G/M/S 99 [R-25]

HSWA LANL TA-16

Los Alamos
NATIONAL LABORATORY

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

Date: January 29, 1999
In Reply Refer To: ESH-18/WQ&H:99-0005
Mail Stop: K497
Telephone: (505) 665-1859

Ms. Marcy Leavitt, Chief
Ground Water Protection Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, New Mexico 87502

SUBJECT: ANALYTICAL RESULTS FROM SAMPLING STORED GROUND WATER PRODUCED DURING THE DRILLING OF MONITORING WELL R-25

Dear Ms. Leavitt:

In accordance with the requirements of your October 26, 1998, letter, the Laboratory has analyzed the ground water produced from the drilling of Monitoring Well R-25. A visit to the drilling site was made on December 9, 1998, by Ms. Phyllis Bustamante of your staff and Mr. John Young of the Hazardous and Radioactive Materials Bureau of NMED. As a follow up to this visit, Mr. Young requested testing of samples from each of the nine tanks which store ground water at the site. Testing of samples from the borehole itself has been on-going during drilling. Results of the borehole sampling have been validated and submitted to NMED for the depths of 747, 867, 1047, 1137, and 1181 feet.

Sampling of the tanks was completed on December 14, 1998, and samples were submitted to Paragon Analytics, Inc. for analysis. Results of sampling the nine tanks for high explosives and total metals are summarized in the enclosed tables. Also enclosed are copies of the validated analytical reports from Paragon Analytics, Inc. and copies of the data validation reports.

It should be noted the samples submitted for total metals analysis (See Table 2.0) were not filtered. Each sample submitted for total metals analysis was prepared as a composite from the following locations within the tank: approximately 30% of the sample from the top of the tank, approximately 30% from the middle of the tank, and approximately 40% from the bottom of the tank. The Laboratory's objective was to obtain a sample that was representative of both the water and suspended solids within each tank.

We propose to proceed with land application of this ground water onto the mesa top with a sprinkler system in accordance with our July 8, 1998, Notice of Intent to Discharge (NOI) for Monitoring Well R-25. All purge water to be land applied will not be allowed to pond or enter any surface watercourse in accordance with the NOI. We are requesting concurrence from the Ground Water Protection Bureau for land application of this ground water based upon the borehole data previously submitted and upon the enclosed tank data. By copy of this letter, we are also requesting concurrence from the Hazardous and Radioactive Materials Bureau and Surface Water Quality Bureau of NMED for land application of this ground water. Thank you for your assistance.

6143

Please contact me at 665-1859, or Bob Beers at 667-7969, if you need any additional information regarding this data.

Sincerely,

Steven Rae
Group Leader
Water Quality and Hydrology Group

BB:SR/md

Enclosures: a/s

Cy: J. Keiling, NMED/HRMB, Santa Fe, New Mexico, w/enc.
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T. Gunderson, DIR, w/enc., MS A100
T. Baca, EM-DO, w/enc., MS J591
J. Canepa, EM/ER, w/enc., MS M992
T. George, EM/ER, w/enc., MS M992
A. Pratt, EES-13, w/enc., MS M992
D. Broxton, EES-1, w/enc., MS D462
D. McInroy, EM/ER, w/enc., MS M992
R. Bohn, EM/ER, w/enc., MS M992
D. Erickson, ESH-DO, w/enc., MS K491
S. Veenis, ESH-18, w/enc., MS K497
M. Saladen, ESH-18, w/enc., MS K497
B. Beers, ESH-18, w/enc., MS K497
D. Woitte, LC-GEN, w/enc., MS A187
WQ&H File, w/enc., MS K497
CIC-10, w/enc., MS A150

Table 1.0

HE Analytical Results
R-25 Produced Water in Storage at TA-16
Sample Date: 12/14/98
Sample Type: Water, Nonfiltered
Units: ug/L

1/29/99

Tank ID No.	Tank Capacity (gal)	Liquid Volume (gal)	Source, Depth (ft)	Sample ID No.	HMX	RDX	1,3,5-TNB	1,3-DNB	Tetryl	NB	2,4,6-TNT	4-Amino-2,6-DNT	2-Amino-4,6-DNT	2,6-DNT	2,4-DNT	2-NT	4-NT	3-NT
FT 200	21,000	21,000	711-1157	98-0072	6.1J	32	<0.52U	<0.5U	<2U	<2U	<0.5	1.2J	2J	<0.5U	<0.5U	<2U	<2U	<2U
FT213	21,000	21,000	711-1157	98-0073	2.6J-	12J-	<0.26UJ	<0.25UJ	<1UJ	<1UJ	<0.25UJ	<0.25UJ	<0.25UJ	<0.25UJ	<0.25UJ	<1UJ	<1UJ	<1UJ
Poly #1	3,000	3,000	1157	98-0078	<1UJ	<0.84UJ	<0.26UJ	<0.25UJ	<1UJ	<1UJ	<0.25UJ	<0.25UJ	<0.25UJ	<0.25UJ	<0.25UJ	<1UJ	<1UJ	<1UJ
Poly #2	3,000	3,000	1157-1158.5	98-0079	<1U	0.89	<0.26U	<0.25U	<1U	<1U	<0.25U	<0.25U	<0.25U	<0.25U	<0.25U	<1U	<1U	<1U
Poly #3	3,000	3,000	1158.5-1162.5	98-0080	1.2J-	6.9J-	<0.26UJ	<0.25UJ	<1UJ	<1UJ	<0.25UJ	<0.25UJ	<0.25UJ	<0.25UJ	<0.25UJ	<1UJ	<1UJ	<1UJ
Poly #8	3,000	3,000	1162.5-1167	98-0077	4.2J-	27J-	<0.52UJ	<0.5UJ	<2UJ	<2UJ	<0.5UJ	2.3J-	<0.5UJ	<0.5UJ	<0.5UJ	<2UJ	<2UJ	<2UJ
Poly #4	3,000	3,000	1167	98-0076	1.5J-	8.8J-	<0.26UJ	<0.25UJ	<1UJ	<1UJ	<0.25UJ	<0.25UJ	<0.25UJ	<0.25UJ	<0.25UJ	<1UJ	<1UJ	<1UJ
Poly #5	3,000	3,000	1167-1175	98-0075	3.8J	16	<0.26U	<0.25U	<1U	<1U	<0.25U	<0.25U	<0.25U	<0.25U	<0.25U	<1U	<1U	<1U
Poly #6	3,000	1,500	1175	98-0074	<1U	<0.84U	<0.26U	<0.25U	<1U	<1U	<0.25U	<0.25U	<0.25U	<0.25U	<0.25U	<1U	<1U	<1U

Notes:
"U" means that the target analyte amount was less than the Reporting Limit.
"J" means that the reported result is an estimated value due to uncertainty from interferences.
"J-" means that the target analyte amount may be higher than the amount reported.
"UJ" means that the target analyte amount was less than the Reporting Limit, however, there is greater uncertainty in the detection limits reported due to low surrogate recoveries.
"<" means that the target analyte was less than the Reporting Limit.

Table 2.0

Total Metals Analytical Results
R-25 Produced Water in Storage at TA-16
Sample Date: 12/14/98
Sample Type: Water, Nonfiltered
Units: ug/L

1/29/99

Tank ID No.	Tank Capacity (gal)	Liquid Volume (gal)	Source, Depth (ft)	Sample ID No.	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb
FT 200	21,000	21,000	711-1157	98-0072	43,400	<2.7UJ	10.6	457	3.6J	<0.2U	27,200	39	21.8J	80.1	77,700	35.5
FT213	21,000	21,000	711-1157	98-0073	53,000	4.2J-	13.8	456	15.6	<0.2U	32,300	43	23.9J	95.5	103,000	66.6
Poly #1	3,000	3,000	1157	98-0078	249,000	14.7J-	183	2,860	44.3	<0.8U	239,000	264	119	440	566,000	726
Poly #2	3,000	3,000	1157-1158.5	98-0079	96,800	8.7J-	113	1,360	50.8	<0.6U	142,000	163	52.4	801	506,000	560
Poly #3	3,000	3,000	1158.5-1162.5	98-0080	70,300	3.6J-	36.2	845	16.7	<0.2U	71,200	76.6	32.6J	137	157,000	155
Poly #8	3,000	3,000	1162.5-1167	98-0077	48,900	2.7J-	14.3	480	7.5	<0.2U	33,800	32.6	18.4J	77	71,900	58.8
Poly #4	3,000	3,000	1167	98-0076	52,900	3.2J-	33.3	599	12.7	<0.2U	58,500	48.6	21.1J	94.5	143,000	144
Poly #5	3,000	3,000	1167-1175	98-0075	54,200	<2.7UJ	31.1	651	12.9	<0.2U	57,800	64.9	20.4J	118	137,000	118
Poly #6	3,000	1,500	1175	98-0074	28,600	3.2J-	10.3	351	2.7J	<0.2U	21,400	52.1	14.6J	68.9	85,100	33.2

Tank ID No.	Tank Capacity (gal)	Liquid Volume (gal)	Source, Depth (ft)	Sample ID No.	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	V	Zn
FT 200	21,000	21,000	711-1157	98-0072	9,650	1,860	0.02R	56.9	9,450	5.0J	<0.8U	28,600	3.1R	29.8J	281
FT213	21,000	21,000	711-1157	98-0073	13,600	2,510	0.02R	69.9	12,300	8.7	<0.8U	40,800	4.8J	34.7J	324
Poly #1	3,000	3,000	1157	98-0078	83,600	14,900	0.61	385	131,000	23.7	<0.8U	340,000	37.6J	180	1,390
Poly #2	3,000	3,000	1157-1158.5	98-0079	48,500	8,050	0.27	279	78,700	19.3	<0.8U	172,000	32.4	58.2	1,950
Poly #3	3,000	3,000	1158.5-1162.5	98-0080	26,000	3,650	0.02R	103	31,400	12.2	<0.8U	89,000	6.7J	45.5J	309
Poly #8	3,000	3,000	1162.5-1167	98-0077	14,700	1,450	0.02R	50.7	17,900	<2.6U	<0.8U	53,100	3.1R	30.6J	180
Poly #4	3,000	3,000	1167	98-0076	22,100	2,380	0.02R	78.4	29,400	9.5	<0.8U	86,600	3.1R	25.3J	317
Poly #5	3,000	3,000	1167-1175	98-0075	21,500	2,290	0.02R	74.7	28,000	6.6	<0.8U	73,700	6.2J	26.6J	297
Poly #6	3,000	1,500	1175	98-0074	5,790	2,020	0.02R	54.5	13,300	4.2J	<0.8U	52,400	3.1R	27.8J	275

Notes:
"J" means that the reported result is an estimated value due to uncertainty from interferences.
"J-" means that the reported amounts may be less than the actual amount due to low spike recovery.
"R" means that the sample results have been rejected because of interference problems in the preparation blank.
"<" means that the target analyte was less than the Reporting Limit.
"U" means that the target analyte was less than the Reporting Limit.
"UJ" means that the target analyte was less than the Reporting Limit but the Reporting Limit is estimated due to low spike recovery.

Data Validation Report-HE Analysis
R-25 Stored Water

Date: January 22, 1999

Author: Mr. Bart J. Vanden Plas CIH
Los Alamos Technical Associates (LATA)

Requestor: Los Alamos National Laboratory

This is the data validation report for samples CACV-98-0072 through CACV-98-0080 that were collected from the water stored at well R-25. These samples were sent to the laboratory as Request Number 5048R. The following is the findings of the data validation conducted on 1/21/99.

I have reviewed the data package for samples CACV-98-0072 through CACV-98-0080 in Request Number 5048R and found several significant problems with the reported data. RDX, HMX, 4-amino-2,6-dinitrotoluene, and 2-amino-4,6-dinitrotoluene were the only target analytes reported as detected in these samples. The analytical results reported appear to represent conditions in the sample as collected with some qualifications.

The samples in Request Number 5048R were collected on 12/14/98 and submitted to Paragon Analytics, Inc. on December 16, 1998. There were no problems noted for the shipping and receiving of the sample. The data were reported in hardcopy form on January 15, 1999 and delivered to LANL on January 20, 1999.

The laboratory reported several issues with the analyses in the case narrative provided. The first issue the laboratory reported was the use of a third column to confirm the detections of HMX in the samples with HMX hits. This is an enhancement of the method and provided greater confidence in the reported results.

The second issue addressed in the case narrative was that there were problems with emulsions forming during the extraction of the samples. This resulted in low surrogate recoveries for the samples with samples CACV-98-0073, -0076, -0077, -0078, and -0080 having recoveries below the method recommended lower surrogate recovery limit. Since all of these samples (except sample CACV-98-0078) had reported detections of target analytes, the results are acceptable for use with the following qualifiers. Any detections must be qualified as "J-" to indicate the possibility that the target analyte amounts may be higher than the amounts reported. Any undetected analytes must be qualified as "UJ" to indicate that there is greater uncertainty in the detection limits reported for these samples. For sample CACV-98-0078, an evaluation of the chromatograms indicates that there are possibly some target analytes present, but the amounts were below the reporting limit. Since the low surrogate recovery may be because of the emulsion formed during sample extraction (as indicated by the low surrogate recovery) these results must all be qualified as "UJ". These results were not rejected because the surrogate recovery was 33% (the lower limit is 34%) and the amounts in the sample would not likely have been more than 2 or 3 times the reporting limit if the extraction process had worked better on this matrix.

The third issue addressed in the case narrative was that samples CACV-98-0072 and CACV-98-0077 were diluted to get all of the target analytes detected into calibration range for the instrument. RDX was above the calibration range in both samples without the factor of two dilution. The results for both dilutions are acceptable as reported unless qualified for other reasons as described in this report.

The samples were extracted 3 days after collection on December 17, 1998 and analyzed on December 19 and 20, 1998 and January 15, 1999. Both extraction and analyses were all conducted within holding times for the method.

There were no target analytes detected in any of the blanks analyzed along with the samples in this request.

Blank spike (BS) and blank spike duplicate (BSD) recoveries and relative percent differences (RPD) were acceptable except for the surrogate recovery in the BSD, which was recovered at 31% (lower limit is 34%). This low recovery resulted in some lower recoveries of the target analytes when compared to the BS sample. The target analyte recoveries in the BSD were acceptable, but the low surrogate recovery and the lower analyte recoveries resulted in some high relative percent differences between the BS and BSD. Again these RPDs were acceptable, but high. This data supports the qualification of the data already reported for the low surrogate recoveries in some samples.

The calibration curves were all linear and continuing calibration verification samples were within acceptable limits on the C-18 column (used for initial analysis) and on the two different CN columns (used for confirmation analysis).

The results reported for these samples were also possibly affected by interferences as indicated by the percent differences reported for detected analytes on the initial and confirmation columns. HMX, 4-amino-2,6-dinitrotoluene, and 2-amino-4,6-dinitrotoluene all had very high percent differences in all samples where they were detected. The results for these analytes should be qualified with a "J" to indicate the uncertainty in the results due to the interferences unless they are already qualified for low surrogate recoveries. The results for RDX were not affected by these interferences and need no additional qualification.

In conclusion, the sample results are acceptable as reported by the laboratory with the exception of the qualifiers discussed in this report. Please see the qualified Form Is for a summary of the qualifiers applied to the data.

Data Validation Report-Inorganic Analysis
R-25 Stored Water

Date: January 26, 1999

Author: Mr. Bart J. Vanden Plas CIH
Los Alamos Technical Associates (LATA)

Requestor: Los Alamos National Laboratory

This is the inorganic analyses data validation report for samples CACV-98-0072 through CACV-98-0080 that were collected from the water stored at well R-25. These samples were sent to the laboratory as Request Number 5047R. The following discussion includes the findings of the data validation conducted on 1/25/99.

I have reviewed the data package for the inorganic analyses of samples CACV-98-0072 through CACV-98-0080 in Request Number 5047R and found several significant problems with the reported data. The analytical results reported appear to represent conditions in the sample as collected with some qualifications.

The samples in Request Number 5047R were collected on 12/14/98 and submitted to Paragon Analytics, Inc. on December 16, 1998. There were no problems noted for the shipping and receiving of the sample. The data were reported in hardcopy form on January 18, 1999 and delivered to LANL on January 22, 1999.

The laboratory reported just one issue with the analyses in the case narrative provided. The laboratory reported a problem with the low standard in the analysis for mercury (Hg). The laboratory conducted re-analyses on the two samples that had detections of Hg. The results for these re-analyses are acceptable without qualification. The two samples that were affected were sample CACV-98-0078 (Hg detected at 0.61 ug/l) and CACV-98-0079 (Hg detected at 0.27 ug/l). These two results are both below the regulatory limit for Hg of 2 ug/l.

The samples were extracted on December 16, 1998 for ICP metals and on December 18, 1998 for Hg. All extractions and analyses were conducted within holding times for the methods.

Target analytes were detected in the blanks analyzed along with the samples in this request. The preparation blank and several continuing calibration blanks (CCBs) also had negative results (results less than zero) that were more negative than the reporting limit for the analyses indicating possible interferences in the detection of these analytes. The analytes that had problems with possible interferences (indicated by the blank analysis results) that affected sample results were thallium (Tl) and Hg. The Tl non-detected results in samples CACV-98-0072, -0074, -0076, and -0077 are all rejected because the associated CCBs were more negative than the reporting limits for these samples. For Hg, all non-detected sample results (all samples except CACV-98-0078 and -0079) are rejected because the preparation blank was reported at -0.108 ug/l with a reporting limit of 0.02 ug/l.

Spike sample recoveries were acceptable except for the antimony (Sb) recovery, which was recovered at 41% (lower limit is 75%). This low recovery resulted in all of the Sb results being qualified as follows. The non-detected results are qualified "UJ" to indicate that the reporting

limit is estimated because of the low spike recovery. All detected results are qualified "J-" to indicate that the reported amounts may be less than the actual amount in the sample as indicated by the low spike recovery.

The calibration curves used were linear and were within acceptable limits except for the Hg calibration discussed above. The laboratory re-analyzed the affected samples for Hg using an acceptable calibration curve. The results for Hg in these two samples are acceptable without qualification.

In conclusion, the sample results are acceptable as reported by the laboratory with the exception of the qualifiers discussed in this report. Specifically, the results for Hg are rejected ("R") because of interference problems found in the preparation blank in the following samples:
CACV-98-0072,
CACV-98-0073,
CACV-98-0074,
CACV-98-0075,
CACV-98-0076,
CACV-98-0077, and
CACV-98-0080.

The results for Tl are rejected ("R") because of interferences in the CCVs associated with the following samples:
CACV-98-0072,
CACV-98-0074,
CACV-98-0076, and
CACV-98-0077.

Please see the qualified Form Is for a summary of the qualifiers applied to the data.

troaromatics And Nitramines

Tanks

Method SW8330

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9812114
Client Name: Los Alamos National Laboratory
ClientProject ID: 5048R

Reported on: Friday, January 15, 1999

[redacted]	CACV-98-0072
[redacted]	9812114-1

Tank FT 200

Sample Matrix: Liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 14-Dec-98
Date Extracted: 16-Dec-99
Date Analyzed: 20-Dec-98
Prep Batch: EX981216-5

Sample Aliquot: 350
Final Volume: 3
Dilution: 2

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
2691-41-0	HMX	6.1	ug/L	2		J
121-82-4	RDX	32	ug/L	1.7		
99-35-4	1,3,5-TRINITROBENZENE	0.52	ug/L	0.52	U	
99-65-0	1,3-DINITROBENZENE	0.5	ug/L	0.5	U	
479-45-8	TETRYL	2	ug/L	2	U	
98-95-3	NITROBENZENE	2	ug/L	2	U	
118-96-7	2,4,6-TRINITROTOLUENE	0.5	ug/L	0.5	U	
1946-51-0	4-AMINO-2,6-DNT	1.2	ug/L	0.5		J
35572-78-2	2-AMINO-4,6-DNT	2	ug/L	0.5		J
606-20-2	2,6-DINITROTOLUENE	0.5	ug/L	0.5	U	
121-14-2	2,4-DINITROTOLUENE	0.5	ug/L	0.5	U	
88-72-2	2-NITROTOLUENE	2	ug/L	2	U	
99-99-0	4-NITROTOLUENE	2	ug/L	2	U	
99-08-1	3-NITROTOLUENE	2	ug/L	2	U	

Surrogate Recovery

1/21/99

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
100-25-4	1,4-DINITROBENZENE	1.58	ug/l	4.29	37	34 - 106

U = Less than the Reporting Limit

Nitroaromatics And Nitramines

Method SW8330

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9812114
Client Name: Los Alamos National Laboratory
ClientProject ID: 5048R

Reported on: Friday, January 15, 1999

[redacted]	CACV-98-0073
[redacted]	9812114-2

Tank FT 213

Sample Matrix: Liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 14-Dec-98
Date Extracted: 17-Dec-99
Date Analyzed: 19-Dec-98
Prep Batch: EX981217-5

Sample Aliquot: 350
Final Volume: 3
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
2691-41-0	HMX	2.6	ug/L	1		J-
121-82-4	RDX	12	ug/L	0.84		J-
99-35-4	1,3,5-TRINITROBENZENE	0.26	ug/L	0.26	U J	
99-65-0	1,3-DINITROBENZENE	0.25	ug/L	0.25	U J	
479-45-8	TETRYL	1	ug/L	1	U J	
98-95-3	NITROBENZENE	1	ug/L	1	U J	
118-96-7	2,4,6-TRINITROTOLUENE	0.25	ug/L	0.25	U J	
1946-51-0	4-AMINO-2,6-DNT	0.25	ug/L	0.25	U J	
35572-78-2	2-AMINO-4,6-DNT	0.25	ug/L	0.25	U J	
606-20-2	2,6-DINITROTOLUENE	0.25	ug/L	0.25	U J	
121-14-2	2,4-DINITROTOLUENE	0.25	ug/L	0.25	U J	
88-72-2	2-NITROTOLUENE	1	ug/L	1	U J	
99-99-0	4-NITROTOLUENE	1	ug/L	1	U J	
99-08-1	3-NITROTOLUENE	1	ug/L	1	U J	

Surrogate Recovery

BW 1/21/99

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
100-25-4	1,4-DINITROBENZENE	1.39	ug/l	4.29	32	34 - 106

U = Less than the Reporting Limit

Nitroaromatics And Nitramines

Method SW8330

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9812114
Client Name: Los Alamos National Laboratory
ClientProject ID: 5048R

Reported on: Friday, January 15, 1999

CLIENT ID:	CACV-98-0078
LAB ID:	9812114-7

Trailer Poly #1

Sample Matrix: Liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 14-Dec-98
Date Extracted: 17-Dec-99
Date Analyzed: 19-Dec-98
Prep Batch: EX981217-5

Sample Aliquot: 350
Final Volume: 3
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
2691-41-0	HMX	1	ug/L	1	UJ	
121-82-4	RDX	0.84	ug/L	0.84	UJ	
99-35-4	1,3,5-TRINITROBENZENE	0.26	ug/L	0.26	UJ	
99-65-0	1,3-DINITROBENZENE	0.25	ug/L	0.25	UJ	
479-45-8	TETRYL	1	ug/L	1	UJ	
98-95-3	NITROBENZENE	1	ug/L	1	UJ	
118-96-7	2,4,6-TRINITROTOLUENE	0.25	ug/L	0.25	UJ	
1946-51-0	4-AMINO-2,6-DNT	0.25	ug/L	0.25	UJ	
35572-78-2	2-AMINO-4,6-DNT	0.25	ug/L	0.25	UJ	
606-20-2	2,6-DINITROTOLUENE	0.25	ug/L	0.25	UJ	
121-14-2	2,4-DINITROTOLUENE	0.25	ug/L	0.25	UJ	
88-72-2	2-NITROTOLUENE	1	ug/L	1	UJ	
99-99-0	4-NITROTOLUENE	1	ug/L	1	UJ	
99-08-1	3-NITROTOLUENE	1	ug/L	1	UJ	

Surrogate Recovery

1/21/99

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
100-25-4	1,4-DINITROBENZENE	1.41	ug/l	4.29	33	34 - 106

U = Less than the Reporting Limit

Nitroaromatics And Nitramines

Method SW8330

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9812114
Client Name: Los Alamos National Laboratory
ClientProject ID: 5048R

Reported on: Friday, January 15, 1999

[redacted]	CACV-98-0079
[redacted]	9812114-8

Sample Matrix: Liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 14-Dec-98
Date Extracted: 17-Dec-99
Date Analyzed: 19-Dec-98
Prep Batch: EX981217-5

Sample Aliquot: 350
Final Volume: 3
Dilution: 1

Tank Poly #2

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
2691-41-0	HMX	1	ug/L	1	U	
121-82-4	RDX	0.89	ug/L	0.84		
99-35-4	1,3,5-TRINITROBENZENE	0.26	ug/L	0.26	U	
99-65-0	1,3-DINITROBENZENE	0.25	ug/L	0.25	U	
479-45-8	TETRYL	1	ug/L	1	U	
98-95-3	NITROBENZENE	1	ug/L	1	U	
118-96-7	2,4,6-TRINITROTOLUENE	0.25	ug/L	0.25	U	
1946-51-0	4-AMINO-2,6-DNT	0.25	ug/L	0.25	U	
35572-78-2	2-AMINO-4,6-DNT	0.25	ug/L	0.25	U	
606-20-2	2,6-DINITROTOLUENE	0.25	ug/L	0.25	U	
121-14-2	2,4-DINITROTOLUENE	0.25	ug/L	0.25	U	
88-72-2	2-NITROTOLUENE	1	ug/L	1	U	
99-99-0	4-NITROTOLUENE	1	ug/L	1	U	
99-08-1	3-NITROTOLUENE	1	ug/L	1	U	

Surrogate Recovery

BW 1/21/99

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
100-25-4	1,4-DINITROBENZENE	1.66	ug/l	4.29	39	34 - 106

U = Less than the Reporting Limit

Nitroaromatics And Nitramines

Method SW8330

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9812114
Client Name: Los Alamos National Laboratory
ClientProject ID: 5048R

Reported on: Friday, January 15, 1999

Client ID:	CACV-98-0080
Lab ID:	9812114-9

Sample Matrix: Liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 14-Dec-98
Date Extracted: 17-Dec-99
Date Analyzed: 19-Dec-98
Prep Batch: EX981217-5

Sample Aliquot: 350
Final Volume: 3
Dilution: 1

Tank Poly #3

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
2691-41-0	HMX	1.2	ug/L	1		J-
121-82-4	RDX	6.9	ug/L	0.84		J-
99-35-4	1,3,5-TRINITROBENZENE	0.26	ug/L	0.26	UJ	
99-65-0	1,3-DINITROBENZENE	0.25	ug/L	0.25	UJ	
479-45-8	TETRYL	1	ug/L	1	UJ	
98-95-3	NITROBENZENE	1	ug/L	1	UJ	
118-96-7	2,4,6-TRINITROTOLUENE	0.25	ug/L	0.25	UJ	
1946-51-0	4-AMINO-2,6-DNT	0.25	ug/L	0.25	UJ	
35572-78-2	2-AMINO-4,6-DNT	0.25	ug/L	0.25	UJ	
606-20-2	2,6-DINITROTOLUENE	0.25	ug/L	0.25	UJ	
121-14-2	2,4-DINITROTOLUENE	0.25	ug/L	0.25	UJ	
88-72-2	2-NITROTOLUENE	1	ug/L	1	UJ	
99-99-0	4-NITROTOLUENE	1	ug/L	1	UJ	
99-08-1	3-NITROTOLUENE	1	ug/L	1	UJ	

Surrogate Recovery

VGW 1/21/99

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
100-25-4	1,4-DINITROBENZENE	0.309	ug/l	4.29	7	34 - 106

U = Less than the Reporting Limit

Nitroaromatics And Nitramines

Method SW8330

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9812114
Client Name: Los Alamos National Laboratory
ClientProject ID: 5048R

Reported on: Friday, January 15, 1999

[redacted]	CACV-98-0077
[redacted]	9812114-6

Trench Poly # 8

Sample Matrix: Liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 14-Dec-98
Date Extracted: 17-Dec-99
Date Analyzed: 15-Jan-99
Prep Batch: EX981217-5

Sample Aliquot: 350
Final Volume: 3
Dilution: 2

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
2691-41-0	HMX	4.2	ug/L	2		J-
121-82-4	RDX	27	ug/L	1.7		J-
99-35-4	1,3,5-TRINITROBENZENE	0.52	ug/L	0.52	U J	
99-65-0	1,3-DINITROBENZENE	0.5	ug/L	0.5	U J	
479-45-8	TETRYL	2	ug/L	2	U J	
98-95-3	NITROBENZENE	2	ug/L	2	U J	
118-96-7	2,4,6-TRINITROTOLUENE	0.5	ug/L	0.5	U J	
1946-51-0	4-AMINO-2,6-DNT	2.3	ug/L	0.5		J-
35572-78-2	2-AMINO-4,6-DNT	0.5	ug/L	0.5	U J	
606-20-2	2,6-DINITROTOLUENE	0.5	ug/L	0.5	U J	
121-14-2	2,4-DINITROTOLUENE	0.5	ug/L	0.5	U J	
88-72-2	2-NITROTOLUENE	2	ug/L	2	U J	
99-99-0	4-NITROTOLUENE	2	ug/L	2	U J	
99-08-1	3-NITROTOLUENE	2	ug/L	2	U J	

Surrogate Recovery

EPV 1/21/99

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
100-25-4	1,4-DINITROBENZENE	1.4	ug/l	4.29	33	34 - 106

U = Less than the Reporting Limit

Nitroaromatics And Nitramines

Method SW8330

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9812114
Client Name: Los Alamos National Laboratory
ClientProject ID: 5048R

Reported on: Friday, January 15, 1999

[redacted]	CACV-98-0076
[redacted]	9812114-5

Tank Poly # 4

Sample Matrix: Liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 14-Dec-98
Date Extracted: 17-Dec-99
Date Analyzed: 19-Dec-98
Prep Batch: EX981217-5

Sample Aliquot: 350
Final Volume: 3
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
2691-41-0	HMX	1.5	ug/L	1		J-
121-82-4	RDX	8.8	ug/L	0.84		J-
99-35-4	1,3,5-TRINITROBENZENE	0.26	ug/L	0.26	UJ	
99-65-0	1,3-DINITROBENZENE	0.25	ug/L	0.25	UJ	
479-45-8	TETRYL	1	ug/L	1	UJ	
98-95-3	NITROBENZENE	1	ug/L	1	UJ	
118-96-7	2,4,6-TRINITROTOLUENE	0.25	ug/L	0.25	UJ	
1946-51-0	4-AMINO-2,6-DNT	0.25	ug/L	0.25	UJ	
35572-78-2	2-AMINO-4,6-DNT	0.25	ug/L	0.25	UJ	
606-20-2	2,6-DINITROTOLUENE	0.25	ug/L	0.25	UJ	
121-14-2	2,4-DINITROTOLUENE	0.25	ug/L	0.25	UJ	
88-72-2	2-NITROTOLUENE	1	ug/L	1	UJ	
99-99-0	4-NITROTOLUENE	1	ug/L	1	UJ	
99-08-1	3-NITROTOLUENE	1	ug/L	1	UJ	

Surrogate Recovery

1/21/99

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
100-25-4	1,4-DINITROBENZENE	0.634	ug/l	4.29	15	34 - 106

U = Less than the Reporting Limit

Nitroaromatics And Nitramines

Method SW8330

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9812114
Client Name: Los Alamos National Laboratory
ClientProject ID: 5048R

Reported on: Friday, January 15, 1999

[redacted]	CACV-98-0075
[redacted]	9812114-4

Sample Matrix: Liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 14-Dec-98
Date Extracted: 17-Dec-99
Date Analyzed: 19-Dec-98
Prep Batch: EX981217-5

Sample Aliquot: 350
Final Volume: 3
Dilution: 1

Trailer Poly # 5

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
2691-41-0	HMX	3.8	ug/L	1		J
121-82-4	RDX	16	ug/L	0.84		
99-35-4	1,3,5-TRINITROBENZENE	0.26	ug/L	0.26	U	
99-65-0	1,3-DINITROBENZENE	0.25	ug/L	0.25	U	
479-45-8	TETRYL	1	ug/L	1	U	
98-95-3	NITROBENZENE	1	ug/L	1	U	
118-96-7	2,4,6-TRINITROTOLUENE	0.25	ug/L	0.25	U	
1946-51-0	4-AMINO-2,6-DNT	0.25	ug/L	0.25	U	
35572-78-2	2-AMINO-4,6-DNT	0.25	ug/L	0.25	U	
606-20-2	2,6-DINITROTOLUENE	0.25	ug/L	0.25	U	
121-14-2	2,4-DINITROTOLUENE	0.25	ug/L	0.25	U	
88-72-2	2-NITROTOLUENE	1	ug/L	1	U	
99-99-0	4-NITROTOLUENE	1	ug/L	1	U	
99-08-1	3-NITROTOLUENE	1	ug/L	1	U	

Surrogate Recovery

1/21/99

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
100-25-4	1,4-DINITROBENZENE	2.09	ug/l	4.29	49	34 - 106

U = Less than the Reporting Limit

Nitroaromatics And Nitramines

Method SW8330

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9812114
Client Name: Los Alamos National Laboratory
ClientProject ID: 5048R

Reported on: Friday, January 15, 1999

[redacted]	CACV-98-0074
[redacted]	9812114-3

Tank Poly #6

Sample Matrix: Liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 14-Dec-98
Date Extracted: 17-Dec-99
Date Analyzed: 19-Dec-98
Prep Batch: EX981217-5

Sample Aliquot: 350
Final Volume: 3
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
2691-41-0	HMX	1	ug/L	1	U	
121-82-4	RDX	0.84	ug/L	0.84	U	
99-35-4	1,3,5-TRINITROBENZENE	0.26	ug/L	0.26	U	
99-65-0	1,3-DINITROBENZENE	0.25	ug/L	0.25	U	
479-45-8	TETRYL	1	ug/L	1	U	
98-95-3	NITROBENZENE	1	ug/L	1	U	
118-96-7	2,4,6-TRINITROTOLUENE	0.25	ug/L	0.25	U	
1946-51-0	4-AMINO-2,6-DNT	0.25	ug/L	0.25	U	
35572-78-2	2-AMINO-4,6-DNT	0.25	ug/L	0.25	U	
606-20-2	2,6-DINITROTOLUENE	0.25	ug/L	0.25	U	
121-14-2	2,4-DINITROTOLUENE	0.25	ug/L	0.25	U	
88-72-2	2-NITROTOLUENE	1	ug/L	1	U	
99-99-0	4-NITROTOLUENE	1	ug/L	1	U	
99-08-1	3-NITROTOLUENE	1	ug/L	1	U	

Surrogate Recovery

BMV 1/21/99

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
100-25-4	1,4-DINITROBENZENE	2.13	ug/l	4.29	50	34 - 106

U = Less than the Reporting Limit

TANKS

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CACV-98-0072

Lab Name: PARAGON_ANALYTICS_____ Contract: _____

Lab Code: NA____ Case No.: _____ SAS No.: _____ SDG No.: 5047R_

Matrix (soil/water): WATER_ Lab Sample ID: 9812115-1

Level (low/med): LOW__ Date Received: 12/16/98

% Solids: __0.0

Tank FT 200

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	43400			P	
7440-36-0	Antimony_	2.7	U	~~N~~	P	UJ
7440-38-2	Arsenic__	10.6			P	
7440-39-3	Barium___	457			P	
7440-41-7	Beryllium	3.6	B		P	J
7440-43-9	Cadmium__	0.20	U		P	
7440-70-2	Calcium__	27200			P	
7440-47-3	Chromium_	39.0			P	
7440-48-4	Cobalt___	21.8	B		P	J
7440-50-8	Copper___	80.1			P	
7439-89-6	Iron____	77700			P	
7439-92-1	Lead____	35.5			P	
7439-95-4	Magnesium	9650			P	
7439-96-5	Manganese	1860			P	
7439-97-6	Mercury__	0.02	U		AV	R
7440-02-0	Nickel___	56.9			P	
7440-09-7	Potassium	9450			P	
7782-49-2	Selenium_	5.0	B		P	J
7440-22-4	Silver___	0.80	U		P	
7440-23-5	Sodium___	28600			P	
7440-28-0	Thallium_	3.1	U		P	R
7440-62-2	Vanadium_	29.8	B		P	J
7440-66-6	Zinc____	281			P	

1/25/99

Color Before: BROWN____ Clarity Before: CLOUDY Texture: N/A___

Color After: LT_BROWN_ Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CACV-98-0073

Lab Name: PARAGON_ANALYTICS_____ Contract: _____

Lab Code: NA____ Case No.: _____ SAS No.: _____ SDG No.: 5047R_

Matrix (soil/water): WATER_ Lab Sample ID: 9812115-2

Level (low/med): LOW__ Date Received: 12/16/98

% Solids: __0.0

Tank FT 213

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	53000	_		P_	
7440-36-0	Antimony_	4.2	~~B~~	~~N~~	P_	J-
7440-38-2	Arsenic__	13.8	_		P_	
7440-39-3	Barium___	456	_		P_	
7440-41-7	Beryllium	15.6	_		P_	
7440-43-9	Cadmium__	0.20	U		P_	
7440-70-2	Calcium__	32300			P_	
7440-47-3	Chromium_	43.0	_		P_	
7440-48-4	Cobalt___	23.9	~~B~~		P_	
7440-50-8	Copper___	95.5			P_	J
7439-89-6	Iron_____	103000	_		P_	
7439-92-1	Lead_____	66.6	_		P_	
7439-95-4	Magnesium	13600	_		P_	
7439-96-5	Manganese	2510	_		P_	
7439-97-6	Mercury__	0.02	~~U~~		AV	R
7440-02-0	Nickel___	69.9			P_	
7440-09-7	Potassium	12300	_		P_	
7782-49-2	Selenium_	8.7	_		P_	
7440-22-4	Silver___	0.80	U		P_	
7440-23-5	Sodium___	40800			P_	
7440-28-0	Thallium_	4.8	~~B~~		P_	J
7440-62-2	Vanadium_	34.7	~~B~~		P_	J
7440-66-6	Zinc_____	324	_		P_	
			_			
			_			

BW 1/25/99

Color Before: BROWN____ Clarity Before: CLOUDY Texture: N/A___

Color After: LT_BROWN_ Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CACV-98-0078

Lab Name: PARAGON_ANALYTICS_____ Contract: _____

Lab Code: NA____ Case No.: _____ SAS No.: _____ SDG No.: 5047R_

Matrix (soil/water): WATER_ Lab Sample ID: 9812115-7

Level (low/med): LOW__ Date Received: 12/16/98

% Solids: __0.0

Tank Poly #1

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	249000			P	
7440-36-0	Antimony_	14.7	~~B~~	~~N~~	P	J-
7440-38-2	Arsenic__	183			P	
7440-39-3	Barium___	2860			P	
7440-41-7	Beryllium	44.3			P	
7440-43-9	Cadmium__	0.80	U		P	
7440-70-2	Calcium__	239000			P	
7440-47-3	Chromium_	264			P	
7440-48-4	Cobalt___	119			P	
7440-50-8	Copper___	440			P	
7439-89-6	Iron_____	566000			P	
7439-92-1	Lead_____	726			P	
7439-95-4	Magnesium	83600			P	
7439-96-5	Manganese	14900			P	
7439-97-6	Mercury__	0.61			AV	
7440-02-0	Nickel___	385			P	
7440-09-7	Potassium	131000			P	
7782-49-2	Selenium_	23.7			P	
7440-22-4	Silver___	0.80	U		P	
7440-23-5	Sodium___	340000			P	
7440-28-0	Thallium_	37.6	B		P	J
7440-62-2	Vanadium_	180			P	
7440-66-6	Zinc_____	1390			P	

1/25/99

Color Before: BROWN____ Clarity Before: CLOUDY Texture: N/A___

Color After: LT_BROWN_ Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CACV-98-0079

Lab Name: PARAGON_ANALYTICS_____ Contract: _____

Lab Code: NA____ Case No.: _____ SAS No.: _____ SDG No.: 5047R_

Matrix (soil/water): WATER_ Lab Sample ID: 9812115-8

Level (low/med): LOW__ Date Received: 12/16/98

% Solids: __0.0

Table Poly # 2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	96800			P
7440-36-0	Antimony_	8.7	~~B~~	~~N~~	P
7440-38-2	Arsenic__	113			P
7440-39-3	Barium___	1360			P
7440-41-7	Beryllium	50.8			P
7440-43-9	Cadmium__	0.60	U		P
7440-70-2	Calcium__	142000			P
7440-47-3	Chromium_	163			P
7440-48-4	Cobalt___	52.4			P
7440-50-8	Copper___	801			P
7439-89-6	Iron_____	506000			P
7439-92-1	Lead_____	560			P
7439-95-4	Magnesium	48500			P
7439-96-5	Manganese	8050			P
7439-97-6	Mercury__	0.27			AV
7440-02-0	Nickel___	279			P
7440-09-7	Potassium	78700			P
7782-49-2	Selenium_	19.3			P
7440-22-4	Silver___	0.80	U		P
7440-23-5	Sodium___	172000			P
7440-28-0	Thallium_	32.4			P
7440-62-2	Vanadium_	58.2			P
7440-66-6	Zinc_____	1950			P

J- 1/25/99

Color Before: BROWN____ Clarity Before: CLOUDY Texture: N/A___

Color After: LT_BROWN_ Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CACV-98-0080

Lab Name: PARAGON_ANALYTICS_____ Contract: _____

Lab Code: NA____ Case No.: _____ SAS No.: _____ SDG No.: 5047R_

Matrix (soil/water): WATER_ Lab Sample ID: 9812115-9

Level (low/med): LOW__ Date Received: 12/16/98

% Solids: __0.0

Tank Poly #3

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	70300			P	
7440-36-0	Antimony_	3.6	~~B~~	~~N~~	P	J-
7440-38-2	Arsenic__	36.2			P	
7440-39-3	Barium___	845			P	
7440-41-7	Beryllium	16.7			P	
7440-43-9	Cadmium__	0.20	U		P	
7440-70-2	Calcium__	71200			P	
7440-47-3	Chromium_	76.6			P	
7440-48-4	Cobalt___	32.6	~~B~~		P	J
7440-50-8	Copper___	137			P	
7439-89-6	Iron_____	157000			P	
7439-92-1	Lead_____	155			P	
7439-95-4	Magnesium	26000			P	
7439-96-5	Manganese	3650			P	
7439-97-6	Mercury__	0.02	~~U~~		AV	R
7440-02-0	Nickel___	103			P	
7440-09-7	Potassium	31400			P	
7782-49-2	Selenium_	12.2			P	
7440-22-4	Silver___	0.80	U		P	
7440-23-5	Sodium___	89000			P	
7440-28-0	Thallium_	6.7	~~B~~		P	J
7440-62-2	Vanadium_	45.5	~~B~~		P	J
7440-66-6	Zinc_____	309			P	

1/25/99

Color Before: BROWN____ Clarity Before: CLOUDY Texture: N/A___

Color After: LT_BROWN_ Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CACV-98-0077

Lab Name: PARAGON_ANALYTICS_____ Contract: _____

Lab Code: NA____ Case No.: _____ SAS No.: _____ SDG No.: 5047R_

Matrix (soil/water): WATER_ Lab Sample ID: 9812115-6

Level (low/med): LOW__ Date Received: 12/16/98

% Solids: __0.0

Tank Poly # 8

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	48900			P	
7440-36-0	Antimony_	2.7	~~B~~	~~N~~	P	J-
7440-38-2	Arsenic__	14.3			P	
7440-39-3	Barium__	480			P	
7440-41-7	Beryllium	7.5			P	
7440-43-9	Cadmium__	0.20	U		P	
7440-70-2	Calcium__	33800			P	
7440-47-3	Chromium_	32.6			P	
7440-48-4	Cobalt___	18.4	B		P	J
7440-50-8	Copper___	77.0			P	
7439-89-6	Iron_____	71900			P	
7439-92-1	Lead_____	58.8			P	
7439-95-4	Magnesium	14700			P	
7439-96-5	Manganese	1450			P	
7439-97-6	Mercury__	0.02	B		AV	R
7440-02-0	Nickel___	50.7			P	
7440-09-7	Potassium	17900			P	
7782-49-2	Selenium_	2.6	U		P	
7440-22-4	Silver___	0.80	U		P	
7440-23-5	Sodium___	53100			P	
7440-28-0	Thallium_	3.1	B		P	R
7440-62-2	Vanadium_	30.6	B		P	J
7440-66-6	Zinc_____	180			P	

1/25/99

Color Before: BROWN____ Clarity Before: CLOUDY Texture: N/A___

Color After: LT_BROWN_ Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CACV-98-0076

Lab Name: PARAGON_ANALYTICS_____ Contract: _____

Lab Code: NA____ Case No.: _____ SAS No.: _____ SDG No.: 5047R_

Matrix (soil/water): WATER_ Lab Sample ID: 9812115-5

Level (low/med): LOW__ Date Received: 12/16/98

% Solids: __0.0

Tank Poly # 4

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	52900			P	
7440-36-0	Antimony_	3.2	~~B~~	~~N~~	P	J-
7440-38-2	Arsenic__	33.3			P	
7440-39-3	Barium___	599			P	
7440-41-7	Beryllium	12.7			P	
7440-43-9	Cadmium__	0.20	U		P	
7440-70-2	Calcium__	58500			P	
7440-47-3	Chromium_	48.6			P	
7440-48-4	Cobalt___	21.1	B		P	J
7440-50-8	Copper___	94.5			P	
7439-89-6	Iron_____	143000			P	
7439-92-1	Lead_____	144			P	
7439-95-4	Magnesium	22100			P	
7439-96-5	Manganese	2380			P	
7439-97-6	Mercury__	0.02	~~U~~		AV	R
7440-02-0	Nickel___	78.4			P	
7440-09-7	Potassium	29400			P	
7782-49-2	Selenium_	9.5			P	
7440-22-4	Silver___	0.80	U		P	
7440-23-5	Sodium___	86600			P	
7440-28-0	Thallium_	3.1	~~U~~		P	R
7440-62-2	Vanadium_	25.3	B		P	J
7440-66-6	Zinc_____	317			P	

1/25/99

Color Before: BROWN____ Clarity Before: CLOUDY Texture: N/A___

Color After: LT_BROWN_ Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CACV-98-0075

Lab Name: PARAGON_ANALYTICS_____ Contract: _____

Lab Code: NA____ Case No.: _____ SAS No.: _____ SDG No.: 5047R_

Matrix (soil/water): WATER_ Lab Sample ID: 9812115-4

Level (low/med): LOW__ Date Received: 12/16/98

% Solids: __0.0

Tank Poly #5

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	54200			P	
7440-36-0	Antimony_	2.7	~~U~~	~~N~~	P	UJ
7440-38-2	Arsenic__	31.1			P	
7440-39-3	Barium___	651			P	
7440-41-7	Beryllium	12.9			P	
7440-43-9	Cadmium__	0.20	U		P	
7440-70-2	Calcium__	57800			P	
7440-47-3	Chromium_	64.9			P	
7440-48-4	Cobalt___	20.4	~~B~~		P	J
7440-50-8	Copper___	118			P	
7439-89-6	Iron_____	137000			P	
7439-92-1	Lead_____	118			P	
7439-95-4	Magnesium	21500			P	
7439-96-5	Manganese	2290			P	
7439-97-6	Mercury__	0.02	~~U~~		AV	R
7440-02-0	Nickel___	74.7			P	
7440-09-7	Potassium	28000			P	
7782-49-2	Selenium_	6.6			P	
7440-22-4	Silver___	0.80	U		P	
7440-23-5	Sodium___	73700			P	
7440-28-0	Thallium_	6.2	~~B~~		P	J
7440-62-2	Vanadium_	26.6	~~B~~		P	J
7440-66-6	Zinc_____	297			P	

1/25/99

Color Before: BROWN____ Clarity Before: CLOUDY Texture: N/A___

Color After: LT_BROWN_ Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CACV-98-0074

Lab Name: PARAGON_ANALYTICS_____ Contract: _____

Lab Code: NA____ Case No.: _____ SAS No.: _____ SDG No.: 5047R_

Matrix (soil/water): WATER_ Lab Sample ID: 9812115-3

Level (low/med): LOW__ Date Received: 12/16/98

% Solids: __0.0

Tank Poly #6

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	28600			P	
7440-36-0	Antimony_	3.2	~~B~~	~~N~~	P	J-
7440-38-2	Arsenic__	10.3			P	
7440-39-3	Barium__	351			P	
7440-41-7	Beryllium	2.7	B		P	J
7440-43-9	Cadmium__	0.20	U		P	
7440-70-2	Calcium__	21400			P	
7440-47-3	Chromium_	52.1			P	
7440-48-4	Cobalt___	14.6	B		P	J
7440-50-8	Copper___	68.9			P	
7439-89-6	Iron_____	85100			P	
7439-92-1	Lead_____	33.2			P	
7439-95-4	Magnesium	5790			P	
7439-96-5	Manganese	2020			P	
7439-97-6	Mercury__	0.02	U		AV	R
7440-02-0	Nickel___	54.5			P	
7440-09-7	Potassium	13300			P	
7782-49-2	Selenium_	4.2	B		P	J
7440-22-4	Silver___	0.80	U		P	
7440-23-5	Sodium___	52400			P	
7440-28-0	Thallium_	3.1	U		P	R
7440-62-2	Vanadium_	27.8	B		P	J
7440-66-6	Zinc_____	275			P	

1/25/99

Color Before: BROWN____ Clarity Before: CLOUDY Texture: N/A___

Color After: LT_BROWN_ Clarity After: CLEAR_ Artifacts: _____

Comments:

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