



# AGAT Engineering

BAY 1, 3650 - 21 ST. N.E.  
CALGARY, ALTA. T2E 6V6  
230-2477

## CONTAINER IDENTIFICATION

P.B. #1

## OIL ANALYSIS

## LABORATORY NUMBER

5912

## OPERATOR NAME

ROXY PETROLEUM LIMITED

## UNIQUE WELL IDENTIFIER

11-2-3-21 W1

## WELL NAME

ROXY ANDEX ET AL. WHITEWATER 11-2-3-21 W1

## ELEVATIONS

SS m

GRD m

## FIELD OR AREA

WHITEWATER

## POOL OR ZONE

## NAME OF SAMPLER

## COMPANY

ROXY

## TEST TYPE

NO

## TEST RECOVERY

## TEST INTERVAL OR PERFS

## SAMPLING POINT

WELLHEAD

## AMT & TYPE OF CUSHION

## MUD RESISTIVITY/10 m

25 C

## TYPE OF PRODUCTION

PUMPING

FLOWING

GAS LIFT

SWAB

## PRODUCTION RATES

WATER

m³/d

OIL

m³/d

GAS

10 m³/d

GAUGE PRESSURE MPa

SEPARATOR

TREATER

RESERVOIR

SOURCE

SAMPLED

RECEIVED

TEMPERATURE °C

DATE SAMPLED (Y-M-D)

83-11-30

DATE RECEIVED (Y-M-D)

83-12-05

DATE REPORTED (Y-M-D)

83-12-07

ANALYST

S.J.

OTHER INFORMATION

## SAMPLE PROPERTIES

## B.S. & W. (VOLUME FRACTION)

## COLOR OF CLEAN OIL

DARK BROWN

## WATER

0.000

## SEDIMENT

0.000

## TOTAL

0.000

## COLOR NUMBER ASTM D-155

D<sub>8</sub> A.S.T.M.

+ The BS & W test was performed in the oil portion only.

## RELATIVE DENSITY

AS RECEIVED

AFTER CLEANING

AS RECEIVED

ABSOLUTE (kg/m³)

AFTER CLEANING

863.7

API GRAVITY @ 15°C = 32.18

TOTAL SULPHUR (MASS FRACTION)

0.01106

TOTAL SALT g/m³

POUR POINT /°C

U.S.B.M.

A.S.T.M.

6

## CARBON RESIDUE (MASS FRACTION)

CONRADSON

RAMSBOTTOM

SV/Ppt

## VISCOSITY

TEMP/°C

ABSOLUTE (mPa.s)

KINEMATIC (mm²/s)

25

6.33

7.38

30

4.76

5.60

50

3.73

4.43

## DISTILLATION

## METHOD

A.S.T.M. - D - 86\*

INITIAL BOILING POINT: 47.5°C

ABS BAROM PRESSURE

89

ROOM TEMP./°C

16

## DISTILLATION SUMMARY (VOLUME FRACTION)

200°C NAPHTHA

275°C KEROSENE

380°C LIGHT GAS OIL

0.260

0.395

0.545

RECOVERED

RESIDUE

DISTILLATION LOSS

0.87

0.10

0.03

## RELATIVE DENSITY

DISTILLATE

RESIDUE

BASE TYPE:

CHARACTERIZATION FACTOR: 11.8

+ This sample contained:  
free water; 20%  
oil; 80%

REMARKS:

\* The distillation temperatures have been corrected to 101.3 kPa (abs).

VOLUME FRACTION	TEMP./°C
0.05	93.0
0.10	118.5
0.15	142.5
0.20	168.0
0.25	195.5
0.30	222.5
0.35	251.5
0.40	277.0
0.45	303.0
0.50	327.5
0.55	353.0
0.60	374.0
0.65	389.0
0.70	397.5
0.75	404.5
0.80	
0.85	
0.90	
0.95	
1.00	
F.B.P.	406.5
CRACKED	



CONTAINER IDENTITY

CALGARY

## CHEMICAL &amp; GEOLOGICAL LABORATORIES LTD.

EDMONTON

ESTEVAN

FORT ST. JOHN

GRANDE PRAIRIE



LABORATORY NUMBER

S85-889-2

LICENCE NUMBER

OPERATOR NAME

CANADIAN ROXY PETROLEUM LTD.

LOCATION

15-2-3-21 W1

WELL NAME

Roxy et al Whitewater 15-2-3-21

FIELD OR AREA

Whitewater

POOL OR ZONE

NAME OF SAMPLER

ELEVATIONS  
K.B. (metres) G.R.O.

COMPANY

TEST TYPE

NO

TEST RECOVERY

MULTIPLE  
RECOVERY

Y N

SAMPLING POINT

AMT &amp; TYPE OF CUSHION

MUD RESISTIVITY

Test Interval (metres)

Treater - Sample "B"

@ 20°C

TYPE OF PRODUCTION

PUMPING

FLOWING

GAS LIFT

SWAB

PRODUCTION RATES

Perforations (metres)

WATER

m<sup>3</sup>/d OILm<sup>3</sup>/d GAS10<sup>3</sup> m<sup>3</sup>/d

SEPARATOR

TREATER

RESERVOIR

SOURCE

GAUGE PRESSURE

kPa

SEPARATOR

TREATER

RESERVOIR

SOURCE

TEMPERATURE

°C

DATE SAMPLED (Y-M-D)

DATE RECEIVED (Y-M-D)

DATE REPORTED (Y-M-D)

ANALYST

OTHER INFORMATION

1985-07-18

1985-07-22

B. Bugo Jr.

## SAMPLE PROPERTIES

## DISTILLATION

COLOR OF CLEAN OIL

WATER

S &amp; W (VOLUME FRACTION)

SEGMENT

TOTAL

VOLUME  
FRACTION  
DISTILLEDTEMP  
°C

METHOD

## DENSITY

RELATIVE

AS RECEIVED

AFTER CLEANING

ABSOLUTE g/cm<sup>3</sup>

AS RECEIVED

AFTER CLEANING

0.857

856

API Gravity: 33.61 @ 15°C

TOTAL SULFUR  
(MASS FRACTION)

0.0083

TOTAL SALT  
@ m<sup>3</sup>POUR POINT  
°C

U.S.M.

A.S.T.M.

CARBON RESIDUE  
(MASS FRACTION)

RVP kPa

CONRADSON

RAMSBOTTOM

## VISCOSITY

TEMP  
°C

ABSOLUTE mPa.s

KINEMATIC mm<sup>2</sup>/s

°C P

0.05

0.10

0.15

0.20

0.25

0.30

0.35

0.40

0.45

0.50

0.55

0.60

0.65

0.70

0.75

0.80

0.85

0.90

0.95

1.00

°C P

CRACKED

BAROM PRESS (kPa abs)

ROOM TEMP °C

## DISTILLATION SUMMARY

(VOLUME FRACTION)

200°C  
NAPHTHA270°C  
KEROSENE360°C  
LIGHT GAS OIL

RECOVERED

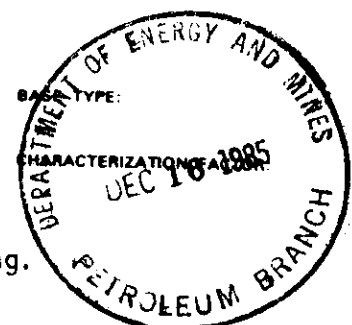
RESIDUE

DISTILLATION  
LOSS

## RELATIVE DENSITY

DISTILLATE

RESIDUE



Total Sulfur: 8.3 g/kg

Analysis determined on sample after cleaning by centrifuging.

MAY 16 '85 9:04 RXY PET EST 634 2336 P01



CONTAINER SECURITY

# CHEMICAL & GEOLOGICAL LABORATORIES LTD.

CALGARY

EDMONTON

ESTEVAN

FORT ST. JOHN

GRANDE PRAIRIE



LABORATORY NUMBER

S85-756

## OIL ANALYSIS

LABOR NUMBER

OPERATOR NAME

ROXY PETROLEUM LTD.

LOCATION

9-2-3-21 W1

WELL NAME

Roxy Anxex Whitewater 9-2-3-21

ELEVATION  
K.E. (meters) (ft)

FIELD OR AREA

POOL OR ZONE

NAME OF SAMPLER

COMPANY

TEST TYPE

BO

TEST RECOVERY

MULTIPLE  
RECOVERY

Y N

SAMPLING POINT

API & TYPE OF CUSHION

SAME RECOVERY

Take Interval (minutes)

TYPE OF PRODUCTION

PUMPING

FLOWING

GAS LIFT

SWAB

PRODUCTION RATES

Performance Improves

WATER

m<sup>3</sup>/d Oil

m<sup>3</sup>/d Gas

10<sup>3</sup>m<sup>3</sup>/d

SEPARATOR

TREATER

RESEVERN

COLLECT

GAUGE PRESSURE

MPa

SEPARATOR

TREATER

RESEVERN

COLLECT

TEMPERATURE °C

DATE SAMPLED (Y-M-D)

1985-05-03

DATE REPORTED (Y-M-D)

1985-05-07

ANALYST

G. Hansen

OTHER INFORMATION

## SAMPLE PROPERTIES

COLOR OF CLEAR BN  
Brownish Black

WATER

0.33

B & W (VOLUME FRACTION)

SEDIMENT

Trace

TOTAL

0.33

VOLUME  
FRACTION  
DISTILLED

TEMP  
°C

100 50

0.06 87

0.10 109

0.15 135

0.20 158

0.25 184

0.30 212

0.35 237

0.40 260

0.45 284

0.50 308

0.55 326

0.60 340

0.65 348

0.70

0.75

0.80

0.85

0.90

0.95

1.00

1.05

1.10

1.15

1.20

1.25

1.30

1.35

## DISTILLATION

METHOD

Modified ASTM D-86

AS RECEIVED

RELATIVE

AFTER CLEANING  
0.870

AS RECEIVED

ABSOLUTE

AFTER CLEANING  
869

BAROM PRESS (mmHg)

94.90

ROOM TEMP °C

24.0

API Gravity: 31.14 @ 15°C

TOTAL SULFUR  
MASS FRACTION  
0.0109

TOTAL SALT  
g/m<sup>3</sup>

POUR POINT  
°C

USBM  
<-40

ASTM

CARBON RESIDUE  
(MASS FRACTION)

CONRADSON  
0.0561

RAMSBOTTOM

RVP gPa

## VISCOSITY

TEMP  
°C

ABSOLUTE mPa.s

KINEMATIC mm<sup>2</sup>/s

10

15.4

17.6

20

10.9

12.6

40

6.24

7.32

## DISTILLATION SUMMARY

(VOLUME FRACTION)

20°C

NAPHTHA

0.28

20°C

RESEVERN

0.15

20°C

LIGHT GAS OIL

0.23

RECOVERED

RESIDUE

DISTILLATION  
LOSS

## RELATIVE DENSITY

DISTILLATE

RESIDUE

BASE TYPE: Mixed

FRACNO 351

CHARACTERIZATION FACTOR: 11.8

Total Sulfur: 10.9 g/kg

BS & W determined on sample as received. Remainder of analysis determined on sample after cleaning by centrifuging.

MAY 15 '85 13:42 RXY PET EST 634 2336 P01  
 Elmer Petensky



CHEMICAL & GEOLOGICAL LABORATORIES LTD.  
 CALGARY EDMONTON ESTEVAN FORT ST. JOHN GRANDE PRAIRIE



# OIL ANALYSIS

LABORATORY NUMBER

770

LABORATORY NUMBER

OPERATOR NAME

LOCATION

5-12-3-21 Wpm

WELL NAME

Roxy-Alex Whitewater

ELEVATIONS  
 FEET ABOVE GRD

FIELD OR AREA

POOL OR ZONE

NAME OF SAMPLE

COMPANY

TEST TYPE

NO.

TEST RECOVERY

ANALYSIS  
 RECOVERY

SAMPLING POINT

API & TYPE OF CUSHION

WELL IDENTIFY

WELL

Test Interval Unusual

TYPE OF PRODUCTION

PUMPER

FLOWING

GAS LIFT

OTHER

PRODUCTION RATES

WATER

m<sup>3</sup>/d OIL

m<sup>3</sup>/d GAS

10<sup>3</sup> m<sup>3</sup>/d

Perforations Intervals

SEPARATOR

TREATER

RESERVOIR

SOURCE

GAUGE PRESSURE

psi

SEPARATOR

TREATER

RESERVOIR

SOURCE

TEMPERATURE

°C

ANALYST

OTHER INFORMATION

DATE SAMPLED (Y-M-D)

DATE RECEIVED (Y-M-D)

DATE REPORTED (Y-M-D)

## SAMPLE PROPERTIES

COLOR OF CLEAN OIL

BROWNISH BLACK

WATER

0.004

S.S. & W. (VOLUME FRACTION)

SEDIMENT

<0.0005

TOTAL

0.004

## DENSITY

RELATIVE

AS RECEIVED

AFTER CLEANING

0.862

ABSOLUTE

AS RECEIVED

WATER

AFTER CLEANING

861

API GRAVITY = 32.65 @ 15°C

TOTAL SULFUR

0.0093

TOTAL SALT

g/m<sup>3</sup>

U.S.B.M.

A.S.T.M.

-21°C

CARBON RESIDUE

MASS FRACTION

CONVERSION

RAMSBOTTOM

0.0548

RYF

## VISCOSITY

TEMP.

°C

ABSOLUTE mPa.s

KINEMATIC mm<sup>2</sup>/s

10

14.9

17.2

20

9.44

11.0

40

5.47

6.47

TOTAL SULFUR = 9.3 g/kg

## DISTILLATION

METHOD

ASTM D-86  
 MODIFIED

BAROM. PRESS. (mmHg)

95.16

ROOM TEMP. °C

23°C

## DISTILLATION SUMMARY

(VOLUME FRACTION)

200°C

MARTHA

200°C

KEROSENE

200°C

LIGHT GAS OIL

0.28

0.15

0.20

RECOVERED

RESIDUE

DISTILLATION

LOSS

## RELATIVE DENSITY

DISTILLATE

RESIDUE

BASE TYPE: MIXED BASE

CHARACTERIZATION FACTOR: 11.8

CRACKED

355

VOLUME FRACTION DISTILLED	TEMP. °C
1.0	47
0.05	84
0.10	105
0.15	132
0.20	155
0.25	185
0.30	210
0.35	235
0.40	259
0.45	284
0.50	306
0.55	327
0.60	344
0.65	354
0.70	
0.75	
0.80	
0.85	
0.90	
0.95	
1.00	



# AGAT Engineering

BAY 1, 3650 - 21 ST. N.E.  
CALGARY, ALTA. T2E 6V6  
230-2477

CONTAINER IDENTIFICATION

P.B. #1

## OIL ANALYSIS

LABORATORY NUMBER

5997

OPERATOR NAME

ROXY PETROLEUM LIMITED

UNIQUE WELL IDENTIFIER

12-2-3-21 WPM

WELL NAME

ROXY ANDEX ET AL. WHITEWATER 12-2-3-21 WPM

ELEVATIONS

KB m GRD m

FIELD OR AREA

WHITEWATER

POOL OR ZONE

NAME OF SAMPLER

COMPANY

TEST TYPE

NO

TEST RECOVERY

TEST INTERVAL OR PERFS

SAMPLING POINT

WELL HEAD

AMT & TYPE OF CUSHION

MUD RESISTIVITY/11 m

@ 25° C

TYPE OF PRODUCTION

PUMPING

FLOWING

GAS LIFT

SWAB

PRODUCTION RATES

WATER

m³/d

OIL

m³/d

GAS

10 m³/d

GAUGE PRESSURE MPa

SEPARATOR

TREATER

RESERVOIR

SOURCE

SAMPLED

RECEIVED

TEMPERATURE °C

DATE SAMPLED (Y-M-D)

84-01-03

DATE RECEIVED (Y-M-D)

84-01-06

DATE REPORTED (Y-M-D)

84-01-11

ANALYST

S.J.

OTHER INFORMATION

### SAMPLE PROPERTIES

S.S. & W. (VOLUME FRACTION)

COLOR OF CLEAN OIL

BROWN

WATER

0.000

SEDIMENT

0.018

TOTAL

0.018

COLOR NUMBER ASTM D-155

D<sub>8</sub> A.S.T.M.

DENSITY

RELATIVE

AS RECEIVED

AFTER CLEANING

ABSOLUTE  $\rho_{40} \times 10^3$

AS RECEIVED

AFTER CLEANING

863.4

API GRAVITY @ 15°C = 32.24

TOTAL SULPHUR  
(MASS FRACTION)

0.01005

TOTAL SALT g/m³

POUR POINT /°C

U.S.B.M.

A.S.T.M.

-15

CARBON RESIDUE  
(MASS FRACTION)

CONRADSON

RAMSBOTTOM

### VISCOSITY

TEMP/°C	ABSOLUTE $\eta_{40} \times 10^3$	KINEMATIC $\nu_{40} \times 10^4$
25	8.01	9.35
30	5.42	6.38
35	4.11	4.88

### DISTILLATION

METHOD

A.S.T.M. - D - 86\*

INITIAL BOILING POINT: 51.5°C

ABS BAROM PRESSURE

88.4

ROOM TEMP./°C

23

DISTILLATION SUMMARY  
(VOLUME FRACTION)

200°C  
NAPHTHA

0.290

275°C  
KEROSENE

0.430

350°C  
LIGHT GAS OIL

0.60

RECOVERED

0.92

RESIDUE

0.07

DISTILLATION  
LOSS

0.01

RELATIVE DENSITY

DISTILLATE

RESIDUE

VOLUME FRACTION	TEMP./°C
0.05	83.0
0.10	106.5
0.15	123.5
0.20	154.0
0.25	181.0
0.30	206.5
0.35	236.0
0.40	262.0
0.45	288.5
0.50	314.0
0.55	335.0
0.60	350.0
0.65	364.5
0.70	378.5
0.75	388.5
0.80	397.5
0.85	408.0
0.90	
0.95	
1.00	
F.B.P.	408.0
CRACKED	

BASE TYPE:

CHARACTERIZATION FACTOR: 11.8

REMARKS:

\* The distillation temperatures have been corrected to 101.3 kPa (abs).



# AGAT Engineering

BAY 1, 3650 - 21 ST. N.E.  
CALGARY, ALTA. T2E 6V6  
230-2477

CONTAINER IDENTIFICATION

P/B#2

## OIL ANALYSIS

LABORATORY NUMBER

6141

OPERATOR NAME

Roxy Petroleum

UNIQUE WELL IDENTIFIER

5-2-3-21WPM

WELL NAME

Roxy Index Whitewater 5-2-3-21WPM

ELEVATIONS  
KB m GRD m

FIELD OR AREA

Whitewater

POOL OR ZONE

NAME OF SAMPLER

COMPANY

TEST TYPE

NO

TEST RECOVERY

TEST INTERVAL OR PERFS

SAMPLING POINT

Wellhead

AMT & TYPE OF CUSHION

MUD RESISTIVITY/Ω m

@ 25 °C

TYPE OF PRODUCTION

PUMPING

FLOWING

GAS LIFT

SWAB

PRODUCTION RATES

WATER

m³/d

OIL

m³/d

GAS

10³ m³/d

SEPARATOR

TREATER

RESERVOIR

SOURCE

SAMPLED

RECEIVED

GAUGE PRESSURE MPa

TEMPERATURE °C

DATE SAMPLED (Y-M-D)

84-02-08

DATE RECEIVED (Y-M-D)

84-02-13

DATE REPORTED (Y-M-D)

84-02-16

ANALYST

S.J.

OTHER INFORMATION

### SAMPLE PROPERTIES

B.S. & W. (VOLUME FRACTION)

COLOR OF CLEAN OIL

Brown

WATER

0.000

SEDIMENT

0.000

TOTAL

0.000

COLOR NUMBER ASTM D-155

D<sub>8</sub>A.S.T.M.

Performed BS&W test on oil

density portion only.

RELATIVE

AS RECEIVED

AFTER CLEANING

AS RECEIVED

AFTER CLEANING

870.3

API gravity@15°C=30.94

TOTAL SULPHUR  
(MASS FRACTION)

0.01074

TOTAL SALT g/m³

POUR POINT / °C  
U.S.B.M. A.S.T.M.

-30

CARBON RESIDUE  
(MASS FRACTION)

CONRADSON

RAMSBOTTOM

### VISCOSITY

TEMP/°C	ABSOLUTE/mPa.s	KINEMATIC/mm².s⁻¹
25	8.73	10.10
35	6.08	7.10
50	4.40	5.18

### DISTILLATION

METHOD

A.S.T.M.-D-86\*

Initial boiling point=64.0°C

AMB BAROM PRESSURE

88.3

ROOM TEMP./°C

18

DISTILLATION SUMMARY  
(VOLUME FRACTION)

200°C NAPHTHA	275°C KEROSENE	350°C LIGHT GAS OIL
0.250	0.380	0.535

RECOVERED

0.82

RESIDUE

0.16

DISTILLATION  
LOSS

0.02

RELATIVE DENSITY

DISTILLATE

RESIDUE

VOLUME FRACTION	TEMP./°C
0.05	94.0
0.10	116.5
0.15	141.0
0.20	171.0
0.25	200.0
0.30	232.0
0.35	258.0
0.40	284.0
0.45	313.0
0.50	336.0
0.55	357.5
0.60	373.5
0.65	386.5
0.70	398.0
0.75	408.0
0.80	
0.85	
0.90	
0.95	
1.00	
F.B.P.	408.0
CRACKED	

BASE TYPE:

CHARACTERIZATION FACTOR: 11.8

+ This sample contained: free water =  
REMARKS: 25.7%, oil = 74.3% by volume  
\*Distillation temperatures have been  
corrected to 101.3kPa(abs)



AGAT Engineering  
BAY 1, 3650 - 21 ST. N.E.  
CALGARY, ALTA. T2E 6V6  
230-2477

CONTAINER IDENTIFICATION

P7B#4

## OIL ANALYSIS

LABORATORY NUMBER

6141

OPERATOR NAME

Roxy Petroleum

UNIQUE WELL IDENTIFIER

3-2-3-21WPM

WELL NAME

Roxy Anxex Whitewater 3-2-3-21WPM

ELEVATIONS

KB m GND m

FIELD OR AREA

Whitewater

POOL OR ZONE

NAME OF SAMPLER

COMPANY

TEST TYPE

NO

TEST RECOVERY

TEST INTERVAL OR PERFS

SAMPLING POINT

Wellhead

AMT & TYPE OF CUSHION

MUD RESISTIVITY  $\Omega \cdot m$

@ 25 °C

TYPE OF PRODUCTION

PUMPING

FLOWING

GAS LIFT

SWAB

PRODUCTION RATES

WATER

m<sup>3</sup>/d

OIL

m<sup>3</sup>/d

GAS

MP m<sup>3</sup>/d

GAUGE PRESSURE MPa

SEPARATOR

TREATER

RESERVOIR

SOURCE

SAMPLED

RECEIVED

TEMPERATURE °C

DATE SAMPLED (Y-M-D)

84-02-12

DATE RECEIVED (Y-M-D)

84-02-13

DATE REPORTED (Y-M-D)

84-02-16

ANALYST

S.J.

OTHER INFORMATION

### SAMPLE PROPERTIES

B.S. & W. (VOLUME FRACTION)

COLOR OF CLEAN OIL

Brown

WATER

0.000

SEDIMENT

0.001

TOTAL

0.001

COLOR NUMBER ASTM D-155

D<sub>8</sub> A.S.T.M.

RELATIVE

DENSITY

ABSOLUTE  $\rho_{40} \cdot m^{-3}$

AS RECEIVED

AFTER CLEANING

AS RECEIVED

AFTER CLEANING

856.4

API gravity@15°C=33.58

TOTAL SULPHUR  
(MASS FRACTION)

0.00908

TOTAL SALT g · m<sup>-3</sup>

POUR POINT / °C  
U.S.B.M. A.S.T.M.

-6

CARBON RESIDUE

(MASS FRACTION)

CONRADSON

RAMSBOTTOM

RVP@Pa

### VISCOSITY

TEMP/°C

ABSOLUTE  $\rho_{40} \cdot m^{-3}$

KINEMATIC  $\nu_{40} \cdot m^2 \cdot s^{-1}$

25

8.12

9.54

30

4.65

5.52

50

3.36

4.03

### DISTILLATION

METHOD

A.S.T.M.-D-86\*

Initial boiling point=46.5°C

ABS BAROM PRESS@

88.3

ROOM TEMP./°C

19

DISTILLATION SUMMARY  
(VOLUME FRACTION)

200°C

NAPHTHA

275°C

KEROSENE

350°C

LIGHT GAS OIL

0.260

0.390

0.545

RECOVERED

0.83

RESIDUE

0.15

DISTILLATION  
LOSS

0.02

RELATIVE DENSITY

DISTILLATE

RESIDUE

VOLUME FRACTION	TEMP./°C
0.05	90.0
0.10	117.5
0.15	141.0
0.20	168.0
0.25	196.5
0.30	225.0
0.35	254.0
0.40	280.5
0.45	303.0
0.50	328.0
0.55	352.0
0.60	371.0
0.65	383.5
0.70	394.5
0.75	406.0
0.80	
0.85	
0.90	
0.95	
1.00	
F.B.P.	408.0
CRACKED	

BASE TYPE:

CHARACTERIZATION FACTOR:11.8

REMARKS:

\*The distillation temperatures have been corrected to 101.3kPa(aba)



REMARKS	Density at 15.0°C	- 853.5 kg/m <sup>3</sup>
	Total Sulphur	- 10.7 gm/kg





AGAT Engineering  
BAY 1, 3650 - 21 ST. N.E.  
CALGARY, ALTA. T2E 6V6  
230-2477

CONTAINER IDENTIFICATION

P.B. #6

## OIL ANALYSIS

LABORATORY NUMBER

5824

OPERATOR NAME

ROXY PETROLEUMS LIMITED

UNIQUE WELL IDENTIFIER

6-2-3-21 WPM

WELL NAME

ROXY WHITEWATER 6-2-3-21 WPM

ELEVATIONS

GS =

GRD =

FIELD OR AREA

POOL OR ZONE

NAME OF SAMPLER

ED DYCK

COMPANY

ROXY

TEST TYPE

NO

TEST RECOVERY

TEST INTERVAL OR PERFS

SAMPLING POINT

WELLHEAD

AMT & TYPE OF CUSHION

MUD RESISTIVITY/11 =

@ 25 °C

TYPE OF PRODUCTION

PUMPING

FLOWING

GAS LIFT

SWAB

PRODUCTION RATES

WATER

WPM

OIL

WPM

GAS

SP WPM

GAUGE PRESSURE MPa

SEPARATOR

TREATER

RESERVOIR

SOURCE

SAMPLED

RECEIVED

TEMPERATURE °C

DATE SAMPLED (Y-M-D)

83-10-21

DATE RECEIVED (Y-M-D)

83-11-03

DATE REPORTED (Y-M-D)

83-11-14

ANALYST

S.J.

OTHER INFORMATION

### SAMPLE PROPERTIES

S.S. & W. (VOLUME FRACTION)

COLOR OF CLEAN OIL

BROWN

WATER

0.000

SEDIMENT

0.000

TOTAL

0.000

COLOR NUMBER ASTM D-155

D<sub>8</sub> A.S.T.M.

DENSITY

RELATIVE

AS RECEIVED

AFTER CLEANING

AS RECEIVED

ABSOLUTE MPa \* m<sup>3</sup>

AFTER CLEANING

848.0

API GRAVITY @ 15°C = 35.21

TOTAL SULPHUR  
(MASS FRACTION)

0.00684

TOTAL SALT g \* m<sup>3</sup>

POUR POINT / °C

U.S.M.

A.S.T.M.

0

CARBON RESIDUE

(MASS FRACTION)

CONRADSON

RAMSBOTTOM

2000%

### VISCOSITY

TEMP/°C	ABSOLUTE MPa * s	SPINATIC/MPa * s <sup>-1</sup>
25		6.85
30		4.80
35		3.86

### DISTILLATION

METHOD

A.S.T.M. - D - 86\*

INITIAL BOILING POINT: 54.0°C

ABS BAROM PRESS/MPa

88.1

ROOM TEMP./°C

21

DISTILLATION SUMMARY  
(VOLUME FRACTION)

200°C NAPHTHA	275°C KEROSENE	350°C LIGHT GAS OIL
0.270	0.420	0.575

RECOVERED

0.90

RESIDUE

0.08

DISTILLATION  
LOSS

0.02

RELATIVE DENSITY

DISTILLATE

RESIDUE

VOLUME FRACTION	TEMP./°C
0.05	90.5
0.10	114.5
0.15	135.0
0.20	164.0
0.25	188.5
0.30	216.5
0.35	242.0
0.40	266.5
0.45	292.5
0.50	320.0
0.55	342.0
0.60	360.5
0.65	373.5
0.70	386.0
0.75	394.0
0.80	402.0
0.85	408.0
0.90	
0.95	
1.00	
F.B.P.	408.0
CRACKED	

BASE TYPE:

CHARACTERIZATION FACTOR: 11.9

REMARKS:

\* The distillation temperatures have been corrected to 101.3 kPa (abs).



# AGAT Engineering

BAY 1, 3650 - 21 ST. N.E.  
CALGARY, ALTA. T2E 6V6  
230-2477

## CONTAINER IDENTIFICATION

P.B. #6

## OIL ANALYSIS

## LABORATORY NUMBER

5824

## OPERATOR NAME

ROXY PETROLEUMS LIMITED

## UNIQUE WELL IDENTIFIER

6-2-3-21 WPM

## WELL NAME

ROXY WHITEWATER 6-2-3-21 WPM

## ELEVATIONS

KB m

GRD m

## FIELD OR AREA

## POOL OR ZONE

## NAME OF SAMPLER

ED DYCK

## COMPANY

ROXY

## TEST TYPE

## NO

## TEST RECOVERY

## TEST INTERVAL OR PERFS

## SAMPLING POINT

WELLHEAD

## AMT & TYPE OF CUSHION

## MUD RESISTIVITY / II m

@ 25 °C

## TYPE OF PRODUCTION

PUMPING

FLOWING

GAS LIFT

SWAB

## PRODUCTION RATES

WATER

m<sup>3</sup>/d

OIL

m<sup>3</sup>/d

GAS

10<sup>3</sup> m<sup>3</sup>/d

## SEPARATOR

## TREATER

## RESERVOIR

## SOURCE

## SAMPLED

## RECEIVED

GAUGE PRESSURE MPa

TEMPERATURE °C

## DATE SAMPLED (Y-M-D)

83-10-21

## DATE RECEIVED (Y-M-D)

83-11-03

## DATE REPORTED (Y-M-D)

83-11-14

## ANALYST

S.J.

## OTHER INFORMATION

## SAMPLE PROPERTIES

## B.S. & W. (VOLUME FRACTION)

## COLOR OF CLEAN OIL

BROWN

## WATER

0.000

## SEDIMENT

0.000

## TOTAL

0.000

## COLOR NUMBER ASTM D-155

D<sub>8</sub> A.S.T.M.

## DENSITY

## RELATIVE

## AS RECEIVED

## AFTER CLEANING

## ABSOLUTE $\rho_{kg \cdot m^{-3}}$

## AS RECEIVED

## AFTER CLEANING

848.0

API GRAVITY @ 15°C = 35.21

## TOTAL SULPHUR (MASS FRACTION)

0.00684

## TOTAL SALT g · m<sup>-1</sup>

## POUR POINT / °C

## U.S.B.M.

## A.S.T.M.

0

## CARBON RESIDUE (MASS FRACTION)

## CONRADSON

## RAMSBOTTOM

## RVP/PSi

## VISCOSITY

TEMP/°C	ABSOLUTE/mPa · s	SEMI-LOG/mPa · s
25		6.85
30		4.80
35		3.86

## DISTILLATION

## METHOD

A.S.T.M. - D - 86\*

INITIAL BOILING POINT: 54.0°C

## ABS BAROM PRESS/PSi

88.1

## ROOM TEMP/°C

21

## DISTILLATION SUMMARY (VOLUME FRACTION)

## 200°C NAPHTHA

0.270

## 275°C KEROSENE

0.420

## 350°C LIGHT GAS OIL

0.575

## RECOVERED

0.90

## RESIDUE

0.08

## DISTILLATION LOSS

0.02

## RELATIVE DENSITY

## DISTILLATE

## RESIDUE

## BASE TYPE:

CHARACTERIZATION FACTOR: 11.9

VOLUME FRACTION	TEMP./°C
0.05	90.5
0.10	114.5
0.15	135.0
0.20	164.0
0.25	188.5
0.30	216.5
0.35	242.0
0.40	266.5
0.45	292.5
0.50	320.0
0.55	342.0
0.60	360.5
0.65	373.5
0.70	386.0
0.75	394.0
0.80	402.0
0.85	408.0
0.90	
0.95	
1.00	
F.B.P.	408.0
CRACKED	

## REMARKS:

\* The distillation temperatures have been corrected to 101.3 kPa (abs).



# AGAT Engineering

BAY 1, 3650 - 21 ST. N.E.  
CALGARY, ALTA. T2E 6V6  
230-2477

CONTAINER IDENTIFICATION

P.B. #2

## OIL ANALYSIS

LABORATORY NUMBER

5589

OPERATOR NAME

ROXY PETROLEUM LIMITED

UNIQUE WELL IDENTIFIER

10-2-3-21 WPM

WELL NAME

ROXY ANDEX ET AL WHITEWATER 10-2-3-21 WPM

ELEVATIONS

AS IS

SEC'D

FIELD OR AREA

POOL OR ZONE

NAME OF SAMPLER

COMPANY

TEST TYPE

NO

TEST RECOVERY

TEST INTERVAL OR PERFS

SAMPLING POINT

WELL HEAD

AMT & TYPE OF CUSHION

MUD RESISTIVITY  $\nabla \rho$

@ 30°C

TYPE OF PRODUCTION

PUMPING

FLOWING

GAS LIFT

SWAB

PRODUCTION RATES

WATER

BM

OIL

BM

GAS

WPM

GAUGE PRESSURE MPa

SEPARATOR

TREATER

RESERVOIR

SOURCE

SAMPLED

RECEIVED

TEMPERATURE °C

DATE SAMPLED (Y-M-D)

83-08-12

DATE RECEIVED (Y-M-D)

83-08-18

DATE REPORTED (Y-M-D)

83-08-26

ANALYST

S.J.

OTHER INFORMATION

### SAMPLE PROPERTIES

S.S. & W. (VOLUME FRACTION)

COLOR OF CLEAN OIL

DARK BROWN

WATER

0.000

SEDIMENT

0.002

TOTAL

0.002

COLOR NUMBER ASTM D-155

D<sub>8</sub> A.S.T.M.

DENSITY

RELATIVE

AS RECEIVED

AFTER CLEANING

AS RECEIVED

ABSOLUTE  $\rho_{40} \times 10^3$

AFTER CLEANING

863.5

API GRAVITY @ 15°C = 32.2

TOTAL SULPHUR  
(MASS FRACTION)

0.0094

TOTAL SALT g/m<sup>3</sup>

POUR POINT /°C  
U.S.B.M. A.S.T.M.

<-50

CARBON RESIDUE  
(MASS FRACTION)

CONRADSON

RAMSBOTTOM

RYPMs

### VISCOSITY

TEMP/°C	ABSOLUTE $\eta_{sp} \times 10^4$	KINEMATIC $\nu_{sp} \times 10^4$
20		7.75
30		6.32
40		5.26

### DISTILLATION

METHOD

A.S.T.M. - D - 86\*

INITIAL BOILING POINT=43.5°C

ASH BAKON PRESSURE

89.0

ROOM TEMP./°C

25

DISTILLATION SUMMARY  
(VOLUME FRACTION)

200°C NAPHTHA	275°C KEROSENE	350°C LIGHT GAS OIL
0.25	0.42	0.70

RECOVERED	RESIDUE	DISTILLATION LOSS
0.85	0.13	0.02

RELATIVE DENSITY

DISTILLATE

RESIDUE

BASE TYPE:

CHARACTERIZATION FACTOR: 11.8

VOLUME FRACTION	TEMP./°C
0.01	74.0
0.10	120.5
0.15	146.5
0.20	168.0
0.25	201.0
0.30	229.5
0.35	247.0
0.40	268.0
0.45	281.0
0.50	308.5
0.55	320.5
0.60	331.5
0.65	340.0
0.70	350.0
0.75	357.0
0.80	358.0
0.85	
0.90	
0.95	
1.00	
F.B.P.	358.0
CRACKED	

REMARKS:

\* The distillation temperatures  
have been corrected to 101.3 kPa (abs).



# AGAT Engineering

BAY 1, 3650 - 21 ST. N.E.  
CALGARY, ALTA. T2E 6V6  
230-2477

## OIL ANALYSIS

OPERATOR NAME

ROXY PETROLEUM LIMITED

LABORATORY NUMBER

5912

CONTAINER IDENTIFICATION

P.B. #6

UNIQUE WELL IDENTIFIER

14-2-3-21 W4

WELL NAME

ROXY ANDEX ET AL. WHITEWATER 14-2-3-21 W1

ELEVATIONS

KS m

GRO m

FIELD OR AREA

POOL OR ZONE

NAME OF SAMPLER

COMPANY

ROXY

TEST TYPE

NO

TEST RECOVERY

TEST INTERVAL OR PERFS

SAMPLING POINT

WELLHEAD

AMT & TYPE OF CUSHION

MUD RESISTIVITY/II m

@ 25 C

TYPE OF PRODUCTION

PUMPING

FLOWING

GAS LIFT

SWAB

PRODUCTION RATES

WATER

m³/d

OIL

m³/d

GAS

10³ m³/d

GAUGE PRESSURE MPa

SEPARATOR

TREATER

RESERVOIR

SOURCE

SAMPLED

RECEIVED

TEMPERATURE °C

DATE SAMPLED (Y-M-D)

83-11-24

DATE RECEIVED (Y-M-D)

83-12-05

DATE REPORTED (Y-M-D)

83-12-07

ANALYST

S.J.

OTHER INFORMATION

### SAMPLE PROPERTIES

B.S. & W. (VOLUME FRACTION)

COLOR OF CLEAN OIL

DARK BROWN

WATER

0.002

SEDIMENT

0.000

TOTAL

0.002

COLOR NUMBER ASTM D-155

D<sub>8</sub> A.S.T.M.

RELATIVE

DENSITY

ABSOLUTE  $\rho_{40} \times 10^3$

AS RECEIVED

AFTER CLEANING

AS RECEIVED

AFTER CLEANING

863.8

API GRAVITY @ 15°C = 32.16

TOTAL SULPHUR  
(MASS FRACTION)

0.01132

TOTAL SALT g/m³

POUR POINT /°C

U.S.B.M.

A.S.T.M.

-3

CARBON RESIDUE  
(MASS FRACTION)

CONRADSON

RAMSBOTTOM

RVP/MPa

### VISCOSITY

TEMP/°C	ABSOLUTE $\eta_{40} \times 10^3$	KINEMATIC $\nu_{40} \times 10^4$
25	6.35	7.41
38	4.87	5.73
50	3.73	4.43

### DISTILLATION

METHOD

A.S.T.M. - D - 86\*

INITIAL BOILING POINT: 57.5°C

ABS BAROM PRESS/MPa

89.0

ROOM TEMP./°C

20.5

### DISTILLATION SUMMARY

(VOLUME FRACTION)

200°C NAPHTHA	275°C KEROSENE	350°C LIGHT GAS OIL
0.245	0.370	0.510

RECOVERED

RESIDUE

DISTILLATION  
LOSS

0.84

0.14

0.02

### RELATIVE DENSITY

DISTILLATE

RESIDUE

VOLUME FRACTION	TEMP./°C
0.05	103.0
0.10	128.0
0.15	153.5
0.20	181.0
0.25	203.0
0.30	237.5
0.35	265.0
0.40	291.0
0.45	318.5
0.50	345.0
0.55	368.0
0.60	382.0
0.65	392.0
0.70	399.5
0.75	406.5
0.80	
0.85	
0.90	
0.95	
1.00	
F.B.P.	406.5
CRACKED	

BASE TYPE:

CHARACTERIZATION FACTOR: 11.8

REMARKS:

\* The distillation temperatures have been corrected to 101.3 kPa (abs).