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CERTIFIED - RETURN RECEIPT REQUESTED

February 26, 2002

Mr. Mark Purcell
U.S. Environmental Protection Agency
OK/NM Superfund (6EN-HX)
1445 Ross Avenue
Dallas, TX 75202-2733

Re: Semi-Annual Quality Assurance Report
Ground Water Monitoring – Second Half of 2001

Dear Mr. Purcell:

In accordance with Section V.A. 15 of the Administrative Order for the Church Rock Site, I have enclosed a report regarding performance of ground water monitoring quality assurance procedures during the entire second half of 2001.

Two quarterly sampling episodes occurred in the second half of 2001 (i.e. July and October). Additionally, four monthly sampling episodes (i.e. August, September, November, and December) occurred in the Southwest Alluvium.

Sincerely,

A handwritten signature in black ink, appearing to read "Larry Bush", written over a printed name and title.

Larry Bush
Manager

LB:db

Enclosures

Cc: NRC, Rockville, MD
NRC, Arlington, TX
Steve Cline, GE
Roy Blickwedel, GE
Robin Brown, NMED
Diana Malone, NNEPA

NMSSoilPublic

**SEMI-ANNUAL QUALITY ASSURANCE
CHURCH ROCK SITE**

JULY THRU DECEMBER SAMPLING EVENTS

JANUARY - 2002

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1.0 REQUIREMENTS

The quality assurance and control procedures are contained in Section 3.0 of the Remedial Action Plan of the Church Rock Site Dated April 1989. The procedures address sampling, chain of custody, laboratory quality control, and data validation. These requirements became effective July 3, 1989, when United Nuclear received the Administrative Order on the Church Rock Site from the Environmental Protection Agency (EPA).

2.0 FIELD SAMPLING PROCEDURE

Copies of the 2001 quarterly (3rd and 4th) and monthly (Aug., Sept., Oct., and Dec.) field low flow purging and sampling report sheets, are included in Appendix A. These sheets indicate the field parameters of pH, temperature, conductivity and the water level drop in the well if any, during the sampling. The quarterly and monthly field Blank and Duplicate analysis reports are included in Appendix A.

3.0 CHAIN OF CUSTODY

Copies of the quarterly and monthly Chain of Custody reports are included in Appendix B. Energy Laboratories, Inc., our contact laboratory is located in Casper, Wyoming. Energy Labs inspect the sample shipments upon arrival to verify the information on the Chain of Custody form and to determine if samples arrive at the appropriate temperature.

4.0 LABORATORY CONTROL

Copies of the quarterly and monthly internal Quality Control reports prepared by Energy Laboratories and the associated EPA performance evaluations are included in Appendix C.

5.0 DATA EVALUATION

Analytical reports are reviewed by the Church Rock Manager and Radiation Safety Officer after Receipt from Energy Labs. Significant increases or decreases and out of range values are identified and the laboratory is requested to recheck the suspect values. The laboratory responds by checking transcription for these items, and where necessary, repeats the analysis. A revised report is then issued for that sample if an error is discovered.

APPENDIX A
QUARTERLY
FIELD DATA SHEETS

GROUND WATER MONITORING FIELD DATA SHEET

3RD QUARTER 2001
SAMPLING

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Date 7-9-01	Well Number 509-D	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 5,430	2nd Cond. 5,360	Stable Cond. 5,430	Ending Cond. 5,440
	Time 0900	67.70'	67.60'	1st pH 6.70	2nd pH 6.64	Stable pH 6.54	Ending pH 6.36
		Bubbler Start	Bubbler End	Comments: CONDUCTIVITY IS IN $\mu\text{S}/\text{cm}$ TEMPERATURE IS IN $^{\circ}\text{C}$			
		12.317'	12.512'				
Date 7-9-01	Well Number EPA-23	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,030	2nd Cond. 4,230	Stable Cond. 4,250	Ending Cond. 4,230
	Time 1000	48.1'	48.36'	1st pH 6.84	2nd pH 6.74	Stable pH 6.70	Ending pH 6.60
		Bubbler Start	Bubbler End	Comments:			
		13.641'	13.332'				
Date 7-9-01	Well Number EPA-23 DUPLICATE	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,230	2nd Cond. 4,240	Stable Cond. 4,240	Ending Cond. 4,220
	Time 1030	48.36'	48.35'	1st pH 6.60	2nd pH 6.59	Stable pH 6.59	Ending pH 6.59
		Bubbler Start	Bubbler End	Comments:			
		13.332'	13.336'				
Date 7-9-01	Well Number 803	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 5,770	2nd Cond. 6,080	Stable Cond. 6,300	Ending Cond. 6,310
	Time 1100	58.3'	58.41'	1st pH 6.91	2nd pH 6.90	Stable pH 6.93	Ending pH 6.95
		Bubbler Start	Bubbler End	Comments:			
		17.694'	18.157'				
Date 7-9-01	Well Number 808	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 5,840	2nd Cond. 6,120	Stable Cond. 6,450	Ending Cond. 6,460
	Time 1137	46.00'	46.13'	1st pH 7.06	2nd pH 7.04	Stable pH 7.02	Ending pH 7.05
		Bubbler Start	Bubbler End	Comments:			
		16.736'	17.273'				
Date 7-9-01	Well Number 802	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 5,270	2nd Cond. 5,780	Stable Cond. 6,100	Ending Cond. 6,280
	Time 1315	45.0'	45.0'	1st pH 7.06	2nd pH 7.06	Stable pH 7.07	Ending pH 7.07
		Bubbler Start	Bubbler End	Comments:			
		21.530'	22.094'				

GROUND WATER MONITORING FIELD DATA SHEET

3RD QUARTER 2001
SAMPLING

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Date 7-9-01	Well Number 801	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 5,150	2nd Cond. 5,160	Stable Cond. 6,050	Ending Cond. 6,290
	Time						
	1410	Bubbler Start	Bubbler End	Comments:			
		48.92'	49.85'	1st pH 7.06	2nd pH 7.05	Stable pH 7.02	Ending pH 7.02
		12.575'	11.510'	1st Temp. 24.3°	2nd Temp. 22.7°	Stable Temp. 18.4°	Ending Temp. 17.9°
Date 7-9-01	Well Number Gw-2	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,670	2nd Cond. 4,790	Stable Cond. 4,910	Ending Cond. 4,940
	Time						
	1440	Bubbler Start	Bubbler End	Comments:			
		53.29'	53.70'	1st pH 7.07	2nd pH 7.05	Stable pH 7.03	Ending pH 7.09
		16.540'	16.933'	1st Temp. 20.8°	2nd Temp. 18.8°	Stable Temp. 17.7°	Ending Temp. 17.7°
Date 7-9-01	Well Number 632	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 5,470	2nd Cond. 5,920	Stable Cond. 6,180	Ending Cond. 6,400
	Time						
	1520	Bubbler Start	Bubbler End	Comments:			
		42.17'	42.35'	1st pH 6.91	2nd pH 6.57	Stable pH 6.86	Ending pH 6.84
		13.714'	13.487'	1st Temp. 21.2°	2nd Temp. 20.0°	Stable Temp. 18.6°	Ending Temp. 17.5°
Date 7-10-01	Well Number Gw-1	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,390	2nd Cond. 4,310	Stable Cond. 4,400	Ending Cond. 4,520
	Time						
	0830	Bubbler Start	Bubbler End	Comments:			
		59.4'	59.5'	1st pH 7.11	2nd pH 7.12	Stable pH 7.13	Ending pH 7.12
		11.141'	10.994'	1st Temp. 16.5°	2nd Temp. 16.2°	Stable Temp. 15.5°	Ending Temp. 15.5°
Date 7-10-01	Well Number 624	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,520	2nd Cond. 4,870	Stable Cond. 5,230	Ending Cond. 5,310
	Time						
	0910	Bubbler Start	Bubbler End	Comments:			
		48.8'	49.85'	1st pH 7.85	2nd pH 7.58	Stable pH 6.26	Ending pH 6.62
		13.601'	13.477'	1st Temp. 24.6°	2nd Temp. 17.3°	Stable Temp. 14.8°	Ending Temp. 15.6°
Date 7-10-01	Well Number EPA-28	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,430	2nd Cond. 4,590	Stable Cond. 4,830	Ending Cond. 4,900
	Time						
	0955	Bubbler Start	Bubbler End	Comments:			
		61.0'	61.15'	1st pH 6.74	2nd pH 6.75	Stable pH 6.75	Ending pH 6.94
		9.112'	8.951'	1st Temp. 18.3°	2nd Temp. 18.2°	Stable Temp. 17.0°	Ending Temp. 16.0°

GROUND WATER MONITORING FIELD DATA SHEET
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Date 7-10-01	Well Number Gw-3	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,200	2nd Cond. 4,380	Stable Cond. 4,880	Ending Cond. 5,070
	Time 10 40	50.7'	51.35'	1st pH 6.85	2nd pH 6.85	Stable pH 6.73	Ending pH 6.87
	Bubbler Start	Bubbler End	1st Temp. 18.4°	2nd Temp. 17.8°	Stable Temp. 16.4°	Ending Temp. 16.2°	
		4.194'	3.004'	Comments:			
Date 7-10-01	Well Number EPA-25	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 3,760	2nd Cond. 3,930	Stable Cond. 4,106	Ending Cond. 4,220
	Time 1115	51.3'	51.55'	1st pH 6.89	2nd pH 6.91	Stable pH 6.92	Ending pH 7.29
	Bubbler Start	Bubbler End	1st Temp. 19.2°	2nd Temp. 18.4°	Stable Temp. 17.2°	Ending Temp. 16.9°	
		9.170'	9.060'	Comments:			
Date 7-10-01	Well Number 627	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 5,020	2nd Cond. 5,240	Stable Cond. 5,340	Ending Cond. 5,500
	Time 1250	54.35'	54.4'	1st pH 7.17	2nd pH 7.21	Stable pH 7.21	Ending pH 7.48
	Bubbler Start	Bubbler End	1st Temp. 19.3°	2nd Temp. 18.2°	Stable Temp. 16.8°	Ending Temp. 16.1°	
		7.250'	5.177'	Comments:			
Date 7-10-01	Well Number 613	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 9,600	2nd Cond. 10,710	Stable Cond. 10,850	Ending Cond. 10,810
	Time 1330	77.8'	78.6'	1st pH 3.11	2nd pH 3.03	Stable pH 2.98	Ending pH 2.88
	Bubbler Start	Bubbler End	1st Temp. 19.2°	2nd Temp. 17.2°	Stable Temp. 17.0°	Ending Temp. 17.0°	
		6.745'	5.847'	Comments:			
Date 7-10-01	Well Number 517	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,090	2nd Cond. 4,210	Stable Cond. 4,320	Ending Cond. 4,320
	Time 1420	100.3'	104.45'	1st pH 4.38	2nd pH 4.39	Stable pH 4.36	Ending pH 4.39
	Bubbler Start	Bubbler End	1st Temp. 20.0°	2nd Temp. 18.9°	Stable Temp. 17.9°	Ending Temp. 17.7°	
		6.078'	1.832'	Comments:			
Date 7-10-01	Well Number EPA-14	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,080	2nd Cond. 4,270	Stable Cond. 4,330	Ending Cond. 4,320
	Time 1500	105.4'	105.3'	1st pH 5.53	2nd pH 5.64	Stable pH 5.79	Ending pH 5.80
	Bubbler Start	Bubbler End	1st Temp. 19.3°	2nd Temp. 18.4°	Stable Temp. 17.4°	Ending Temp. 17.1°	
		17.992'	17.807'	Comments:			

GROUND WATER MONITORING FIELD DATA SHEET

3RD QUARTER 2001
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Date 7-11-01	Well Number 711 Time 0820	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading 1st Cond. 4,820	Reading 2nd Cond. 5,060	Reading Stable Cond. 5,080	Reading Ending Cond. 4,730
		179.25'	179.8'	1st pH 2.95	2nd pH 2.92	Stable pH 2.86	Ending pH 4.44
				1st Temp. 17.0°	2nd Temp. 16.6°	Stable Temp. 15.8°	Ending Temp. 14.7°
		Bubbler Start 12.278'	Bubbler End 11.738'	Comments:			
Date 7-11-01	Well Number 711 DUPLICATE Time 0845	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading 1st Cond. 4,730	Reading 2nd Cond. 4,720	Reading Stable Cond. 4,720	Reading Ending Cond. 4,710
		179.8'	180.1'	1st pH 4.44	2nd pH 4.50	Stable pH 4.53	Ending pH 4.70
				1st Temp. 14.7°	2nd Temp. 14.4°	Stable Temp. 14.3°	Ending Temp. 14.6°
		Bubbler Start 11.738'	Bubbler End 11.461'	Comments:			
Date 7-11-01	Well Number 719 Time 0920	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading 1st Cond. 4,480	Reading 2nd Cond. 5,200	Reading Stable Cond. 5,430	Reading Ending Cond. 5,400
		156.7'	156.5'	1st pH 2.77	2nd pH 2.74	Stable pH 2.70	Ending pH 2.85
				1st Temp. 18.0°	2nd Temp. 16.8°	Stable Temp. 15.8°	Ending Temp. 15.6°
		Bubbler Start 8.900'	Bubbler End 8.127'	Comments:			
Date 7-11-01	Well Number FIELD BLANK Time 1010	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading 1st Cond. 20	Reading 2nd Cond.	Reading Stable Cond.	Reading Ending Cond.
				1st pH 5.95	2nd pH	Stable pH	Ending pH
				1st Temp. 25.9°	2nd Temp.	Stable Temp.	Ending Temp.
		Bubbler Start	Bubbler End	Comments:			
Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading 1st Cond.	Reading 2nd Cond.	Reading Stable Cond.	Reading Ending Cond.
				1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
		Time Bubbler Start	Bubbler End	Comments:			
Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading 1st Cond.	Reading 2nd Cond.	Reading Stable Cond.	Reading Ending Cond.
				1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
		Time Bubbler Start	Bubbler End	Comments:			

GROUND WATER MONITORING FIELD DATA SHEET
3RD QUARTER 2001
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Date 7-16-01	Well Number TWQ-142	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 1,370	2nd Cond. 1,500	Stable Cond. 1,560	Ending Cond. 1,560
	Time 0820	202.35'	202.6'	1st pH 8.51	2nd pH 8.41	Stable pH 8.02	Ending pH 7.96
		Bubbler Start	Bubbler End	1st Temp. 17.0°	2nd Temp. 16.8°	Stable Temp. 15.9°	Ending Temp. 16.7°
	18.523'	18.272'	Comments:				
Date 7-16-01	Well Number 504-B	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,210	2nd Cond. 4,580	Stable Cond. 4,800	Ending Cond. 4,900
	Time 0915	160.1'	160.35'	1st pH 3.87	2nd pH 3.66	Stable pH 3.50	Ending pH 5.13
		Bubbler Start	Bubbler End	1st Temp. 16.5°	2nd Temp. 16.1°	Stable Temp. 15.5°	Ending Temp. 15.3°
	6.842'	6.476'	Comments:				
Date 7-16-01	Well Number 420	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 2,690	2nd Cond. 3,000	Stable Cond. 3,120	Ending Cond. 3,190
	Time 0950	134.1'	134.3'	1st pH 5.84	2nd pH 6.02	Stable pH 6.20	Ending pH 6.53
		Bubbler Start	Bubbler End	1st Temp. 17.4°	2nd Temp. 16.8°	Stable Temp. 16.0°	Ending Temp. 15.8°
	9.881'	9.649'	Comments:				
Date 7-16-01	Well Number 708	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,190	2nd Cond. 4,610	Stable Cond. 5,020	Ending Cond. 4,750
	Time 1025	148.1'	148.9'	1st pH 2.83	2nd pH 2.78	Stable pH 2.73	Ending pH 4.04
		Bubbler Start	Bubbler End	1st Temp. 18.3°	2nd Temp. 17.8°	Stable Temp. 16.5°	Ending Temp. 16.1°
	10.071'	9.241'	Comments:				
Date 7-16-01	Well Number EPA-13	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,730	2nd Cond. 5,140	Stable Cond. 5,330	Ending Cond. 5,360
	Time 1115	165.3'	166.0'	1st pH 5.33	2nd pH 5.40	Stable pH 5.73	Ending pH 5.78
		Bubbler Start	Bubbler End	1st Temp. 18.0°	2nd Temp. 17.1°	Stable Temp. 15.9°	Ending Temp. 16.1°
	7.497'	6.632'	Comments:				
Date 7-16-0	Well Number 717	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 2,960	2nd Cond. 3,080	Stable Cond. 3,200	Ending Cond. 3,260
	Time 1255	117.0'	117.0'	1st pH 6.31	2nd pH 6.32	Stable pH 6.32	Ending pH 6.68
		Bubbler Start	Bubbler End	1st Temp. 18.7°	2nd Temp. 18.4°	Stable Temp. 17.2°	Ending Temp. 16.8°
	14.410'	14.239'	Comments:				

GROUND WATER MONITORING FIELD DATA SHEET
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7-16-01	Well Number	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
	EPA-2	Pre-Sample	Post Sample	1st Cond. 2,640	2nd Cond. 2,720	Stable Cond. 2,800	Ending Cond. 2,840
	Time	169.9'	170.35'	1st pH 6.87	2nd pH 6.91	Stable pH 6.99	Ending pH 7.03
	1325	Bubbler Start	Bubbler End	1st Temp. 20.1°	2nd Temp. 19.7°	Stable Temp. 18.5°	Ending Temp. 18.3°
				Comments:			
		13.284'	12.744'				
7-16-01	Well Number	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
	EPA-2	Pre-Sample	Post Sample	1st Cond. 2,840	2nd Cond. 2,870	Stable Cond. 2,870	Ending Cond. 2,850
	DUPLICATE	170.35'	170.35'	1st pH 7.03	2nd pH 7.00	Stable pH 6.98	Ending pH 7.08
	Time	Bubbler Start	Bubbler End	1st Temp. 18.3°	2nd Temp. 18.0°	Stable Temp. 18.6°	Ending Temp. 18.6°
				Comments:			
		12.744'	12.623'				
7-16-01	Well Number	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
	614	Pre-Sample	Post Sample	1st Cond. 4,910	2nd Cond. 6,550	Stable Cond. 7,450	Ending Cond. 7,550
	Time	98.65'	99.0'	1st pH 7.10	2nd pH 7.14	Stable pH 7.00	Ending pH 6.73
	1440	Bubbler Start	Bubbler End	1st Temp. 21.1°	2nd Temp. 20.3°	Stable Temp. 19.0°	Ending Temp. 18.1°
				Comments:			
		7.199'	7.156'				
7-17-01	Well Number	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
	515-A	Pre-Sample	Post Sample	1st Cond. 5,050	2nd Cond. 6,500	Stable Cond. 6,950	Ending Cond. 7,030
	Time	98.9'	99.75'	1st pH 7.11	2nd pH 7.08	Stable pH 6.82	Ending pH 5.94
	0850	Bubbler Start	Bubbler End	1st Temp. 17.5°	2nd Temp. 16.8°	Stable Temp. 15.3°	Ending Temp. 14.5°
				Comments:			
		10.230'	8.379'				
7-17-01	Well Number	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
	604	Pre-Sample	Post Sample	1st Cond. 5,770	2nd Cond. 5,920	Stable Cond. 6,200	Ending Cond. 6,320
	Time	97.55'	98.0'	1st pH 5.33	2nd pH 5.24	Stable pH 5.08	Ending pH 4.89
	0925	Bubbler Start	Bubbler End	1st Temp. 15.8°	2nd Temp. 15.4°	Stable Temp. 14.8°	Ending Temp. 14.5°
				Comments:			
		11.640'	11.149'				
7-17-01	Well Number	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
	EPA-7	Pre-Sample	Post Sample	1st Cond. 5,980	2nd Cond. 6,420	Stable Cond. 6,830	Ending Cond. 6,900
	Time	110.0'	110.85'	1st pH 6.93	2nd pH 6.09	Stable pH 6.36	Ending pH 6.33
	1000	Bubbler Start	Bubbler End	1st Temp. 16.9°	2nd Temp. 16.2°	Stable Temp. 15.2°	Ending Temp. 14.9°
				Comments:			
		16.885'	16.070'				

GROUND WATER MONITORING FIELD DATA SHEET

3RD QUARTER 2001
SAMPLING

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Date 7-17-01	Well Number	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
	EPA-5	Pre-Sample	Post Sample	1st Cond. 4,760	2nd Cond. 4,840	Stable Cond. 5,040	Ending Cond. 5,040
		120.5'	120.85'	1st pH 6.47	2nd pH 6.58	Stable pH 6.76	Ending pH 6.65
		Time	Bubbler Start	Bubbler End	Comments:		
1030	10.003'	9.704'					
Date 7-17-01	Well Number	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
	EPA-4	Pre-Sample	Post Sample	1st Cond. 3,860	2nd Cond. 4,130	Stable Cond. 4,250	Ending Cond. 4,430
		201.55'	201.9'	1st pH 6.81	2nd pH 6.84	Stable pH 6.86	Ending pH 6.94
		Time	Bubbler Start	Bubbler End	Comments:		
1115	21.143'	20.774'					
Date 7-17-01	Well Number	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
	FIELD BLANK	Pre-Sample	Post Sample	1st Cond. 17	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH 7.78	2nd pH	Stable pH	Ending pH
		Time	Bubbler Start	Bubbler End	Comments:		
1300							
Date	Well Number	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH	2nd pH	Stable pH	Ending pH
		Time	Bubbler Start	Bubbler End	Comments:		
Date	Well Number	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH	2nd pH	Stable pH	Ending pH
		Time	Bubbler Start	Bubbler End	Comments:		
Date	Well Number	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH	2nd pH	Stable pH	Ending pH
		Time	Bubbler Start	Bubbler End	Comments:		

GROUND WATER MONITORING FIELD DATA SHEET
 Fourth QUARTER 2001
 SAMPLING

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading		Reading		Reading				
				1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.	1st pH	2nd pH	Stable pH	Ending pH	
10-1-01	632	41.95'	42.15'	5200	6010	6500	6550	6.71	6.60	6.40	6.35	
		17.0°	16.3°	15.1°	14.8°	Comments:						
		Bubbler Start	Bubbler End									
		1120	14.665'	14.555'								
10-1-01	801	48.55'	49.5'	5510	6010	6360	6470	6.91	6.74	6.57	6.45	
		23.0°	20.9°	18.6°	16.7°	Comments:						
		Bubbler Start	Bubbler End									
		1330	13.057'	12.078'								
10-1-01	GW-2	53.1'	53.45'	5010	5160	5200	5110	6.57	6.53	6.50	6.48	
		17.4°	16.9°	15.8°	15.6°	Comments:						
		Bubbler Start	Bubbler End									
		1355	17.573'	17.180'								
10-1-01	GW-1	59.1'	59.15'	4500	4570	4820	4910	7.30	7.27	7.03	6.73	
		19.4°	18.9°	17.5°	16.5°	Comments:						
		Bubbler Start	Bubbler End									
		1430	11.440'	11.385'								
10-2-01	624	48.4'	48.45'	4600	4720	4960	5260	6.94	6.86	6.76	6.65	
		14.8°	14.5°	14.1°	13.2°	Comments:						
		Bubbler Start	Bubbler End									
		0825	14.007'	13.907'								
10-2-01	EPA-28	60.65'	60.95'	4480	4760	4790	4800	7.41	7.35	7.15	6.86	
		13.8°	13.6°	13.2°	7.2°	Comments:						
		Bubbler Start	Bubbler End									
		0900	9.496'	9.376'								

GROUND WATER MONITORING FIELD DATA SHEET
 Fourth QUARTER 2001
 SAMPLING

Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading		Reading		Reading				
				1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.	1st pH	2nd pH	Stable pH	Ending pH	
10-2-01	GW-3	50.45'	51.0'	4,580	4,630	4,830	4,960	6.92	6.84	6.65	6.83	
		Time	Bubbler Start	Bubbler End	Comments:							
		0945	4.990'	4.394'								
10-2-01	EPA-25	51.0'	51.15'	3,840	4,000	4,010	4,130	7.30	7.20	7.11	6.96	
		Time	Bubbler Start	Bubbler End	Comments:							
		1030	9.673'	9.479'								
10-2-01	627	54.35'	54.45'	5,090	5,170	5,240	5,260	7.52	7.42	7.23	7.08	
		Time	Bubbler Start	Bubbler End	Comments:							
		1110	8.024'	7.905'								
10-2-01	613	77.8'	78.45'	5,940	9,250	10,120	10,530	3.55	3.38	3.24	2.97	
		Time	Bubbler Start	Bubbler End	Comments:							
		1300	6.742'	5.972'								
10-2-01	614	98.8'	99.15'	6,700	6,920	7,210	7,330	7.02	7.02	6.81	6.61	
		Time	Bubbler Start	Bubbler End	Comments:							
		1345	7.503'	7.042'								
10-2-01	515-A	98.8'	101.0'	6,750	6,800	6,850	6,720	6.97	6.84	5.77	5.44	
		Time	Bubbler Start	Bubbler End	Comments:							
		1415	10.369'	7.907'								

GROUND WATER MONITORING FIELD DATA SHEET
 Fourth QUARTER 2001
 SAMPLING

PG. 4 OF 7

Date 10-2-01	Well Number 604	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 5,630	2nd Cond. 5,940	Stable Cond. 6,080	Ending Cond. 6,040
	Time 1450	97.5'	98.0'	1st pH 5.11	2nd pH 4.98	Stable pH 4.87	Ending pH 4.78
		Bubbler Start	Bubbler End	1st Temp. 18.3°	2nd Temp. 17.5°	Stable Temp. 16.5°	Ending Temp. 15.9°
		11.755'	11.199'	Comments:			
Date 10-3-01	Well Number TWG-142	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 1,360	2nd Cond. 1,446	Stable Cond. 1,479	Ending Cond. 1,521
	Time 0835	202.2'	202.5'	1st pH 7.09	2nd pH 7.12	Stable pH 7.18	Ending pH 7.80
		Bubbler Start	Bubbler End	1st Temp. 15.2°	2nd Temp. 14.9°	Stable Temp. 14.5°	Ending Temp. 14.9°
		18.681'	18.258'	Comments:			
Date 10-3-01	Well Number NBL-1	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 2,900	2nd Cond. 2,970	Stable Cond. 3,000	Ending Cond. 3,020
	Time 0930	169.0'	169.0'	1st pH 7.15	2nd pH 7.07	Stable pH 7.01	Ending pH 6.70
		Bubbler Start	Bubbler End	1st Temp. 15.6°	2nd Temp. 15.0°	Stable Temp. 14.7°	Ending Temp. 14.9°
		13.554'	13.461'	Comments:			
Date 10-3-01	Well Number FIELD BLANK	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 18	2nd Cond.	Stable Cond.	Ending Cond.
	Time 1015			1st pH 8.19	2nd pH	Stable pH	Ending pH
		Bubbler Start	Bubbler End	1st Temp. 18.2°	2nd Temp.	Stable Temp.	Ending Temp.
				Comments:			
Date 10-8-01	Well Number 504-B	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,170	2nd Cond. 4,580	Stable Cond. 5,000	Ending Cond. 4,990
	Time 0835	159.95'	160.25'	1st pH 4.40	2nd pH 4.01	Stable pH 3.55	Ending pH 5.34
		Bubbler Start	Bubbler End	1st Temp. 13.9°	2nd Temp. 13.5°	Stable Temp. 12.6°	Ending Temp. 12.3°
		6.878'	6.639'	Comments:			
Date 10-8-01	Well Number 719	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,530	2nd Cond. 5,100	Stable Cond. 5,220	Ending Cond. 5,170
	Time 0910	155.3'	156.0'	1st pH 2.83	2nd pH 2.80	Stable pH 2.75	Ending pH 2.82
		Bubbler Start	Bubbler End	1st Temp. 13.2°	2nd Temp. 13.0°	Stable Temp. 12.5°	Ending Temp. 2.6°
		9.417'	9.727'	Comments:			

GROUND WATER MONITORING FIELD DATA SHEET

FOURTH QUARTER 2001
SAMPLING

PG. 5 OF 7

Date 10-8-01	Well Number 420	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 2740	2nd Cond. 2920	Stable Cond. 3140	Ending Cond. 3330
	Time 0945	134.1'	134.3'	1st pH 6.06	2nd pH 6.32	Stable pH 6.45	Ending pH 6.58
		Bubbler Start	Bubbler End	1st Temp. 13.7°	2nd Temp. 13.1	Stable Temp. 12.8°	Ending Temp. 12.5
		9.817'	9.577'	Comments:			
Date 10-8-01	Well Number 717	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 3160	2nd Cond. 3180	Stable Cond. 3230	Ending Cond. 3240
	Time 0915	117.0'	117.0'	1st pH 7.26	2nd pH 7.24	Stable pH 7.01	Ending pH 6.49
		Bubbler Start	Bubbler End	1st Temp. 13.7°	2nd Temp. 13.5°	Stable Temp. 13.2°	Ending Temp. 14.3
		14.293'	14.245'	Comments:			
Date 10-8-01	Well Number EPA-14	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 2160	2nd Cond. 3420	Stable Cond. 4040	Ending Cond. 4190
	Time 1045	105.45'	105.2'	1st pH 6.61	2nd pH 6.61	Stable pH 6.60	Ending pH 6.03
		Bubbler Start	Bubbler End	1st Temp. 17.0°	2nd Temp. 16.4°	Stable Temp. 15.3°	Ending Temp. 15.0°
		17.835'	17.727'	Comments:			
Date 10-8-01	Well Number 517	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 3330	2nd Cond. 3670	Stable Cond. 3960	Ending Cond. 4100
	Time 1125	100.3'	104.0'	1st pH 4.75	2nd pH 4.63	Stable pH 4.50	Ending pH 4.40
		Bubbler Start	Bubbler End	1st Temp. 17.7°	2nd Temp. 17.0°	Stable Temp. 15.7°	Ending Temp. 15.6°
		6.138'	2.489'	Comments:			
Date 10-8-01	Well Number EPA-13	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4580	2nd Cond. 5000	Stable Cond. 5230	Ending Cond. 5320
	Time 1305	165.1'	165.9'	1st pH 5.59	2nd pH 5.72	Stable pH 5.96	Ending pH 5.96
		Bubbler Start	Bubbler End	1st Temp. 17.9°	2nd Temp. 17.2°	Stable Temp. 14.9°	Ending Temp. 15.0°
		7.472'	6.691'	Comments:			
Date 10-8-01	Well Number 711	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 3440	2nd Cond. 4510	Stable Cond. 4660	Ending Cond. 4510
	Time 1340	179.1'	179.55'	1st pH 2.93	2nd pH 2.91	Stable pH 2.88	Ending pH 4.41
		Bubbler Start	Bubbler End	1st Temp. 16.2°	2nd Temp. 15.6°	Stable Temp. 14.8°	Ending Temp. 4.6°
		12.614'	12.082'	Comments:			

GROUND WATER MONITORING FIELD DATA SHEET
Fourth QUARTER 2001
 SAMPLING

Date	Well Number	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
10-9-01	EPA-4	201.5'	201.85'	3520	4030	4120	4350
				6.22	6.28	6.33	6.55
				15.9°	15.1°	14.3°	13.6°
		Time 1050	Bubbler Start 21.213'	Bubbler End 20.834'	Comments:		
10-9-01	Field BLANK			18			
				7.69			
				18.6°			
		Time 1155	Bubbler Start	Bubbler End	Comments:		
		Time	Bubbler Start	Bubbler End	Comments:		
		Time	Bubbler Start	Bubbler End	Comments:		
		Time	Bubbler Start	Bubbler End	Comments:		
		Time	Bubbler Start	Bubbler End	Comments:		

APPENDIX A

QUARTERLY SAMPLING

**SEMI-ANNUAL GROUND WATER MONITORING
REPORT**

JULY AND DECEMBER OF 2001

QA AND QC CONTROLS

FIELD BLANK

EPA-2 AND EPA-2 DUPLICATE FOR ZONE 1

711 AND 711 DUPLICATE FOR ZONE 3

EPA-23 AND EPA-23 DUPLICATE FOR SW ALLUVIUM



UNC MINING AND MILLING: CHURCHROCK OPERATIONS
 GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE/TIME:
 DATE RECEIVED:
 REPORT DATE:
 QUARTER REPRESENTED:
 UNC SUBMITTAL #:

FIELD BLANK	FIELD BLANK	FIELD BLANK	FIELD BLANK
00-36832-2	01-30431-6	01-32149-5	01-34434-6
10/10/2000 10:05	01/16/2001 08:30	04/10/2001 12:50	07/11/2001 10:10
10/13/2000 00:20	01/19/2001 10:15	04/13/2001 10:00	07/13/2001 10:30
November 10, 2000	February 14, 2001	May 16, 2001	August 2, 2001
Fourth 2000	First 2001	Second 2001	Third 2001
TE-8-10	TE-2-1-2001	TE-7-4-2001	TE-10-7-2001

Major Ions	Method	Units	Reporting Limit	Results	Results	Results	Results
Calcium	EPA 200.7	mg/L	0.05	0.18	0.09	< 0.05	0.20
Magnesium	EPA 200.7	mg/L	0.01	0.23	0.04	0.10	0.20
Sodium	EPA 200.7	mg/L	0.05	5.43	4.20	< 0.05	0.40
Potassium	EPA 200.7	mg/L	0.10	0.77	1.00	0.30	< 0.10
Bicarbonate	SM 2320-B	mg/L	0.10	9.00	8.00	9.00	9.00
Sulfate	EPA 200.7	mg/L	1.0	1.4	3.6	< 1.0	< 1.0
Chloride	EPA 200.7	mg/L	1.0	1.6	< 1.0	< 1.0	< 1.0
Ammonium as N	SM 4500-NH ₃ -G	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrate + Nitrite as N	EPA 353.2	mg/L	0.10	0.14	0.12	0.14	0.16

Non-Metals	Method	Units	Reporting Limit	Results	Results	Results	Results
Total Dissolved Solids	SM 2540-C	mg/L	10	1.0	9.6	< 10	< 10
pH	SM 4500-H-B	std. units	0.10	6.70	6.68	6.72	6.70

Trace Metals, dissolved	Method	Units	Reporting Limit	Results	Results	Results	Results
Aluminum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Arsenic III	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Beryllium	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium	EPA 200.8	mg/L	0.005	0.012	< 0.005	< 0.005	< 0.005
Cobalt	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Manganese	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Molybdenum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Selenium IV	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Vanadium	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Radiometrics, dissolved	Method	Units	Reporting Limit	Results	Results	Results	Results
Uranium	EPA 200.8	mg/L	0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Radium 226	EPA 903.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Radium Error Estimate ±				-	-	-	-
Radium 228	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±				-	-	-	-
Thorium 230	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±				-	-	-	-
Lead 210	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±				-	-	-	-
Gross Alpha	EPA 900.1	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±				-	-	-	-

Trace Organics	Method	Units	Reporting Limit	Results	Results	Results	Results
Chloroform	EPA 624	µg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data	Method	Units	Reporting Limit	Results	Results	Results	Results
Anion		meq		0.232	0.243	0.207	0.208
Cation		meq		0.288	0.220	0.025	0.051
SM A/C Balance		%	-5 - +5	* 10.8	* -4.90	* -78.5	* -60.8
Calc TDS		mg/L		14.8	14.5	7.69	8.18
TDS A/C Balance		dec. %	0.80 - 1.20	* 0.07	* 0.66	* 1.30	* 1.22

*Balance inappropriate for "blank" samples.

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TRACKING NO. PAGE NO.
 34434R00007



UNC MINING AND MILLING: CHURCHROCK OPERATIONS
 GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE/TIME:
 DATE/TIME RECEIVED:
 REPORT DATE:
 UNC SUBMITTAL #:

Field Blank	Field Blank	Field Blank	Field Blank
01-34625-11	C01080351-002	C01090398-002	C01100229-005
07/17/2001 13:00	08/08/2001 09:45	09/11/2001 14:10	10/03/2001 10:15
07/20/2001 10:30	08/10/2001 10:30	09/14/2001 10:00	10/05/2001 10:00
August 20, 2001	September 20, 2001	October 12, 2001	October 22, 2001
TE-11-7-2001	TE-12-8-2001	TE-14-9-2001	TE-15-10-2001

Major Ions	Method	Units	Reporting Limit	Results	Results	Results	Results
Calcium	EPA 200.7	mg/L	1.0	< 1.0	< 1.0	1.0	< 1.0
Magnesium	EPA 200.7	mg/L	1.0	< 1.0	< 1.0	1.0	< 1.0
Sodium	EPA 200.7	mg/L	1.0	2.40	< 1.0	1.0	< 1.0
Potassium	EPA 200.7	mg/L	1.0	< 1.0	< 1.0	1.0	< 1.0
Bicarbonate	SM 2320-B	mg/L	0.10	9.00	8.50	11.0	9.20
Sulfate	EPA 200.7	mg/L	1.0	3.4	< 1.0	1.0	< 1.0
Chloride	EPA 200.7	mg/L	1.0	< 1.0	< 1.0	1.0	< 1.0
Ammonium as N	SM 4500 NH ₃ -G	mg/L	0.05	< 0.05	< 0.05	0.05	< 0.05
Nitrate + Nitrite as N	EPA 353.2	mg/L	0.10	< 0.10	0.20	0.20	< 0.10

Non-Metals							
Total Dissolved Solids	SM 2540-C	mg/L	10	14	< 10	12	14
pH	SM 4500-H-B	std. units	0.10	6.79	6.50	6.70	6.70

Trace Metals, dissolved							
Aluminum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Arsenic III	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Beryllium	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005
Cobalt	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Manganese	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Molybdenum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Selenium IV	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Vanadium	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium, dissolved	EPA 200.8	mg/L	0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Radium 226	EPA 903.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Radium Error Estimate ±				-	-	-	-
Radium 228	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±				-	-	-	-
Thorium 230	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±				-	-	-	-
Lead 210	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±				-	-	-	-
Gross Alpha	EPA 900.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±				-	-	-	-

Trace Organics							
Chloroform	EPA 624	µg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range					
Anion	meq			0.25	0.20	0.24	0.21
Cation	meq			0.27	0.21	0.21	0.21
SM A/C Balance	%	-5 - +5		* 2.6	* 1.0	* -8.2	* -0.10
Calc TDS	mg/L			14.82	11.21	12.46	11.12
TDS A/C Balance	dec. %	0.80 - 1.20		* 0.94	* 0.89	* 0.96	* 1.26

balances inappropriate for near blank samples



UNC MINING AND MILLING: CHURCHROCK OPERATIONS
 GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE/TIME:
 DATE/TIME RECEIVED:
 REPORT DATE:
 UNC SUBMITTAL #:

Field Blank	Field Blank	Field Blank	Field Blank
01-34625-11	C01080351-002	C01090398-002	C01100431-006
07/17/2001 13:00	08/08/2001 09:45	09/11/2001 14:10	10/09/2001 11:55
07/20/2001 10:30	08/10/2001 10:30	09/14/2001 10:00	10/12/2001 10:00
August 20, 2001	September 20, 2001	October 12, 2001	November 07, 2001
TE-11-7-2001	TE-12-8-2001	TE-14-9-2001	TE-16-10-2001

Major Ions	Method	Units	Reporting Limit	Results	Results	Results	Results
Calcium	EPA 200.7	mg/L	1.0	< 1.0	< 1.0	1.0	< 1.0
Magnesium	EPA 200.7	mg/L	1.0	< 1.0	< 1.0	1.0	< 1.0
Sodium	EPA 200.7	mg/L	1.0	2.40	< 1.0	1.0	< 1.0
Potassium	EPA 200.7	mg/L	1.0	< 1.0	< 1.0	1.0	< 1.0
Bicarbonate	SM 2320-B	mg/L	0.10	9.00	8.50	11.0	9.20
Sulfate	EPA 200.7	mg/L	1.0	3.4	< 1.0	1.0	< 1.0
Chloride	EPA 200.7	mg/L	1.0	< 1.0	< 1.0	1.0	< 1.0
Ammonium as N	SM 4500 NH ₃ -G	mg/L	0.05	< 0.05	< 0.05	0.05	< 0.05
Nitrate + Nitrite as N	EPA 353.2	mg/L	0.10	< 0.10	0.20	0.20	< 0.10

Non-Metals							
Total Dissolved Solids	SM 2540-C	mg/L	10	14	< 10	12	15
pH	SM 4500-H-B	std. units	0.10	6.79	6.50	6.70	6.70

Trace Metals, dissolved							
Aluminum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Arsenic III	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Beryllium	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005
Cobalt	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Manganese	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Molybdenum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Selenium IV	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Vanadium	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium, dissolved	EPA 200.8	mg/L	0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Radium 226	EPA 903.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Radium Error Estimate ±				-	-	-	-
Radium 228	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±				-	-	-	-
Thorium 230	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±				-	-	-	-
Lead 210	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±				-	-	-	-
Gross Alpha	EPA 900.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±				-	-	-	-

Trace Organics							
Chloroform	EPA 624	µg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range				
Anion	meq		0.25	0.20	0.24	0.21
Cation	meq		0.27	0.21	0.21	0.21
SM A/C Balance	%	-5 - +5	* 2.6	* 1.0	* -8.2	* -0.10
Calc TDS	mg/L		14.82	11.21	12.46	11.12
TDS A/C Balance	dec. %	0.80 - 1.20	* 0.94	* 0.89	* 0.96	* 1.35

Balances inappropriate for near blank samples



UNC MINING AND MILLING: CHURCHROCK OPERATIONS
 GROUNDWATER MONITORING PROGRAM: ZONE I MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE/TIME:
 DATE RECEIVED:
 REPORT DATE:
 QUARTER REPRESENTED:
 UNC SUBMITTAL #:

EPA-2	EPA-2	EPA-2	EPA-2
01-30431-2	01-31997-4	01-34625-3	01-30431-001
01/15/2001 09:30	04/02/2001 14:10	07/16/2001 13:25	10/09/2001 08:30
01/19/2001 10:15	04/06/2001 10:30	07/20/2001 10:30	10/12/2001 10:00
February 14, 2001	April 24, 2001	August 20, 2001	November 07, 2001
First 2001	Second 2001	Third 2001	Fourth 2001
TE-2-1-2001	TE-6-4-2001	TE-11-7-2001	TE-16-10-2001

Major Ions	Method	Units	Reporting Limit	Results	Results	Results	Results
Calcium	EPA 200.7	mg/L	1.0	360	408	341	330
Magnesium	EPA 200.7	mg/L	1.0	157	182	159	150
Sodium	EPA 200.7	mg/L	1.0	185	173	182	182
Potassium	EPA 200.7	mg/L	1.0	6.5	6.0	6.9	6.2
Bicarbonate	SM 2320-B	mg/L	0.10	350	425	430	371
Sulfate	EPA 200.7	mg/L	1.0	1690	1600	1630	1420
Chloride	EPA 200.7	mg/L	1.0	25.8	23.7	28.3	25.1
Ammonia as N	SM 4500-NH3-G	mg/L	0.05	0.50	0.53	0.53	0.36
Nitrate + Nitrite as N	EPA 353.2	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Non-Metals							
Total Dissolved Solids	SM 2540-C	mg/L	1.0	2680	2730	2770	2760
pH	SM 4500-H-B	std. units	0.10	7.34	7.39	7.57	7.70

Trace Metals, dissolved							
Aluminum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Arsenic III	SM 3114-C	mg/L	0.001	< 0.001	0.001	< 0.001	0.002
Beryllium	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005
Cobalt	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Manganese	EPA 200.7	mg/L	0.01	1.21	1.14	1.20	1.08
Molybdenum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Selenium IV	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Vanadium	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Radiometrics, dissolved							
Uranium	EPA 200.8	mg/L	0.0003	0.0015	0.0005	0.0004	0.0005
Radium 226	EPA 903.0	pCi/L	0.2	1.2	1.4	1.4	1.3
Radium Error Estimate ±				0.2	0.3	0.3	0.2
Radium 228	EPA 904.0	pCi/L	1.0	2.8	< 1.0	4.3	2.6
Radium Error Estimate ±				1.1	-	1.1	1.2
Thorium 230	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±				-	-	-	-
Lead 210	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±				-	-	-	-
Gross Alpha	EPA 900.0	pCi/L	1.0	1.2	2.1	1.6	< 1.0
G. Alpha Error Estimate ±				1.0	1.2	1.2	-

Trace Organics							
Chloroform	EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range				
Anion	meq			41.7	41.0	41.8	36.4
Cation	meq			39.4	43.3	38.5	37.2
SM A/C Balance	%	-5 - +5		-2.82	2.81	-4.13	1.06
Calc TDS	mg/L			2602	2607	2565	2301
TDS A/C Balance	dec. %	0.80 - 1.20		1.03	1.05	1.08	1.20



UNC MINING AND MILLING: CHURCHROCK OPERATIONS
 GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE/TIME:
 DATE RECEIVED:
 REPORT DATE:
 QUARTER REPRESENTED:
 UNC SUBMITTAL #:

EPA-2 DUPLICATE	EPA-2 DUPLICATE	EPA-2 DUPLICATE	EPA-2 DUPLICATE
01-30431-3	01-31997-5	01-34625-4	C01100431-002
01/15/2001 10:00	04/02/2001 14:50	07/16/2001 14:00	10/09/2001 09:00
01/19/2001 10:15	04/06/2001 10:30	07/20/2001 10:30	10/12/2001 10:00
February 14, 2001	April 24, 2001	August 20, 2001	November 07, 2001
First 2001	Second 2001	Third 2001	Fourth 2001
TE-2-1-2001	TE-6-4-2001	TE-11-7-2001	TE-16-10-2001

Major Ions	Method	Units	Reporting Limit	Results	Results	Results	Results
Calcium	EPA 200.7	mg/L	1.0	358	407	343	330
Magnesium	EPA 200.7	mg/L	1.0	156	181	159	150
Sodium	EPA 200.7	mg/L	1.0	185	170	185	177
Potassium	EPA 200.7	mg/L	1.0	6.50	5.90	6.80	6.20
Bicarbonate	SM 2320-B	mg/L	0.10	330	333	331	338
Sulfate	EPA 200.7	mg/L	1.0	1680	1610	1610	1440
Chloride	EPA 200.7	mg/L	1.0	26.3	24.0	28.2	27.1
Ammonia as N	SM 4500-NH3-G	mg/L	0.05	0.50	0.46	0.53	0.45
Nitrate + Nitrite as N	EPA 353.2	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Non-Metals							
Total Dissolved Solids	SM 2540-C	mg/L	1.0	2560	2780	2720	2730
pH	SM 4500-H-B	std. units	0.10	7.47	7.26	7.49	7.10

Trace Metals, dissolved							
Aluminum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Arsenic III	SM 3114-C	mg/L	0.001	< 0.001	0.001	< 0.001	< 0.001
Beryllium	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005
Cobalt	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Manganese	EPA 200.7	mg/L	0.01	1.15	1.24	1.18	1.08
Molybdenum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Selenium IV	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Vanadium	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Radiometrics, dissolved							
Uranium	EPA 200.8	mg/L	0.0003	0.0013	0.0006	0.0006	0.0004
Radium 226	EPA 903.0	pCi/L	0.2	1.4	1.4	0.8	1.2
Radium Error Estimate ±				0.2	0.2	0.2	0.2
Radium 228	EPA 904.0	pCi/L	1.0	4.6	< 1.0	6.4	< 1.0
Radium Error Estimate ±				1.2	-	1.1	
Thorium 230	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±				-	-	-	-
Lead 210	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±				-	-	-	-
Gross Alpha	EPA 900.1	pCi/L	1.0	1.1	1.4	< 1.0	< 1.0
G. Alpha Error Estimate ±				1.0	1.1	-	-

Trace Organics							
Chloroform		µg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range				
Anion	meq		41.2	39.7	39.8	36.3	
Cation	meq		39.2	43.1	38.7	36.9	
SM A/C Balance	%	-5 - +5	-2.43	4.10	-1.34	0.87	
Calc TDS	mg/L		2579	2567	2500	2301	
TDS A/C Balance	dec. %	0.80 - 1.20	0.99	1.08	1.09	1.19	



UNC MINING AND MILLING: CHURCHROCK OPERATIONS
 GROUNDWATER MONITORING PROGRAM: ZONE 3 MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE/TIME:
 DATE RECEIVED:
 REPORT DATE:
 QUARTER REPRESENTED:
 UNC SUBMITTAL #:

711	711	711	711
01-30431-4	01-31997-2	01-34434-3	C01100434-008
01/15/2001 12:45	04/02/2001 10:45	07/11/2001 08:20	10/08/2001 13:40
01/19/2001 10:15	04/06/2001 10:30	07/13/2001 10:30	10/12/2001 10:00
February 14, 2001	April 24, 2001	August 2, 2001	November 07, 2001
First 2001	Second 2001	Third 2001	Fourth 2001
TE-2-1-2001	TE-6-4-2001	TE-10-7-2001	TE-16-10-2001

Major Ions	Method	Units	Reporting Limit	Results	Results	Results	Results
Calcium	EPA 200.7	mg/L	1.0	496	560	541	450
Magnesium	EPA 200.7	mg/L	1.0	495	572	576	480
Sodium	EPA 200.7	mg/L	1.0	93.7	94.9	106	80.8
Potassium	EPA 200.7	mg/L	1.0	11.1	10.4	11.1	10.2
Bicarbonate	SM 2320-B	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	EPA 200.7	mg/L	1.0	3900	3560	3580	3100
Chloride	EPA 200.7	mg/L	1.0	23.7	19.1	30.4	27.0
Ammonia as N	SM 4500-NH3-G	mg/L	0.05	0.59	0.99	0.80	0.70
Nitrate + Nitrite as N	EPA 353.2	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Non-Metals	Method	Units	Reporting Limit	Results	Results	Results	Results
Total Dissolved Solids	SM 2540-C	mg/L	1.0	5260	5310	5410	5440
pH	SM 4500-H-B	std. units	0.10	3.57	3.10	3.65	3.40

Trace Metals, dissolved	Method	Units	Reporting Limit	Results	Results	Results	Results
Aluminum	EPA 200.7	mg/L	0.10	1.40	1.40	1.50	1.08
Arsenic III	SM 3114-C	mg/L	0.001	0.036	0.035	0.030	0.033
Beryllium	EPA 200.7	mg/L	0.01	< 0.01	< 0.01	0.01	< 0.01
Cadmium	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005
Cobalt	EPA 200.7	mg/L	0.01	0.39	0.40	0.39	0.33
Lead	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Manganese	EPA 200.7	mg/L	0.01	8.00	6.98	7.57	5.91
Molybdenum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	EPA 200.7	mg/L	0.05	0.34	0.39	0.37	0.29
Selenium IV	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Vanadium	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Radiometrics, dissolved	Method	Units	Reporting Limit	Results	Results	Results	Results
Uranium	EPA 200.8	mg/L	0.0003	0.0568	0.0560	0.0570	0.0534
Radium 226	EPA 903.0	pCi/L	0.2	10.3	8.7	12.2	8.7
Radium Error Estimate ±				1.1	0.6	1.4	0.9
Radium 228	EPA 904.0	pCi/L	1.0	19.4	16.9	19.1	17.0
Radium Error Estimate ±				1.6	1.4	1.4	1.6
Thorium 230	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±				-	-	-	-
Lead 210	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±				-	-	-	-
Gross Alpha	EPA 900.0	pCi/L	1.0	13.2	12.4	12.7	12.1
G. Alpha Error Estimate ±				1.2	1.2	1.1	1.0

Trace Organics	Method	Units	Reporting Limit	Results	Results	Results	Results
Chloroform	EPA 624	µg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data	Method	Units	Target Range	Results	Results	Results	Results
Anion		meq		81.9	74.7	75.4	65.4
Cation		meq		76.5	80.5	80.4	66.7
SM A/C Balance		%	-5 - +5	* -3.44	3.74	3.19	0.98
Calc TDS		mg/L		5029	4825	4854	4155
TDS A/C Balance		dec. %	0.80 - 1.20	1.05	1.10	1.11	1.31

* Iron used for balance purposes.

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**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
 GROUNDWATER MONITORING PROGRAM: ZONE 3 MONITOR WELLS**

WELL ID:
 LABORATORY ID:
 SAMPLE DATE/TIME:
 DATE RECEIVED:
 REPORT DATE:
 QUARTER REPRESENTED:
 UNC SUBMITTAL #:

711 DUPLICATE	711-DUPLICATE	711-DUPLICATE
01-30431-5	01-34434-4	C01100434-009
01/15/2001 13:10	07/11/2001 08:45	10/08/2001 14:00
01/19/2001 10:15	07/13/2001 10:30	10/12/2001 10:00
February 14, 2001	August 2, 2001	November 07, 2001
First 2001	Third 2001	Fourth 2001
TE-2-1-2001	TE-10-7-2001	TE-16-10-2001

Major Ions	Method	Units	Reporting Limit	Results	Results	Results
Calcium	EPA 200.7	mg/L	1.0	501	539	450
Magnesium	EPA 200.7	mg/L	1.0	501	573	480
Sodium	EPA 200.7	mg/L	1.0	93.0	104	84.4
Potassium	EPA 200.7	mg/L	1.0	11.2	11.0	10.5
Bicarbonate	SM 2320-B	mg/L	0.10	10.0	8.00	7.90
Sulfate	EPA 200.7	mg/L	1.0	3860	3520	3100
Chloride	EPA 200.7	mg/L	1.0	23.3	30.2	26.7
Ammonia as N	SM 4500-NH3-G	mg/L	0.05	0.60	0.83	0.71
Nitrate + Nitrite as N	EPA 353.2	mg/L	0.10	< 0.10	< 0.10	< 0.10

Non-Metals						
Total Dissolved Solids	SM 2540-C	mg/L	1.0	5270	5450	5410
pH	SM 4500-H-B	std. units	0.10	5.31	5.33	5.00

Trace Metals, dissolved						
Aluminum	EPA 200.7	mg/L	0.10	1.40	1.30	1.09
Arsenic III	SM 3114-C	mg/L	0.001	0.038	0.032	0.031
Beryllium	EPA 200.8	mg/L	0.01	0.01	< 0.01	< 0.01
Cadmium	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	EPA 200.7	mg/L	0.01	0.40	0.36	0.34
Lead	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	EPA 200.7	mg/L	0.01	7.65	6.75	6.15
Molybdenum	EPA 200.8	mg/L	0.10	0.10	< 0.10	< 0.10
Nickel	EPA 200.7	mg/L	0.05	0.38	0.34	0.32
Selenium IV	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics, dissolved						
Uranium	EPA 200.8	mg/L	0.0003	0.0493	0.0510	0.0483
Radium 226	EPA 903.0	pCi/L	0.2	10.4	13.6	8.7
Radium Error Estimate ±				1.1	1.4	0.8
Radium 228	EPA 904.0	pCi/L	1.0	19.9	19.1	17.0
Radium Error Estimate ±				1.6	1.5	1.6
Thorium 230	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±				-	-	-
Lead 210	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±				-	-	-
Gross Alpha	EPA 900.0	pCi/L	1.0	11.8	11.9	11.1
G. Alpha Error Estimate ±				1.2	1.1	1.0

Trace Organics						
Chloroform	EPA 624	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range			
Anion	meq		81.2	74.3	65.5	
Cation	meq		71.6	79.9	66.8	
SM A/C Balance	%	-5 - +5	* -6.32	3.64	1.02	
Calc TDS	mg/L		5003	4789	4163	
TDS A/C Balance	dec. %	0.80 - 1.20	1.05	1.14	1.30	



UNC MINING AND MILLING: CHURCHROCK OPERATIONS
 GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE/TIME:
 DATE/TIME RECEIVED:
 REPORT DATE:
 QUARTER REPRESENTED:
 UNC SUBMITTAL #:
 REVISED REPORT DATE:

EPA-23	EPA-23	EPA-23	EPA-23
01-30299-11	01-31999-4	01-34436-2	CO1100228-002
01/09/2001 08:30	04/04/2001 08:30	07/09/2001 10:00	10/01/2001 09:05
01/12/2001 10:20	04/06/2001 10:30	07/13/2001 10:30	10/05/2001 10:00
February 12, 2001	May 8, 2001	August 8, 2001	October 22, 2001
First 2001	Second 2001	Third 2001	Fourth 2001
TE-1-1-2001	TE-6-4-2001	TE-10-7-2001	TE-15-10-2001
-	-	-	February 12, 2002

Major Ions	Method	Units	Reporting Limit	Results	Results	Results	Results
Calcium	EPA 200.7	mg/L	1.0	648	702	684	600
Magnesium	EPA 200.7	mg/L	1.0	391	410	418	370
Sodium	EPA 200.7	mg/L	1.0	114	118	116	115
Potassium	EPA 200.7	mg/L	1.0	9.2	9.3	9.7	10.4
Bicarbonate	SM 2320-B	mg/L	0.10	1050	1040	1060	1080
Sulfate	EPA 200.7	mg/L	1.0	2150	2310	2250	2100
Chloride	EPA 200.7	mg/L	1.0	67.7	71.0	86.0	87.9
Ammonia as N	SM 4500-NH3-G	mg/L	0.05	0.97	1.16	1.07	1.15
Nitrate + Nitrite as N	EPA 353.2	mg/L	0.10	1.14	1.41	1.36	1.00

Non-Metals							
Total Dissolved Solids	SM 2540-C	mg/L	1.0	4340	4400	4470	4500
pH	SM 4500-H-B	std. units	0.10	7.68	7.49	7.12	7.30

Trace Metals							
Aluminum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Arsenic III	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Beryllium	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005
Cobalt	EPA 200.8	mg/L	0.01	0.01	< 0.01	< 0.01	< 0.01
Lead	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Manganese	EPA 200.7	mg/L	0.01	4.77	4.29	5.10	4.38
Molybdenum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Selenium IV	SM 3114-C	mg/L	0.001	0.001	< 0.001	< 0.001	< 0.001
Vanadium	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium	EPA 200.8	mg/L	0.0003	0.0240	0.0240	0.0276	0.0239
Radium 226	EPA 903.0	pCi/L	0.2	< 0.2	0.3	< 0.2	0.5
Radium Error Estimate ±					0.2	-	0.2
Radium 228	EPA 904.0	pCi/L	1.0	2.3	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±				1.1	-	-	-
Thorium 230	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±					-	-	-
Lead 210	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±					-	-	-
Gross Alpha	EPA 900.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±					-	-	-

Trace Organics							
Chloroform	EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range					
Anion	meq			64.0	67.3	66.8	64.0
Cation	meq			70.5	75.0	74.7	66.4
SM A/C Balance	%	-5 - +5		4.84	5.40	5.59	1.85
Calc TDS	mg/L			3916	4152	4106	3834
S A/C Balance	dec. %	0.80 - 1.20		1.11	1.06	1.09	1.17



UNC MINING AND MILLING: CHURCHROCK OPERATIONS
 GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE/TIME:
 DATE/TIME RECEIVED:
 REPORT DATE:
 QUARTER REPRESENTED:
 UNC SUBMITTAL #:

EPA-23(DUP)	EPA-23(DUP)	EPA-23(DUP)	EPA-23(DUP)
01-30299-12	01-31999-5	01-34436-3	C01100228-003
01/09/2001 09:10	04/04/2001 09:00	07/09/2001 10:30	10/01/2001 09:35
01/12/2001 10:20	04/06/2001 10:30	07/13/2001 10:30	10/05/2001 10:00
February 12, 2001	May 8, 2001	August 8, 2001	October 22, 2001
First 2001	Second 2001	Third 2001	Fourth 2001
TE-1-1-2001	TE-6-4-2001	TE-10-7-2001	TE-15-10-2001

Major Ions	Method	Units	Reporting Limit	Results	Results	Results	Results
Calcium	EPA 200.7	mg/L	1.0	650	711	682	610
Magnesium	EPA 200.7	mg/L	1.0	392	414	418	370
Sodium	EPA 200.7	mg/L	1.0	119	114	113	113
Potassium	EPA 200.7	mg/L	1.0	9.3	9.2	9.6	10.6
Bicarbonate	SM 2320-B	mg/L	0.10	1060	1040	1070	1090
Sulfate	EPA 200.7	mg/L	1.0	2380	2350	2240	2200
Chloride	EPA 200.7	mg/L	1.0	69.7	73.9	90.0	97.7
Ammonia as N	SM 4500-NH3-G	mg/L	0.05	1.05	1.20	1.12	1.06
Nitrate + Nitrite as N	EPA 353.2	mg/L	0.10	1.14	1.42	1.51	1.00

Non-Metals							
Total Dissolved Solids	SM 2540-C	mg/L	1.0	4370	4410	4480	4510
pH	SM 4500-H-B	std. units	0.10	7.63	7.51	7.05	7.40

Trace Metals							
Aluminum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Arsenic III	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Beryllium	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005
Cobalt	EPA 200.8	mg/L	0.01	0.01	< 0.01	< 0.01	< 0.01
Lead	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Manganese	EPA 200.7	mg/L	0.01	4.65	4.19	5.19	4.39
Molybdenum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Selenium IV	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Vanadium	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium	EPA 200.8	mg/L	0.0003	0.0240	0.0230	0.0263	0.0235
Radium 226	EPA 903.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	0.2
Radium Error Estimate ±							0.2
Radium 228	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±							-
Thorium 230	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±							-
Lead 210	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±							-
Gross Alpha	EPA 900.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±							-

Trace Organics							
Chloroform	EPA 601	µg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range				
Anion	meq		69.0	68.2	66.9	66.5
Cation	meq		70.9	75.6	74.5	66.8
SM A/C Balance	%	-5 - +5	1.36	5.12	5.38	0.23
Calc TDS	mg/L		4161	4204	4101	3956
TDS A/C Balance	dec. %	0.80 - 1.20	1.05	1.05	1.09	1.14

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APPENDIX A

MONTHLY

FIELD DATA SHEETS

MONTHLY
GROUND WATER MONITORING FIELD DATA SHEET
AUGUST Month 2001
SAMPLING

Pg. 1 of 4

Date 8-6-01	Well Number 509-D	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,760	2nd Cond. 5,330	Stable Cond. 5,710	Ending Cond. 5,500
	Time 0900	67.9'	67.8'	1st pH 6.84	2nd pH 6.79	Stable pH 6.57	Ending pH 6.36
		Bubbler Start	Bubbler End	1st Temp. 17.3°	2nd Temp. 15.5°	Stable Temp. 15.3°	Ending Temp. 14.5°
		10.544'	11.524'	Comments:			
Date 8-6-01	Well Number EPA-23	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,240	2nd Cond. 4,190	Stable Cond. 4,230	Ending Cond. 4,220
	Time 0940	48.25'	48.49'	1st pH 6.73	2nd pH 6.70	Stable pH 6.67	Ending pH 6.58
		Bubbler Start	Bubbler End	1st Temp. 16.6°	2nd Temp. 16.3°	Stable Temp. 15.3°	Ending Temp. 15.1°
		12.828'	10.957'	Comments:			
Date 8-6-01	Well Number EPA-23 DUPLICATE	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,220	2nd Cond. 4,240	Stable Cond. 4,240	Ending Cond. 4,230
	Time 1010	48.49'	48.47'	1st pH 6.58	2nd pH 6.56	Stable pH 6.57	Ending pH 6.59
		Bubbler Start	Bubbler End	1st Temp. 15.1°	2nd Temp. 15.0°	Stable Temp. 15.0°	Ending Temp. 16.1°
		10.957'	11.083'	Comments:			
Date 8-6-01	Well Number 803	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,200	2nd Cond. 4,500	Stable Cond. 6,030	Ending Cond. 6,230
	Time 1045	58.35'	58.52'	1st pH 7.12	2nd pH 7.11	Stable pH 6.55	Ending pH 6.38
		Bubbler Start	Bubbler End	1st Temp. 24.6°	2nd Temp. 21.5°	Stable Temp. 18.9°	Ending Temp. 16.6°
		17.417'	17.955'	Comments:			
Date 8-6-01	Well Number 808	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,770	2nd Cond. 5,670	Stable Cond. 6,180	Ending Cond. 6,420
	Time 1120	46.15'	46.23'	1st pH 6.87	2nd pH 6.63	Stable pH 6.50	Ending pH 6.40
		Bubbler Start	Bubbler End	1st Temp. 21.5°	2nd Temp. 20.1°	Stable Temp. 18.1°	Ending Temp. 17.6°
		15.423'	14.905'	Comments:			
Date 8-6-01	Well Number 802	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 5,440	2nd Cond. 5,860	Stable Cond. 6,030	Ending Cond. 6,300
	Time	45.02'	45.02'	1st pH 6.48	2nd pH 6.47	Stable pH 6.45	Ending pH 6.43
		Bubbler Start	Bubbler End	1st Temp. 22.1°	2nd Temp. 20.9°	Stable Temp. 19.9°	Ending Temp. 17.5°
				Comments:			

MONTHLY
GROUND WATER MONITORING FIELD DATA SHEET
AUGUST Month 2001
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Pg. 2 of 4

Date 8-6-01	Well Number 801 Time 1355	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 5,330	2nd Cond. 5,680	Stable Cond. 6,040	Ending Cond. 6,180
		48.87'	49.91'	1st pH 6.74	2nd pH 6.63	Stable pH 6.52	Ending pH 6.76
		Bubbler Start	Bubbler End	1st Temp. 23.9°	2nd Temp. 21.6°	Stable Temp. 19.4°	Ending Temp. 18.2°
		12.716'	11.677'	Comments:			
Date 8-6-01	Well Number 632 Time 1430	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,310	2nd Cond. 5,370	Stable Cond. 6,480	Ending Cond. 6,430
		42.21'	40.05'	1st pH 6.82	2nd pH 6.56	Stable pH 6.25	Ending pH 6.27
		Bubbler Start	Bubbler End	1st Temp. 23.0°	2nd Temp. 21.4°	Stable Temp. 16.8°	Ending Temp. 17.6°
		14.537'	14.390'	Comments:			
Date 8-7-01	Well Number GW-1 Time 0920	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,620	2nd Cond. 4,540	Stable Cond. 4,550	Ending Cond. 4,710
		59.38'	59.42'	1st pH 7.20	2nd pH 7.05	Stable pH 6.90	Ending pH 6.61
		Bubbler Start	Bubbler End	1st Temp. 18.9°	2nd Temp. 17.5°	Stable Temp. 16.7°	Ending Temp. 17.6°
		11.139'	11.099'	Comments:			
Date 8-7-01	Well Number 624 Time 1010	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,200	2nd Cond. 4,240	Stable Cond. 4,890	Ending Cond. 5,080
		48.83'	48.87'	1st pH 6.94	2nd pH 6.78	Stable pH 6.63	Ending pH 6.59
		Bubbler Start	Bubbler End	1st Temp. 18.5°	2nd Temp. 17.8°	Stable Temp. 16.3°	Ending Temp. 15.9°
		13.123'	13.093'	Comments:			
Date 8-7-01	Well Number EPA-28 Time 1045	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,070	2nd Cond. 4,400	Stable Cond. 4,650	Ending Cond. 4,730
		61.0'	61.18'	1st pH 7.41	2nd pH 7.38	Stable pH 7.01	Ending pH 6.72
		Bubbler Start	Bubbler End	1st Temp. 19.2°	2nd Temp. 18.6°	Stable Temp. 17.0°	Ending Temp. 17.3°
		9.234'	9.086'	Comments:			
Date 8-7-01	Well Number GW-2 Time	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4,720	2nd Cond. 4,810	Stable Cond. 4,950	Ending Cond. 5,030
		53.45'	53.80'	1st pH 6.64	2nd pH 6.57	Stable pH 6.54	Ending pH 6.43
		Bubbler Start	Bubbler End	1st Temp. 20.3°	2nd Temp. 19.5°	Stable Temp. 18.2°	Ending Temp. 1.9°
				Comments:			

MONTHLY
GROUND WATER MONITORING FIELD DATA SHEET
AUGUST Month 2001
SAMPLING

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Date 8-7-01	Well Number GW-3	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 3870	2nd Cond. 4090	Stable Cond. 4660	Ending Cond. 4920
	Time 1310	50.68'	51.34'	1st pH 7.01	2nd pH 6.89	Stable pH 6.63	Ending pH 6.59
		Bubbler Start	Bubbler End	1st Temp. 18.4°	2nd Temp. 17.7°	Stable Temp. 16.0°	Ending Temp. 14.9°
		4.794'	4.136'	Comments:			
Date 8-7-01	Well Number EPA-25	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 3560	2nd Cond. 3830	Stable Cond. 3980	Ending Cond. 4130
	Time 1350	51.38'	51.62'	1st pH 7.22	2nd pH 7.23	Stable pH 7.21	Ending pH 7.26
		Bubbler Start	Bubbler End	1st Temp. 14.8°	2nd Temp. 14.6°	Stable Temp. 14.4°	Ending Temp. 15.3°
		9.296'	8.976'	Comments:			
Date 8-8-01	Well Number 627	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4650	2nd Cond. 5100	Stable Cond. 5230	Ending Cond. 5270
	Time 0845	54.4'	54.4'	1st pH 7.78	2nd pH 7.58	Stable pH 7.38	Ending pH 7.09
		Bubbler Start	Bubbler End	1st Temp. 17.7°	2nd Temp. 17.0°	Stable Temp. 16.1°	Ending Temp. 15.3°
		7.939'	7.945'	Comments:			
Date 8-8-01	Well Number FIELD BLANK	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 26	2nd Cond.	Stable Cond.	Ending Cond.
	Time 0945			1st pH 8.78	2nd pH	Stable pH	Ending pH
		Bubbler Start	Bubbler End	1st Temp. 22.1°	2nd Temp.	Stable Temp.	Ending Temp.
				Comments:			
Date	Well Number	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
	Time			1st pH	2nd pH	Stable pH	Ending pH
		Bubbler Start	Bubbler End	1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
				Comments:			
Date	Well Number	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
	Time			1st pH	2nd pH	Stable pH	Ending pH
		Bubbler Start	Bubbler End	1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
				Comments:			

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GROUND WATER MONITORING FIELD DATA SHEET**
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Date	Well Number	WL w/Probe	WL w/Probe	Reading		Reading		Reading				
		Pre-Sample	Post Sample	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.	1st pH	2nd pH	Stable pH	Ending pH	
8-15-01	NBL-1			3.210	3.190	3.150	3.180	6.71	6.70	6.70	6.61	
		168.8	172.45	13.6°	15.1°	14.9°	14.4°					
		Time	Bubbler Start	Bubbler End	Comments:							
		1035										
Date	Well Number	WL w/Probe	WL w/Probe	Reading		Reading		Reading				
		Pre-Sample	Post Sample	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.	1st pH	2nd pH	Stable pH	Ending pH	
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.	Comments:				
		Time	Bubbler Start	Bubbler End								
Date	Well Number	WL w/Probe	WL w/Probe	Reading		Reading		Reading				
		Pre-Sample	Post Sample	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.	1st pH	2nd pH	Stable pH	Ending pH	
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.	Comments:				
		Time	Bubbler Start	Bubbler End								
Date	Well Number	WL w/Probe	WL w/Probe	Reading		Reading		Reading				
		Pre-Sample	Post Sample	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.	1st pH	2nd pH	Stable pH	Ending pH	
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.	Comments:				
		Time	Bubbler Start	Bubbler End								
Date	Well Number	WL w/Probe	WL w/Probe	Reading		Reading		Reading				
		Pre-Sample	Post Sample	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.	1st pH	2nd pH	Stable pH	Ending pH	
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.	Comments:				
		Time	Bubbler Start	Bubbler End								
Date	Well Number	WL w/Probe	WL w/Probe	Reading		Reading		Reading				
		Pre-Sample	Post Sample	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.	1st pH	2nd pH	Stable pH	Ending pH	
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.	Comments:				
		Time	Bubbler Start	Bubbler End								

MONTHLY
GROUND WATER MONITORING FIELD DATA SHEET
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Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading		Reading		Reading					
				1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.	1st pH	2nd pH	Stable pH	Ending pH		
9-10-01	509-D	68.1'	68.0'	1st Cond. 4.460	2nd Cond. 5.110	Stable Cond. 5.530	Ending Cond. 5.400	1st pH 6.90	2nd pH 6.85	Stable pH 6.69	Ending pH 6.38		
				1st Temp. 16.7°	2nd Temp. 15.9°	Stable Temp. 14.8°	Ending Temp. 14.3°	Comments:					
		0830	12.070'	11.997'									
9-10-01	EPA-23	48.01'	48.4'	1st Cond. 4.150	2nd Cond. 4.220	Stable Cond. 4.240	Ending Cond. 4.180	1st pH 6.81	2nd pH 6.68	Stable pH 6.63	Ending pH 6.56		
				1st Temp. 16.8°	2nd Temp. 15.8°	Stable Temp. 15.2°	Ending Temp. 15.4°	Comments:					
		0950	13.048'	13.276'									
9-10-01	EPA 23 DUPLICATE	48.4'	48.4'	1st Cond. 4.180	2nd Cond. 4.200	Stable Cond. 4.220	Ending Cond. 4.200	1st pH 6.56	2nd pH 6.55	Stable pH 6.54	Ending pH 6.56		
				1st Temp. 15.4°	2nd Temp. 15.1°	Stable Temp. 15.0°	Ending Temp. 15.4°	Comments:					
		1015	13.276'	13.251'									
9-10-01	803	58.2'	58.3'	1st Cond. 5.170	2nd Cond. 5.900	Stable Cond. 6.110	Ending Cond. 6.330	1st pH 6.86	2nd pH 6.62	Stable pH 6.49	Ending pH 6.49		
				1st Temp. 18.5°	2nd Temp. 17.5°	Stable Temp. 16.5°	Ending Temp. 15.7°	Comments:					
		1040	18.379'	18.259'									
9-10-01	808	45.95'	45.9'	1st Cond. 5.720	2nd Cond. 6.030	Stable Cond. 6.260	Ending Cond. 6.310	1st pH 6.71	2nd pH 6.59	Stable pH 6.48	Ending pH 6.40		
				1st Temp. 18.7°	2nd Temp. 17.8°	Stable Temp. 16.6°	Ending Temp. 16.2°	Comments:					
		1130	17.107'	17.465'									
9-10-01	802	44.8'	44.85'	1st Cond. 5.020	2nd Cond. 5.900	Stable Cond. 6.140	Ending Cond. 6.190	1st pH 6.41	2nd pH 6.38	Stable pH 6.36	Ending pH 6.37		
				1st Temp. 21.5°	2nd Temp. 18.9°	Stable Temp. 17.5°	Ending Temp. 17.0°	Comments:					
		1210	22.771'	22.688'									

MONTHLY
GROUND WATER MONITORING FIELD DATA SHEET

SEPT. Month 2001
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PG. 2 OF 3

Date 9-10-01	Well Number 801 Time 1345	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 5850	2nd Cond. 6020	Stable Cond. 6230	Ending Cond. 6240
		48.5'	49.50'	1st pH 6.72	2nd pH 6.61	Stable pH 6.48	Ending pH 6.38
		Bubbler Start	Bubbler End	1st Temp. 20.4°	2nd Temp. 19.7°	Stable Temp. 18.1°	Ending Temp. 17.1°
		12.927'	11.910'	Comments:			
Date 9-10-01	Well Number GW-2 Time 1415	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4920	2nd Cond. 5140	Stable Cond. 5000	Ending Cond. 4990
		53.2'	53.6'	1st pH 6.55	2nd pH 6.56	Stable pH 6.49	Ending pH 6.38
		Bubbler Start	Bubbler End	1st Temp. 22.0°	2nd Temp. 22.3°	Stable Temp. 19.7°	Ending Temp. 16.6°
		17.480'	17.073'	Comments:			
Date 9-10-01	Well Number 632 Time 1450	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 5010	2nd Cond. 6120	Stable Cond. 6390	Ending Cond. 6450
		42.0'	42.3'	1st pH 6.83	2nd pH 6.48	Stable pH 6.36	Ending pH 6.25
		Bubbler Start	Bubbler End	1st Temp. 20.5°	2nd Temp. 18.9°	Stable Temp. 17.3°	Ending Temp. 15.9°
		14.818'	14.636'	Comments:			
Date 9-11-01	Well Number 624 Time 0937	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4360	2nd Cond. 4520	Stable Cond. 5046	Ending Cond. 5160
		48.4'	48.45'	1st pH 6.92	2nd pH 6.76	Stable pH 6.59	Ending pH 6.52
		Bubbler Start	Bubbler End	1st Temp. 17.1°	2nd Temp. 16.8°	Stable Temp. 15.3°	Ending Temp. 15.2°
		13.943'	13.901'	Comments:			
Date 9-11-01	Well Number GW-1 Time 0900	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4730	2nd Cond. 4800	Stable Cond. 4670	Ending Cond. 4720
		59.25'	59.3'	1st pH 7.29	2nd pH 7.09	Stable pH 6.84	Ending pH 6.64
		Bubbler Start	Bubbler End	1st Temp. 16.7°	2nd Temp. 16.1°	Stable Temp. 15.1°	Ending Temp. 15.4°
		11.416'	11.049'	Comments:			
Date 9-11-01	Well Number EPA-28 Time 1010	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4140	2nd Cond. 4640	Stable Cond. 4730	Ending Cond. 4740
		60.85'	61.0'	1st pH 7.46	2nd pH 7.36	Stable pH 7.07	Ending pH 6.74
		Bubbler Start	Bubbler End	1st Temp. 17.6°	2nd Temp. 17.0°	Stable Temp. 16.1°	Ending Temp. 15.7°
		9.021'	8.243'	Comments:			

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Date 9-11-01	Well Number GW-3 Time 1110	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4540	2nd Cond. 4630	Stable Cond. 4770	Ending Cond. 4880
		50.5'	51.1'	1st pH 6.68	2nd pH 6.62	Stable pH 6.53	Ending pH 6.65°
		Bubbler Start	Bubbler End	1st Temp. 18.1°	2nd Temp. 17.8°	Stable Temp. 17.1°	Ending Temp. 17.1°
		4.864'	4.226'	Comments:			
Date 9-11-01	Well Number EPA-25 Time 1245	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 3700	2nd Cond. 3860	Stable Cond. 3970	Ending Cond. 4030
		51.1'	51.2'	1st pH 7.17	2nd pH 7.14	Stable pH 7.06	Ending pH 6.81
		Bubbler Start	Bubbler End	1st Temp. 16.2°	2nd Temp. 17.9°	Stable Temp. 16.6°	Ending Temp. 16.0°
		9.597'	9.465'	Comments:			
Date 9-11-01	Well Number 627 Time 1325	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4520	2nd Cond. 4990	Stable Cond. 5140	Ending Cond. 5160
		54.4'	54.45'	1st pH 7.58	2nd pH 7.31	Stable pH 7.20	Ending pH 6.99
		Bubbler Start	Bubbler End	1st Temp. 20.7°	2nd Temp. 19.3°	Stable Temp. 18.0°	Ending Temp. 17.9°
		7.948'	7.872'	Comments:			
Date 9-11-01	Well Number FIELD BLANK Time 1410	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 28	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH 8.60	2nd pH	Stable pH	Ending pH
		Bubbler Start	Bubbler End	1st Temp. 35.7°	2nd Temp.	Stable Temp.	Ending Temp.
				Comments:			
Date	Well Number	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH	2nd pH	Stable pH	Ending pH
		Bubbler Start	Bubbler End	1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
				Comments:			
Date	Well Number	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.
				1st pH	2nd pH	Stable pH	Ending pH
		Bubbler Start	Bubbler End	1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
				Comments:			

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Date 11-5-01	Well Number 509-D Time 0830	WL w/Probe Pre-Sample	WL w/Probe Post Sample	1st Cond. <u>4,530</u>	2nd Cond. <u>4,820</u>	Stable Cond. <u>5,230</u>	Ending Cond. <u>5,550</u>
				1st pH <u>6.97</u>	2nd pH <u>6.91</u>	Stable pH <u>6.62</u>	Ending pH <u>6.47</u>
		<u>68.2'</u>	<u>68.3'</u>	1st Temp. <u>12.7°</u>	2nd Temp. <u>12.6°</u>	Stable Temp. <u>12.3°</u>	Ending Temp. <u>12.0°</u>
		Bubbler Start	Bubbler End	Comments:			
		<u>11.925'</u>	<u>11.855'</u>				
Date 11-5-01	Well Number EPA-23 Time 0905	WL w/Probe Pre-Sample	WL w/Probe Post Sample	1st Cond. <u>4,180</u>	2nd Cond. <u>4,240</u>	Stable Cond. <u>4,180</u>	Ending Cond. <u>4,170</u>
				1st pH <u>7.00</u>	2nd pH <u>6.95</u>	Stable pH <u>6.79</u>	Ending pH <u>6.74</u>
		<u>48.0'</u>	<u>48.35'</u>	1st Temp. <u>12.9°</u>	2nd Temp. <u>12.8°</u>	Stable Temp. <u>12.5°</u>	Ending Temp. <u>12.4°</u>
		Bubbler Start	Bubbler End	Comments:			
		<u>13.531'</u>	<u>13.363'</u>				
Date 11-5-01	Well Number EPA-23 DUPLICATE Time 0930	WL w/Probe Pre-Sample	WL w/Probe Post Sample	1st Cond. <u>4,170</u>	2nd Cond. <u>4,200</u>	Stable Cond. <u>4,200</u>	Ending Cond. <u>4,190</u>
				1st pH <u>6.74</u>	2nd pH <u>6.71</u>	Stable pH <u>6.70</u>	Ending pH <u>6.71</u>
		<u>48.35'</u>	<u>48.4'</u>	1st Temp. <u>12.4°</u>	2nd Temp. <u>12.3°</u>	Stable Temp. <u>12.3°</u>	Ending Temp. <u>12.4°</u>
		Bubbler Start	Bubbler End	Comments:			
		<u>13.363'</u>	<u>13.376'</u>				
Date 11-5-01	Well Number 803 Time 0955	WL w/Probe Pre-Sample	WL w/Probe Post Sample	1st Cond. <u>3,120</u>	2nd Cond. <u>5,770</u>	Stable Cond. <u>6,140</u>	Ending Cond. <u>6,330</u>
				1st pH <u>6.69</u>	2nd pH <u>6.59</u>	Stable pH <u>6.50</u>	Ending pH <u>6.40</u>
		<u>57.85'</u>	<u>58.0'</u>	1st Temp. <u>14.0°</u>	2nd Temp. <u>13.8°</u>	Stable Temp. <u>13.3°</u>	Ending Temp. <u>13.3°</u>
		Bubbler Start	Bubbler End	Comments:			
		<u>18.631'</u>	<u>18.484'</u>				
Date 11-5-01	Well Number 808 Time 1025	WL w/Probe Pre-Sample	WL w/Probe Post Sample	1st Cond. <u>5,600</u>	2nd Cond. <u>5,950</u>	Stable Cond. <u>6,620</u>	Ending Cond. <u>6,410</u>
				1st pH <u>7.06</u>	2nd pH <u>6.82</u>	Stable pH <u>6.26</u>	Ending pH <u>6.48</u>
		<u>45.7'</u>	<u>45.8'</u>	1st Temp. <u>14.5°</u>	2nd Temp. <u>14.2°</u>	Stable Temp. <u>14.4°</u>	Ending Temp. <u>13.5°</u>
		Bubbler Start	Bubbler End	Comments:			
		<u>17.761'</u>	<u>17.676'</u>				
Date 11-5-01	Well Number 802 Time 1055	WL w/Probe Pre-Sample	WL w/Probe Post Sample	1st Cond. <u>4,510</u>	2nd Cond. <u>5,450</u>	Stable Cond. <u>6,130</u>	Ending Cond. <u>6,310</u>
				1st pH <u>6.77</u>	2nd pH <u>6.59</u>	Stable pH <u>6.48</u>	Ending pH <u>6.44</u>
		<u>44.55'</u>	<u>44.6</u>	1st Temp. <u>15.6°</u>	2nd Temp. <u>15.4°</u>	Stable Temp. <u>14.1°</u>	Ending Temp. <u>13.4°</u>
		Bubbler Start	Bubbler End	Comments:			
		<u>22.940'</u>	<u>22.871'</u>				

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Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading		Reading		Reading			
				1st Cond.	2nd Cond.	Stable Cond.	Ending Cond.	1st pH	2nd pH	Stable pH	Ending pH
11-5-01	632	41.8'	41.95'	1st Cond.	5,810	2nd Cond.	6,260	Stable Cond.	6,480		
				1st pH	7.18	2nd pH	7.04	Stable pH	6.55	Ending pH	6.34
				1st Temp.	15.2°	2nd Temp.	14.5°	Stable Temp.	13.5°	Ending Temp.	12.9°
				Comments:							
	Time	Bubbler Start	Bubbler End								
	1125	14.991'	14.834'								
11-5-01	801	48.4'	49.2'	1st Cond.	2,860	2nd Cond.	5,690	Stable Cond.	6,340		
				1st pH	7.25	2nd pH	7.19	Stable pH	6.68	Ending pH	6.46
				1st Temp.	19.7°	2nd Temp.	18.2°	Stable Temp.	15.3°	Ending Temp.	13.8°
				Comments:							
	Time	Bubbler Start	Bubbler End								
	1300	13.165'	12.323'								
11-5-01	GW-2	52.8'	53.2'	1st Cond.	4,190	2nd Cond.	4,540	Stable Cond.	4,860		
				1st pH	6.64	2nd pH	6.60	Stable pH	6.57	Ending pH	6.50
				1st Temp.	14.6°	2nd Temp.	14.0°	Stable Temp.	13.5°	Ending Temp.	12.6°
				Comments:							
	Time	Bubbler Start	Bubbler End								
	1330	17.731'	17.427'								
11-5-01	GW-1	59.0'	59.0'	1st Cond.	2,600	2nd Cond.	4,650	Stable Cond.	4,830		
				1st pH	7.35	2nd pH	7.35	Stable pH	7.20	Ending pH	6.68
				1st Temp.	14.9°	2nd Temp.	14.9°	Stable Temp.	13.8°	Ending Temp.	13.7°
				Comments:							
	Time	Bubbler Start	Bubbler End								
	1405	11.512'	11.480'								
11-6-01	624	48.55'	48.55'	1st Cond.	4,570	2nd Cond.	4,740	Stable Cond.	5,130		
				1st pH	7.37	2nd pH	7.20	Stable pH	6.77	Ending pH	6.60
				1st Temp.	15.1°	2nd Temp.	14.7°	Stable Temp.	13.6°	Ending Temp.	14.1°
				Comments:							
	Time	Bubbler Start	Bubbler End								
	0840	13.848'	13.815'								
11-6-01	EPA-28	60.65'	60.75'	1st Cond.	3,020	2nd Cond.	4,320	Stable Cond.	4,800		
				1st pH	7.41	2nd pH	7.25	Stable pH	7.00	Ending pH	6.75
				1st Temp.	16.6°	2nd Temp.	15.5°	Stable Temp.	14.4°	Ending Temp.	14.0°
				Comments:							
	Time	Bubbler Start	Bubbler End								

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Date 12-3-01	Well Number 509-D Time 0845	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 5320	2nd Cond. 5480	Stable Cond. 5570	Ending Cond. 5620
		68.3'	68.4'	1st pH 6.90	2nd pH 6.83	Stable pH 6.76	Ending pH 6.44
		Bubbler Start	Bubbler End	1st Temp. 12.4°	2nd Temp. 12.4°	Stable Temp. 12.6°	Ending Temp. 12.4°
		11.830'	11.792'	Comments:			
Date 12-3-01	Well Number EPA-23 Time 0920	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 3840	2nd Cond. 4220	Stable Cond. 4290	Ending Cond. 4240
		48.0'	48.2'	1st pH 7.21	2nd pH 7.13	Stable pH 6.97	Ending pH 6.68
		Bubbler Start	Bubbler End	1st Temp. 12.4°	2nd Temp. 12.3°	Stable Temp. 12.2°	Ending Temp. 12.3°
		13.425'	13.432'	Comments:			
Date 12-3-01	Well Number 803 Time 0955	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 5400	2nd Cond. 5930	Stable Cond. 6130	Ending Cond. 6390
		57.85'	58.0'	1st pH 6.62	2nd pH 6.57	Stable pH 6.50	Ending pH 6.41
		Bubbler Start	Bubbler End	1st Temp. 14.5°	2nd Temp. 14.2°	Stable Temp. 13.8°	Ending Temp. 13.5°
		18.744'	18.617'	Comments:			
Date 12-3-01	Well Number 808 Time 1025	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 2970	2nd Cond. 5560	Stable Cond. 6250	Ending Cond. 6490
		45.6'	45.7'	1st pH 6.91	2nd pH 6.80	Stable pH 6.56	Ending pH 6.53
		Bubbler Start	Bubbler End	1st Temp. 14.1°	2nd Temp. 13.6°	Stable Temp. 13.0°	Ending Temp. 12.6°
		17.876'	17.775'	Comments:			
Date 12-3-01	Well Number 802 Time 1055	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 5740	2nd Cond. 6200	Stable Cond. 6420	Ending Cond. 6420
		44.45'	44.5'	1st pH 7.02	2nd pH 6.77	Stable pH 6.63	Ending pH 6.56
		Bubbler Start	Bubbler End	1st Temp. 13.0°	2nd Temp. 12.8°	Stable Temp. 12.6°	Ending Temp. 12.7°
		23.071'	23.000'	Comments:			
Date 12-3-01	Well Number 632 Time 1125	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4570	2nd Cond. 6380	Stable Cond. 6500	Ending Cond. 6510
		41.7'	41.8'	1st pH 7.13	2nd pH 6.87	Stable pH 6.63	Ending pH 6.37
		Bubbler Start	Bubbler End	1st Temp. 13.1°	2nd Temp. 12.8°	Stable Temp. 12.5°	Ending Temp. 12.5°
		15.036'	14.947'	Comments:			

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Date 12-3-01	Well Number GW-2	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 3880	2nd Cond. 4420	Stable Cond. 4960	Ending Cond. 5100
	Time 1330	52.7'	53.1'	1st pH 6.64	2nd pH 6.56	Stable pH 6.47	Ending pH 6.47
		Bubbler Start	Bubbler End	1st Temp. 13.9°	2nd Temp. 13.2°	Stable Temp. 12.2°	Ending Temp. 12.6°
Comments:							
Date 12-4-01	Well Number 801	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 3340	2nd Cond. 5930	Stable Cond. 6370	Ending Cond. 6530
	Time 0900	48.2'	49.05'	1st pH 7.52	2nd pH 7.42	Stable pH 7.04	Ending pH 6.56
		Bubbler Start	Bubbler End	1st Temp. 10.7°	2nd Temp. 10.5°	Stable Temp. 10.4°	Ending Temp. 10.8°
Comments:							
Date 12-4-01	Well Number GW-1	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 4690	2nd Cond. 4930	Stable Cond. 4990	Ending Cond. 5150
	Time 0930	58.85'	58.85'	1st pH 7.42	2nd pH 7.41	Stable pH 7.33	Ending pH 6.83
		Bubbler Start	Bubbler End	1st Temp. 10.1°	2nd Temp. 10.2°	Stable Temp. 10.3°	Ending Temp. 10.9°
Comments:							
Date 12-4-01	Well Number GW-1 Duplicate	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 5150	2nd Cond. 5150	Stable Cond. 5160	Ending Cond. 5100
	Time 1000	58.85'	58.9'	1st pH 6.83	2nd pH 6.79	Stable pH 6.78	Ending pH 6.87
		Bubbler Start	Bubbler End	1st Temp. 10.9°	2nd Temp. 10.9°	Stable Temp. 10.8°	Ending Temp. 11.0°
Comments:							
Date 12-4-01	Well Number 624	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 3410	2nd Cond. 4220	Stable Cond. 5080	Ending Cond. 5260
	Time 1030	48.5'	48.5'	1st pH 7.04	2nd pH 6.86	Stable pH 6.65	Ending pH 6.62
		Bubbler Start	Bubbler End	1st Temp. 10.4°	2nd Temp. 10.5°	Stable Temp. 11.0°	Ending Temp. 12.7°
Comments:							
Date 12-4-	Well Number EPA-28	WL w/Probe	WL w/Probe	Reading	Reading	Reading	Reading
		Pre-Sample	Post Sample	1st Cond. 2500	2nd Cond. 4520	Stable Cond. 4850	Ending Cond. 4810
	Time 1105	60.5'	60.4'	1st pH 7.54	2nd pH 7.53	Stable pH 7.43	Ending pH 6.91
		Bubbler Start	Bubbler End	1st Temp. 13.9°	2nd Temp. 13.5°	Stable Temp. 13.1°	Ending Temp. 13.4°
Comments:							

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Date 12-4-01	Well Number GW-3 Time 1300	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading 1st Cond. 2230	Reading 2nd Cond. 2780	Reading Stable Cond. 4450	Reading Ending Cond. 4910
		50.2'	50.6'	1st pH 7.10	2nd pH 7.08	Stable pH 6.93	Ending pH 6.95
		Bubbler Start	Bubbler End	1st Temp. 15.0°	2nd Temp. 14.4°	Stable Temp. 13.5°	Ending Temp. 12.8°
		5.093'	4.668'	Comments:			
Date 12-4-01	Well Number EPA-25 Time 1345	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading 1st Cond. 3870	Reading 2nd Cond. 4050	Reading Stable Cond. 4120	Reading Ending Cond. 4120
		50.85'	50.95'	1st pH 7.53	2nd pH 7.48	Stable pH 7.44	Ending pH 7.09
		Bubbler Start	Bubbler End	1st Temp. 12.9°	2nd Temp. 12.8°	Stable Temp. 12.5°	Ending Temp. 11.9°
		9.716'	9.569'	Comments:			
Date 12-4-01	Well Number 627 Time 1420	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading 1st Cond. 3050	Reading 2nd Cond. 4880	Reading Stable Cond. 5140	Reading Ending Cond. 5240
		54.15'	54.2'	1st pH 7.79	2nd pH 6.67	Stable pH 7.51	Ending pH 7.30
		Bubbler Start	Bubbler End	1st Temp. 15.1°	2nd Temp. 14.3°	Stable Temp. 13.6°	Ending Temp. 12.6°
		8.038'	7.966'	Comments:			
Date 12-4-01	Well Number FIELD BLANK Time 1500	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading 1st Cond. 20	Reading 2nd Cond.	Reading Stable Cond.	Reading Ending Cond.
				1st pH 8.91	2nd pH	Stable pH	Ending pH
				1st Temp. 13.4°	2nd Temp.	Stable Temp.	Ending Temp.
		Bubbler Start	Bubbler End	Comments:			
Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading 1st Cond.	Reading 2nd Cond.	Reading Stable Cond.	Reading Ending Cond.
				1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
		Bubbler Start	Bubbler End	Comments:			
Date	Well Number	WL w/Probe Pre-Sample	WL w/Probe Post Sample	Reading 1st Cond.	Reading 2nd Cond.	Reading Stable Cond.	Reading Ending Cond.
				1st pH	2nd pH	Stable pH	Ending pH
				1st Temp.	2nd Temp.	Stable Temp.	Ending Temp.
		Bubbler Start	Bubbler End	Comments:			

APPENDIX A

MONTHLY SAMPLING

**SEMI-ANNUAL GROUND WATER MONITORING
REPORT**

**AUGUST, SEPTEMBER, NOVEMBER, AND DECEMBER,
2001**

QA AND QC CONTROLS

FIELD BLANK

EPA-23 AND EPA-23 DUPLICATE FOR SW ALLUVIUM

GW-1 AND GW-1 DUPLICATE FOR SW ALLUVIUM



UNC MINING AND MILLING: CHURCHROCK OPERATIONS
 GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE/TIME:
 DATE/TIME RECEIVED:
 REPORT DATE:
 UNC SUBMITTAL #:

Field Blank	Field Blank	Field Blank
01-33365-3	01-34625-11	C01080351-002
06/05/2001 14:55	07/17/2001 13:00	08/08/2001 09:45
06/08/2001 10:00	07/20/2001 10:30	08/10/2001 10:30
June 22, 2001	August 20, 2001	September 20, 2001
TE-9-6-2001	TE-11-7-2001	TE-12-8-2001

Major Ions	Method	Units	Reporting Limit	Results	Results	Results
Calcium	EPA 200.7	mg/L	0.05	< 0.05	0.12	0.07
Magnesium	EPA 200.7	mg/L	0.01	< 0.01	0.10	0.09
Sodium	EPA 200.7	mg/L	0.05	< 0.05	2.40	0.70
Potassium	EPA 200.7	mg/L	0.10	< 0.10	< 0.10	0.25
Bicarbonate	SM 2320-B	mg/L	0.10	7.00	9.00	8.50
Sulfate	EPA 200.7	mg/L	1.0	< 1.0	3.4	< 1.0
Chloride	EPA 200.7	mg/L	1.0	< 1.0	< 1.0	< 1.0
Ammonium as N	SM 4500 NH ₃ -G	mg/L	0.05	< 0.05	< 0.05	< 0.05
Nitrate + Nitrite as N	EPA 353.2	mg/L	0.10	< 0.10	< 0.10	0.20

Non-Metals						
Total Dissolved Solids	SM 2540-C	mg/L	10	< 10	14	< 10
pH	SM 4500-H-B	std. units	0.10	6.60	6.79	6.50

Trace Metals, dissolved						
Aluminum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10
Arsenic III	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001
Beryllium	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01
Cadmium	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005
Cobalt	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01
Lead	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05
Manganese	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01
Molybdenum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10
Nickel	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05
Selenium IV	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001
Vanadium	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10

Radiometrics						
Uranium, dissolved	EPA 200.8	mg/L	0.0003	< 0.0003	< 0.0003	< 0.0003
Radium 226	EPA 903.0	pCi/L	0.2	0.4	< 0.2	< 0.2
Radium Error Estimate ±				0.2	-	-
Radium 228	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±				-	-	-
Thorium 230	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±				-	-	-
Lead 210	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±				-	-	-
Gross Alpha	EPA 900.0	pCi/L	1.0	1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±				1.0	-	-

Trace Organics						
Chloroform	EPA 624	µg/L	1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range				
Anion	meq			0.17	0.25	0.20
Cation	meq			0.01	0.13	0.05
CM A/C Balance	%	-5 - +5		* -86.7	* -33.9	* -59.1
c TDS	mg/L			6.23	12.14	8.32
TDS A/C Balance	dec. %	0.80 - 1.20		* 2	* 1.15	* 1.20

* Balances inappropriate for near blank samples

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80351R00004



UNC MINING AND MILLING: CHURCHROCK OPERATIONS
 GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE/TIME:
 DATE/TIME RECEIVED:
 REPORT DATE:
 UNC SUBMITTAL #:

Field Blank	Field Blank	Field Blank	Field Blank
01-33365-3	01-34625-11	C01080351-002	C01090398-002
06/05/2001 14:55	07/17/2001 13:00	08/08/2001 09:45	09/11/2001 14:10
06/08/2001 10:00	07/20/2001 10:30	08/10/2001 10:30	09/14/2001 10:00
June 22, 2001	August 20, 2001	September 20, 2001	October 12, 2001
TE-9-6-2001	TE-11-7-2001	TE-12-8-2001	TE-14-9-2001

Major Ions	Method	Units	Reporting Limit	Results	Results	Results	Results
Calcium	EPA 200.7	mg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Magnesium	EPA 200.7	mg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sodium	EPA 200.7	mg/L	1.0	< 1.0	2.40	< 1.0	< 1.0
Potassium	EPA 200.7	mg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bicarbonate	SM 2320-B	mg/L	0.10	7.00	9.00	8.50	11.0
Sulfate	EPA 200.7	mg/L	1.0	< 1.0	3.4	< 1.0	< 1.0
Chloride	EPA 200.7	mg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ammonium as N	SM 4500 NH ₃ -G	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrate + Nitrite as N	EPA 353.2	mg/L	0.10	< 0.10	< 0.10	0.20	0.20

Non-Metals							
Total Dissolved Solids	SM 2540-C	mg/L	10	< 10	14	< 10	12
pH	SM 4500-H-B	std. units	0.10	6.60	6.79	6.50	6.70

Trace Metals, dissolved							
Aluminum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Arsenic III	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Beryllium	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005
Cobalt	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Manganese	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Molybdenum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Selenium IV	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Vanadium	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium, dissolved	EPA 200.8	mg/L	0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Radium 226	EPA 903.0	pCi/L	0.2	0.4	< 0.2	< 0.2	< 0.2
Radium Error Estimate ±				0.2	-	-	-
Radium 228	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±				-	-	-	-
Thorium 230	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±				-	-	-	-
Lead 210	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±				-	-	-	-
Gross Alpha	EPA 900.0	pCi/L	1.0	1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±				1.0	-	-	-

Trace Organics							
Chloroform	EPA 624	µg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range				
Anion	meq		0.17	0.25	0.20	0.24
Cation	meq		0.21	0.27	0.21	0.21
SM A/C Balance	%	-5 - +5	* 9.5	* 2.6	* 1.0	* -8.2
Calc TDS	mg/L		10.02	14.82	11.21	12.46
TDS A/C Balance	dec. %	0.80 - 1.20	* 1	* 0.94	* 0.89	* 0.96

Balances inappropriate for near blank samples



UNC MINING AND MILLING: CHURCHROCK OPERATIONS
 GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE/TIME:
 DATE/TIME RECEIVED:
 REPORT DATE:
 UNC SUBMITTAL #:
 REVISED REPORT DATE:

Field Blank	Field Blank	Field Blank	Field Blank
01-34625-11	C01080351-002	C01090398-002	C01110315-016
07/17/2001 13:00	08/08/2001 09:45	09/11/2001 14:10	11/06/2001 13:15
07/20/2001 10:30	08/10/2001 10:30	09/14/2001 10:00	11/09/2001 10:00
August 20, 2001	September 20, 2001	October 12, 2001	December 12, 2001
TE-11-7-2001	TE-12-8-2001	TE-14-9-2001	TE-17-11-2001
-	-	-	February 12, 2002

Major Ions	Method	Units	Reporting Limit	Results	Results	Results	Results
Calcium	EPA 200.7	mg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Magnesium	EPA 200.7	mg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sodium	EPA 200.7	mg/L	1.0	2.40	< 1.0	< 1.0	< 1.0
Potassium	EPA 200.7	mg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bicarbonate	SM 2320-B	mg/L	0.10	9.00	8.50	11.0	9.00
Sulfate	EPA 200.7	mg/L	1.0	3.4	< 1.0	< 1.0	< 1.0
Chloride	EPA 200.7	mg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ammonium as N	SM 4500 NH ₃ -G	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrate + Nitrite as N	EPA 353.2	mg/L	0.10	< 0.10	0.20	0.20	< 0.10

Non-Metals							
Total Dissolved Solids	SM 2540-C	mg/L	10	14	< 10	12	25
pH	SM 4500-H-B	std. units	0.10	6.79	6.50	6.70	6.70

Trace Metals, dissolved							
Aluminum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Arsenic III	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Beryllium	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005
Cobalt	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Manganese	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Molybdenum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Selenium IV	SM 3114-C	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Vanadium	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium, dissolved	EPA 200.8	mg/L	0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Radium 226	EPA 903.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Radium Error Estimate ±				-	-	-	-
Radium 228	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Radium Error Estimate ±				-	-	-	-
Thorium 230	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±				-	-	-	-
Lead 210	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±				-	-	-	-
Gross Alpha	EPA 900.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±				-	-	-	-

Trace Organics							
Chloroform	EPA 624	µg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range				
Anion	meq		0.25	0.20	0.24	0.20
Cation	meq		0.27	0.21	0.21	0.21
SM A/C Balance	%	-5 - +5	* 2.64	* 0.96	* -8.23	* 0.70
Calc TDS	mg/L		14.8	11.2	12.5	11.0
TDS A/C Balance	dec. %	0.80 - 1.20	* 0.94	* 0.89	* 0.96	* 2.27

* Balances inappropriate for near blank samples



**UNC MINING AND MILLING: CHURCHROCK OPERATIONS
 GROUNDWATER MONITORING PROGRAM: ZONE 1 MONITOR WELLS**

WELL ID:
 LABORATORY ID:
 SAMPLE DATE/TIME:
 RECEIVED DATE/TIME:
 REPORT DATE:
 UNC SUBMITTAL #:

Field Blank	Field Blank
01-33365-3	01-34625-11
06/05/2001 14:55	07/17/2001 13:00
06/08/2001 10:00	07/20/2001 10:30
June 22, 2001	August 20, 2001
TE-9-6-2001	TE-11-7-2001

Major Ions	Method	Units	Reporting Limit	Results	Results
Calcium	EPA 200.7	mg/L	0.05	< 0.05	0.12
Magnesium	EPA 200.7	mg/L	0.01	< 0.01	0.10
Sodium	EPA 200.7	mg/L	0.05	< 0.05	2.40
Potassium	EPA 200.7	mg/L	0.10	< 0.10	< 0.10
Bicarbonate	SM 2320-B	mg/L	0.10	7.00	9.00
Sulfate	EPA 200.7	mg/L	1.0	< 1.0	3.4
Chloride	EPA 200.7	mg/L	1.0	< 1.0	< 1.0
Ammonium as N	SM 4500 NH ₃ -G	mg/L	0.05	< 0.05	< 0.05
Nitrate + Nitrite as N	EPA 353.2	mg/L	0.10	< 0.10	< 0.10

Non-Metals					
Total Dissolved Solids	SM 2540-C	mg/L	10	1010	14
pH	SM 4500-H-B	std. units	0.10	6.60	6.79

Trace Metals, dissolved					
Aluminum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10
Arsenic III	SM 3114-C	mg/L	0.001	< 0.001	< 0.001
Beryllium	EPA 200.8	mg/L	0.01	< 0.01	< 0.01
Cadmium	EPA 200.8	mg/L	0.005	< 0.005	< 0.005
Cobalt	EPA 200.8	mg/L	0.01	< 0.01	< 0.01
Lead	EPA 200.8	mg/L	0.05	< 0.05	< 0.05
Manganese	EPA 200.8	mg/L	0.01	< 0.01	< 0.01
Molybdenum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10
Nickel	EPA 200.8	mg/L	0.05	< 0.05	< 0.05
Selenium IV	SM 3114-C	mg/L	0.001	< 0.001	< 0.001
Vanadium	EPA 200.8	mg/L	0.10	< 0.10	< 0.10

Radiometrics					
Uranium, dissolved	EPA 200.8	mg/L	0.0003	< 0.0003	< 0.0003
Radium 226	EPA 903.0	pCi/L	0.2	0.4	< 0.2
Radium Error Estimate +				0.2	-
Radium 228	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0
Radium Error Estimate +				-	-
Thorium 230	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2
Thorium Error Estimate +				-	-
Lead 210	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0
Lead Error Estimate +				-	-
Gross Alpha	EPA 900.0	pCi/L	1.0	1.0	< 1.0
G. Alpha Error Estimate +				1.0	-

Trace Organics					
Chloroform	EPA 624	µg/L	1.0	< 1.0	< 1.0

Quality Assurance Data			Target Range		
Anion		meq		0.17	0.25
Cation		meq		0.01	0.13
SM A/C Balance		%	-5 - +5	* -86.7	* -33.9
Calc TDS		mg/L		6.23	12.14
TDS A/C Balance		dec. %	0.80 - 1.20	* 162	* 1.15

* Balances inappropriate for near blank samples
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UNC MINING AND MILLING: CHURCHROCK OPERATIONS
 GROUNDWATER MONITORING PROGRAM: ZONE I MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE/TIME:
 DATE/TIME RECEIVED:
 REPORT DATE:
 UNC SUBMITTAL #:

Field Blank
C01120222-016
12/04/2001 15:00
12/07/2001 10:00
December 30, 2001
TE-18-12-2001

Major Ions	Method	Units	Reporting Limit	Results
Calcium	EPA 200.7	mg/L	1.0	< 1.0
Magnesium	EPA 200.7	mg/L	1.0	< 1.0
Sodium	EPA 200.7	mg/L	1.0	< 1.0
Potassium	EPA 200.7	mg/L	1.0	< 1.0
Bicarbonate	SM 2320-B	mg/L	0.10	9.2
Sulfate	EPA 200.7	mg/L	1.0	< 1.0
Chloride	EPA 200.7	mg/L	1.0	< 1.0
Ammonium as N	SM 4500 NH ₃ -G	mg/L	0.05	< 0.05
Nitrate + Nitrite as N	EPA 353.2	mg/L	0.10	< 0.10

Non-Metals				
Total Dissolved Solids	SM 2540-C	mg/L	10	16
pH	SM 4500-H-B	std. units	0.10	6.90

Trace Metals, dissolved				
Aluminum	EPA 200.8	mg/L	0.10	< 0.10
Arsenic III	SM 3114-C	mg/L	0.001	< 0.001
Beryllium	EPA 200.8	mg/L	0.01	< 0.01
Cadmium	EPA 200.8	mg/L	0.005	< 0.005
Cobalt	EPA 200.8	mg/L	0.01	< 0.01
Lead	EPA 200.8	mg/L	0.05	< 0.05
Manganese	EPA 200.8	mg/L	0.01	< 0.01
Molybdenum	EPA 200.8	mg/L	0.10	< 0.10
Nickel	EPA 200.8	mg/L	0.05	< 0.05
Selenium IV	SM 3114-C	mg/L	0.001	< 0.001
Vanadium	EPA 200.8	mg/L	0.10	< 0.10

Radiometrics				
Uranium, dissolved	EPA 200.8	mg/L	0.0003	< 0.0003
Radium 226	EPA 903.0	pCi/L	0.2	< 0.2
Radium Error Estimate ±				-
Radium 228	EPA 904.0	pCi/L	1.0	< 1.0
Radium Error Estimate ±				-
Thorium 230	EPA 907.0	pCi/L	0.2	< 0.2
Thorium Error Estimate ±				-
Lead 210	NERHL-65-4	pCi/L	1.0	< 1.0
Lead Error Estimate ±				-
Gross Alpha	EPA 900.0	pCi/L	1.0	< 1.0
G. Alpha Error Estimate ±				-

Trace Organics				
Chloroform	EPA 624	µg/L	1.0	< 1.0

Quality Assurance Data	Target Range		
Anion	meq		0.21
Cation	meq		0.21
SM A/C Balance	%	-5 - +5	* -0.10
Calc TDS	mg/L		11.12
TDS A/C Balance	dec. %	0.80 - 1.20	* 1.44

* Balances inappropriate for near blank samples



LABORATORY ANALYSIS REPORT
UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE/TIME:
 RECEIVED DATE/TIME:
 REPORT DATE:
 UNC SUBMITTAL #:

EPA-23	EPA-23	EPA-23	EPA-23
01-34436-2	C01080349-002	C01090400-002	C01110315-002
07/09/2001 10:00	08/06/2001 09:40	09/10/2001 09:50	11/05/2001 09:05
07/13/2001 10:30	8/10/2001 10:30	09/14/2001 10:00	11/09/2001 10:00
August 8, 2001	September 26, 2001	October 15, 2001	December 12, 2001
TE-10-7-2001	TE-12-8-2001	TE-14-9-2001	TE-17-11-2001

Major Ions	Method	Units	Reporting Limit	Results	Results	Results	Results
Calcium	EPA 200.7	mg/L	0.05	684	640	650	670
Magnesium	EPA 200.7	mg/L	0.01	418	390	390	401
Sodium	EPA 200.7	mg/L	0.05	116	110	122	123
Potassium	EPA 200.7	mg/L	0.10	9.70	10.0	9.9	10.8
Bicarbonate	SM 2320-B	mg/L	0.10	1060	1060	1100	1050
Sulfate	EPA 200.7	mg/L	1.0	2250	2300	2200	2360
Chloride	EPA 200.7	mg/L	1.0	86.0	86.0	75.6	87.0
Ammonia as N	SM 4500-NH3-G	mg/L	0.05	1.07	1.10	1.02	0.95
Nitrate + Nitrite as N	EPA 353.2	mg/L	0.10	1.36	1.28	1.20	1.20

Non-Metals							
Total Dissolved Solids	SM 2540-C	mg/L	1.0	4470	4500	4490	4540
pH	SM 4500-H-B	std. units	0.10	7.12	7.20	7.50	7.60

Trace Metals, dissolved							
Aluminum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Arsenic III	SM 3114-B	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Beryllium	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005
Cobalt	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Manganese	EPA 200.8	mg/L	0.01	5.10	5.40	4.68	4.79
Molybdenum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Selenium IV	SM 3114-B	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Vanadium	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Radiometrics							
Uranium, dissolved	EPA 200.8	mg/L	0.0003	0.0276	0.0250	0.0229	0.0212
Radium 226	EPA 903.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	0.6
Radium Error Estimate ±				-	-	-	0.2
Radium 228	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0	3.8
Radium Error Estimate ±				-	-	-	1.0
Thorium 230	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Thorium Error Estimate ±				-	-	-	-
Lead 210	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Lead Error Estimate ±				-	-	-	-
Gross Alpha	EPA 900.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
G. Alpha Error Estimate ±				-	-	-	-

Trace Organics							
Chloroform	EPA 8260	µg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0

Quality Assurance Data		Target Range				
Anion	meq		66.8	67.8	66.1	68.9
Cation	meq		74.7	69.9	70.9	72.9
SM A/C Balance	%	-5 - +5	5.59	1.53	3.51	2.79
Calc TDS	mg/L		4106	4078	4009	4188
MS A/C Balance	dec. %	0.80 - 1.20	1.09	1.10	1.12	1.08



LABORATORY ANALYSIS REPORT
UNC MINING AND MILLING: CHURCHROCK OPERATIONS
GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE/TIME:
 RECEIVED DATE/TIME:
 REPORT DATE:
 UNC SUBMITTAL #:

EPA-23 DUPLICATE	EPA-23 DUPLICATE	EPA-23(DUP)	EPA-23(DUP)
01-34436-3	C01080349-003	C01090400-003	C01110315-003
07/09/2001 10:30	08/06/2001 10:10	09/10/2001 10:15	11/05/2001 09:30
07/13/2001 10:30	8/10/2001 10:30	09/14/2001 10:00	11/09/2001 10:00
August 8, 2001	September 26, 2001	October 15, 2001	December 12, 2001
TE-10-7-2001	TE-12-8-2001	TE-14-9-2001	TE-17-11-2001

Major Ions	Method	Units	Reporting Limit	Results	Results	Results	Results
Calcium	EPA 200.7	mg/L	0.05	682	630	650	664
Magnesium	EPA 200.7	mg/L	0.01	418	390	390	397
Sodium	EPA 200.7	mg/L	0.05	113	110	118	117
Potassium	EPA 200.7	mg/L	0.10	9.60	10.0	10	10.8
Bicarbonate	SM 2320-B	mg/L	0.10	1070	1060	1100	1050
Sulfate	EPA 200.7	mg/L	1.0	2240	2100	2200	2320
Chloride	EPA 200.7	mg/L	1.0	90.0	91.0	76.2	95.0
Ammonia as N	SM 4500-NH3-G	mg/L	0.05	1.12	1.10	1.03	0.94
Nitrate + Nitrite as N	EPA 353.2	mg/L	0.10	1.51	1.29	1.20	1.10

Non-Metals		Method	Units	Reporting Limit	Results	Results	Results	Results
Total Dissolved Solids	SM 2540-C	mg/L	1.0	4480	4480	4460	4540	
pH	SM 4500-H-B	std. units	0.10	7.05	7.20	7.50	7.60	

Trace Metals, dissolved		Method	Units	Reporting Limit	Results	Results	Results	Results
Aluminum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Arsenic III	SM 3114-B	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001	
Beryllium	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Cadmium	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005	
Cobalt	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	0.01	< 0.01	
Lead	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Manganese	EPA 200.8	mg/L	0.01	5.19	5.50	4.96	4.74	
Molybdenum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Nickel	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Selenium IV	SM 3114-B	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001	
Vanadium	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10	

Radiometrics		Method	Units	Reporting Limit	Results	Results	Results	Results
Uranium, dissolved	EPA 200.8	mg/L	0.0003	0.0263	0.0270	0.0245	0.0223	
Radium 226	EPA 903.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	0.5	
Radium Error Estimate ±				-	-	-	0.2	
Radium 228	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0	1.7	
Radium Error Estimate ±				-	-	-	1.0	
Thorium 230	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2	
Thorium Error Estimate ±				-	-	-	-	
Lead 210	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Lead Error Estimate ±				-	-	-	-	
Gross Alpha	EPA 900.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	
G. Alpha Error Estimate ±				-	-	-	-	

Trace Organics		Method	Units	Reporting Limit	Results	Results	Results	Results
Chloroform	EPA 8260	µg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	

Quality Assurance Data		Method	Units	Target Range	Results	Results	Results	Results
Anion		meq			66.9	63.8	66.1	68.3
Cation		meq			74.5	69.4	70.7	72.0
SM A/C Balance		%	-5 - +5		5.38	4.23	3.39	2.62
Calc TDS		mg/L			4101	3874	4006	4140
TDS A/C Balance		dec. %	0.80 - 1.20		1.09	1.16	1.11	1.10

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LABORATORY ANALYSIS REPORT

UNC MINING AND MILLING: CHURCHROCK OPERATIONS
 GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS

WELL ID:
 LABORATORY ID:
 SAMPLE DATE/TIME:
 RECEIVED DATE/TIME:
 REPORT DATE:
 UNC SUBMITTAL #:

GW-1	GW-1	GW-1	GW-1
C01080349-008	C01090400-009	C01110315-010	C01120222-009
08/07/2001 09:20	09/11/2001 09:00	11/05/2001 14:05	12/04/2001 09:30
8/10/2001 10:30	09/14/2001 10:00	11/09/2001 10:00	12/07/2001 10:00
September 26, 2001	October 15, 2001	December 12, 2001	December 29, 2001
TE-12-8-2001	TE-14-9-2001	TE-17-11-2001	TE-18-12-2001

Major Ions	Method	Units	Reporting Limit	Results	Results	Results	Results
Calcium	EPA 200.7	mg/L	0.05	650	690	775	722
Magnesium	EPA 200.7	mg/L	0.01	340	350	386	361
Sodium	EPA 200.7	mg/L	0.05	210	214	219	197
Potassium	EPA 200.7	mg/L	0.10	4.50	4.6	5.1	4.4
Bicarbonate	SM 2320-B	mg/L	0.10	878	899	950	984
Sulfate	EPA 200.7	mg/L	1.0	2100	2200	2540	2270
Chloride	EPA 200.7	mg/L	1.0	140	140	150	145
Ammonia as N	SM 4500-NH3-G	mg/L	0.05	0.69	0.68	0.59	0.64
Nitrate + Nitrite as N	EPA 353.2	mg/L	0.10	84.0	101	95.0	96.0

Non-Metals		Method	Units	Reporting Limit	Results	Results	Results	Results
Total Dissolved Solids	SM 2540-C	mg/L	1.0	4910	4960	5260	5300	
pH	SM 4500-H-B	std. units	0.10	7.50	7.40	7.20	7.30	

Trace Metals, dissolved		Method	Units	Reporting Limit	Results	Results	Results	Results
Aluminum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Arsenic III	SM 3114-B	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001	
Beryllium	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Cadmium	EPA 200.8	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005	
Cobalt	EPA 200.8	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Lead	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Manganese	EPA 200.8	mg/L	0.01	0.05	0.04	0.04	0.04	
Molybdenum	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Nickel	EPA 200.8	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Selenium IV	SM 3114-B	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001	
Vanadium	EPA 200.8	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10	

Radiometrics		Method	Units	Reporting Limit	Results	Results	Results	Results
Uranium, dissolved	EPA 200.8	mg/L	0.0003	0.0810	0.0764	0.0872	0.0957	
Radium 226	EPA 903.0	pCi/L	0.2	< 0.2	< 0.2	0.4	< 0.2	
Radium Error Estimate ±				-	-	0.2	-	
Radium 228	EPA 904.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Radium Error Estimate ±				-	-	-	-	
Thorium 230	EPA 907.0	pCi/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2	
Thorium Error Estimate ±				-	-	-	-	
Lead 210	NERHL-65-4	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Lead Error Estimate ±				-	-	-	-	
Gross Alpha	EPA 900.0	pCi/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	
G. Alpha Error Estimate ±				-	-	-	-	

Trace Organics		Method	Units	Reporting Limit	Results	Results	Results	Results
Chloroform	EPA 8260	µg/L	1.0	1.0	< 1.0	< 1.0	< 1.0	

Quality Assurance Data		Target Range	Results	Results	Results	Results
Anion	mcq		68.1	71.7	79.5	74.4
Cation	mcq		70.1	73.1	80.6	74.9
SM A/C Balance	%	-5 - +5	1.48	0.97	0.69	0.36
Calc TDS	mg/L		4257	4496	4972	4618
TDS A/C Balance	dec. %	0.80 - 1.20	1.15	1.10	1.06	1.15

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LABORATORY ANALYSIS REPORT	
UNC MINING AND MILLING: CHURCHROCK OPERATIONS	
GROUNDWATER MONITORING PROGRAM: SOUTHWEST ALLUVIUM MONITOR WELLS	
WELL ID:	GW-1 DUPLICATE
LABORATORY ID:	C01120222-010
SAMPLE DATE/TIME:	12/04/2001 10:00
RECEIVED DATE/TIME:	12/07/2001 10:00
REPORT DATE:	December 29, 2001
UNC SUBMITTAL #:	TE-18-12-2001

Major Ions	Method	Units	Reporting Limit	Results
Calcium	EPA 200.7	mg/L	0.05	716
Magnesium	EPA 200.7	mg/L	0.01	351
Sodium	EPA 200.7	mg/L	0.05	219
Potassium	EPA 200.7	mg/L	0.10	3.9
Bicarbonate	SM 2320-B	mg/L	0.10	946
Sulfate	EPA 200.7	mg/L	1.0	2250
Chloride	EPA 200.7	mg/L	1.0	137
Ammonia as N	SM 4500-NH3-G	mg/L	0.05	0.46
Nitrate + Nitrite as N	EPA 353.2	mg/L	0.10	96.0

Non-Metals				
Total Dissolved Solids	SM 2540-C	mg/L	1.0	5260
pH	SM 4500-H-B	std. units	0.10	7.40

Trace Metals, dissolved				
Aluminum	EPA 200.8	mg/L	0.10	< 0.10
Arsenic III	SM 3114-B	mg/L	0.001	< 0.001
Beryllium	EPA 200.8	mg/L	0.01	< 0.01
Cadmium	EPA 200.8	mg/L	0.005	< 0.005
Cobalt	EPA 200.8	mg/L	0.01	< 0.01
Lead	EPA 200.8	mg/L	0.05	< 0.05
Manganese	EPA 200.8	mg/L	0.01	0.03
Molybdenum	EPA 200.8	mg/L	0.10	< 0.10
Nickel	EPA 200.8	mg/L	0.05	< 0.05
Selenium IV	SM 3114-B	mg/L	0.001	< 0.001
Vanadium	EPA 200.8	mg/L	0.10	< 0.10

Radiometrics				
Uranium, dissolved	EPA 200.8	mg/L	0.0003	0.0950
Radium 226	EPA 903.0	pCi/L	0.2	< 0.2
Radium Error Estimate ±				-
Radium 228	EPA 904.0	pCi/L	1.0	< 1.0
Radium Error Estimate ±				-
Thorium 230	EPA 907.0	pCi/L	0.2	< 0.2
Thorium Error Estimate ±				-
Lead 210	NERHL-65-4	pCi/L	1.0	< 1.0
Lead Error Estimate ±				-
Gross Alpha	EPA 900.0	pCi/L	1.0	< 1.0
G. Alpha Error Estimate ±				-

Trace Organics				
Chloroform	EPA 8260	µg/L	1.0	< 1.0

Quality Assurance Data		Target Range	
Anion	meq		73.1
Cation	meq		74.7
SM A/C Balance	%	-5 - +5	1.09
Calc TDS	mg/L		4576
TDS A/C Balance	dec. %	0.80 - 1.20	1.15

APPENDIX B

QUARTERLY

CHAIN OF CUSTODY REPORT

UNITED NUCLEAR CORPORATION
 (State Road 566 - 21 Miles NE of Gallup)
 P.O. Box 3077
 Gallup, NM 87305-3077
 505-722-6651

CHAIN OF CUSTODY

Energy Laboratories, Inc.
 Laboratory

2393 N. Salt Creek Highway
 Address

Casper WY 82601
 City State Zip

307-235-0515
 Phone No.

All analysis will be performed in accordance with EPA approved
 procedures and/or 15th Edition of Standard Methods

UNC Submittal No. TE-10-7-2001 PG. 1 OF 2

Sample Description	Date	Time	Filter 0.45u	PRESERVATION					Preserved By	Analysis Required (For all samples listed)
				plain	HNO ₃	H ₂ SO ₄	Na ₂ S ₂ O ₃	NaOH		
509-D	7-9-01	0900		✓ JHB	✓	✓	✓			As, Be, Cd, Cr, Cl, HCO ₃ , K, Mg, Mn, Na, NH ₃ , Ni, NO ₃ , Pb, Pb-210, pH, Se, SO ₄ , TDS, Th-230, V, Y, Chloroform, Gross
EPA-23		1000								
EPA-23 DUPLICATE		1030								
B03		1100								
B08		1137								
B02		1315								
B01		1410								
GW-2		1440								
632	↓	1520							N A	
GW-1	7-10-01	0830								
624		0910								
EPA-28		0955								
GW-3		1040								
EPA-25		1115								
627	↓	1250								

Sampled by: Leslie H. Boggs

Dispatched by: J. Mason

Carrier: UPS

Method of Shipment: ICED COOLER

Received by: Maya Chinchilla, Jr.

Date: 7/11/01 Time: 12:26pm

7-9-01 @ 1200 & 1500
 7-10-01 @ 1200

Date: 7-10-01 Time: 10:30
 Signature: Jabirna Jassid
 Lab Receipt Signature

The above analysis to be performed is
 authorized by:

Signature: [Signature]

Date: 7-11-2001

TMT 13 Jul 01
 34434R00009
 PAGE NO.

UNITED NUCLEAR CORPORATION
 (State Road 566 - 21 Miles NE of Gallup)
 P.O. Box 3077
 Gallup, NM 87305-3077
 505-722-6651

CHAIN OF CUSTODY

Energy Laboratories, Inc.
 Laboratory
 2393 N. Salt Creek Highway
 Address
 Casper WY 82601
 City State Zip
 307-235-0515
 Phone No.

All analysis will be performed in accordance with EPA approved procedures and/or 15th Edition of Standard Methods

UNC Submittal No. TE-10-7-2001 PG. 2 OF 2

Sample Description	Date	Time	Filter 0.45u	PRESERVATION					Preserved By	Analysis Required (For all samples listed)
				plain	HNO ₃	H ₂ SO ₄	Na ₂ S ₂ O ₃	NaOH		
613	7-10-01	1330		✓	✓	✓	✓		As, Be, Ca, Cd, Cl, HCO ₃ , K, Mg, Mn, Na, NH ₃ , Ni, NO ₃ , Pb, Pb-210, pH, Se, SO ₄ , TDS, Th-230, U, V, Chloroform, Gross Alpha (-) U & Rn, Combined Ra-226 & Ra-228, Al, Co, Mo	
517		1420								
EPA-14		1500								
711	7-11-01	0820								
711 DUPLICATE		0845								
719		0920								
FIELD BLANK		1010								
								N A		

1.44-13 Jul 01

2000

34434R00010

TRACKING PAGE NO.
 Sampled by: Lester H. Popnick
 Dispatched by: W. Masten
 Carrier: UPS
ICED COOLER
 Method of Shipment

Received by: Met. Chiswick, Jr.
 Date: 7/11/01 Time: 12:28 pm

7-10-01 @ 1200 & 1500
 7-11-01 @ 1000
 Date: 7-11-01 Time: 10:30
 Lab Receipt Signature: Jabierha Jasso

The above analysis to be performed is authorized by:
 Signature: [Signature]
 Date: 7-11-2001

UNITED NUCLEAR CORPORATION
 (State Road 566 - 21 Miles NE of Gallup)
 P.O. Box 3077
 Gallup, NM 87305-3077
 505-722-6651

CHAIN OF CUSTODY

Energy Laboratories, Inc.
 Laboratory

2393 N. Salt Creek Highway
 Address

Casper WY 82601
 City State Zip

307-235-0515
 Phone No.

All analysis will be performed in accordance with EPA approved procedures and/or 15th Edition of Standard Methods

UNC Submittal No. TE- 11-7-2001

Sample Description	Date	Time	PRESERVATION					Preserved By	Analysis Required (For all samples listed)
			Filter 0.45u	plain	HNO ₃	H ₂ SO ₄	Na ₂ S ₂ O ₃		
TWR-142	7-16-01	0820		✓	✓	✓	✓	✓	As, Be, Cd, Co, Cr, HCO ₃ , K, Mg, Mn, Na, NH ₃ , Ni,
504-B		0915							NO ₂ , Pb, Pb-210, pH, Se,
420		0950							SO ₄ , TDS, Th-230, U, V,
708		1025							Chloroform, Gross
EPA-13		1115							Alpha (-) U & Rn,
717		1255							Combined Ra-226 & Ra-228, AY,
EPA-2		1325							Cd, Mo
EPA-2 DUPLICATE		1400	N A						
614	Y	1440						N A	
515-A	7-17-01	0850							
604		0925							
EPA-7		1000							
EPA-5		1030							
EPA-4		1115							
FIELD BLANK	Y	1300							

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oc

34624R000007
 PAGE NO.

Sampled by: Steve A. Report
 Dispatched by: J. Mason
 Carrier: UPS
ICED COOLER
 Method of Shipment

Received by: Max Chischilly Jr.
7/18/01 11:29 AM
 Date Time

7-16-01 @ 1200 & 1530
7-17-01 @ 1300
 Date Time
Keri Schneider
 Lab Receipt Signature
20 Jul 01 10:30
 Date Time

The above analysis to be performed is authorized by:
[Signature]
 Signature
7-18-2001
 Date

Energy Laboratories, Inc.
SAMPLE CONDITION REPORT

This report provides information about the condition of the sample(s), and associated sample custody information on receipt at the laboratory.

Client: United Nuclear Corporation Description: WATER
Lab ID(s): 01-34434-1 Thru 01-34434-10 Matrix: Liquid, Misc
Delivered by: UPS Date&Time Rec'd: 13-JUL-01 1030 Date&Time Col'd: 09-JUL-01 1137
Received by: Tabitha Fassett Logged In by: Tabitha Fassett

Chain of custody form completed & signed:	Yes	Comments:
Chain of custody seal:	No	Comments:
Chain of custody seal intact:	N/A	Comments:
Signature match, chain of custody vs. seal:	N/A	Comments:
Sample received Temperature:	18C	Comments:
Samples received within holding time:	Yes	Comments:
Samples received in proper containers:	Yes	Comments:
Samples Properly Preserved:	Yes	Comments:

Bottle Types Received: 12-40ML VOA NF NA2S2O3(AB), 6-120ML P F H2SO4(C), 6-120Z P NF NP(D), 6-160Z P F NP(E), 6-2L P F HNO3(F)

Comments: Temperature of samples received may not be considered properly preserved by accepted standards.

Samples that are hand delivered immediately after collection shall be considered acceptable if there

is evidence that the chilling process has begun.

TRACKING NO. PAGE NO.
34434R00012

REPORT PACKAGE SUMMARY - FINAL PAGE

Acronyms and Definitions


ELI-B Energy Laboratories, Inc. - Billings, Montana
ELI-G Energy Laboratories, Inc. - Gillette, Wyoming
ELI-H Energy Laboratories, Inc. - Helena, Montana
ELI-R Energy Laboratories, Inc. - Rapid City, South Dakota

co - Carry over from previous sample
ip - Insufficient parameters
N/A - Not Applicable
NA - Not Analyzed
ND - Analyte Not Detected at Stated Limit of Detection
NR - Analyte Not Requested
NST - No Sample Time Given
NSD - No Sample Date Given

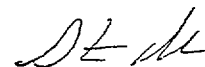
This Package Contains the following Client ID(s) and Lab ID(s)

Client ID: 1ZE818320610082423 is associated to Lab ID: 01-34434-7
Client ID: 1ZE818320610082432 is associated to Lab ID: 01-34434-8
Client ID: 1ZE818320610082629 is associated to Lab ID: 01-34434-9
Client ID: 1ZE818320610082638 is associated to Lab ID: 01-34434-10
Client ID: 613 is associated to Lab ID: 01-34434-2
Client ID: 711 is associated to Lab ID: 01-34434-3
Client ID: 711 DUPLICATE is associated to Lab ID: 01-34434-4
Client ID: 719 is associated to Lab ID: 01-34434-5
Client ID: 808 is associated to Lab ID: 01-34434-1
Client ID: FIELD BLANK is associated to Lab ID: 01-34434-6

Approved By:


STEVEN E. CARLSTON
ORGANICS SUPERVISOR

Reviewed By:


STEVE DEGOS
METALS SUPERVISOR

This is the last page of the Laboratory Analysis Report.
Additional QC is available upon request.
The report contains the number of pages indicated by the last 4 digits.

TRACKING NO. PAGE NO.

34434R00013

Energy Laboratories, Inc.
SAMPLE CONDITION REPORT

This report provides information about the condition of the sample(s), and associated sample custody information on receipt at the laboratory.

Client: United Nuclear Corporation Description: WATER
Lab ID(s): 01-34436-1 Thru 01-34436-14 Matrix: Liquid
Delivered by: UPS Date&Time Rec'd: 13-JUL-01 1030 Date&Time Col'd: 09-JUL-01 0900
Received by: Tabitha Fassett Logged In by: Sara Hawken

Chain of custody form completed & signed:	Yes	Comments:
Chain of custody seal:	No	Comments:
Chain of custody seal intact:	N/A	Comments:
Signature match, chain of custody vs. seal:	N/A	Comments:
Sample received Temperature:	18C	Comments:
Samples received within holding time:	Yes	Comments:
Samples received in proper containers:	Yes	Comments:
Samples Properly Preserved:	Yes	Comments:

Bottle Types Received: 28-40ML VOA NF NA2S2O3 (AB), 14-120ML NF NA2S2O3 (C), 14-16OZ P NF NP (D), 14-16OZ P F NP (E), 14-2L P F HNO3 (F)

Comments: Temperature of samples received may not be considered properly preserved by accepted standards.

Samples that are hand delivered immediately after collection shall be considered acceptable if there

is evidence that the chilling process has begun.

TRACKING NO. PAGE NO.

34436R00021

REPORT PACKAGE SUMMARY - FINAL PAGE

Acronyms and Definitions

- ELI-B Energy Laboratories, Inc. - Billings, Montana
- ELI-G Energy Laboratories, Inc. - Gillette, Wyoming
- ELI-H Energy Laboratories, Inc. - Helena, Montana
- ELI-R Energy Laboratories, Inc. - Rapid City, South Dakota

- co - Carry over from previous sample
- lp - Insufficient parameters
- N/A - Not Applicable
- NA - Not Analyzed
- ND - Analyte Not Detected at Stated Limit of Detection
- NR - Analyte Not Requested
- NST - No Sample Time Given
- NSD - No Sample Date Given

This Package Contains the following Client ID(s) and Lab ID(s)

- Client ID: 509-D is associated to Lab ID: 01-34436-1
- Client ID: 624 is associated to Lab ID: 01-34436-10
- Client ID: 627 is associated to Lab ID: 01-34436-14
- Client ID: 632 is associated to Lab ID: 01-34436-8
- Client ID: 801 is associated to Lab ID: 01-34436-6
- Client ID: 802 is associated to Lab ID: 01-34436-5
- Client ID: 803 is associated to Lab ID: 01-34436-4
- Client ID: EPA-23 is associated to Lab ID: 01-34436-2
- Client ID: EPA-23 DUPLICATE is associated to Lab ID: 01-34436-3
- Client ID: EPA-25 is associated to Lab ID: 01-34436-13
- Client ID: EPA-28 is associated to Lab ID: 01-34436-11
- Client ID: GW-1 is associated to Lab ID: 01-34436-9
- Client ID: GW-2 is associated to Lab ID: 01-34436-7
- Client ID: GW-3 is associated to Lab ID: 01-34436-12



STEVEN E. CARLSTON
ORGANICS SUPERVISOR

Approved By:

Reviewed By:



Cathy Forsting
LABORATORY MANAGER
TRACKING NO. PAGE NO.

This is the last page of the Laboratory Analysis Report.

Additional QC is available upon request.

The report contains the number of pages indicated by the last 4 digits.

34436R00022

Energy Laboratories, Inc.
SAMPLE CONDITION REPORT

This report provides information about the condition of the sample(s), and associated sample custody information on receipt at the laboratory.

Client: United Nuclear Corporation Description: WATER
Lab ID(s): 01-34437-1 Thru 01-34437-2 Matrix: Liquid
Delivered by: UPS Date&Time Rec'd: 13-JUL-01 1030 Date&Time Col'd: 10-JUL-01 1420
Received by: Tabitha Fassett Logged In by: Tabitha Fassett

Chain of custody form completed & signed:	Yes	Comments:
Chain of custody seal:	No	Comments:
Chain of custody seal intact:	N/A	Comments:
Signature match, chain of custody vs. seal:	N/A	Comments:
Sample received Temperature:	18C	Comments:
Samples received within holding time:	Yes	Comments:
Samples received in proper containers:	Yes	Comments:
Samples Properly Preserved:	Yes	Comments:

Bottle Types Received: 4-40ML VOA NF NA2S2O3(AB), 2-120ML P F H2SO4(C), 2-120Z P NF NP(D), 2-16OZ P F NP(E), 2-2L P F HNO3(F)

Comments: Temperature of samples received may not be considered properly preserved by accepted standards.

Samples that are hand delivered immediately after collection shall be considered acceptable if there

is evidence that the chilling process has begun.

TRACKING NO. PAGE NO.

34437R00008

REPORT PACKAGE SUMMARY - FINAL PAGE

Acronyms and Definitions


ELI-B Energy Laboratories, Inc. - Billings, Montana
ELI-G Energy Laboratories, Inc. - Gillette, Wyoming
ELI-H Energy Laboratories, Inc. - Helena, Montana
ELI-R Energy Laboratories, Inc. - Rapid City, South Dakota

co - Carry over from previous sample
ip - Insufficient parameters
N/A - Not Applicable
NA - Not Analyzed
ND - Analyte Not Detected at Stated Limit of Detection
NR - Analyte Not Requested
NST - No Sample Time Given
NSD - No Sample Date Given

This Package Contains the following Client ID(s) and Lab ID(s)

Client ID: 517 is associated to Lab ID: 01-34437-1
Client ID: EPA-14 is associated to Lab ID: 01-34437-2

Approved By:


STEVEN E. CARLSTON
ORGANICS SUPERVISOR

Reviewed By:


JAMES YOCUM
QUALITY ASSURANCE DIRECTOR

This is the last page of the Laboratory Analysis Report.
Additional QC is available upon request.
The report contains the number of pages indicated by the last 4 digits.

TRACKING NO. PAGE NO.
34437R00009

Energy Laboratories, Inc.
SAMPLE CONDITION REPORT

This report provides information about the condition of the sample(s), and associated sample custody information on receipt at the laboratory.

Client: United Nuclear Corporation Description: WATER
Lab ID(s): 01-34624-1 Thru 01-34624-7 Matrix: Liquid, Misc
Delivered by: UPS Date&Time Rec'd: 20-JUL-01 1030 Date&Time Col'd: 16-JUL-01 0915
Received by: Kerri Schroeder Logged In by: Kerri Schroeder

Chain of custody form completed & signed:	Yes	Comments:
Chain of custody seal:	No	Comments:
Chain of custody seal intact:	N/A	Comments:
Signature match, chain of custody vs. seal:	N/A	Comments:
Sample received Temperature:	14C	Comments:
Samples received within holding time:	Yes	Comments:
Samples received in proper containers:	Yes	Comments:
Samples Properly Preserved:	Yes	Comments:

Bottle Types Received: 4-2L P F HNO3 (A), 4-16OZ P F NP (B), 4-12OZ P NF NP (C), 4-120ML F H2SO4 (D), 8-40ML VOA NF NA2S2O3 (EF)

Comments: Temperature of samples received may not be considered properly preserved by accepted standards.

Samples that are hand delivered immediately after collection shall be considered acceptable if there

is evidence that the chilling process has begun.

TRACKING NO. PAGE NO.

31626800000

REPORT PACKAGE SUMMARY - FINAL PAGE

Acronyms and Definitions


- ELI-B Energy Laboratories, Inc. - Billings, Montana
- ELI-G Energy Laboratories, Inc. - Gillette, Wyoming
- ELI-H Energy Laboratories, Inc. - Helena, Montana
- ELI-R Energy Laboratories, Inc. - Rapid City, South Dakota

- co - Carry over from previous sample
- ip - Insufficient parameters
- N/A - Not Applicable
- NA - Not Analyzed
- ND - Analyte Not Detected at Stated Limit of Detection
- NR - Analyte Not Requested
- NST - No Sample Time Given
- NSD - No Sample Date Given

This Package Contains the following Client ID(s) and Lab ID(s)

- Client ID: (01-34624-4) EPA-13 (OMEGA #C01070200-004) is associated to Lab ID: 01-34624-8
- Client ID: 1ZE818320610082665 is associated to Lab ID: 01-34624-6
- Client ID: 1ZE818320610082674 is associated to Lab ID: 01-34624-7
- Client ID: 1ZE818320610082718 is associated to Lab ID: 01-34624-5
- Client ID: 420 (OMEGA #C01070200-002) is associated to Lab ID: 01-34624-2
- Client ID: 504-B (OMEGA #C01070200-001) is associated to Lab ID: 01-34624-1
- Client ID: 708 (OMEGA #C01070200-003) is associated to Lab ID: 01-34624-3
- Client ID: EPA-13 (OMEGA #C01070200-004) is associated to Lab ID: 01-34624-4

Approved By:


STEVEN E. CARLSTON
ORGANICS SUPERVISOR

Reviewed By:


STEVE DOROS
METALS SUPERVISOR

This is the last page of the Laboratory Analysis Report.
Additional QC is available upon request.
The report contains the number of pages indicated by the last 4 digits.

TRACKING NO. PAGE NO.

34624R00010

Energy Laboratories, Inc.
SAMPLE CONDITION REPORT

This report provides information about the condition of the sample(s), and associated sample custody information on receipt at the laboratory.

Client: United Nuclear Corporation Description: WATER
Lab ID(s): 01-34625-1 Thru 01-34625-11 Matrix: Liquid
Delivered by: UPS Date&Time Rec'd: 20-JUL-01 1030 Date&Time Col'd: 16-JUL-01 0820
Received by: Kerri Schroeder Logged In by: Tabitha Fassett

Chain of custody form completed & signed:	Yes	Comments:
Chain of custody seal:	No	Comments:
Chain of custody seal intact:	N/A	Comments:
Signature match, chain of custody vs. seal:	N/A	Comments:
Sample received Temperature:	14C	Comments:
Samples received within holding time:	Yes	Comments:
Samples received in proper containers:	Yes	Comments:
Samples Properly Preserved:	Yes	Comments:

Bottle Types Received: 11-2L P F HNO3 (F), 11-16OZ P F NP (E), 11-12OZ P NF NP (D), 11-120ML P F H2SO4 (C), 22-40ML VOA NF NA2S2O3 (AB)

Comments: Temperature of samples received may not be considered properly preserved by accepted standards.

Samples that are hand delivered immediately after collection shall be considered acceptable if there

is evidence that the chilling process has begun.

TRACKING NO. PAGE NO.

34625R00016

REPORT PACKAGE SUMMARY - FINAL PAGE

Acronyms and Definitions


ELI-B Energy Laboratories, Inc. - Billings, Montana
ELI-G Energy Laboratories, Inc. - Gillette, Wyoming
ELI-H Energy Laboratories, Inc. - Helena, Montana
ELI-R Energy Laboratories, Inc. - Rapid City, South Dakota

co - Carry over from previous sample
lp - Insufficient parameters
N/A - Not Applicable
NA - Not Analyzed
ND - Analyte Not Detected at Stated Limit of Detection
NR - Analyte Not Requested
NST - No Sample Time Given
NSD - No Sample Date Given

This Package Contains the following Client ID(s) and Lab ID(s)

Client ID: 515-A (OMEGA #C01070201-006) is associated to Lab ID: 01-34625-6
Client ID: 604 (OMEGA #C01070201-007) is associated to Lab ID: 01-34625-7
Client ID: 614 (OMEGA #C01070201-005) is associated to Lab ID: 01-34625-5
Client ID: 717 (OMEGA #C01070201-002) is associated to Lab ID: 01-34625-2
Client ID: EPA-2 (OMEGA #C01070201-003) is associated to Lab ID: 01-34625-3
Client ID: EPA-2 DUPLICATE (OMEGA #C01070201-004) is associated to Lab ID: 01-34625-4
Client ID: EPA-4 (OMEGA #C01070201-010) is associated to Lab ID: 01-34625-10
Client ID: EPA-5 (OMEGA #C01070201-009) is associated to Lab ID: 01-34625-9
Client ID: EPA-7 (OMEGA #C01070201-008) is associated to Lab ID: 01-34625-8
Client ID: FIELD BLANK (OMEGA #C01070201-011) is associated to Lab ID: 01-34625-11
Client ID: TWQ-142 (OMEGA #C01070201-001) is associated to Lab ID: 01-34625-1

Approved By:


STEVEN E. CAPERTON
ORGANICS SUPERVISOR

Reviewed By:


STEVE DONES
METALS SUPERVISOR

This is the last page of the Laboratory Analysis Report.
Additional QC is available upon request.
The report contains the number of pages indicated by the last 4 digits.

TRACKING NO. PAGE NO.
34625R00017

UNITED NUCLEAR CORPORATION
 (State Road 566 - 21 Miles NE of Gallup)
 P.O. Box 3077
 Gallup, NM 87305-3077
 505-722-6651

CHAIN OF CUSTODY

Energy Laboratories, Inc.
 Laboratory
 2393 N. Salt Creek Highway
 Address
 Casper WY 82601
 City State Zip
 307-235-0515
 Phone No.

All analysis will be performed in accordance with EPA approved procedures and/or 15th Edition of Standard Methods

UNC Submittal No. TE-16-10-2001

Sample Description	Date	Time	Filter 0.45u	PRESERVATION				NaOH	Preserved By	Analysis Required (For all samples listed)
				plain	HNO ₃	H ₂ SO ₄	Na ₂ S ₂ O ₃			
504-B	10-8-01	0835		✓ JAB	✓ M	✓ M	✓ JAB		As, Be, Ca, Cd, Cl, HCO ₃ , K, Mg, Mn, Na, NH ₃ , Ni, NO ₂ , Pb, Pb-210, pH, Se, SO ₄ , TDS, Th-230, U, V, Chloroform, Gross Alpha (-) U & Rn, Combined Ra-226 & Ra-228, Al, Co, Mo	
* 719		0910								
420		0945								
* 717		0915								
EPA-14		1045								
517		1125								
EPA-13		1305								
* 711		1340	N A					N A		
* 711 DUPLICATE		1410								
708		1440								
EPA-2	10-9-01	0830							* PLEASE NOTE THAT 711, 719 & 717 WELLS ARE IN THE ZONE 3 AREA (SEE ATTACHED LISTING).	
EPA-2 DUPLICATE		0900								
EPA-7		0935								
EPA-5		1005								
EPA-4		1050								
FIELD BLANK		1155								

Sampled by: Keith H. Boyer
 Dispatched by: Max Chischilly Jr.
 Carrier: UPS
 Method of Shipment: ICED COOLER

Received by: Max Chischilly Jr.
 Date: 10-10-01 Time: 1305

10-8-01 @ 1200 & 1530
 Date 10-9-01 @ 1200 Time
K. Schroeder
 Lab Receipt Signature
10/12/01 10:00
 Date Time

The above analysis to be performed is authorized by:
[Signature]
 Signature
Oct. 10, 2001
 Date

1043400014
 PAGE NO.

Energy Laboratories Inc.

Sample Receipt Checklist

Client Name UNTD-NCLR-CRP

Date and Time Receive

10/5/2001 10:00:00

Work Order Number C01100228

Received by ks

Checklist completed by Kemi Schroeder 10/8/01
Signature Date

Reviewed by _____
Initials Date

Carrier name UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No 5 °C
- Water - VOA vials have zero headspace? No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? Yes No

Adjusted? _____ Checked b _____

Any No and/or NA (not applicable) response must be detailed in the comments section bel

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

TRACKING NO. PAGE NO.
10228R00033

Energy Laboratories Inc.

Sample Receipt Checklist

Client Name: UNTD-NCLR-CRP

Date and Time Received

10/5/2001 10:00:00

Work Order Number C01100229

Received by: ks

Checklist completed by Robin Edwards 10/8/01
Signature Date

Reviewed by _____
Initials Date

Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No 5°C
- Water - VOA vials have zero headspace? No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? Yes No

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section below

Client contacted: _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

TRACKING NO. PAGE NO.
10229R00023

Energy Laboratories Inc.

Sample Receipt Checklist

Client Name: UNTD-NCLR-CRP

Date and Time Received

10/5/2001 10:00:00

Work Order Number C01100230

Received by: ks

Checklist completed by Pabrika Edwards 10/10/01
Signature Date

Reviewed by _____
Initials Date

Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No 5 °C
- Water - VOA vials have zero headspace? No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? Yes No

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section below

Client contacted: _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: Per CC Larry Bush called 10/10/01 wants metals and major ions rushed on Zone 3.

Corrective Action _____

Energy Laboratories Inc.

Sample Receipt Checklist

Client Name UNTD-NCLR-CRP

Date and Time Receive 10/12/2001 10:00:00

Work Order Number C01100431

Received by ks

Checklist completed by Kami Schneider 10/15/01
Signature Date

Reviewed by _____
Initials Date

Carrier name UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No 1 °C
- Water - VOA vials have zero headspace? No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? Yes No

Adjusted? _____ Checked b _____

Any No and/or NA (not applicable) response must be detailed in the comments section below

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

TRACKING NO. PAGE NO.
10431R00012

Energy Laboratories Inc.

Sample Receipt Checklist

Client Name UNTD-NCLR-CRP

Date and Time Receive 10/12/2001 10:00:00

Work Order Number C01100434

Received by ks

Checklist completed by Kenn Schneider 10/15/01
Signature Date

Reviewed by _____
Initials Date

Carrier name UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No 1 °C
- Water - VOA vials have zero headspace? No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? Yes No

Adjusted? _____

Checked b _____

Any No and/or NA (not applicable) response must be detailed in the comments section below

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: Sample EPA-13 transferred into a new 2L bottle. The one we received was leaking.

Corrective Action _____

TRACKING NO. PAGE NO.
10434R00016

APPENDIX B

MONTHLY

CHAIN OF CUSTODY REPORT

UNITED NUCLEAR CORPORATION
 (State Road 566 - 21 Miles NE of Gallup)
 P.O. Box 3077
 Gallup, NM 87305-3077
 505-722-6651

CHAIN OF CUSTODY

Energy Laboratories, Inc.
 Laboratory
 2393 N. Salt Creek Highway
 Address
 Casper WY 82601
 City State Zip
 307-235-0515
 Phone No.

All analysis will be performed in accordance with EPA approved procedures and/or 15th Edition of Standard Methods

UNC Submittal No. TE-12-8-2001

SUP COC TAF 8/13/01
 50316P2001
 CHAIN OF CUSTODY

Sample Description	Date	Time	Filter 0.45u	PRESERVATION				Preserved By	Analysis Required (For all samples listed)
				plain	HNO ₃	H ₂ SO ₄	Na ₂ S ₂ O ₃		
509-D	8-6-01	0900		✓ JMB	✓ re	✓ re	✓ JMB		As, Be, Ca, Cd, Cl, HCO ₃ , K, Mg, Mn, Na, NH ₃ , Ni, NO ₃ , Pb, Pb-210, pH, Se, SO ₄ , TDS, Th-230, U, V, Chloroform, Gross Alpha (-) U & Rn, Combined Ra-226 & Ra-228, Al, Co, Mo
EPA-23		0940							
EPA-23 DUPLICATE		1010							
803		1045							
808		1120							
802		1320							
801		1355							
632	✓	1430	N A					N A	
GW-1	8-7-01	0920							
624		1010							
EPA-28		1045							
GW-2		1125							
GW-3		1310							
EPA-25	✓	1350							
627	8-8-01	0845							
FIELD BLANK	8-8-01	0945							

Sampled by: John N. Bogan
 Dispatched by: W. Brown
 Carrier: UPS
3 ICED COOLER
 Method of Shipment

Received by: Tracy Chubb
 Date: 8-08-01 Time: 11:45 AM

8/6, 7, 8/01 Date
1500, 1500 & 0945 Time
Lakisha Jasset
 Lab Receipt Signature
8/10/01 10:30
 Date Time

The above analysis to be performed is authorized by:
[Signature]
 Signature
8-8-2001
 Date

Energy Laboratories Inc.

Sample Receipt Checklist

Client Name: UNTD-NCLR-CRP

Date and Time Received

8/10/2001 10:30:00 AM

Work Order Number C01080349

Received by: taf

Checklist completed by Labortha Jasso 8/13/01
Signature Date

Reviewed by _____
Initials Date

Matrix:

Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No 6 °C
- Water - VOA vials have zero headspace? No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? Yes No

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section below

Client contacted: _____ Date contacted: _____ Person contacted: _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Energy Laboratories Inc.

Sample Receipt Checklist

Client Name: UNTD-NCLR-CRP

Date and Time Received

8/10/2001 10:30:00 AM

Work Order Number C01080351

Received by: taf

Checklist completed by Sabrina Fassett 8/13/01

Reviewed by _____ Date _____

Matrix:

Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No 6 °C
- Water - VOA vials have zero headspace? No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? Yes No

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section bel

Client contacted: _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

TRACKING NO. PAGE NO.
80351R00008

Energy Laboratories Inc.

Sample Receipt Checklist

Client Name UNTD-NCLR-CRP

Date and Time Receive 8/17/2001 10:00:00 AM

Work Order Number C01080531

Received by taf

Checklist completed by Koni Schneider 8/17/01
Signature Date

Reviewed by _____
Initials Date

Matrix: Carrier name UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No 17 °C
- Water - VOA vials have zero headspace? Yes No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? Yes No

Adjusted? _____ Checked b _____

Any No and/or NA (not applicable) response must be detailed in the comments section below

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

TRACKING NO. PAGE NO.
80531R00007

UNITED NUCLEAR CORPORATION
 (State Road 566 - 21 Miles NE of Gallup)
 P.O. Box 3077
 Gallup, NM 87305-3077
 505-722-6651

CHAIN OF CUSTODY

Energy Laboratories, Inc.
 Laboratory
 2393 N. Salt Creek Highway
 Address
 Casper WY 82601
 City State Zip
 307-235-0515
 Phone No.

All analysis will be performed in accordance with EPA approved procedures and/or 15th Edition of Standard Methods

UNC Submittal No. TE-14-9-2001

Sample Description	Date	Time	Filter 0.45u	PRESERVATION				Preserved By	Analysis Required (For all samples listed)
				plain	HNO ₃	H ₂ SO ₄	Na ₂ S ₂ O ₃		
509-D	9-10-01	0830		✓	✓	✓	✓		As, Be, Ca, Cd, Cl, HCO ₃ , K, Mg, Mn, Na, NH ₃ , Ni, NO ₃ , Pb, Pb-210, pH, Se, SO ₄ , TDS, Th-230, U, V, Chloroform, Gross Alpha (-) U & Rn, Combined Ra-226 & Ra-228, Al, Co, Mo
EPA-23		0950							
EPA-23 DUPLICATE		1015							
803		1040							
808		1130							
802		1310							
801		1345							
GW-2		1415	N A					N A	
632	✓	1450							
GW-1	9-11-01	0900							
624		0937							
EPA-28		1010							
GW-3		1110							
EPA-25		1245							
627		1325							
FIELD BLANK		1410							

Sampled by: J. A. Rodman
 Dispatched by: D. Brown
 Carrier: UPS
3 ICED COOLER
 Method of Shipment

Received by: Maq Chachelly Jr.
 Date: 9-12-01 Time: 11:15 A.M.

9/10-11/01 1200, 1530, 1100 & 1400
 Date Time
Sara L. Hansen
 Lab Receipt Signature
9/14/01 1000
 Date Time

The above analysis to be performed is authorized by:
[Signature]
 Signature
9-12-2001
 Date

1000019
 PAGE NO.

Energy Laboratories Inc.

Sample Receipt Checklist

Client Name UNTD-NCLR-CRP

Date and Time Receive 9/14/2001 10:00:00 AM

Work Order Number C01090398

Received by sh

Checklist completed by Hermi Schroeder 9/15/01
Signature Date

Reviewed by _____
Initials Date

Matrix: Carrier name UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No 6 °C
- Water - VOA vials have zero headspace? No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? Yes No

Adjusted? _____ Checked b _____

Any No and/or NA (not applicable) response must be detailed in the comments section below

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

TRACKING NO. PAGE NO
90398R00020

UNITED NUCLEAR CORPORATION
 (State Road 566 - 21 Miles NE of Gallup)
 P.O. Box 3077
 Gallup, NM 87305-3077
 505-722-6651

CHAIN OF CUSTODY

Energy Laboratories, Inc.
 Laboratory
 2393 N. Salt Creek Highway
 Address
 Casper WY 82601
 City State Zip
 307-235-0515
 Phone No.

All analysis will be performed in accordance with EPA approved procedures and/or 15th Edition of Standard Methods

UNC Submittal No. TE-17-11-2001

Sample Description	Date	Time	Filter 0.45u	PRESERVATION					Preserved By	Analysis Required (For all samples listed)
				plain	HNO ₃	H ₂ SO ₄	Na ₂ S ₂ O ₃	NaOH		
509-D	11-5-01	0830		✓	✓	✓	✓			As, Be, Ca, Cd, Cl, HCO ₃ , K, Mg, Mn, Na, NH ₃ , Ni, NO ₃ , Pb, Pb-210, pH, Se, SO ₄ , TDS, Th-230, U, V, Chloroform, Gross Alpha (-) U & Rn, Combined Ra-226 & Ra-228, Al, Co, Mo
EPA-23		0905								
EPA-23 DUPLICATE		0930								
803		0955								
808		1025								
802		1055								
632		1125								
801		1300								
GW-2		1330							N A	
GW-1	Y	1405								
624	11-6-01	0840								PLEASE NOTE THAT ALL THESE WELLS ARE IN THE SOUTHWEST ALLUVIUM (SEE ATTACHED LISTING).
EPA-28		0915								
GW-3		1005								
EPA-25		1050								
627		1135								
FIELD BLANK	Y	1315								

Sampled by: [Signature]
 Dispatched by: [Signature]
 Carrier: UPS
3 ICED COOLER
 Method of Shipment

Received by: Max Chischally Jr.
 Date: 11-07-01
 Time: 11:38 AM

11/5/01 @ 1200 E/500
 Date Time
[Signature]
 Lab Receipt Signature
11/9/01 10:00
 Date Time

The above analysis to be performed is authorized by:
[Signature]
 Signature
11-7-01
 Date

3
 RPO0020
 PAGE NO.

Energy Laboratories Inc.

Sample Receipt Checklist

Client Name: UNTD-NCLR-CRP

Date and Time Received

11/9/2001 10:00:00

Work Order Number C01110315

Received by: tae

Checklist completed by Sabirka Edwards 11/9/01
Signature Date

Reviewed by _____
Initials Date

Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No 0 °C
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH acceptable upon receipt? Yes No Not Applicable

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted: _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

TRACKING NO. PAGE NO.

11315R00021

UNITED NUCLEAR CORPORATION
 (State Road 566 - 21 Miles NE of Gallup)
 P.O. Box 3077
 Gallup, NM 87305-3077
 505-722-6651

CHAIN OF CUSTODY

Energy Laboratories, Inc.
 Laboratory
 2393 N. Salt Creek Highway
 Address
 Casper WY 82601
 City State Zip
 307-235-0515
 Phone No.

All analysis will be performed in accordance with EPA approved procedures and/or 15th Edition of Standard Methods

UNC Submittal No. TE-18-12-2001

Sample Description	Date	Time	Filter 0.45u	PRESERVATION					Preserved By	Analysis Required (For all samples listed)
				plain	HNO ₃	H ₂ SO ₄	Na ₂ S ₂ O ₃	NaOH		
509-D	12-3-01	0845		✓ JAB	✓ MC	✓ MC	✓ JAB		As, Be, Ca, Cd, Cl, HCO ₃ , K, Mg, Mn, Na, NH ₃ , Ni, NO ₃ , Pb, Pb-210, pH, Se, SO ₄ , TDS, Th-230, U, V, Chloroform, Gross Alpha (-) U & Rn, Combined Ra-226 & Ra-228, Al, Co, Mo	
EPA-23		0920								
803		0955								
808		1025								
802		1055								
632		1125								
GW-2		1330								
801	12-4-01	0900						N A		
GW-1		0930								
GW-1 DUPLICATE		1000								
624		1030								
EPA-28		1105								
GW-3		1300								
EPA-25		1345								
627		1420								
FIELD BLANK		1500								

22227000220
 AGE NO.

Received by Marf Churchill Jr.
 Date 12-05-01 Time 11:51 AM

12-3-01 @ 1400 Date Time
 12-4-01 @ 1200 & 1500 Date Time
Paloma Edwards
 Lab Receipt Signature
12/7/01 10:00
 Date Time

The above analysis to be performed is authorized by:
[Signature]
 Signature
12-9-2001
 Date

Dispatched by [Signature]
 Carrier: UPS
3 ICED COOLER
 Method of Shipment

Energy Laboratories Inc.

Sample Receipt Checklist

Client Name: UNTD-NCLR-CRP

Date and Time Received

12/7/2001 10:00:00

Work Order Number C01120222

Received by: tae

Checklist completed by Lubica Edwards 12/7/01
Signature Date

Reviewed by _____
Initials Date

Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No 2°C
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH acceptable upon receipt? Yes No Not Applicable

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted: _____ Date contacted: _____ Person contacted: _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

TRACKING NO. PAGE NO.
12222R0002!

APPENDIX C

QUARTERLY

**LABORATORY QUALITY CONTROL AND
PERFORMANCE REPORT**

QUALITY ASSURANCE REPORTING

Energy Laboratories, Inc. (ELI) is in the process of implementing a new LIMS (Laboratory Information Management System) system at all of their locations. The LIMS system is designed to handle every aspect from sample login, sample tracking, analysis results reporting and quality assurance. The new system assists the laboratory by ensuring compliance with criteria set forth by NELAC, EPA, and Good Analytical Laboratory Practices (GALP). Client data is electronically stored and filed for archival purposes.

Our new system creates an excessive amount of Quality Assurance data that may initially be difficult to interpret and utilize. ELI is addressing the formatting issues of the new system and working to create a condensed Quality Assurance Report that will be more "user friendly".

In order to minimize report complexity, ELI has decided to temporarily stop including the Quality Assurance Report as part of the client report package. However, if you or your company would like to receive the Quality Assurance Report as part of the package, please contact either Jim Yocum or Kate Forsting at 307.235.0515 or 888.235.0515 and your Quality Assurance Data will be mailed upon request.

ELI appreciates your patience while we make modifications and look forward to providing you continued analytical support.

**QUALITY ASSURANCE REPORT
UNC MINING & MILLING**

Project: Zone 1
Laboratory ID Range: 01-34434-1-6
Report Date: August 3, 2001

Major Ions	Method	RPD ₁	Spike	Analyst	Date Analyzed
Calcium	EPA 200.7	4.4	104	jal	07-19-01
Magnesium	EPA 200.7	8.3	109	jal	07-19-01
Sodium	EPA 200.7	6.0	105	jal	07-19-01
Potassium	EPA 200.7	7.3	104	jal	07-19-01
Bicarbonate	SM 2320-B	0.4	-	nlm	07-17-01
Sulfate	EPA 200.7	0.1	100	jal	07-19-01
Chloride	EPA 200.7	3.0	91	jal	07-19-01
Ammonia	SM 4500-NH ₃ -G	6.5	99	rwk	07-16-01
Nitrite + Nitrate	EPA 353.2	0.7	114	rwk	07-18-01

PARAMETERS with 48 hour holding time					Date/Time Analyzed
pH	SM 4500-H-B	0.4	-	nlm	07/17/2001 15:07

Non-Metals					
Total Dissolved Solids	SM 2540-C	0.0	100	ldr	07-17-01

Trace Metals, dissolved					
Aluminum	EPA 200.8	2.7	98	ts	07-21-01
Arsenic III	SM 3114-C	0.0	94	jl	07-16-01
Beryllium	EPA 200.8	0.7	99	ts	07-21-01
Cadmium	EPA 200.8	1.3	96	ts	07-21-01
Cobalt	EPA 200.8	1.6	95	ts	07-21-01
Lead	EPA 200.8	2.2	98	ts	07-21-01
Manganese	EPA 200.8	1.3	90	ts	07-21-01
Molybdenum	EPA 200.8	1.3	100	ts	07-21-01
Nickel	EPA 200.8	1.3	94	ts	07-21-01
Selenium IV	SM 3114-C	0.0	100	jl	07-16-01
Vanadium	EPA 200.8	0.8	101	ts	07-21-01

Radiometrics, dissolved					
Uranium	EPA 200.8	0.6	104	ts	07-21-01
Radium 226	EPA 903.0	18.0	90	es	07-23-01
Radium 228	EPA 904.0	0.0	91	es	07-30-01
Thorium 230	EPA 907.0	1.3	94	ph	07-24-01
Lead 210	NERHL-65-4	1.2*	102	ph	07-27-01
Gross Alpha	EPA 900.0	0.5	93	rs	07-27-01

Trace Organics					
Chloroform	EPA 624	3.6	112	rlo	07-18-01

NOTES:

- (1) These values are an assessment of analytical precision. The acceptance range is 0-20% for sample results above 10 times the reporting limit. This range is not applicable to samples with results below 10 times the reporting limit.
- (2) These values are an assessment of analytical accuracy. They are a percent recovery of the spike addition. ELI performs a matrix spike on 10 percent of all samples for each analytical method.
- (*) These values are an assessment of analytical precision. The acceptance range is 0-2 for sample results below 10 times the reporting limit. This range is not applicable to samples with results above 10 times the reporting limit.

**QUALITY ASSURANCE REPORT
 UNC MINING & MILLING**

Project: Zone 1
Laboratory ID Range: 01-34625-1-11
Report Date: August 20, 2001

Major Ions	Method	RPD ₁	Spike	Analyst	Date Analyzed
Calcium	EPA 200.7	2.1	92	jal	07-31-01
Magnesium	EPA 200.7	2.0	96	jal	07-31-01
Sodium	EPA 200.7	1.9	97	jal	07-31-01
Potassium	EPA 200.7	1.7	96	jal	07-31-01
Bicarbonate	SM 2320-B	0.4	-	nlm	07-31-01
Sulfate	EPA 200.7	0.2	87	jal	07-31-01
Chloride	EPA 200.7	8.5	86	jal	07-31-01
Ammonia	SM 4500-NH ₃ -G	5.1	101	rwk	07-23-01
Nitrite + Nitrate	EPA 353.2	1.8	109	rwk	07-25-01

PARAMETERS with 48 hour holding time					Date/Time Analyzed
pH	SM 4500-H-B	0.4	-	nlm	07/31/2001 14:49

Non-Metals					
Total Dissolved Solids	SM 2540-C	0.0	97	ldr	07-24-01

Trace Metals, dissolved					
Aluminum	EPA 200.8	16.8	-	ts	07-28-01
Arsenic III	SM 3114-C	0.0	94	jl	07-23-01
Beryllium	EPA 200.8	16.0	100	ts	07-28-01
Cadmium	EPA 200.8	16.8	111	ts	07-28-01
Cobalt	EPA 200.8	18.5	113	ts	07-28-01
Lead	EPA 200.8	16.6	113	ts	07-28-01
Manganese	EPA 200.8	19.1	-	ts	07-28-01
Molybdenum	EPA 200.8	15.3	105	ts	07-28-01
Nickel	EPA 200.8	18.4	109	ts	07-28-01
Selenium IV	SM 3114-C	1.9	100	jl	07-23-01
Vanadium	EPA 200.8	18.2	117	ts	07-28-01

Radiometrics, dissolved					
Uranium	EPA 200.8	17.3	125	ts	07-28-01
Radium 226	EPA 903.0	0.0	99	es	08-06-01
Radium 228	EPA 904.0	0.0	84	es	08-13-01
Thorium 230	EPA 907.0	3.5	105	ph	08-06-01
Lead 210	NERHL-65-4	0.0	83	ph	08-07-01
Gross Alpha	EPA 900.0	0.0	63	rs	08-09-01

Trace Organics					
Chloroform	EPA 624	6.7	109	rlo	07-26-01

NOTES:

- (1) These values are an assessment of analytical precision. The acceptance range is 0-20% for sample results above 10 times the reporting limit. This range is not applicable to samples with results below 10 times the reporting limit.
- (2) These values are an assessment of analytical accuracy. They are a percent recovery of the spike addition. ELI performs a matrix spike on 10 percent of all samples for each analytical method.
- (*) These values are an assessment of analytical precision. The acceptance range is 0-2 for sample results below 10 times the reporting limit. This range is not applicable to samples with results above 10 times the reporting limit.

**QUALITY ASSURANCE REPORT
UNC MINING & MILLING**

Project: Zone 3
Laboratory ID Range: 01-34437-1-2
Report Date: August 7, 2001

Major Ions	Method	RPD ₁	Spike	Analyst	Date Analyzed
Calcium	EPA 200.7	0.9	92	jal	07-23-01
Magnesium	EPA 200.7	0.6	97	jal	07-23-01
Sodium	EPA 200.7	0.9	98	jal	07-23-01
Potassium	EPA 200.7	0.4	96	jal	07-23-01
Bicarbonate	SM 2320-B	0.4	-	nlm	07-18-01
Sulfate	EPA 200.7	1.9	82	jal	07-23-01
Chloride	EPA 200.7	2.4	89	jal	07-23-01
Ammonia	SM 4500-NH ₃ -G	1.5	103	rwk	07-16-01
Nitrite + Nitrate	EPA 353.2	2.4	95	rwk	07-18-01

PARAMETERS with 48 hour holding time					Date/Time Analyzed
pH	SM 4500-H-B	0.4	-	nlm	07-18-01 14:42

Non-Metals					
Total Dissolved Solids	SM 2540-C	0.0	103	ldr	07-17-01

Trace Metals, dissolved					
Aluminum	EPA 200.8	1.3	73	ts	07-20-01
Arsenic III	SM 3114-C	0.0	94	jl	07-16-01
Beryllium	EPA 200.8	0.5	114	ts	07-20-01
Cadmium	EPA 200.8	0.5	101	ts	07-20-01
Cobalt	EPA 200.8	1.0	86	ts	07-20-01
Lead	EPA 200.8	1.1	103	ts	07-20-01
Manganese	EPA 200.8	1.6	87	ts	07-20-01
Molybdenum	EPA 200.8	0.3	101	ts	07-20-01
Nickel	EPA 200.8	4.9	86	ts	07-20-01
Selenium IV	SM 3114-C	3.8	100	jl	07-16-01
Vanadium	EPA 200.8	0.0	100	ts	07-20-01

Radiometrics, dissolved					
Uranium	EPA 200.8	0.4	108	ts	07-20-01
Radium 226	EPA 903.0	18.0	90	es	07-23-01
Radium 228	EPA 904.0	0.0	91	es	07-30-01
Thorium 230	EPA 907.0	5.0	103	ph	07-25-01
Lead 210	NERHL-65-4	0.3*	83	ph	07-25-01
Gross Alpha	EPA 900.0	0.2*	97	rs	08-02-01

Trace Organics					
Chloroform	EPA 624	3.6	112	rlo	07-19-01

NOTES:

- (1) These values are an assessment of analytical precision. The acceptance range is 0-20% for sample results above 10 times the reporting limit. This range is not applicable to samples with results below 10 times the reporting limit.
 - (2) These values are an assessment of analytical accuracy. They are a percent recovery of the spike addition. ELI performs a matrix spike on 10 percent of all samples for each analytical method.
- * These values are an assessment of analytical precision. The acceptance range is 0-2 for sample results below 10 times the reporting limit. This range is not applicable to samples with results above 10 times the reporting limit.

**QUALITY ASSURANCE REPORT
UNC MINING & MILLING**

Project: Zone 3
Laboratory ID Range: 01-34624-1-4
Report Date: August 14, 2001

Major Ions	Method	RPD ₁	Spike	Analyst	Date Analyzed
Calcium	EPA 200.7	1.1	97	jal	07-26-01
Magnesium	EPA 200.7	1.1	101	jal	07-26-01
Sodium	EPA 200.7	0.9	96	jal	07-26-01
Potassium	EPA 200.7	1.2	95	jal	07-26-01
Bicarbonate	SM 2320-B	0.4	-	nlm	07-31-01
Sulfate	EPA 200.7	0.0	88	jal	07-26-01
Chloride	EPA 200.7	9.4	95	jal	07-26-01
Ammonia	SM 4500-NH ₃ -G	0.0	102	rwk	07-23-01
Nitrite + Nitrate	EPA 353.2	1.8	109	rwk	07-25-01

PARAMETERS with 48 hour holding time					Date/Time Analyzed
pH	SM 4500-H-B	0.4	-	nlm	07/31/2001 14:12

Non-Metals					
Total Dissolved Solids	SM 2540-C	0.0	97	ldr	07-24-01

Trace Metals, dissolved					
Aluminum	EPA 200.8	2.8	96	ts	07-28-01
Arsenic III	SM 3114-C	0.0	94	jl	07-23-01
Beryllium	EPA 200.8	1.8	91	ts	07-28-01
Cadmium	EPA 200.8	3.4	97	ts	07-28-01
Cobalt	EPA 200.8	7.2	92	ts	07-28-01
Lead	EPA 200.8	0.6	98	ts	07-28-01
Manganese	EPA 200.8	4.1	81	ts	07-28-01
Molybdenum	EPA 200.8	1.6	96	ts	07-28-01
Nickel	EPA 200.8	5.5	91	ts	07-28-01
Selenium IV	SM 3114-C	1.9	100	jl	07-23-01
Vanadium	EPA 200.8	4.9	96	ts	07-28-01

Radiometrics, dissolved					
Uranium	EPA 200.8	1.2	104	ts	07-28-01
Radium 226	EPA 903.0	0.0	104	rs	07-30-01
Radium 228	EPA 904.0	0.0	89	es	08-06-01
Thorium 230	EPA 907.0	3.5	105	ph	08-06-01
Lead 210	NERHL-65-4	*.08	70	ph	08-14-01
Gross Alpha	EPA 900.0	0.0	63	rs	08-09-01

Trace Organics					
Chloroform	EPA 624	6.7	109	rlo	07-26-01

NOTES:

- (1) These values are an assessment of analytical precision. The acceptance range is 0-20% for sample results above 10 times the reporting limit. This range is not applicable to samples with results below 10 times the reporting limit.
- (2) These values are an assessment of analytical accuracy. They are a percent recovery of the spike addition. ELI performs a matrix spike on 10 percent of all samples for each analytical method.
- (*) These values are an assessment of analytical precision. The acceptance range is 0-2 for sample results below 10 times the reporting limit. This range is not applicable to samples with results above 10 times the reporting limit.

**QUALITY ASSURANCE REPORT
UNC MINING & MILLING**

Project: Alluvium
Laboratory ID Range: 01-34436-1-14
Report Date: August 8, 2001

Major Ions	Method	RPD ₁	Spike	Analyst	Date Analyzed
Calcium	EPA 200.7	0.9	92	jal	07-23-01
Magnesium	EPA 200.7	0.6	97	jal	07-23-01
Sodium	EPA 200.7	0.9	98	jal	07-23-01
Potassium	EPA 200.7	0.4	96	jal	07-23-01
Bicarbonate	SM 2320-B	0.4	-	nlm	07-18-01
Sulfate	EPA 200.7	1.9	82	jal	07-23-01
Chloride	EPA 200.7	2.4	89	jal	07-23-01
Ammonia	SM 4500-NH ₃ -G	6.1	98	rwk	07-16-01
Nitrite + Nitrate	EPA 353.2	0.7	114	rwk	07-18-01

PARAMETERS with 48 hour holding time				Date/Time Analyzed	
pH	SM 4500-H-B	0.4	-	nlm	07-18-01 13:34

Non-Metals					
Total Dissolved Solids	SM 2540-C	0.0	103	ldr	07-17-01

Trace Metals, dissolved					
Aluminum	EPA 200.8	3.7	99	ts	07-20-01
Arsenic III	SM 3114-C	0.0	94	jl	07-16-01
Beryllium	EPA 200.8	1.0	100	ts	07-20-01
Cadmium	EPA 200.8	4.1	100	ts	07-20-01
Cobalt	EPA 200.8	15.1	97	ts	07-20-01
Lead	EPA 200.8	5.2	104	ts	07-20-01
Manganese	EPA 200.8	11.9	90	ts	07-20-01
Molybdenum	EPA 200.8	6.3	104	ts	07-20-01
Nickel	EPA 200.8	6.9	97	ts	07-20-01
Selenium IV	SM 3114-C	3.8	100	jl	07-16-01
Vanadium	EPA 200.8	9.2	103	ts	07-20-01

Radiometrics, dissolved					
Uranium	EPA 200.8	6.1	109	ts	07-20-01
Radium 226	EPA 903.0	0.0	98	es	07-23-01
Radium 228	EPA 904.0	0.0	109	es	07-30-01
Thorium 230	EPA 907.0	7.6	100	ph	08-02-01
Lead 210	NERHL-65-4	0.7	124	ph	07-27-01
Gross Alpha	EPA 900.0	0.2	97	rs	08-02-01

Trace Organics					
Chloroform	EPA 624	3.6	112	rlo	07-19-01

NOTES:

- (1) These values are an assessment of analytical precision. The acceptance range is 0-20% for sample results above 10 times the reporting limit. This range is not applicable to samples with results below 10 times the reporting limit.
- (2) These values are an assessment of analytical accuracy. They are a percent recovery of the spike addition. ELI performs a matrix spike on 10 percent of all samples for each analytical method.

**QUALITY ASSURANCE REPORT
UNC MINING & MILLING**

**Project: Zone 1
Laboratory ID Range: C01100431-001-006
Report Date: November 13, 2001**

Major Ions	Method	RPD ₁	Spike	Analyst	Date Analyzed
Calcium	EPA 200.7	1.7	92	cp	10-20-01
Magnesium	EPA 200.7	1.0	90	cp	10-20-01
Sodium	EPA 200.7	1.7	89	cp	10-20-01
Potassium	EPA 200.7	1.2	91	cp	10-20-01
Bicarbonate	SM 2320-B	0.0	-	nlm	10-16-01
Sulfate	EPA 200.7	0.4	82	cp	10-20-01
Chloride	EPA 200.7	0.2	84	cp	10-20-01
Ammonia	SM 4500-NH ₃ -G	3.6	108	rwk	10-18-01
Nitrite + Nitrate	EPA 353.2	2.0	112	rwk	10-17-01

PARAMETERS with 48 hour holding time				Date/Time Analyzed
pH	SM 4500-H-B	0.0	-	nlm 10-17-01 10:30

Non-Metals					
Total Dissolved Solids	SM 2540-C	0.1	102	ldr	10-16-01

Trace Metals, dissolved					
Aluminum	EPA 200.7	0.5	87	cp	10-20-01
Aluminum	EPA 200.8	7.8	82	ts	10-24-01
Arsenic III	SM 3114-C	0.6	101	jl	10-18-01
Beryllium	EPA 200.8	2.0	96	ts	10-24-01
Cadmium	EPA 200.8	1.3	100	ts	10-24-01
Cobalt	EPA 200.7	0.9	88	cp	10-20-01
Cobalt	EPA 200.8	3.5	96	ts	10-24-01
Lead	EPA 200.8	0.6	103	ts	10-24-01
Manganese	EPA 200.7	0.2	89	cp	10-20-01
Molybdenum	EPA 200.8	4.1	108	ts	10-24-01
Nickel	EPA 200.7	2.9	84	cp	10-20-01
Nickel	EPA 200.8	3.4	96	ts	10-24-01
Selenium IV	SM 3114-C	0.8	96	jl	10-16-01
Vanadium	EPA 200.8	2.4	103	ts	10-24-01

Radiometrics, dissolved					
Uranium	EPA 200.8	0.8	107	ts	10-24-01
Radium 226	EPA 903.0	15.4	86	rs	10-27-01
Radium 228	EPA 904.0	0.0	101	rs	11-01-01
Thorium 230	EPA 907.0	4.6	116	ph	10-23-01
Lead 210	NERHL-65-4	0.0	93	ph	10-19-01
Gross Alpha	EPA 900.0	0.0	93	rs	10-19-01

Trace Organics					
Chloroform	EPA 624	1.6	83	rlo	10-19-01

NOTES:

- These values are an assessment of analytical precision. The acceptance range is 0-20% for sample results above 10 times the reporting limit. This range is not applicable to samples with results below 10 times the reporting limit.
- These values are an assessment of analytical accuracy. They are a percent recovery of the spike addition. ELI performs a matrix spike on 10 percent of all samples for each analytical method.

**QUALITY ASSURANCE REPORT
UNC MINING & MILLING**

Project: Zone # 3
Laboratory ID Range: C01100434-001-010
Report Date: November 13, 2001

Major Ions	Method	RPD ₁	Spike	Analyst	Date Analyzed
Calcium	EPA 200.7	1.7	92	cp	10-20-01
Magnesium	EPA 200.7	1.0	90	cp	10-20-01
Sodium	EPA 200.7	1.7	89	cp	10-20-01
Potassium	EPA 200.7	1.2	91	cp	10-20-01
Bicarbonate	SM 2320-B	0.0	-	nlm	10-16-01
Sulfate	EPA 200.7	0.4	82	cp	10-20-01
Chloride	EPA 200.7	0.2	84	cp	10-20-01
Ammonia	SM 4500-NH ₃ -G	3.6	108	rwk	10-18-01
Nitrite + Nitrate	EPA 353.2	2.0	112	rwk	10-17-01

PARAMETERS with 48 hour holding time					Date/Time Analyzed
pH	SM 4500-H-B	0.0	-	nlm	10-17-01 10:30

Non-Metals					
Total Dissolved Solids	SM 2540-C	0.1	102	ldr	10-16-01

Trace Metals, dissolved					
Aluminum	EPA 200.7	0.5	87	cp	10-20-01
Aluminum	EPA 200.8	7.8	82	ts	10-24-01
Arsenic III	SM 3114-C	0.6	101	jl	10-18-01
Beryllium	EPA 200.8	2.0	96	ts	10-24-01
Cadmium	EPA 200.8	1.3	100	ts	10-24-01
Cobalt	EPA 200.7	0.9	88	cp	10-20-01
Cobalt	EPA 200.8	3.5	96	ts	10-24-01
Lead	EPA 200.8	0.6	103	ts	10-24-01
Manganese	EPA 200.7	0.2	89	cp	10-20-01
Molybdenum	EPA 200.8	4.1	108	ts	10-24-01
Nickel	EPA 200.7	2.9	84	cp	10-20-01
Nickel	EPA 200.8	3.4	96	ts	10-24-01
Selenium IV	SM 3114-C	0.8	96	jl	10-16-01
Vanadium	EPA 200.8	2.4	103	ts	10-24-01

Radiometrics, dissolved					
Uranium	EPA 200.8	0.8	107	ts	10-24-01
Radium 226	EPA 903.0	15.4	86	rs	10-27-01
Radium 228	EPA 904.0	0.0	101	rs	11-01-01
Thorium 230	EPA 907.0	4.6	116	ph	10-23-01
Lead 210	NERHL-65-4	0.0	93	ph	10-19-01
Gross Alpha	EPA 900.0	0.0	93	rs	10-19-01

Trace Organics					
Chloroform	EPA 624	1.6	83	rlo	10-19-01

NOTES:

- (1) These values are an assessment of analytical precision. The acceptance range is 0-20% for sample results above 10 times the reporting limit. This range is not applicable to samples with results below 10 times the reporting limit.
- (2) These values are an assessment of analytical accuracy. They are a percent recovery of the spike addition. ELI performs a matrix spike on 10 percent of all samples for each analytical method.



CLIENT: United Nuclear Corp
 Work Order: C01100229
 Project: Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 09-Nov-01

TestNo: A2320 B

Sample ID: C149531BLK	SampType: MBLK	TestCode: ALK-W	Units: mg/L	Prep Date:	Run ID: ORION_011011A						
Client ID:	Batch ID: O-101101-1	TestNo: A2320 B		Analysis Date: 10/11/2001	SeqNo: 50653						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bicarbonate as HCO3	ND	1.00									

Sample ID: C01100228-015C	SampType: DUP	TestCode: ALK-W	Units: mg/L	Prep Date:	Run ID: ORION_011011A						
Client ID:	Batch ID: O-101101-1	TestNo: A2320 B		Analysis Date: 10/11/2001	SeqNo: 50660						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bicarbonate as HCO3	610	1.00	0	0				608.8	0.197	0	
pH	7.7	0.0100	0	0				7.7	0	0	

10229R00008
 TRACKING NO. PAGE NO.

Modifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
Work Order: C01100229
Project: Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 09-Nov-01

TestNo: A2540 C

Sample ID: C01100219-002AMS		SampType: MS	TestCode: SLDS-TDS-W		Units: mg/L	Prep Date:			Run ID: SLDS-BALANCE_01100		
Client ID:		Batch ID: 011008A-SLD		TestNo: A2540 C		Analysis Date: 10/8/2001			SeqNo: 48922		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	9473	10.0	3333	6088	102	90	110	0	0	0	

Sample ID: C01100228-003BMS		SampType: MS	TestCode: SLDS-TDS-W		Units: mg/L	Prep Date:			Run ID: SLDS-BALANCE_01100		
Client ID:		Batch ID: 011008A-SLD		TestNo: A2540 C		Analysis Date: 10/8/2001			SeqNo: 48934		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	6882	10.0	2326	4507	102	90	110	0	0	0	H

Sample ID: C01100228-013BMS		SampType: MS	TestCode: SLDS-TDS-W		Units: mg/L	Prep Date:			Run ID: SLDS-BALANCE_01100		
Client ID:		Batch ID: 011008A-SLD		TestNo: A2540 C		Analysis Date: 10/8/2001			SeqNo: 48948		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	7738	10.0	2778	5015	98	90	110	0	0	0	

Sample ID: C01100234-001BMS		SampType: MS	TestCode: SLDS-TDS-W		Units: mg/L	Prep Date:			Run ID: SLDS-BALANCE_01100		
Client ID:		Batch ID: 011008A-SLD		TestNo: A2540 C		Analysis Date: 10/8/2001			SeqNo: 48961		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	6975	10.0	3125	3893	98.6	90	110	0	0	0	

Sample ID: C01100201-003ADU		SampType: DUP	TestCode: SLDS-TDS-W		Units: mg/L	Prep Date:			Run ID: SLDS-BALANCE_01100		
Client ID:		Batch ID: 011008A-SLD		TestNo: A2540 C		Analysis Date: 10/8/2001			SeqNo: 48890		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	3778	10.0	0	0				3759	0.488	10	

10229R00009

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01100229
 Project: Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 09-Nov-01

TestNo: A3114 B

Sample ID: C01100229-002AMS	SampType: MS	TestCode: CVAA-ASIII-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011B						
Client ID: 515-A	Batch ID: R2517	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 51072						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0476	0.00100	0.05	0	95.2	85	115	0	0	0	

Sample ID: C01100229-005AMS	SampType: MS	TestCode: CVAA-ASIII-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011B						
Client ID: Field Blank	Batch ID: R2517	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 51081						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0477	0.00100	0.05	0	95.4	85	115	0	0	0	

Sample ID: C01100228-008AMS	SampType: MSD	TestCode: CVAA-ASIII-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011B						
Client ID:	Batch ID: R2517	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 51058						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0471	0.00100	0.05	0	94.2	85	115	0.048	1.89	10	

Sample ID: C01100229-002AMS	SampType: MSD	TestCode: CVAA-ASIII-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011B						
Client ID: 515-A	Batch ID: R2517	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 51073						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0487	0.00100	0.05	0	97.4	85	115	0.0476	2.28	10	

Sample ID: C01100229-005AMS	SampType: MSD	TestCode: CVAA-ASIII-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011B						
Client ID: Field Blank	Batch ID: R2517	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 51082						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0473	0.00100	0.05	0	94.6	85	115	0.0477	0.842	10	

10229R00010

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01100229
 Project: Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 09-Nov-01

TestNo: A3114 B

Sample ID: C01100229-002AMS	SampType: MS	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011A						
Client ID: 515-A	Batch ID: R2503	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 50821						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.053	0.0010	0.05	0	106	85	115	0	0	0	

Sample ID: C01100229-005AMS	SampType: MS	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011A						
Client ID: Field Blank	Batch ID: R2503	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 50830						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0526	0.0010	0.05	0	105	85	115	0	0	0	

Sample ID: C01100228-008AMS	SampType: MSD	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011A						
Client ID:	Batch ID: R2503	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 50807						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0501	0.0010	0.05	0	100	85	115	0.0495	1.20	10	

Sample ID: C01100229-002AMS	SampType: MSD	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011A						
Client ID: 515-A	Batch ID: R2503	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 50822						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0527	0.0010	0.05	0	105	85	115	0.053	0.568	10	

Sample ID: C01100229-005AMS	SampType: MSD	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011A						
Client ID: Field Blank	Batch ID: R2503	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 50831						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0522	0.0010	0.05	0	104	85	115	0.0526	0.763	10	

10229R00011

PAGING NO. PAGE NO.

ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
Work Order: C01100229
Project: Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 09-Nov-01

TestNo: A4500-NH3 G

Sample ID: C01100228-002DMS		SampType: MS	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011008A		
Client ID:		Batch ID: A2001-10-08_		TestNo: A4500-NH3 G		Analysis Date: 10/8/2001			SeqNo: 48049		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	3.24	0.100	1.99	1.15	105	80	120	0	0	0	

Sample ID: C01100228-012DMS		SampType: MS	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011008A		
Client ID:		Batch ID: A2001-10-08_		TestNo: A4500-NH3 G		Analysis Date: 10/8/2001			SeqNo: 48065		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	2.06	0.0500	2	0.04	101	80	120	0	0	0	

Sample ID: C01100230-002DMS		SampType: MS	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011008A		
Client ID:		Batch ID: A2001-10-08_		TestNo: A4500-NH3 G		Analysis Date: 10/8/2001			SeqNo: 48081		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	2.42	0.0500	2	0.29	106	80	120	0	0	0	

Sample ID: C01100081-005ADU		SampType: DUP	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011008A		
Client ID:		Batch ID: A2001-10-08_		TestNo: A4500-NH3 G		Analysis Date: 10/8/2001			SeqNo: 47979		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.24	0.0500	0	0				0.24	0	20	

Sample ID: C01100143-002BDU		SampType: DUP	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011008A		
Client ID:		Batch ID: A2001-10-08_		TestNo: A4500-NH3 G		Analysis Date: 10/8/2001			SeqNo: 47996		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.11	0.0500	0	0				0.11	0	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

10229R00012
 TAC/HR/NO. PAGE NO.



CLIENT: United Nuclear Corp
 Work Order: C01100229
 Project: Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 09-Nov-01

TestNo: E200.8

Sample ID: C01100011-006AMS		SampType: MS		TestCode: ICPMS-200.8-W-D		Units: mg/L		Prep Date:		Run ID: ICPMS1-C_011023A	
Client ID:		Batch ID: ICPMS10230		TestNo: E200.8		Analysis Date: 10/24/2001		SeqNo: 59719			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.3576	0.10	0.5	0	71.5	70	130	0	0	0	
Beryllium	0.466	0.010	0.5	0	93.2	70	130	0	0	0	
Cadmium	0.4818	0.010	0.5	0	96.4	70	130	0	0	0	
Cobalt	0.5041	0.010	0.5	0.000843	101	70	130	0	0	0	
Lead	0.4809	0.050	0.5	0.003304	95.5	70	130	0	0	0	
Manganese	0.5019	0.010	0.5	0	100	70	130	0	0	0	
Molybdenum	0.4705	0.10	0.5	0	94.1	70	130	0	0	0	
Nickel	0.514	0.050	0.5	0.01443	99.9	70	130	0	0	0	
Uranium	0.5626	0.00040	0.5	0.0685	98.8	70	130	0	0	0	
Vanadium	0.4978	0.10	0.5	0.004717	98.6	70	130	0	0	0	

Sample ID: C01100015-004AMS		SampType: MS		TestCode: ICPMS-200.8-W-D		Units: mg/L		Prep Date:		Run ID: ICPMS1-C_011023A	
Client ID:		Batch ID: ICPMS10230		TestNo: E200.8		Analysis Date: 10/24/2001		SeqNo: 59735			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.3564	0.10	0.5	0	71.3	70	130	0	0	0	
Beryllium	0.4852	0.010	0.5	0.00016	97	70	130	0	0	0	
Cadmium	0.476	0.010	0.5	0.000791	95	70	130	0	0	0	
Cobalt	0.4336	0.010	0.5	0.000839	86.6	70	130	0	0	0	
Lead	0.4778	0.050	0.5	0.001419	95.3	70	130	0	0	0	
Manganese	0.433	0.010	0.5	0	86.6	70	130	0	0	0	
Molybdenum	0.4894	0.10	0.5	0	97.9	70	130	0	0	0	
Nickel	0.4398	0.050	0.5	0.01061	85.8	70	130	0	0	0	
Uranium	0.5486	0.00040	0.5	0.04357	101	70	130	0	0	0	
Vanadium	0.4662	0.10	0.5	0	93.2	70	130	0	0	0	

10229R00013

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01100229
 Project: Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 09-Nov-01

TestNo: E200.8

Sample ID: C01100228-010AMS	SampType: MSD	TestCode: ICPMS-200.8-W-D	Units: mg/L	Prep Date:	Run ID: ICPMS1-C_011023A						
Client ID:	Batch ID: ICPMS10230	TestNo: E200.8	Analysis Date: 10/23/2001	SeqNo: 59529							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.4712	0.010	0.5	0	94.2	70	130	0.4806	1.98	20	
Cadmium	0.4968	0.010	0.5	0.000935	99.2	70	130	0.5034	1.32	20	
Cobalt	0.4658	0.010	0.5	0.001472	92.9	70	130	0.4822	3.46	20	
Lead	0.5143	0.050	0.5	0.00299	102	70	130	0.5174	0.601	20	
Molybdenum	0.5173	0.10	0.5	0	103	70	130	0.5387	4.05	20	
Nickel	0.4711	0.050	0.5	0.006	93	70	130	0.4874	3.40	20	
Uranium	0.618	0.00040	0.5	0.09034	106	70	130	0.6232	0.838	20	
Vanadium	0.5032	0.10	0.5	0.000286	101	70	130	0.5152	2.36	20	

Sample ID: C01100229-005AMS	SampType: MSD	TestCode: ICPMS-200.8-W-D	Units: mg/L	Prep Date:	Run ID: ICPMS1-C_011023A						
Client ID: Field Blank	Batch ID: ICPMS10230	TestNo: E200.8	Analysis Date: 10/23/2001	SeqNo: 59591							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.4174	0.10	0.5	0	83.5	70	130	0.3947	5.59	20	
Beryllium	0.5128	0.010	0.5	0	103	70	130	0.496	3.33	20	
Cadmium	0.514	0.010	0.5	0.000288	103	70	130	0.4922	4.33	20	
Cobalt	0.5338	0.010	0.5	0.000103	107	70	130	0.5082	4.91	20	
Lead	0.5105	0.050	0.5	0.002511	102	70	130	0.5008	1.92	20	
Manganese	0.5297	0.010	0.5	0.003278	105	70	130	0.507	4.38	20	
Molybdenum	0.5304	0.10	0.5	0	106	70	130	0.4983	6.24	20	
Nickel	0.5329	0.050	0.5	0.002913	106	70	130	0.5086	4.67	20	
Uranium	0.5173	0.00040	0.5	0	103	70	130	0.4973	3.94	20	
Vanadium	0.514	0.10	0.5	0.000099	103	70	130	0.4964	3.48	20	

Sample ID: C01100434-004AMS	SampType: MSD	TestCode: ICPMS-200.8-W-D	Units: mg/L	Prep Date:	Run ID: ICPMS1-C_011023A						
Client ID:	Batch ID: ICPMS10230	TestNo: E200.8	Analysis Date: 10/23/2001	SeqNo: 59605							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

10229R00014



CLIENT: United Nuclear Corp
Work Order: C01100229
Project: Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 09-Nov-01

TestNo: E353.2

Sample ID: C01100229-005DMS	SampType: MSD	TestCode: N-NO3+NO2-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011010B						
Client ID: Field Blank	Batch ID: A2001-10-09_	TestNo: E353.2		Analysis Date: 10/10/2001	SeqNo: 50254						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	2.04	0.100	2	0	102	80	120	2.13	4.32	20	

Sample ID: C01100228-010DDU	SampType: DUP	TestCode: N-NO3+NO2-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011010B						
Client ID:	Batch ID: A2001-10-09_	TestNo: E353.2		Analysis Date: 10/10/2001	SeqNo: 50237						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	92.5	5.00	0	0				91.5	1.09	20	

TRACKING NO. PAGE NO.
10229R00015

Modifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01100229
 Project: Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 09-Nov-01

TestNo: E624

Sample ID: Method Blank #	SampType: MBLK	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS1-C_011015A						
Client ID:	Batch ID: R2646	TestNo: E624		Analysis Date: 10/15/2001	SeqNo: 54166						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	ND	1.00									

Sample ID: C01100228-006E	SampType: MS	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS1-C_011015A						
Client ID:	Batch ID: R2646	TestNo: E624		Analysis Date: 10/16/2001	SeqNo: 54167						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	79.5	10.0	100	0.65	78.8	70	130	0	0	0	

Sample ID: C01100228-006E	SampType: MSD	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS1-C_011015A						
Client ID:	Batch ID: R2646	TestNo: E624		Analysis Date: 10/16/2001	SeqNo: 54168						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	80.7	10.0	100	0.65	80	70	130	79.5	1.50	20	

TRACKING NO. PAGE 3/10,
 10229R000016

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01100229
 Project: Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 09-Nov-01

TestNo: E900.0

Sample ID: MB-R2793	SampType: MBLK	TestCode: RAD-G-ALPHA-W-	Units: pCi/L	Prep Date:	Run ID: TENNELEC-2_011015B
Client ID:	Batch ID: R2793	TestNo: E900.0	Analysis Date: 10/15/2001	SeqNo: 57361	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Gross Alpha	ND	1.0			

Sample ID: C01100134-002AMS	SampType: MS	TestCode: RAD-G-ALPHA-W-	Units: pCi/L	Prep Date:	Run ID: TENNELEC-2_011015B
Client ID:	Batch ID: R2793	TestNo: E900.0	Analysis Date: 10/15/2001	SeqNo: 57376	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Gross Alpha	299.3	1.0	303.1	0	98.7 70 130 0 0 0

Sample ID: C01100134-002AMS	SampType: MSD	TestCode: RAD-G-ALPHA-W-	Units: pCi/L	Prep Date:	Run ID: TENNELEC-2_011015B
Client ID:	Batch ID: R2793	TestNo: E900.0	Analysis Date: 10/15/2001	SeqNo: 57375	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Gross Alpha	299.3	1.0	305.6	0	97.9 70 130 299.3 0 30

10229R00017
 TRACKING NO. PAGE NO.

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01100229
 Project: Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 09-Nov-01

TestNo: E907.0

Sample ID: MB-R2862	SampType: MBLK	TestCode: RAD-TH-ISO-W	Units: pCi/L	Prep Date:	Run ID: EGG-ORTEC_011016A
Client ID:	Batch ID: R2862	TestNo: E907.0		Analysis Date: 10/16/2001	SeqNo: 58558
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Thorium 230	ND	0.20			

Sample ID: C01100229-005AMS	SampType: MS	TestCode: RAD-TH-ISO-W	Units: pCi/L	Prep Date:	Run ID: EGG-ORTEC_011016A
Client ID: Field Blank	Batch ID: R2862	TestNo: E907.0		Analysis Date: 10/16/2001	SeqNo: 58581
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Thorium 230	141.8	0.20	125	0.6	113 70 130 0 0 0

Sample ID: C01100229-005ADU	SampType: DUP	TestCode: RAD-TH-ISO-W	Units: pCi/L	Prep Date:	Run ID: EGG-ORTEC_011016A
Client ID: Field Blank	Batch ID: R2862	TestNo: E907.0		Analysis Date: 10/16/2001	SeqNo: 58580
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Thorium 230	132.3	0.20	0	0	141.8 6.93 0

TRACKING NO. PAGE NO.
 10229R00018

ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01100229
 Project: Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 09-Nov-01

TestNo: NERHL-65-4

Sample ID: MB-R3112	SampType: MBLK	TestCode: RAD-PB210-W-D	Units: pCi/L	Prep Date:	Run ID: BECKMAN 6000_01101						
Client ID:	Batch ID: R3112	TestNo: NERHL-65-4		Analysis Date: 10/19/2001	SeqNo: 62989						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	ND	1.0									

Sample ID: C01100434-009AMS	SampType: MS	TestCode: RAD-PB210-W-D	Units: pCi/L	Prep Date:	Run ID: BECKMAN 6000_01101						
Client ID:	Batch ID: R3112	TestNo: NERHL-65-4		Analysis Date: 10/19/2001	SeqNo: 62985						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	35.7	1.0	37.78	0	94.5	0	0	0	0	0	S

Sample ID: C01100431-001AMS	SampType: MS	TestCode: RAD-PB210-W-D	Units: pCi/L	Prep Date:	Run ID: BECKMAN 6000_01101						
Client ID:	Batch ID: R3112	TestNo: NERHL-65-4		Analysis Date: 10/19/2001	SeqNo: 62987						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	35.1	1.0	37.78	0	92.9	0	0	0	0	0	S

Sample ID: C01100434-010ADU	SampType: DUP	TestCode: RAD-PB210-W-D	Units: pCi/L	Prep Date:	Run ID: BECKMAN 6000_01101						
Client ID:	Batch ID: R3112	TestNo: NERHL-65-4		Analysis Date: 10/19/2001	SeqNo: 62984						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	ND	1.0	0	0				0	0	0	

Sample ID: C01100431-002ADU	SampType: DUP	TestCode: RAD-PB210-W-D	Units: pCi/L	Prep Date:	Run ID: BECKMAN 6000_01101						
Client ID:	Batch ID: R3112	TestNo: NERHL-65-4		Analysis Date: 10/19/2001	SeqNo: 62986						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	ND	1.0	0	0				0	0	0	

10229R00019

Qualifiers:

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
 Work Order: C01100230
 Project: Zone 3

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: **A2320 B**

Sample ID: C149531BLK	SampType: MBLK	TestCode: ALK-W	Units: mg/L	Prep Date:	Run ID: ORION_011011A
Client ID:	Batch ID: O-101101-1	TestNo: A2320 B	Analysis Date: 10/11/2001	SeqNo: 50653	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Bicarbonate as HCO3	ND	1.00			

Sample ID: C01100228-015C	SampType: DUP	TestCode: ALK-W	Units: mg/L	Prep Date:	Run ID: ORION_011011A
Client ID:	Batch ID: O-101101-1	TestNo: A2320 B	Analysis Date: 10/11/2001	SeqNo: 50660	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Bicarbonate as HCO3	610	1.00	0	0	608.8 0.197 0
pH	7.7	0.0100	0	0	7.7 0 0

TRACKING NO. 10230R00005
 PAGE NO.

ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01100230
 Project: Zone 3

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: A2540 C

Sample ID: C01100219-002AMS	SampType: MS	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01100
Client ID:	Batch ID: 011008A-SLD	TestNo: A2540 C	Analysis Date: 10/8/2001	SeqNo: 48922	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Solids, Total Dissolved TDS @ 180 C	9473	10.0	3333	6088	102 90 110 0 0 0

Sample ID: C01100228-003BMS	SampType: MS	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01100
Client ID:	Batch ID: 011008A-SLD	TestNo: A2540 C	Analysis Date: 10/8/2001	SeqNo: 48934	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Solids, Total Dissolved TDS @ 180 C	6882	10.0	2326	4507	102 90 110 0 0 0 H

Sample ID: C01100228-013BMS	SampType: MS	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01100
Client ID:	Batch ID: 011008A-SLD	TestNo: A2540 C	Analysis Date: 10/8/2001	SeqNo: 48948	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Solids, Total Dissolved TDS @ 180 C	7738	10.0	2778	5015	98 90 110 0 0 0

Sample ID: C01100234-001BMS	SampType: MS	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01100
Client ID:	Batch ID: 011008A-SLD	TestNo: A2540 C	Analysis Date: 10/8/2001	SeqNo: 48961	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Solids, Total Dissolved TDS @ 180 C	6975	10.0	3125	3893	98.6 90 110 0 0 0

Sample ID: C01100201-003ADU	SampType: DUP	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01100
Client ID:	Batch ID: 011008A-SLD	TestNo: A2540 C	Analysis Date: 10/8/2001	SeqNo: 48890	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Solids, Total Dissolved TDS @ 180 C	3778	10.0	0	0	3759 0.488 10

10230R000006
 PAGING NO.
 PAGE NO

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01100230
 Project: Zone 3

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: A3114 B

Sample ID: C01100229-002AMS	SampType: MS	TestCode: CVAA-ASIII-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011B						
Client ID:	Batch ID: R2517	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 51072						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0476	0.00100	0.05	0	95.2	85	115	0	0	0	

Sample ID: C01100229-005AMS	SampType: MS	TestCode: CVAA-ASIII-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011B						
Client ID:	Batch ID: R2517	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 51081						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0477	0.00100	0.05	0	95.4	85	115	0	0	0	

Sample ID: C01100228-008AMS	SampType: MSD	TestCode: CVAA-ASIII-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011B						
Client ID:	Batch ID: R2517	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 51058						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0471	0.00100	0.05	0	94.2	85	115	0.048	1.89	10	

Sample ID: C01100229-002AMS	SampType: MSD	TestCode: CVAA-ASIII-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011B						
Client ID:	Batch ID: R2517	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 51073						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0487	0.00100	0.05	0	97.4	85	115	0.0476	2.28	10	

Sample ID: C01100229-005AMS	SampType: MSD	TestCode: CVAA-ASIII-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011B						
Client ID:	Batch ID: R2517	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 51082						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0473	0.00100	0.05	0	94.6	85	115	0.0477	0.842	10	

10230R000007
 PRACTICE NO. PAGE NO.

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
Work Order: C01100230
Project: Zone 3

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: A3114 B

Sample ID: C01100229-002AMS		SampType: MS	TestCode: CVAA-SEIV-3114-			Units: mg/L	Prep Date:			Run ID: HYDRIDE1-C_011011A		
Client ID:		Batch ID: R2503	TestNo: A3114 B			Analysis Date: 10/11/2001			SeqNo: 50821			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Selenium-IV	0.053	0.0010	0.05	0	106	85	115	0	0	0		

Sample ID: C01100229-005AMS		SampType: MS	TestCode: CVAA-SEIV-3114-			Units: mg/L	Prep Date:			Run ID: HYDRIDE1-C_011011A	
Client ID:		Batch ID: R2503	TestNo: A3114 B			Analysis Date: 10/11/2001			SeqNo: 50830		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0526	0.0010	0.05	0	105	85	115	0	0	0	

Sample ID: C01100228-008AMS		SampType: MSD	TestCode: CVAA-SEIV-3114-			Units: mg/L	Prep Date:			Run ID: HYDRIDE1-C_011011A	
Client ID:		Batch ID: R2503	TestNo: A3114 B			Analysis Date: 10/11/2001			SeqNo: 50807		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0501	0.0010	0.05	0	100	85	115	0.0495	1.20	10	

Sample ID: C01100229-002AMS		SampType: MSD	TestCode: CVAA-SEIV-3114-			Units: mg/L	Prep Date:			Run ID: HYDRIDE1-C_011011A	
Client ID:		Batch ID: R2503	TestNo: A3114 B			Analysis Date: 10/11/2001			SeqNo: 50822		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0527	0.0010	0.05	0	105	85	115	0.053	0.568	10	

Sample ID: C01100229-005AMS		SampType: MSD	TestCode: CVAA-SEIV-3114-			Units: mg/L	Prep Date:			Run ID: HYDRIDE1-C_011011A	
Client ID:		Batch ID: R2503	TestNo: A3114 B			Analysis Date: 10/11/2001			SeqNo: 50831		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0522	0.0010	0.05	0	104	85	115	0.0526	0.763	10	

TRACING NO. 10230R00008
 PAGE NO.

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
Work Order: C01100230
Project: Zone 3

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: A4500-NH3 G

Sample ID: C01100228-002DMS		SampType: MS	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011008A		
Client ID:		Batch ID: A2001-10-08_	TestNo: A4500-NH3 G		Analysis Date: 10/8/2001			SeqNo: 48049			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	3.24	0.100	1.99	1.15	105	80	120	0	0	0	

Sample ID: C01100228-012DMS		SampType: MS	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011008A		
Client ID:		Batch ID: A2001-10-08_	TestNo: A4500-NH3 G		Analysis Date: 10/8/2001			SeqNo: 48065			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	2.06	0.0500	2	0.04	101	80	120	0	0	0	

Sample ID: C01100230-002DMS		SampType: MS	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011008A		
Client ID: NBL-1		Batch ID: A2001-10-08_	TestNo: A4500-NH3 G		Analysis Date: 10/8/2001			SeqNo: 48081			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	2.42	0.0500	2	0.29	106	80	120	0	0	0	

Sample ID: C01100081-005ADU		SampType: DUP	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011008A		
Client ID:		Batch ID: A2001-10-08_	TestNo: A4500-NH3 G		Analysis Date: 10/8/2001			SeqNo: 47979			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.24	0.0500	0	0				0.24	0	20	

Sample ID: C01100143-002BDU		SampType: DUP	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011008A		
Client ID:		Batch ID: A2001-10-08_	TestNo: A4500-NH3 G		Analysis Date: 10/8/2001			SeqNo: 47996			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.11	0.0500	0	0				0.11	0	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

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CLIENT: United Nuclear Corp
 Work Order: C01100230
 Project: Zone 3

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: E200.8

Sample ID: C01090644-004CMS		SampType: MS	TestCode: ICPMS-200.8-W-D			Units: mg/L	Prep Date:			Run ID: ICPMS1-C_011012A		
Client ID:		Batch ID: ICPMS10120	TestNo: E200.8			Analysis Date: 10/13/2001			SeqNo: 53019			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	0.4463	1.00	0.5	0	89.3	70	130	0	0	0	J	
Beryllium	0.4379	0.100	0.5	0	87.6	70	130	0	0	0		
Cadmium	0.4494	0.100	0.5	0.000616	89.8	70	130	0	0	0		
Cobalt	0.4099	0.100	0.5	0	82	70	130	0	0	0		
Lead	0.471	0.500	0.5	0.003276	93.5	70	130	0	0	0	J	
Manganese	0.6035	0.100	0.5	0	121	70	130	0	0	0		
Molybdenum	0.4263	1.00	0.5	0	85.3	70	130	0	0	0	J	
Nickel	0.3914	0.500	0.5	0	78.3	70	130	0	0	0	J	
Uranium	0.4904	0.00300	0.5	0.02567	92.9	70	130	0	0	0		
Vanadium	0.4789	1.00	0.5	0	95.8	70	130	0	0	0	J	

Sample ID: C01090646-003BMS		SampType: MS	TestCode: ICPMS-200.8-W-D			Units: mg/L	Prep Date:			Run ID: ICPMS1-C_011012A		
Client ID:		Batch ID: ICPMS10120	TestNo: E200.8			Analysis Date: 10/13/2001			SeqNo: 53045			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	0.4527	1.0	0.5	0	90.5	70	130	0	0	0	J	
Beryllium	0.4686	0.10	0.5	0	93.7	70	130	0	0	0		
Cadmium	0.4871	0.10	0.5	0	97.4	70	130	0	0	0		
Cobalt	0.4437	0.10	0.5	0.000253	88.7	70	130	0	0	0		
Lead	0.4885	0.50	0.5	0.001971	97.3	70	130	0	0	0	J	
Manganese	0.4569	0.10	0.5	0	91.4	70	130	0	0	0		
Molybdenum	2.387	1.0	0.5	1.952	87	70	130	0	0	0		
Nickel	0.4291	0.50	0.5	0.002886	85.2	70	130	0	0	0	J	
Uranium	1.71	0.0030	0.5	1.198	102	70	130	0	0	0		
Vanadium	0.502	1.0	0.5	0.01329	97.7	70	130	0	0	0	J	

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

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CLIENT: United Nuclear Corp
 Work Order: C01100230
 Project: Zone 3

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: E200.8

Sample ID: C01090564-003BMS	SampType: MSD	TestCode: ICPMS-200.8-W-D	Units: mg/L	Prep Date:	Run ID: ICPMS1-C_011012A						
Client ID:	Batch ID: ICPMS10120	TestNo: E200.8		Analysis Date: 10/12/2001	SeqNo: 52934						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.04525	0.10	0.05	0	90.5	70	130	0.04663	0	20	J
Beryllium	0.04239	0.010	0.05	0	84.8	70	130	0.04413	4.02	20	
Cadmium	0.04714	0.010	0.05	0.000221	93.8	70	130	0.04784	1.47	20	
Cobalt	0.04162	0.010	0.05	0	83.2	70	130	0.043	3.26	20	
Lead	0.05005	0.050	0.05	0.000374	99.4	70	130	0.04983	0.441	20	
Manganese	0.04482	0.010	0.05	0	89.6	70	130	0.04615	2.92	20	
Molybdenum	0.04415	0.10	0.05	0.000758	86.8	70	130	0.04588	0	20	J
Nickel	0.04031	0.050	0.05	0	80.6	70	130	0.04183	0	20	J
Uranium	0.05066	0.00030	0.05	0.002166	97	70	130	0.05148	1.61	20	
Vanadium	0.05597	0.10	0.05	0.007266	97.4	70	130	0.05718	0	20	J

Sample ID: C01090574-001BMS	SampType: MSD	TestCode: ICPMS-200.8-W-D	Units: mg/L	Prep Date:	Run ID: ICPMS1-C_011012A						
Client ID:	Batch ID: ICPMS10120	TestNo: E200.8		Analysis Date: 10/12/2001	SeqNo: 52948						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.4209	1.0	0.5	0	84.2	70	130	0.4684	0	20	J
Beryllium	0.425	0.10	0.5	0	85	70	130	0.475	11.1	20	
Cadmium	0.4666	0.10	0.5	0	93.3	70	130	0.5131	9.49	20	
Cobalt	0.4093	0.10	0.5	0	81.9	70	130	0.459	11.4	20	
Lead	0.494	0.50	0.5	0.001657	98.5	70	130	0.544	0	20	J
Manganese	0.4386	0.10	0.5	0	87.7	70	130	0.4918	11.4	20	
Molybdenum	0.4327	1.0	0.5	0.00135	86.3	70	130	0.4742	0	20	J
Nickel	0.397	0.50	0.5	0	79.4	70	130	0.4404	0	20	J
Uranium	0.7726	0.0030	0.5	0.2916	96.2	70	130	0.8261	6.69	20	
Vanadium	0.496	1.0	0.5	0.004473	98.3	70	130	0.5464	0	20	J

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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
Work Order: C01100230
Project: Zone 3

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: E353.2

Sample ID: MBLK-3	SampType: MBLK	TestCode: N-NO3+NO2-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011010B						
Client ID:	Batch ID: A2001-10-09_	TestNo: E353.2		Analysis Date: 10/10/2001	SeqNo: 50230						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.100									

Sample ID: MBLK-22	SampType: MBLK	TestCode: N-NO3+NO2-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011010B						
Client ID:	Batch ID: A2001-10-09_	TestNo: E353.2		Analysis Date: 10/10/2001	SeqNo: 50249						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.100									

Sample ID: C01100228-015DMS	SampType: MS	TestCode: N-NO3+NO2-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011010B						
Client ID:	Batch ID: A2001-10-09_	TestNo: E353.2		Analysis Date: 10/10/2001	SeqNo: 50244						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	284	20.0	140	152	94.3	80	120	0	0	0	

Sample ID: C01100229-005DMS	SampType: MS	TestCode: N-NO3+NO2-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011010B						
Client ID:	Batch ID: A2001-10-09_	TestNo: E353.2		Analysis Date: 10/10/2001	SeqNo: 50253						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	2.13	0.100	2	0	106	80	120	0	0	0	

Sample ID: C01100294-003CMS	SampType: MS	TestCode: N-NO3+NO2-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011010B						
Client ID:	Batch ID: A2001-10-09_	TestNo: E353.2		Analysis Date: 10/10/2001	SeqNo: 50267						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	2.12	0.100	2	0	106	80	120	0	0	0	

10230R00012

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01100230
 Project: Zone 3

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: E353.2

Sample ID: C01100229-005DMS	SampType: MSD	TestCode: N-NO3+NO2-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011010B						
Client ID:	Batch ID: A2001-10-09_	TestNo: E353.2	Analysis Date: 10/10/2001	SeqNo: 50254							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	2.04	0.100	2	0	102	80	120	2.13	4.32	20	

Sample ID: C01100228-010DDU	SampType: DUP	TestCode: N-NO3+NO2-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011010B						
Client ID:	Batch ID: A2001-10-09_	TestNo: E353.2	Analysis Date: 10/10/2001	SeqNo: 50237							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	92.5	5.00	0	0				91.5	1.09	20	

TRACKING NO. PASTE NO.
 10230R00013

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01100230
 Project: Zone 3

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: E624

Sample ID: Method Blank #	SampType: MBLK	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS1-C_011015B						
Client ID:	Batch ID: R2647	TestNo: E624		Analysis Date: 10/15/2001	SeqNo: 54174						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloroform ND 1.00

Sample ID: C01100228-006E	SampType: MS	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS1-C_011015B						
Client ID:	Batch ID: R2647	TestNo: E624		Analysis Date: 10/16/2001	SeqNo: 54175						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloroform 79.5 10.0 100 0.65 78.8 70 130 0 0 0

Sample ID: C01100228-006E	SampType: MSD	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS1-C_011015B						
Client ID:	Batch ID: R2647	TestNo: E624		Analysis Date: 10/16/2001	SeqNo: 54176						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloroform 80.7 10.0 100 0.65 80 70 130 79.5 1.50 20

TRACKING NO. 10230R00014
 PAGE NO.

ND - Not Detected at the Reporting Limit
 S - Spike Recovery outside accepted recovery limits
 B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits
 R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
Work Order: C01100230
Project: Zone 3

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: E900.0

Sample ID: MB-R2793	SampType: MBLK	TestCode: RAD-G-ALPHA-W- Units: pCi/L	Prep Date:	Run ID: TENNELEC-2_011015B							
Client ID:	Batch ID: R2793	TestNo: E900.0	Analysis Date: 10/15/2001	SeqNo: 57361							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gross Alpha	ND	1.0									

Sample ID: C01100134-002AMS	SampType: MS	TestCode: RAD-G-ALPHA-W- Units: pCi/L	Prep Date:	Run ID: TENNELEC-2_011015B							
Client ID:	Batch ID: R2793	TestNo: E900.0	Analysis Date: 10/15/2001	SeqNo: 57376							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gross Alpha	299.3	1.0	303.1	0	98.7	70	130	0	0	0	

Sample ID: C01100134-002AMS	SampType: MSD	TestCode: RAD-G-ALPHA-W- Units: pCi/L	Prep Date:	Run ID: TENNELEC-2_011015B							
Client ID:	Batch ID: R2793	TestNo: E900.0	Analysis Date: 10/15/2001	SeqNo: 57375							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gross Alpha	299.3	1.0	305.6	0	97.9	70	130	299.3	0	30	

TRACKING NO. PAGE NO.
10230R00015

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01100230
 Project: Zone 3

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: E907.0

Sample ID: MB-R2727	SampType: MBLK	TestCode: RAD-TH-ISO-S	Units: pCi/L	Prep Date:	Run ID: EGG-ORTEC_011015A
Client ID:	Batch ID: R2727	TestNo: E907.0		Analysis Date: 10/15/2001	SeqNo: 55922
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Thorium 230	0	0.20			

Sample ID: C01100230-002AMS	SampType: MS	TestCode: RAD-TH-ISO-S	Units: pCi/g	Prep Date:	Run ID: EGG-ORTEC_011015A
Client ID: NBL-1	Batch ID: R2727	TestNo: E907.0		Analysis Date: 10/15/2001	SeqNo: 55946
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Thorium 230	143.4	0.20	125	0	115 70 130 0 0 0

Sample ID: C01100230-002ADU	SampType: DUP	TestCode: RAD-TH-ISO-S	Units: pCi/g	Prep Date:	Run ID: EGG-ORTEC_011015A
Client ID: NBL-1	Batch ID: R2727	TestNo: E907.0		Analysis Date: 10/15/2001	SeqNo: 55943
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Thorium 230	132.6	0.20	0	0	143.4 0 0

Sample ID: C01100230-002AMS	SampType: MS	TestCode: RAD-TH-ISO-W	Units: pCi/g	Prep Date:	Run ID: EGG-ORTEC_011015A
Client ID: NBL-1	Batch ID: R2727	TestNo: E907.0		Analysis Date: 10/15/2001	SeqNo: 55948
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Thorium 230	143.4	0.20	125	0	115 70 130 0 0 0

Sample ID: C01100230-002ADU	SampType: DUP	TestCode: RAD-TH-ISO-W	Units: pCi/g	Prep Date:	Run ID: EGG-ORTEC_011015A
Client ID: NBL-1	Batch ID: R2727	TestNo: E907.0		Analysis Date: 10/15/2001	SeqNo: 55947
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Thorium 230	132.6	0.20	0	0	143.4 0 0

10230R00016

TRACKING NO. PAGE NO.

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01100230
 Project: Zone 3

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: NERHL-65-4

Sample ID: MB-R2785	SampType: MBLK	TestCode: RAD-PB210-W-D	Units: pCi/L	Prep Date:	Run ID: BECKMAN 6000_01101						
Client ID:	Batch ID: R2785	TestNo: NERHL-65-4		Analysis Date: 10/17/2001	SeqNo: 57090						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	ND	1.0									

Sample ID: C01100160-001AMS	SampType: MS	TestCode: RAD-PB210-W-D	Units: pCi/L	Prep Date:	Run ID: BECKMAN 6000_01101						
Client ID:	Batch ID: R2785	TestNo: NERHL-65-4		Analysis Date: 10/17/2001	SeqNo: 57105						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	33.8	1.0	37.8	0	89.4	0	0	0	0	0	S

Sample ID: C01100160-002ADU	SampType: DUP	TestCode: RAD-PB210-W-D	Units: pCi/L	Prep Date:	Run ID: BECKMAN 6000_01101						
Client ID:	Batch ID: R2785	TestNo: NERHL-65-4		Analysis Date: 10/17/2001	SeqNo: 57104						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	ND	1.0	0	0				0	0	0	

TRACKING NO. 10230R00017
 PAGE NO.

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
 Work Order: C01100228
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: A2320 B

Sample ID: C149531BLK	SampType: MBLK	TestCode: ALK-W	Units: mg/L	Prep Date:	Run ID: ORION_011010A						
Client ID:	Batch ID: O-101001-2	TestNo: A2320 B		Analysis Date: 10/10/2001	SeqNo: 50400						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bicarbonate as HCO3	ND	1.00									

Sample ID: C149531BLK	SampType: MBLK	TestCode: ALK-W	Units: mg/L	Prep Date:	Run ID: ORION_011011A						
Client ID:	Batch ID: O-101101-1	TestNo: A2320 B		Analysis Date: 10/11/2001	SeqNo: 50653						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bicarbonate as HCO3	ND	1.00									

Sample ID: C01100228-004C	SampType: DUP	TestCode: ALK-W	Units: mg/L	Prep Date:	Run ID: ORION_011010A						
Client ID: 803	Batch ID: O-101001-2	TestNo: A2320 B		Analysis Date: 10/10/2001	SeqNo: 50407						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bicarbonate as HCO3	1874	1.00	0	0				1885	0.553	0	
pH	7.3	0.0100	0	0				7.2	1.38	0	

Sample ID: C01100228-015C	SampType: DUP	TestCode: ALK-W	Units: mg/L	Prep Date:	Run ID: ORION_011011A						
Client ID: 627	Batch ID: O-101101-1	TestNo: A2320 B		Analysis Date: 10/11/2001	SeqNo: 50660						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bicarbonate as HCO3	610	1.00	0	0				608.8	0.197	0	
pH	7.7	0.0100	0	0				7.7	0	0	

TRACKING NO. 10228R00018
 PAGE NO.

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
Work Order: C01100228
Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: A2540 C

Sample ID: C01100219-002AMS	SampType: MS	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01100						
Client ID:	Batch ID: 011008A-SLD	TestNo: A2540 C	Analysis Date: 10/8/2001	SeqNo: 48922							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	9473	10.0	3333	6088	102	90	110	0	0	0	

Sample ID: C01100228-003BMS	SampType: MS	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01100						
Client ID: EPA-23 Duplicate	Batch ID: 011008A-SLD	TestNo: A2540 C	Analysis Date: 10/8/2001	SeqNo: 48934							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	6882	10.0	2326	4507	102	90	110	0	0	0	H

Sample ID: C01100228-013BMS	SampType: MS	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01100						
Client ID: GW-3	Batch ID: 011008A-SLD	TestNo: A2540 C	Analysis Date: 10/8/2001	SeqNo: 48948							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	7738	10.0	2778	5015	98	90	110	0	0	0	

Sample ID: C01100234-001BMS	SampType: MS	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01100						
Client ID:	Batch ID: 011008A-SLD	TestNo: A2540 C	Analysis Date: 10/8/2001	SeqNo: 48961							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	6975	10.0	3125	3893	98.6	90	110	0	0	0	

Sample ID: C01100201-003ADU	SampType: DUP	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01100						
Client ID:	Batch ID: 011008A-SLD	TestNo: A2540 C	Analysis Date: 10/8/2001	SeqNo: 48890							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	3778	10.0	0	0				3759	0.488	10	

Modifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

10228R00019

TRADING NO. PAGE NO.



CLIENT: United Nuclear Corp
Work Order: C01100228
Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: A3114 B

Sample ID: C01100229-002AMS		SampType: MS	TestCode: CVAA-ASIII-3114-		Units: mg/L	Prep Date:			Run ID: HYDRIDE1-C_011011B			
Client ID:		Batch ID: R2517	TestNo: A3114 B		Analysis Date: 10/11/2001			SeqNo: 51072				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Arsenic-III	0.0476	0.00100	0.05	0	95.2	85	115	0	0	0		

Sample ID: C01100229-005AMS		SampType: MS	TestCode: CVAA-ASIII-3114-		Units: mg/L	Prep Date:			Run ID: HYDRIDE1-C_011011B			
Client ID:		Batch ID: R2517	TestNo: A3114 B		Analysis Date: 10/11/2001			SeqNo: 51081				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Arsenic-III	0.0477	0.00100	0.05	0	95.4	85	115	0	0	0		

Sample ID: C01100228-008AMS		SampType: MSD	TestCode: CVAA-ASIII-3114-		Units: mg/L	Prep Date:			Run ID: HYDRIDE1-C_011011B			
Client ID: 801		Batch ID: R2517	TestNo: A3114 B		Analysis Date: 10/11/2001			SeqNo: 51058				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Arsenic-III	0.0471	0.00100	0.05	0	94.2	85	115	0.048	1.89	10		

Sample ID: C01100229-002AMS		SampType: MSD	TestCode: CVAA-ASIII-3114-		Units: mg/L	Prep Date:			Run ID: HYDRIDE1-C_011011B			
Client ID:		Batch ID: R2517	TestNo: A3114 B		Analysis Date: 10/11/2001			SeqNo: 51073				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Arsenic-III	0.0487	0.00100	0.05	0	97.4	85	115	0.0476	2.28	10		

Sample ID: C01100229-005AMS		SampType: MSD	TestCode: CVAA-ASIII-3114-		Units: mg/L	Prep Date:			Run ID: HYDRIDE1-C_011011B			
Client ID:		Batch ID: R2517	TestNo: A3114 B		Analysis Date: 10/11/2001			SeqNo: 51082				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Arsenic-III	0.0473	0.00100	0.05	0	94.6	85	115	0.0477	0.842	10		

10228R00020

Modifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01100228
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: A3114 B

Sample ID: C01100229-002AMS	SampType: MS	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011A						
Client ID:	Batch ID: R2503	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 50821						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.053	0.0010	0.05	0	106	85	115	0	0	0	

Sample ID: C01100229-005AMS	SampType: MS	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011A						
Client ID:	Batch ID: R2503	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 50830						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0526	0.0010	0.05	0	105	85	115	0	0	0	

Sample ID: C01100228-008AMS	SampType: MSD	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011A						
Client ID: 801	Batch ID: R2503	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 50807						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0501	0.0010	0.05	0	100	85	115	0.0495	1.20	10	

Sample ID: C01100229-002AMS	SampType: MSD	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011A						
Client ID:	Batch ID: R2503	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 50822						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0527	0.0010	0.05	0	105	85	115	0.053	0.568	10	

Sample ID: C01100229-005AMS	SampType: MSD	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011011A						
Client ID:	Batch ID: R2503	TestNo: A3114 B		Analysis Date: 10/11/2001	SeqNo: 50831						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0522	0.0010	0.05	0	104	85	115	0.0526	0.763	10	

10228R00021

Qualifiers:

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
Work Order: C01100228
Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: A4500-NH3 G

Sample ID: C01100228-002DMS	SampType: MS	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011008A						
Client ID: EPA-23	Batch ID: A2001-10-08_	TestNo: A4500-NH3 G		Analysis Date: 10/8/2001	SeqNo: 48049						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	3.24	0.100	1.99	1.15	105	80	120	0	0	0	

Sample ID: C01100228-012DMS	SampType: MS	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011008A						
Client ID: EPA-28	Batch ID: A2001-10-08_	TestNo: A4500-NH3 G		Analysis Date: 10/8/2001	SeqNo: 48065						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	2.06	0.0500	2	0.04	101	80	120	0	0	0	

Sample ID: C01100230-002DMS	SampType: MS	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011008A						
Client ID:	Batch ID: A2001-10-08_	TestNo: A4500-NH3 G		Analysis Date: 10/8/2001	SeqNo: 48081						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	2.42	0.0500	2	0.29	106	80	120	0	0	0	

Sample ID: C01100081-005ADU	SampType: DUP	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011008A						
Client ID:	Batch ID: A2001-10-08_	TestNo: A4500-NH3 G		Analysis Date: 10/8/2001	SeqNo: 47979						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.24	0.0500	0	0				0.24	0	20	

Sample ID: C01100143-002BDU	SampType: DUP	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011008A						
Client ID:	Batch ID: A2001-10-08_	TestNo: A4500-NH3 G		Analysis Date: 10/8/2001	SeqNo: 47996						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.11	0.0500	0	0				0.11	0	20	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

10228R00022
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 PAGE NO



CLIENT: United Nuclear Corp
 Work Order: C01100228
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: E200.8

Sample ID: C01100011-006AMS	SampType: MS	TestCode: ICPMS-200.8-W-D	Units: mg/L	Prep Date:	Run ID: ICPMS1-C_011023A						
Client ID:	Batch ID: ICPMS10230	TestNo: E200.8	Analysis Date: 10/24/2001	SeqNo: 59719							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.3576	0.10	0.5	0	71.5	70	130	0	0	0	
Beryllium	0.466	0.010	0.5	0	93.2	70	130	0	0	0	
Cadmium	0.4818	0.010	0.5	0	96.4	70	130	0	0	0	
Cobalt	0.5041	0.010	0.5	0.000843	101	70	130	0	0	0	
Lead	0.4809	0.050	0.5	0.003304	95.5	70	130	0	0	0	
Manganese	0.5019	0.010	0.5	0	100	70	130	0	0	0	
Molybdenum	0.4705	0.10	0.5	0	94.1	70	130	0	0	0	
Nickel	0.514	0.050	0.5	0.01443	99.9	70	130	0	0	0	
Uranium	0.5626	0.00040	0.5	0.0685	98.8	70	130	0	0	0	
Vanadium	0.4978	0.10	0.5	0.004717	98.6	70	130	0	0	0	

Sample ID: C01100015-004AMS	SampType: MS	TestCode: ICPMS-200.8-W-D	Units: mg/L	Prep Date:	Run ID: ICPMS1-C_011023A						
Client ID:	Batch ID: ICPMS10230	TestNo: E200.8	Analysis Date: 10/24/2001	SeqNo: 59735							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.3564	0.10	0.5	0	71.3	70	130	0	0	0	
Beryllium	0.4852	0.010	0.5	0.00016	97	70	130	0	0	0	
Cadmium	0.476	0.010	0.5	0.000791	95	70	130	0	0	0	
Cobalt	0.4336	0.010	0.5	0.000839	86.6	70	130	0	0	0	
Lead	0.4778	0.050	0.5	0.001419	95.3	70	130	0	0	0	
Manganese	0.433	0.010	0.5	0	86.6	70	130	0	0	0	
Molybdenum	0.4894	0.10	0.5	0	97.9	70	130	0	0	0	
Nickel	0.4398	0.050	0.5	0.01061	85.8	70	130	0	0	0	
Uranium	0.5486	0.00040	0.5	0.04357	101	70	130	0	0	0	
Vanadium	0.4662	0.10	0.5	0	93.2	70	130	0	0	0	

10228R00023

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01100228
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: E200.8

Sample ID: C01100228-010AMS		SampType: MSD		TestCode: ICPMS-200.8-W-D		Units: mg/L		Prep Date:		Run ID: ICPMS1-C_011023A	
Client ID: GW-1		Batch ID: ICPMS10230		TestNo: E200.8		Analysis Date: 10/23/2001		SeqNo: 59529			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.4712	0.010	0.5	0	94.2	70	130	0.4806	1.98	20	
Cadmium	0.4968	0.010	0.5	0.000935	99.2	70	130	0.5034	1.32	20	
Cobalt	0.4658	0.010	0.5	0.001472	92.9	70	130	0.4822	3.46	20	
Lead	0.5143	0.050	0.5	0.00299	102	70	130	0.5174	0.601	20	
Molybdenum	0.5173	0.10	0.5	0	103	70	130	0.5387	4.05	20	
Nickel	0.4711	0.050	0.5	0.006	93	70	130	0.4874	3.40	20	
Uranium	0.618	0.00040	0.5	0.09034	106	70	130	0.6232	0.838	20	
Vanadium	0.5032	0.10	0.5	0.000286	101	70	130	0.5152	2.36	20	

Sample ID: C01100229-005AMS		SampType: MSD		TestCode: ICPMS-200.8-W-D		Units: mg/L		Prep Date:		Run ID: ICPMS1-C_011023A	
Client ID:		Batch ID: ICPMS10230		TestNo: E200.8		Analysis Date: 10/23/2001		SeqNo: 59591			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.4174	0.10	0.5	0	83.5	70	130	0.3947	5.59	20	
Beryllium	0.5128	0.010	0.5	0	103	70	130	0.496	3.33	20	
Cadmium	0.514	0.010	0.5	0.000288	103	70	130	0.4922	4.33	20	
Cobalt	0.5338	0.010	0.5	0.000103	107	70	130	0.5082	4.91	20	
Lead	0.5105	0.050	0.5	0.002511	102	70	130	0.5008	1.92	20	
Manganese	0.5297	0.010	0.5	0.003278	105	70	130	0.507	4.38	20	
Molybdenum	0.5304	0.10	0.5	0	106	70	130	0.4983	6.24	20	
Nickel	0.5329	0.050	0.5	0.002913	106	70	130	0.5086	4.67	20	
Uranium	0.5173	0.00040	0.5	0	103	70	130	0.4973	3.94	20	
Vanadium	0.514	0.10	0.5	0.000099	103	70	130	0.4964	3.48	20	

Sample ID: C01100434-004AMS		SampType: MSD		TestCode: ICPMS-200.8-W-D		Units: mg/L		Prep Date:		Run ID: ICPMS1-C_011023A	
Client ID:		Batch ID: ICPMS10230		TestNo: E200.8		Analysis Date: 10/23/2001		SeqNo: 59605			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

10228R00024



CLIENT: United Nuclear Corp
Work Order: C01100228
Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: E353.2

Sample ID: C01100306-012AMS		SampType: MS	TestCode: N-NO3+NO2-DW		Units: mg/L	Prep Date:			Run ID: TECHNICON_011010A		
Client ID:		Batch ID: A2001-10-09_	TestNo: E353.2		Analysis Date: 10/10/2001			SeqNo: 49975			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	15.9	1.00	9.83	6.5	95.6	80	120	0	0	0	*

Sample ID: C01100306-006ADU		SampType: DUP	TestCode: N-NO3+NO2-DW		Units: mg/L	Prep Date:			Run ID: TECHNICON_011010A		
Client ID:		Batch ID: A2001-10-09_	TestNo: E353.2		Analysis Date: 10/10/2001			SeqNo: 49967			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	8.85	0.500	0	0				9.05	2.23	20	

Sample ID: MBLK-4		SampType: MBLK	TestCode: N-NO3+NO2-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011010A		
Client ID:		Batch ID: A2001-10-09_	TestNo: E353.2		Analysis Date: 10/10/2001			SeqNo: 49922			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.100									

Sample ID: MBLK-22		SampType: MBLK	TestCode: N-NO3+NO2-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011010A		
Client ID:		Batch ID: A2001-10-09_	TestNo: E353.2		Analysis Date: 10/10/2001			SeqNo: 49940			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.100									

Sample ID: MBLK-42		SampType: MBLK	TestCode: N-NO3+NO2-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011010A		
Client ID:		Batch ID: A2001-10-09_	TestNo: E353.2		Analysis Date: 10/10/2001			SeqNo: 49960			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.100									

10228R00025
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

CLIENT: United Nuclear Corp
 Work Order: C01100228
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: E624

Sample ID: C01100228-006E	SampType: MS	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS1-C_011011D						
Client ID: 802	Batch ID: R2645	TestNo: E624		Analysis Date: 10/16/2001	SeqNo: 54156						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	79.5	10.0	100	0.65	78.8	70	130	0	0	0	

Sample ID: C01100228-006E	SampType: MS	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS1-C_011015A						
Client ID: 802	Batch ID: R2646	TestNo: E624		Analysis Date: 10/16/2001	SeqNo: 54167						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	79.5	10.0	100	0.65	78.8	70	130	0	0	0	

Sample ID: C01100228-006E	SampType: MS	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS1-C_011015B						
Client ID: 802	Batch ID: R2647	TestNo: E624		Analysis Date: 10/16/2001	SeqNo: 54175						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	79.5	10.0	100	0.65	78.8	70	130	0	0	0	

Sample ID: C01100065-006D	SampType: MSD	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS1-C_011011D						
Client ID:	Batch ID: R2645	TestNo: E624		Analysis Date: 10/12/2001	SeqNo: 54140						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	89.8	10.0	100	4.02	85.8	70	130	87.5	2.59	20	

Sample ID: C01100228-006E	SampType: MSD	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS1-C_011011D						
Client ID: 802	Batch ID: R2645	TestNo: E624		Analysis Date: 10/16/2001	SeqNo: 54157						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	80.7	10.0	100	0.65	80	70	130	79.5	1.50	20	

10228R00026

TRACER NO. PAGE NO.

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
Work Order: C01100228
Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: E900.0

Sample ID: MB-R3036	SampType: MBLK	TestCode: RAD-G-ALPHA-W-	Units: pCi/L	Prep Date:	Run ID: TENNELEC-1_011016A						
Client ID:	Batch ID: R3036	TestNo: E900.0	Analysis Date: 10/16/2001	SeqNo: 62095							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gross Alpha	ND	1.0									

Sample ID: C01100413-001AMS	SampType: MS	TestCode: RAD-G-ALPHA-W-	Units: pCi/L	Prep Date:	Run ID: TENNELEC-1_011016A						
Client ID:	Batch ID: R3036	TestNo: E900.0	Analysis Date: 10/16/2001	SeqNo: 62119							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gross Alpha	320.7	1.0	303.1	0	106	70	130	320.7	0	0	

10228R00027
TRACKING NO.
PAGE NO.

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
Work Order: C01100228
Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: E907.0

Sample ID: MB-R2862	SampType: MBLK	TestCode: RAD-TH-ISO-W	Units: pCi/L	Prep Date:	Run ID: EGG-ORTEC_011016A						
Client ID:	Batch ID: R2862	TestNo: E907.0		Analysis Date: 10/16/2001	SeqNo: 58558						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium 230	ND	0.20									

Sample ID: C01100229-005AMS	SampType: MS	TestCode: RAD-TH-ISO-W	Units: pCi/L	Prep Date:	Run ID: EGG-ORTEC_011016A						
Client ID:	Batch ID: R2862	TestNo: E907.0		Analysis Date: 10/16/2001	SeqNo: 58581						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium 230	141.8	0.20	125	0.6	113	70	130	0	0	0	

Sample ID: C01100229-005ADU	SampType: DUP	TestCode: RAD-TH-ISO-W	Units: pCi/L	Prep Date:	Run ID: EGG-ORTEC_011016A						
Client ID:	Batch ID: R2862	TestNo: E907.0		Analysis Date: 10/16/2001	SeqNo: 58580						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium 230	132.3	0.20	0	0				141.8	6.93	0	

10228R00028
TRACKING NO. PAGE NO.

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01100228
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 08-Nov-01

TestNo: NERHL-65-4

Sample ID: MB-R2860	SampType: MBLK	TestCode: RAD-PB210-W-D	Units: pCi/L	Prep Date:	Run ID: BECKMAN 6000_01100						
Client ID:	Batch ID: R2860	TestNo: NERHL-65-4		Analysis Date: 10/9/2001	SeqNo: 58533						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	ND	1.0									

Sample ID: C01100228-001AMS	SampType: MS	TestCode: RAD-PB210-W-D	Units: pCi/L	Prep Date:	Run ID: BECKMAN 6000_01100						
Client ID: 509-D	Batch ID: R2860	TestNo: NERHL-65-4		Analysis Date: 10/9/2001	SeqNo: 58551						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	32.5	1.0	37.81	0	86	0	0	0	0	0	S

Sample ID: C01100228-002ADU	SampType: DUP	TestCode: RAD-PB210-W-D	Units: pCi/L	Prep Date:	Run ID: BECKMAN 6000_01100						
Client ID: EPA-23	Batch ID: R2860	TestNo: NERHL-65-4		Analysis Date: 10/9/2001	SeqNo: 58550						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	ND	1.0	0	0				0	0	0	

TRACKING NO
 10228R00029
 PAGE NO

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

APPENDIX C

MONTHLY

**LABORATORY QUALITY CONTROL AND
PERFORMANCE REPORT**



CLIENT: United Nuclear Corp
Work Order: C01080349
Project: Quarterly Long List-Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 18-Oct-01

TestNo: A2320 B

Sample ID: C01080339-002A	SampType: DUP	TestCode: ALK-W	Units: mg/L	Prep Date:	Run ID: ORION_010817D						
Client ID:	Batch ID: O-081701-2	TestNo: A2320 B		Analysis Date: 8/17/2001	SeqNo: 18784						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bicarbonate as HCO3	104.3	1.00	0	0	0	0	0	103.7	0.577	0	

Sample ID: C01080349-003C	SampType: DUP	TestCode: ALK-W	Units: mg/L	Prep Date:	Run ID: ORION_010821B						
Client ID: EPA-23 DUPLICATE	Batch ID: O-082101-2	TestNo: A2320 B		Analysis Date: 8/21/2001	SeqNo: 19732						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bicarbonate as HCO3	1060	1.00	0	0	0	0	0	1064	0.339	0	
pH	7.2	0.0100	0	0	0	0	0	7.2	0	0	

Sample ID: C01080351-001C	SampType: DUP	TestCode: ALK-W	Units: mg/L	Prep Date:	Run ID: ORION_010821C						
Client ID:	Batch ID: O-082101-3	TestNo: A2320 B		Analysis Date: 8/21/2001	SeqNo: 21429						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bicarbonate as HCO3	1923	1.00	0	0	0	0	0	1949	1.36	0	H
pH	7.2	0.0100	0	0	0	0	0	7.2	0	0	H

Qualifiers:

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

00249100017
 TRACING NO.
 AGE NO.



CLIENT: United Nuclear Corp
Work Order: C01080349
Project: Quarterly Long List-Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 18-Oct-01

TestNo: A3114 B

Sample ID: C01080349-008A	SampType: MS	TestCode: CVAA-ASIII-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_010822C						
Client ID: GW-1	Batch ID: R1024	TestNo: A3114 B		Analysis Date: 8/22/2001	SeqNo: 20606						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0483	0.0010	0.05	0	96.6	85	115	0	0		

Sample ID: C01080349-008A	SampType: MSD	TestCode: CVAA-ASIII-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_010822C						
Client ID: GW-1	Batch ID: R1024	TestNo: A3114 B		Analysis Date: 8/22/2001	SeqNo: 20607						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.048	0.0010	0.05	0	96	85	115	0.0483	0.623	10	

Sample ID: C01080531-001A	SampType: DUP	TestCode: CVAA-ASIII-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_010822C						
Client ID:	Batch ID: R1024	TestNo: A3114 B		Analysis Date: 8/22/2001	SeqNo: 20617						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.5722	0.00100	0	0	0	0	0	0.5707	0.262	10	

Sample ID: C01080349-008A	SampType: MS	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_010823A						
Client ID: GW-1	Batch ID: R1035	TestNo: A3114 B		Analysis Date: 8/23/2001	SeqNo: 20729						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0476	0.0010	0.05	0	95.2	85	115	0	0		

Sample ID: C01080531-001A	SampType: MS	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_010823A						
Client ID:	Batch ID: R1035	TestNo: A3114 B		Analysis Date: 8/23/2001	SeqNo: 20741						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0497	0.0010	0.05	0	99.4	85	115	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

00019200019



CLIENT: United Nuclear Corp
Work Order: C01080349
Project: Quarterly Long List-Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 18-Oct-01

TestNo: A3114 B

Sample ID: C01080349-008A	SampType: MSD	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_010823A						
Client ID: GW-1	Batch ID: R1035	TestNo: A3114 B		Analysis Date: 8/23/2001	SeqNo: 20730						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0484	0.0010	0.05	0	96.8	85	115	0.0476	1.67	10	

Sample ID: C01080531-001A	SampType: MSD	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_010823A						
Client ID:	Batch ID: R1035	TestNo: A3114 B		Analysis Date: 8/23/2001	SeqNo: 20742						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0492	0.0010	0.05	0	98.4	85	115	0.0497	1.01	10	

Sample ID: C01080531-001A	SampType: DUP	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_010823A						
Client ID:	Batch ID: R1035	TestNo: A3114 B		Analysis Date: 8/23/2001	SeqNo: 20740						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	ND	0.0010	0	0	0	0	0	0	0	10	

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 TRACKING NO.
 CASE NO.

Qualifiers:

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
Work Order: C01080349
Project: Quarterly Long List-Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 18-Oct-01

TestNo: A4500-NH3 G

Sample ID: C01080349-002D		SampType: MS		TestCode: N-NH3-W		Units: mg/L		Prep Date:		Run ID: TECHNICON_010820A		
Client ID: EPA-23		Batch ID: A2001-08-20_		TestNo: A4500-NH3 G				Analysis Date: 8/20/2001		SeqNo: 18739		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Nitrogen, Ammonia as N	3.4	0.10	1.99	1.1	116	80	120	0		0		

Sample ID: C01080349-012D		SampType: MS		TestCode: N-NH3-W		Units: mg/L		Prep Date:		Run ID: TECHNICON_010820A		
Client ID: GW-3		Batch ID: A2001-08-20_		TestNo: A4500-NH3 G				Analysis Date: 8/20/2001		SeqNo: 18745		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Nitrogen, Ammonia as N	2.22	0.050	2	0.11	106	80	120	0		0		

Sample ID: C01080411-001C		SampType: MS		TestCode: N-NH3-W		Units: mg/L		Prep Date:		Run ID: TECHNICON_010820A		
Client ID:		Batch ID: A2001-08-20_		TestNo: A4500-NH3 G				Analysis Date: 8/20/2001		SeqNo: 18763		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Nitrogen, Ammonia as N	30.9	0.50	9.62	22.05	92	80	120	0		0		

Sample ID: C01080339-005C		SampType: DUP		TestCode: N-NH3-W		Units: mg/L		Prep Date:		Run ID: TECHNICON_010820A		
Client ID:		Batch ID: A2001-08-20_		TestNo: A4500-NH3 G				Analysis Date: 8/20/2001		SeqNo: 18721		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Nitrogen, Ammonia as N	0.03	0.050	0	0	0	0	0	0	0	0	20 J	

Sample ID: C01080349-007D		SampType: DUP		TestCode: N-NH3-W		Units: mg/L		Prep Date:		Run ID: TECHNICON_010820A		
Client ID: 632		Batch ID: A2001-08-20_		TestNo: A4500-NH3 G				Analysis Date: 8/20/2001		SeqNo: 18736		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Nitrogen, Ammonia as N	0.3	0.050	0	0	0	0	0	0.31	3.28	20		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

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CLIENT: United Nuclear Corp
Work Order: C01080349
Project: Quarterly Long List-Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 18-Oct-01

TestNo: E200.7

Sample ID: C01080270-001A		SampType: MS1		TestCode: ICP-200.7-W-D		Units: mg/L		Prep Date:		Run ID: ICP1-C_010817A	
Client ID:		Batch ID: ICP081701A		TestNo: E200.7		Analysis Date: 8/17/2001		SeqNo: 18093			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	1108	10.0	500	618	98	80	120	0	0		
Magnesium	625	10.0	500	128.7	99.3	80	120	0	0		
Potassium	478.9	10.0	500	10.63	93.7	80	120	0	0		
Sodium	693	10.0	500	224.6	93.7	80	120	0	0		

Sample ID: C01080522-001C		SampType: MS1		TestCode: ICP-200.7-W-T		Units: mg/L		Prep Date:		Run ID: ICP1-C_010821A	
Client ID:		Batch ID: ICP082101A		TestNo: E200.7		Analysis Date: 8/21/2001		SeqNo: 20060			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	566	10.0	500	91.9	94.8	80	120	0	0		
Magnesium	518	10.0	500	21.75	99.2	80	120	0	0		
Potassium	479	10.0	500	8.49	94.1	80	120	0	0		
Sodium	515	10.0	500	34.54	96.1	80	120	0	0		

TRACKING NO. 00349RD00022
 PAGE NO.

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
Work Order: C01080349
Project: Quarterly Long List-Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 18-Oct-01

TestNo: E200.8

Sample ID: C01080292-005AMS		SampType: MS		TestCode: ICPMS-200.8-PBC		Units: mg/L		Prep Date:		Run ID: ICPMS1-C_010828A		
Client ID:		Batch ID: ICPMS08280		TestNo: E200.8		Analysis Date: 8/28/2001		SeqNo: 24718				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Lead	0.05607	0.001	0.05	0.002442	107	70	130	0	0		*	

Sample ID: C01080340-002AMS		SampType: MS		TestCode: ICPMS-200.8-PBC		Units: mg/L		Prep Date:		Run ID: ICPMS1-C_010828B		
Client ID:		Batch ID: ICPMS08280		TestNo: E200.8		Analysis Date: 8/28/2001		SeqNo: 24737				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Lead	0.05321	0.001	0.05	0.00111	104	70	130	0	0		*	

Sample ID: C01080340-002AMS		SampType: MSD		TestCode: ICPMS-200.8-PBC		Units: mg/L		Prep Date:		Run ID: ICPMS1-C_010828B		
Client ID:		Batch ID: ICPMS08280		TestNo: E200.8		Analysis Date: 8/28/2001		SeqNo: 24738				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Lead	0.05417	0.001	0.05	0.00111	106	70	130	0.05321	1.79	20	*	

Sample ID: C01080349-006AMS		SampType: MS		TestCode: ICPMS-200.8-W-D		Units: mg/L		Prep Date:		Run ID: ICPMS1-C_010828B		
Client ID: 801		Batch ID: ICPMS08280		TestNo: E200.8		Analysis Date: 8/28/2001		SeqNo: 24749				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	0.5021	0.10	0.5	0.03356	93.7	70	130	0	0			
Beryllium	0.4705	0.010	0.5	0.000598	94	70	130	0	0			
Cadmium	0.487	0.010	0.5	0.00265	96.9	70	130	0	0			
Cobalt	0.4814	0.010	0.5	0.004085	95.5	70	130	0	0			
Lead	0.5113	0.050	0.5	0.000507	102	70	130	0	0			
Manganese	7.921	0.010	0.5	7.662	51.8	70	130	0	0		S	
Molybdenum	0.516	0.10	0.5	0.001138	103	70	130	0	0			
Nickel	0.5192	0.050	0.5	0.04986	93.9	70	130	0	0			
Uranium	0.6014	0.00030	0.5	0.04846	111	70	130	0	0			
Vanadium	0.4987	0.10	0.5	0.001505	99.4	70	130	0	0			

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

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 00519100022



CLIENT: United Nuclear Corp
 Work Order: C01080349
 Project: Quarterly Long List-Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 18-Oct-01

TestNo: E200.8

Sample ID: C01080351-002AMS		SampType: MSD	TestCode: ICPMS-200.8-W-D			Units: mg/L	Prep Date:			Run ID: ICPMS1-C_010828B		
Client ID:		Batch ID: ICPMS08280	TestNo: E200.8			Analysis Date: 8/28/2001			SeqNo: 24762			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	0.06729	0.10	0.05	0.01586	103	70	130	0.06425	0	20	J	
Beryllium	0.05186	0.010	0.05	0.000296	103	70	130	0.05127	1.14	20		
Cadmium	0.05302	0.010	0.05	0.000961	104	70	130	0.05204	1.87	20		
Cobalt	0.05283	0.010	0.05	0	106	70	130	0.05194	1.70	20		
Lead	0.05407	0.050	0.05	0.001576	105	70	130	0.052	3.90	20		
Manganese	0.05265	0.010	0.05	0.001087	103	70	130	0.05189	1.45	20		
Molybdenum	0.05278	0.10	0.05	0	106	70	130	0.051	0	20	J	
Nickel	0.054	0.050	0.05	0.000391	107	70	130	0.05226	3.27	20		
Uranium	0.05345	0.00030	0.05	0	107	70	130	0.05244	1.91	20		
Vanadium	0.05102	0.10	0.05	0	102	70	130	0.04968	0	20	J	

Sample ID: C01080383-004AMS		SampType: MSD	TestCode: ICPMS-200.8-W-D			Units: mg/L	Prep Date:			Run ID: ICPMS1-C_010828B		
Client ID:		Batch ID: ICPMS08280	TestNo: E200.8			Analysis Date: 8/28/2001			SeqNo: 24774			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	0.07674	0.10	0.05	0.02586	102	70	130	0.07468	0	20	J	
Beryllium	0.05186	0.010	0.05	0.000079	104	70	130	0.05237	0.979	20		
Cadmium	0.0505	0.010	0.05	0.000602	99.8	70	130	0.05129	1.55	20		
Cobalt	0.04053	0.010	0.05	0.002139	76.8	70	130	0.04647	13.7	20		
Lead	0.05318	0.050	0.05	0.000059	106	70	130	0.05305	0.245	20		
Manganese	0.1233	0.010	0.05	0.1003	46	70	130	0.1396	12.4	20	S	
Molybdenum	0.05326	0.10	0.05	0.001156	104	70	130	0.05412	0	20	J	
Nickel	0.04813	0.050	0.05	0.01056	75.1	70	130	0.05391	0	20	J	
Uranium	0.06764	0.00030	0.05	0.01225	111	70	130	0.06928	2.40	20		
Vanadium	0.04355	0.10	0.05	0	87.1	70	130	0.04521	0	20	J	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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CLIENT: United Nuclear Corp
 Work Order: C01080349
 Project: Quarterly Long List-Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 18-Oct-01

TestNo: E353.2

Sample ID: C01080349-003D	SampType: MS	TestCode: N-NO3+NO2-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010815C
Client ID: EPA-23 DUPLICATE	Batch ID: A2001-08-14_	TestNo: E353.2		Analysis Date: 8/15/2001	SeqNo: 16216

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	3.36	0.200	1.99	1.29	104	80	120	0	0		

Sample ID: C01080349-013D	SampType: MS	TestCode: N-NO3+NO2-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010815C
Client ID: EPA-25	Batch ID: A2001-08-14_	TestNo: E353.2		Analysis Date: 8/15/2001	SeqNo: 16232

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	169	10.0	81.6	94	91.9	80	120	0	0		

Sample ID: C01080339-006C	SampType: DUP	TestCode: N-NO3+NO2-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010815C
Client ID:	Batch ID: A2001-08-14_	TestNo: E353.2		Analysis Date: 8/15/2001	SeqNo: 16209

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.9	0.500	0	0	0	0	0	1.9	0	20	

Sample ID: C01080349-008D	SampType: DUP	TestCode: N-NO3+NO2-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010815C
Client ID: GW-1	Batch ID: A2001-08-14_	TestNo: E353.2		Analysis Date: 8/15/2001	SeqNo: 16225

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	82.5	5.00	0	0	0	0	0	84	1.80	20	

Sample ID: C01080376-002A	SampType: DUP	TestCode: N-NO3+NO2-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010815C
Client ID:	Batch ID: A2001-08-14_	TestNo: E353.2		Analysis Date: 8/15/2001	SeqNo: 16239

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	7.3	0.500	0	0	0	0	0	7.35	0.683	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

00069800025



CLIENT: United Nuclear Corp
Work Order: C01080349
Project: Quarterly Long List-Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 18-Oct-01

TestNo: E624

Sample ID: C01080349-013E	SampType: MS	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS2-C_010818C						
Client ID: EPA-25	Batch ID: R1232	TestNo: E624		Analysis Date: 8/19/2001	SeqNo: 24402						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	102.4	10.0	100	0	102	70	130	0	0		

Sample ID: C01080349-013E	SampType: MSD	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS2-C_010818C						
Client ID: EPA-25	Batch ID: R1232	TestNo: E624		Analysis Date: 8/19/2001	SeqNo: 24403						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	103.5	10.0	100	0	104	70	130	102.4	1.07	20	

TRACKING NO. 00049200025
 PAGE NO.

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01080349
 Project: Quarterly Long List-Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 18-Oct-01

TestNo: E903.0

Sample ID: C01080349-004A		SampType: MS		TestCode: RAD-RA226-W-D		Units: pCi/L		Prep Date:		Run ID: TENNELEC-2_010820B		
Client ID: 803		Batch ID: 01RA-229		TestNo: E903.0				Analysis Date: 8/26/2001		SeqNo: 38687		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Radium 226	174.8	0.20	202.1	0	86.5	70	130	0	0			

Sample ID: C01080349-002A		SampType: DUP		TestCode: RAD-RA226-W-D		Units: pCi/L		Prep Date:		Run ID: TENNELEC-2_010820B		
Client ID: EPA-23		Batch ID: 01RA-229		TestNo: E903.0				Analysis Date: 8/25/2001		SeqNo: 38670		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Radium 226	ND	0.20	0	0	0	70	130	0	0	30		

Sample ID: C01080349-003A		SampType: DUP		TestCode: RAD-RA226-W-D		Units: pCi/L		Prep Date:		Run ID: TENNELEC-2_010820B		
Client ID: EPA-23 DUPLICATE		Batch ID: 01RA-229		TestNo: E903.0				Analysis Date: 8/25/2001		SeqNo: 38672		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Radium 226	ND	0.20	0	0	0	70	130	0	0	30		

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

TRADE SHOW PAGE NO.
 00349R00027



CLIENT: United Nuclear Corp
 Work Order: C01080349
 Project: Quarterly Long List-Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 18-Oct-01

TestNo: E904.0

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	Run ID:						
C01080349-001A	MS	RAD-RA228-W-D	pCi/L		BERTHOLD 770_01082						
Client ID: 509-D	Batch ID: 01228165	TestNo: E904.0		Analysis Date: 9/6/2001	SeqNo: 30569						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 228	15.9	1.0	14.1	0	113	70	130	0	0		

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	Run ID:						
C01080349-002A	DUP	RAD-RA228-W-D	pCi/L		BERTHOLD 770_01082						
Client ID: EPA-23	Batch ID: 01228165	TestNo: E904.0		Analysis Date: 9/6/2001	SeqNo: 30571						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 228	2.9	1.0	0	0	0	70	130	0	200	30	R

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	Run ID:						
C01080349-003A	DUP	RAD-RA228-W-D	pCi/L		BERTHOLD 770_01082						
Client ID: EPA-23 DUPLICATE	Batch ID: 01228165	TestNo: E904.0		Analysis Date: 9/6/2001	SeqNo: 30573						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 228	ND	1.0	0	0	0	70	130	0	0	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

TRACKING NO. 2002491000020
 PAGE NO.



CLIENT: United Nuclear Corp
 Work Order: C01080349
 Project: Quarterly Long List-Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 18-Oct-01

TestNo: E907.0

Sample ID: C01080499-003AMS		SampType: MS	TestCode: RAD-TH230-W-D		Units: pCi/L	Prep Date:			Run ID: EGG-ORTEC_010824B		
Client ID:		Batch ID: R1653	TestNo: E907.0		Analysis Date: 8/24/2001			SeqNo: 33876			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium 230	134.6	0.20	125	0.9	107	0	0	0	0		S

Sample ID: C01080499-003ADU		SampType: DUP	TestCode: RAD-TH230-W-D		Units: pCi/L	Prep Date:			Run ID: EGG-ORTEC_010824B		
Client ID:		Batch ID: R1653	TestNo: E907.0		Analysis Date: 8/24/2001			SeqNo: 33875			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium 230	131.5	0.20	0	0	0	0	0	134.6	2.33	0	

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 TRACKING TAG PAGE NO

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01080349
 Project: Quarterly Long List-Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 18-Oct-01

TestNo: **NERHL-65-4**

Sample ID: C01080349-013A-MS		SampType: MS		TestCode: RAD-PB210-W-D		Units: pCi/L		Prep Date:		Run ID: BECKMAN 6000_01081		
Client ID: EPA-25		Batch ID: R1164		TestNo: NERHL-65-4		Analysis Date: 8/17/2001		SeqNo: 23014				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Lead 210	35.3	1.0	37.98	0	92.9	0	0	0	0	0	S	

Sample ID: C01080349-014A-DU		SampType: DUP		TestCode: RAD-PB210-W-D		Units: pCi/L		Prep Date:		Run ID: BECKMAN 6000_01081		
Client ID: 627		Batch ID: R1164		TestNo: NERHL-65-4		Analysis Date: 8/17/2001		SeqNo: 23015				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Lead 210	3.1	1.0	0	0	0	0	0	0	200	0		

TRACKING NO. 00349R000030
 PAGE NO.

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
 Work Order: C01090400
 Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: **A2320 B**

Sample ID: C01090394-001A	SampType: DUP	TestCode: ALK-W	Units: mg/L	Prep Date:	Run ID: ORION_010919A						
Client ID:	Batch ID: O-091901-1	TestNo: A2320 B		Analysis Date: 09/19/2001	SeqNo: 38384						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	326	1.0	0	0	0	0	0	332	1.82	10	
pH	7.2	0.010	0	0	0	0	0	7.2	0	0	

Sample ID: C01090400-008C	SampType: DUP	TestCode: ALK-W	Units: mg/L	Prep Date:	Run ID: ORION_010919A						
Client ID: 632	Batch ID: O-091901-2	TestNo: A2320 B		Analysis Date: 09/19/2001	SeqNo: 38402						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bicarbonate as HCO3	1700	1.0	0	0	0	0	0	1704	0.282	0	
pH	7	0.010	0	0	0	0	0	7	0	0	

TRACKING NO. PAE NO.
 90400R00017

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
Work Order: C01090400
Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: A2540 C

Sample ID: C01090351-001BMS		SampType: MS	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01091
Client ID:	Batch ID: 010917A-SLD	TestNo: A2540 C	Analysis Date: 09/17/2001			SeqNo: 37622
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Solids, Total Dissolved TDS @180 C	2277	10.0	2000	272	100	90 110 0 0

Sample ID: C01090376-001CMS		SampType: MS	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01091
Client ID:	Batch ID: 010917A-SLD	TestNo: A2540 C	Analysis Date: 09/17/2001			SeqNo: 37634
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Solids, Total Dissolved TDS @180 C	2337	10.0	1961	361.7	101	90 110 0 0 H

Sample ID: C01090379-001CMS		SampType: MS	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01091
Client ID:	Batch ID: 010917A-SLD	TestNo: A2540 C	Analysis Date: 09/17/2001			SeqNo: 37648
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Solids, Total Dissolved TDS @180 C	2994	10.0	1961	984.2	103	90 110 0 0

Sample ID: C01090385-002AMS		SampType: MS	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01091
Client ID:	Batch ID: 010917A-SLD	TestNo: A2540 C	Analysis Date: 09/17/2001			SeqNo: 37660
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Solids, Total Dissolved TDS @180 C	2315	10.0	2041	192.9	104	90 110 0 0

Sample ID: C01090394-001AMS		SampType: MS	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01091
Client ID:	Batch ID: 010917A-SLD	TestNo: A2540 C	Analysis Date: 09/17/2001			SeqNo: 37697
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Solids, Total Dissolved TDS @180 C	36360	10.0	20000	15920	102	90 110 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

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PAGE NO. PAGE NO.



CLIENT: United Nuclear Corp
Work Order: C01090400
Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: A2540 C

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	Run ID:						
C01090400-007BMS	MS	SLDS-TDS-W	mg/L		SLDS-BALANCE_01091						
Client ID: GW-2	Batch ID: 010917A-SLD	TestNo: A2540 C		Analysis Date: 09/17/2001	SeqNo: 37711						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @180 C	8160	10.0	2941	5274	98.1	90	110	0		0	
C01090385-002AMS	MSD	SLDS-TDS-W			SLDS-BALANCE_01091						
Client ID:	Batch ID: 010917A-SLD	TestNo: A2540 C		Analysis Date: 09/17/2001	SeqNo: 37661						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @180 C	2156	0	1949	192.9	101	80	120	2315	7.10	20	E
C01090320-005ADU	DUP	SLDS-TDS-W	mg/L		SLDS-BALANCE_01091						
Client ID:	Batch ID: 010917A-SLD	TestNo: A2540 C		Analysis Date: 09/17/2001	SeqNo: 37616						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @180 C	2505	10.0	0	0	0	0	0	2503	0.0724	10	
C01090373-001ADU	DUP	SLDS-TDS-W	mg/L		SLDS-BALANCE_01091						
Client ID:	Batch ID: 010917A-SLD	TestNo: A2540 C		Analysis Date: 09/17/2001	SeqNo: 37628						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @180 C	232.1	10.0	0	0	0	0	0	226.8	2.29	10	
C01090376-006CDU	DUP	SLDS-TDS-W	mg/L		SLDS-BALANCE_01091						
Client ID:	Batch ID: 010917A-SLD	TestNo: A2540 C		Analysis Date: 09/17/2001	SeqNo: 37642						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @180 C	272.5	10.0	0	0	0	0	0	274	0.548	10	H

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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CLIENT: United Nuclear Corp
 Work Order: C01090400
 Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: A2540 C

Sample ID: C01090380-001BDU	SampType: DUP	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01091						
Client ID:	Batch ID: 010917A-SLD	TestNo: A2540 C	Analysis Date: 09/17/2001		SeqNo: 37654						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @180 C											
	5215	10.0	0	0	0	0	0	5214	0.0184	10	

Sample ID: C01090391-001ADU	SampType: DUP	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01091						
Client ID:	Batch ID: 010917A-SLD	TestNo: A2540 C	Analysis Date: 09/17/2001		SeqNo: 37691						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @180 C											
	527.2	10.0	0	0	0	0	0	526.1	0.203	10	

Sample ID: C01090400-002BDU	SampType: DUP	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01091						
Client ID: EPA-23	Batch ID: 010917A-SLD	TestNo: A2540 C	Analysis Date: 09/17/2001		SeqNo: 37705						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @180 C											
	4507	10.0	0	0	0	0	0	4486	0.458	10	H

Sample ID: C01090400-012BDU	SampType: DUP	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01091						
Client ID: GW-3	Batch ID: 010917A-SLD	TestNo: A2540 C	Analysis Date: 09/17/2001		SeqNo: 37717						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @180 C											
	4958	10.0	0	0	0	0	0	4983	0.499	10	

TRACKING NO. PADENO.
 90400R000020

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
Work Order: C01090400
Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: A3114 B

Sample ID: C01090400-014AMS		SampType: MS	TestCode: CVAA-ASIII-3114- Units: mg/L			Prep Date:			Run ID: HYDRIDE1-C_010924A		
Client ID: 627		Batch ID: R1986	TestNo: A3114 B			Analysis Date: 09/24/2001			SeqNo: 39815		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic-III	0.04748	0.0010	0.05	0	95	85	115	0	0	
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Sample ID: C01090400-008AMS		SampType: MS	TestCode: CVAA-ASIII-3114- Units: mg/L			Prep Date:			Run ID: HYDRIDE1-C_010924A		
Client ID: 632		Batch ID: R1986	TestNo: A3114 B			Analysis Date: 09/24/2001			SeqNo: 39838		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic-III	0.04976	0.0010	0.05	0	99.5	85	115	0	0	
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Sample ID: C01090400-014AMS		SampType: MSD	TestCode: CVAA-ASIII-3114- Units: mg/L			Prep Date:			Run ID: HYDRIDE1-C_010924A		
Client ID: 627		Batch ID: R1986	TestNo: A3114 B			Analysis Date: 09/24/2001			SeqNo: 39816		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic-III	0.04771	0.0010	0.05	0	95.4	85	115	0.04748	0.483	10	
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Sample ID: C01090400-008AMS		SampType: MSD	TestCode: CVAA-ASIII-3114- Units: mg/L			Prep Date:			Run ID: HYDRIDE1-C_010924A		
Client ID: 632		Batch ID: R1986	TestNo: A3114 B			Analysis Date: 09/24/2001			SeqNo: 39837		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic-III	0.05192	0.0010	0.05	0	104	85	115	0.04976	4.25	10	
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Sample ID: C01090400-008AMS		SampType: MS	TestCode: CVAA-SEIV-3114- Units: mg/L			Prep Date:			Run ID: HYDRIDE1-C_010924B		
Client ID: 632		Batch ID: R1998	TestNo: A3114 B			Analysis Date: 09/24/2001			SeqNo: 40102		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Selenium-IV	0.04999	0.0010	0.05	0	100	85	115	0	0	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

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CLIENT: United Nuclear Corp
 Work Order: C01090400
 Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: A3114 B

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	Run ID:						
C01090400-014AMS	MS	CVAA-SEIV-3114-	mg/L		HYDRIDE1-C_010924B						
Client ID: 627	Batch ID: R1998	TestNo: A3114 B		Analysis Date: 09/24/2001	SeqNo: 40114						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.05174	0.0010	0.05	0.00116	101	85	115	0	0		

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	Run ID:						
C01090400-008AMS	MSD	CVAA-SEIV-3114-	mg/L		HYDRIDE1-C_010924B						
Client ID: 632	Batch ID: R1998	TestNo: A3114 B		Analysis Date: 09/24/2001	SeqNo: 40103						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.05074	0.0010	0.05	0	101	85	115	0.04999	1.49	10	

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	Run ID:						
C01090400-014AMS	MSD	CVAA-SEIV-3114-	mg/L		HYDRIDE1-C_010924B						
Client ID: 627	Batch ID: R1998	TestNo: A3114 B		Analysis Date: 09/24/2001	SeqNo: 40115						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.05373	0.0010	0.05	0.00116	105	85	115	0.05174	3.77	10	

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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01090400
 Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: A4500-NH3 G

Sample ID: C01090239-004EMS	SampType: MS	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010917A						
Client ID:	Batch ID: A2001-09-17_	TestNo: A4500-NH3 G		Analysis Date: 09/17/2001	SeqNo: 36287						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Ammonia as N	4.34	0.0500	3.98	0.68	92	80	120	0	0
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Sample ID: C01090273-003CMS	SampType: MS	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010917A						
Client ID:	Batch ID: A2001-09-17_	TestNo: A4500-NH3 G		Analysis Date: 09/17/2001	SeqNo: 36302						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Ammonia as N	2.11	0.0500	2	0.05	103	80	120	0	0
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Sample ID: C01090376-006BMS	SampType: MS	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010917A						
Client ID:	Batch ID: A2001-09-17_	TestNo: A4500-NH3 G		Analysis Date: 09/17/2001	SeqNo: 36318						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Ammonia as N	2	0.0500	2	0.09	95.5	80	120	0	0
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Sample ID: C01090385-005BMS	SampType: MS	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010917A						
Client ID:	Batch ID: A2001-09-17_	TestNo: A4500-NH3 G		Analysis Date: 09/17/2001	SeqNo: 36334						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Ammonia as N	1.99	0.0500	2	0.1	94.5	80	120	0	0
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Sample ID: C01090394-002CMS	SampType: MS	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010917A						
Client ID:	Batch ID: A2001-09-17_	TestNo: A4500-NH3 G		Analysis Date: 09/17/2001	SeqNo: 36349						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Ammonia as N	1.98	0.0500	2	0.03	97.5	80	120	0	0
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

90600R00023

E.ON Energy Research Center



CLIENT: United Nuclear Corp
Work Order: C01090400
Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: A4500-NH3 G

Sample ID: C01090400-008DMS		SampType: MS	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_010917A		
Client ID: 632		Batch ID: A2001-09-17_		TestNo: A4500-NH3 G		Analysis Date: 09/17/2001			SeqNo: 36364		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	2.27	0.0500	2	0.32	97.5	80	120	0	0		

Sample ID: C01090385-005BMS		SampType: MSD	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_010917A		
Client ID:		Batch ID: A2001-09-17_		TestNo: A4500-NH3 G		Analysis Date: 09/17/2001			SeqNo: 36335		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	2.03	0.0500	2	0.1	96.5	80	120	1.99	1.99	20	

Sample ID: C01090226-001BDU		SampType: DUP	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_010917A		
Client ID:		Batch ID: A2001-09-17_		TestNo: A4500-NH3 G		Analysis Date: 09/17/2001			SeqNo: 36279		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	13.4	0.500	0	0	0	0	0	14	4.38	20	

Sample ID: C01090269-001BDU		SampType: DUP	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_010917A		
Client ID:		Batch ID: A2001-09-17_		TestNo: A4500-NH3 G		Analysis Date: 09/17/2001			SeqNo: 36295		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.11	0.0500	0	0	0	0	0	0.11	0	20	

Sample ID: C01090376-001BDU		SampType: DUP	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_010917A		
Client ID:		Batch ID: A2001-09-17_		TestNo: A4500-NH3 G		Analysis Date: 09/17/2001			SeqNo: 36309		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.4	0.0500	0	0	0	0	0	0.4	0	20	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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TECHNICON, PAGE NO.



CLIENT: United Nuclear Corp
 Work Order: C01090400
 Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: A4500-NH3 G

Sample ID: C01090379-001BDU	SampType: DUP	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010917A						
Client ID:	Batch ID: A2001-09-17_	TestNo: A4500-NH3 G		Analysis Date: 09/17/2001	SeqNo: 36325						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.04	0.0500	0	0	0	0	0	0.02	0	20	J

Sample ID: C01090391-002CDU	SampType: DUP	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010917A						
Client ID:	Batch ID: A2001-09-17_	TestNo: A4500-NH3 G		Analysis Date: 09/17/2001	SeqNo: 36342						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	ND	0.0500	0	0	0	0	0	0.03	0	20	

Sample ID: C01090400-003DDU	SampType: DUP	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010917A						
Client ID: EPA-23 DUPLICATE	Batch ID: A2001-09-17_	TestNo: A4500-NH3 G		Analysis Date: 09/17/2001	SeqNo: 36357						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.02	0.0500	0	0	0	0	0	1.03	0.976	20	

Sample ID: C01090400-013DDU	SampType: DUP	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010917A						
Client ID: EPA-25	Batch ID: A2001-09-17_	TestNo: A4500-NH3 G		Analysis Date: 09/17/2001	SeqNo: 36373						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.08	0.0500	0	0	0	0	0	0.08	0	20	

Sample ID: C01090417-001DDU	SampType: DUP	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010917A						
Client ID:	Batch ID: A2001-09-17_	TestNo: A4500-NH3 G		Analysis Date: 09/17/2001	SeqNo: 36380						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.13	0.0500	0	0	0	0	0	0.14	7.41	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

90600R000025



CLIENT: United Nuclear Corp
 Work Order: C01090400
 Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: E200.7

Sample ID: C01090376-001A	SampType: MS1	TestCode: ICP-200.7-W-D	Units: mg/L	Prep Date:	Run ID: ICP1-C_010919B						
Client ID:	Batch ID: ICP091901B	TestNo: E200.7		Analysis Date: 09/19/2001	SeqNo: 39057						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Calcium	502	10	500	33.95	93.6	80	120	0	0		
Magnesium	504	10	500	14.78	97.8	80	120	0	0		
Potassium	462.4	10	500	2.402	92	80	120	0	0		
Sodium	522	10	500	54.4	93.5	80	120	0	0		

Sample ID: C01090376-001A	SampType: MS2	TestCode: ICP-200.7-W-D	Units: mg/L	Prep Date:	Run ID: ICP1-C_010919B						
Client ID:	Batch ID: ICP091901B	TestNo: E200.7		Analysis Date: 09/19/2001	SeqNo: 39058						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Phosphorus	9.71	1.0	10	0	97.1	80	120	0	0		
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Sample ID: C01090376-001A	SampType: MS3	TestCode: ICP-200.7-W-D	Units: mg/L	Prep Date:	Run ID: ICP1-C_010919B						
Client ID:	Batch ID: ICP091901B	TestNo: E200.7		Analysis Date: 09/19/2001	SeqNo: 39059						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloride	850	10	1000	22.8	82.7	80	120	0	0		
Sulfate	963	10	1000	126.8	83.6	80	120	0	0		

Sample ID: C01090506-001A	SampType: MS1	TestCode: ICP-200.7-W-D	Units: mg/L	Prep Date:	Run ID: ICP1-C_010926A						
Client ID:	Batch ID: ICP092601A	TestNo: E200.7		Analysis Date: 09/26/2001	SeqNo: 43444						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Calcium	559	10	500	22.32	107	80	120	0	0		
Magnesium	541	10	500	2.955	108	80	120	0	0		
Potassium	500	10	500	0	100	80	120	0	0		
Sodium	508	10	500	7.47	100	80	120	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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CLIENT: United Nuclear Corp
 Work Order: C01090400
 Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: E200.7

Sample ID: C01090506-001A	SampType: MS2	TestCode: ICP-200.7-W-D	Units: mg/L	Prep Date:	Run ID: ICP1-C_010926A
Client ID:	Batch ID: ICP092601A	TestNo: E200.7		Analysis Date: 09/26/2001	SeqNo: 43445

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	9.77	1.0	10	0	97.7	80	120	0	0		
Iron	10.32	0.30	10	0.167	102	80	120	0	0		
Silica	131.5	1.0	105	17.95	108	80	120	0	0		

Sample ID: C01090506-001A	SampType: MS3	TestCode: ICP-200.7-W-D	Units: mg/L	Prep Date:	Run ID: ICP1-C_010926A
Client ID:	Batch ID: ICP092601A	TestNo: E200.7		Analysis Date: 09/26/2001	SeqNo: 43446

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	964	10	1000	58	90.6	80	120	0	0		
Sulfate	946	10	1000	6.52	93.9	80	120	0	0		

Sample ID: C01090376-001A	SampType: MSD1	TestCode: ICP-200.7-W-D	Units: mg/L	Prep Date:	Run ID: ICP1-C_010919B
Client ID:	Batch ID: ICP091901B	TestNo: E200.7		Analysis Date: 09/19/2001	SeqNo: 39060

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	510	10	500	33.95	95.2	80	120	502	1.58	20	
Magnesium	510	10	500	14.78	99	80	120	504	1.18	20	
Potassium	471.7	10	500	2.402	93.9	80	120	462.4	1.99	20	
Sodium	531	10	500	54.4	95.3	80	120	522	1.71	20	

Sample ID: C01090376-001A	SampType: MSD2	TestCode: ICP-200.7-W-D	Units: mg/L	Prep Date:	Run ID: ICP1-C_010919B
Client ID:	Batch ID: ICP091901B	TestNo: E200.7		Analysis Date: 09/19/2001	SeqNo: 39061

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus	10.65	1.0	10	0	106	80	120	9.71	9.23	20	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

906000000027



CLIENT: United Nuclear Corp
 Work Order: C01090400
 Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: E200.7

Sample ID: C01090376-001A	SampType: MSD3	TestCode: ICP-200.7-W-D	Units: mg/L	Prep Date:	Run ID: ICP1-C_010919B
Client ID:	Batch ID: ICP091901B	TestNo: E200.7		Analysis Date: 09/19/2001	SeqNo: 39062

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	850	10	1000	22.8	82.7	80	120	850	0	20	
Sulfate	978	10	1000	126.8	85.1	80	120	963	1.55	20	

Sample ID: C01090506-001A	SampType: MSD1	TestCode: ICP-200.7-W-D	Units: mg/L	Prep Date:	Run ID: ICP1-C_010926A
Client ID:	Batch ID: ICP092601A	TestNo: E200.7		Analysis Date: 09/26/2001	SeqNo: 43452

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	551	10	500	22.32	106	80	120	559	1.44	20	
Magnesium	539	10	500	2.955	107	80	120	541	0.370	20	
Potassium	505	10	500	0	101	80	120	500	0.995	20	
Sodium	514	10	500	7.47	101	80	120	508	1.17	20	

Sample ID: C01090506-001A	SampType: MSD2	TestCode: ICP-200.7-W-D	Units: mg/L	Prep Date:	Run ID: ICP1-C_010926A
Client ID:	Batch ID: ICP092601A	TestNo: E200.7		Analysis Date: 09/26/2001	SeqNo: 43453

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	9.7	1.0	10	0	97	80	120	9.77	0.719	20	
Iron	10.33	0.30	10	0.167	102	80	120	10.32	0.0969	20	
Silica	131.2	1.0	105	17.95	108	80	120	131.5	0.228	20	

Sample ID: C01090506-001A	SampType: MSD3	TestCode: ICP-200.7-W-D	Units: mg/L	Prep Date:	Run ID: ICP1-C_010926A
Client ID:	Batch ID: ICP092601A	TestNo: E200.7		Analysis Date: 09/26/2001	SeqNo: 43454

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	939	10	1000	58	88.1	80	120	964	2.63	20	
Sulfate	974	10	1000	6.52	96.7	80	120	946	2.92	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

90600800028



CLIENT: United Nuclear Corp
 Work Order: C01090400
 Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: E200.8

Sample ID: C01090400-001AMS		SampType: MS	TestCode: ICPMS-200.8-W-D			Units: mg/L	Prep Date:			Run ID: ICPMS1-C_010927B		
Client ID: 509-D		Batch ID: ICPMS092701		TestNo: E200.8		Analysis Date: 09/27/2001			SeqNo: 42769			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Beryllium	0.04122	0.010	0.05	0.000086	82.3	70	130	0	0			
Cadmium	0.04547	0.010	0.05	0.000551	89.8	70	130	0	0			
Cobalt	0.04343	0.010	0.05	0.004811	77.2	70	130	0	0			
Lead	0.04664	0.050	0.05	0.001191	90.9	70	130	0	0		J	
Molybdenum	0.0475	0.10	0.05	0.001557	91.9	70	130	0	0		J	
Vanadium	0.04738	0.10	0.05	0.001284	92.2	70	130	0	0		J	

Sample ID: C01090400-011Ams		SampType: MS	TestCode: ICPMS-200.8-W-D			Units: mg/L	Prep Date:			Run ID: ICPMS1-C_010927B		
Client ID: EPA-28		Batch ID: ICPMS092701		TestNo: E200.8		Analysis Date: 09/28/2001			SeqNo: 42789			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Beryllium	0.0406	0.010	0.05	0	81.2	70	130	0	0			
Cadmium	0.04688	0.010	0.05	0.000225	93.3	70	130	0	0			
Cobalt	0.04485	0.010	0.05	0.001625	86.5	70	130	0	0			
Lead	0.04884	0.050	0.05	0.001248	95.2	70	130	0	0		J	
Molybdenum	0.04899	0.10	0.05	0	98	70	130	0	0		J	
Vanadium	0.05008	0.10	0.05	0.001061	98	70	130	0	0		J	

Sample ID: C01090400-001AMS		SampType: MSD	TestCode: ICPMS-200.8-W-D			Units: mg/L	Prep Date:			Run ID: ICPMS1-C_010927B		
Client ID: 509-D		Batch ID: ICPMS092701		TestNo: E200.8		Analysis Date: 09/27/2001			SeqNo: 42770			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Beryllium	0.04058	0.010	0.05	0.000086	81	70	130	0.04122	1.56	20		
Cadmium	0.04612	0.010	0.05	0.000551	91.1	70	130	0.04547	1.42	20		
Cobalt	0.04466	0.010	0.05	0.004811	79.7	70	130	0.04343	2.79	20		
Lead	0.04802	0.050	0.05	0.001191	93.7	70	130	0.04664	0	20	J	
Molybdenum	0.04878	0.10	0.05	0.001557	94.4	70	130	0.0475	0	20	J	
Vanadium	0.04851	0.10	0.05	0.001284	94.5	70	130	0.04738	0	20	J	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

904000000029



CLIENT: United Nuclear Corp
 Work Order: C01090400
 Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: E200.8

Sample ID: C01090400-011AMS		SampType: MSD	TestCode: ICPMS-200.8-W-D			Units: mg/L	Prep Date:			Run ID: ICPMS1-C_010927B		
Client ID: EPA-28		Batch ID: ICPMS092701		TestNo: E200.8		Analysis Date: 09/28/2001			SeqNo: 42774			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Beryllium	0.03951	0.010	0.05	0	79	70	130	0.0406	2.72	20		
Cadmium	0.04561	0.010	0.05	0.000225	90.8	70	130	0.04688	2.75	20		
Cobalt	0.04432	0.010	0.05	0.001625	85.4	70	130	0.04485	1.19	20		
Lead	0.04717	0.050	0.05	0.001248	91.8	70	130	0.04884	0	20	J	
Molybdenum	0.04846	0.10	0.05	0	96.9	70	130	0.04899	0	20	J	
Vanadium	0.04818	0.10	0.05	0.001061	94.2	70	130	0.05008	0	20	J	

Sample ID: C01090690-009AMS		SampType: MS	TestCode: ICPMS-200.8-W-U			Units: mg/L	Prep Date:			Run ID: ICPMS1-C_010927B		
Client ID:		Batch ID: ICPMS092701		TestNo: E200.8		Analysis Date: 09/28/2001			SeqNo: 42836			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Uranium	0.04998	0.00030	0.05	0.003349	93.3	70	130	0	0			

Sample ID: C01090690-009AMS		SampType: MSD	TestCode: ICPMS-200.8-W-U			Units: mg/L	Prep Date:			Run ID: ICPMS1-C_010927B		
Client ID:		Batch ID: ICPMS092701		TestNo: E200.8		Analysis Date: 09/28/2001			SeqNo: 42837			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Uranium	0.0481	0.00030	0.05	0.003349	89.5	70	130	0.04998	3.83	20		

TRACKING NO. PAGE NO.
 90400R000030

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01090400
 Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: E353.2

Sample ID: C01090413-001ADU		SampType: DUP		TestCode: N-NO3+NO2-DW		Units: mg/L		Prep Date:		Run ID: TECHNICON_010919B		
Client ID:		Batch ID: A2001-09-18_		TestNo: E353.2				Analysis Date: 09/19/2001		SeqNo: 37956		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Nitrogen, Nitrate+Nitrite as N	2.35	0.100	0	0	0	0	0	2.37	0.847	20		

Sample ID: C01090385-005BMS		SampType: MS		TestCode: N-NO3+NO2-W		Units: mg/L		Prep Date:		Run ID: TECHNICON_010919B		
Client ID:		Batch ID: A2001-09-18_		TestNo: E353.2				Analysis Date: 09/19/2001		SeqNo: 37904		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Nitrogen, Nitrate+Nitrite as N	2.96	0.200	1.99	0.95	101	80	120	0	0			

Sample ID: C01090398-002DMS		SampType: MS		TestCode: N-NO3+NO2-W		Units: mg/L		Prep Date:		Run ID: TECHNICON_010919B		
Client ID:		Batch ID: A2001-09-18_		TestNo: E353.2				Analysis Date: 09/19/2001		SeqNo: 37931		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Nitrogen, Nitrate+Nitrite as N	2.02	0.100	2	0	101	80	120	0	0			

Sample ID: C01090400-010DMS		SampType: MS		TestCode: N-NO3+NO2-W		Units: mg/L		Prep Date:		Run ID: TECHNICON_010919B		
Client ID: 624		Batch ID: A2001-09-18_		TestNo: E353.2				Analysis Date: 09/19/2001		SeqNo: 37946		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Nitrogen, Nitrate+Nitrite as N	211	10.0	81.5	118	114	80	120	0	0			

Sample ID: C01090385-005BMS		SampType: MSD		TestCode: N-NO3+NO2-W		Units: mg/L		Prep Date:		Run ID: TECHNICON_010919B		
Client ID:		Batch ID: A2001-09-18_		TestNo: E353.2				Analysis Date: 09/19/2001		SeqNo: 37908		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Nitrogen, Nitrate+Nitrite as N	2.94	0.200	1.99	0.95	100	80	120	2.96	0.678	20		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

90400R00031
 TECHNICAL NO. PAGE NO.



CLIENT: United Nuclear Corp
 Work Order: C01090400
 Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: E353.2

Sample ID: C01090400-005DDU	SampType: DUP	TestCode: N-NO3+NO2-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010919B						
Client ID: 802	Batch ID: A2001-09-18_	TestNo: E353.2		Analysis Date: 09/19/2001	SeqNo: 37940						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	99.5	5.00	0	0	0	0	0	100	0.501	20	

Sample ID: C01090495-006DDU	SampType: DUP	TestCode: N-NO3+NO2-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010919B						
Client ID:	Batch ID: A2001-09-18_	TestNo: E353.2		Analysis Date: 09/19/2001	SeqNo: 37964						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.55	0.100	0	0	0	0	0	0.6	8.70	20	

TRACKING NO. PAGE NO.
 90400R00032

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01090400
 Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: E624

Sample ID: C01090400-014E	SampType: MS	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS2-C_010919A						
Client ID: 627	Batch ID: R1893	TestNo: E624		Analysis Date: 09/20/2001	SeqNo: 38254						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	101.6	10.0	100	0	102	70	130	0	0		

Sample ID: C01090400-014E	SampType: MSD	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS2-C_010919A						
Client ID: 627	Batch ID: R1893	TestNo: E624		Analysis Date: 09/20/2001	SeqNo: 38255						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	95.2	10.0	100	0	95.2	70	130	101.6	6.50	20	

TRACKING NO. PAQ NO.
 901001000033

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01090400
 Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: E903.0

Sample ID: C01090467-001A	SampType: DUP	TestCode: RAD-RA226-W-D	Units: pCi/L	Prep Date:	Run ID: TENNELEC-1_010921A						
Client ID:	Batch ID: 01RA-256	TestNo: E903.0	Analysis Date: 09/27/2001	SeqNo: 44130							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 226	0.8	0.20	0	0	0	70	130	0.9	11.8	30	
Radium 226 precision	0.2	0.010	0	0	0	0	0	0.2	0	0	

Sample ID: C01090481-001A	SampType: MS	TestCode: RAD-RA226-W-T	Units: pCi/L	Prep Date:	Run ID: TENNELEC-1_010921A						
Client ID:	Batch ID: 01RA-256	TestNo: E903.0	Analysis Date: 09/27/2001	SeqNo: 44138							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 226	1236	0.20	1213	28.1	99.6	70	130	0	0		

TRACKING NO. PAGE NO.
 90100R000035

Qualifiers:

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
 Work Order: C01090400
 Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: E907.0

Sample ID: C01090400-014AMS		SampType: MS	TestCode: RAD-TH-ISO-W		Units: pCi/L	Prep Date:			Run ID: EGG-ORTEC_010918A		
Client ID: 627		Batch ID: R2038	TestNo: E907.0		Analysis Date: 09/18/2001			SeqNo: 41042			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium 230	129.2	0.20	125	0	103	70	130	0	0		

Sample ID: C01090400-014ADU		SampType: DUP	TestCode: RAD-TH-ISO-W		Units: pCi/L	Prep Date:			Run ID: EGG-ORTEC_010918A		
Client ID: 627		Batch ID: R2038	TestNo: E907.0		Analysis Date: 09/18/2001			SeqNo: 41041			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium 230	125.9	0.20	0	0	0	0	0	129.2	2.59	0	

TRACKING NO. PAGE NO.
 906008000336

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01090400
 Project: Quarterly Long List - Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 22-Oct-01

TestNo: **NERHL-65-4**

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	Run ID:						
C01090400-001AMS	MS	RAD-PB210-W-D	pCi/L		BECKMAN 6000_01092						
Client ID: 509-D	Batch ID: R2196	TestNo: NERHL-65-4		Analysis Date: 09/25/2001	SeqNo: 44490						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	35	1.0	37.9	0	92.3	0	0	0	0	0	S

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	Run ID:						
C01090400-002ADU	DUP	RAD-PB210-W-D	pCi/L		BECKMAN 6000_01092						
Client ID: EPA-23	Batch ID: R2196	TestNo: NERHL-65-4		Analysis Date: 09/25/2001	SeqNo: 44489						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	ND	1.0	0	0	0	0	0	0	0	0	

TRACKING NO. PAGE NO.
 90400700097

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01090398
 Project: Quarterly Long List - Quote 129/Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 12-Oct-01

TestNo: A2320 B

Sample ID: C01090394-001A	SampType: DUP	TestCode: ALK-W	Units: mg/L			Prep Date:	Run ID: ORION_010919A				
Client ID:	Batch ID: O-091901-1	TestNo: A2320 B				Analysis Date: 9/19/2001	SeqNo: 38384				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.2	0.0100	0	0	0	0	0	7.2	0	0	

50930700005
 TRACING NO.
 PAGE NO.

Qualifiers:

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
Work Order: C01090398
Project: Quarterly Long List - Quote 129/Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 12-Oct-01

TestNo: A2540 C

Sample ID: C01090400-007BMS		SampType: MS	TestCode: SLDS-TDS-W		Units: mg/L	Prep Date:			Run ID: SLDS-BALANCE_01091		
Client ID:		Batch ID: 010917A-SLD	TestNo: A2540 C		Analysis Date: 9/17/2001			SeqNo: 37711			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @180 C	8160	10.0	2941	5274	98.1	90	110	0		0	

Sample ID: C01090385-002AMS		SampType: MSD	TestCode: SLDS-TDS-W		Units:	Prep Date:			Run ID: SLDS-BALANCE_01091		
Client ID:		Batch ID: 010917A-SLD	TestNo: A2540 C		Analysis Date: 9/17/2001			SeqNo: 37661			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @180 C	2156	0	1949	192.9	101	80	120	2315	7.10	20	E

Sample ID: C01090320-005ADU		SampType: DUP	TestCode: SLDS-TDS-W		Units: mg/L	Prep Date:			Run ID: SLDS-BALANCE_01091		
Client ID:		Batch ID: 010917A-SLD	TestNo: A2540 C		Analysis Date: 9/17/2001			SeqNo: 37616			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @180 C	2505	10.0	0	0	0	0	0	2503	0.0724	10	

Sample ID: C01090373-001ADU		SampType: DUP	TestCode: SLDS-TDS-W		Units: mg/L	Prep Date:			Run ID: SLDS-BALANCE_01091		
Client ID:		Batch ID: 010917A-SLD	TestNo: A2540 C		Analysis Date: 9/17/2001			SeqNo: 37628			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @180 C	232.1	10.0	0	0	0	0	0	226.8	2.29	10	

Sample ID: C01090376-006CDU		SampType: DUP	TestCode: SLDS-TDS-W		Units: mg/L	Prep Date:			Run ID: SLDS-BALANCE_01091		
Client ID:		Batch ID: 010917A-SLD	TestNo: A2540 C		Analysis Date: 9/17/2001			SeqNo: 37642			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @180 C	272.5	10.0	0	0	0	0	0	274	0.548	10	H

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

90398200005

PAGE NO.



CLIENT: United Nuclear Corp
Work Order: C01090398
Project: Quarterly Long List - Quote 129/Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 12-Oct-01

TestNo: A4500-NH3 G

Sample ID: C01090239-004EMS	SampType: MS	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010917A						
Client ID:	Batch ID: A2001-09-17_	TestNo: A4500-NH3 G		Analysis Date: 9/17/2001	SeqNo: 36287						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	4.34	0.0500	3.98	0.68	92	80	120	0		0	

Sample ID: C01090273-003CMS	SampType: MS	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010917A						
Client ID:	Batch ID: A2001-09-17_	TestNo: A4500-NH3 G		Analysis Date: 9/17/2001	SeqNo: 36302						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	2.11	0.0500	2	0.05	103	80	120	0		0	

Sample ID: C01090376-006BMS	SampType: MS	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010917A						
Client ID:	Batch ID: A2001-09-17_	TestNo: A4500-NH3 G		Analysis Date: 9/17/2001	SeqNo: 36318						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	2	0.0500	2	0.09	95.5	80	120	0		0	

Sample ID: C01090385-005BMS	SampType: MS	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010917A						
Client ID:	Batch ID: A2001-09-17_	TestNo: A4500-NH3 G		Analysis Date: 9/17/2001	SeqNo: 36334						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.99	0.0500	2	0.1	94.5	80	120	0		0	

Sample ID: C01090394-002CMS	SampType: MS	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_010917A						
Client ID:	Batch ID: A2001-09-17_	TestNo: A4500-NH3 G		Analysis Date: 9/17/2001	SeqNo: 36349						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.98	0.0500	2	0.03	97.5	80	120	0		0	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

90398700008



CLIENT: United Nuclear Corp
Work Order: C01090398
Project: Quarterly Long List - Quote 129/Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 12-Oct-01

TestNo: E200.7

Sample ID: C01090376-001A		SampType: MS1	TestCode: ICP-200.7-W-D		Units: mg/L	Prep Date:			Run ID: ICP1-C_010919B		
Client ID:		Batch ID: ICP091901B	TestNo: E200.7			Analysis Date: 9/19/2001			SeqNo: 39057		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	502	10	500	33.95	93.6	80	120	0	0		
Magnesium	504	10	500	14.78	97.8	80	120	0	0		
Potassium	462.4	10	500	2.402	92	80	120	0	0		
Sodium	522	10	500	54.4	93.5	80	120	0	0		

Sample ID: C01090376-001A		SampType: MS3	TestCode: ICP-200.7-W-D		Units: mg/L	Prep Date:			Run ID: ICP1-C_010919B		
Client ID:		Batch ID: ICP091901B	TestNo: E200.7			Analysis Date: 9/19/2001			SeqNo: 39059		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	850	10	1000	22.8	82.7	80	120	0	0		
Sulfate	963	10	1000	126.8	83.6	80	120	0	0		

Sample ID: C01090506-001A		SampType: MS2	TestCode: ICP-200.7-W-D		Units: mg/L	Prep Date:			Run ID: ICP1-C_010926A		
Client ID:		Batch ID: ICP092601A	TestNo: E200.7			Analysis Date: 9/26/2001			SeqNo: 43445		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	10.01	1.0	10	0.372	96.4	80	120	0	0		
Selenium	9.37	1.0	10	0	93.7	80	120	0	0		
Uranium	45.04	10	50	0	90.1	80	120	0	0		

Sample ID: C01090506-001A		SampType: MS3	TestCode: ICP-200.7-W-D		Units: mg/L	Prep Date:			Run ID: ICP1-C_010926A		
Client ID:		Batch ID: ICP092601A	TestNo: E200.7			Analysis Date: 9/26/2001			SeqNo: 43446		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	946	10	1000	6.52	93.9	80	120	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

900088000010
 TEST NO. NAME NO.



CLIENT: United Nuclear Corp
Work Order: C01090398
Project: Quarterly Long List - Quote 129/Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 12-Oct-01

TestNo: E200.7

Sample ID: C01090376-001A		SampType: MSD1		TestCode: ICP-200.7-W-D		Units: mg/L		Prep Date:		Run ID: ICP1-C_010919B	
Client ID:		Batch ID: ICP091901B		TestNo: E200.7		Analysis Date: 9/19/2001				SeqNo: 39060	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	510	10	500	33.95	95.2	80	120	502	1.58	20	
Magnesium	510	10	500	14.78	99	80	120	504	1.18	20	
Potassium	471.7	10	500	2.402	93.9	80	120	462.4	1.99	20	
Sodium	531	10	500	54.4	95.3	80	120	522	1.71	20	

Sample ID: C01090376-001A		SampType: MSD3		TestCode: ICP-200.7-W-D		Units: mg/L		Prep Date:		Run ID: ICP1-C_010919B	
Client ID:		Batch ID: ICP091901B		TestNo: E200.7		Analysis Date: 9/19/2001				SeqNo: 39062	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	850	10	1000	22.8	82.7	80	120	850	0	20	
Sulfate	978	10	1000	126.8	85.1	80	120	963	1.55	20	

Sample ID: C01090506-001A		SampType: MSD2		TestCode: ICP-200.7-W-D		Units: mg/L		Prep Date:		Run ID: ICP1-C_010926A	
Client ID:		Batch ID: ICP092601A		TestNo: E200.7		Analysis Date: 9/26/2001				SeqNo: 43453	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	10.14	1.0	10	0.372	97.7	80	120	10.01	1.29	20	
Selenium	10.87	1.0	10	0	109	80	120	9.37	14.8	20	
Uranium	45.66	10	50	0	91.3	80	120	45.04	1.37	20	

Sample ID: C01090506-001A		SampType: MSD3		TestCode: ICP-200.7-W-D		Units: mg/L		Prep Date:		Run ID: ICP1-C_010926A	
Client ID:		Batch ID: ICP092601A		TestNo: E200.7		Analysis Date: 9/26/2001				SeqNo: 43454	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	974	10	1000	6.52	96.7	80	120	946	2.92	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

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CLIENT: United Nuclear Corp
 Work Order: C01090398
 Project: Quarterly Long List - Quote 129/Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 12-Oct-01

TestNo: E200.8

Sample ID: C01090279-009AMS		SampType: MS		TestCode: ICPMS-200.8-W-D		Units: mg/L		Prep Date:		Run ID: ICPMS1-C_010919B	
Client ID:		Batch ID: ICPMS09180		TestNo: E200.8		Analysis Date: 9/19/2001		SeqNo: 38463			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.053	0.0010	0.05	0	106	70	130	0	0		
Barium	0.053	0.10	0.05	0	106	70	130	0	0		J
Beryllium	0.048	0.010	0.05	0	96	70	130	0	0		
Chromium	0.05	0.050	0.05	0	100	70	130	0	0		
Cobalt	0.047	0.010	0.05	0	94	70	130	0	0		
Lead	0.053	0.050	0.05	0	106	70	130	0	0		
Nickel	0.046	0.050	0.05	0.01004	71.9	70	130	0	0		J
Vanadium	0.052	0.10	0.05	0	104	70	130	0	0		J

Sample ID: C01090279-009AMS		SampType: MSD		TestCode: ICPMS-200.8-W-D		Units: mg/L		Prep Date:		Run ID: ICPMS1-C_010919B	
Client ID:		Batch ID: ICPMS09180		TestNo: E200.8		Analysis Date: 9/19/2001		SeqNo: 38467			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.052	0.0010	0.05	0	104	70	130	0.053	1.90	20	
Barium	0.05	0.10	0.05	0	100	70	130	0.053	0	20	J
Beryllium	0.047	0.010	0.05	0	94	70	130	0.048	2.11	20	
Chromium	0.049	0.050	0.05	0	98	70	130	0.05	0	20	J
Cobalt	0.046	0.010	0.05	0	92	70	130	0.047	2.15	20	
Lead	0.052	0.050	0.05	0	104	70	130	0.053	1.90	20	
Vanadium	0.051	0.10	0.05	0	102	70	130	0.052	0	20	J

Qualifiers:

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

TRACKING NO: 90998R00012
 PAGE NO:



CLIENT: United Nuclear Corp
Work Order: C01090398
Project: Quarterly Long List - Quote 129/Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 12-Oct-01

TestNo: E353.2

Sample ID: C01090413-001ADU		SampType: DUP		TestCode: N-NO3+NO2-DW		Units: mg/L		Prep Date:		Run ID: TECHNICON_010919B	
Client ID:		Batch ID: A2001-09-18_		TestNo: E353.2		Analysis Date: 9/19/2001		SeqNo: 37956			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	2.35	0.100	0	0	0	0	0	2.37	0.847	20	

Sample ID: C01090385-005BMS		SampType: MS		TestCode: N-NO3+NO2-W		Units: mg/L		Prep Date:		Run ID: TECHNICON_010919B	
Client ID:		Batch ID: A2001-09-18_		TestNo: E353.2		Analysis Date: 9/19/2001		SeqNo: 37904			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	2.96	0.200	1.99	0.95	101	80	120	0	0		

Sample ID: C01090398-002DMS		SampType: MS		TestCode: N-NO3+NO2-W		Units: mg/L		Prep Date:		Run ID: TECHNICON_010919B	
Client ID: Field Blank		Batch ID: A2001-09-18_		TestNo: E353.2		Analysis Date: 9/19/2001		SeqNo: 37931			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	2.02	0.100	2	0	101	80	120	0	0		

Sample ID: C01090400-010DMS		SampType: MS		TestCode: N-NO3+NO2-W		Units: mg/L		Prep Date:		Run ID: TECHNICON_010919B	
Client ID:		Batch ID: A2001-09-18_		TestNo: E353.2		Analysis Date: 9/19/2001		SeqNo: 37946			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	211	10.0	81.5	118	114	80	120	0	0		

Sample ID: C01090385-005BMS		SampType: MSD		TestCode: N-NO3+NO2-W		Units: mg/L		Prep Date:		Run ID: TECHNICON_010919B	
Client ID:		Batch ID: A2001-09-18_		TestNo: E353.2		Analysis Date: 9/19/2001		SeqNo: 37908			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	2.94	0.200	1.99	0.95	100	80	120	2.96	0.678	20	

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Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
Work Order: C01090398
Project: Quarterly Long List - Quote 129/Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 12-Oct-01

TestNo: E624

Sample ID: C01090400-014E	SampType: MS	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS2-C_010919A						
Client ID:	Batch ID: R1893	TestNo: E624	Analysis Date: 9/20/2001	SeqNo: 38254							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	101.6	10.0	100	0	102	70	130	0	0		

Sample ID: C01090400-014E	SampType: MSD	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS2-C_010919A						
Client ID:	Batch ID: R1893	TestNo: E624	Analysis Date: 9/20/2001	SeqNo: 38255							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	95.2	10.0	100	0	95.2	70	130	101.6	6.50	20	

90308RD0011
TRACKING NO.
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Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
Work Order: C01090398
Project: Quarterly Long List - Quote 129/Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 12-Oct-01

TestNo: E900.0

Sample ID: C01090201-001AMS		SampType: MS		TestCode: RAD-G-ALPHA-W-		Units: pCi/L		Prep Date:		Run ID: TENNELEC-1_010920A	
Client ID:		Batch ID: R2205		TestNo: E900.0		Analysis Date: 9/20/2001				SeqNo: 44598	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gross Alpha	302.3	1.0	303.1	0	99.7	70	130	0	0		

Sample ID: C01090201-001AMS		SampType: MSD		TestCode: RAD-G-ALPHA-W-		Units: pCi/L		Prep Date:		Run ID: TENNELEC-1_010920A	
Client ID:		Batch ID: R2205		TestNo: E900.0		Analysis Date: 9/20/2001				SeqNo: 44599	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gross Alpha	302.3	1.0	308.9	0	97.9	70	130	302.3	0	30	

TRACKING NO. 90398R00015
 PAGE NO.

Qualifiers:

ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	



CLIENT: United Nuclear Corp
 Work Order: C01090398
 Project: Quarterly Long List - Quote 129/Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 12-Oct-01

TestNo: E903.0

Sample ID: C01090379-005A	SampType: MS	TestCode: RAD-RA226-W-D	Units: pCi/L	Prep Date:	Run ID: TENNELEC-1_010922A						
Client ID:	Batch ID: 01RA-252	TestNo: E903.0	Analysis Date: 9/23/2001	SeqNo: 39902							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 226	118.2	0.2	121.3	0.7	96.9	70	130	0	0		

Sample ID: C01090379-003A	SampType: DUP	TestCode: RAD-RA226-W-D	Units: pCi/L	Prep Date:	Run ID: TENNELEC-1_010922A						
Client ID:	Batch ID: 01RA-252	TestNo: E903.0	Analysis Date: 9/23/2001	SeqNo: 39895							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 226	0.7	0.2	0	0	0	70	130	0.7	0	30	
Radium 226 precision	0.2	0.01	0	0	0	0	0	0.2	0	0	

Sample ID: C01090379-004A	SampType: DUP	TestCode: RAD-RA226-W-D	Units: pCi/L	Prep Date:	Run ID: TENNELEC-1_010922A						
Client ID:	Batch ID: 01RA-252	TestNo: E903.0	Analysis Date: 9/23/2001	SeqNo: 39897							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 226	1	0.2	0	0	0	70	130	1	0	30	
Radium 226 precision	0.2	0.01	0	0	0	0	0	0.2	0	0	

TRACKING NO. PAGE NO.
 90390R00016

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp

ANALYTICAL QC SUMMARY REPORT

Date: 12-Oct-01

Work Order: C01090398

Project: Quarterly Long List - Quote 129/Zone 1

TestNo: E904.0

Sample ID: C01090379-002A	SampType: MS	TestCode: RAD-RA228-W-D	Units: pCi/L	Prep Date:	Run ID: BERTHOLD 770_01092						
Client ID:	Batch ID: 01228183	TestNo: E904.0	Analysis Date: 10/2/2001	SeqNo: 44751							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 228	7.8	1.0	8.38	1.8	71.6	70	130	0	0		

Sample ID: C01090379-003A	SampType: DUP	TestCode: RAD-RA228-W-D	Units: pCi/L	Prep Date:	Run ID: BERTHOLD 770_01092						
Client ID:	Batch ID: 01228183	TestNo: E904.0	Analysis Date: 10/2/2001	SeqNo: 44753							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 228	ND	1.0	0	0	0	70	130	0	0	30	
Radium 228 precision	ND	0	0	0	0	0	0	0	0	0	

Sample ID: C01090379-004A	SampType: DUP	TestCode: RAD-RA228-W-D	Units: pCi/L	Prep Date:	Run ID: BERTHOLD 770_01092						
Client ID:	Batch ID: 01228183	TestNo: E904.0	Analysis Date: 10/2/2001	SeqNo: 44761							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 228	ND	1.0	0	0	0	70	130	2.4	0	30	
Radium 228 precision	ND	0	0	0	0	0	0	1.1	200	0	

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

90398R00017 TRACKING NO. PAGE NO.



CLIENT: United Nuclear Corp

Work Order: C01090398

Project: Quarterly Long List - Quote 129/Zone 1

ANALYTICAL QC SUMMARY REPORT

Date: 12-Oct-01

TestNo: E907.0

Sample ID: C01090400-014AMS	SampType: MS	TestCode: RAD-TH-ISO-W	Units: pCi/L	Prep Date:	Run ID: EGG-ORTEC_010918A						
Client ID:	Batch ID: R2038	TestNo: E907.0	Analysis Date: 9/18/2001	SeqNo: 41042							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium 230	129.2	0.20	125	0	103	70	130	0	0		

Sample ID: C01090400-014ADU	SampType: DUP	TestCode: RAD-TH-ISO-W	Units: pCi/L	Prep Date:	Run ID: EGG-ORTEC_010918A						
Client ID:	Batch ID: R2038	TestNo: E907.0	Analysis Date: 9/18/2001	SeqNo: 41041							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium 230	125.9	0.20	0	0	0	0	0	129.2	2.59	0	

90998RD0010
TRACKING NO
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
Work Order: C01110315
Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: A2320 B

Sample ID: C01110313-010A	SampType: DUP	TestCode: ALK-W	Units: mg/L	Prep Date:	Run ID: ORION_011113A						
Client ID:	Batch ID: O-111301-3	TestNo: A2320 B		Analysis Date: 11/13/2001	SeqNo: 73621						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bicarbonate as HCO3	822.9	1.00	0	0				819.8	0.377	0	
pH	7.9	0.0100	0	0				7.9	0	0	

Sample ID: C01110315-011C	SampType: DUP	TestCode: ALK-W	Units: mg/L	Prep Date:	Run ID: ORION_011114A						
Client ID: 624	Batch ID: O-111401-1	TestNo: A2320 B		Analysis Date: 11/14/2001	SeqNo: 74162						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bicarbonate as HCO3	1490	1.00	0	0				1488	0.161	0	
pH	7.3	0.0100	0	0				7.2	1.38	0	

TRACKING NO. PAGE NO.
11315R10022

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
Work Order: C01110315
Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: A2540 C

Sample ID: C01110315-004BMS		SampType: MS	TestCode: SLDS-TDS-W		Units: mg/L	Prep Date:			Run ID: SLDS-BALANCE_01110		
Client ID: 803		Batch ID: 011109A-SLD		TestNo: A2540 C		Analysis Date: 11/9/2001			SeqNo: 73260		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C											
	11220	10.0	4167	7028	101	90	110	0	0	0	

Sample ID: C01110315-014BMS		SampType: MS	TestCode: SLDS-TDS-W		Units: mg/L	Prep Date:			Run ID: SLDS-BALANCE_01110		
Client ID: EPA-25		Batch ID: 011109A-SLD		TestNo: A2540 C		Analysis Date: 11/12/2001			SeqNo: 73274		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C											
	6194	10.0	2128	4044	101	90	110	0	0	0	

Sample ID: C01110278-001ADU		SampType: DUP	TestCode: SLDS-TDS-W		Units: mg/L	Prep Date:			Run ID: SLDS-BALANCE_01110		
Client ID:		Batch ID: 011109A-SLD		TestNo: A2540 C		Analysis Date: 11/12/2001			SeqNo: 73190		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C											
	3015	10.0	0	0				3024	0.323	10	H

Sample ID: C01110278-010ADU		SampType: DUP	TestCode: SLDS-TDS-W		Units: mg/L	Prep Date:			Run ID: SLDS-BALANCE_01110		
Client ID:		Batch ID: 011109A-SLD		TestNo: A2540 C		Analysis Date: 11/9/2001			SeqNo: 73202		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C											
	8965	10.0	0	0				8929	0.410	10	

Sample ID: C01110279-002ADU		SampType: DUP	TestCode: SLDS-TDS-W		Units: mg/L	Prep Date:			Run ID: SLDS-BALANCE_01110		
Client ID:		Batch ID: 011109A-SLD		TestNo: A2540 C		Analysis Date: 11/12/2001			SeqNo: 73216		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C											
	658.8	10.0	0	0				656.1	0.415	10	

1131SR10023

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01110315
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: **A3114 B**

Sample ID: C01110315-010AMS		SampType: MS	TestCode: CVAA-ASIII-3114-		Units: mg/L	Prep Date:			Run ID: HYDRIDE1-C_011116A		
Client ID: GW-1		Batch ID: R4968	TestNo: A3114 B		Analysis Date: 11/16/2001			SeqNo: 75987			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0513	0.00100	0.05	0	103	85	115	0	0	0	

Sample ID: C01110315-016AMS		SampType: MS	TestCode: CVAA-ASIII-3114-		Units: mg/L	Prep Date:			Run ID: HYDRIDE1-C_011116A		
Client ID: FIELD BLANK		Batch ID: R4968	TestNo: A3114 B		Analysis Date: 11/16/2001			SeqNo: 75999			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0515	0.00100	0.05	0	103	85	115	0	0	0	

Sample ID: C01110315-010AMS		SampType: MSD	TestCode: CVAA-ASIII-3114-		Units: mg/L	Prep Date:			Run ID: HYDRIDE1-C_011116A		
Client ID: GW-1		Batch ID: R4968	TestNo: A3114 B		Analysis Date: 11/16/2001			SeqNo: 75988			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0537	0.00100	0.05	0	107	85	115	0.0513	4.57	10	

Sample ID: C01110315-016AMS		SampType: MSD	TestCode: CVAA-ASIII-3114-		Units: mg/L	Prep Date:			Run ID: HYDRIDE1-C_011116A		
Client ID: FIELD BLANK		Batch ID: R4968	TestNo: A3114 B		Analysis Date: 11/16/2001			SeqNo: 76000			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0495	0.00100	0.05	0	99	85	115	0.0515	3.96	10	

Sample ID: C01110315-010AMS		SampType: MS	TestCode: CVAA-SEIV-3114-		Units: mg/L	Prep Date:			Run ID: HYDRIDE1-C_011114A		
Client ID: GW-1		Batch ID: R4931	TestNo: A3114 B		Analysis Date: 11/15/2001			SeqNo: 75236			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0518	0.00100	0.05	0	104	85	115	0	0	0	

131SR10024
 ANALYTICAL NO. PAGE NO.

ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01110315
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: A3114 B

Sample ID: C01110315-016AMS	SampType: MS	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011114A						
Client ID: FIELD BLANK	Batch ID: R4931	TestNo: A3114 B		Analysis Date: 11/15/2001	SeqNo: 75248						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0491	0.00100	0.05	0	98.2	85	115	0	0	0	

Sample ID: C01110315-010AMS	SampType: MSD	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011114A						
Client ID: GW-1	Batch ID: R4931	TestNo: A3114 B		Analysis Date: 11/15/2001	SeqNo: 75237						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0524	0.00100	0.05	0	105	85	115	0.0518	1.15	10	

Sample ID: C01110315-016AMS	SampType: MSD	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011114A						
Client ID: FIELD BLANK	Batch ID: R4931	TestNo: A3114 B		Analysis Date: 11/15/2001	SeqNo: 75249						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0495	0.00100	0.05	0	99	85	115	0.0491	0.811	10	

Sample ID: C01110344-010BMS	SampType: MS	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011114A						
Client ID:	Batch ID: R4931	TestNo: A3114 B		Analysis Date: 11/15/2001	SeqNo: 75209						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0513	0.00100	0.05	0.0034	95.8	85	115	0	0	0	

Sample ID: C01110344-016BMS	SampType: MS	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011114A						
Client ID:	Batch ID: R4931	TestNo: A3114 B		Analysis Date: 11/15/2001	SeqNo: 75220						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0493	0.00100	0.05	0.0014	95.8	85	115	0	0	0	

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ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
Work Order: C01110315
Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: A4500-NH3 G

Sample ID: C01110193-004AMS		SampType: MS	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011112A		
Client ID:		Batch ID: A2001-11-12_	TestNo: A4500-NH3 G		Analysis Date: 11/12/2001			SeqNo: 72258			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	2.06	0.0500	2	0	103	80	120	0	0	0	

Sample ID: C01110193-014AMS		SampType: MS	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011112A		
Client ID:		Batch ID: A2001-11-12_	TestNo: A4500-NH3 G		Analysis Date: 11/12/2001			SeqNo: 72274			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.97	0.0500	2	0.02	97.5	80	120	0	0	0	

Sample ID: C01110306-003GMS		SampType: MS	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011112A		
Client ID:		Batch ID: A2001-11-12_	TestNo: A4500-NH3 G		Analysis Date: 11/12/2001			SeqNo: 72287			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	2.25	0.0500	2	0.19	103	80	120	0	0	0	

Sample ID: C01110315-005DMS		SampType: MS	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011112A		
Client ID: 808		Batch ID: A2001-11-12_	TestNo: A4500-NH3 G		Analysis Date: 11/12/2001			SeqNo: 72296			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.91	0.0500	2	0.06	92.5	80	120	0	0	0	

Sample ID: C01110315-015DMS		SampType: MS	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011112A		
Client ID: 627		Batch ID: A2001-11-12_	TestNo: A4500-NH3 G		Analysis Date: 11/12/2001			SeqNo: 72322			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.93	0.0500	2	0.06	93.5	80	120	0	0	0	

Modifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

11315R10026



CLIENT: United Nuclear Corp
Work Order: C01110315
Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: A4500-NH3 G

Sample ID: C01110315-005DMS	SampType: MSD	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011112A						
Client ID: 808	Batch ID: A2001-11-12_	TestNo: A4500-NH3 G		Analysis Date: 11/12/2001	SeqNo: 72297						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.93	0.0500	2	0.06	93.5	80	120	1.91	1.04	20	

Sample ID: C01110315-015DMS	SampType: MSD	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011112A						
Client ID: 627	Batch ID: A2001-11-12_	TestNo: A4500-NH3 G		Analysis Date: 11/12/2001	SeqNo: 72323						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.98	0.0500	2	0.06	96	80	120	1.93	2.56	20	

Sample ID: C01110191-001BDU	SampType: DUP	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011112A						
Client ID:	Batch ID: A2001-11-12_	TestNo: A4500-NH3 G		Analysis Date: 11/12/2001	SeqNo: 72250						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	13.8	0.200	0	0				13.1	5.20	20	

Sample ID: C01110193-009ADU	SampType: DUP	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011112A						
Client ID:	Batch ID: A2001-11-12_	TestNo: A4500-NH3 G		Analysis Date: 11/12/2001	SeqNo: 72267						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.98	0.0500	0	0				1.04	5.94	20	

Sample ID: C01110230-001ADU	SampType: DUP	TestCode: N-NH3-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011112A						
Client ID:	Batch ID: A2001-11-12_	TestNo: A4500-NH3 G		Analysis Date: 11/12/2001	SeqNo: 72281						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	33.5	1.00	0	0				31.5	6.15	20	

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Modifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01110315
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: E200.8

Sample ID: C01110315-004AMS		SampType: MSD	TestCode: ICPMS-200.8-W-D			Units: mg/L	Prep Date:			Run ID: ICPMS1-C_011127A		
Client ID: 803		Batch ID: ICPMS11270	TestNo: E200.8			Analysis Date: 11/27/2001			SeqNo: 81806			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	0.4974	0.100	0.5	0.007775	97.9	70	130	0.5313	6.59	20		
Beryllium	0.4755	0.0100	0.5	0	95.1	70	130	0.5115	7.29	20		
Cadmium	0.551	0.0100	0.5	0	110	70	130	0.5613	1.85	20		
Cobalt	0.6063	0.0100	0.5	0.003634	121	70	130	0.5971	1.53	20		
Lead	0.58	0.0500	0.5	0.002877	115	70	130	0.5907	1.83	20		
Manganese	2.169	0.0100	0.5	1.608	112	70	130	2.137	1.49	20		
Molybdenum	0.61	0.100	0.5	0	122	70	130	0.6257	2.54	20		
Nickel	0.6368	0.0500	0.5	0.02658	122	70	130	0.6224	2.29	20		
Uranium	0.6981	0.000300	0.5	0.1344	113	70	130	0.7326	4.82	20		
Vanadium	0.5992	0.100	0.5	0.000539	120	70	130	0.6014	0.366	20		

Sample ID: C01110315-014AMS		SampType: MSD	TestCode: ICPMS-200.8-W-D			Units: mg/L	Prep Date:			Run ID: ICPMS1-C_011127A		
Client ID: EPA-25		Batch ID: ICPMS11270	TestNo: E200.8			Analysis Date: 11/27/2001			SeqNo: 81820			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	0.4495	0.100	0.5	0.002771	89.3	70	130	0.5086	12.3	20		
Beryllium	0.4329	0.0100	0.5	0	86.6	70	130	0.4863	11.6	20		
Cadmium	0.5024	0.0100	0.5	0	100	70	130	0.5521	9.43	20		
Cobalt	0.5404	0.0100	0.5	0.001443	108	70	130	0.5979	10.1	20		
Lead	0.5143	0.0500	0.5	0	103	70	130	0.5658	9.54	20		
Manganese	1.985	0.0100	0.5	1.456	106	70	130	2.031	2.29	20		
Molybdenum	0.5415	0.100	0.5	0	108	70	130	0.6041	10.9	20		
Nickel	0.5667	0.0500	0.5	0.02059	109	70	130	0.6337	11.2	20		
Uranium	0.6098	0.000300	0.5	0.08525	105	70	130	0.664	8.51	20		
Vanadium	0.5343	0.100	0.5	0.000231	107	70	130	0.5949	10.7	20		

11315R10028
 PAGE NO.

ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
Work Order: C01110315
Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: E353.2

Sample ID: C01110362-007CMS		SampType: MS	TestCode: N-NO3+NO2-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011114C		
Client ID:		Batch ID: A2001-11-13_	TestNo: E353.2		Analysis Date: 11/14/2001			SeqNo: 74558			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	2.13	0.100	2	0.03	105	80	120	0	0	0	

Sample ID: C01110317-001BMS		SampType: MSD	TestCode: N-NO3+NO2-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011114C		
Client ID:		Batch ID: A2001-11-13_	TestNo: E353.2		Analysis Date: 11/14/2001			SeqNo: 74525			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	2.01	0.100	2	0.01	100	80	120	2.01	0	20	

Sample ID: C01110354-007CMS		SampType: MSD	TestCode: N-NO3+NO2-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011114C		
Client ID:		Batch ID: A2001-11-13_	TestNo: E353.2		Analysis Date: 11/14/2001			SeqNo: 74542			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.92	0.100	2	0.08	92	80	120	1.93	0.519	20	

Sample ID: C01110313-007CDU		SampType: DUP	TestCode: N-NO3+NO2-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011114B		
Client ID:		Batch ID: A2001-11-13_	TestNo: E353.2		Analysis Date: 11/14/2001			SeqNo: 74344			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	770	15.0	0	0				705	8.81	20	

Sample ID: C01110315-007DDU		SampType: DUP	TestCode: N-NO3+NO2-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011114B		
Client ID: 632		Batch ID: A2001-11-13_	TestNo: E353.2		Analysis Date: 11/14/2001			SeqNo: 74365			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	42.6	0.600	0	0				43.2	1.40	20	

11315R10029
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Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
Work Order: C01110315
Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: E624

Sample ID: C01110315-006E		SampType: MS		TestCode: VOC-624-W		Units: ug/L		Prep Date:		Run ID: GCMS1-C_011113A	
Client ID: 802		Batch ID: R5012		TestNo: E624		Analysis Date: 10/28/2001				SeqNo: 77290	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	107.5	10.0	100	0.99	107	70	130	0	0	0	
Surr: 1,2-Dichlorobenzene-d4	100.7		100	0	101	80	120	0	0	0	
Surr: Dibromofluoromethane	113.3		100	0	113	80	120	0	0	0	
Surr: p-Bromofluorobenzene	92		100	0	92	80	120	0	0	0	
Surr: Toluene-d8	102.7		100	0	103	80	120	0	0	0	

Sample ID: C01110315-006E		SampType: MSD		TestCode: VOC-624-W		Units: ug/L		Prep Date:		Run ID: GCMS1-C_011113A	
Client ID: 802		Batch ID: R5012		TestNo: E624		Analysis Date: 10/28/2001				SeqNo: 77291	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	107.2	10.0	100	0.99	106	70	130	107.5	0.279	20	
Surr: 1,2-Dichlorobenzene-d4	102.3		100	0	102	80	120	0	0	10	
Surr: Dibromofluoromethane	114.2		100	0	114	80	120	0	0	10	
Surr: p-Bromofluorobenzene	92.5		100	0	92.5	80	120	0	0	10	
Surr: Toluene-d8	104.4		100	0	104	80	120	0	0	10	

TRACKING NO. PAGE NO
 11315R10030

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
 Work Order: C01110315
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: E903.0

Sample ID: C01110315-004A	SampType: MS	TestCode: RAD-RA226-W-D	Units: pCi/L	Prep Date:	Run ID: TENNELEC-1_011115A						
Client ID: 803	Batch ID: 01RA-310	TestNo: E903.0	Analysis Date: 11/21/2001	SeqNo: 80352							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 226	94.5	0.20	121.3	0	77.9	70	130	0	0	0	

Sample ID: C01110315-002A	SampType: DUP	TestCode: RAD-RA226-W-D	Units: pCi/L	Prep Date:	Run ID: TENNELEC-1_011115A						
Client ID: EPA-23	Batch ID: 01RA-310	TestNo: E903.0	Analysis Date: 11/20/2001	SeqNo: 80335							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 226	ND	0.20	0	0		70	130	0	0	30	

Sample ID: C01110315-003A	SampType: DUP	TestCode: RAD-RA226-W-D	Units: pCi/L	Prep Date:	Run ID: TENNELEC-1_011115A						
Client ID: EPA-23 DUPLICATE	Batch ID: 01RA-310	TestNo: E903.0	Analysis Date: 11/21/2001	SeqNo: 80338							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 226	0.5	0.20	0	0		70	130	0.5	0	30	
Radium 226 precision	0.2	0	0	0				0.2	0	0	

11315R10031
 TRACKING NO. PAGE NO.

Modifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
Work Order: C01110315
Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: E904.0

Sample ID: C01110315-001A		SampType: MS		TestCode: RAD-RA228-W-D		Units: pCi/L		Prep Date:		Run ID: BERTHOLD 770_01112	
Client ID: 509-D		Batch ID: 01228248		TestNo: E904.0		Analysis Date: 11/29/2001				SeqNo: 83714	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 228	14.6	1.00	13.7	0	107	70	130	0	0	0	

Sample ID: C01110315-002A		SampType: DUP		TestCode: RAD-RA228-W-D		Units: pCi/L		Prep Date:		Run ID: BERTHOLD 770_01112	
Client ID: EPA-23		Batch ID: 01228248		TestNo: E904.0		Analysis Date: 11/29/2001				SeqNo: 83716	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 228	2	1.00	0	0		70	130	0	0	30	
Radium 228 precision	1	0	0	0				0	0	0	

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 11315R10032

Modifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
Work Order: C01110315
Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: E907.0

Sample ID: AS111MS	SampType: MS	TestCode: RAD-TH-ISO-W	Units: pCi/L	Prep Date:	Run ID: EGG-ORTEC_011204A						
Client ID:	Batch ID: R5578	TestNo: E907.0	Analysis Date: 12/4/2001	SeqNo: 89827							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium 230	26.5	0.20	25	0	106	70	130	0	0	0	

Sample ID: AS111DUP	SampType: DUP	TestCode: RAD-TH-ISO-W	Units: pCi/L	Prep Date:	Run ID: EGG-ORTEC_011204A						
Client ID:	Batch ID: R5578	TestNo: E907.0	Analysis Date: 12/4/2001	SeqNo: 89826							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium 230	26.2	0.20	0	0		70	130	26.5	1.14	30	

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TRACKING NO. PAGE 00.

Modifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
 Work Order: C01110315
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 15-Feb-02

TestNo: NERHL-65-4

Sample ID: C01110250-001AMS	SampType: MS	TestCode: RAD-PB210-W-D	Units: pCi/L	Prep Date:	Run ID: BECKMAN 6000_01111						
Client ID:	Batch ID: R5029	TestNo: NERHL-65-4		Analysis Date: 11/12/2001	SeqNo: 77633						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	29.6	2.7	25.13	0	118	70	130	0	0	30	

Sample ID: C01110315-007AMS	SampType: MS	TestCode: RAD-PB210-W-D	Units: pCi/L	Prep Date:	Run ID: BECKMAN 6000_01111						
Client ID: 632	Batch ID: R5127	TestNo: NERHL-65-4		Analysis Date: 11/13/2001	SeqNo: 80316						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	41.3	2.7	37.7	0	110	70	130	0	0	30	

Sample ID: C01110250-002ADU	SampType: DUP	TestCode: RAD-PB210-W-D	Units: pCi/L	Prep Date:	Run ID: BECKMAN 6000_01111						
Client ID:	Batch ID: R5029	TestNo: NERHL-65-4		Analysis Date: 11/12/2001	SeqNo: 77635						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	ND	2.7	0	0		70	130	0	0	30	

Sample ID: C01110315-011ADU	SampType: DUP	TestCode: RAD-PB210-W-D	Units: pCi/L	Prep Date:	Run ID: BECKMAN 6000_01111						
Client ID: 624	Batch ID: R5127	TestNo: NERHL-65-4		Analysis Date: 11/13/2001	SeqNo: 80315						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	ND	2.7	0	0				0	0	0	

Sample ID: C01110250-002ADU	SampType: DUP	TestCode: RAD-PB210-W-T	Units: pCi/L	Prep Date:	Run ID: BECKMAN 6000_01111						
Client ID:	Batch ID: R5029	TestNo: NERHL-65-4		Analysis Date: 11/12/2001	SeqNo: 77630						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	ND	2.7	0	0		70	130	0	0	30	

11315R10034

ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01110315
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: E200.8

Sample ID: C01110315-004AMS		SampType: MS		TestCode: ICPMS-200.8-W-D		Units: mg/L		Prep Date:		Run ID: ICPMS1-C_011127A	
Client ID: 803		Batch ID: ICPMS11270		TestNo: E200.8		Analysis Date: 11/27/2001		SeqNo: 81805			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.5313	0.100	0.5	0.007775	105	70	130	0	0	0	
Beryllium	0.5115	0.0100	0.5	0	102	70	130	0	0	0	
Cadmium	0.5613	0.0100	0.5	0	112	70	130	0	0	0	
Cobalt	0.5971	0.0100	0.5	0.003634	119	70	130	0	0	0	
Lead	0.5907	0.0500	0.5	0.002877	118	70	130	0	0	0	
Manganese	2.137	0.0100	0.5	1.608	106	70	130	0	0	0	
Molybdenum	0.6257	0.100	0.5	0	125	70	130	0	0	0	
Nickel	0.6224	0.0500	0.5	0.02658	119	70	130	0	0	0	
Uranium	0.7326	0.000300	0.5	0.1344	120	70	130	0	0	0	
Vanadium	0.6014	0.100	0.5	0.000539	120	70	130	0	0	0	

Sample ID: C01110315-014AMS		SampType: MS		TestCode: ICPMS-200.8-W-D		Units: mg/L		Prep Date:		Run ID: ICPMS1-C_011127A	
Client ID: EPA-25		Batch ID: ICPMS11270		TestNo: E200.8		Analysis Date: 11/27/2001		SeqNo: 81819			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.5086	0.100	0.5	0.002771	101	70	130	0	0	0	
Beryllium	0.4863	0.0100	0.5	0	97.3	70	130	0	0	0	
Cadmium	0.5521	0.0100	0.5	0	110	70	130	0	0	0	
Cobalt	0.5979	0.0100	0.5	0.001443	119	70	130	0	0	0	
Lead	0.5658	0.0500	0.5	0	113	70	130	0	0	0	
Manganese	2.031	0.0100	0.5	1.456	115	70	130	0	0	0	
Molybdenum	0.6041	0.100	0.5	0	121	70	130	0	0	0	
Nickel	0.6337	0.0500	0.5	0.02059	123	70	130	0	0	0	
Uranium	0.664	0.000300	0.5	0.08525	116	70	130	0	0	0	
Vanadium	0.5949	0.100	0.5	0.000231	119	70	130	0	0	0	

11315R10035

ICPMS NO. PAGE NO.

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
 Work Order: C01120222
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: A2320 B

Sample ID: C01120221-002B	SampType: DUP	TestCode: ALK-W	Units: mg/L	Prep Date:	Run ID: ORION_011211A						
Client ID:	Batch ID: O-121101-1	TestNo: A2320 B		Analysis Date: 12/11/2001	SeqNo: 89156						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bicarbonate as HCO3	713.7	1.00	0	0				714.3	0.0840	0	
pH	7	0.0100	0	0				7	0	0	

Sample ID: C01120222-008C	SampType: DUP	TestCode: ALK-W	Units: mg/L	Prep Date:	Run ID: ORION_011211A						
Client ID: 801	Batch ID: O-121101-2	TestNo: A2320 B		Analysis Date: 12/11/2001	SeqNo: 89197						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bicarbonate as HCO3	1594	1.00	0	0				1588	0.383	0	
pH	7.1	0.0100	0	0				7	1.42	0	

Sample ID: C01120305-002A	SampType: DUP	TestCode: ALK-W	Units: mg/L	Prep Date:	Run ID: ORION_011212A						
Client ID:	Batch ID: O-121201-1	TestNo: A2320 B		Analysis Date: 12/12/2001	SeqNo: 89879						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bicarbonate as HCO3	231.2	1.00	0	0				231.2	0	0	
pH	7.9	0.0100	0	0				7.8	1.27	0	

TRACKING NO. PAGE NO.
 12222R00022

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01120222
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: A2540 C

Sample ID: C01120221-003BMS	SampType: MS	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01121						
Client ID:	Batch ID: 011210A-SLD	TestNo: A2540 C	Analysis Date: 12/10/2001	SeqNo: 89178							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	6459	10.0	2381	4007	103	90	110	0	0	0	

Sample ID: C01120222-009BMS	SampType: MS	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01121						
Client ID: GW-1	Batch ID: 011210A-SLD	TestNo: A2540 C	Analysis Date: 12/10/2001	SeqNo: 89196							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	7862	10.0	2500	5299	103	90	110	0	0	0	

Sample ID: C01120250-001AMS	SampType: MS	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01121						
Client ID:	Batch ID: 011210A-SLD	TestNo: A2540 C	Analysis Date: 12/10/2001	SeqNo: 89217							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	2966	10.0	2000	917.8	102	90	110	0	0	0	

Sample ID: C01120209-001BDU	SampType: DUP	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01121						
Client ID:	Batch ID: 011210A-SLD	TestNo: A2540 C	Analysis Date: 12/10/2001	SeqNo: 89171							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	21840	10.0	0	0				21920	0.366	10	H

Sample ID: C01120222-004BDU	SampType: DUP	TestCode: SLDS-TDS-W	Units: mg/L	Prep Date:	Run ID: SLDS-BALANCE_01121						
Client ID: 808	Batch ID: 011210A-SLD	TestNo: A2540 C	Analysis Date: 12/10/2001	SeqNo: 89187							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	6750	10.0	0	0				6777	0.398	10	

12222R000023

ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01120222
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: A3114 B

Sample ID: C01120222-010AMS	SampType: MS	TestCode: CVAA-ASIII-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011211B						
Client ID: GW-1 DUPLICATE	Batch ID: R5533	TestNo: A3114 B		Analysis Date: 12/11/2001	SeqNo: 88981						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0446	0.00100	0.0476	0	93.7	85	115	0	0	0	

Sample ID: C01120222-016AMS	SampType: MS	TestCode: CVAA-ASIII-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011211B						
Client ID: FIELD BLANK	Batch ID: R5533	TestNo: A3114 B		Analysis Date: 12/11/2001	SeqNo: 88993						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0453	0.00100	0.0476	0	95.2	85	115	0	0	0	

Sample ID: C01120222-010AMS	SampType: MSD	TestCode: CVAA-ASIII-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011211B						
Client ID: GW-1 DUPLICATE	Batch ID: R5533	TestNo: A3114 B		Analysis Date: 12/11/2001	SeqNo: 88982						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0438	0.00100	0.0476	0	92	85	115	0.0446	1.81	10	

Sample ID: C01120222-016AMS	SampType: MSD	TestCode: CVAA-ASIII-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011211B						
Client ID: FIELD BLANK	Batch ID: R5533	TestNo: A3114 B		Analysis Date: 12/11/2001	SeqNo: 88994						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0455	0.00100	0.0476	0	95.6	85	115	0.0453	0.441	10	

Sample ID: C01120108-003CMS	SampType: MS	TestCode: CVAA-ASIII-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011211B						
Client ID:	Batch ID: R5533	TestNo: A3114 B		Analysis Date: 12/11/2001	SeqNo: 88966						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic-III	0.0487	0.00100	0.0476	0.006	89.7	85	115	0	0	0	

12222R000024

PAGE NO.

ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
Work Order: C01120222
Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: A3114 B

Sample ID: C01120108-003CMS	SampType: MS	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011211D						
Client ID:	Batch ID: R5542	TestNo: A3114 B	Analysis Date: 12/11/2001	SeqNo: 89074							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0503	0.00100	0.05	0.0014	97.8	85	115	0	0	0	

Sample ID: C01120108-003CMS	SampType: MSD	TestCode: CVAA-SEIV-3114-	Units: mg/L	Prep Date:	Run ID: HYDRIDE1-C_011211D						
Client ID:	Batch ID: R5542	TestNo: A3114 B	Analysis Date: 12/11/2001	SeqNo: 89075							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium-IV	0.0512	0.00100	0.05	0.0014	99.6	85	115	0.0503	1.77	10	

TRACKING NO. PAGE NO.
12222R00025

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
Work Order: C01120222
Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: A4500-NH3 G

Sample ID: C01120221-003CMS		SampType: MS	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011210A		
Client ID:		Batch ID: A2001-12-10_	TestNo: A4500-NH3 G		Analysis Date: 12/10/2001			SeqNo: 88316			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	2.49	0.0500	2	0.18	116	80	120	0	0	0	

Sample ID: C01120222-004DMS		SampType: MS	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011210A		
Client ID: 808		Batch ID: A2001-12-10_	TestNo: A4500-NH3 G		Analysis Date: 12/10/2001			SeqNo: 88325			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.91	0.0500	2	0.11	90	80	120	0	0	0	

Sample ID: C01120222-014DMS		SampType: MS	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011210A		
Client ID: EPA-25		Batch ID: A2001-12-10_	TestNo: A4500-NH3 G		Analysis Date: 12/10/2001			SeqNo: 88339			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	2.05	0.0500	2	0.07	99	80	120	0	0	0	

Sample ID: C01120222-004DMS		SampType: MSD	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011210A		
Client ID: 808		Batch ID: A2001-12-10_	TestNo: A4500-NH3 G		Analysis Date: 12/10/2001			SeqNo: 88326			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.99	0.0500	2	0.11	94	80	120	1.91	4.10	20	

Sample ID: C01120222-014DMS		SampType: MSD	TestCode: N-NH3-W		Units: mg/L	Prep Date:			Run ID: TECHNICON_011210A		
Client ID: EPA-25		Batch ID: A2001-12-10_	TestNo: A4500-NH3 G		Analysis Date: 12/10/2001			SeqNo: 88340			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	2.09	0.0500	2	0.07	101	80	120	2.05	1.93	20	

12222R00026

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01120222
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: E200.8

Sample ID: C01120221-010AMS		SampType: MS	TestCode: ICPMS-200.8-W-D		Units: mg/L	Prep Date:			Run ID: ICPMS1-C_011210B		
Client ID:		Batch ID: ICPMS12100	TestNo: E200.8			Analysis Date: 12/11/2001			SeqNo: 89706		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.04432	0.0100	0.05	0	88.6	70	130	0	0	0	
Cadmium	0.04492	0.0100	0.05	0	89.8	70	130	0	0	0	
Cobalt	0.04583	0.0100	0.05	0.001292	89.1	70	130	0	0	0	J
Lead	0.04556	0.0500	0.05	0	91.1	70	130	0	0	0	
Manganese	0.09572	0.0100	0.05	0.0522	87	70	130	0	0	0	J
Nickel	0.04915	0.0500	0.05	0.005659	87	70	130	0	0	0	J
Vanadium	0.04416	0.100	0.05	0	88.3	70	130	0	0	0	

Sample ID: C01120222-010AMS		SampType: MS	TestCode: ICPMS-200.8-W-D		Units: mg/L	Prep Date:			Run ID: ICPMS1-C_011210B		
Client ID: GW-1 DUPLICATE		Batch ID: ICPMS12100	TestNo: E200.8			Analysis Date: 12/11/2001			SeqNo: 89722		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.4857	0.100	0.5	0	97.1	70	130	0	0	0	
Beryllium	0.4528	0.0100	0.5	0	90.6	70	130	0	0	0	
Cadmium	0.5026	0.0100	0.5	0	101	70	130	0	0	0	
Cobalt	0.49	0.0100	0.5	0.001971	97.6	70	130	0	0	0	
Lead	0.5177	0.0500	0.5	0.000093	104	70	130	0	0	0	
Manganese	0.5053	0.0100	0.5	0.03089	94.9	70	130	0	0	0	
Molybdenum	0.5291	0.100	0.5	0.000624	106	70	130	0	0	0	
Nickel	0.5174	0.0500	0.5	0.02587	98.3	70	130	0	0	0	
Uranium	0.6225	0.000300	0.5	0.09503	105	70	130	0	0	0	
Vanadium	0.4966	0.100	0.5	0.000836	99.2	70	130	0	0	0	

Sample ID: C01110834-005CMS		SampType: MSD	TestCode: ICPMS-200.8-W-D		Units: mg/L	Prep Date:			Run ID: ICPMS1-C_011210B		
Client ID:		Batch ID: ICPMS12100	TestNo: E200.8			Analysis Date: 12/11/2001			SeqNo: 89592		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.06245	0.100	0.05	0.001635	122	70	130	0.0593	0	20	J

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

12222R000027



CLIENT: United Nuclear Corp
 Work Order: C01120222
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: E200.8

Sample ID: C01110834-005CMS		SampType: MSD		TestCode: ICPMS-200.8-W-D		Units: mg/L		Prep Date:		Run ID: ICPMS1-C_011210B		
Client ID:		Batch ID: ICPMS12100		TestNo: E200.8		Analysis Date: 12/11/2001		SeqNo: 89592				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Beryllium	0.05835	0.0100	0.05	0	117	70	130	0.05626	3.65	20		
Cadmium	0.06139	0.0100	0.05	0	123	70	130	0.05852	4.79	20		
Cobalt	0.05459	0.0100	0.05	0.000143	109	70	130	0.05177	5.30	20		
Lead	0.06334	0.0500	0.05	0	127	70	130	0.05981	5.73	20		
Manganese	0.063	0.0100	0.05	0.008355	109	70	130	0.06021	4.53	20		
Molybdenum	0.06538	0.100	0.05	0.000725	129	70	130	0.06144	0	20	J	
Nickel	0.05639	0.0500	0.05	0.001681	109	70	130	0.05284	6.50	20		
Vanadium	0.05788	0.100	0.05	0.000363	115	70	130	0.05525	0	20	J	

Sample ID: C01120071-003AMS		SampType: MSD		TestCode: ICPMS-200.8-W-D		Units: mg/L		Prep Date:		Run ID: ICPMS1-C_011210B		
Client ID:		Batch ID: ICPMS12100		TestNo: E200.8		Analysis Date: 12/11/2001		SeqNo: 89664				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	0.04657	0.100	0.05	0.003573	86	70	130	0.05065	0	20	J	
Beryllium	0.04199	0.0100	0.05	0	84	70	130	0.04526	7.50	20		
Cadmium	0.04484	0.0100	0.05	0	89.7	70	130	0.04855	7.95	20		
Cobalt	0.0426	0.0100	0.05	0.000973	83.3	70	130	0.04622	8.15	20		
Lead	0.04659	0.0500	0.05	0.000039	93.1	70	130	0.05031	0	20	J	
Molybdenum	0.04847	0.100	0.05	0.001574	93.8	70	130	0.05272	0	20	J	
Nickel	0.04223	0.0500	0.05	0.001392	81.7	70	130	0.04652	0	20	J	
Vanadium	0.04987	0.100	0.05	0.006455	86.8	70	130	0.05437	0	20	J	

Sample ID: C01120221-010AMS		SampType: MSD		TestCode: ICPMS-200.8-W-D		Units: mg/L		Prep Date:		Run ID: ICPMS1-C_011210B		
Client ID:		Batch ID: ICPMS12100		TestNo: E200.8		Analysis Date: 12/11/2001		SeqNo: 89709				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	0.0569	0.100	0.05	0.01117	91.5	70	130	0.05646	0	20	J	
Beryllium	0.0455	0.0100	0.05	0	91	70	130	0.04432	2.63	20		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

12222R000028



CLIENT: United Nuclear Corp
Work Order: C01120222
Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 13-Feb-02

TestNo: E903.0

Sample ID: C01120157-001A	SampType: MS	TestCode: RAD-RA226-W-D	Units: pCi/L	Prep Date:	Run ID: TENNELEC-2_011213A						
Client ID:	Batch ID: 01RA-334	TestNo: E903.0	Analysis Date: 12/19/2001	SeqNo: 94838							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 226	116.9	0.200	121.2	0.8	95.8	70	130	0	0	0	

Sample ID: C01120222-002A	SampType: DUP	TestCode: RAD-RA226-W-D	Units: pCi/L	Prep Date:	Run ID: TENNELEC-2_011213A						
Client ID: EPA-23	Batch ID: 01RA-334	TestNo: E903.0	Analysis Date: 12/18/2001	SeqNo: 94821							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 226	ND	0.200	0	0		70	130	0	0	30	

12222R00029

TRACKING NO. PAGE NO.

Quantifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
 Work Order: C01120222
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: E353.2

Sample ID: C01120326-006AMS	SampType: MS	TestCode: N-NO3+NO2-DW	Units: mg/L	Prep Date:	Run ID: TECHNICON_011212A						
Client ID:	Batch ID: A2001-12-12_	TestNo: E353.2		Analysis Date: 12/12/2001	SeqNo: 89785						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	18.6	0.300	9.82	8.5	103	80	120	0	0	0	

Sample ID: C01120190-001BDU	SampType: DUP	TestCode: N-NO3+NO2-DW	Units: mg/L	Prep Date:	Run ID: TECHNICON_011212A						
Client ID:	Batch ID: A2001-12-12_	TestNo: E353.2		Analysis Date: 12/12/2001	SeqNo: 89741						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.100	0	0				0	0	20	

Sample ID: C01120327-002ADU	SampType: DUP	TestCode: N-NO3+NO2-DW	Units: mg/L	Prep Date:	Run ID: TECHNICON_011212A						
Client ID:	Batch ID: A2001-12-12_	TestNo: E353.2		Analysis Date: 12/12/2001	SeqNo: 89793						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	8.55	0.150	0	0				8.55	0	20	

Sample ID: C01120209-002DMS	SampType: MS	TestCode: N-NO3+NO2-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011212A						
Client ID:	Batch ID: A2001-12-12_	TestNo: E353.2		Analysis Date: 12/12/2001	SeqNo: 89750						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	2.22	0.100	2	0	111	80	120	0	0	0	

Sample ID: C01120222-005DMS	SampType: MS	TestCode: N-NO3+NO2-W	Units: mg/L	Prep Date:	Run ID: TECHNICON_011212A						
Client ID: 802	Batch ID: A2001-12-12_	TestNo: E353.2		Analysis Date: 12/12/2001	SeqNo: 89769						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	213	3.00	81.2	121	113	80	120	0	0	0	

12222R00030

PAGE NO

Qualifiers:

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
 Work Order: C01120222
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: E624

Sample ID: C01120222-015E	SampType: MS	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS1-C_011210A						
Client ID: 627	Batch ID: R5657	TestNo: E624		Analysis Date: 12/11/2001	SeqNo: 91621						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	78	10.0	100	0	78	70	130	0	0	0	
Surr: 1,2-Dichlorobenzene-d4	96.1		100	0	96.1	80	120	0	0	0	
Surr: Dibromofluoromethane	76.6		100	0	76.6	70	130	0	0	0	
Surr: p-Bromofluorobenzene	94.1		100	0	94.1	80	120	0	0	0	
Surr: Toluene-d8	97.4		100	0	97.4	80	120	0	0	0	

Sample ID: C01120222-015E	SampType: MSD	TestCode: VOC-624-W	Units: ug/L	Prep Date:	Run ID: GCMS1-C_011210A						
Client ID: 627	Batch ID: R5657	TestNo: E624		Analysis Date: 12/11/2001	SeqNo: 91622						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	78.6	10.0	100	0	78.6	70	130	78	0.766	20	
Surr: 1,2-Dichlorobenzene-d4	96		100	0	96	80	120	0	0	10	
Surr: Dibromofluoromethane	78.6		100	0	78.6	70	130	0	0	10	
Surr: p-Bromofluorobenzene	95.8		100	0	95.8	80	120	0	0	10	
Surr: Toluene-d8	97.2		100	0	97.2	80	120	0	0	10	

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 12222R000031

Modifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

CLIENT: United Nuclear Corp
Work Order: C01120222
Project: Alluvium

TestNo: E904.0

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	Run ID:						
C01120222-001A	DUP	RAD-RA228-W-D	pCi/L		BERTHOLD 770_01122						
Client ID: 509-D	Batch ID: 01228275	TestNo: E904.0		Analysis Date: 12/26/2001	SeqNo: 98347						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 228	ND	1.00	0	0		70	130	0	0	30	

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	Run ID:						
C01120222-002A	DUP	RAD-RA228-W-D	pCi/L		BERTHOLD 770_01122						
Client ID: EPA-23	Batch ID: 01228275	TestNo: E904.0		Analysis Date: 12/26/2001	SeqNo: 98352						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 228	ND	1.00	0	0		70	130	0	0	30	

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	Run ID:						
C01120157-001B	MS	RAD-RA228-W-T	pCi/L		BERTHOLD 770_01122						
Client ID:	Batch ID: 01228275	TestNo: E904.0		Analysis Date: 12/26/2001	SeqNo: 98345						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium 228	8.1	1.0	6.9	0	117	70	130	0	0	0	

12222R00032
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Modifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



CLIENT: United Nuclear Corp
 Work Order: C01120222
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 12-Feb-02

TestNo: E907.0

Sample ID: C01120222-016AMS	SampType: MS	TestCode: RAD-TH-ISO-W	Units: pCi/L	Prep Date:	Run ID: EGG-ORTEC_011211B						
Client ID: FIELD BLANK	Batch ID: R5670	TestNo: E907.0		Analysis Date: 12/11/2001	SeqNo: 91735						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium 230	130.2	0.20	125	0	104	70	130	0	0	0	

Sample ID: C01120222-016ADU	SampType: DUP	TestCode: RAD-TH-ISO-W	Units: pCi/L	Prep Date:	Run ID: EGG-ORTEC_011211B						
Client ID: FIELD BLANK	Batch ID: R5670	TestNo: E907.0		Analysis Date: 12/11/2001	SeqNo: 91734						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium 230	126.6	0.20	0	0		70	130	130.2	2.80	30	

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 12222R00033

ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits



CLIENT: United Nuclear Corp
 Work Order: C01120222
 Project: Alluvium

ANALYTICAL QC SUMMARY REPORT

Date: 15-Feb-02

TestNo: NERHL-65-4

Sample ID: C01120222-014AMS	SampType: MS	TestCode: RAD-PB210-W-D	Units: pCi/L	Prep Date:	Run ID: BECKMAN 6000_01121						
Client ID: EPA-25	Batch ID: R5866	TestNo: NERHL-65-4	Analysis Date: 12/14/2001	SeqNo: 94366							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	38.1	2.7	37.6	0	101	70	130	0	0	30	

Sample ID: C01120222-015ADU	SampType: DUP	TestCode: RAD-PB210-W-D	Units: pCi/L	Prep Date:	Run ID: BECKMAN 6000_01121						
Client ID: 627	Batch ID: R5866	TestNo: NERHL-65-4	Analysis Date: 12/14/2001	SeqNo: 94367							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead 210	ND	2.7	0	0				0	0	0	

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 12222R000034

I - Interfering
 J - Analyte detected below quantitation limits
 K - Spike Recovery outside accepted recovery limits
 L - Analyte detected in the associated Method Blank
 M - RPD outside accepted recovery limits
 N - Not Detected at the Reporting Limit
 O - Spike Recovery outside accepted recovery limits
 P - Analyte detected in the associated Method Blank
 Q - RPD outside accepted recovery limits