

07/16/99 13:24 403 269 6203 07/16/99 10:53 FAX 403 508 4357

Suncor D&C
ANADIRIL CANADA

002/005
002

MICROFILMED
SUR MICROFILM:

Final Directional Survey

Schlumberger

P.02

Survey

Client: SUNCOR ENERGY	Survey Computation Method: Minimum Curvature
Field: NETLA (CDN)	DLS Computation Method: Lubinski
Structure: Suncor/K-77	Vertical Section Azimuth: 339.000°
Well:	Vertical Section Origin: N 0.000 m, E 0.000 m
Borehole: Job # 40003197	TVD Reference: KB
UWBAP#: 626.0 m above MSL	
Date: July 16, 1999	Magnetic Declination: 26.753°
Grid Convergence: 0.22691852°	Total Field Strength: 59053.698 nT
Scale Factor: 0.99980246	Dip: 79.008°
	Declination Date: February 17, 1999
Location: N 60 46 30.724, W 122 44 23.945	Magnetic Declination Model: BGGM 1999
: N 6737571.924 m, E 514162.943 m	North Reference: True North
Coordinate System: UTM Zone 10N	Coordinate Reference To: Well Head

Station ID	MD (m)	Incl (°)	Azim (°)	TVD (m)	VSec (m)	N-S (m)	E-W (m)	DLS (°/30m)	Grid Coordinates		Geographic Coordinates	
									Northing (m)	Easting (m)	Latitude	Longitude
Tie-In	37.75	0.70	52.0	37.75	0.07	0.14	0.18		6737572.06	514163.13	N 60 46 30.729 W 122 44 23.933	
	150.67	0.70	77.0	150.66	0.17	0.72	1.40	0.08	6737572.65	514164.34	N 60 46 30.747 W 122 44 23.853	
	263.34	0.50	107.0	263.33	-0.23	0.73	2.54	0.10	6737572.66	514165.48	N 60 46 30.748 W 122 44 23.777	
	378.15	0.30	273.0	378.13	-0.41	0.60	2.72	0.21	6737572.53	514165.66	N 60 46 30.743 W 122 44 23.766	
	503.00	0.50	82.0	502.98	-0.40	0.69	2.93	0.19	6737572.63	514165.87	N 60 46 30.746 W 122 44 23.752	
	551.00	0.30	320.6	550.98	-0.33	0.82	3.06	0.44	6737572.76	514166.00	N 60 46 30.750 W 122 44 23.743	
	591.00	0.70	307.0	590.98	-0.02	1.05	2.79	0.31	6737572.98	514165.74	N 60 46 30.758 W 122 44 23.760	
	677.00	1.00	324.0	676.97	1.15	1.97	1.93	0.14	6737573.90	514164.87	N 60 46 30.788 W 122 44 23.817	
	777.00	0.80	317.2	776.96	2.64	3.19	0.95	0.07	6737575.12	514163.88	N 60 46 30.827 W 122 44 23.882	
	792.00	1.75	274.0	791.96	2.83	3.28	0.65	2.58	6737575.21	514163.58	N 60 46 30.930 W 122 44 23.902	
	878.00	1.25	322.0	877.93	4.28	4.11	-1.24	0.45	6737576.03	514161.89	N 60 46 30.857 W 122 44 24.027	
	991.00	1.50	322.0	990.90	6.88	6.25	-2.91	0.07	6737578.16	514160.01	N 60 46 30.926 W 122 44 24.137	
	1093.10	1.90	342.5	1092.95	9.84	8.92	-4.24	0.21	6737580.82	514158.67	N 60 46 31.012 W 122 44 24.225	

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JUL-16-1999 13:31

Station ID	MD (m)	Incl (°)	Azim (°)	TVD (m)	VSec (m)	N-S (m)	E-W (m)	DLS (°/30m)	Grid Coordinates		Geographic Coordinates	
									Northing (m)	Easting (m)	Latitude	Longitude
1102.90	2.10	334.7	1102.75	10.19	9.23	-4.37	1.03	6737581.14	514158.55	N 60 46 31.022 W 122 44 24.234		
1111.40	3.20	347.8	1111.24	10.58	9.61	-4.48	4.41	6737581.51	514158.43	N 60 46 31.034 W 122 44 24.241		
1121.50	4.40	344.5	1121.31	11.24	10.26	-4.65	3.62	6737582.16	514158.26	N 60 46 31.055 W 122 44 24.252		
1131.50	5.70	351.6	1131.28	12.11	11.12	-4.82	4.32	6737583.02	514158.08	N 60 46 31.083 W 122 44 24.264		
1141.84	7.30	348.8	1141.55	13.25	12.27	-5.03	4.73	6737584.17	514157.88	N 60 46 31.120 W 122 44 24.277		
1151.02	8.90	348.1	1150.64	14.53	13.54	-5.28	5.24	6737585.43	514157.61	N 60 46 31.161 W 122 44 24.294		
1161.00	10.10	348.8	1160.48	16.16	15.15	-5.61	3.62	6737587.05	514157.28	N 60 46 31.213 W 122 44 24.316		
1170.75	11.20	348.1	1170.06	17.93	16.91	-5.98	3.41	6737588.81	514156.91	N 60 46 31.270 W 122 44 24.340		
1180.60	12.00	349.5	1179.71	19.88	18.86	-6.36	2.58	6737590.75	514156.52	N 60 46 31.333 W 122 44 24.365		
1189.28	13.60	348.1	1188.18	21.78	20.74	-6.74	5.63	6737592.63	514156.13	N 60 46 31.394 W 122 44 24.390		
1199.24	15.80	348.1	1197.81	24.28	23.22	-7.26	6.63	6737595.10	514155.60	N 60 46 31.474 W 122 44 24.424		
1208.92	17.50	347.4	1207.08	27.02	25.93	-7.85	5.31	6737597.81	514155.00	N 60 46 31.562 W 122 44 24.463		
1218.46	19.30	346.0	1216.13	30.00	28.86	-8.54	5.83	6737600.73	514154.28	N 60 46 31.656 W 122 44 24.509		
1228.22	21.10	343.9	1225.29	33.35	32.11	-9.42	5.97	6737603.98	514153.40	N 60 46 31.761 W 122 44 24.567		
1237.62	22.70	343.9	1234.02	36.85	35.48	-10.40	5.11	6737607.35	514152.42	N 60 46 31.870 W 122 44 24.632		
1246.75	23.90	344.6	1242.40	40.44	38.95	-11.38	4.05	6737610.82	514151.42	N 60 46 31.982 W 122 44 24.697		
1256.52	25.00	346.0	1251.29	44.46	42.86	-12.40	3.82	6737614.72	514150.38	N 60 46 32.109 W 122 44 24.764		
1266.27	26.20	347.4	1260.09	48.64	48.96	-13.37	4.15	6737618.81	514149.40	N 60 46 32.241 W 122 44 24.828		
1276.27	27.10	347.8	1269.02	53.07	51.34	-14.34	2.75	6737623.19	514148.41	N 60 46 32.383 W 122 44 24.892		
1285.74	27.90	348.1	1277.42	57.39	55.62	-15.25	2.57	6737627.46	514147.48	N 60 46 32.521 W 122 44 24.952		
1295.49	28.50	346.7	1286.02	61.95	60.11	-16.26	2.76	6737631.95	514146.46	N 60 46 32.666 W 122 44 25.019		
1305.15	28.70	344.6	1294.50	66.54	64.59	-17.40	3.20	6737636.42	514145.30	N 60 46 32.811 W 122 44 25.095		
1314.72	28.90	341.0	1302.89	71.14	69.00	-18.77	5.35	6737640.82	514143.92	N 60 46 32.953 W 122 44 25.185		
1324.31	29.20	338.2	1311.27	75.79	73.38	-20.39	4.37	6737645.17	514142.28	N 60 46 33.094 W 122 44 25.292		
1334.00	29.60	336.8	1319.71	80.55	77.76	-22.20	2.46	6737649.56	514140.45	N 60 46 33.236 W 122 44 25.412		
1343.38	29.80	337.5	1327.86	85.19	82.04	-24.01	1.28	6737653.84	514138.63	N 60 46 33.375 W 122 44 25.531		
1353.04	29.80	340.4	1336.24	89.99	86.52	-25.73	4.34	6737658.31	514136.89	N 60 46 33.519 W 122 44 25.645		
1362.59	28.70	337.5	1344.58	94.66	90.87	-27.40	5.53	6737662.65	514135.20	N 60 46 33.660 W 122 44 25.756		
1371.99	27.20	338.2	1352.88	99.06	94.96	-29.08	4.90	6737668.73	514133.52	N 60 46 33.792 W 122 44 25.865		
1381.70	26.50	334.0	1361.54	103.44	98.96	-30.84	6.30	6737670.73	514131.73	N 60 46 33.921 W 122 44 25.982		
1391.10	26.40	333.3	1369.96	107.61	102.72	-32.69	1.05	6737674.47	514129.86	N 60 46 34.043 W 122 44 26.105		
1400.75	26.90	332.6	1378.58	111.91	106.57	-34.66	1.84	6737678.31	514127.88	N 60 46 34.167 W 122 44 26.235		

Station ID	MD (m)	Incl (°)	Azim (°)	TVD (m)	VSec (m)	N-S (m)	E-W (m)	DLS (%30m)	Grid Coordinates		Geographic Coordinates	
									Northing (m)	Easting (m)	Latitude	Longitude
1410.30	27.30	334.7	1387.08	116.24	110.47	-36.59	3.26	6737682.20	514125.93	N 60 46 34.293 W 122 44 26.363		
1420.00	28.00	334.7	1395.68	120.73	114.54	-38.52	2.16	6737686.26	514123.99	N 60 46 34.424 W 122 44 26.490		
1429.60	28.80	334.9	1404.12	125.29	118.67	-40.46	2.52	6737690.39	514122.03	N 60 46 34.558 W 122 44 26.618		
1439.20	28.20	335.4	1412.56	129.86	122.83	-42.39	2.02	6737694.53	514120.09	N 60 46 34.692 W 122 44 26.745		
1448.90	27.60	334.7	1421.13	134.39	126.94	-44.30	2.11	6737698.64	514118.16	N 60 46 34.825 W 122 44 26.872		
1458.60	28.00	334.0	1429.71	138.89	131.02	-46.26	1.60	6737702.71	514116.19	N 60 46 34.957 W 122 44 27.001		
1467.90	28.90	335.4	1437.89	143.31	135.02	-48.15	3.61	6737706.70	514114.28	N 60 46 35.086 W 122 44 27.126		
1477.30	29.80	336.1	1446.08	147.91	139.23	-50.04	3.07	6737710.90	514112.37	N 60 46 35.222 W 122 44 27.251		
1486.94	30.40	337.8	1454.42	152.74	143.67	-51.94	3.18	6737715.33	514110.46	N 60 46 35.366 W 122 44 27.376		
1496.20	29.70	336.8	1462.44	157.38	147.95	-53.73	2.74	6737719.60	514108.66	N 60 46 35.504 W 122 44 27.495		
1505.80	28.50	337.3	1470.83	162.04	152.25	-55.55	3.63	6737723.89	514106.82	N 60 46 35.643 W 122 44 27.615		
1515.40	27.80	335.4	1479.29	166.57	156.40	-57.36	3.55	6737728.03	514104.99	N 60 46 35.777 W 122 44 27.735		
1525.00	28.10	334.7	1487.77	171.06	160.48	-59.26	1.39	6737732.10	514103.07	N 60 46 35.909 W 122 44 27.860		
1534.41	29.30	334.7	1496.02	175.56	164.56	-61.19	3.83	6737736.18	514101.13	N 60 46 36.041 W 122 44 27.988		
1543.97	29.70	336.5	1504.34	180.26	168.85	-63.14	3.01	6737740.46	514099.17	N 60 46 36.179 W 122 44 28.116		
1553.50	29.20	336.8	1512.64	184.94	173.15	-64.99	1.66	6737744.75	514097.30	N 60 46 36.318 W 122 44 28.239		
1563.01	28.89	337.6	1520.96	189.56	177.41	-66.78	1.51	6737749.00	514095.49	N 60 46 36.456 W 122 44 28.357		
1572.60	28.50	338.4	1529.37	194.16	181.68	-68.51	1.68	6737753.26	514093.75	N 60 46 36.594 W 122 44 28.471		
1582.20	28.20	338.9	1537.82	198.72	185.92	-70.17	1.23	6737757.49	514092.07	N 60 46 36.731 W 122 44 28.581		
1591.80	28.30	339.7	1546.27	203.26	190.17	-71.77	1.22	6737761.74	514090.45	N 60 46 36.868 W 122 44 28.687		
1601.40	28.00	340.4	1554.74	207.79	194.43	-73.32	1.39	6737765.99	514088.89	N 60 46 37.006 W 122 44 28.789		
1610.60	27.20	340.4	1562.89	212.05	198.45	-74.75	2.61	6737769.99	514087.44	N 60 46 37.135 W 122 44 28.884		
1619.90	26.20	341.8	1571.20	216.23	202.40	-76.10	3.81	6737773.94	514086.07	N 60 46 37.263 W 122 44 28.973		
1629.60	25.60	341.8	1579.93	220.46	206.42	-77.43	1.86	6737777.96	514084.74	N 60 46 37.393 W 122 44 29.060		
1639.20	25.50	341.1	1588.59	224.60	210.35	-78.74	0.99	6737781.88	514083.40	N 60 46 37.520 W 122 44 29.148		
1648.60	25.00	341.8	1597.09	228.60	214.15	-80.02	1.86	6737785.67	514082.11	N 60 46 37.643 W 122 44 29.232		
1658.30	24.30	343.2	1605.91	232.64	218.01	-81.24	2.82	6737789.52	514080.88	N 60 46 37.767 W 122 44 29.312		
1668.00	23.90	346.7	1614.76	236.58	221.83	-82.27	4.59	6737793.34	514079.84	N 60 46 37.891 W 122 44 29.380		
1677.70	23.70	350.2	1623.84	240.44	225.66	-83.05	4.41	6737797.17	514079.04	N 60 46 38.015 W 122 44 29.432		
1687.30	22.60	350.9	1632.46	244.14	229.39	-83.67	3.54	6737800.89	514078.40	N 60 46 38.135 W 122 44 29.473		
1696.90	20.30	351.6	1641.40	247.57	232.86	-84.20	7.23	6737804.35	514077.86	N 60 46 38.247 W 122 44 29.508		
1706.70	18.90	348.8	1650.63	250.78	236.10	-84.76	5.16	6737807.59	514077.29	N 60 46 38.352 W 122 44 29.545		
1716.20	18.80	345.7	1659.62	253.83	239.09	-85.44	3.18	6737810.58	514076.60	N 60 46 38.448 W 122 44 29.590		

Station ID	MD (m)	Incl (°)	Azim (°)	TVD (m)	VSec (m)	N-S (m)	E-W (m)	DLS (°/30m)	Grid Coordinates		Geographic Coordinates	
									Northing (m)	Easting (m)	Latitude	Longitude
	1725.70	18.50	344.6	1668.62	256.85	242.03	-86.22	1.46	6737813.51	514075.81	N 60 46 38.543 W	122 44 29.641
	1735.30	16.90	346.7	1677.77	259.75	244.85	-86.94	5.38	6737816.33	514075.07	N 60 46 38.635 W	122 44 29.689
	1744.90	15.20	344.6	1686.99	262.38	247.42	-87.60	5.61	6737818.90	514074.41	N 60 46 38.718 W	122 44 29.733
	1754.40	12.80	346.7	1696.21	264.66	249.65	-88.17	7.75	6737821.12	514073.83	N 60 46 38.790 W	122 44 29.770
	1764.10	10.20	344.6	1705.71	266.58	251.52	-88.65	8.14	6737822.99	514073.34	N 60 46 38.850 W	122 44 29.802
	1773.60	8.60	338.3	1715.09	268.13	252.99	-89.13	6.00	6737824.46	514072.85	N 60 46 38.898 W	122 44 29.834
	1783.20	8.30	336.8	1724.58	269.54	254.30	-89.67	1.16	6737825.76	514072.31	N 60 46 38.940 W	122 44 29.869
	1792.80	8.40	336.1	1734.08	270.93	255.58	-90.23	0.45	6737827.04	514071.75	N 60 46 38.981 W	122 44 29.906
	1802.30	8.40	336.8	1743.48	272.32	256.85	-90.78	0.32	6737828.31	514071.19	N 60 46 39.022 W	122 44 29.943
	1811.80	7.90	337.4	1752.88	273.67	258.09	-91.31	1.60	6737829.55	514070.66	N 60 46 39.062 W	122 44 29.978
	1821.40	7.20	336.1	1762.40	274.93	259.25	-91.80	2.25	6737830.70	514070.16	N 60 46 39.100 W	122 44 30.010
	1831.00	6.50	337.5	1771.93	276.07	260.30	-92.25	2.25	6737831.75	514069.70	N 60 46 39.134 W	122 44 30.040
	1840.60	6.10	341.8	1781.47	277.12	261.29	-92.62	1.93	6737832.74	514069.33	N 60 46 39.166 W	122 44 30.035
	1850.10	5.80	343.2	1790.92	278.11	262.22	-92.92	1.05	6737833.67	514069.03	N 60 46 39.196 W	122 44 30.084
	1859.70	4.90	345.3	1800.48	279.00	263.09	-93.16	2.88	6737834.53	514068.78	N 60 46 39.224 W	122 44 30.100
	1869.30	3.70	341.1	1810.05	279.71	263.78	-93.37	3.87	6737835.22	514068.58	N 60 46 39.246 W	122 44 30.114
	1878.70	2.90	348.8	1819.44	280.25	264.30	-93.51	2.91	6737835.74	514068.43	N 60 46 39.263 W	122 44 30.123
	1888.20	2.20	6.4	1828.93	280.65	264.71	-93.54	3.29	6737836.16	514068.40	N 60 46 39.276 W	122 44 30.125
	1897.80	1.90	32.4	1838.52	280.91	265.03	-93.43	3.02	6737836.48	514068.51	N 60 46 39.287 W	122 44 30.118
	1906.90	2.30	54.2	1847.62	281.05	265.26	-93.20	2.92	6737836.71	514068.73	N 60 46 39.294 W	122 44 30.103
	1916.60	2.60	76.0	1857.31	281.07	265.43	-92.83	3.01	6737836.88	514069.10	N 60 46 39.300 W	122 44 30.078
	1926.20	2.80	86.4	1866.90	280.97	265.50	-92.39	1.85	6737836.95	514069.55	N 60 46 39.302 W	122 44 30.049
	1945.40	2.00	104.2	1886.08	280.64	265.45	-91.59	1.69	6737836.90	514070.34	N 60 46 39.300 W	122 44 29.997
	1955.10	1.50	118.9	1895.77	280.44	265.34	-91.32	2.07	6737836.80	514070.62	N 60 46 39.297 W	122 44 29.978
	1974.20	0.60	171.6	1914.87	280.16	265.12	-91.08	1.94	6737836.58	514070.85	N 60 46 39.290 W	122 44 29.963
	1976.00	0.60	178.4	1916.67	280.14	265.10	-91.08	1.19	6737836.56	514070.85	N 60 46 39.289 W	122 44 29.963
Projection to casing point	1990.00	0.60	178.0	1930.67	280.00	264.98	-91.08	0.01	6737836.41	514070.86	N 60 46 39.284 W	122 44 29.963
Total Depth	2117.00	0.60	178.0	2057.66	278.74	263.63	-91.03	0.00	6737835.09	514070.91	N 60 46 39.241 W	122 44 29.960