

**OIL, GAS AND  
WATER ANALYSIS**

## OIL ANALYSIS

*Water Spun  
Out of this Sample*

CONTAINER IDENTIFICATION <b>DB #4</b>		LABORATORY NUMBER <b>025509E</b>	
OPERATOR NAME <b>NORTHERN CROSS</b>			
UNIQUE WELL IDENTIFIER	WELL NAME	KB m	ELEVATIONS GRD m
	<b>SOCONY MOBILE W.M. CHANCE V.T. G-08</b>	<b>524.20</b>	<b>518.80</b>
FIELD OR AREA	POOL OR ZONE	NAME OF SAMPLER	COMPANY
<b>YUKON</b>	<b>CHANCE SAND</b>		<b>SAME</b>
TEST TYPE <input type="checkbox"/> YES <input type="checkbox"/> NO	TEST RECOVERY <b>STORAGE TANK DAWSON CITY</b>		
TEST INTERVAL OR PERFS	SAMPLING POINT	AMT & TYPE OF CUSHION	MUD RESISTIVITY @ 25 °C
	<b>STORAGE TANK</b>		<b>0.25 °C</b>
SEPARATOR		TREATER	RESERVOIR
GAUGE PRESSURE kPa			
TEMPERATURE °C			
DATE SAMPLED (Y-M-D)	DATE RECEIVED (Y-M-D)	DATE REPORTED (Y-M-D)	ANALYST
<b>98-04-01</b>	<b>98-04-13</b>	<b>98-04-27</b>	<b>DSPCM NCO</b>

SAMPLE PROPERTIES			
B.S. & W. (VOLUME FRACTION)			
COLOUR OF CLEAN OIL	WATER	SEDIMENT	TOTAL
<b>BROWN</b>			
<i>Water has been spun out</i>			
COLOUR NUMBER ASTM D-1500			
<b>0-8 ASTM</b>			
RELATIVE DENSITY		ABSOLUTE $\rho_{kg\cdot m^{-3}}$	
AS RECEIVED	AFTER CLEANING	AS RECEIVED	AFTER CLEANING
<b>0.8692</b>		<b>868.4</b>	
API GRAVITY @ 15 °C			
<b>31.30</b>			
TOTAL SULPHUR (MASS FRACTION)	TOTAL SALT $g\cdot m^{-3}$	POUR POINT / °C	ASTM
<b>0.01059</b>			<b>-24</b>
RVP kPa	CARBON RESIDUE (MASS FRACTION)		
	CONRADSON	RAMSBOTTOM	

VOLUME FRACTION	TEMP / °C
0.05	<b>78.6</b>
0.10	<b>118.0</b>
0.15	<b>141.3</b>
0.20	<b>162.5</b>
0.25	<b>184.7</b>
0.30	<b>211.0</b>
0.35	<b>240.3</b>
0.40	<b>269.6</b>
0.45	<b>292.9</b>
0.50	<b>316.1</b>
0.55	<b>339.3</b>
0.60	<b>361.6</b>
0.65	
0.70	
0.75	
0.80	
0.85	
0.90	
0.95	
1.00	
F.B.P.	<b>366.6</b>
CRACKED	

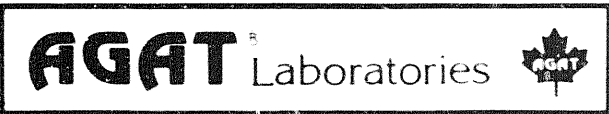
DISTILLATION		
METHOD		
<b>ASTM-D86*</b>		
INITIAL BOILING POINT		
<b>57.4</b>		
ABS. BAROM PRESS kPa	ROOM TEMP / °C	
<b>89.7</b>	<b>21.0</b>	
DISTILLATION SUMMARY (VOLUME FRACTION)		
200 °C NAPHTHA	275 °C KEROSENE	350 °C LIGHT GAS OIL
<b>0.28</b>	<b>0.41</b>	<b>0.57</b>
RECOVERED	RESIDUE	DISTILLATION LOSS
<b>0.62</b>	<b>0.36</b>	<b>0.02</b>
CHARACTERIZATION FACTOR		
<b>11.7</b>		

VISCOSITY		
TEMP / °C	ABSOLUTE $mPa\cdot s$	KINEMATIC $mm^2\cdot s^{-1}$
25	7.01	8.13
38	5.00	5.86
50	3.65	4.31

REMARKS: \* THE DISTILLATION TEMPERATURES HAVE BEEN CORRECTED TO 101.3 KPA(ABS).



→ Todd W. ...  
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**GAS ANALYSIS**

CONTAINER IDENTIFICATION: **AGAT 21221**      LABORATORY NUMBER: **GF24777A**

**NORTHERN CROSS**      OPERATOR NAME: \_\_\_\_\_

UNIQUE WELL IDENTIFIER: \_\_\_\_\_      WELL NAME: **SOCONY MOBIL W.M. CHANCE Y.T.G-08**      K.B. m ELEVATIONS: **524.20**      GRD. m: **518.80**

FIELD OR # EA: \_\_\_\_\_      POOL OR ZONE: **CHANCE SAND**      NAME OF SAMPLER: \_\_\_\_\_      COMPANY: **SAME**

TEST TYPE: \_\_\_\_\_      NO: \_\_\_\_\_      TEST RECOVERY: \_\_\_\_\_

TEST INTERVAL OR PERFS: **1338.10-1350.00**      SAMPLING POINT: **WELLHEAD**

Gauge Pressure +Pa: \_\_\_\_\_      Separator: \_\_\_\_\_      Treater: \_\_\_\_\_      Reservoir: \_\_\_\_\_      Source: **100**      Sampled: **100**      Received: **110**  
 Temperature +C: \_\_\_\_\_      Separator: \_\_\_\_\_      Treater: \_\_\_\_\_      Reservoir: \_\_\_\_\_      Source: **-3**      Sampled: **-3**      Received: **22**

DATE SAMPLED (Y-M-D): **98-03-22**      DATE RECEIVED (Y-M-D): **98-03-30**      DATE REPORTED (Y-M-D): **98-04-06**      ANALYST: **BD NCO**      OTHER INFORMATION: \_\_\_\_\_

COMP	MOLE FRACTION		PETROLEUM LIQUID CONTENT mL/m <sup>3</sup>
	AIR FREE AS RECEIVED	AIR FREE ACID GAS FREE	
H <sub>2</sub>	<b>0.0006</b>	<b>0.0006</b>	
N <sub>2</sub>	<b>TRACE</b>	<b>TRACE</b>	
N <sub>2</sub>	<b>0.0218</b>	<b>0.0247</b>	
CO <sub>2</sub>	<b>0.1041</b>	<b>0.0000</b>	
H <sub>2</sub> S	<b>0.0140</b>	<b>0.0000</b>	
C <sub>1</sub>	<b>0.6060</b>	<b>0.6874</b>	
C <sub>2</sub>	<b>0.1256</b>	<b>0.1424</b>	
C <sub>3</sub>	<b>0.0717</b>	<b>0.0813</b>	<b>263.9</b>
C <sub>4</sub>	<b>0.0129</b>	<b>0.0146</b>	<b>56.3</b>
NC <sub>4</sub>	<b>0.0243</b>	<b>0.0275</b>	<b>102.3</b>
C <sub>5</sub>	<b>0.0083</b>	<b>0.0094</b>	<b>40.5</b>
NC <sub>5</sub>	<b>0.0067</b>	<b>0.0076</b>	<b>32.5</b>
C <sub>6</sub>	<b>0.0025</b>	<b>0.0028</b>	<b>13.6</b>
C <sub>7</sub>	<b>0.0015</b>	<b>0.0017</b>	<b>9.3</b>
C <sub>8</sub>			
C <sub>9</sub>			
C <sub>10</sub>			
TOTAL	<b>1.0000</b>	<b>1.0000</b>	<b>518.4</b>

GROSS HEATING VALUE MJ/m<sup>3</sup> 15°C AND 101.325 kPa

MOISTURE AND ACID GAS FREE: **51.72**      AIR FREE AS RECEIVED: **45.95**      VAPOUR PRESSURE PENTANES PLUS: **104.9** kPa

RELATIVE DENSITY

MOISTURE FREE AS SAMPLED      MOISTURE AND ACID GAS FREE

MEASURED: \_\_\_\_\_      CALCULATED: **0.896**      MEASURED: \_\_\_\_\_      CALCULATED: **0.817**

PSEUDO CRITICAL PROPERTIES (CALCULATED)

AS SAMPLED      ACID GAS FREE

dPc (kPa): **4880**      dTc: **244.6** °K      dPc (kPa): **4519**      dTc: **235.5** °K

RELATIVE MOLECULAR MASS

TOTAL GAS      C<sub>1</sub>

**25.9**      **104.2**

H<sub>2</sub>S %: **20.11**

REMARKS

EXCEED NORMAL LIMITS : CO<sub>2</sub>  
 FIELD H<sub>2</sub>S=0.45% \ LAB H<sub>2</sub>S=1.4%

## WATER ANALYSIS

*WATER SPUN FROM EMULSION  
AFTER DM046 DEMULSIFIER TREATMENT*

CONTAINER IDENTIFICATION <b>PB 2+3B</b>		LABORATORY NUMBER <b>W25008B</b>	
OPERATOR NAME <b>NORTHERN CROSS</b>			
UNIQUE WELL IDENTIFIER		WELL NAME	
		<b>SUCONY MOBILE W.M. CHANCE Y.T. G-08</b>	
		KB m ELEVATIONS GRD m <b>524.20 518.80</b>	
FIELD OR AREA		NAME OF SAMPLER	
<b>YUKON</b>		<b>SAME</b>	
POOL OR ZONE		COMPANY	
<b>CHANCE SAND</b>			
TEST TYPE		TEST RECOVERY	
<input type="checkbox"/> NO		<input type="checkbox"/>	
<b>SWAB #84</b>		<i>Mar. 22, 1998</i>	
SAMPLING POINT		MUD RESISTIVITY Ω m	
<b>WELLHEAD</b>		<b>@ 25° C</b>	
TYPE OF PRODUCTION			
<input type="checkbox"/> PUMPING <input type="checkbox"/> FLOWING <input type="checkbox"/> GAS LIFT <input type="checkbox"/> SWAB			
PRODUCTION RATES			
WATER <input type="text"/> m <sup>3</sup> /d    OIL <input type="text"/> m <sup>3</sup> /d    GAS <input type="text"/> 10 <sup>3</sup> m <sup>3</sup> /d			
SEPARATOR		RECEIVED	
<input type="text"/>		<input type="text"/>	
TREATER		SOURCE	
<input type="text"/>		<input type="text"/>	
RESERVOIR		SAMPLER	
<input type="text"/>		<input type="text"/>	
GAUGE PRESSURE kPa		TEMPERATURE °C	
<input type="text"/>		<input type="text"/>	
DATE SAMPLED (Y/M/D)		DATE RECEIVED (Y/M/D)	
<b>98-04-22</b>		<b>98-04-30</b>	
DATE REPORTED (Y/M/D)		ANALYST	
<b>98-05-07</b>		<b>LN NCO</b>	
OTHER INFORMATION			
<input type="text"/>			

TEST INTERVAL OR PERFS  
 1338.1-1342.3  
 1347.8-1350.0  
 mKB

ION	mg/L	MASS FRACTION	mmol/L
Na	4380.0	0.094	191.0
K	495.0	0.011	12.7
Ca	9560.0	0.205	238.0
Mg	715.0	0.015	29.4
Ba	N.A.	N.A.	N.A.
Sr	N.A.	N.A.	N.A.
Fe	1870.0	0.040	33.5

ION	mg/L	MASS FRACTION	mmol/L
Cl	29500.0	0.632	833.0
Br	N.A.	N.A.	N.A.
I	N.A.	N.A.	N.A.
HCO <sub>3</sub>	NIL	NIL	NIL
SO <sub>4</sub>	125.0	0.003	1.3
CO <sub>3</sub>	NIL	NIL	NIL
CN	NIL	NIL	NIL
HS	N.D.	N.D.	N.D.

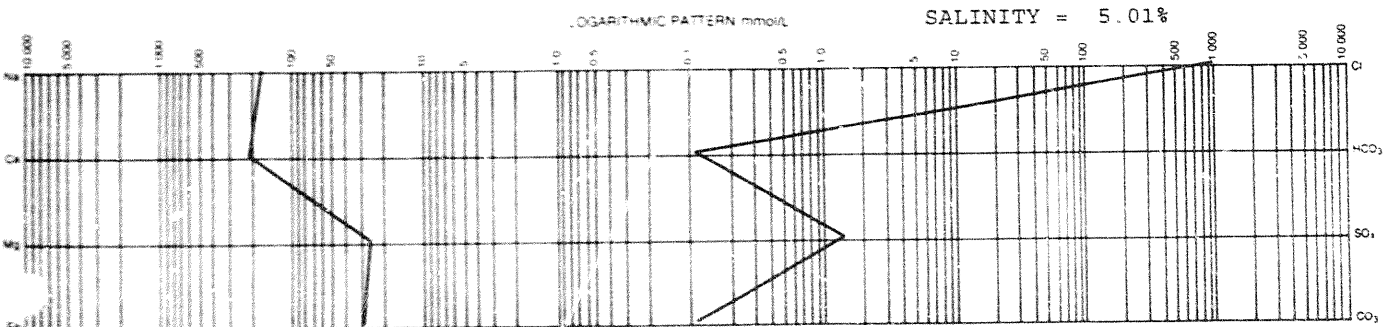
**DISSOLVED**

TOTAL SOLIDS    mg/L

EVAPORATED AT 110° C	EVAPORATED AT 180° C
<input type="text"/>	<input type="text"/>
AT IGNITION	CALCULATED
<input type="text"/>	<b>46600.0</b>

RELATIVE DENSITY	REFRACTIVE INDEX
<b>1.064 @ 25° C</b>	<b>N.A. @ 25° C</b>
OBSERVED pH	RESISTIVITY/ΩM @m
<b>3.48 @ 25° C</b>	<b>0.17 @ 25° C</b>



REMARKS  
 TRC+= LESS THAN 0.1    N.D.= NOT DETECTED    NIL= 0.0    TRC\*= LESS THAN 0.001    N.A.= NOT ANALYZED  
 MINERAL ACID ACIDITY IS EQUAL TO    49.8 G/M3 AS CALCIUM CARBONATE