

STATE OF ALASKA
Department of Natural Resources
DIVISION OF MINES AND GEOLOGY

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MINES AND PETROLEUM BULLETIN

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MERRY CHRISTMAS

HAPPY NEW YEAR

MINING NEWS

Aerial photography on a 200-mile stretch of the proposed route of the Alaska Railroad has been completed by the Federal Department of Transportation. The survey was made at the request of the State of Alaska. A stretch between Dunbar southwest of Fairbanks and the Melozitna River to the northwest were covered. Further photography is planned when snow cover conditions are more favorable. This item is from the Anchorage Daily Times.

The Anchorage Daily Times reported that the Bureau of Land Management has set aside land near Kotzebue for possible use as the site of a conveyor belt to carry copper ore barged down the Kobuk River from Kennecott Copper Co. mines at Bornite.

NEW MINERAL REGULATIONS

The AGI Report, November 11, 1968, notes that the Department of the Interior has proposed to add a new Part 23 to the Federal Code relating to surface exploration and mining of Leasing Act minerals and reclamation of lands after mining these minerals. The purpose of the regulations is to minimize damage to the environment. The regulations would call for an application for permission to conduct exploratory operations and a technical examination of prospective surface exploration and mining operations at the time of application. Operators would be required to submit exploration and mining plans to a mining supervisor before beginning operations. The mining plans would include a design for the necessary impoundment, treatment or control of all runoff water and drainage from workings; a statement of proposed manner and length of time to reclaim areas disturbed by mining operation, and where applicable, proposed method of revegetation.

Interested persons were given until December 2 to submit written comments, suggestions or objections to the Secretary of Interior, Washington, D.C. 20240. The American Mining Congress has requested a 60-day extension on the deadline. At the time of this writing it is not known if the extension will be granted. A complete transcript of the proposed regulations appeared in the Federal Register, Vol. 33, No. 215, November 2, 1968.

The proposed regulations apply to Leasing Act minerals as defined by the Mineral Leasing Act of 1920. The regulations at this time do not apply to locatable minerals as defined by the General Mining Law of 1872. The Leasing Act minerals include oil and gas, coal, potassium, sodium, phosphate and oil shale, native asphalt, solid and semi-solid bitumen, and bituminous rocks including oil impregnated rocks or sand which are mined before the oil is extracted. These proposed

regulations do not affect oil and gas leasing, or minerals on Indian lands. Similar regulations have been proposed for mining on Indian lands; the same deadline for submitting comments applies.

The Bureau of Land Management has published guidelines for use in Alaska in regard to oil and gas exploration operations. The standards established do not apply to exploration operations conducted pursuant to oil and gas leases.

The guidelines include but are not limited to geophysical operations, road and trail construction, cross-country transit by vehicle over public domain or other activity which might alter the natural environment.

A person desiring to conduct oil and gas exploration must file a Notice of Intent with the District Office of the Bureau of Land Management and post a surety bond in the amount of \$5,000. Upon completion of operations a Notice of Completion of Oil and Gas Exploration Operations must be filed within 90 days after termination of the project. The District manager will release the bond when it is ascertained that the terms and conditions of the Notice of Intent to Conduct Oil and Gas Exploration Operations have been complied with.

The following are guidelines set forth by the Bureau of Land Management for oil and gas exploration activities:

1. Exploration activities employing wheeled or tracked vehicles will be conducted so as to minimize surface damages, preferably when the ground is frozen.

Exploration activities conducted at other times may require special provisions by the District manager.

2. Existing trails will be used to the fullest extent possible. Average trail width will be no greater than 20 feet. Surface of the ground may be cleared of timber, stumps and snags. Disposal and cleanup of all timber, stumps and snags will be accomplished as soon as feasible under the direction of the District Manager. Due care will be exercised to avoid scarring or removal of ground vegetative cover.

3. All operations shall be conducted in such a manner so as not to block any drainage systems or change the character, or cause the pollution or siltation of any streams, lakes, ponds, water holes, seeps and marshes, or damage fish and wildlife resources. Proposed stream crossings will be reviewed in advance and approved by the District Manager. Cuts or fills causing, among others, any of the above mentioned problems will be repaired immediately as requested by the District Manager.

4. Surface damage which induces soil movement and/or water pollution may be considered a damage subject to such corrective action as may be required by the District Manager as well as assuring compliance with State water quality standards.

5. Vegetation will not be disturbed within 300 feet of any specially designated waters, except at approved stream crossings.

6. Shot holes must be at least 1/4 mile from any designated fishery waters except where variances may be made by the appropriate regulatory agency.

7. Trails and campsites must be kept clean. All garbage and foreign debris must be eliminated by removal, burning, or burial, unless otherwise authorized.

8. The operator shall protect all survey monuments, witness corners, reference monuments and bearing trees against destruction, obliteration or damage. He shall, at his expense, re-establish damaged, destroyed or obliterated monuments and corners in their exact original position. A record of the re-establishment shall be submitted to the District Manager.

9. The operator, his contractor, servants, agents and employees shall make every reasonable effort to prevent, control or suppress any fires on the operating area, as well as reporting immediately to the District Manager the location, size and assistance needed to suppress such fires. The operator will also inform the District Manager immediately of all fires, regardless of location, noted or suppressed by independent action.

10. The operator will report the location and logs for all drill holes which encounter "water sands" in areas designated by the District Manager at the time the "Notice of Intent" is approved.

COAL TO JAPAN?

Alaska has long viewed Japan as a market for coal. With this in mind it is interesting to note in the October issue of International Coal Trade that Japan's requirement for imported coal has risen by 72 percent since 1966. The largest demand is for coking coals.

In Alaska coking coals are reported in the Bering River Coal Field, where some exploration is underway; the Matanuska Coal Field, Chickaloon section; and some of the coal beds on the North Slope.

NEW USGS PUBLICATIONS

The following circular has recently been released by the USGS and may be obtained free at the various USGS and Division of Mines and Geology offices.

Circular 592, "Interpreting Pan-Concentrate Analyses of Stream Sediments in Geochemical Exploration for Gold." A useful method for collecting and processing samples of stream sediments to determine whether gold is present in areas of moderate size employs the use of the old prospectors' gold pan, according to scientists of the Geological Survey, Department of the Interior. Comparison of different sampling and analytical methods show that only a relatively few samples from a stream are sufficient to distinguish between "barren" and "mineralized" areas. The authors, R. P. Fischer and F. S. Fisher, say that the analytical results of this type of sampling can be used to determine easily and quickly whether more intensive search for gold deposits might be justified.

The following open file reports have been released by the USGS and are available for consultation in the Alaskan USGS and State Division of Mines and Geology offices. Material from which copies of these open file reports can be made at private expense is available in the Alaska Geology Branch, USGS, 345 Middlefield Road, Menlo Park, California 94025.

Geochemical investigations of Antimony Creek antimony prospect, northern Talkeetna Mountains, Alaska, by C. C. Hawley, A. L. Meier, and R. L. Miller. 9 p., including 2 test figs.

Historic Metallic mineral resources maps of nine Alaska quadrangles (Holy Cross, Kotzebue, Melozitna, Norton Bay, Nulato, Prince Rupert, Survey Pass, Taku River, Unalakleet), compiled by Edward H. Cobb. 16p., including the 9 maps, scale 1" = approx. 12 mi.

Miscellaneous Geologic Investigation Map I-530, Regional geologic map of the Selawik and Southeastern Baird Mountains quadrangles, Alaska by Patton, W.W. Jr., and Miller, T.P., scale, 1:250,000, has been released and is available from the Geological Survey, 310 First Ave., Fairbanks, Alaska 99701 at a price of \$1.00.

Also released is USGS Bulletin 1236, "Geology of the Lake Peters Area Northeastern Brooks Range, Alaska" by Bruce L. Reed. The report points out that there are 7 rock units in the Lake Peters area. The rocks range in age from Devonian or older to Jurassic. Quaternary surficial deposits overlie rocks of Jurassic age; six glacial advances are recognized. Rock types include metasediments, sandstones, limestones and siltstones. Three periods of deformation are represented by three fold systems; thrust and high angle faults. Economic geology is not discussed. Bulletin 1236 may be purchased over the counter only from the USGS at 508 Second Avenue, Anchorage or by mail from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 for a price of \$1.75.

DIRECTOR FOR OIL AND GAS DIVISION APPOINTED

Homer L. Burrell will head up the recently created Oil and Gas Division of the Department of Natural Resources. Burrell will assume his new post December 1. His former position was special representative in the International Division of Union Oil Company of California. From 1961 until 1964 the new Director was stationed in Anchorage as district landman for Union Oil.

E. AND M. J. METAL MARKET PRICES

	<u>November 25</u>	<u>Month Ago</u>	<u>Year Ago</u>
Copper, per lb.	41.7¢	41.7¢	Suspended
Lead, per lb.	13.0¢	12.8¢	13.6¢
Zinc, per lb.	13.5¢	13.5¢	13.5¢
Tin, per lb.	166.5¢	148.7¢	155.1¢
Nickel, per lb.	94.0¢	94.0¢	94.00¢
Platinum, per oz.	\$120-125	\$120-125	\$109-112
Mercury, per flask	\$516-520	\$537-543	\$505-515
Antimony ore, per unit	\$5.80	\$5.80	\$5.00-5.95
Beryllium powder, 98% (lb)	\$54-66	\$54-66	\$54-66
Chrome ore, long ton	\$31-35	\$31-35	\$31-35
Molybdenum conc, per lb.	\$1.62	\$1.62	\$1.62
Titanium ore, per ton	\$20-21	\$20-21	\$21-24
Tungsten, per unit	\$43.00	\$43.00	\$43.00
Silver, New York, per oz.	205.0¢	190.0¢	178.59¢
Gold, Engelhard, per oz.	\$40.15	\$39.35	----

OIL AND GAS NEWS

(Prepared by the Division of Oil and Gas, 3001 Porcupine Drive, Anchorage, Alaska 99504)

Fifteen applications for drilling permits were approved by the Division of Oil and Gas as follows:

Permit No. 68-94. Farns Oil Company #1 Red Shirt Lake, A.P.I. No. 50-283-20019. 600' FNL and 1,980' FEL, Sec. 24, T18N, R5W, S.M. This exploratory location is thirty miles northwest of Anchorage.

Permit No. 68-95. Atlantic Richfield Company #1 Delta State, A.P.I. No. 50-029-20004. 2,376' FNL and 840' FEL, Sec. 10, T10N, R16E, U.M. This exploratory location is on the Arctic North Slope and is about fourteen miles southeast of the Prudhoe Bay discovery well.

Permit No. 68-96. Atlantic Richfield Company #1 Toolik Federal, A.P.I. No. 50-029-20005. 1,320' FSL and 1,319' FEL, Sec. 4, T8N, R15E, U.M. This exploratory location is on the Arctic North Slope and is about eighteen miles south of the Prudhoe Bay discovery well.

Permit No. 68-97. B.P. Exploration U.S.A., Inc. #1 Put River, A.P.I. No. 50-029-20006. 2,540' FSL and 1,089' FWL, Sec. 27, T11N, R14E, U.M. This exploratory location is on the Arctic North Slope and is about three miles south of the Prudhoe Bay discovery well.

Permit No. 68-98. Standard Oil Company of California, W.O.I. #31-25 Socal, A.P.I. No. 50-029-20007. 660' FNL and 1,980' FEL, Sec. 25, T10N, R14E, U.M. This exploratory location is on the Arctic North Slope and is about ten miles south of the Prudhoe Bay discovery well.

Permit No. 68-99. Phillips Petroleum Company #A-3 North Cook Inlet, A.P.I. No. 50-283-20020. Surface location: 1,250' FNL and 1,087' FWL, Sec. 6, T11N, R9W, S.M. Bottom hole location: 2,179' FSL and 3,147' FWL, Sec. 31, T12N, R9W, S.M. This development location is in the North Cook Inlet Field.

Permit No. 68-100. Union Oil Company of California #K-12 Trading Bay Unit, A.P.I. No. 50-133-20156. Surface location: 735' FSL and 140' FEL, Sec. 17, T9N, R13W, S.M. Bottom hole location: 650' FSL and 340' FWL, Sec. 17, T9N, R13W, S.M. This development location is in the McArthur River Field.

Permit No. 68-101. Union Oil Company of California #K-13 Trading Bay Unit, A.P.I. No. 50-133-20157. Surface location: 621' FSL and 128' FEL, Sec. 17, T9N, R13W, S.M. Bottom hole location: 1,721' FSL and 1,680' FEL, Sec. 15, T9N, R13W, S.M. This development location is in the McArthur River Field.

Permit No. 68-102. Mobil Oil Corporation #1 Kuparuk State, A.P.I. No. 50-029-20008. 1,320' FSL and 1,320' FWL, Sec. 21, T11N, R12E, U.M. This exploratory location is on the Arctic North Slope and is about fifteen miles southwest of the Prudhoe Bay discovery well.

Permit No. 68-103. Atlantic Richfield Company #5-1 Trading Bay State, A.P.I. No. 50-133-20158. Surface location: 2,608' FSL and 2,495' FWL, Sec. 26, T10N, R13W, S.M. Bottom hole location: 660' FSL and 660' FWL, Sec. 26, T10N, R13W, S.M. This development location is in the Trading Bay Field.

Permit No. 68-104. Union Oil Company of California #D-15 Trading Bay Unit, A.P.I. No. 50-133-20159. Surface location: 754' FSL and 1,130' FWL, Sec. 6, T8N, R13W, S.M. Bottom hole location: 1,500' FNL and 1,500' FEL, Sec. 1, T8N, R14W, S.M. This development location is in the McArthur River Field.

Permit No. 68-105. Union Oil Company of California #G-18 Trading Bay Unit, A.P.I. No. 50-133-20160. Surface location: 1,884' FSL and 1,378' FEL, Sec. 29, T9N, R13W, S.M. Bottom hole location: 2,530' FNL and 2,550' FWL, Sec. 28, T9N, R13W, S.M. This development location is in the McArthur River Field.

Permit No. 68-106. Pan American Petroleum Corporation #1-A David River, A.P.I. No. 50-211-20002. 1,653' FSL and 1,647' FWL, Sec. 12, T50S, R80W, S.M. This exploratory location is about 50 miles northeast of Cold Bay, Alaska.

Permit No. 68-107. Shell Oil Company #C-24-23 Middle Ground Shoal, A.P.I. No. 50-133-20145-01. Surface location: 505' FSL and 1,543' FEL, Sec. 23, T8N, R13W, S.M. Bottom hole location: 600' FSL and 2,320' FWL, Sec. 23, T8N, R13W, S.M. This development location is in the Middle Ground Shoal Field and will be sidetracked from the abandoned C-11-26 well.

Permit No. 68-108. Union Oil Company of California #G-17 Trading Bay Unit, A.P.I. No. 50-133-20161. Surface location: 1,832' FSL and 1,488' FEL, Sec. 29, T9N, R13W, S.M. Bottom hole location: 880' FSL and 250' FWL, Sec. 19, T9N, R13W, S.M. This development location is in the McArthur River Field.

DRILLING ACTIVITY (as of November 27, 1968)

<u>Operator</u>	<u>Well Names & Numbers</u>	<u>Type</u>	<u>Status</u>
Southern			
Atlantic Richfield Company	Trading Bay State S-1	D	Drilling
Farms Oil Company	Red Shirt Lake #1	E	Location
Marathon Oil Corporation	Clam Gulch #1	E	Abandoned
Mobil Oil Corporation	Granite Point State 42-23	D	Comp. Oil Well
Mobil Oil Corporation	Mequawkie #2	E	Abandoned
Pan American Petroleum Corp.	David River #1	E	Abandoned
Pan American Petroleum Corp.	David River #1-A	E	Location
Pan American Petroleum Corp.	Granite Point State 17586 #5	D	Comp. Oil Well
Pan American Petroleum Corp.	Granite Point State 18742 #14	D	Temp. Susp.
Pan American Petroleum Corp.	Granite Point State 18742 #21	D	Location
Pan American Petroleum Corp.	Granite Point State 18742 #22	D	Suspended
Pan American Petroleum Corp.	MGS State #12	D	Completing
Pan American Petroleum Corp.	South MGS #12	D	Comp. Oil Well

<u>Operator</u>	<u>Well Names & Numbers</u>	<u>Type</u>	<u>Status</u>
<u>Southern</u>			
Phillips Petroleum Company	North Cook Inlet Unit A-1	D	Temp. Susp.
Phillips Petroleum Company	North Cook Inlet Unit A-2	D	Drilling
Phillips Petroleum Company	North Cook Inlet Unit A-3	D	Temp. Susp.
Shell Oil Company	MGS C-11-26	D	Abandoned below 3600'
Shell Oil Company	MGS C-24-23	D	Drilling (Redrill in old C-11-26)
Shell Oil Company	Kustatan River #1	E	Location
Standard Oil Co. of Calif.	Moquawkie 44-6	E	Drilling
Texaco Inc.	Trading Bay TS-3	D	Completing
Texaco Inc.	Trading Bay TS-5	D	Pg. to redrill
Texaco Inc.	Trading Bay TS-6	D	Location
Union Oil Co. of Calif.	Trading Bay State A-18	D	Comp. Oil Well
Union Oil Co. of Calif.	Trading Bay State A-19	D	Location
Union Oil Co. of Calif.	Trading Bay State A-20	D	Location
Union Oil Co. of Calif.	Trading Bay Unit D-6	D	Drilling
Union Oil Co. of Calif.	Trading Bay Unit D-13	D	Drilling
Union Oil Co. of Calif.	Trading Bay Unit D-15	D	Location
Union Oil Co. of Calif.	Trading Bay Unit G-14	D	Temp. Susp.
Union Oil Co. of Calif.	Trading Bay Unit G-15	D	Drilling
Union Oil Co. of Calif.	Trading Bay Unit G-17	D	Location
Union Oil Co. of Calif.	Trading Bay Unit G-18	D	Drilling
Union Oil Co. of Calif.	Trading Bay Unit K-3	D	Drilling
Union Oil Co. of Calif.	Trading Bay Unit K-11	D	Comp. Oil Well
Union Oil Co. of Calif.	Trading Bay Unit K-12	D	Location
Union Oil Co. of Calif.	Trading Bay Unit K-13	D	Drilling
<u>Northern</u>			
Atlantic Richfield Company	Delta State #1	E	Location
Atlantic Richfield Company	Sag River State #1	E	Comp. Oil Well
Atlantic Richfield Company	Toolik Federal #1	E	Location
B. P. Exploration Co., Inc.	Put River #1	E	Location
B. P. Exploration Co., Inc.	Sag Delta #1	E	Location
Mobil-Phillips	Kuparuk State #1	E	Location
Pan American Petroleum Corp.	Kavik #1	E	Location
Standard Oil Co. of Calif.	Socal 31-25	E	Location

PRODUCTION - October 1968 (Gas pressure 14.65 psi)

<u>Field</u>	<u>Oil-Bbls</u>	<u>Water-Bbls</u>	<u>Gas-MCF</u>	<u>*No. of Wells Prod.</u>	<u>Cum. Oil</u>	<u>Cum. Gas</u>
Granite Point	835,244	16,077	803,110	33 (4)	18,626,586	13,572,617
McArthur River	2,208,104	38,677	625,543	26 (4)	17,838,524	4,949,767
Middle Ground Shoal	1,148,506	51,116	513,385	51 (3)	22,077,630	10,034,027
Redoubt Shoal	1,596	249	456	1	1,596	456
Swanson River	1,172,640	205,733	2,393,495	38 (13)	86,281,143	52,886,394
Trading Bay	328,999	6,688	220,886	21 (3)	3,191,255	2,770,855
Total	5,695,089	318,540	4,561,875	170 (27)	148,016,734	84,214,116

Field	Oil-Bbls	Water-Bbls	Gas-MCF	*No. of Wells Prod.	Cum. Oil	Cum. Gas
Beluga River			287,312	4		1,620,259
Kenai			3,167,378	17 (3)		121,857,056
Kenai Deep			751,978	1 (1)		2,295,73
Moquawkie			38,042	1		201,138
Nicopai Creek			2,883			2,823
Sterling			12,929	1 (1)		742,638
South Barrow			34,903	3		3,787,831
Trading Bay	244	5	14,762	1	1,984	199,735
Inactive Gas Fields						12,028,252
Total Dry Gas	<u>244</u>	<u>5</u>	<u>4,310,187</u>	<u>28 (5)</u>	<u>1,984</u>	<u>142,735,505</u>
STATE GRAND TOTAL	<u>5,695,333</u>	<u>318,545</u>	<u>8,872,062</u>	<u>198 (32)</u>	<u>148,018,718</u>	<u>226,949,621</u>

Average per day: Oil, 183,720 bbls; Casg. Head, 147,157 MCF; Dry Gas, 138,945 MCF;
Total Gas, 286,102 MCF.

*Dual completions are included as two wells; triple, as three. () Number of wells not producing in October.

GREETINGS

The Divisions of Mines and Geology and Oil and Gas join in wishing you a Merry Christmas and a Happy New Year with the hope that the New Year will bring continued success for the oil and gas industry and the development of the encouraging prospects into mines for the mineral industry.