



Enseco Planning Report

28 October, 2013

Bonanza Creek Energy, Inc

Weld County, Colorado

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

State Seventy Holes 11-14-3HNB

API #: TBD

Design: Proposal #1 (13344-241)



Design Target Details							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
WC SSH 11-14-3HNB (13344-241)	0.00	0.00	0.00	1371760.33	3328952.65	40.347874°N	104.319758°W
KOP (1) (13344-241)	5639.09	418.12	12.70	1372178.57	3328959.79	40.349022°N	104.319712°W
BH SSH 11-14-3HNB (13344-241)	6183.90	-4543.28	294.68	1367221.57	3329307.76	40.335403°N	104.318701°W
Tgt SSH 11-14-3HNB (13344-241)	6183.90	-167.58	45.99	1371593.38	3329000.87	40.347414°N	104.319593°W

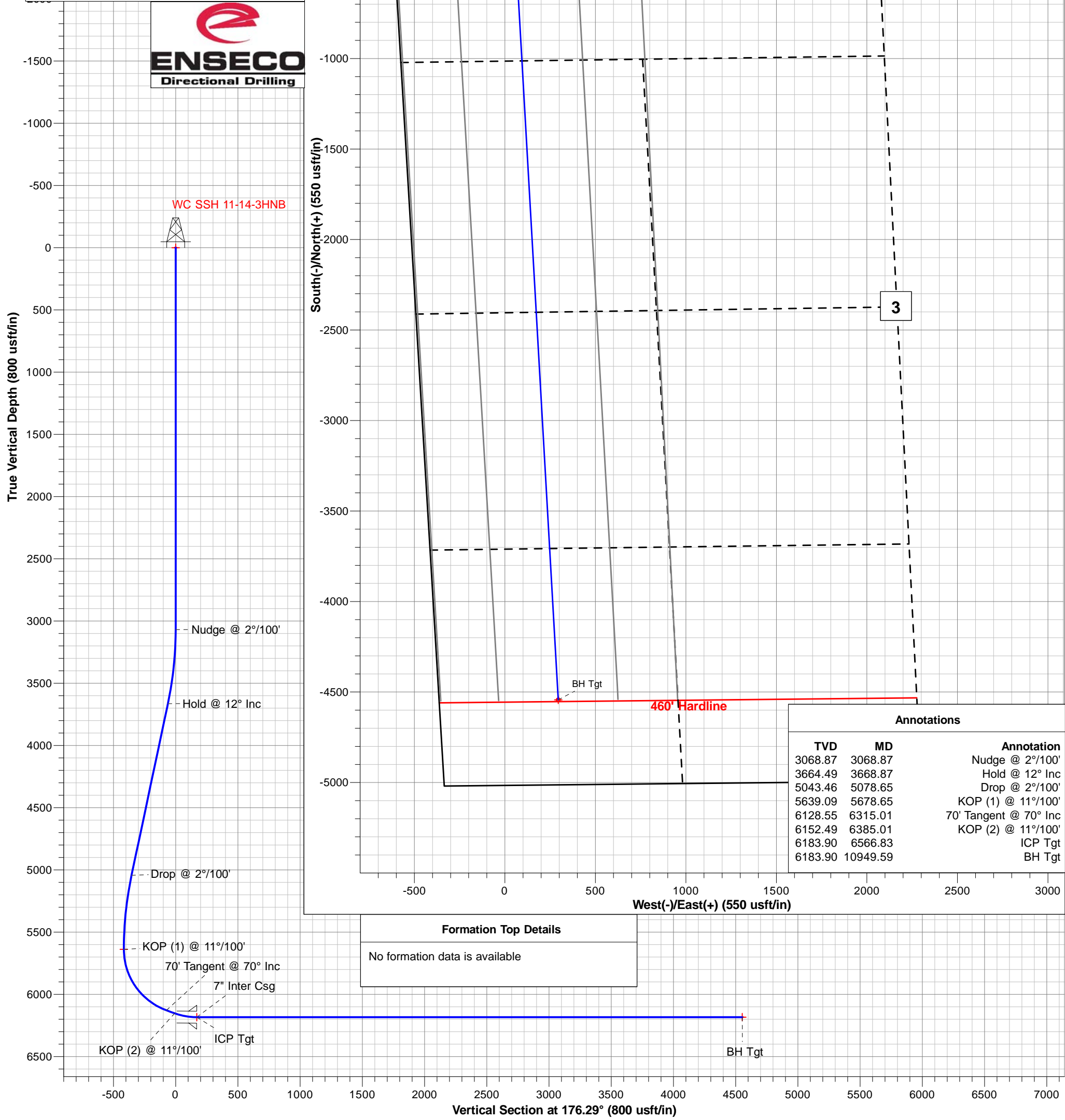
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Azimuths to True North
Magnetic North: 8.30°

Magnetic Field
Strength: 52903.3snT
Dip Angle: 67.00°
Date: 27-Oct-2013
Model: IGRF2010

NW NW, Sec 3, T4N, R62W, 6 PM
North American Datum 1983 WC Northing: 1371760.33 WC Easting: 3328952.65 WC Latitude: 40.347874°N WC Longitude: 104.319758°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: 4533.90 Kb Elev: Est. Kb @ 4546.90usft (Proposed)



Company:	Bonanza Creek Energy, Inc	Local Co-ordinate Ref:	State Seventy Holes 11-14-3HNB
Project:	Weld County, Colorado	Ground Level Elevation:	4,533.9usft
Site:	NW NW, Sec 3, T4N, R62W, 6 PM	Wellhead Elevation:	Est. Kb @ 4546.90usft (Proposed)
Well:	State Seventy Holes 11-14-3HNB	North Reference:	True
Wellbore:	API #: TBD	Survey Calculation Method:	Minimum Curvature
Design:	Proposal #1 (13344-241)	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 11-14-3HNB		
Well Position	+N/-S	0.00 usft	Northing: 1,371,760.33 usft
	+E/-W	0.00 usft	Easting: 3,328,952.65 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	4,546.90 usft
		Ground Level:	4,533.90 usft

Wellbore	API #: TBD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	27-Oct-13	8.300	66.998	52,903

Design	Proposal #1 (13344-241)			
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	176.29

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	4,546.90	0.00	0.00	0.00	0.00	0.00	0.000	KOP (1) (13344-241)
3,068.87	0.00	0.00	3,068.87	1,478.03	0.00	0.00	0.00	0.00	0.00	0.000	
3,668.87	12.00	1.74	3,664.49	882.41	62.57	1.90	2.00	2.00	0.00	1.740	
5,078.65	12.00	1.74	5,043.46	-496.56	355.55	10.80	0.00	0.00	0.00	0.000	
5,678.65	0.00	0.00	5,639.09	-1,092.19	418.12	12.70	2.00	-2.00	0.00	180.000	
6,315.01	70.00	176.75	6,128.55	-1,581.65	75.95	32.15	11.00	11.00	0.00	176.747	Tgt SSH 11-14-3HNB (13344-241) BH SSH 11-14-3HNB (13344-241)
6,385.01	70.00	176.75	6,152.49	-1,605.59	10.28	35.88	0.00	0.00	0.00	0.000	
6,566.83	90.00	176.75	6,183.90	-1,637.00	-167.58	45.99	11.00	11.00	0.00	0.000	
10,949.59	90.00	176.75	6,183.90	-1,637.00	-4,543.28	294.68	0.00	0.00	0.00	0.000	

Company:	Bonanza Creek Energy, Inc	Local Co-ordinate Ref:	State Seventy Holes 11-14-3HNB
Project:	Weld County, Colorado	Ground Level Elevation:	4,533.9usft
Site:	NW NW, Sec 3, T4N, R62W, 6 PM	Wellhead Elevation:	Est. Kb @ 4546.90usft (Proposed)
Well:	State Seventy Holes 11-14-3HNB	North Reference:	True
Wellbore:	API #: TBD	Survey Calculation Method:	Minimum Curvature
Design:	Proposal #1 (13344-241)	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'										
3,068.87	0.00	0.00	3,068.87	1,478.03	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.62	1.74	3,100.00	1,446.90	0.17	0.01	-0.17	2.00	2.00	0.00
3,200.00	2.62	1.74	3,199.95	1,346.95	3.00	0.09	-2.99	2.00	2.00	0.00
3,300.00	4.62	1.74	3,299.75	1,247.15	9.31	0.28	-9.28	2.00	2.00	0.00
3,400.00	6.62	1.74	3,399.26	1,147.64	19.11	0.58	-19.03	2.00	2.00	0.00
3,500.00	8.62	1.74	3,498.37	1,048.53	32.37	0.98	-32.23	2.00	2.00	0.00
3,600.00	10.62	1.74	3,596.96	949.94	49.07	1.49	-48.87	2.00	2.00	0.00
Hold @ 12° Inc										
3,668.87	12.00	1.74	3,664.49	882.41	62.57	1.90	-62.32	2.00	2.00	0.00
3,700.00	12.00	1.74	3,694.94	851.96	69.04	2.10	-68.76	0.00	0.00	0.00
3,800.00	12.00	1.74	3,792.76	754.14	89.83	2.73	-89.46	0.00	0.00	0.00
3,900.00	12.00	1.74	3,890.57	656.33	110.61	3.36	-110.16	0.00	0.00	0.00
4,000.00	12.00	1.74	3,988.39	558.51	131.39	3.99	-130.85	0.00	0.00	0.00
4,100.00	12.00	1.74	4,086.20	460.70	152.17	4.62	-151.55	0.00	0.00	0.00
4,200.00	12.00	1.74	4,184.02	362.88	172.95	5.25	-172.25	0.00	0.00	0.00
4,300.00	12.00	1.74	4,281.83	265.07	193.73	5.89	-192.95	0.00	0.00	0.00
4,400.00	12.00	1.74	4,379.65	167.25	214.51	6.52	-213.64	0.00	0.00	0.00
4,500.00	12.00	1.74	4,477.46	69.44	235.30	7.15	-234.34	0.00	0.00	0.00
4,600.00	12.00	1.74	4,575.28	-28.38	256.08	7.78	-255.04	0.00	0.00	0.00
4,700.00	12.00	1.74	4,673.09	-126.19	276.86	8.41	-275.73	0.00	0.00	0.00
4,800.00	12.00	1.74	4,770.91	-224.01	297.64	9.04	-296.43	0.00	0.00	0.00
4,900.00	12.00	1.74	4,868.72	-321.82	318.42	9.67	-317.13	0.00	0.00	0.00
5,000.00	12.00	1.74	4,966.53	-419.63	339.20	10.31	-337.83	0.00	0.00	0.00
Drop @ 2°/100'										
5,078.65	12.00	1.74	5,043.46	-496.56	355.55	10.80	-354.10	0.00	0.00	0.00
5,100.00	11.57	1.74	5,064.37	-517.47	359.91	10.94	-358.45	2.00	-2.00	0.00
5,200.00	9.57	1.74	5,162.66	-615.76	378.25	11.49	-376.71	2.00	-2.00	0.00
5,300.00	7.57	1.74	5,261.54	-714.64	393.15	11.95	-391.55	2.00	-2.00	0.00
5,400.00	5.57	1.74	5,360.88	-813.98	404.59	12.29	-402.94	2.00	-2.00	0.00
5,500.00	3.57	1.74	5,460.55	-913.65	412.56	12.54	-410.88	2.00	-2.00	0.00
5,600.00	1.57	1.74	5,560.45	-1,013.55	417.04	12.67	-415.35	2.00	-2.00	0.00
KOP (1) @ 11°/100'										
5,678.65	0.00	0.00	5,639.09	-1,092.19	418.12	12.70	-416.42	2.00	-2.00	0.00
5,700.00	2.35	176.75	5,660.43	-1,113.53	417.69	12.73	-415.99	11.00	11.00	0.00
5,800.00	13.35	176.75	5,759.34	-1,212.44	404.07	13.50	-402.35	11.00	11.00	0.00
5,900.00	24.35	176.75	5,853.84	-1,306.94	371.87	15.33	-370.10	11.00	11.00	0.00
6,000.00	35.35	176.75	5,940.44	-1,393.54	322.25	18.15	-320.40	11.00	11.00	0.00
6,100.00	46.35	176.75	6,015.97	-1,469.07	257.05	21.86	-255.10	11.00	11.00	0.00
6,200.00	57.35	176.75	6,077.64	-1,530.74	178.66	26.31	-176.58	11.00	11.00	0.00
6,300.00	68.35	176.75	6,123.21	-1,576.31	89.96	31.35	-87.74	11.00	11.00	0.00
70° Tangent @ 70° Inc										
6,315.01	70.00	176.75	6,128.55	-1,581.65	75.95	32.15	-73.71	11.00	11.00	0.00
KOP (2) @ 11°/100'										
6,385.01	70.00	176.75	6,152.49	-1,605.59	10.28	35.88	-7.94	0.00	0.00	0.00
6,400.00	71.65	176.75	6,157.41	-1,610.51	-3.85	36.69	6.22	11.00	11.00	0.00
6,500.00	82.65	176.75	6,179.62	-1,632.72	-101.04	42.21	103.56	11.00	11.00	0.00
ICP Tgt - 7" Inter Csg										
6,566.83	90.00	176.75	6,183.90	-1,637.00	-167.58	45.99	170.21	11.00	11.00	0.00
6,600.00	90.00	176.75	6,183.90	-1,637.00	-200.70	47.87	203.38	0.00	0.00	0.00
6,700.00	90.00	176.75	6,183.90	-1,637.00	-300.54	53.55	303.37	0.00	0.00	0.00
6,800.00	90.00	176.75	6,183.90	-1,637.00	-400.38	59.22	403.37	0.00	0.00	0.00
6,900.00	90.00	176.75	6,183.90	-1,637.00	-500.21	64.90	503.37	0.00	0.00	0.00

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Site:	NW NW, Sec 3, T4N, R62W, 6 PM	Wellhead Elevation:	Est. Kb @ 4546.90usft (Proposed)
Well:	State Seventy Holes 11-14-3HNB	North Reference:	True
Wellbore:	API #: TBD	Survey Calculation Method:	Minimum Curvature
Design:	Proposal #1 (13344-241)	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)
7,000.00	90.00	176.75	6,183.90	-1,637.00	-600.05	70.57	603.36	0.00	0.00	0.00
7,100.00	90.00	176.75	6,183.90	-1,637.00	-699.89	76.24	703.36	0.00	0.00	0.00
7,200.00	90.00	176.75	6,183.90	-1,637.00	-799.73	81.92	803.36	0.00	0.00	0.00
7,300.00	90.00	176.75	6,183.90	-1,637.00	-899.57	87.59	903.35	0.00	0.00	0.00
7,400.00	90.00	176.75	6,183.90	-1,637.00	-999.41	93.27	1,003.35	0.00	0.00	0.00
7,500.00	90.00	176.75	6,183.90	-1,637.00	-1,099.25	98.94	1,103.35	0.00	0.00	0.00
7,600.00	90.00	176.75	6,183.90	-1,637.00	-1,199.09	104.62	1,203.34	0.00	0.00	0.00
7,700.00	90.00	176.75	6,183.90	-1,637.00	-1,298.93	110.29	1,303.34	0.00	0.00	0.00
7,800.00	90.00	176.75	6,183.90	-1,637.00	-1,398.76	115.96	1,403.34	0.00	0.00	0.00
7,900.00	90.00	176.75	6,183.90	-1,637.00	-1,498.60	121.64	1,503.33	0.00	0.00	0.00
8,000.00	90.00	176.75	6,183.90	-1,637.00	-1,598.44	127.31	1,603.33	0.00	0.00	0.00
8,100.00	90.00	176.75	6,183.90	-1,637.00	-1,698.28	132.99	1,703.33	0.00	0.00	0.00
8,200.00	90.00	176.75	6,183.90	-1,637.00	-1,798.12	138.66	1,803.32	0.00	0.00	0.00
8,300.00	90.00	176.75	6,183.90	-1,637.00	-1,897.96	144.34	1,903.32	0.00	0.00	0.00
8,400.00	90.00	176.75	6,183.90	-1,637.00	-1,997.80	150.01	2,003.32	0.00	0.00	0.00
8,500.00	90.00	176.75	6,183.90	-1,637.00	-2,097.64	155.68	2,103.31	0.00	0.00	0.00
8,600.00	90.00	176.75	6,183.90	-1,637.00	-2,197.48	161.36	2,203.31	0.00	0.00	0.00
8,700.00	90.00	176.75	6,183.90	-1,637.00	-2,297.31	167.03	2,303.31	0.00	0.00	0.00
8,800.00	90.00	176.75	6,183.90	-1,637.00	-2,397.15	172.71	2,403.31	0.00	0.00	0.00
8,900.00	90.00	176.75	6,183.90	-1,637.00	-2,496.99	178.38	2,503.30	0.00	0.00	0.00
9,000.00	90.00	176.75	6,183.90	-1,637.00	-2,596.83	184.05	2,603.30	0.00	0.00	0.00
9,100.00	90.00	176.75	6,183.90	-1,637.00	-2,696.67	189.73	2,703.30	0.00	0.00	0.00
9,200.00	90.00	176.75	6,183.90	-1,637.00	-2,796.51	195.40	2,803.29	0.00	0.00	0.00
9,300.00	90.00	176.75	6,183.90	-1,637.00	-2,896.35	201.08	2,903.29	0.00	0.00	0.00
9,400.00	90.00	176.75	6,183.90	-1,637.00	-2,996.19	206.75	3,003.29	0.00	0.00	0.00
9,500.00	90.00	176.75	6,183.90	-1,637.00	-3,096.03	212.43	3,103.28	0.00	0.00	0.00
9,600.00	90.00	176.75	6,183.90	-1,637.00	-3,195.86	218.10	3,203.28	0.00	0.00	0.00
9,700.00	90.00	176.75	6,183.90	-1,637.00	-3,295.70	223.77	3,303.28	0.00	0.00	0.00
9,800.00	90.00	176.75	6,183.90	-1,637.00	-3,395.54	229.45	3,403.27	0.00	0.00	0.00
9,900.00	90.00	176.75	6,183.90	-1,637.00	-3,495.38	235.12	3,503.27	0.00	0.00	0.00
10,000.00	90.00	176.75	6,183.90	-1,637.00	-3,595.22	240.80	3,603.27	0.00	0.00	0.00
10,100.00	90.00	176.75	6,183.90	-1,637.00	-3,695.06	246.47	3,703.26	0.00	0.00	0.00
10,200.00	90.00	176.75	6,183.90	-1,637.00	-3,794.90	252.15	3,803.26	0.00	0.00	0.00
10,300.00	90.00	176.75	6,183.90	-1,637.00	-3,894.74	257.82	3,903.26	0.00	0.00	0.00
10,400.00	90.00	176.75	6,183.90	-1,637.00	-3,994.58	263.49	4,003.25	0.00	0.00	0.00
10,500.00	90.00	176.75	6,183.90	-1,637.00	-4,094.41	269.17	4,103.25	0.00	0.00	0.00
10,600.00	90.00	176.75	6,183.90	-1,637.00	-4,194.25	274.84	4,203.25	0.00	0.00	0.00
10,700.00	90.00	176.75	6,183.90	-1,637.00	-4,294.09	280.52	4,303.24	0.00	0.00	0.00
10,800.00	90.00	176.75	6,183.90	-1,637.00	-4,393.93	286.19	4,403.24	0.00	0.00	0.00
10,900.00	90.00	176.75	6,183.90	-1,637.00	-4,493.77	291.86	4,503.24	0.00	0.00	0.00
BH Tgt										
10,949.59	90.00	176.75	6,183.90	-1,637.00	-4,543.28	294.68	4,552.83	0.00	0.00	0.00

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Well:	State Seventy Holes 11-14-3HNB	North Reference:	True
Wellbore:	API #: TBD	Survey Calculation Method:	Minimum Curvature
Design:	Proposal #1 (13344-241)	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 (13344-241) - Circle (radius 10.00)	0.00	0.00	0.20	-79.79	3.62	1,371,680.60	3,328,957.33	40.347655°N	104.319745°W
BH SSH 11-14-3HNB (13344-241) - Circle (radius 10.00)	0.00	0.00	6,183.90	-4,543.28	294.68	1,367,221.57	3,329,307.76	40.335403°N	104.318701°W
WC SSH 11-14-3HNB (13344-241) - Circle (radius 10.00)	0.00	0.00	0.00	0.00	0.00	1,371,760.33	3,328,952.65	40.347874°N	104.319758°W
WC SSH F-J-3HNB (13345-241) - Circle (radius 10.00)	0.00	0.00	0.00	-19.68	1.11	1,371,740.67	3,328,954.03	40.347820°N	104.319754°W
WC SSH F11-J14-3HNB (13344-241) - Circle (radius 10.00)	0.00	0.00	0.10	-39.71	1.39	1,371,720.64	3,328,954.57	40.347765°N	104.319753°W
WC SSH A-E-3HNB (13347-241) - Circle (radius 10.00)	0.00	0.00	0.10	-59.75	2.79	1,371,700.63	3,328,956.23	40.347710°N	104.319748°W
Tgt SSH 11-14-3HNB (13344-241) - Circle (radius 10.00)	0.00	0.00	6,183.90	-167.58	45.99	1,371,593.38	3,329,000.87	40.347414°N	104.319593°W
KOP (1) (13344-241) - Point	0.00	0.00	5,639.09	418.12	12.70	1,372,178.57	3,328,959.79	40.349022°N	104.319712°W

Casing Points				
MD (usft)	TVD (usft)	Name	Casing Diameter (")	Hole Diameter (")
6,566.83	6,183.90	7" Inter Csg	7	8-3/4

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,068.87	3,068.87	0.00	0.00	Nudge @ 2°/100'
3,668.87	3,664.49	62.57	1.90	Hold @ 12° Inc
5,078.65	5,043.46	355.55	10.80	Drop @ 2°/100'
5,678.65	5,639.09	418.12	12.70	KOP (1) @ 11°/100'
6,315.01	6,128.55	75.95	32.15	70' Tangent @ 70° Inc
6,385.01	6,152.49	10.28	35.88	KOP (2) @ 11°/100'
6,566.83	6,183.90	-167.58	45.99	ICP Tgt
10,949.59	6,183.90	-4,543.28	294.68	BH Tgt