

Occidental Petroleum

Project: Weld County, CO (UTM-NAD83)
 Site: 4N-68W-13 SBJ 22-13HZ PAD
 Well: SBJ 13-2HZ
 Wellbore: Plan C
 Design: FINAL

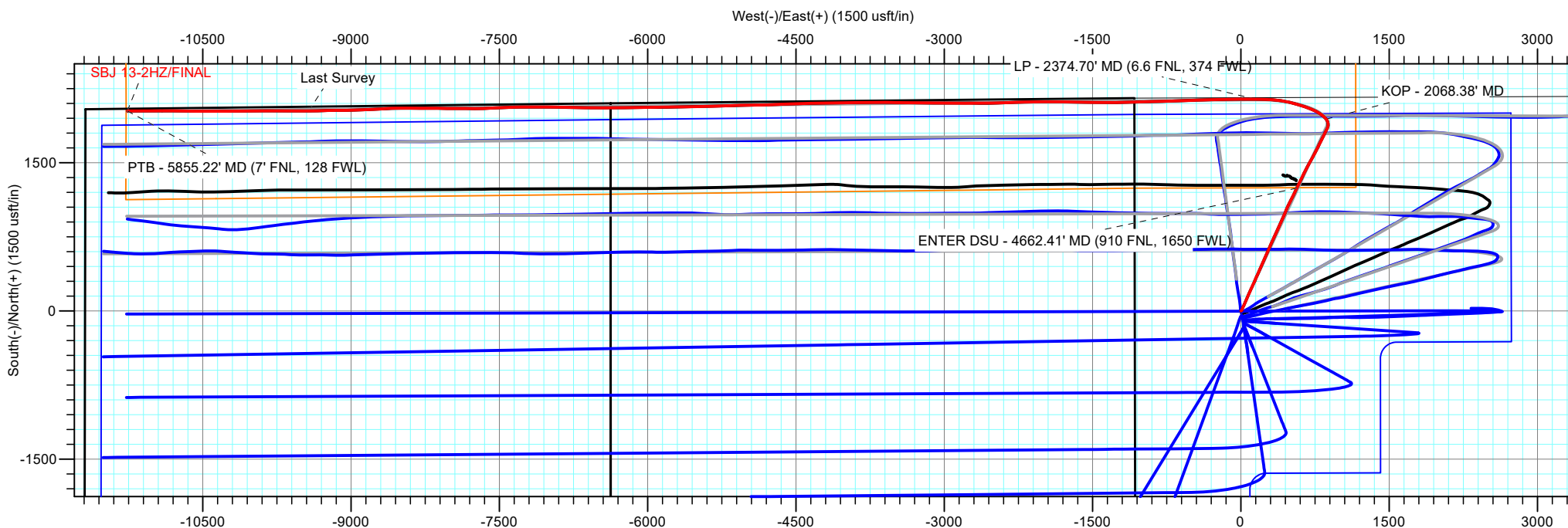
PROJECT DETAILS: Weld County, CO (UTM-NAD83)
 Geodetic System: Universal Transverse Mercator (US Survey Feet)
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Zone 13N (108 W to 102 W)



ACTUAL LINE CALLS
SHL: 2159' FNL, 1068' FWL
HEEL: 6.6' FNL, 374' FWL
TOE: 7' FNL, 128' FWL

SHL: Sec 13-T4N-R68W
LP: Sec 13-T4N-R68W
BHL: Sec 15-T4N-R68W

ANNOTATIONS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation	
4662.41	21.89	26.25	4416.26	1242.35	564.33	-577.09	1368.03	ENTER DSU - 4662.41' MD (910 FNL, 1650 FWL)	
6786.01	20.13	320.36	6391.17	1941.87	863.27	-883.22	2148.74	KOP - 2068.38' MD	
7790.99	89.78	270.69	6952.13	2142.31	150.19	-172.25	2906.71	LP - 2374.70' MD (6.6 FNL, 374 FWL)	
8160.09	90.39	269.05	6950.61	2139.85	-218.86	196.82	3275.75	CROSS HL - 2487.20' MD (5.6' FNL, 261 FWL)	
17374.00	91.72	268.52	6861.71	2023.85	-9428.96	9407.62	2488.61	Last Survey	
19210.00	93.35	269.78	6774.36	2024.47	11262.34	1240.90	4322.08	PTB - 5855.22' MD (7' FNL, 128 FWL)	



Occidental Petroleum

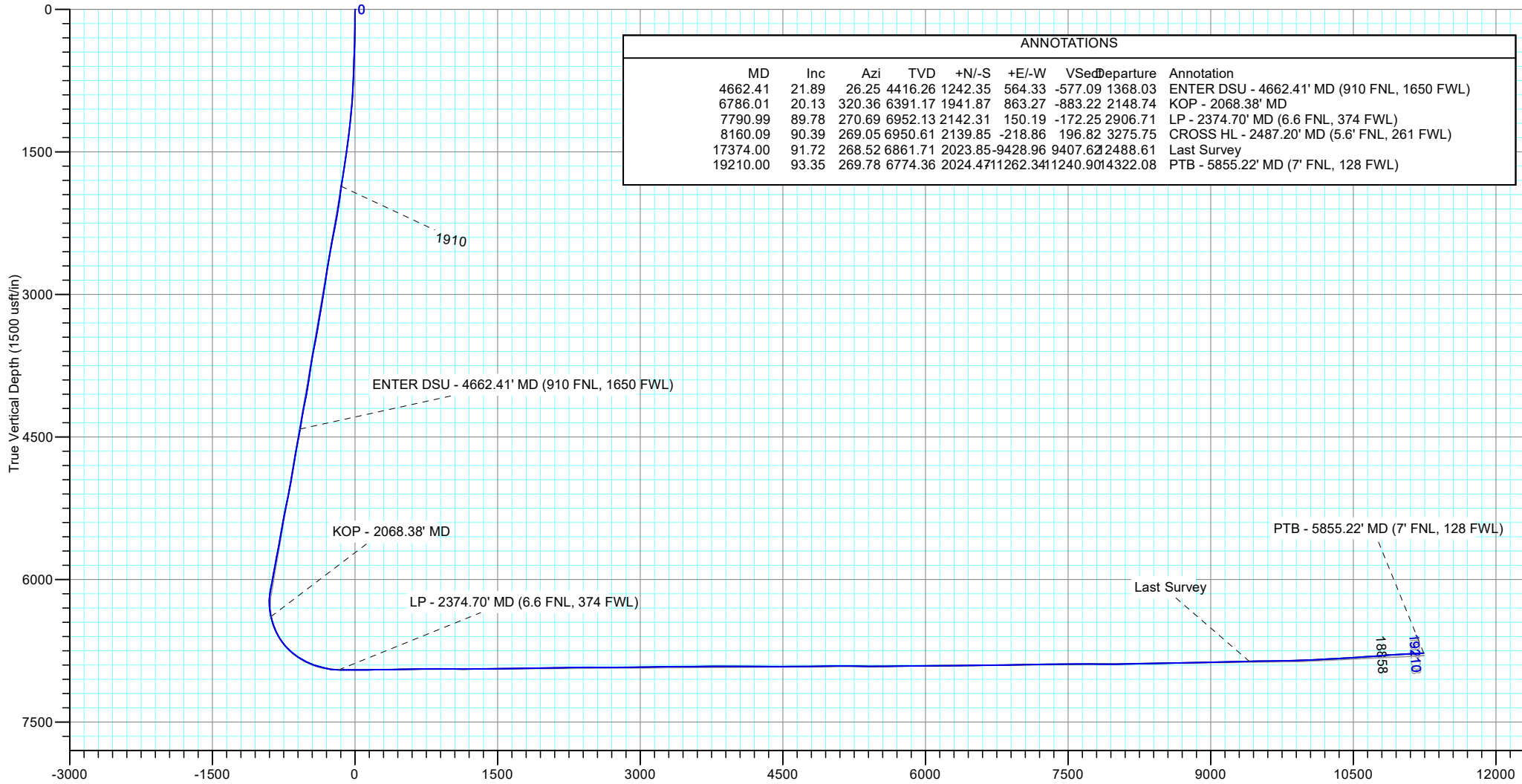
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7790.99	89.78	270.69	6952.13	2142.31	150.19	-172.25	2906.71	LP - 2374.70' MD (6.6 FNL, 374 FWL)	
8160.09	90.39	269.05	6950.61	2139.85	-218.86	196.82	3275.75	CROSS HL - 2487.20' MD (5.6' FNL, 261 FWL)	
17374.00	91.72	268.52	6861.71	2023.85	-9428.96	9407.62	2488.61	Last Survey	
19210.00	93.35	269.78	6774.36	2024.47	11262.34	1240.90	4322.08	PTB - 5855.22' MD (7' FNL, 128 FWL)	



Occidental Petroleum

Weld County, CO (UTM-NAD83)

4N-68W-13 SBJ 22-13HZ PAD

SBJ 13-2HZ

Plan C

Design: FINAL

Standard Survey Report

17 December, 2021



Survey Report

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well SBJ 13-2HZ
Project:	Weld County, CO (UTM-NAD83)	TVD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Site:	4N-68W-13 SBJ 22-13HZ PAD	MD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Well:	SBJ 13-2HZ	North Reference:	True
Wellbore:	Plan C	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	EDM 5000.1 Single User Db

Project	Weld County, CO (UTM-NAD83)		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site	4N-68W-13 SBJ 22-13HZ PAD		
Site Position:		Northing:	14,641,145.55 usft
From:	Lat/Long	Easting:	1,652,517.50 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	40.314181
		Longitude:	-104.956591

Well	SBJ 13-2HZ					
Well Position	+N/-S	0.00 usft	Northing:	14,641,490.00 usft	Latitude:	40.315127
	+E/-W	0.00 usft	Easting:	1,652,432.86 usft	Longitude:	-104.956894
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	4,859.00 usft
Grid Convergence:		0.03 °				

Wellbore	Plan C				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IFR	10/6/2021	(°)	(°)	(nT)
			7.86	66.48	51,859.70000000

Design	FINAL			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	
		Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	269.41

Survey Program	Date	12/16/2021	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
99.00	1,910.00	Survey #1 (Plan C)	APC_ISCWSA REV 2 MWD+ Fixed.v2:crustal field declination
2,003.00	18,858.00	Survey #2 (Plan C)	APC_ISCWSA REV 2 MWD+ Fixed.v2:Rockies, crustal dec + 3-axis correction
19,210.00	19,210.00	Survey #3 (Plan C)	APC_BLIND OWSG BLIND

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	0.00
SBJ 13-2HZ_LP										
5.58	0.02	120.50	5.58	0.00	0.00	0.00	0.39	0.39	0.00	
SBJ 13-2HZ_460' Circle2										
5.65	0.02	120.50	5.65	0.00	0.00	0.00	0.00	0.00	0.00	
SBJ 13-2HZ_Hardline Box										
6.00	0.02	120.50	6.00	0.00	0.00	0.00	0.47	0.47	0.00	
SBJ 13-2HZ_SHL										
99.00	0.39	120.50	99.00	-0.17	0.29	-0.29	0.39	0.39	0.00	



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Well:	SBJ 13-2HZ	North Reference:	True
Wellbore:	Plan C	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	EDM 5000.1 Single User Db

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)	
185.00	0.41	121.01	185.00	-0.48	0.81	-0.80	0.02	0.02	0.59	
274.00	1.11	69.69	273.99	-0.34	1.89	-1.88	1.02	0.79	-57.66	
366.00	2.76	50.67	365.93	1.37	4.44	-4.45	1.90	1.79	-20.67	
456.00	4.30	35.09	455.76	5.50	8.05	-8.11	2.00	1.71	-17.31	
546.00	4.68	18.94	545.49	11.74	11.18	-11.30	1.46	0.42	-17.94	
636.00	4.84	13.37	635.18	18.91	13.25	-13.45	0.54	0.18	-6.19	
726.00	5.67	20.89	724.80	26.75	15.72	-15.99	1.20	0.92	8.36	
815.00	6.89	26.69	813.27	35.63	19.68	-20.05	1.54	1.37	6.52	
905.00	8.41	26.80	902.46	46.33	25.08	-25.55	1.69	1.69	0.12	
995.00	10.22	25.16	991.27	59.43	31.44	-32.05	2.03	2.01	-1.82	
1,085.00	13.54	25.25	1,079.33	76.19	39.33	-40.11	3.69	3.69	0.10	
1,175.00	14.02	22.01	1,166.74	95.83	47.91	-48.89	1.01	0.53	-3.60	
1,265.00	14.73	21.59	1,253.93	116.58	56.20	-57.40	0.80	0.79	-0.47	
1,355.00	17.33	24.13	1,340.42	139.45	65.90	-67.33	2.99	2.89	2.82	
1,445.00	17.33	23.61	1,426.33	163.97	76.74	-78.43	0.17	0.00	-0.58	
1,535.00	19.55	24.47	1,511.71	189.96	88.35	-90.30	2.49	2.47	0.96	
1,624.00	19.71	24.92	1,595.54	217.12	100.84	-103.07	0.25	0.18	0.51	
1,714.00	19.96	23.18	1,680.20	245.01	113.29	-115.80	0.71	0.28	-1.93	
1,804.00	20.73	25.19	1,764.58	273.54	126.11	-128.92	1.16	0.86	2.23	
1,849.00	20.43	26.18	1,806.71	287.80	132.97	-135.92	1.02	-0.67	2.20	
1,910.00	18.21	23.57	1,864.27	306.09	141.48	-144.62	3.90	-3.64	-4.28	
2,003.00	18.12	22.12	1,952.64	332.81	152.73	-156.15	0.50	-0.10	-1.56	
2,096.00	20.30	24.09	2,040.46	360.94	164.76	-168.47	2.45	2.34	2.12	
2,190.00	21.24	24.13	2,128.35	391.36	178.38	-182.40	1.00	1.00	0.04	
2,283.00	24.08	23.41	2,214.16	424.15	192.81	-197.17	3.07	3.05	-0.77	
2,376.00	25.10	24.86	2,298.72	459.46	208.64	-213.36	1.27	1.10	1.56	
2,480.00	24.89	23.75	2,392.98	499.51	226.73	-231.86	0.49	-0.20	-1.07	
2,572.00	23.41	22.92	2,476.93	534.07	241.64	-247.13	1.65	-1.61	-0.90	
2,665.00	22.75	23.44	2,562.49	567.58	255.99	-261.82	0.74	-0.71	0.56	
2,757.00	22.59	23.89	2,647.38	600.06	270.22	-276.39	0.26	-0.17	0.49	
2,849.00	22.26	24.80	2,732.42	632.03	284.69	-291.18	0.52	-0.36	0.99	
2,942.00	19.84	23.01	2,819.21	662.55	298.25	-305.06	2.69	-2.60	-1.92	
3,034.00	19.80	24.66	2,905.76	691.09	310.85	-317.95	0.61	-0.04	1.79	
3,127.00	20.59	23.79	2,993.04	720.36	324.02	-331.42	0.91	0.85	-0.94	
3,220.00	20.95	25.80	3,080.00	750.30	337.86	-345.56	0.86	0.39	2.16	
3,314.00	22.37	25.29	3,167.36	781.60	352.81	-360.84	1.52	1.51	-0.54	
3,407.00	22.01	23.70	3,253.47	813.56	367.38	-375.73	0.75	-0.39	-1.71	
3,500.00	21.90	22.58	3,339.73	845.53	381.04	-389.73	0.47	-0.12	-1.20	
3,593.00	23.22	23.80	3,425.61	878.32	395.10	-404.12	1.51	1.42	1.31	
3,687.00	24.72	26.02	3,511.50	912.94	411.20	-420.58	1.86	1.60	2.36	
3,780.00	24.66	24.24	3,596.00	948.11	427.70	-437.44	0.80	-0.06	-1.91	
3,873.00	23.53	22.58	3,680.90	982.94	442.79	-452.89	1.42	-1.22	-1.78	
3,967.00	20.46	20.67	3,768.05	1,015.65	455.80	-466.23	3.35	-3.27	-2.03	



Survey Report

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Project:	Weld County, CO (UTM-NAD83)	TVD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Site:	4N-68W-13 SBJ 22-13HZ PAD	MD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Well:	SBJ 13-2HZ	North Reference:	True
Wellbore:	Plan C	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	EDM 5000.1 Single User Db

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)	
4,061.00	19.40	25.18	3,856.42	1,045.15	468.24	-478.98	1.99	-1.13	4.80	
4,155.00	20.87	23.85	3,944.68	1,074.59	481.65	-492.69	1.64	1.56	-1.41	
4,248.00	20.75	28.06	4,031.61	1,104.28	496.10	-507.45	1.61	-0.13	4.53	
4,341.00	23.10	27.43	4,117.88	1,135.02	512.26	-523.92	2.54	2.53	-0.68	
4,433.00	23.35	26.28	4,202.43	1,167.38	528.64	-540.64	0.56	0.27	-1.25	
4,526.00	20.25	24.20	4,288.77	1,198.60	543.41	-555.72	3.43	-3.33	-2.24	
4,619.00	20.89	26.23	4,375.84	1,228.15	557.33	-569.95	1.03	0.69	2.18	
4,662.41	21.89	26.25	4,416.26	1,242.35	564.33	-577.09	2.29	2.29	0.05	
ENTER DSU - 4662.41' MD (910 FNL, 1650 FWL)										
4,711.00	23.00	26.27	4,461.17	1,258.99	572.54	-585.47	2.29	2.29	0.04	
4,804.00	22.68	25.64	4,546.88	1,291.44	588.34	-601.61	0.43	-0.34	-0.68	
4,896.00	21.40	27.62	4,632.15	1,322.31	603.80	-617.38	1.61	-1.39	2.15	
4,988.00	19.93	25.32	4,718.23	1,351.35	618.28	-632.17	1.82	-1.60	-2.50	
5,080.00	20.44	25.74	4,804.58	1,380.00	631.97	-646.14	0.58	0.55	0.46	
5,173.00	21.13	27.99	4,891.53	1,409.43	646.89	-661.37	1.13	0.74	2.42	
5,265.00	20.58	24.95	4,977.50	1,438.73	661.49	-676.27	1.32	-0.60	-3.30	
5,357.00	20.86	28.58	5,063.56	1,467.78	676.15	-691.23	1.43	0.30	3.95	
5,451.00	21.36	30.41	5,151.25	1,497.24	692.82	-708.20	0.88	0.53	1.95	
5,544.00	23.86	29.03	5,237.10	1,528.30	710.52	-726.22	2.75	2.69	-1.48	
5,638.00	21.36	29.67	5,323.86	1,559.80	728.23	-744.25	2.67	-2.66	0.68	
5,730.00	20.30	27.67	5,409.85	1,588.49	743.93	-760.25	1.39	-1.15	-2.17	
5,823.00	21.35	26.51	5,496.77	1,617.93	758.98	-775.60	1.21	1.13	-1.25	
5,916.00	21.10	28.62	5,583.47	1,647.77	774.55	-791.48	0.86	-0.27	2.27	
6,009.00	21.10	24.34	5,670.24	1,677.72	789.47	-806.71	1.66	0.00	-4.60	
6,103.00	22.44	27.30	5,757.53	1,709.08	804.68	-822.23	1.84	1.43	3.15	
6,195.00	23.11	25.10	5,842.36	1,741.04	820.39	-838.27	1.18	0.73	-2.39	
6,288.00	22.22	26.91	5,928.18	1,773.25	836.09	-854.30	1.22	-0.96	1.95	
6,416.00	21.58	25.86	6,046.94	1,816.01	857.31	-875.97	0.59	-0.50	-0.82	
6,508.00	22.83	26.97	6,132.12	1,847.14	872.79	-891.76	1.43	1.36	1.21	
6,601.00	22.14	4.46	6,218.21	1,880.76	882.35	-901.67	9.23	-0.74	-24.20	
6,694.00	20.90	341.79	6,304.87	1,914.05	878.52	-898.18	8.99	-1.33	-24.38	
6,786.00	20.13	320.36	6,391.16	1,941.86	863.27	-883.22	8.16	-0.84	-23.29	
6,786.01	20.13	320.36	6,391.17	1,941.87	863.27	-883.22	0.01	0.00	0.00	
KOP - 2068.38' MD										
6,879.00	23.39	309.23	6,477.56	1,965.88	838.75	-858.94	5.64	3.51	-11.97	
6,972.00	30.46	306.75	6,560.43	1,991.69	805.52	-825.98	7.70	7.60	-2.67	
7,063.00	37.53	298.02	6,635.87	2,018.56	762.49	-783.23	9.42	7.77	-9.59	
7,156.00	44.46	290.99	6,706.06	2,043.58	706.97	-727.98	8.94	7.45	-7.56	
7,248.00	52.04	289.14	6,767.28	2,067.05	642.53	-663.78	8.37	8.24	-2.01	
7,342.00	57.04	286.48	6,821.80	2,090.40	569.65	-591.15	5.80	5.32	-2.83	
7,434.00	64.81	283.42	6,866.48	2,111.05	492.02	-513.73	8.93	8.45	-3.33	
7,528.00	71.20	278.12	6,901.69	2,127.23	406.46	-428.35	8.57	6.80	-5.64	
7,621.00	75.54	274.78	6,928.31	2,137.21	317.95	-339.94	5.80	4.67	-3.59	
7,714.00	81.87	270.60	6,946.52	2,141.45	226.92	-248.96	8.11	6.81	-4.49	



Survey Report

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Well:	SBJ 13-2HZ	North Reference:	True
Wellbore:	Plan C	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	EDM 5000.1 Single User Db

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)
7,791.00	89.78	270.69	6,952.13	2,142.31	150.19	-172.25	10.27	10.27	0.12
LP - 2374.70' MD (6.6 FNL, 374 FWL)									
7,791.94	89.87	270.69	6,952.13	2,142.33	149.25	-171.31	10.27	10.27	0.12
SBJ 13-2HZ LP									
7,807.00	91.42	270.71	6,951.96	2,142.51	134.19	-156.25	10.27	10.27	0.12
7,901.00	89.73	269.81	6,951.02	2,142.94	40.20	-62.27	2.04	-1.80	-0.96
7,995.00	89.97	269.63	6,951.26	2,142.48	-53.80	31.73	0.32	0.26	-0.19
8,088.00	90.30	268.80	6,951.04	2,141.20	-146.79	124.73	0.96	0.35	-0.89
8,160.09	90.39	269.05	6,950.61	2,139.85	-218.86	196.82	0.36	0.12	0.34
CROSS HL - 2487.20' MD (5.6' FNL, 261 FWL)									
8,181.00	90.41	269.12	6,950.47	2,139.51	-239.77	217.73	0.36	0.12	0.34
8,273.00	90.75	268.64	6,949.53	2,137.72	-331.75	309.72	0.64	0.37	-0.52
8,366.00	90.98	267.68	6,948.13	2,134.73	-424.69	402.68	1.06	0.25	-1.03
8,458.00	91.10	267.99	6,946.46	2,131.26	-516.61	494.63	0.36	0.13	0.34
8,552.00	90.95	267.90	6,944.78	2,127.89	-610.53	588.59	0.19	-0.16	-0.10
8,644.00	90.90	267.52	6,943.29	2,124.21	-702.45	680.53	0.42	-0.05	-0.41
8,738.00	90.84	267.47	6,941.87	2,120.10	-796.34	774.47	0.08	-0.06	-0.05
8,830.00	90.02	269.69	6,941.18	2,117.82	-888.31	866.45	2.57	-0.89	2.41
8,922.00	89.76	268.80	6,941.35	2,116.61	-980.30	958.45	1.01	-0.28	-0.97
9,016.00	89.12	268.10	6,942.27	2,114.07	-1,074.26	1,052.43	1.01	-0.68	-0.74
9,110.00	89.29	268.06	6,943.58	2,110.92	-1,168.20	1,146.40	0.19	0.18	-0.04
9,202.00	91.61	269.29	6,942.85	2,108.79	-1,260.16	1,238.38	2.85	2.52	1.34
9,295.00	90.38	271.09	6,941.24	2,109.10	-1,353.14	1,331.35	2.34	-1.32	1.94
9,387.00	90.50	270.38	6,940.53	2,110.28	-1,445.13	1,423.32	0.78	0.13	-0.77
9,480.00	90.50	270.67	6,939.72	2,111.13	-1,538.12	1,516.30	0.31	0.00	0.31
9,572.00	90.74	270.49	6,938.72	2,112.06	-1,630.11	1,608.28	0.33	0.26	-0.20
9,666.00	91.05	271.45	6,937.26	2,113.65	-1,724.09	1,702.23	1.07	0.33	1.02
9,758.00	91.07	271.41	6,935.55	2,115.95	-1,816.04	1,794.16	0.05	0.02	-0.04
9,851.00	90.48	269.93	6,934.30	2,117.04	-1,909.02	1,887.12	1.71	-0.63	-1.59
9,943.00	90.98	269.59	6,933.12	2,116.65	-2,001.01	1,979.11	0.66	0.54	-0.37
10,037.00	91.12	269.12	6,931.40	2,115.59	-2,094.99	2,073.10	0.52	0.15	-0.50
10,129.00	91.35	268.58	6,929.42	2,113.75	-2,186.95	2,165.07	0.64	0.25	-0.59
10,222.00	91.08	268.41	6,927.45	2,111.31	-2,279.90	2,258.04	0.34	-0.29	-0.18
10,314.00	91.11	267.45	6,925.69	2,107.98	-2,371.82	2,349.99	1.04	0.03	-1.04
10,406.00	89.50	266.60	6,925.20	2,103.21	-2,463.69	2,441.90	1.98	-1.75	-0.92
10,500.00	89.82	270.86	6,925.76	2,101.13	-2,557.65	2,535.87	4.54	0.34	4.53
10,592.00	89.83	270.58	6,926.04	2,102.28	-2,649.64	2,627.85	0.30	0.01	-0.30
10,684.00	90.25	270.23	6,925.97	2,102.93	-2,741.64	2,719.84	0.59	0.46	-0.38
10,777.00	90.63	270.18	6,925.26	2,103.27	-2,834.63	2,812.82	0.41	0.41	-0.05
10,869.00	90.56	270.59	6,924.30	2,103.88	-2,926.62	2,904.81	0.45	-0.08	0.45
10,962.00	90.88	269.37	6,923.14	2,103.85	-3,019.62	2,997.79	1.36	0.34	-1.31
11,055.00	91.00	270.63	6,921.61	2,103.85	-3,112.60	3,090.77	1.36	0.13	1.35
11,149.00	91.42	270.88	6,919.62	2,105.09	-3,206.57	3,184.72	0.52	0.45	0.27



Survey Report

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well SBJ 13-2HZ
Project:	Weld County, CO (UTM-NAD83)	TVD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Site:	4N-68W-13 SBJ 22-13HZ PAD	MD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Well:	SBJ 13-2HZ	North Reference:	True
Wellbore:	Plan C	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	EDM 5000.1 Single User Db

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)	
11,241.00	90.58	270.61	6,918.02	2,106.29	-3,298.55	3,276.69	0.96	-0.91	-0.29	
11,337.00	90.38	270.77	6,917.21	2,107.44	-3,394.54	3,372.66	0.27	-0.21	0.17	
11,429.00	90.01	270.63	6,916.90	2,108.57	-3,486.53	3,464.63	0.43	-0.40	-0.15	
11,523.00	90.20	271.34	6,916.73	2,110.18	-3,580.52	3,558.60	0.78	0.20	0.76	
11,616.00	90.84	269.44	6,915.89	2,110.81	-3,673.51	3,651.58	2.16	0.69	-2.04	
11,708.00	90.61	269.82	6,914.72	2,110.22	-3,765.50	3,743.57	0.48	-0.25	0.41	
11,800.00	90.10	269.13	6,914.15	2,109.38	-3,857.49	3,835.56	0.93	-0.55	-0.75	
11,893.00	89.86	268.80	6,914.18	2,107.70	-3,950.47	3,928.56	0.44	-0.26	-0.35	
11,986.00	90.18	268.71	6,914.15	2,105.68	-4,043.45	4,021.55	0.36	0.34	-0.10	
12,078.00	89.42	269.36	6,914.47	2,104.13	-4,135.44	4,113.55	1.09	-0.83	0.71	
12,171.00	89.26	269.07	6,915.54	2,102.85	-4,228.42	4,206.54	0.36	-0.17	-0.31	
12,263.00	89.01	269.15	6,916.93	2,101.42	-4,320.40	4,298.53	0.29	-0.27	0.09	
12,356.00	90.25	268.63	6,917.53	2,099.62	-4,413.38	4,391.52	1.45	1.33	-0.56	
12,450.00	90.43	268.44	6,916.98	2,097.22	-4,507.35	4,485.51	0.28	0.19	-0.20	
12,542.00	90.77	267.91	6,916.01	2,094.29	-4,599.29	4,577.49	0.68	0.37	-0.58	
12,635.00	90.17	267.32	6,915.25	2,090.42	-4,692.21	4,670.44	0.90	-0.65	-0.63	
12,728.00	89.82	266.90	6,915.26	2,085.73	-4,785.09	4,763.36	0.59	-0.38	-0.45	
12,820.00	90.87	269.74	6,914.70	2,083.03	-4,877.04	4,855.33	3.29	1.14	3.09	
12,912.00	91.20	268.80	6,913.04	2,081.86	-4,969.02	4,947.31	1.08	0.36	-1.02	
13,006.00	91.27	269.15	6,911.02	2,080.18	-5,062.98	5,041.29	0.38	0.07	0.37	
13,098.00	89.63	268.49	6,910.29	2,078.29	-5,154.95	5,133.28	1.92	-1.78	-0.72	
13,189.00	88.63	267.07	6,911.67	2,074.76	-5,245.87	5,224.23	1.91	-1.10	-1.56	
13,283.00	88.43	269.44	6,914.09	2,071.90	-5,339.79	5,318.17	2.53	-0.21	2.52	
13,375.00	90.24	269.11	6,915.15	2,070.74	-5,431.77	5,410.16	2.00	1.97	-0.36	
13,470.00	90.14	268.61	6,914.84	2,068.85	-5,526.75	5,505.16	0.54	-0.11	-0.53	
13,562.00	90.40	268.46	6,914.41	2,066.49	-5,618.72	5,597.14	0.33	0.28	-0.16	
13,656.00	90.84	268.78	6,913.39	2,064.23	-5,712.69	5,691.13	0.58	0.47	0.34	
13,749.00	90.99	267.71	6,911.90	2,061.38	-5,805.63	5,784.10	1.16	0.16	-1.15	
13,842.00	91.02	270.93	6,910.27	2,060.28	-5,898.60	5,877.07	3.46	0.03	3.46	
13,934.00	90.23	270.02	6,909.27	2,061.04	-5,990.59	5,969.05	1.31	-0.86	-0.99	
14,027.00	90.38	269.03	6,908.77	2,060.27	-6,083.58	6,062.04	1.08	0.16	-1.06	
14,119.00	90.82	268.18	6,907.81	2,058.03	-6,175.55	6,154.03	1.04	0.48	-0.92	
14,213.00	90.48	269.76	6,906.74	2,056.34	-6,269.52	6,248.02	1.72	-0.36	1.68	
14,306.00	89.86	268.74	6,906.47	2,055.12	-6,362.51	6,341.01	1.28	-0.67	-1.10	
14,399.00	90.94	271.12	6,905.82	2,055.01	-6,455.50	6,434.00	2.81	1.16	2.56	
14,492.00	90.76	270.62	6,904.44	2,056.42	-6,548.48	6,526.96	0.57	-0.19	-0.54	
14,565.23	90.59	270.53	6,903.58	2,057.16	-6,621.70	6,600.17	0.26	-0.24	-0.12	
SBJ 13-2HZ Interm T1										
14,585.00	90.54	270.51	6,903.38	2,057.34	-6,641.47	6,619.93	0.26	-0.24	-0.12	
14,678.00	90.43	271.26	6,902.60	2,058.78	-6,734.46	6,712.90	0.82	-0.12	0.81	
14,772.00	91.19	271.08	6,901.27	2,060.70	-6,828.43	6,806.85	0.83	0.81	-0.19	
14,864.00	90.99	271.32	6,899.52	2,062.62	-6,920.39	6,898.78	0.34	-0.22	0.26	
14,956.00	90.90	270.52	6,898.00	2,064.10	-7,012.36	6,990.74	0.87	-0.10	-0.87	
15,049.00	91.09	269.50	6,896.38	2,064.12	-7,105.35	7,083.72	1.12	0.20	-1.10	



Survey Report

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well SBJ 13-2HZ
Project:	Weld County, CO (UTM-NAD83)	TVD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Site:	4N-68W-13 SBJ 22-13HZ PAD	MD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Well:	SBJ 13-2HZ	North Reference:	True
Wellbore:	Plan C	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	EDM 5000.1 Single User Db

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)	
15,141.00	91.18	270.29	6,894.56	2,063.95	-7,197.33	7,175.70	0.86	0.10	0.86	
15,233.00	91.09	269.19	6,892.74	2,063.53	-7,289.31	7,267.68	1.20	-0.10	-1.20	
15,325.00	90.80	268.47	6,891.22	2,061.65	-7,381.28	7,359.66	0.84	-0.32	-0.78	
15,511.00	89.82	266.73	6,890.22	2,053.86	-7,567.10	7,545.55	1.07	-0.53	-0.94	
15,603.00	89.67	266.96	6,890.63	2,048.80	-7,658.96	7,637.46	0.30	-0.16	0.25	
15,695.00	89.89	271.31	6,890.98	2,047.41	-7,750.93	7,729.44	4.73	0.24	4.73	
15,787.00	89.77	270.37	6,891.25	2,048.76	-7,842.92	7,821.41	1.03	-0.13	-1.02	
15,880.00	89.21	270.09	6,892.08	2,049.13	-7,935.91	7,914.39	0.67	-0.60	-0.30	
15,974.00	90.58	270.54	6,892.25	2,049.65	-8,029.91	8,008.38	1.53	1.46	0.48	
16,068.00	91.58	270.77	6,890.48	2,050.72	-8,123.88	8,102.34	1.09	1.06	0.24	
16,160.00	91.05	269.96	6,888.37	2,051.31	-8,215.86	8,194.30	1.05	-0.58	-0.88	
16,254.00	91.55	270.08	6,886.24	2,051.34	-8,309.83	8,288.27	0.55	0.53	0.13	
16,348.00	91.69	270.22	6,883.58	2,051.59	-8,403.79	8,382.22	0.21	0.15	0.15	
16,441.00	91.78	270.28	6,880.76	2,051.99	-8,496.75	8,475.17	0.12	0.10	0.06	
16,533.00	90.17	267.30	6,879.20	2,050.05	-8,588.70	8,567.14	3.68	-1.75	-3.24	
16,628.00	90.29	267.18	6,878.82	2,045.48	-8,683.59	8,662.07	0.18	0.13	-0.13	
16,721.00	90.38	266.66	6,878.27	2,040.48	-8,776.46	8,754.98	0.57	0.10	-0.56	
16,813.00	91.86	268.27	6,876.47	2,036.41	-8,868.34	8,846.90	2.38	1.61	1.75	
16,907.00	92.52	267.52	6,872.88	2,032.96	-8,962.21	8,940.80	1.06	0.70	-0.80	
16,999.00	90.74	269.13	6,870.26	2,030.27	-9,054.13	9,032.74	2.61	-1.93	1.75	
17,092.00	91.51	269.86	6,868.44	2,029.45	-9,147.10	9,125.72	1.14	0.83	0.78	
17,186.00	91.22	268.49	6,866.20	2,028.10	-9,241.07	9,219.69	1.49	-0.31	-1.46	
17,281.00	91.27	268.90	6,864.14	2,025.94	-9,336.02	9,314.66	0.43	0.05	0.43	
17,374.00	91.72	268.52	6,861.71	2,023.85	-9,428.96	9,407.62	0.63	0.48	-0.41	
Last Survey										
17,468.00	90.37	270.66	6,859.99	2,023.17	-9,522.94	9,501.60	2.69	-1.44	2.28	
17,560.00	90.78	270.08	6,859.07	2,023.77	-9,614.93	9,593.58	0.77	0.45	-0.63	
17,652.00	91.06	270.61	6,857.59	2,024.32	-9,706.92	9,685.56	0.65	0.30	0.58	
17,745.00	91.16	270.49	6,855.79	2,025.21	-9,799.89	9,778.52	0.17	0.11	-0.13	
17,838.00	91.28	268.97	6,853.81	2,024.78	-9,892.87	9,871.50	1.64	0.13	-1.63	
17,901.19	91.38	268.94	6,852.34	2,023.62	-9,956.04	9,934.67	0.17	0.16	-0.05	
SBJ 13-2HZ Interm T2										
17,931.00	91.43	268.92	6,851.61	2,023.06	-9,985.83	9,964.47	0.17	0.16	-0.05	
18,023.00	93.18	269.32	6,847.91	2,021.65	-10,077.74	10,056.39	1.95	1.90	0.43	
18,116.00	94.50	270.11	6,841.68	2,021.19	-10,170.53	10,149.17	1.65	1.42	0.85	
18,208.00	92.08	269.49	6,836.41	2,020.87	-10,262.37	10,241.01	2.72	-2.63	-0.67	
18,301.00	92.63	270.54	6,832.58	2,020.89	-10,355.29	10,333.93	1.27	0.59	1.13	
18,393.00	93.31	269.91	6,827.82	2,021.25	-10,447.16	10,425.79	1.01	0.74	-0.68	
18,485.00	93.62	270.20	6,822.26	2,021.34	-10,538.99	10,517.62	0.46	0.34	0.32	
18,578.00	94.10	270.71	6,816.00	2,022.08	-10,631.78	10,610.39	0.75	0.52	0.55	
18,670.00	94.29	270.77	6,809.27	2,023.26	-10,723.52	10,702.12	0.22	0.21	0.07	
18,764.00	94.93	271.29	6,801.71	2,024.95	-10,817.20	10,795.78	0.88	0.68	0.55	
18,858.00	93.35	269.78	6,794.92	2,025.82	-10,910.95	10,889.51	2.32	-1.68	-1.61	
19,210.00	93.35	269.78	6,774.36	2,024.47	-11,262.34	11,240.90	0.00	0.00	0.00	



Survey Report

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well SBJ 13-2HZ
Project:	Weld County, CO (UTM-NAD83)	TVD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Site:	4N-68W-13 SBJ 22-13HZ PAD	MD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Well:	SBJ 13-2HZ	North Reference:	True
Wellbore:	Plan C	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	EDM 5000.1 Single User Db

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)
PTB - 5855.22' MD (7' FNL, 128 FWL) - SBJ 13-2HZ_460' Circle - SBJ 13-2HZ BHL - SBJ 13-2HZ_BHL									

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,662.41	4,416.26	1,242.35	564.33	ENTER DSU - 4662.41' MD (910 FNL, 1650 FWL)
6,786.01	6,391.17	1,941.87	863.27	KOP - 2068.38' MD
7,791.00	6,952.13	2,142.31	150.19	LP - 2374.70' MD (6.6 FNL, 374 FWL)
8,160.09	6,950.61	2,139.85	-218.86	CROSS HL - 2487.20' MD (5.6' FNL, 261 FWL)
17,374.00	6,861.71	2,023.85	-9,428.96	Last Survey
19,210.00	6,774.36	2,024.47	-11,262.34	PTB - 5855.22' MD (7' FNL, 128 FWL)

Checked By: _____ Approved By: _____ Date: _____



Occidental Petroleum

Weld County, CO (UTM-NAD83)

4N-68W-13 SBJ 22-13HZ PAD

SBJ 13-2HZ

Plan C

Design: FINAL

Survey Report - Geographic

17 December, 2021



Survey Report - Geographic

Company: Occidental Petroleum	Local Co-ordinate Reference: Well SBJ 13-2HZ
Project: Weld County, CO (UTM-NAD83)	TVD Reference: RKB = 20' @ 4879.00usft (PD 461)
Site: 4N-68W-13 SBJ 22-13HZ PAD	MD Reference: RKB = 20' @ 4879.00usft (PD 461)
Well: SBJ 13-2HZ	North Reference: True
Wellbore: Plan C	Survey Calculation Method: Minimum Curvature
Design: FINAL	Database: EDM 5000.1 Single User Db

Project Weld County, CO (UTM-NAD83)	
Map System: Universal Transverse Mercator (US Survey Feet)	System Datum: Mean Sea Level
Geo Datum: North American Datum 1983	
Map Zone: Zone 13N (108 W to 102 W)	

Site 4N-68W-13 SBJ 22-13HZ PAD		
Site Position:	Northing: 14,641,145.55 usft	Latitude: 40.314181
From: Lat/Long	Easting: 1,652,517.50 usft	Longitude: -104.956591
Position Uncertainty: 0.00 usft	Slot Radius: 13-3/16 "	Grid Convergence: 0.03 °

Well SBJ 13-2HZ			
Well Position	+N/-S 0.00 usft	Northing: 14,641,490.00 usft	Latitude: 40.315127
	+E/-W 0.00 usft	Easting: 1,652,432.86 usft	Longitude: -104.956894
Position Uncertainty	3.28 usft	Wellhead Elevation: usft	Ground Level: 4,859.00 usft

Wellbore Plan C					
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IFR	10/6/2021	(°) 7.86	(°) 66.48	(nT) 51,859.70000000

Design FINAL					
Audit Notes:					
Version: 1.0	Phase: ACTUAL	Tie On Depth: 0.00			
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	269.41	

Survey Program		Date 12/16/2021		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
99.00	1,910.00	Survey #1 (Plan C)	APC_ISCWSA REV 2 MWD+	Fixed:v2:crustal field declination
2,003.00	18,858.00	Survey #2 (Plan C)	APC_ISCWSA REV 2 MWD+	Fixed:v2:Rockies, crustal dec + 3-axis correction
19,210.00	19,210.00	Survey #3 (Plan C)	APC_BLIND	OWSG BLIND

Survey										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Map	Map	Latitude	Longitude	
Depth	(°)	(°)	Depth	(usft)	(usft)	Northing	Easting			
(usft)			(usft)			(usft)	(usft)			
0.00	0.00	0.00	0.00	0.00	0.00	14,641,490.00	1,652,432.86	40.315127	-104.956894	
SBJ 13-2HZ_LP										
5.58	0.02	120.50	5.58	0.00	0.00	14,641,490.00	1,652,432.86	40.315127	-104.956894	
SBJ 13-2HZ_460' Circle2										
5.65	0.02	120.50	5.65	0.00	0.00	14,641,490.00	1,652,432.86	40.315127	-104.956894	
SBJ 13-2HZ_Hardline Box										
6.00	0.02	120.50	6.00	0.00	0.00	14,641,490.00	1,652,432.86	40.315127	-104.956894	
SBJ 13-2HZ_SHL										
99.00	0.39	120.50	99.00	-0.17	0.29	14,641,489.83	1,652,433.15	40.315127	-104.956893	
185.00	0.41	121.01	185.00	-0.48	0.81	14,641,489.52	1,652,433.67	40.315126	-104.956891	



Survey Report - Geographic

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well SBJ 13-2HZ
Project:	Weld County, CO (UTM-NAD83)	TVD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Site:	4N-68W-13 SBJ 22-13HZ PAD	MD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Well:	SBJ 13-2HZ	North Reference:	True
Wellbore:	Plan C	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
274.00	1.11	69.69	273.99	-0.34	1.89	14,641,489.66	1,652,434.75	40.315126	-104.956887	
366.00	2.76	50.67	365.93	1.37	4.44	14,641,491.38	1,652,437.30	40.315131	-104.956878	
456.00	4.30	35.09	455.76	5.50	8.05	14,641,495.51	1,652,440.91	40.315142	-104.956865	
546.00	4.68	18.94	545.49	11.74	11.18	14,641,501.75	1,652,444.04	40.315159	-104.956854	
636.00	4.84	13.37	635.18	18.91	13.25	14,641,508.91	1,652,446.11	40.315179	-104.956847	
726.00	5.67	20.89	724.80	26.75	15.72	14,641,516.76	1,652,448.57	40.315201	-104.956838	
815.00	6.89	26.69	813.27	35.63	19.68	14,641,525.64	1,652,452.53	40.315225	-104.956824	
905.00	8.41	26.80	902.46	46.33	25.08	14,641,536.34	1,652,457.92	40.315254	-104.956804	
995.00	10.22	25.16	991.27	59.43	31.44	14,641,549.45	1,652,464.27	40.315290	-104.956781	
1,085.00	13.54	25.25	1,079.33	76.19	39.33	14,641,566.21	1,652,472.16	40.315336	-104.956753	
1,175.00	14.02	22.01	1,166.74	95.83	47.91	14,641,585.85	1,652,480.73	40.315390	-104.956722	
1,265.00	14.73	21.59	1,253.93	116.58	56.20	14,641,606.61	1,652,489.01	40.315447	-104.956693	
1,355.00	17.33	24.13	1,340.42	139.45	65.90	14,641,629.49	1,652,498.69	40.315510	-104.956658	
1,445.00	17.33	23.61	1,426.33	163.97	76.74	14,641,654.01	1,652,509.53	40.315577	-104.956619	
1,535.00	19.55	24.47	1,511.71	189.96	88.35	14,641,680.00	1,652,521.12	40.315649	-104.956577	
1,624.00	19.71	24.92	1,595.54	217.12	100.84	14,641,707.17	1,652,533.60	40.315723	-104.956533	
1,714.00	19.96	23.18	1,680.20	245.01	113.29	14,641,735.07	1,652,546.03	40.315800	-104.956488	
1,804.00	20.73	25.19	1,764.58	273.54	126.11	14,641,763.61	1,652,558.84	40.315878	-104.956442	
1,849.00	20.43	26.18	1,806.71	287.80	132.97	14,641,777.87	1,652,565.69	40.315917	-104.956417	
1,910.00	18.21	23.57	1,864.27	306.09	141.48	14,641,796.16	1,652,574.19	40.315968	-104.956387	
2,003.00	18.12	22.12	1,952.64	332.81	152.73	14,641,822.89	1,652,585.43	40.316041	-104.956346	
2,096.00	20.30	24.09	2,040.46	360.94	164.76	14,641,851.02	1,652,597.45	40.316118	-104.956303	
2,190.00	21.24	24.13	2,128.35	391.36	178.38	14,641,881.45	1,652,611.05	40.316202	-104.956254	
2,283.00	24.08	23.41	2,214.16	424.15	192.81	14,641,914.25	1,652,625.47	40.316292	-104.956203	
2,376.00	25.10	24.86	2,298.72	459.46	208.64	14,641,949.57	1,652,641.28	40.316389	-104.956146	
2,480.00	24.89	23.75	2,392.98	499.51	226.73	14,641,989.62	1,652,659.35	40.316499	-104.956081	
2,572.00	23.41	22.92	2,476.93	534.07	241.64	14,642,024.19	1,652,674.25	40.316594	-104.956027	
2,665.00	22.75	23.44	2,562.49	567.58	255.99	14,642,057.71	1,652,688.58	40.316686	-104.955976	
2,757.00	22.59	23.89	2,647.38	600.06	270.22	14,642,090.19	1,652,702.80	40.316775	-104.955925	
2,849.00	22.26	24.80	2,732.42	632.03	284.69	14,642,122.17	1,652,717.25	40.316863	-104.955873	
2,942.00	19.84	23.01	2,819.21	662.55	298.25	14,642,152.70	1,652,730.79	40.316946	-104.955824	
3,034.00	19.80	24.66	2,905.76	691.09	310.85	14,642,181.24	1,652,743.38	40.317025	-104.955779	
3,127.00	20.59	23.79	2,993.04	720.36	324.02	14,642,210.52	1,652,756.54	40.317105	-104.955732	
3,220.00	20.95	25.80	3,080.00	750.30	337.86	14,642,240.46	1,652,770.35	40.317187	-104.955682	
3,314.00	22.37	25.29	3,167.36	781.60	352.81	14,642,271.78	1,652,785.29	40.317273	-104.955629	
3,407.00	22.01	23.70	3,253.47	813.56	367.38	14,642,303.74	1,652,799.84	40.317361	-104.955576	
3,500.00	21.90	22.58	3,339.73	845.53	381.04	14,642,335.72	1,652,813.49	40.317449	-104.955527	
3,593.00	23.22	23.80	3,425.61	878.32	395.10	14,642,368.52	1,652,827.54	40.317539	-104.955477	
3,687.00	24.72	26.02	3,511.50	912.94	411.20	14,642,403.14	1,652,843.62	40.317634	-104.955419	
3,780.00	24.66	24.24	3,596.00	948.11	427.70	14,642,438.32	1,652,860.10	40.317731	-104.955360	
3,873.00	23.53	22.58	3,680.90	982.94	442.79	14,642,473.16	1,652,875.18	40.317826	-104.955306	
3,967.00	20.46	20.67	3,768.05	1,015.65	455.80	14,642,505.87	1,652,888.17	40.317916	-104.955259	
4,061.00	19.40	25.18	3,856.42	1,045.15	468.24	14,642,535.38	1,652,900.60	40.317997	-104.955214	
4,155.00	20.87	23.85	3,944.68	1,074.59	481.65	14,642,564.83	1,652,913.99	40.318078	-104.955166	
4,248.00	20.75	28.06	4,031.61	1,104.28	496.10	14,642,594.53	1,652,928.43	40.318159	-104.955115	
4,341.00	23.10	27.43	4,117.88	1,135.02	512.26	14,642,625.27	1,652,944.57	40.318244	-104.955057	
4,433.00	23.35	26.28	4,202.43	1,167.38	528.64	14,642,657.64	1,652,960.94	40.318333	-104.954998	
4,526.00	20.25	24.20	4,288.77	1,198.60	543.41	14,642,688.86	1,652,975.69	40.318418	-104.954945	
4,619.00	20.89	26.23	4,375.84	1,228.15	557.33	14,642,718.43	1,652,989.60	40.318500	-104.954895	
4,662.41	21.89	26.25	4,416.26	1,242.35	564.33	14,642,732.63	1,652,996.59	40.318539	-104.954870	
ENTER DSU - 4662.41' MD (910 FNL, 1650 FWL)										
4,711.00	23.00	26.27	4,461.17	1,258.99	572.54	14,642,749.27	1,653,004.79	40.318584	-104.954840	
4,804.00	22.68	25.64	4,546.88	1,291.44	588.34	14,642,781.73	1,653,020.57	40.318673	-104.954784	
4,896.00	21.40	27.62	4,632.15	1,322.31	603.80	14,642,812.60	1,653,036.02	40.318758	-104.954728	
4,988.00	19.93	25.32	4,718.23	1,351.35	618.28	14,642,841.66	1,653,050.49	40.318838	-104.954676	



Survey Report - Geographic

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well SBJ 13-2HZ
Project:	Weld County, CO (UTM-NAD83)	TVD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Site:	4N-68W-13 SBJ 22-13HZ PAD	MD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Well:	SBJ 13-2HZ	North Reference:	True
Wellbore:	Plan C	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,080.00	20.44	25.74	4,804.58	1,380.00	631.97	14,642,870.31	1,653,064.16	40.318917	-104.954627	
5,173.00	21.13	27.99	4,891.53	1,409.43	646.89	14,642,899.75	1,653,079.06	40.318997	-104.954574	
5,265.00	20.58	24.95	4,977.50	1,438.73	661.49	14,642,929.06	1,653,093.65	40.319078	-104.954521	
5,357.00	20.86	28.58	5,063.56	1,467.78	676.15	14,642,958.11	1,653,108.30	40.319158	-104.954469	
5,451.00	21.36	30.41	5,151.25	1,497.24	692.82	14,642,987.58	1,653,124.95	40.319239	-104.954409	
5,544.00	23.86	29.03	5,237.10	1,528.30	710.52	14,643,018.65	1,653,142.64	40.319324	-104.954345	
5,638.00	21.36	29.67	5,323.86	1,559.80	728.23	14,643,050.16	1,653,160.33	40.319410	-104.954282	
5,730.00	20.30	27.67	5,409.85	1,588.49	743.93	14,643,078.86	1,653,176.02	40.319489	-104.954225	
5,823.00	21.35	26.51	5,496.77	1,617.93	758.98	14,643,108.30	1,653,191.06	40.319570	-104.954171	
5,916.00	21.10	28.62	5,583.47	1,647.77	774.55	14,643,138.15	1,653,206.62	40.319652	-104.954116	
6,009.00	21.10	24.34	5,670.24	1,677.72	789.47	14,643,168.11	1,653,221.52	40.319734	-104.954062	
6,103.00	22.44	27.30	5,757.53	1,709.08	804.68	14,643,199.48	1,653,236.71	40.319820	-104.954007	
6,195.00	23.11	25.10	5,842.36	1,741.04	820.39	14,643,231.44	1,653,252.40	40.319908	-104.953951	
6,288.00	22.22	26.91	5,928.18	1,773.25	836.09	14,643,263.66	1,653,268.09	40.319996	-104.953895	
6,416.00	21.58	25.86	6,046.94	1,816.01	857.31	14,643,306.43	1,653,289.29	40.320114	-104.953819	
6,508.00	22.83	26.97	6,132.12	1,847.14	872.79	14,643,337.57	1,653,304.75	40.320199	-104.953763	
6,601.00	22.14	4.46	6,218.21	1,880.76	882.35	14,643,371.19	1,653,314.30	40.320292	-104.953729	
6,694.00	20.90	341.79	6,304.87	1,914.05	878.52	14,643,404.48	1,653,310.45	40.320383	-104.953742	
6,786.00	20.13	320.36	6,391.16	1,941.86	863.27	14,643,432.29	1,653,295.19	40.320460	-104.953797	
6,786.01	20.13	320.36	6,391.17	1,941.87	863.27	14,643,432.29	1,653,295.19	40.320460	-104.953797	
KOP - 2068.38' MD										
6,879.00	23.39	309.23	6,477.56	1,965.88	838.75	14,643,456.29	1,653,270.65	40.320525	-104.953885	
6,972.00	30.46	306.75	6,560.43	1,991.69	805.52	14,643,482.09	1,653,237.41	40.320596	-104.954004	
7,063.00	37.53	298.02	6,635.87	2,018.56	762.49	14,643,508.94	1,653,194.37	40.320670	-104.954159	
7,156.00	44.46	290.99	6,706.06	2,043.58	706.97	14,643,533.93	1,653,138.84	40.320739	-104.954358	
7,248.00	52.04	289.14	6,767.28	2,067.05	642.53	14,643,557.36	1,653,074.39	40.320803	-104.954589	
7,342.00	57.04	286.48	6,821.80	2,090.40	569.65	14,643,580.68	1,653,001.50	40.320867	-104.954851	
7,434.00	64.81	283.42	6,866.48	2,111.05	492.02	14,643,601.29	1,652,923.86	40.320924	-104.955129	
7,528.00	71.20	278.12	6,901.69	2,127.23	406.46	14,643,617.43	1,652,838.29	40.320969	-104.955436	
7,621.00	75.54	274.78	6,928.31	2,137.21	317.95	14,643,627.37	1,652,749.77	40.320996	-104.955754	
7,714.00	81.87	270.60	6,946.52	2,141.45	226.92	14,643,631.56	1,652,658.74	40.321008	-104.956080	
7,791.00	89.78	270.69	6,952.13	2,142.31	150.19	14,643,632.39	1,652,582.02	40.321010	-104.956355	
LP - 2374.70' MD (6.6 FNL, 374 FWL)										
7,791.94	89.87	270.69	6,952.13	2,142.33	149.25	14,643,632.40	1,652,581.07	40.321010	-104.956359	
SBJ 13-2HZ LP										
7,807.00	91.42	270.71	6,951.96	2,142.51	134.19	14,643,632.58	1,652,566.01	40.321011	-104.956413	
7,901.00	89.73	269.81	6,951.02	2,142.94	40.20	14,643,632.96	1,652,472.02	40.321012	-104.956750	
7,995.00	89.97	269.63	6,951.26	2,142.48	-53.80	14,643,632.45	1,652,378.02	40.321010	-104.957087	
8,088.00	90.30	268.80	6,951.04	2,141.20	-146.79	14,643,631.13	1,652,285.03	40.321007	-104.957421	
8,160.09	90.39	269.05	6,950.61	2,139.85	-218.86	14,643,629.74	1,652,212.96	40.321003	-104.957679	
CROSS HL - 2487.20' MD (5.6' FNL, 261 FWL)										
8,181.00	90.41	269.12	6,950.47	2,139.51	-239.77	14,643,629.40	1,652,192.05	40.321002	-104.957754	
8,273.00	90.75	268.64	6,949.53	2,137.72	-331.75	14,643,627.56	1,652,100.08	40.320997	-104.958084	
8,366.00	90.98	267.68	6,948.13	2,134.73	-424.69	14,643,624.53	1,652,007.14	40.320989	-104.958418	
8,458.00	91.10	267.99	6,946.46	2,131.26	-516.61	14,643,621.01	1,651,915.22	40.320980	-104.958748	
8,552.00	90.95	267.90	6,944.78	2,127.89	-610.53	14,643,617.59	1,651,821.30	40.320970	-104.959085	
8,644.00	90.90	267.52	6,943.29	2,124.21	-702.45	14,643,613.87	1,651,729.38	40.320960	-104.959414	
8,738.00	90.84	267.47	6,941.87	2,120.10	-796.34	14,643,609.72	1,651,635.49	40.320949	-104.959751	
8,830.00	90.02	269.69	6,941.18	2,117.82	-888.31	14,643,607.39	1,651,543.53	40.320943	-104.960081	
8,922.00	89.76	268.80	6,941.35	2,116.61	-980.30	14,643,606.14	1,651,451.54	40.320939	-104.960411	
9,016.00	89.12	268.10	6,942.27	2,114.07	-1,074.26	14,643,603.55	1,651,357.58	40.320932	-104.960748	
9,110.00	89.29	268.06	6,943.58	2,110.92	-1,168.20	14,643,600.35	1,651,263.64	40.320924	-104.961085	
9,202.00	91.61	269.29	6,942.85	2,108.79	-1,260.16	14,643,598.18	1,651,171.68	40.320918	-104.961415	
9,295.00	90.38	271.09	6,941.24	2,109.10	-1,353.14	14,643,598.44	1,651,078.70	40.320919	-104.961749	



Survey Report - Geographic

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well SBJ 13-2HZ
Project:	Weld County, CO (UTM-NAD83)	TVD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Site:	4N-68W-13 SBJ 22-13HZ PAD	MD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Well:	SBJ 13-2HZ	North Reference:	True
Wellbore:	Plan C	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,387.00	90.50	270.38	6,940.53	2,110.28	-1,445.13	14,643,599.58	1,650,986.71	40.320922	-104.962079	
9,480.00	90.50	270.67	6,939.72	2,111.13	-1,538.12	14,643,600.39	1,650,893.71	40.320924	-104.962412	
9,572.00	90.74	270.49	6,938.72	2,112.06	-1,630.11	14,643,601.27	1,650,801.72	40.320927	-104.962743	
9,666.00	91.05	271.45	6,937.26	2,113.65	-1,724.09	14,643,602.82	1,650,707.75	40.320931	-104.963080	
9,758.00	91.07	271.41	6,935.55	2,115.95	-1,816.04	14,643,605.07	1,650,615.79	40.320937	-104.963410	
9,851.00	90.48	269.93	6,934.30	2,117.04	-1,909.02	14,643,606.11	1,650,522.81	40.320940	-104.963743	
9,943.00	90.98	269.59	6,933.12	2,116.65	-2,001.01	14,643,605.68	1,650,430.82	40.320939	-104.964073	
10,037.00	91.12	269.12	6,931.40	2,115.59	-2,094.99	14,643,604.58	1,650,336.84	40.320936	-104.964410	
10,129.00	91.35	268.58	6,929.42	2,113.75	-2,186.95	14,643,602.69	1,650,244.88	40.320931	-104.964740	
10,222.00	91.08	268.41	6,927.45	2,111.31	-2,279.90	14,643,600.20	1,650,151.94	40.320925	-104.965074	
10,314.00	91.11	267.45	6,925.69	2,107.98	-2,371.82	14,643,596.83	1,650,060.02	40.320915	-104.965403	
10,406.00	89.50	266.60	6,925.20	2,103.21	-2,463.69	14,643,592.01	1,649,968.15	40.320902	-104.965733	
10,500.00	89.82	270.86	6,925.76	2,101.13	-2,557.65	14,643,589.88	1,649,874.20	40.320897	-104.966070	
10,592.00	89.83	270.58	6,926.04	2,102.28	-2,649.64	14,643,590.99	1,649,782.20	40.320900	-104.966400	
10,684.00	90.25	270.23	6,925.97	2,102.93	-2,741.64	14,643,591.60	1,649,690.21	40.320901	-104.966730	
10,777.00	90.63	270.18	6,925.26	2,103.27	-2,834.63	14,643,591.89	1,649,597.21	40.320902	-104.967064	
10,869.00	90.56	270.59	6,924.30	2,103.88	-2,926.62	14,643,592.46	1,649,505.22	40.320904	-104.967394	
10,962.00	90.88	269.37	6,923.14	2,103.85	-3,019.62	14,643,592.38	1,649,412.22	40.320904	-104.967728	
11,055.00	91.00	270.63	6,921.61	2,103.85	-3,112.60	14,643,592.34	1,649,319.24	40.320904	-104.968061	
11,149.00	91.42	270.88	6,919.62	2,105.09	-3,206.57	14,643,593.53	1,649,225.27	40.320907	-104.968398	
11,241.00	90.58	270.61	6,918.02	2,106.29	-3,298.55	14,643,594.68	1,649,133.29	40.320910	-104.968728	
11,337.00	90.38	270.77	6,917.21	2,107.44	-3,394.54	14,643,595.79	1,649,037.30	40.320914	-104.969073	
11,429.00	90.01	270.63	6,916.90	2,108.57	-3,486.53	14,643,596.87	1,648,945.31	40.320917	-104.969403	
11,523.00	90.20	271.34	6,916.73	2,110.18	-3,580.52	14,643,598.44	1,648,851.32	40.320921	-104.969740	
11,616.00	90.84	269.44	6,915.89	2,110.81	-3,673.51	14,643,599.03	1,648,758.33	40.320923	-104.970073	
11,708.00	90.61	269.82	6,914.72	2,110.22	-3,765.50	14,643,598.39	1,648,666.34	40.320921	-104.970403	
11,800.00	90.10	269.13	6,914.15	2,109.38	-3,857.49	14,643,597.50	1,648,574.35	40.320919	-104.970734	
11,893.00	89.86	268.80	6,914.18	2,107.70	-3,950.47	14,643,595.78	1,648,481.36	40.320914	-104.971067	
11,986.00	90.18	268.71	6,914.15	2,105.68	-4,043.45	14,643,593.71	1,648,388.39	40.320908	-104.971401	
12,078.00	89.42	269.36	6,914.47	2,104.13	-4,135.44	14,643,592.12	1,648,296.40	40.320904	-104.971731	
12,171.00	89.26	269.07	6,915.54	2,102.85	-4,228.42	14,643,590.80	1,648,203.42	40.320901	-104.972064	
12,263.00	89.01	269.15	6,916.93	2,101.42	-4,320.40	14,643,589.32	1,648,111.44	40.320897	-104.972394	
12,356.00	90.25	268.63	6,917.53	2,099.62	-4,413.38	14,643,587.48	1,648,018.46	40.320892	-104.972728	
12,450.00	90.43	268.44	6,916.98	2,097.22	-4,507.35	14,643,585.03	1,647,924.50	40.320885	-104.973065	
12,542.00	90.77	267.91	6,916.01	2,094.29	-4,599.29	14,643,582.05	1,647,832.55	40.320877	-104.973395	
12,635.00	90.17	267.32	6,915.25	2,090.42	-4,692.21	14,643,578.14	1,647,739.64	40.320866	-104.973728	
12,728.00	89.82	266.90	6,915.26	2,085.73	-4,785.09	14,643,573.40	1,647,646.76	40.320853	-104.974061	
12,820.00	90.87	269.74	6,914.70	2,083.03	-4,877.04	14,643,570.66	1,647,554.81	40.320846	-104.974391	
12,912.00	91.20	268.80	6,913.04	2,081.86	-4,969.02	14,643,569.45	1,647,462.84	40.320843	-104.974721	
13,006.00	91.27	269.15	6,911.02	2,080.18	-5,062.98	14,643,567.72	1,647,368.87	40.320838	-104.975058	
13,098.00	89.63	268.49	6,910.29	2,078.29	-5,154.95	14,643,565.78	1,647,276.90	40.320833	-104.975388	
13,189.00	88.63	267.07	6,911.67	2,074.76	-5,245.87	14,643,562.21	1,647,185.98	40.320823	-104.975714	
13,283.00	88.43	269.44	6,914.09	2,071.90	-5,339.79	14,643,559.30	1,647,092.07	40.320815	-104.976051	
13,375.00	90.24	269.11	6,915.15	2,070.74	-5,431.77	14,643,558.09	1,647,000.08	40.320812	-104.976381	
13,470.00	90.14	268.61	6,914.84	2,068.85	-5,526.75	14,643,556.16	1,646,905.11	40.320807	-104.976722	
13,562.00	90.40	268.46	6,914.41	2,066.49	-5,618.72	14,643,553.76	1,646,813.14	40.320800	-104.977052	
13,656.00	90.84	268.78	6,913.39	2,064.23	-5,712.69	14,643,551.45	1,646,719.17	40.320794	-104.977389	
13,749.00	90.99	267.71	6,911.90	2,061.38	-5,805.63	14,643,548.56	1,646,626.23	40.320786	-104.977723	
13,842.00	91.02	270.93	6,910.27	2,060.28	-5,898.60	14,643,547.41	1,646,533.26	40.320783	-104.978056	
13,934.00	90.23	270.02	6,909.27	2,061.04	-5,990.59	14,643,548.13	1,646,441.27	40.320785	-104.978386	
14,027.00	90.38	269.03	6,908.77	2,060.27	-6,083.58	14,643,547.31	1,646,348.28	40.320783	-104.978720	
14,119.00	90.82	268.18	6,907.81	2,058.03	-6,175.55	14,643,545.03	1,646,256.31	40.320776	-104.979050	
14,213.00	90.48	269.76	6,906.74	2,056.34	-6,269.52	14,643,543.29	1,646,162.34	40.320772	-104.979387	
14,306.00	89.86	268.74	6,906.47	2,055.12	-6,362.51	14,643,542.03	1,646,069.35	40.320768	-104.979721	
14,399.00	90.94	271.12	6,905.82	2,055.01	-6,455.50	14,643,541.87	1,645,976.36	40.320768	-104.980054	



Survey Report - Geographic

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well SBJ 13-2HZ
Project:	Weld County, CO (UTM-NAD83)	TVD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Site:	4N-68W-13 SBJ 22-13HZ PAD	MD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Well:	SBJ 13-2HZ	North Reference:	True
Wellbore:	Plan C	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
14,492.00	90.76	270.62	6,904.44	2,056.42	-6,548.48	14,643,543.24	1,645,883.38	40.320772	-104.980388	
14,565.23	90.59	270.53	6,903.58	2,057.16	-6,621.70	14,643,543.94	1,645,810.16	40.320774	-104.980650	
SBJ 13-2HZ Interm T1										
14,585.00	90.54	270.51	6,903.38	2,057.34	-6,641.47	14,643,544.11	1,645,790.39	40.320774	-104.980721	
14,678.00	90.43	271.26	6,902.60	2,058.78	-6,734.46	14,643,545.50	1,645,697.41	40.320778	-104.981055	
14,772.00	91.19	271.08	6,901.27	2,060.70	-6,828.43	14,643,547.37	1,645,603.43	40.320783	-104.981392	
14,864.00	90.99	271.32	6,899.52	2,062.62	-6,920.39	14,643,549.26	1,645,511.47	40.320788	-104.981722	
14,956.00	90.90	270.52	6,898.00	2,064.10	-7,012.36	14,643,550.69	1,645,419.50	40.320792	-104.982052	
15,049.00	91.09	269.50	6,896.38	2,064.12	-7,105.35	14,643,550.66	1,645,326.51	40.320792	-104.982386	
15,141.00	91.18	270.29	6,894.56	2,063.95	-7,197.33	14,643,550.45	1,645,234.53	40.320792	-104.982716	
15,233.00	91.09	269.19	6,892.74	2,063.53	-7,289.31	14,643,549.98	1,645,142.55	40.320791	-104.983046	
15,325.00	90.80	268.47	6,891.22	2,061.65	-7,381.28	14,643,548.06	1,645,050.58	40.320785	-104.983376	
15,511.00	89.82	266.73	6,890.22	2,053.86	-7,567.10	14,643,540.18	1,644,864.76	40.320764	-104.984042	
15,603.00	89.67	266.96	6,890.63	2,048.80	-7,658.96	14,643,535.07	1,644,772.91	40.320750	-104.984372	
15,695.00	89.89	271.31	6,890.98	2,047.41	-7,750.93	14,643,533.64	1,644,680.94	40.320746	-104.984702	
15,787.00	89.77	270.37	6,891.25	2,048.76	-7,842.92	14,643,534.94	1,644,588.95	40.320750	-104.985032	
15,880.00	89.21	270.09	6,892.08	2,049.13	-7,935.91	14,643,535.27	1,644,495.95	40.320751	-104.985365	
15,974.00	90.58	270.54	6,892.25	2,049.65	-8,029.91	14,643,535.74	1,644,401.96	40.320752	-104.985703	
16,068.00	91.58	270.77	6,890.48	2,050.72	-8,123.88	14,643,536.77	1,644,307.98	40.320755	-104.986040	
16,160.00	91.05	269.96	6,888.37	2,051.31	-8,215.86	14,643,537.31	1,644,216.01	40.320756	-104.986370	
16,254.00	91.55	270.08	6,886.24	2,051.34	-8,309.83	14,643,537.30	1,644,122.03	40.320756	-104.986707	
16,348.00	91.69	270.22	6,883.58	2,051.59	-8,403.79	14,643,537.50	1,644,028.07	40.320757	-104.987044	
16,441.00	91.78	270.28	6,880.76	2,051.99	-8,496.75	14,643,537.86	1,643,935.11	40.320758	-104.987377	
16,533.00	90.17	267.30	6,879.20	2,050.05	-8,588.70	14,643,535.87	1,643,843.16	40.320753	-104.987707	
16,628.00	90.29	267.18	6,878.82	2,045.48	-8,683.59	14,643,531.25	1,643,748.28	40.320740	-104.988048	
16,721.00	90.38	266.66	6,878.27	2,040.48	-8,776.46	14,643,526.21	1,643,655.41	40.320726	-104.988381	
16,813.00	91.86	268.27	6,876.47	2,036.41	-8,868.34	14,643,522.10	1,643,563.53	40.320715	-104.988711	
16,907.00	92.52	267.52	6,872.88	2,032.96	-8,962.21	14,643,518.60	1,643,469.66	40.320705	-104.989047	
16,999.00	90.74	269.13	6,870.26	2,030.27	-9,054.13	14,643,515.87	1,643,377.75	40.320698	-104.989377	
17,092.00	91.51	269.86	6,868.44	2,029.45	-9,147.10	14,643,515.00	1,643,284.77	40.320695	-104.989711	
17,186.00	91.22	268.49	6,866.20	2,028.10	-9,241.07	14,643,513.61	1,643,190.81	40.320692	-104.990048	
17,281.00	91.27	268.90	6,864.14	2,025.94	-9,336.02	14,643,511.40	1,643,095.86	40.320686	-104.990388	
17,374.00	91.72	268.52	6,861.71	2,023.85	-9,428.96	14,643,509.26	1,643,002.92	40.320680	-104.990722	
Last Survey										
17,468.00	90.37	270.66	6,859.99	2,023.17	-9,522.94	14,643,508.54	1,642,908.94	40.320678	-104.991059	
17,560.00	90.78	270.08	6,859.07	2,023.77	-9,614.93	14,643,509.09	1,642,816.95	40.320679	-104.991389	
17,652.00	91.06	270.61	6,857.59	2,024.32	-9,706.92	14,643,509.60	1,642,724.96	40.320681	-104.991719	
17,745.00	91.16	270.49	6,855.79	2,025.21	-9,799.89	14,643,510.45	1,642,631.99	40.320683	-104.992053	
17,838.00	91.28	268.97	6,853.81	2,024.78	-9,892.87	14,643,509.96	1,642,539.01	40.320682	-104.992386	
17,901.19	91.38	268.94	6,852.34	2,023.62	-9,956.04	14,643,508.78	1,642,475.84	40.320679	-104.992613	
SBJ 13-2HZ Interm T2										
17,931.00	91.43	268.92	6,851.61	2,023.06	-9,985.83	14,643,508.21	1,642,446.05	40.320677	-104.992720	
18,023.00	93.18	269.32	6,847.91	2,021.65	-10,077.74	14,643,506.75	1,642,354.14	40.320673	-104.993049	
18,116.00	94.50	270.11	6,841.68	2,021.19	-10,170.53	14,643,506.24	1,642,261.36	40.320672	-104.993382	
18,208.00	92.08	269.49	6,836.41	2,020.87	-10,262.37	14,643,505.88	1,642,169.52	40.320671	-104.993712	
18,301.00	92.63	270.54	6,832.58	2,020.89	-10,355.29	14,643,505.85	1,642,076.60	40.320671	-104.994045	
18,393.00	93.31	269.91	6,827.82	2,021.25	-10,447.16	14,643,506.17	1,641,984.72	40.320671	-104.994375	
18,485.00	93.62	270.20	6,822.26	2,021.34	-10,538.99	14,643,506.21	1,641,892.89	40.320672	-104.994704	
18,578.00	94.10	270.71	6,816.00	2,022.08	-10,631.78	14,643,506.91	1,641,800.10	40.320674	-104.995037	
18,670.00	94.29	270.77	6,809.27	2,023.26	-10,723.52	14,643,508.05	1,641,708.36	40.320677	-104.995366	
18,764.00	94.93	271.29	6,801.71	2,024.95	-10,817.20	14,643,509.68	1,641,614.68	40.320681	-104.995702	
18,858.00	93.35	269.78	6,794.92	2,025.82	-10,910.95	14,643,510.51	1,641,520.93	40.320683	-104.996039	
19,210.00	93.35	269.78	6,774.36	2,024.47	-11,262.34	14,643,508.99	1,641,169.54	40.320679	-104.997299	
PTB - 5855.22' MD (7' FNL, 128 FWL) - SBJ 13-2HZ_460' Circle - SBJ 13-2HZ_BHL - SBJ 13-2HZ_BHL										



Survey Report - Geographic

Company:	Occidental Petroleum	Local Co-ordinate Reference:	Well SBJ 13-2HZ
Project:	Weld County, CO (UTM-NAD83)	TVD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Site:	4N-68W-13 SBJ 22-13HZ PAD	MD Reference:	RKB = 20' @ 4879.00usft (PD 461)
Well:	SBJ 13-2HZ	North Reference:	True
Wellbore:	Plan C	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	EDM 5000.1 Single User Db

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,662.41	4,416.26	1,242.35	564.33	ENTER DSU - 4662.41' MD (910 FNL, 1650 FWL)
6,786.01	6,391.17	1,941.87	863.27	KOP - 2068.38' MD
7,791.00	6,952.13	2,142.31	150.19	LP - 2374.70' MD (6.6 FNL, 374 FWL)
8,160.09	6,950.61	2,139.85	-218.86	CROSS HL - 2487.20' MD (5.6' FNL, 261 FWL)
17,374.00	6,861.71	2,023.85	-9,428.96	Last Survey
19,210.00	6,774.36	2,024.47	-11,262.34	PTB - 5855.22' MD (7' FNL, 128 FWL)

Checked By: _____ Approved By: _____ Date: _____