

REPORT OF CRUDE PETROLEUM ANALYSIS

Mines Branch, Division of Fuels, Ottawa

Laboratory Number 297-63

IDENTIFICATION

FIELD: YUKON CENTRAL - SOUTH EAGLE PLAIN

POOL:

ZONE: CARBONIFEROUS

Well Name: Western Minerals

Province: Yukon

Chance YF No. 1

Location: Lat. 66° 7' 42"

Long. 137° 31' 42"

Sample from: D.N.A. & N.R.

Interval tested, depth, feet: 4371'-4372'

Date sampled: 31 July 1960 - 3 Aug. 1960

Producing Zone: Carboniferous

Sampled at: Flowline Trap

Geological Age:

GENERAL CHARACTERISTICS

Specific gravity at 60°F.	0.874	A.P.I. gravity at 60°F.	30.4
Sulphur, percent by weight	1.03	Pour point, °F.	5
Saybolt Universal Viscosity		Colour	brownish-black
at 77 °F., sec.	63	Carbon residue, percent by weight	2.7
at 100°F., sec.	51	(Conradson)	

DISTILLATION, U.S. Bureau of Mines Routine Method

Stage 1 - Distillation at atmospheric pressure, 750 mm. Hg.
First drop, 54°C. (129°F.)

Frac- tion No.	Cut at °C. °F.	Per cent	Sum per cent	Specific gravity 60°F.	Degrees A.P.I. 60°F.	Corre- lation index	Aniline point, °C.	Visc. S.U. 100°F.	Cloud test, °F.	Refractive index 20°C.
1.	50 122	-	-							
2.	75 167	2.4	2.4	0.704	67.5	-	-			1.4073
3.	100 212	2.5	4.9	0.733	61.5	27	52.6			1.4074
4.	125 257	5.1	10.0	0.752	56.7	27	50.0			1.4175
5.	150 302	6.2	16.2	0.772	51.8	29	46.7			1.4294
6.	175 347	5.3	21.5	0.792	47.2	32	46.0			1.4403
7.	200 392	4.2	25.7	0.806	44.1	32	51.2			1.4481
8.	225 437	4.8	30.5	0.818	41.5	33	57.2			1.4625
9.	250 482	5.1	35.6	0.833	38.4	34	62.5			1.4726
10.	275 527	7.4	43.0	0.851	34.8	38	66.5			1.4728

Stage 2 - Distillation continued at 40 mm. Hg. pressure

11.	200 392	2.1	45.1	0.867	31.7	42	68.0	39	0	1.4808
12.	225 437	5.5	50.6	0.875	30.2	42	72.0	45	20	1.4847
13.	250 482	5.6	56.2	0.889	27.7	45	75.5	58	40	1.4897
14.	275 527	5.3	61.5	0.900	25.7	47	79.2	82	60	1.4993
15.	300 572	8.5	70.0	0.906	24.7	47	84.2	158	75	1.5055
Residuum		30.0	100.0	0.967	14.8					

Carbon residue of residuum 8.0%

Carbon residue of crude 2.7%

APPROXIMATE SUMMARY

	Percent by vol.	Specific gravity	Degrees A.P.I.	Viscosity S.U. 100°F.
Light gasoline	4.9	0.719	65.3	
Total gasoline and naphtha	25.7	0.768	52.7	
Kerosine distillate	4.8	0.818	41.5	
Gas oil	19.5	0.854	34.2	
Nonviscous lubricating distillate	10.5	0.881-0.901	29.1-25.6	50-100
Medium lubricating distillate	9.1	0.901-0.909	25.6-24.2	100-200
Viscous lubricating distillate	0.4	0.909-0.910	24.2-24.0	Above 200
Residuum	30.0	0.967	14.8	
Distillation loss	0.0			

FORM "E"

C A N A D A

DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES

NORTHERN ADMINISTRATION BRANCH

RESOURCES DIVISION

PRODUCTION TEST REPORT

Date . . . September 13th, 1960 . . .

Name of well . . . Western Minerals Chance No. 1

Classification of well # Suspended Oil Well. Permit or Lease No. . . N.A.

Owners name . . . Peel Plateau Exploration Ltd.

Operators name . . . Western Minerals Ltd.

Location Eagle Plains - Yukon N. Lat. 66° 7' 42" . . . W. Long. 137° 31' 42"

Survey description, if available Not as yet surveyed

Field Name M.A. District name Eagle Block + Yukon

Spudded . . . May 30th, 1959 Suspended - May 25th/60 Elevation, -

Ground 1752'

K.B. 1769'

CASING AND TUBING RECORD

Size	Weight	Grade	Amount Set at	Sacks Cement	Calculated top of cement	Measured top of cement
1 . 1 1/2"	48	H-40	157'	200	Surface	Surface
2 . 1 3/8"	54.5	J-55	2001'	1260	Surface	Surface
3 . 9-5/8"	40.4.36	J-55	5104'	450	3600'	3550'
4						
5						
Name of productive zone		Carboniferous				
Formation		Sandstone				
Depths: Top of formation		4034'		Gas/oil Interface		4325' - 4330' (by log)
Bottom of formation		5240'		Oil/water "		4405' - 4433' (by log)
Top of producing zone		4250'		Gas/water "		N.A.
Bottom of producing zone		4322'		"		N.A.
Total depth		8648'		Present depth		Plugged back to 5037'

e.g. producing oilwell, suspended gaswell, etc.

Method of producing: **Swab tests through tubing and drill pipe**

Gravity of Oil at 60°F: **29.30° - 29.38°** Gravity of Gas: **0.568 - 0.758**

PRODUCTION DATA

Date	No. of hrs. on Prod.	Oil Prod'n Barrels	Water Prod'n % out Barrels	Gas Prod'n MCF	GOR cfpb	Choke size
(See Attached Sheet on 'Production Data')						

PRESSURE DATA

Date	Reservoir		Wellhead Pressures			Separator	
	Press psig	Depth feet	Tubing psig	Casing psig	Choke Size	Pressure psig	Temp °F.
June 14/60	1900	4369-70	120/220	0	1/4"	N.A.	N.A.
June 15/60	1900	4369-70	0/20	0	1/2"	N.A.	N.A.
June 20/60	1900	4364-65	250/275	0	1/4"	N.A.	N.A.
June 20/60	1900	4364-65	420/435	0	11/64"	N.A.	N.A.
June 23/60	1900	4358-59	780/820	0	11/64"	N.A.	N.A.
June 23/60	1900	4358-59	100/700	0	11/64"	N.A.	N.A.
July 31/60	1900	4371-72	25/125	0	1/2"	N.A.	N.A.
Aug. 1/60	1900	4371-72	50/75	0	1/4"	N.A.	N.A.

GAS MEASUREMENT DATA (Flange or Tap)

Date	Orifice Plate size	Meter-Run Pressures (Psig) Static Differential	Meter-Run Temp. °F. (Ave.)	Remarks
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(See Attached Sheet)

Estimates of gas produced during the testing program were made. These tests were based, where possible, on 'U' tube readings, using both water and mercury as the differentiating fluid. Therefore, the gas volumes indicated are approximate.

Sampled by **N. G. Needham**

Samples obtained from **Flow line trap**

Core, oil, gas and water analyses required by Section 70 (2) of the Regulations.
have been forwarded

~~XXXXXXXXXXXX~~
~~XXXXXXXXXXXXXXXXXXXX~~

Remarks
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This form is submitted in ^{triplicate}~~duplicate~~ to the Oil Conservation Engineer "in accordance with Sections 71 and 72 of the Regulations.

Signed by . . . *W. G. Campbell* . . .
W. G. Campbell

Title **Project Manager**

Company **Western Minerals Ltd.**

Date **September 13th, 1960**

Date	Perforated Zone Tested	Hours on Production	Oil Produced Bbls.	Water Production % Cut Bbls.	Gas Mcf/Day	Cor Cfbp	Choke Size
June 23rd/60	4358-59	5-3/4	20.77	19 5.19	2000-5000	24,000-60,000	1 1/2"
June 23-24/60	4358-59	5	20.9	23 6.2	2000-5000	21,000-60,000	1 1/2"
June 24th/60	4358-59	6	21.1	12 2.85	2000-5000	24,000-60,000	1 1/2"
June 25th/60	4364-65 & 4369-70	Testing to flame pit. Gas and Water (Salt)					
June 26-27/60	4358-59 & 4364-65	12	11.4	53 12.8	Gas produced from Gas Cap 1/8" & 10/64" channeling behind casing.		
June 27th/60	4380-81	Perforated with 4 shots.					
June 28th/60		Set packer at 4376' and found there was communication behind casing between perforations at 4360-81', and perforations at 4369-70', 4364-65', 4358-59'.					
June 29th/60		Cement squeezed all perforations.					
STATE II							
June 29th - July 2nd/60		Waiting on cement.					
July 2nd/60	4364-65	Perforated with 4 shots. Recovered 1500-1700' clean oil and 300' oil cut mud in tubing after waiting 12 hours.					
July 3rd/60	4364-65	Testing to flare pit. Packer not seating properly. No fluid.					
July 4th/60	4360-1/2 & 4362-1/2	Perforated with 9 shots. Testing, but packer not seating properly. No fluid.					

<u>Date</u>	<u>Performed Zone Tested</u>	<u>Hours on Production</u>	<u>Oil Produced Bbls.</u>	<u>Water Production % Cut Bbls.</u>	<u>Gas Mcf/Day</u>	<u>GOR Cfbp</u>	<u>Choke Size</u>
July 5th/60	4360-1/2 - 4362-1/2 & 4364-65	- Testing to flare pit. Recovered gas and oil cut mud. Gas T.S.F.H.					
July 5th/60	4360-1/2 - 4362-1/2 & 4364-65	Acidized.					
July 5-8/60	4360-1/2 - 4362-1/2 & 4364-65	- Testing to flare pit. Recovered gas with small amounts of fresh water (Spent acid).					
July 8-10/60	4364-65 & 4360-1/2 - 4362-1/2	47-1/2 (Distillate)	3	- - -		Gas produced from gas cap channeling behind casing. Estimates 3-5 mscf/day.	11/64", 13/64" & 1/4"
July 11th/60		Circulating.					
July 12th/60	4360-1/2 - 4362-1/2 & 4364-65	Cement squeezed.	W.O.C.				
<u>STAGE III</u>							
July 13-15/60		W.O.C. & W.O.O.					
July 16th/60	4332-33	Perforated.					
July 16-17/60	4332-33	Swabbing to flare pit. Traces of gas and distillate.					
July 17th/60	4332-33	Testing to flare pit. Gas and distillate. Swabbing to test tank. Collected 1.6 barrels distillate in 9 hours. Acidized. Gas 10-20 Mscf/Day.					

<u>Date</u>	<u>Perforated Zone Tested</u>	<u>Hours on Production</u>	<u>Oil Produced Bbls.</u>	<u>Water Production % Out. Hbls.</u>	<u>Gas Mcf/Day</u>	<u>Cor Cfyb</u>	<u>Choke Size</u>
July 18th/60	L332-33	Cement squeezed.					
July 19-20/60		W.O.C.					
July 20th/60	L340-41	Perforated with 4 shots.					
July 20-21/60	L340-41	Testing to flare pit. Gas and distillate. Gas T.S.T.M.					
July 22nd/60	L340-41	Snubbing to test tank. Collected 1.75 barrels distillate in 3 hours. Gas T.S.T.M.					
July 23rd/60	L346-47	Perforated with 4 shots. Recovering 1/2 barrel fluid (fresh muddy water) per hour on snub. Gas T.S.T.M.					
July 24th/60	L346-47	Acidized. Testing to flare pit. Recovering 1-1/2 to 3 barrels fluid per pull on snub. Fresh water and gas. Estimated 25-50 mcf/day.					
July 25th/60	L346-47	Testing to flare pit. Recovering 1 to 2 barrels fluid per pull. Water (spent acid).					
July 26-27/60		Circulating.					
July 27th/60	L340-41 & L346-47	Acidized. Communication between L332-33 and L346-47 established.					
July 28th/60	L332-33 & L340-41 & L346-47	Cement squeezed.					
July 29th/60		W.O.C.					

STAGE IV

<u>Date</u>	<u>Perforated Zone Tested</u>	<u>Hours on Production</u>	<u>Oil Produced Bbls.</u>	<u>Water Production % Cut Bbls.</u>	<u>Gas Mcf/Day</u>	<u>Gr C/Day</u>	<u>Choke Size</u>
July 30th/60	1371-72	Perforated with 4 shots. Testing to flare pit. Tubing unloaded 2 to 3 barrels fluid (oil) every 2 to 2-1/2 hours. Trace of sediment and oil cut mud.					
July 31st/60	1371-72	8	22.9	0.4	20-30 Est.*	250-350	1/2", 26/64" & 1/4"
July 31st - Aug. 3rd/60	1371-72	60	166.6	-	20-30 Est.*	250-350	1/2"

* Solution Gas

9/13/60
:m

ANALYTICAL REPORT

From **Western Minerals Limited**

Product **Crude**

Address

Date Received: **August 20, 1959.**

Other Pertinent Data **Sample #1.**

Analyzed by **Chemical & Geological Labs. Ltd.**

Date **August 26, 1959.**

Lab. No. **C2350**

Color: **Dark Brown**

HEMPEL DISTILLATION

Rooms: **72°F.** Bar: **664 mmHg.** Mercury.

Specific Gravity @60/60°F.. **0.8794**

I.B.P.	130
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°A.P.I. Gravity @60/60°F.. **29.38°**

5.0 %	180
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B.S. & W. (total): **10.2 % (vol.)**

7.0 %	212
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Water: **1.2 % (vol.)**

10.0 %	272
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Sediment: **9.0 % (vol.)**

15.0 %	308
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Total Sulphur: **1.13 % (by wt.)**

20.0 %	352
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Salt Content: **90. lbs. NaCl/1000 bbl..**

25.0 %	400
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Carbon Residue (Conradson): **2.95 % (wt.)**

30.0 %	452
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Pour Point: Unheated: **+25°F.**

35.0 %	486
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Heated: **+25°F.**

40.0 %	520
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41.0 %	525
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45.0 %	562
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50.0 %	591
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55.0 %	614
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Reid Vapor Pressure: **1.1 psig.**

Cracked at **615**

VISCOSITY:	Kinematic	Saybolt Universal
<u>°F.</u>	<u>Centistokes</u>	<u>Seconds</u>
50	41.9	194.2
70	20.2	98.5
100	9.6	54.8

Distillation Summary

Water		1.0 %
400 F.	Naphtha	24.0 %
525 F.	Kerosine	16.0 %

Remarks:

Two samples submitted, only one sample analyzed.