ANACONDA Minerals Company
New Mexico Operations
P.O. Box 638
Grants, New Mexico 87020
Telephone 505 876 2211

ROUTE

Note:

August 20, 1982

ALBUQUERQUE DISTRICT MINING
RECEIVED
AUG 30 1982
MINERALS MANAGEMENT SERVICE
ALBUQUERQUE, NEW MEXICO

Mr. Dale C. Jones
District Mining Supervisor
Minerals Management Service
500 Gold Avenue, S.W.
Federal Building, Room 116
Albuquerque, N.M. 87102

Dear Mr. Jones:

The following information is being submitted in accordance with the Jackpile-Paguate Minesite Sampling Program for the Second Quarter of 1982.

1. Radiological Analysis of Ground and Surface Water.

2. Chemical Analysis of Ground and Surface Water.

3. Maps showing Ground and Surface Water Sampling Locations.

4. Results of the Air Monitoring Program.

5. Results of the Ambient Radon Monitoring Study.

6. Map showing location of Air and Radon Monitoring Stations.

Sincerely,

Meade A. Stirland, Manager
Environment, Health & Safety

mls
Enclosures
cc: R. D. Lynn
D. L. Roberts
C. E. Sanchez
File

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

(SECOND QUARTER, 1982)

DESCRIPTIVE LOCATION	Radium-226 pCi/L			Uranium-Natural ppm		
	April	May	June	April	May	June
Rio Paguate Upstream	0.20	0.20	0.66	0.005	0.005	0.003
Rio Moquino Upstream	0.20	0.20	0.52	0.011	0.011	0.011
Rio Paguate Above the Confluence	0.23	2.06	0.20	0.011	0.023	0.028
Rio Moquino Above the Confluence	0.51	0.86	0.58	0.027	0.017	0.017
Rio Paguate Ford Crossing	0.98	0.45	0.48	0.049	0.074	0.062
Paguate Reservoir	0.20	1.25	0.63	0.210	0.153	0.141
Jackpile Well #4	0.20	0.42	0.37	0.006	0.003	0.011
Jackpile New Shop	1.60	1.79	2.02	0.006	0.003	0.006
Jackpile Old Shop	2.10	3.04	1.92	0.330	0.187	0.247
Mouth of Oak Canyon Wash	*	*	*	*	*	*

* No sample because the Mouth of Oak Canyon Wash was dry.

FOR THE MONTH OF: April, 1982

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	4-1-82	7.9	564	600	285	8	125	27.9	4.3	86	26	0.7	0.50	58.4	0.055			
Rio Moquino Upstream	4-1-82	8.1	1609	1600	305	13.2	863	152	7.9	173	92	1.1	0.76	30	0.011			
Rio Paguate Above the Confluence	4-1-82	8.1	599	1600	275	8.5	162	33.8	5.1	82	30.3	0.5	0.43	58.2	0.008			
Rio Moquino Above the Confluence	4-1-82	8.0	1784	1900	292	15	995	185	8.6	187	98	0.7	0.64	26.5	0.018			
Rio Paguate Ford Crossing	4-1-82	8.3	1345	1300	317	13	666	123	7.1	137	79	0.9	0.64	39	0.013			
Paguate Reservoir	4-1-81	8.1	1826	1600	274	24.2	1028	209	12.9	185	90	1.0	0.68	15.8	0.011			
Jackpile #4	4-1-82	8.3	996	1200	373	14.9	307	290	1.1	5.1	0.6	1.1	1.6	18.4	0.006			
Jackpile New Shop	4-1-82	8.2	1653	1250	402	25.1	724	476	3.3	18	1.5	1.0	1.3	16	0.018			
Jackpile Old Shop	4-1-82	7.5	3995	3575	251	99	2468	499	9.3	373	228	66	0.9	22.7	0.009			
	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	4-1-82	<0.005	<0.05	<0.001	<0.005	<0.01	<.0005	<0.005	0.004	0.06	0.005	<0.01	<0.005	<0.05				
Rio Moquino Upstream	4-1-82	<0.005	<0.05	<0.001	<0.005	<0.01	<.0005	<0.005	0.002	0.02	0.003	<0.01	<0.005	<0.05				
Rio Paguate Above the Confluence	4-1-82	<0.005	<0.05	<0.001	<0.005	<0.01	<.0005	<0.005	0.003	0.03	0.003	<0.01	<0.005	<0.05				
Rio Moquino Above the Confluence	4-1-82	<0.005	<0.05	<0.001	<0.005	<0.01	<.0005	<0.005	0.004	0.02	0.004	<0.01	<0.005	<0.05				
Rio Paguate Ford Crossing	4-1-82	<0.005	<0.05	<0.001	<0.005	<0.01	<.0005	<0.005	0.003	0.04	0.006	<0.01	<0.005	<0.05				
Paguate Reservoir	4-1-82	<0.005	<0.05	<0.001	<0.005	<0.01	<.0005	<0.005	0.003	0.04	0.005	<0.01	<0.005	<0.05				
Jackpile #4	4-1-82	<0.005	<0.05	<0.001	<0.005	<0.01	<.0005	<0.005	0.003	0.10	0.003	<0.01	<0.005	<0.05				
Jackpile New Shop	4-1-82	<0.005	<0.05	<0.001	<0.005	<0.01	<.0005	<0.005	0.006	0.05	0.002	<0.01	<0.005	<0.05				
[illegible]	-1-82	<0.005	<0.05	<0.001	<0.005	<0.01	<.0005	0.041	0.002	0.02	0.06	<0.01	<0					

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FOR THE MONTH OF: May, 1982

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	5-4-82	8.2	814	780	366	11.5	218	43.	8.8	112	46	7.2	0.60	35	0.04
Rio Moquino Upstream	5-3-82	8.4	1909	2000	341	15.7	1031	189	11.1	187	131	1.1	0.77	20	0.006
Rio Paguate Above the Confluence	5-3-82	8.4	742	700	280	10.2	268	46	6.4	82	47	0.59	0.52	36	<.005
Rio Moquino Above the Confluence	5-3-82	8.4	2040	1950	305	17	1156	213	11.3	205	130	0.95	0.75	20	0.017
Rio Paguate Ford Crossing	5-3-82	7.7	1595	3400	368	15	788	142	9.3	163	107	0.82	0.70	26	0.012
Paguate Reservoir	5-4-82	7.5	2050	1920	225	24.6	1230	230	14.5	201	121	0.82	0.69	5.1	0.10
Jackpile #4	5-4-82	8.6	992	1100	378	16.7	292	294	1.6	5.7	0.7	0.82	1.3	11	0.006
Jackpile New Shop	5-4-82	8.2	1653	1250	402	25.1	724	476	3.3	18	1.5	1.0	1.3	16	0.018
Jackpile Old Shop	5-3-82	7.7	4008	3400	280	100	2439	532	11.1	367	222	54	0.76	18	0.014

	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	5-4-82	<0.005	<0.05	<0.001	<0.005	0.04	<0.0005	<0.005	0.005	0.24	0.03	<0.01	<0.005	<0.05
Rio Moquino Upstream	5-3-82	<0.005	<0.05	<0.001	<0.005	<0.01	<0.0005	<0.005	0.007	0.02	0.003	<0.01	<0.005	<0.05
Rio Paguate Above the Confluence	5-3-82	<0.005	<0.05	<0.001	<0.005	<0.01	<0.0005	<0.005	0.014	0.03	0.007	<0.01	<0.005	<0.05
Rio Moquino Above the Confluence	5-3-82	<0.005	<0.05	<0.001	<0.005	<0.01	<0.0005	<0.005	0.007	0.02	0.002	<0.01	<0.005	<0.05
Rio Paguate Ford Crossing	5-3-82	<0.005	<0.05	<0.001	<0.005	0.05	<0.0005	<0.005	0.006	0.15	0.033	<0.01	<0.005	<0.05
Paguate Reservoir	5-4-82	<0.005	<0.05	<0.001	<0.005	0.04	<0.0005	<0.005	0.007	0.37	0.038	<0.01	<0.005	<0.05
Jackpile #4	5-4-82	<0.005	<0.05	<0.001	<0.005	<0.01	<0.0005	<0.005	0.005	0.06	0.001	<0.01	<0.005	<0.05
Jackpile New Shop	5-4-82	<0.005	<0.05	<0.001	<0.005	<0.01	<0.0005	<0.005	0.006	0.05	0.001	<0.01	<0.005	<0.05
	5-3-82	<0.005	<0.05	<0.001	<0.005	<0.01	<0.0005	0.035	0.005	0.01	0.46	<0.01	<0.005	<0.05

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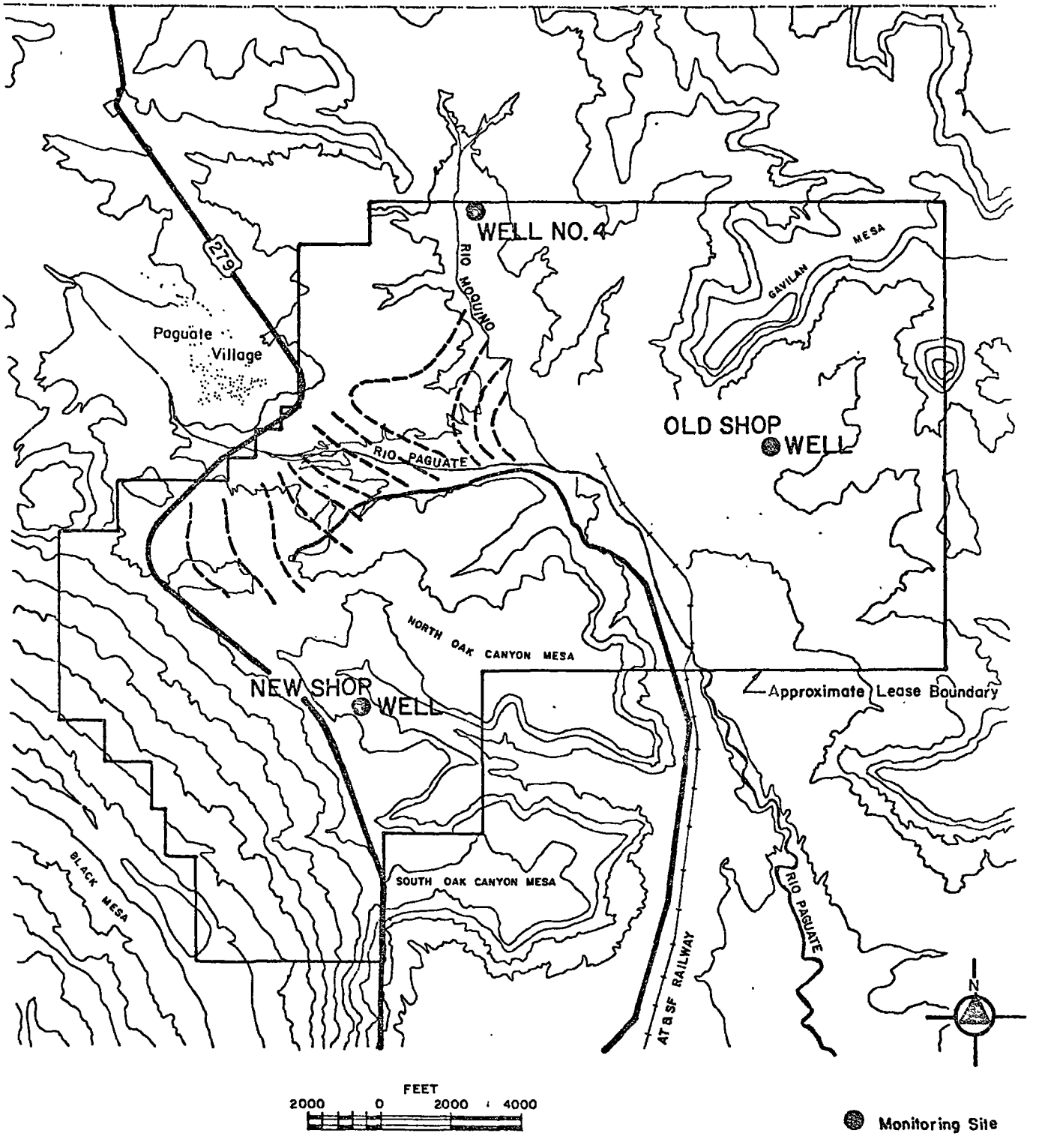
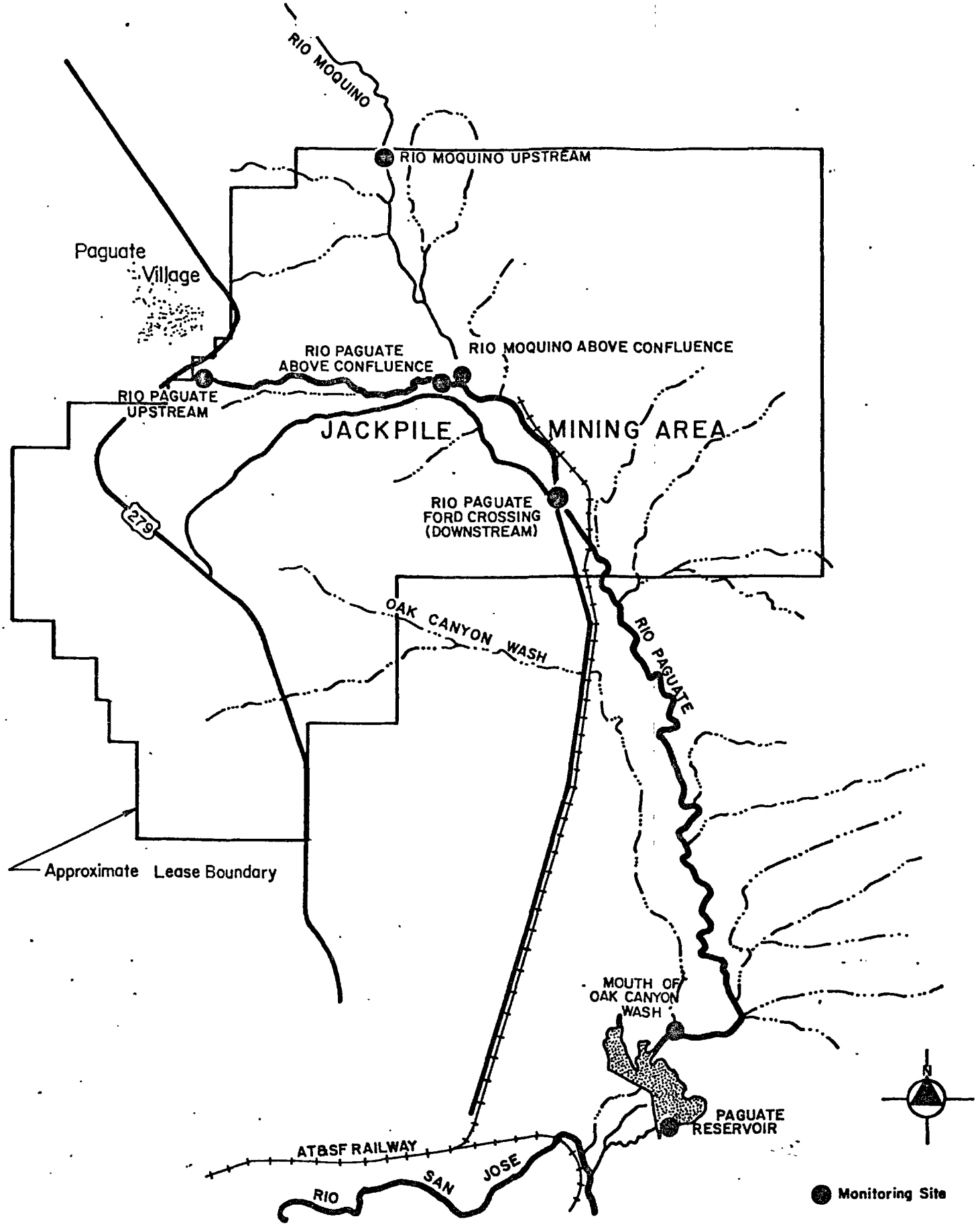
FOR THE MONTH OF: June, 1982

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 tream	6-1-82	8.3	675	700	327	9.5	173	39	5.4	84	35	1.5	0.53	49	0.02
Rio Moquino Upstream	6-1-82	8.3	1706	1820	329	14	900	171	8.1	168	113	2.4	0.73	26	<0.005
Rio Paguate Above the Confluence	6-1-82	8.3	1865	2030	254	16.1	1092	190	9.2	176	125	1.9	0.78	43	0.005
Rio Moquino Above the Confluence	6-1-82	8.3	633	800	251	10	209	52	5.9	64	39	1.6	0.44	45	<0.005
Rio Paguate Ford Crossing	6-1-82	8.4	1636	2030	285	16.7	889	169	8.0	149	117	1.70	0.71	31	0.010
Paguate Reservoir	6-1-82	7.8	2242	2200	261	30	1326	242	16.5	225	138	2.10	0.70	0.94	0.02
Jackpile #4	6-8-82	8.6	1024	1060	359	18	341	297	1.6	3.9	0.6	1.5	1.1	11	<0.05
Jackpile New Shop	6-1-82	8.3	1616	1700	415	26.1	688	460	2.7	20	1.3	1.7	1.4	20	0.031
Jackpile Old Shop	6-1-82	7.7	3973	2650	264	102	2422	580	9.7	325	221	48	0.8	18	0.017

	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	6-1-82	<0.005	<0.05	<0.001	<0.005	<0.01	<0.0005	<0.05	0.004	0.01	0.006	<0.01	<0.005	<0.05
Rio Moquino Upstream	6-1-82	<0.005	<0.05	<0.001	<0.005	<0.01	<0.0005	<0.005	0.008	0.014	0.004	<0.01	0.005	<0.05
Rio Paguate Above the Confluence	6-1-82	<0.005	<0.05	<0.001	<0.005	<0.01	<0.0005	<0.005	0.004	0.03	0.010	<0.01	<0.005	<0.05
Rio Moquino Above the Confluence	6-1-82	<0.005	<0.05	<0.001	<0.005	<0.01	<0.0005	<0.005	0.003	0.02	0.006	<0.01	<0.005	<0.05
Rio Paguate Ford Crossing	6-1-82	<0.005	<0.05	<0.001	<0.005	<0.01	<0.0005	<0.005	0.004	0.02	0.004	<0.01	<0.005	<0.05
Paguate Reservoir	6-1-82	<0.005	0.06	<0.001	<0.005	<0.01	<0.0005	<0.005	0.009	0.05	0.006	<0.01	<0.005	<0.05
Jackpile #4	6-8-82	<0.005	<0.05	<0.001	<0.005	<0.01	<0.0005	<0.005	0.006	0.05	0.005	<0.01	<0.005	<0.05
Jackpile New Shop	6-1-82	<0.005	<0.05	<0.001	<0.005	<0.01	0.0006	<0.005	0.002	0.027	0.006	<0.01	<0.005	<0.05
	6-1-82	<0.005	<0.05	<0.001	<0.005	<0.01	<0.0005	0.014	0.005	0.01	0.49	<0.01	<0.005	<0.05

LOCATION OF GROUND WATER MONITORING STATIONS





LOCATION OF
SURFACE WATER MONITORING STATIONS

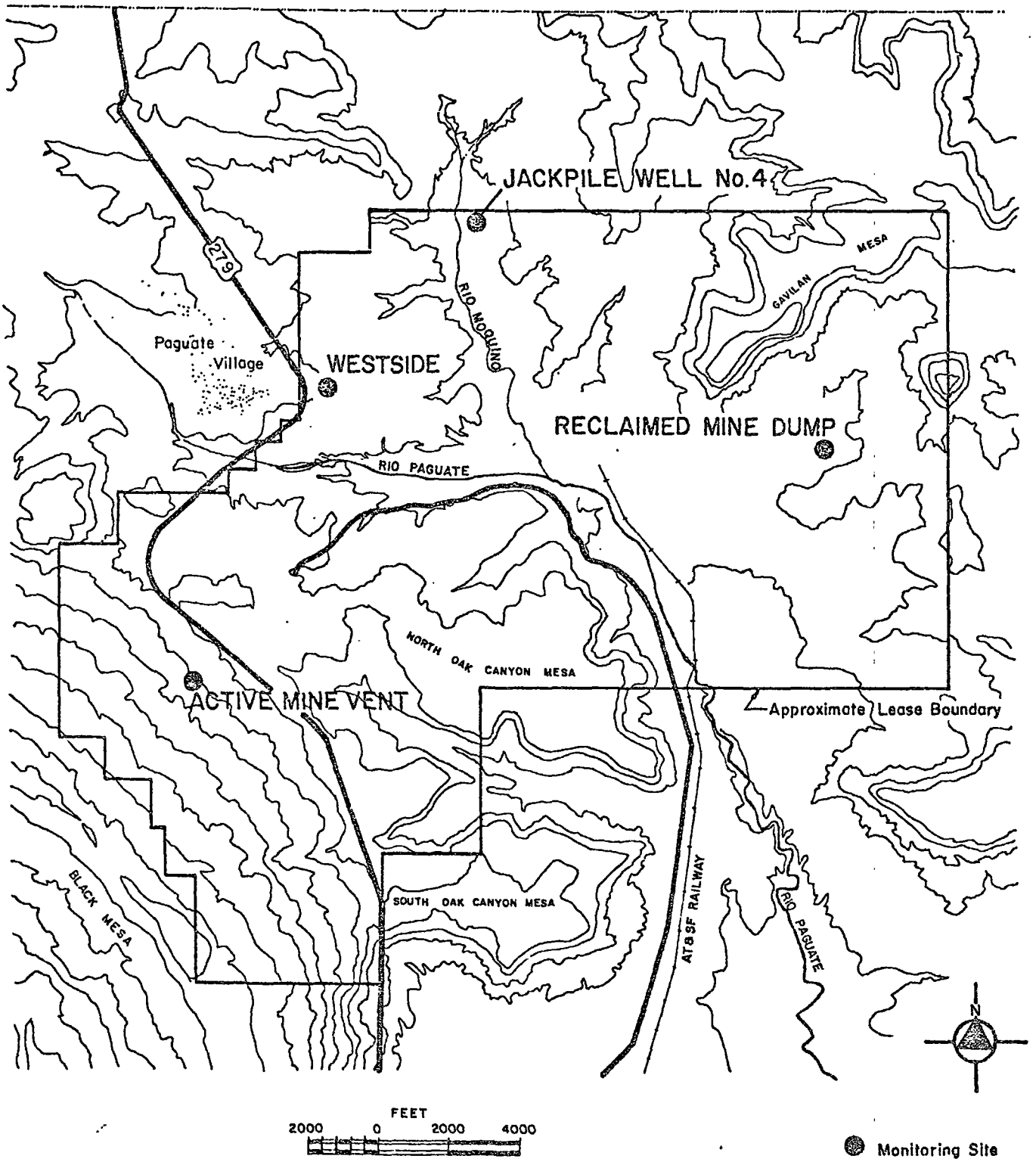
JACKPILE - AIR SAMPLING SURVEY

SECOND QUARTER, 1982

LOCATION	DATE	TOTAL PARTICULATE ugm/M^3	U-Nat. µCi/mlx10-15	Ra-226 µCi/mlx10-15	Th-230 µCi/mlx10-15	Pb-210 µCi/mlx10-15
1. Dump F	4/82	15.71	4.50	0.52	0.63	13.61
	5/82	16.58	0.79	1.16	0.53	7.36
	6/82	27.00	6.20	0.45	1.07	26.20
2. Mine Vent	4/82	13.46	2.07	0.10	0.34	36.54
	5/82	17.23	2.52	1.70	1.36	52.42
	6/82	24.64	3.72	0.10	0.97	39.61
3. West Gate	4/82	16.19	0.48	0.29	0.38	12.38
	5/82	17.80	1.07	1.15	0.34	43.90
	6/82	31.22	3.75	0.22	0.97	25.36
4. Well #4	4/82	15.38	2.07	0.10	0.24	9.13
	5/82	10.34	1.82	0.89	1.33	56.65
	6/82	21.20	4.03	0.17	0.52	23.56

JACKPILE-AMBIENT RADON SURVEY

SECOND QUARTER, 1982

LOCATION	DATE	Rn-222 pCi/L
1. Dump F	4/82	1.50
	5/82	1.56
	6/82	1.56
2. Mine Vent	4/82	1.77
	5/82	1.84
	6/82	1.81
3. Well #4	4/82	2.07
	5/82	2.04
	6/82	1.97
4. Westgate	4/82	0.95
	5/82	0.80
	6/82	0.32

LOCATION OF
AIR QUALITY MONITORING STATIONS