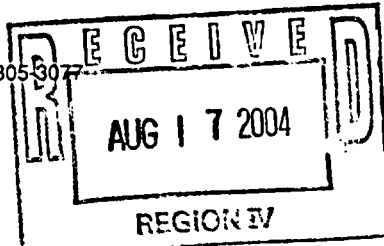


# UNITED NUCLEAR CORPORATION

P.O. Box 3077  
Gallup, New Mexico 87305-3077

Telephone: (505) 722-6651  
Fax: (505) 722-6654



*FBI - Ouditts*

**CERTIFIED – RETURN RECEIPT REQUESTED**

August 16, 2004

Mr. Jack Whitten  
U.S. Nuclear Regulatory Commission, Region VI  
Division of Radiation Safety & Safeguards  
611 Ryan Plaza Drive, Suite 400  
Dallas, TX 76011-4351

Re: Semi-Annual Effluent and Environmental Monitoring Report from  
January to June, 2004

Dear Mr. Whitten:

In compliance with our Nuclear Regulatory Material License No. SUA-1475, Amendment No. 34, condition 12, and 30; the attached Effluent and Environmental Monitoring Report are described and presented as listed below. This applicable and available data will specify the concentration of each principle radionuclide released to unrestricted areas in water effluent during the period of January 01, 2004 through June 30, 2004. The data is also reported on the format required in Regulatory Guide 4.14.

Available monitoring data in this report are order as listed below:

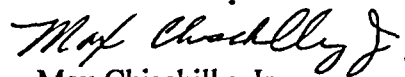
- Environmental Inspection Report (continued this procedure to show and maintain the integrity of the restricted tailings area).
- Ground Water Result (available data on GW-3 Well).
- Sample Location Maps



Presently our environmental monitoring program is at a greatly reduced level and the above reported items are solely based on available data only. The required radiation monitoring program will be under an RWP (Radiation Work Permit) and no RWP was issued during this semi-annual period.

Additionally, our active radiation monitoring instruments are routinely calibrated and the radiation monitoring program is still in effect, but is in standby status awaiting the final pond closure reclamation activity.

Sincerely,



Max Chischilly, Jr.  
Radiation Safety Officer

MC:drb

Cc: Gary Jonosko, NRC  
Bill Von Till, NRC  
Roy Blickwedel, GE  
Steve Hill, GE

**ENVIRONMENTAL INSPECTION REPORTS**

ENVIRONMENTAL INSPECTION

DATE: 1-30-04

TIME START: 1030

INSPECTOR: Max Chiswick J.

TIME END: 1120

<u>TAILINGS AREA:</u>	<u>OKAY</u>	<u>PROBLEM</u>	<u>COMMENTS</u>
1. Fences	<u>✓</u>	<u>          </u>	<u>          </u>
2. Air Monitors	<u>- NA -</u>	<u>          </u>	<u>ONLY UNDER AM RWP IF NEEDED</u>
3. Radiation Warning Signs	<u>✓</u>	<u>          </u>	<u>          </u>
4. Locked Gates	<u>✓</u>	<u>          </u>	<u>          </u>

ACTION TAKEN: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ENVIRONMENTAL INSPECTION

DATE: 2-27-04

TIME START: 0910

INSPECTOR: May Chisley Jr.

TIME END: 1100

TAILINGS AREA:

	<u>OKAY</u>	<u>PROBLEM</u>	<u>COMMENTS</u>
1. Fences	<u>✓</u>	<u>_____</u>	<u>_____</u>
2. Air Monitors	<u>- NA</u>	<u>-</u>	<u>ONLY UNDER AN RWP IF NEEDED</u>
3. Radiation Warning Signs	<u>✓</u>	<u>_____</u>	<u>_____</u>
4. Locked Gates	<u>✓</u>	<u>_____</u>	<u>_____</u>

ACTION TAKEN: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ENVIRONMENTAL INSPECTION

DATE: 3-30-04

TIME START: 1415

INSPECTOR: Max Chodilly Jr.

TIME END: 1520

TAILINGS AREA:

	<u>OKAY</u>	<u>PROBLEM</u>	<u>COMMENTS</u>
1. Fences	<u>✓</u>	<u>      </u>	<u>      </u>
2. Air Monitors	<u>- NA</u>	<u>-</u>	<u>ONLY UNDER AN RWP IF NEEDED</u>
3. Radiation Warning Signs	<u>✓</u>	<u>      </u>	<u>      </u>
4. Locked Gates	<u>✓</u>	<u>      </u>	<u>      </u>

ACTION TAKEN: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ENVIRONMENTAL INSPECTION

DATE: 4-30-04

TIME START: 1030

INSPECTOR: Max Chisnelly Jr.

TIME END: 1205

<u>TAILINGS AREA:</u>	<u>OKAY</u>	<u>PROBLEM</u>	<u>COMMENTS</u>
1. Fences	<u>✓</u>	<u>      </u>	<u>      </u>
2. Air Monitors	<u>—</u>	<u>NA</u>	<u>—</u>
3. Radiation Warning Signs	<u>      </u>	<u>✓</u>	<u>SEE BELOW</u>
4. Locked Gates	<u>✓</u>	<u>      </u>	<u>      </u>

ACTION TAKEN: RESECURED / REPOSTED ONE WIND BLOWN RADIATION  
WARNING SIGN TO METAL POST STAND @ THE NW CORNER OF THE  
EVAPORATION POND PERIMETER AREA.

---

---

---

---

ENVIRONMENTAL INSPECTION

DATE: 5-27-04

TIME START: 1445

INSPECTOR: Max Umschally Jr.

TIME END: 1515

<u>TAILINGS AREA:</u>	<u>OKAY</u>	<u>PROBLEM</u>	<u>COMMENTS</u>
1. Fences	<u>✓</u>	<u>        </u>	<u>        </u>
2. Air Monitors	<u>-</u>	<u>NA -</u>	<u>ONLY UNDER AN RWP IF NEEDED</u>
3. Radiation Warning Signs	<u>✓</u>	<u>        </u>	<u>        </u>
4. Locked Gates	<u>✓</u>	<u>        </u>	<u>        </u>

ACTION TAKEN: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



ENVIRONMENTAL INSPECTION

DATE: 6-29-04

TIME START: 0900

INSPECTOR: Max Churchill Jr.

TIME END: 0950

<u>TAILINGS AREA:</u>	<u>OKAY</u>	<u>PROBLEM</u>	<u>COMMENTS</u>
1. Fences	<u>✓</u>	<u>      </u>	<u>      </u>
2. Air Monitors	<u>- NA -</u>	<u>      </u>	<u>ONLY UNDER AN RWP IF NEEDED.</u>
3. Radiation Warning Signs	<u>✓</u>	<u>      </u>	<u>      </u>
4. Locked Gates	<u>✓</u>	<u>      </u>	<u>      </u>

ACTION TAKEN: OTHER IMPORTANT NOTE: RECONNECTED WATER  
PIPELINE TO THE EVAPORATION PONDS AND STARTED THE WATER  
DISCHARGE TO THE SOUTH POND ON 6-4-04 @ 1130. THIS TASK  
IS DONE TO PRESERVE THE POND LINERS.

**GROUNDWATER RESULTS**

QUARTERLY LIQUID SAMPLES

<u>Date/Qr.</u>	<u>Location</u>	<u>Type</u>	<u>Radionuclide</u>	<u>Concentration</u>		<u>Error Est.</u>	<u>LLD</u>
				<u>Mg/l</u>	<u>µci/ml</u>	<u>µci/ml</u>	<u>µci/ml</u>
<u>01/06/04</u>	<u>GW-3</u>	<u>GROUND</u>	U-Nat (dissolved) or total		<u>6.15E<sup>-08</sup></u>		<u>2.00E-10</u>
<u>1ST-QR.</u>		<u>WATER WELL</u>	Th-230 (dissolved) or total		<u>&lt;2.00E<sup>-10</sup></u>		<u>2.00E-10</u>
			Ra-266 (dissolved) or total		<u>&lt;2.00E<sup>-10</sup></u>		<u>2.00E-10</u>
			Pb-210 (dissolved) or total		<u>&lt;1.00E<sup>-09</sup></u>		<u>1.00E-09</u>
			Po-210 (dissolved) or total				<u>1.00E-09</u>

UNC Field Data: PH (STD. Units) = 6.63  
 Cond. (µ MHOS) = 5,600  
 Water Depth (Ft.) = 50.43  
 Temp. (°C) = 11.7

COMMENTS:

---



---



---



---

QUARTERLY LIQUID SAMPLES

<u>Date/Qr.</u>	<u>Location</u>	<u>Type</u>	<u>Radionuclide</u>	<u>Concentration</u>		<u>Error Est.</u>	<u>LLD</u>
				<u>Mg/l</u>	<u>µci/ml</u>	<u>µci/ml</u>	<u>µci/ml</u>
<u>04/06/04</u>	<u>GW-3</u>	<u>GROUND</u>	U-Nat (dissolved) or total		<u>6.57E-08</u>		<u>2.00E-10</u>
<u>2ND-QR.</u>		<u>WATER WELL</u>	Th-230 (dissolved) or total		<u>&lt;2.00E-10</u>		<u>2.00E-10</u>
			Ra-266 (dissolved) or total		<u>&lt;2.00E-10</u>		<u>2.00E-10</u>
			Pb-210 (dissolved) or total		<u>&lt;1.00E-09</u>		<u>1.00E-09</u>
			Po-210 (dissolved) or total				<u>1.00E-09</u>

UNC Field Data: PH (STD. Units) = 6.81  
 Cond. (µ MHOS) = 5,820  
 Water Depth (Ft.) = 50.28  
 Temp. (°C) = 12.4

COMMENTS:

---



---



---



---

)

)



LABORATORY ANALYTICAL REPORT

Client: United Nuclear Corp  
 Project: Alluvium  
 Lab ID: C04010262-013  
 Client Sample ID: GW-3

Report Date: 02/20/04  
 Collection Date: 01/06/04 11:25  
 Date Received: 01/09/04  
 Matrix: Aqueous

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>MAJOR IONS</b>							
Bicarbonate as HCO <sub>3</sub>	1700	mg/L		1.0		A2320 B	01/14/04 10:08 / slb
Calcium	951	mg/L		1.0		E200.7	01/13/04 16:26 / ts
Chloride	183	mg/L		1.0		E200.7	01/13/04 16:23 / ts
Magnesium	317	mg/L		1.0		E200.7	01/13/04 16:26 / ts
Nitrogen, Ammonia as N	0.38	mg/L		0.05		A4500-NH <sub>3</sub> G	01/12/04 11:30 / jal
Nitrogen, Nitrate+Nitrite as N	89.4	mg/L	D	1.5		E353.2	01/14/04 11:41 / jal
Potassium	8.5	mg/L		1.0		E200.7	01/13/04 16:23 / ts
Sodium	242	mg/L		1.0		E200.7	01/13/04 16:23 / ts
Sulfate	2170	mg/L		1.0		E200.7	01/13/04 16:26 / ts
<b>PHYSICAL PROPERTIES</b>							
pH	7.27	s.u.		0.01		A4500-H B	01/13/04 13:20 / slb
Solids, Total Dissolved TDS @ 180 C	5380	mg/L		10		A2540 C	01/09/04 16:11 / js
<b>METALS - DISSOLVED</b>							
Aluminum	0.2	mg/L		0.1		E200.8	01/12/04 23:50 / smd
Beryllium	ND	mg/L		0.01		E200.8	01/12/04 23:50 / smd
Cadmium	ND	mg/L		0.005		E200.8	01/12/04 23:50 / smd
Cobalt	ND	mg/L		0.01		E200.8	01/12/04 23:50 / smd
Lead	ND	mg/L		0.05		E200.8	01/12/04 23:50 / smd
Manganese	2.13	mg/L		0.01		E200.8	01/12/04 23:50 / smd
Molybdenum	ND	mg/L		0.1		E200.8	01/12/04 23:50 / smd
Nickel	ND	mg/L		0.05		E200.8	01/12/04 23:50 / smd
Uranium	0.0908	mg/L	D	0.0004		E200.8	01/12/04 23:50 / smd
Vanadium	ND	mg/L		0.1		E200.8	01/12/04 23:50 / smd
<b>METALS - SPECIATED</b>							
Arsenic-III	ND	mg/L		0.001		A3114 B	01/12/04 13:28 / sml
Selenium-IV	ND	mg/L		0.001		A3114 B	01/13/04 11:42 / sml
<b>RADIONUCLIDES - DISSOLVED</b>							
Gross Alpha minus Rn & U	ND	pCi/L		1.0		E900.1	01/15/04 10:40 / rs
Lead 210	ND	pCi/L		1.0		NERHL-65-4	01/26/04 10:53 / ph
Radium 226	ND	pCi/L		0.2		E903.0	01/27/04 08:53 / df
Radium 228	ND	pCi/L		1.0		E904.0	01/22/04 12:02 / pj
Thorium 230	ND	pCi/L		0.2		E907.0	01/16/04 10:30 / ph

Definitions: RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

TRACKING NO. PAGE NO.  
 010262R0025



LABORATORY ANALYTICAL REPORT

Client: United Nuclear Corp  
 Project: Alluvium  
 Lab ID: C04010262-013  
 Client Sample ID: GW-3

Report Date: 02/20/04  
 Collection Date: 01/06/04 11:25  
 Date Received: 01/09/04  
 Matrix: Aqueous

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>DATA QUALITY</b>							
A/C Balance (± 5)	0.140	%				Calculation	02/06/04 10:56 / ck
Anions	84.6	meq/L				Calculation	02/06/04 10:56 / ck
Cations	84.8	meq/L				Calculation	02/06/04 10:56 / ck
Solids, Total Dissolved Calculated	5120	mg/L				Calculation	02/06/04 10:56 / ck
TDS Balance (0.80 - 1.20)	1.05	dec. %				Calculation	02/06/04 10:56 / ck
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Chloroform	ND	ug/L		1.0		E624	01/13/04 23:53 / jlr
Surr: 1,2-Dichlorobenzene-d4	116	%REC			80-120	E624	01/13/04 23:53 / jlr
Surr: Dibromofluoromethane	109	%REC			70-130	E624	01/13/04 23:53 / jlr
Surr: p-Bromofluorobenzene	72.4	%REC	S		75-125	E624	01/13/04 23:53 / jlr
Surr: Toluene-d8	88.0	%REC			80-120	E624	01/13/04 23:53 / jlr

- S=One surrogate analyte recovery outside QC advisory limits.

Definitions: RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 S - Spike recovery outside of advisory limits.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

TRACKING NO. PAGE NO  
 010262R002'



LABORATORY ANALYTICAL REPORT

Client: United Nuclear Corp  
 Project: Alluvium  
 Lab ID: C04040401-013  
 Client Sample ID: GW-3

Report Date: 06/02/04  
 Collection Date: 04/06/04 10:55  
 Date Received: 04/09/04  
 Matrix: Aqueous

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>MAJOR IONS</b>							
Bicarbonate as HCO3	1680	mg/L		1.0		A2320 B	04/13/04 18:03 / slb
Calcium	924	mg/L		1.0		E200.7	04/14/04 12:42 / ts
Chloride	157	mg/L		1.0		E200.7	04/14/04 14:36 / ts
Magnesium	309	mg/L		1.0		E200.7	04/14/04 12:42 / ts
Nitrogen, Ammonia as N	0.29	mg/L		0.05		A4500-NH3 G	04/12/04 11:31 / jal
Nitrogen, Nitrate+Nitrite as N	86.7	mg/L	D	1.5		E353.2	04/14/04 11:40 / jal
Potassium	8.6	mg/L		1.0		E200.7	04/14/04 14:36 / ts
Sodium	239	mg/L		1.0		E200.7	04/14/04 14:36 / ts
Sulfate	2070	mg/L	D	8.0		E200.7	04/14/04 12:42 / ts
<b>PHYSICAL PROPERTIES</b>							
pH	6.82	s.u.		0.01		A4500-H B	04/12/04 11:36 / js
Solids, Total Dissolved TDS @ 180 C	5410	mg/L		10		A2540 C	04/09/04 16:45 / js
<b>METALS - DISSOLVED</b>							
Aluminum	ND	mg/L		0.1		E200.8	05/02/04 20:26 / bws
Beryllium	ND	mg/L		0.01		E200.8	05/02/04 20:26 / bws
Cadmium	ND	mg/L		0.005		E200.8	05/02/04 20:26 / bws
Cobalt	ND	mg/L		0.01		E200.8	05/02/04 20:26 / bws
Lead	ND	mg/L		0.05		E200.8	05/02/04 20:26 / bws
Manganese	1.91	mg/L		0.01		E200.8	05/02/04 20:26 / bws
Molybdenum	ND	mg/L		0.1		E200.8	05/02/04 20:26 / bws
Nickel	ND	mg/L		0.05		E200.8	05/02/04 20:26 / bws
Uranium	0.0970	mg/L	D	0.0004		E200.8	05/02/04 20:26 / bws
Vanadium	ND	mg/L		0.1		E200.8	05/02/04 20:26 / bws
<b>METALS - SPECIATED</b>							
Arsenic-III	ND	mg/L		0.001		A3114 B	04/13/04 12:09 / sml
Selenium-IV	0.001	mg/L		0.001		A3114 B	04/12/04 16:53 / sml
<b>RADIONUCLIDES - DISSOLVED</b>							
Gross Alpha minus Rn & U	ND	pCi/L		1.0		E900.1	04/14/04 12:10 / rs
Lead 210	ND	pCi/L		1.0		NERHL-65-4	04/24/04 00:00 / ph
Radium 226	ND	pCi/L		0.2		E903.0	04/22/04 14:55 / df
Radium 228	ND	pCi/L		1.0		E904.0	04/29/04 14:03 / pj
Thorium 230	ND	pCi/L		0.2		E907.0	04/21/04 10:30 / ph

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level.  
 QCL - Quality control limit. ND - Not detected at the reporting limit.  
 D - RL increased due to sample matrix interference.



LABORATORY ANALYTICAL REPORT

Client: United Nuclear Corp  
 Project: Alluvium  
 Lab ID: C04040401-013  
 Client Sample ID: GW-3

Report Date: 06/02/04  
 Collection Date: 04/06/04 10:55  
 Date Received: 04/09/04  
 Matrix: Aqueous

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>DATA QUALITY</b>							
A/C Balance (± 5)	0.591	%				Calculation	04/30/04 10:15 / smd
Anions	81.2	meq/L				Calculation	04/30/04 10:15 / smd
Cations	82.1	meq/L				Calculation	04/30/04 10:15 / smd
Solids, Total Dissolved Calculated	4910	mg/L				Calculation	04/30/04 10:15 / smd
TDS Balance (0.80 - 1.20)	1.10	dec. %				Calculation	04/30/04 10:15 / smd
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Chloroform	ND	ug/L		1.0		E624	04/13/04 13:12 / rlo
Surr: 1,2-Dichlorobenzene-d4	104	%REC			80-120	E624	04/13/04 13:12 / rlo
Surr: Dibromofluoromethane	107	%REC			70-130	E624	04/13/04 13:12 / rlo
Surr: p-Bromofluorobenzene	95.4	%REC			75-125	E624	04/13/04 13:12 / rlo
Surr: Toluene-d8	95.1	%REC			80-120	E624	04/13/04 13:12 / rlo

Report Definitions: RL - Analyte reporting limit.  
 QCL - Quality control limit.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

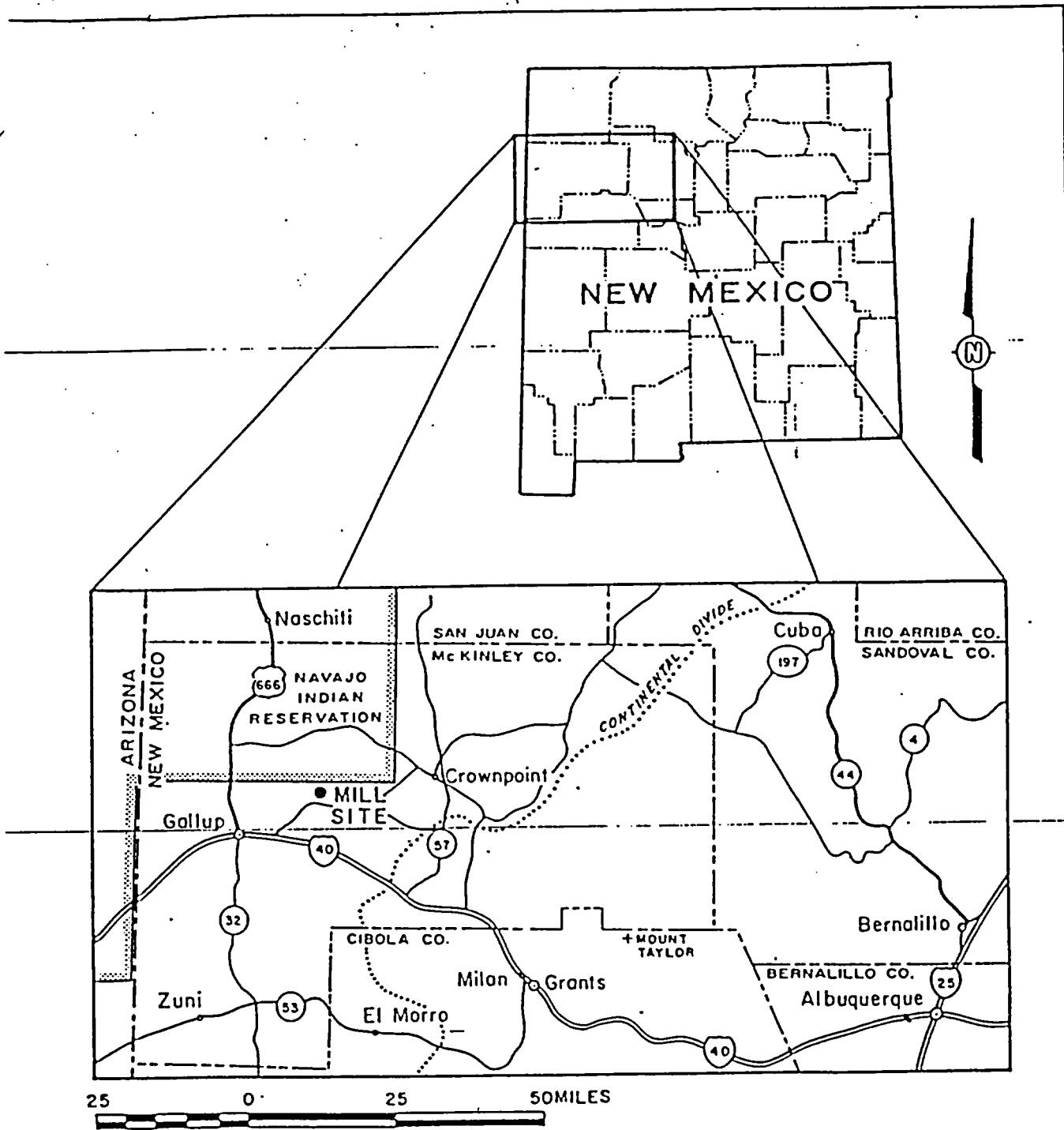




UNC Mining and Milling ChurchRock Operations					
GroundWater Monitoring Summary: Alluvium Monitor Wells					
Well ID:		GW-3	GW-3	GW-3	GW-3
Collection Date:		4/6/2004 10:55	1/6/2004 11:25	10/7/2003 13:45	7/8/2003 10:00
Receive Date:		4/9/2004 10:00	1/9/2004 10:00	10/10/2003 10:00	7/11/2003 10:00
Report Date:		6/1/2004 17:00	2/20/2004 14:14	11/3/2003 13:42	10/8/2003 15:45
Analysis	Units	G04040401-018	G04010262-018	G03100451-018	G03070473-018
Bicarbonate as HCO <sub>3</sub>	mg/L	1680	1700	1740	1700
Calcium	mg/L	924	951	988	866
Chloride	mg/L	157	183	171	143
Magnesium	mg/L	309	317	327	276
Nitrogen, Ammonia as N	mg/L	0.29	0.38	0.19	0.21
Nitrogen, Nitrate+Nitrite as N	mg/L	86.7	89.4	89	94
Potassium	mg/L	8.6	8.5	8.6	9.9
Sodium	mg/L	239	242	280	234
Sulfate	mg/L	2070	2170	2220	2000
pH	s.u.	6.82	7.27	7.30	7.46
Solids, Total Dissolved TDS @ 180 C	mg/L	5410	5380	5490	5480
Aluminum	mg/L	ND(0.1)	0.2	ND(0.1)	0.1
Beryllium	mg/L	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Cadmium	mg/L	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
Cobalt	mg/L	ND(0.01)	ND(0.01)	0.01	0.02
Lead	mg/L	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
Manganese	mg/L	1.91	2.13	1.87	1.93
Molybdenum	mg/L	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Nickel	mg/L	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
Uranium	mg/L	0.0970	0.0908	0.104	0.0866
Vanadium	mg/L	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Arsenic-III	mg/L	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Selenium-IV	mg/L	0.001	ND(0.001)	ND(0.001)	ND(0.001)
Gross Alpha minus Rn & U	pCi/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Gross Alpha minus Rn & U Precision (±)	pCi/L				
Lead 210	pCi/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Lead 210 precision (±)	pCi/L				
Radium 226	pCi/L	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Radium 226 precision (±)	pCi/L				
Radium 228	pCi/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Radium 228 precision (±)	pCi/L				
Thorium 230	pCi/L	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Thorium 230 precision (±)	pCi/L				
A/C Balance (± 5)		0.591	0.140		
Anions		81.2	84.6		
Cations		82.1	84.8		
Solids, Total Dissolved Calculated		4910	5120		
TDS Balance (0.80 - 1.20)		1.10	1.05		
Chloroform	ug/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

\*\*Note: The data presented on this form is intended for summary purposes only. Laboratory approved data is contained within the quarterly reports.

**SAMPLING LOCATION MAPS**



SOURCE:  
 URANIUM MILL LICENSE  
 RENEWAL APPLICATION-  
 ENVIRONMENTAL REPORT.  
 LICENSE NO. NM-UNC-ML.  
 JNC 1981

SKETCH I-1  
 CHURCH ROCK PROJECT  
 SITE LOCATION PLAN  
 16674-000

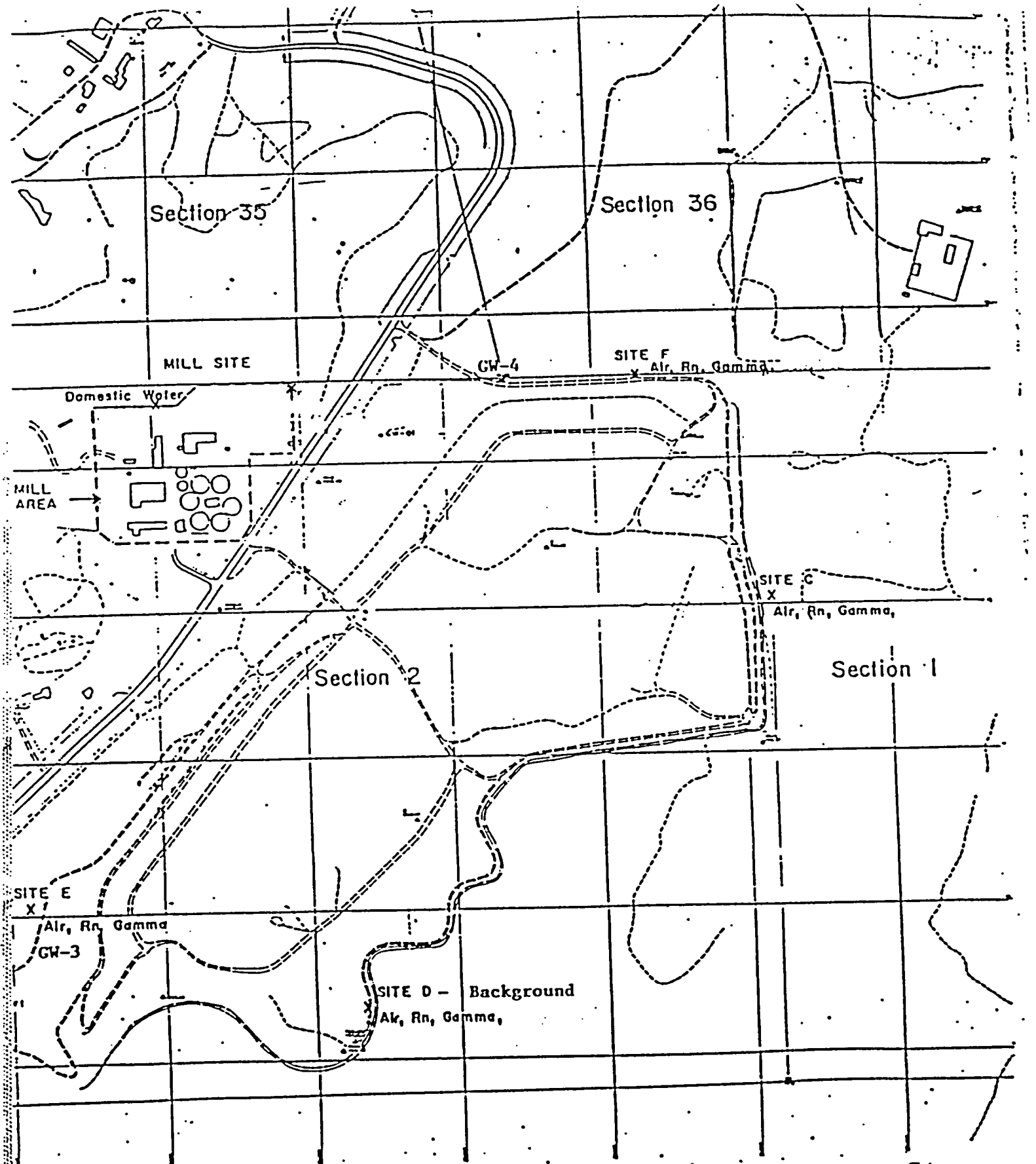


FIGURE 2