



BC Operating, Inc.

Eddy County, New Mexico (NAD27)

Southern Comfort 25-36 State X

1H

OH

Plan 1 11-11-16

NM OIL CONSERVATION
ARTESIA DISTRICT

FEB 03 2017

RECEIVED

Anticollision Report

11 November, 2016



Company: BC Operating, Inc.
Project: Eddy County, New Mexico (NAD27)
Reference Site: Southern Comfort 25-36 State X
Site Error: 0.00 usft
Reference Well: 1H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 11-11-16

Local Co-ordinate Reference: Well 1H
TVD Reference: GL + KB @ 2944.50usft (Patterson 244)
MD Reference: GL + KB @ 2944.50usft (Patterson 244)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Reference	Plan 1 11-11-16		
Filter type:	GLOBAL FILTER APPLIED: All wellpaths within 200'+ 100/1000 of refer		
Interpolation Method:	MD Interval 100.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00 u	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program Date 11/11/2016

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	17,004.36	Plan 1 11-11-16 (OH)	MWD+HDGM	OWSG Rev.2 MWD + HDGM

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Southern Comfort 25-36 State X						
2H - OH - Plan 1 11-11-16	9,100.00	9,096.00	1,010.38	945.61	15.600	CC
2H - OH - Plan 1 11-11-16	9,200.00	9,189.78	1,010.44	944.99	15.437	ES
2H - OH - Plan 1 11-11-16	17,004.36	17,035.80	1,319.98	1,094.17	5.846	SF

Offset Design Southern Comfort 25-36 State X - 2H - OH - Plan 1 11-11-16

Survey Program: 0-MWD+HDGM												Offset Site Error:	0.00 usft
												Offset Well Error:	0.00 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/S (usft)	+E/W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	4.00	0.00	0.00	89.91	1.55	1,010.38	1,010.39				
100.00	100.00	96.00	100.00	0.13	0.12	89.91	1.55	1,010.38	1,010.38	1,010.13	0.25	4,022.505	
200.00	200.00	196.00	200.00	0.49	0.47	89.91	1.55	1,010.38	1,010.38	1,009.42	0.96	1,053.672	
300.00	300.00	296.00	300.00	0.85	0.83	89.91	1.55	1,010.38	1,010.38	1,008.70	1.68	602.903	
400.00	400.00	396.00	400.00	1.20	1.19	89.91	1.55	1,010.38	1,010.38	1,007.99	2.39	422.258	
500.00	500.00	496.00	500.00	1.56	1.55	89.91	1.55	1,010.38	1,010.38	1,007.27	3.11	324.908	
600.00	600.00	596.00	600.00	1.92	1.91	89.91	1.55	1,010.38	1,010.38	1,006.55	3.83	264.035	
700.00	700.00	696.00	700.00	2.28	2.26	89.91	1.55	1,010.38	1,010.38	1,005.83	4.54	222.373	
800.00	800.00	796.00	800.00	2.64	2.62	89.91	1.55	1,010.38	1,010.38	1,005.12	5.26	192.066	
900.00	900.00	896.00	900.00	3.00	2.98	89.91	1.55	1,010.38	1,010.38	1,004.40	5.98	169.030	
1,000.00	1,000.00	996.00	1,000.00	3.35	3.34	89.91	1.55	1,010.38	1,010.38	1,003.68	6.69	150.928	
1,100.00	1,100.00	1,096.00	1,100.00	3.71	3.70	89.91	1.55	1,010.38	1,010.38	1,002.97	7.41	136.328	
1,200.00	1,200.00	1,196.00	1,200.00	4.07	4.06	89.91	1.55	1,010.38	1,010.38	1,002.25	8.13	124.303	
1,300.00	1,300.00	1,296.00	1,300.00	4.43	4.42	89.91	1.55	1,010.38	1,010.38	1,001.53	8.85	114.228	
1,400.00	1,400.00	1,396.00	1,400.00	4.79	4.77	89.91	1.55	1,010.38	1,010.38	1,000.82	9.56	105.663	
1,500.00	1,500.00	1,496.00	1,500.00	5.15	5.13	89.91	1.55	1,010.38	1,010.38	1,000.10	10.28	98.294	
1,600.00	1,600.00	1,596.00	1,600.00	5.51	5.49	89.91	1.55	1,010.38	1,010.38	999.38	11.00	91.885	
1,700.00	1,700.00	1,696.00	1,700.00	5.86	5.85	89.91	1.55	1,010.38	1,010.38	998.67	11.71	86.261	
1,800.00	1,800.00	1,796.00	1,800.00	6.22	6.21	89.91	1.55	1,010.38	1,010.38	997.95	12.43	81.285	
1,900.00	1,900.00	1,896.00	1,900.00	6.58	6.57	89.91	1.55	1,010.38	1,010.38	997.23	13.15	76.853	
2,000.00	2,000.00	1,996.00	2,000.00	6.94	6.92	89.91	1.55	1,010.38	1,010.38	996.51	13.86	72.878	
2,100.00	2,100.00	2,096.00	2,100.00	7.30	7.28	89.91	1.55	1,010.38	1,010.38	995.80	14.58	69.295	
2,200.00	2,200.00	2,196.00	2,200.00	7.66	7.64	89.91	1.55	1,010.38	1,010.38	995.08	15.30	66.047	
2,300.00	2,300.00	2,296.00	2,300.00	8.01	8.00	89.91	1.55	1,010.38	1,010.38	994.36	16.01	63.091	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

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Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design Southern Comfort 25-36 State X - 2H - OH - Plan 1 11-11-16													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
2,400.00	2,400.00	2,396.00	2,400.00	8.37	8.36	89.91	1.55	1,010.38	1,010.38	993.65	16.73	60.387	
2,500.00	2,500.00	2,496.00	2,500.00	8.73	8.72	89.91	1.55	1,010.38	1,010.38	992.93	17.45	57.906	
2,600.00	2,600.00	2,596.00	2,600.00	9.09	9.08	89.91	1.55	1,010.38	1,010.38	992.21	18.17	55.621	
2,700.00	2,700.00	2,696.00	2,700.00	9.45	9.43	89.91	1.55	1,010.38	1,010.38	991.50	18.88	53.509	
2,800.00	2,800.00	2,796.00	2,800.00	9.81	9.79	89.91	1.55	1,010.38	1,010.38	990.78	19.60	51.551	
2,900.00	2,900.00	2,896.00	2,900.00	10.17	10.15	89.91	1.55	1,010.38	1,010.38	990.06	20.32	49.732	
3,000.00	3,000.00	2,996.00	3,000.00	10.52	10.51	89.91	1.55	1,010.38	1,010.38	989.35	21.03	48.037	
3,100.00	3,100.00	3,096.00	3,100.00	10.88	10.87	89.91	1.55	1,010.38	1,010.38	988.63	21.75	46.454	
3,200.00	3,200.00	3,196.00	3,200.00	11.24	11.23	89.91	1.55	1,010.38	1,010.38	987.91	22.47	44.971	
3,300.00	3,300.00	3,296.00	3,300.00	11.60	11.58	89.91	1.55	1,010.38	1,010.38	987.19	23.18	43.581	
3,400.00	3,400.00	3,396.00	3,400.00	11.96	11.94	89.91	1.55	1,010.38	1,010.38	986.48	23.90	42.273	
3,500.00	3,500.00	3,496.00	3,500.00	12.32	12.30	89.91	1.55	1,010.38	1,010.38	985.76	24.62	41.042	
3,600.00	3,600.00	3,596.00	3,600.00	12.67	12.66	89.91	1.55	1,010.38	1,010.38	985.04	25.33	39.881	
3,700.00	3,700.00	3,696.00	3,700.00	13.03	13.02	89.91	1.55	1,010.38	1,010.38	984.33	26.05	38.783	
3,800.00	3,800.00	3,796.00	3,800.00	13.39	13.38	89.91	1.55	1,010.38	1,010.38	983.61	26.77	37.745	
3,900.00	3,900.00	3,896.00	3,900.00	13.75	13.74	89.91	1.55	1,010.38	1,010.38	982.89	27.49	36.760	
4,000.00	4,000.00	3,996.00	4,000.00	14.11	14.09	89.91	1.55	1,010.38	1,010.38	982.18	28.20	35.826	
4,100.00	4,100.00	4,096.00	4,100.00	14.47	14.45	89.91	1.55	1,010.38	1,010.38	981.46	28.92	34.937	
4,200.00	4,200.00	4,196.00	4,200.00	14.83	14.81	89.91	1.55	1,010.38	1,010.38	980.74	29.64	34.092	
4,300.00	4,300.00	4,296.00	4,300.00	15.18	15.17	89.91	1.55	1,010.38	1,010.38	980.02	30.35	33.287	
4,400.00	4,400.00	4,396.00	4,400.00	15.54	15.53	89.91	1.55	1,010.38	1,010.38	979.31	31.07	32.519	
4,500.00	4,500.00	4,496.00	4,500.00	15.90	15.89	89.91	1.55	1,010.38	1,010.38	978.59	31.79	31.785	
4,600.00	4,600.00	4,596.00	4,600.00	16.26	16.25	89.91	1.55	1,010.38	1,010.38	977.87	32.50	31.084	
4,700.00	4,700.00	4,696.00	4,700.00	16.62	16.60	89.91	1.55	1,010.38	1,010.38	977.16	33.22	30.414	
4,800.00	4,800.00	4,796.00	4,800.00	16.98	16.96	89.91	1.55	1,010.38	1,010.38	976.44	33.94	29.771	
4,900.00	4,900.00	4,896.00	4,900.00	17.33	17.32	89.91	1.55	1,010.38	1,010.38	975.72	34.66	29.155	
5,000.00	5,000.00	4,996.00	5,000.00	17.69	17.68	89.91	1.55	1,010.38	1,010.38	975.01	35.37	28.564	
5,100.00	5,100.00	5,096.00	5,100.00	18.05	18.04	89.91	1.55	1,010.38	1,010.38	974.29	36.09	27.997	
5,200.00	5,200.00	5,196.00	5,200.00	18.41	18.40	89.91	1.55	1,010.38	1,010.38	973.57	36.81	27.451	
5,300.00	5,300.00	5,296.00	5,300.00	18.77	18.75	89.91	1.55	1,010.38	1,010.38	972.86	37.52	26.927	
5,400.00	5,400.00	5,396.00	5,400.00	19.13	19.11	89.91	1.55	1,010.38	1,010.38	972.14	38.24	26.422	
5,500.00	5,500.00	5,496.00	5,500.00	19.49	19.47	89.91	1.55	1,010.38	1,010.38	971.42	38.96	25.936	
5,600.00	5,600.00	5,596.00	5,600.00	19.84	19.83	89.91	1.55	1,010.38	1,010.38	970.70	39.67	25.467	
5,700.00	5,700.00	5,696.00	5,700.00	20.20	20.19	89.91	1.55	1,010.38	1,010.38	969.99	40.39	25.015	
5,800.00	5,800.00	5,796.00	5,800.00	20.56	20.55	89.91	1.55	1,010.38	1,010.38	969.27	41.11	24.579	
5,900.00	5,900.00	5,896.00	5,900.00	20.92	20.91	89.91	1.55	1,010.38	1,010.38	968.55	41.82	24.157	
6,000.00	6,000.00	5,996.00	6,000.00	21.28	21.26	89.91	1.55	1,010.38	1,010.38	967.84	42.54	23.750	
6,100.00	6,100.00	6,096.00	6,100.00	21.64	21.62	89.91	1.55	1,010.38	1,010.38	967.12	43.26	23.357	
6,200.00	6,200.00	6,196.00	6,200.00	21.99	21.98	89.91	1.55	1,010.38	1,010.38	966.40	43.98	22.976	
6,300.00	6,300.00	6,296.00	6,300.00	22.35	22.34	89.91	1.55	1,010.38	1,010.38	965.69	44.69	22.607	
6,400.00	6,400.00	6,396.00	6,400.00	22.71	22.70	89.91	1.55	1,010.38	1,010.38	964.97	45.41	22.250	
6,500.00	6,500.00	6,496.00	6,500.00	23.07	23.06	89.91	1.55	1,010.38	1,010.38	964.25	46.13	21.905	
6,600.00	6,600.00	6,596.00	6,600.00	23.43	23.41	89.91	1.55	1,010.38	1,010.38	963.54	46.84	21.569	
6,700.00	6,700.00	6,696.00	6,700.00	23.79	23.77	89.91	1.55	1,010.38	1,010.38	962.82	47.56	21.244	
6,800.00	6,800.00	6,796.00	6,800.00	24.15	24.13	89.91	1.55	1,010.38	1,010.38	962.10	48.28	20.929	
6,900.00	6,900.00	6,896.00	6,900.00	24.50	24.49	89.91	1.55	1,010.38	1,010.38	961.38	48.99	20.622	
7,000.00	7,000.00	6,996.00	7,000.00	24.86	24.85	89.91	1.55	1,010.38	1,010.38	960.67	49.71	20.325	
7,100.00	7,100.00	7,096.00	7,100.00	25.22	25.21	89.91	1.55	1,010.38	1,010.38	959.95	50.43	20.036	
7,200.00	7,200.00	7,196.00	7,200.00	25.58	25.57	89.91	1.55	1,010.38	1,010.38	959.23	51.14	19.755	
7,300.00	7,300.00	7,296.00	7,300.00	25.94	25.92	89.91	1.55	1,010.38	1,010.38	958.52	51.86	19.482	
7,400.00	7,400.00	7,396.00	7,400.00	26.30	26.28	89.91	1.55	1,010.38	1,010.38	957.80	52.58	19.216	
7,500.00	7,500.00	7,496.00	7,500.00	26.66	26.64	89.91	1.55	1,010.38	1,010.38	957.08	53.30	18.958	

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Survey Program: 0-MWD+HDGM														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance				Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
7,600.00	7,600.00	7,596.00	7,600.00	27.01	27.00	89.91	1.55	1,010.38	1,010.38	956.37	54.01	18.706			
7,700.00	7,700.00	7,696.00	7,700.00	27.37	27.36	89.91	1.55	1,010.38	1,010.38	955.65	54.73	18.461			
7,800.00	7,800.00	7,796.00	7,800.00	27.73	27.72	89.91	1.55	1,010.38	1,010.38	954.93	55.45	18.223			
7,900.00	7,900.00	7,896.00	7,900.00	28.09	28.07	89.91	1.55	1,010.38	1,010.38	954.21	56.16	17.990			
8,000.00	8,000.00	7,996.00	8,000.00	28.45	28.43	89.91	1.55	1,010.38	1,010.38	953.50	56.88	17.763			
8,100.00	8,100.00	8,096.00	8,100.00	28.81	28.79	89.91	1.55	1,010.38	1,010.38	952.78	57.60	17.542			
8,200.00	8,200.00	8,196.00	8,200.00	29.16	29.15	89.91	1.55	1,010.38	1,010.38	952.06	58.31	17.326			
8,300.00	8,300.00	8,296.00	8,300.00	29.52	29.51	89.91	1.55	1,010.38	1,010.38	951.35	59.03	17.116			
8,400.00	8,400.00	8,396.00	8,400.00	29.88	29.87	89.91	1.55	1,010.38	1,010.38	950.63	59.75	16.911			
8,500.00	8,500.00	8,496.00	8,500.00	30.24	30.23	89.91	1.55	1,010.38	1,010.38	949.91	60.47	16.710			
8,600.00	8,600.00	8,596.00	8,600.00	30.60	30.58	89.91	1.55	1,010.38	1,010.38	949.20	61.18	16.514			
8,700.00	8,700.00	8,696.00	8,700.00	30.96	30.94	89.91	1.55	1,010.38	1,010.38	948.48	61.90	16.323			
8,800.00	8,800.00	8,796.00	8,800.00	31.32	31.30	89.91	1.55	1,010.38	1,010.38	947.76	62.62	16.136			
8,900.00	8,900.00	8,896.00	8,900.00	31.67	31.66	89.91	1.55	1,010.38	1,010.38	947.05	63.33	15.953			
9,000.00	9,000.00	8,996.00	9,000.00	32.03	32.02	89.91	1.55	1,010.38	1,010.38	946.33	64.05	15.775			
9,100.00	9,100.00	9,096.00	9,100.00	32.39	32.38	89.91	1.55	1,010.38	1,010.38	945.61	64.77	15.600 CC			
9,153.21	9,153.20	9,149.20	9,153.20	32.58	32.57	-90.51	1.55	1,010.38	1,010.38	945.24	65.15	15.510			
9,200.00	9,199.99	9,189.78	9,193.78	32.74	32.71	-90.49	1.41	1,010.42	1,010.44	944.99	65.45	15.437 ES			
9,300.00	9,299.06	9,250.00	9,253.80	33.06	32.91	-90.41	-2.91	1,011.67	1,012.82	946.86	65.96	15.354			
9,400.00	9,394.42	9,324.37	9,326.75	33.37	33.14	-90.29	-16.54	1,015.62	1,018.50	952.00	66.50	15.316			
9,500.00	9,483.17	9,391.90	9,390.90	33.65	33.35	-90.03	-36.70	1,021.45	1,027.53	960.54	67.00	15.337			
9,600.00	9,562.62	9,459.75	9,452.42	33.94	33.55	-89.67	-64.10	1,029.39	1,039.78	972.30	67.48	15.409			
9,700.00	9,630.35	9,528.10	9,510.54	34.22	33.75	-89.20	-98.56	1,039.37	1,055.08	987.13	67.95	15.527			
9,800.00	9,684.32	9,600.00	9,566.62	34.50	33.96	-88.68	-141.72	1,051.86	1,073.27	1,004.83	68.43	15.684			
9,900.00	9,722.86	9,667.46	9,613.73	34.80	34.15	-87.98	-188.05	1,065.28	1,094.06	1,025.17	68.89	15.880			
10,000.00	9,744.83	9,739.41	9,657.36	35.10	34.37	-87.26	-242.93	1,081.17	1,117.18	1,047.82	69.37	16.105			
10,100.00	9,750.00	9,813.99	9,694.66	35.41	34.60	-87.12	-304.91	1,099.12	1,142.30	1,072.41	69.89	16.345			
10,200.00	9,750.00	9,896.55	9,725.80	35.76	34.86	-88.77	-378.28	1,120.37	1,169.38	1,098.84	70.55	16.576			
10,300.00	9,750.00	9,987.60	9,747.03	36.16	35.18	-89.85	-463.23	1,144.97	1,197.59	1,126.34	71.25	16.808			
10,400.00	9,750.00	10,088.08	9,754.00	36.62	35.54	-90.19	-559.41	1,172.80	1,226.05	1,154.02	72.04	17.020			
10,500.00	9,750.00	10,258.57	9,754.00	37.13	36.27	-90.19	-724.65	1,214.68	1,251.30	1,178.08	73.22	17.089			
10,600.00	9,750.00	10,433.85	9,754.00	37.68	37.17	-90.18	-896.81	1,247.42	1,270.67	1,196.04	74.63	17.026			
10,700.00	9,750.00	10,612.74	9,754.00	38.28	38.22	-90.18	-1,074.26	1,269.92	1,283.94	1,207.69	76.25	16.839			
10,800.00	9,750.00	10,793.94	9,754.00	38.92	39.39	-90.18	-1,255.07	1,281.37	1,290.95	1,212.90	78.05	16.540			
10,900.00	9,750.00	10,937.82	9,754.00	39.61	40.38	-90.18	-1,398.93	1,282.68	1,292.31	1,212.57	79.74	16.207			
11,000.00	9,750.00	11,037.82	9,754.00	40.34	41.11	-90.18	-1,498.93	1,282.45	1,292.76	1,211.56	81.20	15.921			
11,100.00	9,750.00	11,137.82	9,754.00	41.10	41.88	-90.18	-1,598.93	1,282.21	1,293.21	1,210.48	82.73	15.631			
11,200.00	9,750.00	11,237.82	9,754.00	41.90	42.68	-90.18	-1,698.93	1,281.98	1,293.67	1,209.33	84.34	15.339			
11,300.00	9,750.00	11,337.82	9,754.00	42.73	43.52	-90.18	-1,798.92	1,281.74	1,294.12	1,208.11	86.01	15.046			
11,400.00	9,750.00	11,437.82	9,754.00	43.59	44.39	-90.18	-1,898.92	1,281.50	1,294.57	1,206.83	87.75	14.753			
11,500.00	9,750.00	11,537.82	9,754.00	44.48	45.28	-90.18	-1,998.92	1,281.27	1,295.03	1,205.49	89.54	14.463			
11,600.00	9,750.00	11,637.82	9,754.00	45.41	46.20	-90.18	-2,098.92	1,281.03	1,295.48	1,204.09	91.39	14.175			
11,700.00	9,750.00	11,737.81	9,754.00	46.35	47.15	-90.18	-2,198.92	1,280.80	1,295.93	1,202.64	93.29	13.891			
11,800.00	9,750.00	11,837.81	9,754.00	47.32	48.13	-90.18	-2,298.92	1,280.56	1,296.39	1,201.15	95.24	13.612			
11,900.00	9,750.00	11,937.81	9,754.00	48.32	49.12	-90.18	-2,398.92	1,280.33	1,296.84	1,199.60	97.24	13.337			
12,000.00	9,750.00	12,037.81	9,754.00	49.34	50.14	-90.18	-2,498.92	1,280.09	1,297.29	1,198.02	99.27	13.068			
12,100.00	9,750.00	12,137.81	9,754.00	50.37	51.18	-90.18	-2,598.91	1,279.85	1,297.74	1,196.39	101.35	12.804			
12,200.00	9,750.00	12,237.81	9,754.00	51.43	52.24	-90.18	-2,698.91	1,279.62	1,298.20	1,194.73	103.47	12.546			
12,300.00	9,750.00	12,337.81	9,754.00	52.50	53.31	-90.18	-2,798.91	1,279.38	1,298.65	1,193.03	105.63	12.295			
12,400.00	9,750.00	12,437.81	9,754.00	53.60	54.40	-90.18	-2,898.91	1,279.15	1,299.10	1,191.29	107.81	12.050			
12,500.00	9,750.00	12,537.81	9,754.00	54.70	55.51	-90.18	-2,998.91	1,278.91	1,299.56	1,189.53	110.03	11.811			
12,600.00	9,750.00	12,637.80	9,754.00	55.83	56.63	-90.18	-3,098.91	1,278.68	1,300.01	1,187.73	112.28	11.578			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company: BC Operating, Inc.
Project: Eddy County, New Mexico (NAD27)
Reference Site: Southern Comfort 25-36 State X
Site Error: 0.00 usft
Reference Well: 1H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 11-11-16

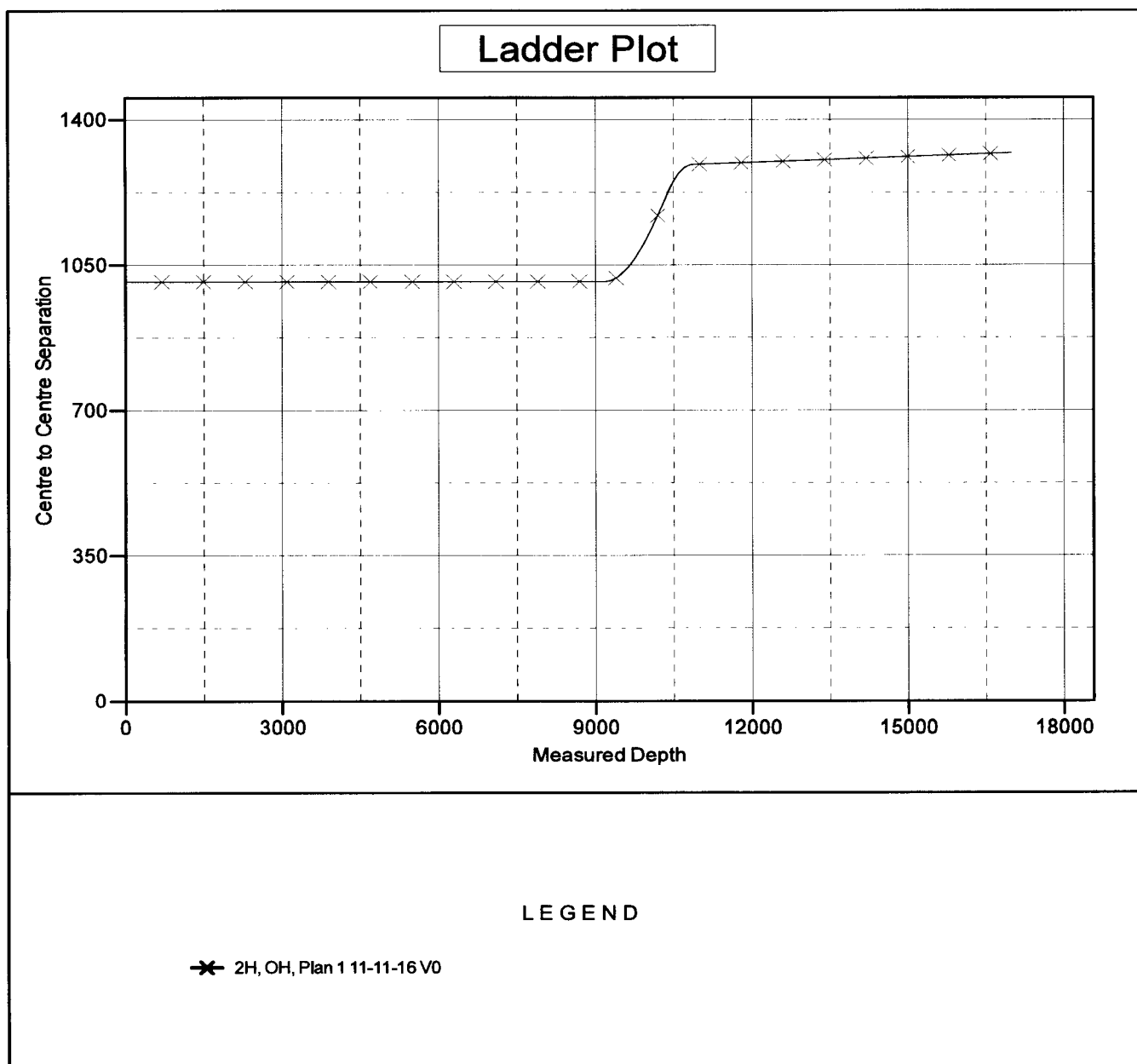
Local Co-ordinate Reference: Well 1H
TVD Reference: GL + KB @ 2944.50usft (Patterson 244)
MD Reference: GL + KB @ 2944.50usft (Patterson 244)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design Southern Comfort 25-36 State X - 2H - OH - Plan 1 11-11-16													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
12,700.00	9,750.00	12,737.80	9,754.00	56.96	57.77	-90.18	-3,198.91	1,278.44	1,300.46	1,185.91	114.56	11.352		
12,800.00	9,750.00	12,837.80	9,754.00	58.11	58.92	-90.18	-3,298.90	1,278.20	1,300.92	1,184.06	116.86	11.132		
12,900.00	9,750.00	12,937.80	9,754.00	59.28	60.08	-90.18	-3,398.90	1,277.97	1,301.37	1,182.18	119.19	10.919		
13,000.00	9,750.00	13,037.80	9,754.00	60.45	61.25	-90.18	-3,498.90	1,277.73	1,301.82	1,180.28	121.54	10.711		
13,100.00	9,750.00	13,137.80	9,754.00	61.64	62.44	-90.18	-3,598.90	1,277.50	1,302.28	1,178.36	123.91	10.510		
13,200.00	9,750.00	13,237.80	9,754.00	62.83	63.63	-90.18	-3,698.90	1,277.26	1,302.73	1,176.42	126.31	10.314		
13,300.00	9,750.00	13,337.80	9,754.00	64.04	64.84	-90.18	-3,798.90	1,277.02	1,303.18	1,174.46	128.72	10.124		
13,400.00	9,750.00	13,437.80	9,754.00	65.25	66.05	-90.18	-3,898.90	1,276.79	1,303.63	1,172.48	131.15	9.940		
13,500.00	9,750.00	13,537.80	9,754.00	66.48	67.28	-90.18	-3,998.90	1,276.55	1,304.09	1,170.48	133.60	9.761		
13,600.00	9,750.00	13,637.79	9,754.00	67.71	68.51	-90.18	-4,098.89	1,276.32	1,304.54	1,168.47	136.07	9.587		
13,700.00	9,750.00	13,737.79	9,754.00	68.95	69.75	-90.18	-4,198.89	1,276.08	1,304.99	1,166.44	138.55	9.419		
13,800.00	9,750.00	13,837.79	9,754.00	70.20	71.00	-90.18	-4,298.89	1,275.85	1,305.45	1,164.39	141.05	9.255		
13,900.00	9,750.00	13,937.79	9,754.00	71.45	72.25	-90.18	-4,398.89	1,275.61	1,305.90	1,162.34	143.56	9.096		
14,000.00	9,750.00	14,037.79	9,754.00	72.72	73.51	-90.18	-4,498.89	1,275.37	1,306.35	1,160.26	146.09	8.942		
14,100.00	9,750.00	14,137.79	9,754.00	73.98	74.78	-90.18	-4,598.89	1,275.14	1,306.81	1,158.18	148.63	8.793		
14,200.00	9,750.00	14,237.79	9,754.00	75.26	76.05	-90.18	-4,698.89	1,274.90	1,307.26	1,156.08	151.18	8.647		
14,300.00	9,750.00	14,337.79	9,754.00	76.54	77.33	-90.18	-4,798.89	1,274.67	1,307.71	1,153.97	153.74	8.506		
14,400.00	9,750.00	14,437.79	9,754.00	77.82	78.62	-90.18	-4,898.88	1,274.43	1,308.16	1,151.85	156.31	8.369		
14,500.00	9,750.00	14,537.79	9,754.00	79.11	79.91	-90.18	-4,998.88	1,274.20	1,308.62	1,149.72	158.89	8.236		
14,600.00	9,750.00	14,637.78	9,754.00	80.41	81.20	-90.18	-5,098.88	1,273.96	1,309.07	1,147.58	161.49	8.106		
14,700.00	9,750.00	14,737.78	9,754.00	81.71	82.50	-90.17	-5,198.88	1,273.72	1,309.52	1,145.44	164.09	7.981		
14,800.00	9,750.00	14,837.78	9,754.00	83.02	83.81	-90.17	-5,298.88	1,273.49	1,309.98	1,143.28	166.70	7.858		
14,900.00	9,750.00	14,937.78	9,754.00	84.33	85.12	-90.17	-5,398.88	1,273.25	1,310.43	1,141.11	169.32	7.739		
15,000.00	9,750.00	15,037.78	9,754.00	85.64	86.43	-90.17	-5,498.88	1,273.02	1,310.88	1,138.94	171.95	7.624		
15,100.00	9,750.00	15,137.78	9,754.00	86.96	87.75	-90.17	-5,598.87	1,272.78	1,311.34	1,136.75	174.58	7.511		
15,200.00	9,750.00	15,237.78	9,754.00	88.28	89.07	-90.17	-5,698.87	1,272.55	1,311.79	1,134.56	177.23	7.402		
15,300.00	9,750.00	15,337.78	9,754.00	89.60	90.39	-90.17	-5,798.87	1,272.31	1,312.24	1,132.37	179.88	7.295		
15,400.00	9,750.00	15,437.78	9,754.00	90.93	91.72	-90.17	-5,898.87	1,272.07	1,312.70	1,130.16	182.53	7.192		
15,500.00	9,750.00	15,537.78	9,754.00	92.26	93.05	-90.17	-5,998.87	1,271.84	1,313.15	1,127.95	185.20	7.091		
15,600.00	9,750.00	15,637.77	9,754.00	93.60	94.38	-90.17	-6,098.87	1,271.60	1,313.60	1,125.73	187.87	6.992		
15,700.00	9,750.00	15,737.77	9,754.00	94.93	95.72	-90.17	-6,198.87	1,271.37	1,314.05	1,123.51	190.54	6.896		
15,800.00	9,750.00	15,837.77	9,754.00	96.27	97.06	-90.17	-6,298.87	1,271.13	1,314.51	1,121.28	193.22	6.803		
15,900.00	9,750.00	15,937.77	9,754.00	97.62	98.40	-90.17	-6,398.86	1,270.89	1,314.96	1,119.05	195.91	6.712		
16,000.00	9,750.00	16,037.77	9,754.00	98.96	99.75	-90.17	-6,498.86	1,270.66	1,315.41	1,116.81	198.60	6.623		
16,100.00	9,750.00	16,137.77	9,754.00	100.31	101.10	-90.17	-6,598.86	1,270.42	1,315.87	1,114.57	201.30	6.537		
16,200.00	9,750.00	16,237.77	9,754.00	101.66	102.45	-90.17	-6,698.86	1,270.19	1,316.32	1,112.32	204.00	6.452		
16,300.00	9,750.00	16,337.77	9,754.00	103.01	103.80	-90.17	-6,798.86	1,269.95	1,316.77	1,110.06	206.71	6.370		
16,400.00	9,750.00	16,437.77	9,754.00	104.37	105.16	-90.17	-6,898.86	1,269.72	1,317.23	1,107.80	209.42	6.290		
16,500.00	9,750.00	16,537.76	9,754.00	105.73	106.51	-90.17	-6,998.86	1,269.48	1,317.68	1,105.54	212.14	6.211		
16,600.00	9,750.00	16,637.76	9,754.00	107.09	107.87	-90.17	-7,098.86	1,269.24	1,318.13	1,103.27	214.86	6.135		
16,700.00	9,750.00	16,737.76	9,754.00	108.45	109.23	-90.17	-7,198.85	1,269.01	1,318.58	1,101.00	217.58	6.060		
16,800.00	9,750.00	16,837.76	9,754.00	109.81	110.60	-90.17	-7,298.85	1,268.77	1,319.04	1,098.73	220.31	5.987		
16,900.00	9,750.00	16,937.76	9,754.00	111.18	111.96	-90.17	-7,398.85	1,268.54	1,319.49	1,096.45	223.04	5.916		
17,000.00	9,750.00	17,035.80	9,754.00	112.54	113.30	-90.17	-7,496.89	1,268.31	1,319.95	1,094.20	225.75	5.847		
17,004.36	9,750.00	17,035.80	9,754.00	112.60	113.30	-90.17	-7,496.89	1,268.31	1,319.98	1,094.17	225.81	5.846 SF		

Company: BC Operating, Inc.
Project: Eddy County, New Mexico (NAD27)
Reference Site: Southern Comfort 25-36 State X
Site Error: 0.00 usft
Reference Well: 1H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 11-11-16

Local Co-ordinate Reference: Well 1H
TVD Reference: GL + KB @ 2944.50usft (Patterson 244)
MD Reference: GL + KB @ 2944.50usft (Patterson 244)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Reference Depths are relative to GL + KB @ 2944.50usft (Patterson 244) Coordinates are relative to: 1H
Offset Depths are relative to Offset Datum
Central Meridian is 104° 19' 60.00000 W
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.16°

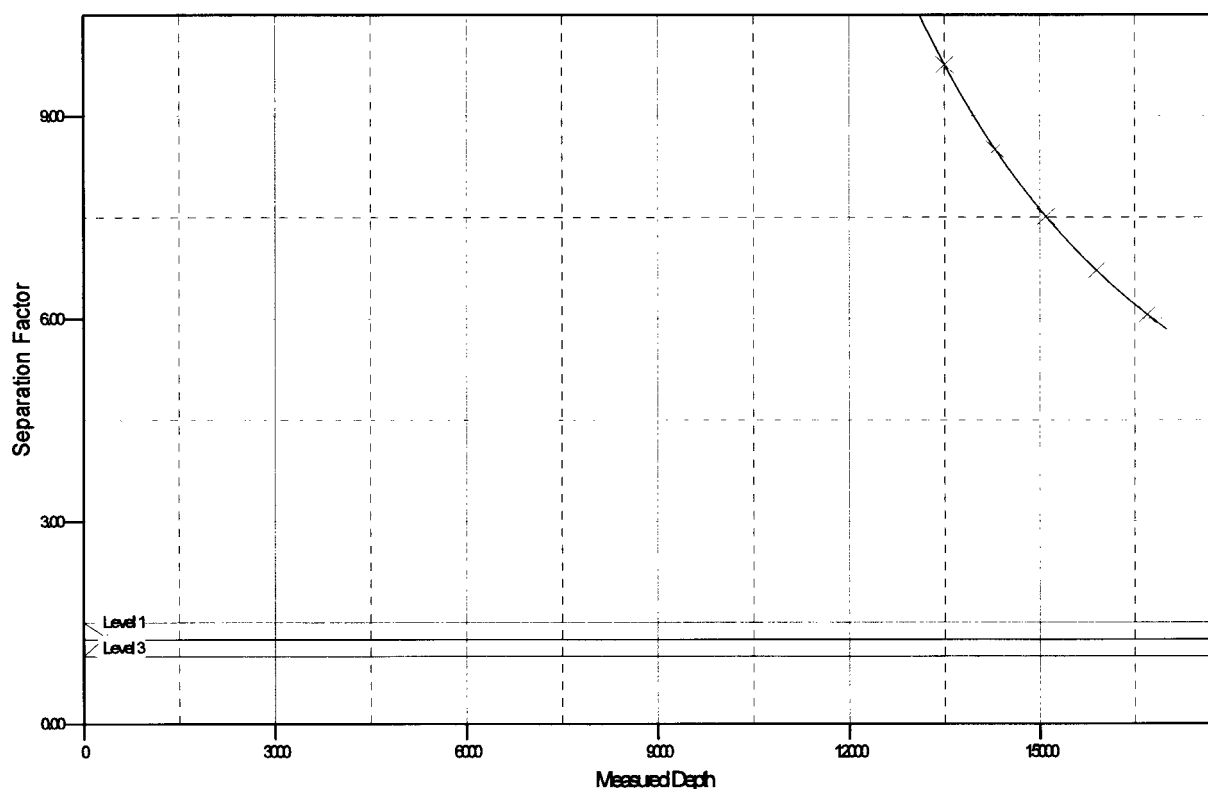


Company: BC Operating, Inc.
Project: Eddy County, New Mexico (NAD27)
Reference Site: Southern Comfort 25-36 State X
Site Error: 0.00 usft
Reference Well: 1H
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Reference Wellbore: OH
Reference Design: Plan 1 11-11-16

Local Co-ordinate Reference: Well 1H
TVD Reference: GL + KB @ 2944.50usft (Patterson 244)
MD Reference: GL + KB @ 2944.50usft (Patterson 244)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Reference Depths are relative to GL + KB @ 2944.50usft (Patterson 244) Coordinates are relative to: 1H
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Central Meridian is 104° 19' 60.00000 W Grid Convergence at Surface is: 0.16°

Separation Factor Plot



LEGEND

✕ 2H, OH, Plan 1 11-11-16 V0

OCD Permitting

Home Land Searches Land Details

Section : 25-24S-28E

Type: Normal

Total Acres: 640

County: Eddy (15)

D (D) Fee ¹ Fee ² (15) 40	C (C) Fee ¹ Fee ² (15) 40	B (B) Fee ¹ Fee ² (15) 40	A (A) Fee ¹ Fee ² (15) 40
E (E) Fee ¹ State ² (15) 40	F (F) Federal ¹ Federal ² (15) 40	G (G) Federal ¹ Federal ² (15) 40	H (H) Federal ¹ Federal ² (15) 40
L (L) Fee ¹ State ² (15) 40	K (K) Fee ¹ State ² (15) 40	J (J) State ¹ State ² (15) 40	I (I) State ¹ State ² (15) 40
M (M) Fee ¹ State ² (15) 40	N (N) Fee ¹ State ² (15) 40	O (O) State ¹ State ² (15) 40	P (P) State ¹ State ² (15) 40

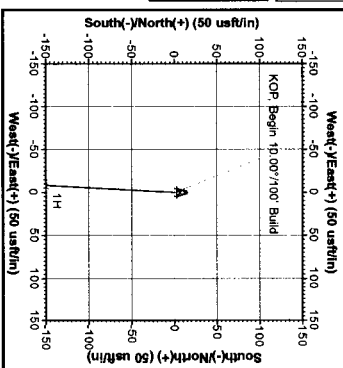
Note ¹ = Surface Owner Rights

Note ² = Sub-Surface Mineral Rights

Land Restrictions

No land restrictions found for this section.

[Return to Search](#)





BC Operating, Inc.

Eddy County, New Mexico (NAD27)

Southern Comfort 25-36 State X

1H

OH

Plan: Plan 1 11-11-16

Standard Planning Report

11 November, 2016



Database: Compass 5000 GCR
Company: BC Operating, Inc.
Project: Eddy County, New Mexico (NAD27)
Site: Southern Comfort 25-36 State X
Well: 1H
Wellbore: OH
Design: Plan 1 11-11-16

Local Co-ordinate Reference: Well 1H
TVD Reference: GL + KB @ 2944.50usft (Patterson 244)
MD Reference: GL + KB @ 2944.50usft (Patterson 244)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Eddy County, New Mexico (NAD27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Southern Comfort 25-36 State X

Site Position:
From: Map
Position Uncertainty: 0.00 usft
Northing: 432,193.82 usft
Easting: 591,057.80 usft
Slot Radius: 13-3/16 "
Latitude: 32° 11' 16.35125 N
Longitude: 104° 2' 20.37228 W
Grid Convergence: 0.16 °

Well 1H
Well Position +N/-S 0.00 usft Northing: 432,193.82 usft Latitude: 32° 11' 16.35125 N
 +E/-W 0.00 usft Easting: 591,057.80 usft Longitude: 104° 2' 20.37228 W
Position Uncertainty 0.00 usft Wellhead Elevation: 0.00 usft Ground Level: 2,916.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/11/2016	7.28	60.03	48,176

Design Plan 1 11-11-16

Audit Notes:

Version: Phase: PROTOTYPE Tie On Depth: 0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	180.39

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,177.04	0.00	0.00	9,177.04	0.00	0.00	0.00	0.00	0.00	0.00	
10,077.04	90.00	183.10	9,750.00	-572.12	-30.98	10.00	10.00	0.00	183.10	
10,225.07	90.00	180.14	9,750.00	-720.07	-35.17	2.00	0.00	-2.00	-90.00	
17,005.11	90.00	180.14	9,750.00	-7,500.10	-51.66	0.00	0.00	0.00	0.00	BHL - Southern Co

Database: Compass 5000 GCR
Company: BC Operating, Inc.
Project: Eddy County, New Mexico (NAD27)
Site: Southern Comfort 25-36 State X
Well: 1H
Wellbore: OH
Design: Plan 1 11-11-16

Local Co-ordinate Reference: Well 1H
TVD Reference: GL + KB @ 2944.50usft (Patterson 244)
MD Reference: GL + KB @ 2944.50usft (Patterson 244)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9,177.04	0.00	0.00	9,177.04	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Begin 10.00°/100' Build									
9,200.00	2.30	183.10	9,199.99	-0.46	-0.02	0.46	10.00	10.00	0.00
9,300.00	12.30	183.10	9,299.06	-13.12	-0.71	13.13	10.00	10.00	0.00
9,400.00	22.30	183.10	9,394.42	-42.77	-2.32	42.79	10.00	10.00	0.00
9,500.00	32.30	183.10	9,483.17	-88.51	-4.79	88.54	10.00	10.00	0.00
9,600.00	42.30	183.10	9,562.62	-148.94	-8.07	148.99	10.00	10.00	0.00
9,700.00	52.30	183.10	9,630.35	-222.22	-12.04	222.30	10.00	10.00	0.00
9,800.00	62.30	183.10	9,684.31	-306.14	-16.58	306.25	10.00	10.00	0.00
9,900.00	72.30	183.10	9,722.86	-398.14	-21.56	398.28	10.00	10.00	0.00
10,000.00	82.30	183.10	9,744.83	-495.42	-26.83	495.60	10.00	10.00	0.00
10,077.04	90.00	183.10	9,750.00	-572.12	-30.98	572.32	10.00	10.00	0.00
LP, Hold 90.00° Inc, Begin 2.00°/100' Turn									
10,100.00	90.00	182.64	9,750.00	-595.05	-32.13	595.26	2.00	0.00	-2.00
10,200.00	90.00	180.64	9,750.00	-695.00	-35.00	695.23	2.00	0.00	-2.00
10,225.07	90.00	180.14	9,750.00	-720.07	-35.17	720.30	2.00	0.00	-2.00
Hold 180.14° Azm									
10,300.00	90.00	180.14	9,750.00	-795.00	-35.35	795.23	0.00	0.00	0.00
10,400.00	90.00	180.14	9,750.00	-895.00	-35.59	895.23	0.00	0.00	0.00
10,500.00	90.00	180.14	9,750.00	-995.00	-35.84	995.23	0.00	0.00	0.00
10,600.00	90.00	180.14	9,750.00	-1,095.00	-36.08	1,095.23	0.00	0.00	0.00
10,700.00	90.00	180.14	9,750.00	-1,195.00	-36.32	1,195.22	0.00	0.00	0.00
10,800.00	90.00	180.14	9,750.00	-1,295.00	-36.57	1,295.22	0.00	0.00	0.00
10,900.00	90.00	180.14	9,750.00	-1,395.00	-36.81	1,395.22	0.00	0.00	0.00
11,000.00	90.00	180.14	9,750.00	-1,495.00	-37.05	1,495.22	0.00	0.00	0.00
11,100.00	90.00	180.14	9,750.00	-1,595.00	-37.30	1,595.22	0.00	0.00	0.00
11,200.00	90.00	180.14	9,750.00	-1,695.00	-37.54	1,695.22	0.00	0.00	0.00
11,300.00	90.00	180.14	9,750.00	-1,795.00	-37.78	1,795.22	0.00	0.00	0.00
11,400.00	90.00	180.14	9,750.00	-1,895.00	-38.03	1,895.22	0.00	0.00	0.00
11,500.00	90.00	180.14	9,750.00	-1,995.00	-38.27	1,995.22	0.00	0.00	0.00
11,600.00	90.00	180.14	9,750.00	-2,095.00	-38.51	2,095.22	0.00	0.00	0.00
11,700.00	90.00	180.14	9,750.00	-2,195.00	-38.76	2,195.21	0.00	0.00	0.00
11,800.00	90.00	180.14	9,750.00	-2,295.00	-39.00	2,295.21	0.00	0.00	0.00
11,900.00	90.00	180.14	9,750.00	-2,395.00	-39.24	2,395.21	0.00	0.00	0.00
12,000.00	90.00	180.14	9,750.00	-2,495.00	-39.49	2,495.21	0.00	0.00	0.00
12,100.00	90.00	180.14	9,750.00	-2,595.00	-39.73	2,595.21	0.00	0.00	0.00
12,200.00	90.00	180.14	9,750.00	-2,695.00	-39.97	2,695.21	0.00	0.00	0.00
12,300.00	90.00	180.14	9,750.00	-2,795.00	-40.22	2,795.21	0.00	0.00	0.00
12,400.00	90.00	180.14	9,750.00	-2,895.00	-40.46	2,895.21	0.00	0.00	0.00
12,500.00	90.00	180.14	9,750.00	-2,995.00	-40.70	2,995.21	0.00	0.00	0.00
12,600.00	90.00	180.14	9,750.00	-3,095.00	-40.95	3,095.21	0.00	0.00	0.00
12,700.00	90.00	180.14	9,750.00	-3,195.00	-41.19	3,195.20	0.00	0.00	0.00
12,800.00	90.00	180.14	9,750.00	-3,295.00	-41.43	3,295.20	0.00	0.00	0.00
12,900.00	90.00	180.14	9,750.00	-3,395.00	-41.68	3,395.20	0.00	0.00	0.00
13,000.00	90.00	180.14	9,750.00	-3,495.00	-41.92	3,495.20	0.00	0.00	0.00
13,100.00	90.00	180.14	9,750.00	-3,595.00	-42.16	3,595.20	0.00	0.00	0.00
13,200.00	90.00	180.14	9,750.00	-3,695.00	-42.41	3,695.20	0.00	0.00	0.00
13,300.00	90.00	180.14	9,750.00	-3,794.99	-42.65	3,795.20	0.00	0.00	0.00
13,400.00	90.00	180.14	9,750.00	-3,894.99	-42.89	3,895.20	0.00	0.00	0.00
13,500.00	90.00	180.14	9,750.00	-3,994.99	-43.14	3,995.20	0.00	0.00	0.00
13,600.00	90.00	180.14	9,750.00	-4,094.99	-43.38	4,095.20	0.00	0.00	0.00
13,700.00	90.00	180.14	9,750.00	-4,194.99	-43.62	4,195.19	0.00	0.00	0.00

Database: Compass 5000 GCR
Company: BC Operating, Inc.
Project: Eddy County, New Mexico (NAD27)
Site: Southern Comfort 25-36 State X
Well: 1H
Wellbore: OH
Design: Plan 1 11-11-16

Local Co-ordinate Reference: Well 1H
TVD Reference: GL + KB @ 2944.50usft (Patterson 244)
MD Reference: GL + KB @ 2944.50usft (Patterson 244)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,800.00	90.00	180.14	9,750.00	-4,294.99	-43.87	4,295.19	0.00	0.00	0.00
13,900.00	90.00	180.14	9,750.00	-4,394.99	-44.11	4,395.19	0.00	0.00	0.00
14,000.00	90.00	180.14	9,750.00	-4,494.99	-44.35	4,495.19	0.00	0.00	0.00
14,100.00	90.00	180.14	9,750.00	-4,594.99	-44.60	4,595.19	0.00	0.00	0.00
14,200.00	90.00	180.14	9,750.00	-4,694.99	-44.84	4,695.19	0.00	0.00	0.00
14,300.00	90.00	180.14	9,750.00	-4,794.99	-45.08	4,795.19	0.00	0.00	0.00
14,400.00	90.00	180.14	9,750.00	-4,894.99	-45.33	4,895.19	0.00	0.00	0.00
14,500.00	90.00	180.14	9,750.00	-4,994.99	-45.57	4,995.19	0.00	0.00	0.00
14,600.00	90.00	180.14	9,750.00	-5,094.99	-45.81	5,095.19	0.00	0.00	0.00
14,700.00	90.00	180.14	9,750.00	-5,194.99	-46.06	5,195.18	0.00	0.00	0.00
14,800.00	90.00	180.14	9,750.00	-5,294.99	-46.30	5,295.18	0.00	0.00	0.00
14,900.00	90.00	180.14	9,750.00	-5,394.99	-46.54	5,395.18	0.00	0.00	0.00
15,000.00	90.00	180.14	9,750.00	-5,494.99	-46.78	5,495.18	0.00	0.00	0.00
15,100.00	90.00	180.14	9,750.00	-5,594.99	-47.03	5,595.18	0.00	0.00	0.00
15,200.00	90.00	180.14	9,750.00	-5,694.99	-47.27	5,695.18	0.00	0.00	0.00
15,300.00	90.00	180.14	9,750.00	-5,794.99	-47.51	5,795.18	0.00	0.00	0.00
15,400.00	90.00	180.14	9,750.00	-5,894.99	-47.76	5,895.18	0.00	0.00	0.00
15,500.00	90.00	180.14	9,750.00	-5,994.99	-48.00	5,995.18	0.00	0.00	0.00
15,600.00	90.00	180.14	9,750.00	-6,094.99	-48.24	6,095.18	0.00	0.00	0.00
15,700.00	90.00	180.14	9,750.00	-6,194.99	-48.49	6,195.17	0.00	0.00	0.00
15,800.00	90.00	180.14	9,750.00	-6,294.99	-48.73	6,295.17	0.00	0.00	0.00
15,900.00	90.00	180.14	9,750.00	-6,394.99	-48.97	6,395.17	0.00	0.00	0.00
16,000.00	90.00	180.14	9,750.00	-6,494.99	-49.22	6,495.17	0.00	0.00	0.00
16,100.00	90.00	180.14	9,750.00	-6,594.99	-49.46	6,595.17	0.00	0.00	0.00
16,200.00	90.00	180.14	9,750.00	-6,694.99	-49.70	6,695.17	0.00	0.00	0.00
16,300.00	90.00	180.14	9,750.00	-6,794.99	-49.95	6,795.17	0.00	0.00	0.00
16,400.00	90.00	180.14	9,750.00	-6,894.99	-50.19	6,895.17	0.00	0.00	0.00
16,500.00	90.00	180.14	9,750.00	-6,994.99	-50.43	6,995.17	0.00	0.00	0.00
16,600.00	90.00	180.14	9,750.00	-7,094.99	-50.68	7,095.17	0.00	0.00	0.00
16,700.00	90.00	180.14	9,750.00	-7,194.98	-50.92	7,195.16	0.00	0.00	0.00
16,800.00	90.00	180.14	9,750.00	-7,294.98	-51.16	7,295.16	0.00	0.00	0.00
16,900.00	90.00	180.14	9,750.00	-7,394.98	-51.41	7,395.16	0.00	0.00	0.00
17,000.00	90.00	180.14	9,750.00	-7,494.98	-51.65	7,495.16	0.00	0.00	0.00
17,005.11	90.00	180.14	9,750.00	-7,500.10	-51.66	7,500.28	0.00	0.00	0.00

TD at 17005.11

Design Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- Shape									
BHL - Southern Comfi	0.00	0.00	9,750.00	-7,500.10	-51.66	424,693.72	591,006.13	32° 10' 2.12923 N 104° 2' 21.21205 W	
- plan hits target center									
- Point									
FTP - Southern Comfi	0.00	0.00	9,750.00	-1,488.23	-37.20	430,705.59	591,020.60	32° 11' 1.62427 N 104° 2' 20.85252 W	
- plan misses target center by 0.16usft at 10993.23usft MD (9750.00 TVD, -1488.23 N, -37.04 E)									
- Point									

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Local Co-ordinate Reference: Well 1H
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MD Reference: GL + KB @ 2944.50usft (Patterson 244)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,177.04	9,177.04	0.00	0.00	KOP, Begin 10.00°/100' Build
10,077.04	9,750.00	-572.12	-30.98	LP, Hold 90.00° Inc, Begin 2.00°/100' Turn
10,225.07	9,750.00	-720.07	-35.17	Hold 180.14° Azm
17,005.11	9,750.00	-7,500.10	-51.66	TD at 17005.11