CHEMICAL & GEOLOGICAL LABORATORIES LTD.

EDMONTON — CALGARY — FORT ST. JOHN

January 23, 1963

Laboratory Report Number: E20903

SOBC Blackstone YT #D-77

Ordivician Core #6 (10,840' - 10,900')
Core #7 (12,798' - 12,812')

CANADA

OUR FILE NO.
YOUR FILE NO.

DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES

NORTHERN ADMINISTRATION BRANCH

RESOURCES DIVISION

Immigration Building
Calgary, Alberta
30th January 1963

Geological Survey of Canada,
Department of Mines & Technical Surveys,
406 Customs Building,
Calgary, Alberta.

Dear Sirs:

Attached hereto for your information and confidential file is one copy of core analysis for Cores Nos. 6 and 7 in connection with SOBC Blackstone YT D-77 well.

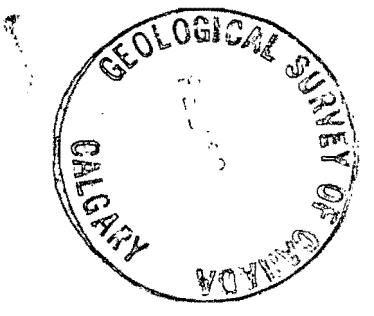
Yours very truly,

B.H.J. Thoms
Oil Conservation Engineer.

Encl.1
/vh

..... Rec'd

..... Date



CGL 51

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

Operator The California Standard Company

Well No. SOBC Blackstone YT #D-77

Lab. No. E20903

Core #6 10,840' to 10,900'
Core #7 12,798' to 12,812'
Interval Cored To

Coring Fluid ---

Elevation K.B. estimated 1716'

Formation Ordovician

Comments Prior to analysis, the test samples were cleaned in a soxhlet-type solvent extractor for 12 hours and oven-dried to a constant weight at 225°F.

The fracture network may or may not exist in the reservoir in the magnitude indicated by this analysis, since it may have been induced and/or increased by the coring process.

CGL 50

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

10568 - 114 St. EDMONTON, ALBERTA PHONES: 25624 42562

FULL DIAMETER CORE STUDY

OPERATOR The California Standard Company FIELD (Wildcat) WELL NO. SOBC Blackstone YT #D-77

LOCATION Latitude 65° 46 min. 10.77 Sec. North Longitude 137° 14 min. 54.78 Sec. West FORMATION Ordivician DEPTHS Core #6 10,840'-10,900' Core #7 12,798'-12,812' DATE Received: January 16,1963 LAB NO. E20903

Footage of Ordovician formation cored	74.0'	No. of representative samples selected for analysis	39.
FEET OF CORE:			
Received at laboratory for analysis	69.2'	Compared (to tested samples)	---
Missing	4.8'	Dense sections not represented	---
Represented by samples	69.2'	Badly fractured sections not represented	---

SUMMARY OF REPRESENTED SECTIONS: (1) $\frac{\text{represented}}{\text{received}} = \frac{69.2'}{69.2'}$ (2) $\frac{\text{represented}}{\text{cored}} = \frac{69.2'}{74.0'}$

Weighted average porosity	1.9	%	Maximum porosity	4.7	%
Weighted average K_H permeability on 62.2'	40.	md.	Minimum porosity	0.7	%
Weighted average K' permeability on 60.7'	21.	md.	Maximum K_H permeability	262.	md.
Weighted average vertical permeability on 60.7'	0.77	md.	Minimum K_H permeability	1.2	md.
Weighter average maximum permeability on 62.2'	40.	md.	Maximum vertical permeability	2.3	md.
Porosity Feet	133.17		Minimum vertical permeability	0.01	md.

CORE WITH MAXIMUM PERMEABILITY:

	10.0 md. or greater	between 1.0 and 9.9 md. inclusive	less than 1.0 md.
Footage	40.8	21.4	---
Weighted average porosity	1.7 %	2.0 %	--- %
Weighted average K_H permeability	59. md.	5.0 md.	--- md.
Weighted average vertical permeability on 39.3'	0.84 md.	0.64 md.	--- md.
Porosity feet	70.75	42.52	---

CGL 30

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

Operator The California Standard Company Well No. SOBC Blackstone YT #D-77 Lab. No. E20903 Date Received: January 16, 1963.

Sample Number	Midpoint of Sample in Ft.	Representative of Feet	Footage Rep.	Permeability md. Vertical	K_H	K'	% Porosity	Porosity Feet	Description
		Core #6 10,840' - 10,900'			Recovered 60.9'				
1	10,842.0	10,840.0-10,842.4	2.4	0.53	12.	4.7	0.9	2.16	OrD Ca HF VSI
2	10,842.7	10,842.4-10,843.4	1.0	0.60	5.0	1.9	2.3	2.30	OrD Ca RF SV
3	10,844.0	10,843.4-10,845.5	2.1	1.1	29.	25.	1.9	3.99	OrD Ca HF SI
4	10,845.8	10,845.5-10,847.0	1.5	1.2	20.	18.	2.2	3.30	OrD Ca VC HF SI
5	10,847.4	10,847.0-10,847.7	0.7	0.20	23.	22.	2.0	1.40	OrD Ca HF SI
6	10,848.0	10,847.7-10,848.6	0.9	0.21	20.	13.	3.0	2.70	OrD HF V
7	10,848.8	10,848.6-10,849.9	1.3	0.18	4.6	1.7	0.8	1.04	OrD Ca HC VSI
8	10,850.2	10,849.9-10,850.6	0.7	0.01	1.3	1.0	3.1	2.17	OrD Ca V
9	10,851.5	10,850.6-10,852.0	1.4	0.04	19.	17.	1.3	1.82	OrD HF VSI
10	10,852.6	10,852.0-10,853.0	1.0	0.02	5.5	4.8	2.1	2.10	OrD Ca HF SI
11	10,853.3	10,853.0-10,854.0	1.0	0.10	12.	1.8	1.0	1.00	OrD HF VSI
12	10,855.3	10,854.0-10,855.8	1.8	0.06	6.9	5.6	1.0	1.80	OrD Ca HC VSI
13	10,856.1	10,855.8-10,856.5	0.7	0.06	1.2	1.1	1.9	1.33	OrD Ca HC SI
14	10,856.7	10,856.5-10,856.9	0.4	0.84	10.	8.4	3.4	1.36	OrD Ca V
15	10,858.6	10,856.9-10,860.0	3.1	0.12	15.	9.2	0.7	2.17	OrD Ca HF OccV
16	10,860.9	10,860.0-10,862.0	2.0	0.27	11.	6.6	0.9	1.80	OrD HF VSI
17	10,862.7	10,862.0-10,864.0	2.0	(a)	(a)	(a)	1.4	2.80	OrD Fg OHF SI
18	10,865.3	10,864.0-10,865.5	1.5	(a)	88.	(a)	0.7	1.05	OrD Ca Fg HF VSI
19	10,865.7	10,865.5-10,866.0	0.5	0.82	241.	110.	1.6	0.80	OrD Ca OHF SI
20	10,866.9	10,866.0-10,868.0	2.0	0.97	5.3	3.4	1.7	3.40	OrD Ca HF SI
21	10,869.4	10,868.0-10,870.0	2.0	1.8	11.	6.3	2.5	5.00	OrD Ca HC SV
22	10,871.9	10,870.0-10,873.5	3.5	2.2	183.	29.	1.4	4.90	OrD Ca OHF SI
23	10,874.3	10,873.5-10,874.6	1.1	0.08	23.	7.2	0.7	0.77	OrD Ca HF OccV
24	10,874.8	10,874.6-10,876.0	1.4	0.08	8.3	3.7	2.4	3.36	OrD Ca HF SI
25	10,876.9	10,876.0-10,878.0	2.0	0.60	83.	76.	2.7	5.40	OrD Ca OHF OccV
26	10,878.3	10,878.0-10,880.8	2.8	0.98	26.	21.	1.1	3.08	OrD Ca HF VSI
27	10,881.6	10,880.8-10,882.1	1.3	0.21	2.6	2.6	2.9	3.77	OrD Ca HC V
28	10,882.5	10,882.1-10,884.0	1.9	0.15	3.9	3.2	1.7	3.23	OrD Ca HC OccPPV
29	10,884.9	10,884.0-10,886.2	2.2	2.0	40.	15.	2.9	6.38	OrD Ca HF OccV
30	10,886.6	10,886.2-10,887.4	1.2	0.39	262.	246.	3.9	4.68	OrD Ca OHF OccV
31	10,888.3	10,887.4-10,890.0	2.6	0.07	4.4	2.9	1.6	4.16	OrD Ca HC SI
32	10,891.0	10,890.0-10,892.0	2.0	0.08	225.	125.	1.4	2.80	OrD Ca OHF SI
33	10,893.1	10,892.0-10,893.8	1.8	0.56	1.9	1.7	2.5	4.50	OrD Ca HC OccPPV
34	10,894.1	10,893.8-10,897.0	3.2	0.41	11.	5.9	1.6	5.12	OrD Ca HF SI
35	10,898.6	10,897.0-10,900.9	3.9	2.3	7.1	4.2	2.4	9.36	OrD Ca HF SI
		Extra Core	0.9	---	---	---	---	---	--- --- ---

CGL 30

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

Operator The California Standard Company Well No. SOBC Blackstone YT #D-77 Lab. No. E20903 Date Received: January 16, 1963.

Sample Number	Midpoint of Sample in Ft.	Representative of Feet	Footage Rep.	Permeability md. Vertical	K_H	K'	% Porosity	Porosity Feet	Description
		Core #7	12,798' - 12,812'		Recovered 8.3'				
36	12,798.3	12,798.0-12,800.0	2.0	(a)	(a)	(a)	3.6	7.20	OrD Ca OHF I
37	12,801.7	12,800.0-12,803.0	3.0	(a)	(a)	(a)	3.3	9.90	OrD Fg OHF I
38	12,803.6	12,803.0-12,804.0	1.0	0.50	41.	29.	4.7	4.70	OrD Fg OHF I
39	12,804.5	12,804.0-12,806.3	2.3	1.5	16.	12.	1.9	4.37	OrD Fg HF SI
		Missing	5.7	---	---	---	---	---	--- ---

CORE DESCRIPTION SYMBOLS

OrD	Ordovician
Ca	Calcite
HF	Horizontal Fracture
VSI	Very Slightly Intergranular
RF	Random Fractures
SV	Slightly Vuggy
SI	Slightly Intergranular
VC	Vertical Crack
V	Vuggy
HC	Horizontal Crack
OccV	Occasional Vugs
Fg	Fragmental
OHF	Open Horizontal Fracture
OccPPV	Occasional Pin Point Vugs
(a)	Unsuitable for test
K_H	Maximum Horizontal Permeability measured
K'	Taken 90° to K_H
I	Intergranular

NB. K_H and K' are transverse permeability measurements on full diameter samples.