

SUNCOR ENERGY INC.

SUNCOR NETLA P-16

P16-60-50-122-45

N.E.B. COPY



MERLIN PETROLEUM SERVICES LTD.

Calgary

SUNCOR ENERGY INC.

SUNCOR NETLA P-16

P16-60-50-122-45

N.E.B. COPY

Geologist: Craig Odagaki

Merlin Petroleum Services Ltd.
#207, 239 - 12th Ave. S.W.
Calgary, Alberta T2R 1H6
(403) 234-9555

Reported to: Mr. John McCrossan



SUNCOR NETLA P-16

TABLE OF CONTENTS

Well Data Summary.....	Page 1
Geological Markers.....	Page 3
Bit Record.....	Page 4
Deviation Record.....	Page 5
Sample Descriptions.....	Page 6

SUNCOR NETLA P-16WELL DATA SUMMARY

Company: Suncor Energy Inc.

Well Name: Suncor Netla P-16

Well Location: P16-60-50-122-45

Province: N.W.T.

Elevations: Ground: 602.3 m
 Kelly Bushing: 607.0 m
 K.B. to Ground: 4.7 m

Well Type: Exploratory

AFE Number: A9911480P16

License Number: 1874

Contractor: Akita Drilling Rig Number: 37

Geologist: Craig Odagaki

Drilling Foreman: Paul Erb / Pat Miller

Spud Date: 21:00 hrs., December 21, 1999

Total Depth: 2099 m, 13:45 hr., January 9, 2000

Hole Size: Surface: 311 mm
 Main: 200 mm

Casing: Surface: Size: 244.5 mm Type: 53.6 kg/m J-55
 Cemented with: 41 tonnes RFC with 2% CaCl₂
 Landed at: 542 m
 Plug down: 06:30 hr., December 26, 1999

Sample Interval: Operator: 545 - 2099 m (5 metre intervals)
 NEB: 545 - 2099 m (5 metre intervals)

SUNCOR NETLA P-16WELL DATA SUMMARY

Mud Program: Company: MI Drilling Fluids
 Mud Type: K₂SO₄ Visplex
 Mud Up: 542 m

Cores: Company: None

Drill Stem Tests: Company: None on penetration.

Open Hole Logs: Company: Schlumberger

<u>Logs</u>	<u>Scales</u>	<u>Interval</u>
AIT-SP-GR	1:240; 1:600	T.D. to Surface Casing
CNT-LDT-TLD	1:240; 1:600	T.D. to Surface Casing
DSI-MLT-GPIT-MDC	1:240; 1:600	T.D. to Surface Casing

Final Status: Plugged and abandoned.

SUNCOR NETLA P-16GEOLOGICAL MARKERSK.B. ELEVATION: 607.0 m

<u>FORMATION</u>	<u>PROGNOSIS</u> <u>DEPTH</u>	<u>PROGNOSIS</u> <u>SUBSEA</u>	<u>SAMPLE</u> <u>DEPTH</u>	<u>SAMPLE</u> <u>SUBSEA</u>	<u>LOG</u> <u>DEPTH</u>	<u>LOG</u> <u>SUBSEA</u>
Exshaw	612.0	- 5.0	610.0	- 3.0	610.0	- 3.0
Kotcho Shale	621.0	- 14.0	627.0	- 20.0	624.0	- 17.0
Kotcho Carbonate	708.0	- 101.0	709.0	- 102.0	707.5	- 100.5
Tetcho Carbonate	976.0	- 369.0	974.0	- 367.0	971.5	- 364.5
Trout River	1076.0	- 469.0	1077.0	- 470.0	1075.5	- 468.5
Kakisa	1148.0	- 541.0	1142.0	- 535.0	1141.0	- 534.0
Redknife	1177.0	- 570.0	1171.0	- 564.0	1169.0	- 562.0
Fort Simpson	1385.0	- 778.0	1379.0	- 772.0	1379.0	- 772.0
FS Mkr	1716.0	-1109.0	1745.0	-1138.0	1744.5	-1137.5
Muskwa	1895.0	-1288.0	1892.0	-1285.0	1896.0	-1289.0
Slave Point	1923.0	-1316.0	1923.0	-1316.0	1922.0	-1315.0
Elk Point	2054.0	-1447.0	2053.0	-1446.0	2054.0	-1447.0
Total Depth	2092.0	-1485.0	2099.0	-1492.0	2098.8	-1491.8

SUNCOR NETLA P-16BIT RECORD

BIT NO.	SIZE	TYPEJETS..... mm			DEPTH METERS OUT		HRS	ROP m/h	WOB KdN	RPM	COND T-B-G	
1	311	FDSS	17.5	17.5	17.5	521	521	40.75	12.8	15	200	5-2-I	
2	311	HP43A	17.5	17.5	17.5	542	21	1.75	12.0	15	160	1-1-I	
3	222	DS110NV	--	6	X 11.9	--	1900	1358	138.25	9.8	6	140	6-N-I
4	222	EHP51X	17.5	17.5	17.5	2058	158	55.5	2.8	15	80	5-E-I	
5	222	GT18	12.7	12.7	14.3	2099	41	13.25	3.1	15	65	1-E-I	

SUNCOR NETLA P-16DEVIATION RECORDSurface Casing at: 542.0 m

<u>DEPTH (m)</u>	<u>DEVIATION (degrees)</u>	<u>INTERVAL (m)</u>
34	0.25	34
56	0.25	22
86	0.25	30
117	0.5	31
155	0.25	38
174	0.75	19
221	0.5	37
246	0.75	25
283	0.75	37
312	0.75	29
329	0.25	17
368	0.5	39
406	0.5	38
434	0.25	28
460	0.25	26
489	0.5	29
592	0.25	103
691	0.75	99
810	1.5	119
870	1.0	60
983	1.25	113
1095	1.75	112
1302	2.0	107
1405	1.0	103
1509	2.0	104
1584	2.0	75
1649	1.5	65
1743	2.0	94
1819	1.5	76
1929	2.0	110
2040	1.25	111

SUNCOR NETLA P-16SAMPLE DESCRIPTIONS

542-561 SHALE: medium to light grey, trace dark grey, blocky to platy, subfissile to fissile, micromicaceous, trace silty, local siltstone stringers.

561-610 INTERBEDDED SHALE AND SILTSTONE

SHALE: medium to dark grey, trace light grey, blocky, subfissile to nonfissile, micromicaceous, silty in part.

SILTSTONE: medium to light grey, trace grey-brown quartzose, well indurated, argillaceous.

EXSHAW (610.0 m)

610-622 SHALE: medium to dark grey, blocky to platy, subfissile to trace fissile, micromicaceous, silty in part, rare siltstone stringers, rare pyrite, local glauconite.

622-627 SHALE: dark grey, dark brown-grey, blocky to platy, subfissile to fissile, micromicaceous, slightly bituminous.

KOTCHO SHALE (627.0 m)

627-643 SILTSTONE WITH TRACE INTERBEDDED LIMESTONE

SILTSTONE: light grey to buff, quartzose, trace argillaceous, calcareous.

LIMESTONE: buff to white, trace light brown, cryptocrystalline, mudstone, massive, dense, earthy, trace silty, no visible porosity, no visible shows.

643-650 INTERBEDDED SILTSTONE AND SHALE

SILTSTONE: buff to light grey, quartz, calcareous, trace argillaceous, trace limestone stringers, well indurated.

SHALE: light grey, blocky, subfissile, micromicaceous, calcareous, trace silty.

650-709 INTERBEDDED SHALE AND SILTSTONE

SHALE: light to medium grey, blocky to platy, subfissile, micromicaceous, calcareous, trace silty, local tight limestone stringers.

SILTSTONE: light grey, quartzose, calcareous, argillaceous in part, well indurated.

SUNCOR NETLA P-16SAMPLE DESCRIPTIONSKOTCHO CARBONATE (709.0 m)709-743 INTERBEDDED LIMESTONE AND SHALE

LIMESTONE: buff to white, trace light grey, trace light brown, crypto to microcrystalline, mudstone, massive, dense, earthy to trace vitreous, trace silty, no visible porosity, no visible shows.

SHALE: light to medium grey, blocky to platy, subfissile, micromicaceous, trace silty, trace calcareous siltstone stringers.

743-801 INTERBEDDED SHALE, LIMESTONE, AND SILTSTONE

SHALE: medium grey, trace light grey, blocky, nonfissile to subfissile, micromicaceous, silty in part, calcareous in part.

LIMESTONE: buff, trace light brown, crypto to microcrystalline, mudstone, massive, dense, earthy, trace silty, rare fossiliferous (crinoids, brachiopods), rare pyrite, no visible porosity, no visible shows.

SILTSTONE: buff to white, quartzose, calcareous, trace argillaceous.

801-820 SHALE: light to medium grey, blocky to platy, subfissile, micromicaceous, calcareous, silty in part, local limestone stringers.

820-825 NO SAMPLE CAUGHT

825-838 SHALE: light to medium grey, blocky to platy, subfissile to trace fissile, micromicaceous, calcareous, trace disseminated pyrite, rare silty.

838-867 SHALE: light grey, trace medium grey, rare dark grey, blocky to platy, subfissile to trace fissile, micromicaceous, calcareous, trace disseminated pyrite, rare limestone stringers, rare siltstone stringers.

867-876 SHALE: medium to light grey, blocky, subfissile to nonfissile, micromicaceous, calcareous, trace disseminated pyrite.

876-939 SHALE: light to medium grey, blocky to platy, subfissile to fissile, micromicaceous, calcareous, local tight limestone stringers, trace disseminated pyrite.

SUNCOR NETLA P-16SAMPLE DESCRIPTIONS

- 939-969 SHALE: medium to light grey, blocky to trace platy, subfissile to fissile, micromicaceous, calcareous, trace disseminated pyrite, local tight limestone stringers.
- 969-974 SHALE: dark to medium grey, dark grey-brown, blocky to platy, subfissile to fissile, micromicaceous, calcareous, trace bituminous, local tight limestone stringer.

TETCHO CARBONATE (974.0 m)

- 974-980 LIMESTONE: buff to light grey, micro to cryptocrystalline, massive, dense, vitreous to earthy, calcilutite, trace argillaceous, no visible porosity, no visible shows.
- 980-1005 INTERBEDDED LIMESTONE AND SHALE
LIMESTONE: buff to light grey, micro to cryptocrystalline, massive, dense, vitreous to earthy, calcilutite, microsucrosic, trace argillaceous, no visible porosity, no visible shows.
SHALE: medium to dark grey, trace light grey, blocky to platy, subfissile to fissile, micromicaceous, calcareous, trace disseminated pyrite.
- 1005-1052 LIMESTONE: buff to grey, micro to cryptocrystalline, massive, dense, vitreous to earthy, microsucroic, calcilutite, trace argillaceous, trace shale laminations, no visible porosity, no visible shows.
- 1052-1077 INTERBEDDED SILTSTONE, SHALE, AND LIMESTONE
SILTSTONE: buff to white, medium to light grey, quartzose, calcareous, trace argillaceous, well indurated; SHALE-medium to light grey, blocky to platy, subfissile to fissile, micromicaceous, calcareous, trace silty.
LIMESTONE: buff to light grey, micro to cryptocrystalline, massive, vitreous to earthy, microsucrosic in part, trace silty, trace fossiliferous, no visible porosity, no visible shows.

SUNCOR NETLA P-16SAMPLE DESCRIPTIONSTROUT RIVER (1077.0 m)1077-1142 INTERBEDDED SHALE, SILTSTONE, AND LOCAL LIMESTONE

SHALE: medium to light grey, trace dark grey, platy to blocky, fissile to subfissile, micromicaceous, calcareous, trace silty.

SILTSTONE: light to medium grey, buff, quartzose, calcareous, trace argillaceous, well indurated.

LIMESTONE: buff to light brown, micro to cryptocrystalline, massive, dense, earthy to vitreous, trace fossiliferous, no visible porosity, no visible shows.

KAKISA (1142.0 m)1142-1152 INTERBEDDED LIMESTONE AND SHALE

LIMESTONE: buff to light grey, trace light brown, crypto to microcrystalline, massive, dense, earthy to trace vitreous, slightly argillaceous, trace fossiliferous, no visible porosity, no visible shows.

SHALE: medium to light grey, trace dark grey, blocky to platy, subfissile to fissile, micromicaceous, calcareous, trace silty, trace disseminated pyrite.

1152-1171 INTERBEDDED SHALE, SANDSTONE, AND LOCAL LIMESTONE

SHALE: medium to dark grey, blocky to trace platy, subfissile, micromicaceous, calcareous, trace silty.

SANDSTONE: white to grey, very fine grained to silty, vitreous and frosted quartz, trace lithic grains, calcareous, argillaceous in part, subrounded, well sorted, well cemented, calcareous cement, no visible porosity, no visible shows.

LIMESTONE: buff to white, trace light grey, crypto to microcrystalline, massive, dense, earthy, trace fossiliferous, no visible porosity, no visible shows.

RED KNIFE (1171.0 m)

1171-1183 SHALE: medium to light grey, trace dark grey, platy to blocky, fissile to subfissile, micromicaceous, trace silty, rare disseminated pyrite, local tight limestone stringers.

SUNCOR NETLA P-16SAMPLE DESCRIPTIONS

- 1183-1216 SHALE: medium to light grey, grey-brown, platy to blocky, fissile to subfissile, micromicaceous, trace silty, local tight limestone stringers.
- 1216-1234 INTERBEDDED SHALE AND SILTSTONE
 SHALE: medium grey, dark brown, platy to blocky, fissile to subfissile, micromicaceous, trace silty, trace tight limestone stringers.
 SILTSTONE: light to dark grey, quartzose, calcareous, trace argillaceous, well indurated.
- 1234-1256 SHALE: medium to light grey, trace brown, platy to blocky, fissile to subfissile, micromicaceous, trace silty, trace siltstone stringers, trace tight limestone stringers.
- 1256-1281 SHALE: medium to dark grey, trace light grey, blocky to platy, subfissile to fissile, micromicaceous, trace disseminated pyrite, trace siltstone stringers.
- 1281-1315 INTERBEDDED SHALE AND SILTSTONE
 SHALE: medium to dark grey, trace light grey, blocky to platy, subfissile to subfissile, micromicaceous, trace disseminated pyrite, trace siderite.
 SILTSTONE: white to light grey, quartzose, calcareous, trace very fine grained sandy, trace argillaceous, well indurated.
- 1315-1354 SHALE: medium to light grey, trace dark grey, platy to blocky, fissile to subfissile, micromicaceous, trace disseminated pyrite, local calcareous siltstone stringers.
- 1354-1375 SHALE: medium to light grey, trace dark grey, platy to blocky, fissile to subfissile, micromicaceous.
- 1375-1379 SILTSTONE: light grey to buff, trace white, quartzose, calcareous, argillaceous in part, well indurated.
- FT. SIMPSON (1379.0 m)
- 1379-1406 SHALE: medium to dark grey, platy to blocky, fissile to subfissile, micromicaceous, trace silty to very fine grained sandy, local tight limestone stringers, local calcareous siltstone stringers.

SUNCOR NETLA P-16SAMPLE DESCRIPTIONS

- 1406-1439 SHALE: medium to light grey, trace dark grey, platy to blocky, fissile to subfissile, micromicaceous, trace silty, local trace calcareous siltstone stringers, local trace tight limestone stringers.
- 1439-1478 SHALE: medium to trace dark grey, platy to blocky, fissile to subfissile, micromicaceous, trace calcareous siltstone stringers, trace tight limestone stringers.
- 1478-1497 SHALE: light to medium grey, trace dark grey, platy to blocky, fissile to subfissile, trace nonfissile, micromicaceous, trace silty.
- 1497-1553 SHALE: medium to light grey, trace dark grey, platy to blocky, fissile to subfissile, trace nonfissile, micromicaceous, trace silty, trace disseminated pyrite.
- 1553-1581 SHALE: light to medium grey, trace dark grey, blocky to platy, subfissile to fissile, micromicaceous, trace silty, rare siltstone stringers.
- 1581-1596 SHALE: medium to light grey, trace dark grey, platy to blocky, fissile to subfissile, micromicaceous, trace silty to very fine grained sandy stringers.
- 1596-1628 SHALE: light to medium grey, trace dark grey, platy to blocky, fissile to subfissile, micromicaceous, local very fine grained sandstone stringers.
- 1628-1656 SHALE: dark to light grey, platy to trace blocky, fissile to trace subfissile, micromicaceous, trace disseminated pyrite.
- 1656-1741 SHALE: medium to dark grey, trace light grey, platy to trace blocky, fissile to subfissile, micromicaceous, trace disseminated pyrite.
- 1741-1745 SHALE: dark to medium grey, dark grey-brown, trace light grey, platy to blocky, fissile to subfissile, trace nonfissile, micromicaceous, calcareous in part, slightly bituminous in part.

SUNCOR NETLA P-16SAMPLE DESCRIPTIONSFS MKR (1745.0 m)

- 1745-1780 SHALE: medium to dark grey, trace light grey, platy to trace blocky, fissile to subfissile, micromicaceous, local tight limestone stringers, trace calcareous.
- 1780-1792 SHALE: medium to trace dark grey, blocky to platy, subfissile, micromicaceous, trace calcareous.
- 1792-1818 SHALE: medium to dark grey, platy to blocky, fissile to subfissile, micromicaceous.
- 1818-1837 SHALE: light to medium grey, trace dark grey, platy to trace blocky, fissile to subfissile, micromicaceous.
- 1837-1863 SHALE: medium to light grey, trace dark grey, platy to blocky, fissile to subfissile, micromicaceous, trace silty.
- 1863-1882 SHALE: medium to dark grey, trace light grey, blocky to platy, subfissile to fissile, micromicaceous, trace calcareous stringers.
- 1882-1892 SHALE: dark to medium grey, light grey, platy to blocky, fissile to subfissile, micromicaceous, rare pyrite.

MUSKWA (1892.0 m)

- 1892-1923 SHALE: dark grey to black, trace medium to light grey, blocky to platy, subfissile to fissile, micromicaceous, trace pyrite, carbonaceous in part.

SLAVE POINT (1923.0 m)

- 1923-1930 LIMESTONE: white to light grey, trace light brown, crypto to microcrystalline, massive, dense, earthy to trace vitreous, trace fossiliferous, no visible porosity, no visible shows.
- 1930-1941 LIMESTONE: buff to light brown, mottled dark grey-brown, trace medium to dark brown, minor slylolites, earthy to vitreous, trace fossiliferous, trace argillaceous, no visible porosity, no visible shows.

SUNCOR NETLA P-16SAMPLE DESCRIPTIONS

- 1941-1950 LIMESTONE: white to buff, trace light to dark brown, crypto to microcrystalline, massive, dense, earthy to vitreous, trace fossiliferous, trace poor pinpoint and intercrystalline porosity, trace bitumen, no visible dry fluorescence, no visible cut fluorescence.
- 1950-1972 LIMESTONE: buff to white, trace light brown, micro to cryptocrystalline, massive, dense, earthy to chalky, trace vitreous, trace fossiliferous, rare sparite (fracture filling), local trace poor pinpoint and rare fracture porosity, rare bitumen, no visible dry fluorescence, no visible cut fluorescence.
- 1972-1988 LIMESTONE: white to buff, trace light brown and light grey, micro to cryptocrystalline, massive, dense, chalky to earthy, trace vitreous, fossiliferous in part, trace stylolites, rare sparite (fracture filling), tight to local trace poor intercrystalline and fracture porosity, no visible shows.
- 1988-2005 LIMESTONE: buff to white, trace light brown, micro to cryptocrystalline, massive, dense, earthy to trace vitreous, chalky, trace fossiliferous, rare sparite (fracture filling), tight to local poor intercrystalline and fracture porosity, no visible shows.
- 2005-2034 LIMESTONE: buff to white, light to medium brown, trace grey, micro to cryptocrystalline, massive, dense, earthy to chalky, trace vitreous, trace fossiliferous, rare sparite (fracture filling), minor stylolites, trace poor intercrystalline and rare fracture porosity, no visible shows.
- 2034-2053 LIMESTONE: buff to light brown, dark to medium brown, micro to cryptocrystalline, massive, dense, earthy to trace vitreous, chalky in part, fossiliferous, trace stylolites, argillaceous in part, rare disseminated pyrite, tight to trace poor intercrystalline porosity, no visible shows.

SUNCOR NETLA P-16

SAMPLE DESCRIPTIONS

ELK POINT (2053.0 m)

- 2053-2075 LIMESTONE: dark to medium brown, trace buff to light brown, crypto to microcrystalline, massive, dense, vitreous to earthy, argillaceous in part, fossiliferous, no visible porosity, no visible shows.
- 2075-2080 LIMESTONE: buff to light brown, trace dark to medium brown, micro to cryptocrystalline, massive, dense, earthy to trace vitreous, fossiliferous, argillaceous in part, no visible porosity, no visible shows.
- 2080-2099 LIMESTONE: dark brown, trace buff to light brown, crypto to microcrystalline, massive, dense, vitreous to earthy, fossiliferous in part, argillaceous in part, no visible porosity, no visible shows.

T.D.: 2099.0 m (driller)
2098.8 m (logger)