

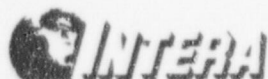
# Semi-Annual Ground-Water Monitoring Report-First Half, 1996

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L-Bar Uranium Mine,  
Cibola County, New Mexico

Prepared for  
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## 1.0 INTRODUCTION





## 1.0 INTRODUCTION

The enclosed Semi-Annual Ground-Water Monitoring Report contains results of sample analyses for the first half of 1996 for the L-Bar Uranium facility, as required by conditions 12 and 31 of NRC Materials License SUA-1472, Amendment 22, and 10 CFR 40, Section 40.65.

The laboratories used for this round of analyses were Core Laboratories of Aurora, Colorado, for most non-radiological analyses, and Core Laboratories of Casper, Wyoming, for radiological and selenium analyses.





## **2.0 MONITOR WELL SAMPLING RESULTS FIRST HALF — 1996**



**L-BAR MINE**  
**Well MW-1A**  
Ground-Water Sample  
Date Sampled: 05/08/96

CONSTITUENT		VALUE	
Ground Surface Elevation (ft AMSL)		6,222.94	
Elevation Top of Casing (TOC) (ft AMSL)		6,224.44	
Depth to Water from TOC (ft)		109.26	
Water Level (ft AMSL)		6,115.18	
Temp (°C)		18.0	
pH		8.1	
Conductivity ( $\mu$ mhos/cm @ 25°C)		4,620	
Cl (mg/l)		109	
SO <sub>4</sub> (mg/l)		1,860	
NO <sub>3</sub> (mg/l)		0.07	
Ni (mg/l)		<0.04	
Sb (mg/l)		<0.1	
Se (mg/l)		0.002	
U (mg/l)		<0.0009	
	Total	Total Error +/-	Total LLD
Ra226 (pCi/l)	0.4	0.2	0.2
Ra228 (pCi/l)	0.5	0.4	0.9
Th230 (pCi/l)	1.4	0.7	0.5

(<) = Result less than detection limit



**L-BAR MINE**  
**Well MW-2A**

**Ground-Water Sample**  
**Date Sampled: 05/08/96**

CONSTITUENT	VALUE
Ground Surface Elevation (ft AMSL)	6,186.58
Elevation Top of Casing (TOC) (ft AMSL)	6,189.56
Depth to Water from TOC (ft)	NA
Water Level (ft AMSL)	NA
Temp (°C)	18.0
pH	6.8
Conductivity ( $\mu$ mhos/cm @ 25°C)	14,000
Cl (mg/l)	999
SO <sub>4</sub> (mg/l)	6,070
NO <sub>3</sub> (mg/l)	357

NA = Not Applicable - pumpback well





**L-BAR MINE**  
**Well MW-3A**

Ground-Water Sample  
Date Sampled: 05/08/96

CONSTITUENT	VALUE
Ground Surface Elevation (ft AMSL)	6,155.76
Elevation Top of Casing (TOC) (ft AMSL)	6,157.51
Depth to Water from TOC (ft)	25.69
Water Level (ft AMSL)	6,131.82
Temp (°C)	20.0
pH	7.4
Conductivity ( $\mu$ mhos/cm @ 25°C)	17,300
Cl (mg/l)	745
SO <sub>4</sub> (mg/l)	10,300



**L-BAR MINE**  
**Well MW-14**

Ground-Water Sample  
Date Sampled: 05/07/96

CONSTITUENT	VALUE
Ground Surface Elevation (ft AMSL)	6,154.00
Elevation Top of Casing (TOC) (ft AMSL)	6,155.70
Depth to Water from TOC (ft)	37.54
Water Level (ft AMSL)	6,118.16
Temp (°C)	20.5
pH	7.5
Conductivity (μmhos/cm @ 25°C)	10,400
Cl (mg/l)	406
SO <sub>4</sub> (mg/l)	5,370





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L-BAR MINE  
Well MW-17B  
Ground-Water Sample  
Date Sampled: 05/07/96

CONSTITUENT		VALUE	
Ground Surface Elevation (ft AMSL)		6,180.37	
Elevation Top of Casing (TOC) (ft AMSL)		6,181.62	
Depth to Water from TOC (ft)		45.61	
Water Level (ft AMSL)		6,136.01	
Temp (°C)		21.0	
pH		7.1	
Conductivity (µmhos/cm @ 25°C)		10,200	
Cl (mg/l)		330	
SO <sub>4</sub> (mg/l)		4,020	
NO <sub>3</sub> (mg/l)		420	
Ni (mg/l)		<0.04	
Sb (mg/l)		<0.1	
Se (mg/l)		0.006	
U (mg/l)		0.035	
CN (mg/l)		<0.01	
	Total	Total Error +/-	Total LLD
Ra226 (pCi/l)	2.9	0.4	0.2
Ra228 (pCi/l)	2.5	0.5	0.9
Th230 (pCi/l)	1.3	0.6	0.5

(<) = Result less than detection limit





**L-BAR MINE**  
**Well MW-29A**  
Ground-Water Sample  
Date Sampled: 05/06/96

CONSTITUENT		VALUE	
Ground Surface Elevation (ft AMSL)		6,194.00	
Elevation Top of Casing (TOC) (ft AMSL)		6,194.84	
Depth to Water from TOC (ft)		58.24	
Water Level (ft AMSL)		6,136.60	
Temp (°C)		20.0	
pH		7.9	
Conductivity (μmhos/cm @ 25°C)		7,000	
Cl (mg/l)		123	
SO <sub>4</sub> (mg/l)		3,420	
NO <sub>3</sub> (mg/l)		<0.05	
Ni (mg/l)		<0.04	
Sb (mg/l)		<0.1	
Se (mg/l)		<0.001	
U (mg/l)		<0.0009	
	Total	Total Error +/-	Total LLD
Ra226 (pCi/l)	2.4	0.3	0.2
Ra228 (pCi/l)	2.3	0.5	0.9
Th230 (pCi/l)	0.9	0.4	0.3

(<) = Result less than detection limit



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L-BAR MINE  
Well MW-50

Ground-Water Sample  
Date Sampled: 05/09/96

CONSTITUENT	VALUE
Ground Surface Elevation (ft AMSL)	6,186.69
Elevation Top of Casing (TOC) (ft AMSL)	6,188.34
Depth to Water from TOC (ft)	47.97
Water Level (ft AMSL)	6,140.37
Temp (°C)	20.0
pH	6.8
Conductivity ( $\mu$ mhos/cm @ 25°C)	12,000
Cl (mg/l)	673
SO <sub>4</sub> (mg/l)	4,460
NO <sub>3</sub> (mg/l)	520
Ni (mg/l)	<0.04
Se (mg/l)	0.04

(<) = Result less than detection limit





**L-BAR MINE**  
**Well MW-57**

Ground-Water Sample  
Date Sampled: 05/13/96

CONSTITUENT	VALUE
Ground Surface Elevation (ft AMSL)	6,130.76
Elevation Top of Casing (TOC) (ft AMSL)	6,131.71
Depth to Water from TOC (ft)	25.85
Water Level (ft AMSL)	6,105.86
Temp (°C)	18.0
pH	7.9
Conductivity ( $\mu$ mhos/cm @ 25°C)	4,780
Cl (mg/l)	95.8
SO <sub>4</sub> (mg/l)	2,000





**L-BAR MINE**  
**Well MW-58**

Ground-Water Sample  
Date Sampled: 05/09/96

CONSTITUENT	VALUE
Ground Surface Elevation (ft AMSL)	6,148.29
Elevation Top of Casing (TOC) (ft AMSL)	6,149.75
Depth to Water from TOC (ft)	35.76
Water Level (ft AMSL)	6,113.99
Temp (°C)	20.5
pH	8.1
Conductivity (μmhos/cm @ 25°C)	2,900
Cl (mg/l)	68
SO <sub>4</sub> (mg/l)	810



**L-BAR MINE**  
**Well MW-61**

**Ground-Water Sample**  
**Date Sampled: 05/10/96**

CONSTITUENT	VALUE
Ground Surface Elevation (ft AMSL)	6,124.05
Elevation Top of Casing (TOC) (ft AMSL)	6,124.87
Depth to Water from TOC (ft)	36.06
Water Level (ft AMSL)	6,088.81
Temp (°C)	24.5
pH	7.4
Conductivity ( $\mu$ mhos/cm @ 25°C)	5,900
Cl (mg/l)	125
SO <sub>4</sub> (mg/l)	3,130



**L-BAR MINE**  
**Well MW-69**  
Ground-Water Sample  
Date Sampled: 05/10/96

CONSTITUENT		VALUE	
Ground Surface Elevation (ft AMSL)		6,158.51	
Elevation Top of Casing (TOC) (ft AMSL)		6,159.69	
Depth to Water from TOC (ft)		NA	
Water Level (ft AMSL)		NA	
Temp (°C)		17.5	
pH		6.9	
Conductivity ( $\mu$ mhos/cm @ 25°C)		11,900	
Cl (mg/l)		681	
SO <sub>4</sub> (mg/l)		6,690	
NO <sub>3</sub> (mg/l)		5.4	
Ni (mg/l)		<0.04	
Sb (mg/l)		<0.1	
Se (mg/l)		<0.001	
U (mg/l)		1.28	
	Total	Total Error +/-	Total LLD
Ra226 (pCi/l)	2.7	0.4	0.2
Ra228 (pCi/l)	4.0	0.6	0.9
Th230 (pCi/l)	0.9	0.5	0.4

NA = Not Applicable - pumpback well  
(<) = Result less than detection limit





**L-BAR MINE**  
**Well MW-72**

Ground-Water Sample  
Date Sampled: 05/08/96

CONSTITUENT	VALUE
Ground Surface Elevation (ft AMSL)	6,163.31
Elevation Top of Casing (TOC) (ft AMSL)	6,164.52
Depth to Water from TOC (ft)	28.74
Water Level (ft AMSL)	6,135.78
Temp (°C)	20.0
pH	7.3
Conductivity ( $\mu$ mhos/cm @ 25°C)	7,560
Cl (mg/l)	175
SO <sub>4</sub> (mg/l)	3,640



**L-BAR MINE**  
**Well MW-76**

**Ground-Water Sample**  
**Date Sampled: 05/07/96**

CONSTITUENT	VALUE
Ground Surface Elevation (ft AMSL)	6,135.50
Elevation Top of Casing (TOC) (ft AMSL)	6,136.22
Depth to Water from TOC (ft)	21.13
Water Level (ft AMSL)	6,115.09
Temp (°C)	18.5
pH	7.8
Conductivity ( $\mu$ mhos/cm @ 25°C)	5,990
Cl (mg/l)	123
SO <sub>4</sub> (mg/l)	3,010





**L-BAR MINE**  
**Well MW-77**

**Ground-Water Sample**  
**Date Sampled: 05/09/96**

CONSTITUENT	VALUE
Ground Surface Elevation (ft AMSL)	6,143.04
Elevation Top of Casing (TOC) (ft AMSL)	6,143.66
Depth to Water from TOC (ft)	NA
Water Level (ft AMSL)	NA
Temp (°C)	16.5
pH	7.4
Conductivity ( $\mu$ mhos/cm @ 25°C)	8,990
Cl (mg/l)	290
SO <sub>4</sub> (mg/l)	5,030

NA = Not Applicable - pumpback well





**L-BAR MINE**  
**Well MW-78**

**Ground-Water Sample**  
**Date Sampled: 05/09/96**

CONSTITUENT	VALUE
Ground Surface Elevation (ft AMSL)	6,149.67
Elevation Top of Casing (TOC) (ft AMSL)	6,150.73
Depth to Water from TOC (ft)	35.11
Water Level (ft AMSL)	6,115.62
Temp (°C)	25.5
pH	7.3
Conductivity (μmhos/cm @ 25°C)	6,490
Cl (mg/l)	142
SO <sub>4</sub> (mg/l)	3,380



**L-BAR MINE**  
**Well MW-79**

Ground-Water Sample  
Date Sampled: 05/07/96

CONSTITUENT	VALUE
Ground Surface Elevation (ft AMSL)	6,134.23
Elevation Top of Casing (TOC) (ft AMSL)	6,135.37
Depth to Water from TOC (ft)	24.41
Water Level (ft AMSL)	6,110.96
Temp (°C)	18.0
pH	8.0
Conductivity ( $\mu$ mhos/cm @ 25°C)	7,410
Cl (mg/l)	149
SO <sub>4</sub> (mg/l)	3,370





**L-BAR MINE**  
**Well MW-81**  
Ground-Water Sample  
Date Sampled: 05/09/96

CONSTITUENT		VALUE	
Ground Surface Elevation (ft AMSL)		6,164.40	
Elevation Top of Casing (TOC) (ft AMSL)		6,165.26	
Depth to Water from TCC (ft)		45.90	
Water Level (ft AMSL)		6,119.36	
Temp (°C)		21.0	
pH		7.2	
Conductivity ( $\mu$ mhos/cm @ 25°C)		7,920	
Cl (mg/l)		216	
SO <sub>4</sub> (mg/l)		4,370	
NO <sub>3</sub> (mg/l)		39	
Ni (mg/l)		<0.04	
Sb (mg/l)		<0.1	
Se (mg/l)		0.01	
U (mg/l)		0.017	
	Total	Total Error +/-	Total LLD
Ra226 (pCi/l)	3.5	0.4	0.2
Ra228 (pCi/l)	4.6	0.5	0.9
Th230 (pCi/l)	1.0	0.5	0.4

(<) = Result less than detection limit





**L-BAR MINE**  
**Well MW-91**  
Ground-Water Sample  
Date Sampled: 05/08/96

CONSTITUENT		VALUE	
Ground Surface Elevation (ft AMSL)		6,188.36	
Elevation Top of Casing (TOC) (ft AMSL)		6,190.24	
Depth to Water from TOC (ft)		53.97	
Water Level (ft AMSL)		6,136.27	
Temp (°C)		23.0	
pH		7.4	
Conductivity ( $\mu$ mhos/cm @ 25°C)		5,820	
Cl (mg/l)		136	
SO <sub>4</sub> (mg/l)		2,630	
NO <sub>3</sub> (mg/l)		0.54	
Ni (mg/l)		<0.04	
Sb (mg/l)		<0.1	
Se (mg/l)		<0.001	
U (mg/l)		<0.0009	
	Total	Total Error +/-	Total LLD
Ra226 (pCi/l)	5.9	0.5	0.2
Ra228 (pCi/l)	6.9	0.7	0.9
Th230 (pCi/l)	1.6	0.6	0.4

< = Result less than detection limit