

EXTRACTION OIL & GAS

WELD COUNTY, COLORADO (NAD 83)

SW SE SEC 36 T6N R66W 6th P.M.

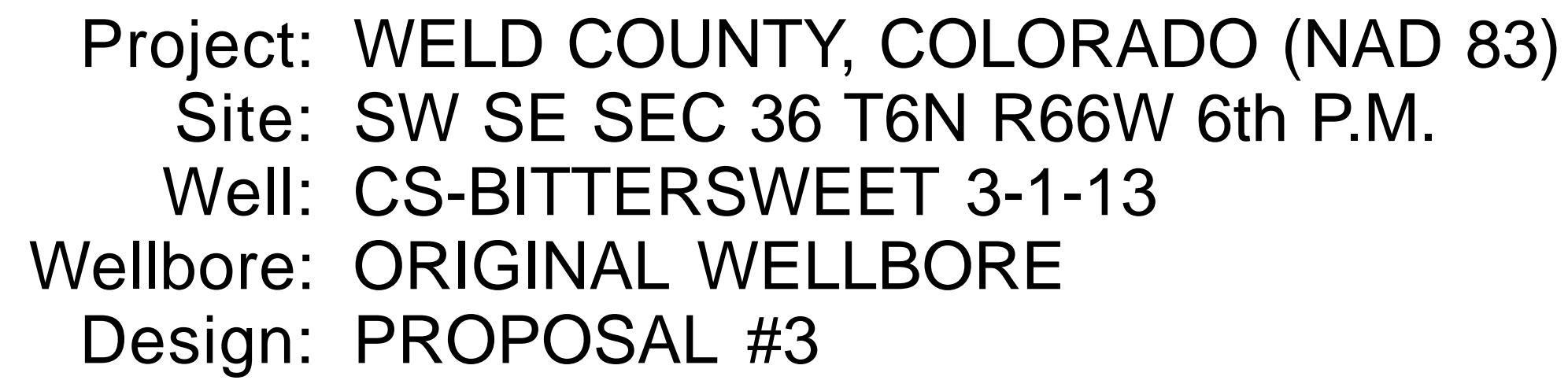
CS-BITTERSWEET 3-1-13

ORIGINAL WELLBORE

29 November, 2016

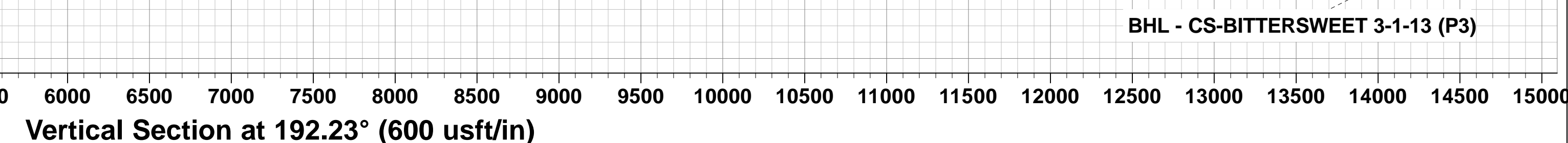
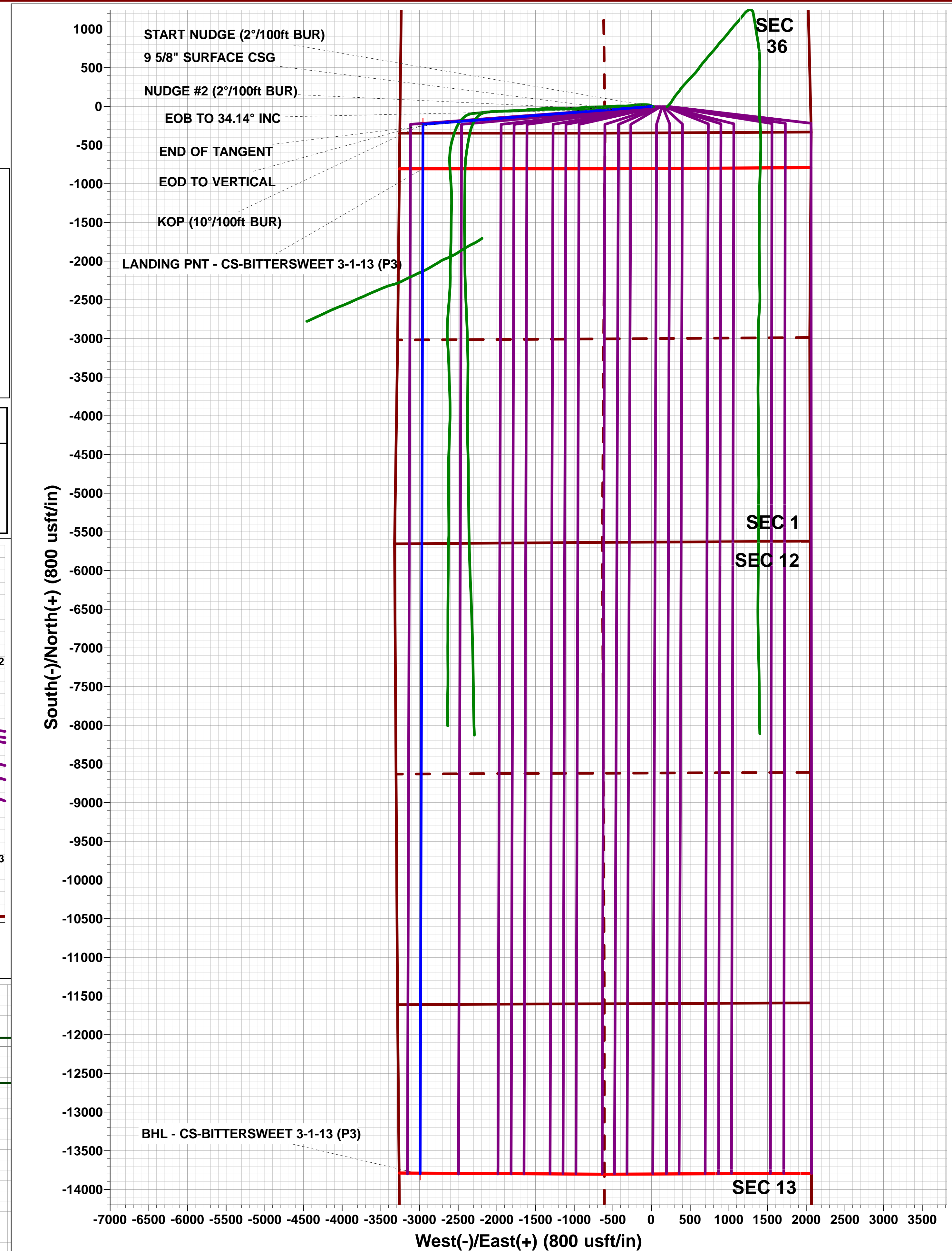
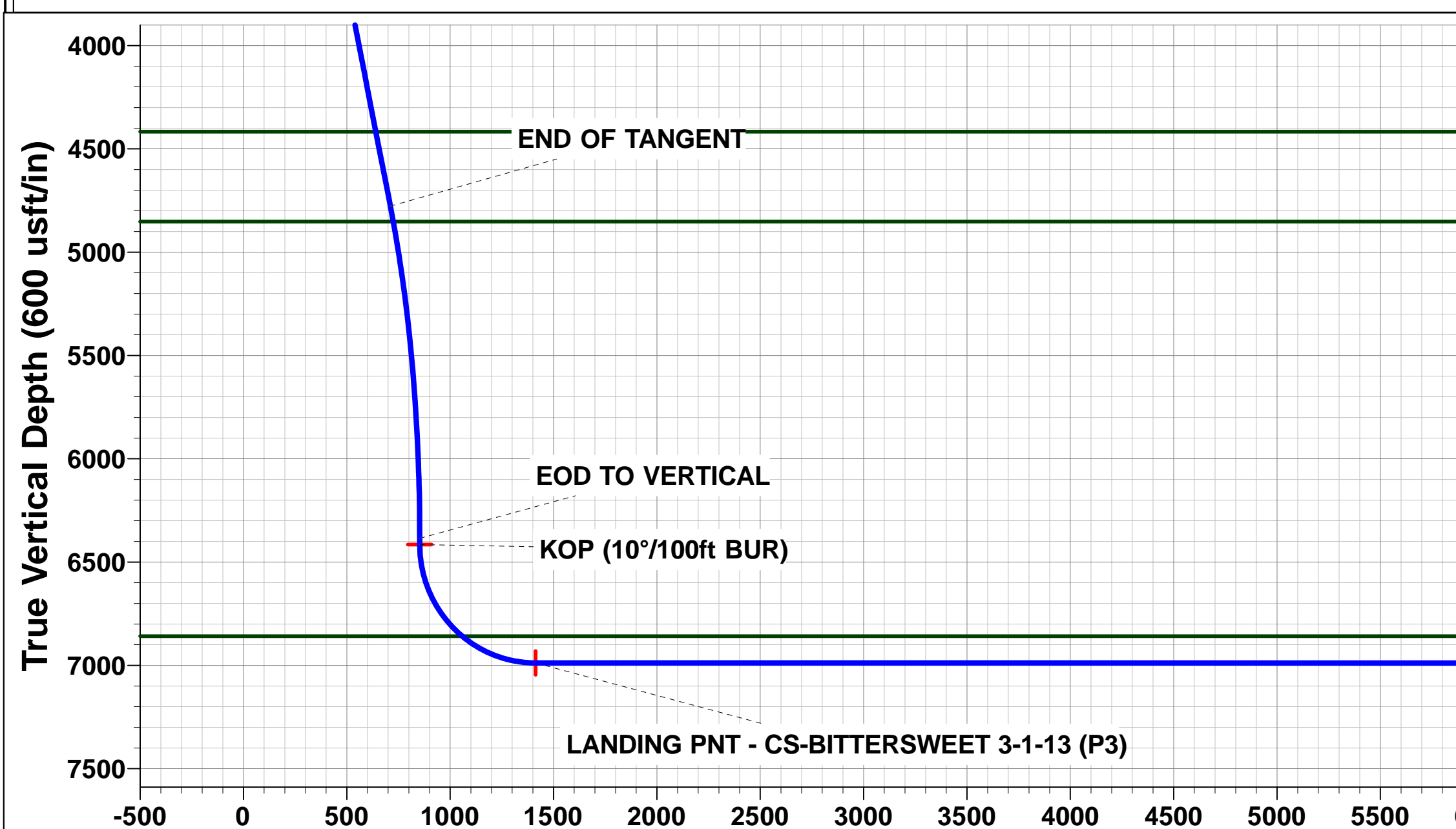
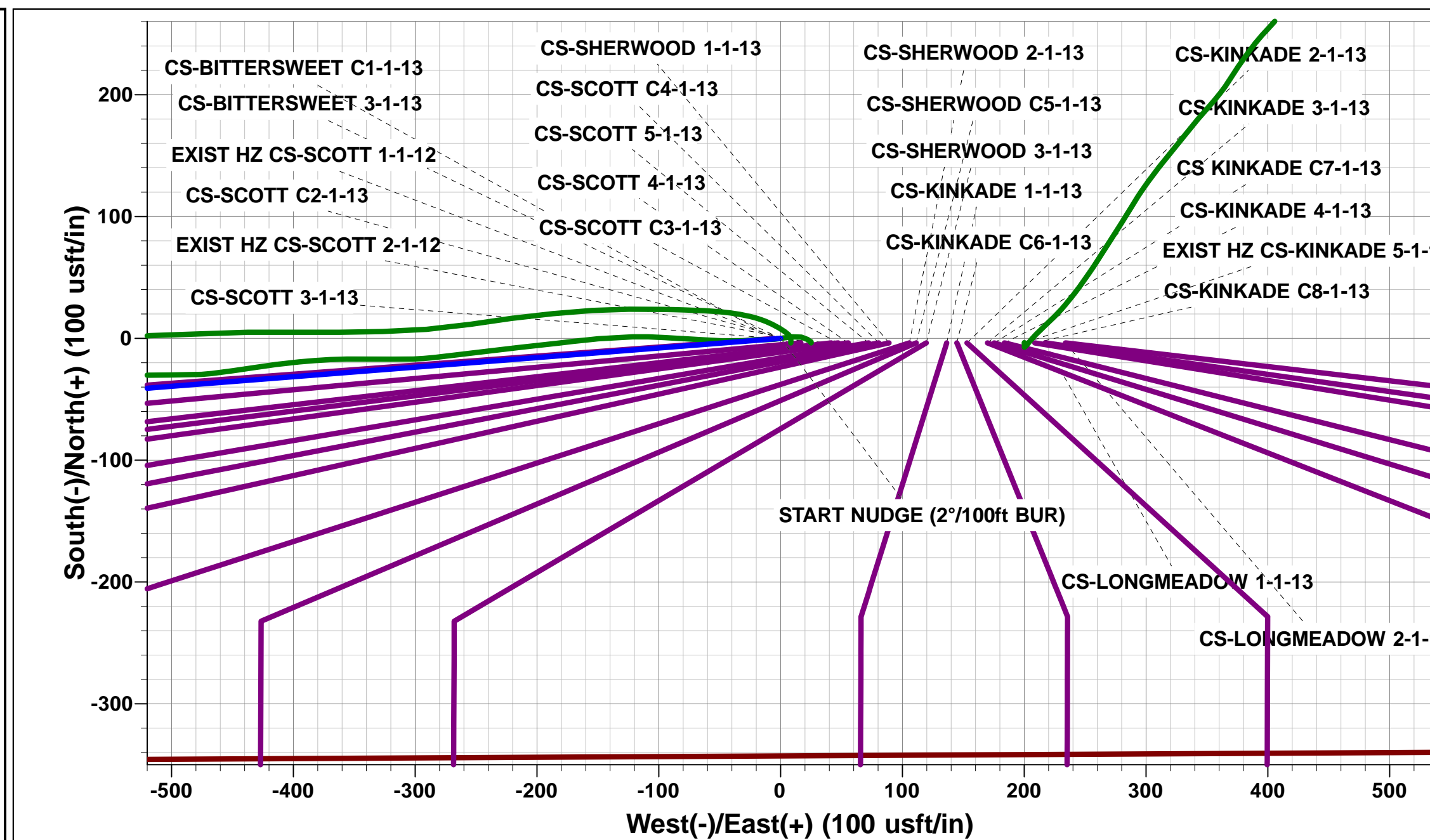
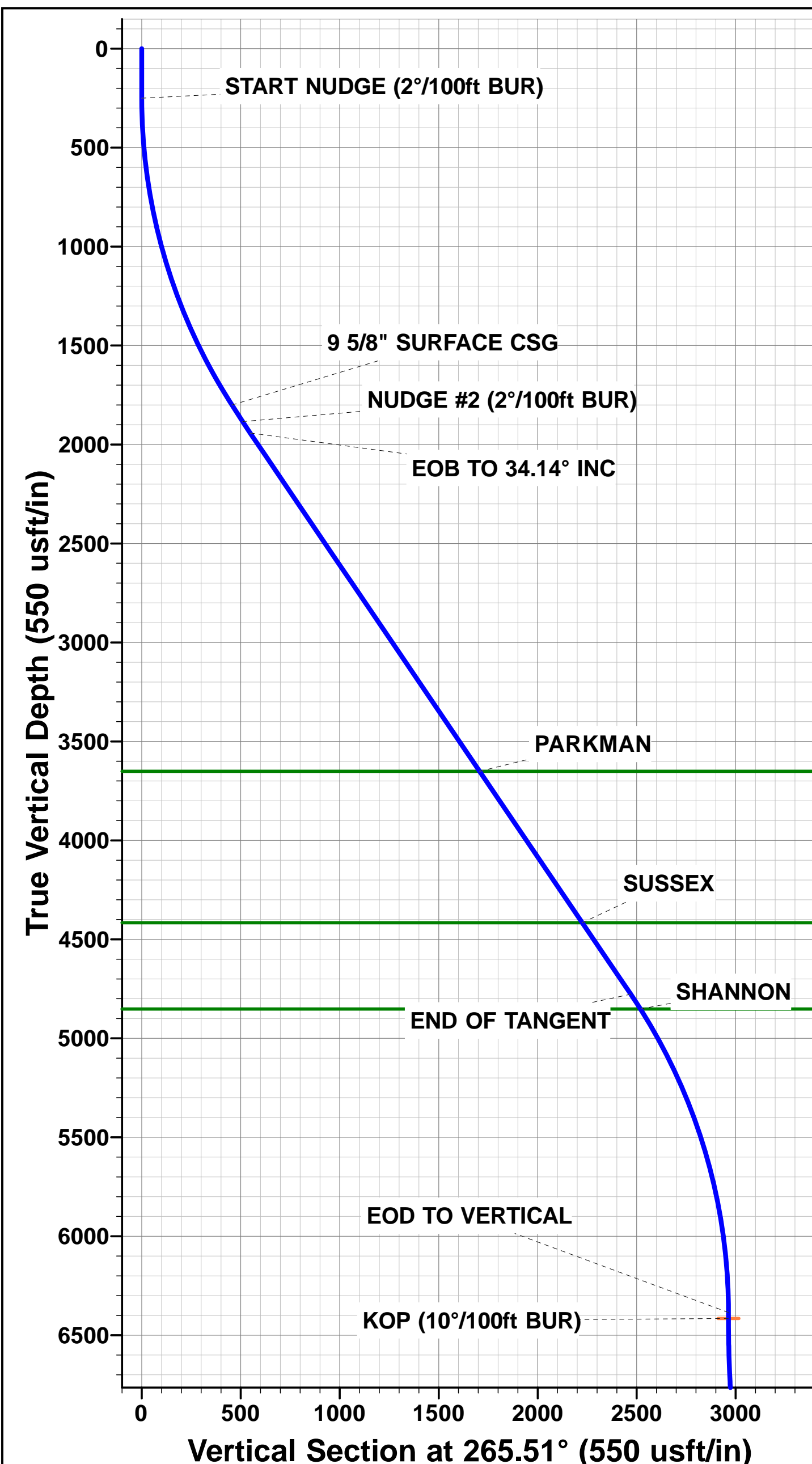
Plan: PROPOSAL #3





ANNOTATIONS									PROPOSED LOCAL COORDINATES:
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Dep	Annotation	
250.0	250.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2"/100ft BUR)	PROPOSED LOCAL COORDINATES:
1800.0	1887.8	32.76	265.51	-35.7	-454.1	131.1	455.5	9 5/8" SURFACE CSG	
1884.1	1987.8	32.76	265.51	-39.9	-508.1	146.6	509.7	NUDGE #2 (2"/100ft BUR)	PROPOSED LOCAL COORDINATES:
1941.8	2056.9	34.14	265.51	-42.9	-546.1	157.6	547.7	EOB TO 34.14" INC	SHL: 341ft FSL & 2056ft FEL Sec 36
4777.2	5482.6	34.14	265.51	-193.3	-2462.7	710.6	2470.2	END OF TANGENT	LANDING PNT: 460ft FNL & 303ft FWL Sec 1
6384.9	7189.5	0.00	265.51	-231.9	-2954.8	852.6	2963.9	EOD TO VERTICAL	
6414.9	7219.5	0.00	0.00	-231.9	-2954.8	852.6	2963.9	KOP (10"/100ft BUR)	BHL: 2192ft FNL & 271ft FWL Sec 13
6988.0	8119.7	89.99	180.15	-804.9	-2956.3	1412.9	3536.9	LANDING PNT - CS-BITTERSWEET 3-1-13	
6988.0	21114.8	90.00	180.16	-13800.0	-2991.3	14120.4	16532.0	BHL - CS-BITTERSWEET 3-1-13 (P3)	

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - CS-BITTERSWEET 3-1-13 (P3)	6414.9	-231.9	-2954.8	40.437743	-104.733875
BHL - CS-BITTERSWEET 3-1-13 (P3)	6988.0	-13800.0	-2991.3	40.400500	-104.734000
LANDING PNT - CS-BITTERSWEET 3-1-13 (P3)	6988.0	-804.9	-2956.3	40.436170	-104.733880



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CS-BITTERSWEET 3-1-13
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4681.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4681.0usft (Original Well Elev)
Site:	SW SE SEC 36 T6N R66W 6th P.M.	North Reference:	True
Well:	CS-BITTERSWEET 3-1-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #3		

Project	WELD COUNTY, COLORADO (NAD 83)		
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	SW SE SEC 36 T6N R66W 6th P.M.		
Site Position:		Northing:	1,403,485.52 usft
From:	Lat/Long	Easting:	3,216,213.28 usft
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000ft
		Latitude:	40.438370
		Longitude:	-104.723230
		Grid Convergence:	0.50 °

Well	CS-BITTERSWEET 3-1-13		
Well Position	+N/-S	3.6 usft	Northing:
	+E/-W	-8.4 usft	Easting:
Position Uncertainty		0.0 usft	Wellhead Elevation:
			usft
			Latitude:
			40.438380
			Longitude:
			-104.723260
			Ground Level:
			4,665.0 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	23/06/2015	8.40	66.94	52,644

Design	PROPOSAL #3			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	6,988.0	0.0	0.0	192.23

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
0.0	0.00	0.00	0.0	-4,681.0	0.0	0.0	0.00	0.00	0.00	0.00	
250.0	0.00	0.00	250.0	-4,431.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,887.8	32.76	265.51	1,800.0	-2,881.0	-35.7	-454.1	2.00	2.00	0.00	265.51	
1,987.8	32.76	265.51	1,884.1	-2,796.9	-39.9	-508.1	0.00	0.00	0.00	0.00	
2,056.9	34.14	265.51	1,941.8	-2,739.2	-42.9	-546.1	2.00	2.00	0.00	0.00	
5,482.6	34.14	265.51	4,777.2	96.2	-193.3	-2,462.7	0.00	0.00	0.00	0.00	
7,189.5	0.00	0.00	6,384.9	1,703.9	-231.9	-2,954.8	2.00	-2.00	0.00	180.00	
7,219.5	0.00	0.00	6,414.9	1,733.9	-231.9	-2,954.8	0.00	0.00	0.00	0.00	KOP - CS-BITTERSWEET
8,119.7	90.00	180.15	6,988.0	2,307.0	-804.9	-2,956.3	10.00	10.00	-19.98	180.15	LANDING PNT - CS-BITTERSWEET
21,114.8	90.00	180.16	6,988.0	2,307.0	-13,800.0	-2,991.3	0.00	0.00	0.00	32.56	BHL - CS-BITTERSWEET

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CS-BITTERSWEET 3-1-13
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4681.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4681.0usft (Original Well Elev)
Site:	SW SE SEC 36 T6N R66W 6th P.M.	North Reference:	True
Well:	CS-BITTERSWEET 3-1-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #3		

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)
0.0	0.00	0.00	0.0	4,681.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,581.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,481.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
250.0	0.00	0.00	250.0	4,431.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	1.00	265.51	300.0	4,381.00	0.0	-0.4	0.1	2.00	2.00	0.00
400.0	3.00	265.51	399.9	4,281.07	-0.3	-3.9	1.1	2.00	2.00	0.00
500.0	5.00	265.51	499.7	4,181.32	-0.9	-10.9	3.1	2.00	2.00	0.00
600.0	7.00	265.51	599.1	4,081.87	-1.7	-21.3	6.1	2.00	2.00	0.00
700.0	9.00	265.51	698.2	3,982.85	-2.8	-35.2	10.1	2.00	2.00	0.00
800.0	11.00	265.51	796.6	3,884.37	-4.1	-52.5	15.1	2.00	2.00	0.00
900.0	13.00	265.51	894.4	3,786.56	-5.7	-73.2	21.1	2.00	2.00	0.00
1,000.0	15.00	265.51	991.5	3,689.54	-7.6	-97.3	28.1	2.00	2.00	0.00
1,100.0	17.00	265.51	1,087.6	3,593.42	-9.8	-124.8	36.0	2.00	2.00	0.00
1,200.0	19.00	265.51	1,182.7	3,498.32	-12.2	-155.6	44.9	2.00	2.00	0.00
1,300.0	21.00	265.51	1,276.6	3,404.35	-14.9	-189.7	54.7	2.00	2.00	0.00
1,400.0	23.00	265.51	1,369.4	3,311.64	-17.8	-227.0	65.5	2.00	2.00	0.00
1,500.0	25.00	265.51	1,460.7	3,220.29	-21.0	-267.6	77.2	2.00	2.00	0.00
1,600.0	27.00	265.51	1,550.6	3,130.41	-24.4	-311.3	89.8	2.00	2.00	0.00
1,700.0	29.00	265.51	1,638.9	3,042.12	-28.1	-358.1	103.3	2.00	2.00	0.00
1,800.0	31.00	265.51	1,725.5	2,955.52	-32.0	-407.9	117.7	2.00	2.00	0.00
9 5/8" SURFACE CSG										
1,887.8	32.76	265.51	1,800.0	2,881.00	-35.7	-454.1	131.1	2.00	2.00	0.00
1,900.0	32.76	265.51	1,810.3	2,870.71	-36.2	-460.7	133.0	0.00	0.00	0.00
NUDGE #2 (2°/100ft BUR)										
1,987.8	32.76	265.51	1,884.1	2,796.87	-39.9	-508.1	146.6	0.00	0.00	0.00
2,000.0	33.00	265.51	1,894.4	2,786.63	-40.4	-514.7	148.5	2.01	2.01	0.00
EOB TO 34.14° INC										
2,056.9	34.14	265.51	1,941.8	2,739.22	-42.9	-546.1	157.6	2.00	2.00	0.00
2,100.0	34.14	265.51	1,977.5	2,703.54	-44.8	-570.2	164.5	0.00	0.00	0.00
2,200.0	34.14	265.51	2,060.2	2,620.77	-49.2	-626.1	180.7	0.00	0.00	0.00
2,300.0	34.14	265.51	2,143.0	2,538.01	-53.5	-682.1	196.8	0.00	0.00	0.00
2,400.0	34.14	265.51	2,225.8	2,455.24	-57.9	-738.0	213.0	0.00	0.00	0.00
2,500.0	34.14	265.51	2,308.5	2,372.47	-62.3	-794.0	229.1	0.00	0.00	0.00
2,600.0	34.14	265.51	2,391.3	2,289.70	-66.7	-849.9	245.3	0.00	0.00	0.00
2,700.0	34.14	265.51	2,474.1	2,206.93	-71.1	-905.9	261.4	0.00	0.00	0.00
2,800.0	34.14	265.51	2,556.8	2,124.16	-75.5	-961.8	277.5	0.00	0.00	0.00
2,900.0	34.14	265.51	2,639.6	2,041.40	-79.9	-1,017.8	293.7	0.00	0.00	0.00
3,000.0	34.14	265.51	2,722.4	1,958.63	-84.3	-1,073.7	309.8	0.00	0.00	0.00
3,100.0	34.14	265.51	2,805.1	1,875.86	-88.7	-1,129.6	326.0	0.00	0.00	0.00
3,200.0	34.14	265.51	2,887.9	1,793.09	-93.1	-1,185.6	342.1	0.00	0.00	0.00
3,300.0	34.14	265.51	2,970.7	1,710.32	-97.5	-1,241.5	358.2	0.00	0.00	0.00
3,400.0	34.14	265.51	3,053.4	1,627.55	-101.8	-1,297.5	374.4	0.00	0.00	0.00
3,500.0	34.14	265.51	3,136.2	1,544.79	-106.2	-1,353.4	390.5	0.00	0.00	0.00
3,600.0	34.14	265.51	3,219.0	1,462.02	-110.6	-1,409.4	406.7	0.00	0.00	0.00
3,700.0	34.14	265.51	3,301.8	1,379.25	-115.0	-1,465.3	422.8	0.00	0.00	0.00
3,800.0	34.14	265.51	3,384.5	1,296.48	-119.4	-1,521.3	439.0	0.00	0.00	0.00
3,900.0	34.14	265.51	3,467.3	1,213.71	-123.8	-1,577.2	455.1	0.00	0.00	0.00
4,000.0	34.14	265.51	3,550.1	1,130.94	-128.2	-1,633.2	471.2	0.00	0.00	0.00
4,100.0	34.14	265.51	3,632.8	1,048.17	-132.6	-1,689.1	487.4	0.00	0.00	0.00
PARKMAN										
4,122.0	34.14	265.51	3,651.0	1,030.00	-133.5	-1,701.4	490.9	0.00	0.00	0.00
4,200.0	34.14	265.51	3,715.6	965.41	-137.0	-1,745.1	503.5	0.00	0.00	0.00
4,300.0	34.14	265.51	3,798.4	882.64	-141.4	-1,801.0	519.7	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CS-BITTERSWEET 3-1-13
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4681.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4681.0usft (Original Well Elev)
Site:	SW SE SEC 36 T6N R66W 6th P.M.	North Reference:	True
Well:	CS-BITTERSWEET 3-1-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #3		

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)
4,400.0	34.14	265.51	3,881.1	799.87	-145.7	-1,857.0	535.8	0.00	0.00	0.00
4,500.0	34.14	265.51	3,963.9	717.10	-150.1	-1,912.9	552.0	0.00	0.00	0.00
4,600.0	34.14	265.51	4,046.7	634.33	-154.5	-1,968.9	568.1	0.00	0.00	0.00
4,700.0	34.14	265.51	4,129.4	551.56	-158.9	-2,024.8	584.2	0.00	0.00	0.00
4,800.0	34.14	265.51	4,212.2	468.80	-163.3	-2,080.8	600.4	0.00	0.00	0.00
4,900.0	34.14	265.51	4,295.0	386.03	-167.7	-2,136.7	616.5	0.00	0.00	0.00
5,000.0	34.14	265.51	4,377.7	303.26	-172.1	-2,192.7	632.7	0.00	0.00	0.00
SUSSEX										
5,046.2	34.14	265.51	4,416.0	265.00	-174.1	-2,218.5	640.1	0.00	0.00	0.00
5,100.0	34.14	265.51	4,460.5	220.49	-176.5	-2,248.6	648.8	0.00	0.00	0.00
5,200.0	34.14	265.51	4,543.3	137.72	-180.9	-2,304.5	665.0	0.00	0.00	0.00
5,300.0	34.14	265.51	4,626.0	54.95	-185.3	-2,360.5	681.1	0.00	0.00	0.00
5,400.0	34.14	265.51	4,708.8	-27.81	-189.6	-2,416.4	697.2	0.00	0.00	0.00
END OF TANGENT										
5,482.6	34.14	265.51	4,777.2	-96.18	-193.3	-2,462.7	710.6	0.00	0.00	0.00
5,500.0	33.79	265.51	4,791.6	-110.61	-194.0	-2,472.3	713.4	2.00	-2.00	0.00
SHANNON										
5,572.1	32.35	265.51	4,852.0	-171.00	-197.1	-2,511.5	724.7	2.00	-2.00	0.00
5,600.0	31.79	265.51	4,875.7	-194.67	-198.3	-2,526.3	729.0	2.00	-2.00	0.00
5,700.0	29.79	265.51	4,961.6	-280.57	-202.3	-2,577.4	743.7	2.00	-2.00	0.00
5,800.0	27.79	265.51	5,049.2	-368.21	-206.0	-2,625.4	757.5	2.00	-2.00	0.00
5,900.0	25.79	265.51	5,138.5	-457.47	-209.6	-2,670.3	770.5	2.00	-2.00	0.00
6,000.0	23.79	265.51	5,229.2	-548.25	-212.8	-2,712.1	782.6	2.00	-2.00	0.00
6,100.0	21.79	265.51	5,321.4	-640.44	-215.9	-2,750.7	793.7	2.00	-2.00	0.00
6,200.0	19.79	265.51	5,414.9	-733.92	-218.7	-2,786.1	803.9	2.00	-2.00	0.00
6,300.0	17.79	265.51	5,509.6	-828.58	-221.2	-2,818.2	813.2	2.00	-2.00	0.00
6,400.0	15.79	265.51	5,605.3	-924.32	-223.4	-2,847.0	821.5	2.00	-2.00	0.00
6,500.0	13.79	265.51	5,702.0	-1,021.00	-225.4	-2,872.5	828.8	2.00	-2.00	0.00
6,600.0	11.79	265.51	5,799.5	-1,118.51	-227.2	-2,894.5	835.2	2.00	-2.00	0.00
6,700.0	9.79	265.51	5,897.7	-1,216.74	-228.6	-2,913.2	840.6	2.00	-2.00	0.00
6,800.0	7.79	265.51	5,996.6	-1,315.56	-229.8	-2,928.4	845.0	2.00	-2.00	0.00
6,900.0	5.79	265.51	6,095.9	-1,414.85	-230.7	-2,940.2	848.4	2.00	-2.00	0.00
7,000.0	3.79	265.51	6,195.5	-1,514.50	-231.4	-2,948.6	850.8	2.00	-2.00	0.00
7,100.0	1.79	265.51	6,295.4	-1,614.37	-231.8	-2,953.4	852.2	2.00	-2.00	0.00
EOD TO VERTICAL										
7,189.5	0.00	265.51	6,384.9	-1,703.86	-231.9	-2,954.8	852.6	2.00	-2.00	0.00
7,200.0	0.00	0.00	6,395.4	-1,714.36	-231.9	-2,954.8	852.6	0.01	-0.01	0.00
KOP (10°/100ft BUR)										
7,219.5	0.00	0.00	6,414.9	-1,733.86	-231.9	-2,954.8	852.6	0.00	0.00	0.00
7,300.0	8.04	180.15	6,495.1	-1,814.10	-237.5	-2,954.8	858.1	9.99	9.99	0.00
7,400.0	18.04	180.15	6,592.4	-1,911.39	-260.1	-2,954.9	880.1	10.00	10.00	0.00
7,500.0	28.04	180.15	6,684.3	-2,003.30	-299.2	-2,955.0	918.4	10.00	10.00	0.00
7,600.0	38.04	180.15	6,768.0	-2,087.02	-353.6	-2,955.1	971.6	10.00	10.00	0.00
7,700.0	48.03	180.15	6,841.0	-2,160.02	-421.8	-2,955.3	1,038.2	10.00	10.00	0.00
NIOBRARA										
7,726.1	50.64	180.15	6,858.0	-2,177.00	-441.5	-2,955.4	1,057.6	10.00	10.00	0.00
7,800.0	58.03	180.15	6,901.1	-2,220.08	-501.6	-2,955.5	1,116.3	10.00	10.00	0.00
7,900.0	68.03	180.15	6,946.4	-2,265.38	-590.6	-2,955.7	1,203.3	10.00	10.00	0.00
8,000.0	78.03	180.15	6,975.5	-2,294.53	-686.1	-2,956.0	1,296.7	10.00	10.00	0.00
8,100.0	88.02	180.15	6,987.7	-2,306.66	-785.2	-2,956.3	1,393.7	10.00	10.00	0.00
LANDING PNT - CS-BITTERSWEET 3-1-13										
8,119.7	89.99	180.15	6,988.0	-2,307.00	-804.9	-2,956.3	1,412.9	10.00	10.00	0.00
8,200.0	90.00	180.15	6,988.0	-2,307.01	-885.2	-2,956.5	1,491.4	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CS-BITTERSWEET 3-1-13
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4681.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4681.0usft (Original Well Elev)
Site:	SW SE SEC 36 T6N R66W 6th P.M.	North Reference:	True
Well:	CS-BITTERSWEET 3-1-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #3		

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)
8,300.0	90.00	180.15	6,988.0	-2,307.01	-985.2	-2,956.8	1,589.2	0.00	0.00	0.00
8,400.0	90.00	180.15	6,988.0	-2,307.02	-1,085.2	-2,957.1	1,687.0	0.00	0.00	0.00
8,500.0	90.00	180.15	6,988.0	-2,307.03	-1,185.2	-2,957.3	1,784.8	0.00	0.00	0.00
8,600.0	90.00	180.15	6,988.0	-2,307.04	-1,285.2	-2,957.6	1,882.6	0.00	0.00	0.00
8,700.0	90.00	180.15	6,988.0	-2,307.04	-1,385.2	-2,957.8	1,980.4	0.00	0.00	0.00
8,800.0	90.00	180.15	6,988.1	-2,307.05	-1,485.2	-2,958.1	2,078.2	0.00	0.00	0.00
8,900.0	90.00	180.15	6,988.1	-2,307.06	-1,585.2	-2,958.4	2,176.0	0.00	0.00	0.00
9,000.0	90.00	180.15	6,988.1	-2,307.06	-1,685.2	-2,958.6	2,273.7	0.00	0.00	0.00
9,100.0	90.00	180.15	6,988.1	-2,307.07	-1,785.2	-2,958.9	2,371.5	0.00	0.00	0.00
9,200.0	90.00	180.15	6,988.1	-2,307.08	-1,885.2	-2,959.2	2,469.3	0.00	0.00	0.00
9,300.0	90.00	180.15	6,988.1	-2,307.08	-1,985.2	-2,959.4	2,567.1	0.00	0.00	0.00
9,400.0	90.00	180.15	6,988.1	-2,307.09	-2,085.2	-2,959.7	2,664.9	0.00	0.00	0.00
9,500.0	90.00	180.15	6,988.1	-2,307.10	-2,185.2	-2,960.0	2,762.7	0.00	0.00	0.00
9,600.0	90.00	180.15	6,988.1	-2,307.10	-2,285.2	-2,960.2	2,860.5	0.00	0.00	0.00
9,700.0	90.00	180.15	6,988.1	-2,307.11	-2,385.2	-2,960.5	2,958.2	0.00	0.00	0.00
9,800.0	90.00	180.15	6,988.1	-2,307.12	-2,485.2	-2,960.8	3,056.0	0.00	0.00	0.00
9,900.0	90.00	180.15	6,988.1	-2,307.12	-2,585.2	-2,961.0	3,153.8	0.00	0.00	0.00
10,000.0	90.00	180.15	6,988.1	-2,307.13	-2,685.2	-2,961.3	3,251.6	0.00	0.00	0.00
10,100.0	90.00	180.15	6,988.1	-2,307.13	-2,785.2	-2,961.6	3,349.4	0.00	0.00	0.00
10,200.0	90.00	180.15	6,988.1	-2,307.14	-2,885.2	-2,961.8	3,447.2	0.00	0.00	0.00
10,300.0	90.00	180.15	6,988.1	-2,307.14	-2,985.2	-2,962.1	3,545.0	0.00	0.00	0.00
10,400.0	90.00	180.15	6,988.1	-2,307.15	-3,085.2	-2,962.4	3,642.7	0.00	0.00	0.00
10,500.0	90.00	180.15	6,988.2	-2,307.15	-3,185.2	-2,962.6	3,740.5	0.00	0.00	0.00
10,600.0	90.00	180.15	6,988.2	-2,307.16	-3,285.2	-2,962.9	3,838.3	0.00	0.00	0.00
10,700.0	90.00	180.15	6,988.2	-2,307.16	-3,385.2	-2,963.2	3,936.1	0.00	0.00	0.00
10,800.0	90.00	180.15	6,988.2	-2,307.17	-3,485.2	-2,963.4	4,033.9	0.00	0.00	0.00
10,900.0	90.00	180.15	6,988.2	-2,307.17	-3,585.2	-2,963.7	4,131.7	0.00	0.00	0.00
11,000.0	90.00	180.15	6,988.2	-2,307.18	-3,685.2	-2,964.0	4,229.5	0.00	0.00	0.00
11,100.0	90.00	180.15	6,988.2	-2,307.18	-3,785.2	-2,964.2	4,327.3	0.00	0.00	0.00
11,200.0	90.00	180.15	6,988.2	-2,307.19	-3,885.2	-2,964.5	4,425.0	0.00	0.00	0.00
11,300.0	90.00	180.15	6,988.2	-2,307.19	-3,985.2	-2,964.8	4,522.8	0.00	0.00	0.00
11,400.0	90.00	180.15	6,988.2	-2,307.19	-4,085.2	-2,965.0	4,620.6	0.00	0.00	0.00
11,500.0	90.00	180.15	6,988.2	-2,307.20	-4,185.2	-2,965.3	4,718.4	0.00	0.00	0.00
11,600.0	90.00	180.15	6,988.2	-2,307.20	-4,285.2	-2,965.6	4,816.2	0.00	0.00	0.00
11,700.0	90.00	180.15	6,988.2	-2,307.20	-4,385.2	-2,965.8	4,914.0	0.00	0.00	0.00
11,800.0	90.00	180.15	6,988.2	-2,307.21	-4,485.2	-2,966.1	5,011.8	0.00	0.00	0.00
11,900.0	90.00	180.15	6,988.2	-2,307.21	-4,585.2	-2,966.4	5,109.5	0.00	0.00	0.00
12,000.0	90.00	180.15	6,988.2	-2,307.21	-4,685.2	-2,966.6	5,207.3	0.00	0.00	0.00
12,100.0	90.00	180.15	6,988.2	-2,307.22	-4,785.2	-2,966.9	5,305.1	0.00	0.00	0.00
12,200.0	90.00	180.15	6,988.2	-2,307.22	-4,885.2	-2,967.2	5,402.9	0.00	0.00	0.00
12,300.0	90.00	180.15	6,988.2	-2,307.22	-4,985.2	-2,967.4	5,500.7	0.00	0.00	0.00
12,400.0	90.00	180.15	6,988.2	-2,307.23	-5,085.2	-2,967.7	5,598.5	0.00	0.00	0.00
12,500.0	90.00	180.15	6,988.2	-2,307.23	-5,185.2	-2,968.0	5,696.3	0.00	0.00	0.00
12,600.0	90.00	180.15	6,988.2	-2,307.23	-5,285.2	-2,968.2	5,794.0	0.00	0.00	0.00
12,700.0	90.00	180.15	6,988.2	-2,307.23	-5,385.2	-2,968.5	5,891.8	0.00	0.00	0.00
12,800.0	90.00	180.15	6,988.2	-2,307.24	-5,485.2	-2,968.8	5,989.6	0.00	0.00	0.00
12,900.0	90.00	180.15	6,988.2	-2,307.24	-5,585.2	-2,969.0	6,087.4	0.00	0.00	0.00
13,000.0	90.00	180.15	6,988.2	-2,307.24	-5,685.2	-2,969.3	6,185.2	0.00	0.00	0.00
13,100.0	90.00	180.15	6,988.2	-2,307.24	-5,785.2	-2,969.6	6,283.0	0.00	0.00	0.00
13,200.0	90.00	180.15	6,988.2	-2,307.24	-5,885.2	-2,969.8	6,380.8	0.00	0.00	0.00
13,300.0	90.00	180.15	6,988.2	-2,307.25	-5,985.2	-2,970.1	6,478.6	0.00	0.00	0.00
13,400.0	90.00	180.15	6,988.2	-2,307.25	-6,085.2	-2,970.4	6,576.3	0.00	0.00	0.00
13,500.0	90.00	180.15	6,988.2	-2,307.25	-6,185.2	-2,970.6	6,674.1	0.00	0.00	0.00
13,600.0	90.00	180.15	6,988.2	-2,307.25	-6,285.2	-2,970.9	6,771.9	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CS-BITTERSWEET 3-1-13
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4681.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4681.0usft (Original Well Elev)
Site:	SW SE SEC 36 T6N R66W 6th P.M.	North Reference:	True
Well:	CS-BITTERSWEET 3-1-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #3		

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)
13,700.0	90.00	180.15	6,988.3	-2,307.25	-6,385.2	-2,971.2	6,869.7	0.00	0.00	0.00
13,800.0	90.00	180.15	6,988.3	-2,307.25	-6,485.2	-2,971.4	6,967.5	0.00	0.00	0.00
13,900.0	90.00	180.15	6,988.3	-2,307.25	-6,585.2	-2,971.7	7,065.3	0.00	0.00	0.00
14,000.0	90.00	180.15	6,988.3	-2,307.25	-6,685.2	-2,972.0	7,163.1	0.00	0.00	0.00
14,100.0	90.00	180.15	6,988.3	-2,307.25	-6,785.2	-2,972.2	7,260.9	0.00	0.00	0.00
14,200.0	90.00	180.15	6,988.3	-2,307.25	-6,885.2	-2,972.5	7,358.6	0.00	0.00	0.00
14,300.0	90.00	180.15	6,988.3	-2,307.26	-6,985.2	-2,972.8	7,456.4	0.00	0.00	0.00
14,400.0	90.00	180.15	6,988.3	-2,307.26	-7,085.2	-2,973.1	7,554.2	0.00	0.00	0.00
14,500.0	90.00	180.15	6,988.3	-2,307.26	-7,185.2	-2,973.3	7,652.0	0.00	0.00	0.00
14,600.0	90.00	180.15	6,988.3	-2,307.26	-7,285.2	-2,973.6	7,749.8	0.00	0.00	0.00
14,700.0	90.00	180.15	6,988.3	-2,307.26	-7,385.2	-2,973.9	7,847.6	0.00	0.00	0.00
14,800.0	90.00	180.15	6,988.3	-2,307.26	-7,485.2	-2,974.1	7,945.4	0.00	0.00	0.00
14,900.0	90.00	180.15	6,988.3	-2,307.26	-7,585.2	-2,974.4	8,043.1	0.00	0.00	0.00
15,000.0	90.00	180.15	6,988.3	-2,307.26	-7,685.2	-2,974.7	8,140.9	0.00	0.00	0.00
15,100.0	90.00	180.15	6,988.3	-2,307.25	-7,785.2	-2,974.9	8,238.7	0.00	0.00	0.00
15,200.0	90.00	180.15	6,988.3	-2,307.25	-7,885.2	-2,975.2	8,336.5	0.00	0.00	0.00
15,300.0	90.00	180.15	6,988.3	-2,307.25	-7,985.2	-2,975.5	8,434.3	0.00	0.00	0.00
15,400.0	90.00	180.15	6,988.3	-2,307.25	-8,085.2	-2,975.7	8,532.1	0.00	0.00	0.00
15,500.0	90.00	180.15	6,988.3	-2,307.25	-8,185.2	-2,976.0	8,629.9	0.00	0.00	0.00
15,600.0	90.00	180.15	6,988.3	-2,307.25	-8,285.2	-2,976.3	8,727.7	0.00	0.00	0.00
15,700.0	90.00	180.15	6,988.2	-2,307.25	-8,385.2	-2,976.6	8,825.4	0.00	0.00	0.00
15,800.0	90.00	180.15	6,988.2	-2,307.25	-8,485.2	-2,976.8	8,923.2	0.00	0.00	0.00
15,900.0	90.00	180.15	6,988.2	-2,307.25	-8,585.2	-2,977.1	9,021.0	0.00	0.00	0.00
16,000.0	90.00	180.15	6,988.2	-2,307.24	-8,685.2	-2,977.4	9,118.8	0.00	0.00	0.00
16,100.0	90.00	180.15	6,988.2	-2,307.24	-8,785.2	-2,977.6	9,216.6	0.00	0.00	0.00
16,200.0	90.00	180.15	6,988.2	-2,307.24	-8,885.2	-2,977.9	9,314.4	0.00	0.00	0.00
16,300.0	90.00	180.15	6,988.2	-2,307.24	-8,985.2	-2,978.2	9,412.2	0.00	0.00	0.00
16,400.0	90.00	180.16	6,988.2	-2,307.24	-9,085.2	-2,978.5	9,510.0	0.00	0.00	0.00
16,500.0	90.00	180.16	6,988.2	-2,307.23	-9,185.2	-2,978.7	9,607.7	0.00	0.00	0.00
16,600.0	90.00	180.16	6,988.2	-2,307.23	-9,285.2	-2,979.0	9,705.5	0.00	0.00	0.00
16,700.0	90.00	180.16	6,988.2	-2,307.23	-9,385.2	-2,979.3	9,803.3	0.00	0.00	0.00
16,800.0	90.00	180.16	6,988.2	-2,307.23	-9,485.2	-2,979.5	9,901.1	0.00	0.00	0.00
16,900.0	90.00	180.16	6,988.2	-2,307.22	-9,585.2	-2,979.8	9,998.9	0.00	0.00	0.00
17,000.0	90.00	180.16	6,988.2	-2,307.22	-9,685.2	-2,980.1	10,096.7	0.00	0.00	0.00
17,100.0	90.00	180.16	6,988.2	-2,307.22	-9,785.2	-2,980.3	10,194.5	0.00	0.00	0.00
17,200.0	90.00	180.16	6,988.2	-2,307.22	-9,885.2	-2,980.6	10,292.3	0.00	0.00	0.00
17,300.0	90.00	180.16	6,988.2	-2,307.21	-9,985.2	-2,980.9	10,390.0	0.00	0.00	0.00
17,400.0	90.00	180.16	6,988.2	-2,307.21	-10,085.2	-2,981.2	10,487.8	0.00	0.00	0.00
17,500.0	90.00	180.16	6,988.2	-2,307.21	-10,185.2	-2,981.4	10,585.6	0.00	0.00	0.00
17,600.0	90.00	180.16	6,988.2	-2,307.20	-10,285.2	-2,981.7	10,683.4	0.00	0.00	0.00
17,700.0	90.00	180.16	6,988.2	-2,307.20	-10,385.2	-2,982.0	10,781.2	0.00	0.00	0.00
17,800.0	90.00	180.16	6,988.2	-2,307.19	-10,485.2	-2,982.2	10,879.0	0.00	0.00	0.00
17,900.0	90.00	180.16	6,988.2	-2,307.19	-10,585.2	-2,982.5	10,976.8	0.00	0.00	0.00
18,000.0	90.00	180.16	6,988.2	-2,307.19	-10,685.2	-2,982.8	11,074.6	0.00	0.00	0.00
18,100.0	90.00	180.16	6,988.2	-2,307.18	-10,785.2	-2,983.1	11,172.3	0.00	0.00	0.00
18,200.0	90.00	180.16	6,988.2	-2,307.18	-10,885.2	-2,983.3	11,270.1	0.00	0.00	0.00
18,300.0	90.00	180.16	6,988.2	-2,307.17	-10,985.2	-2,983.6	11,367.9	0.00	0.00	0.00
18,400.0	90.00	180.16	6,988.2	-2,307.17	-11,085.2	-2,983.9	11,465.7	0.00	0.00	0.00
18,500.0	90.00	180.16	6,988.2	-2,307.16	-11,185.2	-2,984.1	11,563.5	0.00	0.00	0.00
18,600.0	90.00	180.16	6,988.2	-2,307.16	-11,285.2	-2,984.4	11,661.3	0.00	0.00	0.00
18,700.0	90.00	180.16	6,988.2	-2,307.15	-11,385.2	-2,984.7	11,759.1	0.00	0.00	0.00
18,800.0	90.00	180.16	6,988.1	-2,307.15	-11,485.2	-2,985.0	11,856.9	0.00	0.00	0.00
18,900.0	90.00	180.16	6,988.1	-2,307.14	-11,585.2	-2,985.2	11,954.6	0.00	0.00	0.00
19,000.0	90.00	180.16	6,988.1	-2,307.14	-11,685.2	-2,985.5	12,052.4	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CS-BITTERSWEET 3-1-13
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4681.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4681.0usft (Original Well Elev)
Site:	SW SE SEC 36 T6N R66W 6th P.M.	North Reference:	True
Well:	CS-BITTERSWEET 3-1-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #3		

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)
19,100.0	90.00	180.16	6,988.1	-2,307.13	-11,785.2	-2,985.8	12,150.2	0.00	0.00	0.00
19,200.0	90.00	180.16	6,988.1	-2,307.13	-11,885.2	-2,986.1	12,248.0	0.00	0.00	0.00
19,300.0	90.00	180.16	6,988.1	-2,307.12	-11,985.2	-2,986.3	12,345.8	0.00	0.00	0.00
19,400.0	90.00	180.16	6,988.1	-2,307.12	-12,085.2	-2,986.6	12,443.6	0.00	0.00	0.00
19,500.0	90.00	180.16	6,988.1	-2,307.11	-12,185.2	-2,986.9	12,541.4	0.00	0.00	0.00
19,600.0	90.00	180.16	6,988.1	-2,307.11	-12,285.2	-2,987.1	12,639.2	0.00	0.00	0.00
19,700.0	90.00	180.16	6,988.1	-2,307.10	-12,385.2	-2,987.4	12,736.9	0.00	0.00	0.00
19,800.0	90.00	180.16	6,988.1	-2,307.09	-12,485.2	-2,987.7	12,834.7	0.00	0.00	0.00
19,900.0	90.00	180.16	6,988.1	-2,307.09	-12,585.2	-2,988.0	12,932.5	0.00	0.00	0.00
20,000.0	90.00	180.16	6,988.1	-2,307.08	-12,685.2	-2,988.2	13,030.3	0.00	0.00	0.00
20,100.0	90.00	180.16	6,988.1	-2,307.07	-12,785.2	-2,988.5	13,128.1	0.00	0.00	0.00
20,200.0	90.00	180.16	6,988.1	-2,307.07	-12,885.2	-2,988.8	13,225.9	0.00	0.00	0.00
20,300.0	90.00	180.16	6,988.1	-2,307.06	-12,985.2	-2,989.1	13,323.7	0.00	0.00	0.00
20,400.0	90.00	180.16	6,988.1	-2,307.05	-13,085.2	-2,989.3	13,421.5	0.00	0.00	0.00
20,500.0	90.00	180.16	6,988.0	-2,307.05	-13,185.2	-2,989.6	13,519.3	0.00	0.00	0.00
20,600.0	90.00	180.16	6,988.0	-2,307.04	-13,285.2	-2,989.9	13,617.0	0.00	0.00	0.00
20,700.0	90.00	180.16	6,988.0	-2,307.03	-13,385.2	-2,990.2	13,714.8	0.00	0.00	0.00
20,800.0	90.00	180.16	6,988.0	-2,307.02	-13,485.2	-2,990.4	13,812.6	0.00	0.00	0.00
20,900.0	90.00	180.16	6,988.0	-2,307.02	-13,585.2	-2,990.7	13,910.4	0.00	0.00	0.00
21,000.0	90.00	180.16	6,988.0	-2,307.01	-13,685.2	-2,991.0	14,008.2	0.00	0.00	0.00
21,100.0	90.00	180.16	6,988.0	-2,307.00	-13,785.2	-2,991.3	14,106.0	0.00	0.00	0.00
BHL - CS-BITTERSWEET 3-1-13 (P3)										
21,114.8	90.00	180.16	6,988.0	-2,307.00	-13,800.0	-2,991.3	14,120.4	0.00	0.00	0.00

Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,122.0	3,651.0	PARKMAN			
5,046.2	4,416.0	SUSSEX			
5,572.1	4,852.0	SHANNON			
7,726.1	6,858.0	NIOBRARA			

Plan Annotations

MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
250.0	250.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1,887.8	1,800.0	-35.7	-454.1	9 5/8" SURFACE CSG
1,987.8	1,884.1	-39.9	-508.1	NUDGE #2 (2°/100ft BUR)
2,056.9	1,941.8	-42.9	-546.1	EOB TO 34.14° INC
5,482.6	4,777.2	-193.3	-2,462.7	END OF TANGENT
7,189.5	6,384.9	-231.9	-2,954.8	EOD TO VERTICAL
7,219.5	6,414.9	-231.9	-2,954.8	KOP (10°/100ft BUR)
8,119.7	6,988.0	-804.9	-2,956.3	LANDING PNT - CS-BITTERSWEET 3-1-13
21,114.8	6,988.0	-13,800.0	-2,991.3	BHL - CS-BITTERSWEET 3-1-13 (P3)