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MINES AND PETROLEUM BULLETIN

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MINING ACTIVITY

Northwestern - Lee Brothers Dredging Company, Inc., Tin City, Alaska, have produced several tons of cassiterite concentrates from their operation on Cape Creek.

Central - BECS Corporation have announced that they will be mining and milling ore for shipment to smelters. The new operation is to start in October. Their address is Box 533, Fairbanks, Alaska.

Southwestern - Falconbridge Nickel Mines, Ltd., did geological work and magnetometer surveys on its Kasma Creek copper property this year, and plan to return for further work during succeeding field seasons. The property is located south of Lake Clark in the Iliamna area and is considered to be one of the better copper prospects of this State.

OIL AND GAS NEWS

Eight applications for permits to drill were approved by the Division's Petroleum Branch during the month:

East Trading Bay State #1 - Union Oil Company of California, Operator - 660' FNL and 660' FWL, Section 11, T9N-R13W, S.M. This location is about 1-3/4 miles southeast of the discovery well in the Trading Bay Field.

Redoubt Shoal State 22064 #1 - Pan American Petroleum Corp., Operator - 660' FNL and 660' FEL, Section 26, T7N-R14W, S.M. This location is about three miles southeast of West Foreland.

Trading Bay State #A-1 - Union Oil Company of California, Operator - Surface location: 1612' FSL and 564' FEL, Section 4, T9N-R13W, S.M. Bottom hole location: 1980' FNL and 660' FEL, Section 4, T9N-R13W, S.M. This bottom hole location is an east offset to the Trading Bay Field discovery well and the first well drilled from the Monopod.

Ivan River #23-12 - Standard Oil Company of California, WOI, Operator - Surface location: 661' FSL and 679' FEL, Section 1, T13N-R9W, S.M. Bottom hole location: 900' FSL and 1100' FEL, Section 12, T13N-R9W, S.M. This location is about one mile southwest of the Ivan River #44-1, a recent gas discovery.

Trading Bay State #A-2 - Union Oil Company of California, Operator - Surface location: 1613' FSL and 570' FEL, Section 4, T9N-R13W, S.M. Bottom hole location: 1980' FSL and 1980' FEL, Section 4, T9N-R13W, S.M. This location is the second development well from the Monopod and is the south offset of the Trading Bay Field discovery well.

Drift River State #1 - Atlantic Richfield Company, Operator - 1980' FSL and 1980' FEL, Section 11, T5N-R17W, S.M. This location is about 4½ miles south-west of the mouth of Drift River and about 10 miles west of the north end of Kalgin Island.

MGS State 17595 #9 - Pan American Petroleum Corporation, Operator - Surface location: 1934' FNL and 544' FWL, Section 31, T9N-R12W, S.M. Bottom hole location: 660' FSL and 1980' FEL, Section 30, T9N-R12W, S.M. This location is an east offset to the MGS State 17595 #5 well and will be a development well from MGS Platform "B".

Granite Point State 17587 #3 - Pan American Petroleum Corporation - Operator - Surface location: 2050' FSL and 2019' FWL, Section 31, T11N-R11W, S.M. Bottom hole location: 660' FSL and 660' FWL, Section 30, T11N-R11W, S.M. This location is for a development well at the north end of the Granite Point Field. It will be the first well from the Pan American Granite Point platform "B".

Drilling Activity:

<u>Operator</u>	<u>Well Name and Number</u>	<u>Status</u>
Atlantic Richfield Company	Drift River State #1	Location
Atlantic Richfield Company	Middle River State #2	Abandoned
Atlantic Richfield Company	Susie Unit #1	Prep. to Re-enter
Austral Oil Company	Federal #1-3	Location
Cities Service Oil Company	Painter Creek #1	Location
Hunt Oil Company	Kalgin Island State #1	Drilling
Mobil Oil Corporation	Tower #1	Drilling
Pan American Petroleum Corp.	Cook Inlet State 17591 #1	Drilling
Pan American Petroleum Corp.	Cook Inlet State 17593 #1	Location
Pan American Petroleum Corp.	East MGS 18751 #1	Drilling
Pan American Petroleum Corp.	Granite Point State 17587 #3	Location
Pan American Petroleum Corp.	MGS 17595 #5	Completing
Pan American Petroleum Corp.	MGS 17595 #8	Drilling
Pan American Petroleum Corp.	MGS 17595 #9	Location
Pan American Petroleum Corp.	North MGS State 18745 #1-A	Drilling
Pan American Petroleum Corp.	Redoubt Shoal State 22064 #1	Drilling
Placid Oil Company	State 17580 #1	Drilling
Shell Oil Company	West Foreland Unit #4	Drilling
Shell Oil Company	MGS A-11-12	Drilling
Standard Oil Co. of California	Ivan River #44-1	Comp. Gas Well
Standard Oil Co. of California	Ivan River #23-12	Drilling
Texaco, Inc.	Coal Bay State #1	Location
Texaco, Inc.	Nicolai Creek Unit #2	Drilling
Texaco, Inc.	Trading Bay State #1	Comp. Oil Well
Texaco, Inc.	Trading Bay State #2	Location
Texaco, Inc.	Trading Bay State #3	Location
Trinity Canadian Drilling Co.	Homesteaders #1	Suspended
Union Oil Co. of California	East Trading Bay State #1	Drilling
Union Oil Co. of California	Kenai Unit #41-2	Abandoned
Union Oil Co. of California	Trading Bay State #A-1	Suspended
Union Oil Co. of California	Trading Bay State #A-2	Drilling

Production - September 1966

<u>Field</u>	<u>Zone</u>	<u>Prod. Wells</u>	<u>Oil, Bbls.</u>	<u>Gas, MCF #</u>
Swanson River Field	Hemlock	48	929,940 58,606,418*	455,717 16,114,053*

Field	Zone	Prod. Wells	Oil, Bbls.	Gas, MCF #
	Kenai	1		16,380
				11,543,831
	Injection, Hemlock	8		2,219,674
				35,457,493*
Middle Ground Shoal	Hemlock and Kenai	13 (Incl. 4 duals as 8 wells)	300,572 1,488,037*	140,453 597,825*
Kenai	Kenai	16 (Incl. 6 duals as 12 wells)		2,509,474 37,882,939*
Sterling	Kenai	1		12,226 367,247*

Swanson River gas at pressure base 15.025 psi. All other is 14.65 psi.
 * Cumulative to October 1, 1966

Conservation Order #31

RE: THE APPLICATION OF THE PAN-AMERICAN PETROLEUM CORPORATION, Covering the development of part of the MGS Field, for an exception to Section 2061.1 of the Alaska Oil and Gas Conservation Regulations, Title 11, AAC	Conservation Order #31 October 19, 1966 (rehearing of Conservation Order #26 - August 4, 1966)
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IT APPEARING THAT:

1. The Pan American Petroleum Corporation submitted a petition dated August 24, 1966 for a rehearing of Conservation Order #26 involving an exception to Section 2061.1 of the Alaska Oil and Gas Conservation Regulations, Title 11, AAC.
2. Notice of rehearing was published in the Anchorage Times on September 12, 1966.
3. Personal service of the notice of hearing was made to all affected parties.
4. A rehearing was held in the City Council Chambers of the Z.J. Loussac Library, Anchorage, Alaska on September 23, 1966 commencing at 9:30 a.m.
5. Testimony in support of the petition was given by Pan American Petroleum Corporation and objection to the petition was presented by Shell Oil Company.

AND IT FURTHER APPEARING that certain exceptions to Section 2061.1 of the Alaska Oil and Gas Conservation Regulations included in Conservation Order #26 should be granted because of the hazards and hardships of developing multiple reservoirs in this offshore area from permanent platforms by means of directed holes.

AND IT FURTHER APPEARING that reservoir data presented at the rehearing is insufficient to determine that a change in the existing acreage spacing requirements of Section 2061.1 of the Alaska Oil and Gas Conservation Regulations is necessary.

AND IT FURTHER APPEARING that certain amendments should be made to clarify or modify the rules listed in Conservation Order #26. These amendments are incorporated into the restatement of the rules listed below.

NOW, THEREFORE, IT IS ORDERED that the area described as follows is affected by this order.

T9N-R12W, S.M.
Section 19: S/2
Section 30: All
Section 31: All

T9N-R13W, S.M.
Section 25: E/2
Section 36: E/2

T8N-R13W, S.M.
Section 1: All
Section 2: E/2
Section 11: SW/4, E/2
Section 12: SW/4, N/2
Section 13: W/2
Section 14: All
Section 23: N/2
Section 24: NW/4

The following special rules apply to the aforementioned area:

RULE 1 Spacing Footage - Oil wells may be completed closer than 500 feet to the section lines or quarter section lines and may be completed closer than 1000 feet to any well drilling to or capable of producing from the same pool except that no oil well shall be completed at a distance of less than 500 feet from a lease line where ownership changes.

RULE 2 Spacing Acreage - No more than one oil completion in a pool as designated in Rule 3 shall be allowed in each governmental quarter section or governmental lot corresponding thereto.

RULE 3 Pool Designation - Until ordered otherwise, the vertical producing intervals shall be divided into seven (7) pools which will correlate with the following intervals in the Pan American Petroleum Corporation State 17595 #4 well.

MGS Oil Pool A - 5300' to 5720'

MGS Oil Pool B - 5720' to 6100'

MGS Oil Pool C - 6100' to 6400'

MGS Oil Pool D - 6400' to 6750'

MGS Oil Pool E - 6750' to 7050'

MGS Oil Pool F - 7050' to 7375'

MGS Oil Pool G - 7375' to 9215'

RULE 4 Permissible Commingling - A well may be completed in and produced simultaneously from any one or more, or from all of the above seven pools provided that the production from the pools is adequately segregated in the well bore and produced at the surface so that the following requirements may be met:

- a. Production from MGS Oil Pool A, as defined in Rule 3, must be segregated in the same well bore from production originating from any other pool.

b. Production from MGS Oil Pool B, C, and D, as defined in Rule 3, may be commingled in the same well bore, but must be segregated from any other pool.

c. Production from MGS Oil Pools E, F, and G, as defined in Rule 3, may be commingled in the same well bore, but must be segregated from production from any other pool

This Order is made pursuant to Section 2061.3 of the Alaska Oil and Gas Conservation Regulations and shall continue in force for a period of not more than eighteen (18) months from the date of Conservation Order #26 provided, however, that wells which have been drilled and completed and are being produced in compliance with the provisions of this Order, or any other Order of the Committee, may be produced in compliance with the terms of said Order notwithstanding the fact that such Order may have expired or have been terminated, or that there may be pending a request that said Order be modified or terminated, until such time as the Committee shall, after notice and hearing, enter an Order establishing different rules, requirements, or provisions. The Committee on its own motion, or at the request of any interested party, may at any time during the temporary period set this matter for further hearing for the purpose of determining whether the present Order should be amended or modified. The Committee will, in the absence of a request of an interested party for a hearing at an earlier date, set this matter for hearing for a date which shall be not later than 30 days prior to the date of the expiration of this Order, for the purpose of determining the proper spacing and field rules which should then be applicable to this field.

DONE at Anchorage and Juneau, Alaska and dated October 19, 1966, (and signed by all four Committee members).

Corrected Bottom Hole Locations: Several wells have varied from the intended bottom hole locations and the corrected locations are shown in the following list:

Shell Oil Company	MGS A-43-11	1954' FSL & 1067' FEL, Sec. 11, T.8N., R.13W.
Shell Oil Company	MGS A-32-11	1434' FNL & 1370' FEL, Sec. 11, T.8N., R.13W.
Shell Oil Company	MGS A-23-12	2034' FSL & 1751' FWL, Sec. 12,, T.8N., R.13W.
Shell Oil Company	MGS A-32-14	2432' FNL & 1757' FEL, Sec. 14, T.8N., R.13W.
Shell Oil Company	MGS A-34-14	443' FSL & 2032' FEL, Sec. 14, T.8N., R.13W.
Shell Oil Company	MGS A-13-1	1898' FSL & 1214' FWL, Sec. 1, T.8N., R.13W.
Shell Oil Company	MGS A-11-1	501' FNL & 1531' FWL, Sec. 1, T.8N., R.13W.
Shell Oil Company	Forelands Channel 1-A	1626' FNL & 3890' FWL, Sec. 30, T.8N., R.13W.
Shell Oil Company	Forelands Channel #1	394' FNL & 968' FWL, Sec. 30, T.8N., R.13W.

Union Oil Company	Kustatan #1	327' FSL & 2687' FWL, Sec. 18, T.8N., R.13W.
Pan American	MGS 17595 #7	656' FSL & 804' FWL, Sec. 31, T.9N., R.13W.
Pan American	Granite Point-Tyonek State 17588 #1	954' FSL & 119' FEL, Sec. 29, T.11N., R.11W.
Pan American	N. Redoubt State 17579 #1	612' FNL & 898' FWL, Sec. 4, T.8N., R.13W.
Standard Oil Company	Falls Creek Unit #2	859' FNL & 2576' FEL, Sec. 22, T.1N., R.13W.

PROSPECTORS ASSISTANCE PROGRAM

Several participants in the Prospectors Assistance Program have turned in their reports of work accomplished this season and have been reimbursed. Those participants who expect to be reimbursed before the end of the year should submit their reports as soon as possible. Their reports should contain all the receipted bills accumulated while on the program, a summary of expenses, maps of the area showing where they prospected, assay returns, number of claims staked and the diary. Much time is saved if the report is complete, thus eliminating correspondence before reimbursement.

DM&M GEOLOGIC AND GEOCHEMICAL REPORTS IN SHORT SUPPLY

The demand for this Division's Geologic and Geochemical reports published prior to this year is beginning to exceed the supply. Three of our geologic reports and one geochemical report are already exhausted and several others will also be "out of print" soon. Negotiations are under way for reprinting, but it will be several months before this can be accomplished.

URANIUM SEARCH ON AGAIN

Fifteen hundred uranium claims have been filed in one county in Utah compared to 137 in 1965. This is indicative of current activity in other states and Canada. Rafford L. Faulkner, Director of the Atomic Energy Commission's Raw Materials Division told the coal industry at an Oak Ridge meeting that, "An industry survey indicates that exploration and development drilling is planned at an average annual rate of nearly 6-million feet for a three and a half year period through 1969, nearly 3 times the drilling rate planned only a year ago".

In an address before the American Mining Congress at Salt Lake City recently, AEC Commissioner Wilfrid E. Johnson gave an impressive picture of the increasing demand for uranium that will occur in the coming years. In short, we are back in the uranium prospecting business. This is due to the planned construction of many nuclear power plants. Mr. Johnson

said the most recent estimate of nuclear plants to be built "indicates a probable installed capacity of atomic plants in excess of 10,000 megawatts by 1970-71 and between 80,000 and 110,000 megawatts by 1980 in this country". Continuing from this, he estimated uranium requirements as follows: "...the cumulative total uranium required by 1980 is 172,000 tons of U_3O_8 . Annual requirements in the United States are estimated to rise from 5000 tons in 1970 to 28,000 tons in 1980. By 1980, requirements for the entire free world, including the United States, are expected to be in the neighborhood of 65,000 tons annually. The present free world production rate of about 18,000 tons per year will thus have to be more than tripled by 1980".

Concerning existing reserves, prices, and production, he spoke as follows: "We currently estimate these (reserves) to be approximately 145,000 tons of U_3O_8 at a price of \$8 per pound or less, or 190,000 tons at prices up to \$10 per pound. The latter figure is a little more than the currently projected domestic requirements through 1980. Presently, known free world reserves would meet world needs for a few years beyond 1980. However, we fully believe and expect that the mining industry, both in the U.S. and abroad, will make large additions to these reserves as the developing market encourages expanded exploration".

"We propose to continue, through the entire transition period provided for in the private ownership legislation (to July 1, 1973), to base the natural uranium feed component in the schedule of charges for enriched uranium on a price of \$8 per pound of U_3O_8 rather than to reduce the charge in 1969 to relate it to the AEC procurement price for that period which is now expected to average between \$5.50 and \$6.00 per pound".

"According to the records of the U.S. Bureau of Mines in 1960, the peak year of domestic uranium production, the uranium ore produced had a value of \$152 million. Among the metals this was exceeded only by iron ore production with a value of \$723 million, and copper valued at \$693 million. The requirements forecast for nuclear power stations during the 1970's promise to return uranium to that position and to maintain or improve it. By 1980 the value of uranium ore produced in the U.S. should exceed its earlier peak and it will still be expanding".

Mr. Johnson concluded his address with an appeal to the mining industry to start acting now to assure the timely development of the uranium supplies which will permit nuclear power to play its full role in fulfilling the increasing power need.

Serious inquiries have been received lately at the Juneau Division of Mines and Minerals office as to uranium possibilities in Alaska. Activity in this field is beginning to stir.

NEW PUBLICATIONS

U.S. Geological Survey Professional Paper 550-C, Geological Survey Research 1966, Chapter C, 267 pages of short papers on geology and related subjects. For sale by the U.S. Government Printing Office, Washington, D.C., 20402, price \$2.25. One article on stratigraphy of the southwestern Wrangell Mountains and one on the occurrence of pyrophyllite in the Kekiktuk Conglomerate of the Brooks Range are presented in the publication.

E. AND M.J. METAL MARKET PRICES

	October 24 1966	Month Ago	Year Ago
Copper, per lb.	36.6¢	36.1¢	35.15¢
Lead, per lb.	14¢	15¢	16¢
Zinc, per lb.	15¢	15¢	14½¢
Tin, per lb.	154.4¢	154.65¢	182.4¢
Nickel, per lb.	77.75¢	77.75¢	78¢
Platinum, per oz.	\$100	\$100	\$97-100
Mercury, per flask	\$540-555	\$470-490	\$600-610
Antimony ore, per unit	\$4.55-5.55	\$4.55-5.55	\$6.00-7.25
Beryllium powder, 98% per lb.	\$54-66	\$54-66	\$54-66
Chrome ore, per long ton	\$31-35	\$31-35	\$31-35
Molybdenum Conc., per lb.	\$1.55	\$1.55	\$1.55
Titanium ore, per ton	\$21-24	\$21-24	\$21-24
Tungsten ore, per unit	\$43.00	\$43.00	\$27.25-27.75
Silver, New York, per oz.	129.3¢	129.3¢	129.3¢
Silver, U.S. Treasury, per oz.	129.29¢	129.29¢	129.29¢