



PHOENIX
TECHNOLOGY SERVICES LP

BLACKSPUR OIL CORP._N83

14-03-051-02W5

BLACKSPUR HZ LEDUC-WB 16-11-51-2

100/16-11-051-02W5/00

Well License: 0502001

Survey: 28333 Surveys

Phoenix Technology Survey Report

27 January, 2022

Survey Report

Database:	Compass 5000 Canada	Local Co-ordinate Reference:	Well BLACKSPUR HZ LEDUC-WB 16-11-51-2
Company:	BLACKSPUR OIL CORP._N83	TVD Reference:	Actual KB @ 747.51m (Horizon 43)
Project:	Leduc-WB (NAD 83-Z11)	MD Reference:	Actual KB @ 747.51m (Horizon 43)
Site:	14-03-051-02W5	North Reference:	True
Well:	BLACKSPUR HZ LEDUC-WB 16-11-51-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	100/16-11-051-02W5/00	Well License	0502001
Design:	28333 Surveys		

Project	Leduc-WB (NAD 83-Z11)		
Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 11N (120 W to 114 W)		

Site	14-03-051-02W5			
Site Position:		Northing:	5,918,259.20 m	Latitude: 53.38
From:	Map	Easting:	685,392.50 m	Longitude: -114.21
Position Uncertainty:	0.00 m	Slot Radius:	335.28 mm	Grid Convergence: 2.24 °

Well	BLACKSPUR HZ LEDUC-WB 16-11-51-2			
Well Position	+N/-S	0.00 m	Northing:	5,918,259.20 m
	+E/-W	0.00 m	Easting:	685,392.50 m
Position Uncertainty		0.00 m	Wellhead Elevation:	m
			Ground Level:	742.01 m

Wellbore	100/16-11-051-02W5/00				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	1/15/2022	13.68	74.72	56,340.70214604

Design	28333 Surveys				
Audit Notes:	0502001				
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (m)	+N/-S (m)	+E/-W (m)	Direction (°)	
	0.00	0.00	0.00	58.07	

Survey Program	Date	1/27/2022			
From (°)	To (m)	Survey (Wellbore)	Tool Name	Description	
0.00	3,808.54	28333 Surveys (100/16-11-051-02W5/00)	MWD+HDGM	OWSG Rev.2 MWD + HDGM	

Survey										
Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	Subsea Depth (m)	+N/-S (m)	+E/-W (m)	Vertical Section (m)	Dogleg Rate (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)
0.00	0.00	0.00	0.00	747.51	0.00	0.00	0.00	0.000	0.000	0.000
KB-GL = 5.50m										
5.50	0.00	0.00	5.50	742.01	0.00	0.00	0.00	0.000	0.000	0.000
36.32	0.40	72.60	36.32	711.19	0.03	0.10	0.10	0.389	0.389	0.000
58.62	1.00	42.50	58.62	688.89	0.20	0.31	0.37	0.920	0.807	-40.493
77.95	1.20	52.00	77.94	669.57	0.45	0.58	0.73	0.419	0.310	14.744
96.80	1.50	47.50	96.79	650.72	0.74	0.92	1.17	0.506	0.477	-7.162
115.68	1.80	48.90	115.66	631.85	1.10	1.32	1.71	0.481	0.477	2.225
134.56	1.00	58.10	134.54	612.97	1.38	1.69	2.16	1.316	-1.271	14.619

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Design:	28333 Surveys		

Survey											
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153.68	0.90	34.70	153.65	593.86	1.59	1.92	2.47	0.624	-0.157	-36.715	
172.60	0.90	67.80	172.57	574.94	1.77	2.14	2.75	0.813	0.000	52.484	
191.58	0.40	333.70	191.55	555.96	1.89	2.25	2.90	1.597	-0.790	-148.736	
210.62	0.80	294.30	210.59	536.92	2.00	2.10	2.84	0.871	0.630	-62.080	
229.59	1.30	304.30	229.56	517.95	2.18	1.80	2.68	0.839	0.791	15.814	
248.50	1.20	301.50	248.46	499.05	2.40	1.45	2.50	0.186	-0.159	-4.442	
254.00	1.20	302.40	253.96	493.55	2.46	1.35	2.45	0.103	0.000	4.909	
Surf. Csg. = 271.00m											
271.00	1.20	297.90	270.96	476.55	2.64	1.05	2.28	0.166	0.000	-7.941	
288.40	1.20	293.30	288.35	459.16	2.80	0.72	2.09	0.166	0.000	-7.931	
345.42	0.80	293.40	345.36	402.15	3.19	-0.20	1.52	0.210	-0.210	0.053	
402.33	0.30	207.10	402.27	345.24	3.22	-0.63	1.17	0.441	-0.264	-45.493	
459.25	0.30	101.80	459.19	288.32	3.05	-0.55	1.15	0.251	0.000	-55.499	
516.39	0.60	178.40	516.33	231.18	2.72	-0.40	1.10	0.318	0.158	40.217	
573.24	0.90	241.20	573.18	174.33	2.21	-0.78	0.51	0.434	0.158	33.140	
630.06	1.00	243.40	629.99	117.52	1.77	-1.61	-0.43	0.056	0.053	1.162	
687.16	0.70	274.00	687.08	60.43	1.58	-2.41	-1.21	0.280	-0.158	16.077	
744.19	0.30	220.20	744.11	3.40	1.49	-2.85	-1.63	0.303	-0.210	-28.301	
801.31	0.50	21.50	801.23	-53.72	1.60	-2.86	-1.58	0.415	0.105	84.716	
858.15	0.20	107.90	858.07	-110.56	1.80	-2.67	-1.31	0.278	-0.158	45.602	
915.15	0.30	214.20	915.07	-167.56	1.65	-2.66	-1.39	0.213	0.053	55.947	
971.98	0.40	226.30	971.90	-224.39	1.39	-2.89	-1.72	0.065	0.053	6.387	
990.96	0.10	159.60	990.88	-243.37	1.33	-2.93	-1.78	0.588	-0.474	-105.427	
1,000.54	0.40	247.10	1,000.46	-252.95	1.31	-2.96	-1.82	1.278	0.939	274.008	
KOP = 1006.00m											
1,006.00	0.35	75.97	1,005.92	-258.41	1.30	-2.96	-1.82	4.109	-0.275	-940.275	
1,009.99	0.90	73.10	1,009.91	-262.40	1.32	-2.92	-1.78	4.141	4.135	-21.579	
1,019.47	3.10	75.88	1,019.38	-271.87	1.40	-2.60	-1.46	6.967	6.962	8.797	
1,028.95	5.30	72.30	1,028.83	-281.32	1.60	-1.93	-0.79	7.008	6.962	-11.329	
1,038.53	6.80	73.90	1,038.36	-290.85	1.89	-0.96	0.18	4.726	4.697	5.010	
1,048.01	8.00	75.50	1,047.76	-300.25	2.21	0.21	1.35	3.853	3.797	5.063	
1,057.44	8.70	79.80	1,057.09	-309.58	2.50	1.55	2.64	2.983	2.227	13.680	
1,066.91	9.50	88.10	1,066.44	-318.93	2.65	3.04	3.98	4.864	2.534	26.294	
1,076.53	10.60	88.30	1,075.91	-328.40	2.70	4.71	5.43	3.432	3.430	0.624	
1,086.19	12.00	81.70	1,085.39	-337.88	2.88	6.60	7.12	5.912	4.348	-20.497	
1,095.70	13.50	82.30	1,094.66	-347.15	3.17	8.68	9.04	4.750	4.732	1.893	
1,105.16	14.60	81.80	1,103.84	-356.33	3.49	10.95	11.14	3.510	3.488	-1.586	
1,114.65	16.20	85.80	1,112.99	-365.48	3.75	13.45	13.40	6.068	5.058	12.645	
1,124.19	19.50	85.20	1,122.07	-374.56	3.98	16.37	16.00	10.393	10.377	-1.887	
1,133.70	22.00	85.10	1,130.96	-383.45	4.27	19.73	19.00	7.887	7.886	-0.315	
1,143.20	24.50	80.20	1,139.69	-392.18	4.76	23.44	22.41	9.976	7.895	-15.474	
1,152.83	26.20	76.40	1,148.39	-400.88	5.60	27.47	26.28	7.328	5.296	-11.838	
1,162.35	27.40	75.80	1,156.89	-409.38	6.63	31.64	30.36	3.876	3.782	-1.891	

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1,171.82	28.60	74.70	1,165.25	-417.74	7.76	35.94	34.61	4.138	3.801	-3.485
1,181.30	30.00	76.90	1,173.52	-426.01	8.90	40.44	39.02	5.588	4.430	6.962
1,190.77	31.90	78.50	1,181.64	-434.13	9.93	45.20	43.61	6.559	6.019	5.069
1,200.25	33.20	82.30	1,189.63	-442.12	10.78	50.22	48.33	7.666	4.114	12.025
1,209.70	34.30	87.10	1,197.49	-449.98	11.26	55.45	53.01	9.155	3.492	15.238
1,219.26	35.70	91.30	1,205.32	-457.81	11.33	60.93	57.70	8.741	4.393	13.180
1,228.73	37.20	92.60	1,212.94	-465.43	11.14	66.55	62.37	5.345	4.752	4.118
1,238.23	38.20	91.80	1,220.46	-472.95	10.92	72.35	67.18	3.515	3.158	-2.526
1,247.72	39.50	91.80	1,227.85	-480.34	10.73	78.30	72.13	4.110	4.110	0.000
1,257.30	40.80	92.60	1,235.17	-487.66	10.49	84.48	77.25	4.380	4.071	2.505
1,266.78	42.70	90.60	1,242.24	-494.73	10.32	90.79	82.51	7.342	6.013	-6.329
1,276.27	43.40	89.00	1,249.18	-501.67	10.34	97.26	88.02	4.101	2.213	-5.058
1,285.75	44.90	87.10	1,255.98	-508.47	10.57	103.86	93.74	6.330	4.747	-6.013
1,295.22	46.60	87.10	1,262.59	-515.08	10.91	110.64	99.67	5.385	5.385	0.000
1,304.87	48.50	87.40	1,269.10	-521.59	11.25	117.75	105.89	5.947	5.907	0.933
1,314.34	48.00	87.00	1,275.41	-527.90	11.60	124.81	112.06	1.845	-1.584	-1.267
1,324.00	48.50	87.10	1,281.84	-534.33	11.97	132.00	118.36	1.570	1.553	0.311
1,333.45	49.10	87.00	1,288.06	-540.55	12.33	139.10	124.58	1.920	1.905	-0.317
1,342.94	50.80	86.80	1,294.17	-546.66	12.73	146.36	130.95	5.396	5.374	-0.632
1,352.54	54.00	86.60	1,300.03	-552.52	13.17	153.95	137.62	10.012	10.000	-0.625
1,362.01	57.80	86.90	1,305.33	-557.82	13.61	161.78	144.50	12.064	12.038	0.950
1,371.60	60.00	87.30	1,310.29	-562.78	14.03	169.98	151.68	6.965	6.882	1.251
1,381.16	61.20	88.20	1,314.98	-567.47	14.35	178.30	158.92	4.498	3.766	2.824
1,390.65	62.50	88.00	1,319.46	-571.95	14.63	186.66	166.16	4.147	4.110	-0.632
1,400.13	65.00	88.10	1,323.65	-576.14	14.92	195.16	173.52	7.916	7.911	0.316
1,409.61	66.60	87.60	1,327.54	-580.03	15.24	203.80	181.03	5.265	5.063	-1.582
1,419.06	67.70	88.00	1,331.21	-583.70	15.58	212.50	188.59	3.683	3.492	1.270
1,428.52	69.30	88.20	1,334.67	-587.16	15.87	221.30	196.21	5.108	5.074	0.634
Start Tangent = 1431.00m										
1,431.00	69.54	88.02	1,335.54	-588.03	15.95	223.62	198.22	3.547	2.903	-2.177
1,437.98	70.20	87.50	1,337.95	-590.44	16.20	230.17	203.91	3.528	2.837	-2.235
1,447.41	69.80	87.70	1,341.17	-593.66	16.57	239.02	211.62	1.406	-1.273	0.636
1,456.90	69.60	87.40	1,344.46	-596.95	16.95	247.91	219.37	1.091	-0.632	-0.948
End Tangent = 1463.00m										
1,463.00	70.37	87.85	1,346.55	-599.04	17.19	253.64	224.36	4.320	3.787	2.213
1,466.34	70.80	88.10	1,347.66	-600.15	17.30	256.79	227.09	4.405	3.862	2.246
1,475.84	73.40	87.30	1,350.58	-603.07	17.67	265.82	234.95	8.555	8.211	-2.526
1,485.33	75.50	87.40	1,353.13	-605.62	18.09	274.95	242.92	6.646	6.639	0.316
1,494.99	77.30	87.80	1,355.40	-607.89	18.48	284.33	251.09	5.719	5.590	1.242
1,504.47	78.60	87.60	1,357.38	-609.87	18.85	293.60	259.15	4.160	4.114	-0.633
1,513.92	79.90	88.20	1,359.14	-611.63	19.19	302.87	267.20	4.531	4.127	1.905
1,523.42	81.90	88.70	1,360.64	-613.13	19.45	312.25	275.30	6.505	6.316	1.579
1,532.90	83.70	88.80	1,361.83	-614.32	19.65	321.65	283.38	5.705	5.696	0.316

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1,542.47	85.30	89.00	1,362.75	-615.24	19.83	331.18	291.56	5.054	5.016	0.627
1,552.00	87.40	88.60	1,363.35	-615.84	20.03	340.68	299.74	6.729	6.611	-1.259
1,561.72	86.20	87.90	1,363.90	-616.39	20.33	350.39	308.13	4.286	-3.704	-2.160
1,571.24	86.10	87.70	1,364.53	-617.02	20.69	359.88	316.38	0.703	-0.315	-0.630
1,580.70	85.80	87.40	1,365.20	-617.69	21.10	369.30	324.59	1.344	-0.951	-0.951
1,590.17	85.70	87.50	1,365.90	-618.39	21.52	378.74	332.82	0.447	-0.317	0.317
1,599.00	85.40	87.20	1,366.59	-619.08	21.93	387.53	340.50	1.439	-1.019	-1.019
ICP = 1615.00m										
1,615.00	85.80	87.60	1,367.82	-620.31	22.65	403.47	354.41	1.059	0.750	0.750
1,625.00	86.06	87.86	1,368.53	-621.02	23.04	413.44	363.08	1.102	0.780	0.780
1,630.43	86.20	88.00	1,368.89	-621.38	23.24	418.85	367.77	1.093	0.773	0.773
1,640.03	86.00	87.30	1,369.55	-622.04	23.63	428.42	376.10	2.270	-0.625	-2.187
1,648.00	87.36	87.13	1,370.01	-622.50	24.02	436.37	383.05	5.159	5.119	-0.640
1,649.43	87.60	87.10	1,370.07	-622.56	24.09	437.79	384.30	5.074	5.035	-0.629
1,659.03	89.20	87.40	1,370.34	-622.83	24.55	447.38	392.68	5.087	5.000	0.937
1,668.49	90.90	87.50	1,370.33	-622.82	24.97	456.83	400.92	5.400	5.391	0.317
1,677.99	90.80	87.20	1,370.19	-622.68	25.41	466.32	409.21	0.999	-0.316	-0.947
1,687.48	91.00	86.60	1,370.04	-622.53	25.92	475.79	417.52	1.999	0.632	-1.897
1,697.08	91.20	86.80	1,369.86	-622.35	26.48	485.37	425.95	0.884	0.625	0.625
1,706.58	90.80	86.70	1,369.69	-622.18	27.02	494.86	434.28	1.302	-1.263	-0.316
1,725.19	91.19	86.11	1,369.37	-621.86	28.18	513.43	450.66	1.140	0.629	-0.951
1,725.56	91.20	86.10	1,369.36	-621.85	28.21	513.80	450.98	1.147	0.811	-0.811
1,744.49	91.10	85.30	1,368.98	-621.47	29.63	532.67	467.75	1.277	-0.158	-1.268
1,763.49	91.60	86.80	1,368.53	-621.02	30.93	551.62	484.53	2.496	0.789	2.368
1,782.44	91.60	86.70	1,368.00	-620.49	32.01	570.53	501.15	0.158	0.000	-0.158
1,801.51	91.60	86.90	1,367.47	-619.96	33.07	589.56	517.86	0.315	0.000	0.315
1,811.00	91.10	86.60	1,367.25	-619.74	33.61	599.04	526.18	1.843	-1.581	-0.948
1,820.46	91.30	86.80	1,367.05	-619.54	34.16	608.48	534.49	0.897	0.634	0.634
1,830.04	91.40	85.30	1,366.82	-619.31	34.82	618.03	542.94	4.706	0.313	-4.697
1,839.54	91.10	83.70	1,366.62	-619.11	35.73	627.49	551.45	5.139	-0.947	-5.053
1,849.19	90.40	82.00	1,366.49	-618.98	36.93	637.06	560.21	5.715	-2.176	-5.285
1,858.68	90.50	80.00	1,366.42	-618.90	38.41	646.43	568.95	6.330	0.316	-6.322
1,868.18	90.70	77.70	1,366.32	-618.81	40.25	655.75	577.83	7.290	0.632	-7.263
1,877.69	90.40	76.10	1,366.22	-618.71	42.40	665.01	586.83	5.135	-0.946	-5.047
1,887.16	90.50	73.40	1,366.15	-618.64	44.89	674.15	595.90	8.559	0.317	-8.553
1,896.65	90.10	71.70	1,366.10	-618.59	47.74	683.20	605.09	5.521	-1.264	-5.374
1,906.32	90.20	69.40	1,366.07	-618.56	50.96	692.32	614.53	7.142	0.310	-7.135
1,915.77	89.60	67.50	1,366.09	-618.58	54.43	701.11	623.82	6.325	-1.905	-6.032
1,925.35	89.80	65.60	1,366.14	-618.63	58.24	709.90	633.30	5.983	0.626	-5.950
1,934.94	90.50	63.90	1,366.12	-618.61	62.33	718.57	642.82	5.751	2.190	-5.318
1,944.34	91.80	62.00	1,365.93	-618.42	66.61	726.94	652.19	7.346	4.149	-6.064
1,951.51	91.73	60.51	1,365.71	-618.20	70.05	733.22	659.34	6.238	-0.293	-6.234

Survey Report

Database:	Compass 5000 Canada	Local Co-ordinate Reference:	Well BLACKSPUR HZ LEDUC-WB 16-11-51-2
Company:	BLACKSPUR OIL CORP._N83	TVD Reference:	Actual KB @ 747.51m (Horizon 43)
Project:	Leduc-WB (NAD 83-Z11)	MD Reference:	Actual KB @ 747.51m (Horizon 43)
Site:	14-03-051-02W5	North Reference:	True
Well:	BLACKSPUR HZ LEDUC-WB 16-11-51-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	100/16-11-051-02W5/00	Well License	0502001
Design:	28333 Surveys		

Survey										
Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	Subsea Depth (m)	+N/-S (m)	+E/-W (m)	Vertical Section (m)	Dogleg Rate (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)
1,953.98	91.70	60.00	1,365.63	-618.12	71.28	735.37	661.81	6.202	-0.364	-6.194
1,963.65	91.00	57.90	1,365.41	-617.90	76.26	743.65	671.48	6.866	-2.172	-6.515
1,968.57	90.74	57.23	1,365.33	-617.82	78.90	747.80	676.39	4.382	-1.585	-4.085
1,973.13	90.50	56.60	1,365.28	-617.77	81.39	751.62	680.95	4.435	-1.579	-4.145
1,992.34	89.80	54.00	1,365.23	-617.72	92.33	767.41	700.14	4.205	-1.093	-4.060
2,011.43	89.10	53.90	1,365.41	-617.90	103.56	782.85	719.18	1.111	-1.100	-0.157
2,030.49	89.80	52.20	1,365.60	-618.09	115.02	798.08	738.16	2.894	1.102	-2.676
2,049.59	88.60	50.90	1,365.86	-618.35	126.89	813.03	757.14	2.779	-1.885	-2.042
2,068.76	88.40	50.00	1,366.37	-618.86	139.09	827.81	776.13	1.442	-0.313	-1.408
2,087.82	89.90	50.20	1,366.65	-619.14	151.32	842.43	795.00	2.382	2.361	0.315
2,106.78	90.10	49.50	1,366.65	-619.14	163.54	856.92	813.77	1.152	0.316	-1.108
2,125.72	90.90	51.20	1,366.48	-618.97	175.63	871.50	832.54	2.976	1.267	2.693
2,144.66	90.20	51.20	1,366.30	-618.79	187.49	886.26	851.34	1.109	-1.109	0.000
2,163.82	89.70	50.70	1,366.32	-618.81	199.57	901.14	870.35	1.107	-0.783	-0.783
2,182.88	89.50	50.80	1,366.45	-618.94	211.62	915.90	889.26	0.352	-0.315	0.157
2,201.87	91.20	50.20	1,366.33	-618.82	223.70	930.55	908.08	2.848	2.686	-0.948
2,221.09	91.10	49.90	1,365.95	-618.44	236.04	945.29	927.11	0.494	-0.156	-0.468
2,240.14	90.70	50.50	1,365.65	-618.14	248.23	959.92	945.98	1.136	-0.630	0.945
2,259.13	90.20	50.40	1,365.50	-617.99	260.33	974.56	964.80	0.806	-0.790	-0.158
2,278.18	90.00	50.20	1,365.47	-617.96	272.49	989.22	983.67	0.445	-0.315	-0.315
2,297.15	90.20	50.20	1,365.43	-617.92	284.64	1,003.79	1,002.46	0.316	0.316	0.000
2,316.22	90.10	49.60	1,365.38	-617.87	296.92	1,018.38	1,021.34	0.957	-0.157	-0.944
2,335.11	90.20	49.30	1,365.34	-617.83	309.20	1,032.73	1,040.02	0.502	0.159	-0.476
2,354.15	90.80	48.60	1,365.17	-617.66	321.70	1,047.09	1,058.81	1.453	0.945	-1.103
2,373.12	90.20	49.30	1,365.00	-617.49	334.16	1,061.40	1,077.54	1.458	-0.949	1.107
2,392.01	90.80	49.20	1,364.84	-617.33	346.49	1,075.71	1,096.21	0.966	0.953	-0.159
2,411.06	91.20	49.30	1,364.51	-617.00	358.92	1,090.14	1,115.03	0.649	0.630	0.157
2,430.03	90.20	49.90	1,364.27	-616.76	371.22	1,104.58	1,133.79	1.844	-1.581	0.949
2,449.13	90.10	51.20	1,364.22	-616.71	383.35	1,119.33	1,152.73	2.048	-0.157	2.042
2,467.98	88.70	50.80	1,364.42	-616.91	395.22	1,133.98	1,171.43	2.317	-2.228	-0.637
2,487.10	88.60	50.60	1,364.87	-617.36	407.32	1,148.77	1,190.39	0.351	-0.157	-0.314
2,506.21	89.90	50.70	1,365.12	-617.61	419.44	1,163.54	1,209.34	2.047	2.041	0.157
2,525.18	89.40	50.80	1,365.24	-617.73	431.44	1,178.23	1,228.15	0.806	-0.791	0.158
2,544.19	88.80	51.00	1,365.54	-618.03	443.43	1,192.99	1,247.01	0.998	-0.947	0.316
2,563.14	89.80	49.80	1,365.77	-618.26	455.51	1,207.58	1,265.79	2.473	1.583	-1.900
2,582.26	90.30	49.00	1,365.75	-618.24	467.95	1,222.10	1,284.69	1.480	0.785	-1.255
2,601.41	90.20	49.60	1,365.67	-618.16	480.44	1,236.62	1,303.62	0.953	-0.157	0.940
2,620.51	89.90	50.00	1,365.65	-618.14	492.76	1,251.21	1,322.52	0.785	-0.471	0.628
2,639.57	89.90	49.00	1,365.68	-618.17	505.14	1,265.70	1,341.36	1.574	0.000	-1.574
2,658.70	90.50	47.80	1,365.62	-618.11	517.84	1,280.01	1,360.22	2.104	0.941	-1.882
2,677.63	91.10	48.10	1,365.35	-617.84	530.52	1,294.06	1,378.85	1.063	0.951	0.475
2,696.54	91.20	48.70	1,364.97	-617.46	543.07	1,308.20	1,397.49	0.965	0.159	0.952
2,715.60	90.00	47.90	1,364.77	-617.26	555.75	1,322.43	1,416.27	2.270	-1.889	-1.259

Survey Report

Database:	Compass 5000 Canada	Local Co-ordinate Reference:	Well BLACKSPUR HZ LEDUC-WB 16-11-51-2
Company:	BLACKSPUR OIL CORP._N83	TVD Reference:	Actual KB @ 747.51m (Horizon 43)
Project:	Leduc-WB (NAD 83-Z11)	MD Reference:	Actual KB @ 747.51m (Horizon 43)
Site:	14-03-051-02W5	North Reference:	True
Well:	BLACKSPUR HZ LEDUC-WB 16-11-51-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	100/16-11-051-02W5/00	Well License	0502001
Design:	28333 Surveys		

Survey										
Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	Subsea Depth (m)	+N/-S (m)	+E/-W (m)	Vertical Section (m)	Dogleg Rate (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)
2,734.54	90.20	48.40	1,364.74	-617.23	568.39	1,336.54	1,434.93	0.853	0.317	0.792
2,753.47	89.80	48.50	1,364.74	-617.23	580.94	1,350.70	1,453.59	0.653	-0.634	0.158
2,772.44	90.70	48.40	1,364.66	-617.15	593.53	1,364.90	1,472.30	1.432	1.423	-0.158
2,791.58	90.50	48.50	1,364.46	-616.95	606.22	1,379.22	1,491.17	0.350	-0.313	0.157
2,810.66	90.90	48.60	1,364.23	-616.72	618.85	1,393.52	1,509.98	0.648	0.629	0.157
2,829.75	90.20	48.50	1,364.04	-616.53	631.49	1,407.83	1,528.81	1.111	-1.100	-0.157
2,848.70	90.70	49.20	1,363.89	-616.38	643.95	1,422.10	1,547.51	1.362	0.792	1.108
2,858.17	89.90	49.00	1,363.84	-616.33	650.16	1,429.26	1,556.87	2.612	-2.534	-0.634
2,877.02	91.10	50.00	1,363.68	-616.17	662.40	1,443.59	1,575.50	2.486	1.910	1.592
2,895.88	91.10	50.30	1,363.32	-615.81	674.48	1,458.07	1,594.18	0.477	0.000	0.477
2,914.76	90.50	49.90	1,363.05	-615.54	686.59	1,472.55	1,612.88	1.146	-0.953	-0.636
2,933.88	90.40	49.70	1,362.90	-615.39	698.93	1,487.15	1,631.80	0.351	-0.157	-0.314
Jan 26 = 2952.80m										
2,952.80	90.10	49.60	1,362.82	-615.31	711.18	1,501.57	1,650.51	0.501	-0.476	-0.159
2,971.78	90.80	49.50	1,362.67	-615.16	723.49	1,516.02	1,669.28	1.118	1.106	-0.158
2,990.82	90.70	50.00	1,362.42	-614.91	735.79	1,530.55	1,688.12	0.803	-0.158	0.788
3,009.79	90.10	50.20	1,362.29	-614.78	747.96	1,545.10	1,706.91	1.000	-0.949	0.316
3,028.75	89.70	50.10	1,362.32	-614.81	760.11	1,559.65	1,725.69	0.652	-0.633	-0.158
3,047.71	89.40	50.40	1,362.47	-614.96	772.23	1,574.23	1,744.47	0.671	-0.475	0.475
3,066.65	89.50	51.30	1,362.65	-615.14	784.19	1,588.92	1,763.26	1.434	0.158	1.426
3,085.61	88.90	50.90	1,362.92	-615.41	796.10	1,603.67	1,782.08	1.141	-0.949	-0.633
3,104.61	88.90	49.90	1,363.28	-615.77	808.20	1,618.31	1,800.90	1.579	0.000	-1.579
3,123.54	90.20	50.10	1,363.43	-615.92	820.37	1,632.81	1,819.64	2.084	2.060	0.317
3,142.54	90.70	50.30	1,363.28	-615.77	832.53	1,647.41	1,838.46	0.850	0.789	0.316
3,161.57	90.40	50.20	1,363.10	-615.59	844.70	1,662.04	1,857.32	0.499	-0.473	-0.158
3,180.56	90.30	50.40	1,362.98	-615.47	856.83	1,676.65	1,876.13	0.353	-0.158	0.316
3,199.67	89.40	50.10	1,363.03	-615.52	869.05	1,691.34	1,895.06	1.489	-1.413	-0.471
3,218.55	88.80	49.50	1,363.33	-615.82	881.24	1,705.76	1,913.74	1.348	-0.953	-0.953
3,237.47	90.00	48.80	1,363.53	-616.02	893.61	1,720.07	1,932.43	2.203	1.903	-1.110
3,256.45	91.00	48.60	1,363.36	-615.85	906.14	1,734.33	1,951.16	1.612	1.581	-0.316
3,275.45	90.70	48.40	1,363.08	-615.57	918.72	1,748.56	1,969.89	0.569	-0.474	-0.316
3,294.39	89.90	48.50	1,362.98	-615.47	931.29	1,762.73	1,988.57	1.277	-1.267	0.158
3,313.56	90.60	47.90	1,362.90	-615.39	944.06	1,777.02	2,007.45	1.443	1.095	-0.939
3,332.55	91.80	47.90	1,362.50	-614.99	956.79	1,791.11	2,026.14	1.896	1.896	0.000
3,351.53	92.00	48.90	1,361.87	-614.36	969.39	1,805.29	2,044.84	1.611	0.316	1.581
3,370.46	91.30	49.00	1,361.33	-613.82	981.81	1,819.56	2,063.52	1.121	-1.109	0.158
3,389.36	90.60	49.10	1,361.01	-613.50	994.20	1,833.83	2,082.18	1.122	-1.111	0.159
3,408.38	90.10	49.20	1,360.90	-613.39	1,006.64	1,848.22	2,100.97	0.804	-0.789	0.158
3,427.28	89.60	49.30	1,360.95	-613.44	1,018.98	1,862.54	2,119.65	0.809	-0.794	0.159
3,446.26	90.80	49.40	1,360.88	-613.37	1,031.34	1,876.94	2,138.41	1.903	1.897	0.158
3,465.20	91.10	49.50	1,360.57	-613.06	1,043.65	1,891.33	2,157.13	0.501	0.475	0.158
3,484.13	90.50	49.30	1,360.30	-612.79	1,055.97	1,905.70	2,175.85	1.002	-0.951	-0.317

Survey Report

Database:	Compass 5000 Canada	Local Co-ordinate Reference:	Well BLACKSPUR HZ LEDUC-WB 16-11-51-2
Company:	BLACKSPUR OIL CORP._N83	TVD Reference:	Actual KB @ 747.51m (Horizon 43)
Project:	Leduc-WB (NAD 83-Z11)	MD Reference:	Actual KB @ 747.51m (Horizon 43)
Site:	14-03-051-02W5	North Reference:	True
Well:	BLACKSPUR HZ LEDUC-WB 16-11-51-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	100/16-11-051-02W5/00	Well License	0502001
Design:	28333 Surveys		

Survey										
Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	Subsea Depth (m)	+N/-S (m)	+E/-W (m)	Vertical Section (m)	Dogleg Rate (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)
3,503.31	89.20	47.70	1,360.35	-612.84	1,068.68	1,920.06	2,194.76	3.224	-2.033	-2.503
3,522.30	89.00	46.20	1,360.65	-613.14	1,081.64	1,933.94	2,213.39	2.390	-0.316	-2.370
3,541.25	90.50	47.10	1,360.73	-613.22	1,094.65	1,947.72	2,231.96	2.769	2.375	1.425
3,560.51	89.20	46.90	1,360.78	-613.27	1,107.78	1,961.80	2,250.86	2.049	-2.025	-0.312
3,579.79	90.70	48.10	1,360.80	-613.29	1,120.81	1,976.02	2,269.81	2.989	2.334	1.867
3,598.97	91.40	49.10	1,360.45	-612.94	1,133.49	1,990.40	2,288.73	1.909	1.095	1.564
3,617.99	90.80	49.40	1,360.08	-612.57	1,145.90	2,004.81	2,307.52	1.058	-0.946	0.473
3,637.17	91.70	50.10	1,359.66	-612.15	1,158.29	2,019.44	2,326.49	1.783	1.408	1.095
3,656.33	91.30	50.60	1,359.16	-611.65	1,170.51	2,034.19	2,345.47	1.002	-0.626	0.783
3,675.45	90.40	50.60	1,358.88	-611.37	1,182.65	2,048.96	2,364.43	1.412	-1.412	0.000
3,694.58	89.50	50.40	1,358.90	-611.39	1,194.81	2,063.72	2,383.39	1.446	-1.411	-0.314
3,713.56	91.00	51.00	1,358.81	-611.30	1,206.84	2,078.41	2,402.21	2.554	2.371	0.948
3,732.62	90.90	50.20	1,358.50	-610.99	1,218.93	2,093.14	2,421.11	1.269	-0.157	-1.259
3,751.58	90.70	50.00	1,358.23	-610.72	1,231.09	2,107.68	2,439.88	0.448	-0.316	-0.316
3,770.57	89.90	49.50	1,358.13	-610.62	1,243.36	2,122.18	2,458.67	1.490	-1.264	-0.790
3,789.54	89.80	49.50	1,358.18	-610.67	1,255.68	2,136.60	2,477.43	0.158	-0.158	0.000
Jan 27 = 3808.54m										
3,808.54	90.10	49.00	1,358.20	-610.69	1,268.08	2,150.99	2,496.21	0.921	0.474	-0.789

Survey Annotations					
Measured Depth ()	Vertical Depth ()	Local Coordinates			
		+N/-S ()	+E/-W ()	Comment	
5.50	5.50	0.00	0.00	KB-GL = 5.50m	
271.00	270.96	2.64	1.05	Surf. Csg. = 271.00m	
1,006.00	1,005.92	1.30	-2.96	KOP = 1006.00m	
1,431.00	1,335.54	15.95	223.62	Start Tangent = 1431.00m	
1,463.00	1,346.55	17.19	253.64	End Tangent = 1463.00m	
1,615.00	1,367.82	22.65	403.47	ICP = 1615.00m	
2,952.80	1,362.82	711.18	1,501.57	Jan 26 = 2952.80m	
3,808.54	1,358.20	1,268.08	2,150.99	Jan 27 = 3808.54m	

Checked By: _____	Approved By: _____	Date: _____
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