

Data Validation Package

May 2006
Wayne Interim Storage Site,
Wayne, New Jersey

September 2006

BEST AVAILABLE COPY



**U.S. Department of Energy
Office of Legacy Management**

*Work Performed by the S.M. Stoller Corporation under DOE Contract No. DE-AC01-02GJ79491
for the U.S. Department of Energy Office of Legacy Management.
Approved for public release; distribution is unlimited.*



Department of Energy
Office of Legacy Management

DEC 07 2006

Allen D. Roos
Program and Project Management Division
New York District
U.S. Army Corps of Engineers
26 Federal Plaza
New York, NY 10278

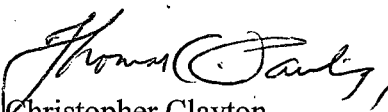
Subject: Transmittal of Data Validation Package for DOE Ground Water Sampling at the
Wayne, New Jersey, FUSRAP Site, May 2006

Dear Mr. Roos:

Enclosed are two copies of the subject document containing validated analytical results collected at the Wayne, New Jersey, FUSRAP site in May 2006. Please note the U. S. Department of Energy (DOE) analyzed samples for total uranium. This analysis requires significantly less sample volume than the isotopic uranium samples collected by your agency. This analysis also seemed prudent because the wells completed in the backfill materials yield little water, and results from 2005 indicated that isotopic abundances reflected natural uranium. This decision resulted in a cost savings for DOE and is standard practice for compliance monitoring once the DOE confirms relative isotopic abundances. You may wish to share these results with Mr. Gossnell in Kansas City. He had some interest in the DOE use of this method.

Please call me at (202) 586-9034 if you have any questions.

Sincerely,


for Christopher Clayton
Site Manager

Enclosure

cc w/enclosure:
S. Beecham, USACE
R. Plienness, DOE (e)
File Code: WYN 000 (A) (D. Roberts)

Sampling Events-DVP's/DVP Wayne New Jersey.doc

Contents

Sampling Event Summary	1
Figure 1. Wayne, New Jersey, Sample Location Map.....	3
Figure 2. Well Locations at the Wayne, New Jersey, FUSRAP Site	4
Data Assessment Summary.....	5
Laboratory Performance Assessment.....	8
Sampling Quality Control Assessment	15
Certification	16

Attachment 1—Assessment of Anomalous Data

Attachment 2—Data Presentation

Ground Water Quality Data
Time Versus Concentration Graphs

Attachment 3—Trip Report

Sampling Event Summary

Site: Wayne Interim Storage Site, Wayne, New Jersey

Sampling Period: May 22-26, 2006

The *Wayne Interim Storage Site Long Term Groundwater Monitoring Program* requires monitoring for a period of 5 years after the conclusion of remedial activities to determine ground water quality. This annual event was conducted by the United States Army Corps of Engineers (USACE) using USACE standard operating procedures. All samples analyzed on behalf of the U.S. Department of Energy (DOE) are duplicates of samples collected by the USACE.

Twenty wells were sampled as listed in Table 1 and shown on Figure 1. Sixteen of the wells consist of eight well pairs; each containing one confined aquifer and one unconfined aquifer well. Wells designated "S" or "A" are screened in the upper, unconfined aquifer; wells designated "D" or "B" are screened in the confined aquifer. Three additional unconfined wells (LTM-1S, LTM-2S, and LTM-3S) and one confined aquifer well (LTM-1D) are located within the backfilled portion of the site.

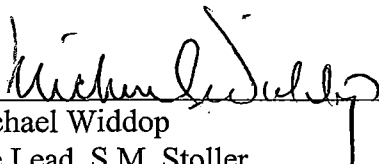
Table 1. Sample Locations

Ticket Number	Date	Location	Comment
NDY 037	5/24/2006	LTM-3S	Backfill monitor well, water level drawdown
NDY 033	5/23/2006	LTM-2S	Backfill monitor well, water level drawdown
NDY 034	5/23/2006	LTM-1S	Backfill monitor well, water level drawdown
NDY 026	5/23/2006	B37W08D	West perimeter, artesian
NDY 036	5/23/2006	B37W08SR	West perimeter, water level drawdown
NDY 027	5/23/2006	WISS-3B	West perimeter, artesian
NDY 035	5/23/2006	WISS-3A	West perimeter
NDY 028	5/23/2006	WISS-2A	South perimeter
NDY 032	5/23/2006	WISS-2B	South perimeter, artesian
NDY 031	5/23/2006	MW-BX-110	Northwest perimeter, artesian
NDY 030	5/23/2006	WISS-1AR	East perimeter
NDY 042	5/24/2006	MW-WT-109R	Northwest perimeter
NDY 029	5/23/2006	WISS-1B	East perimeter, artesian
NDY 044	5/24/2006	WISS-5AR	North central perimeter
NDY 040	5/24/2006	WISS-5B	North central perimeter, artesian
NDY 041	5/24/2006	WISS-6A	North perimeter
NDY 039	5/24/2006	WISS-6B	North perimeter, artesian
NDY 045	5/24/2006	B37W09D	East perimeter, Artesian
NDY 043	5/24/2006	B37W09S	East perimeter
NDY 038	5/24/2006	LTM-1D	Backfill monitor well

The concentrations of contaminants of concern in the wells sampled are compared to the criteria set in the Record of Decision (ROD) for the Wayne site. The only parameter detected above the ROD criteria was chromium in well B37W09D at 0.15 milligrams per liter (mg/L), exceeding the ROD criterion of 0.1 mg/L.

Time versus concentration graphs were prepared using results obtained by DOE in 2005 and 2006 and the available historical data obtained from the USACE and are included in this report. Review of these data indicates that the data from this sampling event are generally consistent with previously obtained values with no large analyte concentration changes observed in any of the wells with the following exceptions:

- An increase in lead concentration in well LTM-1S was noted, however at 0.0016 mg/L, the concentration remains below the U.S. Environmental Protection Agency (EPA) drinking water standard of 0.015 mg/L.



Michael Widdop
Site Lead, S.M. Stoller

Date 9/27/2006

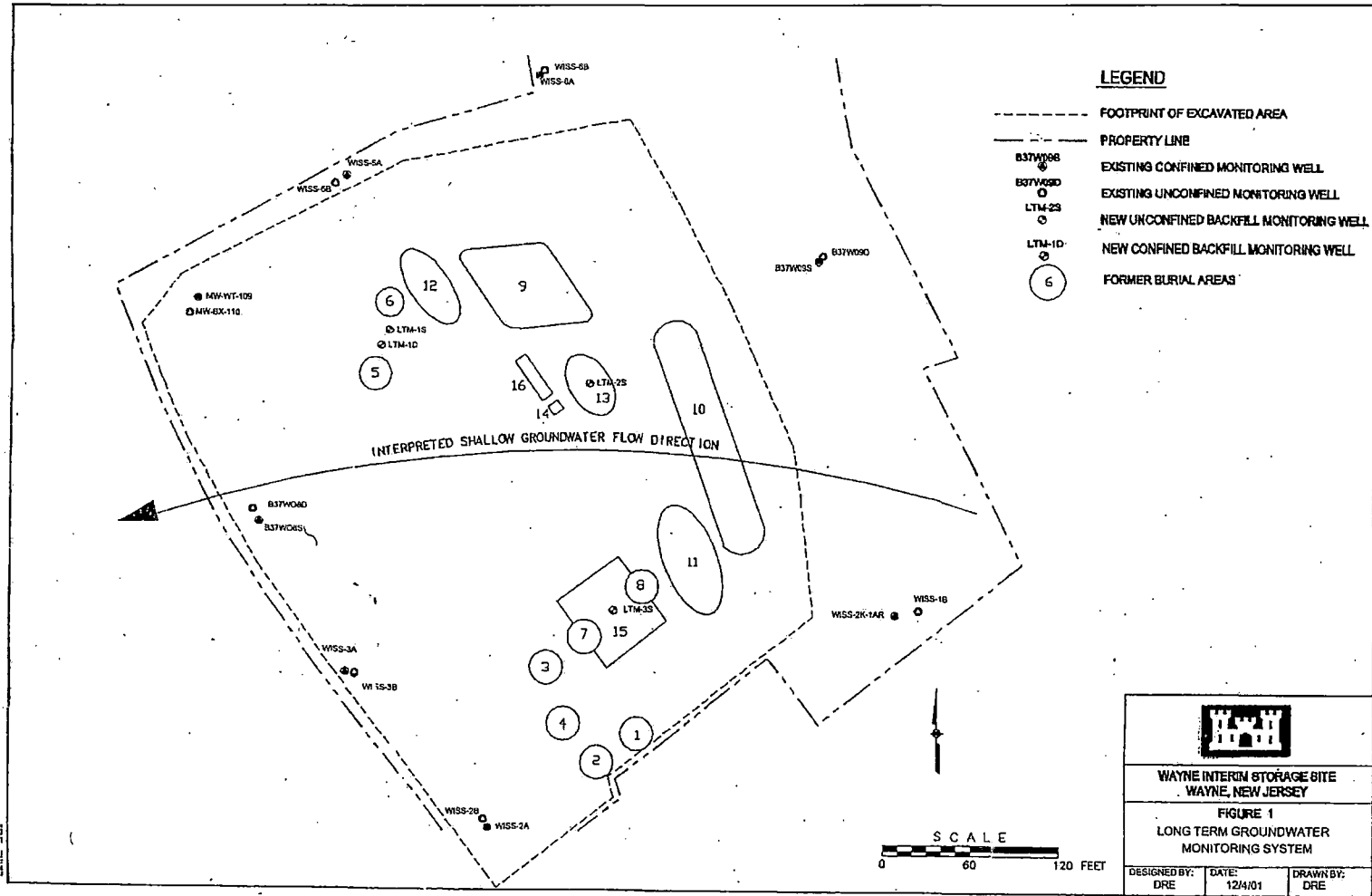


Figure 1. Wayne, New Jersey, Sample Location Map

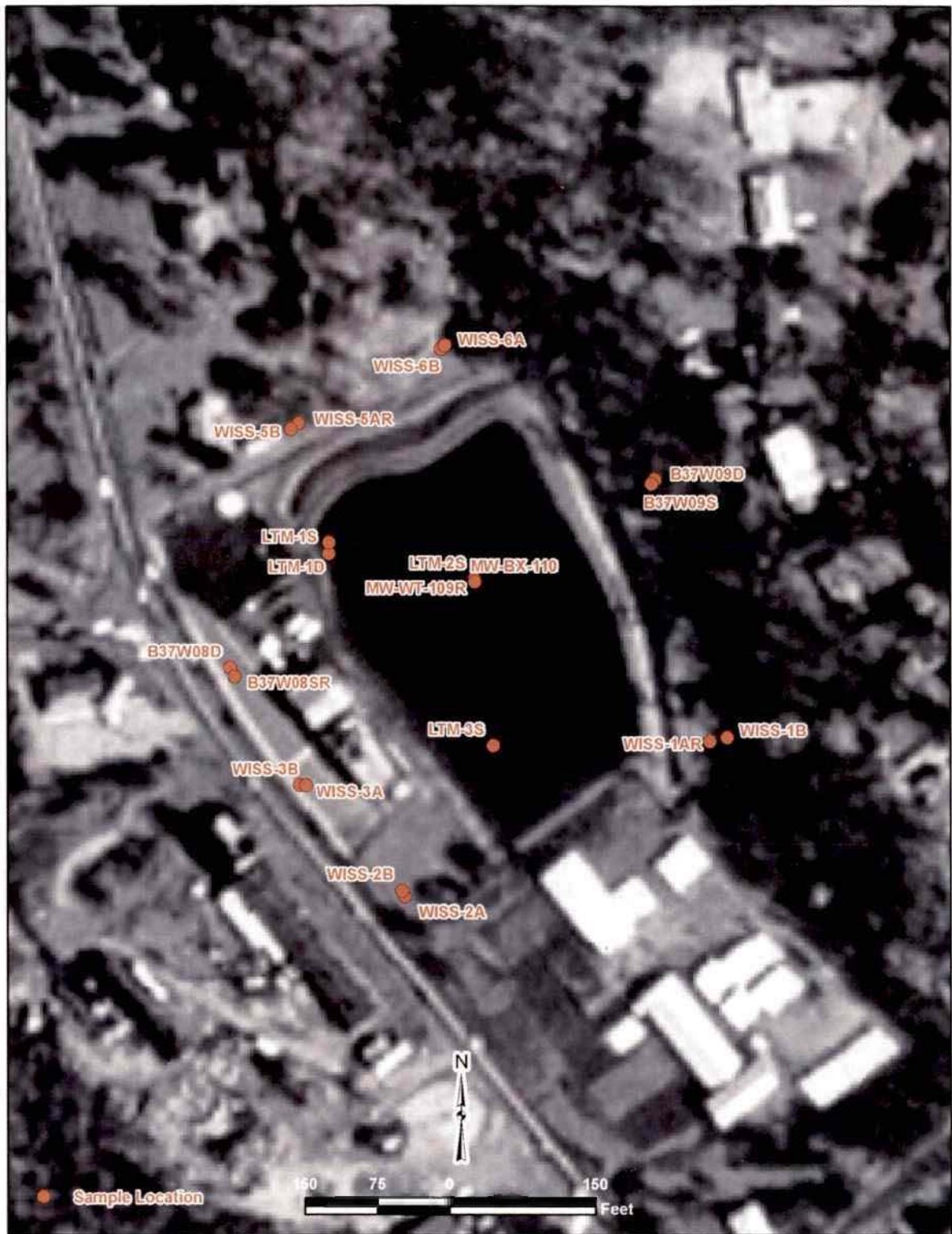


Figure 2. Well Locations at the Wayne, New Jersey, FUSRAP Site

Data Assessment Summary

Water Sampling Field Activities Verification Checklist

Project	<u>Wayne, New Jersey</u>	Date(s) of Water Sampling	<u>May 22-26, 2006</u>
Date(s) of Verification	<u>July 25, 2006</u>	Name of Verifier	<u>Steve Donivan</u>

	Response (Yes, No, NA)	Comments
1. Is the SAP the primary document directing field procedures? List other documents, SOP's, instructions.	No	All sampling was conducted by USACE
2. Were the sampling locations specified in the planning documents sampled?	Yes	
3. Was a pre-trip calibration conducted as specified in the above named documents?	NA	
4. Was an operational check of the field equipment conducted twice daily? Did the operational checks meet criteria?	NA	
5. Were the number and types (alkalinity, temperature, Ec, pH, turbidity, DO, ORP) of field measurements taken as specified?	NA	
6. Was the Category of the well documented?	NA	
7. Were the following conditions met when purging a Category I well: Was one pump/tubing volume purged prior to sampling? Did the water level stabilize prior to sampling? Did pH, specific conductance, and turbidity measurements stabilize prior to sampling? Was the flow rate less than 500 mL/min? If a portable pump was used, was there a 4 hour delay between pump installation and sampling?	NA	

Water Sampling Field Activities Verification Checklist (continued)

	Response (Yes, No, NA)	Comments
8. Were the following conditions met when purging a Category II well: Was the flow rate less than 500 mL/min?	NA	
Was one pump/tubing volume removed prior to sampling?	NA	
9. Were duplicates taken at a frequency of one per 20 samples?	Yes	USACE collected duplicates to be sent to a referee laboratory
10. Were equipment blanks taken at a frequency of one per 20 samples that were collected with nondedicated equipment?	NA	
11. Were trip blanks prepared and included with each shipment of VOC samples?	NA	
12. Were QC samples assigned a fictitious site identification number? Was the true identity of the samples recorded on the Quality Assurance Sample Log?	NA	
13. Were samples collected in the containers specified?	Yes	
14. Were samples filtered and preserved as specified?	Yes	
15. Were the number and types of samples collected as specified?	Yes	
16. Were chain of custody records completed and was sample custody maintained?	Yes	
17. Are field data sheets signed and dated by both team members?	NA	
18. Was all other pertinent information documented on the field data sheets?	NA	
19. Was the presence or absence of ice in the cooler documented at every sample location?	NA	
20. Were water levels measured at the locations specified in the planning documents?	NA	

Laboratory Performance Assessment

General Information

Report Number (RIN): 06050379
 Sample Event: May 22-26, 2006
 Site(s): Wayne Interim Storage Site, New Jersey
 Laboratory: Paragon Analytics
 Work Order No.: 0605215
 Analysis: Metals
 Validator: Steve Donovan
 Review Date: July 24, 2006

This validation was performed according to the *Environmental Procedures Catalog* (STO 6), "Standard Practice for Validation of Laboratory Data," GT-9(P) (2004). See attached Data Validation Worksheets for supporting documentation on the data review and validation. All analyses were successfully completed. The samples were prepared and analyzed using accepted procedures based on methods specified by line item code, which are listed in Table 1.

Table 1. Analytes and Methods

Analyte	Line Item Code	Prep Method	Analytical Method
Arsenic, As	GJO-13	SW-846 3005A	SW-846 6020A
Chromium, Cr	MET-A-020	SW-846 3005A	SW-846 6010B
Mercury, Hg	GJO-48	SW-846 3005A	SW-846 7470A
Metals, Pb, Sb, Tl	MET-A-026	SW-846 3005A	SW-846 6020A
Molybdenum, Mo	GJO-15	SW-846 3005A	SW-846 6020A
Uranium, U	GJO-01	SW-846 3005A	SW-846 6020A

Data Qualifier Summary

Analytical results were qualified as listed in Table 2. Refer to the sections below for an explanation of the data qualifiers applied.

Table 2. Data Qualifier Summary

Sample Number	Location	Analyte(s)	Flag	Reason
0605215-1	B37W09D	Sb	U	Less than 5 times the calibration blank
0605215-1	B37W09D	Pb	U	Less than 5 times the calibration blank
0605215-1	B37W09D	Tl	U	Less than 5 times the calibration blank
0605215-2	B37W09S	Sb	U	Less than 5 times the calibration blank
0605215-2	B37W09S	Pb	U	Less than 5 times the calibration blank
0605215-2	B37W09S	Tl	U	Less than 5 times the calibration blank
0605215-3	LTM-1D	Sb	U	Less than 5 times the calibration blank
0605215-3	LTM-1D	Pb	U	Less than 5 times the calibration blank

Table 2 (continued). Data Qualifier Summary

Sample Number	Location	Analyte(s)	Flag	Reason
0605215-3	LTM-1D	Tl	U	Less than 5 times the calibration blank
0605215-4	LTM-1S	Sb	U	Less than 5 times the calibration blank
0605215-4	LTM-1S	Tl	U	Less than 5 times the calibration blank
0605215-5	LTM-2S	Sb	U	Less than 5 times the calibration blank
0605215-5	LTM-2S	Pb	U	Less than 5 times the calibration blank
0605215-5	LTM-2S	Tl	U	Less than 5 times the calibration blank
0605215-6	LTM-3S	Sb	U	Less than 5 times the calibration blank
0605215-6	LTM-3S	Pb	U	Less than 5 times the calibration blank
0605215-7	MW-BX-110	Sb	U	Less than 5 times the calibration blank
0605215-7	MW-BX-110	Pb	U	Less than 5 times the calibration blank
0605215-7	MW-BX-110	U	U	Less than 5 times the calibration blank
0605215-8	MW-WT-109R	Sb	U	Less than 5 times the calibration blank
0605215-8	MW-WT-109R	Pb	U	Less than 5 times the calibration blank
0605215-8	MW-WT-109R	Mo	U	Less than 5 times the calibration blank
0605215-8	MW-WT-109R	Tl	U	Less than 5 times the calibration blank
0605215-9	WISS-1AR	Sb	U	Less than 5 times the calibration blank
0605215-9	WISS-1AR	Pb	U	Less than 5 times the calibration blank
0605215-9	WISS-1AR	Mo	U	Less than 5 times the calibration blank
0605215-9	WISS-1AR	Tl	U	Less than 5 times the calibration blank
0605215-10	WISS-1B	Sb	U	Less than 5 times the calibration blank
0605215-10	WISS-1B	Pb	U	Less than 5 times the calibration blank
0605215-10	WISS-1B	Tl	U	Less than 5 times the calibration blank
0605215-11	WISS-2A	Sb	U	Less than 5 times the calibration blank
0605215-11	WISS-2A	Pb	U	Less than 5 times the calibration blank
0605215-11	WISS-2A	Tl	U	Less than 5 times the calibration blank
0605215-12	WISS-2B	Sb	U	Less than 5 times the calibration blank
0605215-12	WISS-2B	Mo	U	Less than 5 times the calibration blank
0605215-13	WISS-3A	Sb	U	Less than 5 times the calibration blank
0605215-13	WISS-3A	Pb	U	Less than 5 times the calibration blank
0605215-14	WISS-3B	Sb	U	Less than 5 times the calibration blank
0605215-14	WISS-3B	Pb	U	Less than 5 times the calibration blank
0605215-14	WISS-3B	Mo	U	Less than 5 times the calibration blank
0605215-14	WISS-3B	U	U	Less than 5 times the calibration blank
0605215-15	WISS-5AR	Sb	U	Less than 5 times the calibration blank
0605215-15	WISS-5AR	Pb	U	Less than 5 times the calibration blank
0605215-15	WISS-5AR	Mo	U	Less than 5 times the calibration blank
0605215-16	WISS-5B	Sb	U	Less than 5 times the calibration blank
0605215-16	WISS-5B	Pb	U	Less than 5 times the calibration blank
0605215-16	WISS-5B	U	U	Less than 5 times the calibration blank
0605215-17	WISS-6A	Sb	U	Less than 5 times the calibration blank
0605215-17	WISS-6A	Pb	U	Less than 5 times the calibration blank
0605215-17	WISS-6A	Mo	U	Less than 5 times the calibration blank
0605215-18	WISS-6B	Sb	U	Less than 5 times the calibration blank
0605215-18	WISS-6B	Pb	U	Less than 5 times the calibration blank

Table 2 (continued). Data Qualifier Summary

Sample Number	Location	Analyte(s)	Flag	Reason
0605215-18	WISS-6B	Mo	U	Less than 5 times the calibration blank
0605215-18	WISS-6B	U	U	Less than 5 times the calibration blank
0605215-19	B37W08D	Sb	U	Less than 5 times the calibration blank
0605215-19	B37W08D	Pb	U	Less than 5 times the calibration blank
0605215-19	B37W08D	Mo	U	Less than 5 times the calibration blank
0605215-20	B37W08SR	Sb	U	Less than 5 times the calibration blank
0605215-20	B37W08SR	Pb	U	Less than 5 times the calibration blank
0605215-20	B37W08SR	Mo	U	Less than 5 times the calibration blank

Sample Shipping/Receiving

Paragon Analytics in Fort Collins, Colorado, received 20 water samples on May 25, 2006, under air bill number 8431 1255 0180 accompanied by a Chain of Custody (COC) form. The COC form was checked to confirm that all of the samples were listed on the form with sample collection dates and times, and that signatures and dates were present indicating sample relinquishment and receipt.

The sample submittal documents including the COC Form, the Sample Submittal Form, and the sample tickets had no errors or omissions.

Preservation and Holding Times

The sample shipment was received intact. All samples were received in the correct container types and were preserved correctly for the requested analyses and all samples were analyzed within the applicable holding times.

Laboratory Instrument Calibration

All laboratory instrument calibrations were performed correctly in accordance with the cited methods.

Method SW-846 6010B

Calibration for chromium was performed on June 6, 2006, using four calibration standards resulting in a calibration curve with a correlation coefficient (r^2) value greater than 0.995. The absolute value of the calibration curve intercept was less than three times the method detection limit (MDL). Calibration and laboratory spike standards were prepared from independent sources. Initial and continuing calibration verification (CCV) checks were made at the required frequency resulting in 14 CCVs. All calibration checks met the acceptance criteria. Reporting limit verification checks were made at the beginning and end of the analytical sequence to verify the linearity of the calibration curve near the practical quantitation limit and all results were within the acceptance range.

Method SW-846 6020A

Calibrations for antimony, lead, molybdenum, thallium, and uranium were performed on June 9, 2006, and for arsenic on June 15, 2006. The initial calibrations were performed using four calibration standards resulting in calibration curves with r^2 values greater than 0.995. The absolute values of the intercept of the calibration curves were less than 3 times the MDL. Calibration and laboratory spike standards were prepared from independent sources. Initial and CCV checks were made at the required frequency resulting in 13 CCVs. All calibration checks met the acceptance criteria with the exception of molybdenum CCV1. There were no samples associated with this CCV. A reporting limit verification check (CRI) was made at the required frequency to verify the linearity of the calibration curve near the practical quantitation limit. The CRI results met the acceptance criteria for all analytes. The mass calibration and resolution was checked at the beginning of each analytical run in accordance with the procedure. Internal standard recoveries were stable and within acceptance ranges.

Method SW-846 7470A

Calibration for mercury was performed on June 2, 2006, using four calibration standards resulting in a calibration curve r^2 value greater than 0.995. The absolute value of the calibration curve intercept was less than three times the MDL. Calibration and laboratory spike standards were prepared from independent sources. Initial and CCV checks were made at the required frequency resulting in three CCVs. All calibration checks met the acceptance criteria. A reporting limit verification check was made at the beginning of the analytical sequence to verify the linearity of the calibration curve near the practical quantitation limit and the result was within the acceptance range.

Method and Calibration Blanks

All initial and continuing calibration blank (CCB) results were below the practical quantitation limits for method 6010B and 6020A analytes with the exception of CCB1 for molybdenum. There were no samples associated with this CCB. In cases where blank concentration exceeded the instrument detection limit, the associated sample results were qualified with a "U" flag (not detected) when the sample result was greater than the MDL but less than 5 times the blank concentration.

Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Analysis

ICP interference check samples ICESA and ICSAB were analyzed at the required frequency to verify the instrumental interelement and background correction factors. All check sample results met the acceptance criteria for all analytes.

Matrix Spike Analysis

Matrix spikes were analyzed for antimony, arsenic, chromium, lead, molybdenum, thallium, and uranium as a measure of method performance in the sample matrix. The spike analyses resulted in acceptable recovery and precision for all analytes.

Laboratory Replicate Analysis

The laboratory replicate sample results demonstrate acceptable laboratory precision. The relative percent difference (RPD) values for the laboratory replicate samples and matrix spike duplicate sample results for non-radiochemical analytes were less than 20 percent.

Laboratory Control Sample

Laboratory control samples (LCS) were analyzed at the correct frequency to provide information on the accuracy of the analytical method and the overall laboratory performance, including sample preparation. The LCS results were acceptable for all analysis categories.

Metals Serial Dilution

Serial dilutions were prepared and analyzed for antimony, arsenic, chromium, lead, molybdenum, thallium, and uranium to monitor chemical or physical interferences in the sample matrix. The serial dilution results were not evaluated because the concentration of the undiluted sample was less than 100 times the practical quantitation limit.

Detection Limits/Dilutions

Samples were diluted in a consistent and acceptable manner when required. The samples were diluted prior to analysis of uranium to reduce interferences. The required detection limits were met for all analytes.

Completeness

Results were reported in the correct units for all analytes requested using contract-required laboratory qualifiers.

Electronic Data Deliverable (EDD) File

The EDD file arrived on June 26, 2006. The Sample Management System EDD validation module was used to verify that the EDD file was complete and in compliance with requirements. The module compares the contents of the file to the requested analyses to ensure all and only the requested data are delivered. The contents of the EDD file were manually examined to verify that the sample results accurately reflect the data contained in the sample data package.

SAMPLE MANAGEMENT SYSTEM

General Data Validation Worksheet

RIN: 6050379 Lab Code: PAR Validator: Steve Donovan Validation Date: 7/24/2006
 Site: WAYNE INTERIM STORAGE SITE Analysis Type: Metals General Chem Rad Organics
 # of Samples: 20 Matrix: WATER Requested Analysis Completed: Yes

Chain of Custody

Present: OK Signed: OK Dated: OK

Sample

Integrity: OK Preservation: OK Temperature: OK

Exceptions

Method	Analyte	Location	Ticket	Collection Date	Preparation Date	Analysis Date	Dilution Factor	Holding Time (hr)	Detection Limit (ug)

Comments: The reported detection limits are equal to or below contract requirements.
All samples were analyzed within the applicable holding times.

SAMPLE MANAGEMENT SYSTEM
Metals Data Validation Worksheet

RIN: 06050379 Lab Code: PAR Date Due: 6/22/2006
 Matrix: Water Site Code: WYN Date Completed: 6/22/2006

Analyte	Date Analyzed	CALIBRATION						Method Blank	LCS %R	MS %R	MSD %R	Dup. RPD	ICSAB %R	Serial Dil. %R	CRI %R
		Int.	R^2	ICV	CCV	ICB	CCB								
Antimony	06/09/2006	0.0000	0.9999	OK	OK	OK	OK	100.0	102.0			107.0		86.3	
Arsenic	06/15/2006	0.0000	0.9992	OK	OK	OK	OK	94.0	114.0			106.0	16.0	120.0	
Chromium	06/06/2006	0.0000	1.0000	OK	OK	OK	OK	102.0	97.0			86.0		101.0	
Chromium	06/06/2006											92.0		105.0	
Chromium	06/06/2006											91.0		115.0	
Lead	06/09/2006	0.0000	1.0000	OK	OK	OK	OK	104.0	110.0			102.0		91.4	
Mercury	06/02/2006	0.0000	1.0000	OK	OK	OK	OK	103.0							
Molybdenum	06/09/2006	0.0000	1.0000	OK	OK	OK	OK	96.0	101.0			106.0		100.0	
Thallium	06/09/2006	0.0000	0.9997	OK	OK	OK	OK	92.0	95.0			101.0		94.0	
Uranium	06/09/2006	0.0000	1.0000	OK	OK	OK	OK	105.0	112.0			110.0		89.5	

Comments: _____

Sampling Quality Control Assessment

The following information summarizes and assesses quality control for this sampling event.

Sampling Protocol

All samples were collected by the USACE using a low-flow rate procedure as specified in USACE standard operating procedures.

Equipment Blank Assessment

Collection and analysis of an equipment blank was not performed because all samples were collected with dedicated bladder pumps.

Certification

All laboratory analytical quality control criteria were met except as qualified in this report. The data qualifiers listed on the SEEPro database reports are defined on the last page of each report. All data in this package are considered validated and available for use.

Laboratory Coordinator:

Steve Donovan
Steve Donovan

9-25-2006
Date

Data Validation Lead:

Steve Donovan
Steve Donovan

9-25-2006
Date

Attachment 1
Assessment of Anomalous Data

Anomalous Data

Data from this sampling event were compared to the historical data obtained from USACE. Results are considered potentially anomalous if:

- (1) Identified low concentrations are not the result of low detection limits;
- (2) The concentration detected is not within 50 percent of historical minimum or maximum values; and
- (3) There were five or more historical samples for comparison.

Based on the criteria above, the lead concentration in well LTM-1S exceeds the historical maximum by more than 50 percent. Review of the analytical data indicated that it is unlikely that a laboratory error occurred and the data are acceptable as qualified.

In June 2005, the chromium and molybdenum concentrations measured in well B37W09D were listed on the Anomalous Data Review Checksheet as anomalously high. Results from this sampling event indicate that the concentrations of these metals returned to values within the historical range. However, the chromium concentration of 0.15 mg/L is still above the ROD criterion of 0.1 mg/L.

Attachment 2
Data Presentation

Ground Water Quality Data

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site
 REPORT DATE: 8/17/2006
 Location: B37W08D WELL West perimeter, artesian

Parameter	Units	Sample		Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID			Lab	Data	QA		
Antimony	mg/L	05/23/2006	N001	-	0.0001	B	U	#	.00002	
Arsenic	mg/L	05/23/2006	N001	-	0.0014			#	.0000075	
Chromium	mg/L	05/23/2006	N001	-	0.0031	B		#	.0018	
Dissolved Oxygen	mg/L	05/23/2006	N001	-	2.11			#		
Lead	mg/L	05/23/2006	N001	-	0.00016	B	U	#	.000023	
Mercury	mg/L	05/23/2006	N001	-	0.000015	B		#	.0000047	
Molybdenum	mg/L	05/23/2006	N001	-	0.00085	B	U	#	.00021	
Oxidation Reduction Potential	mV	05/23/2006	N001	-	3.4			#		
pH	s.u.	05/23/2006	N001	-	6.98			#		
Specific Conductance	umhos /cm	05/23/2006	N001	-	507			#		
Temperature	C	05/23/2006	N001	-	12.7			#		
Thallium	mg/L	05/23/2006	N001	-	0.000016	U		#	.000016	
Uranium	mg/L	05/23/2006	N001	-	0.0013			#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site
 REPORT DATE: 8/17/2006
 Location: B37W08SR WELL West perimeter, water level drawdown

Parameter	Units	Sample		Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID			Lab	Data	QA		
Antimony	mg/L	05/23/2006	N001	-	0.00012	B	U	#	.00002	
Arsenic	mg/L	05/23/2006	N001	-	0.00052			#	.0000075	
Chromium	mg/L	05/23/2006	N001	-	0.0018	U		#	.0018	
Dissolved Oxygen	mg/L	05/23/2006	N001	-	0.33			#		
Lead	mg/L	05/23/2006	N001	-	0.00026	B	U	#	.000023	
Mercury	mg/L	05/23/2006	N001	-	0.000019	B		#	.0000047	
Molybdenum	mg/L	05/23/2006	N001	-	0.00093	B	U	#	.00021	
pH	s.u.	05/23/2006	N001	-	6.59			#		
Specific Conductance	umhos/cm	05/23/2006	N001	-	906			#		
Temperature	C	05/23/2006	N001	-	11.3			#		
Thallium	mg/L	05/23/2006	N001	-	0.000016	U		#	.000016	
Turbidity	NTU	05/23/2006	N001	-	8			#		
Uranium	mg/L	05/23/2006	N001	-	0.0051			#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site
 REPORT DATE: 8/17/2006
 Location: B37W09D WELL East perimeter, Artesian

Parameter	Units	Sample		Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID			Lab	Data	QA		
Antimony	mg/L	05/24/2006	N001	-	0.00017	B	U	#	.00002	
Arsenic	mg/L	05/24/2006	N001	-	0.0012	E		#	.0000075	
Chromium	mg/L	05/24/2006	N001	-	0.15			#	.0018	
Dissolved Oxygen	mg/L	05/24/2006	N001	-	2.93			#		
Lead	mg/L	05/24/2006	N001	-	0.00039	B	U	#	.000023	
Mercury	mg/L	05/24/2006	N001	-	0.0000089	B		#	.0000047	
Molybdenum	mg/L	05/24/2006	N001	-	0.0091			#	.00021	
Oxidation Reduction Potential	mV	05/24/2006	N001	-	74			#		
pH	s.u.	05/24/2006	N001	-	7.63			#		
Specific Conductance	umhos /cm	05/24/2006	N001	-	592			#		
Temperature	C	05/24/2006	N001	-	12			#		
Thallium	mg/L	05/24/2006	N001	-	0.000092	B	U	#	.000016	
Turbidity	NTU	05/24/2006	N001	-	25.7			#		
Uranium	mg/L	05/24/2006	N001	-	0.00061			#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site
 REPORT DATE: 8/17/2006
 Location: B37W09S WELL East perimeter

Parameter	Units	Sample		Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID			Lab	Data	QA		
Antimony	mg/L	05/24/2006	N001	-	0.00017	B	U	#	.00002	
Arsenic	mg/L	05/24/2006	N001	-	0.00056			#	.0000075	
Chromium	mg/L	05/24/2006	N001	-	0.0042	B		#	.0018	
Dissolved Oxygen	mg/L	05/24/2006	N001	-	1.72			#		
Lead	mg/L	05/24/2006	N001	-	0.00017	B	U	#	.000023	
Mercury	mg/L	05/24/2006	N001	-	0.000011	B		#	.0000047	
Molybdenum	mg/L	05/24/2006	N001	-	0.0028			#	.00021	
Oxidation Reduction Potential	mV	05/24/2006	N001	-	139			#		
pH	s.u.	05/24/2006	N001	-	7.06			#		
Specific Conductance	umhos /cm	05/24/2006	N001	-	739			#		
Temperature	C	05/24/2006	N001	-	11.4			#		
Thallium	mg/L	05/24/2006	N001	-	0.000039	B	U	#	.000016	
Turbidity	NTU	05/24/2006	N001	-	0			#		
Uranium	mg/L	05/24/2006	N001	-	0.00085			#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site
 REPORT DATE: 8/17/2006
 Location: LTM-1D WELL Backfill monitor well

Parameter	Units	Sample		Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID			Lab	Data	QA		
Antimony	mg/L	05/24/2006	N001	-	0.00011	B	U	#	.00002	
Arsenic	mg/L	05/24/2006	N001	-	0.0032			#	.0000075	
Chromium	mg/L	05/24/2006	N001	-	0.0018	U		#	.0018	
Dissolved Oxygen	mg/L	05/24/2006	N001	-	0.3			#		
Lead	mg/L	05/24/2006	N001	-	0.00041	B	U	#	.000023	
Mercury	mg/L	05/24/2006	N001	-	0.000013	B		#	.0000047	
Molybdenum	mg/L	05/24/2006	N001	-	0.0012			#	.00021	
Oxidation Reduction Potential	mV	05/24/2006	N001	-	301			#		
pH	s.u.	05/24/2006	N001	-	7.76			#		
Specific Conductance	umhos /cm	05/24/2006	N001	-	360			#		
Temperature	C	05/24/2006	N001	-	12.4			#		
Thallium	mg/L	05/24/2006	N001	-	0.000026	B	U	#	.000016	
Turbidity	NTU	05/24/2006	N001	-	0			#		
Uranium	mg/L	05/24/2006	N001	-	0.00077			#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site

REPORT DATE: 8/17/2006

Location: LTM-1S WELL Backfill monitor well, water level drawdown

Parameter	Units	Sample		Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID			Lab	Data	QA		
Antimony	mg/L	05/23/2006	N001	-	0.00015	B	U	#	.00002	
Arsenic	mg/L	05/23/2006	N001	-	0.0019			#	.0000075	
Chromium	mg/L	05/23/2006	N001	-	0.0021	B		#	.0018	
Dissolved Oxygen	mg/L	05/23/2006	N001	-	6.64			#		
Lead	mg/L	05/23/2006	N001	-	0.0016			#	.000023	
Mercury	mg/L	05/23/2006	N001	-	0.000046	B		#	.0000047	
Molybdenum	mg/L	05/23/2006	N001	-	0.016			#	.00021	
Oxidation Reduction Potential	mV	05/23/2006	N001	-	304			#		
pH	s.u.	05/23/2006	N001	-	7.57			#		
Specific Conductance	umhos /cm	05/23/2006	N001	-	558			#		
Temperature	C	05/23/2006	N001	-	12.1			#		
Thallium	mg/L	05/23/2006	N001	-	0.000036	B	U	#	.000016	
Turbidity	NTU	05/23/2006	N001	-	67			#		
Uranium	mg/L	05/23/2006	N001	-	0.028			#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site

REPORT DATE: 8/17/2006

Location: LTM-2S WELL Backfill monitor well, water level drawdown

Parameter	Units	Sample		Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID			Lab	Data	QA		
Antimony	mg/L	05/23/2006	N001	-	0.00012	B	U	#	.00002	
Arsenic	mg/L	05/23/2006	N001	-	0.00093			#	.0000075	
Chromium	mg/L	05/23/2006	N001	-	0.0018	U		#	.0018	
Dissolved Oxygen	mg/L	05/23/2006	N001	-	5.95			#		
Lead	mg/L	05/23/2006	N001	-	0.00042	B	U	#	.000023	
Mercury	mg/L	05/23/2006	N001	-	0.000016	B		#	.0000047	
Molybdenum	mg/L	05/23/2006	N001	-	0.024			#	.00021	
Oxidation Reduction Potential	mV	05/23/2006	N001	-	238			#		
pH	s.u.	05/23/2006	N001	-	7.39			#		
Specific Conductance	umhos /cm	05/23/2006	N001	-	883			#		
Temperature	C	05/23/2006	N001	-	12.2			#		
Thallium	mg/L	05/23/2006	N001	-	0.000023	B	U	#	.000016	
Turbidity	NTU	05/23/2006	N001	-	24			#		
Uranium	mg/L	05/23/2006	N001	-	0.024			#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site
 REPORT DATE: 8/17/2006
 Location: LTM-3S WELL Backfill monitor well, water level drawdown

Parameter	Units	Sample		Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID			Lab	Data	QA		
Antimony	mg/L	05/24/2006	N001	-	0.00012	B	U	#	.00002	
Arsenic	mg/L	05/24/2006	N001	-	0.00043			#	.0000075	
Chromium	mg/L	05/24/2006	N001	-	0.0018	U		#	.0018	
Dissolved Oxygen	mg/L	05/24/2006	N001	-	1.67			#		
Lead	mg/L	05/24/2006	N001	-	0.0002	B	U	#	.000023	
Mercury	mg/L	05/24/2006	N001	-	0.000016	B		#	.0000047	
Molybdenum	mg/L	05/24/2006	N001	-	0.019			#	.00021	
Oxidation Reduction Potential	mV	05/24/2006	N001	-	194			#		
pH	s.u.	05/24/2006	N001	-	7.69			#		
Specific Conductance	umhos /cm	05/24/2006	N001	-	776			#		
Temperature	C	05/24/2006	N001	-	11.7			#		
Thallium	mg/L	05/24/2006	N001	-	0.000016	U		#	.000016	
Turbidity	NTU	05/24/2006	N001	-	2			#		
Uranium	mg/L	05/24/2006	N001	-	0.0022			#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site

REPORT DATE: 8/17/2006

Location: MW-BX-110 WELL Northwest perimeter, artesian

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
						Lab	Data	QA		
Antimony	mg/L	05/23/2006	N001	-	0.000087	B	U	#	.00002	
Arsenic	mg/L	05/23/2006	N001	-	0.0003			#	.0000075	
Chromium	mg/L	05/23/2006	N001	-	0.0018	U		#	.0018	
Dissolved Oxygen	mg/L	05/23/2006	N001	-	0.27			#		
Lead	mg/L	05/23/2006	N001	-	0.00024	B	U	#	.000023	
Mercury	mg/L	05/23/2006	N001	-	0.0000081	B		#	.0000047	
Molybdenum	mg/L	05/23/2006	N001	-	0.0015			#	.00021	
Oxidation Reduction Potential	mV	05/23/2006	N001	-	-33			#		
pH	s.u.	05/23/2006	N001	-	8.8			#		
Specific Conductance	umhos /cm	05/23/2006	N001	-	289			#		
Temperature	C	05/23/2006	N001	-	15.2			#		
Thallium	mg/L	05/23/2006	N001	-	0.000016	U		#	.000016	
Turbidity	NTU	05/23/2006	N001	-	0			#		
Uranium	mg/L	05/23/2006	N001	-	0.000042	B	U	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site
 REPORT DATE: 8/17/2006
 Location: MW-WT-109R WELL Northwest perimeter

Parameter	Units	Sample		Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID			Lab	Data	QA		
Antimony	mg/L	05/24/2006	N001	-	0.0001	B	U	#	.00002	
Arsenic	mg/L	05/24/2006	N001	-	0.00087			#	.0000075	
Chromium	mg/L	05/24/2006	N001	-	0.0018	U		#	.0018	
Dissolved Oxygen	mg/L	05/24/2006	N001	-	0.57			#		
Lead	mg/L	05/24/2006	N001	-	0.00023	B	U	#	.000023	
Mercury	mg/L	05/24/2006	N001	-	0.000015	B		#	.0000047	
Molybdenum	mg/L	05/24/2006	N001	-	0.00078	B	U	#	.00021	
Oxidation Reduction Potential	mV	05/24/2006	N001	-	111			#		
pH	s.u.	05/24/2006	N001	-	6.9			#		
Specific Conductance	umhos /cm	05/24/2006	N001	-	587			#		
Temperature	C	05/24/2006	N001	-	12.1			#		
Thallium	mg/L	05/24/2006	N001	-	0.00003	B	U	#	.000016	
Turbidity	NTU	05/24/2006	N001	-	15.9			#		
Uranium	mg/L	05/24/2006	N001	-	0.021			#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site

REPORT DATE: 8/17/2006

Location: WISS-1AR WELL East perimeter

Parameter	Units	Sample		Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID			Lab	Data	QA		
Antimony	mg/L	05/23/2006	N001	-	0.00011	B	U	#	.00002	
Arsenic	mg/L	05/23/2006	N001	-	0.00049			#	.0000075	
Chromium	mg/L	05/23/2006	N001	-	0.0018	U		#	.0018	
Dissolved Oxygen	mg/L	05/23/2006	N001	-	6.11			#		
Lead	mg/L	05/23/2006	N001	-	0.00018	B	U	#	.000023	
Molybdenum	mg/L	05/23/2006	N001	-	0.00057	B	U	#	.00021	
Oxidation Reduction Potential	mV	05/23/2006	N001	-	151			#		
pH	s.u.	05/23/2006	N001	-	6.81			#		
Specific Conductance	umhos /cm	05/23/2006	N001	-	1059			#		
Temperature	C	05/23/2006	N001	-	10.4			#		
Thallium	mg/L	05/23/2006	N001	-	0.000017	B	U	#	.000016	
Turbidity	NTU	05/23/2006	N001	-	0.1			#		
Uranium	mg/L	05/23/2006	N001	-	0.0006			#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site
 REPORT DATE: 8/17/2006
 Location: WISS-1B WELL East perimeter, artesian

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
						Lab	Data	QA		
Antimony	mg/L	05/23/2006	N001	-	0.00022	B	U	#	.00002	
Arsenic	mg/L	05/23/2006	N001	-	0.0086			#	.0000075	
Chromium	mg/L	05/23/2006	N001	-	0.0018	U		#	.0018	
Dissolved Oxygen	mg/L	05/23/2006	N001	-	0.32			#		
Lead	mg/L	05/23/2006	N001	-	0.00014	B	U	#	.000023	
Mercury	mg/L	05/23/2006	N001	-	0.000041	B		#	.0000047	
Molybdenum	mg/L	05/23/2006	N001	-	0.0011			#	.00021	
Oxidation Reduction Potential	mV	05/23/2006	N001	-	-46			#		
pH	s.u.	05/23/2006	N001	-	8.5			#		
Specific Conductance	umhos/cm	05/23/2006	N001	-	440			#		
Temperature	C	05/23/2006	N001	-	11.1			#		
Thallium	mg/L	05/23/2006	N001	-	0.000022	B	U	#	.000016	
Turbidity	NTU	05/23/2006	N001	-	112			#		
Uranium	mg/L	05/23/2006	N001	-	0.00053			#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site
 REPORT DATE: 8/17/2006
 Location: WISS-2A WELL South perimeter

Parameter	Units	Sample		Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID			Lab	Data	QA		
Antimony	mg/L	05/23/2006	N001	-	0.0001	B	U	#	.00002	
Arsenic	mg/L	05/23/2006	N001	-	0.0026			#	.0000075	
Chromium	mg/L	05/23/2006	N001	-	0.0018	U		#	.0018	
Dissolved Oxygen	mg/L	05/23/2006	N001	-	0.53			#		
Lead	mg/L	05/23/2006	N001	-	0.00049	B	U	#	.000023	
Mercury	mg/L	05/23/2006	N001	-	0.000023	B		#	.0000047	
Molybdenum	mg/L	05/23/2006	N001	-	0.0014			#	.00021	
Oxidation Reduction Potential	mV	05/23/2006	N001	-	-3			#		
pH	s.u.	05/23/2006	N001	-	8.11			#		
Specific Conductance	umhos /cm	05/23/2006	N001	-	368			#		
Temperature	C	05/23/2006	N001	-	11.5			#		
Thallium	mg/L	05/23/2006	N001	-	0.000018	B	U	#	.000016	
Turbidity	NTU	05/23/2006	N001	-	205			#		
Uranium	mg/L	05/23/2006	N001	-	0.0008			#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site
 REPORT DATE: 8/17/2006
 Location: WISS-2B WELL South perimeter , artesian

Parameter	Units	Sample		Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID			Lab	Data	QA		
Antimony	mg/L	05/23/2006	N001	-	0.00011	B	U	#	.00002	
Arsenic	mg/L	05/23/2006	N001	-	0.0038			#	.0000075	
Chromium	mg/L	05/23/2006	N001	-	0.0018	U		#	.0018	
Dissolved Oxygen	mg/L	05/23/2006	N001	-	0.18			#		
Lead	mg/L	05/23/2006	N001	-	0.00067			#	.000023	
Mercury	mg/L	05/23/2006	N001	-	0.000015	B		#	.0000047	
Molybdenum	mg/L	05/23/2006	N001	-	0.00081	B	U	#	.00021	
Oxidation Reduction Potential	mV	05/23/2006	N001	-	-7			#		
pH	s.u.	05/23/2006	N001	-	8.07			#		
Specific Conductance	umhos /cm	05/23/2006	N001	-	480			#		
Temperature	C	05/23/2006	N001	-	13.6			#		
Thallium	mg/L	05/23/2006	N001	-	0.000016	U		#	.000016	
Turbidity	NTU	05/23/2006	N001	-	31.6			#		
Uranium	mg/L	05/23/2006	N001	-	0.0017			#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site
 REPORT DATE: 8/17/2006
 Location: WISS-3A WELL West perimeter,

Parameter	Units	Sample		Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID			Lab	Data	QA		
Antimony	mg/L	05/23/2006	N001	-	0.000096	B	U	#	.00002	
Arsenic	mg/L	05/23/2006	N001	-	0.0033			#	.0000075	
Chromium	mg/L	05/23/2006	N001	-	0.0018	U		#	.0018	
Dissolved Oxygen	mg/L	05/23/2006	N001	-	0.4			#		
Lead	mg/L	05/23/2006	N001	-	0.00014	B	U	#	.000023	
Mercury	mg/L	05/23/2006	N001	-	0.000028	B		#	.0000047	
Molybdenum	mg/L	05/23/2006	N001	-	0.0018			#	.00021	
Oxidation Reduction Potential	mV	05/23/2006	N001	-	17			#		
pH	s.u.	05/23/2006	N001	-	8.29			#		
Specific Conductance	umhos /cm	05/23/2006	N001	-	333			#		
Temperature	C	05/23/2006	N001	-	11.8			#		
Thallium	mg/L	05/23/2006	N001	-	0.000016	U		#	.000016	
Turbidity	NTU	05/23/2006	N001	-	69.5			#		
Uranium	mg/L	05/23/2006	N001	-	0.00055			#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site
 REPORT DATE: 8/17/2006
 Location: WISS-3B WELL West perimeter, artesian

Parameter	Units	Sample		Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID			Lab	Data	QA		
Antimony	mg/L	05/23/2006	N001	-	0.00008	B	U	#	.00002	
Arsenic	mg/L	05/23/2006	N001	-	0.00033			#	.0000075	
Chromium	mg/L	05/23/2006	N001	-	0.0018	U		#	.0018	
Lead	mg/L	05/23/2006	N001	-	0.00014	B	U	#	.000023	
Mercury	mg/L	05/23/2006	N001	-	0.000009	B		#	.0000047	
Molybdenum	mg/L	05/23/2006	N001	-	0.0009	B	U	#	.00021	
Oxidation Reduction Potential	mV	05/23/2006	N001	-	-334			#		
pH	s.u.	05/23/2006	N001	-	8.31			#		
Specific Conductance	umhos /cm	05/23/2006	N001	-	293			#		
Temperature	C	05/23/2006	N001	-	13.6			#		
Thallium	mg/L	05/23/2006	N001	-	0.000016	U		#	.000016	
Turbidity	NTU	05/23/2006	N001	-	0			#		
Uranium	mg/L	05/23/2006	N001	-	0.000033	B	U	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site
 REPORT DATE: 8/17/2006
 Location: WISS-5AR WELL North central perimeter

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
						Lab	Data	QA		
Antimony	mg/L	05/24/2006	N001	-	0.00014	B	U	#	.00002	
Arsenic	mg/L	05/24/2006	N001	-	0.002			#	.0000075	
Chromium	mg/L	05/24/2006	N001	-	0.0018	U		#	.0018	
Dissolved Oxygen	mg/L	05/24/2006	N001	-	0.22			#		
Lead	mg/L	05/24/2006	N001	-	0.00021	B	U	#	.000023	
Mercury	mg/L	05/24/2006	N001	-	0.000011	B		#	.0000047	
Molybdenum	mg/L	05/24/2006	N001	-	0.00099	B	U	#	.00021	
Oxidation Reduction Potential	mV	05/24/2006	N001	-	-11			#		
pH	s.u.	05/24/2006	N001	-	7.55			#		
Specific Conductance	umhos/cm	05/24/2006	N001	-	646			#		
Temperature	C	05/24/2006	N001	-	10.9			#		
Thallium	mg/L	05/24/2006	N001	-	0.000016	U		#	.000016	
Turbidity	NTU	05/24/2006	N001	-	72.2			#		
Uranium	mg/L	05/24/2006	N001	-	0.0013			#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site
 REPORT DATE: 8/17/2006
 Location: WISS-5B WELL North central perimeter, artesian

Parameter	Units	Sample		Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
		Date	ID			Lab	Data	QA		
Antimony	mg/L	05/24/2006	N001	-	0.000098	B	U	#	.00002	
Arsenic	mg/L	05/24/2006	N001	-	0.0013			#	.0000075	
Chromium	mg/L	05/24/2006	N001	-	0.0018	U		#	.0018	
Dissolved Oxygen	mg/L	05/24/2006	N001	-	0.92			#		
Lead	mg/L	05/24/2006	N001	-	0.00014	B	U	#	.000023	
Mercury	mg/L	05/24/2006	N001	-	0.0000079	B		#	.0000047	
Molybdenum	mg/L	05/24/2006	N001	-	0.0012			#	.00021	
Oxidation Reduction Potential	mV	05/24/2006	N001	-	-257			#		
pH	s.u.	05/24/2006	N001	-	7.91			#		
Specific Conductance	umhos /cm	05/24/2006	N001	-	329			#		
Temperature	C	05/24/2006	N001	-	14.2			#		
Thallium	mg/L	05/24/2006	N001	-	0.000016	U		#	.000016	
Turbidity	NTU	05/24/2006	N001	-	0			#		
Uranium	mg/L	05/24/2006	N001	-	0.000061	B	U	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site

REPORT DATE: 8/17/2006

Location: WISS-6A WELL North perimeter

Parameter	Units	Sample		Depth Range (Ft BLS)	Result	Qualifiers		Detection Limit	Uncertainty
		Date	ID			Lab	Data QA		
Antimony	mg/L	05/24/2006	N001	-	0.00013	B	#	.00002	
Arsenic	mg/L	05/24/2006	N001	-	0.0022		#	.0000075	
Chromium	mg/L	05/24/2006	N001	-	0.0018	U	#	.0018	
Dissolved Oxygen	mg/L	05/24/2006	N001	-	0.98		#		
Lead	mg/L	05/24/2006	N001	-	0.00015	B	#	.000023	
Mercury	mg/L	05/24/2006	N001	-	0.000012	B	#	.0000047	
Molybdenum	mg/L	05/24/2006	N001	-	0.00098	B	U #	.00021	
Oxidation Reduction Potential	mV	05/24/2006	N001	-	275		#		
pH	s.u.	05/24/2006	N001	-	7.72		#		
Specific Conductance	umhos /cm	05/24/2006	N001	-	507		#		
Temperature	C	05/24/2006	N001	-	11.3		#		
Thallium	mg/L	05/24/2006	N001	-	0.000016	U	#	.000016	
Turbidity	NTU	05/24/2006	N001	-	0		#		
Uranium	mg/L	05/24/2006	N001	-	0.0012		#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE WYN01, Wayne Site
 REPORT DATE: 8/17/2006
 Location: WISS-6B WELL North perimeter, artesian

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers			Detection Limit	Uncertainty
						Lab	Data	QA		
Antimony	mg/L	05/24/2006	N001	-	0.000099	B	U	#	.00002	
Arsenic	mg/L	05/24/2006	N001	-	0.00032			#	.0000075	
Chromium	mg/L	05/24/2006	N001	-	0.0018	U		#	.0018	
Dissolved Oxygen	mg/L	05/24/2006	N001	-	0.5			#		
Lead	mg/L	05/24/2006	N001	-	0.00016	B	U	#	.000023	
Mercury	mg/L	05/24/2006	N001	-	0.0000069	B		#	.0000047	
Molybdenum	mg/L	05/24/2006	N001	-	0.01		U	#	.00021	
Oxidation Reduction Potential	mV	05/24/2006	N001	-	-284			#		
pH	s.u.	05/24/2006	N001	-	8.35			#		
Specific Conductance	umhos/cm	05/24/2006	N001	-	289			#		
Temperature	C	05/24/2006	N001	-	13.6			#		
Thallium	mg/L	05/24/2006	N001	-	0.00002	B	U	#	.000016	
Turbidity	NTU	05/24/2006	N001	-	0			#		
Uranium	mg/L	05/24/2006	N001	-	0.000037	B	U	#	.0000034	

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

- * Replicate analysis not within control limits.
- > Result above upper detection limit.
- A TIC is a suspected aldol-condensation product.
- B Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
- C Pesticide result confirmed by GC-MS.
- D Analyte determined in diluted sample.
- E Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
- H Holding time expired, value suspect.
- I Increased detection limit due to required dilution.
- J Estimated
- N Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
- P > 25% difference in detected pesticide or Aroclor concentrations between 2 columns.
- U Analytical result below detection limit.

W Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X,Y,Z Laboratory defined qualifier, see case narrative.

DATA QUALIFIERS:

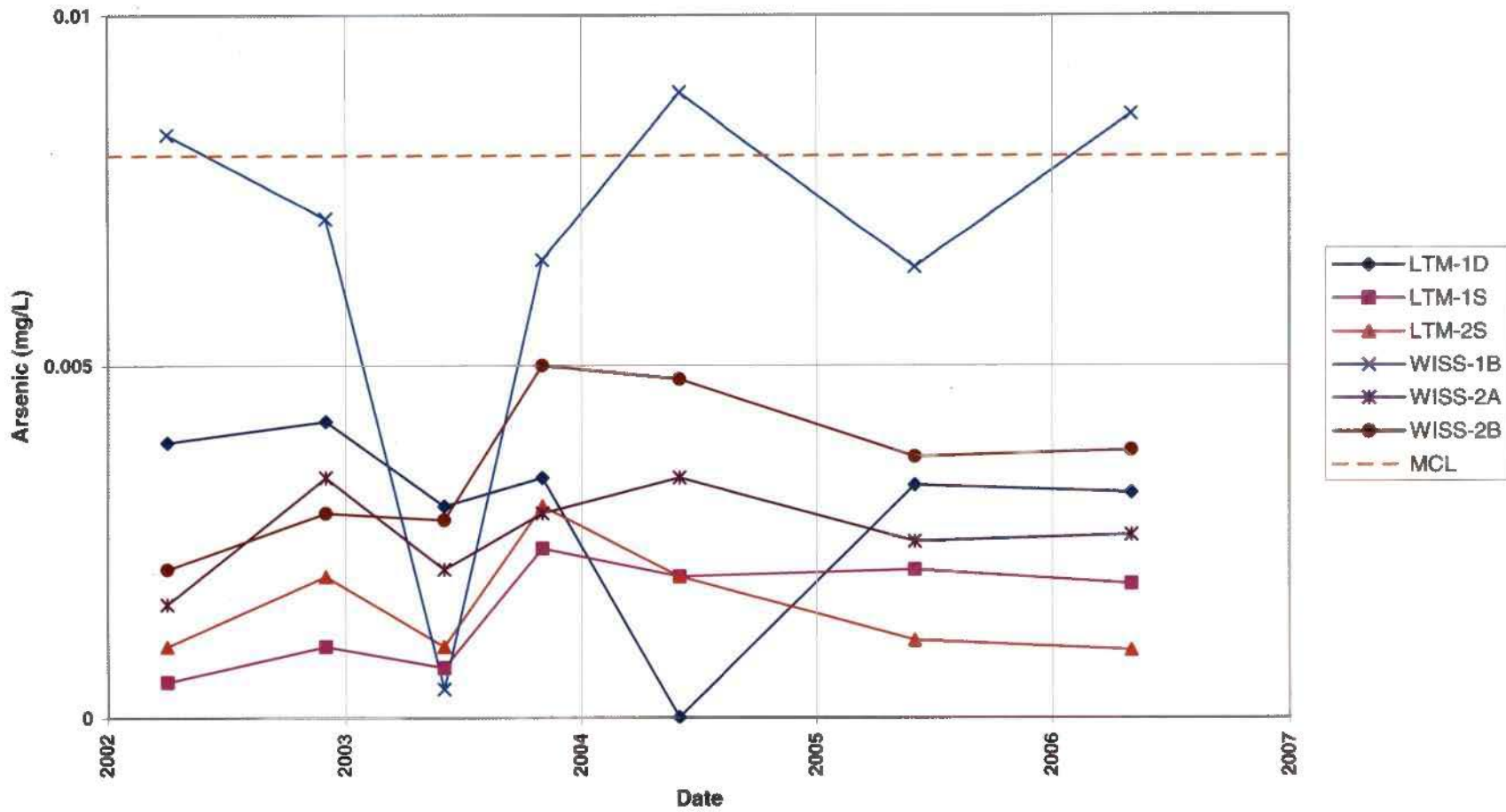
F	Low flow sampling method used.	G	Possible grout contamination, pH > 9.	J	Estimated value.
L	Less than 3 bore volumes purged prior to sampling.	Q	Qualitative result due to sampling technique.	R	Unusable result.
U	Parameter analyzed for but was not detected.	X	Location is undefined.		

QA QUALIFIER:

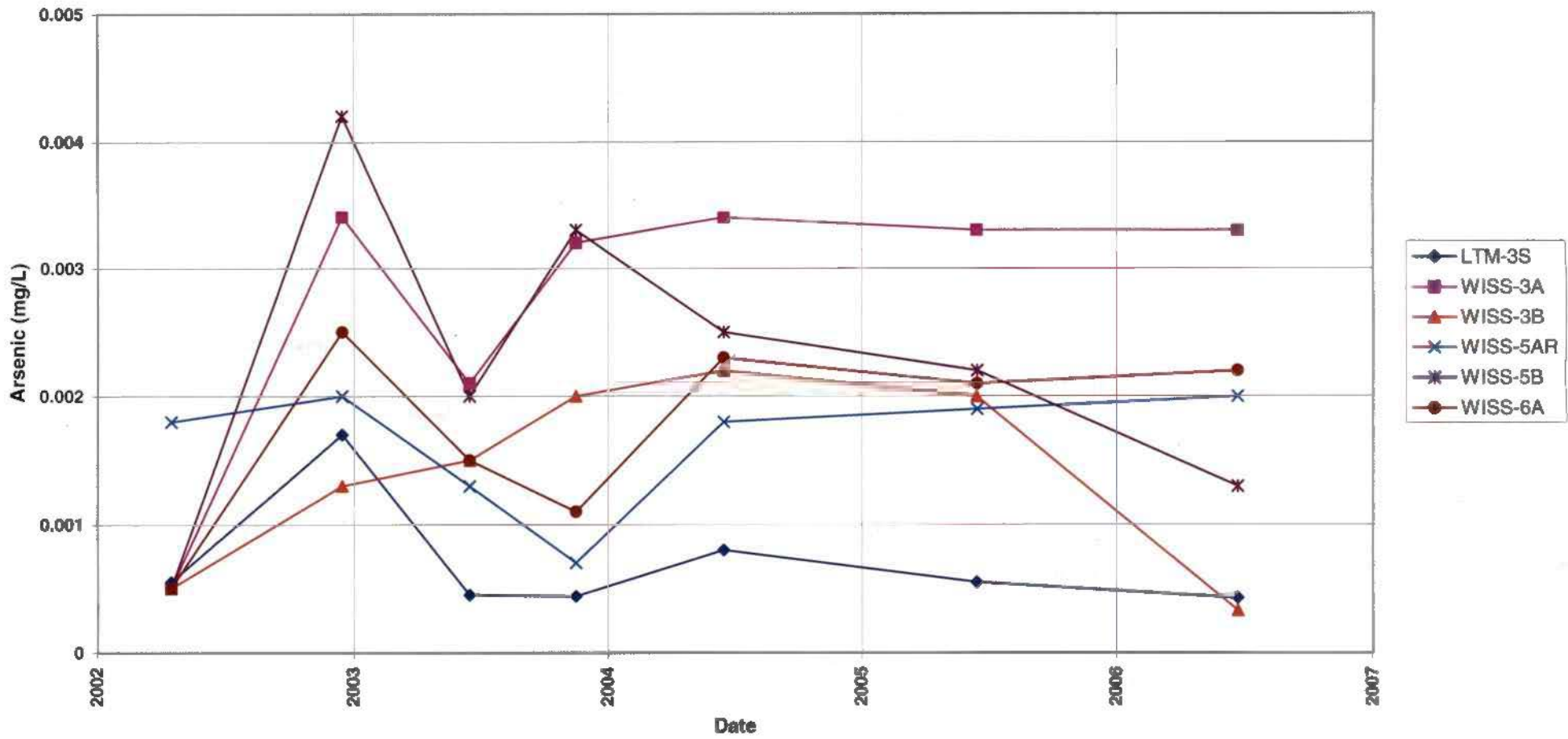
Validated according to quality assurance guidelines.

Time Versus Concentration Graphs

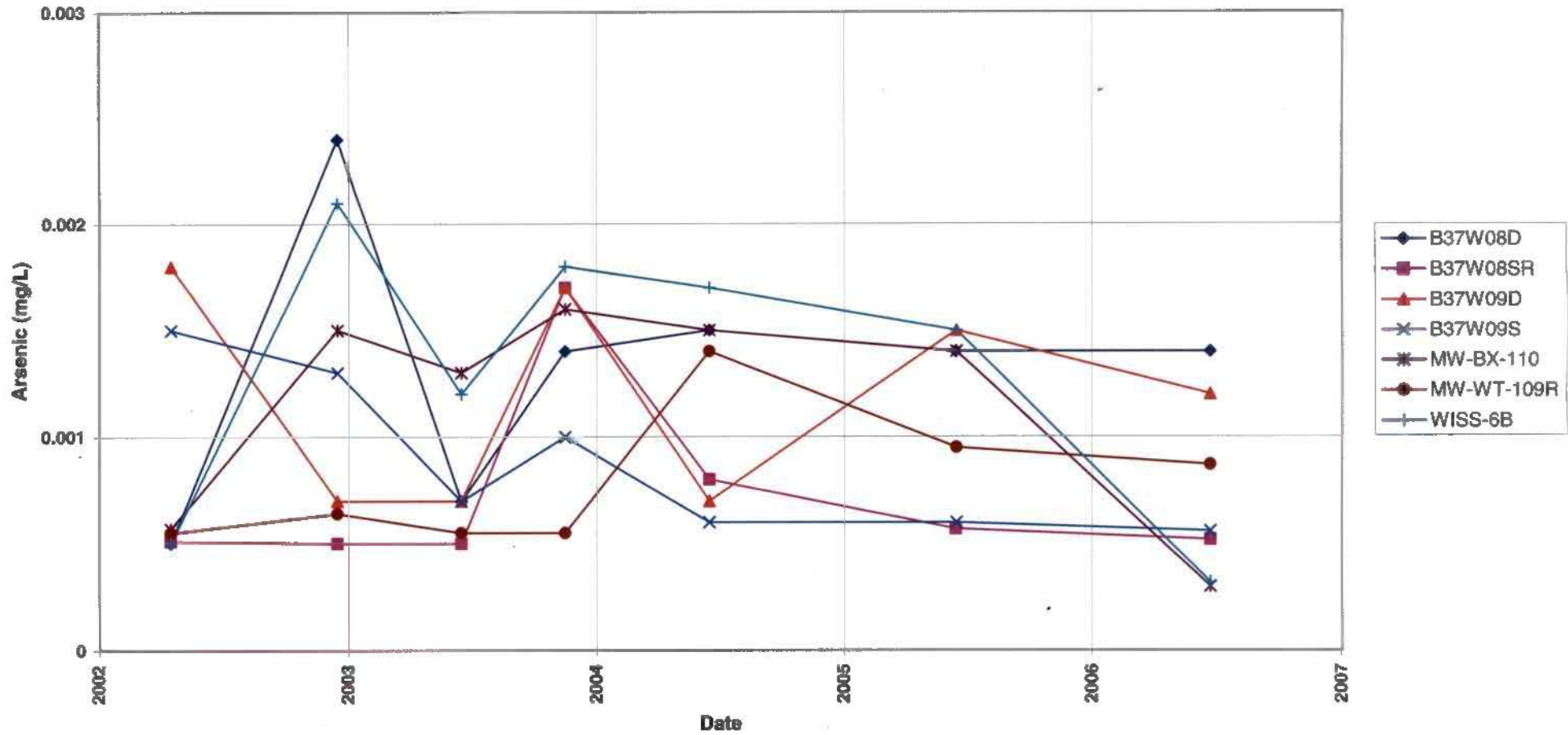
Wayne Site
Arsenic Concentration
MCL = 0.008 mg/L



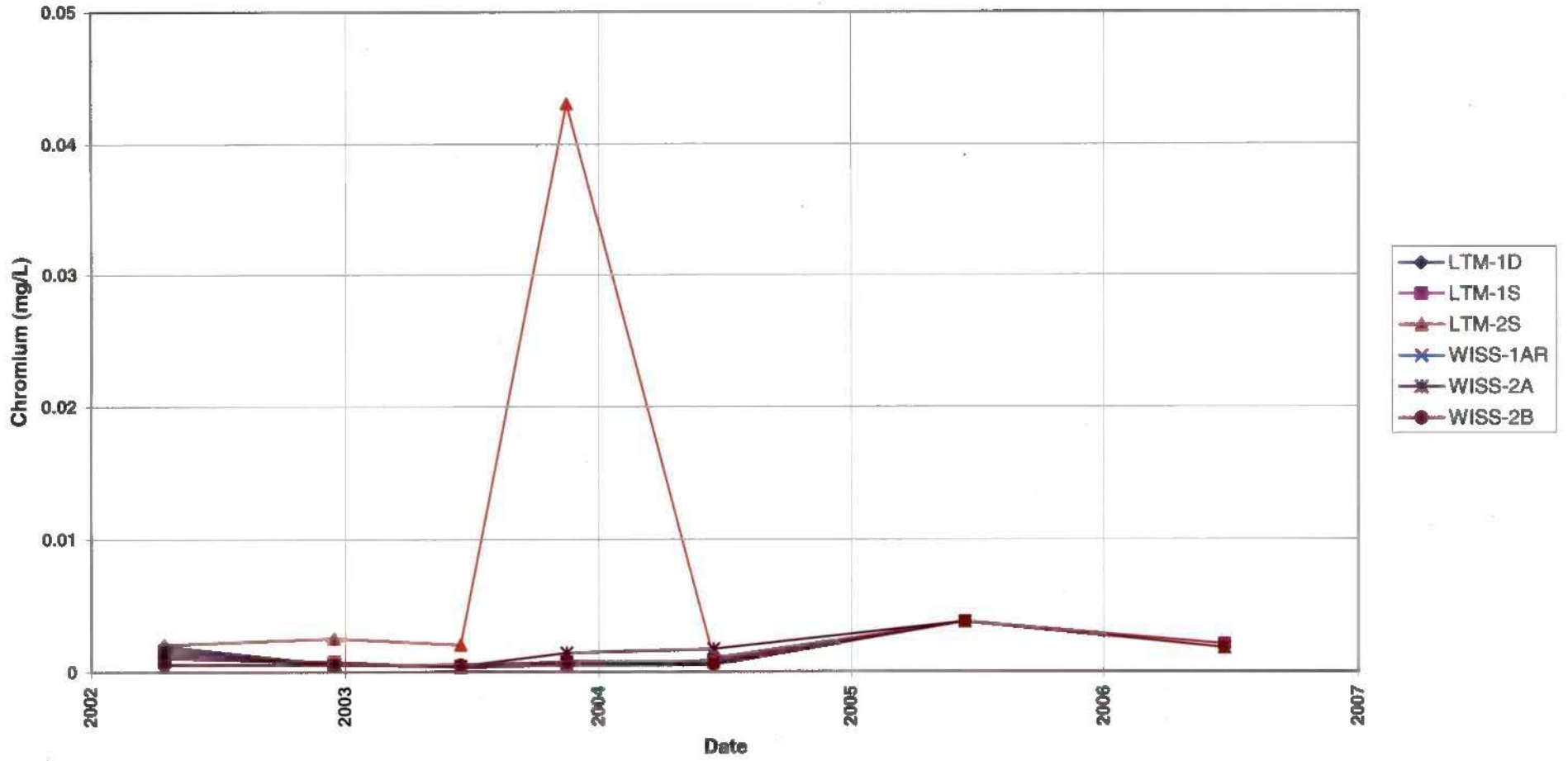
Wayne Site
Arsenic Concentration
MCL = 0.008 mg/L



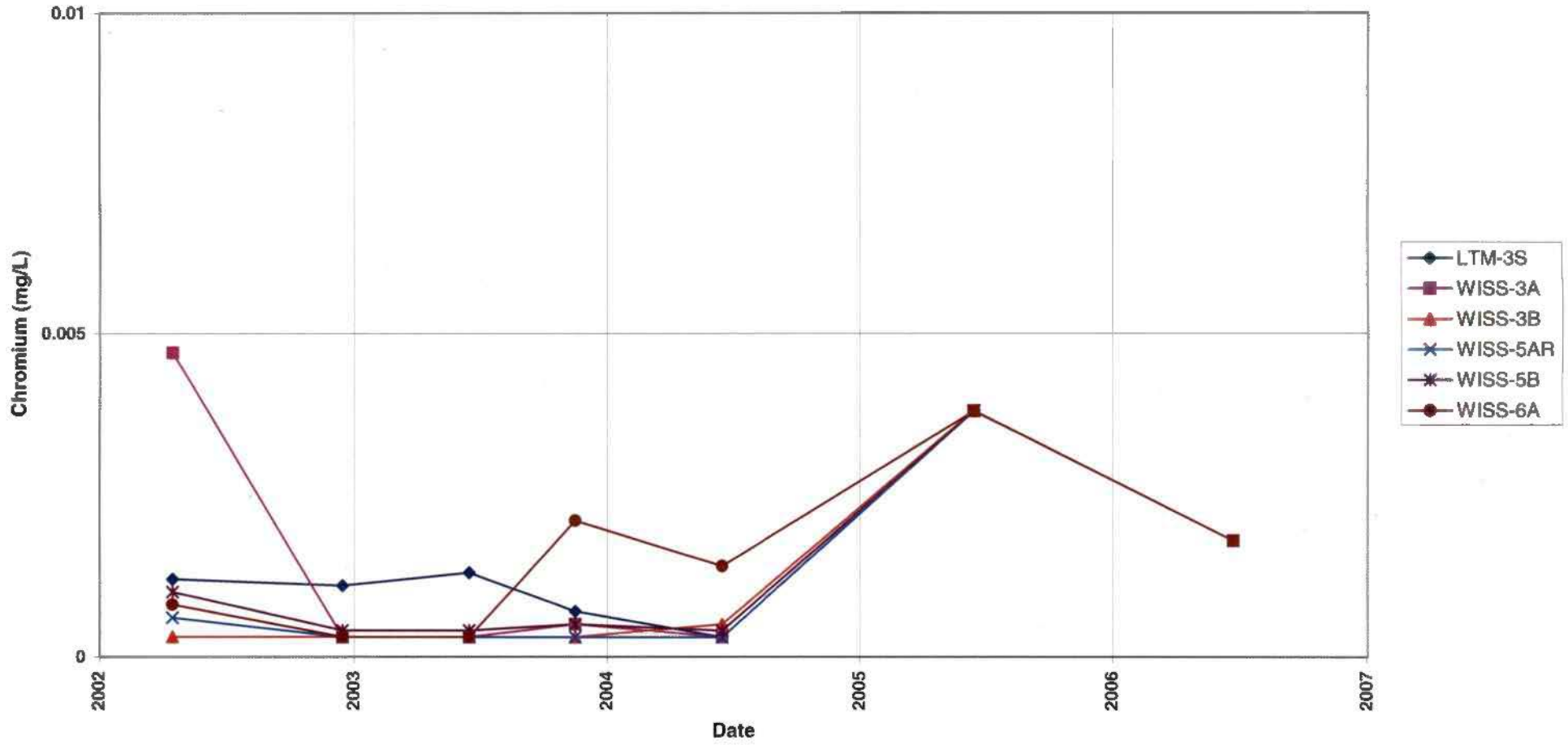
Wayne Site
Arsenic Concentration
MCL = 0.008 mg/L



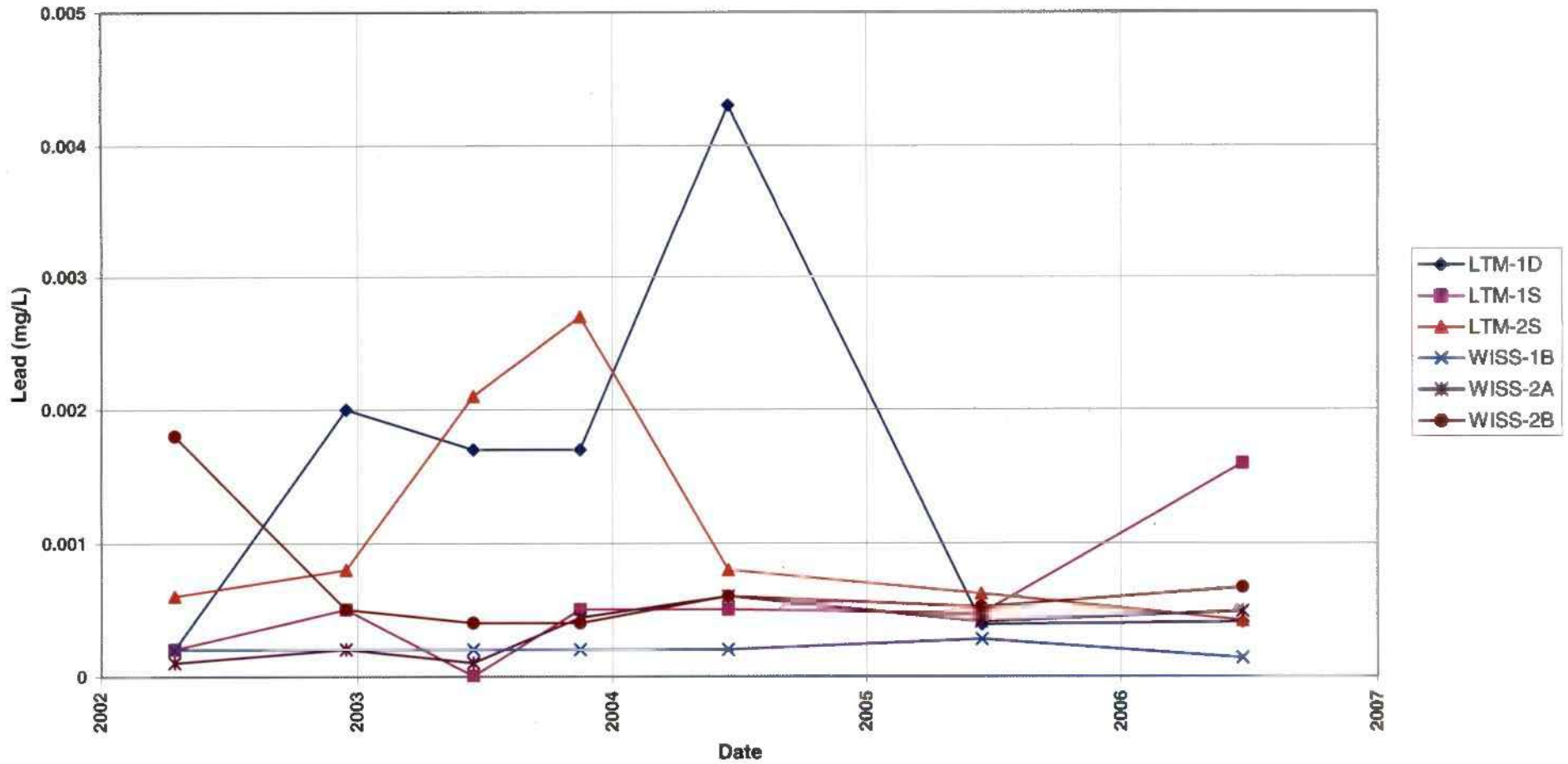
Wayne Site
Chromium Concentration
MCL = 0.1 mg/L



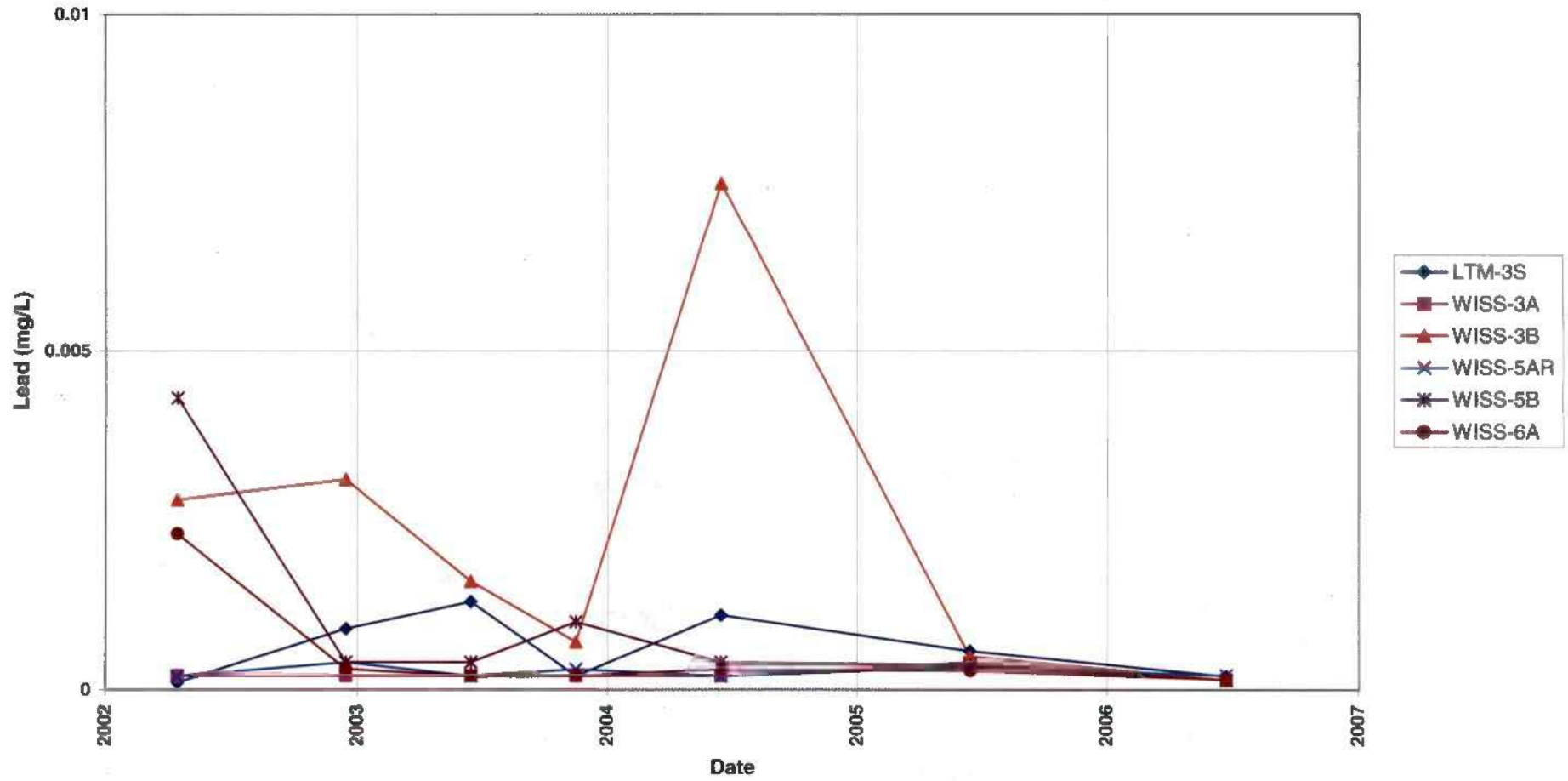
Wayne Site
Chromium Concentration
MCL = 0.1 mg/L



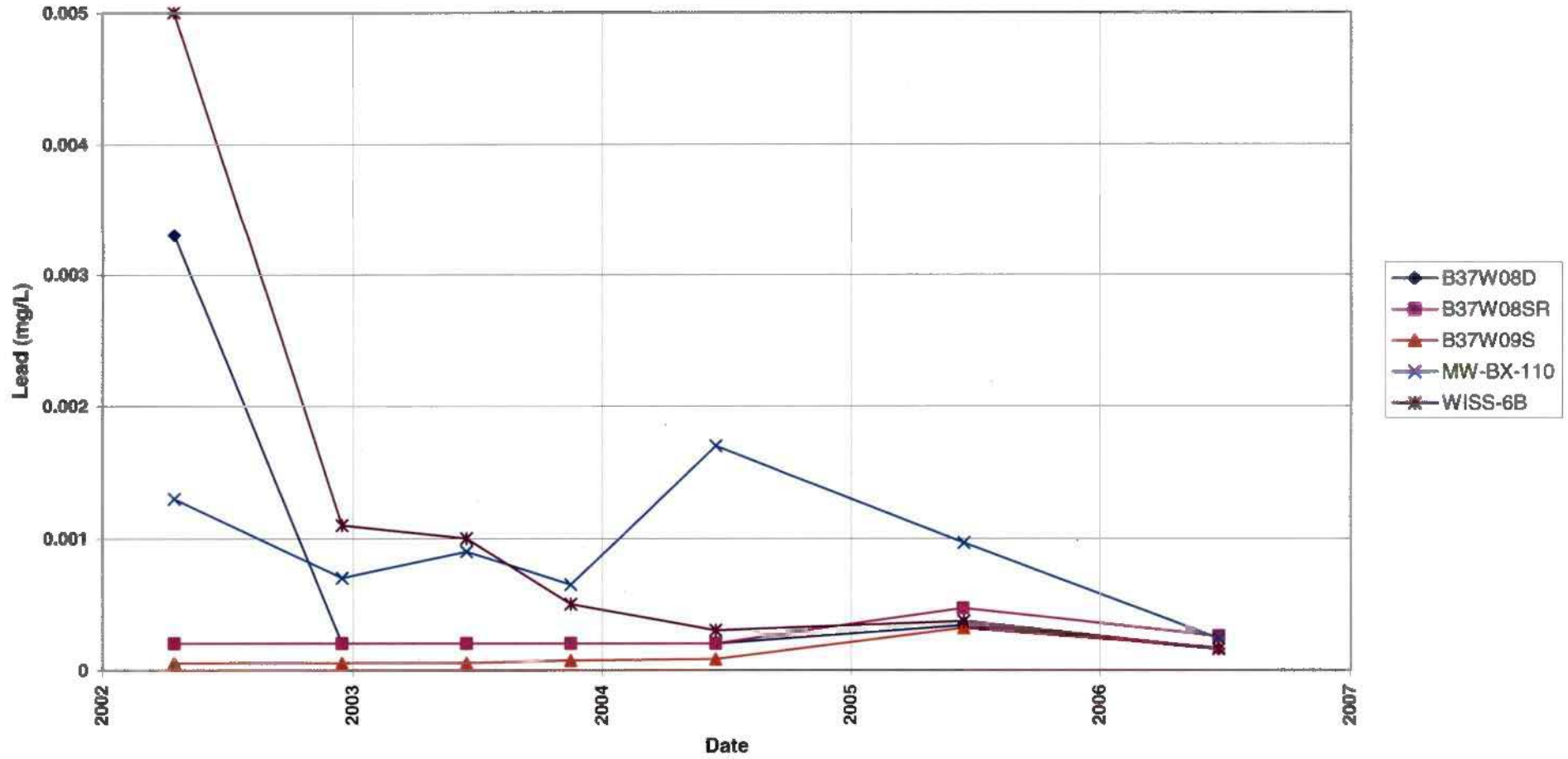
**Wayne Site
Lead Concentration**
MCL = 0.01 mg/L



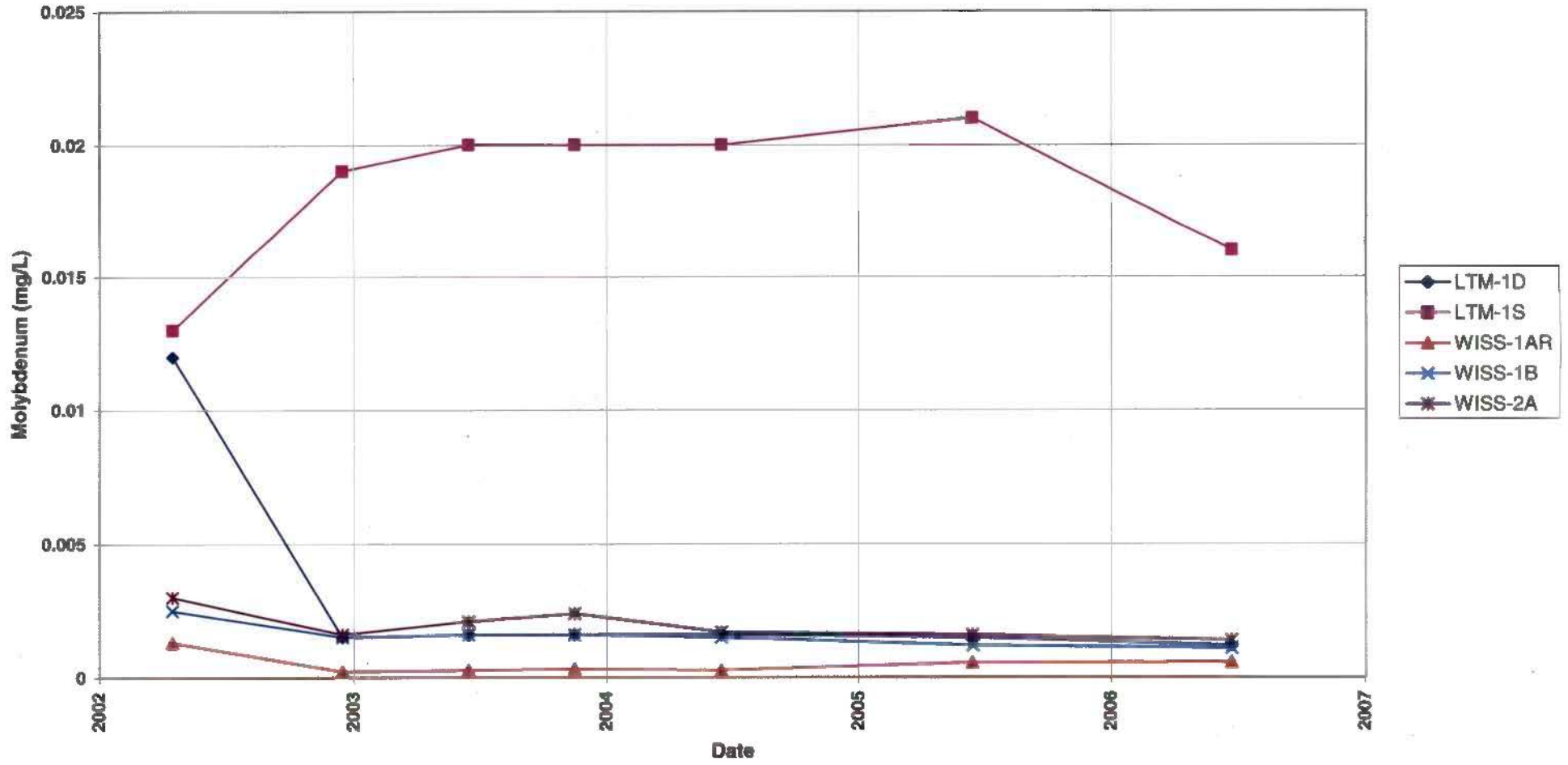
**Wayne Site
Lead Concentration**
MCL = 0.01 mg/L



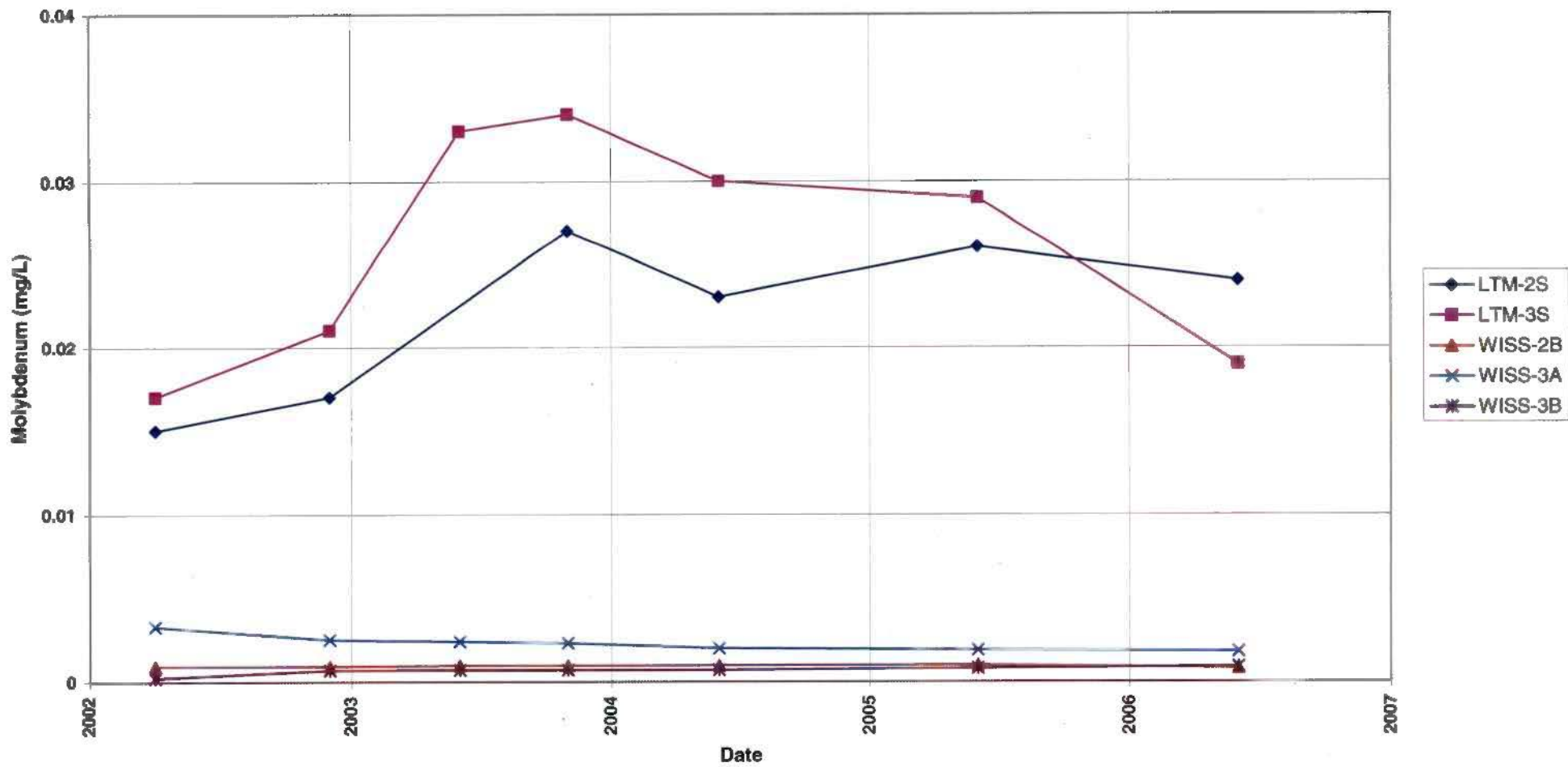
**Wayne Site
Lead Concentration**
MCL = 0.01 mg/L



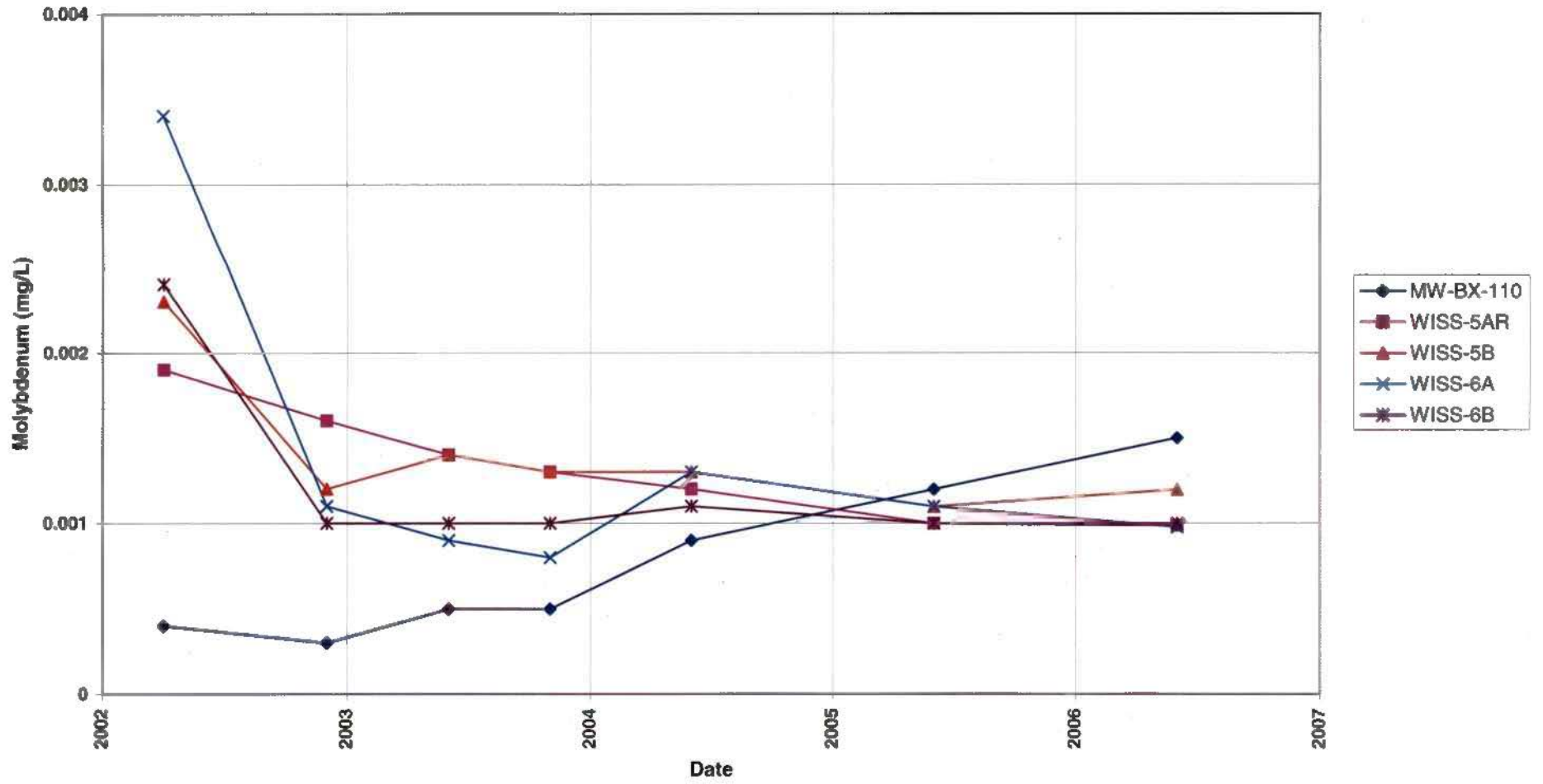
Wayne Site Molybdenum Concentration



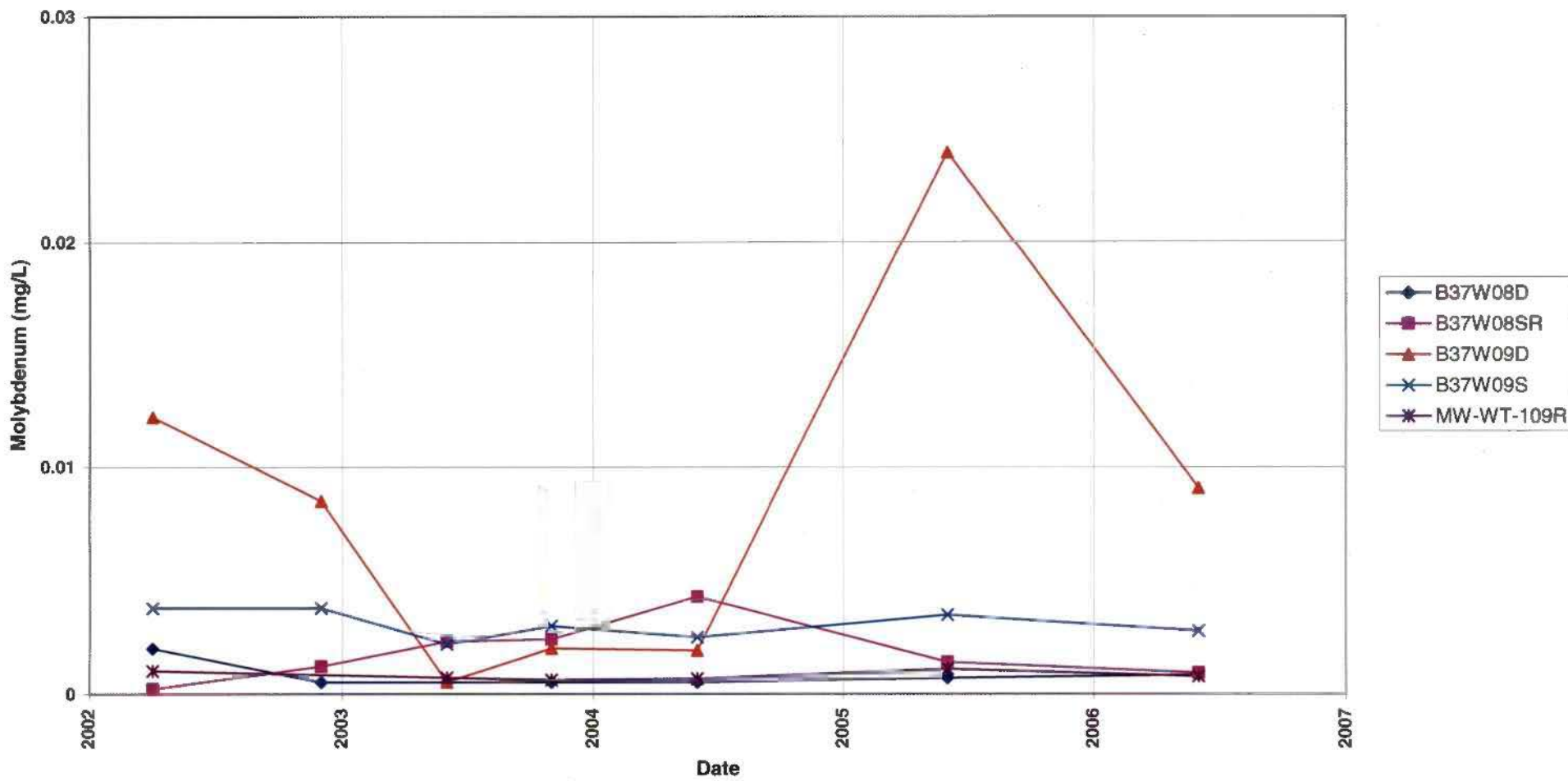
Wayne Site Molybdenum Concentration



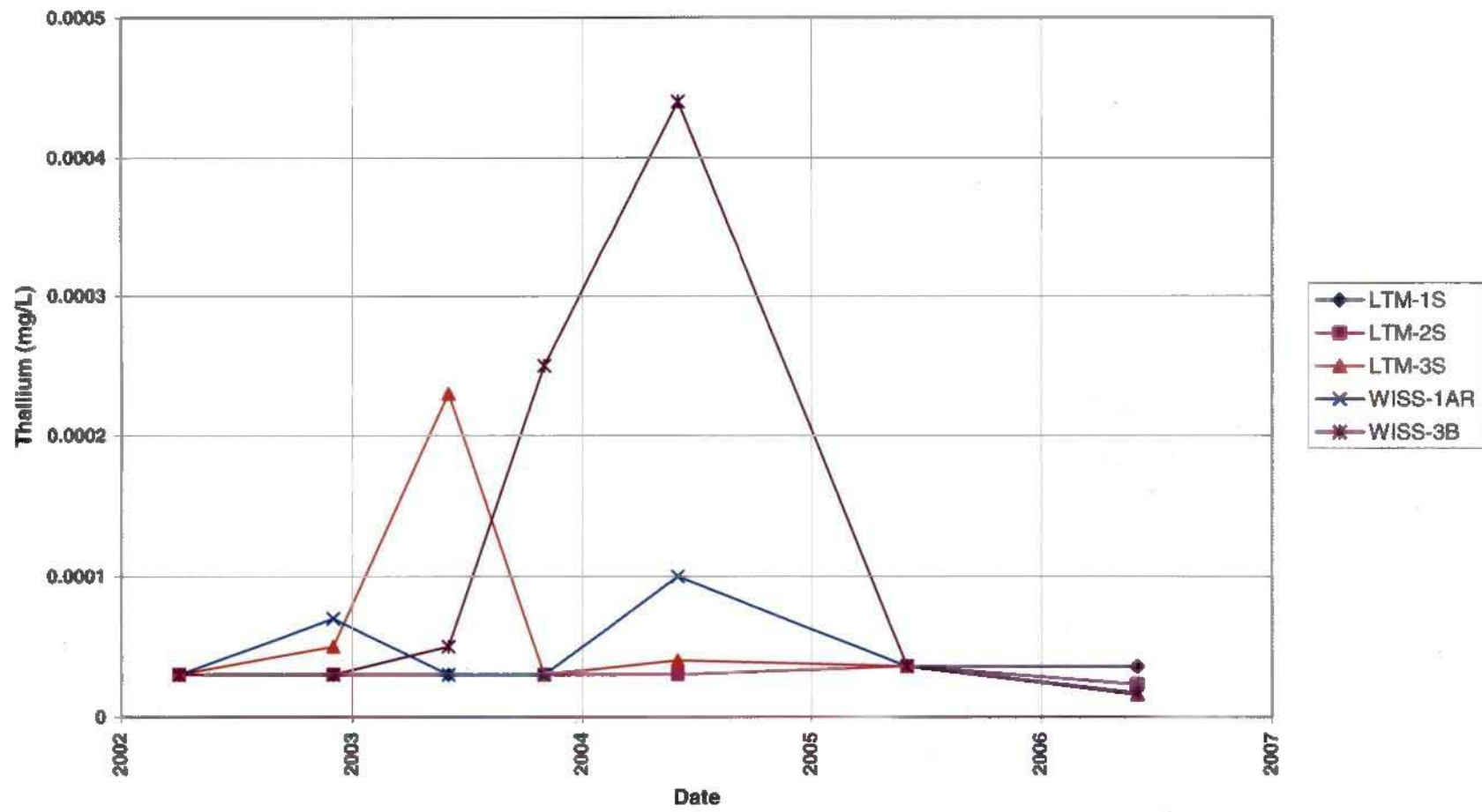
Wayne Site Molybdenum Concentration



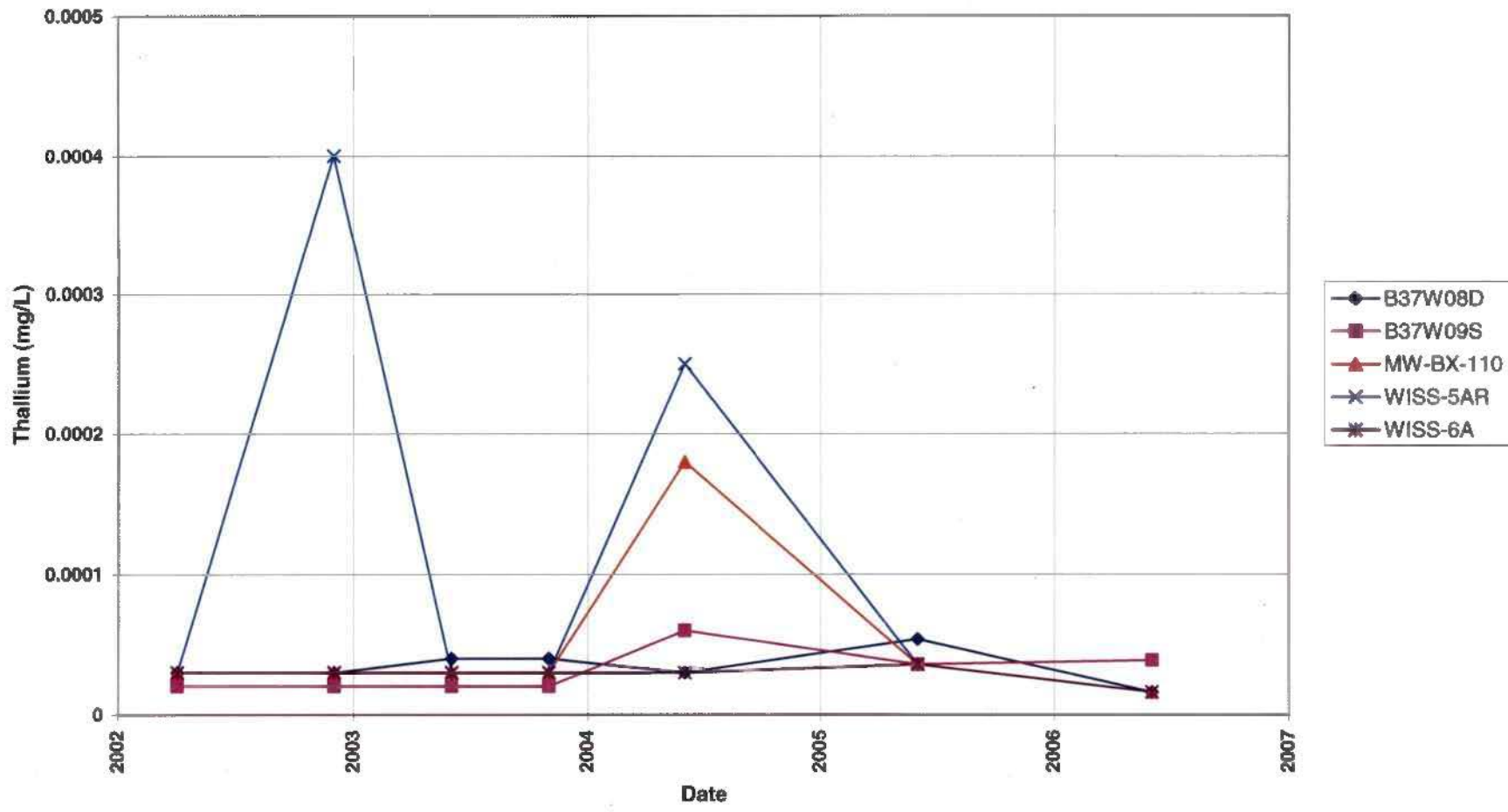
Wayne Site Molybdenum Concentration



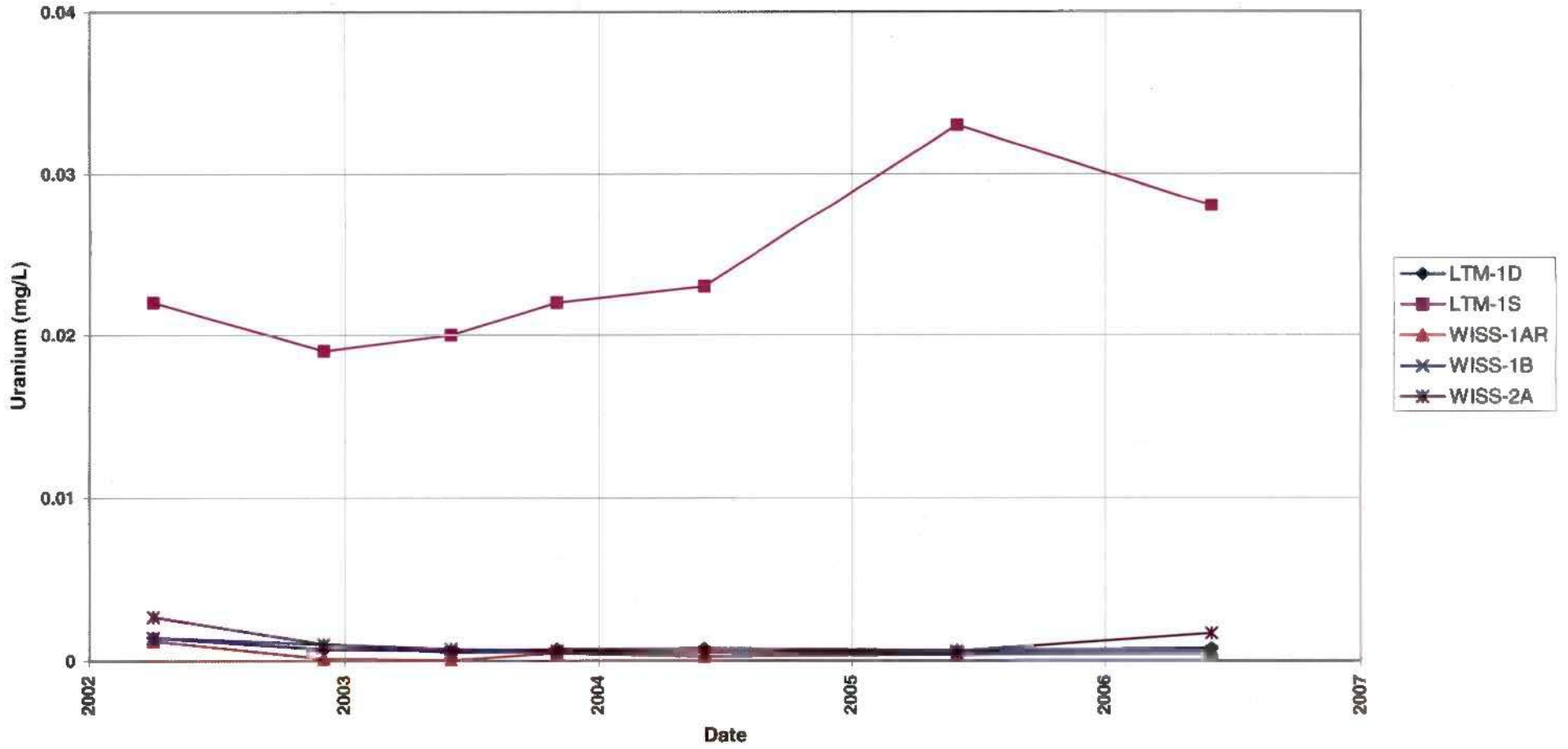
Wayne Site
Thallium Concentration
MCL = 0.002 mg/L



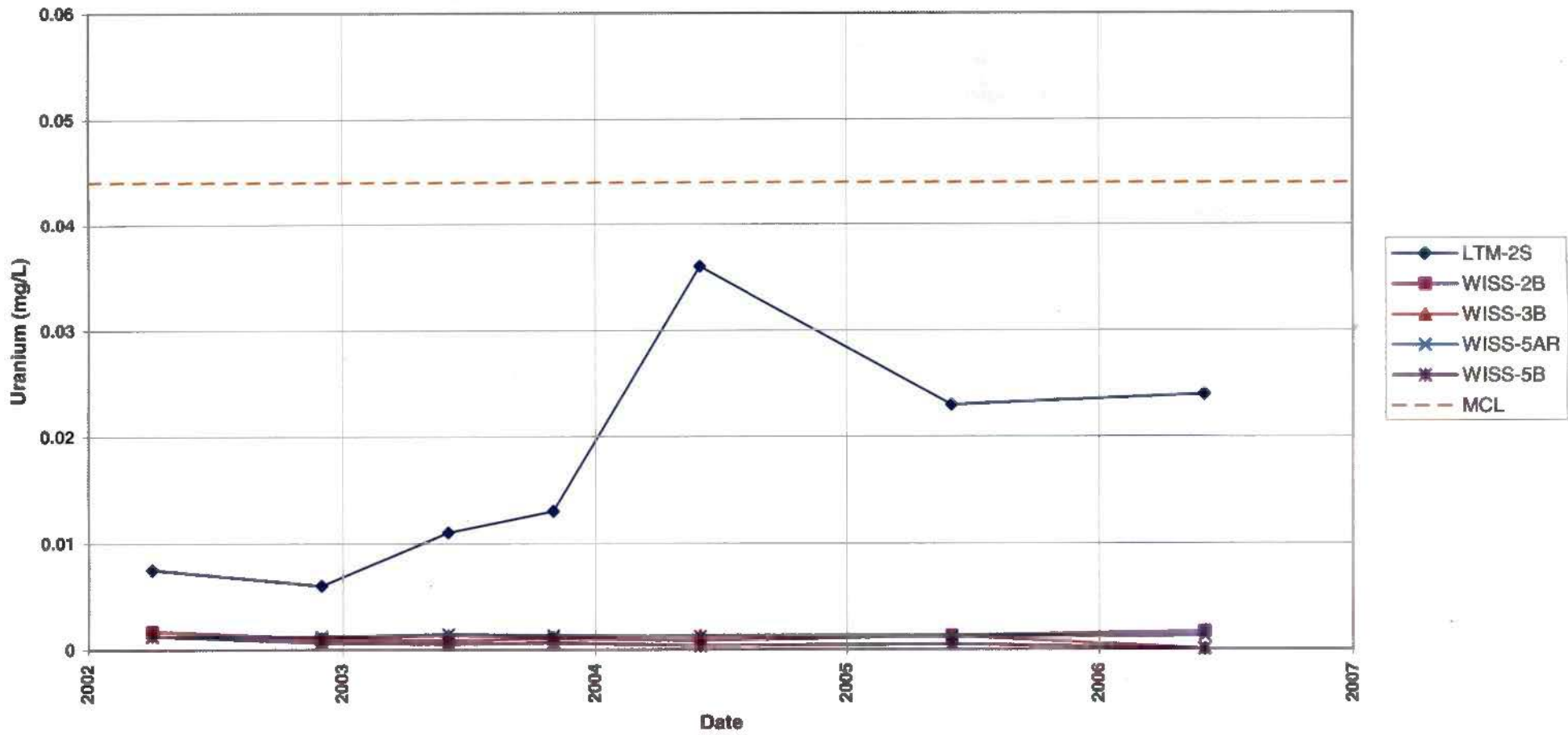
Wayne Site
Thallium Concentration
MCL = 0.002 mg/L



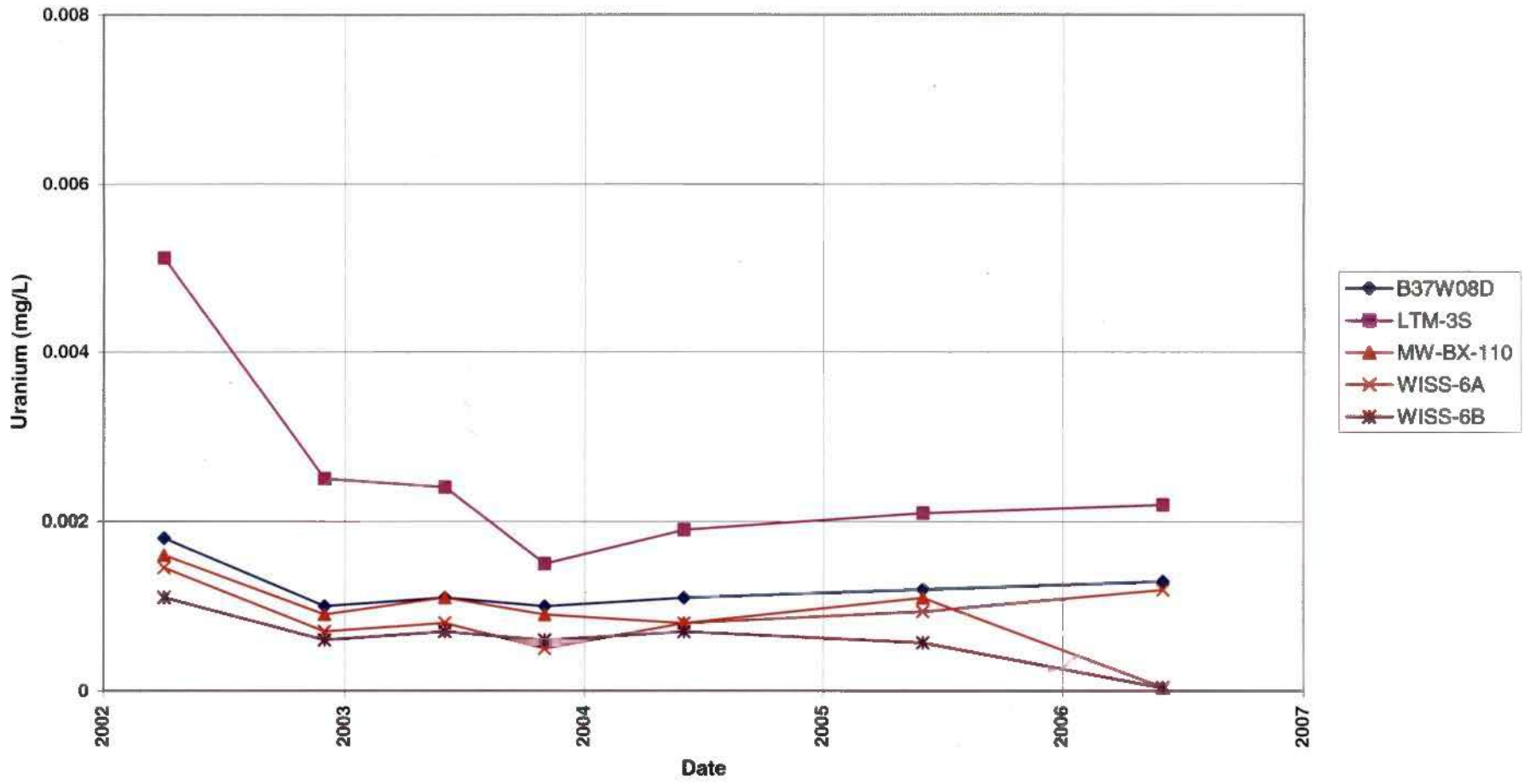
Wayne Site
Uranium Concentration
MCL = 0.044 mg/L



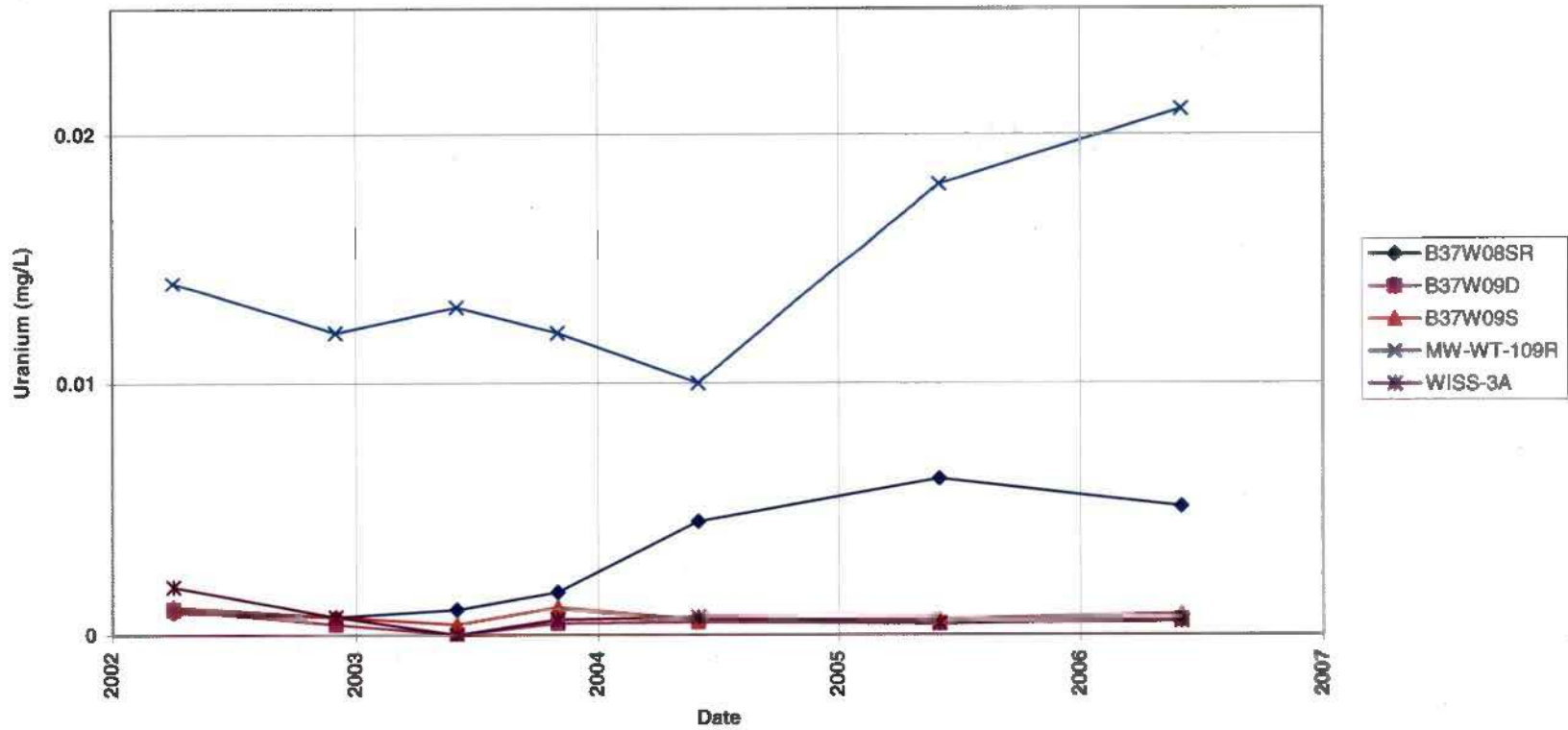
Wayne Site
Uranium Concentration
MCL = 0.044 mg/L



Wayne Site
Uranium Concentration
MCL = 0.044 mg/L



Wayne Site
Uranium Concentration
MCL = 0.044 mg/L



Attachment 3
Trip Report

Memorandum

DATE: May 30, 2006
TO: Michael R. Widdop
FROM: Jeff Price
SUBJECT: Sampling Trip Report

Site: Wayne Interim Storage Site, New Jersey

Dates of Sampling Event: May 22-26, 2006

Team Members: Andy Gosnell (USACE), Dan Mitchell (USACE), Julias Calderon (USACE), and Jeff Price.

Analytical Parameters: metals (antimony, arsenic, chromium, lead, mercury, molybdenum, thallium, uranium).

Number of Locations Sampled: Twenty wells were sampled as listed in Table 1 and shown in Figure 1.

Table 1. Sample Locations

Ticket Number	Date	Location
NDY 026	5/23/2006	B37W08D
NDY 027	5/23/2006	WISS-3B
NDY 028	5/23/2006	WISS-2A
NDY 029	5/23/2006	WISS-1B
NDY 030	5/23/2006	WISS-1AR
NDY 031	5/23/2006	MW-BX-110
NDY 032	5/23/2006	WISS-2B
NDY 033	5/23/2006	LTM-2S
NDY 034	5/23/2006	LTM-1S
NDY 035	5/23/2006	WISS-3A
NDY 036	5/23/2006	B37W08SR
NDY 037	5/24/2006	LTM-3S
NDY 038	5/24/2006	LTM-1D
NDY 039	5/24/2006	WISS-6B

Table 1 (continued). Sample Locations

Ticket Number	Date	Location
NDY 040	5/24/2006	WISS-5B
NDY 041	5/24/2006	WISS-6A
NDY 042	5/24/2006	MW-WT-109R
NDY 043	5/24/2006	B37W09S
NDY 044	5/24/2006	WISS-5AR
NDY 045	5/24/2006	B37W09D

Locations Not Sampled/Reason: None.

Location Specific Information: None.

Field Variance: Monitor wells were purged and sampled using the low-flow method.

Quality Control Samples: An equipment blank was not collected because all wells were sampled using dedicated equipment. All samples are splits of samples collected by the U.S. Army Corps of Engineers (USACE). Additionally, the USACE collected duplicates from selected locations for submittal to a referee laboratory.

Requisition Number: The report identification number (RIN) assigned to all samples is 06050379.

Contract Laboratories: The samples were shipped to Paragon Analytics in Fort Collins, Colorado, for analysis. The USACE selected General Engineering Laboratories in Charleston, South Carolina, as their primary laboratory, and Severn Trent Laboratories in Saint Louis, as the quality control check laboratory.

(JEP/lcg)

cc: C. J. Clayton, LM-40 (e)
S. E. Donovan, Stoller (e)
K. E. Miller, Stoller

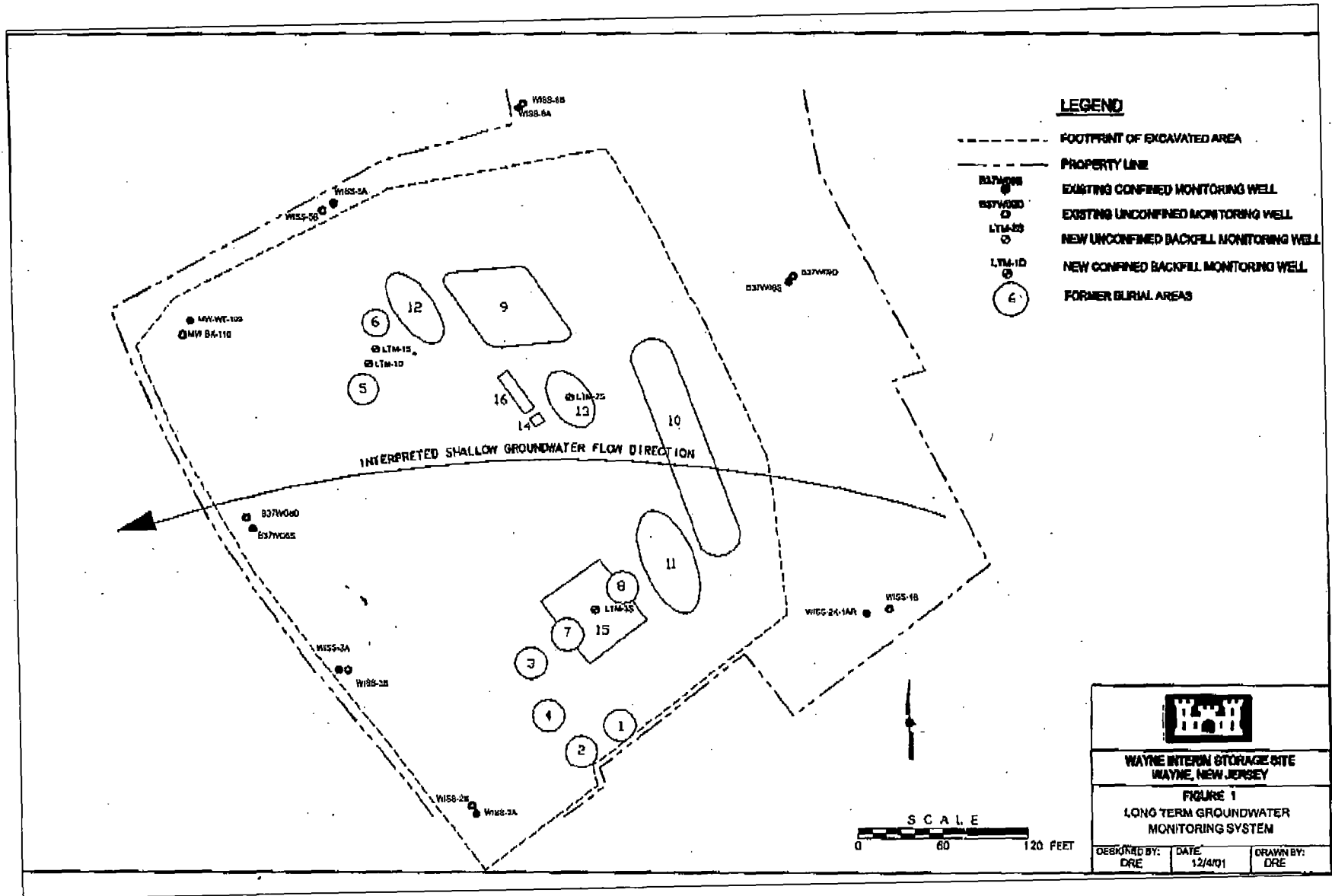


Figure 1. Wayne, New Jersey, Site Monitoring Network

Preliminary Site Status Report

Site Description

The Wayne Interim Storage Site (WISS) is located at 868 Black Oak Ridge Road, at the intersection with Pompton Plains Cross Road in Passaic County, New Jersey, in the township of Wayne. The WISS is located in a highly developed area of New Jersey, approximately 32 kilometers (km) north-northwest of Newark, New Jersey. The area of the site is approximately 6.5 acres. Site elevation ranges from 60 meters to 65.5 meters above mean sea level, and the topography is gently westward sloping. The site is bordered to the west by Black Oak Ridge Road, to the south by a school bus repair facility, and to the north and east by residential properties.

From 1948 through 1971, Rare Earths/W.R. Grace Company processed monazite sand at the property to extract thorium and rare earths. After processing ceased in 1971, the facility was licensed for storage only. In 1974, W.R. Grace partially decontaminated the site and the U.S. Nuclear Regulatory Commission (NRC) assumed licensing responsibilities formerly held by the U.S. Atomic Energy Commission (AEC). The storage license for radioactive materials was terminated by the NRC following site decommissioning, and the site was released without further restriction, stipulating that the property deed state that radioactive materials were buried on the property.

In 1981, the NRC measured direct radiation levels and radionuclide concentrations in soil on the property. Elevated survey measurements were noted, indicating that the site was contaminated with radium-226, thorium-232, and uranium-238. The site was placed on the National Priorities List (NPL) on September 21, 1984. The U.S. Department of Energy (DOE) was authorized by the Energy and Water Appropriations Act of 1984 to conduct decontamination research and development at the site. From 1984 to October 1997, the DOE managed the WISS under the Formerly Used Sites Remedial Action Program (FUSRAP). In October 1997, FUSRAP was transferred from DOE to the U.S. Army Corps of Engineers (USACE) through an act of Congress.

Between 1985 and 1987, removal actions were conducted to remove contaminated material from off-site locations near the site. Excavated waste materials, containing radioactively contaminated soil and building rubble from the remediated off-site properties, were placed in an interim storage pile at the WISS. The interim disposal pile was removed in 1997 and the material was shipped off-site for disposal.

The WISS is presently in the fourth year of a five-year ground water monitoring program conducted in accordance with a Record of Decision (ROD) dated April 27, 2000. The major components of the selected remedy under the ROD included:

- Excavation and disposal of the remaining contaminated subsurface materials to an average concentration of 5 picocuries per gram (pCi/g) of radium-226 and thorium-232 combined, and an average of 100 pCi/g of total uranium above naturally occurring background.
- Excavation and disposal of chemically contaminated soils above levels calculated to be protective of ground water or above levels protective for unrestrictive uses of the property.

- Removal and treatment of ground water encountered during excavation.
- Decontamination, demolition and off-site disposal of the remaining building at the WISS, and removal and off-site disposal of contamination of underlying material.
- Implementation of a five-year ground water monitoring program to establish ground water quality after contaminated soil has been removed.
- Ensured protection of a clay-confining layer separating two distinct aquifers identified on the site, and disposal of contaminated waste at an appropriate commercial facility.

Site Security and Access

Access to the site is from Black Oak Ridge Road. Entrance to the site is through a locked steel gate in the chain link security fence that encloses the site. The gate was locked and the gate and fence are in good condition.

Monitor Wells

The ground water monitoring network consists of sixteen perimeter wells along the borders of the site and four backfill monitoring wells in the interior of the site. The wells are generally located as pairs with one completed in the shallow ground water system and another in the lower, confined aquifer. Most of the wells are flush-mounted with bolt-on covers. None of the wells inspected were locked. Six of the perimeter wells—MW-BX-110, MW-WT-109, WISS-5A, WISS-5B, WISS-6A, and WISS-6B—are located outside of the fenced boundary on residential property. The USACE has retained access rights to these wells, but the details of the access agreement are not known.

Site Grounds

The site is located in a wetlands eco-region, exhibiting marsh-like conditions. The USACE personnel noted that conditions were drier than those observed in recent years with no standing water on site. Vegetation on site is herbaceous rather than woody with cattail stands at several locations.

Site drainage is generally from east to west. A French drain has been installed between the site and the northwest residential property to prevent runoff.

There is a gravel road leading from the entrance gate to a site maintenance building located on the northeast corner of the site. There are no other structures on the site. Site maintenance includes mowing the grassy strip located between the site boundary fence and Black Oak Ridge Road, a service provided by a local contractor. The site grounds are not mowed.

Site Maintenance Building

A two-room site maintenance building of approximately 500 square feet is located on the northeast corner of the property. The building is equipped to support sampling activities and has electric power and air conditioning. There are no other utilities. The building appears to be relatively new and is in excellent condition. Disposition of the building after site closure is not known.