

APEX

POCO Brighton Lakes Expansion

Sec 20-T1S-R66W

***Buckley 21-16-2NBH**

Original Hole

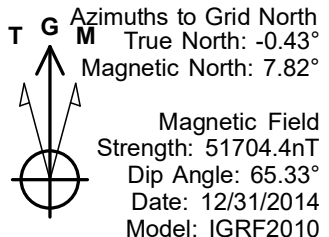
Plan: Plan #1

Survey Report - Geographic

22 September, 2022



Project: POCO Brighton Lakes Expansion
 Site: Sec 20-T1S-R66W
 Well: *Buckley 21-16-2NBH
 Wellbore: Original Hole
 Design: Plan #1



PROJECT DETAILS: POCO Brighton Lakes Expansion

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Central Zone

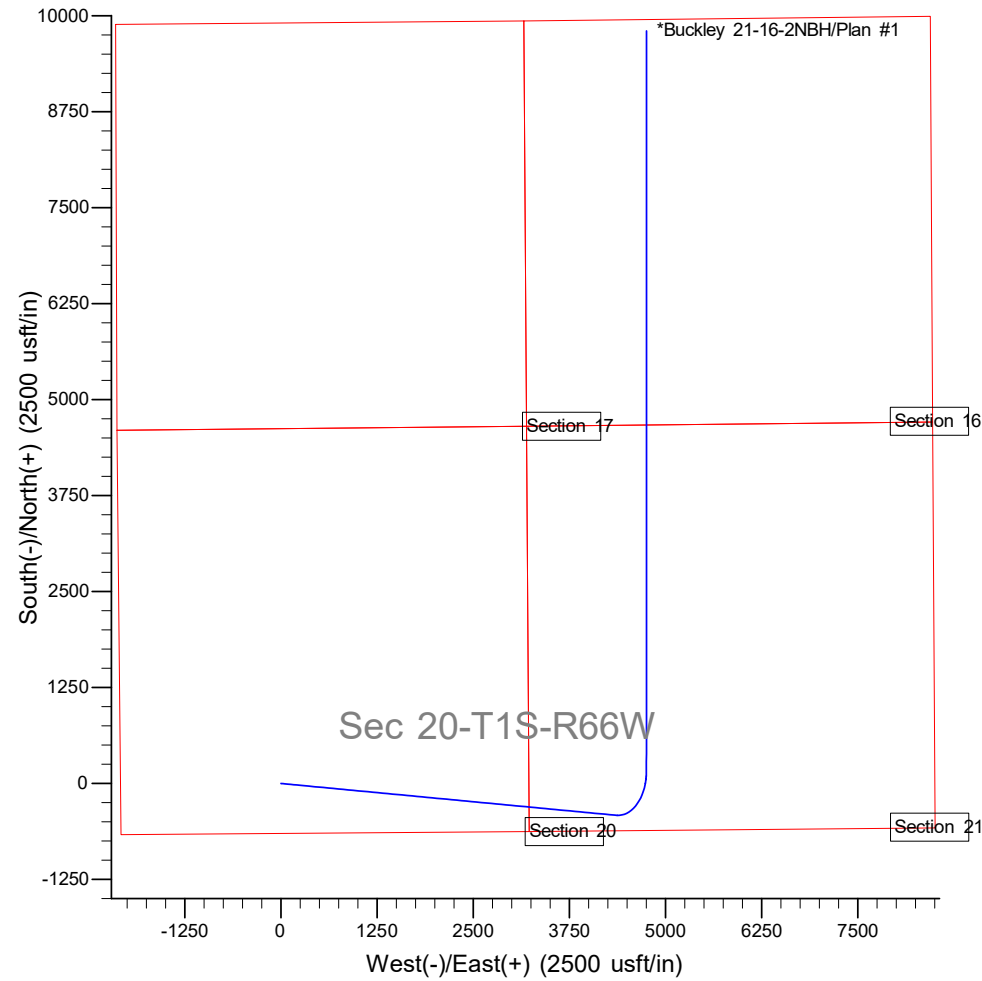
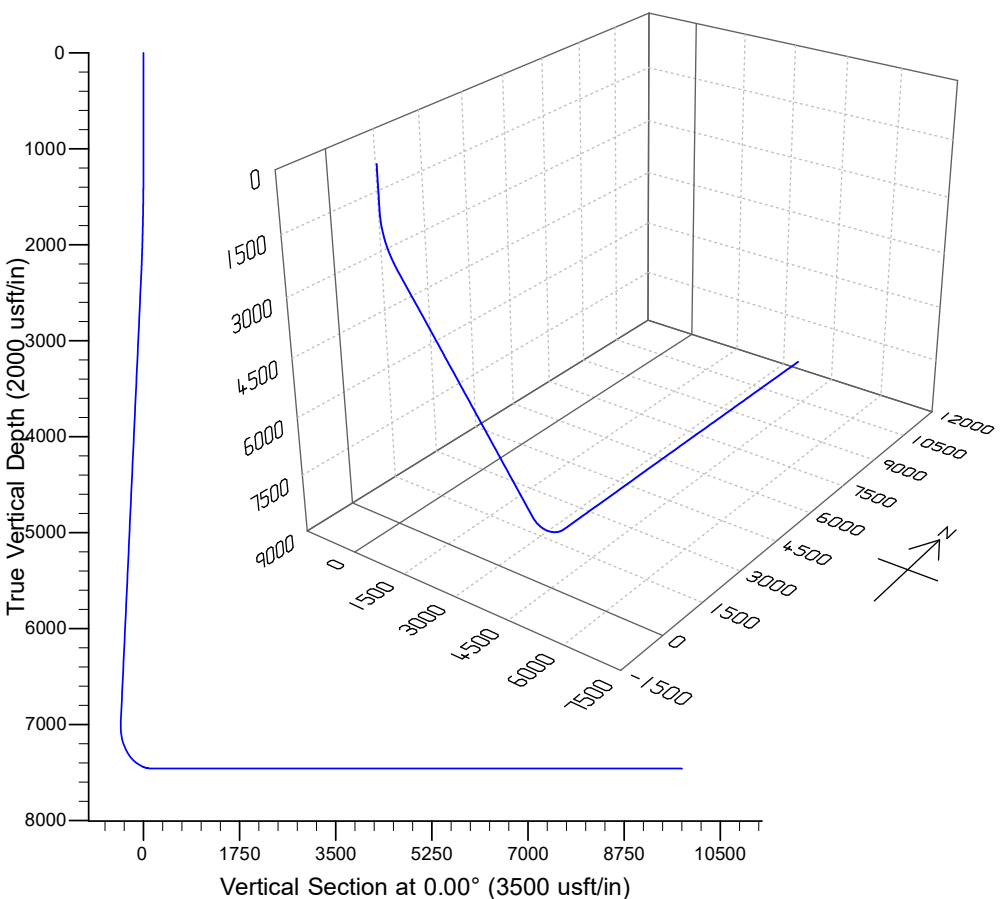
System Datum: Mean Sea Level

WELL DETAILS: *Buckley 21-16-2NBH

Ground Elevation	5047.0	Longitude
Northing	1223627.93	Latitude
Easting	3195874.84	38° 26' 43.209 N 104° 48' 57.971 W

SECTION DETAILS
 *Buckley 21-16-2NBH

MD	Inc	Azi	TVD	+N/-S	Dleg	TFace	Vsect	
0.0	0.00	0.00	0.0	0.0	0.00	0.00	0.0	
1100.0	0.00	0.00	1100.0	0.0	0.00	0.00	0.0	
2437.4	40.12	95.43	2330.8	-42.5	447.4	3.00	95.43	-42.5
8536.2	40.12	95.43	6994.3	-414.3	4360.0	0.00	0.00	-414.3
9471.1	90.00	0.00	7460.0	157.5	4750.7	10.00	-94.15	157.5
19116.5	90.00	0.00	7460.0	9802.9	4751.0	0.00	0.00	9802.9



Amazon.com
Survey Report - Geographic

Company:	APEX	Local Co-ordinate Reference:	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	TVD Reference:	RKB @ 5063.0usft
Site:	Sec 20-T1S-R66W	MD Reference:	RKB @ 5063.0usft
Well:	*Buckley 21-16-2NBH	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	WC365

Project	POCO Brighton Lakes Expansion, Central Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	Sec 20-T1S-R66W				
Site Position:		Northing:	1,223,371.00 usft	Latitude:	38° 26' 40.678 N
From:	Map	Easting:	3,195,769.00 usft	Longitude:	104° 48' 59.326 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.43 °

Well	*Buckley 21-16-2NBH					
Well Position	+N/-S	0.0 usft	Northing:	1,223,627.93 usft	Latitude:	38° 26' 43.209 N
	+E/-W	0.0 usft	Easting:	3,195,874.84 usft	Longitude:	104° 48' 57.971 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	5,047.0 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/31/2014	8.25	65.33	51,704.39977133

Design	Plan #1				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	0.00	

Survey Tool Program	Date	9/19/2022			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	19,116.5	Plan #1 (Original Hole)	MWD+HRGM+SAG+FDIR	OWSG MWD + HRGM + SAG + FDIR Correction	

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.0	0.00	0.00	0.0	0.0	0.0	1,223,627.93	3,195,874.84	38° 26' 43.209 N	104° 48' 57.971 W	
100.0	0.00	0.00	100.0	0.0	0.0	1,223,627.93	3,195,874.84	38° 26' 43.209 N	104° 48' 57.971 W	
200.0	0.00	0.00	200.0	0.0	0.0	1,223,627.93	3,195,874.84	38° 26' 43.209 N	104° 48' 57.971 W	
300.0	0.00	0.00	300.0	0.0	0.0	1,223,627.93	3,195,874.84	38° 26' 43.209 N	104° 48' 57.971 W	
400.0	0.00	0.00	400.0	0.0	0.0	1,223,627.93	3,195,874.84	38° 26' 43.209 N	104° 48' 57.971 W	
500.0	0.00	0.00	500.0	0.0	0.0	1,223,627.93	3,195,874.84	38° 26' 43.209 N	104° 48' 57.971 W	
600.0	0.00	0.00	600.0	0.0	0.0	1,223,627.93	3,195,874.84	38° 26' 43.209 N	104° 48' 57.971 W	
700.0	0.00	0.00	700.0	0.0	0.0	1,223,627.93	3,195,874.84	38° 26' 43.209 N	104° 48' 57.971 W	
800.0	0.00	0.00	800.0	0.0	0.0	1,223,627.93	3,195,874.84	38° 26' 43.209 N	104° 48' 57.971 W	
900.0	0.00	0.00	900.0	0.0	0.0	1,223,627.93	3,195,874.84	38° 26' 43.209 N	104° 48' 57.971 W	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	1,223,627.93	3,195,874.84	38° 26' 43.209 N	104° 48' 57.971 W	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	1,223,627.93	3,195,874.84	38° 26' 43.209 N	104° 48' 57.971 W	

Amazon.com
Survey Report - Geographic

Company:	APEX	Local Co-ordinate Reference:	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	TVD Reference:	RKB @ 5063.0usft
Site:	Sec 20-T1S-R66W	MD Reference:	RKB @ 5063.0usft
Well:	*Buckley 21-16-2NBH	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	WC365

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
1,200.0	3.00	95.43	1,200.0	-0.2	2.6	1,223,627.68	3,195,877.45	38° 26' 43.207 N	104° 48' 57.938 W	
1,300.0	6.00	95.43	1,299.6	-1.0	10.4	1,223,626.94	3,195,885.26	38° 26' 43.199 N	104° 48' 57.840 W	
1,400.0	9.00	95.43	1,398.8	-2.2	23.4	1,223,625.70	3,195,898.25	38° 26' 43.186 N	104° 48' 57.677 W	
1,500.0	12.00	95.43	1,497.1	-3.9	41.5	1,223,623.98	3,195,916.39	38° 26' 43.167 N	104° 48' 57.449 W	
1,600.0	15.00	95.43	1,594.3	-6.2	64.8	1,223,621.77	3,195,939.63	38° 26' 43.144 N	104° 48' 57.157 W	
1,700.0	18.00	95.43	1,690.2	-8.8	93.1	1,223,619.08	3,195,967.90	38° 26' 43.115 N	104° 48' 56.802 W	
1,800.0	21.00	95.43	1,784.4	-12.0	126.3	1,223,615.93	3,196,001.12	38° 26' 43.081 N	104° 48' 56.385 W	
1,900.0	24.00	95.43	1,876.8	-15.6	164.4	1,223,612.31	3,196,039.22	38° 26' 43.043 N	104° 48' 55.907 W	
2,000.0	27.00	95.43	1,967.1	-19.7	207.2	1,223,608.23	3,196,082.07	38° 26' 42.999 N	104° 48' 55.368 W	
2,100.0	30.00	95.43	2,054.9	-24.2	254.7	1,223,603.72	3,196,129.57	38° 26' 42.951 N	104° 48' 54.772 W	
2,200.0	33.00	95.43	2,140.2	-29.1	306.7	1,223,598.78	3,196,181.58	38° 26' 42.899 N	104° 48' 54.119 W	
2,300.0	36.00	95.43	2,222.6	-34.5	363.1	1,223,593.42	3,196,237.96	38° 26' 42.841 N	104° 48' 53.410 W	
2,400.0	39.00	95.43	2,301.9	-40.3	423.7	1,223,587.66	3,196,298.55	38° 26' 42.780 N	104° 48' 52.649 W	
2,437.4	40.12	95.43	2,330.8	-42.5	447.4	1,223,585.41	3,196,322.28	38° 26' 42.756 N	104° 48' 52.351 W	
2,500.0	40.12	95.43	2,378.6	-46.3	487.6	1,223,581.59	3,196,362.43	38° 26' 42.715 N	104° 48' 51.847 W	
2,600.0	40.12	95.43	2,455.1	-52.4	551.7	1,223,575.50	3,196,426.58	38° 26' 42.650 N	104° 48' 51.041 W	
2,700.0	40.12	95.43	2,531.5	-58.5	615.9	1,223,569.40	3,196,490.73	38° 26' 42.585 N	104° 48' 50.236 W	
2,800.0	40.12	95.43	2,608.0	-64.6	680.0	1,223,563.30	3,196,554.89	38° 26' 42.520 N	104° 48' 49.430 W	
2,900.0	40.12	95.43	2,684.5	-70.7	744.2	1,223,557.21	3,196,619.04	38° 26' 42.455 N	104° 48' 48.624 W	
3,000.0	40.12	95.43	2,760.9	-76.8	808.4	1,223,551.11	3,196,683.19	38° 26' 42.390 N	104° 48' 47.818 W	
3,100.0	40.12	95.43	2,837.4	-82.9	872.5	1,223,545.01	3,196,747.35	38° 26' 42.325 N	104° 48' 47.013 W	
3,200.0	40.12	95.43	2,913.9	-89.0	936.7	1,223,538.92	3,196,811.50	38° 26' 42.260 N	104° 48' 46.207 W	
3,300.0	40.12	95.43	2,990.3	-95.1	1,000.8	1,223,532.82	3,196,875.65	38° 26' 42.195 N	104° 48' 45.401 W	
3,400.0	40.12	95.43	3,066.8	-101.2	1,065.0	1,223,526.72	3,196,939.81	38° 26' 42.130 N	104° 48' 44.595 W	
3,500.0	40.12	95.43	3,143.3	-107.3	1,129.1	1,223,520.63	3,197,003.96	38° 26' 42.065 N	104° 48' 43.790 W	
3,600.0	40.12	95.43	3,219.8	-113.4	1,193.3	1,223,514.53	3,197,068.11	38° 26' 42.000 N	104° 48' 42.984 W	
3,700.0	40.12	95.43	3,296.2	-119.5	1,257.4	1,223,508.43	3,197,132.27	38° 26' 41.934 N	104° 48' 42.178 W	
3,800.0	40.12	95.43	3,372.7	-125.6	1,321.6	1,223,502.34	3,197,196.42	38° 26' 41.869 N	104° 48' 41.372 W	
3,900.0	40.12	95.43	3,449.2	-131.7	1,385.7	1,223,496.24	3,197,260.57	38° 26' 41.804 N	104° 48' 40.567 W	
4,000.0	40.12	95.43	3,525.6	-137.8	1,449.9	1,223,490.15	3,197,324.73	38° 26' 41.739 N	104° 48' 39.761 W	
4,100.0	40.12	95.43	3,602.1	-143.9	1,514.0	1,223,484.05	3,197,388.88	38° 26' 41.674 N	104° 48' 38.955 W	
4,200.0	40.12	95.43	3,678.6	-150.0	1,578.2	1,223,477.95	3,197,453.03	38° 26' 41.609 N	104° 48' 38.149 W	
4,300.0	40.12	95.43	3,755.0	-156.1	1,642.3	1,223,471.86	3,197,517.19	38° 26' 41.544 N	104° 48' 37.344 W	
4,400.0	40.12	95.43	3,831.5	-162.2	1,706.5	1,223,465.76	3,197,581.34	38° 26' 41.479 N	104° 48' 36.538 W	
4,500.0	40.12	95.43	3,908.0	-168.3	1,770.7	1,223,459.66	3,197,645.49	38° 26' 41.414 N	104° 48' 35.732 W	
4,600.0	40.12	95.43	3,984.4	-174.4	1,834.8	1,223,453.57	3,197,709.65	38° 26' 41.349 N	104° 48' 34.926 W	
4,700.0	40.12	95.43	4,060.9	-180.5	1,899.0	1,223,447.47	3,197,773.80	38° 26' 41.284 N	104° 48' 34.121 W	
4,800.0	40.12	95.43	4,137.4	-186.6	1,963.1	1,223,441.37	3,197,837.95	38° 26' 41.219 N	104° 48' 33.315 W	
4,900.0	40.12	95.43	4,213.8	-192.7	2,027.3	1,223,435.28	3,197,902.11	38° 26' 41.154 N	104° 48' 32.509 W	
5,000.0	40.12	95.43	4,290.3	-198.7	2,091.4	1,223,429.18	3,197,966.26	38° 26' 41.088 N	104° 48' 31.703 W	
5,100.0	40.12	95.43	4,366.8	-204.8	2,155.6	1,223,423.08	3,198,030.41	38° 26' 41.023 N	104° 48' 30.898 W	
5,200.0	40.12	95.43	4,443.2	-210.9	2,219.7	1,223,416.99	3,198,094.57	38° 26' 40.958 N	104° 48' 30.092 W	
5,300.0	40.12	95.43	4,519.7	-217.0	2,283.9	1,223,410.89	3,198,158.72	38° 26' 40.893 N	104° 48' 29.286 W	
5,400.0	40.12	95.43	4,596.2	-223.1	2,348.0	1,223,404.79	3,198,222.87	38° 26' 40.828 N	104° 48' 28.480 W	
5,500.0	40.12	95.43	4,672.6	-229.2	2,412.2	1,223,398.70	3,198,287.03	38° 26' 40.763 N	104° 48' 27.675 W	
5,600.0	40.12	95.43	4,749.1	-235.3	2,476.3	1,223,392.60	3,198,351.18	38° 26' 40.698 N	104° 48' 26.869 W	
5,700.0	40.12	95.43	4,825.6	-241.4	2,540.5	1,223,386.51	3,198,415.33	38° 26' 40.633 N	104° 48' 26.063 W	
5,800.0	40.12	95.43	4,902.0	-247.5	2,604.6	1,223,380.41	3,198,479.49	38° 26' 40.568 N	104° 48' 25.257 W	
5,900.0	40.12	95.43	4,978.5	-253.6	2,668.8	1,223,374.31	3,198,543.64	38° 26' 40.503 N	104° 48' 24.452 W	
6,000.0	40.12	95.43	5,055.0	-259.7	2,733.0	1,223,368.22	3,198,607.79	38° 26' 40.438 N	104° 48' 23.646 W	
6,100.0	40.12	95.43	5,131.4	-265.8	2,797.1	1,223,362.12	3,198,671.95	38° 26' 40.372 N	104° 48' 22.840 W	
6,200.0	40.12	95.43	5,207.9	-271.9	2,861.3	1,223,356.02	3,198,736.10	38° 26' 40.307 N	104° 48' 22.034 W	
6,300.0	40.12	95.43	5,284.4	-278.0	2,925.4	1,223,349.93	3,198,800.25	38° 26' 40.242 N	104° 48' 21.229 W	
6,400.0	40.12	95.43	5,360.8	-284.1	2,989.6	1,223,343.83	3,198,864.41	38° 26' 40.177 N	104° 48' 20.423 W	
6,500.0	40.12	95.43	5,437.3	-290.2	3,053.7	1,223,337.73	3,198,928.56	38° 26' 40.112 N	104° 48' 19.617 W	

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Survey Report - Geographic

Company:	APEX	Local Co-ordinate Reference:	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	TVD Reference:	RKB @ 5063.0usft
Site:	Sec 20-T1S-R66W	MD Reference:	RKB @ 5063.0usft
Well:	*Buckley 21-16-2NBH	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	WC365

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,600.0	40.12	95.43	5,513.8	-296.3	3,117.9	1,223,331.64	3,198,992.71	38° 26' 40.047 N	104° 48' 18.811 W
6,700.0	40.12	95.43	5,590.2	-302.4	3,182.0	1,223,325.54	3,199,056.87	38° 26' 39.982 N	104° 48' 18.006 W
6,800.0	40.12	95.43	5,666.7	-308.5	3,246.2	1,223,319.44	3,199,121.02	38° 26' 39.917 N	104° 48' 17.200 W
6,900.0	40.12	95.43	5,743.2	-314.6	3,310.3	1,223,313.35	3,199,185.17	38° 26' 39.852 N	104° 48' 16.394 W
7,000.0	40.12	95.43	5,819.6	-320.7	3,374.5	1,223,307.25	3,199,249.33	38° 26' 39.786 N	104° 48' 15.588 W
7,100.0	40.12	95.43	5,896.1	-326.8	3,438.6	1,223,301.15	3,199,313.48	38° 26' 39.721 N	104° 48' 14.783 W
7,200.0	40.12	95.43	5,972.6	-332.9	3,502.8	1,223,295.06	3,199,377.63	38° 26' 39.656 N	104° 48' 13.977 W
7,300.0	40.12	95.43	6,049.0	-339.0	3,566.9	1,223,288.96	3,199,441.79	38° 26' 39.591 N	104° 48' 13.171 W
7,400.0	40.12	95.43	6,125.5	-345.1	3,631.1	1,223,282.86	3,199,505.94	38° 26' 39.526 N	104° 48' 12.365 W
7,500.0	40.12	95.43	6,202.0	-351.2	3,695.3	1,223,276.77	3,199,570.09	38° 26' 39.461 N	104° 48' 11.560 W
7,600.0	40.12	95.43	6,278.4	-357.3	3,759.4	1,223,270.67	3,199,634.25	38° 26' 39.396 N	104° 48' 10.754 W
7,700.0	40.12	95.43	6,354.9	-363.4	3,823.6	1,223,264.58	3,199,698.40	38° 26' 39.331 N	104° 48' 9.948 W
7,800.0	40.12	95.43	6,431.4	-369.4	3,887.7	1,223,258.48	3,199,762.55	38° 26' 39.265 N	104° 48' 9.143 W
7,900.0	40.12	95.43	6,507.8	-375.5	3,951.9	1,223,252.38	3,199,826.71	38° 26' 39.200 N	104° 48' 8.337 W
8,000.0	40.12	95.43	6,584.3	-381.6	4,016.0	1,223,246.29	3,199,890.86	38° 26' 39.135 N	104° 48' 7.531 W
8,100.0	40.12	95.43	6,660.8	-387.7	4,080.2	1,223,240.19	3,199,955.01	38° 26' 39.070 N	104° 48' 6.725 W
8,200.0	40.12	95.43	6,737.2	-393.8	4,144.3	1,223,234.09	3,200,019.17	38° 26' 39.005 N	104° 48' 5.920 W
8,300.0	40.12	95.43	6,813.7	-399.9	4,208.5	1,223,228.00	3,200,083.32	38° 26' 38.940 N	104° 48' 5.114 W
8,400.0	40.12	95.43	6,890.2	-406.0	4,272.6	1,223,221.90	3,200,147.47	38° 26' 38.875 N	104° 48' 4.308 W
8,500.0	40.12	95.43	6,966.6	-412.1	4,336.8	1,223,215.80	3,200,211.63	38° 26' 38.809 N	104° 48' 3.502 W
8,536.2	40.12	95.43	6,994.3	-414.3	4,360.0	1,223,213.60	3,200,234.84	38° 26' 38.786 N	104° 48' 3.211 W
8,600.0	40.08	85.52	7,043.2	-414.7	4,401.0	1,223,213.26	3,200,275.83	38° 26' 38.779 N	104° 48' 2.696 W
8,700.0	41.69	70.41	7,118.9	-401.0	4,464.6	1,223,226.96	3,200,339.42	38° 26' 38.910 N	104° 48' 1.895 W
8,800.0	45.11	56.70	7,191.8	-370.3	4,525.7	1,223,257.63	3,200,400.51	38° 26' 39.209 N	104° 48' 1.124 W
8,900.0	49.96	44.83	7,259.4	-323.6	4,582.4	1,223,304.35	3,200,457.25	38° 26' 39.666 N	104° 48' 0.407 W
9,000.0	55.85	34.68	7,319.8	-262.3	4,633.1	1,223,365.68	3,200,507.91	38° 26' 40.268 N	104° 47' 59.764 W
9,100.0	62.47	25.94	7,371.1	-188.2	4,676.1	1,223,439.76	3,200,550.96	38° 26' 40.997 N	104° 47' 59.216 W
9,200.0	69.57	18.22	7,411.8	-103.6	4,710.2	1,223,524.36	3,200,585.08	38° 26' 41.831 N	104° 47' 58.779 W
9,300.0	76.97	11.20	7,440.6	-11.0	4,734.4	1,223,616.88	3,200,609.25	38° 26' 42.744 N	104° 47' 58.466 W
9,400.0	84.56	4.59	7,456.6	86.6	4,747.9	1,223,714.53	3,200,622.72	38° 26' 43.708 N	104° 47' 58.287 W
9,471.1	90.00	0.00	7,460.0	157.5	4,750.7	1,223,785.48	3,200,625.56	38° 26' 44.409 N	104° 47' 58.245 W
9,500.0	90.00	0.00	7,460.0	186.4	4,750.7	1,223,814.35	3,200,625.56	38° 26' 44.694 N	104° 47' 58.242 W
9,600.0	90.00	0.00	7,460.0	286.4	4,750.7	1,223,914.35	3,200,625.56	38° 26' 45.683 N	104° 47' 58.232 W
9,700.0	90.00	0.00	7,460.0	386.4	4,750.7	1,224,014.35	3,200,625.57	38° 26' 46.671 N	104° 47' 58.222 W
9,800.0	90.00	0.00	7,460.0	486.4	4,750.7	1,224,114.35	3,200,625.57	38° 26' 47.660 N	104° 47' 58.213 W
9,900.0	90.00	0.00	7,460.0	586.4	4,750.7	1,224,214.35	3,200,625.57	38° 26' 48.648 N	104° 47' 58.203 W
10,000.0	90.00	0.00	7,460.0	686.4	4,750.7	1,224,314.35	3,200,625.58	38° 26' 49.637 N	104° 47' 58.193 W
10,100.0	90.00	0.00	7,460.0	786.4	4,750.7	1,224,414.35	3,200,625.58	38° 26' 50.625 N	104° 47' 58.183 W
10,200.0	90.00	0.00	7,460.0	886.4	4,750.7	1,224,514.35	3,200,625.58	38° 26' 51.614 N	104° 47' 58.174 W
10,300.0	90.00	0.00	7,460.0	986.4	4,750.7	1,224,614.35	3,200,625.59	38° 26' 52.602 N	104° 47' 58.164 W
10,400.0	90.00	0.00	7,460.0	1,086.4	4,750.7	1,224,714.35	3,200,625.59	38° 26' 53.591 N	104° 47' 58.154 W
10,500.0	90.00	0.00	7,460.0	1,186.4	4,750.8	1,224,814.35	3,200,625.59	38° 26' 54.579 N	104° 47' 58.144 W
10,600.0	90.00	0.00	7,460.0	1,286.4	4,750.8	1,224,914.35	3,200,625.60	38° 26' 55.568 N	104° 47' 58.135 W
10,700.0	90.00	0.00	7,460.0	1,386.4	4,750.8	1,225,014.35	3,200,625.60	38° 26' 56.556 N	104° 47' 58.125 W
10,800.0	90.00	0.00	7,460.0	1,486.4	4,750.8	1,225,114.35	3,200,625.60	38° 26' 57.544 N	104° 47' 58.115 W
10,900.0	90.00	0.00	7,460.0	1,586.4	4,750.8	1,225,214.35	3,200,625.61	38° 26' 58.533 N	104° 47' 58.105 W
11,000.0	90.00	0.00	7,460.0	1,686.4	4,750.8	1,225,314.35	3,200,625.61	38° 26' 59.521 N	104° 47' 58.096 W
11,100.0	90.00	0.00	7,460.0	1,786.4	4,750.8	1,225,414.35	3,200,625.61	38° 27' 0.510 N	104° 47' 58.086 W
11,200.0	90.00	0.00	7,460.0	1,886.4	4,750.8	1,225,514.35	3,200,625.62	38° 27' 1.498 N	104° 47' 58.076 W
11,300.0	90.00	0.00	7,460.0	1,986.4	4,750.8	1,225,614.35	3,200,625.62	38° 27' 2.487 N	104° 47' 58.067 W
11,400.0	90.00	0.00	7,460.0	2,086.4	4,750.8	1,225,714.35	3,200,625.62	38° 27' 3.475 N	104° 47' 58.057 W
11,500.0	90.00	0.00	7,460.0	2,186.4	4,750.8	1,225,814.35	3,200,625.63	38° 27' 4.464 N	104° 47' 58.047 W
11,600.0	90.00	0.00	7,460.0	2,286.4	4,750.8	1,225,914.35	3,200,625.63	38° 27' 5.452 N	104° 47' 58.037 W
11,700.0	90.00	0.00	7,460.0	2,386.4	4,750.8	1,226,014.35	3,200,625.63	38° 27' 6.441 N	104° 47' 58.028 W
11,800.0	90.00	0.00	7,460.0	2,486.4	4,750.8	1,226,114.35	3,200,625.64	38° 27' 7.429 N	104° 47' 58.018 W

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Survey Report - Geographic

Company:	APEX	Local Co-ordinate Reference:	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	TVD Reference:	RKB @ 5063.0usft
Site:	Sec 20-T1S-R66W	MD Reference:	RKB @ 5063.0usft
Well:	*Buckley 21-16-2NBH	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	WC365

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
11,900.0	90.00	0.00	7,460.0	2,586.4	4,750.8	1,226,214.35	3,200,625.64	38° 27' 8.418 N	104° 47' 58.008 W	
12,000.0	90.00	0.00	7,460.0	2,686.4	4,750.8	1,226,314.35	3,200,625.64	38° 27' 9.406 N	104° 47' 57.998 W	
12,100.0	90.00	0.00	7,460.0	2,786.4	4,750.8	1,226,414.35	3,200,625.65	38° 27' 10.395 N	104° 47' 57.989 W	
12,200.0	90.00	0.00	7,460.0	2,886.4	4,750.8	1,226,514.35	3,200,625.65	38° 27' 11.383 N	104° 47' 57.979 W	
12,300.0	90.00	0.00	7,460.0	2,986.4	4,750.8	1,226,614.35	3,200,625.65	38° 27' 12.372 N	104° 47' 57.969 W	
12,400.0	90.00	0.00	7,460.0	3,086.4	4,750.8	1,226,714.35	3,200,625.66	38° 27' 13.360 N	104° 47' 57.959 W	
12,500.0	90.00	0.00	7,460.0	3,186.4	4,750.8	1,226,814.35	3,200,625.66	38° 27' 14.348 N	104° 47' 57.950 W	
12,600.0	90.00	0.00	7,460.0	3,286.4	4,750.8	1,226,914.35	3,200,625.66	38° 27' 15.337 N	104° 47' 57.940 W	
12,700.0	90.00	0.00	7,460.0	3,386.4	4,750.8	1,227,014.35	3,200,625.67	38° 27' 16.325 N	104° 47' 57.930 W	
12,800.0	90.00	0.00	7,460.0	3,486.4	4,750.8	1,227,114.35	3,200,625.67	38° 27' 17.314 N	104° 47' 57.920 W	
12,900.0	90.00	0.00	7,460.0	3,586.4	4,750.8	1,227,214.35	3,200,625.67	38° 27' 18.302 N	104° 47' 57.911 W	
13,000.0	90.00	0.00	7,460.0	3,686.4	4,750.8	1,227,314.35	3,200,625.68	38° 27' 19.291 N	104° 47' 57.901 W	
13,100.0	90.00	0.00	7,460.0	3,786.4	4,750.8	1,227,414.35	3,200,625.68	38° 27' 20.279 N	104° 47' 57.891 W	
13,200.0	90.00	0.00	7,460.0	3,886.4	4,750.8	1,227,514.35	3,200,625.68	38° 27' 21.268 N	104° 47' 57.882 W	
13,300.0	90.00	0.00	7,460.0	3,986.4	4,750.8	1,227,614.35	3,200,625.69	38° 27' 22.256 N	104° 47' 57.872 W	
13,400.0	90.00	0.00	7,460.0	4,086.4	4,750.8	1,227,714.35	3,200,625.69	38° 27' 23.245 N	104° 47' 57.862 W	
13,500.0	90.00	0.00	7,460.0	4,186.4	4,750.9	1,227,814.35	3,200,625.69	38° 27' 24.233 N	104° 47' 57.852 W	
13,600.0	90.00	0.00	7,460.0	4,286.4	4,750.9	1,227,914.35	3,200,625.70	38° 27' 25.222 N	104° 47' 57.843 W	
13,700.0	90.00	0.00	7,460.0	4,386.4	4,750.9	1,228,014.35	3,200,625.70	38° 27' 26.210 N	104° 47' 57.833 W	
13,800.0	90.00	0.00	7,460.0	4,486.4	4,750.9	1,228,114.35	3,200,625.70	38° 27' 27.199 N	104° 47' 57.823 W	
13,900.0	90.00	0.00	7,460.0	4,586.4	4,750.9	1,228,214.35	3,200,625.71	38° 27' 28.187 N	104° 47' 57.813 W	
14,000.0	90.00	0.00	7,460.0	4,686.4	4,750.9	1,228,314.35	3,200,625.71	38° 27' 29.175 N	104° 47' 57.804 W	
14,100.0	90.00	0.00	7,460.0	4,786.4	4,750.9	1,228,414.35	3,200,625.71	38° 27' 30.164 N	104° 47' 57.794 W	
14,200.0	90.00	0.00	7,460.0	4,886.4	4,750.9	1,228,514.35	3,200,625.72	38° 27' 31.152 N	104° 47' 57.784 W	
14,300.0	90.00	0.00	7,460.0	4,986.4	4,750.9	1,228,614.35	3,200,625.72	38° 27' 32.141 N	104° 47' 57.774 W	
14,400.0	90.00	0.00	7,460.0	5,086.4	4,750.9	1,228,714.35	3,200,625.72	38° 27' 33.129 N	104° 47' 57.765 W	
14,500.0	90.00	0.00	7,460.0	5,186.4	4,750.9	1,228,814.35	3,200,625.73	38° 27' 34.118 N	104° 47' 57.755 W	
14,600.0	90.00	0.00	7,460.0	5,286.4	4,750.9	1,228,914.35	3,200,625.73	38° 27' 35.106 N	104° 47' 57.745 W	
14,700.0	90.00	0.00	7,460.0	5,386.4	4,750.9	1,229,014.35	3,200,625.73	38° 27' 36.095 N	104° 47' 57.735 W	
14,800.0	90.00	0.00	7,460.0	5,486.4	4,750.9	1,229,114.35	3,200,625.74	38° 27' 37.083 N	104° 47' 57.726 W	
14,900.0	90.00	0.00	7,460.0	5,586.4	4,750.9	1,229,214.35	3,200,625.74	38° 27' 38.072 N	104° 47' 57.716 W	
15,000.0	90.00	0.00	7,460.0	5,686.4	4,750.9	1,229,314.35	3,200,625.74	38° 27' 39.060 N	104° 47' 57.706 W	
15,100.0	90.00	0.00	7,460.0	5,786.4	4,750.9	1,229,414.35	3,200,625.75	38° 27' 40.049 N	104° 47' 57.697 W	
15,200.0	90.00	0.00	7,460.0	5,886.4	4,750.9	1,229,514.35	3,200,625.75	38° 27' 41.037 N	104° 47' 57.687 W	
15,300.0	90.00	0.00	7,460.0	5,986.4	4,750.9	1,229,614.35	3,200,625.75	38° 27' 42.026 N	104° 47' 57.677 W	
15,400.0	90.00	0.00	7,460.0	6,086.4	4,750.9	1,229,714.35	3,200,625.76	38° 27' 43.014 N	104° 47' 57.667 W	
15,500.0	90.00	0.00	7,460.0	6,186.4	4,750.9	1,229,814.35	3,200,625.76	38° 27' 44.002 N	104° 47' 57.658 W	
15,600.0	90.00	0.00	7,460.0	6,286.4	4,750.9	1,229,914.35	3,200,625.76	38° 27' 44.991 N	104° 47' 57.648 W	
15,700.0	90.00	0.00	7,460.0	6,386.4	4,750.9	1,230,014.35	3,200,625.77	38° 27' 45.979 N	104° 47' 57.638 W	
15,800.0	90.00	0.00	7,460.0	6,486.4	4,750.9	1,230,114.35	3,200,625.77	38° 27' 46.968 N	104° 47' 57.628 W	
15,900.0	90.00	0.00	7,460.0	6,586.4	4,750.9	1,230,214.35	3,200,625.77	38° 27' 47.956 N	104° 47' 57.619 W	
16,000.0	90.00	0.00	7,460.0	6,686.4	4,750.9	1,230,314.35	3,200,625.78	38° 27' 48.945 N	104° 47' 57.609 W	
16,100.0	90.00	0.00	7,460.0	6,786.4	4,750.9	1,230,414.35	3,200,625.78	38° 27' 49.933 N	104° 47' 57.599 W	
16,200.0	90.00	0.00	7,460.0	6,886.4	4,750.9	1,230,514.35	3,200,625.78	38° 27' 50.922 N	104° 47' 57.589 W	
16,300.0	90.00	0.00	7,460.0	6,986.4	4,750.9	1,230,614.35	3,200,625.79	38° 27' 51.910 N	104° 47' 57.580 W	
16,400.0	90.00	0.00	7,460.0	7,086.4	4,750.9	1,230,714.35	3,200,625.79	38° 27' 52.899 N	104° 47' 57.570 W	
16,500.0	90.00	0.00	7,460.0	7,186.4	4,751.0	1,230,814.35	3,200,625.79	38° 27' 53.887 N	104° 47' 57.560 W	
16,600.0	90.00	0.00	7,460.0	7,286.4	4,751.0	1,230,914.35	3,200,625.80	38° 27' 54.876 N	104° 47' 57.550 W	
16,700.0	90.00	0.00	7,460.0	7,386.4	4,751.0	1,231,014.35	3,200,625.80	38° 27' 55.864 N	104° 47' 57.541 W	
16,800.0	90.00	0.00	7,460.0	7,486.4	4,751.0	1,231,114.35	3,200,625.80	38° 27' 56.853 N	104° 47' 57.531 W	
16,900.0	90.00	0.00	7,460.0	7,586.4	4,751.0	1,231,214.35	3,200,625.81	38° 27' 57.841 N	104° 47' 57.521 W	
17,000.0	90.00	0.00	7,460.0	7,686.4	4,751.0	1,231,314.35	3,200,625.81	38° 27' 58.830 N	104° 47' 57.512 W	
17,100.0	90.00	0.00	7,460.0	7,786.4	4,751.0	1,231,414.35	3,200,625.81	38° 27' 59.818 N	104° 47' 57.502 W	
17,200.0	90.00	0.00	7,460.0	7,886.4	4,751.0	1,231,514.35	3,200,625.82	38° 28' 0.806 N	104° 47' 57.492 W	
17,300.0	90.00	0.00	7,460.0	7,986.4	4,751.0	1,231,614.35	3,200,625.82	38° 28' 1.795 N	104° 47' 57.482 W	

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Survey Report - Geographic

Company:	APEX	Local Co-ordinate Reference:	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	TVD Reference:	RKB @ 5063.0usft
Site:	Sec 20-T1S-R66W	MD Reference:	RKB @ 5063.0usft
Well:	*Buckley 21-16-2NBH	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	WC365

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
17,400.0	90.00	0.00	7,460.0	8,086.4	4,751.0	1,231,714.35	3,200,625.82	38° 28' 2.783 N	104° 47' 57.473 W	
17,500.0	90.00	0.00	7,460.0	8,186.4	4,751.0	1,231,814.35	3,200,625.83	38° 28' 3.772 N	104° 47' 57.463 W	
17,600.0	90.00	0.00	7,460.0	8,286.4	4,751.0	1,231,914.35	3,200,625.83	38° 28' 4.760 N	104° 47' 57.453 W	
17,700.0	90.00	0.00	7,460.0	8,386.4	4,751.0	1,232,014.35	3,200,625.83	38° 28' 5.749 N	104° 47' 57.443 W	
17,800.0	90.00	0.00	7,460.0	8,486.4	4,751.0	1,232,114.35	3,200,625.84	38° 28' 6.737 N	104° 47' 57.434 W	
17,900.0	90.00	0.00	7,460.0	8,586.4	4,751.0	1,232,214.35	3,200,625.84	38° 28' 7.726 N	104° 47' 57.424 W	
18,000.0	90.00	0.00	7,460.0	8,686.4	4,751.0	1,232,314.35	3,200,625.84	38° 28' 8.714 N	104° 47' 57.414 W	
18,100.0	90.00	0.00	7,460.0	8,786.4	4,751.0	1,232,414.35	3,200,625.85	38° 28' 9.703 N	104° 47' 57.404 W	
18,200.0	90.00	0.00	7,460.0	8,886.4	4,751.0	1,232,514.35	3,200,625.85	38° 28' 10.691 N	104° 47' 57.395 W	
18,300.0	90.00	0.00	7,460.0	8,986.4	4,751.0	1,232,614.35	3,200,625.85	38° 28' 11.680 N	104° 47' 57.385 W	
18,400.0	90.00	0.00	7,460.0	9,086.4	4,751.0	1,232,714.35	3,200,625.86	38° 28' 12.668 N	104° 47' 57.375 W	
18,500.0	90.00	0.00	7,460.0	9,186.4	4,751.0	1,232,814.35	3,200,625.86	38° 28' 13.657 N	104° 47' 57.365 W	
18,600.0	90.00	0.00	7,460.0	9,286.4	4,751.0	1,232,914.35	3,200,625.86	38° 28' 14.645 N	104° 47' 57.356 W	
18,700.0	90.00	0.00	7,460.0	9,386.4	4,751.0	1,233,014.35	3,200,625.87	38° 28' 15.633 N	104° 47' 57.346 W	
18,800.0	90.00	0.00	7,460.0	9,486.4	4,751.0	1,233,114.35	3,200,625.87	38° 28' 16.622 N	104° 47' 57.336 W	
18,900.0	90.00	0.00	7,460.0	9,586.4	4,751.0	1,233,214.35	3,200,625.87	38° 28' 17.610 N	104° 47' 57.326 W	
19,000.0	90.00	0.00	7,460.0	9,686.4	4,751.0	1,233,314.35	3,200,625.88	38° 28' 18.599 N	104° 47' 57.317 W	
19,100.0	90.00	0.00	7,460.0	9,786.4	4,751.0	1,233,414.35	3,200,625.88	38° 28' 19.587 N	104° 47' 57.307 W	
19,116.5	90.00	0.00	7,460.0	9,802.9	4,751.0	1,233,430.83	3,200,625.88	38° 28' 19.750 N	104° 47' 57.305 W	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
21-16-2NBH KOP - hit/miss target - Shape - Point	0.00	0.00	7,000.0	-414.3	4,818.0	1,223,213.60	3,200,692.89	38° 26' 38.751 N	104° 47' 57.454 W	- plan misses target center by 351.9usft at 8815.7usft MD (7202.8 TVD, -364.0 N, 4534.9 E)
21-16-2NBH BHL - plan hits target center - Point	0.00	0.01	7,460.0	9,802.9	4,751.0	1,233,430.83	3,200,625.88	38° 28' 19.750 N	104° 47' 57.305 W	

Checked By: _____ Approved By: _____ Date: _____