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DEPARTMENT OF MINES AND TECHNICAL SURVEYS

MINES BRANCH

ANALYSES OF CANADIAN CRUDE OILS

BY

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CONTENTS

Analyses of Canadian Crude Oils

This report presents the analyses of eighty-eight samples of crude oils received at the Fuel Research Laboratories during the period from 1931 to 1950. These samples do not represent all crude oil sources in Canada. They include samples collected in connection with field work by officers of the Fuels Division, those samples requested by the Division from time to time, and those sent in by others for analysis. Analyses of three crude oils from the United States are included for interest and comparison.

Each analysis includes distillation by the Hempel method, specific gravity, sulphur content, water content, colour, cloud and pour points, viscosity, and carbon residue. All methods of test are in accordance with the American Society for Testing Materials, except the Hempel distillation, which is a United States Bureau of Mines method. The methods are the same as used for a previous report[1], which allows for a ready comparison of the results given in the two reports. The Correlation Index figures for the Hempel fractions were calculated according to the procedure shown in United States Bureau of Mines Technical Paper 610. The Approximate Summary provides an abbreviated picture of the crude's properties. Many of the samples were examined further by other methods, but the Hempel distillation is presented here as a good basis for preliminary comparison of crude oils.

The writers wish to express their appreciation to all those who provided or shipped samples to the laboratory.

1. Analyses of Canadian Crude Oils, Naphthas, Shale Oil, and Bitumen; by P. V. Rosewarne *et al*; Rept. No. 765, Mines Branch, Dept. of Mines and Technical Surveys.

ANALYSIS OF CRUDE OIL

Origin

Field: **Aldersyde**
Well: **New Valley No. 1**
Location: Ls. 4, sec. 6., tp. 21, rge. 2, W. 5th
Depth: 6,670 feet.

Province: **Alberta**
Sample from: F. M. Steel
Date: January, 1937

Characteristics

Specific gravity at 60°F: 0·836
Sulphur, % by weight: 0·12
Water, % by vol. (A.S.T.M.): Trace

Degrees A.P.I. at 60°F.: 37·8
Colour: Dark green
Pour point: 50°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 750 mm. First drop, 34°C. (93°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	0·4	0·4					
2	75	167	0·7	1·1	0·708	68·4	.....	.....	.....
3	100	212	2·1	3·2					
4	125	257	5·7	8·9	0·743	58·9	23	.....	.....
5	150	302	5·8	14·7	0·759	54·9	23	.....	.....
6	175	347	5·1	19·8	0·773	51·6	23	.....	.....
7	200	392	4·9	24·7	0·786	48·5	23	.....	.....
8	225	437	5·3	30·0	0·799	45·6	24	.....	.....
9	250	482	6·4	36·4	0·812	42·8	24	.....	.....
10	275	527	7·1	43·5	0·824	40·2	25	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	5·5	49·0	0·838	37·4	28	40	25
12	225	437	7·1	56·1	0·845	36·0	28	46	45
13	250	482	6·6	62·7	0·854	34·2	28	59	65
14	275	527	6·3	69·0	0·863	32·5	30	82	80
15	300	572	7·3	76·3	0·872	30·8	31	132	95
Residuum.....			21·7	98·0	.....	.....	.....	.....	.....

Carbon residue of residuum: 2·1% Carbon residue of crude: 0·5%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	3·2	0·708	68·4	.....
Total gasoline and naphtha.....	24·7	0·757	55·4	.....
Kerosene distillate.....	18·8	0·813	42·6	.....
Gas oil.....	11·2	0·841	36·8	Below 50
Nonviscous distillate.....	13·6	0·848—0·866	35·4—31·9	50—100
Medium distillate.....	8·0	0·866—0·877	31·9—29·9	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	21·7	.....	.....	.....
Distillation loss.....	2·0	.....	.....	.....
Base of crude.....	Paraffin (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Athabaska** Province: **Alberta**
Well: **Athadome No. 2** Sample from: Athadome Oil Co.
Location: Ls. 3, sec. 15, tp. 66, rge. 23, W. 4th Date: May 22, 1933

Characteristics

Specific gravity at 60°F.: 0·993 Degrees A.P.I. at 60°F.: 11·0
Sulphur, % by weight: 4·0 Colour: Black
Water, % by vol. (A.S.T.M.): 5·0 Pour point: 30°F.
Water and sediment, by vol.: — (by centrifuge)
Viscosity, Saybolt, Furol, at 100°F., 1,090 secs.

Distillation, Hempel Method

Distillation at atmospheric pressure, 761 mm. First drop, 125°C. (257°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	.....	.....	.....	.....	.....	.....	.....
4	125	257	.....	.....	.....	.....	.....	.....	.....
5	150	302	.....	.....	.....	.....	.....	.....	.....
6	175	347	0·9	0·9	0·803	44·7	.....	.....	.....
7	200	392	1·1	2·0	0·822	40·6	40	.....	.....
8	225	437	1·7	3·7	0·838	37·4	42	.....	.....
9	250	482	2·6	6·3	0·850	35·0	42	.....	.....
10	275	527	5·1	11·4	0·864	32·3	44	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	1·5	12·9	0·875	30·2	46	39 secs.	Below 5
12	225	437	6·3	19·2	0·894	26·8	51	48 "	" 5
13	250	482	5·8	25·0	0·910	24·0	55	60 "	" 5
14	275	527	8·4	33·4	0·927	21·1	60	131 "	5
15	300	572	4·5	37·9	0·935	19·8	61	280 "	10
Residuum			60·9	98·8	.....	.....	.....	.....	.....

Carbon residue of residuum: 20·8% Carbon residue of crude: 12·7%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	.....	.....	.....	.....
Total gasoline and naphtha	2·0	0·813	42·6	.....
Kerosene distillate	.....	.....	.....	.....
Gas oil	14·9	0·865	32·1	Below 50
Nonviscous distillate	9·2	0·896—0·919	26·4—22·5	50—100
Medium distillate	6·0	0·919—0·930	22·5—20·7	100—200
Viscous distillate	5·8	0·930—0·938	20·7—19·4	Above 200
Residuum	60·9	.....	.....	.....
Distillation loss	1·2	.....	.....	.....
Base of crude	Hybrid	.....	.....	.....

ANALYSIS OF CRUDE OIL

Origin

Field: **Blood Indian Reserve** Province: **Alberta**
Well: **Northwest—West No. 1** Sample from: F. M. Steel
Location: Ls. 3, sec. 20, tp. 5, rge. 23, W. 4th Date: January 22, 1941

Characteristics

Specific gravity at 60°F.: 0·848 Degrees A.P.I. at 60°F.: 35·4
Suplhur, % by weight: 0·81 Colour: Dark green
Water and sediment, by vol.: 0·3 (by centrifuge) Pour point: 20°F.
Viscosity, Saybolt Universal, at 70°F., 53 secs.; at 100°F., 42 secs.

Distillation, Hempel Method

Distillation at atmospheric pressure, 760 mm. First drop, 38°C. (100°F.)

Fraction cut			Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
No.	at °C.	at °F.							
1	50	122	0·3	0·3	.....	.....	.....	.....	.....
2	75	167	1·7	2·0	0·683	75·7	.....	.....	.....
3	100	212	1·6	3·6	0·716	66·1	19	.....	.....
4	125	257	4·4	8·0	0·738	60·2	21	.....	.....
5	150	302	6·8	14·8	0·759	54·9	23	.....	.....
6	175	347	6·3	21·1	0·779	50·1	26	.....	.....
7	200	392	6·4	27·5	0·793	46·9	26	.....	.....
8	225	437	6·8	34·3	0·807	43·8	27	.....	.....
9	250	482	7·3	41·6	0·820	41·1	28	.....	.....
10	275	527	8·2	49·8	0·837	37·6	32	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	5·3	55·1	0·854	34·2	36	40 secs.	15°F.
12	225	437	6·6	61·7	0·864	32·3	37	47 "	35
13	250	482	7·6	69·3	0·877	29·9	39	63 "	55
14	275	527	4·4	73·7	0·889	27·7	42	94 "	75
15	300	572	6·7	80·4	0·895	26·6	42	155 "	90
Residuum.....			19·2	99·6	0·936	19·7	.....	.....	.....

Carbon residue of residuum: 5·4% Carbon residue of crude: 1·0%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	3·6	0·698	71·2	.....
Total gasoline and naphtha.....	27·5	0·760	54·7	.....
Kerosene distillate.....	14·1	0·814	42·3	.....
Gas oil.....	18·1	0·848	35·4	Below 50
Nonviscous distillate.....	12·4	0·867—0·890	31·7—27·5	50—100
Medium distillate.....	8·3	0·890—0·899	27·5—25·9	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	19·2	0·936	19·7	.....
Distillation loss.....	0·4	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Blood Indian Reserve**
Well: **Northwest—West No. 1**
Location: Ls. 3, sec. 20, tp. 5, rge. 23, W. 4th
Depth: 6,202 feet

Province: **Alberta**
Sample from: F. M. Steel
Date: January 28, 1941

Characteristics

Specific gravity at 60°F.: 0·846
Sulphur, % by weight: 0·80
Water and sediment, by vol.: 0·1% (by centrifuge)
Degrees A.P.I. at 60°F.: 35·8
Colour: Dark green
Pour point: 15°F.
Viscosity, Saybolt Universal, at 70°F., 49 secs.; at 100°F., 40 secs.

Distillation, Hempel Method

Distillation at atmospheric pressure, 754 mm. First drop, 40°C. (104°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	0·5	0·5	0·678	77·2	.....	.....	.....
2	75	167	1·3	1·8					
3	100	212	3·2	5·0	0·716	66·1	19	.....	.....
4	125	257	5·7	10·7	0·740	59·7	22	.....	.....
5	150	302	7·0	17·7	0·761	54·4	24	.....	.....
6	175	347	6·0	23·7	0·779	50·1	26	.....	.....
7	200	392	6·1	29·8	0·794	46·7	27	.....	.....
8	225	437	6·3	36·1	0·808	43·6	28	.....	.....
9	250	482	6·2	42·3	0·822	40·6	29	.....	.....
10	275	527	7·2	49·5	0·835	38·0	31	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	5·3	54·8	0·851	34·8	34	40	10
12	225	437	6·5	61·3	0·862	32·7	36	47	35
13	250	482	7·0	68·3	0·876	30·0	39	61	55
14	275	527	6·1	74·4	0·888	27·9	41	93	70
15	300	572	6·1	80·5	0·896	26·4	42	158	90
Residuum			19·0	99·5	0·931	20·5	.....	.....	.....

Carbon residue of residuum: 4·9% Carbon residue of crude: 0·9%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	5·0	0·702	70·1	.....
Total gasoline and naphtha	29·8	0·757	55·4	.....
Kerosene distillate	12·5	0·815	42·1	.....
Gas oil	17·2	0·847	35·6	Below 50
Nonviscous distillate	12·6	0·865—0·889	32·1—27·7	50—100
Medium distillate	8·4	0·889—0·900	27·7—25·7	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	19·0	0·931	20·5	.....
Distillation loss	0·5	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Blood Indian Reserve** Province: **Alberta**
Well: **Northwest—West No. 1** Sample from: F. M. Steel
Location: Ls. 3, sec. 20, tp. 5, rge. 23, W. 4th Date: April 29, 1941
Depth: 2,100 feet

Characteristics

Specific gravity at 60°F.: 0·846 Degrees A.P.I. at 60°F.: 35·8
Sulphur, % by weight: 1·00 Colour: Dark green
Water, % by vol. (A.S.T.M.): 1·6 Pour point: 35°F.
Water and sediment by vol.: 2·4
(by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 54 secs.; at 100°F., 42 secs.

Distillation, Hempel Method

Distillation at atmospheric pressure, 751 mm. First drop, 40°C. (104 °F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	2·3	2·3	0·677	77·5	.....	.....	.....
3	100	212	9·6	11·9	0·727	63·1	25	.....	.....
4	125	257	2·0	13·9	0·749	57·4	26	.....	.....
5	150	302	3·4	17·3	0·764	53·7	26	.....	.....
6	175	347	7·1	24·4	0·778	50·4	25	.....	.....
7	200	392	4·9	29·3	0·793	46·9	26	.....	.....
8	225	437	6·3	35·6	0·805	44·3	26	.....	.....
9	250	482	6·9	42·5	0·819	41·3	28	.....	.....
10	275	527	6·2	48·7	0·835	38·0	31	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	4·3	53·0	0·850	35·0	34	39	10
12	225	437	6·8	59·8	0·859	33·2	34	45	30
13	250	482	6·1	65·9	0·873	30·6	37	56	50
14	275	527	6·3	72·2	0·885	28·4	40	81	70
15	300	572	4·9	77·1	0·892	27·1	40	137	90
Residuum			21·0	98·1	0.937	19·5	.....	.....	.....

Carbon residue of residuum: 5·4% Carbon residue of crude: 1·1%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	11·9	0·717	65·9	.....
Total gasoline and naphtha	29·3	0·752	56·7	.....
Kerosene distillate	13·2	0·812	42·8	.....
Gas oil	16·7	0·848	35·4	Below 50
Nonviscous distillate	11·7	0·865—0·888	32·1—27·9	50—100
Medium distillate	6·2	0·888—0·895	27·9—26·6	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	21·0	0·937	19·5	.....
Distillation loss	1·9	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Blood Indian Reserve**
Well: **Lethbridge Pete No. 1**
Location: Ls. 12, sec. 11, tp. 8, rge. 22, W. 4th

Province: **Alberta**
Sample from: F. M. Steel
Date: July 10, 1941

Characteristics

Specific gravity at 60°F.: 0·885
Sulphur, % by weight: 0·93
Water, % by vol. (A.S.T.M.): 1·5
Water and sediment, % by vol.: 1·5 (by centrifuge)

Degrees A.P.I. at 60°F.: 28·4
Colour: Dark green
Pour point: 45°F.

Viscosity, Saybolt Universal, at 70°F., 131 secs.; at 100°F., 67 secs.

Distillation, Hempel Method

Distillation at atmospheric pressure, 756 mm. First drop, 90°C. (194°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	.....	.....	.....	.....	.....	.....	.....
4	125	257	2·3	2·3	0·746	58·2	.....	.....	.....
5	150	302	1·4	3·7	0·772	51·8	29	.....	.....
6	175	347	2·4	6·1	0·783	49·2	28	.....	.....
7	200	392	3·5	9·6	0·795	46·5	27	.....	.....
8	225	437	4·3	13·9	0·809	43·4	28	.....	.....
9	250	482	5·4	19·3	0·822	40·6	29	.....	.....
10	275	527	9·2	28·5	0·838	37·4	32	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	9·5	38·0	0·856	33·8	37	40 secs.	20
12	225	437	7·8	45·8	0·868	31·5	38	46 "	35
13	250	482	7·0	52·8	0·881	29·1	41	59 "	55
14	275	527	7·5	60·3	0·887	28·0	41	81 "	70
15	300	572	9·7	70·0	0·896	26·4	42	141 "	85
Residuum.....			28·0	98·0	0·954	16·8	.....	.....	.....

Carbon residue of residuum: 7·9% Carbon residue of crude: 2·2%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	.....	.....	.....	.....
Total gasoline and naphtha.....	9·6	0·777	50·6	.....
Kerosene distillate.....	9·7	0·816	41·9	.....
Gas oil.....	25·1	0·852	34·6	Below 50
Nonviscous distillate.....	14·8	0·872—0·890	30·8—27·5	50—100
Medium distillate.....	10·8	0·890—0·901	27·5—25·6	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	28·0	0·954	16·8	.....
Distillation loss.....	2·0	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Blood Indian Reserve**
Well: **Northwest Treaty No. 1**
Location: Ls. 4, sec. 17, tp. 8, rge. 23, W. 4th

Province: **Alberta**
Sample from: F. M. Steel
Date: August 14, 1941

Characteristics

Specific gravity at 60°F.: 0·868
Sulphur, % by weight: 1·5
Water, % by vol. (A.S.T.M.): 7·0
Water and sediment, % by vol.: 9·0 (by centrifuge)
Viscosity, Saybolt Universal, at 100°F., 47 secs.

Degrees A.P.I. at 60°F.: 31·5
Colour: Dark green

Pour point: 15°F.

Distillation, Hempel Method

Distillation* at atmospheric pressure, 752 mm. First drop, 55°C. (131°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	1·1	1·1	.....	.....	.....	.....	.....
3	100	212	1·0	2·1	0·706	68·9	.....	.....	.....
4	125	257	4·1	6.2	0·741	59·5	22	.....	.....
5	150	302	5·8	12·0	0·764	53·7	26	.....	.....
6	175	347	7·6	19·6	0·784	49·0	28	.....	.....
7	200	392	5·9	25·5	0·799	45·6	29	.....	.....
8	225	437	5·3	30·8	0·811	43·0	29	.....	.....
9	250	482	7·7	38·5	0·828	39·4	32	.....	.....
10	275	527	6·7	45·2	0·843	36·4	34	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	6·1	51·3	0·858	33·4	37	41 secs.	10
12	225	437	5·9	57·2	0·870	31·1	39	48 "	30
13	250	482	6·9	64·1	0·885	28·4	43	63 "	50
14	275	527	6·4	70·5	0·897	26·3	46	98 "	70
15	300	572	6·8	77·3	0·906	24·7	47	179 "	90
Residuum.....			22·2	99·5	0·970	14·4	.....	.....	.....

Carbon residue of residuum: 10·6% Carbon residue of crude: 2·4%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	2·1	0·706	68·9	.....
Total gasoline and naphtha.....	25·5	0·770	52·3	.....
Kerosene distillate.....	5·3	0·811	43·0	.....
Gas oil.....	24·3	0·846	35·8	Below 50
Nonviscous distillate.....	12·3	0·872—0·897	30·8—26·3	50—100
Medium distillate.....	8·1	0·897—0·908	26·3—24·3	100—200
Viscous distillate.....	1·8	0·908—0·911	24·3—23·8	Above 200
Residuum.....	22·2	0·970	14·4	.....
Distillation loss.....	0·5	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

*Distillation was made on sample after dehydration.

ANALYSIS OF CRUDE OIL

Origin

Field: **Bragg Creek**
Well: **Moose Oils No. 2**
Location: Ls. 8, sec. 29, tp. 22, rge. 6, W. 5th
Depth: 1,553 feet

Province: **Alberta**
Sample from:
Date: October 23, 1937

Characteristics

Specific gravity at 60°F.: 0·804
Sulphur, % by weight: 1·12
Water and sediment, % by vol.: 0·2 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 31 secs.

Degrees A.P.I. at 60°F.: 44·5
Colour: A.S.T.M. No. 3
Cloud point: 20°F.
Pour point: −10°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 757 mm. First drop, 29°C. (84°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	0·5	0·5	0·676	77·8	.....	.....	.....
2	75	167	1·2	1·7					
3	100	212	4·8	6·5	0·719	65·3	21	.....	.....
4	125	257	18·7	25·2	0·746	58·2	25	.....	.....
5	150	302	17·7	42·9	0·773	51·6	30	.....	.....
6	175	347	12·6	55·5	0·791	47·4	32	.....	.....
7	200	392	9·4	64·9	0·805	44·3	32	.....	.....
8	225	437	7·8	72·7	0·820	41·1	33	.....	.....
9	250	482	6·5	79·2	0·838	37·4	37	.....	.....
10	275	527	5·9	85·1	0·858	33·4	41	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	4·6	89·7	0·886	28·2	51	41	20
12	225	437	3·3	93·0	0·905	24·9	56	52	40
13	250	482	2·1	95·1	0·919	22·5	59	69	60
14	275	527	1·3	96·4	0·936	19·7	64	100	75
15	300	572	1·6	98·0	0·944	18·4	65	170	90
Residuum.....			1·2	99·2	.....	.....	.....	.....	.....

Carbon residue of residuum: 11·0% Carbon residue of crude: 0·1%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	6·5	0·708	68·4	.....
Total gasoline and naphtha.....	64·9	0·767	53·0	.....
Kerosene distillate.....	7·8	0·820	41·1	.....
Gas oil.....	17·9	0·860	33·0	Below 50
Nonviscous distillate.....	5·2	0·902—0·936	25·4—19·7	50—100
Medium distillate.....	2·0	0·936—0·946	19·7—18·1	100—200
Viscous distillate.....	0·2	0·946—0·948	18·1—17·8	Above 200
Residuum.....	1·2	.....	.....	.....
Distillation loss.....	0·8	.....	.....	.....
Base of crude.....	Intermediate-naphthene or Hybrid (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Brazeau**
Well: **Home-Brazeau No. 1**
Location: Ls. 16, sec. 7, tp. 43, rge. 17, W. 5th

Province: **Alberta**
Sample from: F. M. Steel
Date: August 28, 1940

Characteristics

Specific gravity, at 60°F.: 0·763
Sulphur, % by weight: 0·16
Water and sediment, % by vol.: 0·03 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 30 secs.

Degrees A.P.I. at 60°F.: 54·0
Colour: Standard white
Cloud point: 10°F.
Pour point: Below −30°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 745 mm. First drop, 33°C. (91°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	0·7	0·7					
2	75	167	0·8	1·5	0·701	70·4	.....	.....	.....
3	100	212	2·0	3·5					
4	125	257	8·0	11·5	0·740	59·7	22	.....	.....
5	150	302	17·9	29·4	0·751	56·9	19	.....	.....
6	175	347	20·5	49·9	0·760	54·7	17	.....	.....
7	200	392	20·0	69·9	0·766	53·2	14	.....	.....
8	225	437	14·1	84·0	0·779	50·1	14	.....	.....
9	250	482	8·2	92·2	0·793	46·9	15	.....	.....
10	275	527*	2·3	94·5	0·805	44·3	16	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	.....	.....	.....	.....	.....	.....	.....
12	225	437	.....	.....	.....	.....	.....	.....	.....
13	250	482	.....	.....	.....	.....	.....	.....	.....
14	275	527	.....	.....	.....	.....	.....	.....	.....
15	300	572	.....	.....	.....	.....	.....	.....	.....
Residuum			4·0	98·5	0·816	41·9	.....	.....	70

Carbon residue of residuum: 0·2% Carbon residue of crude: 0·01%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	3·5	0·701	70·4	.....
Total gasoline and naphtha	69·9	0·754	56·2	.....
Kerosene distillate	24·6	0·786	48·5	.....
Gas oil	.....	.....	.....	Below 50
Nonviscous distillate	.....	.....	.....	50—100
Medium distillate	.....	.....	.....	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	4·0	0·816	41·9	.....
Distillation loss	1·5			
Base of crude	Paraffin (wax-bearing)			

*Cracking at 260° C. (500° F.)

ANALYSIS OF CRUDE OIL

Origin

Field: **Brazeau**
Well: **Home Brazeau No. 1**
Location: Ls. 16, sec. 7, tp. 43, rge. 17, W. 5th

Province: **Alberta**
Sample from: F. M. Steel
Date: August 22, 1940

Characteristics

Specific gravity at 60°F.: 0·751
Sulphur, % by weight: 0·16

Water and sediment, by vol.: Nil
(by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 29 secs.

Degrees A.P.I. at 60°F.: 56·9
Colour: A.S.T.M. No. 1.
Cloud point: 25°F.
Pour point: Below −30°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 751 mm. First drop, 30°C. (86°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	1·6	1·6	0·666	81·0	.....	.....	.....
2	75	167	2·1	3·7					
3	100	212	7·9	11·6	0·717	65·9	20	.....	.....
4	125	257	21·4	33·0	0·740	59·7	22	.....	.....
5	150	302	20·3	53·3	0·755	55·9	21	.....	.....
6	175	347	18·3	71·6	0·761	54·4	17	.....	.....
7	200	392	9·7	81·3	0·769	52·5	15	.....	.....
8	225	437	7·3	88·6	0·779	50·1	14	.....	.....
9	250	482	4·9	93·5	0·791	47·4	14	.....	.....
10	275	527*	1·2	94·7	0·806	44·1	.....	.....	.....

Distillation continued at 40 mm. pressure:

11	200	392	.....	.....	.....	.....	.....	.....	.....
12	225	437	.....	.....	.....	.....	.....	.....	.....
13	250	482	.....	.....	.....	.....	.....	.....	.....
14	275	527	.....	.....	.....	.....	.....	.....	.....
15	300	572	.....	.....	.....	.....	.....	.....	.....
Residuum			3·4	98·1	0·816	41·9	.....	.....	100

Carbon residue of residuum: 0·3% Carbon residue of crude: 0·01%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	11·6	0·701	70·4	.....
Total gasoline and naphtha	81·3	0·746	58·2	.....
Kerosene distillate	13·4	0·786	48·5	.....
Gas oil	.....	.....	.....	Below 50
Nonviscous distillate	.....	.....	.....	50—100
Medium distillate	.....	.....	.....	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	3·4	0·816	41·9	.....
Distillation loss	1·9	.....	.....	.....
Base of crude	Paraffin (wax-bearing)			

*Cracking at 260°C. (500°F.)

ANALYSIS OF CRUDE OIL

Origin

Field: **Campbell**
Well: **Redwater Leaseholds**
Campbell No. 3
Location: Ls. 5, sec. 27, tp. 54, rge. 25, W. 4th

Province: **Alberta**
Sample from: E. Woods
Date: October 30, 1950

Characteristics

Specific gravity at 60°F.: 0·853
Sulphur, % by weight: 0·85
Water, % by vol. (A.S.T.M.): Nil
Water and sediment, % by vol.: 0·6
(by centrifuge)
Viscosity, Saybolt Universal, at 70°F.: 59 secs.; at 100°F.: 44 secs.

Degrees A.P.I. at 60°F.: 34·4
Colour: Brownish black
Pour point: −15°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 763 mm. First drop, 34°C. (93°F.)

Fraction cut			Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
No.	at °C.	at °F.							
1	50	122	1·1	1·1	0·668	80·3	.....	.....	.....
2	75	167	2·7	3·8	0·675	78·1	10	.....	.....
3	100	212	4·6	8·4	0·710	67·8	17	.....	.....
4	125	257	5·5	13·9	0·738	60·2	21	.....	.....
5	150	302	6·2	20·1	0·759	54·9	23	.....	.....
6	175	347	5·2	25·3	0·778	50·4	25	.....	.....
7	200	392	4·3	29·6	0·797	46·0	28	.....	.....
8	225	437	5·2	34·8	0·810	43·2	29	.....	.....
9	250	482	5·0	39·8	0·824	40·2	30	.....	.....
10	275	527	6·7	46·5	0·838	37·4	32		
Distillation continued at 40 mm. pressure									
11	200	392	6·2	52·7	0·857	33·6	37	39	5
12	225	437	4·9	57·6	0·867	31·7	38	47	30
13	250	482	5·5	63·1	0·882	28·9	42	63	50
14	275	527	5·1	68·2	0·892	27·1	43	97	70
15	300	572	5·7	73·9	0·903	25·2	46	189	85
Residuum.....			24·8	98·7	0·954	16.8	.....	.....	.....

Carbon residue of residuum: 9·4% Carbon residue of crude: 2·3%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	8·4	0·693	72·7	.....
Total gasoline and naphtha.....	29·6	0.745	58.4	.....
Kerosene distillate.....	10·2	0·817	41.7	.....
Gas oil.....	16.2	0·851	34·8	Below 50
Nonviscous distillate.....	9·8	0·870—0·893	31·1—27·0	50—100
Medium distillate.....	6·0	0·893—0.904	27·0—25·0	100—200
Viscous distillate.....	2·1	0·904—0·909	25·0—24·2	Above 200
Residuum.....	24·8	0·954	16·8	.....
Distillation loss.....	1.3	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Dina**

Province: **Alberta**
Sample from: Dina O. & R. Co.
Date: November 21, 1938

Characteristics

Specific gravity at 60°F.: 0·967
Sulphur, % by weight: 2·9
Water and sediment, % by vol.: 12·0 (by centrifuge)
Viscosity, Saybolt Furol, at 100°F., 328 secs.

Degrees A.P.I. at 60°F.: 14·8
Colour: Black
Pour point: 10°F.

Distillation, Hempel Method

Distillation* at atmospheric pressure, 748 mm. First drop approx., 180°C. (356°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	.....	.....	.....	.....	.....	.....	.....
4	125	257	.....	.....	.....	.....	.....	.....	.....
5	150	302	.....	.....	.....	.....	.....	.....	.....
6	175	347	.....	.....	.....	.....	.....	.....	.....
7	200	392	.....	.....	.....	.....	.....	.....	.....
8	225	437	1.7	1·7	0.847	35·6	46	.....	.....
9	250	482	4·4	6.1	0.856	33·8	45	.....	.....
10	275	527	5·7	11·8	0·868	31·5	46	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	5·1	16·9	0·883	28·8	49	41	.....
12	225	437	5·4	22·3	0·893	27·0	50	52	.....
13	250	482	6·6	28·9	0·909	24·2	55	76	.....
14	275	527	6·7	35·6	0·922	22·0	58	139	.....
15	300	572	8·8	44·4	0·932	20·3	59	278	Below −5
Residuum			54·2	98·6	1·004	9·4	.....	.....	.....

Carbon residue of residuum: 16·9% Carbon residue of crude: 9·2%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	.....	.....	.....	.....
Total gasoline and naphtha	.....	.....	.....	.....
Kerosene distillate	.....	.....	.....	.....
Gas oil	18.7	0·870	31·1	Below 50
Nonviscous distillate	9.5	0·891—0·914	27·3—23·3	50—100
Medium distillate	7.4	0·914—0·926	23·3—21·3	100—200
Viscous distillate	8.8	0·926—0·937	21·3—19·5	Above 200
Residuum	54.2	1·004	9·4	.....
Distillation loss	1.4	.....	.....	.....
Base of crude	Naphthene—Intermediate (wax-free)			

*Distillation was made on sample after dehydration.

ANALYSIS OF CRUDE OIL

Origin

Field: **Dina***
Well: **Dina No. 4**
Location: Ls. 13, sec. 9, tp. 45, rge. 1, W. 4th

Province: **Alberta**
Sample from: E. Swain
Date: November 13, 1940

Characteristics

Specific gravity at 60°F.: 0·971
Sulphur, % by weight: 2·8
Water, % by vol. (A.S.T.M.): 21·0 (by centrifuge)
Water and sediment, % by vol.: 25·0
Viscosity, Saybolt Furol, at 122°F., 160 secs.

Degrees A.P.I. at 60°F.: 14·2
Colour: Black
Pour point: 10°F.

Distillation, Hempel Method

Distillation ** at atmospheric pressure, 757 mm.

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	.....	.....	.....	.....	.....	.....	.....
4	125	257	.....	.....	.....	.....	.....	.....	.....
5	150	302	.....	.....	.....	.....	.....	.....	.....
6	175	347	.....	.....	.....	.....	.....	.....	.....
7	200	392	0·5	0·5	.....	.....	.....	.....	.....
8	225	437	1·8	2·3	0·846	35·8	46	.....	.....
9	250	482	3·3	5·6	0·857	33·6	46	.....	.....
10	275	527	7·4	13·0	0·868	31·5	46	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	3·4	16·4	0·887	28·0	51	44 secs.	.....
12	225	437	6·4	22·8	0·896	26·4	52	52 "	.....
13	250	482	7·0	29·8	0·911	23·8	55	76 "	.....
14	275	527	7·4	37·2	0·925	21·5	59	140 "	0
15	300	572	8·2	45·4	0·936	19·7	61	309 "	10
Residuum			53·7	99·1	1·010	8·6	.....	.....	.....

Carbon residue of residuum: 16·9% Carbon residue of crude: 9·1%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	.....	.....	.....	.....
Total gasoline and naphtha	.....	.....	.....	.....
Kerosene distillate	.....	.....	.....	.....
Gas oil	18·5	0·870	31·1	Below 50
Nonviscous distillate	10·7	0·894—0·916	26·8—23·0	50—100
Medium distillate	7·0	0·916—0·929	23·0—20·8	100—200
Viscous distillate	9·2	0·929—0·942	20·8—18·7	Above 200
Residuum	53·7	1·010	8·6	.....
Distillation loss	0·9	.....	.....	.....
Base of crude	Naphthene (wax-bearing)			

*Originally called "Ribstone".
**Distillation was made on sample after dehydration.

ANALYSIS OF CRUDE OIL

Origin

Field: **Golden Spike**
Well: **Imperial Schoepp No. 1**
Location: Ls. 9, sec. 22, tp. 51, rge. 27, W. 4th (Tank sample)

Province: **Alberta**
Sample from: C. J. Stewart
Date: June 28, 1950

Characteristics

Specific gravity at 60°F.: 0·843
Sulphur, % by weight: 0·24
Water, % by vol. (A.S.T.M.): Nil
Water and sediment, % by vol.: 0·6 (by centrifuge)

Degrees A.P.I. at 60°F.: 36·4
Colour: Dark green
Pour point: 20°F.

Viscosity, Saybolt Universal, at 70°F., 57 secs.; at 100°F., 43 secs.

Distillation, Hempel Method

Distillation at atmospheric pressure, 751 mm. First drop, 24°C. (75°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	2·2	2·2	0·651	85·9	.....	.....	.....
2	75	167	2·6	4·8	0·687	74·5	16	.....	.....
3	100	212	5·5	10·3	0·721	64·8	22	.....	.....
4	125	257	5·7	16·0	0·744	58·7	24	.....	.....
5	150	302	6·5	22·5	0·768	52·7	27	.....	.....
6	175	347	4·1	26·6	0·791	47·4	32	.....	.....
7	200	392	4·7	31·3	0·805	44·3	32	.....	.....
8	225	437	4·9	36·2	0·820	41·1	33	.....	.....
9	250	482	4·7	40·9	0·831	38·8	33	.....	.....
10	275	527	5·5	46·4	0·841	36·8	33	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	4·4	50·8	0·854	34·2	36	40	15
12	225	437	5·3	56·1	0·860	33·0	35	47	30
13	250	482	5·1	61·2	0·872	30·8	37	60	50
14	275	527	5·0	66·2	0·884	28·6	40	100	70
15	300	572	6·7	72·9	0·895	26·6	42	184	85
Residuum.....			24·8	97·7	0·942	18·7	.....	.....	.....

Carbon residue of residuum: 7·2% Carbon residue of crude: 1·8%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	10·3	0·697	71·5	.....
Total gasoline and naphtha.....	31·3	0·749	57·4	.....
Kerosene distillate.....	4·9	0·820	41·1	.....
Gas oil.....	18·6	0·845	36·0	Below 50
Nonviscous distillate.....	8·9	0·863—0·884	32·5—28·6	50—100
Medium distillate.....	7·0	0·884—0·897	28·6—26·3	100—200
Viscous distillate.....	2·2	0·897—0·901	26·3—25·6	Above 200
Residuum.....	24·8	0·942	18·7	.....
Distillation loss.....	2·3	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Leduc**
Well: **Imperial Leduc No. 1**
Location: Ls. 5, sec. 22, tp. 50, rge. 26, W. 4th
Depth: 5,066 feet

Province: **Alberta**
Sample from: Imperial Oil, Ltd.
Date: October 21, 1947

Characteristics

Specific gravity at 60°F.: 0·825
Sulphur, % by weight: 0·42
Water, % by vol. (A.S.T.M.): Nil
Viscosity, Saybolt Universal, at 70°F., 40 secs.; at 100°F., 37 secs.

Degrees A.P.I. at 60°F.: 40·0
Colour: Dark green
Pour point: −10°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 760 mm. First drop, 25°C. (77°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	2·9	2·9	0·645	87·9	.....	.....	.....
2	75	167	3·4	6·3	0·677	77·5	11	.....	.....
3	100	212	5·4	11·7	0·716	66·1	19	.....	.....
4	125	257	6·9	18·6	0·745	58·4	24	.....	.....
5	150	302	6·3	24·9	0·764	53·7	26	.....	.....
6	175	347	5·3	30·2	0·781	49·7	27	.....	.....
7	200	392	5·2	35·4	0·797	46·0	28	.....	.....
8	225	437	5·0	40·4	0·812	42·8	30	.....	.....
9	250	482	5·0	45·4	0·825	40·0	31	.....	.....
10	275	527	5·9	51·3	0·837	37·6	32	.....	.....

Distillation continued at 40 mm. pressure:

11	200	392	4·2	55·5	0·850	35·0	34	40	10
12	225	437	5·2	60·7	0·858	33·4	34	47	35
13	250	482	5·9	66·6	0·871	31·0	37	62	55
14	275	527	4·8	71·4	0·885	28·4	40	99	75
15	300	572	5·3	76·7	0·894	26·8	41	195	90
Residuum.....			20·2	96·9	0·938	19·4	.....	.....	.....

Carbon residue of residuum: 7·5% Carbon residue of crude: 1·5%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	11·7	0·687	74·5	.....
Total gasoline and naphtha.....	35·4	0·742	59·2	.....
Kerosene distillate.....	10·0	0·818	41·5	.....
Gas oil.....	13·9	0·846	35·8	Below 50
Nonviscous distillate.....	9·7	0·861—0·885	32·8—28·4	50—100
Medium distillate.....	5·3	0·885—0·895	28·4—26·6	100—200
Viscous distillate.....	2·4	0·895—0·899	26·6—25·9	Above 200
Residuum.....	20·2	0·938	19·4	.....
Distillation loss.....	3·1	.....	.....	.....
Base of crude.....	Intermediate (wax present)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Leduc**
Wells: **Home-Anglo Woodbend Nos. 5, 6, 12, 14 and 17.** (Tank sample)
Location: All on S½ sec. 4, tp. 51, rge. 26, W. 4th
Production D_3 Zone

Province: **Alberta**
Sample from: C. J. Stewart
Date: June 29, 1950

Characteristics

Specific gravity at 60°F.: 0·828
Sulphur, % by weight: 0·36
Water, % by vol. (A.S.T.M.): Nil
Water and sediment, % by vol.: 0·3 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 41 secs.; at 100°F., 38 secs.

Degrees A.P.I. at 60°F.: 39·4
Colour: Brownish green
Pour point: −15°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 765 mm. First drop, 24°C. (75°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	2·6	2·6	0·650	86·2	.....	.....	.....
2	75	167	3·0	5·6	0·674	78·4	9·4		
3	100	212	5·2	10·8	0·716	66·1	19	.....	.....
4	125	257	6·6	17·4	0·744	58·7	24	.....	.....
5	150	302	6·3	23·7	0·763	54·0	25	.....	.....
6	175	347	5·5	29·2	0·783	49·2	28	.....	.....
7	200	392	5·3	34·5	0·797	46·0	28	.....	.....
8	225	437	5·0	39·5	0·812	42·8	30	.....	.....
9	250	482	4·7	44·2	0·823	40·4	30	.....	.....
10	275	527	6·6	50·8	0·837	37·6	32	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	5·4	56·2	0·852	34·6	35	38	10
12	225	437	4·9	61·1	0·861	32·8	35	46	30
13	250	482	5·2	66·3	0·875	30·2	38	59	55
14	275	527	2·8	69·1	0·883	28·8	39	81	75
15	300	572	6·7	75·8	0·893	27·0	41	132	90
Residuum.....			22·6	98·4	0·929	20·8	.....	.....	.....

Carbon residue of residuum: 6·6% Carbon residue of crude: 1·5%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	10·8	0·688	74·2	.....
Total gasoline and naphtha.....	34·5	0·744	58·7	.....
Kerosene distillate.....	9·7	0·817	41·7	.....
Gas oil.....	16·0	0·848	35·4	Below 50
Nonviscous distillate.....	9·2	0·865—0·887	32·1—28·0	50—100
Medium distillate.....	6·4	0·887—0·900	28·0—25·7	100—200
Viscous distillate.....	Nil	.....	.....	Above 200
Residuum.....	22·6	0·929	20·8	.....
Distillation loss.....	1·6	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Leduc**
Well: **Imperial Leduc No. 244**
Location: Ls. 3, sec. 32, tp. 50, rge. 26, W. 4th
D_3 Zone

Province: **Alberta**
Sample from: C. J. Stewart
Date: June 29, 1950

Characteristics

Specific gravity at 60°F.: 0·833
Sulphur, % by weight: 0·34
Water, % by vol. (A.S.T.M.): Nil
Water and sediment, % by vol.: 0·3 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 44 secs.; at 100°F., 39 secs.

Degrees A.P.I. at 60°F.: 38·4
Colour: Dark green
Pour point: 0°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 755 mm. First drop, 24°C. (75°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	1·6	1·6	0·667	80·6	.....	.....	.....
2	75	167	2·4	4·0	0·685	75·1	15	.....	.....
3	100	212	5·1	9·1	0·723	64·2	23	.....	.....
4	125	257	7·4	16·5	0·752	56·7	27	.....	.....
5	150	302	6·1	22·6	0·770	52·3	28	.....	.....
6	175	347	6·0	28·6	0·791	47·4	32	.....	.....
7	200	392	4·9	33·5	0·806	44·1	32	.....	.....
8	225	437	5·1	38·6	0·820	41·1	33	.....	.....
9	250	482	5·5	44·1	0·832	38·6	34	.....	.....
10	275	527	6·1	50·2	0·844	36·2	35	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	6·4	56·6	0·860	33·0	38	38	5
12	225	437	5·0	61·6	0·869	31·3	39	47	35
13	250	482	5·1	66·7	0·883	28·8	42	60	55
14	275	527	4·5	71·2	0·892	27·1	43	83	70
15	300	572	5·5	76·7	0·902	25·4	45	147	85
Residuum			21·2	97·9	0·936	19·7	.....	.....	.....

Carbon residue of residuum: 5·8% Carbon residue of crude: 1·2%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	9·1	0·703	69·8	.....
Total gasoline and naphtha	33·5	0·757	55·4	.....
Kerosene distillate	5·1	0·820	41·1	.....
Gas oil	21·6	0·850	35·0	Below 50
Nonviscous distillate	11·1	0·872—0·895	30·8—26·6	50—100
Medium distillate	5·4	0·895—0·908	26·6—24·3	100—200
Viscous distillate	Nil	.....	.....	Above 200
Residuum	21·2	0·936	19·7	.....
Distillation loss	2·1	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Lloydminster**
Well: **Royalties No. 1**
Location: Ls. 4, sec. 36, tp. 49, rge. 1, W. 4th
Depth: 1,925 feet

Province: **Alberta**
Sample from: E. Swain
Date: January 28, 1939

Characteristics

Specific gravity at 60°F.: 0·985
Sulphur, % by weight: 3·92
Water and sediment, % by vol.: 4·2 (by centrifuge)
Viscosity, Saybolt Furol, at 122°F., 475 secs.

Degrees A.P.I. at 60°F.: 12·2
Colour: Black
Pour point: 35°F.

Distillation, Hempel Method

Distillation* at atmospheric pressure, 774 mm. First drop, 190°C. (374°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	.....	.....	.....	.....	.....	.....	.....
4	125	257	.....	.....	.....	.....	.....	.....	.....
5	150	302	.....	.....	.....	.....	.....	.....	.....
6	175	347	.....	.....	.....	.....	.....	.....	.....
7	200	392	0·4	0·4	0·848	35·4	.....	.....	.....
8	225	437	1·9	2·3					
9	250	482	3·3	5·6	0·857	33·6	51	.....	.....
10	275	527	6·9	12·5	0·867	31·7	50	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	3·4	15·9	0·886	28·2	51	41	.....
12	225	437	4·9	20·8	0·897	26·3	52	51	.....
13	250	482	5·6	26·4	0·912	23·7	56	75	.....
14	275	527	6·7	33·1	0·927	21·1	60	137	.....
15	300	572	12·6	45·7	0·939	19·2	63	294	Below −5
Residuum.....			52·4	98·1	1·026	6·4	.....	.....	.....

Carbon residue of residuum: 22·4% Carbon residue of crude: 11·7%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	.....	.....	.....	.....
Total gasoline and naphtha.....	.....	.....	.....	.....
Kerosene distillate.....	.....	.....	.....	.....
Gas oil.....	18·0	0·869	31·3	Below 50
Nonviscous distillate.....	8·1	0·896—0·918	26·4—22·6	50—100
Medium distillate.....	7·4	0·918—0·932	22·6—20·3	100—200
Viscous distillate.....	12·2	0·932—0·947	20·3—17·9	Above 200
Residuum.....	52·4	1·026	6·4	.....
Distillation loss.....	1·9	.....	.....	.....
Base of crude.....	Naphthene (wax-free)			

*Distillation was made on sample after dehydration.

ANALYSIS OF CRUDE OIL

Origin

Field: **Lloydminster**
Well: **Shaw Petroleums No. 2**
Location: Ls. 10, sec. 25, tp. 49, rge 1, W. 4th
Depth: 1,755 to 1,760 feet. Oil from outside pit.

Province: **Alberta**
Sample from: G. S. Hume
Date: September 29, 1931

Characteristics

Specific gravity at 60°F.: 0·976
Sulphur, % by weight: 3·05
Water and sediment, % by vol.: 16 (by centrifuge)
Viscosity, Saybolt, Furol, at 122°F., 176 secs.

Degrees A.P.I. at 60°F.: 13·5
Colour: Black
Pour point: 10°F.

Distillation, Hempel Method

Distillation* at atmospheric pressure, 752 mm.

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	.....	.....	.....	.....	.....	.....	.....
4	125	257	.....	.....	.....	.....	.....	.....	.....
5	150	302	0·2	0·2					
6	175	347	0·2	0·4	0·836	37·8	.....	.....	.....
7	200	392	0·3	0·7					
8	225	437	1·1	1·8					
9	250	482	3·0	4·8	0·949	35·2	37	.....	.....
10	275	527	7·5	12·3	0·867	31·7	46	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	5·3	17·6	0·887	28·0	51	42	.....
12	225	437	6·3	23·9	0·901	25·6	54	53	.....
13	250	482	6·8	30·7	0·917	22·8	58	83	−5
14	275	527	6·5	37·2	0·932	20·3	62	159	10
15	300	572**	8·6	45·8	0·938	19·4	62	238	20
Residuum.....			53·1	98·9	1·019	7·4	.....	.....	.....

Carbon residue of residuum: 19·1% Carbon residue of crude: 10·1%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	.....	.....	.....	.....
Total gasoline and naphtha.....	.....	.....	.....	.....
Kerosene distillate.....	.....	.....	.....	.....
Gas oil.....	19·3	0·869	31·3	Below 50
Nonviscous distillate.....	9·4	0·897—0·920	26·3—22·3	50—100
Medium distillate.....	9·1	0·920—0·935	22·3—19·8	100—200
Viscous distillate.....	8·0	0·935—0·941	19·8—18·9	Above 200
Residuum.....	53·1	1·019	7·4	.....
Distillation loss.....	1·1	.....	.....	.....
Base of crude.....	Naphthene (wax-bearing)			

*Distillation was made on sample after dehydration.
**Distillation discontinued at 290°C. on account of cracking.

ANALYSIS OF CRUDE OIL

Origin

Field: **Lloydminster**
Well: **Lloydminster Royalties No. 1**
Location: Ls. 4, sec. 36, tp. 49, rge. 1, W. 4th

Province: **Alberta**
Sample from: G. S. Hume
Date: September 29, 1939

Characteristics

Specific gravity at 60°F.: 0·983
Sulphur, % by weight: 3·95
Water and sediment, % by vol.: 3·4 (by centrifuge)
Viscosity, Saybolt Furol, at 122°F., 510 secs.

Degrees A.P.I. at 60°F: 12·5
Colour: Black

Pour point: 30°F.

Distillation, Hempel Method

Distillation* at atmospheric pressure, 762 mm.

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	.....	.....	.....	.....	.....	.....	.....
4	125	257	.....	.....	.....	.....	.....	.....	.....
5	150	302	.....	.....	.....	.....	.....	.....	.....
6	175	347	0·2	0·2	0·844	36·2	.....	.....	.....
7	200	392	0·4	0·6					
8	225	437	1·4	2·0	0·848	35·4	47	.....	.....
9	250	482	2·3	4·3	0·864	32·3	49	.....	.....
10	275	527	6·9	11·2	0·874	30·4	49	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	3·0	14·2	0·893	27·0	54	42 secs.	minus 20
12	225	437	4·8	19·0	0·904	25·0	55	53 "	0
13	250	482	5·7	24·7	0·919	22·5	59	78 "	10
14	275	527	7·1	31·8	0·934	20·0	63	153 "	30
15	300	572**	8·0	39·8	0·942	18·7	64	255 "	45
Residuum.....			59·1	98·9	1·027	6·3	.....	.....	.....

Carbon residue of residuum: 20·0% Carbon residue of crude: 11·8%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	.....	.....	.....	.....
Total gasoline and naphtha.....	.....	.....	.....	.....
Kerosene distillate.....	.....	.....	.....	.....
Gas oil.....	15·4	0·875	30·2	Below 50
Nonviscous distillate.....	8·4	0·900—0·923	25·7—21·8	50—100
Medium distillate.....	7·8	0·923—0·938	21·8—19·4	100—200
Viscous distillate.....	8·2	0·938—0·947	19·4—17·9	Above 200
Residuum.....	59·1	1·027	6·3	.....
Distillation loss.....	1·1	.....	.....	.....
Base of crude.....	Naphthene (wax-bearing)			

*Distillation was made on sample after dehydration.
**Distillation discontinued at 290°C. on account of cracking.

ANALYSIS OF CRUDE OIL

Origin

Field: **Lloydminster**
Well: **Shaw Petroleum No. 2**
Location: Ls. 10, sec. 25, tp. 49, rge. 1, W. 4th

Province: **Alberta**
Sample from: E. Swain
Date: September 1939

Characteristics

Specific gravity at 60°F.: 0·969
Sulphur, % by weight: 3·1
Water and sediment, % by vol.: 32·0 (by centrifuge)
Viscosity, Saybolt Furol, at 122°F., 144 secs.

Degrees A.P.I. at 60°F.: 14·5
Colour: Black
Pour point: 10°F.

Distillation, Hempel Method

Distillation* at atmospheric pressure, 751 mm.

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say.Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	.....	.....	.....	.....	.....	.....	.....
4	125	257	.....	.....	.....	.....	.....	.....	.....
5	150	302	0·2	0·2					
6	175	347	0·1	0·3	0·830	39·0	.....	.....	.....
7	200	392	1·0	1·3					
8	225	437	3·0	4·3	0·842	36·6	44	.....	.....
9	250	482	4·7	9·0	0·854	34·2	44	.....	.....
10	275	527	6·2	15·2	0·869	31·3	47	.....	.....

Distillation continued at 400 mm. pressure

11	200	392	4·7	19·9	0·883	28·8	49	40 secs.	Minus 25
12	225	437	6·2	26·1	0·901	25·6	54	52 "	" 10
13	250	482	5·4	31·5	0·917	22·8	58	78 "	5
14	275	527	7·3	38·8	0·930	20·7	61	141 "	15
15	300	572	8·8	47·6	0·940	19·0	63	301 "	30
Residuum.....			51·4	99·0	1·011	8·5	.....	.....	.....

Carbon residue of residuum: 17·7% Carbon residue of crude: 9·1%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	.....	.....	.....	.....
Total gasoline and naphtha.....	.....	.....	.....	.....
Kerosene distillate.....	.....	.....	.....	.....
Gas oil.....	22·2	0·866	31·9	Below 50
Nonviscous distillate.....	8·8	0·898—0·921	26·1—22·1	50—100
Medium distillate.....	7·0	0·921—0·934	22·1—20·0	100—200
Viscous distillate.....	9·6	0·934—0·946	20·0—18·1	Above 200
Residuum.....	51·4	1·011	8·5	.....
Distillation loss.....	1·0	.....	.....	.....
Base of crude.....	Naphthene (wax-bearing)			

*Distillation was made on sample after dehydration.

ANALYSIS OF CRUDE OIL

Origin

Field: **Princess**
Well: **Princess C.P.R. No. 2**
Location: Ls. 3, sec. 13, tp. 20, rge. 12, W. 4th

Province: **Alberta**
Sample from: F. M. Steel
Date: February 3, 1941

Characteristics

Specific gravity at 60°F.: 0·890
Sulphur, % by weight: 1·72
Water, % by vol. (A.S.T.M.): 2·7
Water and sediment, % by vol.: 4·7 (by centrifuge)

Degrees A.P.I. at 60°F.: 27·5
Colour: Brownish green
Pour point: Below −35°F.

Viscosity, Saybolt Universal, at 70°F., 119 secs.; at 100°F., 75 secs.

Distillation, Hempel Method

Distillation* at atmospheric pressure: 761 mm. First drop, 29°C. (84°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	2·1	2·1	0·637	90·6	.....	.....	.....
2	75	167	4·4	6·5	0·673	78·8	9	.....	.....
3	100	212	5·1	11·6	0·708	68·4	16	.....	.....
4	125	257	3·8	15·4	0·737	60·5	20	.....	.....
5	150	302	2·8	18·2	0·764	53·7	26	.....	.....
6	175	347	3·2	21·4	0·791	47·4	32	.....	.....
7	200	392	2·9	24·3	0·816	41·9	37	.....	.....
8	225	437	3·3	27·6	0·834	38·2	40	.....	.....
9	250	482	3·9	31·5	0·849	35·2	42	.....	.....
10	275	527	5·4	36·9	0·862	32·7	43	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	4·7	41·6	0·877	29·9	46	41 secs.	Minus 10
12	225	439	6·1	47·7	0·887	28·0	47	50 "	15
13	250	482	6·2	53·9	0·901	25·6	51	75 "	35
14	275	527	6·0	59·9	0·916	23·0	55	135 "	55
15	300	572	6·2	66·1	0·928	21·0	57	281 "	75
Residuum.....			33·4	99·5	0·990	11·4	.....	.....	.....

Carbon residue of residuum: 14·7% Carbon residue of crude: 4·9%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	11·6	0·682	76·0	.....
Total gasoline and naphtha.....	24·3	0·730	62·3	.....
Kerosene distillate.....	.....	.....	.....	.....
Gas oil.....	20·4	0·862	32·7	Below 50
Nonviscous distillate.....	8·6	0·887—0·907	28·0—24·5	50—100
Medium distillate.....	6·3	0·907—0·921	24·5—22·1	100—200
Viscous distillate.....	6·5	0·921—0·934	22·1—20·0	Above 200
Residuum.....	33·4	0·990	11·4	.....
Distillation loss.....	0·5	.....	.....	.....
Base of crude.....	Naphthene-intermediate (wax-bearing)			

*Distillation was made on sample after dehydration.

ANALYSIS OF CRUDE OIL

Origin

Field: **Redwater**
Well: **Imperial Redwater No. 15**
Location: Ls. 15, sec. 29, tp. 57, rge. 21, W. 4th
Depth: 3,186 feet. D_3 Zone

Province: **Alberta**
Sample from: Imperial Oil, Ltd.
Date: July 5, 1949

Characteristics

Specific gravity at 60°F.: 0·847
Sulphur, % by weight: 0·48
Water, % by vol. (A.S.T.M.): Nil
Water and sediment, % by vol.: Trace (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 51 secs.; at 100°F., 46 secs.

Degrees A.P.I. at 60°F.: 35·6
Colour: Brownish green
Pour point: −30°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 758 mm. First drop, 37°C. (99°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	2·1	2·1	0·666	81·0	.....	.....	.....
2	75	167	2·7	4·8	0·679	76·9	12	.....	.....
3	100	212	4·4	9·2	0·716	66·1	19	.....	.....
4	125	257	5·9	15·1	0·743	58·9	23	.....	.....
5	150	302	5·3	20·4	0·766	53·2	27	.....	.....
6	175	347	4·8	25·2	0·785	48·8	29	.....	.....
7	200	392	4·4	29·6	0·802	44·9	31	.....	.....
8	225	437	5·0	34·6	0·817	41·7	32	.....	.....
9	250	482	4·9	39·5	0·830	39·0	33	.....	.....
10	275	527	5·9	45·4	0·842	36·6	34	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	3·5	48·9	0·855	34·0	36	39	10
12	225	437	6·2	55·1	0·863	32·5	36	46	40
13	250	482	5·0	60·1	0·877	29·9	39	61	60
14	275	527	4·8	64·9	0·889	27·7	42	94	75
15	300	572	5·8	70·7	0·902	25·4	45	187	95
Residuum.....			26·9	97·6	0·967	14·8	.....	.....	.....

Carbon residue of residuum: 10·0% Carbon residue of crude: 2·7%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	9·2	0·694	72·4	.....
Total gasoline and naphtha.....	29·6	0·747	57·9	.....
Kerosene distillate.....	5·0	0·817	41·7	.....
Gas oil.....	18·8	0·846	35·8	Below 50
Nonviscous distillate.....	9·4	0·867—0·890	31·7—27·5	50—100
Medium distillate.....	5·8	0·890—0·904	27·5—25·0	100—200
Viscous distillate.....	2·1	0·904—0·909	25·0—24·2	Above 200
Residuum.....	26·9	0·967	14·8	.....
Distillation loss.....	2·7	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Taber**
Well: **Plains Petroleum No. 2**
Location: Ls. 11, sec. 25, tp. 9, rge. 17, W. 4th
Depth: 3,212 feet

Province: **Alberta**
Sample from: Goodall
Date: September 21, 1938

Characteristics

Specific gravity at 60°F.: 0·898
Sulphur, % by weight: 2·15
Water and sediment, % by vol.: 0·4 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 183 secs.; at 100°F., 96 secs.

Degrees A.P.I. at 60°F.: 26·1
Colour: Black
Pour point: −10°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 775 mm. First drop, 25°C. (77°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	0·7	0·7	0·652	85·5	.....	.....	.....
2	75	167	2·3	3·0	0·672	79·1	8	.....	.....
3	100	212	1·6	4·6	0·706	68·9	15	.....	.....
4	125	257	2·7	7·3	0·732	61·8	18	.....	.....
5	150	302	4·0	11·3	0·753	56·4	20	.....	.....
6	175	347	4·0	15·3	0·776	50·8	24	.....	.....
7	200	392	4·1	19·4	0·795	46·5	27	.....	.....
8	225	437	4·3	23·7	0·812	42·8	30	.....	.....
9	250	482	4·6	28·3	0·829	39·2	32	.....	.....
10	275	527	5·8	34·1	0·845	36·0	35		

Distillation continued at 40 mm. pressure

11	200	392	6·7	40·8	0·865	32·1	41	40 secs.	0
12	225	437	5·7	46·5	0·880	29·3	44	51 "	30
13	250	482	5·5	52·0	0·898	26·1	49	73 "	50
14	275	527	5·2	57·2	0·910	24·0	52	119 "	70
15	300	572	5·8	63·0	0·919	22·5	53	222 "	85
Residuum.....			36·2	99·2	0·933	20·2	.....	.....	.....

Carbon residue of residuum: 17·3% Carbon residue of crude: 6·3%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	4·6	0·681	76·3	.....
Total gasoline and naphtha.....	19·4	0·747	57·9	.....
Kerosene distillate.....	4·3	9·812	42·8	.....
Gas oil.....	19·4	0·852	34·6	Below 50
Nonviscous distillate.....	9·3	0·879—0·905	29·5—24·9	50—100
Medium distillate.....	6·5	0·905—0·917	24·9—22·8	100—200
Viscous distillate.....	4·1	0·917—0·924	22·8—21·6	Above 200
Residuum.....	36·2	0·933	20·2	.....
Distillation loss.....	0·8	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **Hylo No. 1**
Location: Ls. 12, sec. 4, tp. 19, rge. 2, W. 5th
Depth: 4,948 feet

Province: **Alberta**
Sample from: Mines Branch
Date: November 12, 1931

Characteristics

Specific gravity at 60°F.: 0·826
Sulphur, % by weight: 0·25
Water, % by vol. (A.S.T.M.): Nil
Degrees A.P.I. at 60°F.: 39·8
Colour: Green
Pour point: 45°F.
Viscosity, Saybolt Universal, at 70°F., 43 secs.; at 100°F., 39 secs.

Distillation, Hempel Method

Distillation at atmospheric pressure, 760 mm. First drop, 26°C. (79°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say.Univ. at 100°F.	Cloud test, °F.
1	50	122	1·8	1·8	0·641	89·3	.....	.....	.....
2	75	167	2·4	4·2	0·674	78·4	9	.....	.....
3	100	212	5·0	9·2	0·718	65·6	20	.....	.....
4	125	257	7·0	16·2	0·748	57·7	26	.....	.....
5	150	302	5·8	22·0	0·767	53·0	27	.....	.....
6	175	347	4·4	26·4	0·780	49·9	26	.....	.....
7	200	392	4·4	30·8	0·791	47·4	25	.....	.....
8	225	437	4·7	35·5	0·801	45·2	24	.....	.....
9	250	482	5·2	40·7	0·816	41·9	26	.....	.....
10	275	527	7·5	48·2	0·829	39·2	28	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	8·0	56·2	0·843	36·4	30	40	30
12	225	437	6·9	63·1	0·847	35·6	28	48	55
13	250	482	7·6	70·7	0·857	33·6	30	62	75
14	275	527	4·9	75·6	0·864	32·3	30	88	90
15	300	572	6·7	82·3	0·875	30·2	32	137	100
Residuum.....			15·5	97·8	.....	.....	.....	.....	.....

Carbon residue of residuum: 3·1% Carbon residue of crude: 0·5%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	9·2	0·691	73·3	.....
Total gasoline and naphtha.....	30·8	0·745	58·4	.....
Kerosene distillate.....	9·9	0·808	43·6	.....
Gas oil.....	20·0	0·838	37·4	Below 50
Nonviscous distillate.....	13·8	0·848—0·867	35·4—31·7	50—100
Medium distillate.....	7·8	0·867—0·882	31·7—28·9	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	15·5	.....	.....	.....
Distillation loss.....	2·2	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **S. Turner Valley**
Well: **Royalties No. 1**
Location: Ls. 13, sec. 28, tp. 18, rge. 2, W. 5th
Depth: 6,824 feet

Province: **Alberta**
Sample from: V. Taylor
Date: August 27, 1936

Characteristics

Specific gravity at 60°F.: 0·795
Sulphur: % by weight: 0·30
Water, % by vol. (A.S.T.M.): Trace

Viscosity, Saybolt Universal, at 70°F., 33 secs.

Degrees A.P.I. at 60°F.: 46·5
Colour: A.S.T.M. No. 5
Cloud point: 25°F.
Pour point: Below −30°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 763 mm. First drop, 22°C. (72°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	7·1	7·1	0·659	83·2	2	.....	.....
3	100	212	7·4	14·5	0·712	67·2	18	.....	.....
4	125	257	10·3	24·8	0·744	58·7	24	.....	.....
5	150	302	8·8	33·6	0·767	53·0	27	.....	.....
6	175	347	8·7	42·3	0·782	49·5	27	.....	.....
7	200	392	6·6	48·9	0·794	46·7	27	.....	.....
8	225	437	6·3	55·2	0·807	43·8	27	.....	.....
9	250	482	7·5	62·7	0·820	41·1	28	.....	.....
10	275	527	7·6	70·3	0·836	37·8	31	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	5·5	75·8	0·853	34·4	35	41	15
12	225	437	5·1	80·9	0·862	32·7	36	48	40
13	250	482	4·3	85·2	0·873	30·6	37	61	60
14	275	527	3·1	88·3	0·882	28·9	39	96	80
15	300	572	3·4	91·7	0·890	27·5	39	150	90
Residuum.....			6·1	97·8	.....	.....	.....	.....	.....

Carbon residue of residuum: 4·4% Carbon residue of crude: 0·3%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	14·5	0·686	74·8	.....
Total gasoline and naphtha.....	48·9	0·744	58·7	.....
Kerosene distillate.....	13·8	0·814	42·3	.....
Gas oil.....	16·4	0·847	35·6	Below 50
Nonviscous distillate.....	7·8	0·864—0·882	32·3—28·9	50—100
Medium distillate.....	4·8	0·882—0·894	28·9—26·8	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	6·1	.....	.....	.....
Distillation loss.....	2·2	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Pipeline sample

Province: **Alberta**
Sample from: Imperial Oil, Ltd.
Date: October 8, 1937

Characteristics

Specific gravity at 60°F.: 0·794
Sulphur, % by weight: 0·28
Water and sediment, % by vol.: 0·02 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 32 secs.

Degrees A.P.I. at 60°F.: 46·7
Colour: A.S.T.M. No. 6
Cloud point: 20°F.
Pour point: Below −35°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 753 mm. First drop, 24°C. (75°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	3·7	3·7	0·633	92·0	.....	.....	.....
2	75	167	4·8	8·5	0·674	78·4	9	.....	.....
3	100	212	7·6	16·1	0·714	66·7	18	.....	.....
4	125	257	9·9	26·0	0·745	58·4	24	.....	.....
5	150	302	9·3	35·3	0·767	53·0	27	.....	.....
6	175	347	7·9	43·2	0·783	49·2	28	.....	.....
7	200	392	6·5	49·7	0·794	46·7	27	.....	.....
8	225	437	6·5	56·2	0·806	44·1	27	.....	.....
9	250	482	6·3	62·5	0·820	41·1	28	.....	.....
10	275	527	7·4	69·9	0·835	38·0	31	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	5·9	75·8	0·852	34·6	35	40	15
12	225	437	4·8	80·6	0·860	33·0	35	47	35
13	250	482	4·5	85·1	0·871	31·0	37	58	55
14	275	527	3·6	88·7	0·880	29·3	38	85	75
15	300	572	3·6	92·3	0·891	27·3	40	153	90
Residuum			6·3	98·6	.....	.....	.....	.....	.....

Carbon residue of residuum: 4·2% Carbon residue of crude: 0·3%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	16·1	0·683	75·7	.....
Total gasoline and naphtha	49·7	0·742	59·2	.....
Kerosene distillate	12·8	0·813	42·6	.....
Gas oil	16·9	0·846	35·8	Below 50
Nonviscous distillate	8·3	0·863—0·882	32·5—28·9	50—100
Medium distillate	4·6	0·882—0·896	28·9—26·4	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	6·3	.....	.....	.....
Distillation loss	1·4	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **Anaconda No. 2**
Location: Ls. 15, sec. 28, tp. 18, rge. 2, W. 5th

Province: **Alberta**
Sample from: J. G. Spratt
Date: October 13, 1937

Characteristics

Specific gravity at 60°F.: 0·741
Sulphur, % by weight: 0·34
Water and sediment, % by vol.: Nil (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 28 secs.

Degrees A.P.I. at 60°F.: 59·5
Colour: A.S.T.M. No. 3
Cloud point: 10°F.
Pour point: Below −35°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 764 mm. First drop, 25°C. (77°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	2·8	2·8	0·636	91·0	.....	.....	.....
2	75	167	7·7	10·5	0·676	77·8	10	.....	.....
3	100	212	25·9	36·4	0·710	67·8	17	.....	.....
4	125	257	27·0	63·4	0·740	59·7	22	.....	.....
5	150	302	16·1	79·5	0·764	53·7	26	.....	.....
6	175	347	6·0	85·5	0·782	49·5	27	.....	.....
7	200	392	2·7	88·2	0·796	46·3	28	.....	.....
8	225	437	2·0	90·2	0·809	43·4	28	.....	.....
9	250	482	1·8	92·0	0·823	40·4	30	.....	.....
10	275	527	1·9	93·9	0·837	37·6	32	.....	.....
Residuum			4·2	98·1	.....	.....	.....	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	Residue too small for distillation at 40 mm.
12	225	437	
13	250	482	
14	275	527	
15	300	572	
Residuum			

Carbon residue of residuum: 1·0% Carbon residue of crude: 0·04%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	36·4	0·697	71·5	.....
Total gasoline and naphtha	88·2	0·731	62·1	.....
Kerosene distillate	3·8	0·816	41·9	.....
Gas oil	1·9	0·837	37·6	Below 50
Nonviscous distillate	.....	.....	.....	50—100
Medium distillate	.....	.....	.....	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	4·2	.....	.....	.....
Distillation loss	1·9	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **Brown No. 1**
Location: Ls. 14, sec. 16, tp. 18, rge. 2, W. 5th

Province: **Alberta**
Sample from: J. G. Spratt
Date: October, 1937

Characteristics

Specific gravity at 60°F.: 0·789
Sulphur, % by weight: 0·58
Water and sediment, % by vol.: Nil (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 33 secs.

Degrees A.P.I. at 60°F.: 47·8
Colour: A.S.T.M. No. 6
Cloud point: 40°F.
Pour point: −30°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 766 mm. First drop, 25°C. (77°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	4·2	4·2	0·640	89·6	.....	.....	.....
2	75	167	3·8	8·0	0·667	80·6	6	.....	.....
3	100	212	6·6	14·6	0·715	66·4	19	.....	.....
4	125	257	9·8	24·4	0·747	57·9	25	.....	.....
5	150	302	8·7	33·1	0·768	52·7	27	.....	.....
6	175	347	7·6	40·7	0·784	49·0	28	.....	.....
7	200	392	6·7	47·4	0·794	46·7	27	.....	.....
8	225	437	6·7	54·1	0·807	43·8	27	.....	.....
9	250	482	6·9	61·0	0·821	40·9	29	.....	.....
10	275	527	7·1	68·1	0·835	38·0	31	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	5·4	73·5	0·851	34·8	34	39	10
12	225	437	5·1	78·6	0·860	33·0	35	46	35
13	250	482	4·4	83·0	0·869	31·3	36	58	55
14	275	527	3·4	86·4	0·879	29·5	37	81	70
15	300	572	3·2	89·6	0·888	37·9	38	133	85
Residuum.....			8·3	97·9	.....	.....	.....	.....	.....

Carbon residue of residuum: 3·2% Carbon residue of crude: 0·3%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	14·6	0·681	76·3	.....
Total gasoline and naphtha.....	47·4	0·743	58·9	.....
Kerosene distillate.....	13·6	0·814	42·3	.....
Gas oil.....	16·6	0·847	35·6	Below 50
Nonviscous distillate.....	8·3	0·863—0·882	32·5—28·9	50—100
Medium distillate.....	3·7	0·882—0·892	28·9—27·1	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	8·3	.....	.....	.....
Distillation loss.....	2·1	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **Brown No. 2**
Location: Ls. 8, sec. 20, tp. 18, rge. 2, W. 5th

Province: **Alberta**
Sample from: J. G. Spratt
Date: October, 1937

Characteristics

Specific gravity at 60°F.: 0·798
Sulphur, % by weight: 0·51
Water and sediment, % by vol.: Nil (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 34 secs.

Degrees A.P.I. at 60°F.: 45·8
Colour: A.S.T.M. No. 7
Cloud point: 40°F.
Pour point: Below −35°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 757 mm. First drop, 22°C. (72°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	3·4	3·4	0·637	90·6	.....	.....	.....
2	75	167	4·6	8·0	0·669	80·0	7	.....	.....
3	100	212	6·0	14·0	9·713	67·0	18	.....	.....
4	125	257	8·6	22·6	0·746	58·2	25	.....	.....
5	150	302	8·5	31·1	0·770	52·3	28	.....	.....
6	175	347	6·7	37·8	0·785	48·8	29	.....	.....
7	200	392	6·1	43·9	0·797	46·0	28	.....	.....
8	225	437	6·2	50·1	0·809	43·4	28	.....	.....
9	250	482	6·9	57·0	0·822	40·6	29	.....	.....
10	275	527	7·0	64·0	0·837	37·6	32	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	8·6	72·6	0·854	34·2	36	41	20
12	225	437	5·5	78·1	0·866	31·9	37	50	45
13	250	482	4·3	82·4	0·875	30·2	38	66	60
14	275	527	4·1	86·5	0·882	28·9	39	94	75
15	300	572	3·7	90·2	0·891	27·3	40	166	90
Residuum			7·4	97·6	0·930	20·7	.....	.....	.....

Carbon residue of residuum: 4·1% Carbon residue of crude: 0·3%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	14·0	0·680	76·6	.....
Total gasoline and naphtha	43·9	0·743	58·9	.....
Kerosene distillate	13·1	0·816	41·9	.....
Gas oil	18·4	0·849	35·2	Below 50
Nonviscous distillate	9·4	0·866—0·883	31·9—28·8	50—100
Medium distillate	5·4	0·883—0·895	28·8—26·6	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	7·4	0·930	20·7	.....
Distillation loss	2·4	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **Century Royalties No. 1**
Location: Ls. N.½ 14, sec. 28, tp. 18, rge. 2, W. 5th

Province: **Alberta**
Sample from: J. G. Spratt
Date: October 13, 1937

Characteristics

Specific gravity at 60°F.: 0·780
Sulphur, % by weight: 0·43
Water and sediment, % by vol.: Nil (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 31 secs.

Degrees A.P.I. at 60°F.: 49·9
Colour: A.S.T.M. No. 6
Cloud point: 40°F.
Pour point: Below −35°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 747 mm. First drop, 19°C. (66°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	2·7	2·7	0·637	90·6	.....	.....	.....
2	75	167	5·4	8·1	0·674	78·4	9	.....	.....
3	100	212	11·9	20·0	0·713	67·0	18	.....	.....
4	125	257	13·9	33·9	0·744	58·7	24	.....	.....
5	150	302	11·3	45·2	0·766	53·2	27	.....	.....
6	175	347	8·4	53·6	0·783	49·2	28	.....	.....
7	200	392	6·8	60·4	0·795	46·5	27	.....	.....
8	225	437	6·0	66·4	0·808	43·6	28	.....	.....
9	250	482	6·1	72·5	0·821	40·9	29	.....	.....
10	275	527	6·0	78·5	0·836	37·8	31	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	6·5	85·0	0·853	34·4	35	41	20
12	225	437	3·5	88·5	0·867	31·7	38	52	45
13	250	482	2·5	91·0	0·878	29·7	40	71	65
14	275	527	2·3	93·3	0·886	28·2	40	105	80
15	300	572	2·2	95·5	0·899	25·9	44	212	90
Residuum.....			2·8	98·3	.....	.....	.....	.....	.....

Carbon residue of residuum: 5·3% Carbon residue of crude: 0·2%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	20·0	0·692	73·0	.....
Total gasoline and naphtha.....	60·4	0·742	59·2	.....
Kerosene distillate.....	12·1	0·815	42·1	.....
Gas oil.....	13·3	0·846	35·8	Below 50
Nonviscous distillate.....	6·0	0·865—0·885	32·1—28·4	50—100
Medium distillate.....	2·4	0·885—0·898	28·4—26·1	100—200
Viscous distillate.....	1·3	0·898—0·905	26·1—24·9	Above 200
Residuum.....	2·8	.....	.....	.....
Distillation loss.....	1·7	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **Granville No. 1**
Location: Ls. 16, sec. 29, tp. 18, rge. 2, W. 5th

Province: **Alberta**
Sample from: J. G. Spratt
Date: October 21, 1937

Characteristics

Specific gravity at 60°F.: 0·808
Sulphur, % by weight: 0·56
Water and sediment, % by vol.: Nil (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 35 secs.

Degrees A.P.I. at 60°F.: 43·6
Colour: A.S.T.M. No. 7
Cloud point: 40°F.
Pour point: −25°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 756 mm. First drop, 26°C. (79°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	2·7	2·7	0·638	90·3	.....	.....	.....
2	75	167	3·8	6·5	0·676	77·8	10	.....	.....
3	100	212	6·3	12·8	0·718	65·6	20	.....	.....
4	125	257	8·8	21·6	0·751	56·9	27	.....	.....
5	150	302	8·0	29·6	0·771	52·0	29	.....	.....
6	175	347	7·1	36·7	0·786	48·5	29	.....	.....
7	200	392	6·3	43·0	0·799	45·6	29	.....	.....
8	225	437	6·2	49·2	0·811	43·0	29	.....	.....
9	250	482	6·8	56·0	0·826	39·8	31	.....	.....
10	275	527	7·3	63·3	0·840	37·0	33	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	6·4	69·7	0·855	34·0	36	40	15
12	225	437	5·6	75·3	0·864	32·3	37	47	35
13	250	482	6·1	81·4	0·875	30·2	38	61	60
14	275	527	4·3	85·7	0·883	28·8	39	91	75
15	300	572	3·7	89·4	0·890	27·5	39	150	90
Residuum			9·0	98·4	0·926	21·3	.....	.....	.....

Carbon residue of residuum: 3·6% Carbon residue of crude: 0·3%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	12·8	0·689	73·9	.....
Total gasoline and naphtha	43·0	0·749	57·4	.....
Kerosene distillate	6·2	0·811	43·0	.....
Gas oil	24·6	0·844	36·2	Below 50
Nonviscous distillate	10·3	0·867—0·884	31·7—28·6	50—100
Medium distillate	5·3	0·884—0·893	28·6—27·0	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	9·0	0·926	21·3	.....
Distillation loss	1·6	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **Miracle No. 2**
Location: Ls. 16, sec. 5, tp. 19, rge. 2, W. 5th

Province: **Alberta**
Sample from: J. G. Spratt
Date: October 14, 1937

Characteristics

Specific gravity at 60°F.: 0·778
Sulphur, % by weight: 0·50
Water and sediment, % by vol.: Trace (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 31 secs.

Degrees A.P.I. at 60°F.: 50·4
Colour: A.S.T.M. No. 5
Cloud point: 40°F.
Pour point: Below −35°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 756 mm. First drop, 19°C. (66°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	3·2	3·2	0·633	92·0	.....	.....	.....
2	75	167	5·2	8·4	0·675	78·1	10	.....	.....
3	100	212	11·8	20·2	0·714	66·7	18	.....	.....
4	125	257	16·1	36·3	0·746	58·2	25	.....	.....
5	150	302	11·6	47·9	0·767	53·0	27	.....	.....
6	175	347	8·4	56·3	0·784	49·0	28	.....	.....
7	200	392	6·1	62·4	0·795	46·5	27	.....	.....
8	225	437	5·8	68·2	0·808	43·6	28	.....	.....
9	250	482	5·9	74·1	0·822	40·6	29	.....	.....
10	275	527	5·8	79·9	0·836	37·8	31	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	4·3	84·2	0·850	35·0	34	40	15
12	225	437	3·5	87·7	0·861	32·8	35	48	40
13	250	482	2·7	90·4	0·873	30·6	37	63	60
14	275	527	2·2	92·6	0·880	29·3	38	87	75
15	300	572	2·2	94·8	0·887	28·0	38	150	90
Residuum.....			3·3	98·1	0·927	21·1	.....	.....	.....

Carbon residue of residuum: 3·9% Carbon residue of crude: 0·1%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	20·2	0·691	73·3	.....
Total gasoline and naphtha.....	62·4	0·742	59·2	.....
Kerosene distillate.....	11·7	0·815	42·1	.....
Gas oil.....	12·3	0·845	36·0	Below 50
Nonviscous distillate.....	5·7	0·862—0·882	32·7—28·9	50—100
Medium distillate.....	2·7	0·882—0·890	28·9—27·5	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	3·3	0·927	21·1	.....
Distillation loss.....	1·9	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **Model No. 1**
Location: Ls. 8, sec. 22, tp. 20, rge. 3, W. 5th (Tank sample)

Province: **Alberta**
Sample from: J. G. Spratt
Date: October 14, 1937

Characteristics

Specific gravity at 60°F.: 0·807
Sulphur, % by weight: 0·44
Water and sediment, % by vol.: Nil (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 34 secs.

Degrees A.P.I. at 60°F.: 43·8
Colour: A.S.T.M. No. 7
Cloud point: 50°F.
Pour point: −30°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 765 mm. First drop, 28°C. (82°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	1·3	1·3	0·663	81·9	.....	.....	.....
2	75	167	2·7	4·0					
3	100	212	6·7	10·7	0·718	65·6	20	.....	.....
4	125	257	10·5	21·2	0·749	57·4	26	.....	.....
5	150	302	9·1	30·3	0·770	52·3	28	.....	.....
6	175	347	7·7	38·0	0·787	48·3	30	.....	.....
7	200	392	7·1	45·1	0·797	46·0	28	.....	.....
8	225	437	6·5	51·6	0·810	43·2	29	.....	.....
9	250	482	7·3	58·9	0·824	40·2	30	.....	.....
10	275	527	7·6	66·5	0·840	37·0	33	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	6·9	73·4	0·854	34·2	36	40	15
12	225	437	6·8	80·2	0·864	32·3	37	49	40
13	250	482	4·5	84·7	0·876	30·0	39	64	60
14	275	527	4·5	89·2	0·884	28·6	40	95	75
15	300	572	3·6	92·8	0·893	27·0	41	179	95
Residuum			6·1	98·9	.....	.....	.....	.....	.....

Carbon residue of residuum: 3·3% Carbon residue of crude: 0·2%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	10·7	0·697	71·5	.....
Total gasoline and naphtha	45·1	0·755	55·9	.....
Kerosene distillate	13·8	0·817	41·7	.....
Gas oil	18·3	0·850	35·0	Below 50
Nonviscous distillate	10·0	0·865—0·885	32·1—28·4	50—100
Medium distillate	4·8	0·885—0·896	28·4—26·4	100—200
Viscous distillate	0·8	0·896—0·898	26·4—26·1	Above 200
Residuum	6·1	.....	.....	.....
Distillation loss	1·1	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **Model-Spooner- Reward No. 1**
Location: Ls. 4, sec. 28, tp. 18, rge. 2, W. 5th (Tank sample)

Province: **Alberta**
Sample from : J. G. Spratt
Date: October, 1937

Characteristics

Specific gravity at 60°F.: 0·800
Sulphur, % by weight: 0·47
Water and sediment, % by vol.: Nil (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 33 secs.

Degrees A.P.I. at 60°F.: 45·4
Colour: A.S.T.M. No. 6
Cloud point: 35°F.
Pour point: Below −35°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 760 mm. First drop, 23°C. (73°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	0·9	0·9	0·667	80·6	.....	.....	.....
2	75	167	2·1	3·0					
3	100	212	6·4	9·4	0·714	66·7	18	.....	.....
4	125	257	11·7	21·1	0·744	58·7	24	.....	.....
5	150	302	11·9	33·0	0·766	53·2	27	.....	.....
6	175	347	9·5	42·5	0·783	49·2	28	.....	.....
7	200	392	8·0	50·5	0·794	46·7	27	.....	.....
8	225	437	7·5	58·0	0·806	44·1	27	.....	.....
9	250	482	7·9	65·9	0·821	40·9	29	.....	.....
10	275	527	7·5	73·4	0·835	38·0	31	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	7·0	80·4	0·851	34·8	34	40	15
12	225	437	4·7	85·1	0·863	32·5	36	49	40
13	250	482	3·5	88·6	0·875	30·2	38	62	60
14	275	527	3·1	91·7	0·883	28·8	39	92	75
15	300	572	2·4	94·1	0·894	26·8	41	161	90
Residuum.....			4·9	99·0	0·931	20·5	.....	.....	.....

Carbon residue of residuum: 3·7% Carbon residue of crude: 0·2%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	9·4	0·699	70·9	.....
Total gasoline and naphtha.....	50·5	0·756	55·7	.....
Kerosene distillate.....	15·4	0·814	42·3	.....
Gas oil.....	17·2	0·846	35·8	Below 50
Nonviscous distillate.....	7·4	0·864—0·884	32·3—28·6	50—100
Medium distillate.....	3·6	0·884—0·899	28·6—25·9	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	4·9	0·931	20·5	.....
Distillation loss.....	1·0	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **Firestone Petroleum No. 1**
Location: Ls. 13, sec. 16, tp. 18, rge. 2, W. 5th

Province: **Alberta**
Sample from: Anglo-Canadian
Date: December 17, 1937

Characteristics

Specific gravity at 60°F.: 0·796
Sulphur, % by weight: 0·44
Water and sediment, % by vol.: 0·02 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 34 secs.

Degrees A.P.I. at 60°F.: 46·3
Colour: Dark green
Pour point: −10°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 766 mm. First drop, 23°C. (73°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	3·2	3·2	0·637	90·6	.....	.....	.....
2	75	167	4·3	7·5	0·671	79·4	8	.....	.....
3	100	212	6·9	14·4	0·710	67·8	17	.....	.....
4	125	257	9·5	23·9	0·745	58·4	24	.....	.....
5	150	302	8·7	32·6	0·767	53·0	27	.....	.....
6	175	347	7·9	40·5	0·784	49·0	28	.....	.....
7	200	392	6·5	47·0	0·796	46·3	28	.....	.....
8	225	437	6·4	53·4	0·807	43·8	27	.....	.....
9	250	482	6·1	59·5	0·819	41·3	28	.....	.....
10	275	527	7·3	66·8	0·834	38·2	30	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	9·3	76·1	0·855	34·0	36	41	20
12	225	437	4·4	80·5	0·869	31·3	39	53	45
13	250	482	4·2	84·7	0·880	29·3	41	72	60
14	275	527	3·5	88·2	0·888	27·9	41	111	75
15	300	572	2·9	91·1	0·897	26·3	43	192	90
Residuum.....			6·2	97·3	0·938	19·4	.....	.....	.....

Carbon residue of residuum: 6·7% Carbon residue of crude: 0·4%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	14·4	0·682	76·0	.....
Total gasoline and naphtha.....	47·0	0·743	58·9	.....
Kerosene distillate.....	12·5	0·813	42·6	.....
Gas oil.....	17·0	0·847	35·6	Below 50
Nonviscous distillate.....	8·8	0·865—0·885	32·1—28·4	50—100
Medium distillate.....	4·7	0·885—0·898	28·4—26·1	100—200
Viscous distillate.....	1·1	0·898—0·902	26·1—25·4	Above 200
Residuum.....	6·2	0·938	19·4	.....
Distillation loss.....	2·7	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **Coronation No. 1**
Location: Ls. 15, sec. 17, tp. 18, rge. 2, W. 5th
Depth: 7,572 feet (Tank sample)

Province: **Alberta**
Sample from: Petroleum Div., Alberta
Date: October 5, 1938

Characteristics

Specific gravity at 60°F.: 0·824
Sulphur, % by weight: 0·45
Water and sediment, % by vol.: 0·5 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 39 secs.

Degrees A.P.I. at 60°F.: 40·2
Colour: A.S.T.M. No. 8
Cloud point: 50°F.
Pour point: 0°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 767 mm. First drop, 27°C. (81°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	1·8	1·8	0·640	89·6	.....	.....	.....
2	75	167	2·7	4·5	0·671	79·4	8	.....	.....
3	100	212	4·9	9·4	0·714	66·7	18	.....	.....
4	125	257	8·1	17·5	0·747	57·9	25	.....	.....
5	150	302	7·1	24·6	0·769	52·5	28	.....	.....
6	175	347	6·7	31·3	0·787	48·3	30	.....	.....
7	200	392	5·7	37·0	0·796	46·3	28	.....	.....
8	225	437	5·9	42·9	0·810	43·2	29	.....	.....
9	250	482	6·2	49·1	0·824	40·2	30	.....	.....
10	275	527	7·7	56·8	0·840	37·0	33	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	10·0	66·8	0·859	33·2	38	41	15
12	225	437	5·3	72·1	0·873	30·6	41	53	45
13	250	482	5·3	77·4	0·882	28·9	42	69	60
14	275	527	5·3	82·7	0·887	28·0	41	103	80
15	300	572	3·1	85·8	0·891	27·3	40	148	90
Residuum			12·0	97·8	0·922	22·0	.....	.....	.....

Carbon residue of residuum: 4·1% Carbon residue of crude: 0·5%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	9·4	0·688	74·2	.....
Total gasoline and naphtha	37·0	0·751	56·9	.....
Kerosene distillate	12·1	0·817	41·7	.....
Gas oil	18·5	0·852	34·6	Below 50
Nonviscous distillate	11·9	0·870—0·887	31·1—28·0	50—100
Medium distillate	6·3	0·887—0·893	28·0—27·0	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	12·0	0·922	22·0	.....
Distillation loss	2·2	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **Frontier No. 1**
Location: Ls. 11, sec. 16, tp. 18, rge. 2, W. 5th
Depth: 6,915 feet

Province: **Alberta**
Sample from: Petroleum Div., Alberta
Date: October 5, 1938

Characteristics

Specific gravity at 60°F.: 0·797
Sulphur, % by weight: 0·44
Water and sediment, % by vol.: 0·04 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 34 secs.

Degrees A.P.I. at 60°F.: 46·0
Colour: A.S.T.M. No. 7
Cloud point: 45°F.
Pour point: −30°F.

Distillation, Hempel Method

Distillation at atmospheric pressure: 762 mm.: First drop: 25°C. (77°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	3·5	3·5	0·639	89·9	.....	.....	.....
2	75	167	4·1	7·6	0·671	79·4	8	.....	.....
3	100	212	6·7	14·3	0·713	67·0	18	.....	.....
4	125	257	9·4	23·7	0·745	58·4	24	.....	.....
5	150	302	8·2	31·9	0·768	52·7	27	.....	.....
6	175	347	8·1	40·0	0·784	49·0	28	.....	.....
7	200	392	6·1	46·1	0·795	46·5	27	.....	.....
8	225	437	6·4	52·5	0·806	44·1	27	.....	.....
9	250	482	6·5	59·0	0·822	40·6	29	.....	.....
10	275	527	7·1	66·1	0·836	37·8	31	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	6·8	72·9	0·850	35·0	34	39	10
12	225	437	5·2	78·1	0·862	32·7	36	47	40
13	250	482	5·5	83·6	0·875	30·2	38	62	60
14	275	527	3·2	86·8	0·881	29·1	38	93	80
15	300	572	4·2	91·0	0·892	27·1	40	172	90
Residuum			6·5	97·5	.....	.....	.....	.....	.....

Carbon residue of residuum: 4·4% Carbon residue of crude: 0·3%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	14·3	0·683	75·7	.....
Total gasoline and naphtha	46·1	0·743	58·9	.....
Kerosene distillate	12·9	0·814	42·3	.....
Gas oil	17·6	0·847	35·6	Below 50
Nonviscous distillate	9·0	0·865—0·882	32·1—28·9	50—100
Medium distillate	4·5	0·882—0·895	28·9—26·6	100—200
Viscous distillate	0·9	0·895—0·898	26·6—26·1	Above 200
Residuum	6·5	.....	.....	.....
Distillation loss	2·5	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **National No. 2**
Location: Ls. 14, sec. 9, tp. 18, rge. 2, W. 5th
Depth: 7,615 feet

Province: **Alberta**
Sample from: Petroleum Div., Alberta
Date: October 5, 1938

Characteristics

Specific gravity at 60°F.: 0·812
Sulphur, % by weight: 0·45
Water and sediment, % by vol.: 1·5 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 37 secs.

Degrees A.P.I. at 60°F.: 42·8
Colour: A.S.T.M. No. 8
Cloud point: 50°F.
Pour point: −30°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 755 mm. First drop, 26°C. (79°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	2·2	2·2	0·640	89·6	.....	.....	.....
2	75	167	3·2	5·4	0·674	78·4	9	.....	.....
3	100	212	6·0	11·4	0·719	65·3	21	.....	.....
4	125	257	8·6	20·0	0·750	57·2	27	.....	.....
5	150	302	7·9	27·9	0·772	51·8	29	.....	.....
6	175	347	7·3	35·2	0·787	48·3	30	.....	.....
7	200	392	6·3	41·5	0·800	45·4	30	.....	.....
8	225	437	6·1	47·6	0·811	43·0	29	.....	.....
9	250	482	6·6	54·2	0·826	39·8	31	.....	.....
10	275	527	7·3	61·5	0·839	37·2	32	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	7·1	68·6	0·853	34·4	35	39	15
12	225	437	5·4	74·0	0·865	32·1	37	48	40
13	250	482	5·7	79·7	0·876	30·0	39	62	60
14	275	527	4·4	84·1	0·881	29·1	38	88	75
15	300	572	5·1	89·2	0·888	27·9	38	155	90
Residuum			8·9	98·1	0·924	21·6	.....	.....	.....

Carbon residue of residuum: 3·1% Carbon residue of crude: 0·3%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	11·4	0·691	73·3	.....
Total gasoline and naphtha	41·5	0·752	56·7	.....
Kerosene distillate	6·1	0·811	43·0	.....
Gas oil	24·4	0·843	36·4	Below 50
Nonviscous distillate	10·8	0·866—0·883	31·9—28·8	50—100
Medium distillate	6·4	0·883—0·892	28·8—27·1	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	8·9	0·924	21·6	.....
Distillation loss	1·9	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **Royalite No. 29**
Location: Ls. 2, sec. 27, tp. 20, rge. 3, W. 5th
Depth: 6,920 feet

Province: **Alberta**
Sample from: Petroleum Div., Alberta
Date: October 5, 1938

Characteristics

Specific gravity at 60°F.: 0·798
Sulphur, % by weight: 0·42
Water and sediment, % by vol.: Trace (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 34 secs.

Degrees A.P.I. at 60°F.: 45·8
Colour: A.S.T.M. No. 6
Cloud point: 35°F.
Pour point: Below −35°F.

Distillation, Hempel Method

Distillation at atmospheric pressure: 751 mm. First drop: 25°C. (77°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	4·2	4·2	0·635	91·3	.....	.....	.....
2	75	167	4·5	8·7	0·674	78·4	9	.....	.....
3	100	212	6·4	15·1	0·716	66·1	19	.....	.....
4	125	257	9·5	24·6	0·749	57·4	26	.....	.....
5	150	302	8·7	33·3	0·771	52·0	29	.....	.....
6	175	347	7·1	40·4	0·787	48·3	30	.....	.....
7	200	392	6·0	46·4	0·798	45·8	29	.....	.....
8	225	437	5·9	52·3	0·811	43·0	29	.....	.....
9	250	482	6·7	59·0	0·826	39·8	31	.....	.....
10	275	527	7·5	66·5	0·840	37·0	33	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	6·7	73·2	0·857	33·6	37	41	20
12	225	437	5·4	78·6	0·870	31·1	39	52	45
13	250	482	5·4	84·0	0·880	29·3	41	75	70
14	275	527	3·5	87·5	0·887	28·0	41	130	85
15	300	572	2·5	90·0	0·899	25·9	44	241	95
Residuum.....			6·0	96·0	0·934	20·0	.....	.....	.....

Carbon residue of residuum: 4·3% Carbon residue of crude: 0·3%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	15·1	0·681	76·3	.....
Total gasoline and naphtha.....	46·4	0·743	58·9	.....
Kerosene distillate.....	5·9	0·811	43·0	.....
Gas oil.....	22·2	0·842	36·6	Below 50
Nonviscous distillate.....	8·8	0·867—0·883	31·7—28·8	50—100
Medium distillate.....	4·3	0·883—0·895	28·8—26·6	100—200
Viscous distillate.....	2·4	0·895—0·904	26·6—25·0	Above 200
Residuum.....	6·0	0·934	20·0	.....
Distillation loss.....	4·0	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **Royalite No. 30**
Location: Ls. 11, sec. 32, tp. 18, rge. 2, W. 5th
Depth: 7,690 feet

Province: **Alberta**
Sample from: Petroleum Div., Alberta
Date: October 5, 1938

Characteristics

Specific gravity at 60°F.: 0·817
Sulphur, % by weight: 0·45
Water and sediment, % by vol.: 0·3
(by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 38 secs.

Degrees A.P.I. at 60°F.: 41·7
Colour: A.S.T.M. No. 8
Cloud point: 55°F.
Pour point: 0°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 754 mm. First drop: 22°C. (72°F.)

Fraction cut			Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
No.	at °C.	at °F.							
1	50	122	2·7	2·7	0·639	89·9	.....	.....	.....
2	75	167	3·2	5·9	0·674	78·4	9	.....	.....
3	100	212	5·1	11·0	0·717	65·9	20	.....	.....
4	125	257	7·7	18·7	0·749	57·4	26	.....	.....
5	150	302	7·2	25·9	0·771	52·0	29	.....	.....
6	175	347	6·6	32·5	0·787	48·3	30	.....	.....
7	200	392	5·6	38·1	0·800	45·4	30	.....	.....
8	225	437	5·6	43·7	0·812	42·8	30	.....	.....
9	250	482	6·1	49·8	0·828	39·4	32	.....	.....
10	275	527	7·2	57·0	0·843	36·4	34	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	6·1	63·1	0·856	33·8	37	39	10
12	225	437	6·0	69·1	0·867	31·7	38	48	35
13	250	482	5·9	75·0	0·880	29·3	41	62	60
14	275	527	5·0	80·0	0·884	28·6	40	92	75
15	300	572	5·3	85·3	0·894	26·8	41	164	95
Residuum.....			12·4	97·7	0·929	20·8	.....	.....	.....

Carbon residue of residuum: 3·9% Carbon residue of crude: 0·5%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	11·0	0·685	75·1	.....
Total gasoline and naphtha.....	38·1	0·749	57·4	.....
Kerosene distillate.....	5·6	0·812	42·8	.....
Gas oil.....	23·3	0·846	35·8	Below 50
Nonviscous distillate.....	11·2	0·869—0·885	31·3—28·4	50—100
Medium distillate.....	7·1	0·885—0·899	28·4—25·9	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	12·4	0·929	20·8	.....
Distillation loss.....	2·3	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **Royalite No. 31**
Location: Ls. 6, sec. 29, tp. 18, rge. 2, W. 5th
Depth: 8,064 feet

Province: **Alberta**
Sample from: Petroleum Div., Alberta
Date: October 5, 1938

Characteristics

Specific gravity at 60°F.: 0·825
Sulphur, % by weight: 0·46
Water and sediment, % by vol.: 0·03 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 38 secs.

Degrees A.P.I. at 60°F.: 40·0
Colour: A.S.T.M. No. 8
Cloud point: 50°F.
Pour point: 15°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 763 mm. First drop, 25°C. (77°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	1·8	1·8	0·648	86·9	.....	.....	.....
2	75	167	2·7	4·5	0·676	77·8	10	.....	.....
3	100	212	5·0	9·5	0·717	65·9	20	.....	.....
4	125	257	7·7	17·2	0·749	57·4	26	.....	.....
5	150	302	7·4	24·6	0·771	52·0	29	.....	.....
6	175	347	6·5	31·1	0·788	48·1	30	.....	.....
7	200	392	5·7	36·8	0·799	45·6	29	.....	.....
8	225	437	5·5	42·3	0·812	42·8	30	.....	.....
9	250	482	6·4	48·7	0·826	39·8	31	.....	.....
10	275	527	7·6	56·3	0·841	36·8	33	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	6·4	62·7	0·856	33·8	37	39	10
12	225	437	5·9	68·6	0·867	31·7	38	47	35
13	250	482	6·2	74·8	0·879	29·5	40	60	55
14	275	527	5·5	80·3	0·886	28·2	40	88	75
15	300	572	4·8	85·1	0·892	27·1	40	148	90
Residuum.....			13·5	98·6	0·933	20·2	.....	.....	.....

Carbon residue of residuum: 4·0% Carbon residue of crude: 0·5%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	9·5	0·692	73·0	.....
Total gasoline and naphtha.....	36·8	0·753	56·4	.....
Kerosene distillate.....	5·5	0·812	42·8	.....
Gas oil.....	24·6	0·845	36·0	Below 50
Nonviscous distillate.....	11·6	0·869—0·887	31·3—28·0	50—100
Medium distillate.....	6·6	0·887—0·895	28·0—26·6	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	13·5	0·933	20·2	.....
Distillation loss.....	1·4	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **Royalite No. 32**
Location: Ls. 8, sec. 17, tp. 18, rge. 2, W. 5th
Depth: 7,308 feet

Province: **Alberta**
Sample from: Petroleum Div., Alberta
Date: October 5, 1938

Characteristics

Specific gravity at 60°F.: 0·818
Sulphur, % by weight: 0·47
Water and sediment, % by vol.: 0·75 (by centrifuge)
Viscosity: Saybolt Universal, at 70°F., 37 secs.

Degrees A.P.I. at 60°F.: 41·5
Colour: A.S.T.M. No. 8
Cloud point: 55°F.
Pour point: 15°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 740 mm. First drop, 26°C. (79°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	2·3	2·3	0·651	85·9	.....	.....	.....
2	75	167	3·0	5·3	0·678	77·2	11	.....	.....
3	100	212	5·4	10·7	0·719	65·3	21	.....	.....
4	125	257	7·1	17·8	0·748	57·7	26	.....	.....
5	150	302	7·9	25·7	0·771	52·0	29	.....	.....
6	175	347	6·8	32·5	0·786	48·5	29	.....	.....
7	200	392	5·6	38·1	0·800	45·4	30	.....	.....
8	225	437	6·1	44·2	0·811	43·0	29	.....	.....
9	250	482	6·2	50·4	0·826	39·8	31	.....	.....
10	275	527	7·3	57·7	0·839	37·2	32	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	8·7	66·4	0·857	33·6	37	40	15
12	225	437	7·4	73·8	0·874	30·4	41	54	50
13	250	482	5·5	79·3	0·883	28·8	47	82	70
14	275	527	7·3	86·6	0·892	27·1	43	161	90
15	300	572	1·8	88·4	0·902	25·4	45	340 (est.)	105
Residuum			8·3	96·7	.....	.....	.....	.....	.....

Carbon residue of residuum: 5·2% Carbon residue of crude: 0·4%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	10·7	0·693	72·7	.....
Total gasoline and naphtha	38·1	0·752	56·7	.....
Kerosene distillate	6·1	0·811	43·0	.....
Gas oil	23·5	0·844	36·2	Below 50
Nonviscous distillate	10·3	0·869—0·885	31·3—28·4	50—100
Medium distillate	5·9	0·885—0·894	28·4—26·8	100—200
Viscous distillate	4·5	0·894—0·904	26·8—25·0	Above 200
Residuum	8·3	.....	.....	.....
Distillation loss	3·3	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **Vulcan-Brown No. 1**
Location: Ls. 10, sec. 5, tp. 19, rge. 2, W. 5th
Depth: 7,740 feet

Province: **Alberta**
Sample from: Petroleum Div., Alberta
Date: October 5, 1938

Characteristics

Specific gravity at 60°F.: 0·803
Sulphur, % by weight: 0·48
Water and sediment, % by vol.: 0·2 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 35 secs.

Degrees A.P.I. at 60°F.: 44·7
Colour: A.S.T.M. No. 7
Cloud point: 60°F.
Pour point: −30°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 754 mm. First drop: 29°C. (84°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	4·0	4·0	0·640	89·6	.....	.....	.....
2	75	167	3·7	7·7	0·672	79·1	8	.....	.....
3	100	212	5·7	13·4	0·716	66·1	19	.....	.....
4	125	257	8·1	21·5	0·749	57·4	26	.....	.....
5	150	302	7·5	29·0	0·771	52·0	29	.....	.....
6	175	347	6·5	35·5	0·786	48·5	29	.....	.....
7	200	392	5·9	41·4	0·799	45·6	29	.....	.....
8	225	437	5·7	47·1	0·811	43·0	29	.....	.....
9	250	482	5·9	53·0	0·825	40·0	31	.....	.....
10	275	527	7·2	60·2	0·841	36·8	33	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	6·8	67·0	0·854	34·2	36	40	10
12	225	437	5·2	72·2	0·865	32·1	37	48	40
13	250	482	5·9	78·1	0·876	30·0	39	63	60
14	275	527	4·7	82·8	0·880	29·3	38	97	80
15	300	572	4·3	87·1	0·892	27·1	40	175	95
Residuum.....			9·7	96·8	0·929	20·8	.....	.....	.....

Carbon residue of residuum: 3·7% Carbon residue of crude: 0·4%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	13·4	0·681	76·3	.....
Total gasoline and naphtha.....	41·4	0·744	58·7	.....
Kerosene distillate.....	11·6	0·818	41·5	.....
Gas oil.....	17·3	0·850	35·0	Below 50
Nonviscous distillate.....	10·4	0·866—0·881	31·9—29·1	50—100
Medium distillate.....	5·7	0·881—0·896	29·1—26·4	100—200
Viscous distillate.....	0·7	0·896—0·898	26·4—26·1	Above 200
Residuum.....	9·7	0·929	20·8	.....
Distillation loss.....	3·2	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Well: **York No. 1**
Location: Ls. 2, sec. 20, tp. 18, rge. 2, W. 5th
Depth: 7,463 feet

Province: **Alberta**
Sample from: Petroleum Div., Alberta
Date: October 5, 1938

Characteristics

Specific gravity at 60°F.: 0·813
Sulphur, % by weight: 0·49
Water and sediment, % by vol.: 1·65
(by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 37 secs.

Degrees A.P.I. at 60°F.: 42·6
Colour: A.S.T.M. No. 8
Cloud point: 55°F.
Pour point: 10°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 757 mm. First drop: 25°C. (77°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	3·1	3·1	0·636	91·0	.....	.....	.....
2	75	167	3·4	6·5	0·671	79·4	8	.....	.....
3	100	212	5·1	11·6	0·713	67·0	18	.....	.....
4	125	257	7·4	19·0	0·746	58·2	25	.....	.....
5	150	302	7·3	26·3	0·769	52·5	28	.....	.....
6	175	347	6·6	32·9	0·785	48·8	29	.....	.....
7	200	392	5·6	38·5	0·797	46·0	28	.....	.....
8	225	437	5·5	44·0	0·810	43·2	29	.....	.....
9	250	482	6·3	50·3	0·823	40·4	30	.....	.....
10	275	527	7·3	57·6	0·839	37·2	32	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	6·8	64·4	0·855	34·0	36	39	10
12	225	437	5·4	69·8	0·867	31·7	38	47	35
13	250	482	5·3	75·1	0·877	29·9	39	60	55
14	275	527	7·1	82·2	0·883	28·8	39	96	80
15	300	572	3·3	85·5	0·892	27·1	40	184	95
Residuum			11·6	97·1	.....	.....	.....	.....	.....

Carbon residue of residuum: 3·7% Carbon residue of crude: 0·4%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	11·6	0·680	76·6	.....
Total gasoline and naphtha	38·5	0·745	58·4	.....
Kerosene distillate	11·8	0·817	41·7	.....
Gas oil	18·0	0·851	34·8	Below 50
Nonviscous distillate	10·6	0·869—0·884	31·3—28·6	50—100
Medium distillate	5·9	0·884—0·894	28·6—26·8	100—200
Viscous distillate	0·7	0·894—0·895	26·8—26·6	Above 200
Residuum	11·6	.....	.....	.....
Distillation loss	2·9	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Pipeline sample
Location: Imperial Oil Refinery, Calgary

Province: **Alberta**
Sample from: Conservation Bd., Alberta
Date: September 5, 1939

Characteristics

Specific gravity at 60°F.: 0·810
Sulphur, % by weight: 0·40
Water and sediment, % by vol.: 0·04 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 36 secs.

Degrees A.P.I. at 60°F.: 43·2
Colour: A.S.T.M. No. 8
Cloud point: 65°F.
Pour point: −10°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 758 mm. First drop, 26°C. (79°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	3·2	3·2	0·639	89·9	.....	.....	.....
2	75	167	3·9	7·1	0·676	77·8	10	.....	.....
3	100	212	6·1	13·2	0·719	65·3	21	.....	.....
4	125	257	7·0	20·2	0·750	57·2	27	.....	.....
5	150	302	7·8	28·0	0·770	52·3	28	.....	.....
6	175	347	6·7	34·7	0·785	48·8	29	.....	.....
7	200	392	5·8	40·5	0·797	46·0	28	.....	.....
8	225	437	6·0	46·5	0·809	43·4	28	.....	.....
9	250	482	7·1	53·6	0·825	40·0	31	.....	.....
10	275	527	6·5	60·1	0·839	37·2	32	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	6·5	66·6	0·855	34·0	36	39	15
12	225	437	5·1	71·7	0·865	32·1	37	47	40
13	250	482	6·0	77·7	0·878	29·7	40	61	60
14	275	527	4·1	81·8	0·884	28·6	40	86	80
15	300	572	5·1	86·9	0·891	27·3	40	170	95
Residuum.....			10·2	97·1	0·923	21·8	.....	.....	.....

Carbon residue of residuum: 3·9% Carbon residue of crude: 0·4%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	13·2	0·687	74·5	.....
Total gasoline and naphtha.....	40·5	0·746	58·2	.....
Kerosene distillate.....	13·1	0·818	41·5	.....
Gas oil.....	16·6	0·851	34·8	Below 50
Nonviscous distillate.....	10·4	0·867—0·885	31·7—28·4	50—100
Medium distillate.....	5·5	0·885—0·893	28·4—27·0	100—200
Viscous distillate.....	0·8	0·893—0·895	27·0—26·6	Above 200
Residuum.....	10·2	0·923	21·8	.....
Distillation loss.....	2·9	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Turner Valley**
Pipeline sample

Province: **Alberta**
Sample from: Imperial Oil, Ltd.
Date: August 31, 1942

Characteristics

Specific gravity at 60°F.: 0·817
Sulphur, % by weight: 0·86
Water and sediment, % by vol.: Trace (by centrifuge)
Degrees A.P.I. at 60°F.: 41·7
Colour: Light green
Pour point: 0°F.
Viscosity, Saybolt Universal, at 70°F., 36 secs., at 100°F., 33 secs.

Distillation, Hempel Method

Distillation at atmospheric pressure, 755 mm. First drop, 27°C. (81°F.)

Fraction cut			Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
No.	at °C.	at °F.							
1	50	122	3·1	3·1	0·647	87·2	.....	.....	.....
2	75	167	3·7	6·8	0·680	76·6	12	.....	.....
3	100	212	5·7	12·5	0·721	64·8	22	.....	.....
4	125	257	8·3	20·8	0·751	56·9	27	.....	.....
5	150	302	7·1	27·9	0·774	51·3	30	.....	.....
6	175	347	6·7	34·6	0·788	48·1	30	.....	.....
7	200	392	5·6	40·2	0·800	45·4	30	.....	.....
8	225	437	5·5	45·7	0·813	42·6	30	.....	.....
9	250	482	6·7	52·4	0·828	39·4	32	.....	.....
10	275	527	6·9	59·3	0·843	36·4	34	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	5·2	64·5	0·859	33·2	38	41	15
12	225	437	6·2	70·7	0·867	31·7	38	47	35
13	250	482	5·9	76·6	0·878	29·7	40	60	55
14	275	527	5·1	81·7	0·886	28·2	40	87	75
15	300	572	4·9	86·6	0·893	27·0	41	149	90
Residuum			10·9	97·5	0·929	20·8	.....	.....	.....

Carbon residue of residuum: 3·2% Carbon residue of crude: 0·3%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	12·5	0·691	73·3	.....
Total gasoline and naphtha	40·2	0·749	57·4	.....
Kerosene distillate	5·5	0·813	42·6	.....
Gas oil	23·6	0·847	35·6	Below 50
Nonviscous distillate	10·9	0·870—0·887	31·1—28·0	50—100
Medium distillate	6·4	0·887—0·896	28·0—26·4	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	10·9	0·929	20·8	.....
Distillation loss	2·5	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Vermilion**
Well: **Battleview No. 2**
Location: Ls. 13, sec. 20, tp. 50, rge. 5, W. 4th

Province: **Alberta**
Sample from: G. S. Hume
Date: September 29, 1939

Characteristics

Specific gravity at 60°F.: 0·968
Sulphur, % by weight: 3·37
Water and sediment, % by vol.: 1·5 (by centrifuge)
Viscosity, Saybolt Furol, at 122°F., 127 secs.

Degrees A.P.I. at 60°F.: 14·7
Colour: Black
Pour point: 10°F.

Distillation, Hempel Method

Distillation* at atmospheric pressure. 766 mm.

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	.....	.....	.....	.....	.....	.....	.....
4	125	257	.....	.....	.....	.....	.....	.....	.....
5	150	302	0·1	0·1					
6	175	347	0·1	0·2	0·837	37·6	.....	.....	.....
7	200	392	0·5	0·7					
8	225	437	1·7	2·4	0·846	35·8	46	.....	.....
9	250	482	3·4	5·8	0·861	32·8	48	.....	.....
10	275	527	7·8	13·6	0·873	30·6	49	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	2·7	16·3	0·889	27·7	52	41	.....
12	225	437	5·7	22·0	0·899	25·9	53	50	.....
13	250	482	7·4	29·4	0·915	23·1	57	72	0
14	275	527	7·4	36·8	0·930	20·7	61	143	15
15	300	572	11·2	48·0	0·941	18·9	64	332	30
Residuum			51·0	99·0	1·006	9·2	.....	.....	.....

Carbon residue of residuum: 18·0% Carbon residue of crude: 9·2%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	.....	.....	.....	.....
Total gasoline and naphtha	.....	.....	.....	.....
Kerosene distillate	.....	.....	.....	.....
Gas oil	19·2	0·873	30·6	Below 50
Nonviscous distillate	9·4	0·899—0·921	25·9—22·1	50—100
Medium distillate	7·2	0·921—0·934	22·1—20·0	100—200
Viscous distillate	12·2	0·934—0·948	20·0—17·8	Above 200
Residuum	51·0	1·006	9·2	.....
Distillation loss	1·0	.....	.....	.....
Base of crude	Naphthene (wax-bearing)			

*Distillation was made on sample after dehydration.

ANALYSIS OF CRUDE OIL

Origin

Field: **Vermilion**
Well: **Vermilata-Frankview No. 2**
Location: Ls. 4, sec. 29, tp. 50, rge. 5, W. 4th

Province: **Alberta**
Sample from: Western Drilling Co.
Date: November 8, 1940

Characteristics

Specific gravity at 60°F.: 0·970
Sulphur, % by weight: 3·1
Water, % by vol. (A.S.T.M.): 3·5
Water and sediment, % by vol.: 9·0 (by centrifuge)
Viscosity: Saybolt Furol, at 122°F., 160 secs.

Degrees A.P.I. at 60°F.: 14·4
Colour: Black
Pour point: 20°F.

Distillation, Hempel Method

Distillation* at atmospheric pressure, 767 mm.

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	.....	.....	.....	.....	.....	.....	.....
4	125	257	.....	.....	.....	.....	.....	.....	.....
5	150	302	.....	.....	.....	.....	.....	.....	.....
6	175	347	.....	.....	.....	.....	.....	.....	.....
7	200	392	0·9	0·9	0·848	35·4	47	.....	.....
8	225	437	2·2	3·1					
9	250	482	3·6	6·7	0·857	33·6	46	.....	.....
10	275	527	6·9	13·6	0·863	31·5	46	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	3·9	17·5	0·835	28·4	50	44 secs.	.....
12	225	437	6·6	24·1	0·896	26·4	52	51 "	.....
13	250	482	7·4	31·5	0·912	23·7	56	75 "	.....
14	275	527	6·0	37·5	0·926	21·3	59	146 "	.....
15	300	572	10·3	47·8	0·937	19·5	62	312 "	Below 0°F
Residuum.....			51·2	99·0	1·000	10·0	.....	.....	.....

Carbon residue of residuum: 17·5% Carbon residue of crude: 9·0%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	.....	.....	.....	.....
Total gasoline and naphtha.....	.....	.....	.....	.....
Kerosene distillate.....	.....	.....	.....	.....
Gas oil.....	20·1	0·863	31·5	Below 50
Nonviscous distillate.....	10·1	0·895—0·917	26·6—22·8	50—100
Medium distillate.....	6·9	0·917—0·930	22·8—20·7	100—200
Viscous distillate.....	10·7	0·930—0·944	20·7—18·4	Above 200
Residuum.....	51·2	1·000	10·0	.....
Distillation loss.....	1·0	.....	.....	.....
Base of crude.....	Naphthene (wax-free)			

*The distillation was made on sample after dehydration.

ANALYSIS OF CRUDE OIL

Origin

Field: **Vermilion**
Well: **Vermilion Consolidated No. 2***
Location: Ls. 13, sec. 20, tp. 50, rge. 5, W. 4th

Province: **Alberta**
Sample from: Parks Branch
Date: October 20, 1940

Characteristics

Specific gravity at 60°F.: 0·973
Sulphur, % by weight: 3·2
Water, % by vol. (A.S.T.M.): 6·4
Water and sediment, % by vol.: 8·0 (by centrifuge)
Viscosity, Saybolt Furol, at 122°F., 160 secs.

Degrees A.P.I. at 60°F.: 13·9
Colour: Black
Pour point: 10°F.

Distillation, Hempel Method

Distillation** at atmospheric pressure, 775 mm.:

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	.....	.....	.....	.....	.....	.....	.....
4	125	257	.....	.....	.....	.....	.....	.....	.....
5	150	302	.....	.....	.....	.....	.....	.....	.....
6	175	347	.....	.....	.....	.....	.....	.....	.....
7	200	392	0·5	0·5	0·840	37·0	.....	.....	.....
8	225	437	1·7	2·2	0·844	36·2	45	.....	.....
9	250	482	3·2	5·4	0·859	33·2	47	.....	.....
10	275	527	8·5	13·9	0·869	31·3	47	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	4·0	17·9	0·887	28·0	51	43 secs.	.....
12	225	437	6·2	24·1	0·900	25·7	54	55 "	.....
13	250	482	8·0	32·1	0·915	23·1	57	80 "	.....
14	275	527	6·2	38·3	0·930	20·7	61	168 "	0
15	300	572	8·2	46·5	0·941	18·9	64	349 "	10
Residuum.....			52·9	99·4	1·006	9·2	.....	.....	.....

Carbon residue of residuum: 17·3% Carbon residue of crude: 9·2%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	.....	.....	.....	.....
Total gasoline and naphtha.....	.....	.....	.....	.....
Kerosene distillate.....	.....	.....	.....	.....
Gas oil.....	18·9	0·870	31·1	Below 50
Nonviscous distillate.....	10·8	0·895—0·919	26·6—22·5	50—100
Medium distillate.....	6·7	0·919—0·932	22·5—20·3	100—200
Viscous distillate.....	10·1	0·932—0·948	20·3—17·8	Above 200
Residuum.....	52·9	1·006	9·2	.....
Distillation loss.....	0·6	.....	.....	.....
Base of crude.....	Naphthene (wax-bearing)			

*This well was drilled as "Graham Norton", and was also referred to for some time as "Battleview No. 2".
**This distillation was made on the sample after dehydration.

ANALYSIS OF CRUDE OIL

Origin

Field: **Wainwright** Province: **Alberta**
Well: **Onalta** Sample from: Parks Branch
Location: Ls. 8, sec. 20, tp. 45, rge. 6, W. 4th Date: October 22, 1940

Characteristics

Specific gravity at 60°F.: 0·945 Degrees A.P.I. at 60°F.: 18·2
Sulphur, % by weight: 2·6 Colour: Black
Water, % by vol. (A.S.T.M.): 2·7 Pour point: −10°F.
Water and sediment, % by vol.: 2·7 (by centrifuge)
Viscosity, Saybolt Universal, at 100°F., 850 secs.

Distillation, Hempel Method

Distillation at atmospheric pressure, 765 mm.

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	.....	.....	.....	.....	.....	.....	.....
4	125	257	.....	.....	.....	.....	.....	.....	.....
5	150	302	0·6	0·6					
6	175	347	0·7	1·3	0·814	42·3	36	.....	.....
7	200	392	1·9	3·2					
8	225	437	3·7	6·9	0·825	40·0	36	.....	.....
9	250	482	4·9	11·8	0·839	37·2	37	.....	.....
10	275	527	8·7	20·5	0·856	33·8	41	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	5·1	25·6	0·876	30·0	46	42 secs.	−5°F.
12	225	437	7·0	32·6	0·887	28·0	47	51 "	20
13	250	482	7·9	40·5	0·903	25·2	52	75 "	40
14	275	527	6·6	47·1	0·917	22·8	55	135 "	60
15	300	572	7·6	54·7	0·926	21·3	56	261 "	75
Residuum.....			44·7	99·4	1·002	9·7	.....	.....	.....

Carbon residue of residuum: 16·4% Carbon residue of crude: 7·3%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	.....	.....	.....	.....
Total gasoline and naphtha.....	3·2	.....	.....	.....
Kerosene distillate.....	3·7	0·825	40·0	.....
Gas oil.....	21·6	0·860	33·0	Below 50
Nonviscous distillate.....	11·2	0·886—0·909	28·2—24·2	50—100
Medium distillate.....	7·7	0·909—0·921	24·2—22·1	100—200
Viscous distillate.....	7·3	0·921—0·931	22·1—20·5	Above 200
Residuum.....	44·7	1·002	9·7	.....
Distillation loss.....	0·6	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Waterton-Pincher Creek**
Well: **Weymarn No. 2**
Location: Ls. 5, sec. 7, tp. 6, rge. 1, W. 5th

Province: **Alberta**
Sample from: F. M. Steel
Date: April 30, 1941

Characteristics

Specific gravity at 60°F.: 0·818
Sulphur, % by weight: 0·27
Water, % by vol. (A.S.T.M.): 0·8
Water and sediment, % by vol.: 2·1 (by centrifuge)

Degrees A.P.I. at 60°F.: 41·5
Colour: Dark green
Pour point: 30°F.

Viscosity, Saybolt Universal, at 70°F., 45 secs.; at 100°F., 36 secs.

Distillation, Hempel Method

Distillation at atmospheric pressure, 756 mm. First drop, 30°C. (86°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	0·8	0·8	0·642	88·9	.....	.....	.....
2	75	167	5·8	6·6	0·707	68·6	25	.....	.....
3	100	212	2·3	8·9	0·731	62·1	27	.....	.....
4	125	257	7·6	16·5	0·744	58·7	24	.....	.....
5	150	302	6·8	23·3	0·757	55·4	22	.....	.....
6	175	347	8·4	31·7	0·772	51·8	23	.....	.....
7	200	392	5·7	37·4	0·786	48·5	23	.....	.....
8	225	437	6·2	43·6	0·800	45·4	24	.....	.....
9	250	482	6·8	50·4	0·812	42·8	24	.....	.....
10	275	527	7·1	57·5	0·822	40·6	24	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	4·7	62·2	0·836	37·8	27	39 secs.	20
12	225	437	6·8	69·0	0·842	36·6	26	45 "	40
13	250	482	5·7	74·7	0·852	34·6	28	56 "	60
14	275	527	5·2	79·9	0·861	32·8	29	80 "	80
15	300	572	5·4	85·3	0·868	31·5	29	138 "	90
Residuum.....			13·5	98·8	0·919	22·5	.....	.....	.....

Carbon residue of residuum: 5·1% Carbon residue of crude: 0·7%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	8·9	0·707	68·6	.....
Total gasoline and naphtha.....	37·4	0·750	57·2	.....
Kerosene distillate.....	20·1	0·812	42·8	.....
Gas oil.....	10·7	0·839	37·2	Below 50
Nonviscous distillate.....	10·9	0·846—0·863	35·8—32·5	50—100
Medium distillate.....	6·2	0·863—0·871	32·5—31·0	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	13·5	0·919	22·5	.....
Distillation loss.....	1·2	.....	.....	.....
Base of crude.....	Paraffin (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Whitemud**
Well: **Imperial Whitemud No. 3**
Location: Ls. 12, sec. 14, tp. 51, rge. 25, W. 4th
(Well head sample)

Province: **Alberta**
Sample from: C. J. Stewart
Date: June 30, 1950

Characteristics

Specific gravity at 60°F.: 0·841
Sulphur, % by weight: 0·67
Water, % by vol. (A.S.T.M.): 1·2 (Settled)
Water and sediment, % by vol.: 5·0
(by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 47 secs.; at 100°F., 41 secs.

Degrees A.P.I. at 60°F.: 36·8
Colour: Brownish green
Pour point: 5°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 755 mm. First drop, 38°C. (100°F.)

Fraction cut			Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
No.	at °C.	at °F.							
1	50	122	0·8	0·8	0·688	74·2	.....	.....	.....
2	75	167	2·5	3·3	0·695	72·1	19	.....	.....
3	100	212	9·9	13·2	0·706	68·9	15	.....	.....
4	125	257	4·0	17·2	0·742	59·2	23	.....	.....
5	150	302	5·6	22·8	0·760	54·7	24	.....	.....
6	175	347	5·4	28·2	0·779	50·1	26	.....	.....
7	200	392	4·7	32·9	0·795	46·5	27	.....	.....
8	225	437	4·9	37·8	0·809	43·4	28	.....	.....
9	250	482	5·1	42·9	0·821	40·9	29	.....	.....
10	275	527	6·4	49·3	0·837	37·6	32	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	6·7	56·0	0·854	34·2	36	39	5
12	225	437	4·4	60·4	0·867	31·7	38	48	35
13	250	482	4·8	65·2	0·880	29·3	41	62	50
14	275	527	4·6	69·8	0·888	27·9	41	92	70
15	300	572	5·8	75·6	0·900	25·7	44	180	85
Residuum.....			22·4	98·0	0·960	15·9	.....	.....	.....

Carbon residue of residuum: 9·1% Carbon residue of crude: 2·0%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	13·2	0·703	69·8	.....
Total gasoline and naphtha.....	32·9	0·743	58·9	.....
Kerosene distillate.....	10·0	0·815	42·1	.....
Gas oil.....	15·9	0·849	35·2	Below 50
Nonviscous distillate.....	9·2	0·869—0·889	31·3—27·7	50—100
Medium distillate.....	5·9	0·889—0·903	27·7—25·2	100—200
Viscous distillate.....	1·7	0·903—0·907	25·2—24·5	Above 200
Residuum.....	22·4	0·960	15·9	.....
Distillation loss.....	2·0	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE SHALE OIL

Origin

Field: **Rosevale**
Location: Albert county
Composite shale oil obtained by distillation

Province: **New Brunswick**
Sample from: A. A. Swinnerton
Date: July 1942

Characteristics

Specific gravity at 60°F.: 0·884
Sulphur, % by weight: 0·58
Water and sediment, % by vol.: Trace (by centrifuge)
Viscosity, Saybolt Universal, at 100°F., 49 secs.

Degrees A.P.I. at 60°F.: 28·6
Colour: Brownish black
Pour point: 55°F.

Distillation, Hempel Method

Distillation* at atmospheric pressure, 762 mm. First drop, 40°C. (104°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	2·0	2·0	0·708	68·4	.....	.....	.....
3	100	212	1·7	3·7	0·734	61·3	28	.....	.....
4	125	257	3·1	6·8	0·754	56·2	28	.....	.....
5	150	302	4·9	11·7	0·771	52·0	29	.....	.....
6	175	347	5·2	16·9	0·792	47·2	32	.....	.....
7	200	392	4·6	21·5	0·812	42·8	35	.....	.....
8	225	437	5·6	27·1	0·829	39·2	38	.....	.....
9	250	482	6·7	33·8	0·844	36·2	40	.....	.....
10	275	527	6·9	40·7	0·859	33·2	42	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	4·4	45·1	0·872	30·8	44	41	15
12	225	437	6·9	52·0	0·882	28·9	45	51	35
13	250	482	7·6	59·6	0·897	26·3	49	68	55
14	275	527	7·3	66·9	0·911	23·8	52	109	70
15	300	572	8·7	75·6	0·929	20·8	58	230	85
Residuum.....			23·8	99·4	0·975	13·6	.....	.....	.....

Carbon residue of residuum: 9·8% Carbon residue of crude: 2·3%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	3·7	0·720	65·0	.....
Total gasoline and naphtha.....	21·5	0·774	51·3	.....
Kerosene distillate.....	.....	.....	.....	.....
Gas oil.....	26·7	0·853	34·4	Below 50
Nonviscous distillate.....	13·3	0·881—0·908	29·1—24·3	50—100
Medium distillate.....	7·9	0·908—0·924	24·3—21·6	100—200
Viscous distillate.....	6·2	0·924—0·938	21·6—19·4	Above 200
Residuum.....	23·8	0·975	13·6	.....
Distillation loss.....	0·6	.....	.....	.....
Base of crude.....	Shale oil (Intermediate) (wax-bearing)			

*Distillation was made on sample after dehydration.

ANALYSIS OF CRUDE SHALE OIL

Origin

Field: **Albert Mines**
Location: Albert county
Composite shale oil obtained by distillation

Province: **New Brunswick**
Sample from: A. A. Swinnerton
Date: November, 1942

Characteristics

Specific gravity at 60°F.: 0·861
Sulphur, % by weight: 0·75
Water, % by vol. (A.S.T.M.): Trace
Viscosity, Saybolt Universal, at 100°F., 41 secs.

Degrees A.P.I. at 60°F.: 32·8
Colour: Brownish black
Pour point: 60°F.

Distillation, Hempel Method

Distillation* at atmospheric pressure, 759 mm. First drop, 38°C. (100°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	2·6	2·6	0·680	76·6	.....	.....	.....
3	100	212	2·3	4·9	0·717	65·9	20	.....	.....
4	125	257	4·7	9·6	0·739	60·0	21	.....	.....
5	150	302	5·9	15·5	0·762	54·2	25	.....	.....
6	175	347	3·8	19·3	0·785	48·8	29	.....	.....
7	200	392	5·7	25·0	0·804	44·5	32	.....	.....
8	225	437	5·7	30·7	0·823	40·4	35	.....	.....
9	250	482	5·2	35·9	0·839	37·2	37	.....	.....
10	275	527	7·2	43·1	0·851	34·8	38	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	4·4	47·5	0·864	32·3	40	38	15
12	225	437	7·5	55·0	0·872	30·8	40	45	35
13	250	482	9·0	64·0	0·883	28·8	42	56	55
14	275	527	7·5	71·5	0·898	26·1	46	82	75
15	300	572	8·3	79·8	0·912	23·7	50	144	85
Residuum			19·5	99·3	.....	.....	.....	.....	.....

Carbon residue of residuum: 5·3% Carbon residue of crude: 1·0%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	4·9	0·697	71·5	.....
Total gasoline and naphtha	25·0	0·758	55·2	.....
Kerosene distillate	5·7	0·823	40·4	.....
Gas oil	24·0	0·857	33·6	Below 50
Nonviscous distillate	15·3	0·876—0·902	30·0—25·4	50—100
Medium distillate	9·8	0·902—0·919	25·4—22·5	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	19·5	.....	.....	.....
Distillation loss	0·7	.....	.....	.....
Base of crude	Shale Oil (Intermediate) (wax-bearing)			

*Distillation carried out on sample after dehydration.

ANALYSIS OF CRUDE OIL

Origin

Field: **Stoney Creek**
Well: **No. 96**
Location: Albert county
Depth: 2,778 feet

Province: **New Brunswick**
Sample from: N.B. Gas & Oil Fields, Ltd.
Date: November 25, 1940

Characteristics

Specific gravity at 60°F.: 0·750
Sulphur, % by weight: 0·26
Water and sediment, % by vol.: 0·2 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F.: 30 secs.

Degrees A.P.I. at 60°F.: 57·2
Colour: Dark green
Pour point: Below −35°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 761 mm. First drop, 31°C. (88°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	0·7	0·7	0·659	83·2	.....	.....	.....
2	75	167	1·3	2·0					
3	100	212	3·3	5·3	0·697	71·5	10	.....	.....
4	125	257	9·8	15·1	0·719	65·3	12	.....	.....
5	150	302	23·2	38·3	0·735	61·0	12	.....	.....
6	175	347	24·6	62·9	0·751	56·9	13	.....	.....
7	200	392	19·2	82·1	0·764	53·7	13	.....	.....
8	225	437	8·3	90·4	0·780	49·9	15	.....	.....
9	250	482	4·3	94·7	0·795	46·5	.....	.....	.....
10	275	527	.....	.....	.....	.....	.....	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	.....	.....	.....	.....	.....	.....	.....
12	225	437	.....	.....	.....	.....	.....	.....	.....
13	250	482	.....	.....	.....	.....	.....	.....	.....
14	275	527	.....	.....	.....	.....	.....	.....	.....
15	300	572	.....	.....	.....	.....	.....	.....	.....
Residuum			4·5	99·2	0·854	34·2	.....	.....	.....

Carbon residue of residuum: 1·9% Carbon residue of crude: 0·1%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	5·3	0·683	75·7	.....
Total gasoline and naphtha	82·1	0·741	59·5	.....
Kerosene distillate	12·6	0·785	48·8	.....
Gas oil	.....	.....	.....	Below 50
Nonviscous distillate	.....	.....	.....	50—100
Medium distillate	.....	.....	.....	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	4·5	0·854	34·2	(waxy)
Distillation loss	0·8	.....	.....	.....
Base of crude	Paraffin (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Stoney Creek**
Well: **No. 128**
Location: Albert county
Depth: 2,729 to 2,744 feet

Province: **New Brunswick**
Sample from: N.B. Gas & Oilfields, Ltd.
Date: October 1, 1941

Characteristics

Specific gravity at 60°F.: 0·813
Sulphur, % by weight: 0·30
Water, % by vol. (A.S.T.M.): Nil
Water and sediment, % by vol.: 0·2 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F.: 34 secs.

Degrees A.P.I. at 60°F.: 42·6
Colour: Dark green
Pour point: 40°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 753 mm. First drop, 42°C. (108°F.)

Fraction cut			Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say.Univ. at 100°F.	Cloud test, °F.
No.	at °C.	at °F.							
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	2·1	2·1	0·661	82·6	.....	.....	.....
3	100	212	2·6	4·7	0·696	71·8	10	.....	.....
4	125	257	4·5	9·2	0·715	66·4	10	.....	.....
5	150	302	5·2	14·4	0·731	62·1	10	.....	.....
6	175	347	4·4	18·8	0·745	58·4	10	.....	.....
7	200	392	6·4	25·2	0·758	55·2	10	.....	.....
8	225	437	3·2	28·4	0·770	52·3	10	.....	.....
9	250	482	6·6	35·0	0·782	49·5	10	.....	.....
10	275	527	4·7	39·7	0·792	47·2	10	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	6·2	45·9	0·804	44·5	12	39	35
12	225	437	3·8	49·7	0·812	42·8	12	44	55
13	250	482	4·6	54·3	0·819	41·3	12	52	70
14	275	527	5·1	59·4	0·826	39·8	12	62	85
15	300	572	7·7	67·1	0·836	37·8	14	88	95
Residuum			32·5	99·6	0·881	29·1	.....	.....	.....

Carbon residue of residuum: 2% Carbon residue of crude: 0·6%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	4·7	0·680	76·6	.....
Total gasoline and naphtha	25·2	0·728	62·9	.....
Kerosene distillate	14·5	0·783	49·2	.....
Gas oil	11·0	0·808	43·6	Below 50
Nonviscous distillate	15·6	0·817—0·840	41·7—37·0	50—100
Medium distillate	0·8	0·840—0·842	37·0—36·6	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	32·5	0·881	29·1	.....
Distillation loss	0·4	.....	.....	.....
Base of crude	Paraffin (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Shoal Point**
Well: One(?) of eleven wells.
Location: Port au Port Bay, on east shore of West Bay, about 0·7 mile from end of Shoal Point (wells drilled in 1898).

Province: **Newfoundland**
Sample from: W. A. Bell
Date: 1946

Characteristics

Specific gravity at 60°F.: 0·862
Sulphur, % by weight: 0·17
Water, % by vol. (A.S.T.M.): Trace
Sediment, % by weight: 0·005 (by extraction)
Degrees A.P.I. at 60°F.: 32·7
Colour: Brownish green
Pour point: −45°F.
Viscosity, Saybolt Universal at 70°F., 156 secs.; at 100°F., 88 secs.

Distillation, Hempel Method

Distillation at atmospheric pressure, 760 mm. First drop, 35°C. (95°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	1·5	1·5	0·654	84·9	.....	.....	.....
2	75	167	2·5	4·0	0·682	76·0	13	.....	.....
3	100	212	2·5	6·5	0·717	65·9	20	.....	.....
4	125	257	4·1	10·6	0·737	60·5	20	.....	.....
5	150	302	4·3	14·9	0·754	56·2	21	.....	.....
6	175	347	3·6	18·5	0·773	51·6	23	.....	.....
7	200	392	3·4	21·9	0·789	47·8	24	.....	.....
8	225	437	3·7	25·6	0·803	44·7	25	.....	.....
9	250	482	4·1	29·7	0·817	41·7	27	.....	.....
10	275	527	5·0	34·7	0·827	39·6	27	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	3·4	38·1	0·840	37·0	29	42	25
12	225	437	5·0	43·1	0·846	35·8	28	48	40
13	250	482	5·0	48·1	0·859	33·2	31	64	55
14	275	527	5·1	53·2	0·873	30·6	34	93	65
15	300	572	6·6	59·8	0·889	27·7	39	195	75
Residuum.....			39·7	99·5	0·952	17·1	.....	.....	.....

Carbon residue of residuum: 7·8% Carbon residue of crude: 3·1%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	6·5	0·689	73·9	.....
Total gasoline and naphtha.....	21·9	0·740	59·7	.....
Kerosene distillate.....	7·8	0·810	43·2	.....
Gas oil.....	11·6	0·836	37·8	Below 50
Nonviscous lubricating distillate.....	9·8	0·848—0·874	35·4—30·4	50—100
Medium lubricating distillate.....	5·7	0·874—0·890	30·4—27·5	100—200
Viscous lubricating distillate.....	3·0	0·890—0·898	27·5—26·1	Above 200
Residuum.....	39·7	0·952	17·1	.....
Distillation loss.....	0·5	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Fort Norman**

Province: **Northwest Territories**
Sample from: Imperial Oil, Ltd.
Date: May 22, 1942

Characteristics

Specific gravity at 60°F.: 0·833
Degrees A.P.I. at 60°F.: 38·4
Sulphur, % by weight: 0·55
Colour: Dark green
Water and sediment, % by vol.: Trace (by centrifuge)
Pour point: Below −60°F.
Viscosity, Saybolt Universal, at 70°F., 41·8 secs.; at 15°F., 88 secs.

Distillation, Hempel Method

Distillation at atmospheric pressure, 757 mm. First drop, 28°C. (82°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	2·7	2·7	0·657	83·9	.....	.....	.....
2	75	167	3·1	5·8	0·673	78·8	9	.....	.....
3	100	212	4·7	10·5	0·712	67·2	18	.....	.....
4	125	257	7·9	18·4	0·742	59·2	23	.....	.....
5	150	302	5·7	24·1	0·764	53·7	26	.....	.....
6	175	347	6·1	30·2	0·781	49·7	27	.....	.....
7	200	392	5·4	35·6	0·801	45·2	30	.....	.....
8	225	437	5·7	41·3	0·815	42·1	31	.....	.....
9	250	482	5·4	46·7	0·828	39·4	32	.....	.....
10	275	527	6·2	52·9	0·842	36·6	34	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	4·6	57·5	0·856	33·8	37	40	−5
12	225	437	6·0	63·5	0·865	32·1	37	49	20
13	250	482	5·0	68·5	0·880	29·3	41	71	40
14	275	527	3·8	72·3	0·894	26·8	44	114	60
15	300	572	5·2	77·5	0·902	25·4	45	207	75
Residuum.....			21·5	99·0	0·948	17·8	.....	.....	.....

Carbon residue of residuum: 6·5% Carbon residue of crude: 1·4%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	10·5	0·686	74·8	.....
Total gasoline and naphtha.....	35·6	0·745	58·4	.....
Kerosene distillate.....	5·7	0·815	42·1	.....
Gas oil.....	19·5	0·845	36·0	Below 50
Nonviscous distillate.....	8·1	0·866—0·889	31·9—27·7	50—100
Medium distillate.....	5·7	0·889—0·902	27·7—25·4	100—200
Viscous distillate.....	2·9	0·902—0·907	25·4—24·5	Above 200
Residuum.....	21·5	0·948	17·8	.....
Distillation loss.....	1·0	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Fort Norman**

Province: **Northwest Territories**
Sample from: R. A. Gibson
Date: March 20, 1943

Characteristics

Specific gravity at 60°F.: 0·825
Degrees A.P.I. at 60°F.: 40·0
Sulphur, % by weight: 0·36
Colour: Dark green
Water and sediment, % by vol.: Trace (by centrifuge)
Pour point: Below −35°F.
Viscosity, Saybolt Universal, at 70°F., 40 secs.; at 100°F., 36 secs.

Distillation, Hempel Method

Distillation at atmospheric pressure, 760 mm. First drop, 30°C. (86°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	3·1	3·1	0·644	88·2	.....	.....	.....
2	75	167	3·3	6·4	0·673	78·8	9	.....	.....
3	100	212	5·1	11·5	0·712	67·2	18	.....	.....
4	125	257	6·4	17·9	0·741	59·5	22	.....	.....
5	150	302	6·4	24·3	0·761	54·4	24	.....	.....
6	175	347	5·5	29·8	0·780	49·9	26	.....	.....
7	200	392	5·5	35·3	0·797	46·0	28	.....	.....
8	225	437	5·2	40·5	0·814	42·3	31	.....	.....
9	250	482	5·9	46·4	0·828	39·4	32	.....	.....
10	275	527	5·8	52·2	0·841	36·8	33	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	4·4	56·6	0·854	34·2	36	39	−5
12	225	437	4·5	61·1	0·863	32·5	36	48	20
13	250	482	5·2	66·3	0·876	30·0	39	66	40
14	275	527	5·1	71·4	0·889	27·7	42	105	55
15	300	572	4·1	75·5	0·897	26·3	43	220	70
Residuum			21·4	96·9	0·945	18·2	.....	.....	.....

Carbon residue of residuum: 7·1% Carbon residue of crude: 1·5%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	11·5	0·682	76·0	.....
Total gasoline and naphtha	35·3	0·740	59·7	.....
Kerosene distillate	5·2	0·814	42·3	.....
Gas oil	19·1	0·843	36·4	Below 50
Nonviscous distillate	8·6	0·865—0·887	32·1—28·0	50—100
Medium distillate	4·5	0·887—0·896	28·0—26·4	100—200
Viscous distillate	2·8	0·896—0·901	26·4—25·6	Above 200
Residuum	21·4	0·945	18·2	.....
Distillation loss	3·1	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Brant**
Well: **Hartley No. 1**
Location: Lot 16, con. 3, Onondaga tp., Brant co.

Province: **Ontario**
Sample from: R. J. Offord
Date: October 4, 1935

Characteristics

Specific gravity at 60°F.: 0·869
Sulphur, % by weight: 0·43
Water, % by vol. (A.S.T.M.): Trace
Degrees A.P.I. at 60°F.: 31·3
Colour: Dark green
Pour point: 25°F.
Viscosity, Saybolt Universal, at 70°F., 241 secs.; at 100°F., 121 secs.

Distillation, Hempel Method

Distillation at atmospheric pressure, 760 mm. First drop, 74°C. (166°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	0·2	0·2					
4	125	257	0·3	0·5	0·747	57·9	.....	.....	.....
5	150	302	1·0	1·5					
6	175	347	2·0	3·5	0·768	52·7	21	.....	.....
7	200	392	2·4	5·9	0·782	49·5	21	.....	.....
8	225	437	3·1	9·0	0·793	46·9	21	.....	.....
9	250	482	5·1	14·1	0·802	44·9	20	.....	.....
10	275	527	7·5	21·6	0·814	42·3	21	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	6·3	27·9	0·832	38·6	25	41	25
12	225	437	8·6	36·5	0·843	36·4	27	47	45
13	250	482	8·9	45·4	0·856	33·8	29	62	60
14	275	527	8·1	53·5	0·867	31·7	31	92	70
15	300	572	9·4	62·9	0·880	29·3	35	160	75
Residuum.....			34·8	97·7	0·915	23·1	.....	.....	.....

Carbon residue of residuum: 4·3% Carbon residue of crude: 1·5%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	0·2	.....	.....	.....
Total gasoline and naphtha.....	5·9	0·768	52·7	.....
Kerosene distillate.....	15·7	0·806	44·1	.....
Gas oil.....	12·3	0·836	37·8	Below 50
Nonviscous distillate.....	16·5	0·846—0·869	35·8—31·3	50—100
Medium distillate.....	12·5	0·869—0·887	31·3—28·0	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	34·8	0·915	23·1	.....
Distillation loss.....	2·3			.....
Base of crude.....	Paraffin—Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Brant**
Well: **Hartley Nos. 2, 3, and 4**
Location: Lot 16, con. 3, Onondaga tp., Brant co.

Province: **Ontario**
Sample from: R. J. Offord
Date: September 13, 1938

Characteristics

Specific gravity at 60°F.: 0·867
Sulphur, % by weight: 0·50
Water and sediment, % by vol.: 0·2 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 236 secs.

Degrees A.P.I. at 60°F.: 31·7
Colour: Dark green
Pour point: 30°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 770 mm. First drop, 81°C. (178°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	0·4	0·4					
4	125	257	0·1	0·5	0·764	53·7	.....	.....	.....
5	150	302	0·7	1·2					
6	175	347	1·7	2·9					
7	200	392	2·3	5·2	0·779	50·1	.....	.....	.....
8	225	437	3·0	8·2	0·789	47·8	19	.....	.....
9	250	482	4·8	13·0	0·800	45·4	19	.....	.....
10	275	527	6·9	19·9	0·811	43·0	19	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	6·6	26·5	0·827	39·6	23	39	20
12	225	437	8·6	35·1	0·839	37·2	25	45	40
13	250	482	9·7	44·8	0·854	34·2	28	58	60
14	275	527	7·3	52·1	0·865	32·1	31	83	70
15	300	572	9·6	61·7	0·877	29·9	33	137	80
Residuum.....			36·9	98·6	0·916	23·0	.....	.....	.....

Carbon residue of residuum: 2·8% Carbon residue of crude: 1·4%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	0·4	.....	.....	.....
Total gasoline and naphtha.....	5·2	0·767	53·0	.....
Kerosene distillate.....	14·7	0·803	44·7	.....
Gas oil.....	14·4	0·833	38·4	Below 50
Nonviscous distillate.....	16·8	0·845—0·869	36·0—31·3	50—100
Medium distillate.....	10·6	0·869—0·884	31·3—28·6	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	36·9	0·916	23·0	.....
Distillation loss.....	1·4	.....	.....	.....
Base of crude.....	Paraffin—Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Dawn**
Well: **Union No. 68**
Location: Lot 25, con. 2, Dawn tp., Lambton co.

Province: **Ontario**
Sample from: R. J. Offord
Date: September 1, 1936

Characteristics

Specific gravity at 60°F.: 0·826
Sulphur, % by weight: 0·62
Water and sediment, % by vol.: 0·1 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 44 secs.

Degrees A.P.I. at 60°F.: 39·8
Colour: Dark green
Pour point: Below 0°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 760 mm. First drop, 24°C. (75°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	3·6	3·6	0·636	91·0	.....	.....	.....
2	75	167	3·1	6·7	0·671	79·4	8	.....	.....
3	100	212	4·1	10·8	0·710	67·8	17	.....	.....
4	125	257	5·7	16·5	0·742	59·2	23	.....	.....
5	150	302	7·0	23·5	0·768	52·7	27	.....	.....
6	175	347	6·3	29·8	0·789	47·8	31	.....	.....
7	200	392	5·1	34·9	0·803	44·7	31	.....	.....
8	225	437	5·1	40·0	0·811	43·0	29	.....	.....
9	250	482	4·8	44·8	0·820	41·1	28	.....	.....
10	275	527	6·6	51·4	0·831	38·8	29	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	3·7	55·1	0·843	36·4	30	40	30
12	225	437	6·0	61·1	0·848	35·4	29	46	50
13	250	482	5·1	66·2	0·856	33·8	29	56	70
14	275	527	5·5	71·7	0·867	31·7	31	78	85
15	300	572	5·8	77·5	0·878	29·7	34	131	95
Residuum			20·5	98·0	.....	.....	.....	.....	.....

Carbon residue of residuum: 7·3% Carbon residue of crude: 1·5%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	10·8	0·674	78·4	.....
Total gasoline and naphtha	34·9	0·744	58·7	.....
Kerosene distillate	9·9	0·815	42·1	.....
Gas oil	15·3	0·840	37·0	Below 50
Nonviscous distillate	11·2	0·851—0·871	34·8—31·0	50—100
Medium distillate	6·2	0·871—0·883	31·0—28·8	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	20·5	.....	.....	.....
Distillation loss	2·0	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Dover**
Well: **Bruette No. 5**
Location: Lot 4, River Front con., Raleigh tp., Kent co.

Province: **Ontario**
Sample from: R. J. Offord
Date: September 21, 1939

Characteristics

Specific gravity at 60°F.: 0·827
Sulphur, % by weight: 0·34
Water and sediment, % by vol.: Trace (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 48 secs.

Degrees A.P.I. at 60°F.: 39·6
Colour: Dark green
Pour point: Below −35°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 759 mm. First drop, 33°C. (91°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	0·7	0·7	0·669	80·0	.....	.....	.....
2	75	167	1·3	2·0					
3	100	212	3·0	5·0	0·712	67·2	18	.....	.....
4	125	257	6·0	11·0	0·737	60·5	20	.....	.....
5	150	302	6·6	17·6	0·757	55·4	22	.....	.....
6	175	347	7·2	24·8	0·773	51·6	23	.....	.....
7	200	392	5·3	30·1	0·787	48·3	23	.....	.....
8	225	437	6·6	36·7	0·798	45·8	23	.....	.....
9	250	482	5·5	42·2	0·811	43·0	24	.....	.....
10	275	527	8·1	50·3	0·823	40·4	25	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	6·2	56·5	0·837	37·6	28	39	25
12	225	437	5·2	61·7	0·846	35·8	28	46	45
13	250	482	5·5	67·2	0·859	33·2	31	56	60
14	275	527	6·0	73·2	0·869	31·3	32	82	80
15	300	572	5·7	78·9	0·881	29·1	35	142	95
Residuum.....			19·9	98·8	0·925	21·5	.....	.....	.....

Carbon residue of residuum: 3·9% Carbon residue of crude: 0·8%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	5·0	0·695	72·1	.....
Total gasoline and naphtha.....	30·1	0·752	56·7	.....
Kerosene distillate.....	20·2	0·812	42·8	.....
Gas oil.....	11·0	0·841	36·8	Below 50
Nonviscous distillate.....	10·7	0·852—0·872	34·6—30·8	50—100
Medium distillate.....	6·9	0·872—0·887	30·8—28·0	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	19·9	0·925	21·5	.....
Distillation loss.....	1·2	.....	.....	.....
Base of crude.....	Paraffin—Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Dover East**
Well: **Prairie No. 3**
Location: Lot 2, River Front con., Dover E. tp., Kent co.

Province: **Ontario**
Sample from: R. J. Offord
Date: September 2, 1936

Characteristics

Specific gravity at 60°F.: 0·830
Sulphur, % by weight: 0·15
Water and sediment, % by vol.: Nil (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 49 secs.

Degrees A.P.I. at 60°F.: 39·0
Colour: Dark green
Pour point: Below 0°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 766 mm. First drop, 42°C. (108°F.)

Fraction cut			Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
No.	at °C.	at °F.							
1	50	122	0·3	0·3					
2	75	167	0·9	1·2	0·703	69·8	13	.....	.....
3	100	212	2·8	4·0					
4	125	257	6·2	10·2	0·733	61·5	18	.....	.....
5	150	302	7·1	17·3	0·752	56·7	20	.....	.....
6	175	347	6·4	23·7	0·768	52·7	21	.....	.....
7	200	392	5·9	29·6	0·781	49·7	21	.....	.....
8	225	437	6·3	35·9	0·793	46·9	21	.....	.....
9	250	482	6·1	42·0	0·807	43·8	22	.....	.....
10	275	527	7·2	49·2	0·819	41·3	23	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	4·3	53·5	0·832	38·6	25	40	20
12	225	437	6·5	60·0	0·840	37·0	25	45	35
13	250	482	6·3	66·3	0·852	34·6	28	57	55
14	275	527	5·0	71·3	0·865	32·1	31	82	75
15	300	572	3·7	75·0	0·874	30·4	32	125	90
Residuum			23·6	98·6	.....	.....	.....	.....	.....

Carbon residue of residuum: 3·9% Carbon residue of crude: 0·9%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	4·0	0·703	69·8	.....
Total gasoline and naphtha	29·6	0·751	56·9	.....
Kerosene distillate	19·6	0·807	43·8	.....
Gas oil	10·0	0·836	37·8	Below 50
Nonviscous distillate	11·3	0·845—0·869	36·0—31·3	50—100
Medium distillate	4·5	0·869—0·878	31·3—29·7	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	23·6	.....	.....	.....
Distillation loss	1·4	.....	.....	.....
Base of crude	Paraffin (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Dover East**
Well: **Bruette**
Location: Lot 4, R.R. con., Raleigh tp., Kent co.

Province: **Ontario**
Sample from: R. J. Offord
Date: September 2, 1936

Characteristics

Specific gravity at 60°F.: 0·823
Sulphur, % by weight: 0·15
Water and sediment, % by vol.: Nil (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 47 secs.

Degrees A.P.I. at 60°F.: 40·4
Colour: Dark green
Pour point: Below 0°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 757 mm. First drop, 25°C. (77°F.)

Fraction cut			Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
No.	at °C.	at °F.							
1	50	122	1·1	1·1	0·657	83·9	.....	.....	.....
2	75	167	1·0	2·1					
3	100	212	3·1	5·2	0·709	68·1	16	.....	.....
4	125	257	6·0	11·2	0·734	61·3	19	.....	.....
5	150	302	6·9	18·1	0·753	56·4	20	.....	.....
6	175	347	6·4	24·5	0·767	53·0	20	.....	.....
7	200	392	5·8	30·3	0·781	49·7	21	.....	.....
8	225	437	5·6	35·9	0·794	46·7	21	.....	.....
9	250	482	6·5	42·4	0·806	44·1	22	.....	.....
10	275	527	7·3	49·7	0·819	41·3	23	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	5·1	54·8	0·832	38·6	25	39	20
12	225	437	6·2	61·0	0·840	37·0	25	45	40
13	250	482	5·7	66·7	0·853	34·4	28	56	55
14	275	527	4·7	71·4	0·865	32·1	31	72	70
15	300	572	5·5	76·9	0·873	30·6	31	123	90
Residuum			20·9	97·8	.....	.....	.....	.....	.....

Carbon residue of residuum: 3·7% Carbon residue of crude: 0·8%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	5·2	0·688	74·2	.....
Total gasoline and naphtha	30·3	0·746	58·2	.....
Kerosene distillate	19·4	0·807	43·8	.....
Gas oil	10·8	0·836	37·8	Below 50
Nonviscous distillate	11·4	0·846—0·869	35·8—31·3	50—100
Medium distillate	5·0	0·869—0·877	31·3—29·9	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	20·9	.....	.....	.....
Distillation loss	2·2	.....	.....	.....
Base of crude	Paraffin (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Dover East**
Well: **Duphrette No. 1**
Location: Lot 3, con. 4, Dover E. tp., Kent co.

Province: **Ontario**
Sample from: R. J. Offord
Date: September 2, 1936

Characteristics

Specific gravity at 60°F.: 0·825
Sulphur, % by weight: 0·15
Water and sediment, % by vol.: Trace (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 48 secs.

Degrees A.P.I. at 60°F.: 40·0
Colour: Dark green
Pour point: Below 0°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 761 mm. First drop, 26°C. (79°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	0·9	0·9	0·664	81·6	.....	.....	.....
2	75	167	1·5	2·4					
3	100	212	3·4	5·8	0·710	67·8	17	.....	.....
4	125	257	6·4	12·2	0·732	61·8	18	.....	.....
5	150	302	7·2	19·4	0·752	56·7	20	.....	.....
6	175	347	6·0	25·4	0·768	52·7	21	.....	.....
7	200	392	5·7	31·1	0·782	49·5	21	.....	.....
8	225	437	5·6	36·7	0·794	46·7	21	.....	.....
9	250	482	6·1	42·8	0·807	43·8	22	.....	.....
10	275	527	7·0	49·8	0·819	41·3	23	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	5·2	55·0	0·833	38·4	26	40	25
12	225	437	6·5	61·5	0·841	36·8	26	45	40
13	250	482	5·7	67·2	0·853	34·4	28	56	60
14	275	527	4·5	71·7	0·865	32·1	31	76	75
15	300	572	4·8	76·5	0·876	30·0	33	117	90
Residuum			21·5	98·0	.....	.....	.....	.....	.....

Carbon residue of residuum: 5·8% Carbon residue of crude: 1·2%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	5·8	0·691	73·3	.....
Total gasoline and naphtha	31·1	0·745	58·4	.....
Kerosene distillate	18·7	0·808	43·6	.....
Gas oil	11·0	0·837	37·6	Below 50
Nonviscous distillate	11·3	0·846—0·871	35·8—31·0	50—100
Medium distillate	4·4	0·871—0·882	31·0—28·9	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	21·5	.....	.....	.....
Distillation loss	2·0	.....	.....	.....
Base of crude	Paraffin (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Haldimand Co.**
Well: **Moulton Township**
Depth: 650 feet

Province: **Ontario**
Sample from: A. R. Crozier
Date: November 28, 1941

Characteristics

Specific gravity at 60°F.: 0·848
Sulphur, % by weight: 0·26
Water and sediment, % by vol.: 0·4 (by centrifuge)
Viscosity, Saybolt Universal, at 100°F., 67 secs.

Degrees A.P.I. at 60°F.: 35·4
Colour: Dark green
Pour point: 30°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 765 mm. First drop, 60°C. (140°F.)

Fraction cut			Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
No.	at °C.	at °F.							
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	0·9	0·9					
4	125	257	0·8	1·7	0·729	62·6	.....	.....	.....
5	150	302	1·7	3·4	0·743	58·9	16	.....	.....
6	175	347	3·2	6·6	0·756	55·7	15	.....	.....
7	200	392	5·3	11·9	0·772	51·8	16	.....	.....
8	225	437	6·6	18·5	0·787	48·3	18	.....	.....
9	250	482	7·1	25·6	0·799	45·6	18	.....	.....
10	275	527	8·1	33·7	0·814	42·3	21	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	4·7	38·4	0·828	39·4	23	39	15
12	225	437	6·5	44·9	0·835	38·0	23	45	35
13	250	482	6·9	51·8	0·844	36·2	24	55	50
14	275	527	6·7	58·5	0·854	34·2	25	76	70
15	300	572	7·9	66·4	0·865	32·1	28	121	80
Residuum.....			33·3	99·7	0·903	25·2	.....	.....	.....

Carbon residue of residuum: 2·6% Carbon residue of crude: 0·9%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	0·9	.....	.....	.....
Total gasoline and naphtha.....	11·9	0·757	55·4	.....
Kerosene distillate.....	21·8	0·801	45·2	.....
Gas oil.....	11·6	0·832	38·6	Below 50
Nonviscous distillate.....	13·8	0·840—0·860	37·0—33·0	50—100
Medium distillate.....	7·3	0·860—0·871	33·0—31·0	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	33·3	0·903	25·2	.....
Distillation loss.....	0·3	.....	.....	.....
Base of crude.....	Paraffin (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Moore**
Well: **Davis**
Location: Lot 3, con. 10, Moore tp., Lambton co.

Province: **Ontario**
Sample from: R. J. Offord
Date: August 31, 1936

Characteristics

Specific gravity at 60°F.: 0·868
Sulphur, % by weight: 1·36
Water and sediment, % by vol.: 0·06 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 158 secs.

Degrees A.P.I. at 60°F.: 31·5
Colour: Brownish green
Pour point: 10°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 747 mm. First drop, 55°C. (131°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	0·3	0·3					
3	100	212	0·6	0·9	0·735	61·0	.....	.....	.....
4	125	257	1·4	2·3					
5	150	302	5·3	7·6	0·758	55·2	23	.....	.....
6	175	347	4·1	11·7	0·777	50·6	25	.....	.....
7	200	392	5·0	16·7	0·791	47·4	25	.....	.....
8	225	437	5·5	22·2	0·803	44·7	25	.....	.....
9	250	482	6·0	28·2	0·814	42·3	25	.....	.....
10	275	527	7·1	35·3	0·826	39·8	26	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	4·1	39·4	0·838	37·4	28	40	20
12	225	437	5·6	45·0	0·845	36·0	28	47	40
13	250	482	7·6	52·6	0·858	33·4	30	61	60
14	275	527	5·8	58·4	0·868	31·5	32	93	75
15	300	572	6·5	64·9	0·878	29·7	34	136	85
Residuum			32·1	97·0	.....	.....	.....	.....	.....

Carbon residue of residuum: 7·1% Carbon residue of crude: 2·3%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	0·9	.....	.....	.....
Total gasoline and naphtha	16·7	0·769	52·5	.....
Kerosene distillate	11·5	0·809	43·4	.....
Gas oil	15·1	0·834	38·2	Below 50
Nonviscous distillate	13·2	0·847—0·870	35·6—31·1	50—100
Medium distillate	8·4	0·870—0·883	31·1—28·8	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	32·1	.....	.....	.....
Distillation loss	3·0	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Onondaga**
Well: **Thompson Nos. 1 and 2**
Location: Lot 16, con. 1, Onondaga tp., Brant co.

Province: **Ontario**
Sample from: R. J. Offord
Date: September 28, 1939

Characteristics

Specific gravity at 60°F.: 0·866
Sulphur, % by weight: 0·70
Water and sediment, % by vol.: Trace (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 194 secs.; at 100°F., 103 secs.

Degrees A.P.I. at 60°F.: 31·9
Colour: Light green
Pour point: 30°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 746 mm. First drop, 68°C. (154°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	0·5	0·5	0·719	65·3	21	.....	.....
4	125	257	0·9	1·4	0·743	58·9	23	.....	.....
5	150	302	2·7	4·1	0·765	53·5	26	.....	.....
6	175	347	3·2	7·3	0·776	50·9	24	.....	.....
7	200	392	3·0	10·3	0·789	47·8	24	.....	.....
8	225	437	3·4	13·7	0·801	45·2	24	.....	.....
9	250	482	5·7	19·4	0·812	42·8	24	.....	.....
10	275	527	7·3	26·7	0·823	40·4	25	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	5·6	32·2	0·836	37·8	27	39	20
12	225	437	8·4	40·7	0·847	35·6	28	46	40
13	250	482	7·3	48·0	0·862	32·7	32	59	60
14	275	527	7·4	55·4	0·873	30·6	34	91	70
15	300	572	8·7	64·1	0·885	28·4	37	151	75
Residuum.....			35·0	99·1	0·925	21·5	.....	.....	.....

Carbon residue of residuum: 3·3% Carbon residue of crude: 1·2%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	0·5	0·719	65·3	.....
Total gasoline and naphtha.....	10·3	0·771	52·0	.....
Kerosene distillate.....	16·4	0·815	42·1	.....
Gas oil.....	12·0	0·841	36·8	Below 50
Nonviscous distillate.....	14·2	0·851—0·875	34·8—30·2	50—100
Medium distillate.....	11·2	0·875—0·892	30·2—27·1	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	35·0	0·925	21·5	.....
Distillation loss.....	0·9	.....	.....	.....
Base of crude.....	Paraffin—Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Petrolia**
Well: **Bennett**
Location: Lot 15, con. 12, Enniskillen tp., Lambton co.

Province: **Ontario**
Sample from: R. J. Offord
Date: September 1, 1936

Characteristics

Specific gravity at 60°F.: 0·867
Sulphur, % by weight: 1·03
Water and sediment, % by vol.: 0·5 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 149 secs.

Degrees A.P.I. at 60°F.: 31·7
Colour: Brownish green
Pour point: 0°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 759 mm. First drop, 55°C. (131°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	0·3	0·3					
3	100	212	0·9	1·2	0·736	60·8	.....	.....	.....
4	125	257	1·5	2·7					
5	150	302	4·6	7·3	0·759	54·9	23	.....	.....
6	175	347	5·2	12·5	0·777	50·6	25	.....	.....
7	200	392	4·5	17·0	0·793	46·9	26	.....	.....
8	225	437	4·9	21·9	0·804	44·5	26	.....	.....
9	250	482	5·6	27·5	0·815	42·1	26	.....	.....
10	275	527	7·5	35·0	0·826	39·8	26	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	2·9	37·9	0·840	37·0	29	40	20
12	225	437	5·9	43·8	0·845	36·0	28	45	35
13	250	482	6·1	49·9	0·855	34·0	29	54	55
14	275	527	5·8	55·7	0·866	31·9	31	76	65
15	300	572	6·7	62·4	0·876	30·0	33	116	75
Residuum.....			35·7	98·1	.....	.....	.....	.....	.....

Carbon residue of residuum: 6·0% Carbon residue of crude: 2·1%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	1·2	.....	.....	.....
Total gasoline and naphtha.....	17·0	0·770	52·3	.....
Kerosene distillate.....	10·5	0·810	43·2	.....
Gas oil.....	16·6	0·835	38·0	Below 50
Nonviscous distillate.....	12·5	0·850—0·872	35·0—30·8	50—100
Medium distillate.....	5·8	0·872—0·881	30·8—29·1	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	35·7	.....	.....	.....
Distillation loss.....	1·9	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Petrolia**
Well: **Perkins**
Location: Lot 11, con. 12, Enniskillen tp., Lambton co.

Province: **Ontario**
Sample from: R. J. Offord
Date: September 1, 1936

Characteristics

Specific gravity at 60°F.: 0·855
Sulphur, % by weight: 0·75
Water and sediment, % by vol.: Nil (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 101 secs.

Degrees A.P.I. at 60°F.: 34·0
Colour: Brownish green
Pour point: Below 0°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 773 mm. First drop, 33°C. (91°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	0·3	0·3					
2	75	167	1·1	1·4	0·700	70·6	.....	.....	.....
3	100	212	2·5	3·9					
4	125	257	4·9	8·8	0·737	60·5	20	.....	.....
5	150	302	4·8	13·6	0·759	54·9	23	.....	.....
6	175	347	4·7	18·3	0·778	50·4	25	.....	.....
7	200	392	4·4	22·7	0·794	46·7	27	.....	.....
8	225	437	5·1	27·8	0·806	44·1	27	.....	.....
9	250	482	5·5	33·3	0·817	41·7	27	.....	.....
10	275	527	8·3	41·6	0·828	39·4	27	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	2·0	43·6	0·840	37·0	29	40	25
12	225	437	5·3	48·9	0·848	35·4	29	46	40
13	250	482	6·0	54·9	0·857	33·6	30	57	55
14	275	527	5·4	60·3	0·867	31·7	31	80	70
15	300	572	6·7	67·0	0·877	29·9	33	129	80
Residuum			32·4	99·4	.....	.....	.....	.....	.....

Carbon residue of residuum: 6·4% Carbon residue of crude: 2·1%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	3·9	0·700	70·6	.....
Total gasoline and naphtha	22·7	0·755	55·9	.....
Kerosene distillate	10·6	0·812	42·8	.....
Gas oil	14·8	0·835	38·0	Below 50
Nonviscous distillate	11·9	0·851—0·871	34·8—31·0	50—100
Medium distillate	7·0	0·871—0·882	31·0—28·9	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	32·4	.....	.....	.....
Distillation loss	0·6	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Tilbury East**
Well: **Walker & Drake No. 1**
Location: Lot 6, con. 9, Tilbury E. tp., Kent co.

Province: **Ontario**
Sample from: R. J. Offord
Date: September 3, 1936

Characteristics

Specific gravity at 60°F.: 0·819
Sulphur, % by weight: 0·50
Water and sediment, % by vol.: Trace (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 44 secs.

Degree A.P.I. at 60°F.: 41·3
Colour: Dark green
Pour point: Below 0°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 758 mm. First drop, 35°C. (95°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	0·3	0·3					
2	75	167	1·1	1·4	0·699	70·9	.....	.....	.....
3	100	212	3·1	4·5					
4	125	257	7·0	11·5	0·731	62·1	18	.....	.....
5	150	302	8·6	20·1	0·749	57·4	18	.....	.....
6	175	347	8·1	28·2	0·767	53·0	20	.....	.....
7	200	392	7·2	35·4	0·781	49·7	21	.....	.....
8	225	437	6·7	42·1	0·795	46·5	22	.....	.....
9	250	482	7·1	49·2	0·808	43·6	22	.....	.....
10	275	527	7·5	56·7	0·820	41·1	23	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	5·3	62·0	0·835	38·0	27	40	25
12	225	437	5·8	67·8	0·844	36·2	27	47	40
13	250	482	5·0	72·8	0·855	34·0	29	59	60
14	275	527	4·6	77·4	0·865	32·1	31	85	80
15	300	572	5·1	82·5	0·875	30·2	32	140	90
Residuum.....			16·3	98·8	.....	.....	.....	.....	.....

Carbon residue of residuum: 4·3% Carbon residue of crude: 0·7%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	4·5	0·699	70·9	.....
Total gasoline and naphtha.....	35·4	0·750	57·2	.....
Kerosene distillate.....	21·3	0·808	43·6	.....
Gas oil.....	9·5	0·838	37·4	Below 50
Nonviscous distillate.....	10·3	0·847—0·868	35·6—31·5	50—100
Medium distillate.....	6·0	0·868—0·884	31·5—28·6	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	16·3	.....	.....	.....
Distillation loss.....	1·2	.....	.....	.....
Base of crude.....	Paraffin (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Tilbury East**
Well: **Reid Farm No. 1**
Location: Lot 11, N. Back Line, Tilbury E. tp., Kent co.

Province: **Ontario**
Sample from: R. J. Offord
Date: September 2, 1937

Characteristics

Specific gravity at 60°F.: 0·822
Sulphur, % by weight: 0·45
Water and sediment, % by vol.: 0·01 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 45 secs.

Degrees A.P.I. at 60°F.: 40·6
Colour: Dark green
Pour point: −10°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 747 mm. First drop, 57°C. (135°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	0·5	0·5	0·709	68·1	.....	.....	.....
3	100	212	1·9	2·4					
4	125	257	6·9	9·3	0·733	61·5	18	.....	.....
5	150	302	8·5	17·8	0·750	57·2	19	.....	.....
6	175	347	8·6	26·4	0·767	53·0	20	.....	.....
7	200	392	7·7	34·1	0·783	49·2	22	.....	.....
8	225	437	6·9	41·0	0·796	46·3	22	.....	.....
9	250	482	7·0	48·0	0·810	43·2	23	.....	.....
10	275	527	8·5	56·5	0·824	40·2	25	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	4·7	61·2	0·836	37·8	27	40	20
12	225	437	6·2	67·4	0·844	36·2	27	47	40
13	250	482	5·2	72·6	0·855	34·0	29	60	60
14	275	527	5·1	77·7	0·866	31·9	31	90	75
15	300	572	6·3	84·0	0·876	30·0	33	157	95
Residuum			15·3	99·3	.....	.....	.....	.....	.....

Carbon residue of residuum: 5·3% Carbon residue of crude: 0·8%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	2·4	0·709	68·1	.....
Total gasoline and naphtha	34·1	0·755	55·9	.....
Kerosene distillate	22·4	0·811	43·0	.....
Gas oil	9·0	0·839	37·2	Below 50
Nonviscous distillate	10·6	0·846—0·868	35·8—31·5	50—100
Medium distillate	7·9	0·868—0·882	31·5—28·9	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	15·3	.....	.....	.....
Distillation loss	0·7	.....	.....	.....
Base of crude	Paraffin (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **West Becher Field**
Well: **Becher Well No. 4**
Location: Lot 10, con. VI, Sombra tp., Lambton co.

Province: **Ontario**
Sample from: Fuel Research Labs.
Date: September 12, 1949

Characteristics

Specific gravity at 60°F.: 0·850
Sulphur, % by weight: 0·92
Water, % by vol. (A.S.T.M.): Nil
Water and sediment, % by vol.: — (by centrifuge)

Degrees A.P.I. at 60°F.: 35·0
Colour: Dark green
Pour point: 30°F.

Viscosity, Saybolt Universal, at 70°F., 58 secs.; at 100°F., 45 secs.

Distillation, Hempel Method

Distillation at atmospheric pressure, 763 mm. First drop, 36°C. (97°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	0·5	0·5	0·666	81·0	.....	.....	.....
2	75	167	0·8	1·3					
3	100	212	2·0	3·3	0·709	68·1	16	.....	.....
4	125	257	4·0	7·3	0·739	60·0	21	.....	.....
5	150	302	6·7	14·0	0·768	52·7	27	.....	.....
6	175	347	6·3	20·3	0·788	48·1	30	.....	.....
7	200	392	6·1	26·4	0·802	44·9	31	.....	.....
8	225	437	5·2	31·6	0·813	42·6	30	.....	.....
9	250	482	5·9	37·5	0·821	40·9	29	.....	.....
10	275	527	5·9	43·4	0·832	38·6	29	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	3·7	47·1	0·846	35·8	32	39	20
12	225	437	5·8	52·9	0·850	35·0	30	43	40
13	250	482	6·7	59·6	0·857	33·6	30	53	65
14	275	527	6·5	66·1	0·864	32·3	30	73	85
15	300	572	6·8	72·9	0·878	29·7	34	115	100
Residuum.....			26·6	99·5	0·941	18·9	.....	.....	.....

Carbon residue of residuum: 7·0% Carbon residue of crude: 1·9%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	3·3	0·692	73·0	.....
Total gasoline and naphtha.....	26·4	0·767	53·0	.....
Kerosene distillate.....	11·1	0·817	41·7	.....
Gas oil.....	16·9	0·843	36·4	Below 50
Nonviscous distillate.....	12·7	0·855—0·873	34·0—30·6	50—100
Medium distillate.....	5·8	0·873—0·885	30·6—28·4	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	26·6	0·941	18·9	.....
Distillation loss.....	0·5	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Well: S. Burchell Farm No. 1
Location: Lot 27, con. V, Warwick tp.
Depth: 375 feet

Province: **Ontario**
Date: December 7, 1938

Characteristics

Specific gravity at 60°F.: 0·813
Sulphur, % by weight: 0·70
Water and sediment, % by vol.: Trace (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 44 secs.

Degrees A.P.I. at 60°F.: 42·6
Colour: Dark green
Pour point: Below −35°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 763 mm. First drop, 28°C. (82°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	2·3	2·3	0·637	90·6	.....	.....	.....
2	75	167	2·8	5·1	0·665	81·3	5	.....	.....
3	100	212	4·8	9·9	0·698	71·2	11	.....	.....
4	125	257	7·1	17·0	0·726	63·4	15	.....	.....
5	150	302	6·3	23·3	0·746	58·2	17	.....	.....
6	175	347	5·6	28·9	0·764	53·7	19	.....	.....
7	200	392	5·7	34·6	0·779	50·1	20	.....	.....
8	225	437	5·3	39·9	0·792	47·2	20	.....	.....
9	250	482	5·7	45·6	0·805	44·3	21	.....	.....
10	275	527	6·3	51·9	0·816	41·9	22	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	4·9	56·8	0·828	39·4	23	38	15
12	225	437	4·6	61·4	0·836	37·8	23	44	40
13	250	482	5·3	66·7	0·848	35·4	26	54	55
14	275	527	4·5	71·2	0·859	33·2	28	75	70
15	300	572	4·7	75·9	0·870	31·1	30	118	80
Residuum.....			22·4	98·3	0·916	23·0	.....	.....	.....

Carbon residue of residuum: 4·1% Carbon residue of crude: 0·9%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	9·9	0·674	78·4	.....
Total gasoline and naphtha.....	34·6	0·730	62·3	.....
Kerosene distillate.....	17·3	0·805	44·3	.....
Gas oil.....	10·1	0·832	38·6	Below 50
Nonviscous distillate.....	9·7	0·843—0·866	36·4—31·9	50—100
Medium distillate.....	4·2	0·866—0·876	31·9—30·0	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	22·4	0·916	23·0	.....
Distillation loss.....	1·7	.....	.....	.....
Base of crude.....	Paraffin (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Well: **Richard Currie Farm**
Location: Lot 33, con. XII, Nottawasaga tp., Simcoe co.

Province: **Ontario**
Sample from: R. B. Harkness
Date: November 6, 1940

Characteristics

Specific gravity at 60°F.: 0·826
Sulphur, % by weight: 0·15
Water and sediment, % by vol.: 0·05 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 41 secs.

Degrees A.P.I. at 60°F.: 39·8
Colour: Dark green
Pour point: 50°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 770 mm. First drop, 70°C. (158°F.)

Fraction cut			Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
No.	at °C.	at °F.							
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	0·9	0·9	0·701	70·4	12	.....	.....
4	125	257	1·6	2·5	0·729	62·6	17	.....	.....
5	150	302	4·5	7·0	0·748	57·7	18	.....	.....
6	175	347	5·4	12·4	0·763	54·0	18	.....	.....
7	200	392	6·4	18·8	0·776	50·9	18	.....	.....
8	225	437	7·6	26·4	0·790	47·6	19	.....	.....
9	250	482	7·3	33·7	0·801	45·2	19	.....	.....
10	275	527	10·3	44·0	0·814	42·3	21	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	9·6	53·6	0·828	39·4	23	39	25
12	225	437	10·3	63·9	0·836	37·8	23	45	45
13	250	482	7·3	71·2	0·845	36·0	24	54	60
14	275	527	8·1	79·3	0·853	34·4	25	73	80
15	300	572	6·9	86·2	0·863	32·5	27	116	90
Residuum.....			13·6	99·8	0·899	25·9	.....	.....	.....

Carbon residue of residuum: 2·5% Carbon residue of crude: 0·3%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	0·9	0·701	70·4	.....
Total gasoline and naphtha.....	18·8	0·758	55·2	.....
Kerosene distillate.....	25·2	0·803	44·7	.....
Gas oil.....	20·0	0·832	38·6	Below 50
Nonviscous distillate.....	16·0	0·841—0·859	36·8—33·2	50—100
Medium distillate.....	6·2	0·859—0·867	33·2—31·7	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	13·6	0·899	25·9	.....
Distillation loss.....	0·2	.....	.....	.....
Base of crude.....	Paraffin (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Well: **Discovery No. 1**
Location: Lot 23, con. V, Warwick tp.
Depth: 480 feet

Province: **Ontario**
Sample from : R. B. Harkness
Date: December 7, 1938

Characteristics

Specific gravity at 60°F.: 0·830
Sulphur, % by weight: 0·75
Water and sediment, % by vol.: 0·6 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 55 secs.

Degrees A.P.I. at 60°F.: 39·0
Colour: Dark green
Pour point: Below −35°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 758 mm. First drop, 28°C. (82°F.)

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	0·3	0·3	0·662	82·3	.....	.....	.....
2	75	167	3·5	3·8	0·682	76·0	13	.....	.....
3	100	212	3·7	7·5	0·716	66·1	19	.....	.....
4	125	257	3·5	11·0	0·733	61·5	18	.....	.....
5	150	302	6·9	17·9	0·748	57·7	18	.....	.....
6	175	347	6·1	24·0	0·766	53·2	20	.....	.....
7	200	392	5·4	29·4	0·782	49·5	21	.....	.....
8	225	437	6·0	35·4	0·796	46·3	22	.....	.....
9	250	482	5·5	40·9	0·809	43·4	23	.....	.....
10	275	527	7·2	48·1	0·819	41·3	23	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	4·4	52·5	0·830	39·0	24	39	15
12	225	437	5·7	58·2	0·838	37·4	24	45	45
13	250	482	5·2	63·4	0·850	35·0	27	56	55
14	275	527	5·4	68·8	0·859	33·2	28	75	70
15	300	572	6·3	75·1	0·870	31·1	30	122	80
Residuum			23·6	98·7	0·916	23·0	.....	.....	.....

Carbon residue of residuum: 4·4% Carbon residue of crude: 1·0%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	7·5	0·698	71·2	.....
Total gasoline and naphtha	29·4	0·743	58·9	.....
Kerosene distillate	18·7	0·809	43·4	.....
Gas oil	9·8	0·834	38·2	Below 50
Nonviscous distillate	11·3	0·844—0·865	36·2—32·1	50—100
Medium distillate	5·9	0·865—0·876	32·1—30·0	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	23·6	0·916	23·00	.....
Distillation loss	1·3	.....	.....	.....
Base of crude	Paraffin (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Well: **J. Marshall Farm No. 3**
Location: Lot 44, con. 1, Assiginack tp.

Province: **Ontario**
Sample from: R. B. Harkness
Date: December 21, 1938

Characteristics

Specific gravity at 60°F.: 0·847
Sulphur, % by weight: 0·24
Water and sediment, % by vol.: 0·2 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 59 secs.

Degrees A.P.I. at 60°F.: 35·6
Colour: Dark green
Pour point: Below −35°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 761 mm. First drop, 30°C. (86°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	1·1	1·1	.....	.....	.....	.....	.....
2	75	167	1·3	2·4	0·672	79·1	.....	.....	.....
3	100	212	2·1	4·5	0·723	64·2	23	.....	.....
4	125	257	3·4	7·9	0·743	58·9	23	.....	.....
5	150	302	4·7	12·6	0·759	54·9	23	.....	.....
6	175	347	4·5	17·1	0·774	51·3	23	.....	.....
7	200	392	4·2	21·3	0·791	47·4	25	.....	.....
8	225	437	5·5	26·8	0·802	44·9	25	.....	.....
9	250	482	6·4	33·2	0·814	42·3	25	.....	.....
10	275	527	7·7	40·9	0·823	40·4	25	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	8·0	48·9	0·836	37·8	27	39	15
12	225	437	7·3	56·2	0·846	35·8	28	45	40
13	250	482	6·6	62·8	0·860	33·0	31	57	55
14	275	527	6·1	68·9	0·874	30·4	35	82	70
15	300	572	6·6	75·5	0·888	27·9	38	151	75
Residuum.....			23·5	99·0	0·946	18·1	.....	.....	.....

Carbon residue of residuum: 6·8% Carbon residue of crude: 1·6%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	4·5	0·696	71·8	.....
Total gasoline and naphtha.....	21·3	0·753	56·4	.....
Kerosene distillate.....	19·6	0·814	42·3	.....
Gas oil.....	14·5	0·840	37·0	Below 50
Nonviscous distillate.....	12·1	0·852—0·877	34·6—29·9	50—100
Medium distillate.....	8·0	0·877—0·895	29·9—26·6	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	23·5	0·946	18·1	.....
Distillation loss.....	1·0	.....	.....	.....
Base of crude.....	Paraffin—Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Well: **George McIvor No. 1**
Location: Lot 12, con. VI, Sheguiandah tp.
Depth: 560 feet

Province: **Ontario**
Sample from: E. R. Morris
Date: February 26, 1942

Characteristics

Specific gravity at 60°F.: 0·869
Sulphur, % by weight: 0·30
Water, % by vol. (A.S.T.M.): 0·2
Water and sediment, % by vol.: 0·10 (by centrifuge)
Degrees A.P.I. at 60°F.: 31·3
Colour: Brownish green
Pour point: 15°F.
Viscosity, Saybolt Universal, at 70°F., 105 secs.; at 100°F., 66 secs.

Distillation, Hempel Method

Distillation at atmospheric pressure, 730 mm. First drop, 66°C. (151°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	1·1	1·1	0·720	65·0	.....	.....	.....
4	125	257	1·6	2·7	0·746	58·2	25	.....	.....
5	150	302	2·7	5·4	0·765	53·5	26	.....	.....
6	175	347	3·3	8·7	0·780	49·9	26	.....	.....
7	200	392	4·6	13·3	0·795	46·5	27	.....	.....
8	225	437	5·3	18·6	0·807	43·8	27	.....	.....
9	250	482	7·7	26·3	0·818	41·5	27	.....	.....
10	275	527	8·2	34·5	0·828	39·4	27	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	5·0	39·5	0·840	37·0	29	40	20
12	225	437	9·1	48·6	0·846	35·8	28	45	40
13	250	482	8·1	56·7	0·862	32·7	32	54	55
14	275	527	6·6	63·3	0·875	30·2	35	86	70
15	300	572	7·7	71·0	0·887	28·0	38	152	85
Residuum			28·7	99·7	0·949	17·6	.....	.....	.....

Carbon residue of residuum: 7·5% Carbon residue of crude: 2·2%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	1·1	0·720	65·0	.....
Total gasoline and naphtha	13·3	0·773	51·6	.....
Kerosene distillate	13·0	0·814	42·3	.....
Gas oil	22·6	0·838	37·4	Below 50
Nonviscous distillate	12·7	0·855—0·878	34·0—29·7	50—100
Medium distillate	9·4	0·878—0·894	29·7—26·8	100—200
Viscous distillate	.....	.....	.....	Above 200
Residuum	28·7	0·949	17·6	.....
Distillation loss	0·3	.....	.....	.....
Base of crude	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Lloydminster**
Well: **Colony Oil & Gas No. 3**
Location: Ls. 5, sec. 19, tp. 49, rge. 27, W. 3rd

Province: **Saskatchewan**
Sample from: E. Swain
Date: 1936

Characteristics

Specific gravity at 60°F.: 0·987
Sulphur, % by weight: 3·05
Water, % by vol. (A.S.T.M.): 16·0
Viscosity, Saybolt Furol, at 100°F.: 662 secs.

Degree A.P.I. at 60°F.: 11·9
Colour: Brownish black
Pour point: 25°F.

Distillation, Hempel Method

Distillation* at atmospheric pressure, 760 mm.

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	.....	.....	.....	.....	.....	.....	.....
4	125	257	.....	.....	.....	.....	.....	.....	.....
5	150	302	.....	.....	.....	.....	.....	.....	.....
6	175	347	.....	.....	.....	.....	.....	.....	.....
7	200	392	0·5	0·5	0·847	35·6	46	.....	.....
8	225	437	2·0	2·5					
9	250	482	3·7	6·2	0·861	32·8	48	.....	.....
10	275	527	6·8	13·0	0·876	30·0	50	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	2·8	15·8	0·894	26·8	55	44 secs.	.....
12	225	437	6·2	22·0	0·904	25·0	55	55 "	.....
13	250	482	7·2	29·2	0·917	22·8	58	81 "	.....
14	275	527	7·3	36·5	0·932	20·3	62	166 "	5
15	300	572	11·1	47·6	0·938	19·4	62	238 "	25
Residuum.....			50·9	98·5	.....	.....	.....	.....	.....

Carbon residue of residuum: 22% Carbon residue of crude: 11·2%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	.....	.....	.....	.....
Total gasoline and naphtha.....	.....	.....	.....	.....
Kerosene distillate.....	.....	.....	.....	.....
Gas oil.....	16·6	0·872	30·8	Below 50
Nonviscous distillate.....	10·7	0·899—0·921	25·9—22·1	50—100
Medium distillate.....	9·9	0·921—0·935	22·1—19·8	100—200
Viscous distillate.....	10·4	0·935—0·942	19·8—18·7	Above 200
Residuum.....	50·9	.....	.....	.....
Distillation loss.....	1·5	.....	.....	.....
Base of crude.....	Naphthene (wax-bearing)			

*Distillation was made on sample after dehydration.

ANALYSIS OF CRUDE OIL

Origin

Field: **Lloydminster** Province: **Saskatchewan**
Well: **Triangle Oil & Gas No. 1** Sample from: E. Swain
Location: Ls. 5, sec. 35, tp. 49, rge. 28, W. 3rd Date: June 2, 1937

Characteristics

Specific gravity at 60°F.: 1·014 Degrees A.P.I. at 60°F.: 8·1
Sulphur, % by weight: 3·0 Colour: Brownish black
Water, % by vol. (A.S.T.M.): 19·0
Water and sediment, % by vol.: 30·0 (by centrifuge)

Distillation, Hempel Method

Distillation* at atmospheric pressure, 760 mm.

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	.....	.....	.....	.....	.....	.....	.....
4	125	257	.....	.....	.....	.....	.....	.....	.....
5	150	302	0·3	0·3					
6	175	347	0·4	0·7	0·849	35·2	.....	.....	.....
7	200	392	0·6	1·3					
8	225	437	2·0	3·3					
9	250	482	3·4	6·7	0·860	33·0	47	.....	.....
10	275	527	7·0	13·7	0·874	30·4	49	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	4·4	18·1	0·893	27·0	54	43 secs.	.....
12	225	437	6·2	24·3	0·908	24·3	57	59 "	.....
13	250	482	7·3	31·6	0·922	22·0	61	100 "	.....
14	275	527	3·4	35·0	0·932	20·3	62	191 "	.....
15	300	572	6·6	41·6	0·939	19·2	63	362 "	Below 0
Residuum.....			58·0	99·6	.....	.....	.....	.....	.....

Carbon residue of residuum: 24·3% Carbon residue of crude: 14·1%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	.....	.....	.....	.....
Total gasoline and naphtha.....	.....	.....	.....	.....
Kerosene distillate.....	.....	.....	.....	.....
Gas oil.....	18·3	0·873	30·6	Below 50
Nonviscous distillate.....	9·7	0·900—0·922	25·7—22·0	50—100
Medium distillate.....	5·7	0·922—0·933	22·0—20·2	100—200
Viscous distillate.....	7·9	0·933—0·943	20·2—18·6	Above 200
Residuum.....	58·0	.....	.....	.....
Distillation loss.....	0·4	.....	.....	.....
Base of crude.....	Naphthene (wax-free)			

*Distillation was made on sample after dehydration.

ANALYSIS OF CRUDE OIL

Origin

Field: **Lloydminster**
Well: **Colony Oil & Gas No. 3**

Province: **Saskatchewan**
Sample from: E. Swain
Date: July 25, 1938

Characteristics

Specific gravity at 60°F.: 0·975
Sulphur, % by weight: 2·9
Water, % by vol. (A.S.T.M.): 13·0
Viscosity, Saybolt Furol, at 100°F., 410 secs.

Degrees A.P.I. at 60°F.: 13·6
Colour: Black
Pour point: 20°F.

Distillation, Hempel Method

Distillation* at atmospheric pressure, 769 mm.

Fraction cut No.	Fraction cut at °C.	Fraction cut at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	.....	.....	.....	.....	.....	.....	.....
4	125	257	.....	.....	.....	.....	.....	.....	.....
5	150	302	.....	.....	.....	.....	.....	.....	.....
6	175	347	.....	.....	.....	.....	.....	.....	.....
7	200	392	.....	.....	.....	.....	.....	.....	.....
8	225	437	2·4	2·4	0·840	37·0	43	.....	.....
9	250	482	4·4	6·8	0·855	34·0	45	.....	.....
10	275	527	6·7	13·5	0·870	31·1	47	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	6·7	20·2	0·893	27·0	54	44	.....
12	225	437	6·5	26·7	0·907	24·5	57	59	.....
13	250	482	6·2	32·9	0·920	22·3	60	94	.....
14	275	527	6·6	39·5	0·934	20·0	63	189	Below 0
15	300	572	10·2	49·7	0·943	18·6	64	427	Below 0
Residuum			49·5	99·2	.....	.....	.....	.....	.....

Carbon residue of residuum: 17·3% Carbon residue of crude: 8·6%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline	.....	.....	.....	.....
Total gasoline and nahptha	.....	.....	.....	.....
Kerosene distillate	.....	.....	.....	.....
Gas oil	19·5	0·870	31·1	Below 50
Nonviscous distillate	10·7	0·898—0·921	26·1—22·1	50—100
Medium distillate	6·4	0·921—0·935	22·1—19·8	100—200
Viscous distillate	13·1	0·935—0·948	19·8—17·8	Above 200
Residuum	49·5	.....	.....	.....
Distillation loss	0·8	.....	.....	.....
Base of crude	Naphthene (wax-free)			

*Distillation was made on sample after dehydration.

ANALYSIS OF CRUDE OIL

Origin

Field: **Lloydminster** Province: **Saskatchewan**
Well: **Community Service No. 4** Sample from: E. Swain
Location: Ls. 9, sec. 10, tp. 49, rge. 28, W. 3rd Date: April 4, 1946

Characteristics

Specific gravity at 60°F.: 0·970 Degrees A.P.I. at 60°F.: 14·4
Sulphur, % by weight: 3·5 Colour: Black
Water, % by vol. (A.S.T.M.): 4·0 Pour point: 15°F.
Sediment, % by weight: 0·4
(by extraction)
Viscosity, Saybolt Furol, at 100°F., 379 secs.; at 122°F., 192 secs.

Distillation, Hempel Method

Distillation* at atmospheric pressure, 762 mm.

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	.....	.....	.....	.....	.....	.....	.....
4	125	257	.....	.....	.....	.....	.....	.....	.....
5	150	302	0·1	0·1					
6	175	347	0·6	0·7					
7	200	392	0·7	1·4	0·837	37·6	42	.....	.....
8	225	437	2·5	3·9					
9	250	482	4·3	8·2	0·854	34·2	44	.....	.....
10	275	527	6·9	15·1	0·870	31·1	47	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	2·0	17·1	0·888	27·9	52	43 secs.	.....
12	225	437	5·3	22·4	0·897	26·3	52	51 "	.....
13	250	482	6·1	28·5	0·912	23·7	56	72 "	.....
14	275	527	5·7	34·2	0·927	21·1	60	130 "	Minus 5
15	300	572	7·6	41·8	0·940	19·0	63	291 "	30
Residuum.....			56·6	98·4	1·024	6·7	.....	.....	.....

Carbon residue of residuum: 19·5% Carbon residue of crude: 11·0%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	.....	.....	.....	.....
Total gasoline and naphtha.....	.....	.....	.....	.....
Kerosene distillate.....	.....	.....	.....	.....
Gas oil.....	19·3	0·864	32·3	Below 50
Nonviscous distillate.....	9·0	0·896—0·919	26·4—22·5	50—100
Medium distillate.....	5·9	0·919—0·933	22·5—20·2	100—200
Viscous distillate.....	7·6	0·933—0·948	20·2—17·8	Above 200
Residuum.....	56·6	1·024	6·7	.....
Distillation loss.....	1·6	.....	.....	.....
Base of crude.....	Nathpthene (wax-bearing)			

*Distillation was made on sample after dehydration.

ANALYSIS OF CRUDE OIL

Origin

Field: **Vera**
Well: **Vera No. 2**
Location: Ls. 5, sec. 23, tp. 41, rge. 24, W. 3rd

Province: **Saskatchewan**
Sample from: E. Swain
Date: October 29, 1938

Characteristics

Specific gravity at 60°F.: 0·994
Sulphur, % by weight: 3·41
Water and sediment, % by vol.: 3·4 (by centrifuge)
Viscosity, Saybolt Furol, at 122°F., 720 secs.

Degrees A.P.I. at 60°F.: 10·9
Colour: Black
Pour point: 40°F.

Distillation, Hempel Method

Distillation* at atmospheric pressure, 763 mm. First drop, 190°C. (374°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	.....	.....	.....	.....	.....	.....	.....
2	75	167	.....	.....	.....	.....	.....	.....	.....
3	100	212	.....	.....	.....	.....	.....	.....	.....
4	125	257	.....	.....	.....	.....	.....	.....	.....
5	150	302	.....	.....	.....	.....	.....	.....	.....
6	175	347	.....	.....	.....	.....	.....	.....	.....
7	200	392	.....	.....	.....	.....	.....	.....	.....
8	225	437	1·2	1·2	0·848	35·4	47	.....	.....
9	250	482	2·9	4·1	0·862	32·7	48	.....	.....
10	275	527	6·0	10·1	0·877	29·9	50	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	2·0	12·1	0·897	26·3	56	43 secs.	.....
12	225	437	4·8	16·9	0·913	23·5	60	55 "	.....
13	250	482	5·1	22·0	0·929	20·8	64	90 "	.....
14	275	527	6·8	28·8	0·946	18·1	69	194 "	Below—15
15	300	572	8·3	37·1	0·955	16·7	70	533 "	Below—15
Residuum.....			61·1	98·2	.....	.....	.....	.....	.....

Carbon residue of residuum: 20·1% Carbon residue of crude: 12·3%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	.....	.....	.....	.....
Total gasoline and naphtha.....	.....	.....	.....	.....
Kerosene distillate.....	.....	.....	.....	.....
Gas oil.....	13·1	0·876	30·0	Below 50
Nonviscous distillate.....	7·0	0·906—0·931	24·7—20·5	50—100
Medium distillate.....	5·5	0·931—0·946	20·5—18·1	100—200
Viscous distillate.....	11·5	0·946—0·960	18·1—15·9	Above 200
Residuum.....	61·1	1·018	7·5	.....
Distillation loss.....	1·8	.....	.....	.....
Base of crude.....	Naphthene (wax-free)			

*Distillation was made on sample after dehydration.

ANALYSIS OF CRUDE OIL

Origin

Field: **Cutbank**

State: **Montana**
Sample from: Imperial Oil Ltd.
Date: October 14, 1937

Characteristics

Specific gravity at 60°F.: 0·836
Sulphur, % by weight: 0·81
Water and sediment, % by vol.: 0·1 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 42 secs.

Degrees A.P.I. at 60°F.: 37·8
Colour: Dark green
Pour point: 10°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 747 mm. First drop, 26°C. (79°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	3·1	3·1	0·640	89·6	.....	.....	.....
2	75	167	2·9	6·0	0·676	77·8	10	.....	.....
3	100	212	3·9	9·9	0·707	68·6	15	.....	.....
4	125	257	6·0	15·9	0·736	60·8	20	.....	.....
5	150	302	6·6	22·5	0·761	54·4	24	.....	.....
6	175	347	5·7	28·2	0·781	49·7	27	.....	.....
7	200	392	5·7	33·9	0·795	46·5	27	.....	.....
8	225	437	6·4	40·3	0·810	43·2	29	.....	.....
9	250	482	5·9	46·2	0·824	40·2	30	.....	.....
10	275	527	7·3	53·5	0·840	37·0	33	.....	.....
Distillation continued at 40 mm. pressure									
11	200	392	6·0	59·5	0·858	33·4	37	40	10
12	225	437	5·2	64·7	0·869	31·3	39	48	30
13	250	482	5·6	70·3	0·883	28·8	42	62	50
14	275	527	5·3	75·6	0·894	26·8	44	92	70
15	300	572	7·0	82·6	0·904	25·0	46	193	90
Residuum.....			15·9	98·5	.....	.....	.....	.....	.....

Carbon residue of residuum: 10·9% Carbon residue of crude: 1·7%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	9·9	0·677	77·5	.....
Total gasoline and naphtha.....	33·9	0·741	59·5	.....
Kerosene distillate.....	12·3	0·817	41·7	.....
Gas oil.....	16·6	0·852	34·6	Below 50
Nonviscous distillate.....	10·5	0·871—0·895	31·0—26·6	50—100
Medium distillate.....	6·3	0·895—0·905	26·6—24·9	100—200
Viscous distillate.....	3·0	0·905—0·910	24·9—24·0	Above 200
Residuum.....	15·9	.....	.....	.....
Distillation loss.....	1·5	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Louden**

State: **Illinois**
Sample from: Imperial Oil, Ltd.
Date: January 3, 1940

Characteristics

Specific gravity at 60°F.: 0·833
Sulphur, % by weight: 0·42
Water and sediment, % by vol.: 0·22 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 48 secs.

Degrees A.P.I. at 60°F.: 38·4
Colour: Dark green
Pour point: 15°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 764 mm. First drop, 30°C. (86°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	3·1	3·1	0·650	86·2	.....	.....	.....
2	75	167	2·9	6·0	0·673	78·8	9	.....	.....
3	100	212	4·7	10·7	0·709	68·1	16	.....	.....
4	125	257	6·3	17·0	0·736	60·8	20	.....	.....
5	150	302	5·2	22·2	0·755	55·9	21	.....	.....
6	175	347	5·0	27·2	0·771	52·0	22	.....	.....
7	200	392	4·7	31·9	0·789	47·8	24	.....	.....
8	225	437	5·1	37·0	0·804	44·5	26	.....	.....
9	250	482	5·4	42·4	0·819	41·3	28	.....	.....
10	275	527	5·6	48·0	0·831	38·8	29	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	5·7	53·7	0·847	35·6	32	40	5
12	225	437	4·3	58·0	0·856	33·8	33	48	30
13	250	482	4·7	62·7	0·867	31·7	35	62	50
14	275	527	5·8	68·5	0·878	29·7	37	97	70
15	300	572	5·1	73·6	0·890	27·5	39	195	85
Residuum.....			23·9	97·5	0·951	17·3	.....	.....	.....

Carbon residue of residuum: 7·7% Carbon residue of crude: 1·8%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	10·7	0·682	76·0	.....
Total gasoline and naphtha.....	31·9	0·734	61·3	.....
Kerosene distillate.....	10·5	0·812	42·8	.....
Gas oil.....	14·2	0·843	36·4	Below 50
Nonviscous distillate.....	9·2	0·858—0·878	33·4—29·7	50—100
Medium distillate.....	5·6	0·878—0·891	29·7—27·3	100—200
Viscous distillate.....	2·2	0·891—0·896	27·3—26·4	Above 200
Residuum.....	23·9	0·951	17·3	.....
Distillation loss.....	2·5	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: Midcontinent

Sample from: Imperial Oil, Ltd.
Date: October 26, 1937

Characteristics

Specific gravity at 60°F.: 0·847
Sulphur, % by weight: 0·43
Water and sediment, % by vol.: 0·4 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 65 secs.

Degrees A.P.I. at 60°F.: 35·6
Colour: Dark green
Pour point: 10°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 748 mm. First drop, 26°C. (79°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	1·7	1·7	0·674	78·4	.....	.....	.....
2	75	167	3·8	5·5	0·724	63·9	23	.....	.....
3	100	212	2·7	8·2	0·742	59·2	23	.....	.....
4	125	257	5·5	13·7	0·759	54·9	23	.....	.....
5	150	302	5·1	18·8	0·777	50·6	25	.....	.....
6	175	347	5·3	24·1	0·793	46·9	26	.....	.....
7	200	392	4·6	28·7	0·809	43·4	28	.....	.....
8	225	437	5·6	34·3	0·822	40·6	29	.....	.....
9	250	482	5·2	39·5	0·834	38·2	30	.....	.....
10	275	527	6·7	46·2	.....	.....	.....	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	4·9	51·1	0·851	34·8	34	41	15
12	225	437	5·2	56·3	0·859	33·2	34	49	35
13	250	482	5·5	61·8	0·872	30·8	37	66	50
14	275	527	4·9	66·7	0·882	28·9	39	103	70
15	300	572	6·0	72·7	0·892	27·1	40	191	85
Residuum.....			25·1	97·8	.....	.....	.....	.....	.....

Carbon residue of residuum: 8·8% Carbon residue of crude: 2·2%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say Univ. at 100°F.
Light gasoline.....	8·2	0·690	73·6	.....
Total gasoline and naphtha.....	28·7	0·745	58·4	.....
Kerosene distillate.....	10·8	0·815	42·1	.....
Gas oil.....	14·4	0·844	36·2	Below 50
Nonviscous distillate.....	9·9	0·860—0·881	33·0—29·1	50—100
Medium distillate.....	6·4	0·881—0·893	29·1—27·0	100—200
Viscous distillate.....	2·5	0·893—0·897	27·0—26·3	Above 200
Residuum.....	25·1	.....	.....	.....
Distillation loss.....	2·2	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			

ANALYSIS OF CRUDE OIL

Origin

Field: **Midcontinent**

Sample from: Consumers' Co-operative Refineries, Ltd.
Date: November 18, 1937

Characteristics

Specific gravity at 60°F.: 0·788
Sulphur, % by weight: 0·19
Water and sediment, % by vol.: 0·1 (by centrifuge)
Viscosity, Saybolt Universal, at 70°F., 32 secs.

Degrees A.P.I. at 60°F.: 48·1
Colour: A.S.T.M. No. 3½
Cloud point: 15°F.
Pour point: 0°F.

Distillation, Hempel Method

Distillation at atmospheric pressure, 767 mm. First drop, 26°C. (79°F.)

Fraction cut No.	at °C.	at °F.	Per cent cut	Sum per cent	Specific gravity of cut	Degrees A.P.I. of cut	Correlation Index	Viscosity Say. Univ. at 100°F.	Cloud test, °F.
1	50	122	1·9	1·9	0·637	90·6	.....	.....	.....
2	75	167	4·1	6·0	0·682	76·0	13	.....	.....
3	100	212	8·9	14·9	0·718	65·6	20	.....	.....
4	125	257	12·8	27·7	0·744	58·7	24	.....	.....
5	150	302	9·2	36·9	0·763	54·0	25	.....	.....
6	175	347	7·5	44·4	0·776	50·9	24	.....	.....
7	200	392	6·9	51·3	0·788	48·1	24	.....	.....
8	225	437	6·6	57·9	0·802	44·9	25	.....	.....
9	250	482	6·5	64·4	0·816	41·9	26	.....	.....
10	275	527	7·8	72·2	0·829	39·2	28	.....	.....

Distillation continued at 40 mm. pressure

11	200	392	9·9	82·1	0·843	36·4	30	41	20
12	225	437	7·6	89·7	0·848	35·4	29	48	40
13	250	482	4·9	94·6	0·860	33·0	31	63	60
14	275	527	2·4	97·0	0·871	31·0	33	89	75
15	300	572	1·4	98·4	0·886	28·2	37	156	85
Residuum.....			1·2	99·6	.....	.....	.....	.....	.....

Carbon residue of residuum: 2·2% Carbon residue of crude: 0·03%

Approximate Summary

—	Per cent by volume	Specific gravity	Degrees A.P.I.	Viscosity Say. Univ. at 100°F.
Light gasoline.....	14·9	0·698	71·2	.....
Total gasoline and naphtha.....	51·3	0·745	58·3	.....
Kerosene distillate.....	13·1	0·809	43·4	.....
Gas oil.....	22·2	0·839	37·2	Below 50
Nonviscous distillate.....	9·5	0·849—0·873	35·2—30·6	50—100
Medium distillate.....	2·3	0·873—0·891	30·6—27·3	100—200
Viscous distillate.....	.....	.....	.....	Above 200
Residuum.....	1·2	.....	.....	.....
Distillation loss.....	0·4	.....	.....	.....
Base of crude.....	Intermediate (wax-bearing)			