



Enseco Planning Report

28 October, 2013

Bonanza Creek Energy, Inc

Weld County, Colorado

NW NW, Sec 3, T4N, R62W, 6 PM

State Seventy Holes F11-J14-3HNB

API #: TBD

Design: Proposal #1 (13346-241)



Design Target Details							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
WC SSH F11-J14-3HNB (13346-241)	0.00	0.00	0.00	1371720.64	3328954.57	40.347765°N	104.319753°W
KOP (1) (13346-241)	5638.99	463.71	348.58	1372188.94	3329296.93	40.349038°N	104.318502°W
BH SSH F11-J14-3HNB (13346-241)	6183.80	-4500.28	623.65	1367229.25	3329638.03	40.335412°N	104.317516°W
Tgt SSH F11-J14-3HNB (13346-241)	6183.80	-122.04	381.03	1371603.69	3329337.18	40.347430°N	104.318386°W

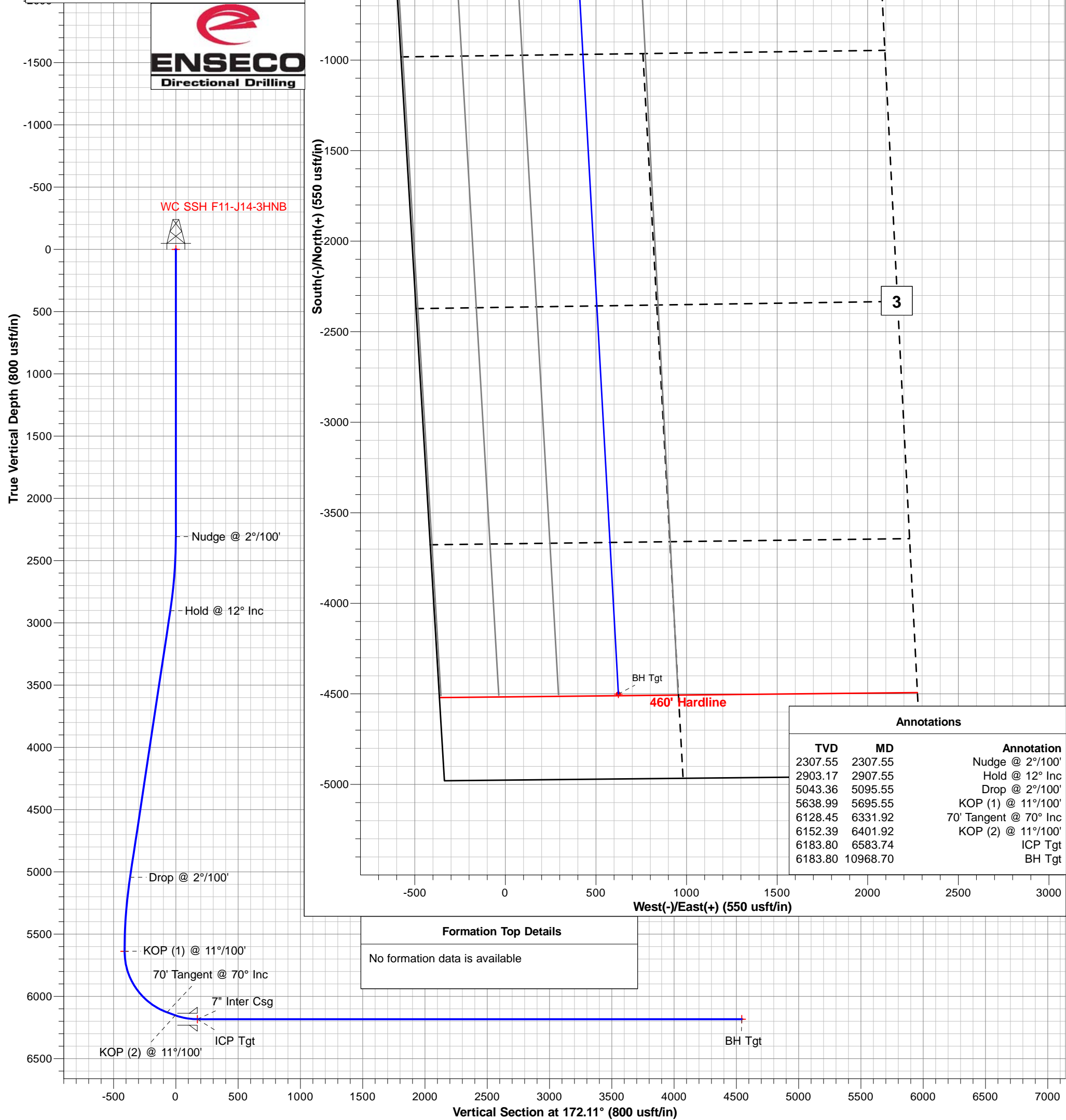
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Azimuths to True North
Magnetic North: 8.30°

Magnetic Field
Strength: 52902.9snT
Dip Angle: 67.00°
Date: 28-Oct-2013
Model: IGRF2010

NW NW, Sec 3, T4N, R62W, 6 PM
North American Datum 1983 WC Northing: 1371720.64 WC Easting: 3328954.57 WC Latitude: 40.347765°N WC Longitude: 104.319753°W Convergence: 0.763 Local North: True
Project Details: Weld County, Colorado
Geodetic System: US State Plane 1983 Datum: North American Datum 1983 Ellipsoid: GRS 1980 Zone: Colorado Northern Zone
System Datum: Mean Sea Level GL Elev: 4533.80 Kb Elev: Est. Kb @ 4546.80usft (Proposed)



Company:	Bonanza Creek Energy, Inc	Local Co-ordinate Ref:	State Seventy Holes F11-J14-3HNB
Project:	Weld County, Colorado	Ground Level Elevation:	4,533.8usft
Site:	NW NW, Sec 3, T4N, R62W, 6 PM	Wellhead Elevation:	Est. Kb @ 4546.80usft (Proposed)
Well:	State Seventy Holes F11-J14-3HNB	North Reference:	True
Wellbore:	API #: TBD	Survey Calculation Method:	Minimum Curvature
Design:	Proposal #1 (13346-241)	Database:	EDM5000

Project	Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	NW NW, Sec 3, T4N, R62W, 6 PM Site Position: WC State Seventy Holes 11-14-3HNB		
Site Position:		Northing:	1,371,760.33 usft
From:	Map	Easting:	3,328,952.65 usft
Position Uncertainty:	0.00usft	Slot Radius:	13-3/16 "
		Latitude:	40.347874°N
		Longitude:	104.319758°W
		Grid Convergence:	0.763°

Well	State Seventy Holes F11-J14-3HNB					
Well Position	+N/-S	-39.71 usft	Northing:	1,371,720.64 usft	Latitude:	40.347765°N
	+E/-W	1.39 usft	Easting:	3,328,954.57 usft	Longitude:	104.319753°W
Position Uncertainty		0.00 usft	Wellhead Elevation:	4,546.80 usft	Ground Level:	4,533.80 usft

Wellbore	API #: TBD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	28-Oct-13	8.299	66.998	52,903

Design	Proposal #1 (13346-241)				
Audit Notes:					
Version:	P1.0	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		0.00	0.00	0.00	172.11

Plan Sections											
MD (usft)	Inc (°)	Azi (°)	Vertical Depth	SS (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	4,546.80	0.00	0.00	0.00	0.00	0.00	0.000	KOP (1) (13346-241)
2,307.55	0.00	0.00	2,307.55	2,239.25	0.00	0.00	0.00	0.00	0.00	0.000	
2,907.55	12.00	36.93	2,903.17	1,643.63	50.04	37.62	2.00	2.00	0.00	36.932	
5,095.55	12.00	36.93	5,043.36	-496.56	413.67	310.96	0.00	0.00	0.00	0.000	
5,695.55	0.00	0.00	5,638.99	-1,092.19	463.71	348.58	2.00	-2.00	0.00	180.000	
6,331.92	70.00	176.83	6,128.45	-1,581.65	121.52	367.54	11.00	11.00	0.00	176.828	Tgt SSH F11-J14-3HNB (13346-241) BH SSH F11-J14-3HNB (13346-241)
6,401.92	70.00	176.83	6,152.39	-1,605.59	55.84	371.18	0.00	0.00	0.00	0.000	
6,583.74	90.00	176.83	6,183.80	-1,637.00	-122.04	381.03	11.00	11.00	0.00	0.000	
10,968.70	90.00	176.83	6,183.80	-1,637.00	-4,500.28	623.65	0.00	0.00	0.00	0.000	

Company:	Bonanza Creek Energy, Inc	Local Co-ordinate Ref:	State Seventy Holes F11-J14-3HNB
Project:	Weld County, Colorado	Ground Level Elevation:	4,533.8usft
Site:	NW NW, Sec 3, T4N, R62W, 6 PM	Wellhead Elevation:	Est. Kb @ 4546.80usft (Proposed)
Well:	State Seventy Holes F11-J14-3HNB	North Reference:	True
Wellbore:	API #: TBD	Survey Calculation Method:	Minimum Curvature
Design:	Proposal #1 (13346-241)	Database:	EDM5000

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Nudge @ 2°/100'										
2,307.55	0.00	0.00	2,307.55	2,239.25	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	1.85	36.93	2,399.98	2,146.82	1.19	0.90	-1.06	2.00	2.00	0.00
2,500.00	3.85	36.93	2,499.86	2,046.94	5.17	3.88	-4.58	2.00	2.00	0.00
2,600.00	5.85	36.93	2,599.49	1,947.31	11.92	8.96	-10.58	2.00	2.00	0.00
2,700.00	7.85	36.93	2,698.77	1,848.03	21.45	16.13	-19.04	2.00	2.00	0.00
2,800.00	9.85	36.93	2,797.58	1,749.22	33.75	25.37	-29.95	2.00	2.00	0.00
2,900.00	11.85	36.93	2,895.79	1,651.01	48.79	36.68	-43.30	2.00	2.00	0.00
Hold @ 12° Inc										
2,907.55	12.00	36.93	2,903.17	1,643.63	50.04	37.62	-44.40	2.00	2.00	0.00
3,000.00	12.00	36.93	2,993.60	1,553.20	65.41	49.17	-58.04	0.00	0.00	0.00
3,100.00	12.00	36.93	3,091.42	1,455.38	82.03	61.66	-72.79	0.00	0.00	0.00
3,200.00	12.00	36.93	3,189.23	1,357.57	98.64	74.15	-87.53	0.00	0.00	0.00
3,300.00	12.00	36.93	3,287.05	1,259.75	115.26	86.64	-102.28	0.00	0.00	0.00
3,400.00	12.00	36.93	3,384.86	1,161.94	131.88	99.14	-117.03	0.00	0.00	0.00
3,500.00	12.00	36.93	3,482.68	1,064.12	148.50	111.63	-131.77	0.00	0.00	0.00
3,600.00	12.00	36.93	3,580.49	966.31	165.12	124.12	-146.52	0.00	0.00	0.00
3,700.00	12.00	36.93	3,678.31	868.49	181.74	136.62	-161.27	0.00	0.00	0.00
3,800.00	12.00	36.93	3,776.12	770.68	198.36	149.11	-176.02	0.00	0.00	0.00
3,900.00	12.00	36.93	3,873.94	672.86	214.98	161.60	-190.76	0.00	0.00	0.00
4,000.00	12.00	36.93	3,971.75	575.05	231.60	174.09	-205.51	0.00	0.00	0.00
4,100.00	12.00	36.93	4,069.57	477.23	248.22	186.59	-220.26	0.00	0.00	0.00
4,200.00	12.00	36.93	4,167.38	379.42	264.84	199.08	-235.00	0.00	0.00	0.00
4,300.00	12.00	36.93	4,265.19	281.61	281.46	211.57	-249.75	0.00	0.00	0.00
4,400.00	12.00	36.93	4,363.01	183.79	298.08	224.07	-264.50	0.00	0.00	0.00
4,500.00	12.00	36.93	4,460.82	85.98	314.70	236.56	-279.25	0.00	0.00	0.00
4,600.00	12.00	36.93	4,558.64	-11.84	331.32	249.05	-293.99	0.00	0.00	0.00
4,700.00	12.00	36.93	4,656.45	-109.65	347.93	261.54	-308.74	0.00	0.00	0.00
4,800.00	12.00	36.93	4,754.27	-207.47	364.55	274.04	-323.49	0.00	0.00	0.00
4,900.00	12.00	36.93	4,852.08	-305.28	381.17	286.53	-338.23	0.00	0.00	0.00
5,000.00	12.00	36.93	4,949.90	-403.10	397.79	299.02	-352.98	0.00	0.00	0.00
Drop @ 2°/100'										
5,095.55	12.00	36.93	5,043.36	-496.56	413.67	310.96	-367.07	0.00	0.00	0.00
5,100.00	11.91	36.93	5,047.71	-500.91	414.41	311.51	-367.73	2.00	-2.00	0.00
5,200.00	9.91	36.93	5,145.90	-599.10	429.54	322.89	-381.15	2.00	-2.00	0.00
5,300.00	7.91	36.93	5,244.69	-697.89	441.92	332.19	-392.14	2.00	-2.00	0.00
5,400.00	5.91	36.93	5,343.96	-797.16	451.54	339.42	-400.67	2.00	-2.00	0.00
5,500.00	3.91	36.93	5,443.58	-896.78	458.38	344.57	-406.74	2.00	-2.00	0.00
5,600.00	1.91	36.93	5,543.45	-996.65	462.44	347.62	-410.35	2.00	-2.00	0.00
KOP (1) @ 11°/100'										
5,695.55	0.00	0.00	5,638.99	-1,092.19	463.71	348.58	-411.48	2.00	-2.00	0.00
5,700.00	0.49	176.83	5,643.43	-1,096.63	463.70	348.58	-411.46	11.00	11.00	0.00
5,800.00	11.49	176.83	5,742.73	-1,195.93	453.29	349.15	-401.08	11.00	11.00	0.00
5,900.00	22.49	176.83	5,838.22	-1,291.42	424.16	350.77	-372.00	11.00	11.00	0.00
6,000.00	33.49	176.83	5,926.39	-1,379.59	377.38	353.36	-325.30	11.00	11.00	0.00
6,100.00	44.49	176.83	6,004.00	-1,457.20	314.65	356.84	-262.69	11.00	11.00	0.00
6,200.00	55.49	176.83	6,068.19	-1,521.39	238.30	361.07	-186.48	11.00	11.00	0.00
6,300.00	66.49	176.83	6,116.62	-1,569.82	151.11	365.90	-99.46	11.00	11.00	0.00
70° Tangent @ 70° Inc										
6,331.92	70.00	176.83	6,128.45	-1,581.65	121.52	367.54	-69.92	11.00	11.00	0.00
6,400.00	70.00	176.83	6,151.73	-1,604.93	57.64	371.08	-6.16	0.00	0.00	0.00
KOP (2) @ 11°/100'										

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Site:	NW NW, Sec 3, T4N, R62W, 6 PM	Wellhead Elevation:	Est. Kb @ 4546.80usft (Proposed)
Well:	State Seventy Holes F11-J14-3HNB	North Reference:	True
Wellbore:	API #: TBD	Survey Calculation Method:	Minimum Curvature
Design:	Proposal #1 (13346-241)	Database:	EDM5000

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,401.92	70.00	176.83	6,152.39	-1,605.59	55.84	371.18	-4.36	0.00	0.00	0.00
6,500.00	80.79	176.83	6,177.08	-1,630.28	-38.79	376.42	90.09	11.00	11.00	0.00
ICP Tgt - 7" Inter Csg										
6,583.74	90.00	176.83	6,183.80	-1,637.00	-122.04	381.03	173.18	11.00	11.00	0.00
6,600.00	90.00	176.83	6,183.80	-1,637.00	-138.27	381.93	189.39	0.00	0.00	0.00
6,700.00	90.00	176.83	6,183.80	-1,637.00	-238.12	387.47	289.05	0.00	0.00	0.00
6,800.00	90.00	176.83	6,183.80	-1,637.00	-337.97	393.00	388.72	0.00	0.00	0.00
6,900.00	90.00	176.83	6,183.80	-1,637.00	-437.82	398.53	488.38	0.00	0.00	0.00
7,000.00	90.00	176.83	6,183.80	-1,637.00	-537.66	404.07	588.04	0.00	0.00	0.00
7,100.00	90.00	176.83	6,183.80	-1,637.00	-637.51	409.60	687.70	0.00	0.00	0.00
7,200.00	90.00	176.83	6,183.80	-1,637.00	-737.36	415.13	787.36	0.00	0.00	0.00
7,300.00	90.00	176.83	6,183.80	-1,637.00	-837.20	420.66	887.02	0.00	0.00	0.00
7,400.00	90.00	176.83	6,183.80	-1,637.00	-937.05	426.20	986.68	0.00	0.00	0.00
7,500.00	90.00	176.83	6,183.80	-1,637.00	-1,036.90	431.73	1,086.34	0.00	0.00	0.00
7,600.00	90.00	176.83	6,183.80	-1,637.00	-1,136.74	437.26	1,186.00	0.00	0.00	0.00
7,700.00	90.00	176.83	6,183.80	-1,637.00	-1,236.59	442.80	1,285.67	0.00	0.00	0.00
7,800.00	90.00	176.83	6,183.80	-1,637.00	-1,336.44	448.33	1,385.33	0.00	0.00	0.00
7,900.00	90.00	176.83	6,183.80	-1,637.00	-1,436.28	453.86	1,484.99	0.00	0.00	0.00
8,000.00	90.00	176.83	6,183.80	-1,637.00	-1,536.13	459.39	1,584.65	0.00	0.00	0.00
8,100.00	90.00	176.83	6,183.80	-1,637.00	-1,635.98	464.93	1,684.31	0.00	0.00	0.00
8,200.00	90.00	176.83	6,183.80	-1,637.00	-1,735.82	470.46	1,783.97	0.00	0.00	0.00
8,300.00	90.00	176.83	6,183.80	-1,637.00	-1,835.67	475.99	1,883.63	0.00	0.00	0.00
8,400.00	90.00	176.83	6,183.80	-1,637.00	-1,935.52	481.53	1,983.29	0.00	0.00	0.00
8,500.00	90.00	176.83	6,183.80	-1,637.00	-2,035.36	487.06	2,082.95	0.00	0.00	0.00
8,600.00	90.00	176.83	6,183.80	-1,637.00	-2,135.21	492.59	2,182.62	0.00	0.00	0.00
8,700.00	90.00	176.83	6,183.80	-1,637.00	-2,235.06	498.12	2,282.28	0.00	0.00	0.00
8,800.00	90.00	176.83	6,183.80	-1,637.00	-2,334.90	503.66	2,381.94	0.00	0.00	0.00
8,900.00	90.00	176.83	6,183.80	-1,637.00	-2,434.75	509.19	2,481.60	0.00	0.00	0.00
9,000.00	90.00	176.83	6,183.80	-1,637.00	-2,534.60	514.72	2,581.26	0.00	0.00	0.00
9,100.00	90.00	176.83	6,183.80	-1,637.00	-2,634.45	520.26	2,680.92	0.00	0.00	0.00
9,200.00	90.00	176.83	6,183.80	-1,637.00	-2,734.29	525.79	2,780.58	0.00	0.00	0.00
9,300.00	90.00	176.83	6,183.80	-1,637.00	-2,834.14	531.32	2,880.24	0.00	0.00	0.00
9,400.00	90.00	176.83	6,183.80	-1,637.00	-2,933.99	536.85	2,979.91	0.00	0.00	0.00
9,500.00	90.00	176.83	6,183.80	-1,637.00	-3,033.83	542.39	3,079.57	0.00	0.00	0.00
9,600.00	90.00	176.83	6,183.80	-1,637.00	-3,133.68	547.92	3,179.23	0.00	0.00	0.00
9,700.00	90.00	176.83	6,183.80	-1,637.00	-3,233.53	553.45	3,278.89	0.00	0.00	0.00
9,800.00	90.00	176.83	6,183.80	-1,637.00	-3,333.37	558.99	3,378.55	0.00	0.00	0.00
9,900.00	90.00	176.83	6,183.80	-1,637.00	-3,433.22	564.52	3,478.21	0.00	0.00	0.00
10,000.00	90.00	176.83	6,183.80	-1,637.00	-3,533.07	570.05	3,577.87	0.00	0.00	0.00
10,100.00	90.00	176.83	6,183.80	-1,637.00	-3,632.91	575.58	3,677.53	0.00	0.00	0.00
10,200.00	90.00	176.83	6,183.80	-1,637.00	-3,732.76	581.12	3,777.19	0.00	0.00	0.00
10,300.00	90.00	176.83	6,183.80	-1,637.00	-3,832.61	586.65	3,876.86	0.00	0.00	0.00
10,400.00	90.00	176.83	6,183.80	-1,637.00	-3,932.45	592.18	3,976.52	0.00	0.00	0.00
10,500.00	90.00	176.83	6,183.80	-1,637.00	-4,032.30	597.72	4,076.18	0.00	0.00	0.00
10,600.00	90.00	176.83	6,183.80	-1,637.00	-4,132.15	603.25	4,175.84	0.00	0.00	0.00
10,700.00	90.00	176.83	6,183.80	-1,637.00	-4,231.99	608.78	4,275.50	0.00	0.00	0.00
10,800.00	90.00	176.83	6,183.80	-1,637.00	-4,331.84	614.31	4,375.16	0.00	0.00	0.00
10,900.00	90.00	176.83	6,183.80	-1,637.00	-4,431.69	619.85	4,474.82	0.00	0.00	0.00
BH Tgt										
10,968.70	90.00	176.83	6,183.80	-1,637.00	-4,500.28	623.65	4,543.29	0.00	0.00	0.00

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Site:	NW NW, Sec 3, T4N, R62W, 6 PM	Wellhead Elevation:	Est. Kb @ 4546.80usft (Proposed)
Well:	State Seventy Holes F11-J14-3HNB	North Reference:	True
Wellbore:	API #: TBD	Survey Calculation Method:	Minimum Curvature
Design:	Proposal #1 (13346-241)	Database:	EDM5000

Targets									
Target Name - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
WC SSH A11-E14-3HNB (1334- - Circle (radius 10.00)	0.00	0.00	0.10	-40.07	2.23	1,371,680.60	3,328,957.33	40.347655°N	104.319745°W
KOP (1) (13346-241) - Point	0.00	0.00	5,638.99	463.71	348.58	1,372,188.94	3,329,296.93	40.349038°N	104.318502°W
WC SSH 11-14-3HNB (13344- - Circle (radius 10.00)	0.00	0.00	-0.10	39.71	-1.39	1,371,760.33	3,328,952.65	40.347874°N	104.319758°W
WC SSH F-J-3HNB (13345-24 - Circle (radius 10.00)	0.00	0.00	-0.10	20.04	-0.28	1,371,740.67	3,328,954.03	40.347820°N	104.319754°W
WC SSH F11-J14-3HNB (1334 - Circle (radius 10.00)	0.00	0.00	0.00	0.00	0.00	1,371,720.64	3,328,954.57	40.347765°N	104.319753°W
WC SSH A-E-3HNB (13347-24 - Circle (radius 10.00)	0.00	0.00	0.00	-20.04	1.39	1,371,700.63	3,328,956.23	40.347710°N	104.319748°W
Tgt SSH F11-J14-3HNB (1334 - Circle (radius 10.00)	0.00	0.00	6,183.80	-122.04	381.03	1,371,603.69	3,329,337.18	40.347430°N	104.318386°W
BH SSH F11-J14-3HNB (1334 - Circle (radius 10.00)	0.00	0.00	6,183.80	-4,500.28	623.65	1,367,229.25	3,329,638.03	40.335412°N	104.317516°W

Casing Points				
MD (usft)	TVD (usft)	Name	Casing Diameter (")	Hole Diameter (")
6,583.74	6,183.80	7" Inter Csg	7	8-3/4

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,307.55	2,307.55	0.00	0.00	Nudge @ 2°/100'
2,907.55	2,903.17	50.04	37.62	Hold @ 12° Inc
5,095.55	5,043.36	413.67	310.96	Drop @ 2°/100'
5,695.55	5,638.99	463.71	348.58	KOP (1) @ 11°/100'
6,331.92	6,128.45	121.52	367.54	70' Tangent @ 70° Inc
6,401.92	6,152.39	55.84	371.18	KOP (2) @ 11°/100'
6,583.74	6,183.80	-122.04	381.03	ICP Tgt
10,968.70	6,183.80	-4,500.28	623.65	BH Tgt