AIR QUALITY MONITORING PROGRAM

One 168-hour sample is taken each month at each of the four locations specified by Marc Nelson. They are collected about three meters above the ground on GF/A Glass Microfibre filter paper, using an RAC Heavy-duty Sampler.

AMBIENT RADON STUDY

Radon-222 is monitored continuously at each of the air sampling locations specified by Marc Nelson. The samples are monitored by the use of the Model RGM-2 Radon Gas Monitor. Normal data output is printed hourly and a 24 hour average is printed at the end of a 24 hour period.

JACKPILE - WATER RADIOLOGICAL ANALYSIS

(FOURTH QUARTER, 1980)

DESCRIPTIVE LOCATION	Radium-226 pCi/L			Uranium-Natural ppm		
	October	November	December	October	November	December
Rio Paguate Upstream	0.33	0.02	0.13	0.002	0.010	0.008
Rio Moquino Upstream	0.36	0.23	0.48	0.001	0.001	0.006
Rio Paguate Above the Confluence	2.00	1.33	1.21	0.082	0.078	0.038
Rio Moquino Above the Confluence	0.71	1.33	0.81	0.077	0.022	0.007
Rio Paguate Ford Crossing	2.89	1.01	1.26	0.260	0.209	0.136
Paguate Reservoir	2.44	0.96	1.46	0.267	0.224	0.218
Jackpile Well #4	0.73	0.38	1.03	0.013	0.007	0.001
Jackpile New Shop	1.07	2.13	0.66	0.018	0.003	0.011
Jackpile Old Shop	1.02	2.14	NS	0.082	0.064	NS

ANACONDA COPPER COMPANY
NEW MEXICO OPERATION

FOR THE MONTH OF: October 1980

DESCRIPTION	DATE	pH	TDS ppm	Cond umhos	HCO_3^- ppm	Cl^- ppm	$SO_4^=$ ppm	Na^+ ppm	K^+ ppm	Ca^{++} ppm	Mg^{++} ppm	NO_3^- ppm	F^- ppm	SiO_2 ppm	Mn^{++} ppm
Rio Paguate (Upstream)	10-2-80	8.0	501	730	340	14	129	35	4	89	33	<1	0.44	29	<0.10
Rio Moquino (Upstream)	10-2-80	8.2	1781	2300	274	23	1108	218	14	148	118	<1	0.62	16	<0.10
Rio Paguate (Above Confluence	10-2-80	8.0	647	850	291	16	271	59	6	74	51	<1	0.52	26	<0.10
Rio Moquino (Above Confluence	10-2-80	8.0	2359	2800	269	25	1517	298	16	148	118	<1	0.88	16	<0.10
Rio Paguate (Ford Crossing)	10-2-80	8.0	1991	2570	302	29	1225	247	15	164	144	<1	0.74	18	<0.10
Paguate Reservoir	10-2-80	7.9	1329	1700	181	17	821	99	14	213	59	<1	0.74	16	<0.10
Jackpile #4	10-2-80	8.6	842	1500	388	20	322	290	2	4	<1	1	1.10	11	<0.10
Jackpile New Shop	10-2-80	8.4	1365	2100	395	32	655	448	6	14	1	<1	1.15	14	<0.10
Jackpile Old Shop	10-2-80	8.4	1431	2100	331	38	754	359	6	56	37	6	1.00	12	<0.10

	DATE	As ppm	Ba ppm	Cd ppm	Cr ppm	Pb ppm	Hg ppm	Se ppm	Cu ppm	Fe ppm	Zn ppm	Mo ppm	Ni ppm	V ppm
Rio Paguate (Upstream)	10-2-80	<.005	0.21	<.001	<.005	<.005	<.0005	<.005	0.005	<0.10	0.006	<.005	<.005	<0.01
Rio Moquino (Upstream)	10-2-80	<.005	0.17	<.001	<.005	<.005	<.0005	<.005	0.004	<0.10	0.011	0.008	<.005	0.012
Rio Paguate (Above Confluence	10-2-80	<.005	0.10	<.001	<.005	0.011	<.0005	<.005	0.003	<0.10	0.081	0.008	<.005	<0.01
Rio Moquino (Above Confluence	10-2-80	<.005	0.36	<.001	<.005	<.005	<.0005	<.005	0.010	<0.10	0.014	0.010	<.005	0.015
Rio Paguate (Ford Crossing)	10-2-80	<.005	0.16	<.001	<.005	<.005	<.0005	<.005	0.004	<0.10	0.003	0.009	<.005	0.014
Paguate Reservoir	10-2-80	<.005	0.24	<.001	<.005	<.005	<.0005	<.005	0.006	<0.10	0.007	0.008	<.005	0.014
Jackpile #4	10-2-80	<.005	<0.05	<0.001	<.005	0.006	<.0005	<.005	0.006	<0.10	0.011	<0.005	0.012	<0.01
Jackpile New Shop	10-2-80	<.005	0.10	<0.001	<.005	<.005	<.0005	<.005	0.006	0.20	0.033	<0.005	<.005	[illegible]
[illegible]	[illegible]-2-80	<.005	0.14	<0.001	<.005	<.005	<.0005	0.15	0.007	<0.10	0.106	<0.005	[illegible]	<0.01

CONFIDENTIAL

ANACONDA COPPER COMPANY
NEW MEXICO OPERATION

FOR THE MONTH OF: November 1980

DESCRIPTION	DATE	pH	TDS ppm	Cond umhos	HCO_3^- ppm	Cl^- ppm	$SO_4^=$ ppm	Na^+ ppm	K^+ ppm	Ca^{++} ppm	Mg^{++} ppm	NO_3^- ppm	F^- ppm	SiO_2 ppm	Mn^{++} ppm
Rio Paguate (Upstream)	11-7-80	8.2	571	720	368	12	178	34	4	92	39	<1	0.38	30	<0.10
Rio Moquino (Upstream)	11-7-80	8.2	1411	1800	234	23	869	154	11	127	99	<1		17	<0.10
Rio Paguate (Above Confluence)	11-7-80	8.2	614	740	295	14	265	45	5	64	50	<1	0.41	25	<0.10
Rio Moquino (Above Confluence)	11-7-80	8.1	1901	2350	251	21	1218	216	13	158	133	<1	0.70	17	<0.10
Rio Paguate (Ford Crossing)	11-7-80	8.2	1680	2100	288	22	1027	186	12	141	128	<1	0.56	20	<0.10
Paguate Reservoir	11-7-80	8.6	1441	1700	84	20	975	114	17	187	77	<1	0.64	9	<0.10
Jackpile #4	11-7-80	8.7	786	1200	353	17	316	257	2	4	1	1	1.08	13	<0.10
Jackpile New Shop	11-7-80	8.6	1325	2000	386	28	672	397	6	13	1	1	1.18	17	<0.10
Jackpile Old Shop	11-7-80	8.4	1396	1900	332	59	745	319	6	53	36	3	1.05	12	<0.10

	DATE	As ppm	Ba ppm	Cd ppm	Cr ppm	Pb ppm	Hg ppm	Se ppm	Cu ppm	Fe ppm	Zn ppm	Mo ppm	Ni ppm	V ppm
Rio Paguate (Upstream)	11-7-80	<.005	0.06	<.001	<.005	0.055	<.0005	<.005	0.005	<.10	0.006	<0.01	<.005	<0.05
Rio Moquino (Upstream)	11-7-80	<.005	0.17	<.001	<.005	<.005	<.0005	<.005	0.004	<.10	0.011	<0.01	<.005	0.012
Rio Paguate (Above Confluence)	11-7-80	<.005	0.10	<.001	<.005	0.010	<.0005	<.005	0.001	<.10	0.009	<0.01	<.005	<0.05
Rio Moquino (Above Confluence)	11-7-80	<.005	<0.05	<.001	<.005	0.017	<.0005	<.005	0.002	<.10	0.021	<0.01	<.005	<0.05
Rio Paguate (Ford Crossing)	11-7-80	<.005	<0.05	<.001	<.005	0.012	<.0005	<.005	0.002	<.10	0.017	<0.01	<.005	<0.05
Paguate Reservoir	11-7-80	<.005	<0.05	<.001	<.005	0.014	<.0005	<.005	0.002	<.10	0.038	<0.01	<.005	<0.05
Jackpile #4	11-7-80	<.005	0.06	<.001	<.005	0.055	<.0005	<.005	0.003	<.10	0.011	<0.01	<.005	<0.05
[illegible]	11-7-80	<.005	0.10	<.001	<.005	0.012	<.0005	<.005	0.001	0.14	0.039	<0.01	[illegible]	[illegible]
[illegible]	11-7-80	<.005	0.07	<.001	<.005	0.012	<.0005	0.083	0.002	<.10	0.201	<0.01	<.005	[illegible]

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ANACONDA COPPER COMPANY
NEW MEXICO OPERATION

FOR THE MONTH OF: December 1980

DESCRIPTION	DATE	pH	TDS ppm	Cond umhos	HCO_3^- ppm	Cl^- ppm	$SO_4^=$ ppm	Na^+ ppm	K^+ ppm	Ca^{++} ppm	Mg^{++} ppm	NO_3^- ppm	F^- ppm	SiO_2 ppm	Mn^{++} ppm
Rio Paguate (Upstream)	12-4-80	8.1	575	755	349	12	185	37	4	94	40	<1	0.38	29	<0.10
Rio Moquino (Upstream)	12-4-80	8.0	1132	1500	249	14	656	130	7	112	75	<1	0.47	15	<0.10
Rio Paguate (Above Confluence	12-4-80	8.0	654	825	320	15	263	51	5	81	52	<1	0.45	29	<0.10
Rio Moquino (Above Confluence	12-4-80	8.0	1577	2050	256	19	969	196	9	131	108	<1	0.63	17	<0.10
Rio Paguate (Ford Crossing)	12-4-80	8.0	1496	2000	308	21	876	172	9	137	110	<1	0.59	18	<0.10
Paguate Reservoir	12-4-80	7.6	1480	1850	55	32	1008	138	19	172	77	<1	0.59	6	<0.10
Jackpile #4	12-4-80	8.4	659	1200	356	20	337	281	2	5	1	<1	1.20	12	<0.10
Jackpile New Shop	12-4-80	8.2	1353	2000	388	20	667	437	5	15	2	1	1.33	15	<0.10
Jackpile Old Shop	NS														

	DATE	As ppm	Ba ppm	Cd ppm	Cr ppm	Pb ppm	Hg ppm	Se ppm	Cu ppm	Fe ppm	Zn ppm	Mo ppm	Ni ppm	V ppm
Rio Paguate (Upstream)	12-4-80	<0.005	<0.05	<.001	<.005	0.008	<.0005	<.005	0.003	<.10	0.007	<0.01	<.005	<0.05
Rio Moquino (Upstream)	12-4-80	<0.005	0.07	<.001	<.005	0.010	<.0005	<.005	0.001	<.10	0.046	<0.01	<.005	<0.05
Rio Paguate (Above Confluence	12-4-80	<0.005	<0.05	<.001	<.005	0.006	<.0005	<.005	0.003	<.10	0.003	<0.01	<.005	<0.05
Rio Moquino (Above Confluence	12-4-80	<0.005	0.12	<.001	<.005	0.017	<.0005	<.005	0.004	<.10	0.020	<0.01	<.005	<0.05
Rio Paguate (Ford Crossing)	12-4-80	<0.005	0.10	<.001	<.005	0.011	<.0005	<.005	0.002	<.10	0.003	<0.01	<.005	<0.05
Paguate Reservoir	12-4-80	<0.005	0.10	<.001	<.005	0.011	<.0005	<.005	0.004	<.10	0.008	<0.01	<.005	<0.05
Jackpile #4	12-4-80	<0.005	0.12	<.001	<.005	0.007	<.0005	<.005	0.005	<.10	0.041	<0.01	<.005	<0.05
[illegible]	-4-80	<0.005	0.22	<.001	<.005	0.010	.0005	<.005	0.008	<.10	0.052	<0.01	[illegible]	[illegible]

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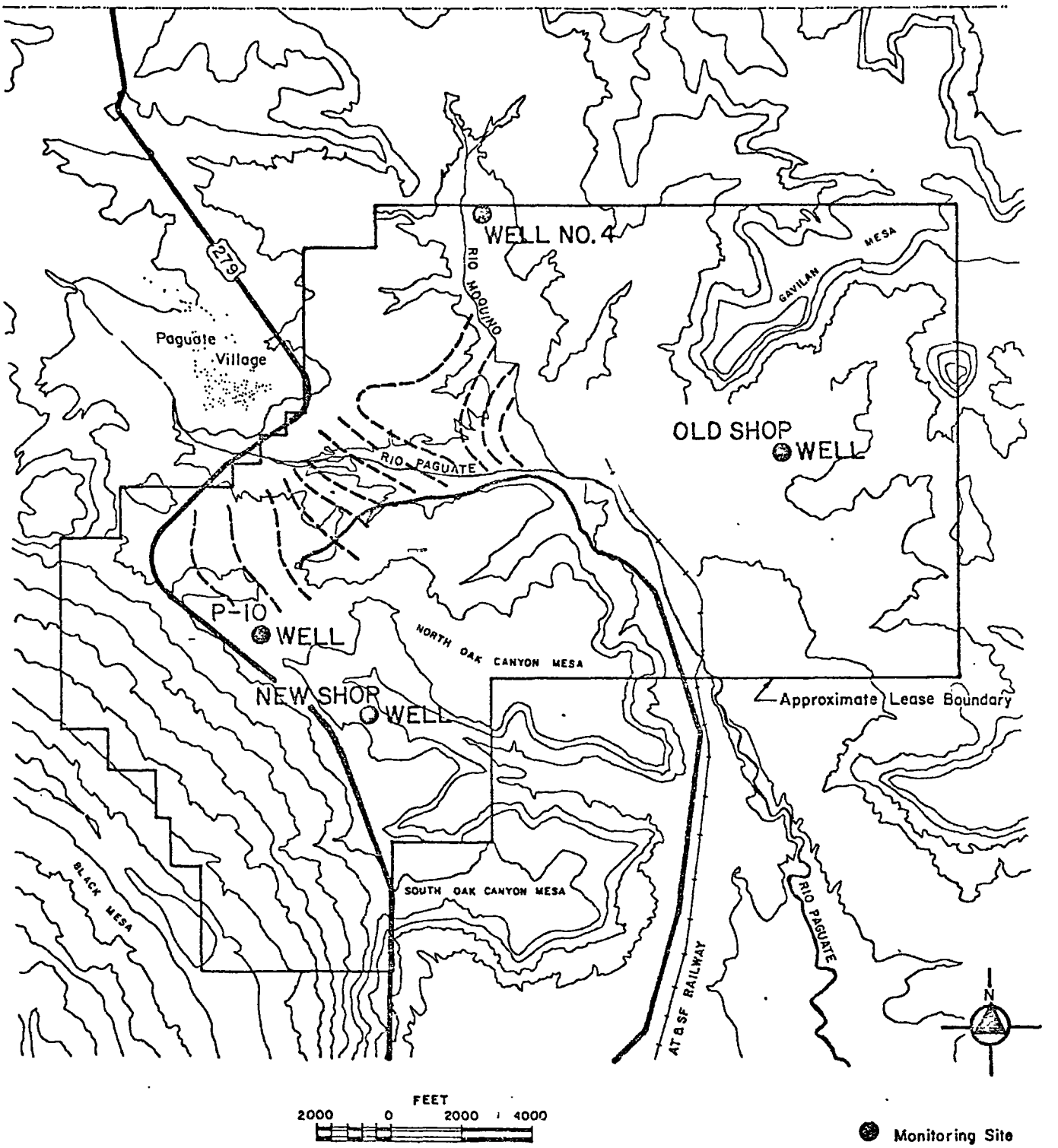
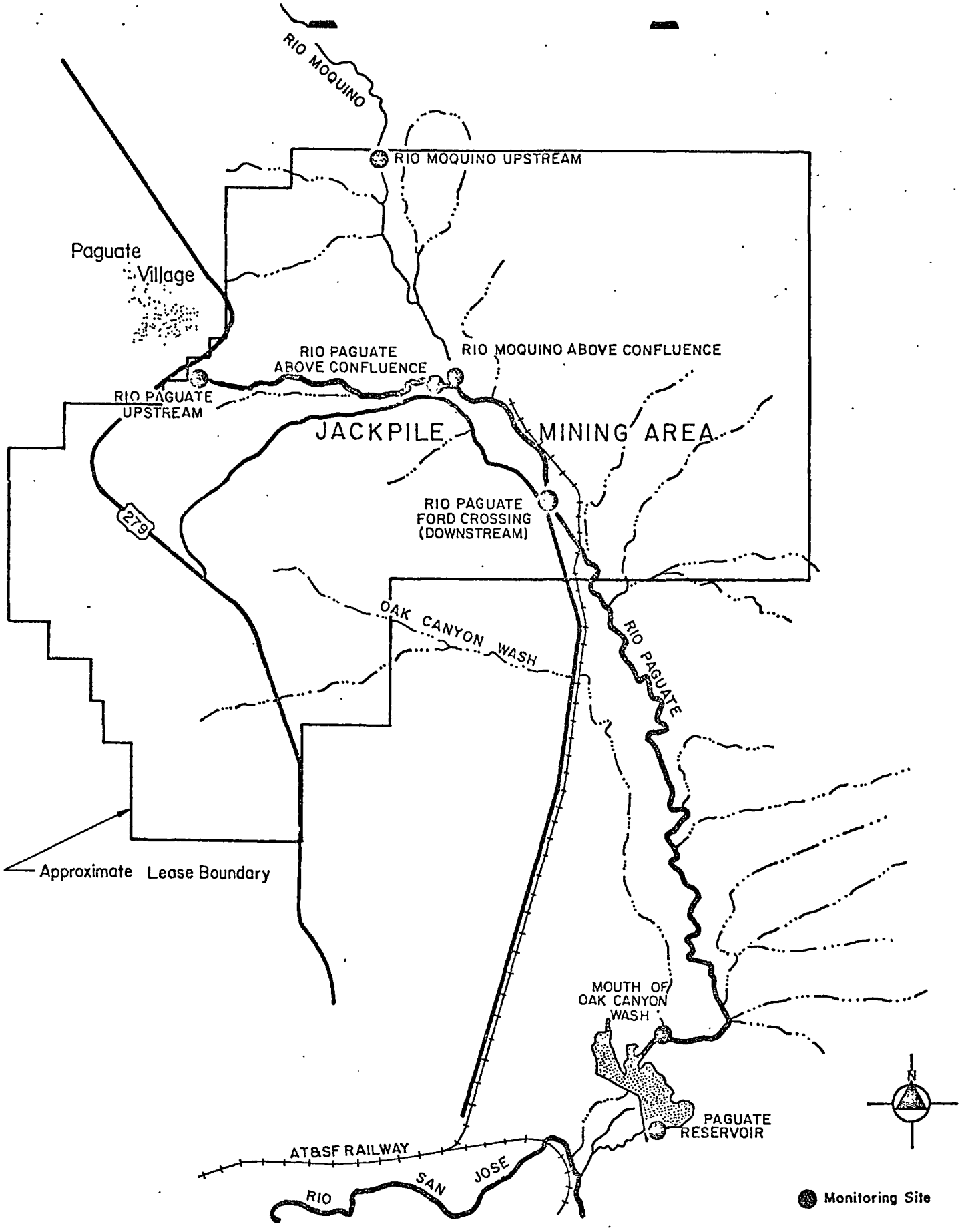
LOCATION OF GROUND WATER MONITORING STATIONS





LOCATION OF
SURFACE WATER MONITORING STATIONS

JACKPILE - AIR SAMPLING SURVEY

FOURTH QUARTER, 1980

LOCATION	DATE	Total Particulate $mg/M^3 x10^{-8}$	U-Nat. $uci/ml x10^{-15}$	Ra-226 $uci/ml x10^{-15}$	Th-230 $uci/ml x10^{-15}$	Pb-210 $uci/ml x10^{-15}$
1. Dump F	10/80	4.92	25.55	1.92	4.59	42.22
	11/80	NS	NS	NS	NS	NS
	12/80	NS	NS	NS	NS	NS
2. Mine Vent	10/80	6.21	78.02	1.45	12.32	53.14
	11/80	1.57	1.84	0.21	0.86	27.11
	12/80	NS	NS	NS	NS	NS
3. West Gate	10/80	7.22	14.31	2.62	6.93	35.00
	11/80	3.60	0.83	0.75	0.75	14.96
	12/80	5.37	1.35	3.40	3.40	*
4. Well #4	10/80	7.18	33.16	2.67	8.14	37.89
	11/80	5.91	2.71	1.26	1.46	28.48
	12/80	3.30	28.21	1.97	4.50	*

NS - indicates no samples

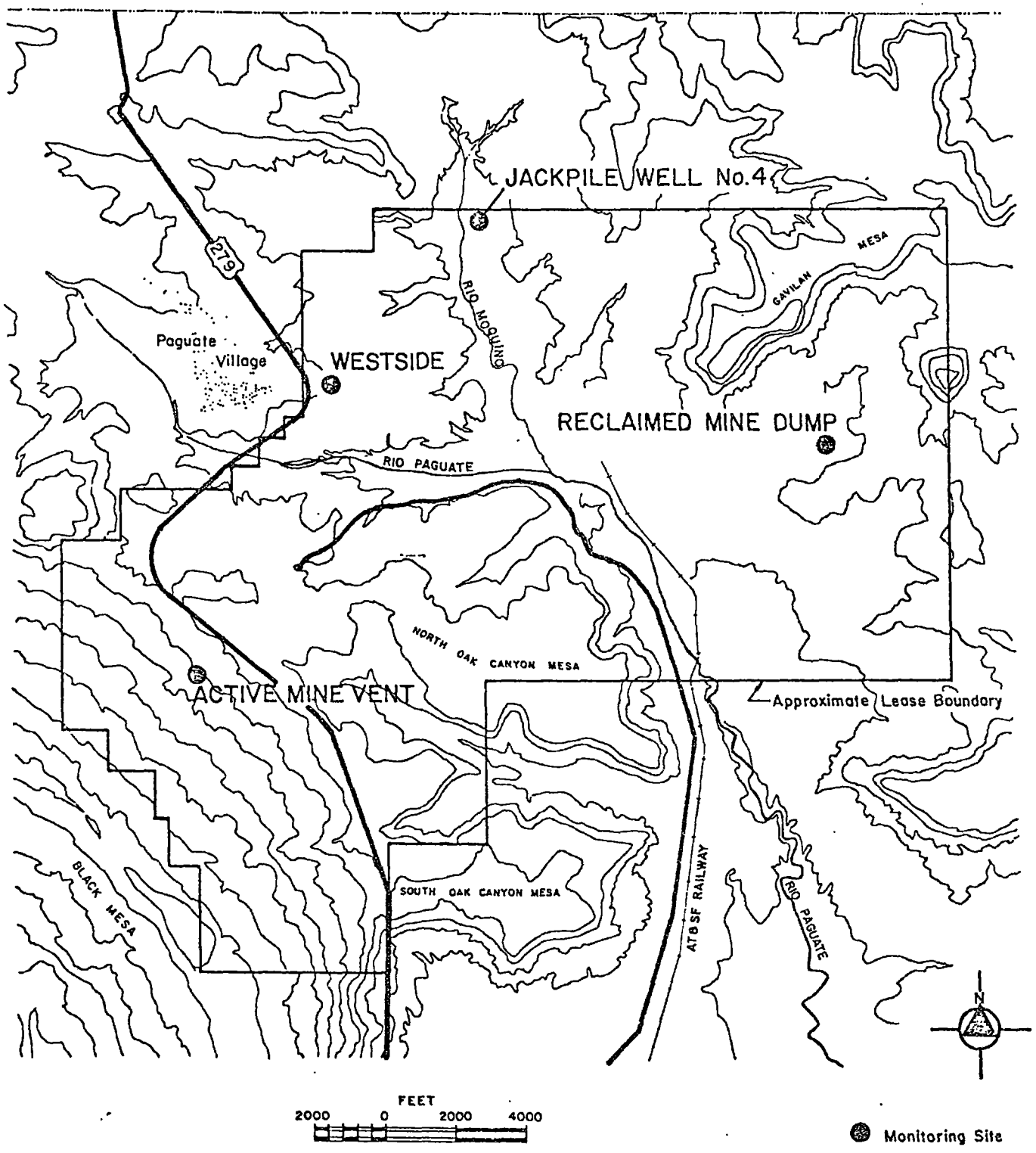
* - indicates that Pb-210 analysis are not complete. Results will be forwarded upon completion.

JACKPILE - AMBIENT RADON STUDY

FOURTH QUARTER, 1980

LOCATION	DATE	Rn-222 pCi/l
1. Dump F	10/80	1.70
	11/80	NS
	12/80	NS
2. Mine Vent	10/80	2.17
	11/80	2.84
	12/80	3.51
3. Well #4	10/80	0.97
	11/80	1.21
	12/80	2.29
4. Westgate	10/80	1.15
	11/80	1.28
	12/80	NS

LOCATION OF
AIR QUALITY MONITORING STATIONS



ANACONDA Copper Company
New Mexico Operations
P.O. Box 638
Grants, New Mexico 87020
505/876-2211

April 7, 1981

DCM, MINING
RECEIVED
APR 8 1981
RECEIVED
U.S. GEOLOGICAL SURVEY
ALBUQUERQUE, NEW MEXICO

Mr. Ed Sandell,
Deputy Conservation Manager
United States Department of Interior
Geological Survey
P.O. Box 26124
Albuquerque, New Mexico 87125

Dear Sir:

The following information is being submitted in accordance with the Jackpile-Paguate Minesite Reclamation Sampling Program for the Third Quarter of 1980.

Results of the Air Monitoring Program - Pb-210 for September 1980.

Sincerely,

Meade A. Stirland, Manager
ENVIRONMENT, HEALTH & SAFETY

jls

cc: RDL
ECL
CES
File

JACKPILE-AIR SAMPLING SURVEY

THIRD QUARTER, 1980

LOCATION	DATE	Pb-210 uCi/mlx10^{-15}
1. DUMP F	9/80	9.48
2. MINE VENT	9/80	152.84
3. WESTGATE	9/80	34.61
4. WELL #4	9/80	26.19