

04008905430E

40-8905

QUIVIRA MINING COMPANY

POST OFFICE BOX 218 • GRANTS, NEW MEXICO 87020

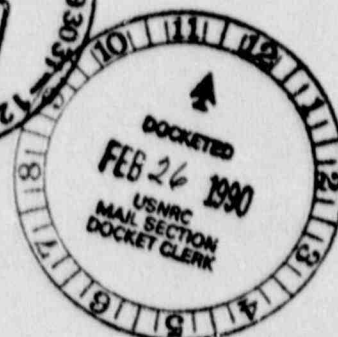
February 21, 1990

RETURN ORIGINAL TO PDR, HQ.

Certified Mail
Return Receipt Requested

Mr. Pete Garcia
Uranium Recovery Field Office
Region IV
U.S. Nuclear Regulatory Commission
Box 25325
Denver, Colorado 80225

Re: License SUA-1473
Docket No. 40-8905
Semiannual Effluent Monitoring Report



Dear Mr. Garcia:

Attached is the effluent monitoring report for the 2nd half of 1989 in accordance with the Nuclear Regulatory Commission's regulation 10 CFR 40.65 and license condition #19 for the above referenced license.

This report presents the results of the effluent and environmental sampling for the period July 1 to December 31, 1989 and includes monitoring results for gaseous, particulates, direct radiation, soils, sediments, vegetation, and water. This report is in the standard form as required by license condition #19 with the exception of the groundwater results which are in a format as required by the State of New Mexico discharge plans and agreed to by your office.

If you have any questions or need further information please call at (505) 287-8851, extension 246.

Sincerely,

Bill Ferdinand

Bill Ferdinand
Manager, Radiation Safety and
Environmental Affairs

9004050029 891231
PDR ADOCK 04008905
C PDC

attachments: (1) as stated

xc: M. Freeman
J. Ma
H. Whitacre

DESIGNATED ORIGINAL

Certified By *Mary C. Hood*

90-0324

QUIVIRA MINING COMPANY
Ambrosia Lake, New Mexico
License No. SUA-1473

EFFLUENT MONITORING REPORT

Stack Sampling - 1989

Operations at the Ambrosia Lake facility were in stand by mode during the 3rd and 4th quarter periods. During this time period, there were no dried yellowcake production. Thus, there were no discharge of effluents during the 3rd or 4th quarters of 1989.

QUIVIRA MINING COMPANY
Ambrosia Lake, New Mexico
License No. SUA-1473

EFFLUENT MONITORING REPORT

High Volume Air Samples - 2nd Half of 1989

3rd Quarter <-----Substation-----> 4th Quarter

Nuclide	Conc. (uCi/ml)	Error (uCi/ml)	LLD (uCi/ml)	MPC %		Nuclide	Conc. (uCi/ml)	Error (uCi/ml)	LLD (uCi/ml)	MPC
U nat	1.0E-15	2.0E-17	1.4E-19	< 0.1	:	U nat	3.9E-16	9.8E-18	2.2E-19	< 0.1
Th-230	1.2E-15	3.6E-17	2.1E-18	1.5	:	Th-230	3.2E-16	1.9E-17	2.2E-18	0.4
Ra-226	8.9E-16	2.7E-17	1.8E-18	< 0.1	:	Ra-226	2.4E-16	1.7E-17	1.7E-18	< 0.1
Pb-210	2.2E-14	2.0E-16	4.4E-18	0.6	:	Pb-210	3.1E-14	2.7E-15	5.3E-18	0.8

3rd Quarter <-----Section 17-----> 4th Quarter

Nuclide	Conc. (uCi/ml)	Error (uCi/ml)	LLD (uCi/ml)	MPC %		Nuclide	Conc. (uCi/ml)	Error (uCi/ml)	LLD (uCi/ml)	MPC
U nat	1.1E-15	2.2E-17	1.5E-19	< 0.1	:	U nat	6.3E-16	1.6E-17	1.5E-19	< 0.1
Th-230	1.1E-15	3.3E-17	2.3E-18	1.4	:	Th-230	6.8E-16	4.2E-17	2.3E-18	0.9
Ra-226	9.4E-16	2.8E-17	1.9E-18	< 0.1	:	Ra-226	6.7E-16	4.7E-17	1.9E-18	< 0.1
Pb-210	1.5E-14	1.4E-16	4.7E-18	0.4	:	Pb-210	1.7E-14	1.5E-15	4.7E-18	0.4

QUIVIRA MINING COMPANY
Ambrosia Lake, New Mexico
License No. SUA-1473

EFFLUENT MONITORING REPORT

High Volume Air Samples - 2nd Half of 1989

3rd Quarter <-----Section 30W VH6 -----> 4th Quarter

Nuclide	Conc. (uCi/ml)	Error (uCi/ml)	LLD (uCi/ml)	MPC %		Nuclide	Conc. (uCi/ml)	Error (uCi/ml)	LLD (uCi/ml)	MPC %
U nat	6.5E-15	1.3E-16	1.6E-19	0.1	:	U nat	2.8E-15	6.9E-17	2.2E-19	< 0.1
Th-230	1.4E-15	4.2E-17	2.4E-18	1.8	:	Th-230	1.2E-15	7.1E-17	2.3E-18	1.5
Ra-226	1.3E-15	3.9E-17	2.0E-18	< 0.1	:	Ra-226	6.1E-16	4.3E-17	1.8E-18	< 0.1
Pb-210	2.9E-14	2.6E-16	4.9E-18	0.7	:	Pb-210	5.4E-14	4.6E-15	5.4E-18	1.3

3rd Quarter <-----North Fence -----> 4th Quarter

Nuclide	Conc. (uCi/ml)	Error (uCi/ml)	LLD (uCi/ml)	MPC %		Nuclide	Conc. (uCi/ml)	Error (uCi/ml)	LLD (uCi/ml)	MPC %
U nat	1.6E-15	3.2E-17	1.5E-19	< 0.1	:	U nat	8.5E-16	2.1E-17	2.3E-19	< 0.1
Th-230	3.8E-15	1.1E-16	2.2E-18	4.8	:	Th-230	2.4E-15	1.5E-16	2.3E-18	3.1
Ra-226	6.7E-15	2.0E-16	1.9E-18	0.2	:	Ra-226	3.7E-15	2.6E-16	1.8E-18	0.1
Pb-210	4.8E-14	4.3E-16	4.6E-18	1.2	:	Pb-210	6.6E-14	5.6E-15	5.5E-18	1.7

QUIVIRA MINING COMPANY
Ambrosia Lake, New Mexico
License No. SUA-1473

EFFLUENT MONITORING REPORT

High Volume Air Samples - 2nd Half of 1989

3rd Quarter <----- Mill Diversion -----> 4th Quarter

Nuclide	Conc. (uCi/ml)	Error (uCi/ml)	LLD (uCi/ml)	MPC %		Nuclide	Conc. (uCi/ml)	Error (uCi/ml)	LLD (uCi/ml)	MPC %
U nat	1.5E-15	3.0E-17	1.6E-19	< 0.1	:	U nat	1.2E-15	3.0E-17	2.3E-19	< 0.1
Th-230	8.3E-15	2.5E-16	2.4E-19	10.4	:	Th-230	1.1E-14	6.8E-16	2.3E-18	13.9
Ra-226	1.0E-14	3.1E-16	2.0E-18	0.3	:	Ra-226	9.5E-15	6.7E-16	1.8E-18	0.3
Pb-210	4.5E-14	4.0E-16	4.9E-18	1.1	:	Pb-210	6.4E-14	5.5E-15	5.4E-18	1.6

QUIVIRA MINING COMPANY
Ambrosia Lake, New Mexico
License No. SUA-1473

Surface Water

Date: 2nd Half 1989
Location: B-3 NPDES Discharge

Location	Flow MGD	U nat uCi/ml	MPC %	Ra-226(s) uCi/ml	MPC %	Ra-226(i) uCi/ml	MPC %	Pb-210 uCi/ml	MPC %	Po-210 uCi/ml	MPC %
July	0.84	6.0E-07	2.0	5.0E-10	1.7	5.0E-10	< 0.1	1.8E-09	< 0.1	7.0E-10	< 0.1
August	1.10	5.1E-07	1.7	6.0E-10	2.0	5.0E-10	< 0.1				
September	1.10	5.3E-07	1.8	4.0E-10	1.3	8.0E-10	< 0.1	1.6E-09	< 0.1	2.7E-09	< 0.1
October	1.10	5.0E-07	1.7	3.0E-10	1.0	7.0E-10	< 0.1				
November	1.50	5.3E-07	1.8	2.0E-10	0.7	7.0E-10	< 0.1	2.0E-10	< 0.1	1.6E-09	< 0.1
December	1.50	5.6E-07	1.9	4.0E-10	1.3	1.2E-09	< 0.1				

Date: 2nd Half 1989
Location: Section 35-36 Ion Exchange Discharge

Location	Flow MGD	U nat uCi/ml	MPC %	Ra-226(s) uCi/ml	MPC %	Ra-226(i) uCi/ml	MPC %	Pb-210 uCi/ml	MPC %	Po-210 uCi/ml	MPC %
July	1.65	5.6E-07	1.9	0.0E+00	< 0.1	0.0E+00	< 0.1				
August	1.65	4.5E-07	1.5	8.0E-10	2.7	4.0E-10	< 0.1				
September	1.65	3.2E-07	1.1	1.9E-09	6.3	1.1E-09	< 0.1	1.6E-09	< 0.1	0.0E+00	< 0.1
October	1.65	3.4E-07	1.1	5.0E-10	1.7	2.0E-10	< 0.1				
November	1.65	5.4E-07	1.8	7.0E-10	2.3	3.4E-09	< 0.1	1.0E-09	< 0.1	9.0E-10	< 0.1
December	1.65	9.6E-07	3.2	5.0E-10	1.7	1.1E-09	< 0.1				

QUIVIRA MINING COMPANY
Ambrosia Lake, New Mexico
License No. SUA-1473

Surface Water

Location: 3rd Quarter 1989
Date: Puertocito Creek

Location	U nat (uCi/ml)	MPC %	Ra-226(s) (uCi/ml)	MPC %	Ra-226(i) (uCi/ml)	MPC %
P-8	5.1E-07	1.7	7.0E-10	2.3	6.0E-10	0.0
P-10	4.9E-07	1.6	7.0E-10	2.3	2.0E-10	0.0
P-12	4.4E-07	1.5	1.1E-09	3.7	2.0E-10	0.0
P-14	Dry	Dry	Dry	Dry	Dry	Dry
P-16	Dry	Dry	Dry	Dry	Dry	Dry
P-18	Dry	Dry	Dry	Dry	Dry	Dry

Location: 4th Quarter 1989
Date: Puertocito Creek

Location	U nat (uCi/ml)	MPC %	Ra-226(s) (uCi/ml)	MPC %	Ra-226(i) (uCi/ml)	MPC %
P-8	5.8E-07	1.9	5.0E-10	1.7	3.0E-10	0.0
P-10	5.9E-07	2.0	1.2E-09	4.0	2.0E-10	0.0
P-12	5.9E-07	2.0	1.2E-09	4.0	9.0E-10	0.0
P-14	1.1E-06	3.7	1.0E-09	3.3	6.0E-10	0.0
P-16	Dry	Dry	Dry	Dry	Dry	Dry
P-18	Dry	Dry	Dry	Dry	Dry	Dry

QUIVIRA MINING COMPANY
Ambrosia Lake, New Mexico
License No. SUA-1473

EFFLUENT MONITORING REPORT

Groundwater - 2nd Half 1989

The following analytical results are those specifically required in license condition #34 for the Corrective Action Plan for the above referenced source material license.

OUTVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
17-01KD

Meas. Point Elevation: 7126.3

Water																
Date	Depth to Water (ft)	Level Elev(ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Ca (mg/l)	Cations CaCO3 (mg/l)	Cd (mg/l)
19-Jan-89	677.4	6448.9	810.3	1475	20.1	11.0	-0.01			0.055		0.08	-0.01			-0.005
20-Feb-89	677.5	6448.8	810.4	1500	19.9	10.7	-0.01			0.031		0.03	-0.01			-0.005
20-Mar-89	677.5	6448.8	810.9	1500	19.9	10.7										
21-Mar-89	680.0	6446.3	810.4	1425	19.9	10.4	-0.01			0.042		-0.01	-0.01			-0.005
25-Apr-89	678.9	6447.4	810.4	1575	21.0	10.9	-0.01			0.035		0.02	-0.01			-0.005
23-May-89	679.3	6447.0	810.4	1550	21.5	10.6	-0.01			0.033		0.01	-0.01			-0.005
13-Jun-89	679.6	6446.7	810.4	1525	22.0	10.6	-0.01			0.023		0.02	-0.01			-0.005
31-Jul-89	679.8	6446.5	810.5	1500	22.0	10.5	-0.01			0.015		-0.01	-0.01			-0.005
30-Aug-89	679.6	6446.7	810.5	1500	22.0	10.3	-0.01			0.019		0.01	-0.01			-0.005
11-Sep-89	679.8	6446.5	810.5	1500	22.5	10.1	-0.01			0.012		-0.01	-0.01			0.007

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
17-01Kd

Date (mg/l)	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
19-Jan-89		0.05			0.03				0.0004					0.02			0.02	
20-Feb-89		0.02			-0.01				0.0002					-0.01			-0.01	
20-Mar-89																		
21-Mar-89		0.01			-0.01				0.0004					0.02			-0.01	
25-Apr-89		0.04			-0.01				0.0002					-0.01			0.01	
23-May-89		0.03			-0.01				-0.0002					0.04			0.01	
13-Jun-89		0.02			0.01				-0.0002					0.03			0.01	
31-Jul-89		0.06			-0.01				-0.0002					-0.01			-0.01	
30-Aug-89		0.07			-0.01				-0.0002					-0.01			-0.01	
11-Sep-89	21	0.07			-0.01				-0.0002					0.05			-0.01	-0.1

OJIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY

17-01kd

Date	Pb (mg/l)	Pb-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TSS (mg/l)	Urat (mg/l)	V (mg/l)	Zn (mg/l)	Tl (mg/l)	GROSS ALPHA (pCi/l)	GROSS BETA (pCi/l)
19-Jan-89	0.98	8.5	3.1	0.5	-0.003	0.026			2.8		0.0133			-0.01	38	51
20-Feb-89	0.22	4.7	1.1	0.6	-0.003	0.027			0.6		-0.0062			-0.01	8	26
20-Mar-89																
21-Mar-89	-0.02	18.0	0.8	0.2	0.079	0.039			0.8		0.0074			-0.01	35	45
25-Apr-89	0.13	6.7	1.0		0.011	0.015			1.7		0.0064			-0.01	38	34
23-May-89	0.12	1.7	2.1	0.2	-0.003	0.009			0.7		0.0053			-0.01	3	23
13-Jun-89	0.26	5.2	0.5	0.1	0.015	0.018			1.2		0.0063			-0.01	12	34
31-Jul-89	0.04	5.7	0.5	0.0	0.003	0.014			1.2		0.0014			-0.01	12	30
30-Aug-89	0.03	2.1	0.2	0.0	-0.003	0.002			0.2		0.0013			-0.01	8	23
11-Sep-89	-0.02	1.7	0.3	1.7	0.009	0.004	616	1150	0.9		0.0029			-0.01	24	24

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
30-02XD

Meas. Point Elevation: 6950.4

Water

Date	Depth To Water (ft)	Level Elev(ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
17-Feb-89	305.1	6645.3	315.0	5000	15.8	7.5	-0.01			0.010		0.02	-0.01				-0.005
17-Mar-89	305.1	6645.3	315.0	5000	15.8	7.5											
23-May-89	303.8	6646.6	315.0	5300	14.8	8.0	-0.01			0.024		0.06	-0.01				-0.005
11-Sep-89	303.5	6646.9	314.6	4900	15.5	8.8	0.01			0.004		-0.01	-0.01				-0.005

QUIVIRA MINING COMPANY
 AMBROSIA LAKE FACILITY
 30-0280

Date	Cl (mg/l)	OR (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
17-Feb-89		-0.01			-0.01				0.0002					-0.01		0.06		
17-Mar-89																		
23-May-89		0.03			0.04				-0.0002					0.04		0.11		
11-Sep-89	1420	0.06			-0.01				-0.0002					0.09		0.09		-0.1

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
30-02ND

Date	Pb (mg/l)	Pb-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO ₄ (mg/l)	10S (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Urat (mg/l)	V (mg/l)	Zn (mg/l)	Tl (mg/l)	GROSS ALPHA (pCi/l)	GROSS BETA (pCi/l)
17-Feb-89	0.15	15.0	1.5	0.8	0.020	0.022			1.5			0.0080			-0.01	42	75
17-Mar-89																	
23-May-89	2.08	16.0	4.8	0.1	0.011	0.023			7.7			0.0485			-0.01	43	46
11-Sep-89	-0.02	3.0	0.2	0.5	-0.003	0.009	786	3880	0.5			0.0047			0.03	6	33

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
30-6000

Mon. Point Elevations: 6046.6

Water

Date	Depth To Water (ft)	Elev(ft)	Depth (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
17-Jan-89	336.1	6610.5	344.6	4500	14.2	6.8				90.00					451	81.6		
17-Feb-89	336.1	6610.5	340.1	5050	15.0	6.7	-0.01				0.007		0.02	-0.01				-0.005
20-Apr-89	336.2	6610.4	344.6	5500	17.0	6.7	-0.01		0.05	106.00	0.008	0.29	0.03		584	95.8		-0.005
22-May-89	336.3	6610.3	340.1	6000	17.0	6.9	-0.01				0.005		0.03	-0.01				-0.005
26-Jul-89	336.3	6610.3	344.6	5800	17.0	6.9				103.00					532	94.7		-0.005
06-Sep-89	336.2	6610.4	340.1	5900	17.5	6.9	0.02				0.003		0.02	-0.01				-0.005

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY

30-60x0

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
17-Jan-89	764			-1.0				0.11	427		18.0	458	1.27		481			-0.1
17-Feb-89		-0.01			-0.01				0.0320			-0.01				-0.01		
20-Apr-89	809		0.020	-1.0	0.02	0.03	0.2	0.15	786		15.5	469	0.69	0.12	388	-0.01	0.4	-0.1
22-May-89		-0.01			-0.01				-0.0002					0.05		-0.01		
26-Jul-89	827			-1.0				0.17	782		14.8	577	1.26		512			-0.1
06-Sep-89	766	-0.01			-0.01				-0.0002					0.04		0.04		-0.1

OLIVIERA MINING COMPANY
AMBROSIA LAKE FACILITY
30-48KD

Date	Pb (mg/l)	Pb-210 (pCi/l)	Ra-226 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO ₄ (mg/l)	TD _S (mg/l)	TH-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Urat (mg/l)	V (mg/l)	Zn (mg/l)	Tl (mg/l)	GROSS ALPHA (pCi/l)	GROSS BETA (pCi/l)
17-Jan-89						2880	6030									
17-Feb-89	0.03	4.1	2.1	4.4	0.009	0.033		1.4			0.0194			-0.01	54	64
20-Apr-89	0.06		2.0		0.030	3260	6320	4.1			0.0432	0.10	0.01			
22-May-89	0.02	1.7	1.8	4.3	0.017	0.027		2.1			0.0359			-0.01	18	62
26-Jul-89						3090	6100									
06-Sep-89	-0.02	3.8	1.2	3.7	0.093	0.012	6230	0.5			0.0270			-0.01	66	49

Meas. Point Elevation: 6918.6

32-3500

Water																	
Date	Depth To Water (ft)	Level Elev(ft)	Depth (ft)	Total Spec.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cl (mg/l)
20-Feb-89	253.7	6664.9	282.0	1500	11.5	10.1	-0.01			0.002		0.12	-0.01				-0.005
20-Feb-89	253.7	6664.9	282.7	1500	11.5	10.1											
22-May-89	252.8	6665.8	282.0	1650	15.5	10.7	-0.01			0.003		0.07	-0.01				-0.005
22-Jun-89	252.8	6665.8	282.0	1650	15.5	10.7											
06-Sep-89	252.5	6666.1	282.0	1675	16.5	10.6	-0.01			0.004		0.07	-0.01				-0.005

OUTVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
32-4540

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Si (mg/l)	NO3 (mg/l)	NO3 (mg/l)
20-Feb-89		0.12			0.02				0.0011			0.03				0.02		
20-Feb-89																		
22-May-89		-0.01			-0.01				0.0002			0.15				-0.01		
22-Jun-89																		
06-Sep-89	225	-0.01			-0.01				-0.0002			0.07				-0.01		-0.1

OUTVIRA MINING COMPANY
AMOROSA LAKE FACILITY
32-4540

Date	Pb (mg/l)	Pb-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO ₄ (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Urea (mg/l)	V (mg/l)	Zn (mg/l)	Tl (mg/l)	GPSS ALPHA (pCi/l)	GPSS BETA (pCi/l)
20-Feb-89	0.29	260.0	89.0	37.0	0.001	0.034			74.0			1.9900			-0.01	2930	1600
20-Feb-89																	
22-May-89	-0.02	4.1	2.2	0.8	-0.003	0.010			2.6			0.0012			-0.01	17	26
22-Jun-89																	
06-Sep-89	-0.02	0.5	0.5	1.4	-0.003	0.008	585	1290	9.7			0.0032			-0.01	7	13

QUILVIRA MINING COMPANY
AMBROSIA LAKE FACILITY

36-06

Meas. Point Elevation: 7021.4

Water

Date	Depth To Water (ft)	Level Elev(ft)	Depth (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	S (mg/l)	Ba (mg/l)	Be (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
20-Feb-89	159.3	6862.1	199.6	199.6	12750	12.5	3.5	-0.01			0.760	0.03	0.03	0.11				0.018
16-May-89	176.2	6845.2	199.6	199.6	13500	14.0	3.9	-0.01	1021.00	354.00	0.277	0.03	0.03	0.09	463	305.0		0.018
23-May-89	172.0	6849.4	199.6	199.6	12500	14.5	3.9	-0.01			0.779	0.03	0.03	0.01				-0.005
11-Sep-89	179.3	6842.1	199.6	199.6	10500	16.0	4.1	-0.01			0.426	0.03	0.03	0.07				0.015

QUIVISA MINING COMPANY
AMEROSIA LAKE FACILITY
36-06

Date (mg/l)	Cl	CN	Co	CO3	Cr	Cu	F	Fe	HCO3	Hg	K	Mg	Mn	Mo	Nb	Ni	NH3	NO3
20-Feb-89		-0.01			0.44	1.12	-0.1	934.00	-1	0.0004	6.0	857	102.00	-0.01	1310	0.96	246.0	2.4
16-May-89	1840		0.800	-1.0	0.34					0.0070				0.23				
23-May-89		-0.01			0.32					0.0006				9.22		0.93		
11-Sep-89	1390	-0.01			0.03					-0.0002				0.08		0.73		0.3

GULVIRA MINING COMPANY
 AMBROSIA LAKE FACILITY
 36-06

Date	Pb (mg/l)	Pb-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO ₄ (mg/l)	TDS (mg/l)	1h-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)	Ti (mg/l)	GROSS ALPHA (pCi/l)	GROSS BETA (pCi/l)
20-Feb-89	0.22	14.0	74.0	22.0	0.309	0.699			8500.0			5.5100			0.06	15000	2500
16-May-89	0.69					0.556	14500	22900				4.4500	42.90	5.54			
23-May-89	-0.02	8.4	66.0	11.0	0.037	0.359			3900.0			3.8600			0.01	10000	1900
11-Sep-89	-0.02	7.4	21.0	12.0	0.226	0.191	6600	5520	1220.0			2.3300			0.02	5300	1400

QUIVIRA MINING COMPANY
AMPOSIA LAKE FACILITY
5-03

Meas. Point Elevation: 6901.1

Water																	
Date	Depth To Water (ft)	Elev(ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
18-Jan-89	13.2	6887.9	42.3	2525	12.9	7.7			49.00					166	45.4		
20-Jan-89	12.9	6888.2	42.3	2425	12.2	7.3	-0.01			0.007		0.01	-0.01				-0.005
14-Feb-89	12.9	6888.2	42.2	2500	11.0	7.2	-0.01			-0.001		0.02	-0.01				-0.050
09-Mar-89	12.9	6888.2	41.7	2750	12.0	7.2											
21-Mar-89	12.8	6888.3	42.2	2850	11.5	7.4	-0.01			0.044		0.02	-0.01				-0.005
21-Mar-89	12.8	6888.3	42.2	2850	11.5	7.4	-0.01			0.006		0.02	-0.01				-0.005
20-Apr-89	12.7	6888.4	42.3	2680	12.2	6.9	-0.01	0.02	55.90	0.007	0.21	0.02		283	53.6		-0.005
20-Apr-89	12.7	6888.4	42.3	2680	12.2	6.9	-0.01			0.005		0.02	-0.01				-0.005
19-May-89	12.6	6888.5	42.3	2900	12.0	7.5	-0.01			0.007		0.02	-0.01				-0.005
13-Jun-89	12.9	6888.2	42.2	3000	12.0	7.3	-0.01			0.006		0.02	-0.01				-0.005
27-Jul-89	13.8	6887.3	42.3	2950	12.0	7.1	-0.01			0.007		0.02	-0.01				-0.005
27-Jul-89	13.2	6887.9	42.3	2950	12.0	7.1			51.50					213	48.5		-0.005
30-Aug-89	13.1	6888.0	42.3	3000	13.2	7.5	-0.01			0.008		0.02	-0.01				-0.005
11-Sep-89	12.9	6888.2	41.5	3250	13.0	7.5	-0.01			0.004		0.02	-0.01				-0.005

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY

5-03

Date	Cl (mg/l)	CN (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
18-Jan-89	531		-1.0				0.07	56	0.0005	4.4	269	0.31	-0.01	304	-0.01		-0.1
20-Jan-89		-0.01		-0.01					0.0005				-0.01		-0.01		
14-Feb-89		-0.01		-0.01					-0.0002				-0.01		-0.01		
09-Mar-89	602																
21-Mar-89		-0.01		-0.01					0.0005				-0.01		-0.01		
21-Mar-89		-0.01		-0.01					0.0008				-0.01		0.01		
20-Apr-89	534		-1.0	-0.01	0.02	0.3	0.12	149		3.8	311	0.31	-0.01	293	-0.01	-0.1	0.1
20-Apr-89		-0.01		-0.01					0.0004				-0.01		-0.01		
19-May-89		-0.01		-0.01					0.0005				-0.01		-0.01		
13-Jun-89		-0.01		-0.01					-0.0002				0.02		0.01		
27-Jul-89		-0.01		-0.01					-0.0002				-0.01		-0.01		
27-Jul-89	553		-1.0				0.10	65		4.0	303	0.47	-0.01	294	-0.01		-0.1
30-Aug-89		-0.01		-0.01					0.0003				-0.01		0.02		
11-Sep-89	541	-0.01		-0.01					-0.0002				0.03		0.02		-0.1

GULIVER MINING COMPANY
AMBROSIA LAKE FACILITY

5-03

Date	Pb (mg/l)	Pb-210 (pCi/l)	Ra-226 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO ₄ (mg/l)	TH-230 (pCi/l)	TOC (mg/l)	Fe (mg/l)	Urac (mg/l)	V (mg/l)	Zn (mg/l)	Tl (mg/l)	GROSS ALPHA (pCi/l)	GROSS BETA (pCi/l)
18-Jan-89						1580		3140							
20-Jan-89	-0.02	6.1	1.1	1.2	0.004	0.013		2.0		0.0065			-0.01	17	19
14-Feb-89	-0.02	6.0	1.0	0.6	0.006	0.009		1.2		0.0064			0.00	15	23
09-Mar-89										0.0065					
21-Mar-89	-0.02	4.3	1.1	0.7	0.192	0.026		3.5		0.0170			0.01	23	43
21-Mar-89	-0.02	2.2	0.6	0.1	0.081	0.022		1.3		0.0072			-0.01	0	21
20-Apr-89	-0.02		1.7			0.020				0.0238	0.07	-0.01			
20-Apr-89	-0.02	5.5	0.9	0.0	0.010	0.011		7.2		0.0069			-0.01	23	27
19-May-89	-0.02	6.2	1.8	0.0	0.009	0.018		13.0		0.0038			-0.01	20	27
13-Jun-89	0.02	3.9	0.4	0.5	0.015	0.023		2.5		0.0460			-0.01	0	20
27-Jul-89	-0.02	5.0	1.1	0.3	0.007	0.015		2.1		0.0035			-0.01	0	19
27-Jul-89															
30-Aug-89	-0.02	7.9	2.2	0.1	0.007	0.016				0.0120			-0.01	16	34
11-Sep-89	-0.02	3.6	0.4	0.0	0.003	0.009		2.8		0.0190			-0.01	35	4

57-69

6918.7

Winter

[illegible]

52-67

[illegible]

37-67

[illegible]

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY

32-59

Meas. Point Elevation: 6898.2

Water													
Date	Depth To Water (ft)	Elev(ft)	Depth (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	S (mg/l)	Be (mg/l)
06-Jan-89	11.1	6887.2		40.6									
17-Jan-89	11.1	6887.1		40.6									
18-Jan-89	11.4	6886.8		39.6	2725	11.9	6.9			54.10		429	49.9
01-Feb-89	11.1	6887.2		40.6									
14-Feb-89	11.2	6887.1		39.7	2675	10.5	6.9	-0.01			-0.001	0.04	-0.01
16-Feb-89	11.4	6886.8		40.6									
07-Mar-89	11.3	6887.0		40.6									
20-Mar-89	10.9	6887.4		40.6									
07-Apr-89	11.1	6887.1		40.6									
20-Apr-89	11.0	6887.3		39.6	2830	12.0	6.8	-0.01	0.04	60.40	0.006	0.23	0.04
26-Apr-89	11.0	6887.2		40.6									
11-May-89	10.9	6887.4		40.6									
19-May-89	10.9	6887.3		39.7	3125	12.0	7.0	-0.01			0.004	0.03	-0.01
26-May-89	11.1	6887.2		40.6									
22-Jun-89	11.1	6887.1		40.6									
27-Jul-89	11.4	6886.9		39.6	3150	12.8	7.1			58.60		487	55.1
31-Jul-89	11.4	6886.9		40.6									
17-Aug-89	11.3	6886.9		39.6									
06-Sep-89	11.3	6887.0		39.7	3200	13.0	7.1	0.01			0.003	0.02	-0.01
29-Sep-89	11.4	6886.9		39.6									
24-Oct-89	11.2	6887.1		39.6									
28-Nov-89	11.1	6887.2		39.5									

0.006

-0.005

-0.005

-0.050

32-59

[illegible]

32-59

[illegible]

QUTVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
MW-24

[illegible]

94-24

[illegible]

MM-26

[illegible]

100

7.5	6.0	7.5
-----	-----	-----

Meas. Point Elevation: 6980.6

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
31-01

Date	Water		Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag	Al	Anions	As	B	Ba	Be	Ca	Cations	CaCO3	Cd
	Depth To Water (ft)	Level Elev(ft)					(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
17-Jan-89	204.7	6775.9	252.1	1375	13.8	7.3			25.20					195	22.0		
22-Feb-89	204.7	6775.9	251.8	1430	14.0	7.0	-0.01			0.001		0.03	-0.01				-0.005
20-Apr-89	204.6	6776.0	252.0	1400	14.8	7.0	-0.01	0.09	25.20	0.003	0.29	0.04		218	19.7		-0.005
22-May-89	204.7	6775.9	251.8	1500	15.0	7.4	-0.01			0.001		0.02	-0.01				-0.005
26-Jul-89	204.4	6776.3	252.0	1450	14.5	7.2			24.50					255	23.3		
11-Sep-89	204.5	6776.1	251.8	1450	14.5	7.2	-0.01			0.002		0.02	-0.01				-0.005

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY

31-01

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
17-Jan-89	12			-1.0				0.04	108		6.7	81	0.01		124			
22-Feb-89		-0.01			-0.01				0.0003					-0.01		-0.01		
20-Apr-89	15		-0.010	-1.0	-0.01	0.02	0.2	0.10	113		4.7	64	0.02	0.17	77	-0.01	-0.1	0.3
22-May-89		-0.01			-0.01				-0.0002					0.02		-0.01		
26-Jul-89	13			-1.0				0.12	114		7.0	81	0.01		109			-0.1
11-Sep-89	12	-0.01			-0.01				-0.0002					0.01		-0.01		-0.1

6.0000

12

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY

31-01

Date	Pb (mg/l)	Pb-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO ₄ (mg/l)	TDS (mg/l)	1h-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)	Tl (mg/l)	GROSS ALPHA (pCi/l)	GROSS BETA (pCi/l)
17-Jan-89							995	1630									
22-Feb-89	-0.02	2.3	0.6	2.1	-0.003	0.010			2.3			0.0034			-0.01	18	19
20-Apr-89	-0.02		2.0			0.010	1080	1620	4.6			0.0084	0.05	0.01			
22-May-89	-0.02	2.1	1.4	1.8	0.004	0.014			2.4			0.0036			-0.01	8	14
26-Jul-89							1050	1620									
11-Sep-89	-0.02	1.8	0.5	1.8	-0.003	0.003	1000	1620	0.5			0.0037			-0.01	2	3

Meas. Point Elevation: 6918.0

Water																		
Date	Depth To		Level	Total	Spec.	Temp.	pH	Ag	Al	Anions	As	B	Ba	Be	Ca	Cations	CaCO3	Cd
	Water (ft)	Elev(ft)																
17-Jan-89	173.0	6745.1		181.7	2300	14.7	7.2			42.10					239	38.3		
20-Jan-89	175.0	6743.0		181.7	2175	14.9	7.2	-0.01			0.007		0.04	-0.01				-0.005
22-Feb-89	174.1	6743.9		181.6	2400	13.0	7.0	-0.01			0.006		0.02	-0.01				-0.005
21-Mar-89	174.7	6743.3		181.6	2425	13.5	7.3	-0.01			0.005		0.01	-0.01				-0.005
20-Apr-89	175.2	6742.8		181.1	2450	15.0	7.0	-0.01	0.09	45.50	0.004	0.27	0.05		307	35.7		-0.005
20-Apr-89	175.2	6742.8		181.7	2450	15.0	7.0	-0.01			0.008		0.02	-0.01				-0.005
19-May-89	178.1	6739.9		181.5	2725	14.5	7.1	-0.01			0.006		0.03	-0.01				-0.005
13-Jun-89	178.6	6739.4		181.5	2750	15.5	7.2	-0.01			0.006		0.04	-0.01				-0.005
28-Jul-89	176.1	6742.0		181.7	2580	14.0	7.3			44.40					306	43.2		
28-Jul-89	176.1	6742.0		181.7	2580	14.0	7.3	-0.01			0.008		0.02	-0.01				-0.005
30-Aug-89	175.7	6742.3		181.5	2700	15.0	7.4	-0.01			0.006		0.02	-0.01				-0.005
11-Sep-89	178.3	6739.7		181.5	2675	17.0	7.1	0.01			0.002		0.02	-0.01				-0.005

OUTVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
33-011RA

Date	Cl (mg/l)	CN (mg/l)	C- (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
17-Jan-89	31			-1.0				0.06	162	0.0005	7.9	78	0.31		454			0.2
20-Jan-89		-0.01			0.03					0.0005				-0.01		0.02		
22-Feb-89		-0.01			-0.01					0.0002				-0.01		-0.01		
21-Mar-89		-0.01			-0.01					0.0007				-0.01		-0.01		
20-Apr-89	51		0.010	-1.0	0.02	0.02	0.4	0.10	184		7.5	71	0.03	0.16	296	0.03	0.3	0.4
20-Apr-89		-0.01			-0.01					0.0033				0.03		-0.01		
19-May-89		-0.01			0.02					0.0002				0.02		-0.01		
13-Jun-89		-0.01			0.02					-0.0002				0.02		0.02		
28-Jul-89	38			-1.0				0.15	197		7.8	82	0.01		482			0.1
28-Jul-89		-0.01			-0.01					-0.0002				-0.01		-0.01		
30-Aug-89		0.01			-0.01					-0.0002				0.01		0.01		
11-Sep-89	38	-0.01			-0.01					-0.0002				0.02		-0.01		-0.1

QUIVIRA MINING COMPANY
AMGROSIA LAKE FACILITY
33-011RA

Date	Pb (mg/l)	Pb-210 (pCi/l)	Ra-226 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO ₄ (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Umet (mg/l)	V (mg/l)	Zn (mg/l)	Tl (mg/l)	GROSS ALPHA (pCi/l)	GROSS BETA (pCi/l)
17-Jan-89						1800	2810									
20-Jan-89	0.05	15.0	2.1	3.1	0.003	0.013		9.5			0.0119			-0.01	80	61
22-Feb-89	-0.02	2.5	1.5	2.7	0.008	0.013		2.7			0.0051			-0.01	15	32
21-Mar-89	-0.02	8.6	1.9	1.3	0.023	0.017		0.1			0.0199			-0.01	34	27
20-Apr-89	0.24		32.0			0.010	1940	32.0	9.7		0.0583	0.05	0.01			
20-Apr-89	0.02	4.6	2.7	1.8	0.013	0.017		3.9			0.0484			-0.01	50	33
19-May-89	0.03	18.0	4.2	2.2	0.014	0.018		13.0			0.0424			-0.01	91	52
13-Jun-89	-0.02	19.0	1.2	1.9	0.015	0.016		10.0			0.0350			-0.01	77	45
28-Jul-89							1590	2890								
28-Jul-89	0.03	9.3	5.1	3.4	0.003	0.006		5.2			0.0110			-0.01	40	41
30-Aug-89	-0.02	1.3	1.3	2.2	0.003	0.010		1.0			0.0120			-0.01	39	21
11-Sep-89	-0.02	1.0	0.9	1.3	-0.003	0.008	1840	2790	0.8		0.0130			-0.01	24	32

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
31-66

Meas. Point Elevation: 7004.0

Water																		
Date	Depth To Water (ft)	Elev(ft)	Depth (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
21-Feb-89	109.8	6894.2	123.4	11000		13.5	5.9	-0.01			0.035		0.03	-0.01				-0.005
16-May-89	109.4	6894.6	123.4	16250		13.7	5.9	-0.01	0.13	252.00	0.043	0.27	0.04	-0.01	64.7	240.0		-0.005
18-May-89	109.6	6894.4	123.4	13750		14.8	6.1	0.03			0.008		0.04	-0.01				-0.005
18-Jun-89	109.6	6894.4	123.4	1375		14.8	6.1						0.04	-0.01				-0.005
11-Sep-89	109.7	6894.4	123.3	14800		14.5	6.3	0.02			0.007		0.04	-0.01				0.008

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
31-66

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
21-Feb-89		-0.01			-0.01				0.0004	0.0004				-0.01	-0.15		
16-May-89	4680		0.080	-1.0	0.01	0.06	-0.1	0.52	594	0.0009	29.6	11800	25.50	0.04	0.17	26.8	0.1
18-May-89		-0.01			-0.01				0.0004					-0.01	0.13		
18-Jun-89																	
11-Sep-89	4870	-0.01			-0.01				-0.0002	-0.0002				0.05	0.23		-0.1

OUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY

31-66

Date	Pb (mg/l)	Pb-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO ₄ (mg/l)	TDS (mg/l)	1h-250 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)	Tl (mg/l)	GROSS ALPHA (pCi/l)	GROSS BETA (pCi/l)
21-Feb-89	-0.02	7.7	1.9	0.9	0.033	0.041			2.4			0.2380			-0.01	200	170
16-May-89	0.03					0.038	5170	16900				0.1980	0.22	0.11			
18-May-89	-0.02	6.5	0.8	5.7	0.044	0.113			3.2			0.2000			-0.01	19	75
18-Jun-89																	
11-Sep-89	-0.02	3.8	0.7	7.1	0.036	0.021	5100	7900	0.2			0.1490			0.03	100	160

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
31-67

Max. Point Elevation: 6928.4

Water																		
Date	Depth To Water (ft)	Level Elev(ft)	Depth (ft)	Total	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Ca (mg/l)	Cations (mg/l)	CaC (mg/l)	Cd (mg/l)
22-Feb-89	20.6	6907.8	96.5	4500	11.8	6.2	-0.01				0.006		0.01	-0.01				-0.005
18-May-89	20.0	6908.4	96.5	5200	12.0	6.2	-0.01				0.010		0.02	-0.01				-0.005
18-Jun-89	20.0	6908.4	96.5	5200	12.0	6.2												
06-Sep-89	20.6	6907.8	96.5	5000	12.2	6.5	0.02				0.004		0.02	-0.01				-0.005

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY

31-67

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Nb (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
22-Feb-89		-0.01			-0.01				0.0004			-0.01						
18-May-89		-0.01			-0.01				0.0005			-0.01						
18-Jun-89																		
06-Sep-89	725	-0.01			-0.01				-0.0006			0.04				0.03		-0.1

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY

31-67

Date	Pb (mg/l)	Pb-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO ₄ (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)	Tl (mg/l)	GROSS ALPHA (pCi/l)	GROSS BETA (pCi/l)
22-Feb-89	-0.02	16.0	2.0	8.4	0.009	0.034			16.0			0.0044			-0.01	120	81
18-May-89	-0.02	14.0	1.3	10.0	0.013	-0.001			45.0			0.0069			-0.01	57	73
18-Jun-89																	
06-Sep-89	-0.02	22.0	3.8	14.0	0.003	0.013	3010	6300	36.0			0.0065			-0.01	240	120

Meas. Point Elevation: 6965.8

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
36-011R

Date	Water		Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag	Al	Anions	As	B	Ba	Be	Ca	Cations	CaCO3	Cd
	Depth To Water (ft)	Level Elev(ft)					(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
22-Feb-89	50.6	6915.2	59.1	3600	12.0	6.7	-0.01			0.007		0.02	-0.01				-0.005
27-Mar-89	51.4	6914.5	58.8	3800	12.1	6.7											
18-May-89	52.7	6913.2	59.1	5000	12.8	7.0	-0.01			0.008		0.03	-0.01				-0.005
18-Jun-89	52.7	6913.2	59.1	5000	12.8	7.0											
11-Sep-89	53.4	6912.4	59.0	5000	11.0	7.2	0.02			0.004		0.04	-0.01				0.005

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
36-011R

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Nb (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
22-Feb-89		0.01			-0.01				0.0004					-0.01		-0.01		
27-Mar-89																		
18-May-89		-0.01			-0.01				0.0003					-0.01		0.02		
18-Jun-89																		
11-Sep-89	1040	0.03			-0.01				-0.0002					0.02		0.06		-0.1

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
36-011R

Date	Pb (mg/l)	F-211 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO ₄ (mg/l)	TDS (mg/l)	TH-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)	TI (mg/l)	GROSS ALPHA (pCi/l)	GROSS BETA (pCi/l)
22-Feb-89	-0.02	3.2	0.8	0.6	0.004	0.029		2.0				0.0109			-0.01	31	32
27-Mar-89																	
18-May-89	-0.02	9.9	0.8	0.5	0.010	-0.001		3.7				0.0055			-0.01	0	30
18-Jun-89																	
11-Sep-89	-0.02	14.0	1.3	1.5	-0.003	0.017	3280	6920	7.6			0.0110			-0.01	78	53

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
36-02

Max. Point Elevation: 6997.5

Water

Date	Depth To Water (ft)	Level Elev(ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
18-Jan-89	38.0	6959.5	59.0	9300	12.8	6.9			201.00					231	184.0		
21-Feb-89	38.2	6959.3	59.2	8800	12.0	6.8	-0.01			0.015		0.01	-0.01				-0.005
20-Apr-89	38.5	6959.0	59.0	10000	13.2	6.7	-0.01	-0.01	221.00	0.007	0.20	0.03		357	204.0		-0.005
18-May-89	38.5	6959.0	59.2	11125	13.0	6.9	-0.01			0.014		0.02	-0.01				-0.005
27-Jul-89	38.7	6958.8	59.0	11000	13.1	6.7			222.00					361	205.0		-0.005
11-Sep-89	38.6	6958.9	59.0	10000	11.5	7.0	0.03			0.012		0.01	-0.01				-0.005

QUIVIRA MINING COMPANY
AMBROSTIA LAKE FACILITY

36-02

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Pb (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
18-Jan-89	2530			-1.0				0.16	649	0.0003	16.6	1560	1.48	-0.01	1000			-0.1
21-Feb-89		-0.01			-0.01											-0.01		
20-Apr-89	2520		-0.010	-1.0	-0.01	0.03	0.1	0.19	820		14.8	1700	1.88	0.05	949	-0.01	9.2	0.1
18-May-89		-0.01			-0.01					0.0006				-0.01		-0.01		
27-Jul-89	2820			-1.0				0.22	881		13.3	1750	2.06		971			-0.1
11-Sep-89	2930	-0.01			0.01					-0.0002				-0.01		0.13		-0.1

QUILVERA MINING COMPANY
AMBROSIA LAKE FACILITY

36-02

Date	Pb (mg/l)	Pb-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Urat (mg/l)	V (mg/l)	Zn (mg/l)	Tl (mg/l)	GROSS ALPHA (pCi/l)	GROSS BETA (pCi/l)
18-Jan-89							5630	13600									
21-Feb-89	-0.02	7.3	1.0	1.8	0.061	0.028			1.3			-0.0003			0.02	32	56
20-Apr-89	-0.02		3.7			0.030	6390	14000	25.0			0.0218	0.17	-0.01			
18-May-89	-0.02	4.7	0.7	1.0	0.038	-0.001			1.4			0.0026			-0.01	44	71
27-Jul-89							5980	14800									
11-Sep-89	-0.02	3.5	0.8	0.0	0.033	0.017	3220	13200	1.5			0.0069			0.01	51	47

DUJIVIRA MINING COMPANY
Ambrosia Lake, N. M.
License No. SUA-1473

Section 4 Evaporation Ponds - Monitor Wells
3rd Quarter 1989

Location	pH	TDS mg/l	SO4 mg/l	NO3(N) mg/l	Cl mg/l	Ca mg/l	F mg/l	Cond.	Depth To Water (feet)
MW-14	7.2	3990	2490	0.2	67.7	526	1.80	3150	44.4
MW-18	7.0	4350	2220	113.0	83.8	681	0.36	3400	46.3
MW-19	6.8	3480	1960	< 0.1	34.1	502	0.42	2800	45.7
MW-20	7.1	5120	2960	15.9	202.0	608	0.49	3950	47.9
MW-21	7.3	4000	2240	38.8	85.0	586	0.30	3200	48.2
MW-22	7.0	3810	2440	0.3	55.2	559	0.64	2925	24.0
MW-23	7.3	5530	3160	119.0	86.3	512	0.53	4400	33.2
MW-24	7.2	4000	2320	58.5	80.1	479	0.52	3200	42.6
MW-27	7.5	2330	1420	0.5	54.0	294	0.71	2200	11.8
MW-29	7.3	3320	1900	11.3	227.0	487	0.78	2900	25.2
MW-30	7.3	4150	2500	0.9	60.2	581	0.52	3100	30.2
MW-31	7.4	3650	2240	8.2	70.1	642	0.54	2900	40.9

Note - Monitor Wells MW-1 through 13, 15 through 17, 25, 26, 28 were dry 3rd Quarter

DUIVIRA MINING COMPANY
Ambrosia Lake, N. M.
License No. SUA-1473

Section 4 Evaporation Ponds - Monitor Wells
4th Quarter 1989

Location	pH	TDS mg/l	SO4 mg/l	NO3(N) mg/l	Cl mg/l	Cond.	Depth To Water (feet)
MW-14	7	3500	2480	1.9	68	3000	44.05
MW-18	7.1	3900	2230	134	84	3380	46.16
MW-19	6.8	2970	2000	0.2	31	2625	46.76
MW-20	7	4430	2910	18.1	186	3650	48.16
MW-21	7	3440	2250	43.5	83	3000	47.98
MW-22	7.5	3420	2510	1.5	53	2900	24.1
MW-23	7.1	4960	3170	104	93	4500	33.14
MW-24	7.4	3330	2290	51.4	73	3100	42.54
MW-27	7.5	2780	1800	0.2	89	2750	11.48
MW-29	7.3	2880	1850	16.1	224	2750	25.15
MW-30	7.2	4650	2470	1.2	60	3100	29.95
MW-31	7.3	3250	2200	13.8	67	2800	40.85

Note - Monitor Wells MW-1 through 13, 15 through 17, 25, 26, 28 were dry 4th Quarter
Please also note that calcium and fluoride have been deleted per NRC license
amendment 011 and NHEID new Discharge Plan - 71.

QUIVIRA MINING COMPANY
Ambrosia Lake, New Mexico
License No. SUA-1473

Vegetation

Location: Substation
Date: Jul 1989
Type: Grass

Nuclide	Conc. (uCi/kg-wet)	Error (uCi/kg)	LLD (uCi/kg)
U nat	1.8E-04	0.0E+00	2.0E-07
Th-230	6.3E-04	3.2E-05	2.0E-07
Ra-226	2.9E-04	2.9E-06	5.0E-08
Pb-210	1.2E-03	1.1E-05	1.0E-06
Po-210	7.6E-04	6.8E-06	1.0E-06

Location: Mill Diversion
Date: Jul 1989
Type: Grass

Nuclide	Conc. (uCi/kg-wet)	Error (uCi/kg)	LLD (uCi/kg)
U nat	1.5E-04	0.0E+00	2.0E-07
Th-230	1.2E-04	6.1E-06	2.0E-07
Ra-226	2.9E-04	2.9E-06	5.0E-08
Pb-210	1.2E-03	1.1E-05	1.0E-06
Po-210	7.6E-04	6.8E-06	1.0E-06

Location: Section 30W VH6
Date: Jul 1989
Type: Grass

Nuclide	Conc. (uCi/kg-wet)	Error (uCi/kg)	LLD (uCi/kg)
U nat	9.4E-03	0.0E+00	2.0E-07
Th-230	1.4E-03	7.1E-05	2.0E-07
Ra-226	2.1E-03	2.1E-05	5.0E-08
Pb-210	2.6E-03	2.3E-05	1.0E-06
Po-210	1.9E-03	1.7E-05	1.0E-06

Location: North Fence
Date: Jul 1989
Type: Grass

Nuclide	Conc. (uCi/kg-wet)	Error (uCi/kg)	LLD (uCi/kg)
U nat	2.9E-04	0.0E+00	2.0E-07
Th-230	9.5E-04	4.8E-05	2.0E-07
Ra-226	2.5E-03	2.5E-05	5.0E-08
Pb-210	2.9E-03	2.6E-05	1.0E-06
Po-210	2.0E-03	1.8E-05	1.0E-06

QUIVIRA MINING COMPANY
Ambrosia Lake, New Mexico
License No. SUA-1473

Vegetation

Location: Berryhill
Date: July 1989
Type: Grass

Nuclide	Conc. (uCi/kg-wet)	Error (uCi/kg)	LLD (uCi/kg)
U nat	2.7E-04	0.00E+00	2.00E-07
Th-230	8.0E-05	4.08E-06	2.00E-07
Ra-226	2.1E-04	2.10E-06	5.00E-08
Pb-210	5.8E-04	5.22E-06	1.00E-06
Po-210	3.4E-04	3.06E-06	1.00E-06

QUIVIRA MINING COMPANY
Ambrosia Lake, New Mexico
License No. SUA-1473

Vegetation

Location: Substation
Date: Oct 1989
Type: Grass

Nuclide	Conc. (uCi/kg-wet)	Error (uCi/kg)	LLD (uCi/kg)
U nat	1.5E-04	4.4E-06	2.0E-07
Th-230	9.4E-05	3.8E-06	2.0E-07
Ra-226	3.1E-04	2.2E-05	5.0E-08
Pb-210	1.0E-03	5.7E-05	1.0E-06
Po-210	6.3E-04	1.2E-05	1.0E-06

Location: Mill Diversion
Date: Oct 1989
Type: Grass

Nuclide	Conc. (uCi/kg-wet)	Error (uCi/kg)	LLD (uCi/kg)
U nat	4.3E-04	1.3E-05	2.0E-07
Th-230	2.5E-03	1.0E-04	2.0E-07
Ra-226	3.5E-05	2.5E-06	5.0E-08
Pb-210	4.1E-04	2.3E-05	1.0E-06
Po-210	3.0E-04	5.7E-06	1.0E-06

Location: Section 30W VH6
Date: Oct 1989
Type: Grass

Nuclide	Conc. (uCi/kg-wet)	Error (uCi/kg)	LLD (uCi/kg)
U nat	2.0E-03	5.7E-05	2.0E-07
Th-230	1.5E-04	6.0E-06	2.0E-07
Ra-226	1.2E-03	8.4E-05	5.0E-08
Pb-210	2.4E-03	1.4E-04	1.0E-06
Po-210	1.6E-03	3.0E-05	1.0E-06

Location: North Fence
Date: Oct 1989
Type: Grass

Nuclide	Conc. (uCi/kg-wet)	Error (uCi/kg)	LLD (uCi/kg)
U nat	5.4E-04	1.6E-05	2.0E-07
Th-230	1.0E-03	4.0E-05	2.0E-07
Ra-226	3.7E-03	2.6E-04	5.0E-08
Pb-210	3.0E-03	1.7E-04	1.0E-06
Po-210	4.0E-03	7.6E-05	1.0E-06

QUIVIRA MINING COMPANY
Ambrosia Lake, New Mexico
License No. SUA-1473

Vegetation

Location: Berryhill
Date: Oct 1989
Type: Grass

Nuclide	Conc. (uCi/kg-wet)	Error (uCi/kg)	LLD (uCi/kg)
U nat	2.3E-04	6.58E-06	2.00E-07
Th-230	5.9E-05	2.36E-06	2.00E-07
Ra-226	2.6E-04	1.82E-05	5.00E-08
Pb-210	1.1E-03	6.27E-05	1.00E-06
Po-210	6.8E-04	1.29E-05	1.00E-06

QUIVIRA MINING COMPANY
Ambrosia Lake, New Mexico
License No. SUA-1473

Soil

Location: Substation

Date:

Type: Surface Soil

Nuclide	Conc. (uCi/g)	Error (uCi/g)	LLD (uCi/g)
---------	------------------	------------------	----------------

U nat Note:

Th-230 Soil is sampled annually.
Ra-226 Please see 1st Half 1989
Pb-210 Effluent Rort submitted on
August 29, 1989

Location: Mill Diversion

Date:

Type: Surface Soil

Nuclide	Conc. (uCi/g)	Error (uCi/g)	LLD (uCi/g)
---------	------------------	------------------	----------------

U nat Note:

Th-230 Soil is sampled annually.
Ra-226 Please see 1st Half 1989
Pb-210 Effluent Rort submitted on
August 29, 1989

Location: Section 30W VH6

Date:

Type: Surface Soil

Nuclide	Conc. (uCi/g)	Error (uCi/g)	LLD (uCi/g)
---------	------------------	------------------	----------------

U nat Note:

Th-230 Soil is sampled annually.
Ra-226 Please see 1st Half 1989
Pb-210 Effluent Rort submitted on
August 29, 1989

Location: Berryhill

Date:

Type: Surface Soil

Nuclide	Conc. (uCi/g)	Error (uCi/g)	LLD (uCi/g)
---------	------------------	------------------	----------------

Note:

Soil is sampled annually.
Please see 1st Half 1989
Effluent Rort submitted on
August 29, 1989

QUIVIRA MINING COMPANY
Ambrosia Lake, New Mexico
License No. SUA-1473

Soil

Location: North Fence
Date:
Type: Surface Soil

Nuclide	Conc. (uCi/g)	Error (uCi/g)	LLD (uCi/g)
U nat	Note:		
Th-230	Soil is sampled annually.		
Ra-226	Please see 1st Half 1989		
Pb-210	Effluent Report submitted on August 29, 1989		

QUIVIRA MINING COMPANY
Ambrosia Lake, New Mexico
License No. SUA-1473

Sediment

Location: Substation
Date:
Type: Surface Soil

Nuclide	Conc. (uCi/g)	Error (uCi/g)	LLD (uCi/g)
U nat	Note:		
Th-230	Sediment is Sampled Annually.		
Ra-226	Please see 1st Half 1989		
Pb-210	Effluent Report Submitted on August 29, 1989		

Location: Mill Diversion
Date:
Type: Surface Soil

Nuclide	Conc. (uCi/g)	Error (uCi/g)	LLD (uCi/g)
U nat	Note:		
Th-230	Sediment is Sampled Annually.		
Ra-226	Please see 1st Half 1989		
Pb-210	Effluent Report Submitted on August 29, 1989		

Location: Section 30W VH6
Date:
Type: Surface Soil

Nuclide	Conc. (uCi/g)	Error (uCi/g)	LLD (uCi/g)
U nat	Note:		
Th-230	Sediment is Sampled Annually.		
Ra-226	Please see 1st Half 1989		
Pb-210	Effluent Report Submitted on August 29, 1989		

Location: Berryhill
Date:
Type: Surface Soil

Nuclide	Conc. (uCi/g)	Error (uCi/g)	LLD (uCi/g)
U nat	Note:		
Th-230	Sediment is Sampled Annually.		
Ra-226	Please see 1st Half 1989		
Pb-210	Effluent Report Submitted on August 29, 1989		

QUIVIRA MINING COMPANY
Ambrosia Lake, New Mexico
License No. SUA-1473

Gamma
TLD Chips (Eberline)

Date: 3rd Quarter 1989
Type: Gamma

Location	Rate mR/Qtr	Error mR/Qtr
Substation	35.0	3.2
Mill Diversion	100.6	16.3
Section 30W VH6	58.2	3.6
Section 17	145.6	29.3
North Fence	55.0	9.7

Date: 4th Quarter 1989
Type: Gamma

Location	Rate mR/Qtr	Error mR/Qtr
Substation	33.8	7.0
Mill Diversion	93.6	17.9
Section 30W VH6	66.4	8.9
Section 17	138.4	18.1
North Fence	59.0	13.2

QUIVIRA MINING COMPANY
Ambrosia Lake, New Mexico
License No. SUA-1473

Radon-222 Monitoring

3rd Quarter <----- Track Etch Chips -----> 4th Quarter							
Location		Conc. Error (pCi/l)(pCi/l)		Location		Conc. Error (pCi/l)(pCi/l)	
R-03 Pena Ranch		1.7	0.32	R-03 Pena Ranch		1.1	0.21
R-04 Section 17		1.1	0.21	R-04 Section 17		2.2	0.37
R-05 Elks Flat		0.7	0.14	R-05 Elks Flat		1.6	0.31
R-09 Mulatto Canyon top		0.6	0.13	R-09 Mulatto Canyon top		0.9	0.17
R-12 Section 24		5.0	0.77	R-12 Section 24		9.9	1.12
R-14 Mulatto Canyon bottom		2.0	0.34	R-14 Mulatto Canyon bottom		2.2	0.37
R-16 Section 26,27,34,35		1.4	0.24	R-16 Section 26,27,34,35		2.3	0.38
R-17 Section 33		4.3	0.71	R-17 Section 33		8.5	1.05
R-18 Section 4,5,32,33		1.2	0.22	R-18 Section 4,5,32,33		2.3	0.38
R-20 Mesa Montanosa bottom		0.7	0.15	R-20 Mesa Montanosa bottom		0.8	0.15
R-21 Section 4 Ponds		3.4	0.63	R-21 Section 4 Ponds		4.5	0.76
R-23 Puertocito Creek *		4.3	0.72	R-23 Puertocito Creek *		5.5	0.84
R-24 Apodaca Lake		1.7	0.32	R-24 Apodaca Lake		2.0	0.36
R-25 Mesa Montanosa top		0.5	0.12	R-25 Mesa Montanosa top		0.7	0.14
R-27 Puertocito Bridge *		2.9	0.58	R-27 Puertocito Bridge *		5.3	0.83
R-28 Melvins		1.3	0.23	R-28 Melvins		4.3	0.75
R-29 Marcus Ranch		1.2	0.22	R-29 Marcus Ranch		1.9	0.35
R-31 Ann Lee Mine		5.1	0.78	R-31 Ann Lee Mine		3.2	0.45
R-32 Cliffside Mine		0.7	0.15	R-32 Cliffside Mine		1.7	0.33
R-34 Las Vacas		0.5	0.11	R-34 Las Vacas		1.8	0.33
R-35 San Lucas Dam		0.7	0.14	R-35 San Lucas Dam		0.9	0.16
R-36 Polvedera Canyon *		0.3	0.30	R-36 Polvedera Canyon		1.6	0.32
R-37 San Mateo		1.2	0.21	R-37 San Mateo		0.7	0.15
R-39 Bridge Springs		1.6	0.30	R-39 Bridge Springs		1.9	0.35
R-40 Lee Mine		0.9	0.16	R-40 Lee Mine		1.5	0.25
R-42 Mesa Top Mine		1.0	0.20	R-42 Mesa Top Mine		2.0	0.35
R-46 Harve Point		1.8	0.33	R-46 Harve Point		3.3	0.65
R-47 Julian Hill		1.7	0.26	R-47 Julian Hill		2.7	0.42
R-49 Northeast		5.7	0.83	R-49 Northeast		19.8	1.60
R-50 East		9.5	1.08	R-50 East		9.4	1.09
R-51 Southeast		1.9	0.34	R-51 Southeast		4.5	0.76
R-52 South		6.7	0.91	R-52 South		10.8	1.17
R-53 Southwest		1.6	0.31	R-53 Southwest		1.7	0.33
R-54 West		4.2	0.72	R-54 West		6.9	0.94
R-55 Northwest		4.7	0.76	R-55 Northwest		7.3	0.96
R-57 Substation		2.5	0.39	R-57 Substation		3.9	0.73
R-58 Mill Diversion		7.0	0.92	R-58 Mill Diversion		10.6	1.19
R-60 Section 30W VH6		6.0	0.86	R-60 Section 30W VH6		17.4	1.51
R-82 Berryhill		3.0	0.60	R-82 Berryhill		2.9	0.44
R-83 North Fence		6.0	0.86	R-83 North Fence		12.1	1.27

NA - Chip not found or damaged

* - On Ground or cover broken