

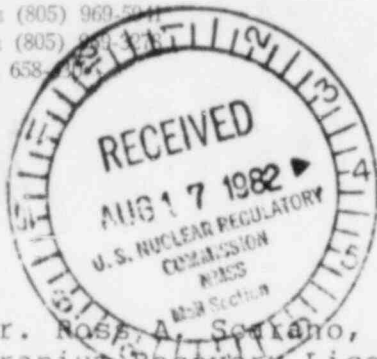
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PDR - Return  
396-SS  
OGLE PETROLEUM INC

40-8745

TELEPHONE (805) 969-3041  
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TELEX No. 658-4141

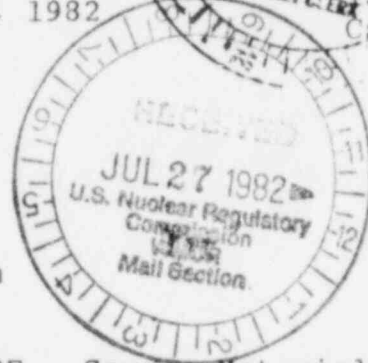
P.O. Box 5549  
559 SAN YSIDRO ROAD  
SANTA BARBARA, CALIFORNIA 93108



July 21, 1982

PLEASE DIRECT REPLY TO:  
150 N. Nichols Avenue  
Casper, Wyoming 82601

Mr. ~~Rose, A. Sciarano~~, Chief  
Uranium Recovery Licensing Branch  
Division of Waste Management  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555



RE: Source Material License  
SUA-1396  
Docket No. 40-8745

Subject: Quarterly Excursion Report

Dear Mr. Scarano:

In regard to License Condition No. 45 of the above referenced license, Ogle Petroleum Inc. (OPI) herewith submits a Quarterly Excursion Report. This report is being submitted for monitor wells M-14, M-17, and M-72, which were previously reported to be in excursion status.

MONITOR WELL M-14

Monitor well M-14 which is completed in the ore zone aquifer ("D" sand) was first reported to be in excursion status on February 12, 1982 by telephone and written notification was submitted to your office on February 16, 1982. Additional information was submitted in OPI's monthly report dated March 22, 1982 and in numerous telephone conversations between myself and your Mr. Terry L. Johnson. Additional information for M-14 is contained in Mr. Terry L. Johnson's memorandum dated April 12, 1982.

Following the detection of the excursion in monitor well M-14 on February 11, 1982, OPI began sampling this well on a weekly basis per NRC and DEQ requirements. The weekly samples collected from M-14 throughout the month of February exhibited substantial declines in the concentrations of conductivity, total carbonate/bicarbonate and chloride, the three parameters which had exceeded the upper control limits (UCL's). (This data and all excursion monitoring water quality data for M-14 is presented on the attached data sheets.) Sampling of M-14 was temporarily discontinued from February 25, 1982 to March 30, 1982 in order to stabilize the piezometric surfaces prior to the aquifer test of Mining Unit No. 2 which was scheduled to begin in March. OPI was

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given permission by the NRC to temporarily discontinue sampling of M-14 and all other monitor wells during this period. Additional information concerning this is contained in Mr. Terry L. Johnson's memorandum of April 12, 1982.

The pump test which had been scheduled to be conducted in March, 1982 was cancelled due to unstable aquifer conditions. On March 30, 1982 OPI collected water samples from M-14 and all other excursion monitor wells following the pump test cancellation. The water sample collected from M-14 on March 30, 1982 exhibited substantial reductions in the excursion parameters, to a point where all values were below the highest baseline concentrations. The pump test of Mining Unit No. 2 was then re-scheduled for the month of April. Again, OPI was given permission by the NRC and DEQ to temporarily suspend the sampling of M-14 and the other monitor wells prior to and during the pump test in order to stabilize the piezometric surfaces. The pump test scheduled in April, 1982 was cancelled due to fluctuations in the aquifers. All monitor wells were then sampled on April 27, 1982. The April 27, 1982 sample collected from M-14 again showed all excursion parameters to be below their highest baseline concentrations and that the excursion had not only been quickly controlled, but that M-14 had totally recovered from this excursion.

The pump test of Mining Unit No. 2 was then scheduled for the month of May, 1982. OPI again requested permission to temporarily halt the sampling of monitor wells during a stabilization period prior to the pump test during the month of May. The NRC and DEQ were notified by telephone of the sample results from M-14 and permission was granted to temporarily discontinue the sampling of the excursion monitor wells.

The pump test conducted in Mining Unit No. 2 during May, 1982 was successful. Sampling of all monitor wells resumed on June 2, 1982. As shown on the attached data sheets, M-14 has continued to produce baseline concentrations for all excursion parameters from March 30, 1982 to the present time.

The probable cause of the excursion detected in monitor well M-14 was due to overpumping the northeast portion of the wellfield, which in turn had caused a gradient to occur toward M-14. OPI adjusted the wellfield pumping patterns and rates immediately following the detection of the excursion and positive results were rapidly observed in the samples collected from M-14. This excursion demonstrates that OPI can rapidly control and correct any excursion occurring in this portion of the wellfield.

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MONITOR WELL M-17

Monitor well M-17 which is located within Mining Unit No. 1 and completed in the "B" sand which is the first aquifer overlying the production zone, was reported to be in excursion status on April 9, 1982. The NRC and DEQ were notified of this on April 9, 1982 by telephone and written notification was submitted in OPI's letter of April 9, 1982. The location of M-17 is shown on the enclosed monitor well location map. Additionally, enclosed are groundwater quality data sheets listing all available groundwater quality data for M-17.

This excursion was first detected in the March 30, 1982 sample from M-17. This sample indicated that both carbonate plus bicarbonate and chloride had exceeded their respective upper-control-limit-plus-20 percent values. A confirmation sample was then collected on April 5, 1982 which confirmed that M-17 was in excursion status. The sample results of the March 30, 1982 sample were not available to OPI until Monday, April 4, 1982 because of a large laboratory work load and the weekend of April 2nd and 3rd at which time the laboratory was closed.

Following the confirmation of the excursion, OPI began sampling M-17 on a weekly basis. The confirmation sample of April 5, 1982 exhibited a small increase in the carbonate/bicarbonate concentrations and a slight decrease in the concentration of chloride (refer to data sheets). Subsequent weekly samples collected in April showed a gradual reduction in both chloride and carbonate plus bicarbonate. The April 27, 1982 sample collected from M-17 indicated that M-17 had recovered from excursion status as chloride concentration dropped below its UCL, leaving total carbonate plus bicarbonate as the only parameter exceeding its UCL.

Continued weekly samplings throughout the month of May produced the same results, that is, chloride remained below its UCL, while total carbonate plus bicarbonate slightly exceeded its UCL. Sampling of M-17 was temporarily discontinued from May 11, 1982 until June 2, 1982 in order to conduct the pump test in Mining Unit No. 2. When sampling resumed on June 2nd, both total carbonate plus bicarbonate and chloride concentrations were found to be below their respective UCL's. At the time of the June 2, 1982 sampling, M-17 had officially come off of excursion status as M-17 had remained off excursion for a period of one month.

M-17 has remained off excursion status up to the most recent sampling. Samples collected in late June and early July indicate chloride concentrations are gradually increasing. A sample collected from M-17 on July 1, 1982 indicated that chloride had

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reached but not exceeded its UCL of 23. A confirmation sample was collected on July 9, 1982 which exhibited the same results, therefore confirming that M-17 is not again in excursion, although it remains borderline. OPI will closely monitor M-17 and notify the NRC if this well goes into excursion status.

EVAPORATION POND MONITOR WELL M-72

Evaporation pond monitor well M-72 which is located on the east side of Pond No. 2 - Cell No. 2 and completed in the first saturated unit below the surface, was reported to be technically in excursion status in OPI's letter of April 9, 1982. Enclosed are groundwater quality data sheets listing the excursion monitoring data for M-72.

Following the detection of the technical excursion in M-72, OPI began sampling this well on a weekly basis per NRC and DEQ requirements. The excursion parameters which exceeded their UCL's during this excursion were conductivity, chloride and sodium. These parameters were the only parameters which continued to exceed the UCL's in subsequent samplings.

As discussed in OPI's letter of April 9, 1982, OPI classified this excursion as technical in nature. Groundwater quality data from M-72 clearly indicated that the contamination of M-72 was due to contamination by drilling fluids and not due to a leak in the evaporation ponds. Furthermore, no liquids had been detected in the standpipes of the leak detection system which underlies the pond liners. Samples of the liquids contained in the pond were analyzed and compared with the analytical results from M-72 and no correlation existed between the two samples which would indicate a leak. The high concentrations of conductivity, chloride, and sodium in M-72 clearly demonstrates contamination by drilling fluids.

The NRC staff recently reviewed OPI's pond construction report which contains detailed information on the leak detection system. The NRC also reviewed the pond monitor wells baseline water quality data, well construction, lithological data, and monitoring data. In their review, they found that the leak detection system is a superior tool for monitoring leaks and that the pond monitor wells tend to be unreliable for monitoring leaks from the ponds. Following their review of this data, the NRC issued a License Amendment (No. 13) which modifies License Condition No. 47. Under this Amendment, the UCL's for the pond monitor wells have been deleted and OPI is required to sample and analyze water samples from the pond monitor wells on a quarterly basis with no UCL's imposed. Additionally, if liquids are detected in the standpipes of the leak detection system, OPI is required to sample these wells monthly until the leak is

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repaired. The monthly samples will be analyzed for the excursion parameters and no UCL's will be imposed.

M-72 is no longer in excursion status as License Amendment No. 13 deletes the UCL's for the evaporation pond monitor wells. OPI continues to sample M-72 on a weekly basis to satisfy the DEQ requirements. When current permitting activities for Mining Unit No. 2 are resolved, OPI will submit a request to the DEQ similar to Amendment No. 13 (License Condition No. 47).

CONCLUSION

This quarterly excursion report notifies the NRC that all wells (M-14, M-17, and M-72) previously reported to be in excursion status, are no longer on excursion status. At this time, no monitor wells are in excursion status at the Bison Basin Mine.

Should you or your staff have any questions concerning this report, please contact me at our Casper office.

Sincerely,  
OGLE PETROLEUM INC.

Bruce Lawson  
Bruce Lawson  
Environmental Engineer

BL:me  
Enclosure

cc: Document Management Branch  
Office of Inspection and  
Enforcement/Region IV  
Ed Francis, LQD/DEQ

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OGLE PETROLEUM INC.  
BISON BASIN PROJECT  
MONITOR WELL DATA

Monitor Well No. M-14

Mining Unit No. 1

SAMPLE DATE	CONDUCTIVITY (mmhos/cm)	CARBONATE PLUS BICARBONATE (mg/l)	CHLORIDE (mg/l)	SODIUM (mg/l)	SULFATE (mg/l)	URANIUM (mg/l)	WATER LEVEL (FEET)
Baseline	2200	127	29	437	850	0.015	N/A
UCL	2640	152	35	524	1020	0.018	N/A
UCL Plus 20%	3168	182	42	629	1224	0.022	N/A
08/12/81	2120	122	28	402	848	0.016	119.30
09/03/81	2300	127	28	404	860	0.017	166.40
09/16/81	2010	122	27	418	770	-.005	203.10
10/01/81	2080	124	26	398	670	0.013	200.80
10/14/81	2150	127	26	417	785	0.014	183.50
10/29/81	2390	122	31	418	645	0.015	201.00
11/11/81	2450	129	30	363	815	0.011	189.30
11/25/81	2350	122	27	393	800	0.019	168.60
12/03/81	2150	124	29	432	795	0.015	228.20
12/09/81	2290	124	26	405	805	0.022	186.60
12/14/81	2300	127	27	446	885	0.024	113.00
12/23/81	1950	122	29	376	800	0.020	210.90
01/08/82	1725	137	26	411	850	-.001	179.80
01/13/82	1775	134	28	414	885	0.004	172.80
01/21/82	1890	122	28	435	830	-.005	166.50

NOTE: "-" Before number means not detected at level indicated. Water level is the distance from top of well casing to the water surface. N/A means not applicable. Baseline means high baseline. UCL means upper control limit. "0" means unable to collect sample due to pump or other problems.

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OGLE PETROLEUM INC.  
BISON BASIN PROJECT  
MONITOR WELL DATA

Monitor Well No. M-14

Mining Unit No. 1

SAMPLE DATE	CONDUCTIVITY (mmhos/cm)	CARBONATE PLUS BICARBONATE (mg/l)	CHLORIDE (mg/l)	SODIUM (mg/l)	SULFATE (mg/l)	URANIUM (mg/l)	WATER LEVEL (FEET)
Baseline	2200	127	29	437	850	0.015	N/A
UCL	2640	152	35	524	1020	0.018	N/A
UCL Plus 20%	3168	182	42	629	1224	0.022	N/A
01/28/82	1900	126	28	467	735	-.005	190.10
02/04/82	2100	139	90	451	760	-.005	216.80
02/11/82	3400	163	275	592	1110	0.156	205.00
02/18/82	2950	169	214	577	1116	0.059	226.40
03/30/82	1900	119	30	382	755	0.010	261.00
04/27/82	2080	119	27	419	765	-.005	239.00
06/02/82	1900	119	27	382	835	-.005	191.00
06/17/82	1900	124	27	360	830	-.005	216.30
07/01/82	1810	122	30	410	724	-.005	220.20

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NOTE: "-" Before number means not detected at level indicated. Water level is the distance from top of well casing to the water surface. N/A means not applicable. Baseline means high baseline. UCL means upper control limit. "0" means unable to collect sample due to pump or other problems.

OGLE PETROLEUM INC.  
BISON BASIN PROJECT  
MONITOR WELL DATA

Monitor Well No. M-17(UPPER)

Mining Unit No. 1

SAMPLE DATE	CONDUCTIVITY (mmhos/cm)	CARBONATE PLUS BICARBONATE (mg/l)	CHLORIDE (mg/l)	SODIUM (mg/l)	SULFATE (mg/l)	URANIUM (mg/l)	WATER LEVEL (FEET)
Baseline	2960	103	19	549	1255	0.017	N/A
UCL	3552	124	23	659	1506	0.027	N/A
UCL Plus 20%	4262	149	28	791	1807	0.032	N/A

08/12/81	2700	73	17	487	1140	0.025	74.50
09/03/81	2700	91	19	481	1145	0.023	70.90
09/16/81	2400	64	17	459	1050	-.005	93.50
10/01/81	2550	90	18	462	900	0.008	94.60
10/14/81	2700	93	16	497	1200	0.016	80.40
10/29/81	3000	90	16	489	950	0.015	115.00
11/11/81	2950	95	16	457	1095	0.012	116.30
11/25/81	2740	107	16	466	1047	0.029	93.50
12/03/81	2650	117	18	506	980	0.024	106.60
12/09/81	2750	112	15	480	970	0.027	106.50
12/14/81	2700	110	16	496	1020	0.030	121.00
12/23/81	2310	102	17	473	1080	0.028	138.10
01/08/82	2100	101	19	487	1115	-.001	128.20
01/21/82	2250	93	16	512	1080	-.005	114.80
02/04/82	2300	118	16	498	1050	-.005	122.50

NOTE: "-" Before number means not detected at level indicated. Water level is the distance from top of well casing to the water surface. N/A means not applicable. Baseline means high baseline. UCL means upper control limit. "0" means unable to collect sample due to pump or other problems.

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OGLE PETROLEUM INC.  
BISON BASIN PROJECT  
MONITOR WELL DATA

Monitor Well No. M-17 (UPPER)

Mining Unit No. 1

SAMPLE DATE	CONDUCTIVITY (mmhos/cm)	CARBONATE PLUS BICARBONATE (mg/l)	CHLORIDE (mg/l)	SODIUM (mg/l)	SULFATE (mg/l)	URANIUM (mg/l)	WATER LEVEL (FEET)
Baseline	2960	103	19	549	1255	0.017	N/A
UCL	3552	124	23	659	1506	0.027	N/A
UCL Plus 20%	4262	149	28	791	1807	0.032	N/A
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02/18/82	2230	112	20	509	1150	-.005	137.50
03/30/82	2450	176	51	536	1000	-.005	122.40
04/05/82	2610	191	50	514	1145	0.011	108.80
04/12/82	2500	141	27	495	1100	0.017	0.00
04/19/82	2250	147	27	505	1140	0.010	0.00
04/27/82	2175	144	22	465	1060	0.023	0.00
05/04/82	2225	144	22	479	1115	-.001	0.00
05/11/82	2175	141	22	486	1050	-.001	0.00
06/02/82	2300	112	20	495	1115	-.005	0.00
06/17/82	2290	129	21	478	1135	-.005	74.00
06/24/82	2300	129	22	482	930	-.005	72.60
07/01/82	2210	127	23	399	1180	-.005	71.20
07/09/82	2250	129	23	509	870	-.005	88.50

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OGLE PETROLEUM INC.  
BISON BASIN PROJECT  
MONITOR WELL DATA

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Monitor Well No. M-72 (Evaporation Ponds)

Mining Unit No. \_\_\_\_\_

SAMPLE DATE	CONDUCTIVITY (mmhos/cm)	CARBONATE PLUS BICARBONATE (mg/l)	CHLORIDE (mg/l)	SODIUM (mg/l)	SULFATE (mg/l)	URANIUM (mg/l)	WATER LEVEL (FEET)
Baseline	6600	394	98	79	283	0.007	N/A
UCL	7920	473	118	95	340	0.008	N/A
UCL Plus 20%	9504	568	142	114	408	0.010	N/A
11/25/81	10500	72	114	100	-1	-.005	52.20
02/18/82	8000	144	125	95	-1	-.005	52.50
03/30/82	8800	58	160	100	-1	-.005	52.70
04/12/82	3620	34	173	180	6	-.005	76.50
04/19/82	6200	108	224	219	12	-.005	75.40
04/26/82	8200	139	239	239	2	-.005	74.00
05/04/82	7850	67	224	201	3	-.005	74.00
05/11/82	8395	62	244	212	7	-.005	72.35
05/20/82	8600	84	215	251	10	-.005	71.60
06/03/82	9100	62	283	233	4	-.005	70.30
06/10/82	9000	62	273	226	5	-.005	71.10
06/17/82	8800	108	283	266	5	-.005	71.30
07/01/82	9050	120	312	267	4	-.005	72.20

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LEGEND:

Horizontal Excursion Monitor Wells:

- M-8      M-11      M-14
- M-9      M-12      M-15
- M-10     M-13      M-16

Upper Aquifer Vertical Excursion Monitor Wells:

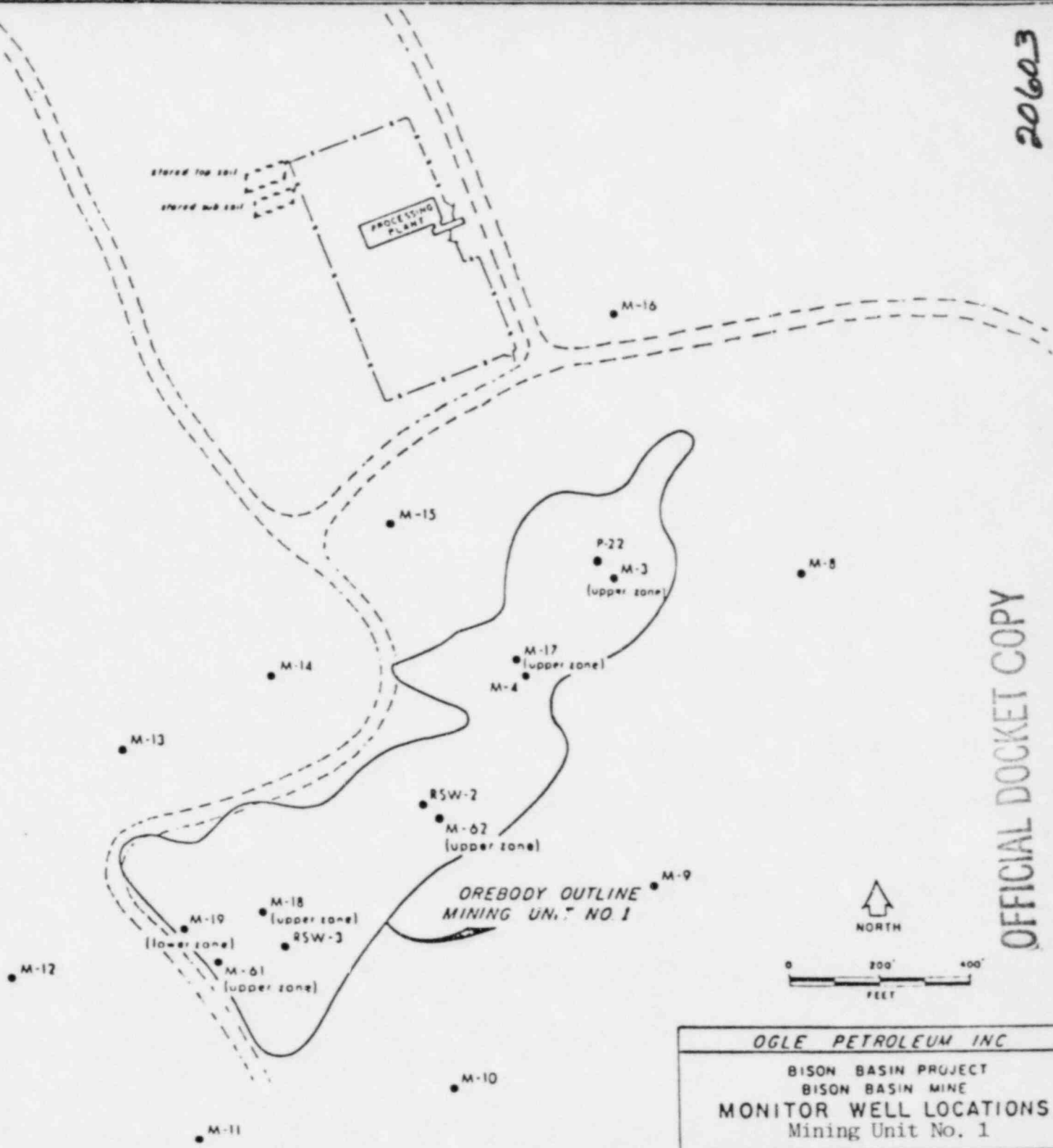
- M-3 (U)    M-18 (U)    M-62 (U)
- M-17 (U)    M-61 (U)

Lower Sands Vertical Excursion Monitor Wells:

- M-19 (L)

Restoration Sampling Wells:

- P-22      RSW-2
- M-4        RSW-3



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BISON BASIN PROJECT BISON BASIN MINE	
MONITOR WELL LOCATIONS Mining Unit No. 1	
DATE	FIGURE 2