

MAR 19680042: FORT VERMILION

Received date: Dec 31, 1968

Public release date: Jan 01, 1970

DISCLAIMER

By accessing and using the Alberta Energy website to download or otherwise obtain a scanned mineral assessment report, you ("User") agree to be bound by the following terms and conditions:

- a) Each scanned mineral assessment report that is downloaded or otherwise obtained from Alberta Energy is provided "AS IS", with no warranties or representations of any kind whatsoever from Her Majesty the Queen in Right of Alberta, as represented by the Minister of Energy ("Minister"), expressed or implied, including, but not limited to, no warranties or other representations from the Minister, regarding the content, accuracy, reliability, use or results from the use of or the integrity, completeness, quality or legibility of each such scanned mineral assessment report;
- b) To the fullest extent permitted by applicable laws, the Minister hereby expressly disclaims, and is released from, liability and responsibility for all warranties and conditions, expressed or implied, in relation to each scanned mineral assessment report shown or displayed on the Alberta Energy website including but not limited to warranties as to the satisfactory quality of or the fitness of the scanned mineral assessment report for a particular purpose and warranties as to the non-infringement or other non-violation of the proprietary rights held by any third party in respect of the scanned mineral assessment report;
- c) To the fullest extent permitted by applicable law, the Minister, and the Minister's employees and agents, exclude and disclaim liability to the User for losses and damages of whatsoever nature and howsoever arising including, without limitation, any direct, indirect, special, consequential, punitive or incidental damages, loss of use, loss of data, loss caused by a virus, loss of income or profit, claims of third parties, even if Alberta Energy have been advised of the possibility of such damages or losses, arising out of or in connection with the use of the Alberta Energy website, including the accessing or downloading of the scanned mineral assessment report and the use for any purpose of the scanned mineral assessment report so downloaded or retrieved.
- d) User agrees to indemnify and hold harmless the Minister, and the Minister's employees and agents against and from any and all third party claims, losses, liabilities, demands, actions or proceedings related to the downloading, distribution, transmissions, storage, redistribution, reproduction or exploitation of each scanned mineral assessment report obtained by the User from Alberta Energy.

GEOLOGICAL REPORT

ECONOMIC MINERALS

FILE REPORT No.

S-AF-030(1)

SULPHUR PROSPECTING PERMIT NO. 30

FORT VERMILION AREA

Township 108, Range 6, West of the 5th Meridian

SULPHUR PROSPECTING PERMIT NO. 30

Location

Permit No. 30 is in the vicinity of Township 108,
Range 6, West of the 5th Meridian. (See Geological Map) - Map No. 1
It consists of 31 sections or approximately 19,840 acres.

General Geology

In this area Devonian rocks are overlain unconformably
by Cretaceous shale. Erosion has exposed the Devonian in the lower
areas, while the hills are composed of Cretaceous shales. The
Devonian has a gentle regional dip to the southwest, so the subcrop
trend is roughly northwest.

The Grosmont dolomite, a porous rock unit, has its north-
western limit along a line trending northeasterly through Township
108, Range 7, West of the 5th Meridian. Its subcrop-outcrop edge
trends northwesterly through Township 104, Range 4, West of the 5th
Meridian.

Sulphur Occurrence

The original discovery of sulphur in this area was in ^{2 p. 6}
Township 110, Range 5, West of the 5th Meridian (Sulphur Permit #18).
This sulphur is probably the key to understanding sulphur deposits
elsewhere in the area.

A trench in Lsd. 11-8-110-5 West of the 5th Meridian is
thought to be the showing on which the original discovery is based.

This trench is about two feet wide, four feet deep, and 80 feet long and trends N 26 deg. W. The trench is on a bulldozed line about 500 feet long that appears to have been cut for geophysical purposes. The ground is a level bench that is a few feet higher than land to the east and south. It is covered with small second-growth poplar and birch trees. The trench is on glacial drift consisting of clay with scattered small cobbles. The weighted average percentage grade of sulphur by volume in the trench is about 17%. The highest assay comes from a small pit, about 25 feet west of the main trench, where the ground is about 90% sulphur by volume. The sulphur occurs as flour-like, imperfect, stubby crystals, about 25 microns in length that are scattered through the clay.

A test hole drilled nearby struck a small amount of sour inflammable gas at about 35 to 50 feet. The gas could be heard bubbling up through the water at the bottom of the hole. This association of shallow gas (probably from the Grosmont) and native sulphur seems too close to be coincidental and therefore is assumed to have genetic significance. Hydrogen sulphide can be oxidized to elemental sulphur by atmospheric oxygen. Therefore precipitation of native sulphur in the soil and subsoil is a possibility if sour gas leaked to the surface from an imperfectly sealed trap.

Details of Permit 30

In Permit No. 30 a close examination of Grosmont dolomite at the upper Vermilion Chutes failed to detect the native sulphur that had been reported there. The dolomite is lumpy textured, where the texture can be made out, and contains scattered small bitumen lined vugs.

Conclusions

Because of the lack of positive evidence for sulphur within this permit area, we have chosen to drop the permit.

Respectfully submitted,

A solid black rectangular box redacting the signature of the professional geologist.

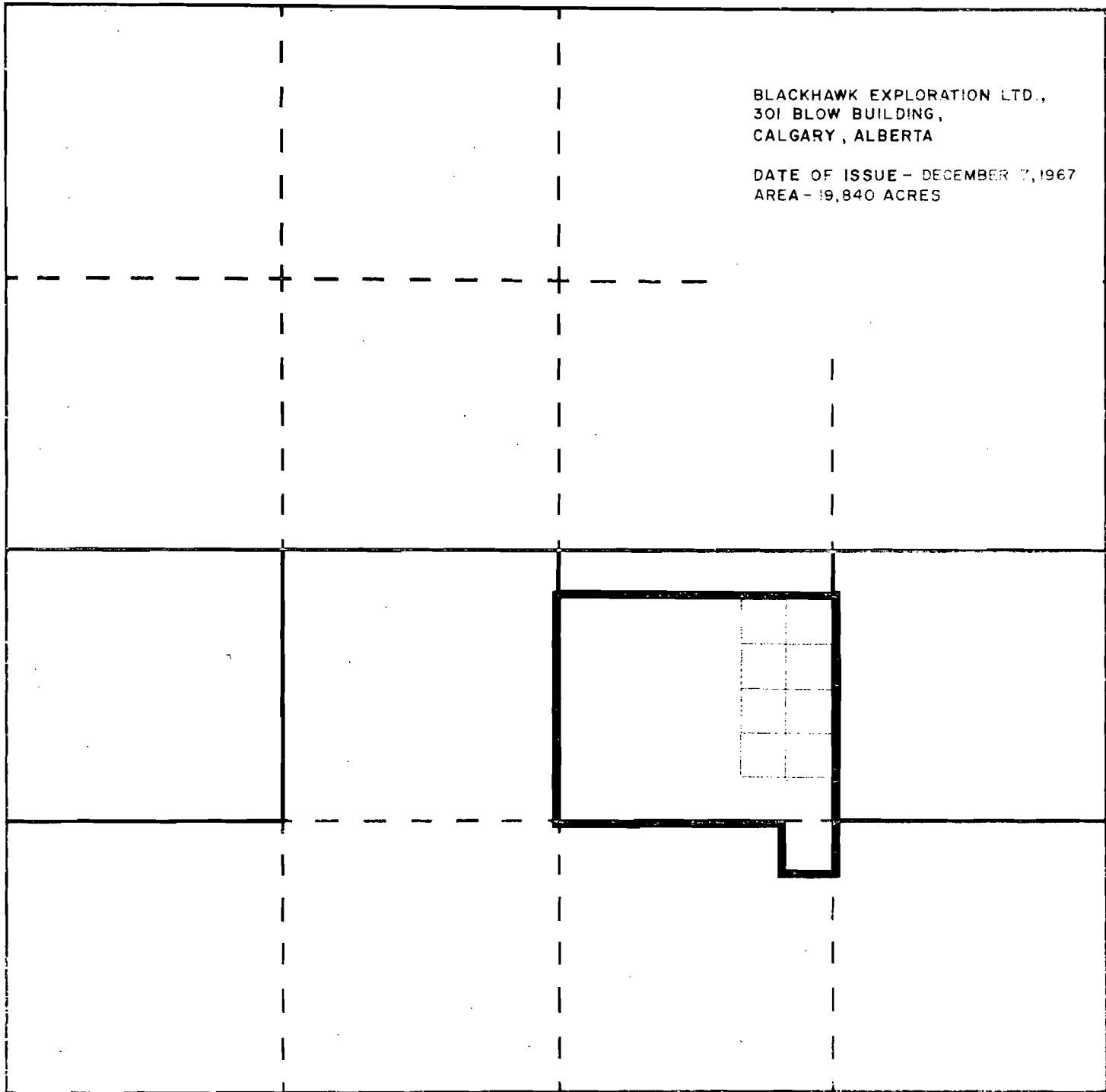
H. R. HOVDEBO
Professional Geologist, Alberta

19680042

SULPHUR PROSPECTING PERMIT NO. 30

BLACKHAWK EXPLORATION LTD.,
301 BLOW BUILDING,
CALGARY, ALBERTA

DATE OF ISSUE - DECEMBER 7, 1967
AREA - 19,840 ACRES



845/7

TR. 108

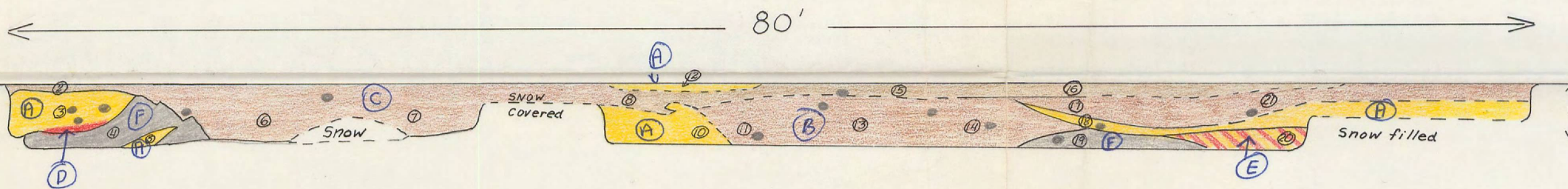
TR. 107

R. 6

R. 5 W. 5 M.

SULPHUR PROSPECTING TRENCH

Trench = 2' wide Bearing of trench 334° Azimuth; Location Lsd 11-8-110-5 W.5



LEGEND

- Drift stones
- ⑬ Sample location

SOIL COLORS:

- Ⓐ Yellow
- Ⓑ Yellow-brown
- Ⓒ Brown
- Ⓓ Red
- Ⓔ Red-brown + yellow
- Ⓕ Gray

LEGEND
 (OVERLAY F-10,675E - B 661
 1/30/68 D.F.S.)

SULPHUR PROSPECTING PERMITS

PERMIT No.	DATE of Issue	Holder	ACRES	Block
69		SULPHUR PERMIT		
138				
148				
82				
81				
135				
128				
161				
146				
106				
114				
75				
70				
154				
164				
143				
136				
98				
85				
21				
22				
18				
64				
72				
65				
109				
152				
153				
144				
51				
38				
48				
23				
47				
69				
77				
94				
107				
57				
107				
163				
45				
103				
42				
108				
63				
42				
59				
49				
88				
87				
58				
121				
46				
79				
101				
40				
137				
12				
74				
91				
134				
133				
145				
156				
101				
100				
155				
80				
156				
102				
151				
149				
111				
96				
102				
155				
40				
155				
156				
100				
99				
98				
33				
98				
97				
25				
24				
23				
22				
96				
96				
39				
160				
95				

HIGH LEVEL

EROSIONAL LIMIT OF CRETACEOUS COVER

HAY RIVER LIMESTONE

GROSMONT FORMATION

LIMIT OF POROUS GROSMONT DOLOMITE

SUBCROP LIMIT OF MIRROR L.S.

HAY RIVER SHALE

CRETACEOUS ABSENT

CRETACEOUS PRESENT

ROUTE OF BEAVER RECONNAISSANCE AND HELICOPTER FOLLOWUP - JUNE/68
 SURFACE INVESTIGATIONS (LANDINGS) WITH HELICOPTER SUPPORT

REVISIONS	CHEVRON STANDARD LIMITED		
AUTHOR D.F. SHERWIN	EDMONTON DIVISION NORTH		
SULPHUR PERMITS SURFACE GEOLOGY			
19680042 Map No. 2			
SCALE 1 IN. = 5 MILES	DATE DEC. 1965	DRAWN REDUCTION	F-10,675E-7 B

PERMIT 30

