Conductance (umhos/cm @ 25C)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Weak Acid Dissociable Cyanide, mg/L	Zinc, Dissolved (mg/L)
DW East Lake	6/29/2009 12:45:00 PM	DW East Lake	0.0028	<0.01	15.7	441	67	390	0.013	<0.01
DW West Lake	6/29/2009 12:15:00 PM	DW West Lake	0.0022	<0.01	23.3	359	83	310	<0.003	<0.01
DW00-78	2/14/2008 8:00:00 AM	DW00-78	0.0002	<0.01	28.1	897		690	<0.005	<0.01
DW00-78	3/26/2008 8:15:00 AM	DW00-78	0.0002	<0.01	26.5	885		670	<0.005	0.12
DW00-78	6/25/2008 2:55:00 PM	DW00-78	<0.0001	0.01	25.2	806		560	<0.005	<0.01
DW00-78	7/29/2008 10:30:00 AM	DW00-78	<0.0001	<0.01	24.9	710		540	<0.005	<0.01
DW00-78	9/2/2008 1:30:00 PM	DW00-78	0.0002	<0.01	24.7	707		510	<0.005	<0.01
DW00-78	11/12/2008 11:00:00 AM	DW00-78	0.0001	<0.01	22.9	608		470	<0.005	<0.01
DW00-78	12/3/2008 2:15:00 PM	DW00-78	0.0002	<0.01	20.9	773		460	<0.005	<0.01
DW01-107	6/30/2008 8:30:00 AM	DW01-107	0.0003	<0.01	3.4	153		90	<0.005	<0.01
DW01-107	9/1/2008 10:20:00 AM	DW01-107	0.0006	<0.01	3.2	162		90	<0.005	<0.01
DW01-107	10/15/2008 2:35:00 PM	DW01-107	0.0003	<0.01	3	150		80	<0.005	<0.01
DW01-107	6/29/2009 11:15:00 AM	DW01-107	0.0008	<0.01	3.6	159	26	130	<0.003	<0.01
DW03-108	1/22/2008 10:00:00 AM	DW03-108	<0.0001	0.02	15.5	266		180	<0.005	<0.01
DW03-108	2/11/2008 8:00:00 AM	DW03-108	0.0002	<0.01	16.6	265		140	<0.005	<0.01
DW03-108	3/5/2008 7:45:00 AM	DW03-108	0.0002	<0.01	15.9	278		180	<0.005	<0.01
DW03-108	4/8/2008 12:00:00 PM	DW03-108	0.0002	<0.01	16.2	275		160	<0.005	<0.01
DW03-108	6/18/2008 2:45:00 PM	DW03-108	0.0002	<0.01	16.7	282		170	<0.005	<0.01
DW03-108	7/23/2008 9:15:00 AM	DW03-108	0.0002	<0.01	14.1	293		180	<0.005	<0.01
DW03-108	10/14/2008 3:45:00 PM	DW03-108	<0.0001	<0.01	13	263		150	<0.005	<0.01
DW03-108	12/3/2008 2:00:00 PM	DW03-108	0.0001	<0.01	13.8	260		170	0.005	<0.01
DW03-112	6/25/2008 2:25:00 PM	DW03-112	0.0001	<0.01	5	259		140	<0.005	0.01
DW03-112	7/29/2008 10:00:00 AM	DW03-112	<0.0001	<0.01	5.5	236		140	<0.005	0.02
DW03-112	8/25/2008 12:00:00 PM	DW03-112	0.0002	<0.01	5.3	258		150	<0.005	0.02
DW03-112	10/14/2008 3:15:00 PM	DW03-112	0.0002	<0.01	3.9	220		120	<0.005	0.15
DW03-117	2/14/2008 9:00:00 AM	DW03-117	0.0001	<0.01	4.1	183		110	<0.005	<0.01
DW03-117	4/8/2008 12:30:00 PM	DW03-117	0.0002	<0.01	4	189		90	<0.005	<0.01
DW03-117	6/18/2008 3:15:00 PM	DW03-117	0.0002	<0.01	4.2	191		100	<0.005	0.01
DW03-117	9/2/2008 12:50:00 PM	DW03-117	0.0001	<0.01	4.3	192		100	<0.005	<0.01
DW03-122	1/23/2008 2:40:00 PM	DW03-122	0.0018	0.02	10.7	267		190	<0.005	<0.01
DW03-122	3/25/2008 12:30:00 PM	DW03-122	0.0018	<0.01	16	249		240	<0.005	<0.01
DW03-122	6/25/2008 9:05:00 AM	DW03-122	0.0028	0.01	12.6	304		180	<0.005	<0.01
DW03-122	7/28/2008 10:55:00 AM	DW03-122	0.0025	<0.01	12	269		170	<0.005	<0.01
DW03-122	9/17/2008 1:00:00 PM	DW03-122	0.0025	<0.01	11.2	294		180	<0.005	<0.01
DW03-122	11/11/2008 2:30:00 PM	DW03-122	0.0028	<0.01	11.4	269		180	<0.005	0.01
DW03-122	12/23/2008 11:00:00 AM	DW03-122	0.0026	0.01	11.8	381		160	<0.005	<0.01
DW03-122	4/22/2009 9:45:00 AM	DW03-122	0.0049	<0.01	14	358	80	220	0.002	<0.01
DW03-122	9/28/2009 3:15:00 PM	DW03-122	0.0027	<0.01	13.8	386	82	200	0.003	<0.01
DW04-138	1/22/2008 3:30:00 PM	DW04-138	<0.001	0.01	17.5	323		210	<0.005	0.03
DW04-138	3/12/2008 8:45:00 AM	DW04-138	<0.0001	<0.01	19	329		210	<0.005	0.12
DW04-138	4/15/2008 10:00:00 AM	DW04-138	<0.0001	<0.01	18.9	337		220	<0.005	<0.01
DW04-138	6/25/2008 12:42:00 PM	DW04-138	0.0005	<0.01	15	426		250	<0.005	<0.01
DW04-138	7/28/2008 11:45:00 AM	DW04-138	<0.0002	<0.01	15.4	417		270	<0.005	0.02
DW04-138	9/1/2008 11:45:00 AM	DW04-138	0.0005	<0.01	14.4	459		300	<0.005	0.05
DW04-138	10/14/2008 10:20:00 AM	DW04-138	0.0007	<0.01	14.5	473		290	0.006	0.03
DW04-138	11/11/2008 1:00:00 PM	DW04-138	0.0009	<0.01	15.1	443		300	<0.005	0.08
DW04-138	12/23/2008 2:15:00 PM	DW04-138	0.001	<0.01	14.2	622		300	<0.005	<0.01
DW04-138	2/4/2009 10:00:00 AM	DW04-138	0.0003	<0.01	14.8	423	81	260	<0.005	0.05
DW04-138	2/4/2009 10:00:00 AM	DW04-138	0.0003	<0.01	14.8	423		260	<0.005	0.05
DW04-145	7/29/2008 9:30:00 AM	DW04-145	0.0002	<0.01	5.2	357		220	<0.005	0.08
DW04-148	3/26/2008 9:00:00 AM	DW04-148	0.001	<0.01	20.9	443		300	<0.005	0.02
DW04-148	6/25/2008 8:45:00 AM	DW04-148	0.0015	0.02	22.5	478		300	<0.005	<0.01
DW04-148	7/28/2008 11:15:00 AM	DW04-148	0.0011	<0.01	22.2	433		300	<0.005	<0.01
DW04-148	9/17/2008 2:00:00 PM	DW04-148	0.0019	<0.01	23.8	573		390	0.013	<0.01
DW04-148	11/11/2008 3:00:00 PM	DW04-148	0.0017	<0.01	24.7	537		380	<0.005	0.03
DW05-149A	4/15/2008 10:45:00 AM	DW05-149A	0.0025	<0.01	37.2	733		470	0.128	<0.01
DW05-149A	6/25/2008 11:15:00 AM	DW05-149A	0.0106	0.01	84.3	797		480	3.74	0.01
DW05-149A	7/29/2008 11:30:00 AM	DW05-149A	0.0093	<0.01	82.7	738		490	0.434	<0.01
DW05-149A	8/25/2008 10:45:00 AM	DW05-149A	0.0072	<0.01	71.8	785		500	0.139	<0.01
DW05-149A	9/17/2008 3:00:00 PM	DW05-149A	0.0045	<0.01	58.8	730		470	1.72	<0.01
DW05-149A	12/3/2008 1:00:00 PM	DW05-149A	0.0071	<0.01	64.6	714		490	2.68	<0.01
DW05-149A	2/4/2009 11:30:00 AM	DW05-149A	0.0024	<0.01	29.1	611	81	400	0.136	<0.01
DW05-149A	2/4/2009 11:30:00 AM	DW05-149A	0.0024	<0.01	29.1	611		400	0.136	<0.01
DW05-149A	3/24/2009 2:30:00 PM	DW05-149A	0.0019	<0.01	27.3	667	98	430	0.18	<0.01
DW05-149A	4/22/2009 8:45:00 AM	DW05-149A	0.0015	<0.01	27.8	698	111	440	0.035	<0.01
DW05-149A	6/29/2009 8:30:00 AM	DW05-149A	0.0021	<0.01	28.7	578	124	460	0.027	0.02
DW05-149A	7/28/2009 11:15:00 AM	DW05-149A	0.0015	<0.01	27.8	606	109	420	0.075	0.01
DW05-149B	6/25/2008 10:50:00 AM	DW05-149B	0.009	0.02	72.8	766		470	3.25	0.02
DW05-149B	7/29/2008 11:30:00 AM	DW05-149B	0.0075	<0.01	73.6	726		490	0.44	<0.01
DW05-149B	12/3/2008 12:40:00 PM	DW05-149B	0.004	<0.01	37.3	625		400	0.414	0.02
DW05-149B	3/24/2009 2:15:00 PM	DW05-149B	0.0018	<0.01	23.8	555	79	350	0.055	<0.01
DW05-149B	4/22/2009 8:30:00 AM	DW05-149B	0.0015	<0.01	25.6	575	98	360	0.034	<0.01
DW05-151	6/25/2008 1:55:00 PM	DW05-151	0.0005	<0.01	4	440		260	0.028	<0.01
DW05-151	7/29/2008 9:00:00 AM	DW05-151	0.0005	<0.01	4	398		260	<0.005	0.02
DW05-151	8/25/2008 2:20:00 PM	DW05-151	0.001	<0.01	4	450		260	<0.005	<0.01
DW05-151	9/2/2008 11:30:00 AM	DW05-151	0.0008	<0.01	4.1	437		250	<0.005	<0.01
DW05-151	10/14/2008 2:20:00 PM	DW05-151	0.0009	<0.01	3.8	407		250	<0.005	<0.01
DW05-151	11/12/2008 12:15:00 PM	DW05-151	0.0008	<0.01	4	372		240	<0.005	<0.01

Attachment A Fort Knox dewatering well groundwater data 2008/2009

Site Number	Sample Date	Site Number	Selenium, Dissolved (mg/L)	Silver, Dissolved (mg/L)	Sodium, Dissolved (mg/L)	Specific Conductance (umhos/cm @ 25C)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Weak Acid Dissociable Cyanide, mg/L	Zinc, Dissolved (mg/L)
DW05-151	7/27/2009 10:30:00 AM	DW05-151	0.0011	<0.01	3.6	407	89	260	<0.003	<0.01
DW05-151	9/28/2009 2:00:00 PM	DW05-151	0.0011	<0.01	7	431	135	270	<0.003	0.08
DW05-153	12/23/2008 3:45:00 PM	DW05-153	0.0002	<0.01	5	275		90	<0.005	<0.01
DW05-153	2/4/2009 11:15:00 AM	DW05-153	<0.0001	<0.01	5.8	237	22	140	<0.005	<0.01
DW05-153	2/4/2009 11:15:00 AM	DW05-153	<0.0001	<0.01	5.8	237		140	<0.005	<0.01
DW05-153	4/22/2009 10:45:00 AM	DW05-153	<0.0001	<0.01	6.6	254	22	160	<0.002	0.12
DW05-153	5/25/2009 3:00:00 PM	DW05-153	<0.0001	<0.01	6	254	22	130	<0.003	<0.01
DW05-153	6/29/2009 10:00:00 AM	DW05-153	<0.0001	<0.01	5.9	211	21	160	<0.003	<0.01
DW05-153	7/27/2009 3:00:00 PM	DW05-153	<0.0001	<0.01	6	245	22	150	<0.003	<0.01
DW05-153	9/15/2009 12:15:00 PM	DW05-153	<0.0001	<0.01	5.7	212	23	140	<0.003	0.04
DW05-160	6/30/2008 9:00:00 AM	DW05-160	0.0003	<0.01	3.9	154		100	<0.005	<0.01
DW05-160	9/1/2008 11:00:00 AM	DW05-160	0.0004	<0.01	4.4	158		90	<0.005	<0.01
DW05-160	10/15/2008 3:15:00 PM	DW05-160	0.0004	<0.01	4.5	164		90	<0.005	<0.01
DW06-170	7/30/2008 8:10:00 AM	DW06-170	0.0057	<0.01	13.9	428		270	<0.005	<0.01
DW06-170	8/26/2008 1:45:00 PM	DW06-170	0.0102	<0.01	16.2	540		380	0.01	<0.01
DW06-170	9/17/2008 12:30:00 PM	DW06-170	0.0051	<0.01	16	523		350	<0.005	<0.01
DW06-170	2/4/2009 9:30:00 AM	DW06-170	0.0039	<0.01	13.7	459	104	310	<0.005	0.02
DW06-170	2/4/2009 9:30:00 AM	DW06-170	0.0039	<0.01	13.7	459		310	<0.005	0.02
DW07-175	2/11/2008 9:00:00 AM	DW07-175	0.0032	<0.01	5.7	170		80	<0.005	0.02
DW07-175	3/5/2008 9:30:00 AM	DW07-175	0.005	<0.01	6.5	258		110	<0.005	<0.01
DW07-175	4/15/2008 8:34:00 AM	DW07-175	0.0017	<0.01	7.1	191		110	<0.005	<0.01
DW07-180	1/23/2008 3:30:00 PM	DW07-180	0.0005	0.01	22.9	264		180	<0.005	0.06
DW07-180	3/25/2008 12:45:00 PM	DW07-180	0.0022	<0.01	22.2	264		180	<0.005	<0.01
DW07-180	6/25/2008 9:25:00 AM	DW07-180	0.0013	<0.01	21.6	276		160	<0.005	<0.01
DW07-180	7/28/2008 10:30:00 AM	DW07-180	0.0012	<0.01	22.1	250		180	<0.005	<0.01
DW07-180	8/26/2008 2:30:00 PM	DW07-180	0.0015	<0.01	21.1	266		160	<0.005	<0.01
DW07-180	11/11/2008 1:45:00 PM	DW07-180	0.0018	<0.01	21.6	244		160	<0.005	0.02
DW07-180	12/23/2008 11:30:00 AM	DW07-180	0.0047	0.01	21.3	395		170	<0.005	<0.01
DW07-180	4/22/2009 10:00:00 AM	DW07-180	0.0012	<0.01	21.1	294	53	180	<0.002	<0.01
DW07-180	5/25/2009 2:00:00 PM	DW07-180	0.0034	<0.01	20.8	314	56	190	<0.003	<0.01
DW07-180	6/24/2009 2:00:00 PM	DW07-180	0.0076	<0.01	21.3	286	71	220	0.003	<0.01
DW07-180	7/28/2009 10:00:00 AM	DW07-180	0.0051	<0.01	19.9	306	58	200	0.004	<0.01
DW07-189	2/4/2009 10:30:00 AM	DW07-189	0.0003	<0.01	3.1	170	29	100	<0.005	0.12
DW07-189	3/24/2009 1:15:00 PM	DW07-189	0.0002	<0.01	3.5	199	30	120	<0.005	0.11
DW07-189	3/24/2009 1:45:00 PM	DW07-189	<0.0001	<0.01	6	246	20	150	<0.005	<0.01
DW07-189	4/22/2009 8:15:00 AM	DW07-189	0.0003	<0.01	3.6	227	39	130	<0.002	0.12
DW07-189	6/29/2009 9:30:00 AM	DW07-189	0.0004	<0.01	3.5	223	55	180	<0.003	0.12
DW07-189	7/28/2009 10:45:00 AM	DW07-189	0.0004	<0.01	3.7	259	51	160	<0.003	0.1
DW08-188	2/4/2009 10:15:00 AM	DW08-188	<0.0001	<0.01	25.5	501	148	340	<0.005	0.09
DW08-188	5/25/2009 2:30:00 PM	DW08-188	0.0001	<0.01	26.9	547	157	340	<0.003	0.07
DW08-188	6/24/2009 2:45:00 PM	DW08-188	0.0004	<0.01	26.6	484	170	340	<0.003	0.38
DW08-188	7/27/2009 11:45:00 AM	DW08-188	0.0001	<0.01	24.6	531	151	360	<0.003	0.07
DW08-188	9/15/2009 10:30:00 AM	DW08-188	0.0002	<0.01	25.5	451	160	350	<0.003	0.17
DW08-191	2/4/2009 9:15:00 AM	DW08-191	0.0018	<0.01	17.5	368	59	230	<0.005	0.05
DW08-191	9/28/2009 3:45:00 PM	DW08-191	0.0021	<0.01	20.6	499	95	310	0.01	0.02
DW09-207	7/27/2009 1:30:00 PM	DW09-207	0.0003	<0.01	14.9	242	31	160	<0.003	<0.01
DW09-207	9/15/2009 11:45:00 AM	DW09-207	<0.0001	<0.01	15.5	197	33	140	0.005	<0.01
DW09-211	7/27/2009 11:15:00 AM	DW09-211	0.0003	<0.01	15.9	410	69	270	0.004	0.01
DW09-211	9/15/2009 11:30:00 AM	DW09-211	0.0002	<0.01	18.8	323	61	240	<0.003	0.02
DW-206	5/26/2009 10:30:00 AM	DW-206	0.0013	<0.01	20.2	399	74	270	0.008	<0.01
DW-206	7/28/2009 9:30:00 AM	DW-206	0.001	<0.01	19.2	368	84	250	<0.003	0.03
DW98-40	1/29/2008 9:00:00 AM	DW98-40	0.0001	<0.01	12.8	291		180	<0.005	0.02
DW98-40	2/14/2008 7:30:00 AM	DW98-40	0.0002	<0.01	14.5	290		190	<0.005	<0.01
DW98-40	3/12/2008 7:45:00 AM	DW98-40	<0.0001	<0.01	17.2	296		190	<0.005	<0.01
DW98-40	4/15/2008 9:00:00 AM	DW98-40	0.0002	<0.01	14.2	296		190	<0.005	<0.01
DW98-40	6/25/2008 3:15:00 PM	DW98-40	<0.0001	0.01	12.9	285		170	<0.005	<0.01
DW98-40	7/29/2008 11:00:00 AM	DW98-40	<0.0001	<0.01	12	230		140	<0.005	<0.01
DW98-51	1/22/2008 2:30:00 PM	DW98-51	0.0002	0.01	4.3	250		150	<0.005	<0.01
DW98-51	2/11/2008 8:15:00 AM	DW98-51	0.0002	<0.01	4.9	239		120	<0.005	<0.01
DW98-51	3/5/2008 8:45:00 AM	DW98-51	0.0002	<0.01	4.8	193		140	<0.005	<0.01
DW98-51	4/8/2008 1:15:00 PM	DW98-51	0.0002	<0.01	4.9	253		130	<0.005	0.02
DW98-51	6/18/2008 3:45:00 PM	DW98-51	<0.0001	<0.01	5	261		140	0.007	<0.01
DW98-51	7/23/2008 10:45:00 AM	DW98-51	0.0003	<0.01	5.1	266		150	<0.005	<0.01
DW98-51	8/25/2008 3:00:00 PM	DW98-51	0.0002	<0.01	4.7	260		620	<0.005	0.04
DW98-51	9/2/2008 12:15:00 PM	DW98-51	0.0002	<0.01	4.9	251		140	<0.005	<0.01
DW98-51	10/14/2008 2:45:00 PM	DW98-51	0.0002	<0.01	4.7	241		130	<0.005	0.03
DW98-51	11/12/2008 11:45:00 AM	DW98-51	0.0001	<0.01	4.9	219		130	<0.005	0.03
DW98-51	12/3/2008 1:30:00 PM	DW98-51	0.0002	<0.01	4.5	237		130	<0.005	<0.01
DW98-51	7/27/2009 10:15:00 AM	DW98-51	0.0002	<0.01	3.6	193	21	110	<0.003	<0.01
DW98-51	9/28/2009 2:30:00 PM	DW98-51	0.0003	<0.01	4.2	340	30	130	<0.003	<0.01
DW99-107	7/27/2009 2:15:00 PM	DW99-107	0.0007	<0.01	3.7	196	32	120	0.003	<0.01

< Value not detected at the method detection lim< Value not detected at the method detection limit (MDL). Value shown is MDL.

ATTACHMENT G
Spill Reporting Log

Fort Knox Mine Spill Log 2009

Spill Number	Date	Time	Location	Material	Quantity	Equipment	Cause	Cleanup Measures	Disposal	Agency Notified	Date	Time
09-01-01	1/4/09	12:00 PM	Bullrail Fueling Island	10W Hydraulic Fluid	100 gallons	FHT074	Blown hydraulic hose	Excavation,Absorbs	Snow/ice barreled, burn absorbs	DEC / John Ebel	1/5/09	8:00 AM
09-01-02	1/7/09	11:15 AM	Hot Start Area	30w oil	25 gallons	FHT072	hose failure due to vent freeze-up	Excavation,Absorbs	Soil to waste dump, burn absorbs	DEC		
09-03-03	1/27/09	3:15 PM	Shop Fueling Area	Diesel	50 gallons	FT010	overflow valve failed	Excavation,Absorbs	Snow/ice barreled, burn absorbs	DEC / Paul Lhotka	1/27/09	3:15 PM
09-01-04	2/4/09	2:05 PM	Mobil Main. Tire Pad	30w oil	15 gallons	FHT037	Cold oil pushed past seal	Excavation,Absorbs	Snow to wash bay, burn absorbs	DEC / Ed Meggert	2/4/09	2:05 PM
09-05-05	2/5/09	10:00 AM	Bullrail Fueling Island	Antifreeze	10 gallons	LB074	Failed Radiator Cap	Excavation,Absorbs	Oil/Water Separator	DEC/Paul Lohtka	2/6/09	11:49 AM
09-01-06	2/24/09	12:00:00 PM	1220 Bench	15/40w oil	30 gallons	HT-4	Blown Engine	Excavation,Absorbs	Soil to waste dump, burn absorbs	DEC/ Greg Lippmann	2/24/09	3:00 PM
09-02-07	3/6/09	2:20 AM	Cold Storage	Synthetic Grease	1 gallon	Container	Forks punctured grease container	Absorbs	Absorbs to Smart Ash Burners	EOM Report	4/1/09	8:00 AM
09-01-08	3/7/09	9:45 AM	In front of MEM Shop	10W Oil	5 gallons	HT-1	Hose Failure	Absorbs	Absorbs to Smart Ash Burners	EOM Report	4/1/09	8:00 AM
09-01-09	3/11/09	7:30 AM	East Melba Intersection	Hydraulic Oil	10 gallons	BT-7	Hose Failure	Excavation,Absorbs	Soil to waste dump, burn absorbs	Paul Lhotka	3/11/09	9:20 AM
09-01-10	3/17/09	2:00 PM	Bullrail Fueling Island	Hydraulic Oil	2 gallons	HT-6	Blown Seal	Absorbs	Absorbs to Smart Ash Burners	EOM Report	4/1/09	8:00 AM
09-01-11	3/30/09	1:00 PM	MEM Smart Ash Burner	5EP Oil (Crusher)	2 gallons	NA	Absorb bag leaked oil	Absorbs/shovel	Oil/Water Separator	EOM Report	4/1/09	8:00 AM
09-01-12	3/30/09	2:30 PM	Hot Start Area	15/40w oil	3 gallons	HT-72	Engine Oil Seal Failed	Absorbs	Absorbs to Smart Ash Burners	EOM Report	4/1/09	8:00 AM
09-06-13	5/1/09	4:15 PM	East Side of Detox Bld.	Process Solution	5 gallons	Cooling Tower	Discharge Line Leak	Excavation	Soil Returned to Process	DEC-Brian Jackson	5/1/09	4:50 PM
09-06-14	5/1/09	6:30 PM	East Side of Detox Bld.	Process Solution	15 gallons	Cooling Tower	Recirc Pump Leak	Excavation	Soil Returned to Process	Dec Hotline/ Amanda	5/1/09	6:30 PM
09-01-15	5/12/09	3:05 AM	South Side of Heap Leach	Hydraulic Oil	22 gallons	HE-1251 Exc.	Hose Failure	Excavation,Absorbs	Burn Absorbs/Barrel Soil	DEC-/Trish Jennings	5/12/09	6:46 AM
09-01-16	5/15/09	9:00 PM	Phase 7, 1710 bench	10W Hydraulic Fluid	5 gallons	DR-3	Blown hydraulic hose	Excavation	Soil to waste dump, burn absorbs	DEC/Tom Deruyter	5/15/09	9:00 AM
09-01-17	5/18/09	4:15 PM	South Side of Warm Storage	Hydraulic Oil	3 gallons	Air Compressor	Hose Failure	Absorbs	Absorbs to Smart Ash Burners	EOM Report	6/1/09	8:00 AM
09-01-18	5/23/09	9:30 AM	Phase 7 Waste Dump	Hydraulic Oil	10 gallons	HT-6	Lose Hose Clamp	Absorbs	Absorbs to Smart Ash Burners	DEC/Dennis Harwood	5/25/09	8:10 AM
09-01-19	5/30/09	11:00 PM	North Side Heap Leach	Hydraulic Oil	1.5 gallons	Sakai Roller	Hydraulic Line Failure	Absorbs/shovel	Burn Absorbs/Barrel Soil	ADEC/EOM	6/1/09	2:30 PM
09-01-20	7/26/09	1:00 PM	2050 Bench	Hydraulic Oil	10 gallons	SH-5	Hydraulic Hose Failure	Excavation,Absorbs	Soil to waste dump, burn absorbs	DEC/Tom Deruyter	7/27/09	9:40 AM
09-01-21	7/29/09	9:00 AM	Fish Creek Bullrail	10W Oil	3 gallons	HT-1	Power Steering Hose Leak	Excavation,Absorbs	Burn Absorbs/Barrel Soil	EOM Report	8/3/09	8:00 AM
09-01-22	9/1/09	3:00 PM	Cold Storage	10W Oil	10 gallons	Rebuild Component	Component not drained	Absorbs/shovel	Burn Absorbs/Barrel Soil	DEC-Ghormley	9/2/09	8:50 AM
09-05-23	9/8/09	8:30 AM	Hot Start Area	Antifreeze	5 gallons	HT-39	Hose Failure	Absorbs/shovel	Burn Absorbs/Barrel Soil	DEC-Peggy Wandell	9/8/09	12:00 PM
09-03-24	9/8/09	3:15 PM	Hot Start Area	Diesel	5 gallons	Haul Truck	Overfilled Fuel Tank	Excavation,Absorbs	Burn Absorbs/Barrel Soil	DEC - EOM Report	9/30/09	5:00 PM
09-01-25	9/9/09	1:00 PM	970 Bench in Pit	AW-46 Oil	5 gallons	SH-5	Hydraulic Hose Failure	Excavation,Absorbs	Soil to waste dump, burn absorbs	DEC - EOM Report	9/30/09	5:00 PM
09-01-26	9/11/09	4:00 PM	Outside Bay 7	10 W Oil	3 gallons	DZ-2	Hose Failure	Excavation,Absorbs	Burn Absorbs/Barrel Soil	DEC - EOM Report	9/30/09	5:00 PM
09-01-27	9/11/09	3:00 AM	940 Level in Pit	10W Oil	3 gallons	DZ-2	Blown O-Ring	Excavation,Absorbs	Soil to waste dump, burn absorbs	DEC - EOM Report	9/30/09	5:00 PM
09-03-28	9/18/09	12:00 PM	Ramp Leading to Pit	Diesel	10 gallons	FT-5	Overfilled Fuel Tank	Excavation,Absorbs	Soil to waste dump, burn absorbs	DEC- Peggy Wandell	9/18/09	12:48 PM
09-05-29	9/25/09	11:00 AM	Powder Mag	Antifreeze	8 gallons	Emulsion Silo	Glycol system not emptied	Excavation,Absorbs	Soil to waste dump, burn absorbs	DEC- Peggy Wandell	9/25/09	11:53AM
09-01-30	9/28/09	3:51 PM	MEM Shop	ATF	3 gallons	FT-6	Leaky Hose	Absorbs	Burn Absorbs in Smart Ash Burner	EOM Report	9/30/09	5:00 PM
09-01-31	9/29/09	9:30 PM	Wash Bay Door	10 W Oil	4 gallons	GR-7	Broken Fitting	Absorbs	Burn Absorbs in Smart Ash Burner	EOM Report	9/30/09	5:00 PM
09-01-32	9/30/09	8:20 AM	Mill Parking Lot	Hydraulic Oil	15 gallons	RT755	Broken Filter Cover	Excavation,Absorbs	Burn Absorbs/Barrel Soil	DEC-Brian Jackson	10/1/09	3:33 PM
09-01-33	10/3/09	1:00 PM	Bullrail	10 W Oil	15 gallons	FT-10	Hose Failure	Excavation,Absorbs	Burn Absorbs/Barrel Soil	DEC-Tom DeRuyter	10/5/09	10:03 PM
09-01-34	10/19/09	11:30 AM	Phase 7 Waste Dump	10 W Oil	30 gallons	LR-10	Hose Failure	Excavation,Absorbs	Soil to waste dump, burn absorbs	DEC-Voice Mail	10/19/09	4:00 PM
09-01-35	11/2/09	1:30 AM	Phase 6 1000 Level	ATF	10 gallons	DR-4	Overfilled Containment	Excavation,Absorbs	Soil to waste dump, burn absorbs	DEC- Wes Ghormley	11/3/09	11:29 AM
09-01-36	11/3/09	10:00 AM	1030 Level in Pit	10 W Oil	4 gallons	FT-6	Overfilled Tank	Excavation,Absorbs	Burn Absorbs/Barrel Soil	DEC- Wes Ghormley	11/3/09	11:29 AM
09-01-37	11/9/09	2:00 PM	Bull Rail	30 W Oil	5 gallons	DT-2	Oill Plug Fell Out	Absorbs	Burn Absorbs in Smart Ash Burner	DEC EOM Report	12/1/09	8:00 AM
09-01-38	11/20/09	11:00 AM	910 Bench	ATF	2 gallons	PT-6	Hydraulic Line Failure	Absorbs	Absorbs to Smart Ash Burners	DEC EOM Report	12/1/09	8:00 AM
09-01-39	12/8/09	9:00 AM	Hot Start Area	Hydraulic Oil	15 gallons	HT-1	Hose Leak	Absorbs	Absorbs to Smart Ash Burners	DEC- Peggy Wandell	12/8/09	11:53 AM
09-01-40	12/9/09	2:30 PM	Phase 7	ATF	35 gallons	Drill 1	Bolts broke on pump	Absorbs	Absorbs to Smart Ash Burners	DEC-Peggy Wandell	12/9/09	3:56 PM
09-05-41	12/30/09	3:00 PM	Powder Mag	Antifreeze	1 gallon	PT-4	Coolant Hose Leak	Excavation,Absorbs	Soil to waste dump, burn absorbs	DEC-Wes Ghormley	12/30/09	4:39 PM

Spill Number Key: 1- Oil, 2-Grease, 3-Diesel, 4-Gas, 5-Coolant, 6-Process Solution, 7-Reagent, 8-Blasting Emulsion

ATTACHMENT H
Inert Solid Waste Landfill Summary

KINROSS **Fort Knox Mine**
FAIRBANKS, ALASKA

Fairbanks Gold Mining, Inc
A subsidiary of Kinross Gold Corp.
PO Box 73726
Fairbanks, AK 99707-3726

Phone: (907) 488-4653
Fax: (907) 490-2290
www.kinross.com

CERTIFIED MAIL 7007 1490 0001 1641 1125

January 22, 2010

Mr. Tim Pilon
State of Alaska ADEC
610 University Avenue
Fairbanks, Alaska 99709-3643

RE: Notice to ADEC concerning Solid Waste Disposal Permit #2006-DB0043.

Dear Mr. Pilon:

This is to inform you of the changes to the solid waste disposal sites at the Fort Knox Mine during 2008 & 2009.

The landfill opened 6/27/07 on the upper Barnes Creek Waste Dump was closed on 12/30/07 and a new landfill was opened immediately adjacent to the old pit. Please find the coordinates below.
The coordinates for the landfill opened 12/30/07 are:

Name	Northing	Easting	Elevation
200	15059.63	6151.50	1888.132
201	15037.25	6137.40	1887.508
202	15126.67	6012.72	1891.480
203	15144.28	6033.51	1890.645

The landfill location did not change in 2008.

On 2/24/09 the landfill that was opened 12/30/07 was closed and a new landfill was opened on the Upper Barnes Creek Waste Dump that is still active at this time.
Please find the coordinates below.

KINROSS **Fort Knox Mine**
FAIRBANKS, ALASKA

Fairbanks Gold Mining, Inc
A subsidiary of Kinross Gold Corp.
PO Box 73726
Fairbanks, AK 99707-3726

Phone: (907) 488-4653
Fax: (907) 490-2290
www.kinross.com

Coordinates for the landfill opened 2/24/09 are:

Name	Northing	Easting	Elevation
200	16159.662	6022.474	1886.132
201	16294.478	6141.417	1888.508
202	16318.954	6109.911	1890.487
203	16181.996	5989.043	1888.253

The Crushed Barrel Pit was moved to the Upper Barnes Creek Waste Dump adjacent to the new landfill on 4/29/09. Please see coordinates below.

Name	Northing	Easting	Elevation
200	16366.741	6216.365	1889.643
201	16422.944	6264.555	1890.613
202	16470.346	6216.138	1893.668
203	16402.684	6168.540	1892.179

All closed landfills and the Crushed Barrel Pit were compacted and covered according to permit requirements.
The burn pit remains in the same place.

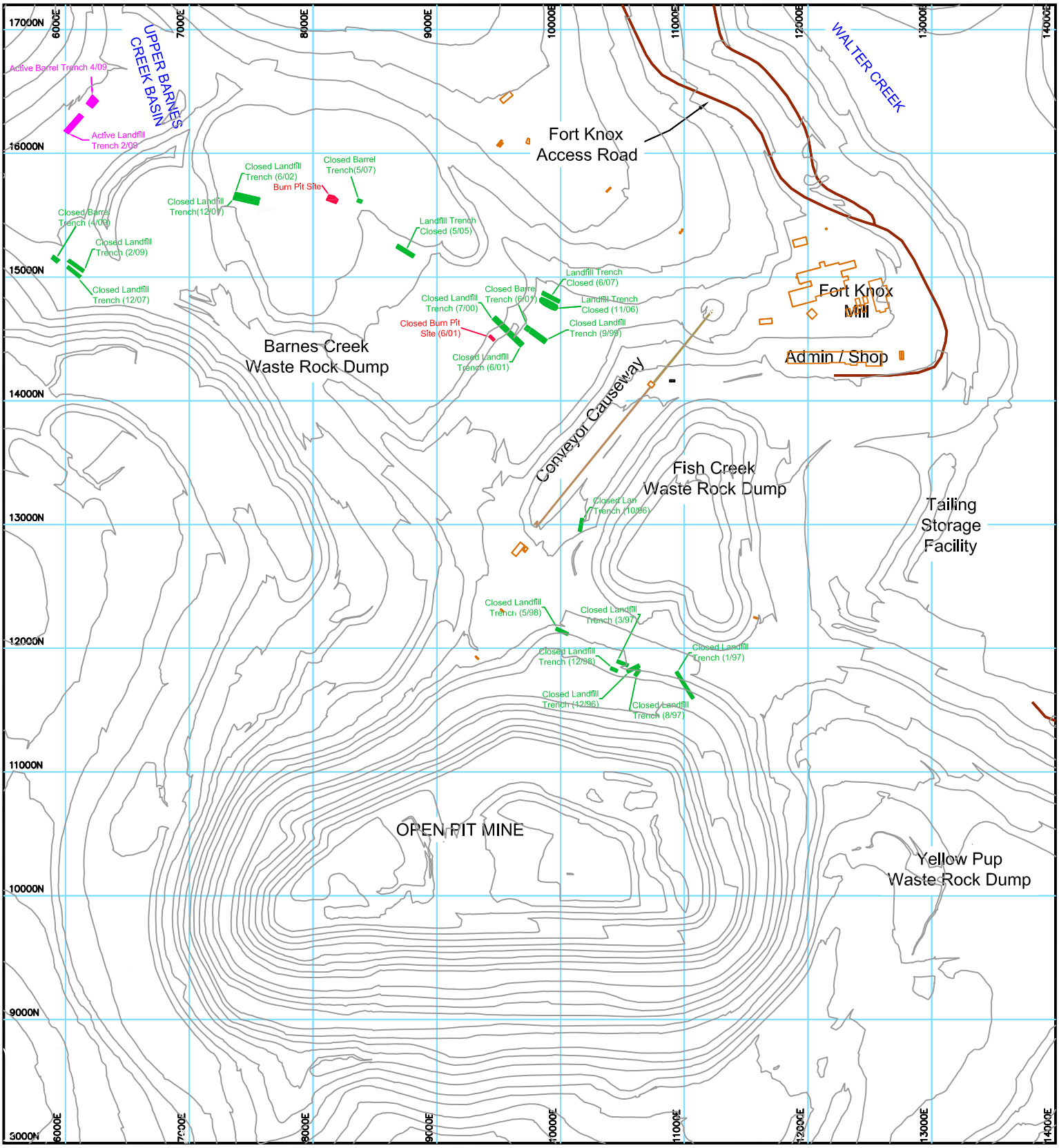
Please contact me at 488-4653, Ext 2702, or E-mail at dave.stewart@kinross.com if you have any questions.

Respectfully,

Dave Stewart
Environmental Coordinator

Xc: Doug Buteyn, ADEC
Brent Martellaro, ADNR
Lauren Roberts, FGMI
Delbert Parr, FGMI

Fort Knox Landfill Areas as of Dec 31, 2009



ATTACHMENT I
Financial Assurance

Table 8: Financial Assurance Amounts

Plan/Permit/Lease #	Amount ($)	Descriptions
Fort Knox Lease Nos. ADL 414960 and 414961, Plan of Operations Approval F20079852, and Waste Management Permit 2006-DB0043	$36,306,233	Fort Knox Mine Reclamation and Closure
Lease #ADL 416509 True North Plan of Operations Mill Site	$1,301,100	True North Mine Project Mill Site
Approved True North Reclamation and Closure Plan	$1,155,774	True North Plan of Operations
Lease #ADL 416471 True North Plan of Operations Approval	$80,000	True North Access Road
Post Reclamation Maintenance	$777,174	
TOTAL	**$39,620,280**	

An additional adjustment to the financial assurance for Fort Knox and True North is anticipated for 2010. Reclamation plans for both mines are being revised and updated. Once the reclamation plans are submitted and approved by all agencies, an additional adjustment of the LOC may be necessary.