

Semi-Annual Ground-Water Monitoring Report — Second Half, 1996

**L-Bar Uranium Mine,
Cibola County, New Mexico**

Prepared for:

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1.0 INTRODUCTION

The enclosed Semi-Annual Ground-Water Monitoring Report contains results of sample analyses for the second half of 1996 for the L-Bar Uranium facility, as required by conditions 12 and 31 of NRC Materials License SUA-1472, Amendment 26, 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.

L-BAR URANIUM MINE

SEMI-ANNUAL GROUND-WATER MONITORING REPORT
SECOND HALF — 1996L-BAR MINE
Well MW-1AGround-Water Sample
Date Sampled: 10/16/96

CONSTITUENT		VALUE	
Ground Surface Elevation (ft AMSL)Elevation Top		6,222.94	
of Casing (TOC) (ft AMSL)		6,224.44	
Depth to Water from TOC (ft)		109.49	
Water Level (ft AMSL)		6,114.95	
Temp (°C)		17.0	
pH		7.65	
Conductivity (µmhos/cm @ 25°C)		4,650	
Cl (mg/l)		99.8	
SO ₄ (mg/l)		1,600	
NO ₃ (mg/l)		<0.1	
Ni (mg/l)		<0.04	
Sb (mg/l)		<0.1	
Se (mg/l)		0.005	
U (mg/l)		<0.001	
	Total	Total Error +/-	Total LLD
Ra226 (pCi/l)	1	0.3	0.5
Ra228 (pCi/l)	0.3	0.6	1.4
Th230 (pCi/l)	0.8	0.4	0.3

(<) = Result less than detection limit

L-BAR URANIUM MINE

SEMI-ANNUAL GROUND-WATER MONITORING REPORT
SECOND HALF — 1996L-BAR MINE
Well MW-2AGround-Water Sample
Date Sampled: 10/15/96

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)	19.0
pH	6.72
Conductivity (μ mhos/cm @ 25°C)	14,100
Cl (mg/l)	781
SO ₄ (mg/l)	6,000
NO ₃ (mg/l)	280

NA = Not Applicable - pumpback well

L-BAR URANIUM MINE

SEMI-ANNUAL GROUND-WATER MONITORING REPORT
SECOND HALF — 1996L-BAR MINE
Well MW-3AGround-Water Sample
Date Sampled: 10/16/96

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)	25.63
Water Level (ft AMSL)	6,131.88
Temp (°C)	19.0
pH	7.2
Conductivity (μ mhos/cm @ 25°C)	17,000
Cl (mg/l)	668
SO ₄ (mg/l)	10,000

L-BAR MINE
Well MW-14Ground-Water Sample
Date Sampled: 10/16/96

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)	37.40
Water Level (ft AMSL)	6,118.30
Temp (°C)	20.0
pH	7.13
Conductivity (μ mhos/cm @ 25°C)	10,800
Cl (mg/l)	449
SO ₄ (mg/l)	6,000

L-BAR URANIUM MINE

SEMI-ANNUAL GROUND-WATER MONITORING REPORT
SECOND HALF — 1996L-BAR MINE
Well MW-17BGround-Water Sample
Date Sampled: 10/16/96

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)		43.28	
Water Level (ft AMSL)		6,138.34	
Temp (°C)		18.5	
pH		6.82	
Conductivity (μ mhos/cm @ 25°C)		11,500	
Cl (mg/l)		373	
SO ₄ (mg/l)		5,000	
NO ₃ (mg/l)		360	
Ni (mg/l)		<0.04	
Sb (mg/l)		<0.1	
CN (mg/l)		0.05	
Se (mg/l)		0.003	
U (mg/l)		0.032	
	Total	Total Error +/-	Total LLD
Ra226 (pCi/l)	10.2	0.9	0.5
Ra228 (pCi/l)	3.5	0.8	1.4
Th230 (pCi/l)	0.5	0.3	0.4

(<) = Result less than detection limit

L-BAR URANIUM MINE

SEMI-ANNUAL GROUND-WATER MONITORING REPORT
SECOND HALF — 1996L-BAR MINE
Well MW-29AGround-Water Sample
Date Sampled: 10/15/96

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)		58.44	
Water Level (ft AMSL)		6,136.40	
Temp (°C)		17.0	
pH		7.41	
Conductivity (μmhos/cm @ 25°C)		7,010	
Cl (mg/l)		104	
SO ₄ (mg/l)		3,000	
NO ₃ (mg/l)		<0.1	
Ni (mg/l)		<0.04	
Sb (mg/l)		<0.1	
Se (mg/l)		0.003	
U (mg/l)		<0.001	
	<u>Total</u>	<u>Total Error +/-</u>	<u>Total MLD</u>
Ra226 (pCi/l)	7.2	1.5	0.6
Ra228 (pCi/l)	4.3	0.8	1.4
Th230 (pCi/l)	0.2	0.3	0.3

(<) = Result less than detection limit

L-BAR MINE
Well MW-50Ground-Water Sample
Date Sampled: 10/15/96

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)	49.58
Water Level (ft AMSL)	6,138.76
Temp (°C)	17.0
pH	7.27
Conductivity (μ mhos/cm @ 25°C)	11,800
Cl (mg/l)	516
SO ₄ (mg/l)	4,000
NO ₃ (mg/l)	490
Ni (mg/l)	<0.04
Se (mg/l)	NA

(<) = Result less than detection limit
NA = Not Analyzed

L-BAR MINE
Well MW-57Ground-Water Sample
Date Sampled: 10/21/96

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)	25.89
Water Level (ft AMSL)	6,105.82
Temp (°C)	12.0
pH	8.00
Conductivity (μ mhos/cm @ 25°C)	4,550
Cl (mg/l)	80.4
SO ₄ (mg/l)	2,100

L-BAR MINE
Well MW-58Ground-Water Sample
Date Sampled: 10/21/96

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)	35.86
Water Level (ft AMSL)	6,113.89
Temp (°C)	11.0
pH	8.14
Conductivity (μ mhos/cm @ 25°C)	2,840
Cl (mg/l)	59.5
SO ₄ (mg/l)	800

L-BAR MINE
Well MW-61Ground-Water Sample
Date Sampled: 10/25/96

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)	36.62
Water Level (ft AMSL)	6,088.25
Temp (°C)	13.0
pH	7.67
Conductivity (μ mhos/cm @ 25°C)	6,980
Cl (mg/l)	106
SO ₄ (mg/l)	3,200

L-BAR MINE
Well MW-69Ground-Water Sample
Date Sampled: 10/15/96

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)		15.0	
pH		7.06	
Conductivity (μ mhos/cm @ 25°C)		12,100	
Cl (mg/l)		596	
SO ₄ (mg/l)		6,000	
NO ₃ (mg/l)		2.9	
Ni (mg/l)		<0.04	
Sb (mg/l)		<0.1	
Se (mg/l)		<0.001	
U (mg/l)		0.91	
	Total	Total Error +/-	Total LLD
Ra226 (pCi/l)	7.9	0.8	0.5
Ra228 (pCi/l)	5.3	0.9	1.4
Th230 (pCi/l)	0.4	0.3	0.3

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

L-BAR MINE
Well MW-72Ground-Water Sample
Date Sampled: 10/16/96

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)	28.55
Water Level (ft AMSL)	6,135.97
Temp (°C)	15.0
pH	7.0
Conductivity (μ mhos/cm @ 25°C)	7,670
Cl (mg/l)	179
SO ₄ (mg/l)	4,200

L-BAR MINE
Well MW-76Ground-Water Sample
Date Sampled: 10/18/96

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)	20.41
Water Level (ft AMSL)	6,115.81
Temp (°C)	14.0
pH	7.92
Conductivity (μmhos/cm @ 25°C)	7,660
Cl (mg/l)	107
SO ₄ (mg/l)	3,500

L-BAR MINE
Well MW-77Ground-Water Sample
Date Sampled: 10/18/96

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)	17.0
pH	7.48
Conductivity (μ mhos/cm @ 25°C)	8,520
Cl (mg/l)	277
SO ₄ (mg/l)	4,700

NA = Not Applicable - pumpback well

L-BAR MINE
Well MW-78Ground-Water Sample
Date Sampled: 10/25/96

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)	34.45
Water Level (ft AMSL)	6,116.28
Temp (°C)	14.0
pH	7.36
Conductivity (μ mhos/cm @ 25°C)	6,600
Cl (mg/l)	139
SO ₄ (mg/l)	3,400

L-BAR MINE
Well MW-79Ground-Water Sample
Date Sampled: 10/19/96

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)	23.33
Water Level (ft AMSL)	6,112.04
Temp (°C)	15.0
pH	7.95
Conductivity (μ mhos/cm @ 25°C)	7,470
Cl (mg/l)	105
SO ₄ (mg/l)	2,200

L-BAR MINE
Well MW-81Ground-Water Sample
Date Sampled: 10/18/96

CONSTITUENT		VALUE	
Ground Surface Elevation (ft AMSL)		6,164.40	
Elevation Top of Casing (TOC) (ft AMSL)		6,165.26	
Depth to Water from TOC (ft)		45.77	
Water Level (ft AMSL)		6,119.49	
Temp (°C)		14.0	
pH		7.56	
Conductivity (μmhos/cm @ 25°C)		8,660	
Cl (mg/l)		204	
SO ₄ (mg/l)		5,000	
NO ₃ (mg/l)		32	
Ni (mg/l)		<0.04	
Sb (mg/l)		<0.1	
Se (mg/l)		0.002	
U (mg/l)		0.012	
	Total	Total Error +/-	Total LLD
Ra226 (pCi/l)	6.7	0.7	0.4
Ra228 (pCi/l)	4.4	0.7	1.2
Th230 (pCi/l)	0.6	0.4	0.3

(<) = Result less than detection limit

L-BAR MINE
Well MW-91Ground-Water Sample
Date Sampled: 10/22/96

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)		15.0	
pH		7.53	
Conductivity (μ mhos/cm @ 25°C)		6,280	
Cl (mg/l)		38.1	
SO ₄ (mg/l)		3,600	
NO ₃ (mg/l)		<0.1	
Ni (mg/l)		<0.04	
Sb (mg/l)		<0.1	
Se (mg/l)		<0.001	
U (mg/l)		0.002	
	Total	Total Error +/-	Total LLD
Ra226 (pCi/l)	6.7	0.8	0.4
Ra228 (pCi/l)	6.7	0.9	1.2
Th230 (pCi/l)	0.4	0.4	0.4

< = Result less than detection limit