ANACONDA

INTER-COMPANY CORRESPONDENCE

TO: R.D. LYNN

DATE: January 11, 1979

FROM: E.C. LEANY

SUBJECT: MARC NELSON LETTER DATED DECEMBER 28, 1978

The monitoring wells mentioned in Bill Gray's letter to Marc Nelson dated July 19, 1978 are being drilled under contract by Hydro-Search, Inc. The wells and any data generated have not been turned over to us. John Sharp of Hydro-Search, Inc. says that the wells have been drilled, water level measurements made, and samples taken. This data is being reviewed and the report should be in our hands by the first of April.

A literature search indicates that none of the grasses used in our reclamation program accumulate selenium. Atraiplex canescens, a shrub native to this area and one being used in our reclamation program, is facultative. However, soil analysis of the material in our waste dumps show selenium concentrations of less than 0.1 ppm. Therefore, we do not anticipate any selenium problems. As stated in Bill Gray's letter of July 19, 1978, selenium is one of the chemical parameters to be monitored in our vegetative sampling program.

Gamma surveys are complete for Dumps J and S (a copy is enclosed). Radon flux measurements for these dumps are still in process but should be completed soon. Survey grids are presently being laid out on Dumps O, P, P_1 and P_2. Upon completion of this phase, gamma radiation surveys and radon flux measurements will commence.

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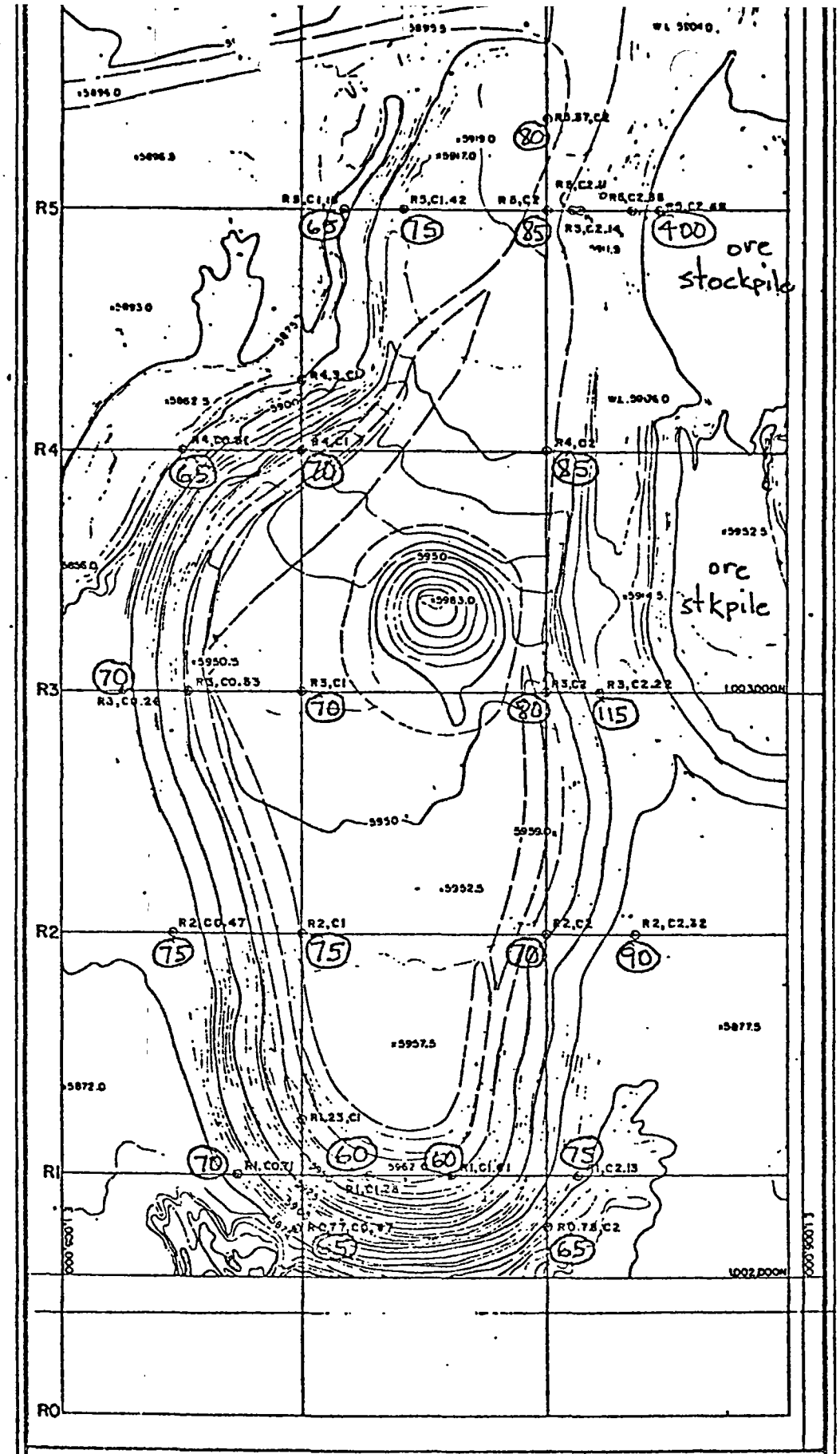
Company New Mexico Operations Mineral Resources Group P.O. Box 638 Grants, New

Contrary to Bill Gray's letter of July 19, 1978, the response to Item 3 (a map showing post reclamation drainage patterns) and Item 4 (estimated location, size and volume of any standing water that may remain) is being prepared by Bob Chambers of the Mine Engineering staff. I contacted Mr. Chambers during the first week of December and he said the report would be ready "sometime after the first of the year". Our response in R.D. Lynn's letter to Marc Nelson dated December 20, 1978 is still valid:

> "3. With regard to a map showing the post reclamation drainage patterns, surface slopes and highways, the Laguna Tribe has expressed concern with the Company's Mining and Reclamation plan dated December, 1976. The Anaconda Company is looking forward to resolving these problem areas with the Tribe and, at such time as a mutual agreement is reached, we will forward the requested information on to you.
>
> 4. An estimate of the amount of standing water that will occur after reclamation, the possibility of it becoming contaminated and ways to prevent contamination, will be forwarded to you as stated in No. 3 above."

ELROD C. LEANY
Environmental Engineer

ECL/jms



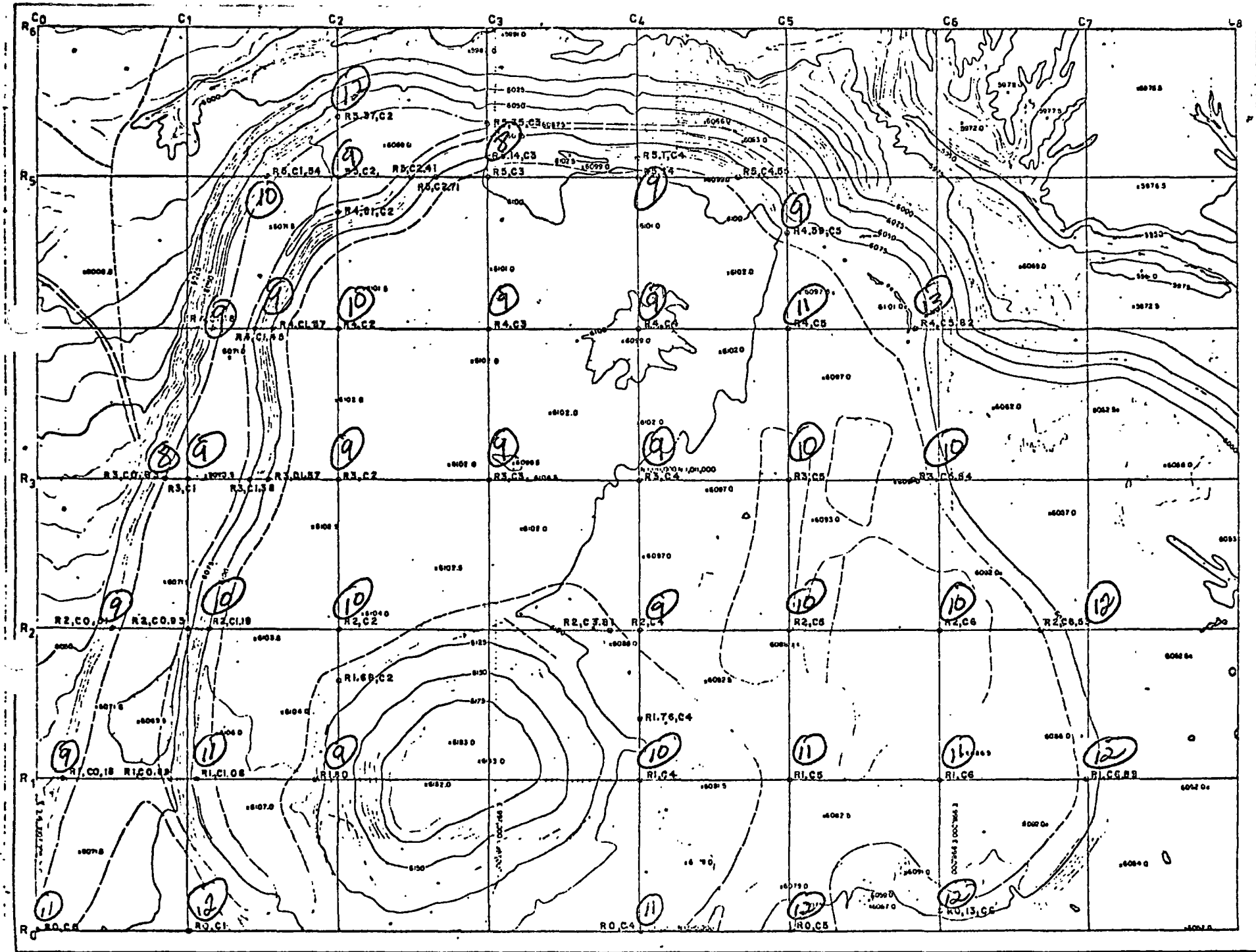
"J" DUMP
RADIOLOGICAL SURVEY
100 METER GRID

(N) = uR/hr

Breitrick 11/78

Location: J-Dump Date: 11-16-78

	C0	C1	C2	C3
.6	—	—	80	—
.5	65	75	85	400
.4	65	70	85	—
.3	70	70	80	115
.2	75	75	70	90
.1	70	60	60	75
.0	—	65	65	—



(11) = 11 R/hr

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Location: S-DUMP (North Dump) Date: 11-6-78

	C0	C1	C2	C3	C4	C5	C6	C7							
6	—	—	12	—	—	—	—	—							
5	—	10	9	8	9	9	—	—							
4	—	9	10	9	9	11	13	—							
3	8	9	9	9	9	10	10	—							
2	9	10	10	—	9	10	10	12							
1	9	11	9	—	10	11	11	12							
0	11	12	—	—	11	12	12	—							

THE ANACONDA COMPANY
RADIUM-226 pCi/l

SAMPLE	1976 May	1976 Nov.	1977 May	1977 Nov.	1978 May	1978 June	1978 July	1978 Aug.	1978 Sept.	1978 Oct.	1978 Nov.			
Paguate Upstream	< 2.0	< 2.0	< 2.0	<2.0	<0.20	NS	0.50	0.30	0.20	0.30	0.40			
Moquino Upstream	< 2.0	< 2.0	< 2.0	<2.0	<0.20	NS	NS	0.60	1.30	0.20	0.20			
Paguate — just above confluence					NS	NS	0.80	9.70	5.40	4.90	7.0			
Moquino — just above confluence					NS	NS	NS	0.70	6.70	2.60	3.90			
Ford Crossing Downstream	< 2.0	2.20	2.23	<2.0	4.30	NS	3.60	4.70	12.10	4.80	7.10			
Mouth of Oak Canyon Wash														
Paguate Reservoir	< 2.0	< 2.0	3.78	<2.0	<0.20	NS	NS	0.80	6.0	0.50	0.60			
Old Shop					NS	NS	NS	NS	2.10	1.80	1.30			
New Shop	< 2.0	< 2.0	< 2.0	2.40	0.20	0.60	2.60	1.60	0.50	2.80	1.80			
Jackpile Well #4	< 2.0	< 2.0	< 2.0	<2.0	0.60	0.40	0.70	0.30	0.20	0.60	0.60			

THE ANACONDA COMPANY
URANIUM-NAT. ppm

SAMPLE	1976 May	1976 Nov.	1977 May	1977 Nov.	1978 May	1978 June	1978 July	1978 Aug.	1978 Sept.	1978 Oct.	1978 Nov.			
Paguate Upstream	0.004	0.005	0.006	0.006	0.002	NS	0.005	0.004	0.002	0.004	0.004			
Moquino Upstream	0.02	0.01	0.01	0.006	0.006	NS	NS	0.02	0.01	0.01	0.01			
Paguate — just above confluence					NS	NS	0.36	0.90	0.48	0.49	0.29			
Moquino — just above confluence					NS	NS	NS	0.10	0.01	0.18	0.06			
Ford Crossing Downstream	0.13	0.15	0.48	0.14	0.30	NS	0.47	0.47	0.29	0.51	0.18			
Mouth of Oak Canyon Wash														
Paguate Reservoir	0.51	0.75	0.70	0.08	0.64	NS	NS	0.07	0.002	0.21	0.11			
Old Shop					NS	NS	NS	NS	0.09	0.14	0.10			
New Shop	0.008	0.007	0.007	0.01	0.004	0.01	0.005	0.01	0.004	0.007	0.005			
Jackpile Well #4	0.004	0.004	0.003	0.005	0.007	0.01	0.004	0.006	0.004	0.009	0.004			

Rio Paguate Upstream

DESCRIPTION	DATE		Elect. Cond.	PH	TDS ppm	HCO3 ppm	CO3 ppm	Cl ppm	SO4 ppm	Na ppm	K ppm	Ca ppm	Mg ppm	SiO2 ppm	Mn ppm
Rio Paguate Upstream	02/06/73			8.2		237	Nil	10	85	28		51	45		
Rio Paguate Upstream	05/10/78		2150	8.12	1499	259	Nil	19	869	167		131	92		0.1
Rio Paguate Upstream	07/17/78		790	8.27	547	278	Nil	12	172	39	10.5	71	36	19	1
Rio Paguate Upstream	08/18/78		810	8.29		299	Nil	10	127	36		79	32		

		As ppm	Ba ppm	Cd ppm	Cr ppm	F ppm	Hg ppm	NO3 ppm	Se ppm	Ag ppm	Cu ppm	Fe ppm	Zn ppm	Al ppm	B ppm
Rio Paguate Upstream	08/28/78	.006	0.16	0.001	0.005	0.39	0.0005	1	0.01	0.002	0.002	?	0.002	.05	0.5

		Co ppm	Mo ppm	Ni ppm	V ppm	PO4 ppm	Pb ppm
Rio Paguate Upstream	08/29/78	0.005	0.01	0.005	0.05	0.1	0.01

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Rio Moquino Upstream

DESCRIPTION	DATE		Elect. Cond.	PH	TDS ppm	HCO3 ppm	CO3 ppm	Cl ppm	SO4 ppm	Na ppm	K ppm	Ca ppm	Mg ppm	SiO2 ppm	Mn ppm
Rio Moquino Upstream	02/06/78			8.2		292	Nil	18	857	212		158	104		
Rio Moquino Upstream	05/10/78		2300	8.2	1641	279		18	963	188		146	100		0.1
Rio Moquino Upstream	08/29/78		3100	8.1		263	Nil	28	1580	285		255	162		
		As ppm	Ba ppm	Cd ppm	Cr ppm	F ppm	Hg ppm	NO3 ppm	Se ppm	Ag ppm	Cu ppm	Fe ppm	Zn ppm	Al ppm	B ppm
Rio Moquino Upstream	08/29/78	0.006	0.52	0.005	0.005	0.39	0.0005	1	0.01	0.003	0.007	0.1	0.026	0.05	0.5
		Co ppm	Mo ppm	Ni ppm	V ppm	PO4 ppm	Pb ppm								
Rio Moquino Upstream	08/29/78	0.0005	0.0011	0.005	0.008	0.011	0.0019								

Rio Paguate Above Confluence

DESCRIPTION	DATE		Elect. Cond.	PH	TDS ppm	HCO3 ppm	CO3 ppm	Cl ppm	SO4 ppm	Na ppm	K ppm	Ca ppm	Mg ppm	SiO2 ppm	Mn ppm
Rio Paguate above confluence	08/24/78		2700	8.17	1379	519	Nil	25	1172	160	17.8	210	190	11	.1

		As ppm	Ba ppm	Cd ppm	Cr ppm	F ppm	Hg ppm	NO3 ppm	Se ppm	Ag ppm	Cu ppm	Fe ppm	Zn ppm	Al ppm	B ppm
Rio Paguate above confluence	08/29/78	0.006	0.38	0.001	0.005	0.51	0.0005	1	0.01	0.004	0.002	.1	0.001	0.05	0.5

	Co ppm	Mo ppm	Ni ppm	V ppm	PO4 ppm	Pb ppm
Rio Paguate above confluence	0.0005	0.01	0.005	0.05	0.1	0.010

Río Moquino Above Confluence

DESCRIPTION	DATE		Elect. Cond.	PH	TDS ppm	HCO3 ppm	CO3 ppm	Cl ppm	SO4 ppm	Na ppm	K ppm	Ca ppm	Mg ppm	SiO2 ppm	Mn ppm
Río Moquino Above Confluence	08/24/78		3400	8.20	3080	262	Nil	27	1754	280	16.4	300	180	9	.1
		As ppm	Ba ppm	Cd ppm	Cr ppm	F ppm	Hg ppm	NO3 ppm	Se ppm	Ag ppm	Cu ppm	Fe ppm	Zn ppm	Al ppm	B ppm
Río Moquino Above Confluence	08/29/78	.006	0.44	0.001	0.005	0.51	0.0005	2	0.01	0.006	0.003	.1	0.004	0.05	0.5
		Co ppm	Mo ppm	Ni ppm	V ppm	PO4 ppm	Pb ppm								
Río Moquino Above Confluence	08/29/78	0.005	0.01	0.005	0.05	0.1	0.10								

Ford Crossing Downstream

DESCRIPTION	DATE		Elect. Cond.	PH	TDS ppm	HCO3 ppm	CO3 ppm	Cl ppm	SO4 ppm	Na ppm	K ppm	Ca ppm	Mg ppm	SiO2 ppm	Mn ppm
Ford Crossing Downstream	02/06/78			8.35		273	2	19	710	176		126	86		
Ford Crossing Downstream	05/10/78		1500	8.29	999	234	Nil	13	503	105.		94	65		0.1
Ford Crossing Downstream	07/17/78		3000	8.21	2548	283	Nil	27	1449	260	15.3	180	32	10	1
Ford Crossing Downstream	08/17/78		3100	8.09		300	Nil	25	1536	270		230	165		

		As ppm	Ba ppm	Cd ppm	Cr ppm	F ppm	Hg ppm	NO3 ppm	Se ppm	Ag ppm	Cu ppm	Fe ppm	Zn ppm	Al ppm	B ppm
Ford Crossing Downstream	08/29/78	0.006	0.58	0.001	0.005	0.54	0.0005	1	0.01	0.005	0.002	0.1	.005	0.05	0.5

		Co ppm	Mo ppm	Ni ppm	Vv ppm	PO4 ppm	Pb ppm
Ford Crossing Downstream	08/29/78	0.005	0.011	0.005	0.05	0.11	0.10

PAGUATE RESERVOIR

DESCRIPTION	DATE		Elect. Cond.	PH	TDS ppm	HCO3 ppm	CO3 ppm	Cl ppm	SO4 ppm	Na ppm	K ppm	Ca ppm	Mg ppm	SiO2 ppm	Mn ppm
Paguate Reservoir	02/06/78			7.9		381	Nil	29	1791	353		328	159		
Paguate Reservoir	05/10/78		3900	7.90	3320	234	Nil	42	2042	400		310	173		0.1
Paguate Reservoir	08/24/78		1300	7.87		125	Nil	9	541	64		140	32		
		As ppm	Ba ppm	Cd ppm	Cr ppm	F ppm	Hg ppm	NO3 ppm	Se ppm	Ag ppm	Cu ppm	Fe ppm	Zn ppm	Al ppm	B ppm
Paguate Reservoir	08/29/78	0.014	0.18	0.001	0.005	0.54	0.0005	1	0.01	0.004	0.003	0.1	0.007	0.05	0.5
		Co ppm	Mo ppm	Ni ppm	V ppm	PO4 ppm	Pb ppm								
Paguate Reservoir	08/29/78	0.005	0.01	0.005	0.05	0.1	0.012								

Old Shop

DESCRIPTION	DATE		Elect. Cond.	PH	TDS ppm	HCO3 ppm	CO3 ppm	Cl ppm	SO4 ppm	Na ppm	K ppm	Ca ppm	Mg ppm	SiO2 ppm	Mn ppm
Old Shop	09/18/78		2200	9.24	1424	311	Nil	31	726	440	8	53	35	8	.1

		As ppm	Ba ppm	Cd ppm	Cr ppm	F ppm	Hg ppm	NO3 ppm	Se ppm	Ag ppm	Cu ppm	Fe ppm	Zn ppm	Al ppm	B ppm
Old Shop	09/18/78	0.01	0.05	.001	.005	1.02	.0005	5	0.11	.001	.003	.1	0.02	0.05	0.5

		Co ppm	Mo ppm	Ni ppm	V ppm	Pb ppm	Pb ppm
Old Shop	09/18/78	.005	0.01	.005	0.05	0.10	.01

Jackpile New Shop

DESCRIPTION	DATE		Elect. Cond.	PH	TDS ppm	HCO3 ppm	CO3 ppm	Cl ppm	SO4 ppm	Na ppm	K ppm	Ca ppm	Mg ppm	SIO2 ppm	Mn ppm
Jackpile New Shop	02/06/78			8.7		365	6	18	341	328		8	4		
	05/10/78		2300	8.2	1326	380		27	683	475		13	1		0.1
	08/18/78		2300	8.3		372	2	28	683	480		14	1		
		As ppm	Ba ppm	Cd ppm	Cr ppm	F ppm	Hg ppm	NO3 ppm	Se ppm	Ag ppm	Cu ppm	Fe ppm	Zn ppm	Al ppm	B ppm
Jackpile New Shop	07/ /77	0.01	0.04	0.007	0.03	1.18	0.0005	1	0.01	0.001	0.004	0.3	0.058	0.01	1.0
		Co ppm	Mo ppm	Ni ppm	V ppm	PO4 ppm	Pb ppm								
Jackpile New Shop	07/ /77	0.001	0.01	0.001			0.01								

Jackpile Well #4

DESCRIPTION	DATE		Elect. Cond.	PH	TDS ppm	HCO3 ppm	CO3 ppm	Cl ppm	SO4 ppm	Na ppm	K ppm	Ca ppm	Mg ppm	SiO2 ppm	Mn ppm
Jackpile Well #4	02/06/78			8.7		365	16	18	341	328		8	4		
Jackpile Well #4	05/10/78		1500	8.6	789	361	15	18	356	305		3	1		0.1
Jackpile Well #4	08/07/78		1500	8.7		365	17	18	339	300		5			
		As ppm	Ba ppm	Cd ppm	Cr ppm	F ppm	Hg ppm	NO3 ppm	Se ppm	Ag ppm	Cu ppm	Fe ppm	Zn ppm	Al ppm	B ppm
Jackpile Well #4		0.01	0.04	0.005	0.02	0.18	0.0005	1	0.01	0.001	0.004	0.1	0.11	0.01	1.0
		Co ppm	Mo ppm	Ni ppm	V ppm	PO4 ppm	Pb ppm								
Jackpile Well #4		0.001	0.01	0.003			.01								

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