APEX

POCO Brighton Lakes Expansion
Sec 20-T1S-R66W
***Buckley 21-16-2NBH**

Original Hole
Plan #1

Anticollision Report

22 September, 2022

Amazon.com

Anticollision Report

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum centre distance of 1,000.0usft	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

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

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Sec 20-T1S-R66W						
*Barr Lake 21-23-1CDH - Original Hole - Plan #1	1,300.0	1,298.9	104.4	95.3	11.427	CC
*Barr Lake 21-23-1CDH - Original Hole - Plan #1	1,400.0	1,395.7	104.9	95.0	10.594	ES
*Barr Lake 21-23-1CDH - Original Hole - Plan #1	11,400.0	9,306.5	996.9	870.1	7.863	SF
*Barr Lake 21-23-1NAH - Original Hole - Plan #1	500.0	500.0	169.9	164.7	32.251	CC, ES
*Barr Lake 21-23-1NAH - Original Hole - Plan #1	1,000.0	969.4	205.1	196.5	23.941	SF
*Barr Lake 21-23-1NBH - Original Hole - Plan #1	600.0	600.0	45.0	39.2	7.728	CC, ES
*Barr Lake 21-23-1NBH - Original Hole - Plan #1	800.0	797.4	49.8	42.7	7.022	SF
*Barr Lake 21-23-1NCH - Original Hole - Plan #1	890.6	891.5	51.1	44.0	7.213	CC
*Barr Lake 21-23-1NCH - Original Hole - Plan #1	900.0	900.8	51.1	44.0	7.172	ES
*Barr Lake 21-23-1NCH - Original Hole - Plan #1	1,000.0	998.5	54.7	46.9	7.060	SF
*Barr Lake 21-23-2CDH - Original Hole - Plan #1	1,059.3	1,060.1	123.7	115.8	15.655	CC
*Barr Lake 21-23-2CDH - Original Hole - Plan #1	1,100.0	1,100.3	123.9	115.8	15.351	ES
*Barr Lake 21-23-2CDH - Original Hole - Plan #1	10,500.0	9,109.1	970.5	862.7	9.001	SF
*Barr Lake 21-23-2NAH - Original Hole - Plan #1	500.0	500.0	155.0	149.7	29.407	CC
*Barr Lake 21-23-2NAH - Original Hole - Plan #1	600.0	598.9	155.3	149.5	26.666	ES
*Barr Lake 21-23-2NAH - Original Hole - Plan #1	1,000.0	976.7	182.8	174.4	21.621	SF
*Barr Lake 21-23-2NBH - Original Hole - Plan #1	600.0	600.0	30.0	24.2	5.152	CC
*Barr Lake 21-23-2NBH - Original Hole - Plan #1	700.0	699.6	30.5	24.2	4.802	ES, SF
*Barr Lake 21-23-2NCH - Original Hole - Plan #1	939.5	941.0	33.7	26.4	4.613	CC, ES, SF
*Barr Lake 21-23-3CDH - Original Hole - Plan #1	800.0	800.0	140.0	133.2	20.575	CC
*Barr Lake 21-23-3CDH - Original Hole - Plan #1	900.0	899.8	140.0	132.8	19.333	ES
*Barr Lake 21-23-3CDH - Original Hole - Plan #1	9,700.0	9,011.1	992.6	893.8	10.046	SF
*Barr Lake 21-23-3NAH - Original Hole - Plan #1	646.3	646.6	139.8	133.7	23.103	CC
*Barr Lake 21-23-3NAH - Original Hole - Plan #1	700.0	699.7	139.9	133.6	22.133	ES
*Barr Lake 21-23-3NAH - Original Hole - Plan #1	1,000.0	983.4	159.9	151.5	19.130	SF
*Barr Lake 21-23-3NBH - Original Hole - Plan #1	634.1	634.1	15.0	9.0	2.501	CC
*Barr Lake 21-23-3NBH - Original Hole - Plan #1	700.0	699.9	15.3	8.9	2.407	ES, SF
*Barr Lake 21-23-3NCH - Original Hole - Plan #1	961.6	963.5	15.1	7.7	2.044	CC, ES, SF
*Brighton Lakes 20-17-2NAH - Original Hole - Plan #1	1,100.0	1,100.0	172.6	164.5	21.362	CC, ES
*Brighton Lakes 20-17-2NAH - Original Hole - Plan #1	2,300.0	2,352.3	198.0	182.4	12.766	SF
*Brighton Lakes 20-17-3NCHx - Original Hole - Plan #1	1,100.0	1,100.0	67.2	59.1	8.319	CC, ES
*Brighton Lakes 20-17-3NCHx - Original Hole - Plan #1	1,400.0	1,401.6	73.4	64.2	7.951	SF
*Buckley 21-16-1CDH - Original Hole - Plan #1	1,100.0	1,100.0	114.0	105.9	14.110	CC, ES
*Buckley 21-16-1CDH - Original Hole - Plan #1	2,600.0	2,609.8	220.1	200.9	11.467	SF
*Buckley 21-16-1NAH - Original Hole - Plan #1	1,100.0	1,100.0	157.8	149.8	19.537	CC, ES
*Buckley 21-16-1NAH - Original Hole - Plan #1	3,204.4	3,239.3	257.7	233.1	10.464	SF
*Buckley 21-16-1NBH - Original Hole - Plan #1	1,100.0	1,100.0	30.0	21.9	3.712	CC, ES

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Sec 20-T1S-R66W						
*Buckley 21-16-1NBH - Original Hole - Plan #1	19,108.5	18,836.0	696.9	405.2	2.390	SF
*Buckley 21-16-1NBHx - Original Hole - Plan #1	1,100.0	1,100.0	54.2	46.1	6.704	CC, ES
*Buckley 21-16-1NBHx - Original Hole - Plan #1	1,400.0	1,402.7	60.1	50.7	6.402	SF
*Buckley 21-16-1NCH - Original Hole - Plan #1	1,100.0	1,100.0	33.5	25.5	4.150	CC, ES
*Buckley 21-16-1NCH - Original Hole - Plan #1	1,200.0	1,200.0	35.8	27.1	4.116	SF
*Buckley 21-16-2CDH - Original Hole - Plan #1	1,100.0	1,100.0	128.5	120.4	15.908	CC
*Buckley 21-16-2CDH - Original Hole - Plan #1	19,100.7	19,621.4	317.2	96.5	1.437	Collision Risk Procedures Re
*Buckley 21-16-2NAH - Original Hole - Plan #1	1,100.0	1,100.0	143.1	135.1	17.717	CC
*Buckley 21-16-2NAH - Original Hole - Plan #1	19,103.8	18,607.9	317.2	68.4	1.275	Collision Risk Procedures Re
*Buckley 21-16-2NCH - Original Hole - Plan #1	1,100.0	1,100.0	42.4	34.3	5.250	CC
*Buckley 21-16-2NCH - Original Hole - Plan #1	19,100.7	19,272.5	241.3	-39.8	0.859	Collision Risk Procedures Re
*Buckley 21-16-3CDH - Original Hole - Plan #1	1,105.7	1,105.8	143.1	135.0	17.686	CC
*Buckley 21-16-3CDH - Original Hole - Plan #1	1,200.0	1,199.9	143.4	134.9	16.995	ES
*Buckley 21-16-3CDH - Original Hole - Plan #1	19,116.9	20,205.1	738.3	462.4	2.676	SF
*Buckley 21-16-3NAH - Original Hole - Plan #1	1,659.6	1,670.3	124.9	114.6	12.043	CC
*Buckley 21-16-3NAH - Original Hole - Plan #1	1,700.0	1,710.7	125.0	114.4	11.813	ES
*Buckley 21-16-3NAH - Original Hole - Plan #1	19,116.9	19,135.9	568.8	284.1	1.998	Collision Risk Procedures Re
*Buckley 21-16-3NBH - Original Hole - Plan #1	1,100.0	1,100.0	15.0	6.9	1.857	Collision Risk Procedures Re
*Buckley 21-16-3NBH - Original Hole - Plan #1	1,200.0	1,199.8	15.2	6.7	1.795	Collision Risk Procedures Re
*Buckley 21-16-3NCH - Original Hole - Plan #1	1,100.0	1,100.0	30.0	21.9	3.712	CC
*Buckley 21-16-3NCH - Original Hole - Plan #1	1,400.0	1,399.4	30.6	21.4	3.334	ES
*Buckley 21-16-3NCH - Original Hole - Plan #1	2,600.0	2,596.9	44.6	24.3	2.197	SF
20-17-1CDH - Original Hole - Final Surveys	815.5	815.5	331.3	324.8	50.748	CC, ES
20-17-1CDH - Original Hole - Final Surveys	2,000.0	2,010.5	431.8	419.5	35.069	SF
20-17-1NAH - Original Hole - Final Survey	1,178.3	1,184.1	304.1	295.9	36.793	CC
20-17-1NAH - Original Hole - Final Survey	1,200.0	1,206.2	304.2	295.8	36.354	ES
20-17-1NAH - Original Hole - Final Survey	2,400.0	2,414.4	429.0	411.8	24.962	SF
20-17-1NBH - Original Hole - Final Surveys	455.3	455.3	312.7	307.8	64.122	CC
20-17-1NBH - Original Hole - Final Surveys	700.0	698.9	313.2	307.0	50.644	ES
20-17-1NBH - Original Hole - Final Surveys	2,200.0	2,215.1	416.6	401.9	28.334	SF
20-17-1NCH - Original Hole - Final Surveys	319.2	319.2	322.6	318.7	83.220	CC
20-17-1NCH - Original Hole - Final Surveys	1,131.7	1,134.6	322.9	315.1	41.441	ES
20-17-1NCH - Original Hole - Final Surveys	2,200.0	2,208.0	448.5	434.4	31.721	SF
20-17-2CDH - Original Hole - Final Survey	1,287.9	1,295.5	271.6	262.6	30.251	CC
20-17-2CDH - Original Hole - Final Survey	1,300.0	1,307.5	271.6	262.6	30.110	ES
20-17-2CDH - Original Hole - Final Survey	3,100.0	3,071.3	463.8	435.6	16.476	SF
20-17-2NBH (3CDH) - Original Hole - Final Surveys	1,130.9	1,132.5	279.2	271.3	35.424	CC, ES
20-17-2NBH (3CDH) - Original Hole - Final Surveys	2,437.4	2,428.7	398.8	381.2	22.735	SF
20-17-2NCH - Original Hole - Final Surveys	1,168.3	1,172.2	288.8	280.7	35.817	CC
20-17-2NCH - Original Hole - Final Surveys	1,200.0	1,204.9	288.8	280.6	35.198	ES
20-17-2NCH - Original Hole - Final Surveys	2,700.0	2,691.3	443.0	421.6	20.757	SF
20-17-3NBH - Original Hole - Final Surveys	511.5	511.6	279.3	274.1	54.197	CC
20-17-3NBH - Original Hole - Final Surveys	1,300.0	1,307.2	280.1	271.6	32.962	ES
20-17-3NBH - Original Hole - Final Surveys	2,800.0	2,772.1	433.2	409.7	18.384	SF
Extraction PC-1S-66-2928-2CDH - Original Hole - Origina	8,809.3	14,911.6	977.0	698.6	3.509	CC
Extraction PC-1S-66-2928-2CDH - Original Hole - Origina	8,850.0	14,928.6	979.0	697.6	3.479	ES
Extraction PC-1S-66-2928-2CDH - Original Hole - Origina	8,900.0	14,948.9	987.0	702.2	3.466	SF

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-1CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	179.41	-110.0	1.1	110.0				
100.0	100.0	100.0	100.0	1.0	1.0	179.41	-110.0	1.1	110.0	108.0	1.96	56.168	
200.0	200.0	200.0	200.0	1.6	1.6	179.41	-110.0	1.1	110.0	106.9	3.12	35.243	
300.0	300.0	300.0	300.0	2.0	2.0	179.41	-110.0	1.1	110.0	106.0	3.96	27.761	
400.0	400.0	400.0	400.0	2.3	2.3	179.41	-110.0	1.1	110.0	105.3	4.66	23.606	
500.0	500.0	500.0	500.0	2.6	2.6	179.41	-110.0	1.1	110.0	104.7	5.27	20.870	
600.0	600.0	600.0	600.0	2.9	2.9	179.41	-110.0	1.1	110.0	104.2	5.82	18.893	
700.0	700.0	700.0	700.0	3.2	3.2	179.41	-110.0	1.1	110.0	103.6	6.33	17.377	
800.0	800.0	800.0	800.0	3.4	3.4	179.41	-110.0	1.1	110.0	103.2	6.80	16.166	
900.0	900.0	901.6	901.5	3.6	4.0	178.05	-109.2	3.7	109.3	102.0	7.27	15.021	
1,000.0	1,000.0	1,002.6	1,002.2	3.8	4.5	173.91	-106.8	11.4	107.4	99.7	7.69	13.966	
1,100.0	1,100.0	1,102.4	1,101.2	4.0	4.9	166.89	-102.9	24.0	105.7	97.6	8.08	13.084	
1,200.0	1,200.0	1,201.1	1,198.2	4.5	5.4	62.91	-97.6	41.3	104.8	96.2	8.54	12.269	
1,298.4	1,298.0	1,297.3	1,291.7	5.0	5.7	54.22	-91.0	62.7	104.4	95.3	9.13	11.441	
1,300.0	1,299.6	1,298.9	1,293.2	5.0	5.7	54.07	-90.9	63.1	104.4	95.3	9.14	11.427	CC
1,400.0	1,398.8	1,395.7	1,386.1	5.4	6.1	44.93	-82.9	89.2	104.9	95.0	9.90	10.594	ES
1,500.0	1,497.1	1,491.6	1,476.6	5.8	6.4	35.55	-73.5	119.5	106.5	95.7	10.79	9.873	
1,600.0	1,594.3	1,586.5	1,564.5	6.1	6.7	26.08	-63.0	153.8	109.7	98.0	11.73	9.356	
1,700.0	1,690.2	1,680.4	1,649.6	6.5	7.0	16.73	-51.3	191.7	114.8	102.2	12.62	9.101	
1,800.0	1,784.4	1,773.3	1,731.7	6.8	7.3	7.74	-38.6	233.1	122.1	108.7	13.38	9.125	
1,900.0	1,876.8	1,865.3	1,810.9	7.1	7.6	-0.67	-24.9	277.8	131.5	117.5	13.98	9.410	
2,000.0	1,967.1	1,956.2	1,886.9	7.4	7.8	-8.37	-10.2	325.5	143.3	128.8	14.44	9.922	
2,100.0	2,054.9	2,046.2	1,959.6	7.7	8.1	-15.28	5.4	376.1	157.2	142.4	14.82	10.605	
2,200.0	2,140.2	2,135.2	2,029.1	7.9	8.5	-21.41	21.8	429.4	173.1	157.9	15.22	11.379	
2,300.0	2,222.6	2,223.3	2,095.2	8.2	9.3	-26.80	38.9	485.0	191.0	175.3	15.68	12.183	
2,400.0	2,301.9	2,310.5	2,157.9	8.6	10.1	-31.53	56.7	542.9	210.6	194.3	16.27	12.942	
2,437.4	2,330.8	2,342.9	2,180.5	8.9	10.4	-33.14	63.5	565.1	218.4	201.9	16.45	13.277	
2,500.0	2,378.6	2,400.8	2,220.2	9.4	10.9	-35.99	75.9	605.4	232.3	215.3	16.94	13.714	
2,600.0	2,455.1	2,496.6	2,285.7	10.2	11.9	-40.02	96.5	672.2	255.7	237.7	18.06	14.161	
2,700.0	2,531.5	2,592.3	2,351.1	11.1	12.9	-43.38	117.0	738.9	280.2	260.8	19.35	14.480	
2,800.0	2,608.0	2,688.0	2,416.6	12.0	13.9	-46.21	137.5	805.7	305.4	284.6	20.77	14.702	
2,900.0	2,684.5	2,783.7	2,482.1	12.9	14.9	-48.60	158.1	872.4	331.3	309.0	22.30	14.856	
3,000.0	2,760.9	2,879.5	2,547.6	13.8	15.9	-50.66	178.6	939.1	357.6	333.7	23.90	14.963	
3,100.0	2,837.4	2,975.2	2,613.1	14.8	16.9	-52.43	199.1	1,005.9	384.3	358.7	25.55	15.038	
3,200.0	2,913.9	3,070.9	2,678.6	15.7	18.0	-53.98	219.7	1,072.6	411.3	384.0	27.25	15.091	
3,300.0	2,990.3	3,166.7	2,744.1	16.6	19.0	-55.33	240.2	1,139.3	438.5	409.5	28.98	15.129	
3,400.0	3,066.8	3,262.4	2,809.5	17.6	20.1	-56.53	260.7	1,206.1	465.9	435.2	30.74	15.157	
3,500.0	3,143.3	3,358.1	2,875.0	18.5	21.1	-57.60	281.2	1,272.8	493.5	461.0	32.52	15.177	
3,600.0	3,219.8	3,453.8	2,940.5	19.5	22.2	-58.55	301.8	1,339.5	521.3	487.0	34.31	15.192	
3,700.0	3,296.2	3,549.6	3,006.0	20.5	23.2	-59.41	322.3	1,406.3	549.2	513.0	36.12	15.204	
3,800.0	3,372.7	3,645.3	3,071.5	21.4	24.3	-60.18	342.8	1,473.0	577.1	539.2	37.94	15.213	
3,900.0	3,449.2	3,741.0	3,137.0	22.4	25.3	-60.88	363.4	1,539.8	605.2	565.4	39.76	15.220	
4,000.0	3,525.6	3,836.7	3,202.5	23.4	26.4	-61.52	383.9	1,606.5	633.3	591.7	41.60	15.225	
4,100.0	3,602.1	3,932.5	3,267.9	24.4	27.5	-62.11	404.4	1,673.2	661.5	618.1	43.44	15.230	
4,200.0	3,678.6	4,028.2	3,333.4	25.3	28.5	-62.65	425.0	1,740.0	689.8	644.5	45.28	15.234	
4,300.0	3,755.0	4,123.9	3,398.9	26.3	29.6	-63.15	445.5	1,806.7	718.1	671.0	47.13	15.237	
4,400.0	3,831.5	4,219.7	3,464.4	27.3	30.7	-63.61	466.0	1,873.4	746.5	697.5	48.98	15.240	
4,500.0	3,908.0	4,315.4	3,529.9	28.3	31.7	-64.03	486.6	1,940.2	774.9	724.1	50.84	15.242	
4,600.0	3,984.4	4,411.1	3,595.4	29.3	32.8	-64.43	507.1	2,006.9	803.3	750.6	52.70	15.244	
4,700.0	4,060.9	4,506.8	3,660.9	30.2	33.9	-64.80	527.6	2,073.7	831.8	777.3	54.56	15.246	
4,800.0	4,137.4	4,602.6	3,726.3	31.2	35.0	-65.14	548.2	2,140.4	860.3	803.9	56.42	15.248	
4,900.0	4,213.8	4,698.3	3,791.8	32.2	36.0	-65.46	568.7	2,207.1	888.8	830.6	58.29	15.249	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Amazon.com

Anticollision Report

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-1CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,290.3	4,794.0	3,857.3	33.2	37.1	-65.76	589.2	2,273.9	917.4	857.2	60.15	15.251	
5,100.0	4,366.8	4,889.8	3,922.8	34.2	38.2	-66.05	609.7	2,340.6	946.0	884.0	62.02	15.252	
5,200.0	4,443.2	4,985.5	3,988.3	35.2	39.3	-66.32	630.3	2,407.3	974.6	910.7	63.89	15.254	
10,296.0	7,460.0	9,069.7	6,782.3	73.9	85.3	36.63	1,506.2	5,254.6	993.8	906.2	87.56	11.350	
10,300.0	7,460.0	9,070.5	6,782.8	73.9	85.4	36.69	1,506.4	5,255.2	991.7	904.4	87.26	11.364	
10,393.6	7,460.0	9,090.6	6,796.6	74.1	85.6	38.01	1,510.7	5,269.2	945.7	865.4	80.30	11.777	
10,400.0	7,460.0	9,092.0	6,797.5	74.1	85.6	38.10	1,511.0	5,270.2	942.8	863.0	79.84	11.810	
10,491.0	7,460.0	9,111.5	6,810.9	74.2	85.8	39.39	1,515.2	5,283.8	905.3	831.7	73.59	12.302	
10,500.0	7,460.0	9,113.4	6,812.2	74.2	85.8	39.52	1,515.6	5,285.1	902.0	829.0	73.03	12.351	
10,588.1	7,460.0	9,132.3	6,825.1	74.4	86.1	40.78	1,519.7	5,298.3	873.5	804.9	68.58	12.737	
10,600.0	7,460.0	9,134.9	6,826.9	74.4	86.1	40.95	1,520.2	5,300.1	870.2	802.1	68.15	12.769	
10,684.9	7,460.0	9,153.1	6,839.3	74.5	86.3	42.16	1,524.1	5,312.8	851.2	784.5	66.69	12.763	
10,700.0	7,460.0	9,156.3	6,841.5	74.6	86.3	42.38	1,524.8	5,315.1	848.6	781.8	66.76	12.712	
10,781.2	7,460.0	9,173.8	6,853.5	74.7	86.5	43.54	1,528.5	5,327.2	839.0	770.1	68.91	12.176	
10,800.0	7,460.0	9,177.8	6,856.2	74.8	86.6	43.81	1,529.4	5,330.0	837.8	768.0	69.82	12.000	
10,845.1	7,460.0	9,187.5	6,862.8	74.9	86.7	44.46	1,531.5	5,336.7	836.6	764.0	72.60	11.524	
10,900.0	7,460.0	9,199.2	6,870.9	75.0	86.8	45.25	1,534.0	5,345.0	838.4	761.4	76.93	10.897	
10,917.4	7,460.0	9,203.0	6,873.4	75.0	86.9	45.50	1,534.8	5,347.6	839.6	761.1	78.49	10.697	
11,000.0	7,460.0	9,220.7	6,885.6	75.2	87.1	46.68	1,538.6	5,359.9	850.2	763.6	86.67	9.810	
11,100.0	7,460.0	9,242.1	6,900.2	75.5	87.3	48.11	1,543.2	5,374.9	872.9	775.5	97.46	8.957	
11,200.0	7,460.0	9,263.6	6,914.9	75.7	87.5	49.54	1,547.8	5,389.8	905.6	797.5	108.14	8.375	
11,300.0	7,460.0	9,285.0	6,929.6	76.0	87.8	50.96	1,552.4	5,404.8	947.3	829.3	118.02	8.027	
11,400.0	7,460.0	9,306.5	6,944.3	76.3	88.0	52.37	1,557.0	5,419.7	996.9	870.1	126.78	7.863	SF

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-1NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-0.59	169.9	-1.7	169.9				
100.0	100.0	100.0	100.0	1.0	1.0	-0.59	169.9	-1.7	169.9	168.0	1.96	86.798	
200.0	200.0	200.0	200.0	1.6	1.6	-0.59	169.9	-1.7	169.9	166.8	3.12	54.463	
300.0	300.0	300.0	300.0	2.0	2.0	-0.59	169.9	-1.7	169.9	166.0	3.96	42.899	
400.0	400.0	400.0	400.0	2.3	2.3	-0.59	169.9	-1.7	169.9	165.3	4.66	36.479	
500.0	500.0	500.0	500.0	2.6	2.6	-0.59	169.9	-1.7	169.9	164.7	5.27	32.251	CC, ES
600.0	600.0	597.2	597.2	2.9	3.6	0.49	170.7	1.5	170.7	164.9	5.86	29.139	
700.0	700.0	693.6	693.0	3.2	4.4	3.62	173.0	11.0	173.5	167.1	6.44	26.939	
800.0	800.0	788.2	786.3	3.4	5.1	8.48	176.8	26.3	179.2	172.2	7.07	25.343	
900.0	900.0	880.4	875.9	3.6	5.6	14.51	181.8	47.0	189.3	181.5	7.79	24.312	
1,000.0	1,000.0	969.4	961.0	3.8	6.1	21.05	187.9	72.3	205.1	196.5	8.57	23.941	SF
1,100.0	1,100.0	1,054.8	1,041.0	4.0	6.5	27.47	195.0	101.4	227.5	218.2	9.35	24.328	
1,200.0	1,200.0	1,137.2	1,116.4	4.5	6.9	-61.70	202.8	133.7	255.8	245.7	10.12	25.263	
1,300.0	1,299.6	1,217.3	1,187.7	5.0	7.2	-56.68	211.5	169.2	287.9	277.0	10.82	26.606	
1,400.0	1,398.8	1,300.0	1,259.1	5.4	7.6	-52.51	221.3	209.8	322.8	311.3	11.52	28.021	
1,500.0	1,497.1	1,371.5	1,318.7	5.8	7.8	-49.46	230.6	248.0	359.8	347.8	12.03	29.909	
1,600.0	1,594.3	1,445.7	1,378.5	6.1	8.1	-46.86	241.0	290.8	398.4	385.8	12.57	31.703	
1,700.0	1,690.2	1,518.1	1,434.5	6.5	8.3	-44.75	251.8	335.3	438.2	425.1	13.07	33.513	
1,800.0	1,784.4	1,600.0	1,495.0	6.8	8.5	-42.90	264.8	388.9	478.9	465.2	13.75	34.832	
1,900.0	1,876.8	1,658.0	1,535.9	7.1	8.7	-41.55	274.6	428.9	520.0	505.9	14.08	36.940	
2,000.0	1,967.1	1,732.7	1,586.3	7.4	8.9	-40.32	287.6	482.5	561.4	546.8	14.63	38.372	
2,100.0	2,054.9	1,824.9	1,647.6	7.7	9.8	-39.45	303.8	549.3	600.2	584.8	15.37	39.057	
2,200.0	2,140.2	1,918.5	1,710.0	7.9	10.8	-39.01	320.3	617.1	635.2	619.1	16.15	39.336	
2,300.0	2,222.6	2,013.3	1,773.1	8.2	11.8	-38.93	337.0	685.9	666.5	649.4	17.02	39.160	
2,400.0	2,301.9	2,109.0	1,836.9	8.6	12.8	-39.17	353.8	755.3	693.9	675.9	17.99	38.572	
2,437.4	2,330.8	2,145.0	1,860.9	8.9	13.2	-39.33	360.2	781.4	703.2	684.8	18.33	38.364	
2,500.0	2,378.6	2,205.3	1,901.1	9.4	13.9	-39.92	370.8	825.1	718.3	699.4	18.94	37.928	
2,600.0	2,455.1	2,301.7	1,965.2	10.2	15.0	-40.81	387.8	894.9	742.6	722.6	20.02	37.100	
2,700.0	2,531.5	2,398.0	2,029.4	11.1	16.1	-41.65	404.7	964.8	767.1	745.9	21.17	36.234	
2,800.0	2,608.0	2,494.4	2,093.6	12.0	17.2	-42.44	421.7	1,034.6	791.7	769.4	22.39	35.360	
2,900.0	2,684.5	2,590.8	2,157.8	12.9	18.3	-43.18	438.7	1,104.4	816.5	792.8	23.67	34.497	
3,000.0	2,760.9	2,687.1	2,222.0	13.8	19.4	-43.87	455.6	1,174.3	841.4	816.4	25.00	33.658	
3,100.0	2,837.4	2,783.5	2,286.1	14.8	20.5	-44.53	472.6	1,244.1	866.4	840.0	26.37	32.851	
3,200.0	2,913.9	2,879.8	2,350.3	15.7	21.6	-45.15	489.6	1,314.0	891.5	863.7	27.79	32.082	
3,300.0	2,990.3	2,976.2	2,414.5	16.6	22.7	-45.73	506.6	1,383.8	916.7	887.4	29.24	31.353	
3,400.0	3,066.8	3,072.5	2,478.7	17.6	23.8	-46.29	523.5	1,453.6	941.9	911.2	30.72	30.664	
3,500.0	3,143.3	3,168.9	2,542.8	18.5	24.9	-46.81	540.5	1,523.5	967.3	935.1	32.23	30.015	
3,600.0	3,219.8	3,265.3	2,607.0	19.5	26.0	-47.31	557.5	1,593.3	992.7	959.0	33.76	29.405	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-1NBH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-0.59	45.0	-0.5	45.0				
100.0	100.0	100.0	100.0	1.0	1.0	-0.59	45.0	-0.5	45.0	43.0	1.96	22.974	
200.0	200.0	200.0	200.0	1.6	1.6	-0.59	45.0	-0.5	45.0	41.9	3.12	14.415	
300.0	300.0	300.0	300.0	2.0	2.0	-0.59	45.0	-0.5	45.0	41.0	3.96	11.355	
400.0	400.0	400.0	400.0	2.3	2.3	-0.59	45.0	-0.5	45.0	40.3	4.66	9.655	
500.0	500.0	500.0	500.0	2.6	2.6	-0.59	45.0	-0.5	45.0	39.7	5.27	8.536	
600.0	600.0	600.0	600.0	2.9	2.9	-0.59	45.0	-0.5	45.0	39.2	5.82	7.728	CC, ES
700.0	700.0	699.2	699.1	3.2	3.9	3.60	45.8	2.9	45.9	39.5	6.39	7.180	
800.0	800.0	797.4	796.8	3.4	4.6	14.87	48.1	12.8	49.8	42.7	7.10	7.022	SF
900.0	900.0	893.8	891.7	3.6	5.3	29.06	51.8	28.8	59.8	51.8	8.05	7.434	
1,000.0	1,000.0	987.6	982.8	3.8	5.8	41.52	56.8	50.3	77.8	68.8	9.02	8.619	
1,100.0	1,100.0	1,078.0	1,069.2	4.0	6.3	50.58	62.9	76.5	103.7	93.9	9.84	10.537	
1,200.0	1,200.0	1,165.6	1,151.0	4.5	6.7	-38.69	70.0	106.9	134.9	124.3	10.65	12.665	
1,300.0	1,299.6	1,250.9	1,228.7	5.0	7.1	-35.10	77.9	141.1	168.3	157.0	11.34	14.851	
1,400.0	1,398.8	1,334.0	1,302.3	5.4	7.4	-32.91	86.7	178.7	203.3	191.4	11.93	17.036	
1,500.0	1,497.1	1,415.1	1,371.8	5.8	7.7	-31.52	96.2	219.4	239.5	227.0	12.47	19.204	
1,600.0	1,594.3	1,500.0	1,441.9	6.1	8.0	-30.62	107.0	266.0	276.6	263.5	13.08	21.151	
1,700.0	1,690.2	1,571.2	1,498.5	6.5	8.2	-30.04	116.8	308.1	314.3	300.9	13.40	23.461	
1,800.0	1,784.4	1,646.5	1,555.9	6.8	8.5	-29.66	127.9	355.6	352.7	338.9	13.82	25.527	
1,900.0	1,876.8	1,720.1	1,609.4	7.1	8.6	-29.41	139.3	404.8	391.6	377.4	14.18	27.610	
2,000.0	1,967.1	1,799.1	1,664.1	7.4	8.8	-29.32	152.3	460.2	430.5	416.0	14.53	29.635	
2,100.0	2,054.9	1,892.2	1,728.0	7.7	9.5	-29.57	167.6	526.3	466.3	451.2	15.14	30.791	
2,200.0	2,140.2	1,986.7	1,792.8	7.9	10.4	-30.09	183.2	593.3	497.9	482.1	15.82	31.480	
2,300.0	2,222.6	2,082.3	1,858.3	8.2	11.4	-30.86	199.0	661.0	525.3	508.8	16.57	31.708	
2,400.0	2,301.9	2,178.7	1,924.4	8.6	12.5	-31.86	214.9	729.4	548.7	531.3	17.42	31.506	
2,437.4	2,330.8	2,215.0	1,949.3	8.9	12.8	-32.29	220.9	755.1	556.4	538.7	17.70	31.437	
2,500.0	2,378.6	2,275.6	1,990.9	9.4	13.5	-33.23	230.9	798.1	568.9	550.7	18.22	31.218	
2,600.0	2,455.1	2,372.5	2,057.3	10.2	14.5	-34.64	246.9	866.8	589.1	570.0	19.18	30.723	
2,700.0	2,531.5	2,469.4	2,123.8	11.1	15.6	-35.96	262.9	935.5	609.7	589.5	20.22	30.150	
2,800.0	2,608.0	2,566.3	2,190.2	12.0	16.7	-37.19	278.9	1,004.2	630.6	609.2	21.36	29.528	
2,900.0	2,684.5	2,663.2	2,256.6	12.9	17.7	-38.35	294.9	1,072.9	651.7	629.2	22.56	28.883	
3,000.0	2,760.9	2,760.1	2,323.1	13.8	18.8	-39.43	310.9	1,141.6	673.1	649.3	23.84	28.232	
3,100.0	2,837.4	2,857.0	2,389.5	14.8	19.9	-40.45	326.9	1,210.3	694.7	669.5	25.18	27.589	
3,200.0	2,913.9	2,954.0	2,456.0	15.7	20.9	-41.40	342.9	1,279.0	716.5	689.9	26.57	26.964	
3,300.0	2,990.3	3,050.9	2,522.4	16.6	22.0	-42.30	358.9	1,347.7	738.5	710.5	28.01	26.363	
3,400.0	3,066.8	3,147.8	2,588.9	17.6	23.1	-43.15	374.9	1,416.4	760.6	731.1	29.49	25.790	
3,500.0	3,143.3	3,244.7	2,655.3	18.5	24.2	-43.95	390.9	1,485.1	782.9	751.9	31.01	25.246	
3,600.0	3,219.8	3,341.6	2,721.8	19.5	25.3	-44.71	406.9	1,553.8	805.4	772.8	32.56	24.732	
3,700.0	3,296.2	3,438.5	2,788.2	20.5	26.4	-45.43	422.9	1,622.5	827.9	793.8	34.14	24.249	
3,800.0	3,372.7	3,535.4	2,854.7	21.4	27.4	-46.10	438.9	1,691.2	850.6	814.9	35.75	23.794	
3,900.0	3,449.2	3,632.3	2,921.1	22.4	28.5	-46.75	454.9	1,759.9	873.4	836.0	37.38	23.367	
4,000.0	3,525.6	3,729.2	2,987.6	23.4	29.6	-47.36	470.9	1,828.6	896.3	857.3	39.03	22.966	
4,100.0	3,602.1	3,826.1	3,054.0	24.4	30.7	-47.94	486.9	1,897.3	919.3	878.6	40.70	22.590	
4,200.0	3,678.6	3,923.0	3,120.5	25.3	31.8	-48.49	502.9	1,966.0	942.4	900.0	42.38	22.237	
4,300.0	3,755.0	4,019.9	3,186.9	26.3	32.9	-49.02	518.9	2,034.7	965.5	921.4	44.08	21.905	
4,400.0	3,831.5	4,116.8	3,253.4	27.3	34.0	-49.52	534.9	2,103.4	988.7	942.9	45.79	21.593	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-1NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-34.28	44.7	-30.4	54.1				
100.0	100.0	100.0	100.0	1.0	1.0	-34.28	44.7	-30.4	54.1	52.1	1.96	27.611	
200.0	200.0	200.0	200.0	1.6	1.6	-34.28	44.7	-30.4	54.1	50.9	3.12	17.325	
300.0	300.0	300.0	300.0	2.0	2.0	-34.28	44.7	-30.4	54.1	50.1	3.96	13.646	
400.0	400.0	400.0	400.0	2.3	2.3	-34.28	44.7	-30.4	54.1	49.4	4.66	11.604	
500.0	500.0	500.0	500.0	2.6	2.6	-34.28	44.7	-30.4	54.1	48.8	5.27	10.259	
600.0	600.0	600.0	600.0	2.9	2.9	-34.28	44.7	-30.4	54.1	48.2	5.82	9.287	
700.0	700.0	700.5	700.5	3.2	3.1	-33.50	44.9	-29.7	53.8	47.6	6.19	8.690	
800.0	800.0	801.2	801.0	3.4	3.8	-27.03	46.5	-23.7	52.2	45.5	6.69	7.800	
890.6	890.6	891.5	890.6	3.6	4.4	-15.08	49.3	-13.3	51.1	44.0	7.08	7.213 CC	
900.0	900.0	900.8	899.8	3.6	4.5	-13.52	49.7	-11.9	51.1	44.0	7.12	7.172 ES	
1,000.0	1,000.0	998.5	995.9	3.8	5.0	5.50	54.3	5.2	54.7	46.9	7.75	7.060 SF	
1,100.0	1,100.0	1,093.7	1,088.3	4.0	5.5	24.36	60.2	27.3	67.1	58.5	8.67	7.744	
1,200.0	1,200.0	1,186.7	1,177.2	4.5	5.9	-57.67	67.4	53.8	87.8	78.2	9.59	9.152	
1,300.0	1,299.6	1,278.0	1,262.7	5.0	6.3	-49.97	75.6	84.5	112.7	102.4	10.38	10.866	
1,400.0	1,398.8	1,367.6	1,344.9	5.4	6.7	-45.46	84.9	119.0	140.2	129.1	11.06	12.676	
1,500.0	1,497.1	1,455.6	1,423.4	5.8	7.0	-42.73	95.2	157.1	169.1	157.5	11.66	14.504	
1,600.0	1,594.3	1,541.9	1,498.4	6.1	7.3	-41.06	106.3	198.4	199.2	187.0	12.21	16.315	
1,700.0	1,690.2	1,626.6	1,569.7	6.5	7.6	-40.04	118.2	242.6	230.3	217.5	12.73	18.088	
1,800.0	1,784.4	1,709.8	1,637.3	6.8	7.8	-39.43	130.8	289.4	262.0	248.8	13.23	19.803	
1,900.0	1,876.8	1,791.5	1,701.2	7.1	8.1	-39.09	144.1	338.5	294.4	280.6	13.73	21.440	
2,000.0	1,967.1	1,871.7	1,761.4	7.4	8.3	-38.92	157.8	389.7	327.3	313.0	14.24	22.985	
2,100.0	2,054.9	1,950.6	1,818.0	7.7	8.8	-38.88	172.1	442.7	360.6	345.8	14.75	24.446	
2,200.0	2,140.2	2,038.4	1,878.6	7.9	9.7	-39.08	188.7	504.1	393.5	378.1	15.40	25.548	
2,300.0	2,222.6	2,133.6	1,943.9	8.2	10.6	-39.72	206.7	570.9	423.1	406.8	16.27	26.001	
2,400.0	2,301.9	2,229.5	2,009.8	8.6	11.6	-40.71	224.8	638.2	449.0	431.7	17.26	26.012	
2,437.4	2,330.8	2,265.5	2,034.6	8.9	12.0	-41.16	231.6	663.5	457.8	440.2	17.62	25.986	
2,500.0	2,378.6	2,325.8	2,076.0	9.4	12.6	-42.22	243.0	705.9	472.2	453.9	18.27	25.847	
2,600.0	2,455.1	2,422.2	2,142.2	10.2	13.7	-43.78	261.2	773.5	495.4	476.0	19.43	25.494	
2,700.0	2,531.5	2,518.6	2,208.4	11.1	14.7	-45.20	279.5	841.1	519.0	498.3	20.70	25.078	
2,800.0	2,608.0	2,615.0	2,274.6	12.0	15.7	-46.50	297.7	908.8	542.9	520.9	22.04	24.629	
2,900.0	2,684.5	2,711.4	2,340.8	12.9	16.8	-47.70	315.9	976.4	567.0	543.6	23.46	24.168	
3,000.0	2,760.9	2,807.8	2,407.0	13.8	17.8	-48.79	334.1	1,044.1	591.3	566.4	24.94	23.711	
3,100.0	2,837.4	2,904.2	2,473.2	14.8	18.9	-49.80	352.3	1,111.7	615.9	589.4	26.47	23.267	
3,200.0	2,913.9	3,000.6	2,539.5	15.7	20.0	-50.73	370.6	1,179.4	640.6	612.5	28.04	22.842	
3,300.0	2,990.3	3,097.0	2,605.7	16.6	21.0	-51.60	388.8	1,247.0	665.4	635.7	29.65	22.440	
3,400.0	3,066.8	3,193.4	2,671.9	17.6	22.1	-52.40	407.0	1,314.6	690.4	659.1	31.29	22.060	
3,500.0	3,143.3	3,289.7	2,738.1	18.5	23.2	-53.15	425.2	1,382.3	715.4	682.5	32.96	21.705	
3,600.0	3,219.8	3,386.1	2,804.3	19.5	24.2	-53.84	443.5	1,449.9	740.6	706.0	34.65	21.372	
3,700.0	3,296.2	3,482.5	2,870.5	20.5	25.3	-54.49	461.7	1,517.6	765.9	729.6	36.37	21.062	
3,800.0	3,372.7	3,578.9	2,936.7	21.4	26.4	-55.10	479.9	1,585.2	791.3	753.2	38.10	20.772	
3,900.0	3,449.2	3,675.3	3,002.9	22.4	27.4	-55.68	498.1	1,652.8	816.8	776.9	39.84	20.502	
4,000.0	3,525.6	3,771.7	3,069.1	23.4	28.5	-56.21	516.3	1,720.5	842.3	800.7	41.60	20.249	
4,100.0	3,602.1	3,868.1	3,135.3	24.4	29.6	-56.72	534.6	1,788.1	867.9	824.5	43.37	20.013	
4,200.0	3,678.6	3,964.5	3,201.5	25.3	30.7	-57.20	552.8	1,855.8	893.6	848.4	45.15	19.793	
4,300.0	3,755.0	4,060.9	3,267.8	26.3	31.8	-57.65	571.0	1,923.4	919.3	872.3	46.93	19.587	
4,400.0	3,831.5	4,157.3	3,334.0	27.3	32.8	-58.07	589.2	1,991.1	945.0	896.3	48.73	19.393	
4,500.0	3,908.0	4,253.7	3,400.2	28.3	33.9	-58.48	607.4	2,058.7	970.8	920.3	50.53	19.212	
4,600.0	3,984.4	4,350.1	3,466.4	29.3	35.0	-58.86	625.7	2,126.3	996.7	944.4	52.34	19.041	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-2CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	179.41	-125.0	1.3	125.0				
100.0	100.0	100.0	100.0	1.0	1.0	179.41	-125.0	1.3	125.0	123.0	1.96	63.824	
200.0	200.0	200.0	200.0	1.6	1.6	179.41	-125.0	1.3	125.0	121.8	3.12	40.047	
300.0	300.0	300.0	300.0	2.0	2.0	179.41	-125.0	1.3	125.0	121.0	3.96	31.545	
400.0	400.0	400.0	400.0	2.3	2.3	179.41	-125.0	1.3	125.0	120.3	4.66	26.824	
500.0	500.0	500.0	500.0	2.6	2.6	179.41	-125.0	1.3	125.0	119.7	5.27	23.715	
600.0	600.0	600.0	600.0	2.9	2.9	179.41	-125.0	1.3	125.0	119.1	5.82	21.468	
700.0	700.0	700.0	700.0	3.2	3.2	179.41	-125.0	1.3	125.0	118.6	6.33	19.746	
800.0	800.0	800.0	800.0	3.4	3.4	179.41	-125.0	1.3	125.0	118.2	6.80	18.370	
900.0	900.0	900.8	900.8	3.6	4.0	178.20	-124.6	3.9	124.6	117.4	7.25	17.187	
1,000.0	1,000.0	1,001.1	1,000.8	3.8	4.5	174.56	-123.4	11.7	123.9	116.3	7.66	16.168	
1,059.3	1,059.3	1,060.1	1,059.3	4.0	4.7	171.27	-122.3	18.8	123.7	115.8	7.90	15.655	CC
1,100.0	1,100.0	1,100.3	1,099.1	4.0	4.9	168.55	-121.4	24.6	123.9	115.8	8.07	15.351	ES
1,200.0	1,200.0	1,198.4	1,195.5	4.5	5.3	66.01	-118.7	42.2	125.0	116.4	8.54	14.627	
1,300.0	1,299.6	1,295.6	1,290.0	5.0	5.7	59.00	-115.3	64.5	126.8	117.7	9.12	13.907	
1,400.0	1,398.8	1,392.0	1,382.6	5.4	6.1	52.10	-111.2	91.3	129.3	119.5	9.80	13.197	
1,500.0	1,497.1	1,487.6	1,472.9	5.8	6.4	45.35	-106.4	122.3	132.7	122.1	10.58	12.544	
1,600.0	1,594.3	1,582.5	1,560.8	6.1	6.7	38.79	-101.0	157.5	136.8	125.4	11.41	11.995	
1,700.0	1,690.2	1,676.5	1,646.1	6.5	7.0	32.45	-95.0	196.6	141.7	129.5	12.24	11.581	
1,800.0	1,784.4	1,769.8	1,728.6	6.8	7.3	26.35	-88.4	239.5	147.5	134.5	13.04	11.314	
1,900.0	1,876.8	1,862.3	1,808.4	7.1	7.5	20.51	-81.3	285.8	154.1	140.4	13.77	11.195	
2,000.0	1,967.1	1,954.1	1,885.1	7.4	7.8	14.96	-73.6	335.6	161.6	147.2	14.41	11.213	
2,100.0	2,054.9	2,045.2	1,958.8	7.7	8.0	9.69	-65.5	388.5	169.8	154.9	14.95	11.358	
2,200.0	2,140.2	2,135.5	2,029.3	7.9	8.6	4.72	-57.0	444.3	178.9	163.5	15.41	11.609	
2,300.0	2,222.6	2,225.3	2,096.6	8.2	9.3	0.05	-48.0	503.0	188.7	172.9	15.80	11.947	
2,400.0	2,301.9	2,314.4	2,160.6	8.6	10.2	-4.34	-38.5	564.3	199.3	183.2	16.13	12.357	
2,437.4	2,330.8	2,349.9	2,185.4	8.9	10.5	-6.02	-34.7	589.4	203.3	187.1	16.21	12.546	
2,500.0	2,378.6	2,411.3	2,228.2	9.4	11.1	-8.82	-28.0	632.9	209.9	193.5	16.44	12.766	
2,600.0	2,455.1	2,509.4	2,296.6	10.2	12.1	-12.93	-17.4	702.4	221.4	204.5	16.97	13.051	
2,700.0	2,531.5	2,607.5	2,365.1	11.1	13.1	-16.63	-6.7	771.9	233.9	216.3	17.62	13.274	
2,800.0	2,608.0	2,705.6	2,433.5	12.0	14.1	-19.94	4.0	841.4	247.3	228.9	18.43	13.420	
2,900.0	2,684.5	2,803.7	2,502.0	12.9	15.1	-22.92	14.6	910.9	261.5	242.1	19.39	13.489	
3,000.0	2,760.9	2,901.8	2,570.4	13.8	16.2	-25.58	25.3	980.3	276.3	255.8	20.48	13.491	
3,100.0	2,837.4	2,999.9	2,638.8	14.8	17.2	-27.98	36.0	1,049.8	291.6	269.9	21.69	13.443	
3,200.0	2,913.9	3,098.1	2,707.3	15.7	18.3	-30.14	46.6	1,119.3	307.3	284.3	23.01	13.358	
3,300.0	2,990.3	3,196.2	2,775.7	16.6	19.3	-32.08	57.3	1,188.8	323.5	299.1	24.41	13.251	
3,400.0	3,066.8	3,294.3	2,844.1	17.6	20.4	-33.84	68.0	1,258.3	340.0	314.1	25.89	13.131	
3,500.0	3,143.3	3,392.4	2,912.6	18.5	21.5	-35.44	78.6	1,327.8	356.8	329.3	27.43	13.006	
3,600.0	3,219.8	3,490.5	2,981.0	19.5	22.6	-36.90	89.3	1,397.3	373.8	344.8	29.02	12.880	
3,700.0	3,296.2	3,588.6	3,049.4	20.5	23.6	-38.23	100.0	1,466.8	391.0	360.4	30.65	12.758	
3,800.0	3,372.7	3,686.7	3,117.9	21.4	24.7	-39.44	110.6	1,536.3	408.4	376.1	32.31	12.640	
3,900.0	3,449.2	3,784.8	3,186.3	22.4	25.8	-40.56	121.3	1,605.8	426.0	392.0	34.00	12.529	
4,000.0	3,525.6	3,883.0	3,254.7	23.4	26.9	-41.59	132.0	1,675.2	443.8	408.0	35.72	12.424	
4,100.0	3,602.1	3,981.1	3,323.2	24.4	27.9	-42.54	142.6	1,744.7	461.6	424.2	37.45	12.326	
4,200.0	3,678.6	4,079.2	3,391.6	25.3	29.0	-43.42	153.3	1,814.2	479.6	440.4	39.20	12.235	
4,300.0	3,755.0	4,177.3	3,460.0	26.3	30.1	-44.24	164.0	1,883.7	497.7	456.7	40.96	12.150	
4,400.0	3,831.5	4,275.4	3,528.5	27.3	31.2	-44.99	174.6	1,953.2	515.9	473.1	42.74	12.071	
4,500.0	3,908.0	4,373.5	3,596.9	28.3	32.3	-45.70	185.3	2,022.7	534.1	489.6	44.52	11.998	
4,600.0	3,984.4	4,471.6	3,665.4	29.3	33.4	-46.36	196.0	2,092.2	552.4	506.1	46.31	11.930	
4,700.0	4,060.9	4,569.7	3,733.8	30.2	34.5	-46.98	206.6	2,161.7	570.8	522.7	48.11	11.866	
4,800.0	4,137.4	4,667.9	3,802.2	31.2	35.5	-47.56	217.3	2,231.2	589.3	539.4	49.91	11.808	
4,900.0	4,213.8	4,766.0	3,870.7	32.2	36.6	-48.11	228.0	2,300.7	607.8	556.1	51.72	11.753	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-2CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,290.3	4,864.1	3,939.1	33.2	37.7	-48.62	238.6	2,370.1	626.4	572.8	53.53	11.702	
5,100.0	4,366.8	4,962.2	4,007.5	34.2	38.8	-49.10	249.3	2,439.6	645.0	589.6	55.34	11.654	
5,200.0	4,443.2	5,060.3	4,076.0	35.2	39.9	-49.56	260.0	2,509.1	663.6	606.5	57.16	11.610	
5,300.0	4,519.7	5,158.4	4,144.4	36.2	41.0	-49.99	270.6	2,578.6	682.3	623.3	58.98	11.568	
5,400.0	4,596.2	5,256.5	4,212.8	37.2	42.1	-50.40	281.3	2,648.1	701.0	640.2	60.80	11.529	
5,500.0	4,672.6	5,354.6	4,281.3	38.1	43.2	-50.78	292.0	2,717.6	719.8	657.1	62.63	11.493	
5,600.0	4,749.1	5,452.8	4,349.7	39.1	44.3	-51.15	302.6	2,787.1	738.6	674.1	64.46	11.458	
5,700.0	4,825.6	5,550.9	4,418.1	40.1	45.4	-51.50	313.3	2,856.6	757.4	691.1	66.28	11.426	
5,800.0	4,902.0	5,649.0	4,486.6	41.1	46.5	-51.83	324.0	2,926.1	776.2	708.1	68.11	11.396	
5,900.0	4,978.5	5,747.1	4,555.0	42.1	47.6	-52.15	334.6	2,995.6	795.1	725.1	69.95	11.367	
6,000.0	5,055.0	5,845.2	4,623.4	43.1	48.7	-52.45	345.3	3,065.0	814.0	742.2	71.78	11.340	
6,100.0	5,131.4	5,943.3	4,691.9	44.1	49.7	-52.74	356.0	3,134.5	832.9	759.2	73.61	11.314	
6,200.0	5,207.9	6,041.4	4,760.3	45.1	50.8	-53.02	366.6	3,204.0	851.8	776.3	75.44	11.290	
6,300.0	5,284.4	6,139.5	4,828.7	46.1	51.9	-53.28	377.3	3,273.5	870.7	793.4	77.28	11.268	
6,400.0	5,360.8	6,237.7	4,897.2	47.1	53.0	-53.53	388.0	3,343.0	889.7	810.6	79.11	11.246	
6,500.0	5,437.3	6,335.8	4,965.6	48.1	54.1	-53.77	398.6	3,412.5	908.7	827.7	80.95	11.225	
6,600.0	5,513.8	6,433.9	5,034.1	49.0	55.2	-54.00	409.3	3,482.0	927.7	844.9	82.78	11.206	
6,700.0	5,590.2	6,532.0	5,102.5	50.0	56.3	-54.23	420.0	3,551.5	946.7	862.0	84.62	11.187	
6,800.0	5,666.7	6,630.1	5,170.9	51.0	57.4	-54.44	430.6	3,621.0	965.7	879.2	86.46	11.169	
6,900.0	5,743.2	6,728.2	5,239.4	52.0	58.5	-54.65	441.3	3,690.5	984.7	896.4	88.29	11.153	
9,470.5	7,460.0	8,997.2	6,822.0	73.4	83.9	40.56	687.9	5,297.5	994.0	900.0	93.99	10.576	
9,471.1	7,460.0	8,997.3	6,822.1	73.4	83.9	40.60	688.0	5,297.6	993.6	899.7	93.93	10.578	
9,498.9	7,460.0	9,000.3	6,824.2	73.4	83.9	40.81	688.3	5,299.7	979.1	887.5	91.60	10.689	
9,500.0	7,460.0	9,000.4	6,824.2	73.4	83.9	40.81	688.3	5,299.8	978.5	887.0	91.50	10.694	
9,593.6	7,460.0	9,010.6	6,831.3	73.5	84.0	41.50	689.4	5,307.0	933.9	850.5	83.36	11.203	
9,600.0	7,460.0	9,011.3	6,831.8	73.5	84.0	41.55	689.5	5,307.5	931.1	848.3	82.79	11.247	
9,690.7	7,460.0	9,021.1	6,838.7	73.5	84.2	42.22	690.6	5,314.5	895.6	820.6	74.97	11.945	
9,700.0	7,460.0	9,022.1	6,839.4	73.5	84.2	42.29	690.7	5,315.2	892.3	818.2	74.20	12.027	
9,787.4	7,460.0	9,031.6	6,846.0	73.5	84.3	42.93	691.7	5,321.9	866.4	798.6	67.77	12.785	
9,800.0	7,460.0	9,033.0	6,847.0	73.5	84.3	43.03	691.8	5,322.9	863.3	796.3	66.99	12.887	
9,883.7	7,460.0	9,042.1	6,853.3	73.6	84.4	43.64	692.8	5,329.3	847.3	783.9	63.32	13.381	
9,900.0	7,460.0	9,043.9	6,854.6	73.6	84.4	43.76	693.0	5,330.6	845.1	782.1	62.95	13.424	
9,979.7	7,460.0	9,052.6	6,860.6	73.6	84.5	44.35	694.0	5,336.7	838.7	775.6	63.07	13.298	
10,000.0	7,460.0	9,054.8	6,862.2	73.6	84.5	44.50	694.2	5,338.3	838.3	774.6	63.61	13.178	
10,019.9	7,460.0	9,056.9	6,863.7	73.7	84.6	44.65	694.4	5,339.8	838.3	774.0	64.34	13.029	
10,100.0	7,460.0	9,065.6	6,869.8	73.7	84.7	45.24	695.4	5,346.0	843.2	774.2	69.03	12.215	
10,200.0	7,460.0	9,076.5	6,877.3	73.8	84.8	45.98	696.6	5,353.7	859.7	782.0	77.74	11.058	
10,300.0	7,460.0	9,087.4	6,884.9	73.9	84.9	46.72	697.8	5,361.4	887.1	799.2	87.93	10.088	
10,400.0	7,460.0	9,098.3	6,892.5	74.1	85.0	47.46	698.9	5,369.1	924.4	826.2	98.22	9.412	
10,500.0	7,460.0	9,109.1	6,900.1	74.2	85.1	48.19	700.1	5,376.8	970.5	862.7	107.82	9.001	SF

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-2NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-0.59	154.9	-1.6	155.0				
100.0	100.0	100.0	100.0	1.0	1.0	-0.59	154.9	-1.6	155.0	153.0	1.96	79.142	
200.0	200.0	200.0	200.0	1.6	1.6	-0.59	154.9	-1.6	155.0	151.8	3.12	49.659	
300.0	300.0	300.0	300.0	2.0	2.0	-0.59	154.9	-1.6	155.0	151.0	3.96	39.115	
400.0	400.0	400.0	400.0	2.3	2.3	-0.59	154.9	-1.6	155.0	150.3	4.66	33.262	
500.0	500.0	500.0	500.0	2.6	2.6	-0.59	154.9	-1.6	155.0	149.7	5.27	29.407	CC
600.0	600.0	598.9	598.8	2.9	3.7	0.67	155.3	1.8	155.3	149.5	5.82	26.666	ES
700.0	700.0	696.8	696.2	3.2	4.5	4.33	156.3	11.8	156.8	150.4	6.36	24.650	
800.0	800.0	792.9	790.9	3.4	5.1	10.09	158.0	28.1	160.7	153.8	6.95	23.123	
900.0	900.0	886.4	881.8	3.6	5.7	17.32	160.2	50.0	168.8	161.1	7.65	22.064	
1,000.0	1,000.0	976.7	968.0	3.8	6.1	25.18	162.9	76.6	182.8	174.4	8.46	21.621	SF
1,100.0	1,100.0	1,063.2	1,048.8	4.0	6.6	32.84	166.0	107.2	204.1	194.8	9.29	21.965	
1,200.0	1,200.0	1,146.6	1,124.8	4.5	6.9	-55.40	169.5	141.1	231.6	221.5	10.14	22.841	
1,300.0	1,299.6	1,227.7	1,196.8	5.0	7.3	-49.69	173.3	178.4	263.0	252.1	10.90	24.122	
1,400.0	1,398.8	1,300.0	1,259.1	5.4	7.6	-45.45	177.0	214.9	297.2	285.7	11.47	25.900	
1,500.0	1,497.1	1,383.8	1,328.8	5.8	7.8	-41.58	181.7	261.2	333.2	321.0	12.21	27.292	
1,600.0	1,594.3	1,459.0	1,388.9	6.1	8.1	-38.70	186.2	306.0	370.7	357.9	12.77	29.017	
1,700.0	1,690.2	1,532.5	1,445.4	6.5	8.3	-36.36	191.0	352.8	409.1	395.8	13.30	30.764	
1,800.0	1,784.4	1,600.0	1,495.0	6.8	8.5	-34.50	195.6	398.4	448.2	434.5	13.71	32.681	
1,900.0	1,876.8	1,676.3	1,548.5	7.1	8.7	-32.82	201.1	452.5	487.7	473.5	14.17	34.406	
2,000.0	1,967.1	1,766.5	1,609.9	7.4	9.2	-31.43	207.8	518.2	525.4	510.6	14.77	35.562	
2,100.0	2,054.9	1,860.6	1,674.1	7.7	10.2	-30.51	214.8	586.8	558.9	543.5	15.48	36.110	
2,200.0	2,140.2	1,956.2	1,739.2	7.9	11.2	-29.99	221.9	656.4	588.3	572.0	16.22	36.278	
2,300.0	2,222.6	2,053.0	1,805.2	8.2	12.2	-29.80	229.0	726.9	613.2	596.2	17.01	36.040	
2,400.0	2,301.9	2,150.8	1,871.7	8.6	13.3	-29.92	236.3	798.0	633.8	615.9	17.88	35.436	
2,437.4	2,330.8	2,187.5	1,896.8	8.9	13.7	-30.03	239.0	824.8	640.3	622.1	18.17	35.247	
2,500.0	2,378.6	2,249.1	1,938.7	9.4	14.4	-30.41	243.6	869.6	650.8	632.1	18.68	34.845	
2,600.0	2,455.1	2,347.5	2,005.8	10.2	15.5	-30.99	250.9	941.3	667.5	648.0	19.57	34.102	
2,700.0	2,531.5	2,445.8	2,072.8	11.1	16.6	-31.53	258.1	1,012.9	684.4	663.8	20.53	33.333	
2,800.0	2,608.0	2,544.2	2,139.8	12.0	17.7	-32.06	265.4	1,084.5	701.3	679.7	21.54	32.555	
2,900.0	2,684.5	2,642.6	2,206.8	12.9	18.8	-32.55	272.7	1,156.2	718.2	695.6	22.60	31.781	
3,000.0	2,760.9	2,740.9	2,273.8	13.8	19.9	-33.03	280.0	1,227.8	735.2	711.5	23.70	31.022	
3,100.0	2,837.4	2,839.3	2,340.9	14.8	21.0	-33.48	287.3	1,299.4	752.3	727.4	24.84	30.283	
3,200.0	2,913.9	2,937.7	2,407.9	15.7	22.1	-33.92	294.6	1,371.1	769.3	743.3	26.02	29.570	
3,300.0	2,990.3	3,036.0	2,474.9	16.6	23.2	-34.33	301.9	1,442.7	786.5	759.2	27.23	28.886	
3,400.0	3,066.8	3,134.4	2,541.9	17.6	24.3	-34.73	309.1	1,514.3	803.6	775.2	28.47	28.232	
3,500.0	3,143.3	3,232.8	2,608.9	18.5	25.4	-35.11	316.4	1,586.0	820.8	791.1	29.73	27.609	
3,600.0	3,219.8	3,331.1	2,675.9	19.5	26.6	-35.47	323.7	1,657.6	838.1	807.1	31.02	27.017	
3,700.0	3,296.2	3,429.5	2,743.0	20.5	27.7	-35.82	331.0	1,729.2	855.4	823.0	32.33	26.454	
3,800.0	3,372.7	3,527.8	2,810.0	21.4	28.8	-36.16	338.3	1,800.9	872.6	839.0	33.67	25.921	
3,900.0	3,449.2	3,626.2	2,877.0	22.4	29.9	-36.48	345.6	1,872.5	890.0	855.0	35.02	25.416	
4,000.0	3,525.6	3,724.6	2,944.0	23.4	31.0	-36.80	352.9	1,944.1	907.3	870.9	36.39	24.937	
4,100.0	3,602.1	3,822.9	3,011.0	24.4	32.2	-37.09	360.1	2,015.8	924.7	886.9	37.77	24.483	
4,200.0	3,678.6	3,921.3	3,078.1	25.3	33.3	-37.38	367.4	2,087.4	942.1	902.9	39.17	24.053	
4,300.0	3,755.0	4,019.7	3,145.1	26.3	34.4	-37.66	374.7	2,159.0	959.5	919.0	40.58	23.645	
4,400.0	3,831.5	4,118.0	3,212.1	27.3	35.5	-37.93	382.0	2,230.6	977.0	935.0	42.01	23.258	
4,500.0	3,908.0	4,216.4	3,279.1	28.3	36.7	-38.19	389.3	2,302.3	994.4	951.0	43.44	22.891	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-2NBH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-0.57	30.0	-0.3	30.0				
100.0	100.0	100.0	100.0	1.0	1.0	-0.57	30.0	-0.3	30.0	28.0	1.96	15.318	
200.0	200.0	200.0	200.0	1.6	1.6	-0.57	30.0	-0.3	30.0	26.9	3.12	9.611	
300.0	300.0	300.0	300.0	2.0	2.0	-0.57	30.0	-0.3	30.0	26.0	3.96	7.571	
400.0	400.0	400.0	400.0	2.3	2.3	-0.57	30.0	-0.3	30.0	25.3	4.66	6.438	
500.0	500.0	500.0	500.0	2.6	2.6	-0.57	30.0	-0.3	30.0	24.7	5.27	5.692	
600.0	600.0	600.0	600.0	2.9	2.9	-0.57	30.0	-0.3	30.0	24.2	5.82	5.152	CC
700.0	700.0	699.6	699.6	3.2	3.9	5.91	30.4	3.1	30.5	24.2	6.36	4.802	ES, SF
800.0	800.0	798.3	797.7	3.4	4.6	22.96	31.5	13.3	34.2	27.1	7.12	4.810	
900.0	900.0	895.1	893.1	3.6	5.3	41.89	33.2	29.8	45.2	37.0	8.21	5.505	
1,000.0	1,000.0	989.3	984.5	3.8	5.8	55.56	35.6	52.0	64.9	55.7	9.21	7.049	
1,100.0	1,100.0	1,080.2	1,071.2	4.0	6.3	63.97	38.6	79.0	92.5	82.5	9.98	9.270	
1,200.0	1,200.0	1,168.0	1,153.3	4.5	6.7	-26.33	41.9	110.2	124.7	113.9	10.80	11.547	
1,300.0	1,299.6	1,253.7	1,231.3	5.0	7.1	-23.49	45.8	145.4	158.4	146.9	11.49	13.788	
1,400.0	1,398.8	1,337.3	1,305.2	5.4	7.4	-21.80	49.9	184.2	193.2	181.1	12.10	15.973	
1,500.0	1,497.1	1,418.9	1,375.0	5.8	7.7	-20.74	54.5	226.1	228.9	216.3	12.64	18.105	
1,600.0	1,594.3	1,500.0	1,441.9	6.1	8.0	-20.05	59.4	271.7	265.2	252.0	13.17	20.137	
1,700.0	1,690.2	1,576.3	1,502.4	6.5	8.2	-19.61	64.4	317.9	301.9	288.3	13.58	22.228	
1,800.0	1,784.4	1,652.4	1,560.2	6.8	8.5	-19.33	69.7	367.1	339.0	325.0	14.00	24.216	
1,900.0	1,876.8	1,726.8	1,614.1	7.1	8.6	-19.14	75.2	418.1	376.3	362.0	14.32	26.283	
2,000.0	1,967.1	1,813.3	1,674.3	7.4	8.8	-19.12	81.9	479.9	412.8	398.0	14.71	28.050	
2,100.0	2,054.9	1,907.9	1,739.9	7.7	9.7	-19.34	89.2	547.6	444.8	429.5	15.29	29.085	
2,200.0	2,140.2	2,003.9	1,806.5	7.9	10.6	-19.76	96.7	616.4	472.3	456.3	15.91	29.686	
2,300.0	2,222.6	2,101.0	1,873.9	8.2	11.7	-20.36	104.2	685.9	495.0	478.4	16.57	29.870	
2,400.0	2,301.9	2,199.0	1,941.9	8.6	12.7	-21.15	111.8	756.1	513.0	495.7	17.29	29.669	
2,437.4	2,330.8	2,235.8	1,967.4	8.9	13.1	-21.49	114.6	782.4	518.6	501.1	17.51	29.618	
2,500.0	2,378.6	2,297.5	2,010.2	9.4	13.7	-22.18	119.4	826.6	527.4	509.5	17.90	29.456	
2,600.0	2,455.1	2,396.0	2,078.5	10.2	14.8	-23.22	127.0	897.1	541.6	522.9	18.63	29.073	
2,700.0	2,531.5	2,494.5	2,146.9	11.1	15.9	-24.21	134.7	967.7	555.9	536.5	19.42	28.627	
2,800.0	2,608.0	2,593.0	2,215.2	12.0	17.0	-25.15	142.3	1,038.2	570.4	550.2	20.28	28.132	
2,900.0	2,684.5	2,691.5	2,283.5	12.9	18.0	-26.05	149.9	1,108.8	585.1	563.9	21.20	27.603	
3,000.0	2,760.9	2,790.1	2,351.9	13.8	19.1	-26.90	157.5	1,179.3	599.9	577.7	22.17	27.053	
3,100.0	2,837.4	2,888.6	2,420.2	14.8	20.2	-27.71	165.2	1,249.8	614.8	591.6	23.21	26.492	
3,200.0	2,913.9	2,987.1	2,488.6	15.7	21.3	-28.48	172.8	1,320.4	629.8	605.5	24.29	25.930	
3,300.0	2,990.3	3,085.6	2,556.9	16.6	22.4	-29.22	180.4	1,390.9	645.0	619.6	25.42	25.373	
3,400.0	3,066.8	3,184.1	2,625.2	17.6	23.5	-29.92	188.1	1,461.5	660.2	633.6	26.59	24.827	
3,500.0	3,143.3	3,282.6	2,693.6	18.5	24.6	-30.60	195.7	1,532.0	675.5	647.7	27.80	24.297	
3,600.0	3,219.8	3,381.1	2,761.9	19.5	25.7	-31.24	203.3	1,602.6	691.0	661.9	29.05	23.783	
3,700.0	3,296.2	3,479.7	2,830.3	20.5	26.8	-31.85	210.9	1,673.1	706.5	676.1	30.33	23.289	
3,800.0	3,372.7	3,578.2	2,898.6	21.4	27.9	-32.44	218.6	1,743.6	722.0	690.4	31.65	22.816	
3,900.0	3,449.2	3,676.7	2,966.9	22.4	29.0	-33.00	226.2	1,814.2	737.7	704.7	32.99	22.363	
4,000.0	3,525.6	3,775.2	3,035.3	23.4	30.1	-33.54	233.8	1,884.7	753.4	719.0	34.35	21.931	
4,100.0	3,602.1	3,873.7	3,103.6	24.4	31.2	-34.06	241.5	1,955.3	769.2	733.4	35.74	21.520	
4,200.0	3,678.6	3,972.2	3,172.0	25.3	32.3	-34.55	249.1	2,025.8	785.0	747.9	37.15	21.128	
4,300.0	3,755.0	4,070.7	3,240.3	26.3	33.4	-35.03	256.7	2,096.4	800.9	762.3	38.59	20.756	
4,400.0	3,831.5	4,169.2	3,308.6	27.3	34.5	-35.49	264.3	2,166.9	816.9	776.8	40.04	20.403	
4,500.0	3,908.0	4,267.8	3,377.0	28.3	35.6	-35.93	272.0	2,237.4	832.8	791.3	41.50	20.067	
4,600.0	3,984.4	4,366.3	3,445.3	29.3	36.7	-36.36	279.6	2,308.0	848.9	805.9	42.99	19.748	
4,700.0	4,060.9	4,464.8	3,513.7	30.2	37.8	-36.76	287.2	2,378.5	865.0	820.5	44.48	19.445	
4,800.0	4,137.4	4,563.3	3,582.0	31.2	38.9	-37.16	294.8	2,449.1	881.1	835.1	45.99	19.157	
4,900.0	4,213.8	4,661.8	3,650.3	32.2	40.0	-37.54	302.5	2,519.6	897.3	849.7	47.52	18.883	
5,000.0	4,290.3	4,760.3	3,718.7	33.2	41.1	-37.90	310.1	2,590.2	913.5	864.4	49.05	18.623	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-2NBH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	4,366.8	4,858.8	3,787.0	34.2	42.3	-38.26	317.7	2,660.7	929.7	879.1	50.60	18.375	
5,200.0	4,443.2	4,957.3	3,855.4	35.2	43.4	-38.60	325.4	2,731.2	946.0	893.8	52.15	18.139	
5,300.0	4,519.7	5,055.9	3,923.7	36.2	44.5	-38.93	333.0	2,801.8	962.3	908.6	53.72	17.914	
5,400.0	4,596.2	5,154.4	3,992.0	37.2	45.6	-39.25	340.6	2,872.3	978.6	923.3	55.29	17.699	
5,500.0	4,672.6	5,252.9	4,060.4	38.1	46.7	-39.56	348.2	2,942.9	995.0	938.1	56.87	17.495	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-2NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-45.58	29.7	-30.3	42.4				
100.0	100.0	100.0	100.0	1.0	1.0	-45.58	29.7	-30.3	42.4	40.4	1.96	21.659	
200.0	200.0	200.0	200.0	1.6	1.6	-45.58	29.7	-30.3	42.4	39.3	3.12	13.590	
300.0	300.0	300.0	300.0	2.0	2.0	-45.58	29.7	-30.3	42.4	38.4	3.96	10.705	
400.0	400.0	400.0	400.0	2.3	2.3	-45.58	29.7	-30.3	42.4	37.7	4.66	9.103	
500.0	500.0	500.0	500.0	2.6	2.6	-45.58	29.7	-30.3	42.4	37.1	5.27	8.048	
600.0	600.0	600.0	600.0	2.9	2.9	-45.58	29.7	-30.3	42.4	36.6	5.82	7.285	
700.0	700.0	700.8	700.8	3.2	3.1	-44.73	29.8	-29.5	41.9	35.7	6.20	6.761	
800.0	800.0	802.0	801.7	3.4	3.8	-37.23	30.7	-23.3	38.6	31.8	6.81	5.664	
900.0	900.0	902.0	901.0	3.6	4.5	-18.95	32.4	-11.1	34.3	27.1	7.16	4.789	
939.5	939.5	941.0	939.5	3.7	4.7	-8.11	33.3	-4.7	33.7	26.4	7.30	4.613	CC, ES, SF
1,000.0	1,000.0	1,000.0	997.3	3.8	5.0	10.71	34.9	6.6	35.7	27.9	7.72	4.620	
1,100.0	1,100.0	1,095.8	1,090.4	4.0	5.5	37.63	38.2	29.4	49.2	40.4	8.83	5.572	
1,200.0	1,200.0	1,189.3	1,179.6	4.5	5.9	-42.84	42.1	56.8	71.8	61.9	9.84	7.295	
1,300.0	1,299.6	1,281.0	1,265.5	5.0	6.3	-35.61	46.6	88.6	97.7	87.1	10.65	9.180	
1,400.0	1,398.8	1,371.1	1,348.0	5.4	6.7	-31.75	51.7	124.4	125.3	113.9	11.33	11.051	
1,500.0	1,497.1	1,459.7	1,427.1	5.8	7.0	-29.55	57.4	163.9	153.7	141.8	11.95	12.870	
1,600.0	1,594.3	1,546.7	1,502.5	6.1	7.3	-28.25	63.5	206.8	182.9	170.4	12.50	14.629	
1,700.0	1,690.2	1,632.3	1,574.4	6.5	7.6	-27.49	70.0	252.8	212.5	199.5	13.02	16.324	
1,800.0	1,784.4	1,716.4	1,642.5	6.8	7.8	-27.05	77.0	301.6	242.4	228.9	13.50	17.952	
1,900.0	1,876.8	1,800.0	1,707.7	7.1	8.1	-26.84	84.4	353.4	272.6	258.6	14.00	19.477	
2,000.0	1,967.1	1,880.6	1,767.9	7.4	8.3	-26.76	91.9	406.5	303.0	288.5	14.44	20.979	
2,100.0	2,054.9	1,961.6	1,825.7	7.7	9.0	-26.79	99.9	462.7	333.4	318.6	14.81	22.516	
2,200.0	2,140.2	2,057.5	1,892.6	7.9	9.9	-27.14	109.6	530.6	361.5	346.0	15.48	23.358	
2,300.0	2,222.6	2,154.4	1,960.3	8.2	10.9	-27.82	119.4	599.4	385.1	368.9	16.22	23.741	
2,400.0	2,301.9	2,252.2	2,028.5	8.6	11.9	-28.80	129.3	668.7	404.3	387.3	17.05	23.708	
2,437.4	2,330.8	2,288.9	2,054.2	8.9	12.3	-29.25	133.0	694.7	410.4	393.1	17.33	23.685	
2,500.0	2,378.6	2,350.4	2,097.1	9.4	12.9	-30.15	139.2	738.3	420.2	402.3	17.84	23.558	
2,600.0	2,455.1	2,448.6	2,165.6	10.2	13.9	-31.50	149.1	808.0	435.9	417.2	18.76	23.243	
2,700.0	2,531.5	2,546.9	2,234.2	11.1	15.0	-32.76	159.0	877.6	451.9	432.2	19.77	22.865	
2,800.0	2,608.0	2,645.1	2,302.8	12.0	16.0	-33.93	169.0	947.3	468.1	447.3	20.86	22.445	
2,900.0	2,684.5	2,743.3	2,371.3	12.9	17.1	-35.03	178.9	1,016.9	484.5	462.5	22.02	22.000	
3,000.0	2,760.9	2,841.6	2,439.9	13.8	18.2	-36.05	188.8	1,086.6	501.0	477.8	23.25	21.546	
3,100.0	2,837.4	2,939.8	2,508.5	14.8	19.2	-37.01	198.7	1,156.2	517.7	493.2	24.55	21.092	
3,200.0	2,913.9	3,038.1	2,577.0	15.7	20.3	-37.91	208.7	1,225.9	534.5	508.6	25.89	20.647	
3,300.0	2,990.3	3,136.3	2,645.6	16.6	21.4	-38.75	218.6	1,295.5	551.5	524.2	27.28	20.216	
3,400.0	3,066.8	3,234.5	2,714.1	17.6	22.5	-39.55	228.5	1,365.2	568.5	539.8	28.71	19.803	
3,500.0	3,143.3	3,332.8	2,782.7	18.5	23.6	-40.29	238.4	1,434.8	585.7	555.5	30.18	19.408	
3,600.0	3,219.8	3,431.0	2,851.3	19.5	24.6	-41.00	248.4	1,504.5	602.9	571.2	31.68	19.034	
3,700.0	3,296.2	3,529.3	2,919.8	20.5	25.7	-41.66	258.3	1,574.1	620.2	587.0	33.20	18.679	
3,800.0	3,372.7	3,627.5	2,988.4	21.4	26.8	-42.29	268.2	1,643.8	637.6	602.9	34.76	18.345	
3,900.0	3,449.2	3,725.7	3,057.0	22.4	27.9	-42.89	278.1	1,713.4	655.1	618.7	36.33	18.030	
4,000.0	3,525.6	3,824.0	3,125.5	23.4	29.0	-43.46	288.1	1,783.1	672.6	634.7	37.93	17.734	
4,100.0	3,602.1	3,922.2	3,194.1	24.4	30.1	-43.99	298.0	1,852.7	690.2	650.7	39.54	17.455	
4,200.0	3,678.6	4,020.4	3,262.7	25.3	31.2	-44.51	307.9	1,922.4	707.9	666.7	41.17	17.192	
4,300.0	3,755.0	4,118.7	3,331.2	26.3	32.3	-44.99	317.8	1,992.0	725.6	682.7	42.82	16.945	
4,400.0	3,831.5	4,216.9	3,399.8	27.3	33.3	-45.45	327.7	2,061.7	743.3	698.8	44.48	16.712	
4,500.0	3,908.0	4,315.2	3,468.3	28.3	34.4	-45.90	337.7	2,131.3	761.1	715.0	46.15	16.493	
4,600.0	3,984.4	4,413.4	3,536.9	29.3	35.5	-46.32	347.6	2,201.0	779.0	731.1	47.83	16.286	
4,700.0	4,060.9	4,511.6	3,605.5	30.2	36.6	-46.72	357.5	2,270.6	796.8	747.3	49.52	16.091	
4,800.0	4,137.4	4,609.9	3,674.0	31.2	37.7	-47.10	367.4	2,340.3	814.8	763.5	51.22	15.907	
4,900.0	4,213.8	4,708.1	3,742.6	32.2	38.8	-47.47	377.4	2,409.9	832.7	779.8	52.93	15.733	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-2NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,290.3	4,806.3	3,811.2	33.2	39.9	-47.82	387.3	2,479.6	850.7	796.0	54.64	15.568	
5,100.0	4,366.8	4,904.6	3,879.7	34.2	41.0	-48.16	397.2	2,549.2	868.7	812.3	56.37	15.412	
5,200.0	4,443.2	5,002.8	3,948.3	35.2	42.1	-48.49	407.1	2,618.9	886.7	828.6	58.09	15.264	
5,300.0	4,519.7	5,101.1	4,016.9	36.2	43.2	-48.80	417.1	2,688.5	904.8	845.0	59.83	15.123	
5,400.0	4,596.2	5,199.3	4,085.4	37.2	44.3	-49.10	427.0	2,758.2	922.9	861.3	61.57	14.990	
5,500.0	4,672.6	5,297.5	4,154.0	38.1	45.4	-49.38	436.9	2,827.8	941.0	877.7	63.31	14.863	
5,600.0	4,749.1	5,395.8	4,222.5	39.1	46.5	-49.66	446.8	2,897.5	959.1	894.1	65.06	14.742	
5,700.0	4,825.6	5,494.0	4,291.1	40.1	47.6	-49.93	456.8	2,967.1	977.3	910.5	66.81	14.627	
5,800.0	4,902.0	5,592.2	4,359.7	41.1	48.7	-50.18	466.7	3,036.8	995.5	926.9	68.57	14.518	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-3CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	179.41	-140.0	1.4	140.0				
100.0	100.0	100.0	100.0	1.0	1.0	179.41	-140.0	1.4	140.0	138.0	1.96	71.485	
200.0	200.0	200.0	200.0	1.6	1.6	179.41	-140.0	1.4	140.0	136.8	3.12	44.855	
300.0	300.0	300.0	300.0	2.0	2.0	179.41	-140.0	1.4	140.0	136.0	3.96	35.331	
400.0	400.0	400.0	400.0	2.3	2.3	179.41	-140.0	1.4	140.0	135.3	4.66	30.044	
500.0	500.0	500.0	500.0	2.6	2.6	179.41	-140.0	1.4	140.0	134.7	5.27	26.562	
600.0	600.0	600.0	600.0	2.9	2.9	179.41	-140.0	1.4	140.0	134.1	5.82	24.045	
700.0	700.0	700.0	700.0	3.2	3.2	179.41	-140.0	1.4	140.0	133.6	6.33	22.116	
800.0	800.0	800.0	800.0	3.4	3.4	179.41	-140.0	1.4	140.0	133.2	6.80	20.575 CC	
900.0	900.0	899.8	899.8	3.6	4.0	178.34	-140.0	4.1	140.0	132.8	7.24	19.333 ES	
1,000.0	1,000.0	999.1	998.8	3.8	4.5	175.17	-140.0	11.8	140.5	132.8	7.66	18.339	
1,100.0	1,100.0	1,097.3	1,096.1	4.0	4.9	170.05	-140.0	24.5	142.2	134.1	8.08	17.587	
1,200.0	1,200.0	1,194.5	1,191.7	4.5	5.3	68.68	-140.0	42.0	145.4	136.9	8.57	16.968	
1,300.0	1,299.6	1,290.9	1,285.5	5.0	5.7	63.05	-140.0	64.2	149.7	140.6	9.13	16.406	
1,400.0	1,398.8	1,386.5	1,377.4	5.4	6.0	57.76	-140.0	90.8	154.9	145.1	9.76	15.878	
1,500.0	1,497.1	1,481.5	1,467.1	5.8	6.4	52.85	-140.1	121.8	160.8	150.4	10.44	15.399	
1,600.0	1,594.3	1,575.8	1,554.7	6.1	6.7	48.30	-140.1	156.9	167.3	156.1	11.17	14.980	
1,700.0	1,690.2	1,669.5	1,639.7	6.5	7.0	44.10	-140.1	196.0	174.3	162.4	11.91	14.628	
1,800.0	1,784.4	1,762.5	1,722.3	6.8	7.3	40.22	-140.2	238.9	181.6	168.9	12.66	14.341	
1,900.0	1,876.8	1,854.9	1,802.1	7.1	7.5	36.65	-140.2	285.5	189.1	175.7	13.40	14.116	
2,000.0	1,967.1	1,946.8	1,879.1	7.4	7.8	33.35	-140.2	335.5	196.8	182.7	14.11	13.947	
2,100.0	2,054.9	2,038.1	1,953.2	7.7	8.0	30.29	-140.3	388.9	204.5	189.7	14.79	13.826	
2,200.0	2,140.2	2,128.9	2,024.3	7.9	8.6	27.45	-140.3	445.4	212.2	196.8	15.44	13.748	
2,300.0	2,222.6	2,219.2	2,092.2	8.2	9.3	24.81	-140.4	505.0	219.8	203.8	16.04	13.706	
2,400.0	2,301.9	2,309.1	2,156.9	8.6	10.2	22.33	-140.4	567.3	227.3	210.7	16.58	13.711	
2,437.4	2,330.8	2,345.8	2,182.6	8.9	10.5	21.39	-140.5	593.4	229.9	213.1	16.75	13.719	
2,500.0	2,378.6	2,408.0	2,226.3	9.4	11.1	19.94	-140.5	637.7	233.6	216.6	17.07	13.689	
2,600.0	2,455.1	2,507.3	2,296.1	10.2	12.1	17.72	-140.5	708.4	240.0	222.4	17.57	13.656	
2,700.0	2,531.5	2,606.7	2,365.9	11.1	13.1	15.62	-140.6	779.2	246.7	228.6	18.05	13.667	
2,800.0	2,608.0	2,706.1	2,435.6	12.0	14.2	13.63	-140.7	850.0	253.7	235.2	18.51	13.710	
2,900.0	2,684.5	2,805.5	2,505.4	12.9	15.2	11.75	-140.7	920.7	261.0	242.1	18.95	13.777	
3,000.0	2,760.9	2,904.8	2,575.2	13.8	16.3	9.97	-140.8	991.5	268.6	249.2	19.38	13.861	
3,100.0	2,837.4	3,004.2	2,645.0	14.8	17.3	8.29	-140.8	1,062.2	276.4	256.6	19.81	13.954	
3,200.0	2,913.9	3,103.6	2,714.7	15.7	18.4	6.70	-140.9	1,133.0	284.4	264.2	20.25	14.049	
3,300.0	2,990.3	3,203.0	2,784.5	16.6	19.5	5.20	-141.0	1,203.8	292.7	272.0	20.70	14.141	
3,400.0	3,066.8	3,302.3	2,854.3	17.6	20.6	3.79	-141.0	1,274.5	301.1	280.0	21.17	14.226	
3,500.0	3,143.3	3,401.7	2,924.0	18.5	21.6	2.45	-141.1	1,345.3	309.7	288.1	21.66	14.301	
3,600.0	3,219.8	3,501.1	2,993.8	19.5	22.7	1.18	-141.1	1,416.0	318.5	296.3	22.18	14.362	
3,700.0	3,296.2	3,600.5	3,063.6	20.5	23.8	-0.02	-141.2	1,486.8	327.4	304.7	22.72	14.409	
3,800.0	3,372.7	3,699.8	3,133.4	21.4	24.9	-1.15	-141.3	1,557.6	336.5	313.2	23.30	14.440	
3,900.0	3,449.2	3,799.2	3,203.1	22.4	26.0	-2.23	-141.3	1,628.3	345.6	321.7	23.91	14.454	
4,000.0	3,525.6	3,898.6	3,272.9	23.4	27.1	-3.24	-141.4	1,699.1	354.9	330.4	24.56	14.453	
4,100.0	3,602.1	3,997.9	3,342.7	24.4	28.2	-4.21	-141.4	1,769.8	364.3	339.1	25.24	14.437	
4,200.0	3,678.6	4,097.3	3,412.4	25.3	29.3	-5.13	-141.5	1,840.6	373.8	347.9	25.95	14.406	
4,300.0	3,755.0	4,196.7	3,482.2	26.3	30.4	-6.00	-141.5	1,911.3	383.4	356.7	26.69	14.363	
4,400.0	3,831.5	4,296.1	3,552.0	27.3	31.5	-6.83	-141.6	1,982.1	393.1	365.6	27.47	14.309	
4,500.0	3,908.0	4,395.4	3,621.8	28.3	32.6	-7.62	-141.7	2,052.9	402.8	374.5	28.28	14.244	
4,600.0	3,984.4	4,494.8	3,691.5	29.3	33.7	-8.38	-141.7	2,123.6	412.6	383.5	29.12	14.171	
4,700.0	4,060.9	4,594.2	3,761.3	30.2	34.8	-9.09	-141.8	2,194.4	422.5	392.5	29.99	14.091	
4,800.0	4,137.4	4,693.6	3,831.1	31.2	35.9	-9.78	-141.8	2,265.1	432.5	401.6	30.88	14.005	
4,900.0	4,213.8	4,792.9	3,900.9	32.2	37.0	-10.43	-141.9	2,335.9	442.5	410.7	31.80	13.914	
5,000.0	4,290.3	4,892.3	3,970.6	33.2	38.1	-11.06	-142.0	2,406.7	452.5	419.8	32.75	13.820	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-3CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	4,366.8	4,991.7	4,040.4	34.2	39.2	-11.66	-142.0	2,477.4	462.6	428.9	33.71	13.723	
5,200.0	4,443.2	5,091.1	4,110.2	35.2	40.3	-12.23	-142.1	2,548.2	472.8	438.1	34.70	13.625	
5,300.0	4,519.7	5,190.4	4,179.9	36.2	41.4	-12.78	-142.1	2,618.9	483.0	447.3	35.71	13.525	
5,400.0	4,596.2	5,289.8	4,249.7	37.2	42.5	-13.30	-142.2	2,689.7	493.3	456.5	36.74	13.425	
5,500.0	4,672.6	5,389.2	4,319.5	38.1	43.6	-13.81	-142.3	2,760.5	503.6	465.8	37.79	13.325	
5,600.0	4,749.1	5,488.5	4,389.3	39.1	44.7	-14.29	-142.3	2,831.2	513.9	475.0	38.85	13.226	
5,700.0	4,825.6	5,587.9	4,459.0	40.1	45.8	-14.76	-142.4	2,902.0	524.2	484.3	39.93	13.128	
5,800.0	4,902.0	5,687.3	4,528.8	41.1	46.9	-15.20	-142.4	2,972.7	534.6	493.6	41.03	13.031	
5,900.0	4,978.5	5,786.7	4,598.6	42.1	48.0	-15.63	-142.5	3,043.5	545.1	502.9	42.14	12.936	
6,000.0	5,055.0	5,886.0	4,668.4	43.1	49.1	-16.05	-142.5	3,114.3	555.5	512.2	43.26	12.842	
6,100.0	5,131.4	5,985.4	4,738.1	44.1	50.2	-16.45	-142.6	3,185.0	566.0	521.6	44.39	12.750	
6,200.0	5,207.9	6,084.8	4,807.9	45.1	51.3	-16.83	-142.7	3,255.8	576.5	531.0	45.54	12.660	
6,300.0	5,284.4	6,184.2	4,877.7	46.1	52.5	-17.20	-142.7	3,326.5	587.0	540.3	46.69	12.573	
6,400.0	5,360.8	6,283.5	4,947.4	47.1	53.6	-17.56	-142.8	3,397.3	597.6	549.7	47.86	12.487	
6,500.0	5,437.3	6,382.9	5,017.2	48.1	54.7	-17.90	-142.8	3,468.1	608.2	559.1	49.03	12.404	
6,600.0	5,513.8	6,482.3	5,087.0	49.0	55.8	-18.24	-142.9	3,538.8	618.8	568.5	50.21	12.322	
6,700.0	5,590.2	6,581.7	5,156.8	50.0	56.9	-18.56	-143.0	3,609.6	629.4	578.0	51.41	12.243	
6,800.0	5,666.7	6,681.0	5,226.5	51.0	58.0	-18.87	-143.0	3,680.3	640.0	587.4	52.60	12.166	
6,900.0	5,743.2	6,780.4	5,296.3	52.0	59.1	-19.17	-143.1	3,751.1	650.7	596.9	53.81	12.092	
7,000.0	5,819.6	6,879.8	5,366.1	53.0	60.2	-19.46	-143.1	3,821.9	661.3	606.3	55.02	12.019	
7,100.0	5,896.1	6,979.1	5,435.9	54.0	61.3	-19.74	-143.2	3,892.6	672.0	615.8	56.24	11.948	
7,200.0	5,972.6	7,078.5	5,505.6	55.0	62.4	-20.02	-143.3	3,963.4	682.7	625.3	57.47	11.880	
7,300.0	6,049.0	7,177.9	5,575.4	56.0	63.5	-20.28	-143.3	4,034.1	693.4	634.7	58.70	11.813	
7,400.0	6,125.5	7,277.3	5,645.2	57.0	64.7	-20.54	-143.4	4,104.9	704.2	644.2	59.94	11.749	
7,500.0	6,202.0	7,376.6	5,714.9	58.0	65.8	-20.79	-143.4	4,175.6	714.9	653.7	61.18	11.686	
7,600.0	6,278.4	7,476.0	5,784.7	59.0	66.9	-21.03	-143.5	4,246.4	725.7	663.3	62.43	11.625	
7,700.0	6,354.9	7,575.4	5,854.5	60.0	68.0	-21.26	-143.5	4,317.2	736.5	672.8	63.68	11.566	
7,800.0	6,431.4	7,674.8	5,924.3	61.0	69.1	-21.49	-143.6	4,387.9	747.2	682.3	64.93	11.508	
7,900.0	6,507.8	7,774.1	5,994.0	62.0	70.2	-21.71	-143.7	4,458.7	758.0	691.8	66.19	11.452	
8,000.0	6,584.3	7,873.5	6,063.8	63.0	71.3	-21.93	-143.7	4,529.4	768.8	701.4	67.46	11.398	
8,100.0	6,660.8	7,972.9	6,133.6	64.0	72.4	-22.14	-143.8	4,600.2	779.7	710.9	68.72	11.345	
8,200.0	6,737.2	8,072.3	6,203.3	65.0	73.5	-22.34	-143.8	4,671.0	790.5	720.5	69.99	11.294	
8,300.0	6,813.7	8,171.6	6,273.1	66.0	74.6	-22.54	-143.9	4,741.7	801.3	730.1	71.27	11.244	
8,400.0	6,890.2	8,271.0	6,342.9	67.0	75.8	-22.73	-144.0	4,812.5	812.2	739.6	72.54	11.196	
8,500.0	6,966.6	8,370.4	6,412.7	68.0	76.9	-22.92	-144.0	4,883.2	823.0	749.2	73.82	11.149	
8,536.2	6,994.3	8,406.3	6,437.9	68.3	77.3	-22.98	-144.0	4,908.8	827.0	752.7	74.28	11.133	
8,550.0	7,004.9	8,420.1	6,447.6	68.4	77.4	-21.50	-144.0	4,918.6	828.4	754.0	74.44	11.128	
8,600.0	7,043.2	8,469.8	6,482.5	69.0	78.0	-15.83	-144.1	4,954.1	832.7	758.0	74.73	11.143	
8,650.0	7,081.3	8,519.4	6,517.3	69.4	78.5	-9.84	-144.1	4,989.3	835.7	761.1	74.57	11.206	
8,700.0	7,118.9	8,568.3	6,551.6	69.9	79.1	-3.72	-144.1	5,024.2	837.2	763.3	73.96	11.320	
8,711.3	7,127.4	8,579.3	6,559.3	70.0	79.2	-2.33	-144.1	5,032.0	837.4	763.7	73.76	11.353	
8,750.0	7,155.9	8,616.3	6,585.3	70.4	79.6	2.39	-144.2	5,058.3	837.6	764.7	72.93	11.485	
8,790.4	7,185.0	8,654.1	6,611.9	70.7	80.0	7.23	-144.2	5,085.3	837.1	765.3	71.79	11.660	
8,800.0	7,191.8	8,662.9	6,618.1	70.8	80.1	8.36	-144.2	5,091.5	836.9	765.4	71.49	11.707	
8,841.1	7,220.3	8,700.0	6,644.1	71.1	80.5	13.10	-144.2	5,117.9	835.8	765.8	70.05	11.932	
8,850.0	7,226.4	8,707.9	6,649.6	71.2	80.6	14.11	-144.2	5,123.6	835.5	765.8	69.71	11.986	
8,891.2	7,253.7	8,743.4	6,674.6	71.5	81.0	18.63	-144.2	5,148.8	834.0	766.0	68.03	12.258	
8,900.0	7,259.4	8,750.8	6,679.8	71.6	81.1	19.57	-144.2	5,154.1	833.7	766.0	67.66	12.321	
8,941.0	7,285.1	8,784.2	6,703.2	71.8	81.5	23.79	-144.3	5,177.9	832.0	766.2	65.86	12.633	
8,950.0	7,290.6	8,791.3	6,708.2	71.9	81.6	24.68	-144.3	5,183.0	831.7	766.2	65.46	12.705	
8,990.4	7,314.3	8,822.2	6,729.9	72.1	81.9	28.53	-144.3	5,204.9	830.3	766.6	63.68	13.038	
9,000.0	7,319.8	8,829.2	6,734.8	72.2	82.0	29.40	-144.3	5,210.0	830.0	766.7	63.27	13.118	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-3CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,039.6	7,341.3	8,857.1	6,754.4	72.4	82.3	32.81	-144.3	5,229.8	829.1	767.4	61.68	13.442	
9,050.0	7,346.7	8,864.1	6,759.3	72.5	82.4	33.66	-144.3	5,234.8	829.0	767.7	61.30	13.523	
9,073.2	7,358.3	8,879.3	6,770.0	72.6	82.6	35.47	-144.3	5,245.6	828.8	768.3	60.53	13.693	
9,100.0	7,371.1	8,895.8	6,781.6	72.7	82.7	37.41	-144.3	5,257.4	829.0	769.2	59.80	13.863	
9,109.8	7,375.6	8,901.7	6,785.7	72.7	82.8	38.08	-144.3	5,261.6	829.2	769.6	59.58	13.916	
9,150.0	7,392.8	8,924.1	6,801.4	72.9	83.1	40.59	-144.3	5,277.5	830.6	771.5	59.03	14.070	
9,158.7	7,396.3	8,928.6	6,804.6	72.9	83.1	41.08	-144.3	5,280.7	831.0	772.0	58.99	14.087	
9,200.0	7,411.8	8,948.7	6,818.7	73.1	83.3	43.15	-144.4	5,295.0	833.9	774.7	59.21	14.083	
9,250.0	7,427.7	8,969.4	6,833.2	73.2	83.6	45.05	-144.4	5,309.7	839.3	778.8	60.48	13.877	
9,300.0	7,440.6	8,986.0	6,844.9	73.3	83.7	46.24	-144.4	5,321.6	847.0	784.1	62.84	13.478	
9,350.0	7,450.2	8,998.6	6,853.7	73.4	83.9	46.68	-144.4	5,330.5	857.1	790.9	66.17	12.952	
9,400.0	7,456.6	9,006.8	6,859.5	73.4	84.0	46.36	-144.4	5,336.4	869.6	799.4	70.26	12.377	
9,450.0	7,459.7	9,010.8	6,862.3	73.4	84.0	45.28	-144.4	5,339.3	884.5	809.7	74.85	11.817	
9,471.1	7,460.0	9,011.2	6,862.6	73.4	84.0	44.59	-144.4	5,339.5	891.5	814.6	76.88	11.596	
9,500.0	7,460.0	9,011.2	6,862.6	73.4	84.0	44.58	-144.4	5,339.5	901.7	822.0	79.70	11.314	
9,600.0	7,460.0	9,011.1	6,862.5	73.5	84.0	44.58	-144.4	5,339.5	943.0	853.5	89.51	10.534	
9,700.0	7,460.0	9,011.1	6,862.5	73.5	84.0	44.58	-144.4	5,339.4	992.6	893.8	98.81	10.046 SF	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-3NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-0.59	139.9	-1.4	140.0				
100.0	100.0	100.0	100.0	1.0	1.0	-0.59	139.9	-1.4	140.0	138.0	1.96	71.480	
200.0	200.0	200.0	200.0	1.6	1.6	-0.59	139.9	-1.4	140.0	136.8	3.12	44.851	
300.0	300.0	300.0	300.0	2.0	2.0	-0.59	139.9	-1.4	140.0	136.0	3.96	35.329	
400.0	400.0	400.0	400.0	2.3	2.3	-0.59	139.9	-1.4	140.0	135.3	4.66	30.042	
500.0	500.0	500.0	500.0	2.6	2.6	-0.59	139.9	-1.4	140.0	134.7	5.27	26.560	
600.0	600.0	600.4	600.3	2.9	3.7	0.85	139.8	2.1	139.8	134.0	5.82	24.035	
646.3	646.3	646.6	646.3	3.0	4.0	2.48	139.6	6.0	139.8	133.7	6.05	23.103 CC	
700.0	700.0	699.7	699.1	3.2	4.5	5.11	139.3	12.5	139.9	133.6	6.32	22.133 ES	
800.0	800.0	797.2	795.1	3.4	5.1	11.92	138.6	29.3	141.8	134.9	6.86	20.674	
900.0	900.0	892.0	887.1	3.6	5.7	20.63	137.6	51.8	147.6	140.1	7.53	19.616	
1,000.0	1,000.0	983.4	974.3	3.8	6.2	30.16	136.5	79.3	159.9	151.5	8.36	19.130 SF	
1,100.0	1,100.0	1,070.9	1,055.9	4.0	6.6	39.34	135.1	110.7	180.2	170.9	9.25	19.470	
1,200.0	1,200.0	1,155.1	1,132.5	4.5	7.0	-47.80	133.6	145.6	207.2	197.0	10.19	20.335	
1,300.0	1,299.6	1,237.0	1,204.9	5.0	7.3	-41.33	131.9	183.9	238.2	227.1	11.02	21.610	
1,400.0	1,398.8	1,316.8	1,273.3	5.4	7.6	-36.28	130.1	225.0	271.9	260.1	11.76	23.125	
1,500.0	1,497.1	1,400.0	1,341.9	5.8	7.9	-32.10	128.1	271.9	307.5	295.0	12.51	24.587	
1,600.0	1,594.3	1,470.6	1,398.0	6.1	8.1	-29.13	126.3	314.7	344.3	331.3	12.99	26.503	
1,700.0	1,690.2	1,544.8	1,454.6	6.5	8.3	-26.55	124.2	362.7	382.0	368.4	13.52	28.250	
1,800.0	1,784.4	1,617.4	1,507.4	6.8	8.5	-24.43	122.0	412.3	420.1	406.2	13.96	30.086	
1,900.0	1,876.8	1,693.1	1,559.9	7.1	8.7	-22.60	119.7	466.8	458.5	444.1	14.34	31.982	
2,000.0	1,967.1	1,786.1	1,623.5	7.4	9.4	-20.98	116.7	534.7	493.9	478.9	14.94	33.047	
2,100.0	2,054.9	1,880.9	1,688.2	7.7	10.4	-19.80	113.7	603.9	524.8	509.2	15.58	33.691	
2,200.0	2,140.2	1,977.3	1,754.0	7.9	11.4	-18.97	110.7	674.2	551.1	534.9	16.23	33.946	
2,300.0	2,222.6	2,074.8	1,820.7	8.2	12.5	-18.42	107.6	745.4	572.6	555.7	16.92	33.843	
2,400.0	2,301.9	2,173.4	1,888.0	8.6	13.6	-18.11	104.5	817.4	589.3	571.6	17.64	33.406	
2,437.4	2,330.8	2,210.5	1,913.3	8.9	14.0	-18.05	103.3	844.4	594.2	576.4	17.84	33.302	
2,500.0	2,378.6	2,272.6	1,955.8	9.4	14.7	-18.05	101.4	889.7	602.0	583.8	18.21	33.060	
2,600.0	2,455.1	2,371.9	2,023.5	10.2	15.8	-18.04	98.2	962.2	614.3	595.5	18.85	32.598	
2,700.0	2,531.5	2,471.1	2,091.3	11.1	16.9	-18.04	95.1	1,034.6	626.7	607.2	19.51	32.123	
2,800.0	2,608.0	2,570.3	2,159.1	12.0	18.0	-18.03	92.0	1,107.0	639.0	618.8	20.19	31.643	
2,900.0	2,684.5	2,669.6	2,226.9	12.9	19.1	-18.02	88.8	1,179.4	651.4	630.5	20.90	31.164	
3,000.0	2,760.9	2,768.8	2,294.6	13.8	20.2	-18.02	85.7	1,251.8	663.7	642.1	21.63	30.690	
3,100.0	2,837.4	2,868.0	2,362.4	14.8	21.4	-18.01	82.5	1,324.2	676.1	653.7	22.37	30.224	
3,200.0	2,913.9	2,967.3	2,430.2	15.7	22.5	-18.01	79.4	1,396.7	688.4	665.3	23.13	29.769	
3,300.0	2,990.3	3,066.5	2,498.0	16.6	23.6	-18.00	76.3	1,469.1	700.8	676.9	23.90	29.326	
3,400.0	3,066.8	3,165.7	2,565.7	17.6	24.7	-18.00	73.1	1,541.5	713.1	688.5	24.68	28.896	
3,500.0	3,143.3	3,265.0	2,633.5	18.5	25.9	-17.99	70.0	1,613.9	725.5	700.0	25.47	28.480	
3,600.0	3,219.8	3,364.2	2,701.3	19.5	27.0	-17.99	66.9	1,686.3	737.8	711.6	26.28	28.078	
3,700.0	3,296.2	3,463.4	2,769.1	20.5	28.1	-17.98	63.7	1,758.7	750.2	723.1	27.09	27.691	
3,800.0	3,372.7	3,562.7	2,836.8	21.4	29.3	-17.98	60.6	1,831.2	762.5	734.6	27.91	27.318	
3,900.0	3,449.2	3,661.9	2,904.6	22.4	30.4	-17.97	57.5	1,903.6	774.9	746.1	28.74	26.959	
4,000.0	3,525.6	3,761.1	2,972.4	23.4	31.5	-17.97	54.3	1,976.0	787.2	757.7	29.58	26.614	
4,100.0	3,602.1	3,860.4	3,040.2	24.4	32.7	-17.97	51.2	2,048.4	799.6	769.2	30.42	26.283	
4,200.0	3,678.6	3,959.6	3,107.9	25.3	33.8	-17.96	48.1	2,120.8	811.9	780.7	31.27	25.964	
4,300.0	3,755.0	4,058.8	3,175.7	26.3	35.0	-17.96	44.9	2,193.2	824.3	792.2	32.13	25.659	
4,400.0	3,831.5	4,158.1	3,243.5	27.3	36.1	-17.95	41.8	2,265.6	836.6	803.7	32.98	25.365	
4,500.0	3,908.0	4,257.3	3,311.3	28.3	37.2	-17.95	38.6	2,338.1	849.0	815.2	33.85	25.082	
4,600.0	3,984.4	4,356.5	3,379.0	29.3	38.4	-17.95	35.5	2,410.5	861.4	826.6	34.72	24.811	
4,700.0	4,060.9	4,455.8	3,446.8	30.2	39.5	-17.94	32.4	2,482.9	873.7	838.1	35.59	24.550	
4,800.0	4,137.4	4,555.0	3,514.6	31.2	40.6	-17.94	29.2	2,555.3	886.1	849.6	36.46	24.299	
4,900.0	4,213.8	4,654.2	3,582.4	32.2	41.8	-17.94	26.1	2,627.7	898.4	861.1	37.34	24.058	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-3NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,290.3	4,753.5	3,650.1	33.2	42.9	-17.93	23.0	2,700.1	910.8	872.5	38.23	23.826	
5,100.0	4,366.8	4,852.7	3,717.9	34.2	44.1	-17.93	19.8	2,772.6	923.1	884.0	39.11	23.603	
5,200.0	4,443.2	4,951.9	3,785.7	35.2	45.2	-17.93	16.7	2,845.0	935.5	895.5	40.00	23.388	
5,300.0	4,519.7	5,051.2	3,853.5	36.2	46.4	-17.93	13.6	2,917.4	947.8	906.9	40.89	23.181	
5,400.0	4,596.2	5,150.4	3,921.2	37.2	47.5	-17.92	10.4	2,989.8	960.2	918.4	41.78	22.981	
5,500.0	4,672.6	5,249.6	3,989.0	38.1	48.6	-17.92	7.3	3,062.2	972.5	929.8	42.68	22.789	
5,600.0	4,749.1	5,348.9	4,056.8	39.1	49.8	-17.92	4.2	3,134.6	984.9	941.3	43.57	22.603	
5,700.0	4,825.6	5,448.1	4,124.6	40.1	50.9	-17.92	1.0	3,207.1	997.2	952.8	44.47	22.424	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-3NBH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-0.57	15.0	-0.1	15.0				
100.0	100.0	100.0	100.0	1.0	1.0	-0.57	15.0	-0.1	15.0	13.0	1.96	7.656	
200.0	200.0	200.0	200.0	1.6	1.6	-0.57	15.0	-0.1	15.0	11.9	3.12	4.804	
300.0	300.0	300.0	300.0	2.0	2.0	-0.57	15.0	-0.1	15.0	11.0	3.96	3.784	
400.0	400.0	400.0	400.0	2.3	2.3	-0.57	15.0	-0.1	15.0	10.3	4.66	3.218	
500.0	500.0	500.0	500.0	2.6	2.6	-0.57	15.0	-0.1	15.0	9.7	5.27	2.845	
600.0	600.0	600.0	600.0	2.9	2.9	-0.57	15.0	-0.1	15.0	9.2	5.82	2.575	
634.1	634.1	634.1	634.1	3.0	3.2	0.98	15.0	0.3	15.0	9.0	5.99	2.501 CC	
700.0	700.0	699.9	699.8	3.2	3.9	12.57	14.9	3.3	15.3	8.9	6.35	2.407 ES, SF	
800.0	800.0	798.8	798.1	3.4	4.6	42.70	14.8	13.6	20.2	12.8	7.38	2.731	
900.0	900.0	895.8	893.7	3.6	5.3	64.46	14.5	30.3	34.1	25.6	8.57	3.985	
1,000.0	1,000.0	990.2	985.4	3.8	5.8	75.02	14.1	52.7	56.4	47.0	9.43	5.985	
1,100.0	1,100.0	1,081.2	1,072.2	4.0	6.3	80.32	13.6	79.9	85.7	75.6	10.10	8.487	
1,200.0	1,200.0	1,169.2	1,154.4	4.5	6.7	-12.17	13.1	111.5	118.8	107.9	10.91	10.888	
1,300.0	1,299.6	1,255.1	1,232.5	5.0	7.1	-10.58	12.5	147.0	152.8	141.2	11.60	13.177	
1,400.0	1,398.8	1,338.9	1,306.6	5.4	7.4	-9.63	11.8	186.2	187.6	175.4	12.21	15.368	
1,500.0	1,497.1	1,420.8	1,376.6	5.8	7.7	-9.02	11.1	228.6	223.0	210.3	12.76	17.483	
1,600.0	1,594.3	1,500.0	1,441.9	6.1	8.0	-8.62	10.3	273.4	258.8	245.6	13.23	19.559	
1,700.0	1,690.2	1,578.9	1,504.5	6.5	8.2	-8.34	9.5	321.5	295.0	281.3	13.70	21.535	
1,800.0	1,784.4	1,655.4	1,562.5	6.8	8.5	-8.15	8.7	371.3	331.3	317.2	14.11	23.482	
1,900.0	1,876.8	1,730.3	1,616.6	7.1	8.6	-8.02	7.8	423.1	367.7	353.3	14.40	25.534	
2,000.0	1,967.1	1,819.5	1,678.8	7.4	8.8	-7.96	6.7	487.1	402.6	387.8	14.82	27.175	
2,100.0	2,054.9	1,914.9	1,745.1	7.7	9.8	-8.02	5.5	555.5	432.8	417.5	15.36	28.182	
2,200.0	2,140.2	2,011.6	1,812.4	7.9	10.8	-8.17	4.3	625.0	458.1	442.1	15.92	28.767	
2,300.0	2,222.6	2,109.5	1,880.5	8.2	11.8	-8.41	3.1	695.3	478.3	461.8	16.51	28.967	
2,400.0	2,301.9	2,208.3	1,949.3	8.6	12.8	-8.74	1.9	766.2	493.4	476.3	17.12	28.817	
2,437.4	2,330.8	2,245.4	1,975.1	8.9	13.2	-8.89	1.5	792.9	497.7	480.4	17.28	28.805	
2,500.0	2,378.6	2,307.6	2,018.4	9.4	13.9	-9.17	0.7	837.5	504.4	486.8	17.56	28.724	
2,600.0	2,455.1	2,406.9	2,087.5	10.2	15.0	-9.61	-0.5	908.8	515.1	497.0	18.07	28.508	
2,700.0	2,531.5	2,506.3	2,156.7	11.1	16.1	-10.02	-1.7	980.2	525.8	507.2	18.61	28.260	
2,800.0	2,608.0	2,605.6	2,225.8	12.0	17.1	-10.43	-3.0	1,051.5	536.5	517.4	19.17	27.987	
2,900.0	2,684.5	2,705.0	2,295.0	12.9	18.2	-10.81	-4.2	1,122.9	547.3	527.5	19.76	27.692	
3,000.0	2,760.9	2,804.3	2,364.1	13.8	19.3	-11.18	-5.4	1,194.2	558.1	537.7	20.38	27.381	
3,100.0	2,837.4	2,903.7	2,433.3	14.8	20.4	-11.54	-6.6	1,265.5	568.9	547.9	21.03	27.057	
3,200.0	2,913.9	3,003.0	2,502.4	15.7	21.5	-11.88	-7.8	1,336.9	579.7	558.0	21.69	26.725	
3,300.0	2,990.3	3,102.4	2,571.5	16.6	22.6	-12.22	-9.0	1,408.2	590.6	568.2	22.38	26.386	
3,400.0	3,066.8	3,201.7	2,640.7	17.6	23.7	-12.53	-10.3	1,479.5	601.5	578.4	23.09	26.045	
3,500.0	3,143.3	3,301.1	2,709.8	18.5	24.8	-12.84	-11.5	1,550.9	612.3	588.5	23.82	25.703	
3,600.0	3,219.8	3,400.5	2,779.0	19.5	25.9	-13.14	-12.7	1,622.2	623.2	598.7	24.57	25.362	
3,700.0	3,296.2	3,499.8	2,848.1	20.5	27.1	-13.43	-13.9	1,693.6	634.2	608.8	25.34	25.023	
3,800.0	3,372.7	3,599.2	2,917.2	21.4	28.2	-13.70	-15.1	1,764.9	645.1	619.0	26.13	24.690	
3,900.0	3,449.2	3,698.5	2,986.4	22.4	29.3	-13.97	-16.3	1,836.2	656.1	629.1	26.93	24.361	
4,000.0	3,525.6	3,797.9	3,055.5	23.4	30.4	-14.23	-17.6	1,907.6	667.0	639.3	27.75	24.038	
4,100.0	3,602.1	3,897.2	3,124.7	24.4	31.5	-14.48	-18.8	1,978.9	678.0	649.4	28.58	23.722	
4,200.0	3,678.6	3,996.6	3,193.8	25.3	32.6	-14.72	-20.0	2,050.2	689.0	659.6	29.43	23.414	
4,300.0	3,755.0	4,095.9	3,262.9	26.3	33.7	-14.96	-21.2	2,121.6	700.0	669.7	30.29	23.113	
4,400.0	3,831.5	4,195.3	3,332.1	27.3	34.9	-15.19	-22.4	2,192.9	711.0	679.8	31.16	22.819	
4,500.0	3,908.0	4,294.6	3,401.2	28.3	36.0	-15.41	-23.7	2,264.2	722.0	690.0	32.04	22.534	
4,600.0	3,984.4	4,394.0	3,470.4	29.3	37.1	-15.62	-24.9	2,335.6	733.1	700.1	32.94	22.257	
4,700.0	4,060.9	4,493.3	3,539.5	30.2	38.2	-15.83	-26.1	2,406.9	744.1	710.3	33.84	21.987	
4,800.0	4,137.4	4,592.7	3,608.6	31.2	39.3	-16.03	-27.3	2,478.3	755.2	720.4	34.76	21.726	
4,900.0	4,213.8	4,692.0	3,677.8	32.2	40.4	-16.23	-28.5	2,549.6	766.2	730.5	35.68	21.473	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-3NBH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,290.3	4,791.4	3,746.9	33.2	41.6	-16.42	-29.7	2,620.9	777.3	740.7	36.62	21.227	
5,100.0	4,366.8	4,890.7	3,816.1	34.2	42.7	-16.60	-31.0	2,692.3	788.4	750.8	37.56	20.989	
5,200.0	4,443.2	4,990.1	3,885.2	35.2	43.8	-16.78	-32.2	2,763.6	799.5	761.0	38.51	20.758	
5,300.0	4,519.7	5,089.4	3,954.3	36.2	44.9	-16.96	-33.4	2,834.9	810.6	771.1	39.47	20.535	
5,400.0	4,596.2	5,188.8	4,023.5	37.2	46.0	-17.13	-34.6	2,906.3	821.7	781.2	40.44	20.318	
5,500.0	4,672.6	5,288.2	4,092.6	38.1	47.2	-17.29	-35.8	2,977.6	832.8	791.4	41.41	20.109	
5,600.0	4,749.1	5,387.5	4,161.8	39.1	48.3	-17.46	-37.0	3,049.0	843.9	801.5	42.39	19.905	
5,700.0	4,825.6	5,486.9	4,230.9	40.1	49.4	-17.61	-38.3	3,120.3	855.0	811.6	43.38	19.709	
5,800.0	4,902.0	5,586.2	4,300.1	41.1	50.5	-17.77	-39.5	3,191.6	866.1	821.8	44.38	19.518	
5,900.0	4,978.5	5,685.6	4,369.2	42.1	51.6	-17.91	-40.7	3,263.0	877.3	831.9	45.38	19.333	
6,000.0	5,055.0	5,784.9	4,438.3	43.1	52.8	-18.06	-41.9	3,334.3	888.4	842.0	46.38	19.154	
6,100.0	5,131.4	5,884.3	4,507.5	44.1	53.9	-18.20	-43.1	3,405.6	899.6	852.2	47.39	18.981	
6,200.0	5,207.9	5,983.6	4,576.6	45.1	55.0	-18.34	-44.3	3,477.0	910.7	862.3	48.41	18.813	
6,300.0	5,284.4	6,083.0	4,645.8	46.1	56.1	-18.48	-45.6	3,548.3	921.9	872.4	49.43	18.650	
6,400.0	5,360.8	6,182.3	4,714.9	47.1	57.2	-18.61	-46.8	3,619.7	933.0	882.6	50.46	18.492	
6,500.0	5,437.3	6,281.7	4,784.0	48.1	58.4	-18.74	-48.0	3,691.0	944.2	892.7	51.49	18.338	
6,600.0	5,513.8	6,381.0	4,853.2	49.0	59.5	-18.86	-49.2	3,762.3	955.4	902.8	52.52	18.189	
6,700.0	5,590.2	6,480.4	4,922.3	50.0	60.6	-18.99	-50.4	3,833.7	966.5	913.0	53.56	18.045	
6,800.0	5,666.7	6,579.7	4,991.5	51.0	61.7	-19.11	-51.7	3,905.0	977.7	923.1	54.61	17.905	
6,900.0	5,743.2	6,679.1	5,060.6	52.0	62.8	-19.22	-52.9	3,976.3	988.9	933.3	55.65	17.769	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-3NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-64.03	14.7	-30.1	33.5				
100.0	100.0	100.0	100.0	1.0	1.0	-64.03	14.7	-30.1	33.5	31.6	1.96	17.122	
200.0	200.0	200.0	200.0	1.6	1.6	-64.03	14.7	-30.1	33.5	30.4	3.12	10.744	
300.0	300.0	300.0	300.0	2.0	2.0	-64.03	14.7	-30.1	33.5	29.6	3.96	8.463	
400.0	400.0	400.0	400.0	2.3	2.3	-64.03	14.7	-30.1	33.5	28.9	4.66	7.196	
500.0	500.0	500.0	500.0	2.6	2.6	-64.03	14.7	-30.1	33.5	28.3	5.27	6.362	
600.0	600.0	600.0	600.0	2.9	2.9	-64.03	14.7	-30.1	33.5	27.7	5.82	5.759	
700.0	700.0	700.9	700.9	3.2	3.1	-63.41	14.7	-29.3	32.8	26.6	6.22	5.277	
800.0	800.0	802.4	802.1	3.4	3.8	-57.34	14.8	-23.1	27.5	20.4	7.07	3.886	
900.0	900.0	902.6	901.6	3.6	4.5	-35.54	15.0	-10.7	18.5	11.0	7.46	2.475	
961.6	961.6	963.5	961.6	3.8	4.8	-0.82	15.1	-0.2	15.1	7.7	7.39	2.044	CC, ES, SF
1,000.0	1,000.0	1,001.0	998.4	3.8	5.0	25.78	15.2	7.3	17.0	9.1	7.85	2.162	
1,100.0	1,100.0	1,096.9	1,091.4	4.0	5.5	62.97	15.6	30.5	35.3	26.1	9.20	3.835	
1,200.0	1,200.0	1,190.6	1,180.8	4.5	5.9	-21.31	16.0	58.3	61.1	50.9	10.15	6.019	
1,300.0	1,299.6	1,282.6	1,266.9	5.0	6.3	-17.07	16.4	90.5	88.3	77.4	10.91	8.094	
1,400.0	1,398.8	1,373.0	1,349.7	5.4	6.7	-15.01	16.9	126.9	116.1	104.6	11.57	10.034	
1,500.0	1,497.1	1,461.9	1,429.0	5.8	7.0	-13.89	17.5	167.1	144.4	132.2	12.18	11.860	
1,600.0	1,594.3	1,549.3	1,504.8	6.1	7.3	-13.26	18.1	210.7	172.9	160.2	12.72	13.590	
1,700.0	1,690.2	1,635.4	1,576.9	6.5	7.6	-12.90	18.8	257.5	201.6	188.4	13.23	15.236	
1,800.0	1,784.4	1,720.1	1,645.5	6.8	7.8	-12.70	19.5	307.3	230.4	216.7	13.71	16.808	
1,900.0	1,876.8	1,800.0	1,707.7	7.1	8.1	-12.61	20.3	357.4	259.1	245.1	14.06	18.426	
2,000.0	1,967.1	1,885.7	1,771.6	7.4	8.3	-12.61	21.1	414.4	287.7	273.2	14.58	19.742	
2,100.0	2,054.9	1,970.3	1,831.8	7.7	9.1	-12.66	21.9	473.9	316.1	301.2	14.90	21.213	
2,200.0	2,140.2	2,067.1	1,899.8	7.9	10.0	-12.90	22.9	542.8	340.9	325.5	15.48	22.024	
2,300.0	2,222.6	2,165.0	1,968.5	8.2	11.0	-13.30	23.9	612.6	360.8	344.7	16.10	22.411	
2,400.0	2,301.9	2,263.8	2,037.8	8.6	12.0	-13.88	24.9	683.0	375.8	359.0	16.76	22.422	
2,437.4	2,330.8	2,300.9	2,063.9	8.9	12.4	-14.14	25.3	709.4	380.1	363.1	16.94	22.437	
2,500.0	2,378.6	2,363.1	2,107.5	9.4	13.1	-14.63	26.0	753.7	386.7	369.4	17.27	22.393	
2,600.0	2,455.1	2,462.4	2,177.2	10.2	14.1	-15.39	27.0	824.4	397.3	379.5	17.86	22.242	
2,700.0	2,531.5	2,561.7	2,246.9	11.1	15.2	-16.11	28.0	895.1	408.0	389.5	18.51	22.048	
2,800.0	2,608.0	2,661.0	2,316.6	12.0	16.3	-16.79	29.0	965.8	418.8	399.6	19.19	21.820	
2,900.0	2,684.5	2,760.3	2,386.3	12.9	17.3	-17.43	30.0	1,036.6	429.6	409.7	19.92	21.564	
3,000.0	2,760.9	2,859.6	2,456.0	13.8	18.4	-18.05	31.0	1,107.3	440.5	419.8	20.69	21.287	
3,100.0	2,837.4	2,958.9	2,525.6	14.8	19.5	-18.63	32.1	1,178.0	451.4	429.9	21.50	20.993	
3,200.0	2,913.9	3,058.2	2,595.3	15.7	20.6	-19.19	33.1	1,248.8	462.4	440.0	22.35	20.690	
3,300.0	2,990.3	3,157.5	2,665.0	16.6	21.7	-19.72	34.1	1,319.5	473.4	450.2	23.23	20.379	
3,400.0	3,066.8	3,256.8	2,734.7	17.6	22.8	-20.23	35.1	1,390.2	484.4	460.3	24.14	20.067	
3,500.0	3,143.3	3,356.1	2,804.4	18.5	23.8	-20.71	36.1	1,461.0	495.5	470.4	25.08	19.755	
3,600.0	3,219.8	3,455.4	2,874.1	19.5	24.9	-21.18	37.1	1,531.7	506.6	480.6	26.06	19.444	
3,700.0	3,296.2	3,554.7	2,943.8	20.5	26.0	-21.62	38.2	1,602.4	517.8	490.7	27.05	19.140	
3,800.0	3,372.7	3,654.0	3,013.5	21.4	27.1	-22.04	39.2	1,673.1	528.9	500.9	28.07	18.841	
3,900.0	3,449.2	3,753.3	3,083.2	22.4	28.2	-22.45	40.2	1,743.9	540.1	511.0	29.12	18.550	
4,000.0	3,525.6	3,852.6	3,152.8	23.4	29.3	-22.84	41.2	1,814.6	551.4	521.2	30.18	18.267	
4,100.0	3,602.1	3,951.9	3,222.5	24.4	30.4	-23.22	42.2	1,885.3	562.6	531.4	31.27	17.993	
4,200.0	3,678.6	4,051.2	3,292.2	25.3	31.5	-23.58	43.2	1,956.1	573.9	541.5	32.37	17.728	
4,300.0	3,755.0	4,150.5	3,361.9	26.3	32.6	-23.92	44.3	2,026.8	585.2	551.7	33.49	17.471	
4,400.0	3,831.5	4,249.8	3,431.6	27.3	33.7	-24.26	45.3	2,097.5	596.5	561.9	34.63	17.225	
4,500.0	3,908.0	4,349.1	3,501.3	28.3	34.8	-24.58	46.3	2,168.2	607.9	572.1	35.78	16.987	
4,600.0	3,984.4	4,448.3	3,571.0	29.3	35.9	-24.89	47.3	2,239.0	619.2	582.3	36.95	16.758	
4,700.0	4,060.9	4,547.6	3,640.7	30.2	37.0	-25.19	48.3	2,309.7	630.6	592.5	38.13	16.538	
4,800.0	4,137.4	4,646.9	3,710.4	31.2	38.1	-25.47	49.3	2,380.4	642.0	602.7	39.32	16.326	
4,900.0	4,213.8	4,746.2	3,780.0	32.2	39.3	-25.75	50.4	2,451.2	653.4	612.9	40.53	16.123	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Barr Lake 21-23-3NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,290.3	4,845.5	3,849.7	33.2	40.4	-26.02	51.4	2,521.9	664.8	623.1	41.74	15.927	
5,100.0	4,366.8	4,944.8	3,919.4	34.2	41.5	-26.28	52.4	2,592.6	676.2	633.3	42.96	15.740	
5,200.0	4,443.2	5,044.1	3,989.1	35.2	42.6	-26.53	53.4	2,663.4	687.7	643.5	44.20	15.559	
5,300.0	4,519.7	5,143.4	4,058.8	36.2	43.7	-26.77	54.4	2,734.1	699.1	653.7	45.44	15.386	
5,400.0	4,596.2	5,242.7	4,128.5	37.2	44.8	-27.01	55.4	2,804.8	710.6	663.9	46.69	15.219	
5,500.0	4,672.6	5,342.0	4,198.2	38.1	45.9	-27.23	56.5	2,875.5	722.1	674.1	47.95	15.059	
5,600.0	4,749.1	5,441.3	4,267.9	39.1	47.0	-27.45	57.5	2,946.3	733.6	684.4	49.22	14.905	
5,700.0	4,825.6	5,540.6	4,337.6	40.1	48.1	-27.67	58.5	3,017.0	745.1	694.6	50.49	14.757	
5,800.0	4,902.0	5,639.9	4,407.2	41.1	49.2	-27.87	59.5	3,087.7	756.6	704.8	51.77	14.614	
5,900.0	4,978.5	5,739.2	4,476.9	42.1	50.3	-28.07	60.5	3,158.5	768.1	715.1	53.06	14.477	
6,000.0	5,055.0	5,838.5	4,546.6	43.1	51.4	-28.27	61.5	3,229.2	779.7	725.3	54.35	14.345	
6,100.0	5,131.4	5,937.8	4,616.3	44.1	52.5	-28.46	62.6	3,299.9	791.2	735.5	55.65	14.218	
6,200.0	5,207.9	6,037.1	4,686.0	45.1	53.6	-28.64	63.6	3,370.6	802.7	745.8	56.95	14.095	
6,300.0	5,284.4	6,136.4	4,755.7	46.1	54.8	-28.82	64.6	3,441.4	814.3	756.0	58.26	13.977	
6,400.0	5,360.8	6,235.7	4,825.4	47.1	55.9	-28.99	65.6	3,512.1	825.9	766.3	59.57	13.863	
6,500.0	5,437.3	6,335.0	4,895.1	48.1	57.0	-29.16	66.6	3,582.8	837.4	776.5	60.89	13.753	
6,600.0	5,513.8	6,434.3	4,964.8	49.0	58.1	-29.32	67.6	3,653.6	849.0	786.8	62.22	13.646	
6,700.0	5,590.2	6,533.6	5,034.4	50.0	59.2	-29.48	68.7	3,724.3	860.6	797.1	63.54	13.544	
6,800.0	5,666.7	6,632.9	5,104.1	51.0	60.3	-29.64	69.7	3,795.0	872.2	807.3	64.87	13.445	
6,900.0	5,743.2	6,732.2	5,173.8	52.0	61.4	-29.79	70.7	3,865.8	883.8	817.6	66.21	13.349	
7,000.0	5,819.6	6,831.5	5,243.5	53.0	62.5	-29.94	71.7	3,936.5	895.4	827.8	67.55	13.256	
7,100.0	5,896.1	6,930.8	5,313.2	54.0	63.6	-30.08	72.7	4,007.2	907.0	838.1	68.89	13.167	
7,200.0	5,972.6	7,030.1	5,382.9	55.0	64.7	-30.22	73.8	4,077.9	918.6	848.4	70.23	13.080	
7,300.0	6,049.0	7,129.4	5,452.6	56.0	65.9	-30.35	74.8	4,148.7	930.2	858.7	71.58	12.996	
7,400.0	6,125.5	7,228.7	5,522.3	57.0	67.0	-30.49	75.8	4,219.4	941.9	868.9	72.93	12.914	
7,500.0	6,202.0	7,328.0	5,591.9	58.0	68.1	-30.62	76.8	4,290.1	953.5	879.2	74.28	12.836	
7,600.0	6,278.4	7,427.3	5,661.6	59.0	69.2	-30.74	77.8	4,360.9	965.1	889.5	75.64	12.759	
7,700.0	6,354.9	7,526.6	5,731.3	60.0	70.3	-30.87	78.8	4,431.6	976.8	899.8	77.00	12.685	
7,800.0	6,431.4	7,625.9	5,801.0	61.0	71.4	-30.99	79.9	4,502.3	988.4	910.0	78.36	12.613	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Brighton Lakes 20-17-2NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-10.60	169.6	-31.7	172.6				
100.0	100.0	100.0	100.0	1.0	1.0	-10.60	169.6	-31.7	172.6	170.6	1.96	88.138	
200.0	200.0	200.0	200.0	1.6	1.6	-10.60	169.6	-31.7	172.6	169.5	3.12	55.304	
300.0	300.0	300.0	300.0	2.0	2.0	-10.60	169.6	-31.7	172.6	168.6	3.96	43.562	
400.0	400.0	400.0	400.0	2.3	2.3	-10.60	169.6	-31.7	172.6	167.9	4.66	37.043	
500.0	500.0	500.0	500.0	2.6	2.6	-10.60	169.6	-31.7	172.6	167.3	5.27	32.750	
600.0	600.0	600.0	600.0	2.9	2.9	-10.60	169.6	-31.7	172.6	166.8	5.82	29.647	
700.0	700.0	700.0	700.0	3.2	3.2	-10.60	169.6	-31.7	172.6	166.2	6.33	27.268	
800.0	800.0	800.0	800.0	3.4	3.4	-10.60	169.6	-31.7	172.6	165.8	6.80	25.368	
900.0	900.0	900.0	900.0	3.6	3.6	-10.60	169.6	-31.7	172.6	165.3	7.25	23.805	
1,000.0	1,000.0	1,000.0	1,000.0	3.8	3.8	-10.60	169.6	-31.7	172.6	164.9	7.67	22.490	
1,100.0	1,100.0	1,100.0	1,100.0	4.0	4.0	-10.60	169.6	-31.7	172.6	164.5	8.08	21.362	CC, ES
1,200.0	1,200.0	1,200.0	1,200.0	4.5	4.2	-106.84	169.6	-31.7	173.3	164.8	8.49	20.425	
1,300.0	1,299.6	1,299.6	1,299.6	5.0	4.4	-109.21	169.6	-31.7	175.8	166.9	8.89	19.779	
1,400.0	1,398.8	1,404.2	1,404.1	5.4	4.9	-112.47	168.8	-29.0	179.0	169.6	9.39	19.065	
1,500.0	1,497.1	1,509.3	1,508.9	5.8	5.3	-115.73	166.4	-20.7	181.8	171.9	9.92	18.323	
1,600.0	1,594.3	1,615.1	1,613.6	6.1	5.7	-119.02	162.4	-6.9	184.1	173.6	10.50	17.537	
1,700.0	1,690.2	1,721.3	1,717.9	6.5	6.1	-122.36	156.6	12.7	186.0	174.9	11.12	16.724	
1,800.0	1,784.4	1,828.1	1,821.4	6.8	6.5	-125.77	149.3	37.9	187.6	175.8	11.80	15.903	
1,900.0	1,876.8	1,935.3	1,923.6	7.1	6.8	-129.28	140.2	68.7	188.8	176.3	12.51	15.092	
1,904.4	1,880.9	1,940.1	1,928.2	7.1	6.8	-129.43	139.8	70.2	188.8	176.3	12.54	15.056	
2,000.0	1,967.1	2,043.0	2,024.4	7.4	7.1	-132.89	129.6	105.2	189.7	176.4	13.25	14.314	
2,004.4	1,971.0	2,047.8	2,028.8	7.4	7.1	-133.06	129.1	107.0	189.7	176.4	13.28	14.280	
2,100.0	2,054.9	2,151.1	2,123.2	7.7	7.4	-136.63	117.3	147.3	190.3	176.3	13.99	13.608	
2,104.4	2,058.8	2,155.9	2,127.5	7.7	7.4	-136.80	116.7	149.3	190.3	176.3	14.02	13.579	
2,200.0	2,140.2	2,253.6	2,215.0	7.9	7.6	-140.45	104.4	191.2	191.8	177.0	14.74	13.008	
2,204.4	2,143.9	2,258.0	2,218.9	7.9	7.6	-140.63	103.9	193.1	191.9	177.2	14.78	12.989	
2,300.0	2,222.6	2,352.3	2,303.0	8.2	7.8	-144.80	92.0	233.8	198.0	182.4	15.51	12.766	SF
2,400.0	2,301.9	2,450.0	2,390.3	8.6	7.9	-149.47	79.6	276.0	209.7	193.6	16.19	12.959	
2,437.4	2,330.8	2,486.3	2,422.7	8.9	8.0	-151.23	75.0	291.7	215.7	199.3	16.38	13.171	
2,500.0	2,378.6	2,546.9	2,476.8	9.4	8.1	-154.17	67.4	317.9	226.7	210.0	16.70	13.576	
2,600.0	2,455.1	2,643.6	2,563.2	10.2	8.7	-158.32	55.1	359.7	245.3	228.2	17.12	14.330	
2,700.0	2,531.5	2,740.4	2,649.6	11.1	9.2	-161.88	42.9	401.5	265.0	247.5	17.52	15.125	
2,800.0	2,608.0	2,837.2	2,736.0	12.0	9.7	-164.95	30.7	443.3	285.5	267.6	17.91	15.944	
2,900.0	2,684.5	2,933.9	2,822.5	12.9	10.3	-167.61	18.5	485.1	306.8	288.5	18.30	16.765	
3,000.0	2,760.9	3,030.7	2,908.9	13.8	10.9	-169.93	6.2	526.9	328.6	309.9	18.70	17.572	
3,100.0	2,837.4	3,127.5	2,995.3	14.8	11.4	-171.96	-6.0	568.7	350.9	331.8	19.12	18.354	
3,200.0	2,913.9	3,224.2	3,081.7	15.7	12.0	-173.75	-18.2	610.5	373.6	354.0	19.56	19.102	
3,300.0	2,990.3	3,321.0	3,168.1	16.6	12.6	-175.33	-30.4	652.3	396.5	376.5	20.02	19.811	
3,400.0	3,066.8	3,417.8	3,254.5	17.6	13.2	-176.74	-42.7	694.1	419.8	399.3	20.50	20.479	
3,500.0	3,143.3	3,514.5	3,340.9	18.5	13.8	-178.01	-54.9	735.9	443.2	422.2	21.00	21.103	
3,600.0	3,219.8	3,611.3	3,427.3	19.5	14.4	-179.15	-67.1	777.7	466.8	445.3	21.53	21.685	
3,700.0	3,296.2	3,708.1	3,513.7	20.5	15.0	179.82	-79.3	819.5	490.6	468.6	22.08	22.225	
3,800.0	3,372.7	3,804.8	3,600.2	21.4	15.6	178.89	-91.6	861.3	514.6	491.9	22.64	22.724	
3,900.0	3,449.2	3,901.6	3,686.6	22.4	16.2	178.04	-103.8	903.1	538.6	515.4	23.23	23.185	
4,000.0	3,525.6	3,998.4	3,773.0	23.4	16.8	177.26	-116.0	944.9	562.7	538.9	23.84	23.610	
4,100.0	3,602.1	4,095.1	3,859.4	24.4	17.5	176.54	-128.2	986.7	587.0	562.5	24.46	24.001	
4,200.0	3,678.6	4,191.9	3,945.8	25.3	18.1	175.89	-140.5	1,028.5	611.3	586.2	25.09	24.361	
4,300.0	3,755.0	4,288.7	4,032.2	26.3	18.7	175.28	-152.7	1,070.3	635.7	609.9	25.75	24.691	
4,400.0	3,831.5	4,385.4	4,118.6	27.3	19.3	174.71	-164.9	1,112.1	660.1	633.7	26.41	24.995	
4,500.0	3,908.0	4,482.2	4,205.0	28.3	19.9	174.19	-177.2	1,153.9	684.6	657.6	27.09	25.275	
4,600.0	3,984.4	4,579.0	4,291.5	29.3	20.6	173.70	-189.4	1,195.7	709.2	681.4	27.78	25.532	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Brighton Lakes 20-17-2NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,700.0	4,060.9	4,675.7	4,377.9	30.2	21.2	173.25	-201.6	1,237.5	733.8	705.3	28.48	25.768	
4,800.0	4,137.4	4,772.5	4,464.3	31.2	21.8	172.82	-213.8	1,279.3	758.4	729.2	29.19	25.985	
4,900.0	4,213.8	4,869.3	4,550.7	32.2	22.4	172.42	-226.1	1,321.1	783.1	753.2	29.91	26.186	
5,000.0	4,290.3	4,966.0	4,637.1	33.2	23.1	172.05	-238.3	1,362.9	807.8	777.2	30.63	26.370	
5,100.0	4,366.8	5,062.8	4,723.5	34.2	23.7	171.70	-250.5	1,404.7	832.6	801.2	31.37	26.540	
5,200.0	4,443.2	5,159.6	4,809.9	35.2	24.3	171.36	-262.7	1,446.5	857.3	825.2	32.11	26.697	
5,300.0	4,519.7	5,256.3	4,896.3	36.2	25.0	171.05	-275.0	1,488.3	882.1	849.3	32.86	26.842	
5,400.0	4,596.2	5,353.1	4,982.8	37.2	25.6	170.75	-287.2	1,530.1	907.0	873.3	33.62	26.976	
5,500.0	4,672.6	5,449.9	5,069.2	38.1	26.2	170.47	-299.4	1,571.9	931.8	897.4	34.38	27.100	
5,600.0	4,749.1	5,546.6	5,155.6	39.1	26.9	170.21	-311.6	1,613.7	956.7	921.5	35.15	27.215	
5,700.0	4,825.6	5,643.4	5,242.0	40.1	27.5	169.96	-323.9	1,655.5	981.5	945.6	35.93	27.322	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Brighton Lakes 20-17-3NCHx - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-153.79	-60.3	-29.7	67.2				
100.0	100.0	100.0	100.0	1.0	1.0	-153.79	-60.3	-29.7	67.2	65.3	1.96	34.325	
200.0	200.0	200.0	200.0	1.6	1.6	-153.79	-60.3	-29.7	67.2	64.1	3.12	21.538	
300.0	300.0	300.0	300.0	2.0	2.0	-153.79	-60.3	-29.7	67.2	63.2	3.96	16.965	
400.0	400.0	400.0	400.0	2.3	2.3	-153.79	-60.3	-29.7	67.2	62.5	4.66	14.426	
500.0	500.0	500.0	500.0	2.6	2.6	-153.79	-60.3	-29.7	67.2	61.9	5.27	12.754	
600.0	600.0	600.0	600.0	2.9	2.9	-153.79	-60.3	-29.7	67.2	61.4	5.82	11.546	
700.0	700.0	700.0	700.0	3.2	3.2	-153.79	-60.3	-29.7	67.2	60.9	6.33	10.619	
800.0	800.0	800.0	800.0	3.4	3.4	-153.79	-60.3	-29.7	67.2	60.4	6.80	9.880	
900.0	900.0	900.0	900.0	3.6	3.6	-153.79	-60.3	-29.7	67.2	60.0	7.25	9.271	
1,000.0	1,000.0	1,000.0	1,000.0	3.8	3.8	-153.79	-60.3	-29.7	67.2	59.5	7.67	8.759	
1,100.0	1,100.0	1,100.0	1,100.0	4.0	4.0	-153.79	-60.3	-29.7	67.2	59.1	8.08	8.319	CC, ES
1,200.0	1,200.0	1,200.3	1,200.3	4.5	4.1	112.27	-60.5	-29.1	68.1	59.7	8.40	8.107	
1,300.0	1,299.6	1,300.9	1,300.7	5.0	4.6	113.92	-62.1	-24.0	70.2	61.4	8.81	7.966	
1,400.0	1,398.8	1,401.6	1,400.9	5.4	5.1	115.13	-65.4	-13.9	73.4	64.2	9.23	7.951	SF
1,500.0	1,497.1	1,502.5	1,500.5	5.8	5.5	115.88	-70.3	1.2	77.7	68.0	9.67	8.038	
1,600.0	1,594.3	1,603.3	1,599.1	6.1	5.8	116.21	-76.7	21.3	83.0	72.9	10.13	8.202	
1,700.0	1,690.2	1,704.2	1,696.5	6.5	6.2	116.19	-84.8	46.3	89.4	78.8	10.62	8.418	
1,800.0	1,784.4	1,805.2	1,792.4	6.8	6.5	115.87	-94.5	76.2	96.8	85.6	11.18	8.660	
1,900.0	1,876.8	1,906.1	1,886.5	7.1	6.9	115.32	-105.6	110.9	105.1	93.3	11.81	8.901	
2,000.0	1,967.1	2,007.1	1,978.6	7.4	7.2	114.60	-118.3	150.3	114.5	101.9	12.55	9.124	
2,100.0	2,054.9	2,107.1	2,067.9	7.7	7.3	114.14	-132.1	193.1	125.0	111.6	13.35	9.356	
2,200.0	2,140.2	2,206.2	2,156.2	7.9	7.4	115.45	-146.0	236.0	137.5	123.1	14.36	9.577	
2,300.0	2,222.6	2,304.8	2,244.0	8.2	7.6	118.18	-159.7	278.6	152.6	137.1	15.45	9.876	
2,400.0	2,301.9	2,402.4	2,331.0	8.6	7.9	121.78	-173.3	320.9	170.7	154.1	16.56	10.304	
2,437.4	2,330.8	2,438.7	2,363.3	8.9	8.1	123.25	-178.4	336.5	178.4	161.4	16.95	10.525	
2,500.0	2,378.6	2,499.2	2,417.2	9.4	8.4	125.90	-186.8	362.7	191.9	174.3	17.58	10.912	
2,600.0	2,455.1	2,596.0	2,503.4	10.2	9.0	129.43	-200.3	404.5	214.2	195.6	18.58	11.527	
2,700.0	2,531.5	2,692.7	2,589.5	11.1	9.6	132.29	-213.8	446.4	237.1	217.6	19.53	12.138	
2,800.0	2,608.0	2,789.4	2,675.7	12.0	10.1	134.65	-227.3	488.2	260.5	240.0	20.45	12.734	
2,900.0	2,684.5	2,886.1	2,761.8	12.9	10.7	136.62	-240.8	530.0	284.2	262.8	21.36	13.307	
3,000.0	2,760.9	2,982.8	2,848.0	13.8	11.3	138.29	-254.3	571.8	308.2	286.0	22.25	13.854	
3,100.0	2,837.4	3,079.5	2,934.1	14.8	11.9	139.72	-267.7	613.7	332.4	309.3	23.13	14.373	
3,200.0	2,913.9	3,176.2	3,020.3	15.7	12.5	140.95	-281.2	655.5	356.8	332.8	24.01	14.864	
3,300.0	2,990.3	3,272.9	3,106.4	16.6	13.1	142.03	-294.7	697.3	381.4	356.5	24.88	15.329	
3,400.0	3,066.8	3,369.6	3,192.6	17.6	13.7	142.98	-308.2	739.1	406.0	380.2	25.75	15.766	
3,500.0	3,143.3	3,466.4	3,278.7	18.5	14.3	143.82	-321.7	781.0	430.7	404.1	26.62	16.179	
3,600.0	3,219.8	3,563.1	3,364.9	19.5	15.0	144.56	-335.2	822.8	455.5	428.0	27.49	16.568	
3,700.0	3,296.2	3,659.8	3,451.0	20.5	15.6	145.24	-348.7	864.6	480.4	452.0	28.37	16.935	
3,800.0	3,372.7	3,756.5	3,537.2	21.4	16.2	145.84	-362.1	906.4	505.3	476.1	29.24	17.281	
3,900.0	3,449.2	3,853.2	3,623.3	22.4	16.8	146.39	-375.6	948.3	530.3	500.2	30.12	17.607	
4,000.0	3,525.6	3,949.9	3,709.5	23.4	17.5	146.89	-389.1	990.1	555.3	524.3	31.00	17.915	
4,100.0	3,602.1	4,046.6	3,795.6	24.4	18.1	147.34	-402.6	1,031.9	580.4	548.5	31.88	18.207	
4,200.0	3,678.6	4,143.3	3,881.8	25.3	18.7	147.76	-416.1	1,073.7	605.5	572.7	32.76	18.482	
4,300.0	3,755.0	4,240.0	3,967.9	26.3	19.4	148.15	-429.6	1,115.6	630.6	596.9	33.64	18.743	
4,400.0	3,831.5	4,336.8	4,054.1	27.3	20.0	148.50	-443.1	1,157.4	655.7	621.2	34.53	18.990	
4,500.0	3,908.0	4,433.5	4,140.2	28.3	20.6	148.83	-456.5	1,199.2	680.9	645.5	35.42	19.224	
4,600.0	3,984.4	4,530.2	4,226.4	29.3	21.3	149.14	-470.0	1,241.0	706.1	669.8	36.31	19.447	
4,700.0	4,060.9	4,626.9	4,312.6	30.2	21.9	149.42	-483.5	1,282.9	731.3	694.1	37.20	19.658	
4,800.0	4,137.4	4,723.6	4,398.7	31.2	22.5	149.69	-497.0	1,324.7	756.5	718.4	38.09	19.859	
4,900.0	4,213.8	4,820.3	4,484.9	32.2	23.2	149.94	-510.5	1,366.5	781.7	742.7	38.99	20.051	
5,000.0	4,290.3	4,917.0	4,571.0	33.2	23.8	150.17	-524.0	1,408.3	807.0	767.1	39.88	20.233	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Brighton Lakes 20-17-3NCHx - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	4,366.8	5,013.7	4,657.2	34.2	24.4	150.39	-537.5	1,450.2	832.2	791.4	40.78	20.406	
5,200.0	4,443.2	5,110.4	4,743.3	35.2	25.1	150.60	-550.9	1,492.0	857.5	815.8	41.68	20.572	
5,300.0	4,519.7	5,207.2	4,829.5	36.2	25.7	150.79	-564.4	1,533.8	882.7	840.2	42.58	20.731	
5,400.0	4,596.2	5,303.9	4,915.6	37.2	26.4	150.97	-577.9	1,575.6	908.0	864.5	43.48	20.882	
5,500.0	4,672.6	5,400.6	5,001.8	38.1	27.0	151.15	-591.4	1,617.5	933.3	888.9	44.39	21.027	
5,600.0	4,749.1	5,497.3	5,087.9	39.1	27.7	151.31	-604.9	1,659.3	958.6	913.3	45.29	21.166	
5,700.0	4,825.6	5,594.0	5,174.1	40.1	28.3	151.47	-618.4	1,701.1	983.9	937.7	46.20	21.298	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-1CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-165.34	-110.3	-28.8	114.0				
100.0	100.0	100.0	100.0	1.0	1.0	-165.34	-110.3	-28.8	114.0	112.0	1.96	58.219	
200.0	200.0	200.0	200.0	1.6	1.6	-165.34	-110.3	-28.8	114.0	110.9	3.12	36.530	
300.0	300.0	300.0	300.0	2.0	2.0	-165.34	-110.3	-28.8	114.0	110.0	3.96	28.774	
400.0	400.0	400.0	400.0	2.3	2.3	-165.34	-110.3	-28.8	114.0	109.3	4.66	24.468	
500.0	500.0	500.0	500.0	2.6	2.6	-165.34	-110.3	-28.8	114.0	108.7	5.27	21.632	
600.0	600.0	600.0	600.0	2.9	2.9	-165.34	-110.3	-28.8	114.0	108.2	5.82	19.583	
700.0	700.0	700.0	700.0	3.2	3.2	-165.34	-110.3	-28.8	114.0	107.7	6.33	18.011	
800.0	800.0	800.0	800.0	3.4	3.4	-165.34	-110.3	-28.8	114.0	107.2	6.80	16.757	
900.0	900.0	900.0	900.0	3.6	3.6	-165.34	-110.3	-28.8	114.0	106.7	7.25	15.724	
1,000.0	1,000.0	1,000.0	1,000.0	3.8	3.8	-165.34	-110.3	-28.8	114.0	106.3	7.67	14.855	
1,100.0	1,100.0	1,100.0	1,100.0	4.0	4.0	-165.34	-110.3	-28.8	114.0	105.9	8.08	14.110	CC, ES
1,200.0	1,200.0	1,200.0	1,200.0	4.5	4.2	100.51	-110.3	-28.8	114.4	106.0	8.47	13.512	
1,300.0	1,299.6	1,300.1	1,300.0	5.0	4.7	102.99	-110.9	-26.3	115.9	107.1	8.84	13.111	
1,400.0	1,398.8	1,400.5	1,400.1	5.4	5.1	105.30	-112.9	-18.7	118.5	109.2	9.22	12.849	
1,500.0	1,497.1	1,501.1	1,499.9	5.8	5.5	107.39	-116.3	-5.9	122.0	112.4	9.62	12.676	
1,600.0	1,594.3	1,602.0	1,599.0	6.1	5.9	109.21	-120.9	11.9	126.5	116.4	10.07	12.562	
1,700.0	1,690.2	1,703.1	1,697.3	6.5	6.3	110.76	-126.9	34.9	131.8	121.3	10.56	12.481	
1,800.0	1,784.4	1,804.4	1,794.4	6.8	6.6	112.03	-134.3	62.9	138.1	126.9	11.13	12.409	
1,900.0	1,876.8	1,906.0	1,890.0	7.1	6.9	113.02	-142.9	96.0	145.1	133.3	11.77	12.326	
2,000.0	1,967.1	2,007.7	1,983.8	7.4	7.2	113.76	-152.8	133.9	152.9	140.4	12.52	12.215	
2,100.0	2,054.9	2,109.6	2,075.6	7.7	7.5	114.27	-164.0	176.8	161.4	148.0	13.37	12.068	
2,200.0	2,140.2	2,211.7	2,165.0	7.9	7.8	114.57	-176.5	224.4	170.6	156.2	14.36	11.879	
2,300.0	2,222.6	2,313.2	2,251.3	8.2	8.0	114.73	-190.0	276.1	180.5	165.0	15.47	11.668	
2,400.0	2,301.9	2,412.4	2,334.9	8.6	8.1	115.81	-203.5	327.8	192.2	175.5	16.71	11.501	
2,437.4	2,330.8	2,449.3	2,366.0	8.9	8.3	116.51	-208.5	347.0	197.2	180.0	17.14	11.506	
2,500.0	2,378.6	2,511.1	2,418.1	9.4	8.7	117.96	-216.9	379.2	205.9	188.0	17.93	11.482	
2,600.0	2,455.1	2,609.8	2,501.2	10.2	9.3	120.03	-230.4	430.7	220.1	200.9	19.19	11.467	SF
2,700.0	2,531.5	2,708.5	2,584.4	11.1	10.0	121.86	-243.8	482.1	234.6	214.1	20.45	11.469	
2,800.0	2,608.0	2,807.2	2,667.5	12.0	10.7	123.47	-257.2	533.5	249.2	227.5	21.71	11.482	
2,900.0	2,684.5	2,905.9	2,750.7	12.9	11.4	124.90	-270.7	585.0	264.0	241.1	22.95	11.504	
3,000.0	2,760.9	3,004.5	2,833.8	13.8	12.2	126.19	-284.1	636.4	279.0	254.8	24.19	11.533	
3,100.0	2,837.4	3,103.2	2,917.0	14.8	12.9	127.34	-297.6	687.8	294.1	268.7	25.43	11.566	
3,200.0	2,913.9	3,201.9	3,000.1	15.7	13.6	128.37	-311.0	739.3	309.3	282.7	26.66	11.603	
3,300.0	2,990.3	3,300.6	3,083.3	16.6	14.4	129.31	-324.4	790.7	324.6	296.7	27.89	11.641	
3,400.0	3,066.8	3,399.3	3,166.4	17.6	15.1	130.17	-337.9	842.1	340.0	310.9	29.11	11.681	
3,500.0	3,143.3	3,498.0	3,249.6	18.5	15.9	130.95	-351.3	893.5	355.4	325.1	30.33	11.721	
3,600.0	3,219.8	3,596.7	3,332.7	19.5	16.7	131.67	-364.8	945.0	370.9	339.4	31.54	11.761	
3,700.0	3,296.2	3,695.4	3,415.9	20.5	17.4	132.33	-378.2	996.4	386.5	353.7	32.75	11.800	
3,800.0	3,372.7	3,794.1	3,499.0	21.4	18.2	132.94	-391.6	1,047.8	402.1	368.1	33.96	11.839	
3,900.0	3,449.2	3,892.7	3,582.1	22.4	19.0	133.50	-405.1	1,099.3	417.7	382.6	35.17	11.878	
4,000.0	3,525.6	3,991.4	3,665.3	23.4	19.7	134.02	-418.5	1,150.7	433.4	397.0	36.37	11.915	
4,100.0	3,602.1	4,090.1	3,748.4	24.4	20.5	134.51	-432.0	1,202.1	449.1	411.5	37.58	11.951	
4,200.0	3,678.6	4,188.8	3,831.6	25.3	21.3	134.96	-445.4	1,253.6	464.8	426.1	38.78	11.986	
4,300.0	3,755.0	4,287.5	3,914.7	26.3	22.1	135.38	-458.8	1,305.0	480.6	440.6	39.98	12.021	
4,400.0	3,831.5	4,386.2	3,997.9	27.3	22.9	135.78	-472.3	1,356.4	496.4	455.2	41.18	12.054	
4,500.0	3,908.0	4,484.9	4,081.0	28.3	23.6	136.15	-485.7	1,407.9	512.2	469.8	42.38	12.086	
4,600.0	3,984.4	4,583.6	4,164.2	29.3	24.4	136.50	-499.2	1,459.3	528.0	484.5	43.58	12.117	
4,700.0	4,060.9	4,682.3	4,247.3	30.2	25.2	136.83	-512.6	1,510.7	543.9	499.1	44.78	12.147	
4,800.0	4,137.4	4,781.0	4,330.5	31.2	26.0	137.14	-526.0	1,562.2	559.7	513.8	45.97	12.175	
4,900.0	4,213.8	4,879.6	4,413.6	32.2	26.8	137.44	-539.5	1,613.6	575.6	528.5	47.17	12.203	
5,000.0	4,290.3	4,978.3	4,496.8	33.2	27.6	137.72	-552.9	1,665.0	591.5	543.2	48.37	12.230	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-1CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	4,366.8	5,077.0	4,579.9	34.2	28.4	137.98	-566.4	1,716.5	607.4	557.9	49.56	12.256	
5,200.0	4,443.2	5,175.7	4,663.1	35.2	29.2	138.23	-579.8	1,767.9	623.3	572.6	50.76	12.281	
5,300.0	4,519.7	5,274.4	4,746.2	36.2	30.0	138.47	-593.2	1,819.3	639.3	587.3	51.95	12.305	
5,400.0	4,596.2	5,373.1	4,829.4	37.2	30.7	138.69	-606.7	1,870.7	655.2	602.1	53.14	12.329	
5,500.0	4,672.6	5,471.8	4,912.5	38.1	31.5	138.91	-620.1	1,922.2	671.2	616.8	54.34	12.351	
5,600.0	4,749.1	5,570.5	4,995.7	39.1	32.3	139.11	-633.6	1,973.6	687.1	631.6	55.53	12.373	
5,700.0	4,825.6	5,669.2	5,078.8	40.1	33.1	139.31	-647.0	2,025.0	703.1	646.4	56.73	12.394	
5,800.0	4,902.0	5,767.8	5,162.0	41.1	33.9	139.50	-660.4	2,076.5	719.1	661.1	57.92	12.415	
5,900.0	4,978.5	5,866.5	5,245.1	42.1	34.7	139.67	-673.9	2,127.9	735.0	675.9	59.11	12.435	
6,000.0	5,055.0	5,965.2	5,328.3	43.1	35.5	139.85	-687.3	2,179.3	751.0	690.7	60.31	12.454	
6,100.0	5,131.4	6,063.9	5,411.4	44.1	36.3	140.01	-700.8	2,230.8	767.0	705.5	61.50	12.472	
6,200.0	5,207.9	6,162.6	5,494.6	45.1	37.1	140.17	-714.2	2,282.2	783.0	720.3	62.69	12.490	
6,300.0	5,284.4	6,261.3	5,577.7	46.1	37.9	140.32	-727.6	2,333.6	799.0	735.1	63.88	12.507	
6,400.0	5,360.8	6,360.0	5,660.9	47.1	38.7	140.46	-741.1	2,385.1	815.0	750.0	65.08	12.524	
6,500.0	5,437.3	6,458.7	5,744.0	48.1	39.5	140.60	-754.5	2,436.5	831.0	764.8	66.27	12.540	
6,600.0	5,513.8	6,557.4	5,827.2	49.0	40.3	140.74	-768.0	2,487.9	847.1	779.6	67.46	12.556	
6,700.0	5,590.2	6,656.0	5,910.3	50.0	41.1	140.87	-781.4	2,539.4	863.1	794.4	68.65	12.571	
6,800.0	5,666.7	6,754.7	5,993.5	51.0	41.9	140.99	-794.8	2,590.8	879.1	809.3	69.85	12.586	
6,900.0	5,743.2	6,853.4	6,076.6	52.0	42.7	141.11	-808.3	2,642.2	895.1	824.1	71.04	12.601	
7,000.0	5,819.6	6,952.1	6,159.8	53.0	43.5	141.23	-821.7	2,693.7	911.2	839.0	72.23	12.615	
7,100.0	5,896.1	7,050.8	6,242.9	54.0	44.3	141.34	-835.2	2,745.1	927.2	853.8	73.42	12.628	
7,200.0	5,972.6	7,149.5	6,326.1	55.0	45.1	141.45	-848.6	2,796.5	943.3	868.7	74.62	12.641	
7,300.0	6,049.0	7,248.2	6,409.2	56.0	45.9	141.55	-862.0	2,848.0	959.3	883.5	75.81	12.654	
7,400.0	6,125.5	7,346.9	6,492.4	57.0	46.7	141.66	-875.5	2,899.4	975.4	898.4	77.00	12.667	
7,500.0	6,202.0	7,445.6	6,575.5	58.0	47.5	141.75	-888.9	2,950.8	991.4	913.2	78.19	12.679	
8,300.0	6,813.7	8,644.3	7,513.3	66.0	54.8	163.93	-610.8	3,530.9	996.5	936.1	60.41	16.495	
8,400.0	6,890.2	8,725.4	7,556.7	67.0	55.0	167.77	-547.8	3,557.8	987.6	930.0	57.60	17.147	
8,480.5	6,951.7	8,778.4	7,582.6	67.8	55.2	170.41	-504.5	3,573.8	984.9	928.8	56.06	17.567	
8,500.0	6,966.6	8,789.8	7,587.9	68.0	55.2	170.99	-494.9	3,577.1	984.9	929.1	55.77	17.661	
8,501.6	6,967.9	8,790.8	7,588.3	68.0	55.2	171.04	-494.1	3,577.3	984.9	929.2	55.74	17.668	
8,536.2	6,994.3	8,809.9	7,597.0	68.3	55.2	172.02	-477.9	3,582.7	985.6	930.4	55.28	17.830	
8,536.8	6,994.8	8,810.2	7,597.1	68.3	55.2	172.11	-477.6	3,582.8	985.7	930.4	55.27	17.833	
8,550.0	7,004.9	8,817.3	7,600.2	68.4	55.2	174.09	-471.6	3,584.7	986.2	931.1	55.11	17.894	
8,552.2	7,006.6	8,818.5	7,600.8	68.5	55.2	174.43	-470.5	3,585.0	986.3	931.2	55.09	17.905	
8,600.0	7,043.2	8,845.1	7,612.2	69.0	55.3	-178.23	-447.6	3,592.1	989.5	935.0	54.59	18.125	
8,602.2	7,044.9	8,846.4	7,612.7	69.0	55.3	-177.88	-446.5	3,592.4	989.7	935.2	54.57	18.136	
8,650.0	7,081.3	8,874.2	7,624.0	69.4	55.3	-170.45	-422.0	3,599.4	994.8	940.6	54.20	18.355	
8,652.2	7,083.0	8,875.5	7,624.5	69.5	55.3	-170.10	-420.8	3,599.7	995.0	940.9	54.18	18.365	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-1NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-11.54	154.6	-31.6	157.8				
100.0	100.0	100.0	100.0	1.0	1.0	-11.54	154.6	-31.6	157.8	155.9	1.96	80.609	
200.0	200.0	200.0	200.0	1.6	1.6	-11.54	154.6	-31.6	157.8	154.7	3.12	50.579	
300.0	300.0	300.0	300.0	2.0	2.0	-11.54	154.6	-31.6	157.8	153.9	3.96	39.841	
400.0	400.0	400.0	400.0	2.3	2.3	-11.54	154.6	-31.6	157.8	153.2	4.66	33.878	
500.0	500.0	500.0	500.0	2.6	2.6	-11.54	154.6	-31.6	157.8	152.6	5.27	29.952	
600.0	600.0	600.0	600.0	2.9	2.9	-11.54	154.6	-31.6	157.8	152.0	5.82	27.114	
700.0	700.0	700.0	700.0	3.2	3.2	-11.54	154.6	-31.6	157.8	151.5	6.33	24.939	
800.0	800.0	800.0	800.0	3.4	3.4	-11.54	154.6	-31.6	157.8	151.0	6.80	23.201	
900.0	900.0	900.0	900.0	3.6	3.6	-11.54	154.6	-31.6	157.8	150.6	7.25	21.772	
1,000.0	1,000.0	1,000.0	1,000.0	3.8	3.8	-11.54	154.6	-31.6	157.8	150.2	7.67	20.568	
1,100.0	1,100.0	1,100.0	1,100.0	4.0	4.0	-11.54	154.6	-31.6	157.8	149.8	8.08	19.537	CC, ES
1,200.0	1,200.0	1,200.0	1,200.0	4.5	4.2	-107.85	154.6	-31.6	158.6	150.1	8.49	18.685	
1,300.0	1,299.6	1,302.4	1,302.3	5.0	4.7	-109.60	154.5	-28.8	160.3	151.4	8.91	17.991	
1,400.0	1,398.8	1,405.0	1,404.6	5.4	5.2	-111.24	153.9	-20.6	162.3	153.0	9.34	17.377	
1,500.0	1,497.1	1,508.0	1,506.7	5.8	5.6	-112.77	153.0	-6.9	164.5	154.7	9.79	16.801	
1,600.0	1,594.3	1,611.2	1,608.1	6.1	5.9	-114.19	151.6	12.4	166.8	156.6	10.27	16.245	
1,700.0	1,690.2	1,714.8	1,708.5	6.5	6.3	-115.49	150.0	37.2	169.3	158.5	10.79	15.692	
1,800.0	1,784.4	1,818.5	1,807.8	6.8	6.6	-116.66	147.9	67.5	172.0	160.6	11.37	15.129	
1,900.0	1,876.8	1,922.5	1,905.4	7.1	7.0	-117.72	145.5	103.2	174.7	162.7	12.01	14.546	
2,000.0	1,967.1	2,026.8	2,001.2	7.4	7.3	-118.66	142.7	144.2	177.5	164.8	12.73	13.939	
2,100.0	2,054.9	2,131.3	2,094.8	7.7	7.6	-119.49	139.5	190.5	180.3	166.8	13.55	13.309	
2,104.4	2,058.8	2,135.9	2,098.9	7.7	7.6	-119.52	139.4	192.7	180.5	166.9	13.59	13.279	
2,200.0	2,140.2	2,236.0	2,185.9	7.9	7.9	-120.19	136.0	241.9	183.2	168.8	14.47	12.660	
2,204.4	2,143.9	2,240.6	2,189.9	7.9	7.9	-120.22	135.9	244.3	183.4	168.8	14.52	12.631	
2,300.0	2,222.6	2,340.1	2,273.6	8.2	8.1	-120.80	132.2	297.9	186.1	170.7	15.47	12.029	
2,304.4	2,226.2	2,344.6	2,277.3	8.2	8.1	-120.83	132.0	300.4	186.3	170.8	15.53	11.999	
2,400.0	2,301.9	2,439.9	2,356.6	8.6	8.3	-122.13	128.4	353.3	190.8	174.2	16.59	11.505	
2,401.7	2,303.2	2,441.6	2,358.0	8.6	8.3	-122.17	128.4	354.2	190.9	174.3	16.60	11.499	
2,437.4	2,330.8	2,477.1	2,387.5	8.9	8.5	-122.93	127.0	373.9	193.3	176.4	16.98	11.385	
2,500.0	2,378.6	2,539.3	2,439.2	9.4	8.9	-124.46	124.7	408.4	198.0	180.3	17.65	11.216	
2,600.0	2,455.1	2,638.7	2,521.8	10.2	9.6	-126.77	120.9	463.5	205.7	186.9	18.73	10.980	
2,700.0	2,531.5	2,738.0	2,604.4	11.1	10.3	-128.91	117.2	518.6	213.7	193.9	19.78	10.800	
2,800.0	2,608.0	2,837.4	2,687.0	12.0	11.0	-130.89	113.4	573.7	222.0	201.1	20.81	10.668	
2,900.0	2,684.5	2,936.8	2,769.7	12.9	11.8	-132.72	109.7	628.8	230.5	208.7	21.80	10.574	
2,904.4	2,687.9	2,941.2	2,773.3	12.9	11.8	-132.80	109.5	631.2	230.9	209.0	21.84	10.571	
3,000.0	2,760.9	3,036.2	2,852.3	13.8	12.5	-134.43	105.9	683.9	239.2	216.5	22.75	10.513	
3,004.4	2,764.4	3,040.6	2,855.9	13.9	12.6	-134.50	105.8	686.3	239.6	216.8	22.80	10.511	
3,100.0	2,837.4	3,135.5	2,934.9	14.8	13.3	-136.01	102.2	739.0	248.2	224.5	23.68	10.478	
3,104.4	2,840.8	3,140.0	2,938.5	14.8	13.3	-136.08	102.0	741.4	248.6	224.8	23.73	10.477	
3,200.0	2,913.9	3,234.9	3,017.5	15.7	14.1	-137.49	98.4	794.1	257.3	232.7	24.59	10.464	
3,204.4	2,917.3	3,239.3	3,021.2	15.7	14.1	-137.55	98.3	796.6	257.7	233.1	24.63	10.464	SF
3,300.0	2,990.3	3,334.3	3,100.1	16.6	14.9	-138.86	94.7	849.2	266.6	241.1	25.46	10.468	
3,304.4	2,993.8	3,338.7	3,103.8	16.7	14.9	-138.92	94.5	851.7	267.0	241.5	25.50	10.468	
3,400.0	3,066.8	3,433.7	3,182.7	17.6	15.6	-140.14	90.9	904.3	276.0	249.6	26.32	10.486	
3,404.4	3,070.2	3,438.1	3,186.4	17.6	15.7	-140.19	90.8	906.8	276.4	250.0	26.36	10.487	
3,500.0	3,143.3	3,533.0	3,265.3	18.5	16.4	-141.33	87.2	959.4	285.5	258.4	27.15	10.515	
3,504.4	3,146.7	3,537.4	3,269.0	18.6	16.5	-141.38	87.0	961.9	285.9	258.7	27.19	10.516	
3,600.0	3,219.8	3,632.4	3,347.9	19.5	17.2	-142.45	83.4	1,014.5	295.2	267.2	27.97	10.554	
3,604.4	3,223.2	3,636.8	3,351.6	19.6	17.3	-142.50	83.3	1,017.0	295.6	267.6	28.00	10.555	
3,700.0	3,296.2	3,731.8	3,430.5	20.5	18.0	-143.50	79.7	1,069.6	304.9	276.2	28.77	10.600	
3,704.4	3,299.6	3,736.2	3,434.2	20.5	18.1	-143.54	79.5	1,072.1	305.4	276.6	28.80	10.602	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-1NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
3,800.0	3,372.7	3,831.1	3,513.1	21.4	18.8	-144.48	75.9	1,124.7	314.8	285.2	29.55	10.652	
3,804.4	3,376.1	3,835.6	3,516.8	21.5	18.9	-144.52	75.8	1,127.2	315.2	285.6	29.59	10.654	
3,900.0	3,449.2	3,930.5	3,595.8	22.4	19.6	-145.40	72.2	1,179.8	324.7	294.4	30.32	10.709	
3,904.4	3,452.6	3,934.9	3,599.4	22.5	19.7	-145.44	72.0	1,182.3	325.2	294.8	30.36	10.712	
4,000.0	3,525.6	4,029.9	3,678.4	23.4	20.5	-146.27	68.4	1,234.9	334.8	303.7	31.08	10.770	
4,004.4	3,529.0	4,034.3	3,682.0	23.4	20.5	-146.30	68.3	1,237.4	335.2	304.1	31.12	10.772	
4,100.0	3,602.1	4,129.3	3,761.0	24.4	21.3	-147.08	64.7	1,290.0	344.9	313.0	31.83	10.833	
4,104.4	3,605.5	4,133.7	3,764.6	24.4	21.3	-147.12	64.5	1,292.5	345.3	313.4	31.87	10.836	
4,200.0	3,678.6	4,228.6	3,843.6	25.3	22.1	-147.85	60.9	1,345.1	355.0	322.4	32.57	10.899	
4,204.4	3,682.0	4,233.1	3,847.3	25.4	22.1	-147.89	60.8	1,347.6	355.5	322.9	32.61	10.902	
4,300.0	3,755.0	4,328.0	3,926.2	26.3	22.9	-148.58	57.2	1,400.2	365.2	331.9	33.30	10.966	
4,304.4	3,758.4	4,332.4	3,929.9	26.4	22.9	-148.61	57.0	1,402.7	365.7	332.4	33.34	10.969	
4,400.0	3,831.5	4,427.4	4,008.8	27.3	23.7	-149.27	53.4	1,455.3	375.5	341.5	34.03	11.035	
4,404.4	3,834.9	4,431.8	4,012.5	27.3	23.7	-149.30	53.3	1,457.8	376.0	341.9	34.06	11.038	
4,500.0	3,908.0	4,526.7	4,091.4	28.3	24.5	-149.92	49.7	1,510.4	385.8	351.1	34.75	11.104	
4,504.4	3,911.4	4,531.2	4,095.1	28.3	24.6	-149.95	49.5	1,512.9	386.3	351.5	34.78	11.107	
4,600.0	3,984.4	4,626.1	4,174.0	29.3	25.3	-150.54	45.9	1,565.5	396.2	360.7	35.46	11.173	
4,604.4	3,987.8	4,630.5	4,177.7	29.3	25.4	-150.56	45.8	1,568.0	396.7	361.2	35.49	11.177	
4,700.0	4,060.9	4,725.5	4,256.6	30.2	26.2	-151.12	42.2	1,620.6	406.6	370.5	36.17	11.243	
4,704.4	4,064.3	4,729.9	4,260.3	30.3	26.2	-151.15	42.0	1,623.1	407.1	370.9	36.20	11.246	
4,800.0	4,137.4	4,824.9	4,339.2	31.2	27.0	-151.68	38.4	1,675.8	417.1	380.2	36.87	11.312	
4,804.4	4,140.8	4,829.3	4,342.9	31.3	27.0	-151.70	38.3	1,678.2	417.5	380.6	36.90	11.315	
4,900.0	4,213.8	4,924.2	4,421.9	32.2	27.8	-152.21	34.7	1,730.9	427.6	390.0	37.57	11.381	
4,904.4	4,217.2	4,928.7	4,425.5	32.3	27.8	-152.23	34.5	1,733.3	428.0	390.4	37.60	11.384	
5,000.0	4,290.3	5,023.6	4,504.5	33.2	28.6	-152.71	30.9	1,786.0	438.1	399.8	38.26	11.449	
5,004.4	4,293.7	5,028.0	4,508.1	33.2	28.7	-152.73	30.8	1,788.4	438.6	400.3	38.30	11.452	
5,100.0	4,366.8	5,123.0	4,587.1	34.2	29.5	-153.19	27.2	1,841.1	448.7	409.7	38.96	11.517	
5,104.4	4,370.2	5,127.4	4,590.7	34.2	29.5	-153.21	27.0	1,843.5	449.1	410.1	38.99	11.520	
5,200.0	4,443.2	5,222.4	4,669.7	35.2	30.3	-153.65	23.4	1,896.2	459.2	419.6	39.65	11.583	
5,204.4	4,446.6	5,226.8	4,673.4	35.2	30.3	-153.67	23.3	1,898.6	459.7	420.0	39.68	11.586	
5,300.0	4,519.7	5,321.7	4,752.3	36.2	31.1	-154.08	19.7	1,951.3	469.9	429.5	40.33	11.649	
5,304.4	4,523.1	5,326.1	4,756.0	36.2	31.1	-154.10	19.5	1,953.7	470.3	430.0	40.36	11.652	
5,400.0	4,596.2	5,421.1	4,834.9	37.2	31.9	-154.50	15.9	2,006.4	480.5	439.5	41.02	11.714	
5,404.4	4,599.6	5,425.5	4,838.6	37.2	32.0	-154.52	15.8	2,008.8	481.0	439.9	41.05	11.717	
5,500.0	4,672.6	5,520.5	4,917.5	38.1	32.8	-154.90	12.2	2,061.5	491.2	449.5	41.70	11.778	
5,504.4	4,676.0	5,524.9	4,921.2	38.2	32.8	-154.92	12.0	2,063.9	491.6	449.9	41.73	11.781	
5,600.0	4,749.1	5,619.8	5,000.1	39.1	33.6	-155.29	8.4	2,116.6	501.9	459.5	42.38	11.841	
5,604.4	4,752.5	5,624.3	5,003.8	39.2	33.6	-155.30	8.3	2,119.0	502.3	459.9	42.41	11.843	
5,700.0	4,825.6	5,719.2	5,082.7	40.1	34.4	-155.65	4.7	2,171.7	512.6	469.5	43.07	11.902	
5,704.4	4,829.0	5,723.6	5,086.4	40.2	34.4	-155.67	4.5	2,174.1	513.0	469.9	43.10	11.905	
5,800.0	4,902.0	5,818.6	5,165.3	41.1	35.2	-156.00	0.9	2,226.8	523.3	479.6	43.74	11.962	
5,804.4	4,905.4	5,823.0	5,169.0	41.2	35.3	-156.02	0.8	2,229.2	523.8	480.0	43.77	11.965	
5,900.0	4,978.5	5,918.0	5,248.0	42.1	36.1	-156.34	-2.8	2,281.9	534.0	489.6	44.42	12.022	
5,904.4	4,981.9	5,922.4	5,251.6	42.1	36.1	-156.36	-3.0	2,284.3	534.5	490.1	44.45	12.024	
6,000.0	5,055.0	6,017.3	5,330.6	43.1	36.9	-156.67	-6.6	2,337.0	544.8	499.7	45.10	12.080	
6,004.4	5,058.4	6,021.8	5,334.2	43.1	36.9	-156.68	-6.7	2,339.4	545.3	500.2	45.13	12.082	
6,100.0	5,131.4	6,116.7	5,413.2	44.1	37.7	-156.98	-10.3	2,392.1	555.6	509.8	45.78	12.137	
6,104.4	5,134.8	6,121.1	5,416.8	44.1	37.8	-156.99	-10.5	2,394.5	556.1	510.3	45.81	12.139	
6,200.0	5,207.9	6,216.1	5,495.8	45.1	38.6	-157.28	-14.1	2,447.2	566.4	519.9	46.45	12.193	
6,204.4	5,211.3	6,220.5	5,499.5	45.1	38.6	-157.29	-14.2	2,449.7	566.9	520.4	46.48	12.195	
6,300.0	5,284.4	6,315.4	5,578.4	46.1	39.4	-157.57	-17.8	2,502.3	577.2	530.1	47.13	12.247	
6,304.4	5,287.8	6,319.9	5,582.1	46.1	39.4	-157.58	-18.0	2,504.8	577.7	530.5	47.16	12.250	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-1NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,400.0	5,360.8	6,414.8	5,661.0	47.1	40.2	-157.84	-21.6	2,557.4	588.0	540.2	47.81	12.301	
6,404.4	5,364.2	6,419.2	5,664.7	47.1	40.3	-157.86	-21.7	2,559.9	588.5	540.7	47.84	12.303	
6,500.0	5,437.3	6,514.2	5,743.6	48.1	41.0	-158.11	-25.3	2,612.5	598.9	550.4	48.48	12.353	
6,504.4	5,440.7	6,518.6	5,747.3	48.1	41.1	-158.12	-25.5	2,615.0	599.4	550.8	48.51	12.355	
6,600.0	5,513.8	6,613.6	5,826.2	49.0	41.9	-158.37	-29.1	2,667.6	609.7	560.6	49.16	12.404	
6,604.4	5,517.2	6,618.0	5,829.9	49.1	41.9	-158.38	-29.2	2,670.1	610.2	561.0	49.19	12.406	
6,700.0	5,590.2	6,712.9	5,908.8	50.0	42.7	-158.62	-32.8	2,722.7	620.6	570.8	49.83	12.454	
6,704.4	5,593.6	6,717.4	5,912.5	50.1	42.7	-158.63	-33.0	2,725.2	621.1	571.2	49.86	12.456	
6,800.0	5,666.7	6,812.3	5,991.4	51.0	43.5	-158.86	-36.6	2,777.8	631.5	581.0	50.50	12.503	
6,804.4	5,670.1	6,816.7	5,995.1	51.1	43.6	-158.87	-36.7	2,780.3	632.0	581.4	50.53	12.505	
6,900.0	5,743.2	6,911.7	6,074.1	52.0	44.4	-159.09	-40.3	2,832.9	642.4	591.2	51.18	12.551	
6,904.4	5,746.6	6,916.1	6,077.7	52.1	44.4	-159.10	-40.5	2,835.4	642.8	591.6	51.21	12.553	
7,000.0	5,819.6	7,011.1	6,156.7	53.0	45.2	-159.32	-44.1	2,888.0	653.3	601.4	51.85	12.598	
7,004.4	5,823.0	7,015.5	6,160.3	53.1	45.2	-159.33	-44.3	2,890.5	653.7	601.9	51.88	12.600	
7,100.0	5,896.1	7,110.4	6,239.3	54.0	46.0	-159.54	-47.8	2,943.1	664.2	611.6	52.53	12.644	
7,104.4	5,899.5	7,114.8	6,243.0	54.1	46.1	-159.55	-48.0	2,945.6	664.6	612.1	52.56	12.646	
7,200.0	5,972.6	7,209.8	6,321.9	55.0	46.9	-159.75	-51.6	2,998.2	675.1	621.9	53.20	12.689	
7,204.4	5,976.0	7,214.2	6,325.6	55.1	46.9	-159.76	-51.8	3,000.7	675.6	622.3	53.23	12.691	
7,300.0	6,049.0	7,309.2	6,404.5	56.0	47.7	-159.95	-55.3	3,053.3	686.0	632.1	53.88	12.733	
7,304.4	6,052.4	7,313.6	6,408.2	56.1	47.7	-159.96	-55.5	3,055.8	686.5	632.6	53.91	12.735	
7,400.0	6,125.5	7,408.5	6,487.1	57.0	48.5	-160.15	-59.1	3,108.4	696.9	642.4	54.55	12.776	
7,404.4	6,128.9	7,413.0	6,490.8	57.0	48.6	-160.16	-59.3	3,110.9	697.4	642.8	54.58	12.777	
7,500.0	6,202.0	7,507.9	6,569.7	58.0	49.4	-160.34	-62.8	3,163.5	707.9	652.6	55.23	12.818	
7,504.4	6,205.4	7,512.3	6,573.4	58.0	49.4	-160.35	-63.0	3,166.0	708.4	653.1	55.26	12.819	
7,600.0	6,278.4	7,607.3	6,652.3	59.0	50.2	-160.53	-66.6	3,218.6	718.8	662.9	55.90	12.859	
7,604.4	6,281.8	7,611.7	6,656.0	59.0	50.2	-160.53	-66.8	3,221.1	719.3	663.4	55.93	12.860	
7,700.0	6,354.9	7,706.7	6,734.9	60.0	51.0	-160.71	-70.3	3,273.7	729.8	673.2	56.58	12.899	
7,704.4	6,358.3	7,711.1	6,738.6	60.0	51.1	-160.71	-70.5	3,276.2	730.3	673.7	56.61	12.900	
7,800.0	6,431.4	7,803.5	6,815.4	61.0	51.8	-160.88	-74.0	3,327.4	740.7	683.5	57.24	12.941	
7,804.4	6,434.8	7,803.5	6,815.4	61.0	51.8	-160.88	-74.0	3,327.4	741.3	684.0	57.25	12.948	
7,900.0	6,507.8	7,870.2	6,870.9	62.0	52.4	-160.72	-72.6	3,364.4	754.1	696.1	58.01	13.000	
8,000.0	6,584.3	7,933.3	6,922.9	63.0	52.9	-160.08	-64.2	3,399.1	772.0	712.8	59.16	13.050	
8,100.0	6,660.8	8,000.0	6,976.7	64.0	53.4	-158.92	-47.9	3,435.0	794.7	733.9	60.84	13.062	
8,200.0	6,737.2	8,050.0	7,015.7	65.0	53.8	-157.76	-30.8	3,461.0	822.3	760.1	62.17	13.226	
8,300.0	6,813.7	8,100.0	7,053.4	66.0	54.2	-156.39	-9.7	3,486.2	855.2	791.6	63.60	13.447	
8,400.0	6,890.2	8,150.0	7,089.4	67.0	54.5	-154.84	15.3	3,510.2	893.6	828.5	65.11	13.724	
8,500.0	6,966.6	8,186.2	7,114.3	68.0	54.7	-153.62	35.7	3,526.8	937.2	871.5	65.74	14.257	
8,536.2	6,994.3	8,200.0	7,123.5	68.3	54.8	-153.13	44.0	3,532.9	954.3	888.3	65.99	14.462	
8,550.0	7,004.9	8,200.0	7,123.5	68.4	54.8	-150.84	44.0	3,532.9	961.0	895.3	65.71	14.625	
8,600.0	7,043.2	8,224.1	7,139.1	69.0	54.9	-141.89	59.0	3,543.4	984.4	918.2	66.21	14.869	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-1NBH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.59	-0.3	-30.0	30.0				
100.0	100.0	100.0	100.0	1.0	1.0	-90.59	-0.3	-30.0	30.0	28.0	1.96	15.318	
200.0	200.0	200.0	200.0	1.6	1.6	-90.59	-0.3	-30.0	30.0	26.9	3.12	9.611	
300.0	300.0	300.0	300.0	2.0	2.0	-90.59	-0.3	-30.0	30.0	26.0	3.96	7.571	
400.0	400.0	400.0	400.0	2.3	2.3	-90.59	-0.3	-30.0	30.0	25.3	4.66	6.438	
500.0	500.0	500.0	500.0	2.6	2.6	-90.59	-0.3	-30.0	30.0	24.7	5.27	5.692	
600.0	600.0	600.0	600.0	2.9	2.9	-90.59	-0.3	-30.0	30.0	24.2	5.82	5.152	
700.0	700.0	700.0	700.0	3.2	3.2	-90.59	-0.3	-30.0	30.0	23.7	6.33	4.739	
800.0	800.0	800.0	800.0	3.4	3.4	-90.59	-0.3	-30.0	30.0	23.2	6.80	4.409	
900.0	900.0	900.0	900.0	3.6	3.6	-90.59	-0.3	-30.0	30.0	22.7	7.25	4.137	
1,000.0	1,000.0	1,000.0	1,000.0	3.8	3.8	-90.59	-0.3	-30.0	30.0	22.3	7.67	3.908	
1,100.0	1,100.0	1,100.0	1,100.0	4.0	4.0	-90.59	-0.3	-30.0	30.0	21.9	8.08	3.712	CC, ES
1,200.0	1,200.0	1,200.0	1,200.0	4.5	4.2	174.45	-0.3	-30.0	32.6	23.8	8.76	3.720	
1,300.0	1,299.6	1,301.7	1,301.6	5.0	4.7	175.04	-0.7	-27.3	37.8	28.1	9.67	3.906	
1,400.0	1,398.8	1,403.7	1,403.3	5.4	5.1	175.17	-1.8	-19.2	42.9	32.4	10.49	4.091	
1,500.0	1,497.1	1,506.0	1,504.7	5.8	5.6	174.99	-3.7	-5.8	47.9	36.7	11.23	4.266	
1,600.0	1,594.3	1,608.5	1,605.4	6.1	5.9	174.57	-6.3	13.1	52.8	40.9	11.92	4.431	
1,700.0	1,690.2	1,711.4	1,705.3	6.5	6.3	173.99	-9.6	37.4	57.7	45.1	12.57	4.587	
1,800.0	1,784.4	1,814.4	1,803.9	6.8	6.6	173.27	-13.7	67.1	62.3	49.2	13.17	4.734	
1,900.0	1,876.8	1,917.8	1,901.0	7.1	7.0	172.44	-18.5	102.1	66.9	53.2	13.74	4.870	
2,000.0	1,967.1	2,021.4	1,996.3	7.4	7.3	171.51	-24.1	142.3	71.3	57.1	14.28	4.996	
2,004.4	1,971.0	2,026.0	2,000.5	7.4	7.3	171.47	-24.4	144.2	71.5	57.2	14.30	5.001	
2,100.0	2,054.9	2,125.2	2,089.4	7.7	7.6	170.51	-30.4	187.7	75.6	60.8	14.80	5.110	
2,104.4	2,058.8	2,129.8	2,093.5	7.7	7.6	170.46	-30.7	189.8	75.8	61.0	14.83	5.115	
2,200.0	2,140.2	2,229.2	2,180.1	7.9	7.8	169.43	-37.3	238.2	79.8	64.5	15.31	5.211	
2,204.4	2,143.9	2,233.9	2,184.1	7.9	7.9	169.38	-37.6	240.5	80.0	64.6	15.33	5.215	
2,300.0	2,222.6	2,333.5	2,268.1	8.2	8.1	168.29	-45.0	293.5	83.8	68.0	15.83	5.294	
2,304.4	2,226.2	2,338.1	2,272.0	8.2	8.1	168.24	-45.3	296.1	84.0	68.1	15.85	5.297	
2,400.0	2,301.9	2,436.5	2,352.0	8.6	8.4	167.15	-53.1	352.6	87.9	71.5	16.38	5.367	
2,401.7	2,303.2	2,438.1	2,353.4	8.6	8.4	167.13	-53.3	353.6	88.0	71.6	16.39	5.370	
2,437.4	2,330.8	2,473.8	2,382.2	8.9	8.5	166.87	-56.1	374.4	90.3	73.8	16.54	5.462	
2,440.2	2,332.9	2,476.6	2,384.5	8.9	8.5	166.86	-56.4	376.1	90.5	74.0	16.55	5.470	
2,500.0	2,378.6	2,536.2	2,432.6	9.4	9.0	166.55	-61.2	410.9	95.0	78.1	16.82	5.645	
2,504.4	2,382.0	2,540.6	2,436.2	9.4	9.0	166.53	-61.5	413.5	95.3	78.4	16.84	5.657	
2,600.0	2,455.1	2,635.9	2,513.1	10.2	9.7	166.10	-69.2	469.1	102.4	85.0	17.33	5.907	
2,604.4	2,458.5	2,640.4	2,516.7	10.3	9.7	166.08	-69.6	471.7	102.7	85.3	17.35	5.918	
2,700.0	2,531.5	2,735.7	2,593.7	11.1	10.5	165.71	-77.2	527.4	109.8	91.9	17.87	6.143	
2,704.4	2,535.0	2,740.1	2,597.3	11.1	10.5	165.70	-77.6	530.0	110.1	92.2	17.89	6.152	
2,800.0	2,608.0	2,835.4	2,674.2	12.0	11.3	165.37	-85.3	585.6	117.2	98.7	18.44	6.354	
2,804.4	2,611.4	2,839.8	2,677.8	12.0	11.3	165.36	-85.6	588.2	117.5	99.0	18.47	6.363	
2,900.0	2,684.5	2,935.1	2,754.8	12.9	12.1	165.07	-93.3	643.9	124.6	105.5	19.04	6.542	
2,904.4	2,687.9	2,939.5	2,758.4	12.9	12.1	165.06	-93.7	646.5	124.9	105.8	19.07	6.550	
3,000.0	2,760.9	3,034.8	2,835.3	13.8	12.9	164.81	-101.4	702.1	132.0	112.3	19.67	6.711	
3,004.4	2,764.4	3,039.3	2,838.9	13.9	12.9	164.80	-101.7	704.7	132.3	112.6	19.69	6.718	
3,100.0	2,837.4	3,134.5	2,915.9	14.8	13.7	164.57	-109.4	760.4	139.4	119.1	20.32	6.861	
3,104.4	2,840.8	3,139.0	2,919.4	14.8	13.7	164.56	-109.8	763.0	139.7	119.4	20.35	6.867	
3,200.0	2,913.9	3,234.3	2,996.4	15.7	14.5	164.36	-117.4	818.6	146.8	125.8	20.99	6.994	
3,204.4	2,917.3	3,238.7	3,000.0	15.7	14.6	164.35	-117.8	821.2	147.1	126.1	21.02	6.999	
3,300.0	2,990.3	3,334.0	3,076.9	16.6	15.4	164.16	-125.5	876.9	154.2	132.5	21.68	7.112	
3,304.4	2,993.8	3,338.4	3,080.5	16.7	15.4	164.15	-125.8	879.5	154.6	132.8	21.71	7.117	
3,400.0	3,066.8	3,433.7	3,157.5	17.6	16.2	163.99	-133.5	935.1	161.6	139.2	22.39	7.218	
3,404.4	3,070.2	3,438.2	3,161.1	17.6	16.3	163.98	-133.9	937.7	162.0	139.5	22.43	7.222	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-1NBH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Rule Assigned:

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
3,500.0	3,143.3	3,533.4	3,238.0	18.5	17.1	163.83	-141.6	993.4	169.1	145.9	23.12	7.312	
3,504.4	3,146.7	3,537.9	3,241.6	18.6	17.1	163.82	-141.9	996.0	169.4	146.2	23.16	7.315	
3,600.0	3,219.8	3,633.2	3,318.6	19.5	17.9	163.68	-149.6	1,051.6	176.5	152.6	23.87	7.395	
3,604.4	3,223.2	3,637.6	3,322.2	19.6	18.0	163.67	-150.0	1,054.2	176.8	152.9	23.90	7.398	
3,700.0	3,296.2	3,732.9	3,399.1	20.5	18.8	163.55	-157.6	1,109.9	183.9	159.3	24.62	7.469	
3,704.4	3,299.6	3,737.3	3,402.7	20.5	18.8	163.54	-158.0	1,112.4	184.2	159.6	24.66	7.472	
3,800.0	3,372.7	3,832.6	3,479.7	21.4	19.7	163.42	-165.7	1,168.1	191.3	165.9	25.39	7.535	
3,804.4	3,376.1	3,837.0	3,483.3	21.5	19.7	163.42	-166.0	1,170.7	191.7	166.2	25.43	7.538	
3,900.0	3,449.2	3,932.3	3,560.2	22.4	20.5	163.31	-173.7	1,226.4	198.8	172.6	26.17	7.594	
3,904.4	3,452.6	3,936.8	3,563.8	22.5	20.6	163.30	-174.1	1,228.9	199.1	172.9	26.21	7.597	
4,000.0	3,525.6	4,032.1	3,640.8	23.4	21.4	163.20	-181.8	1,284.6	206.2	179.2	26.96	7.647	
4,004.4	3,529.0	4,036.5	3,644.3	23.4	21.4	163.20	-182.1	1,287.2	206.5	179.5	27.00	7.649	
4,100.0	3,602.1	4,131.8	3,721.3	24.4	22.3	163.10	-189.8	1,342.8	213.6	185.8	27.76	7.694	
4,104.4	3,605.5	4,136.2	3,724.9	24.4	22.3	163.10	-190.2	1,345.4	213.9	186.1	27.80	7.696	
4,200.0	3,678.6	4,231.5	3,801.8	25.3	23.2	163.01	-197.9	1,401.1	221.0	192.5	28.57	7.736	
4,204.4	3,682.0	4,235.9	3,805.4	25.4	23.2	163.00	-198.2	1,403.7	221.4	192.8	28.61	7.738	
4,300.0	3,755.0	4,331.2	3,882.4	26.3	24.0	162.92	-205.9	1,459.3	228.5	199.1	29.39	7.773	
4,304.4	3,758.4	4,335.7	3,886.0	26.4	24.1	162.92	-206.2	1,461.9	228.8	199.4	29.43	7.775	
4,400.0	3,831.5	4,430.9	3,962.9	27.3	24.9	162.84	-213.9	1,517.6	235.9	205.7	30.21	7.807	
4,404.4	3,834.9	4,435.4	3,966.5	27.3	24.9	162.84	-214.3	1,520.2	236.2	206.0	30.25	7.808	
4,500.0	3,908.0	4,530.7	4,043.5	28.3	25.8	162.76	-222.0	1,575.8	243.3	212.3	31.05	7.837	
4,504.4	3,911.4	4,535.1	4,047.1	28.3	25.8	162.76	-222.3	1,578.4	243.6	212.6	31.08	7.838	
4,600.0	3,984.4	4,630.4	4,124.0	29.3	26.7	162.69	-230.0	1,634.1	250.7	218.9	31.88	7.864	
4,604.4	3,987.8	4,634.8	4,127.6	29.3	26.7	162.69	-230.4	1,636.7	251.1	219.2	31.92	7.865	
4,700.0	4,060.9	4,730.1	4,204.6	30.2	27.6	162.63	-238.1	1,692.3	258.2	225.4	32.73	7.888	
4,704.4	4,064.3	4,734.6	4,208.1	30.3	27.6	162.62	-238.4	1,694.9	258.5	225.7	32.77	7.889	
4,800.0	4,137.4	4,829.8	4,285.1	31.2	28.4	162.56	-246.1	1,750.6	265.6	232.0	33.58	7.910	
4,804.4	4,140.8	4,834.3	4,288.7	31.3	28.5	162.56	-246.5	1,753.2	265.9	232.3	33.62	7.911	
4,900.0	4,213.8	4,929.6	4,365.6	32.2	29.3	162.50	-254.1	1,808.8	273.0	238.6	34.43	7.930	
4,904.4	4,217.2	4,934.0	4,369.2	32.3	29.4	162.50	-254.5	1,811.4	273.4	238.9	34.47	7.931	
5,000.0	4,290.3	5,029.3	4,446.2	33.2	30.2	162.44	-262.2	1,867.1	280.5	245.2	35.29	7.947	
5,004.4	4,293.7	5,033.7	4,449.8	33.2	30.2	162.44	-262.5	1,869.7	280.8	245.5	35.33	7.948	
5,100.0	4,366.8	5,129.0	4,526.7	34.2	31.1	162.39	-270.2	1,925.3	287.9	251.7	36.15	7.963	
5,104.4	4,370.2	5,133.4	4,530.3	34.2	31.1	162.39	-270.6	1,927.9	288.2	252.0	36.19	7.964	
5,200.0	4,443.2	5,228.7	4,607.3	35.2	32.0	162.34	-278.3	1,983.6	295.3	258.3	37.02	7.977	
5,204.4	4,446.6	5,233.2	4,610.9	35.2	32.0	162.34	-278.6	1,986.2	295.7	258.6	37.06	7.978	
5,300.0	4,519.7	5,328.5	4,687.8	36.2	32.9	162.29	-286.3	2,041.8	302.8	264.9	37.89	7.990	
5,304.4	4,523.1	5,332.9	4,691.4	36.2	32.9	162.29	-286.7	2,044.4	303.1	265.2	37.93	7.991	
5,400.0	4,596.2	5,428.2	4,768.4	37.2	33.8	162.24	-294.3	2,100.1	310.2	271.4	38.77	8.002	
5,404.4	4,599.6	5,432.6	4,772.0	37.2	33.8	162.24	-294.7	2,102.7	310.5	271.7	38.80	8.002	
5,500.0	4,672.6	5,527.9	4,848.9	38.1	34.6	162.20	-302.4	2,158.3	317.6	278.0	39.64	8.012	
5,504.4	4,676.0	5,532.3	4,852.5	38.2	34.7	162.20	-302.7	2,160.9	317.9	278.3	39.68	8.012	
5,600.0	4,749.1	5,627.6	4,929.5	39.1	35.5	162.16	-310.4	2,216.6	325.0	284.5	40.52	8.021	
5,604.4	4,752.5	5,632.1	4,933.0	39.2	35.6	162.15	-310.8	2,219.2	325.4	284.8	40.56	8.022	
5,700.0	4,825.6	5,727.3	5,010.0	40.1	36.4	162.12	-318.5	2,274.8	332.5	291.1	41.41	8.029	
5,704.4	4,829.0	5,731.8	5,013.6	40.2	36.5	162.11	-318.8	2,277.4	332.8	291.4	41.45	8.030	
5,800.0	4,902.0	5,827.1	5,090.5	41.1	37.3	162.08	-326.5	2,333.1	339.9	297.6	42.29	8.037	
5,804.4	4,905.4	5,831.5	5,094.1	41.2	37.4	162.08	-326.9	2,335.6	340.2	297.9	42.33	8.037	
5,900.0	4,978.5	5,926.8	5,171.1	42.1	38.2	162.04	-334.5	2,391.3	347.3	304.2	43.18	8.044	
5,904.4	4,981.9	5,931.2	5,174.7	42.1	38.2	162.04	-334.9	2,393.9	347.7	304.4	43.22	8.044	
6,000.0	5,055.0	6,026.5	5,251.6	43.1	39.1	162.00	-342.6	2,449.6	354.8	310.7	44.07	8.050	
6,004.4	5,058.4	6,031.0	5,255.2	43.1	39.1	162.00	-342.9	2,452.1	355.1	311.0	44.11	8.050	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-1NBH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,100.0	5,131.4	6,126.2	5,332.2	44.1	40.0	161.97	-350.6	2,507.8	362.2	317.2	44.97	8.055	
6,104.4	5,134.8	6,130.7	5,335.8	44.1	40.0	161.97	-351.0	2,510.4	362.5	317.5	45.01	8.055	
6,200.0	5,207.9	6,226.0	5,412.7	45.1	40.9	161.94	-358.7	2,566.0	369.6	323.8	45.86	8.060	
6,204.4	5,211.3	6,230.4	5,416.3	45.1	40.9	161.94	-359.0	2,568.6	370.0	324.1	45.90	8.060	
6,300.0	5,284.4	6,325.7	5,493.3	46.1	41.8	161.91	-366.7	2,624.3	377.1	330.3	46.76	8.064	
6,304.4	5,287.8	6,330.1	5,496.8	46.1	41.8	161.90	-367.1	2,626.9	377.4	330.6	46.80	8.064	
6,400.0	5,360.8	6,425.4	5,573.8	47.1	42.7	161.88	-374.7	2,682.5	384.5	336.8	47.66	8.068	
6,404.4	5,364.2	6,429.8	5,577.4	47.1	42.7	161.87	-375.1	2,685.1	384.8	337.1	47.70	8.068	
6,500.0	5,437.3	6,525.1	5,654.4	48.1	43.6	161.85	-382.8	2,740.8	391.9	343.4	48.56	8.071	
6,504.4	5,440.7	6,529.6	5,657.9	48.1	43.6	161.85	-383.1	2,743.4	392.3	343.7	48.60	8.071	
6,600.0	5,513.8	6,624.9	5,734.9	49.0	44.5	161.82	-390.8	2,799.0	399.4	349.9	49.46	8.074	
6,604.4	5,517.2	6,629.3	5,738.5	49.1	44.5	161.82	-391.2	2,801.6	399.7	350.2	49.50	8.074	
6,700.0	5,590.2	6,724.6	5,815.4	50.0	45.3	161.79	-398.9	2,857.3	406.8	356.4	50.37	8.077	
6,704.4	5,593.6	6,729.0	5,819.0	50.1	45.4	161.79	-399.2	2,859.9	407.1	356.7	50.41	8.077	
6,800.0	5,666.7	6,824.3	5,896.0	51.0	46.2	161.77	-406.9	2,915.5	414.2	363.0	51.27	8.079	
6,804.4	5,670.1	6,828.7	5,899.6	51.1	46.3	161.76	-407.3	2,918.1	414.6	363.2	51.31	8.079	
6,900.0	5,743.2	6,924.0	5,976.5	52.0	47.1	161.74	-414.9	2,973.8	421.7	369.5	52.18	8.081	
6,904.4	5,746.6	6,928.5	5,980.1	52.1	47.2	161.74	-415.3	2,976.4	422.0	369.8	52.22	8.081	
7,000.0	5,819.6	7,023.8	6,057.1	53.0	48.0	161.72	-423.0	3,032.0	429.1	376.0	53.09	8.083	
7,004.4	5,823.0	7,028.2	6,060.7	53.1	48.1	161.72	-423.3	3,034.6	429.4	376.3	53.13	8.083	
7,100.0	5,896.1	7,123.5	6,137.6	54.0	48.9	161.69	-431.0	3,090.3	436.5	382.5	54.00	8.084	
7,104.4	5,899.5	7,127.9	6,141.2	54.1	49.0	161.69	-431.4	3,092.9	436.9	382.8	54.04	8.084	
7,200.0	5,972.6	7,223.2	6,218.2	55.0	49.8	161.67	-439.1	3,148.5	444.0	389.1	54.91	8.086	
7,204.4	5,976.0	7,227.6	6,221.7	55.1	49.9	161.67	-439.4	3,151.1	444.3	389.3	54.95	8.086	
7,300.0	6,049.0	7,322.9	6,298.7	56.0	50.7	161.65	-447.1	3,206.8	451.4	395.6	55.82	8.087	
7,304.4	6,052.4	7,327.4	6,302.3	56.1	50.8	161.65	-447.5	3,209.4	451.7	395.9	55.86	8.087	
7,400.0	6,125.5	7,422.6	6,379.2	57.0	51.6	161.63	-455.1	3,265.0	458.8	402.1	56.73	8.088	
7,404.4	6,128.9	7,427.1	6,382.8	57.0	51.6	161.63	-455.5	3,267.6	459.2	402.4	56.77	8.088	
7,500.0	6,202.0	7,522.4	6,459.8	58.0	52.5	161.61	-463.2	3,323.3	466.3	408.6	57.65	8.088	
7,504.4	6,205.4	7,526.8	6,463.4	58.0	52.5	161.61	-463.5	3,325.9	466.6	408.9	57.69	8.088	
7,600.0	6,278.4	7,622.1	6,540.3	59.0	53.4	161.59	-471.2	3,381.5	473.7	415.1	58.56	8.089	
7,604.4	6,281.8	7,626.5	6,543.9	59.0	53.4	161.59	-471.6	3,384.1	474.0	415.4	58.60	8.089	
7,700.0	6,354.9	7,721.8	6,620.9	60.0	54.3	161.57	-479.3	3,439.8	481.1	421.6	59.48	8.089	
7,704.4	6,358.3	7,726.3	6,624.5	60.0	54.3	161.57	-479.6	3,442.4	481.5	421.9	59.52	8.089	
7,800.0	6,431.4	7,821.5	6,701.4	61.0	55.2	161.55	-487.3	3,498.0	488.6	428.2	60.40	8.089	
7,804.4	6,434.8	7,826.0	6,705.0	61.0	55.2	161.55	-487.7	3,500.6	488.9	428.5	60.44	8.089	
7,900.0	6,507.8	7,921.3	6,782.0	62.0	56.1	161.53	-495.3	3,556.3	496.0	434.7	61.31	8.089	
7,904.4	6,511.2	7,925.7	6,785.5	62.0	56.1	161.53	-495.7	3,558.8	496.3	435.0	61.35	8.089	
8,000.0	6,584.3	8,021.0	6,862.5	63.0	57.0	161.51	-503.4	3,614.5	503.4	441.2	62.23	8.090	
8,004.4	6,587.7	8,025.4	6,866.1	63.0	57.0	161.51	-503.7	3,617.1	503.8	441.5	62.27	8.090	
8,100.0	6,660.8	8,120.7	6,943.1	64.0	57.9	161.50	-511.4	3,672.8	510.9	447.7	63.15	8.090	
8,104.4	6,664.2	8,125.1	6,946.6	64.0	57.9	161.50	-511.8	3,675.3	511.2	448.0	63.19	8.090	
8,200.0	6,737.2	8,239.1	7,038.8	65.0	58.9	162.19	-514.4	3,742.0	517.0	453.8	63.27	8.172	
8,204.4	6,740.6	8,244.6	7,043.3	65.0	59.0	162.28	-513.9	3,745.3	517.2	454.0	63.20	8.183	
8,300.0	6,813.7	8,359.0	7,134.3	66.0	59.9	165.42	-493.4	3,811.1	519.1	458.7	60.43	8.590	
8,304.4	6,817.1	8,364.0	7,138.2	66.0	60.0	165.62	-492.0	3,813.9	519.1	458.9	60.26	8.615	
8,400.0	6,890.2	8,463.6	7,213.2	67.0	60.7	170.32	-455.4	3,868.1	520.0	463.5	56.48	9.207	
8,404.4	6,893.6	8,467.8	7,216.2	67.0	60.7	170.55	-453.5	3,870.3	520.1	463.8	56.32	9.235	
8,500.0	6,966.6	8,550.1	7,273.3	68.0	61.2	175.70	-411.1	3,911.6	524.3	470.6	53.66	9.771	
8,501.6	6,967.9	8,551.4	7,274.1	68.0	61.2	175.79	-410.4	3,912.2	524.4	470.7	53.63	9.778	
8,536.2	6,994.3	8,577.1	7,290.9	68.3	61.4	177.60	-395.0	3,924.3	527.4	474.3	53.13	9.927	
8,536.8	6,994.8	8,577.6	7,291.2	68.3	61.4	177.71	-394.7	3,924.5	527.5	474.4	53.12	9.930	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-1NBH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,550.0	7,004.9	8,587.0	7,297.1	68.4	61.4	-179.91	-388.9	3,928.8	528.9	475.9	53.00	9.979	
8,552.2	7,006.6	8,588.6	7,298.1	68.5	61.4	-179.50	-387.9	3,929.6	529.2	476.2	52.98	9.987	
8,600.0	7,043.2	8,622.0	7,318.7	69.0	61.6	-170.86	-366.1	3,944.4	535.5	482.6	52.85	10.133	
8,650.0	7,081.3	8,656.1	7,338.5	69.4	61.8	-161.92	-342.4	3,958.7	543.7	490.7	53.00	10.258	
8,700.0	7,118.9	8,689.4	7,356.7	69.9	61.9	-153.29	-317.8	3,971.9	553.3	500.0	53.29	10.383	
8,750.0	7,155.9	8,722.0	7,373.5	70.4	62.0	-145.11	-292.6	3,984.0	564.0	510.4	53.56	10.530	
8,800.0	7,191.8	8,750.0	7,386.9	70.8	62.1	-137.71	-270.0	3,993.7	575.4	521.9	53.50	10.755	
8,850.0	7,226.4	8,785.7	7,402.6	71.2	62.2	-130.51	-240.1	4,005.1	587.3	533.6	53.69	10.939	
8,900.0	7,259.4	8,816.9	7,415.1	71.6	62.3	-124.17	-213.0	4,014.2	599.5	546.0	53.49	11.207	
8,950.0	7,290.6	8,850.0	7,427.1	71.9	62.4	-118.39	-183.4	4,022.8	611.7	558.4	53.25	11.486	
9,000.0	7,319.8	8,878.3	7,436.2	72.2	62.4	-113.42	-157.4	4,029.4	623.7	571.1	52.60	11.856	
9,050.0	7,346.7	8,900.0	7,442.5	72.5	62.5	-109.20	-137.1	4,034.0	635.4	583.8	51.55	12.324	
9,100.0	7,371.1	8,938.6	7,452.1	72.7	62.5	-105.04	-100.4	4,040.9	646.3	595.0	51.32	12.595	
9,150.0	7,392.8	8,968.4	7,458.1	72.9	62.6	-101.66	-71.5	4,045.3	656.7	606.1	50.65	12.966	
9,200.0	7,411.8	9,000.0	7,463.2	73.1	62.6	-98.73	-40.6	4,048.9	666.3	616.2	50.10	13.299	
9,250.0	7,427.7	9,027.7	7,466.5	73.2	62.6	-96.35	-13.2	4,051.3	674.9	625.4	49.56	13.620	
9,300.0	7,440.6	9,050.0	7,468.4	73.3	62.6	-94.46	9.0	4,052.7	682.6	633.4	49.18	13.879	
9,350.0	7,450.2	9,086.4	7,469.9	73.4	62.6	-92.79	45.3	4,053.8	689.1	640.0	49.11	14.031	
9,400.0	7,456.6	9,127.7	7,470.0	73.4	62.6	-91.54	86.6	4,053.9	694.2	645.0	49.12	14.132	
9,450.0	7,459.7	9,177.5	7,470.0	73.4	62.6	-90.89	136.5	4,053.9	696.7	647.5	49.22	14.156	
9,471.1	7,460.0	9,198.6	7,470.0	73.4	62.6	-90.82	157.6	4,053.9	696.9	647.6	49.29	14.140	
9,477.2	7,460.0	9,204.7	7,470.0	73.4	62.6	-90.82	163.7	4,053.9	696.9	647.6	49.32	14.131	
9,500.0	7,460.0	9,227.5	7,470.0	73.4	62.6	-90.82	186.5	4,053.9	696.9	647.5	49.43	14.098	
9,521.1	7,460.0	9,248.7	7,470.0	73.4	62.6	-90.82	207.6	4,053.9	696.9	647.4	49.56	14.064	
9,600.0	7,460.0	9,327.5	7,470.0	73.5	62.6	-90.82	286.5	4,053.9	696.9	646.9	50.03	13.931	
9,621.1	7,460.0	9,348.7	7,470.0	73.5	62.6	-90.82	307.6	4,053.9	696.9	646.8	50.18	13.888	
9,700.0	7,460.0	9,427.5	7,470.0	73.5	62.6	-90.82	386.5	4,053.9	696.9	646.2	50.78	13.725	
9,721.1	7,460.0	9,448.7	7,470.0	73.5	62.6	-90.82	407.6	4,053.9	696.9	646.0	50.97	13.674	
9,800.0	7,460.0	9,527.5	7,470.0	73.5	62.7	-90.82	486.5	4,053.9	696.9	645.2	51.68	13.484	
9,821.1	7,460.0	9,548.7	7,470.0	73.5	62.7	-90.82	507.6	4,053.9	696.9	645.0	51.90	13.428	
9,900.0	7,460.0	9,627.5	7,470.0	73.6	62.7	-90.82	586.5	4,053.9	696.9	644.2	52.73	13.216	
9,921.1	7,460.0	9,648.7	7,470.0	73.6	62.7	-90.82	607.6	4,053.9	696.9	644.0	52.98	13.155	
10,000.0	7,460.0	9,727.5	7,470.0	73.6	62.8	-90.82	686.5	4,053.9	696.9	643.0	53.92	12.926	
10,021.1	7,460.0	9,748.7	7,470.0	73.7	62.8	-90.82	707.6	4,053.9	696.9	642.7	54.19	12.861	
10,100.0	7,460.0	9,827.5	7,470.0	73.7	62.9	-90.82	786.5	4,053.9	696.9	641.7	55.23	12.619	
10,121.1	7,460.0	9,848.7	7,470.0	73.7	62.9	-90.82	807.6	4,053.9	696.9	641.4	55.53	12.551	
10,200.0	7,460.0	9,927.5	7,470.0	73.8	63.0	-90.82	886.5	4,053.9	696.9	640.3	56.66	12.300	
10,221.1	7,460.0	9,948.7	7,470.0	73.8	63.0	-90.82	907.6	4,053.9	696.9	639.9	56.98	12.231	
10,300.0	7,460.0	10,027.5	7,470.0	73.9	63.2	-90.82	986.5	4,053.9	696.9	638.7	58.20	11.975	
10,321.1	7,460.0	10,048.7	7,470.0	74.0	63.2	-90.82	1,007.6	4,053.9	696.9	638.4	58.54	11.904	
10,400.0	7,460.0	10,127.5	7,470.0	74.1	63.3	-90.82	1,086.5	4,053.9	696.9	637.1	59.84	11.647	
10,421.1	7,460.0	10,148.7	7,470.0	74.1	63.4	-90.82	1,107.6	4,053.9	696.9	636.7	60.20	11.576	
10,500.0	7,460.0	10,227.5	7,470.0	74.2	63.5	-90.82	1,186.5	4,053.9	696.9	635.4	61.57	11.319	
10,521.1	7,460.0	10,248.7	7,470.0	74.3	63.5	-90.82	1,207.6	4,053.9	696.9	635.0	61.96	11.249	
10,600.0	7,460.0	10,327.5	7,470.0	74.4	63.7	-90.82	1,286.5	4,053.9	696.9	633.5	63.39	10.994	
10,621.1	7,460.0	10,348.7	7,470.0	74.4	63.7	-90.82	1,307.6	4,053.9	696.9	633.1	63.79	10.925	
10,700.0	7,460.0	10,427.5	7,470.0	74.6	63.9	-90.82	1,386.5	4,053.9	696.9	631.6	65.29	10.674	
10,721.1	7,460.0	10,448.7	7,470.0	74.6	64.0	-90.82	1,407.6	4,053.9	696.9	631.2	65.71	10.607	
10,800.0	7,460.0	10,527.5	7,470.0	74.8	64.2	-90.82	1,486.5	4,053.9	696.9	629.7	67.26	10.362	
10,821.1	7,460.0	10,548.7	7,470.0	74.8	64.2	-90.82	1,507.6	4,053.9	696.9	629.2	67.69	10.296	
10,900.0	7,460.0	10,627.5	7,470.0	75.0	64.4	-90.82	1,586.5	4,053.9	696.9	627.6	69.30	10.057	
10,921.1	7,460.0	10,648.7	7,470.0	75.0	64.5	-90.82	1,607.6	4,053.9	696.9	627.2	69.74	9.994	

Amazon.com

Anticollision Report

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-1NBH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,000.0	7,460.0	10,727.5	7,470.0	75.2	64.7	-90.82	1,686.5	4,053.9	696.9	625.5	71.39	9.762	
11,021.1	7,460.0	10,748.7	7,470.0	75.3	64.8	-90.82	1,707.6	4,053.9	696.9	625.1	71.84	9.701	
11,100.0	7,460.0	10,827.5	7,470.0	75.5	65.0	-90.82	1,786.5	4,053.9	696.9	623.4	73.54	9.477	
11,121.1	7,460.0	10,848.7	7,470.0	75.5	65.1	-90.82	1,807.6	4,053.9	696.9	622.9	74.00	9.417	
11,200.0	7,460.0	10,927.5	7,470.0	75.7	65.4	-90.82	1,886.5	4,053.9	696.9	621.2	75.74	9.201	
11,221.1	7,460.0	10,948.7	7,470.0	75.8	65.5	-90.82	1,907.6	4,053.9	696.9	620.7	76.21	9.144	
11,300.0	7,460.0	11,027.5	7,470.0	76.0	65.8	-90.82	1,986.5	4,053.9	696.9	618.9	77.99	8.936	
11,321.1	7,460.0	11,048.7	7,470.0	76.1	65.9	-90.82	2,007.6	4,053.9	696.9	618.5	78.47	8.881	
11,400.0	7,460.0	11,127.5	7,470.0	76.3	66.2	-90.82	2,086.5	4,053.9	696.9	616.6	80.27	8.682	
11,421.1	7,460.0	11,148.7	7,470.0	76.4	66.3	-90.82	2,107.6	4,053.9	696.9	616.2	80.76	8.629	
11,500.0	7,460.0	11,227.5	7,470.0	76.7	66.6	-90.82	2,186.5	4,053.9	696.9	614.3	82.60	8.437	
11,521.1	7,460.0	11,248.7	7,470.0	76.7	66.7	-90.82	2,207.6	4,053.9	696.9	613.8	83.10	8.387	
11,600.0	7,460.0	11,327.5	7,470.0	77.0	67.1	-90.82	2,286.5	4,053.9	696.9	612.0	84.96	8.203	
11,621.1	7,460.0	11,348.7	7,470.0	77.1	67.2	-90.82	2,307.6	4,053.9	696.9	611.4	85.47	8.154	
11,700.0	7,460.0	11,427.5	7,470.0	77.4	67.5	-90.82	2,386.5	4,053.9	696.9	609.6	87.36	7.978	
11,721.1	7,460.0	11,448.7	7,470.0	77.5	67.6	-90.82	2,407.6	4,053.9	696.9	609.0	87.87	7.931	
11,800.0	7,460.0	11,527.5	7,470.0	77.8	68.1	-90.82	2,486.5	4,054.0	696.9	607.1	89.78	7.762	
11,821.1	7,460.0	11,548.7	7,470.0	77.9	68.2	-90.82	2,507.6	4,054.0	696.9	606.6	90.30	7.718	
11,900.0	7,460.0	11,627.5	7,470.0	78.2	68.6	-90.82	2,586.5	4,054.0	696.9	604.7	92.23	7.556	
11,921.1	7,460.0	11,648.7	7,470.0	78.3	68.7	-90.82	2,607.6	4,054.0	696.9	604.2	92.76	7.513	
12,000.0	7,460.0	11,727.5	7,470.0	78.7	69.2	-90.82	2,686.5	4,054.0	696.9	602.2	94.71	7.358	
12,021.1	7,460.0	11,748.7	7,470.0	78.8	69.3	-90.82	2,707.6	4,054.0	696.9	601.7	95.24	7.318	
12,100.0	7,460.0	11,827.5	7,470.0	79.1	69.8	-90.82	2,786.5	4,054.0	696.9	599.7	97.21	7.169	
12,121.1	7,460.0	11,848.7	7,470.0	79.2	69.9	-90.82	2,807.6	4,054.0	696.9	599.2	97.74	7.130	
12,200.0	7,460.0	11,927.5	7,470.0	79.6	70.4	-90.82	2,886.5	4,054.0	696.9	597.2	99.73	6.988	
12,221.1	7,460.0	11,948.7	7,470.0	79.7	70.6	-90.82	2,907.6	4,054.0	696.9	596.6	100.27	6.950	
12,300.0	7,460.0	12,027.5	7,470.0	80.1	71.1	-90.82	2,986.5	4,054.0	696.9	594.6	102.28	6.814	
12,321.1	7,460.0	12,048.7	7,470.0	80.3	71.2	-90.82	3,007.6	4,054.0	696.9	594.1	102.82	6.778	
12,400.0	7,460.0	12,127.5	7,470.0	80.7	71.8	-90.82	3,086.5	4,054.0	696.9	592.1	104.84	6.647	
12,421.1	7,460.0	12,148.7	7,470.0	80.8	71.9	-90.82	3,107.6	4,054.0	696.9	591.5	105.38	6.613	
12,500.0	7,460.0	12,227.5	7,470.0	81.2	72.5	-90.82	3,186.5	4,054.0	696.9	589.5	107.42	6.488	
12,521.1	7,460.0	12,248.7	7,470.0	81.4	72.7	-90.82	3,207.6	4,054.0	696.9	588.9	107.97	6.455	
12,600.0	7,460.0	12,327.5	7,470.0	81.8	73.3	-90.82	3,286.5	4,054.0	696.9	586.9	110.01	6.335	
12,621.1	7,460.0	12,348.7	7,470.0	82.0	73.4	-90.82	3,307.6	4,054.0	696.9	586.3	110.56	6.303	
12,700.0	7,460.0	12,427.5	7,470.0	82.5	74.0	-90.82	3,386.5	4,054.0	696.9	584.3	112.62	6.188	
12,721.1	7,460.0	12,448.7	7,470.0	82.6	74.2	-90.82	3,407.6	4,054.0	696.9	583.7	113.18	6.158	
12,800.0	7,460.0	12,527.5	7,470.0	83.1	74.9	-90.82	3,486.5	4,054.0	696.9	581.7	115.25	6.047	
12,821.1	7,460.0	12,548.7	7,470.0	83.2	75.0	-90.82	3,507.6	4,054.0	696.9	581.1	115.80	6.018	
12,900.0	7,460.0	12,627.5	7,470.0	83.8	75.7	-90.82	3,586.5	4,054.0	696.9	579.0	117.88	5.912	
12,921.1	7,460.0	12,648.7	7,470.0	83.9	75.9	-90.82	3,607.6	4,054.0	696.9	578.5	118.44	5.884	
13,000.0	7,460.0	12,727.5	7,470.0	84.4	76.6	-90.82	3,686.5	4,054.0	696.9	576.4	120.53	5.782	
13,021.1	7,460.0	12,748.7	7,470.0	84.6	76.7	-90.82	3,707.6	4,054.0	696.9	575.8	121.09	5.755	
13,100.0	7,460.0	12,827.5	7,470.0	85.2	77.4	-90.82	3,786.5	4,054.0	696.9	573.7	123.19	5.657	
13,121.1	7,460.0	12,848.7	7,470.0	85.3	77.6	-90.82	3,807.6	4,054.0	696.9	573.1	123.76	5.631	
13,200.0	7,460.0	12,927.5	7,470.0	85.9	78.4	-90.82	3,886.5	4,054.0	696.9	571.0	125.86	5.537	
13,221.1	7,460.0	12,948.7	7,470.0	86.1	78.5	-90.82	3,907.6	4,054.0	696.9	570.5	126.43	5.512	
13,300.0	7,460.0	13,027.5	7,470.0	86.7	79.3	-90.82	3,986.5	4,054.0	696.9	568.4	128.54	5.421	
13,321.1	7,460.0	13,048.7	7,470.0	86.8	79.5	-90.82	4,007.6	4,054.0	696.9	567.8	129.11	5.398	
13,400.0	7,460.0	13,127.5	7,470.0	87.4	80.2	-90.82	4,086.5	4,054.0	696.9	565.7	131.24	5.310	
13,421.1	7,460.0	13,148.7	7,470.0	87.6	80.4	-90.82	4,107.6	4,054.0	696.9	565.1	131.81	5.287	
13,500.0	7,460.0	13,227.5	7,470.0	88.2	81.2	-90.82	4,186.5	4,054.0	696.9	563.0	133.93	5.203	
13,521.1	7,460.0	13,248.7	7,470.0	88.4	81.4	-90.82	4,207.6	4,054.0	696.9	562.4	134.51	5.181	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-1NBH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
13,600.0	7,460.0	13,327.5	7,470.0	89.1	82.2	-90.82	4,286.5	4,054.0	696.9	560.3	136.64	5.100	
13,621.1	7,460.0	13,348.7	7,470.0	89.2	82.4	-90.82	4,307.6	4,054.0	696.9	559.7	137.22	5.079	
13,700.0	7,460.0	13,427.5	7,470.0	89.9	83.2	-90.82	4,386.5	4,054.0	696.9	557.5	139.36	5.001	
13,721.1	7,460.0	13,448.7	7,470.0	90.1	83.5	-90.82	4,407.6	4,054.0	696.9	557.0	139.93	4.980	
13,800.0	7,460.0	13,527.5	7,470.0	90.8	84.3	-90.82	4,486.5	4,054.0	696.9	554.8	142.08	4.905	
13,821.1	7,460.0	13,548.7	7,470.0	91.0	84.5	-90.82	4,507.6	4,054.0	696.9	554.2	142.66	4.885	
13,900.0	7,460.0	13,627.5	7,470.0	91.7	85.3	-90.82	4,586.5	4,054.0	696.9	552.1	144.81	4.812	
13,921.1	7,460.0	13,648.7	7,470.0	91.9	85.5	-90.82	4,607.6	4,054.0	696.9	551.5	145.39	4.793	
14,000.0	7,460.0	13,727.5	7,470.0	92.6	86.4	-90.82	4,686.5	4,054.0	696.9	549.3	147.55	4.723	
14,021.1	7,460.0	13,748.7	7,470.0	92.8	86.6	-90.82	4,707.6	4,054.0	696.9	548.8	148.13	4.705	
14,100.0	7,460.0	13,827.5	7,470.0	93.5	87.5	-90.82	4,786.5	4,054.0	696.9	546.6	150.29	4.637	
14,121.1	7,460.0	13,848.7	7,470.0	93.7	87.7	-90.82	4,807.6	4,054.1	696.9	546.0	150.87	4.619	
14,200.0	7,460.0	13,927.5	7,470.0	94.5	88.6	-90.82	4,886.5	4,054.1	696.9	543.9	153.04	4.554	
14,221.1	7,460.0	13,948.7	7,470.0	94.7	88.8	-90.82	4,907.6	4,054.1	696.9	543.3	153.62	4.536	
14,300.0	7,460.0	14,027.5	7,470.0	95.4	89.7	-90.82	4,986.5	4,054.1	696.9	541.1	155.79	4.473	
14,321.1	7,460.0	14,048.7	7,470.0	95.7	89.9	-90.82	5,007.6	4,054.1	696.9	540.5	156.38	4.457	
14,400.0	7,460.0	14,127.5	7,470.0	96.4	90.8	-90.82	5,086.5	4,054.1	696.9	538.3	158.55	4.395	
14,421.1	7,460.0	14,148.7	7,470.0	96.6	91.1	-90.82	5,107.6	4,054.1	696.9	537.8	159.14	4.379	
14,500.0	7,460.0	14,227.5	7,470.0	97.4	92.0	-90.82	5,186.5	4,054.1	696.9	535.6	161.32	4.320	
14,521.1	7,460.0	14,248.7	7,470.0	97.7	92.2	-90.82	5,207.6	4,054.1	696.9	535.0	161.90	4.304	
14,600.0	7,460.0	14,327.5	7,470.0	98.5	93.1	-90.82	5,286.5	4,054.1	696.9	532.8	164.08	4.247	
14,621.1	7,460.0	14,348.7	7,470.0	98.7	93.4	-90.82	5,307.6	4,054.1	696.9	532.2	164.67	4.232	
14,700.0	7,460.0	14,427.5	7,470.0	99.5	94.3	-90.82	5,386.5	4,054.1	696.9	530.0	166.86	4.177	
14,721.1	7,460.0	14,448.7	7,470.0	99.7	94.5	-90.82	5,407.6	4,054.1	696.9	529.4	167.45	4.162	
14,800.0	7,460.0	14,527.5	7,470.0	100.5	95.5	-90.82	5,486.5	4,054.1	696.9	527.3	169.64	4.108	
14,821.1	7,460.0	14,548.7	7,470.0	100.8	95.7	-90.82	5,507.6	4,054.1	696.9	526.7	170.22	4.094	
14,900.0	7,460.0	14,627.5	7,470.0	101.6	96.6	-90.82	5,586.5	4,054.1	696.9	524.5	172.42	4.042	
14,921.1	7,460.0	14,648.7	7,470.0	101.8	96.9	-90.82	5,607.6	4,054.1	696.9	523.9	173.01	4.028	
15,000.0	7,460.0	14,727.5	7,470.0	102.7	97.8	-90.82	5,686.5	4,054.1	696.9	521.7	175.20	3.978	
15,021.1	7,460.0	14,748.7	7,470.0	102.9	98.1	-90.82	5,707.6	4,054.1	696.9	521.1	175.79	3.964	
15,100.0	7,460.0	14,827.5	7,470.0	103.8	99.0	-90.82	5,786.5	4,054.1	696.9	518.9	177.99	3.915	
15,121.1	7,460.0	14,848.7	7,470.0	104.0	99.3	-90.82	5,807.6	4,054.1	696.9	518.3	178.58	3.902	
15,200.0	7,460.0	14,927.5	7,470.0	104.9	100.3	-90.82	5,886.5	4,054.1	696.9	516.1	180.79	3.855	
15,221.1	7,460.0	14,948.7	7,470.0	105.1	100.5	-90.82	5,907.6	4,054.1	696.9	515.5	181.38	3.842	
15,300.0	7,460.0	15,027.5	7,470.0	106.0	101.5	-90.82	5,986.5	4,054.1	696.9	513.3	183.58	3.796	
15,321.1	7,460.0	15,048.7	7,470.0	106.2	101.7	-90.82	6,007.6	4,054.1	696.9	512.7	184.18	3.784	
15,400.0	7,460.0	15,127.5	7,470.0	107.1	102.7	-90.82	6,086.5	4,054.1	696.9	510.5	186.38	3.739	
15,421.1	7,460.0	15,148.7	7,470.0	107.4	103.0	-90.82	6,107.6	4,054.1	696.9	509.9	186.98	3.727	
15,500.0	7,460.0	15,227.5	7,470.0	108.3	103.9	-90.82	6,186.5	4,054.1	696.9	507.7	189.19	3.684	
15,521.1	7,460.0	15,248.7	7,470.0	108.5	104.2	-90.82	6,207.6	4,054.1	696.9	507.1	189.78	3.672	
15,600.0	7,460.0	15,327.5	7,470.0	109.4	105.2	-90.82	6,286.5	4,054.1	696.9	504.9	191.99	3.630	
15,621.1	7,460.0	15,348.7	7,470.0	109.6	105.4	-90.82	6,307.6	4,054.1	696.9	504.3	192.59	3.619	
15,700.0	7,460.0	15,427.5	7,470.0	110.6	106.4	-90.82	6,386.5	4,054.1	696.9	502.1	194.80	3.577	
15,721.1	7,460.0	15,448.7	7,470.0	110.8	106.7	-90.82	6,407.6	4,054.1	696.9	501.5	195.39	3.567	
15,800.0	7,460.0	15,527.5	7,470.0	111.7	107.7	-90.82	6,486.5	4,054.1	696.9	499.3	197.61	3.527	
15,821.1	7,460.0	15,548.7	7,470.0	112.0	108.0	-90.82	6,507.6	4,054.1	696.9	498.7	198.21	3.516	
15,900.0	7,460.0	15,627.5	7,470.0	112.9	109.0	-90.82	6,586.5	4,054.1	696.9	496.5	200.43	3.477	
15,921.1	7,460.0	15,648.7	7,470.0	113.2	109.2	-90.82	6,607.6	4,054.1	696.9	495.9	201.02	3.467	
16,000.0	7,460.0	15,727.5	7,470.0	114.1	110.2	-90.82	6,686.5	4,054.1	696.9	493.6	203.24	3.429	
16,021.1	7,460.0	15,748.7	7,470.0	114.3	110.5	-90.82	6,707.6	4,054.1	696.9	493.0	203.84	3.419	
16,100.0	7,460.0	15,827.5	7,470.0	115.3	111.5	-90.82	6,786.5	4,054.1	696.9	490.8	206.06	3.382	
16,121.1	7,460.0	15,848.7	7,470.0	115.5	111.8	-90.82	6,807.6	4,054.1	696.9	490.2	206.66	3.372	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-1NBH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
16,200.0	7,460.0	15,927.5	7,470.0	116.5	112.8	-90.82	6,886.5	4,054.1	696.9	488.0	208.88	3.336	
16,221.1	7,460.0	15,948.7	7,470.0	116.7	113.1	-90.82	6,907.6	4,054.1	696.9	487.4	209.48	3.327	
16,300.0	7,460.0	16,027.5	7,470.0	117.7	114.1	-90.82	6,986.5	4,054.1	696.9	485.2	211.70	3.292	
16,321.1	7,460.0	16,048.7	7,470.0	118.0	114.3	-90.82	7,007.6	4,054.1	696.9	484.6	212.30	3.282	
16,400.0	7,460.0	16,127.5	7,470.0	118.9	115.4	-90.82	7,086.5	4,054.1	696.9	482.3	214.53	3.248	
16,421.1	7,460.0	16,148.7	7,470.0	119.2	115.6	-90.82	7,107.6	4,054.1	696.9	481.7	215.13	3.239	
16,500.0	7,460.0	16,227.5	7,470.0	120.1	116.7	-90.82	7,186.5	4,054.2	696.9	479.5	217.36	3.206	
16,521.1	7,460.0	16,248.7	7,470.0	120.4	116.9	-90.82	7,207.6	4,054.2	696.9	478.9	217.96	3.197	
16,600.0	7,460.0	16,327.5	7,470.0	121.4	118.0	-90.82	7,286.5	4,054.2	696.9	476.7	220.19	3.165	
16,621.1	7,460.0	16,348.7	7,470.0	121.6	118.2	-90.82	7,307.6	4,054.2	696.9	476.1	220.78	3.156	
16,700.0	7,460.0	16,427.5	7,470.0	122.6	119.3	-90.82	7,386.5	4,054.2	696.9	473.9	223.02	3.125	
16,721.1	7,460.0	16,448.7	7,470.0	122.9	119.5	-90.82	7,407.6	4,054.2	696.9	473.3	223.62	3.116	
16,800.0	7,460.0	16,527.5	7,470.0	123.9	120.6	-90.82	7,486.5	4,054.2	696.9	471.0	225.85	3.086	
16,821.1	7,460.0	16,548.7	7,470.0	124.1	120.9	-90.82	7,507.6	4,054.2	696.9	470.4	226.45	3.077	
16,900.0	7,460.0	16,627.5	7,470.0	125.1	121.9	-90.82	7,586.5	4,054.2	696.9	468.2	228.68	3.047	
16,921.1	7,460.0	16,648.7	7,470.0	125.4	122.2	-90.82	7,607.6	4,054.2	696.9	467.6	229.28	3.039	
17,000.0	7,460.0	16,727.5	7,470.0	126.4	123.2	-90.82	7,686.5	4,054.2	696.9	465.3	231.52	3.010	
17,021.1	7,460.0	16,748.7	7,470.0	126.6	123.5	-90.82	7,707.6	4,054.2	696.9	464.7	232.12	3.002	
17,100.0	7,460.0	16,827.5	7,470.0	127.6	124.5	-90.82	7,786.5	4,054.2	696.9	462.5	234.36	2.974	
17,121.1	7,460.0	16,848.7	7,470.0	127.9	124.8	-90.82	7,807.6	4,054.2	696.9	461.9	234.96	2.966	
17,200.0	7,460.0	16,927.5	7,470.0	128.9	125.9	-90.82	7,886.5	4,054.2	696.9	459.7	237.20	2.938	
17,221.1	7,460.0	16,948.7	7,470.0	129.2	126.1	-90.82	7,907.6	4,054.2	696.9	459.1	237.80	2.930	
17,300.0	7,460.0	17,027.5	7,470.0	130.2	127.2	-90.82	7,986.5	4,054.2	696.9	456.8	240.04	2.903	
17,321.1	7,460.0	17,048.7	7,470.0	130.4	127.5	-90.82	8,007.6	4,054.2	696.9	456.2	240.64	2.896	
17,400.0	7,460.0	17,127.5	7,470.0	131.4	128.5	-90.82	8,086.5	4,054.2	696.9	454.0	242.88	2.869	
17,421.1	7,460.0	17,148.7	7,470.0	131.7	128.8	-90.82	8,107.6	4,054.2	696.9	453.4	243.48	2.862	
17,500.0	7,460.0	17,227.5	7,470.0	132.7	129.8	-90.82	8,186.5	4,054.2	696.9	451.1	245.73	2.836	
17,521.1	7,460.0	17,248.7	7,470.0	133.0	130.1	-90.82	8,207.6	4,054.2	696.9	450.5	246.33	2.829	
17,600.0	7,460.0	17,327.5	7,470.0	134.0	131.2	-90.82	8,286.5	4,054.2	696.9	448.3	248.57	2.803	
17,621.1	7,460.0	17,348.7	7,470.0	134.3	131.5	-90.82	8,307.6	4,054.2	696.9	447.7	249.17	2.797	
17,700.0	7,460.0	17,427.5	7,470.0	135.3	132.5	-90.82	8,386.5	4,054.2	696.9	445.4	251.42	2.772	
17,721.1	7,460.0	17,448.7	7,470.0	135.6	132.8	-90.82	8,407.6	4,054.2	696.9	444.8	252.02	2.765	
17,800.0	7,460.0	17,527.5	7,470.0	136.6	133.9	-90.82	8,486.5	4,054.2	696.9	442.6	254.26	2.741	
17,821.1	7,460.0	17,548.7	7,470.0	136.9	134.2	-90.82	8,507.6	4,054.2	696.9	442.0	254.87	2.734	
17,900.0	7,460.0	17,627.5	7,470.0	137.9	135.2	-90.82	8,586.5	4,054.2	696.9	439.7	257.11	2.710	
17,921.1	7,460.0	17,648.7	7,470.0	138.2	135.5	-90.82	8,607.6	4,054.2	696.9	439.1	257.72	2.704	
18,000.0	7,460.0	17,727.5	7,470.0	139.2	136.6	-90.82	8,686.5	4,054.2	696.9	436.9	259.96	2.681	
18,021.1	7,460.0	17,748.7	7,470.0	139.5	136.8	-90.82	8,707.6	4,054.2	696.9	436.3	260.57	2.674	
18,100.0	7,460.0	17,827.5	7,470.0	140.5	137.9	-90.82	8,786.5	4,054.2	696.9	434.0	262.82	2.652	
18,121.1	7,460.0	17,848.7	7,470.0	140.8	138.2	-90.82	8,807.6	4,054.2	696.9	433.4	263.42	2.645	
18,200.0	7,460.0	17,927.5	7,470.0	141.8	139.3	-90.82	8,886.5	4,054.2	696.9	431.2	265.67	2.623	
18,221.1	7,460.0	17,948.7	7,470.0	142.1	139.5	-90.82	8,907.6	4,054.2	696.9	430.6	266.27	2.617	
18,300.0	7,460.0	18,027.5	7,470.0	143.1	140.6	-90.82	8,986.5	4,054.2	696.9	428.3	268.52	2.595	
18,321.1	7,460.0	18,048.7	7,470.0	143.4	140.9	-90.82	9,007.6	4,054.2	696.9	427.7	269.12	2.589	
18,400.0	7,460.0	18,127.5	7,470.0	144.4	142.0	-90.82	9,086.5	4,054.2	696.9	425.5	271.38	2.568	
18,421.1	7,460.0	18,148.7	7,470.0	144.7	142.3	-90.82	9,107.6	4,054.2	696.9	424.9	271.98	2.562	
18,500.0	7,460.0	18,227.5	7,470.0	145.8	143.3	-90.82	9,186.5	4,054.2	696.9	422.6	274.23	2.541	
18,521.1	7,460.0	18,248.7	7,470.0	146.0	143.6	-90.82	9,207.6	4,054.2	696.9	422.0	274.83	2.536	
18,600.0	7,460.0	18,327.5	7,470.0	147.1	144.7	-90.82	9,286.5	4,054.2	696.9	419.8	277.09	2.515	
18,621.1	7,460.0	18,348.7	7,470.0	147.4	145.0	-90.82	9,307.6	4,054.2	696.9	419.2	277.69	2.509	
18,700.0	7,460.0	18,427.5	7,470.0	148.4	146.1	-90.82	9,386.5	4,054.2	696.9	416.9	279.94	2.489	
18,721.1	7,460.0	18,448.7	7,470.0	148.7	146.3	-90.82	9,407.6	4,054.2	696.9	416.3	280.55	2.484	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-1NBH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
18,800.0	7,460.0	18,527.5	7,470.0	149.7	147.4	-90.82	9,486.5	4,054.2	696.9	414.1	282.80	2.464	
18,821.1	7,460.0	18,548.7	7,470.0	150.0	147.7	-90.82	9,507.6	4,054.2	696.9	413.4	283.41	2.459	
18,900.0	7,460.0	18,627.5	7,470.0	151.1	148.8	-90.82	9,586.5	4,054.3	696.9	411.2	285.66	2.439	
18,921.1	7,460.0	18,648.7	7,470.0	151.4	149.1	-90.82	9,607.6	4,054.3	696.9	410.6	286.27	2.434	
19,000.0	7,460.0	18,727.5	7,470.0	152.4	150.2	-90.82	9,686.5	4,054.3	696.9	408.3	288.52	2.415	
19,021.1	7,460.0	18,748.7	7,470.0	152.7	150.4	-90.82	9,707.6	4,054.3	696.9	407.7	289.13	2.410	
19,100.0	7,460.0	18,827.5	7,470.0	153.7	151.5	-90.82	9,786.5	4,054.3	696.9	405.5	291.38	2.392	
19,108.5	7,460.0	18,836.0	7,470.0	153.9	151.6	-90.82	9,794.9	4,054.3	696.9	405.2	291.62	2.390 SF	
19,116.5	7,460.0	18,836.0	7,470.0	154.0	151.6	-90.82	9,794.9	4,054.3	696.9	406.2	290.75	2.397	
19,116.5	7,460.0	18,836.0	7,470.0	154.0	151.6	-90.82	9,794.9	4,054.3	696.9	406.2	290.74	2.397	
19,116.9	7,460.0	18,836.0	7,470.0	154.0	151.6	-90.82	9,794.9	4,054.3	696.9	406.2	290.70	2.397	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-1NBHx - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-146.77	-45.3	-29.7	54.2				
100.0	100.0	100.0	100.0	1.0	1.0	-146.77	-45.3	-29.7	54.2	52.2	1.96	27.660	
200.0	200.0	200.0	200.0	1.6	1.6	-146.77	-45.3	-29.7	54.2	51.0	3.12	17.355	
300.0	300.0	300.0	300.0	2.0	2.0	-146.77	-45.3	-29.7	54.2	50.2	3.96	13.671	
400.0	400.0	400.0	400.0	2.3	2.3	-146.77	-45.3	-29.7	54.2	49.5	4.66	11.625	
500.0	500.0	500.0	500.0	2.6	2.6	-146.77	-45.3	-29.7	54.2	48.9	5.27	10.277	
600.0	600.0	600.0	600.0	2.9	2.9	-146.77	-45.3	-29.7	54.2	48.3	5.82	9.304	
700.0	700.0	700.0	700.0	3.2	3.2	-146.77	-45.3	-29.7	54.2	47.8	6.33	8.557	
800.0	800.0	800.0	800.0	3.4	3.4	-146.77	-45.3	-29.7	54.2	47.4	6.80	7.961	
900.0	900.0	900.0	900.0	3.6	3.6	-146.77	-45.3	-29.7	54.2	46.9	7.25	7.471	
1,000.0	1,000.0	1,000.0	1,000.0	3.8	3.8	-146.77	-45.3	-29.7	54.2	46.5	7.67	7.058	
1,100.0	1,100.0	1,100.0	1,100.0	4.0	4.0	-146.77	-45.3	-29.7	54.2	46.1	8.08	6.704	CC, ES
1,200.0	1,200.0	1,200.5	1,200.5	4.5	4.1	119.54	-45.5	-29.0	55.2	46.8	8.43	6.547	
1,300.0	1,299.6	1,301.5	1,301.3	5.0	4.6	121.38	-46.8	-23.9	57.3	48.4	8.91	6.430	
1,400.0	1,398.8	1,402.7	1,401.9	5.4	5.1	122.63	-49.5	-13.5	60.1	50.7	9.39	6.402	SF
1,500.0	1,497.1	1,503.9	1,501.9	5.8	5.5	123.33	-53.6	1.9	63.7	53.8	9.88	6.450	
1,600.0	1,594.3	1,605.3	1,601.0	6.1	5.9	123.52	-59.0	22.6	68.0	57.6	10.37	6.555	
1,700.0	1,690.2	1,706.7	1,698.8	6.5	6.2	123.29	-65.8	48.2	73.0	62.1	10.89	6.702	
1,800.0	1,784.4	1,808.2	1,795.2	6.8	6.6	122.72	-73.8	78.9	78.6	67.2	11.44	6.872	
1,900.0	1,876.8	1,909.7	1,889.8	7.1	6.9	121.89	-83.2	114.6	84.9	72.9	12.06	7.044	
2,000.0	1,967.1	2,011.3	1,982.4	7.4	7.2	120.86	-93.8	155.0	92.0	79.2	12.77	7.201	
2,100.0	2,054.9	2,112.9	2,072.6	7.7	7.5	119.71	-105.7	200.2	99.6	86.0	13.60	7.328	
2,200.0	2,140.2	2,214.0	2,159.9	7.9	7.7	118.55	-118.6	249.5	108.0	93.5	14.55	7.425	
2,300.0	2,222.6	2,313.5	2,245.0	8.2	7.9	119.05	-131.7	299.3	118.4	102.7	15.69	7.544	
2,400.0	2,301.9	2,412.4	2,329.7	8.6	8.2	121.35	-144.7	348.9	131.4	114.6	16.86	7.796	
2,437.4	2,330.8	2,449.3	2,361.2	8.9	8.5	122.54	-149.6	367.3	137.1	119.8	17.27	7.938	
2,500.0	2,378.6	2,510.8	2,413.8	9.4	8.9	124.74	-157.7	398.2	147.1	129.1	17.96	8.187	
2,600.0	2,455.1	2,609.2	2,498.0	10.2	9.5	127.69	-170.6	447.4	163.4	144.3	19.06	8.571	
2,700.0	2,531.5	2,707.5	2,582.1	11.1	10.2	130.10	-183.5	496.7	180.0	159.9	20.13	8.942	
2,800.0	2,608.0	2,805.9	2,666.3	12.0	10.8	132.11	-196.5	545.9	196.9	175.7	21.18	9.297	
2,900.0	2,684.5	2,904.2	2,750.4	12.9	11.5	133.80	-209.4	595.2	214.0	191.8	22.21	9.634	
3,000.0	2,760.9	3,002.6	2,834.5	13.8	12.2	135.23	-222.3	644.4	231.2	208.0	23.24	9.950	
3,100.0	2,837.4	3,100.9	2,918.7	14.8	12.9	136.47	-235.3	693.7	248.6	224.3	24.26	10.247	
3,200.0	2,913.9	3,199.3	3,002.8	15.7	13.6	137.55	-248.2	742.9	266.0	240.8	25.28	10.525	
3,300.0	2,990.3	3,297.6	3,087.0	16.6	14.4	138.49	-261.1	792.2	283.6	257.3	26.29	10.785	
3,400.0	3,066.8	3,396.0	3,171.1	17.6	15.1	139.33	-274.1	841.4	301.2	273.9	27.31	11.029	
3,500.0	3,143.3	3,494.3	3,255.2	18.5	15.8	140.07	-287.0	890.7	318.9	290.5	28.33	11.256	
3,600.0	3,219.8	3,592.7	3,339.4	19.5	16.5	140.73	-299.9	939.9	336.6	307.2	29.35	11.469	
3,700.0	3,296.2	3,691.0	3,423.5	20.5	17.3	141.33	-312.9	989.2	354.3	324.0	30.37	11.668	
3,800.0	3,372.7	3,789.4	3,507.6	21.4	18.0	141.87	-325.8	1,038.4	372.1	340.7	31.39	11.855	
3,900.0	3,449.2	3,887.7	3,591.8	22.4	18.7	142.36	-338.7	1,087.7	389.9	357.5	32.41	12.031	
4,000.0	3,525.6	3,986.1	3,675.9	23.4	19.5	142.81	-351.7	1,136.9	407.8	374.3	33.44	12.195	
4,100.0	3,602.1	4,084.4	3,760.1	24.4	20.2	143.22	-364.6	1,186.2	425.6	391.2	34.46	12.350	
4,200.0	3,678.6	4,182.8	3,844.2	25.3	21.0	143.60	-377.5	1,235.4	443.5	408.0	35.49	12.496	
4,300.0	3,755.0	4,281.1	3,928.3	26.3	21.7	143.94	-390.5	1,284.7	461.4	424.9	36.52	12.633	
4,400.0	3,831.5	4,379.4	4,012.5	27.3	22.5	144.27	-403.4	1,333.9	479.3	441.8	37.56	12.763	
4,500.0	3,908.0	4,477.8	4,096.6	28.3	23.2	144.57	-416.3	1,383.2	497.3	458.7	38.59	12.885	
4,600.0	3,984.4	4,576.1	4,180.8	29.3	24.0	144.84	-429.3	1,432.4	515.2	475.6	39.63	13.001	
4,700.0	4,060.9	4,674.5	4,264.9	30.2	24.7	145.10	-442.2	1,481.7	533.1	492.5	40.66	13.111	
4,800.0	4,137.4	4,772.8	4,349.0	31.2	25.5	145.35	-455.1	1,530.9	551.1	509.4	41.70	13.215	
4,900.0	4,213.8	4,871.2	4,433.2	32.2	26.2	145.57	-468.1	1,580.2	569.1	526.3	42.74	13.313	
5,000.0	4,290.3	4,969.5	4,517.3	33.2	27.0	145.79	-481.0	1,629.4	587.1	543.3	43.79	13.407	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-1NBHx - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	4,366.8	5,067.9	4,601.5	34.2	27.7	145.99	-493.9	1,678.7	605.0	560.2	44.83	13.496	
5,200.0	4,443.2	5,166.2	4,685.6	35.2	28.5	146.18	-506.9	1,728.0	623.0	577.2	45.88	13.581	
5,300.0	4,519.7	5,264.6	4,769.7	36.2	29.2	146.36	-519.8	1,777.2	641.0	594.1	46.92	13.662	
5,400.0	4,596.2	5,362.9	4,853.9	37.2	30.0	146.52	-532.7	1,826.5	659.0	611.1	47.97	13.739	
5,500.0	4,672.6	5,461.3	4,938.0	38.1	30.7	146.68	-545.7	1,875.7	677.0	628.0	49.02	13.812	
5,600.0	4,749.1	5,559.6	5,022.1	39.1	31.5	146.84	-558.6	1,925.0	695.1	645.0	50.07	13.883	
5,700.0	4,825.6	5,658.0	5,106.3	40.1	32.3	146.98	-571.5	1,974.2	713.1	662.0	51.12	13.950	
5,800.0	4,902.0	5,756.3	5,190.4	41.1	33.0	147.12	-584.5	2,023.5	731.1	678.9	52.17	14.014	
5,900.0	4,978.5	5,854.7	5,274.6	42.1	33.8	147.25	-597.4	2,072.7	749.1	695.9	53.22	14.076	
6,000.0	5,055.0	5,953.0	5,358.7	43.1	34.5	147.37	-610.4	2,122.0	767.1	712.9	54.27	14.135	
6,100.0	5,131.4	6,051.4	5,442.8	44.1	35.3	147.49	-623.3	2,171.2	785.2	729.9	55.33	14.192	
6,200.0	5,207.9	6,149.7	5,527.0	45.1	36.0	147.60	-636.2	2,220.5	803.2	746.8	56.38	14.246	
6,300.0	5,284.4	6,248.1	5,611.1	46.1	36.8	147.71	-649.2	2,269.7	821.3	763.8	57.44	14.298	
6,400.0	5,360.8	6,346.4	5,695.3	47.1	37.6	147.81	-662.1	2,319.0	839.3	780.8	58.49	14.349	
6,500.0	5,437.3	6,444.8	5,779.4	48.1	38.3	147.91	-675.0	2,368.2	857.3	797.8	59.55	14.397	
6,600.0	5,513.8	6,543.1	5,863.5	49.0	39.1	148.01	-688.0	2,417.5	875.4	814.8	60.61	14.444	
6,700.0	5,590.2	6,641.5	5,947.7	50.0	39.8	148.10	-700.9	2,466.7	893.4	831.8	61.67	14.488	
6,800.0	5,666.7	6,739.8	6,031.8	51.0	40.6	148.19	-713.8	2,516.0	911.5	848.8	62.72	14.532	
6,900.0	5,743.2	6,838.1	6,115.9	52.0	41.4	148.27	-726.8	2,565.2	929.5	865.8	63.78	14.573	
7,000.0	5,819.6	6,936.5	6,200.1	53.0	42.1	148.35	-739.7	2,614.5	947.6	882.8	64.84	14.614	
7,100.0	5,896.1	7,034.8	6,284.2	54.0	42.9	148.43	-752.6	2,663.7	965.7	899.8	65.90	14.652	
7,200.0	5,972.6	7,133.2	6,368.4	55.0	43.7	148.50	-765.6	2,713.0	983.7	916.7	66.96	14.690	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-1NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-117.17	-15.3	-29.8	33.5				
100.0	100.0	100.0	100.0	1.0	1.0	-117.17	-15.3	-29.8	33.5	31.6	1.96	17.124	
200.0	200.0	200.0	200.0	1.6	1.6	-117.17	-15.3	-29.8	33.5	30.4	3.12	10.745	
300.0	300.0	300.0	300.0	2.0	2.0	-117.17	-15.3	-29.8	33.5	29.6	3.96	8.464	
400.0	400.0	400.0	400.0	2.3	2.3	-117.17	-15.3	-29.8	33.5	28.9	4.66	7.197	
500.0	500.0	500.0	500.0	2.6	2.6	-117.17	-15.3	-29.8	33.5	28.3	5.27	6.363	
600.0	600.0	600.0	600.0	2.9	2.9	-117.17	-15.3	-29.8	33.5	27.7	5.82	5.760	
700.0	700.0	700.0	700.0	3.2	3.2	-117.17	-15.3	-29.8	33.5	27.2	6.33	5.298	
800.0	800.0	800.0	800.0	3.4	3.4	-117.17	-15.3	-29.8	33.5	26.7	6.80	4.929	
900.0	900.0	900.0	900.0	3.6	3.6	-117.17	-15.3	-29.8	33.5	26.3	7.25	4.625	
1,000.0	1,000.0	1,000.0	1,000.0	3.8	3.8	-117.17	-15.3	-29.8	33.5	25.9	7.67	4.370	
1,100.0	1,100.0	1,100.0	1,100.0	4.0	4.0	-117.17	-15.3	-29.8	33.5	25.5	8.08	4.150	CC, ES
1,200.0	1,200.0	1,200.0	1,200.0	4.5	4.2	149.63	-15.3	-29.8	35.8	27.1	8.69	4.116	SF
1,300.0	1,299.6	1,300.6	1,300.6	5.0	4.3	154.47	-15.4	-29.2	42.1	32.9	9.20	4.579	
1,400.0	1,398.8	1,402.5	1,402.3	5.4	4.8	157.89	-16.4	-23.8	49.5	39.4	10.00	4.943	
1,500.0	1,497.1	1,504.7	1,504.0	5.8	5.2	159.96	-18.3	-13.1	56.9	46.2	10.76	5.293	
1,600.0	1,594.3	1,607.4	1,605.3	6.1	5.6	161.14	-21.2	3.0	64.5	53.1	11.47	5.628	
1,700.0	1,690.2	1,710.5	1,706.1	6.5	6.0	161.69	-25.0	24.6	72.2	60.0	12.13	5.948	
1,800.0	1,784.4	1,814.0	1,805.9	6.8	6.4	161.79	-29.9	51.6	79.8	67.0	12.76	6.251	
1,900.0	1,876.8	1,917.9	1,904.4	7.1	6.7	161.55	-35.7	84.0	87.3	74.0	13.36	6.538	
2,000.0	1,967.1	2,022.2	2,001.3	7.4	7.0	161.06	-42.4	121.8	94.8	80.9	13.94	6.805	
2,100.0	2,054.9	2,126.9	2,096.4	7.7	7.3	160.35	-50.1	164.9	102.3	87.8	14.51	7.050	
2,200.0	2,140.2	2,231.9	2,189.2	7.9	7.6	159.48	-58.8	213.2	109.7	94.6	15.09	7.268	
2,300.0	2,222.6	2,337.3	2,279.5	8.2	7.9	158.48	-68.3	266.7	117.0	101.3	15.63	7.484	
2,304.4	2,226.2	2,342.0	2,283.5	8.2	7.9	158.43	-68.8	269.2	117.3	101.6	15.65	7.495	
2,400.0	2,301.9	2,437.8	2,363.7	8.6	8.0	157.79	-78.0	320.7	125.9	109.7	16.24	7.751	
2,437.4	2,330.8	2,474.9	2,394.8	8.9	8.1	157.76	-81.6	340.7	130.5	114.1	16.44	7.940	
2,500.0	2,378.6	2,537.0	2,446.8	9.4	8.5	157.89	-87.5	374.0	138.7	121.9	16.78	8.264	
2,600.0	2,455.1	2,636.1	2,529.8	10.2	9.2	158.08	-97.1	427.4	151.8	134.4	17.39	8.732	
2,700.0	2,531.5	2,735.3	2,612.9	11.1	9.9	158.23	-106.6	480.7	164.9	146.9	18.01	9.156	
2,800.0	2,608.0	2,834.4	2,695.9	12.0	10.6	158.36	-116.1	534.0	178.1	159.4	18.67	9.538	
2,900.0	2,684.5	2,933.5	2,778.9	12.9	11.3	158.48	-125.7	587.3	191.2	171.8	19.34	9.883	
3,000.0	2,760.9	3,032.7	2,861.9	13.8	12.0	158.58	-135.2	640.6	204.3	184.3	20.04	10.195	
3,100.0	2,837.4	3,131.8	2,945.0	14.8	12.8	158.66	-144.7	694.0	217.4	196.7	20.75	10.476	
3,200.0	2,913.9	3,230.9	3,028.0	15.7	13.5	158.74	-154.3	747.3	230.5	209.1	21.49	10.730	
3,300.0	2,990.3	3,330.1	3,111.0	16.6	14.3	158.81	-163.8	800.6	243.7	221.4	22.23	10.960	
3,400.0	3,066.8	3,429.2	3,194.1	17.6	15.1	158.87	-173.3	853.9	256.8	233.8	22.99	11.169	
3,500.0	3,143.3	3,528.3	3,277.1	18.5	15.9	158.93	-182.9	907.2	269.9	246.1	23.76	11.358	
3,600.0	3,219.8	3,627.5	3,360.1	19.5	16.6	158.98	-192.4	960.5	283.0	258.5	24.55	11.530	
3,700.0	3,296.2	3,726.6	3,443.2	20.5	17.4	159.02	-201.9	1,013.9	296.2	270.8	25.34	11.687	
3,800.0	3,372.7	3,825.7	3,526.2	21.4	18.2	159.06	-211.5	1,067.2	309.3	283.1	26.14	11.830	
3,900.0	3,449.2	3,924.9	3,609.2	22.4	19.0	159.10	-221.0	1,120.5	322.4	295.4	26.95	11.961	
4,000.0	3,525.6	4,024.0	3,692.2	23.4	19.8	159.14	-230.5	1,173.8	335.5	307.8	27.77	12.081	
4,100.0	3,602.1	4,123.1	3,775.3	24.4	20.6	159.17	-240.1	1,227.1	348.6	320.0	28.60	12.191	
4,200.0	3,678.6	4,222.3	3,858.3	25.3	21.4	159.20	-249.6	1,280.5	361.8	332.3	29.43	12.293	
4,300.0	3,755.0	4,321.4	3,941.3	26.3	22.2	159.23	-259.1	1,333.8	374.9	344.6	30.27	12.386	
4,400.0	3,831.5	4,420.6	4,024.4	27.3	23.0	159.26	-268.7	1,387.1	388.0	356.9	31.11	12.472	
4,500.0	3,908.0	4,519.7	4,107.4	28.3	23.8	159.28	-278.2	1,440.4	401.1	369.2	31.96	12.552	
4,600.0	3,984.4	4,618.8	4,190.4	29.3	24.6	159.31	-287.7	1,493.7	414.3	381.5	32.81	12.625	
4,700.0	4,060.9	4,718.0	4,273.5	30.2	25.4	159.33	-297.3	1,547.1	427.4	393.7	33.67	12.694	
4,800.0	4,137.4	4,817.1	4,356.5	31.2	26.2	159.35	-306.8	1,600.4	440.5	406.0	34.53	12.757	
4,900.0	4,213.8	4,916.2	4,439.5	32.2	27.0	159.37	-316.3	1,653.7	453.6	418.2	35.40	12.816	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-1NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,290.3	5,015.4	4,522.5	33.2	27.8	159.39	-325.9	1,707.0	466.8	430.5	36.26	12.871	
5,100.0	4,366.8	5,114.5	4,605.6	34.2	28.6	159.40	-335.4	1,760.3	479.9	442.8	37.14	12.923	
5,200.0	4,443.2	5,213.6	4,688.6	35.2	29.4	159.42	-344.9	1,813.6	493.0	455.0	38.01	12.971	
5,300.0	4,519.7	5,312.8	4,771.6	36.2	30.2	159.44	-354.5	1,867.0	506.1	467.3	38.89	13.016	
5,400.0	4,596.2	5,411.9	4,854.7	37.2	31.0	159.45	-364.0	1,920.3	519.3	479.5	39.77	13.058	
5,500.0	4,672.6	5,511.0	4,937.7	38.1	31.8	159.46	-373.5	1,973.6	532.4	491.7	40.65	13.097	
5,600.0	4,749.1	5,610.2	5,020.7	39.1	32.6	159.48	-383.1	2,026.9	545.5	504.0	41.53	13.134	
5,700.0	4,825.6	5,709.3	5,103.8	40.1	33.5	159.49	-392.6	2,080.2	558.6	516.2	42.42	13.169	
5,800.0	4,902.0	5,808.4	5,186.8	41.1	34.3	159.50	-402.1	2,133.6	571.8	528.5	43.31	13.202	
5,900.0	4,978.5	5,907.6	5,269.8	42.1	35.1	159.51	-411.7	2,186.9	584.9	540.7	44.20	13.233	
6,000.0	5,055.0	6,006.7	5,352.8	43.1	35.9	159.52	-421.2	2,240.2	598.0	552.9	45.09	13.262	
6,100.0	5,131.4	6,105.8	5,435.9	44.1	36.7	159.54	-430.7	2,293.5	611.1	565.2	45.99	13.290	
6,200.0	5,207.9	6,205.0	5,518.9	45.1	37.5	159.55	-440.3	2,346.8	624.3	577.4	46.88	13.316	
6,300.0	5,284.4	6,304.1	5,601.9	46.1	38.3	159.56	-449.8	2,400.2	637.4	589.6	47.78	13.341	
6,400.0	5,360.8	6,403.2	5,685.0	47.1	39.1	159.56	-459.3	2,453.5	650.5	601.8	48.68	13.364	
6,500.0	5,437.3	6,502.4	5,768.0	48.1	40.0	159.57	-468.9	2,506.8	663.6	614.1	49.58	13.386	
6,600.0	5,513.8	6,601.5	5,851.0	49.0	40.8	159.58	-478.4	2,560.1	676.8	626.3	50.48	13.408	
6,700.0	5,590.2	6,700.7	5,934.1	50.0	41.6	159.59	-487.9	2,613.4	689.9	638.5	51.38	13.428	
6,800.0	5,666.7	6,799.8	6,017.1	51.0	42.4	159.60	-497.5	2,666.7	703.0	650.7	52.28	13.447	
6,900.0	5,743.2	6,898.9	6,100.1	52.0	43.2	159.61	-507.0	2,720.1	716.1	663.0	53.19	13.465	
7,000.0	5,819.6	6,998.1	6,183.1	53.0	44.0	159.61	-516.5	2,773.4	729.3	675.2	54.09	13.482	
7,100.0	5,896.1	7,097.2	6,266.2	54.0	44.8	159.62	-526.1	2,826.7	742.4	687.4	55.00	13.499	
7,200.0	5,972.6	7,196.3	6,349.2	55.0	45.7	159.63	-535.6	2,880.0	755.5	699.6	55.90	13.514	
7,300.0	6,049.0	7,295.5	6,432.2	56.0	46.5	159.63	-545.1	2,933.3	768.6	711.8	56.81	13.530	
7,400.0	6,125.5	7,394.6	6,515.3	57.0	47.3	159.64	-554.7	2,986.7	781.8	724.0	57.72	13.544	
7,500.0	6,202.0	7,493.7	6,598.3	58.0	48.1	159.65	-564.2	3,040.0	794.9	736.3	58.63	13.558	
7,600.0	6,278.4	7,592.9	6,681.3	59.0	48.9	159.65	-573.7	3,093.3	808.0	748.5	59.54	13.571	
7,700.0	6,354.9	7,692.0	6,764.3	60.0	49.7	159.66	-583.3	3,146.6	821.1	760.7	60.45	13.583	
7,800.0	6,431.4	7,791.1	6,847.4	61.0	50.5	159.66	-592.8	3,199.9	834.3	772.9	61.36	13.595	
7,900.0	6,507.8	7,890.3	6,930.4	62.0	51.4	159.67	-602.3	3,253.3	847.4	785.1	62.28	13.607	
8,000.0	6,584.3	7,989.4	7,013.4	63.0	52.2	159.67	-611.9	3,306.6	860.5	797.3	63.19	13.618	
8,100.0	6,660.8	8,140.1	7,139.9	64.0	53.4	160.60	-611.8	3,387.8	871.3	808.1	63.24	13.778	
8,104.4	6,664.2	8,147.3	7,145.9	64.0	53.5	160.71	-610.9	3,391.6	871.6	808.5	63.16	13.799	
8,200.0	6,737.2	8,289.2	7,260.9	65.0	54.4	163.87	-573.7	3,465.5	876.0	815.6	60.39	14.505	
8,204.4	6,740.6	8,295.2	7,265.5	65.0	54.5	164.05	-571.4	3,468.4	876.1	815.9	60.24	14.545	
8,300.0	6,813.7	8,408.8	7,349.3	66.0	55.1	168.06	-517.2	3,522.2	878.4	821.5	56.89	15.440	
8,304.4	6,817.1	8,413.4	7,352.5	66.0	55.1	168.25	-514.6	3,524.3	878.5	821.7	56.75	15.480	
8,400.0	6,890.2	8,499.3	7,408.6	67.0	55.5	172.06	-460.5	3,560.3	882.7	828.4	54.31	16.252	
8,404.4	6,893.6	8,502.8	7,410.7	67.0	55.5	172.23	-458.1	3,561.7	883.0	828.7	54.23	16.283	
8,500.0	6,966.6	8,567.2	7,447.7	68.0	55.7	175.45	-411.2	3,585.4	892.2	839.3	52.86	16.877	
8,536.2	6,994.3	8,587.4	7,458.4	68.3	55.8	176.52	-395.4	3,592.3	897.3	844.7	52.54	17.077	
8,550.0	7,004.9	8,594.7	7,462.2	68.4	55.8	178.77	-389.6	3,594.7	899.5	847.0	52.44	17.152	
8,600.0	7,043.2	8,621.1	7,475.2	69.0	55.9	-172.99	-368.2	3,603.1	908.6	856.4	52.17	17.414	
8,650.0	7,081.3	8,650.0	7,488.4	69.4	56.0	-164.63	-344.0	3,611.6	919.1	867.1	51.99	17.678	
8,700.0	7,118.9	8,673.6	7,498.5	69.9	56.0	-156.71	-323.6	3,618.0	930.9	879.0	51.89	17.941	
8,750.0	7,155.9	8,700.0	7,508.9	70.4	56.1	-149.00	-300.3	3,624.7	943.7	891.9	51.79	18.223	
8,800.0	7,191.8	8,725.7	7,518.1	70.8	56.1	-141.79	-277.1	3,630.7	957.2	905.5	51.68	18.522	
8,850.0	7,226.4	8,750.0	7,526.1	71.2	56.1	-135.16	-254.7	3,635.8	971.1	919.6	51.53	18.846	
8,900.0	7,259.4	8,777.6	7,534.1	71.6	56.2	-128.97	-228.8	3,640.9	985.3	933.9	51.38	19.176	
8,950.0	7,290.6	8,800.0	7,539.8	71.9	56.2	-123.52	-207.5	3,644.6	999.5	948.3	51.16	19.536	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-167.10	-125.3	-28.7	128.5				
100.0	100.0	100.0	100.0	1.0	1.0	-167.10	-125.3	-28.7	128.5	126.6	1.96	65.637	
200.0	200.0	200.0	200.0	1.6	1.6	-167.10	-125.3	-28.7	128.5	125.4	3.12	41.185	
300.0	300.0	300.0	300.0	2.0	2.0	-167.10	-125.3	-28.7	128.5	124.6	3.96	32.440	
400.0	400.0	400.0	400.0	2.3	2.3	-167.10	-125.3	-28.7	128.5	123.9	4.66	27.586	
500.0	500.0	500.0	500.0	2.6	2.6	-167.10	-125.3	-28.7	128.5	123.2	5.27	24.389	
600.0	600.0	600.0	600.0	2.9	2.9	-167.10	-125.3	-28.7	128.5	122.7	5.82	22.078	
700.0	700.0	700.0	700.0	3.2	3.2	-167.10	-125.3	-28.7	128.5	122.2	6.33	20.306	
800.0	800.0	800.0	800.0	3.4	3.4	-167.10	-125.3	-28.7	128.5	121.7	6.80	18.892	
900.0	900.0	900.0	900.0	3.6	3.6	-167.10	-125.3	-28.7	128.5	121.3	7.25	17.728	
1,000.0	1,000.0	1,000.0	1,000.0	3.8	3.8	-167.10	-125.3	-28.7	128.5	120.8	7.67	16.748	
1,100.0	1,100.0	1,100.0	1,100.0	4.0	4.0	-167.10	-125.3	-28.7	128.5	120.4	8.08	15.908	CC
1,200.0	1,200.0	1,200.1	1,200.1	4.5	4.1	98.33	-125.4	-28.1	128.9	120.5	8.36	15.419	
1,300.0	1,299.6	1,300.3	1,300.2	5.0	4.6	99.42	-126.5	-22.9	129.9	121.1	8.71	14.901	
1,400.0	1,398.8	1,400.7	1,400.0	5.4	5.1	100.43	-128.7	-12.6	131.5	122.4	9.08	14.482	
1,500.0	1,497.1	1,501.2	1,499.2	5.8	5.5	101.36	-131.9	2.8	133.7	124.3	9.46	14.130	
1,600.0	1,594.3	1,601.8	1,597.6	6.1	5.8	102.18	-136.3	23.3	136.6	126.7	9.89	13.815	
1,700.0	1,690.2	1,702.5	1,694.8	6.5	6.2	102.90	-141.7	48.9	140.1	129.7	10.37	13.509	
1,800.0	1,784.4	1,803.3	1,790.7	6.8	6.5	103.51	-148.2	79.6	144.1	133.2	10.93	13.188	
1,900.0	1,876.8	1,904.3	1,884.8	7.1	6.9	104.00	-155.7	115.1	148.7	137.1	11.58	12.836	
2,000.0	1,967.1	2,005.3	1,977.0	7.4	7.2	104.38	-164.2	155.5	153.8	141.5	12.36	12.445	
2,100.0	2,054.9	2,106.4	2,066.9	7.7	7.5	104.66	-173.8	200.7	159.5	146.2	13.28	12.013	
2,200.0	2,140.2	2,207.6	2,154.3	7.9	7.7	104.84	-184.3	250.5	165.7	151.3	14.34	11.549	
2,300.0	2,222.6	2,308.8	2,239.0	8.2	8.0	104.92	-195.8	304.8	172.3	156.7	15.58	11.061	
2,400.0	2,301.9	2,410.1	2,320.7	8.6	8.3	104.92	-208.2	363.5	179.4	162.5	16.96	10.580	
2,437.4	2,330.8	2,447.8	2,350.2	8.9	8.6	104.91	-213.1	386.3	182.2	164.7	17.48	10.421	
2,500.0	2,378.6	2,510.2	2,399.1	9.4	9.0	105.15	-221.1	424.3	187.0	168.6	18.41	10.154	
2,600.0	2,455.1	2,609.9	2,477.1	10.2	9.9	105.51	-233.9	485.0	194.6	174.6	20.01	9.729	
2,700.0	2,531.5	2,709.6	2,555.2	11.1	10.7	105.84	-246.8	545.7	202.3	180.7	21.64	9.347	
2,800.0	2,608.0	2,809.3	2,633.2	12.0	11.5	106.15	-259.6	606.4	210.0	186.6	23.32	9.005	
2,900.0	2,684.5	2,909.0	2,711.3	12.9	12.4	106.43	-272.4	667.1	217.6	192.6	25.02	8.699	
3,000.0	2,760.9	3,008.7	2,789.3	13.8	13.3	106.70	-285.3	727.8	225.3	198.6	26.74	8.425	
3,100.0	2,837.4	3,108.4	2,867.4	14.8	14.2	106.95	-298.1	788.5	233.0	204.5	28.49	8.179	
3,200.0	2,913.9	3,208.1	2,945.4	15.7	15.1	107.18	-311.0	849.2	240.7	210.4	30.24	7.957	
3,300.0	2,990.3	3,307.8	3,023.5	16.6	16.0	107.40	-323.8	909.8	248.3	216.3	32.01	7.757	
3,400.0	3,066.8	3,407.5	3,101.5	17.6	16.9	107.61	-336.6	970.5	256.0	222.2	33.79	7.576	
3,500.0	3,143.3	3,507.2	3,179.6	18.5	17.8	107.80	-349.5	1,031.2	263.7	228.1	35.58	7.412	
3,600.0	3,219.8	3,606.9	3,257.6	19.5	18.7	107.98	-362.3	1,091.9	271.4	234.0	37.38	7.262	
3,700.0	3,296.2	3,706.6	3,335.7	20.5	19.6	108.15	-375.2	1,152.6	279.1	239.9	39.18	7.124	
3,800.0	3,372.7	3,806.3	3,413.7	21.4	20.5	108.32	-388.0	1,213.3	286.8	245.8	40.99	6.998	
3,900.0	3,449.2	3,906.0	3,491.8	22.4	21.5	108.47	-400.8	1,274.0	294.5	251.7	42.80	6.882	
4,000.0	3,525.6	4,005.7	3,569.8	23.4	22.4	108.62	-413.7	1,334.7	302.2	257.6	44.61	6.775	
4,100.0	3,602.1	4,105.4	3,647.9	24.4	23.3	108.76	-426.5	1,395.4	309.9	263.5	46.43	6.675	
4,200.0	3,678.6	4,205.1	3,725.9	25.3	24.3	108.89	-439.4	1,456.1	317.6	269.4	48.25	6.583	
4,300.0	3,755.0	4,304.8	3,803.9	26.3	25.2	109.02	-452.2	1,516.8	325.3	275.3	50.07	6.498	
4,400.0	3,831.5	4,404.5	3,882.0	27.3	26.1	109.14	-465.0	1,577.5	333.1	281.2	51.89	6.418	
4,500.0	3,908.0	4,504.2	3,960.0	28.3	27.1	109.25	-477.9	1,638.2	340.8	287.0	53.72	6.343	
4,600.0	3,984.4	4,603.9	4,038.1	29.3	28.0	109.36	-490.7	1,698.9	348.5	292.9	55.55	6.273	
4,700.0	4,060.9	4,703.6	4,116.1	30.2	29.0	109.47	-503.5	1,759.6	356.2	298.8	57.38	6.208	
4,800.0	4,137.4	4,803.3	4,194.2	31.2	29.9	109.57	-516.4	1,820.3	363.9	304.7	59.21	6.146	
4,900.0	4,213.8	4,903.0	4,272.2	32.2	30.9	109.66	-529.2	1,880.9	371.6	310.6	61.04	6.088	
5,000.0	4,290.3	5,002.7	4,350.3	33.2	31.8	109.76	-542.1	1,941.6	379.3	316.5	62.87	6.033	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	4,366.8	5,102.4	4,428.3	34.2	32.7	109.84	-554.9	2,002.3	387.1	322.3	64.71	5.982	
5,200.0	4,443.2	5,202.1	4,506.4	35.2	33.7	109.93	-567.7	2,063.0	394.8	328.2	66.54	5.933	
5,300.0	4,519.7	5,301.8	4,584.4	36.2	34.6	110.01	-580.6	2,123.7	402.5	334.1	68.38	5.886	
5,400.0	4,596.2	5,401.5	4,662.5	37.2	35.6	110.09	-593.4	2,184.4	410.2	340.0	70.21	5.842	
5,500.0	4,672.6	5,501.2	4,740.5	38.1	36.5	110.17	-606.3	2,245.1	417.9	345.9	72.05	5.801	
5,600.0	4,749.1	5,600.9	4,818.6	39.1	37.5	110.24	-619.1	2,305.8	425.7	351.8	73.89	5.761	
5,700.0	4,825.6	5,700.6	4,896.6	40.1	38.4	110.31	-631.9	2,366.5	433.4	357.7	75.73	5.723	
5,800.0	4,902.0	5,800.3	4,974.7	41.1	39.4	110.38	-644.8	2,427.2	441.1	363.5	77.56	5.687	
5,900.0	4,978.5	5,900.0	5,052.7	42.1	40.3	110.45	-657.6	2,487.9	448.8	369.4	79.40	5.653	
6,000.0	5,055.0	5,999.7	5,130.8	43.1	41.3	110.51	-670.5	2,548.6	456.6	375.3	81.24	5.620	
6,100.0	5,131.4	6,099.4	5,208.8	44.1	42.2	110.57	-683.3	2,609.3	464.3	381.2	83.08	5.588	
6,200.0	5,207.9	6,199.1	5,286.9	45.1	43.2	110.63	-696.1	2,670.0	472.0	387.1	84.92	5.558	
6,300.0	5,284.4	6,298.8	5,364.9	46.1	44.1	110.69	-709.0	2,730.7	479.7	393.0	86.76	5.530	
6,400.0	5,360.8	6,398.5	5,443.0	47.1	45.1	110.74	-721.8	2,791.4	487.5	398.9	88.60	5.502	
6,500.0	5,437.3	6,498.2	5,521.0	48.1	46.0	110.80	-734.6	2,852.1	495.2	404.8	90.44	5.475	
6,600.0	5,513.8	6,597.9	5,599.0	49.0	47.0	110.85	-747.5	2,912.7	502.9	410.6	92.28	5.450	
6,700.0	5,590.2	6,697.6	5,677.1	50.0	47.9	110.90	-760.3	2,973.4	510.6	416.5	94.12	5.426	
6,800.0	5,666.7	6,797.3	5,755.1	51.0	48.9	110.95	-773.2	3,034.1	518.4	422.4	95.96	5.402	
6,900.0	5,743.2	6,897.0	5,833.2	52.0	49.8	111.00	-786.0	3,094.8	526.1	428.3	97.80	5.379	
7,000.0	5,819.6	6,996.7	5,911.2	53.0	50.8	111.05	-798.8	3,155.5	533.8	434.2	99.64	5.358	
7,100.0	5,896.1	7,096.4	5,989.3	54.0	51.7	111.09	-811.7	3,216.2	541.6	440.1	101.48	5.337	
7,200.0	5,972.6	7,196.1	6,067.3	55.0	52.7	111.13	-824.5	3,276.9	549.3	446.0	103.32	5.316	
7,300.0	6,049.0	7,295.8	6,145.4	56.0	53.6	111.18	-837.4	3,337.6	557.0	451.9	105.16	5.297	
7,400.0	6,125.5	7,395.5	6,223.4	57.0	54.6	111.22	-850.2	3,398.3	564.8	457.7	107.01	5.278	
7,500.0	6,202.0	7,495.2	6,301.5	58.0	55.5	111.26	-863.0	3,459.0	572.5	463.6	108.85	5.259	
7,600.0	6,278.4	7,594.9	6,379.5	59.0	56.5	111.30	-875.9	3,519.7	580.2	469.5	110.69	5.242	
7,700.0	6,354.9	7,694.6	6,457.6	60.0	57.5	111.34	-888.7	3,580.4	587.9	475.4	112.53	5.225	
7,800.0	6,431.4	7,794.3	6,535.6	61.0	58.4	111.37	-901.6	3,641.1	595.7	481.3	114.37	5.208	
7,900.0	6,507.8	7,894.0	6,613.7	62.0	59.4	111.41	-914.4	3,701.8	603.4	487.2	116.21	5.192	
8,000.0	6,584.3	7,993.7	6,691.7	63.0	60.3	111.45	-927.2	3,762.5	611.1	493.1	118.06	5.177	
8,100.0	6,660.8	8,093.4	6,769.8	64.0	61.3	111.48	-940.1	3,823.2	618.9	499.0	119.90	5.162	
8,200.0	6,737.2	8,193.1	6,847.8	65.0	62.2	111.51	-952.9	3,883.9	626.6	504.9	121.74	5.147	
8,300.0	6,813.7	8,421.2	7,027.4	66.0	64.3	112.58	-957.6	4,023.5	625.2	502.7	122.48	5.105	
8,400.0	6,890.2	8,646.5	7,200.7	67.0	66.2	116.10	-909.3	4,158.3	602.3	485.9	116.38	5.175	
8,500.0	6,966.6	8,835.2	7,335.7	68.0	67.4	121.92	-830.2	4,263.2	562.5	456.2	106.27	5.293	
8,536.2	6,994.3	8,893.5	7,374.6	68.3	67.8	124.53	-799.0	4,293.5	545.0	442.8	102.27	5.329	
8,550.0	7,004.9	8,914.7	7,388.3	68.4	67.9	126.72	-787.0	4,304.2	538.2	437.5	100.73	5.343	
8,600.0	7,043.2	8,988.6	7,434.7	69.0	68.3	134.68	-742.0	4,340.2	513.9	418.9	95.06	5.406	
8,650.0	7,081.3	9,059.2	7,476.2	69.4	68.6	142.59	-695.0	4,372.5	490.7	401.4	89.34	5.493	
8,700.0	7,118.9	9,126.8	7,513.3	69.9	68.9	150.30	-646.4	4,401.4	468.8	385.1	83.68	5.602	
8,750.0	7,155.9	9,192.0	7,546.4	70.4	69.1	157.71	-596.5	4,427.1	448.1	369.9	78.23	5.728	
8,800.0	7,191.8	9,255.2	7,575.9	70.8	69.3	164.74	-545.5	4,450.0	428.9	355.7	73.14	5.864	
8,850.0	7,226.4	9,316.7	7,601.9	71.2	69.5	171.37	-493.6	4,470.3	411.2	342.7	68.56	5.999	
8,900.0	7,259.4	9,376.7	7,624.7	71.6	69.6	177.58	-441.1	4,488.0	395.2	330.6	64.62	6.116	
8,950.0	7,290.6	9,435.4	7,644.5	71.9	69.8	-176.62	-388.0	4,503.4	380.8	319.4	61.44	6.198	
9,000.0	7,319.8	9,493.0	7,661.4	72.2	69.9	-171.19	-334.5	4,516.5	368.1	309.0	59.09	6.229	
9,050.0	7,346.7	9,549.7	7,675.4	72.5	69.9	-166.14	-280.7	4,527.5	357.0	299.4	57.56	6.202	
9,100.0	7,371.1	9,605.6	7,686.8	72.7	70.0	-161.45	-226.8	4,536.3	347.4	290.7	56.79	6.119	
9,150.0	7,392.8	9,660.7	7,695.6	72.9	70.0	-157.10	-172.7	4,543.1	339.4	282.8	56.63	5.993	
9,200.0	7,411.8	9,715.2	7,701.8	73.1	70.0	-153.11	-118.8	4,548.0	332.7	275.8	56.94	5.844	
9,250.0	7,427.7	9,769.3	7,705.6	73.2	70.1	-149.49	-65.0	4,550.9	327.3	269.7	57.54	5.687	
9,300.0	7,440.6	9,822.8	7,707.0	73.3	70.1	-146.25	-11.5	4,552.0	322.9	264.6	58.30	5.538	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Rule Assigned:

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,311.8	7,443.1	9,834.6	7,707.0	73.3	70.0	-145.58	0.3	4,552.0	322.0	263.5	58.51	5.504	
9,350.0	7,450.2	9,871.6	7,707.0	73.4	70.0	-143.78	37.3	4,552.0	319.7	260.6	59.11	5.409	
9,361.1	7,451.9	9,882.5	7,707.0	73.4	70.0	-143.33	48.2	4,552.0	319.2	260.0	59.26	5.387	
9,400.0	7,456.6	9,920.9	7,707.0	73.4	70.0	-142.09	86.6	4,552.0	317.9	258.1	59.75	5.320	
9,410.6	7,457.5	9,931.5	7,707.0	73.4	70.0	-141.84	97.2	4,552.0	317.6	257.8	59.87	5.305	
9,450.0	7,459.7	9,970.7	7,707.0	73.4	70.0	-141.26	136.4	4,552.0	317.1	256.8	60.28	5.261	
9,454.4	7,459.8	9,975.2	7,707.0	73.4	70.0	-141.23	140.9	4,552.0	317.1	256.7	60.32	5.257	
9,471.1	7,460.0	9,991.8	7,707.0	73.4	70.0	-141.18	157.6	4,552.0	317.0	256.6	60.46	5.244	
9,472.4	7,460.0	9,993.1	7,707.0	73.4	70.0	-141.18	158.9	4,552.0	317.0	256.5	60.47	5.243	
9,500.0	7,460.0	10,020.7	7,707.0	73.4	70.0	-141.18	186.4	4,552.0	317.0	256.3	60.69	5.223	
9,504.4	7,460.0	10,025.2	7,707.0	73.4	70.0	-141.18	190.9	4,552.0	317.0	256.3	60.73	5.220	
9,600.0	7,460.0	10,120.7	7,707.0	73.5	70.0	-141.18	286.4	4,552.0	317.0	255.5	61.56	5.150	
9,604.4	7,460.0	10,125.2	7,707.0	73.5	70.0	-141.18	290.9	4,552.0	317.0	255.4	61.60	5.146	
9,700.0	7,460.0	10,220.7	7,707.0	73.5	70.1	-141.18	386.4	4,552.0	317.0	254.5	62.47	5.075	
9,704.4	7,460.0	10,225.2	7,707.0	73.5	70.1	-141.18	390.9	4,552.0	317.0	254.5	62.51	5.071	
9,800.0	7,460.0	10,320.7	7,707.0	73.5	70.1	-141.18	486.4	4,552.0	317.0	253.6	63.43	4.998	
9,804.4	7,460.0	10,325.2	7,707.0	73.5	70.1	-141.18	490.9	4,552.0	317.0	253.5	63.48	4.994	
9,900.0	7,460.0	10,420.7	7,707.0	73.6	70.2	-141.18	586.4	4,552.0	317.0	252.6	64.44	4.920	
9,904.4	7,460.0	10,425.2	7,707.0	73.6	70.2	-141.18	590.9	4,552.0	317.0	252.5	64.48	4.916	
10,000.0	7,460.0	10,520.7	7,707.0	73.6	70.2	-141.18	686.4	4,552.0	317.0	251.5	65.48	4.841	
10,004.4	7,460.0	10,525.2	7,707.0	73.6	70.3	-141.18	690.9	4,552.0	317.0	251.5	65.53	4.838	
10,100.0	7,460.0	10,620.7	7,707.0	73.7	70.3	-141.18	786.4	4,552.0	317.0	250.4	66.57	4.762	
10,104.4	7,460.0	10,625.2	7,707.0	73.7	70.3	-141.18	790.9	4,552.0	317.0	250.4	66.62	4.758	
10,200.0	7,460.0	10,720.7	7,707.0	73.8	70.5	-141.18	886.4	4,552.0	317.0	249.3	67.70	4.683	
10,204.4	7,460.0	10,725.2	7,707.0	73.8	70.5	-141.18	890.9	4,552.0	317.0	249.3	67.75	4.679	
10,300.0	7,460.0	10,820.7	7,707.0	73.9	70.6	-141.18	986.4	4,552.0	317.0	248.2	68.86	4.604	
10,304.4	7,460.0	10,825.2	7,707.0	73.9	70.6	-141.18	990.9	4,552.0	317.0	248.1	68.92	4.600	
10,400.0	7,460.0	10,920.7	7,707.0	74.1	70.7	-141.18	1,086.4	4,552.0	317.0	247.0	70.06	4.525	
10,404.4	7,460.0	10,925.2	7,707.0	74.1	70.7	-141.18	1,090.9	4,552.0	317.0	246.9	70.12	4.521	
10,500.0	7,460.0	11,020.7	7,707.0	74.2	70.9	-141.18	1,186.4	4,552.0	317.0	245.7	71.30	4.446	
10,504.4	7,460.0	11,025.2	7,707.0	74.2	70.9	-141.18	1,190.9	4,552.0	317.0	245.7	71.35	4.443	
10,600.0	7,460.0	11,120.7	7,707.0	74.4	71.1	-141.18	1,286.4	4,552.0	317.0	244.5	72.56	4.369	
10,604.4	7,460.0	11,125.2	7,707.0	74.4	71.1	-141.18	1,290.9	4,552.0	317.0	244.4	72.62	4.366	
10,700.0	7,460.0	11,220.7	7,707.0	74.6	71.3	-141.18	1,386.4	4,552.0	317.0	243.2	73.86	4.292	
10,704.4	7,460.0	11,225.2	7,707.0	74.6	71.3	-141.18	1,390.9	4,552.0	317.0	243.1	73.92	4.289	
10,800.0	7,460.0	11,320.7	7,707.0	74.8	71.5	-141.18	1,486.4	4,552.0	317.0	241.8	75.18	4.217	
10,804.4	7,460.0	11,325.2	7,707.0	74.8	71.5	-141.18	1,490.9	4,552.0	317.0	241.8	75.24	4.213	
10,900.0	7,460.0	11,420.7	7,707.0	75.0	71.7	-141.18	1,586.4	4,552.0	317.0	240.5	76.53	4.142	
10,904.4	7,460.0	11,425.2	7,707.0	75.0	71.8	-141.18	1,590.9	4,552.0	317.0	240.4	76.59	4.139	
11,000.0	7,460.0	11,520.7	7,707.0	75.2	72.0	-141.18	1,686.4	4,552.0	317.0	239.1	77.91	4.069	
11,004.4	7,460.0	11,525.2	7,707.0	75.2	72.0	-141.18	1,690.9	4,552.0	317.0	239.1	77.97	4.066	
11,100.0	7,460.0	11,620.7	7,707.0	75.5	72.3	-141.18	1,786.4	4,552.0	317.0	237.7	79.31	3.997	
11,104.4	7,460.0	11,625.2	7,707.0	75.5	72.3	-141.18	1,790.9	4,552.0	317.0	237.7	79.37	3.994	
11,200.0	7,460.0	11,720.7	7,707.0	75.7	72.6	-141.18	1,886.4	4,552.0	317.0	236.3	80.73	3.927	
11,204.4	7,460.0	11,725.2	7,707.0	75.7	72.6	-141.18	1,890.9	4,552.0	317.0	236.2	80.80	3.924	
11,300.0	7,460.0	11,820.7	7,707.0	76.0	73.0	-141.18	1,986.4	4,552.0	317.0	234.9	82.18	3.858	
11,304.4	7,460.0	11,825.2	7,707.0	76.0	73.0	-141.18	1,990.9	4,552.0	317.0	234.8	82.24	3.855	
11,400.0	7,460.0	11,920.7	7,707.0	76.3	73.3	-141.18	2,086.4	4,552.0	317.0	233.4	83.65	3.790	
11,404.4	7,460.0	11,925.2	7,707.0	76.4	73.3	-141.18	2,090.9	4,552.0	317.0	233.3	83.71	3.787	
11,500.0	7,460.0	12,020.7	7,707.0	76.7	73.7	-141.18	2,186.4	4,552.0	317.0	231.9	85.13	3.724	
11,504.4	7,460.0	12,025.2	7,707.0	76.7	73.7	-141.18	2,190.9	4,552.0	317.0	231.8	85.20	3.721	
11,600.0	7,460.0	12,120.7	7,707.0	77.0	74.1	-141.18	2,286.4	4,552.0	317.0	230.4	86.64	3.659	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,604.4	7,460.0	12,125.2	7,707.0	77.0	74.1	-141.18	2,290.9	4,552.0	317.0	230.3	86.70	3.657	
11,700.0	7,460.0	12,220.7	7,707.0	77.4	74.6	-141.18	2,386.4	4,552.0	317.0	228.9	88.16	3.596	
11,704.4	7,460.0	12,225.2	7,707.0	77.4	74.6	-141.18	2,390.9	4,552.0	317.0	228.8	88.23	3.593	
11,800.0	7,460.0	12,320.7	7,707.0	77.8	75.0	-141.18	2,486.4	4,552.0	317.0	227.3	89.70	3.535	
11,804.4	7,460.0	12,325.2	7,707.0	77.8	75.1	-141.18	2,490.9	4,552.0	317.0	227.3	89.77	3.532	
11,900.0	7,460.0	12,420.7	7,707.0	78.2	75.5	-141.18	2,586.4	4,552.0	317.0	225.8	91.25	3.474	
11,904.4	7,460.0	12,425.2	7,707.0	78.2	75.6	-141.18	2,590.9	4,552.0	317.0	225.7	91.32	3.472	
12,000.0	7,460.0	12,520.7	7,707.0	78.7	76.1	-141.18	2,686.4	4,552.0	317.0	224.2	92.82	3.416	
12,004.4	7,460.0	12,525.2	7,707.0	78.7	76.1	-141.18	2,690.9	4,552.0	317.0	224.2	92.89	3.413	
12,100.0	7,460.0	12,620.7	7,707.0	79.1	76.6	-141.17	2,786.4	4,552.0	317.0	222.6	94.41	3.358	
12,104.4	7,460.0	12,625.2	7,707.0	79.2	76.6	-141.17	2,790.9	4,552.0	317.0	222.6	94.48	3.356	
12,200.0	7,460.0	12,720.7	7,707.0	79.6	77.2	-141.17	2,886.4	4,552.0	317.1	221.0	96.01	3.302	
12,204.4	7,460.0	12,725.2	7,707.0	79.6	77.2	-141.17	2,890.9	4,552.0	317.1	221.0	96.08	3.300	
12,300.0	7,460.0	12,820.7	7,707.0	80.1	77.8	-141.17	2,986.4	4,552.0	317.1	219.4	97.62	3.248	
12,304.4	7,460.0	12,825.2	7,707.0	80.2	77.8	-141.17	2,990.9	4,552.0	317.1	219.4	97.69	3.246	
12,400.0	7,460.0	12,920.7	7,707.0	80.7	78.4	-141.17	3,086.4	4,552.0	317.1	217.8	99.24	3.195	
12,404.4	7,460.0	12,925.2	7,707.0	80.7	78.5	-141.17	3,090.9	4,552.0	317.1	217.7	99.31	3.192	
12,500.0	7,460.0	13,020.7	7,707.0	81.2	79.1	-141.17	3,186.4	4,552.0	317.1	216.2	100.88	3.143	
12,504.4	7,460.0	13,025.2	7,707.0	81.3	79.1	-141.17	3,190.9	4,552.0	317.1	216.1	100.95	3.141	
12,600.0	7,460.0	13,120.7	7,707.0	81.8	79.8	-141.17	3,286.4	4,552.0	317.1	214.5	102.52	3.093	
12,604.4	7,460.0	13,125.2	7,707.0	81.9	79.8	-141.17	3,290.9	4,552.0	317.1	214.5	102.60	3.090	
12,700.0	7,460.0	13,220.7	7,707.0	82.5	80.5	-141.17	3,386.4	4,552.0	317.1	212.9	104.18	3.043	
12,704.4	7,460.0	13,225.2	7,707.0	82.5	80.5	-141.17	3,390.9	4,552.0	317.1	212.8	104.25	3.041	
12,800.0	7,460.0	13,320.7	7,707.0	83.1	81.3	-141.17	3,486.4	4,552.0	317.1	211.2	105.85	2.995	
12,804.4	7,460.0	13,325.2	7,707.0	83.1	81.3	-141.17	3,490.9	4,552.0	317.1	211.1	105.92	2.993	
12,900.0	7,460.0	13,420.7	7,707.0	83.8	82.0	-141.17	3,586.4	4,552.0	317.1	209.5	107.52	2.949	
12,904.4	7,460.0	13,425.2	7,707.0	83.8	82.1	-141.17	3,590.9	4,552.0	317.1	209.5	107.60	2.947	
13,000.0	7,460.0	13,520.7	7,707.0	84.4	82.8	-141.17	3,686.4	4,552.0	317.1	207.9	109.21	2.903	
13,004.4	7,460.0	13,525.2	7,707.0	84.5	82.9	-141.17	3,690.9	4,552.0	317.1	207.8	109.29	2.901	
13,100.0	7,460.0	13,620.7	7,707.0	85.2	83.6	-141.17	3,786.4	4,552.0	317.1	206.2	110.91	2.859	
13,104.4	7,460.0	13,625.2	7,707.0	85.2	83.7	-141.17	3,790.9	4,552.0	317.1	206.1	110.98	2.857	
13,200.0	7,460.0	13,720.7	7,707.0	85.9	84.5	-141.17	3,886.4	4,552.0	317.1	204.5	112.61	2.816	
13,204.4	7,460.0	13,725.2	7,707.0	85.9	84.5	-141.17	3,890.9	4,552.0	317.1	204.4	112.69	2.814	
13,300.0	7,460.0	13,820.7	7,707.0	86.7	85.4	-141.17	3,986.4	4,552.0	317.1	202.7	114.32	2.773	
13,304.4	7,460.0	13,825.2	7,707.0	86.7	85.4	-141.17	3,990.9	4,552.0	317.1	202.7	114.40	2.772	
13,400.0	7,460.0	13,920.7	7,707.0	87.4	86.3	-141.17	4,086.4	4,552.0	317.1	201.0	116.04	2.732	
13,404.4	7,460.0	13,925.2	7,707.0	87.5	86.3	-141.17	4,090.9	4,552.0	317.1	201.0	116.12	2.731	
13,500.0	7,460.0	14,020.7	7,707.0	88.2	87.2	-141.17	4,186.4	4,552.0	317.1	199.3	117.77	2.692	
13,504.4	7,460.0	14,025.2	7,707.0	88.3	87.2	-141.17	4,190.9	4,552.0	317.1	199.2	117.85	2.691	
13,600.0	7,460.0	14,120.7	7,707.0	89.1	88.1	-141.17	4,286.4	4,552.0	317.1	197.6	119.50	2.653	
13,604.4	7,460.0	14,125.2	7,707.0	89.1	88.2	-141.17	4,290.9	4,552.0	317.1	197.5	119.58	2.652	
13,700.0	7,460.0	14,220.7	7,707.0	89.9	89.1	-141.17	4,386.4	4,552.0	317.1	195.8	121.24	2.615	
13,704.4	7,460.0	14,225.2	7,707.0	90.0	89.1	-141.17	4,390.9	4,552.0	317.1	195.8	121.32	2.614	
13,800.0	7,460.0	14,320.7	7,707.0	90.8	90.1	-141.17	4,486.4	4,552.0	317.1	194.1	122.99	2.578	
13,804.4	7,460.0	14,325.2	7,707.0	90.8	90.1	-141.17	4,490.9	4,552.0	317.1	194.0	123.07	2.576	
13,900.0	7,460.0	14,420.7	7,707.0	91.7	91.1	-141.17	4,586.4	4,552.1	317.1	192.3	124.74	2.542	
13,904.4	7,460.0	14,425.2	7,707.0	91.7	91.1	-141.17	4,590.9	4,552.1	317.1	192.3	124.82	2.540	
14,000.0	7,460.0	14,520.7	7,707.0	92.6	92.1	-141.17	4,686.4	4,552.1	317.1	190.6	126.50	2.506	
14,004.4	7,460.0	14,525.2	7,707.0	92.6	92.1	-141.17	4,690.9	4,552.1	317.1	190.5	126.58	2.505	
14,100.0	7,460.0	14,620.7	7,707.0	93.5	93.1	-141.17	4,786.4	4,552.1	317.1	188.8	128.27	2.472	
14,104.4	7,460.0	14,625.2	7,707.0	93.6	93.1	-141.17	4,790.9	4,552.1	317.1	188.7	128.35	2.471	
14,200.0	7,460.0	14,720.7	7,707.0	94.5	94.2	-141.17	4,886.4	4,552.1	317.1	187.0	130.04	2.438	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,204.4	7,460.0	14,725.2	7,707.0	94.5	94.2	-141.17	4,890.9	4,552.1	317.1	187.0	130.12	2.437	
14,300.0	7,460.0	14,820.7	7,707.0	95.4	95.2	-141.17	4,986.4	4,552.1	317.1	185.3	131.81	2.406	
14,304.4	7,460.0	14,825.2	7,707.0	95.5	95.3	-141.17	4,990.9	4,552.1	317.1	185.2	131.89	2.404	
14,400.0	7,460.0	14,920.7	7,707.0	96.4	96.3	-141.17	5,086.4	4,552.1	317.1	183.5	133.59	2.373	
14,404.4	7,460.0	14,925.2	7,707.0	96.5	96.3	-141.17	5,090.9	4,552.1	317.1	183.4	133.67	2.372	
14,500.0	7,460.0	15,020.7	7,707.0	97.4	97.4	-141.17	5,186.4	4,552.1	317.1	181.7	135.38	2.342	
14,504.4	7,460.0	15,025.2	7,707.0	97.5	97.4	-141.17	5,190.9	4,552.1	317.1	181.6	135.46	2.341	
14,600.0	7,460.0	15,120.7	7,707.0	98.5	98.5	-141.17	5,286.4	4,552.1	317.1	179.9	137.17	2.312	
14,604.4	7,460.0	15,125.2	7,707.0	98.5	98.6	-141.17	5,290.9	4,552.1	317.1	179.8	137.25	2.310	
14,700.0	7,460.0	15,220.7	7,707.0	99.5	99.6	-141.17	5,386.4	4,552.1	317.1	178.1	138.96	2.282	
14,704.4	7,460.0	15,225.2	7,707.0	99.5	99.7	-141.17	5,390.9	4,552.1	317.1	178.0	139.04	2.280	
14,800.0	7,460.0	15,320.7	7,707.0	100.5	100.8	-141.17	5,486.4	4,552.1	317.1	176.3	140.76	2.253	
14,804.4	7,460.0	15,325.2	7,707.0	100.6	100.8	-141.17	5,490.9	4,552.1	317.1	176.2	140.84	2.251	
14,900.0	7,460.0	15,420.7	7,707.0	101.6	101.9	-141.17	5,586.4	4,552.1	317.1	174.5	142.57	2.224	
14,904.4	7,460.0	15,425.2	7,707.0	101.7	102.0	-141.17	5,590.9	4,552.1	317.1	174.4	142.65	2.223	
15,000.0	7,460.0	15,520.7	7,707.0	102.7	103.1	-141.16	5,686.4	4,552.1	317.1	172.7	144.37	2.196	
15,004.4	7,460.0	15,525.2	7,707.0	102.7	103.1	-141.16	5,690.9	4,552.1	317.1	172.6	144.45	2.195	
15,100.0	7,460.0	15,620.7	7,707.0	103.8	104.2	-141.16	5,786.4	4,552.1	317.1	170.9	146.18	2.169	
15,104.4	7,460.0	15,625.2	7,707.0	103.8	104.3	-141.16	5,790.9	4,552.1	317.1	170.8	146.26	2.168	
15,200.0	7,460.0	15,720.7	7,707.0	104.9	105.4	-141.16	5,886.4	4,552.1	317.1	169.1	148.00	2.143	
15,204.4	7,460.0	15,725.2	7,707.0	104.9	105.5	-141.16	5,890.9	4,552.1	317.1	169.0	148.08	2.141	
15,300.0	7,460.0	15,820.7	7,707.0	106.0	106.6	-141.16	5,986.4	4,552.1	317.1	167.3	149.82	2.117	
15,304.4	7,460.0	15,825.2	7,707.0	106.0	106.6	-141.16	5,990.9	4,552.1	317.1	167.2	149.90	2.115	
15,400.0	7,460.0	15,920.7	7,707.0	107.1	107.8	-141.16	6,086.4	4,552.1	317.1	165.5	151.64	2.091	
15,404.4	7,460.0	15,925.2	7,707.0	107.2	107.8	-141.16	6,090.9	4,552.1	317.1	165.4	151.72	2.090	
15,500.0	7,460.0	16,020.7	7,707.0	108.3	109.0	-141.16	6,186.4	4,552.1	317.1	163.6	153.46	2.066	
15,504.4	7,460.0	16,025.2	7,707.0	108.3	109.0	-141.16	6,190.9	4,552.1	317.1	163.6	153.54	2.065	
15,600.0	7,460.0	16,120.7	7,707.0	109.4	110.2	-141.16	6,286.4	4,552.1	317.1	161.8	155.29	2.042	
15,604.4	7,460.0	16,125.2	7,707.0	109.5	110.3	-141.16	6,290.9	4,552.1	317.1	161.7	155.37	2.041	
15,700.0	7,460.0	16,220.7	7,707.0	110.6	111.4	-141.16	6,386.4	4,552.1	317.1	160.0	157.12	2.018	
15,704.4	7,460.0	16,225.2	7,707.0	110.6	111.5	-141.16	6,390.9	4,552.1	317.1	159.9	157.20	2.017	
15,800.0	7,460.0	16,320.7	7,707.0	111.7	112.7	-141.16	6,486.4	4,552.1	317.1	158.1	158.96	1.995	Collision Risk Procedures Req.
15,804.4	7,460.0	16,325.2	7,707.0	111.8	112.7	-141.16	6,490.9	4,552.1	317.1	158.1	159.04	1.994	Collision Risk Procedures Req.
15,900.0	7,460.0	16,420.7	7,707.0	112.9	113.9	-141.16	6,586.4	4,552.1	317.1	156.3	160.79	1.972	Collision Risk Procedures Req.
15,904.4	7,460.0	16,425.2	7,707.0	113.0	113.9	-141.16	6,590.9	4,552.1	317.1	156.2	160.88	1.971	Collision Risk Procedures Req.
16,000.0	7,460.0	16,520.7	7,707.0	114.1	115.1	-141.16	6,686.4	4,552.1	317.1	154.5	162.63	1.950	Collision Risk Procedures Req.
16,004.4	7,460.0	16,525.2	7,707.0	114.1	115.2	-141.16	6,690.9	4,552.1	317.1	154.4	162.72	1.949	Collision Risk Procedures Req.
16,100.0	7,460.0	16,620.7	7,707.0	115.3	116.4	-141.16	6,786.4	4,552.1	317.1	152.6	164.48	1.928	Collision Risk Procedures Req.
16,104.4	7,460.0	16,625.2	7,707.0	115.3	116.4	-141.16	6,790.9	4,552.1	317.1	152.6	164.56	1.927	Collision Risk Procedures Req.
16,200.0	7,460.0	16,720.7	7,707.0	116.5	117.6	-141.16	6,886.4	4,552.1	317.1	150.8	166.32	1.907	Collision Risk Procedures Req.
16,204.4	7,460.0	16,725.2	7,707.0	116.5	117.7	-141.16	6,890.9	4,552.1	317.1	150.7	166.40	1.906	Collision Risk Procedures Req.
16,300.0	7,460.0	16,820.7	7,707.0	117.7	118.9	-141.16	6,986.4	4,552.1	317.1	148.9	168.17	1.886	Collision Risk Procedures Req.
16,304.4	7,460.0	16,825.2	7,707.0	117.8	119.0	-141.16	6,990.9	4,552.1	317.1	148.9	168.25	1.885	Collision Risk Procedures Req.
16,400.0	7,460.0	16,920.7	7,707.0	118.9	120.2	-141.16	7,086.4	4,552.1	317.1	147.1	170.02	1.865	Collision Risk Procedures Req.
16,404.4	7,460.0	16,925.2	7,707.0	119.0	120.2	-141.16	7,090.9	4,552.1	317.1	147.0	170.10	1.864	Collision Risk Procedures Req.
16,500.0	7,460.0	17,020.7	7,707.0	120.1	121.4	-141.16	7,186.4	4,552.1	317.1	145.2	171.87	1.845	Collision Risk Procedures Req.
16,504.4	7,460.0	17,025.2	7,707.0	120.2	121.5	-141.16	7,190.9	4,552.1	317.1	145.2	171.95	1.844	Collision Risk Procedures Req.
16,600.0	7,460.0	17,120.7	7,707.0	121.4	122.7	-141.16	7,286.4	4,552.1	317.1	143.4	173.73	1.825	Collision Risk Procedures Req.
16,604.4	7,460.0	17,125.2	7,707.0	121.4	122.8	-141.16	7,290.9	4,552.1	317.1	143.3	173.81	1.825	Collision Risk Procedures Req.
16,700.0	7,460.0	17,220.7	7,707.0	122.6	124.0	-141.16	7,386.4	4,552.1	317.1	141.5	175.58	1.806	Collision Risk Procedures Req.
16,704.4	7,460.0	17,225.2	7,707.0	122.7	124.1	-141.16	7,390.9	4,552.1	317.1	141.5	175.67	1.805	Collision Risk Procedures Req.
16,800.0	7,460.0	17,320.7	7,707.0	123.9	125.3	-141.16	7,486.4	4,552.1	317.1	139.7	177.44	1.787	Collision Risk Procedures Req.

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
16,804.4	7,460.0	17,325.2	7,707.0	123.9	125.3	-141.16	7,490.9	4,552.1	317.1	139.6	177.52	1.786	Collision Risk Procedures Req.
16,900.0	7,460.0	17,420.7	7,707.0	125.1	126.6	-141.16	7,586.4	4,552.1	317.1	137.8	179.30	1.769	Collision Risk Procedures Req.
16,904.4	7,460.0	17,425.2	7,707.0	125.2	126.6	-141.16	7,590.9	4,552.1	317.1	137.7	179.39	1.768	Collision Risk Procedures Req.
17,000.0	7,460.0	17,520.7	7,707.0	126.4	127.9	-141.16	7,686.4	4,552.1	317.1	136.0	181.17	1.750	Collision Risk Procedures Req.
17,004.4	7,460.0	17,525.2	7,707.0	126.4	127.9	-141.16	7,690.9	4,552.1	317.1	135.9	181.25	1.750	Collision Risk Procedures Req.
17,100.0	7,460.0	17,620.7	7,707.0	127.6	129.2	-141.16	7,786.4	4,552.1	317.1	134.1	183.03	1.733	Collision Risk Procedures Req.
17,104.4	7,460.0	17,625.2	7,707.0	127.7	129.2	-141.16	7,790.9	4,552.1	317.1	134.0	183.11	1.732	Collision Risk Procedures Req.
17,200.0	7,460.0	17,720.7	7,707.0	128.9	130.5	-141.16	7,886.4	4,552.1	317.1	132.2	184.90	1.715	Collision Risk Procedures Req.
17,204.4	7,460.0	17,725.2	7,707.0	128.9	130.5	-141.16	7,890.9	4,552.1	317.1	132.1	184.98	1.714	Collision Risk Procedures Req.
17,300.0	7,460.0	17,820.7	7,707.0	130.2	131.8	-141.16	7,986.4	4,552.1	317.1	130.4	186.77	1.698	Collision Risk Procedures Req.
17,304.4	7,460.0	17,825.2	7,707.0	130.2	131.8	-141.16	7,990.9	4,552.1	317.1	130.3	186.85	1.697	Collision Risk Procedures Req.
17,400.0	7,460.0	17,920.7	7,707.0	131.4	133.1	-141.16	8,086.4	4,552.1	317.1	128.5	188.64	1.681	Collision Risk Procedures Req.
17,404.4	7,460.0	17,925.2	7,707.0	131.5	133.2	-141.16	8,090.9	4,552.1	317.1	128.4	188.72	1.680	Collision Risk Procedures Req.
17,500.0	7,460.0	18,020.7	7,707.0	132.7	134.4	-141.16	8,186.4	4,552.1	317.1	126.6	190.51	1.665	Collision Risk Procedures Req.
17,504.4	7,460.0	18,025.2	7,707.0	132.8	134.5	-141.16	8,190.9	4,552.1	317.1	126.5	190.59	1.664	Collision Risk Procedures Req.
17,600.0	7,460.0	18,120.7	7,707.0	134.0	135.7	-141.16	8,286.4	4,552.1	317.1	124.7	192.38	1.648	Collision Risk Procedures Req.
17,604.4	7,460.0	18,125.2	7,707.0	134.1	135.8	-141.16	8,290.9	4,552.1	317.1	124.7	192.47	1.648	Collision Risk Procedures Req.
17,700.0	7,460.0	18,220.7	7,707.0	135.3	137.1	-141.16	8,386.4	4,552.1	317.1	122.9	194.26	1.633	Collision Risk Procedures Req.
17,704.4	7,460.0	18,225.2	7,707.0	135.4	137.1	-141.16	8,390.9	4,552.1	317.1	122.8	194.34	1.632	Collision Risk Procedures Req.
17,800.0	7,460.0	18,320.7	7,707.0	136.6	138.4	-141.16	8,486.4	4,552.1	317.1	121.0	196.14	1.617	Collision Risk Procedures Req.
17,804.4	7,460.0	18,325.2	7,707.0	136.7	138.4	-141.16	8,490.9	4,552.1	317.1	120.9	196.22	1.616	Collision Risk Procedures Req.
17,900.0	7,460.0	18,420.7	7,707.0	137.9	139.7	-141.16	8,586.4	4,552.1	317.1	119.1	198.01	1.602	Collision Risk Procedures Req.
17,904.4	7,460.0	18,425.2	7,707.0	138.0	139.8	-141.16	8,590.9	4,552.1	317.1	119.0	198.10	1.601	Collision Risk Procedures Req.
18,000.0	7,460.0	18,520.7	7,707.0	139.2	141.0	-141.15	8,686.4	4,552.1	317.1	117.2	199.90	1.587	Collision Risk Procedures Req.
18,004.4	7,460.0	18,525.2	7,707.0	139.3	141.1	-141.15	8,690.9	4,552.1	317.1	117.2	199.98	1.586	Collision Risk Procedures Req.
18,100.0	7,460.0	18,620.7	7,707.0	140.5	142.4	-141.15	8,786.4	4,552.1	317.1	115.4	201.78	1.572	Collision Risk Procedures Req.
18,104.4	7,460.0	18,625.2	7,707.0	140.6	142.4	-141.15	8,790.9	4,552.1	317.1	115.3	201.86	1.571	Collision Risk Procedures Req.
18,200.0	7,460.0	18,720.7	7,707.0	141.8	143.7	-141.15	8,886.4	4,552.1	317.1	113.5	203.66	1.557	Collision Risk Procedures Req.
18,204.4	7,460.0	18,725.2	7,707.0	141.9	143.8	-141.15	8,890.9	4,552.1	317.1	113.4	203.74	1.557	Collision Risk Procedures Req.
18,300.0	7,460.0	18,820.7	7,707.0	143.1	145.0	-141.15	8,986.4	4,552.1	317.1	111.6	205.54	1.543	Collision Risk Procedures Req.
18,304.4	7,460.0	18,825.2	7,707.0	143.2	145.1	-141.15	8,990.9	4,552.1	317.1	111.5	205.63	1.542	Collision Risk Procedures Req.
18,400.0	7,460.0	18,920.7	7,707.0	144.4	146.4	-141.15	9,086.4	4,552.1	317.1	109.7	207.43	1.529	Collision Risk Procedures Req.
18,404.4	7,460.0	18,925.2	7,707.0	144.5	146.4	-141.15	9,090.9	4,552.1	317.1	109.6	207.51	1.528	Collision Risk Procedures Req.
18,500.0	7,460.0	19,020.7	7,707.0	145.8	147.7	-141.15	9,186.4	4,552.1	317.1	107.8	209.32	1.515	Collision Risk Procedures Req.
18,504.4	7,460.0	19,025.2	7,707.0	145.8	147.8	-141.15	9,190.9	4,552.1	317.1	107.7	209.40	1.515	Collision Risk Procedures Req.
18,600.0	7,460.0	19,120.7	7,707.0	147.1	149.1	-141.15	9,286.4	4,552.1	317.1	105.9	211.21	1.502	Collision Risk Procedures Req.
18,604.4	7,460.0	19,125.2	7,707.0	147.1	149.1	-141.15	9,290.9	4,552.1	317.1	105.9	211.29	1.501	Collision Risk Procedures Req.
18,700.0	7,460.0	19,220.7	7,707.0	148.4	150.4	-141.15	9,386.4	4,552.1	317.1	104.1	213.10	1.488	Collision Risk Procedures Req.
18,704.4	7,460.0	19,225.2	7,707.0	148.5	150.5	-141.15	9,390.9	4,552.1	317.1	104.0	213.18	1.488	Collision Risk Procedures Req.
18,800.0	7,460.0	19,320.7	7,707.0	149.7	151.8	-141.15	9,486.4	4,552.1	317.1	102.2	214.99	1.475	Collision Risk Procedures Req.
18,804.4	7,460.0	19,325.2	7,707.0	149.8	151.8	-141.15	9,490.9	4,552.1	317.1	102.1	215.07	1.475	Collision Risk Procedures Req.
18,900.0	7,460.0	19,420.7	7,707.0	151.1	153.1	-141.15	9,586.4	4,552.1	317.1	100.3	216.88	1.462	Collision Risk Procedures Req.
18,904.4	7,460.0	19,425.2	7,707.0	151.1	153.2	-141.15	9,590.9	4,552.1	317.1	100.2	216.96	1.462	Collision Risk Procedures Req.
19,000.0	7,460.0	19,520.7	7,707.0	152.4	154.5	-141.15	9,686.4	4,552.1	317.2	98.4	218.77	1.450	Collision Risk Procedures Req.
19,004.4	7,460.0	19,525.2	7,707.0	152.5	154.6	-141.15	9,690.9	4,552.1	317.2	98.3	218.86	1.449	Collision Risk Procedures Req.
19,100.0	7,460.0	19,620.7	7,707.0	153.7	155.9	-141.15	9,786.4	4,552.1	317.2	96.5	220.67	1.437	Collision Risk Procedures Req.
19,100.7	7,460.0	19,621.4	7,707.0	153.8	155.9	-141.15	9,787.2	4,552.1	317.2	96.5	220.68	1.437	Collision Risk Procedures Req., ES, SF
19,116.5	7,460.0	19,634.9	7,707.0	154.0	156.0	-141.15	9,800.6	4,552.1	317.2	96.8	220.40	1.439	Collision Risk Procedures Req.
19,116.5	7,460.0	19,634.9	7,707.0	154.0	156.0	-141.15	9,800.6	4,552.1	317.2	96.8	220.39	1.439	Collision Risk Procedures Req.
19,116.9	7,460.0	19,634.9	7,707.0	154.0	156.0	-141.15	9,800.6	4,552.1	317.2	96.9	220.31	1.440	Collision Risk Procedures Req.

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-12.68	139.6	-31.4	143.1				
100.0	100.0	100.0	100.0	1.0	1.0	-12.68	139.6	-31.4	143.1	141.2	1.96	73.102	
200.0	200.0	200.0	200.0	1.6	1.6	-12.68	139.6	-31.4	143.1	140.0	3.12	45.869	
300.0	300.0	300.0	300.0	2.0	2.0	-12.68	139.6	-31.4	143.1	139.2	3.96	36.130	
400.0	400.0	400.0	400.0	2.3	2.3	-12.68	139.6	-31.4	143.1	138.5	4.66	30.723	
500.0	500.0	500.0	500.0	2.6	2.6	-12.68	139.6	-31.4	143.1	137.9	5.27	27.163	
600.0	600.0	600.0	600.0	2.9	2.9	-12.68	139.6	-31.4	143.1	137.3	5.82	24.589	
700.0	700.0	700.0	700.0	3.2	3.2	-12.68	139.6	-31.4	143.1	136.8	6.33	22.616	
800.0	800.0	800.0	800.0	3.4	3.4	-12.68	139.6	-31.4	143.1	136.3	6.80	21.041	
900.0	900.0	900.0	900.0	3.6	3.6	-12.68	139.6	-31.4	143.1	135.9	7.25	19.744	
1,000.0	1,000.0	1,000.0	1,000.0	3.8	3.8	-12.68	139.6	-31.4	143.1	135.5	7.67	18.653	
1,100.0	1,100.0	1,100.0	1,100.0	4.0	4.0	-12.68	139.6	-31.4	143.1	135.1	8.08	17.717	CC
1,200.0	1,200.0	1,201.1	1,201.1	4.5	4.2	-108.84	139.6	-30.7	143.8	135.4	8.39	17.139	
1,300.0	1,299.6	1,303.6	1,303.4	5.0	4.6	-109.77	139.2	-25.3	144.7	135.9	8.81	16.422	
1,400.0	1,398.8	1,406.1	1,405.3	5.4	5.1	-110.61	138.3	-14.3	145.6	136.4	9.23	15.770	
1,500.0	1,497.1	1,508.8	1,506.7	5.8	5.5	-111.39	137.0	2.1	146.7	137.0	9.68	15.159	
1,600.0	1,594.3	1,611.6	1,607.1	6.1	5.9	-112.09	135.2	23.9	147.7	137.6	10.14	14.566	
1,700.0	1,690.2	1,714.5	1,706.3	6.5	6.2	-112.71	133.1	51.1	148.8	138.2	10.65	13.971	
1,800.0	1,784.4	1,817.5	1,804.0	6.8	6.6	-113.25	130.5	83.7	150.0	138.8	11.23	13.361	
1,900.0	1,876.8	1,920.7	1,899.9	7.1	6.9	-113.71	127.5	121.5	151.2	139.3	11.88	12.727	
1,904.4	1,880.9	1,925.3	1,904.1	7.1	6.9	-113.73	127.3	123.3	151.2	139.3	11.91	12.696	
2,000.0	1,967.1	2,023.9	1,993.7	7.4	7.2	-114.10	124.0	164.4	152.3	139.7	12.62	12.066	
2,004.4	1,971.0	2,028.5	1,997.8	7.4	7.2	-114.11	123.9	166.4	152.4	139.7	12.66	12.034	
2,100.0	2,054.9	2,127.2	2,085.1	7.7	7.5	-114.41	120.2	212.4	153.5	140.0	13.49	11.382	
2,104.4	2,058.8	2,131.8	2,089.1	7.7	7.5	-114.42	120.0	214.6	153.6	140.0	13.53	11.349	
2,200.0	2,140.2	2,230.5	2,173.8	7.9	7.8	-114.64	116.0	265.2	154.7	140.2	14.47	10.686	
2,204.4	2,143.9	2,235.1	2,177.7	7.9	7.8	-114.65	115.8	267.7	154.7	140.2	14.52	10.655	
2,300.0	2,222.6	2,333.9	2,259.5	8.2	8.1	-114.80	111.4	322.8	155.8	140.2	15.62	9.980	
2,304.4	2,226.2	2,338.5	2,263.3	8.2	8.1	-114.80	111.2	325.5	155.9	140.2	15.67	9.947	
2,400.0	2,301.9	2,437.4	2,342.1	8.6	8.5	-114.88	106.5	385.0	157.0	140.1	16.88	9.303	
2,401.7	2,303.2	2,439.1	2,343.4	8.6	8.5	-114.88	106.4	386.0	157.0	140.1	16.90	9.292	
2,437.4	2,330.8	2,475.9	2,372.0	8.9	8.8	-114.89	104.5	409.2	157.4	140.1	17.35	9.075	
2,440.2	2,332.9	2,478.7	2,374.1	8.9	8.8	-114.90	104.4	411.0	157.5	140.1	17.38	9.058	
2,500.0	2,378.6	2,538.5	2,420.2	9.4	9.3	-114.98	101.4	449.0	158.2	140.0	18.20	8.691	
2,504.4	2,382.0	2,543.0	2,423.6	9.4	9.3	-114.98	101.1	451.9	158.3	140.0	18.27	8.663	
2,600.0	2,455.1	2,638.5	2,497.2	10.2	10.1	-115.11	96.3	512.6	159.5	139.8	19.67	8.108	
2,604.4	2,458.5	2,643.0	2,500.6	10.3	10.2	-115.12	96.1	515.4	159.5	139.8	19.73	8.084	
2,700.0	2,531.5	2,738.5	2,574.2	11.1	11.0	-115.24	91.2	576.2	160.7	139.5	21.18	7.588	
2,704.4	2,535.0	2,742.9	2,577.6	11.1	11.0	-115.25	91.0	579.0	160.8	139.5	21.25	7.566	
2,800.0	2,608.0	2,838.5	2,651.2	12.0	11.9	-115.37	86.2	639.8	161.9	139.2	22.73	7.125	
2,804.4	2,611.4	2,842.9	2,654.6	12.0	11.9	-115.38	86.0	642.6	162.0	139.2	22.80	7.106	
2,900.0	2,684.5	2,938.5	2,728.2	12.9	12.8	-115.50	81.1	703.3	163.2	138.9	24.31	6.713	
2,904.4	2,687.9	2,942.9	2,731.6	12.9	12.8	-115.50	80.9	706.2	163.3	138.9	24.38	6.696	
3,000.0	2,760.9	3,038.5	2,805.2	13.8	13.7	-115.62	76.1	766.9	164.4	138.5	25.92	6.345	
3,004.4	2,764.4	3,042.9	2,808.6	13.9	13.7	-115.63	75.8	769.8	164.5	138.5	25.99	6.329	
3,100.0	2,837.4	3,138.5	2,882.2	14.8	14.6	-115.75	71.0	830.5	165.7	138.2	27.55	6.015	
3,104.4	2,840.8	3,142.9	2,885.6	14.8	14.6	-115.75	70.8	833.3	165.8	138.1	27.62	6.002	
3,200.0	2,913.9	3,238.5	2,959.2	15.7	15.5	-115.87	65.9	894.1	167.0	137.8	29.19	5.720	
3,204.4	2,917.3	3,242.9	2,962.6	15.7	15.6	-115.87	65.7	896.9	167.0	137.7	29.26	5.707	
3,300.0	2,990.3	3,338.4	3,036.2	16.6	16.4	-115.99	60.9	957.7	168.2	137.4	30.84	5.453	
3,304.4	2,993.8	3,342.9	3,039.7	16.7	16.5	-115.99	60.6	960.5	168.3	137.3	30.92	5.442	
3,400.0	3,066.8	3,438.4	3,113.2	17.6	17.4	-116.10	55.8	1,021.2	169.5	136.9	32.51	5.212	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
3,404.4	3,070.2	3,442.9	3,116.7	17.6	17.4	-116.11	55.6	1,024.1	169.5	136.9	32.59	5.202	
3,500.0	3,143.3	3,538.4	3,190.2	18.5	18.3	-116.22	50.7	1,084.8	170.7	136.5	34.19	4.994	
3,504.4	3,146.7	3,542.9	3,193.7	18.6	18.4	-116.23	50.5	1,087.6	170.8	136.5	34.26	4.984	
3,600.0	3,219.8	3,638.4	3,267.3	19.5	19.3	-116.33	45.7	1,148.4	172.0	136.1	35.87	4.794	
3,604.4	3,223.2	3,642.9	3,270.7	19.6	19.3	-116.34	45.4	1,151.2	172.0	136.1	35.94	4.786	
3,700.0	3,296.2	3,738.4	3,344.3	20.5	20.2	-116.45	40.6	1,212.0	173.2	135.7	37.56	4.612	
3,704.4	3,299.6	3,742.9	3,347.7	20.5	20.3	-116.45	40.4	1,214.8	173.3	135.6	37.63	4.605	
3,800.0	3,372.7	3,838.4	3,421.3	21.4	21.2	-116.56	35.5	1,275.6	174.5	135.2	39.25	4.446	
3,804.4	3,376.1	3,842.8	3,424.7	21.5	21.2	-116.56	35.3	1,278.4	174.5	135.2	39.32	4.438	
3,900.0	3,449.2	3,938.4	3,498.3	22.4	22.1	-116.67	30.5	1,339.1	175.7	134.8	40.94	4.292	
3,904.4	3,452.6	3,942.8	3,501.7	22.5	22.2	-116.67	30.3	1,342.0	175.8	134.8	41.02	4.286	
4,000.0	3,525.6	4,038.4	3,575.3	23.4	23.1	-116.78	25.4	1,402.7	177.0	134.3	42.64	4.151	
4,004.4	3,529.0	4,042.8	3,578.7	23.4	23.1	-116.78	25.2	1,405.5	177.0	134.3	42.72	4.144	
4,100.0	3,602.1	4,138.4	3,652.3	24.4	24.1	-116.88	20.3	1,466.3	178.2	133.9	44.34	4.020	
4,104.4	3,605.5	4,142.8	3,655.7	24.4	24.1	-116.89	20.1	1,469.1	178.3	133.9	44.42	4.014	
4,200.0	3,678.6	4,238.4	3,729.3	25.3	25.0	-116.99	15.3	1,529.9	179.5	133.5	46.05	3.898	
4,204.4	3,682.0	4,242.8	3,732.7	25.4	25.1	-116.99	15.1	1,532.7	179.6	133.4	46.12	3.893	
4,300.0	3,755.0	4,338.4	3,806.3	26.3	26.0	-117.09	10.2	1,593.4	180.8	133.0	47.75	3.786	
4,304.4	3,758.4	4,342.8	3,809.7	26.4	26.0	-117.09	10.0	1,596.3	180.8	133.0	47.83	3.781	
4,400.0	3,831.5	4,438.3	3,883.3	27.3	27.0	-117.19	5.2	1,657.0	182.0	132.6	49.46	3.680	
4,404.4	3,834.9	4,442.8	3,886.8	27.3	27.0	-117.20	4.9	1,659.9	182.1	132.5	49.53	3.676	
4,500.0	3,908.0	4,538.3	3,960.3	28.3	27.9	-117.29	0.1	1,720.6	183.3	132.1	51.16	3.582	
4,504.4	3,911.4	4,542.8	3,963.8	28.3	28.0	-117.30	-0.1	1,723.4	183.3	132.1	51.24	3.578	
4,600.0	3,984.4	4,638.3	4,037.3	29.3	28.9	-117.39	-5.0	1,784.2	184.5	131.7	52.87	3.490	
4,604.4	3,987.8	4,642.8	4,040.8	29.3	28.9	-117.40	-5.2	1,787.0	184.6	131.7	52.95	3.487	
4,700.0	4,060.9	4,738.3	4,114.4	30.2	29.9	-117.49	-10.0	1,847.8	185.8	131.2	54.58	3.404	
4,704.4	4,064.3	4,742.8	4,117.8	30.3	29.9	-117.49	-10.3	1,850.6	185.9	131.2	54.65	3.401	
4,800.0	4,137.4	4,838.3	4,191.4	31.2	30.8	-117.59	-15.1	1,911.3	187.1	130.8	56.29	3.324	
4,804.4	4,140.8	4,842.8	4,194.8	31.3	30.9	-117.59	-15.3	1,914.2	187.1	130.8	56.36	3.320	
4,900.0	4,213.8	4,938.3	4,268.4	32.2	31.8	-117.68	-20.2	1,974.9	188.3	130.3	57.99	3.248	
4,904.4	4,217.2	4,942.8	4,271.8	32.3	31.9	-117.69	-20.4	1,977.7	188.4	130.3	58.07	3.244	
5,000.0	4,290.3	5,038.3	4,345.4	33.2	32.8	-117.78	-25.2	2,038.5	189.6	129.9	59.70	3.176	
5,004.4	4,293.7	5,042.7	4,348.8	33.2	32.8	-117.78	-25.5	2,041.3	189.6	129.9	59.77	3.173	
5,100.0	4,366.8	5,138.3	4,422.4	34.2	33.8	-117.87	-30.3	2,102.1	190.9	129.5	61.40	3.108	
5,104.4	4,370.2	5,142.7	4,425.8	34.2	33.8	-117.87	-30.5	2,104.9	190.9	129.4	61.48	3.105	
5,200.0	4,443.2	5,238.3	4,499.4	35.2	34.7	-117.96	-35.4	2,165.7	192.1	129.0	63.11	3.044	
5,204.4	4,446.6	5,242.7	4,502.8	35.2	34.8	-117.96	-35.6	2,168.5	192.2	129.0	63.19	3.041	
5,300.0	4,519.7	5,338.3	4,576.4	36.2	35.7	-118.05	-40.4	2,229.2	193.4	128.6	64.82	2.984	
5,304.4	4,523.1	5,342.7	4,579.8	36.2	35.8	-118.05	-40.6	2,232.1	193.4	128.5	64.89	2.981	
5,400.0	4,596.2	5,438.3	4,653.4	37.2	36.7	-118.14	-45.5	2,292.8	194.6	128.1	66.52	2.926	
5,404.4	4,599.6	5,442.7	4,656.9	37.2	36.7	-118.14	-45.7	2,295.6	194.7	128.1	66.60	2.924	
5,500.0	4,672.6	5,538.3	4,730.4	38.1	37.7	-118.23	-50.5	2,356.4	195.9	127.7	68.22	2.872	
5,504.4	4,676.0	5,542.7	4,733.9	38.2	37.7	-118.23	-50.8	2,359.2	196.0	127.7	68.30	2.869	
5,600.0	4,749.1	5,638.2	4,807.4	39.1	38.7	-118.31	-55.6	2,420.0	197.2	127.3	69.93	2.820	
5,604.4	4,752.5	5,642.7	4,810.9	39.2	38.7	-118.32	-55.8	2,422.8	197.2	127.2	70.00	2.818	
5,700.0	4,825.6	5,738.2	4,884.5	40.1	39.6	-118.40	-60.7	2,483.5	198.4	126.8	71.63	2.771	
5,704.4	4,829.0	5,742.7	4,887.9	40.2	39.7	-118.40	-60.9	2,486.4	198.5	126.8	71.70	2.768	
5,800.0	4,902.0	5,838.2	4,961.5	41.1	40.6	-118.48	-65.7	2,547.1	199.7	126.4	73.33	2.724	
5,804.4	4,905.4	5,842.7	4,964.9	41.2	40.7	-118.49	-66.0	2,550.0	199.8	126.4	73.40	2.722	
5,900.0	4,978.5	5,938.2	5,038.5	42.1	41.6	-118.57	-70.8	2,610.7	201.0	126.0	75.03	2.679	
5,904.4	4,981.9	5,942.7	5,041.9	42.1	41.6	-118.57	-71.0	2,613.5	201.0	125.9	75.10	2.677	
6,000.0	5,055.0	6,038.2	5,115.5	43.1	42.6	-118.65	-75.9	2,674.3	202.2	125.5	76.73	2.636	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,004.4	5,058.4	6,042.7	5,118.9	43.1	42.6	-118.65	-76.1	2,677.1	202.3	125.5	76.80	2.634	
6,100.0	5,131.4	6,138.2	5,192.5	44.1	43.5	-118.73	-80.9	2,737.9	203.5	125.1	78.42	2.595	
6,104.4	5,134.8	6,142.7	5,195.9	44.1	43.6	-118.74	-81.2	2,740.7	203.6	125.1	78.50	2.593	
6,200.0	5,207.9	6,238.2	5,269.5	45.1	44.5	-118.81	-86.0	2,801.4	204.8	124.7	80.12	2.556	
6,204.4	5,211.3	6,242.6	5,272.9	45.1	44.6	-118.82	-86.2	2,804.3	204.8	124.6	80.20	2.554	
6,300.0	5,284.4	6,338.2	5,346.5	46.1	45.5	-118.89	-91.1	2,865.0	206.1	124.2	81.82	2.518	
6,304.4	5,287.8	6,342.6	5,349.9	46.1	45.6	-118.90	-91.3	2,867.8	206.1	124.2	81.89	2.517	
6,400.0	5,360.8	6,438.2	5,423.5	47.1	46.5	-118.97	-96.1	2,928.6	207.3	123.8	83.51	2.483	
6,404.4	5,364.2	6,442.6	5,426.9	47.1	46.5	-118.97	-96.3	2,931.4	207.4	123.8	83.59	2.481	
6,500.0	5,437.3	6,538.2	5,500.5	48.1	47.5	-119.05	-101.2	2,992.2	208.6	123.4	85.20	2.448	
6,504.4	5,440.7	6,542.6	5,504.0	48.1	47.5	-119.05	-101.4	2,995.0	208.6	123.4	85.28	2.447	
6,600.0	5,513.8	6,638.2	5,577.5	49.0	48.4	-119.12	-106.3	3,055.8	209.9	123.0	86.90	2.415	
6,604.4	5,517.2	6,642.6	5,581.0	49.1	48.5	-119.13	-106.5	3,058.6	209.9	122.9	86.97	2.414	
6,700.0	5,590.2	6,738.2	5,654.5	50.0	49.4	-119.20	-111.3	3,119.3	211.1	122.5	88.59	2.383	
6,704.4	5,593.6	6,742.6	5,658.0	50.1	49.5	-119.20	-111.5	3,122.2	211.2	122.5	88.66	2.382	
6,800.0	5,666.7	6,838.1	5,731.6	51.0	50.4	-119.28	-116.4	3,182.9	212.4	122.1	90.28	2.353	
6,804.4	5,670.1	6,842.6	5,735.0	51.1	50.5	-119.28	-116.6	3,185.7	212.5	122.1	90.35	2.351	
6,900.0	5,743.2	6,938.1	5,808.6	52.0	51.4	-119.35	-121.4	3,246.5	213.7	121.7	91.96	2.323	
6,904.4	5,746.6	6,942.6	5,812.0	52.1	51.4	-119.35	-121.7	3,249.3	213.7	121.7	92.04	2.322	
7,000.0	5,819.6	7,038.1	5,885.6	53.0	52.4	-119.42	-126.5	3,310.1	214.9	121.3	93.65	2.295	
7,004.4	5,823.0	7,042.6	5,889.0	53.1	52.4	-119.43	-126.7	3,312.9	215.0	121.3	93.73	2.294	
7,100.0	5,896.1	7,138.1	5,962.6	54.0	53.4	-119.49	-131.6	3,373.6	216.2	120.9	95.34	2.268	
7,104.4	5,899.5	7,142.6	5,966.0	54.1	53.4	-119.50	-131.8	3,376.5	216.3	120.9	95.41	2.267	
7,200.0	5,972.6	7,238.1	6,039.6	55.0	54.3	-119.57	-136.6	3,437.2	217.5	120.5	97.02	2.242	
7,204.4	5,976.0	7,242.6	6,043.0	55.1	54.4	-119.57	-136.9	3,440.1	217.5	120.4	97.10	2.240	
7,300.0	6,049.0	7,338.1	6,116.6	56.0	55.3	-119.64	-141.7	3,500.8	218.8	120.1	98.71	2.216	
7,304.4	6,052.4	7,342.6	6,120.0	56.1	55.4	-119.64	-141.9	3,503.6	218.8	120.0	98.78	2.215	
7,400.0	6,125.5	7,438.1	6,193.6	57.0	56.3	-119.71	-146.8	3,564.4	220.0	119.6	100.39	2.192	
7,404.4	6,128.9	7,442.5	6,197.0	57.0	56.4	-119.71	-147.0	3,567.2	220.1	119.6	100.46	2.191	
7,500.0	6,202.0	7,538.1	6,270.6	58.0	57.3	-119.78	-151.8	3,628.0	221.3	119.2	102.07	2.168	
7,504.4	6,205.4	7,542.5	6,274.0	58.0	57.3	-119.78	-152.1	3,630.8	221.4	119.2	102.14	2.167	
7,600.0	6,278.4	7,638.1	6,347.6	59.0	58.3	-119.84	-156.9	3,691.5	222.6	118.8	103.75	2.145	
7,604.4	6,281.8	7,642.5	6,351.1	59.0	58.3	-119.85	-157.1	3,694.4	222.6	118.8	103.82	2.144	
7,700.0	6,354.9	7,738.1	6,424.6	60.0	59.3	-119.91	-162.0	3,755.1	223.9	118.4	105.43	2.123	
7,704.4	6,358.3	7,742.5	6,428.1	60.0	59.3	-119.91	-162.2	3,757.9	223.9	118.4	105.50	2.122	
7,800.0	6,431.4	7,838.1	6,501.6	61.0	60.2	-119.98	-167.0	3,818.7	225.1	118.0	107.11	2.102	
7,804.4	6,434.8	7,842.5	6,505.1	61.0	60.3	-119.98	-167.2	3,821.5	225.2	118.0	107.18	2.101	
7,900.0	6,507.8	7,938.1	6,578.7	62.0	61.2	-120.04	-172.1	3,882.3	226.4	117.6	108.78	2.081	
7,904.4	6,511.2	7,942.5	6,582.1	62.0	61.3	-120.05	-172.3	3,885.1	226.5	117.6	108.86	2.080	
8,000.0	6,584.3	8,038.0	6,655.7	63.0	62.2	-120.11	-177.1	3,945.9	227.7	117.2	110.46	2.061	
8,004.4	6,587.7	8,042.5	6,659.1	63.0	62.2	-120.11	-177.4	3,948.7	227.7	117.2	110.53	2.060	
8,100.0	6,660.8	8,138.0	6,732.7	64.0	63.2	-120.17	-182.2	4,009.4	228.9	116.8	112.13	2.042	
8,104.4	6,664.2	8,142.5	6,736.1	64.0	63.2	-120.18	-182.4	4,012.3	229.0	116.8	112.21	2.041	
8,200.0	6,737.2	8,238.0	6,809.7	65.0	64.2	-120.24	-187.3	4,073.0	230.2	116.4	113.80	2.023	
8,204.4	6,740.6	8,242.5	6,813.1	65.0	64.2	-120.24	-187.5	4,075.8	230.3	116.4	113.88	2.022	
8,300.0	6,813.7	8,320.3	6,873.1	66.0	65.0	-120.07	-189.4	4,125.4	234.0	118.8	115.22	2.031	
8,400.0	6,890.2	8,391.9	6,928.0	67.0	65.7	-119.04	-182.5	4,170.7	248.5	132.5	116.03	2.142	
8,500.0	6,966.6	8,459.6	6,979.0	68.0	66.3	-117.42	-167.9	4,212.8	274.2	158.3	115.87	2.366	
8,536.2	6,994.3	8,482.9	6,996.2	68.3	66.5	-116.76	-161.1	4,227.0	286.1	170.6	115.51	2.477	
8,550.0	7,004.9	8,491.7	7,002.6	68.4	66.6	-114.69	-158.3	4,232.2	290.8	175.5	115.32	2.522	
8,600.0	7,043.2	8,523.2	7,025.3	69.0	66.9	-107.33	-147.2	4,251.0	307.2	192.9	114.29	2.688	
8,650.0	7,081.3	8,550.0	7,044.2	69.4	67.1	-100.40	-136.5	4,266.6	322.3	210.4	111.88	2.880	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Rule Assigned:

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,700.0	7,118.9	8,585.5	7,068.7	69.9	67.3	-93.78	-120.5	4,286.8	335.8	225.0	110.78	3.031	
8,750.0	7,155.9	8,616.3	7,089.3	70.4	67.6	-87.78	-105.1	4,303.8	347.9	239.5	108.40	3.210	
8,800.0	7,191.8	8,650.0	7,111.0	70.8	67.8	-82.36	-86.7	4,321.8	358.5	252.2	106.31	3.373	
8,850.0	7,226.4	8,677.6	7,128.2	71.2	68.0	-77.61	-70.3	4,335.9	367.5	265.0	102.53	3.585	
8,900.0	7,259.4	8,700.0	7,141.6	71.6	68.1	-73.48	-56.3	4,347.0	375.1	278.0	97.12	3.862	
8,950.0	7,290.6	8,738.5	7,163.7	71.9	68.4	-69.86	-30.6	4,365.3	380.8	285.4	95.39	3.992	
9,000.0	7,319.8	8,768.8	7,180.2	72.2	68.5	-66.82	-9.1	4,378.9	384.9	293.5	91.41	4.211	
9,050.0	7,346.7	8,800.0	7,196.2	72.5	68.7	-64.28	14.2	4,392.1	387.5	300.0	87.42	4.432	
9,060.4	7,351.9	8,800.0	7,196.2	72.5	68.7	-63.81	14.2	4,392.1	387.8	303.0	84.83	4.572	
9,100.0	7,371.1	8,829.4	7,210.3	72.7	68.8	-62.19	37.2	4,403.8	388.3	305.6	82.76	4.692	
9,139.5	7,388.5	8,850.0	7,219.7	72.8	68.9	-60.84	53.8	4,411.5	387.9	309.7	78.17	4.961	
9,150.0	7,392.8	8,850.0	7,219.7	72.9	68.9	-60.51	53.8	4,411.5	387.7	312.3	75.39	5.143	
9,192.2	7,409.0	8,885.3	7,234.6	73.0	69.1	-59.43	83.3	4,423.8	385.6	311.4	74.13	5.201	
9,200.0	7,411.8	8,890.0	7,236.5	73.1	69.1	-59.26	87.3	4,425.4	385.1	311.7	73.38	5.248	
9,242.7	7,425.6	8,915.9	7,246.5	73.2	69.2	-58.47	109.8	4,433.6	381.7	312.4	69.23	5.513	
9,250.0	7,427.7	8,920.3	7,248.1	73.2	69.2	-58.36	113.7	4,434.9	381.0	312.5	68.51	5.561	
9,293.4	7,439.0	8,950.0	7,258.3	73.3	69.3	-57.88	140.2	4,443.4	376.1	310.9	65.23	5.766	
9,300.0	7,440.6	8,950.0	7,258.3	73.3	69.3	-57.80	140.2	4,443.4	375.2	311.9	63.37	5.921	
9,344.0	7,449.2	8,977.5	7,266.9	73.4	69.3	-57.61	165.4	4,450.4	368.8	309.6	59.29	6.221	
9,350.0	7,450.2	8,981.2	7,267.9	73.4	69.4	-57.60	168.8	4,451.3	367.9	309.2	58.70	6.267	
9,394.4	7,456.1	9,000.0	7,273.1	73.4	69.4	-57.62	186.4	4,455.6	360.2	308.2	51.96	6.932	
9,400.0	7,456.6	9,011.8	7,276.2	73.4	69.4	-57.74	197.5	4,458.1	358.9	305.0	53.91	6.658	
9,445.1	7,459.5	9,039.5	7,282.6	73.4	69.5	-58.16	223.9	4,463.4	349.5	299.7	49.78	7.022	
9,450.0	7,459.7	9,050.0	7,284.8	73.4	69.5	-58.32	234.0	4,465.2	348.5	297.0	51.52	6.765	
9,468.9	7,460.0	9,050.0	7,284.8	73.4	69.5	-58.45	234.0	4,465.2	344.1	297.6	46.51	7.399	
9,471.1	7,460.0	9,050.0	7,284.8	73.4	69.5	-58.46	234.0	4,465.2	343.6	297.7	45.93	7.481	
9,496.9	7,460.0	9,071.6	7,288.8	73.4	69.5	-58.76	254.9	4,468.5	337.7	292.3	45.38	7.442	
9,500.0	7,460.0	9,073.5	7,289.1	73.4	69.5	-58.78	256.8	4,468.8	337.1	291.9	45.14	7.467	
9,584.9	7,460.0	9,127.6	7,296.4	73.5	69.6	-59.34	310.1	4,474.8	323.1	284.1	39.03	8.279	
9,600.0	7,460.0	9,137.5	7,297.3	73.5	69.6	-59.41	319.9	4,475.6	321.4	283.2	38.19	8.415	
9,699.2	7,460.0	9,203.3	7,300.0	73.5	69.7	-59.63	385.6	4,477.8	316.4	281.3	35.05	9.026	
9,700.0	7,460.0	9,204.1	7,300.0	73.5	69.7	-59.63	386.4	4,477.8	316.4	281.3	35.05	9.025	
9,723.3	7,460.0	9,227.4	7,300.0	73.5	69.7	-59.63	409.7	4,477.8	316.4	281.2	35.19	8.990	
9,800.0	7,460.0	9,304.1	7,300.0	73.5	69.7	-59.63	486.4	4,477.8	316.4	280.7	35.65	8.875	
9,823.3	7,460.0	9,327.4	7,300.0	73.5	69.7	-59.63	509.7	4,477.8	316.4	280.5	35.82	8.831	
9,900.0	7,460.0	9,404.1	7,300.0	73.6	69.7	-59.63	586.4	4,477.8	316.4	280.0	36.41	8.690	
9,923.3	7,460.0	9,427.4	7,300.0	73.6	69.7	-59.63	609.7	4,477.8	316.4	279.8	36.62	8.639	
10,000.0	7,460.0	9,504.1	7,300.0	73.6	69.8	-59.63	686.4	4,477.8	316.4	279.1	37.32	8.476	
10,023.3	7,460.0	9,527.4	7,300.0	73.7	69.8	-59.63	709.7	4,477.8	316.4	278.8	37.57	8.421	
10,100.0	7,460.0	9,604.1	7,300.0	73.7	69.9	-59.63	786.4	4,477.8	316.4	278.0	38.39	8.241	
10,123.3	7,460.0	9,627.4	7,300.0	73.7	69.9	-59.63	809.7	4,477.8	316.4	277.7	38.67	8.182	
10,200.0	7,460.0	9,704.1	7,300.0	73.8	69.9	-59.63	886.4	4,477.8	316.4	276.8	39.59	7.992	
10,223.3	7,460.0	9,727.4	7,300.0	73.9	70.0	-59.63	909.7	4,477.8	316.4	276.5	39.90	7.930	
10,300.0	7,460.0	9,804.1	7,300.0	73.9	70.0	-59.63	986.4	4,477.8	316.4	275.5	40.91	7.733	
10,323.3	7,460.0	9,827.4	7,300.0	74.0	70.1	-59.63	1,009.7	4,477.8	316.4	275.2	41.25	7.671	
10,400.0	7,460.0	9,904.1	7,300.0	74.1	70.2	-59.63	1,086.4	4,477.7	316.4	274.1	42.35	7.471	
10,423.3	7,460.0	9,927.4	7,300.0	74.1	70.2	-59.63	1,109.7	4,477.7	316.4	273.7	42.71	7.409	
10,500.0	7,460.0	10,004.1	7,300.0	74.2	70.3	-59.63	1,186.4	4,477.7	316.4	272.5	43.89	7.210	
10,523.3	7,460.0	10,027.4	7,300.0	74.3	70.3	-59.63	1,209.7	4,477.7	316.4	272.2	44.27	7.148	
10,600.0	7,460.0	10,104.1	7,300.0	74.4	70.5	-59.63	1,286.4	4,477.7	316.4	270.9	45.52	6.952	
10,623.3	7,460.0	10,127.4	7,300.0	74.4	70.5	-59.63	1,309.7	4,477.7	316.4	270.5	45.91	6.892	
10,700.0	7,460.0	10,204.1	7,300.0	74.6	70.6	-59.64	1,386.4	4,477.7	316.4	269.2	47.23	6.701	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,723.3	7,460.0	10,227.4	7,300.0	74.6	70.7	-59.64	1,409.7	4,477.7	316.4	268.8	47.64	6.642	
10,800.0	7,460.0	10,304.1	7,300.0	74.8	70.8	-59.64	1,486.4	4,477.7	316.5	267.4	49.01	6.457	
10,823.3	7,460.0	10,327.4	7,300.0	74.8	70.9	-59.64	1,509.7	4,477.7	316.5	267.0	49.44	6.401	
10,900.0	7,460.0	10,404.1	7,300.0	75.0	71.0	-59.64	1,586.4	4,477.7	316.5	265.6	50.85	6.223	
10,923.3	7,460.0	10,427.4	7,300.0	75.0	71.1	-59.64	1,609.7	4,477.7	316.5	265.2	51.30	6.169	
11,000.0	7,460.0	10,504.1	7,300.0	75.2	71.3	-59.64	1,686.4	4,477.7	316.5	263.7	52.76	5.998	
11,023.3	7,460.0	10,527.4	7,300.0	75.3	71.3	-59.64	1,709.7	4,477.7	316.5	263.3	53.22	5.947	
11,100.0	7,460.0	10,604.1	7,300.0	75.5	71.5	-59.64	1,786.4	4,477.7	316.5	261.8	54.72	5.784	
11,123.3	7,460.0	10,627.4	7,300.0	75.5	71.6	-59.64	1,809.7	4,477.7	316.5	261.3	55.19	5.735	
11,200.0	7,460.0	10,704.1	7,300.0	75.7	71.8	-59.64	1,886.4	4,477.7	316.5	259.8	56.72	5.580	
11,223.3	7,460.0	10,727.4	7,300.0	75.8	71.9	-59.64	1,909.7	4,477.7	316.5	259.3	57.20	5.533	
11,300.0	7,460.0	10,804.1	7,300.0	76.0	72.1	-59.64	1,986.4	4,477.7	316.5	257.7	58.77	5.386	
11,323.3	7,460.0	10,827.4	7,300.0	76.1	72.1	-59.64	2,009.7	4,477.7	316.5	257.2	59.25	5.341	
11,400.0	7,460.0	10,904.1	7,300.0	76.3	72.4	-59.64	2,086.4	4,477.7	316.5	255.7	60.85	5.201	
11,423.3	7,460.0	10,927.4	7,300.0	76.4	72.5	-59.64	2,109.7	4,477.7	316.5	255.2	61.35	5.159	
11,500.0	7,460.0	11,004.1	7,300.0	76.7	72.7	-59.64	2,186.4	4,477.7	316.5	253.5	62.97	5.026	
11,523.3	7,460.0	11,027.4	7,300.0	76.8	72.8	-59.64	2,209.7	4,477.7	316.5	253.0	63.47	4.987	
11,600.0	7,460.0	11,104.1	7,300.0	77.0	73.1	-59.64	2,286.4	4,477.7	316.5	251.4	65.12	4.861	
11,623.3	7,460.0	11,127.4	7,300.0	77.1	73.2	-59.64	2,309.7	4,477.7	316.5	250.9	65.63	4.823	
11,700.0	7,460.0	11,204.1	7,300.0	77.4	73.5	-59.64	2,386.4	4,477.7	316.5	249.2	67.30	4.704	
11,723.3	7,460.0	11,227.4	7,300.0	77.5	73.5	-59.64	2,409.7	4,477.7	316.5	248.7	67.81	4.668	
11,800.0	7,460.0	11,304.1	7,300.0	77.8	73.9	-59.64	2,486.4	4,477.6	316.5	247.0	69.50	4.555	
11,823.3	7,460.0	11,327.4	7,300.0	77.9	74.0	-59.65	2,509.7	4,477.6	316.5	246.5	70.02	4.521	
11,900.0	7,460.0	11,404.1	7,300.0	78.2	74.3	-59.65	2,586.4	4,477.6	316.6	244.8	71.72	4.414	
11,923.3	7,460.0	11,427.4	7,300.0	78.3	74.4	-59.65	2,609.7	4,477.6	316.6	244.3	72.25	4.382	
12,000.0	7,460.0	11,504.1	7,300.0	78.7	74.7	-59.65	2,686.4	4,477.6	316.6	242.6	73.97	4.280	
12,023.3	7,460.0	11,527.4	7,300.0	78.8	74.8	-59.65	2,709.7	4,477.6	316.6	242.1	74.50	4.249	
12,100.0	7,460.0	11,604.1	7,300.0	79.1	75.2	-59.65	2,786.4	4,477.6	316.6	240.3	76.23	4.153	
12,123.3	7,460.0	11,627.4	7,300.0	79.2	75.3	-59.65	2,809.7	4,477.6	316.6	239.8	76.76	4.124	
12,200.0	7,460.0	11,704.1	7,300.0	79.6	75.7	-59.65	2,886.4	4,477.6	316.6	238.1	78.51	4.032	
12,223.3	7,460.0	11,727.4	7,300.0	79.7	75.8	-59.65	2,909.7	4,477.6	316.6	237.5	79.05	4.005	
12,300.0	7,460.0	11,804.1	7,300.0	80.1	76.2	-59.65	2,986.4	4,477.6	316.6	235.8	80.81	3.918	
12,323.3	7,460.0	11,827.4	7,300.0	80.3	76.3	-59.65	3,009.7	4,477.6	316.6	235.2	81.35	3.892	
12,400.0	7,460.0	11,904.1	7,300.0	80.7	76.8	-59.65	3,086.4	4,477.6	316.6	233.5	83.12	3.809	
12,423.3	7,460.0	11,927.4	7,300.0	80.8	76.9	-59.65	3,109.7	4,477.6	316.6	232.9	83.66	3.784	
12,500.0	7,460.0	12,004.1	7,300.0	81.2	77.3	-59.65	3,186.4	4,477.6	316.6	231.2	85.45	3.705	
12,523.3	7,460.0	12,027.4	7,300.0	81.4	77.5	-59.65	3,209.7	4,477.6	316.6	230.6	85.99	3.682	
12,600.0	7,460.0	12,104.1	7,300.0	81.8	77.9	-59.65	3,286.4	4,477.6	316.6	228.8	87.78	3.607	
12,623.3	7,460.0	12,127.4	7,300.0	82.0	78.1	-59.65	3,309.7	4,477.6	316.6	228.3	88.33	3.584	
12,700.0	7,460.0	12,204.1	7,300.0	82.5	78.6	-59.65	3,386.4	4,477.6	316.6	226.5	90.13	3.513	
12,723.3	7,460.0	12,227.4	7,300.0	82.6	78.7	-59.65	3,409.7	4,477.6	316.6	225.9	90.68	3.492	
12,800.0	7,460.0	12,304.1	7,300.0	83.1	79.2	-59.65	3,486.4	4,477.6	316.6	224.1	92.49	3.423	
12,823.3	7,460.0	12,327.4	7,300.0	83.2	79.4	-59.65	3,509.7	4,477.6	316.6	223.6	93.04	3.403	
12,900.0	7,460.0	12,404.1	7,300.0	83.8	79.9	-59.65	3,586.4	4,477.6	316.6	221.8	94.86	3.338	
12,923.3	7,460.0	12,427.4	7,300.0	83.9	80.0	-59.65	3,609.7	4,477.6	316.6	221.2	95.42	3.319	
13,000.0	7,460.0	12,504.1	7,300.0	84.4	80.6	-59.66	3,686.4	4,477.6	316.7	219.4	97.24	3.256	
13,023.3	7,460.0	12,527.4	7,300.0	84.6	80.8	-59.66	3,709.7	4,477.6	316.7	218.9	97.80	3.238	
13,100.0	7,460.0	12,604.1	7,300.0	85.2	81.3	-59.66	3,786.4	4,477.6	316.7	217.0	99.63	3.179	
13,123.3	7,460.0	12,627.4	7,300.0	85.3	81.5	-59.66	3,809.7	4,477.6	316.7	216.5	100.18	3.161	
13,200.0	7,460.0	12,704.1	7,300.0	85.9	82.1	-59.66	3,886.4	4,477.5	316.7	214.7	102.02	3.104	
13,223.3	7,460.0	12,727.4	7,300.0	86.1	82.2	-59.66	3,909.7	4,477.5	316.7	214.1	102.58	3.087	
13,300.0	7,460.0	12,804.1	7,300.0	86.7	82.8	-59.66	3,986.4	4,477.5	316.7	212.3	104.42	3.033	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
13,323.3	7,460.0	12,827.4	7,300.0	86.8	83.0	-59.66	4,009.7	4,477.5	316.7	211.7	104.98	3.017	
13,400.0	7,460.0	12,904.1	7,300.0	87.4	83.6	-59.66	4,086.4	4,477.5	316.7	209.9	106.83	2.964	
13,423.3	7,460.0	12,927.4	7,300.0	87.6	83.8	-59.66	4,109.7	4,477.5	316.7	209.3	107.39	2.949	
13,500.0	7,460.0	13,004.1	7,300.0	88.2	84.5	-59.66	4,186.4	4,477.5	316.7	207.5	109.24	2.899	
13,523.3	7,460.0	13,027.4	7,300.0	88.4	84.6	-59.66	4,209.7	4,477.5	316.7	206.9	109.81	2.884	
13,600.0	7,460.0	13,104.1	7,300.0	89.1	85.3	-59.66	4,286.4	4,477.5	316.7	205.0	111.66	2.836	
13,623.3	7,460.0	13,127.4	7,300.0	89.3	85.5	-59.66	4,309.7	4,477.5	316.7	204.5	112.23	2.822	
13,700.0	7,460.0	13,204.1	7,300.0	89.9	86.2	-59.66	4,386.4	4,477.5	316.7	202.6	114.09	2.776	
13,723.3	7,460.0	13,227.4	7,300.0	90.1	86.4	-59.66	4,409.7	4,477.5	316.7	202.1	114.66	2.762	
13,800.0	7,460.0	13,304.1	7,300.0	90.8	87.0	-59.66	4,486.4	4,477.5	316.7	200.2	116.52	2.718	
13,823.3	7,460.0	13,327.4	7,300.0	91.0	87.3	-59.66	4,509.7	4,477.5	316.7	199.6	117.09	2.705	
13,900.0	7,460.0	13,404.1	7,300.0	91.7	88.0	-59.66	4,586.4	4,477.5	316.7	197.8	118.95	2.663	
13,923.3	7,460.0	13,427.4	7,300.0	91.9	88.2	-59.66	4,609.7	4,477.5	316.7	197.2	119.52	2.650	
14,000.0	7,460.0	13,504.1	7,300.0	92.6	88.9	-59.66	4,686.4	4,477.5	316.7	195.4	121.39	2.609	
14,023.3	7,460.0	13,527.4	7,300.0	92.8	89.1	-59.66	4,709.7	4,477.5	316.7	194.8	121.96	2.597	
14,100.0	7,460.0	13,604.1	7,300.0	93.5	89.8	-59.67	4,786.4	4,477.5	316.8	192.9	123.84	2.558	
14,123.3	7,460.0	13,627.4	7,300.0	93.7	90.1	-59.67	4,809.7	4,477.5	316.8	192.3	124.41	2.546	
14,200.0	7,460.0	13,704.1	7,300.0	94.5	90.8	-59.67	4,886.4	4,477.5	316.8	190.5	126.29	2.508	
14,223.3	7,460.0	13,727.4	7,300.0	94.7	91.0	-59.67	4,909.7	4,477.5	316.8	189.9	126.86	2.497	
14,300.0	7,460.0	13,804.1	7,300.0	95.4	91.8	-59.67	4,986.4	4,477.5	316.8	188.0	128.74	2.461	
14,323.3	7,460.0	13,827.4	7,300.0	95.7	92.0	-59.67	5,009.7	4,477.5	316.8	187.5	129.31	2.450	
14,400.0	7,460.0	13,904.1	7,300.0	96.4	92.8	-59.67	5,086.4	4,477.5	316.8	185.6	131.20	2.415	
14,423.3	7,460.0	13,927.4	7,300.0	96.7	93.0	-59.67	5,109.7	4,477.5	316.8	185.0	131.77	2.404	
14,500.0	7,460.0	14,004.1	7,300.0	97.4	93.8	-59.67	5,186.4	4,477.5	316.8	183.1	133.66	2.370	
14,523.3	7,460.0	14,027.4	7,300.0	97.7	94.0	-59.67	5,209.7	4,477.5	316.8	182.6	134.23	2.360	
14,600.0	7,460.0	14,104.1	7,300.0	98.5	94.8	-59.67	5,286.4	4,477.4	316.8	180.7	136.12	2.327	
14,623.3	7,460.0	14,127.4	7,300.0	98.7	95.1	-59.67	5,309.7	4,477.4	316.8	180.1	136.69	2.318	
14,700.0	7,460.0	14,204.1	7,300.0	99.5	95.9	-59.67	5,386.4	4,477.4	316.8	178.2	138.58	2.286	
14,723.3	7,460.0	14,227.4	7,300.0	99.7	96.1	-59.67	5,409.7	4,477.4	316.8	177.7	139.16	2.277	
14,800.0	7,460.0	14,304.1	7,300.0	100.5	96.9	-59.67	5,486.4	4,477.4	316.8	175.8	141.05	2.246	
14,823.3	7,460.0	14,327.4	7,300.0	100.8	97.2	-59.67	5,509.7	4,477.4	316.8	175.2	141.63	2.237	
14,900.0	7,460.0	14,404.1	7,300.0	101.6	98.0	-59.67	5,586.4	4,477.4	316.8	173.3	143.52	2.207	
14,923.3	7,460.0	14,427.4	7,300.0	101.9	98.3	-59.67	5,609.7	4,477.4	316.8	172.7	144.10	2.199	
15,000.0	7,460.0	14,504.1	7,300.0	102.7	99.1	-59.67	5,686.4	4,477.4	316.8	170.8	146.00	2.170	
15,023.3	7,460.0	14,527.4	7,300.0	102.9	99.4	-59.67	5,709.7	4,477.4	316.8	170.3	146.58	2.162	
15,100.0	7,460.0	14,604.1	7,300.0	103.8	100.2	-59.67	5,786.4	4,477.4	316.8	168.4	148.47	2.134	
15,123.3	7,460.0	14,627.4	7,300.0	104.0	100.5	-59.67	5,809.7	4,477.4	316.8	167.8	149.05	2.126	
15,200.0	7,460.0	14,704.1	7,300.0	104.9	101.3	-59.67	5,886.4	4,477.4	316.9	165.9	150.95	2.099	
15,223.3	7,460.0	14,727.4	7,300.0	105.1	101.6	-59.68	5,909.7	4,477.4	316.9	165.3	151.53	2.091	
15,300.0	7,460.0	14,804.1	7,300.0	106.0	102.5	-59.68	5,986.4	4,477.4	316.9	163.4	153.43	2.065	
15,323.3	7,460.0	14,827.4	7,300.0	106.3	102.7	-59.68	6,009.7	4,477.4	316.9	162.9	154.01	2.057	
15,400.0	7,460.0	14,904.1	7,300.0	107.1	103.6	-59.68	6,086.4	4,477.4	316.9	161.0	155.92	2.032	
15,423.3	7,460.0	14,927.4	7,300.0	107.4	103.9	-59.68	6,109.7	4,477.4	316.9	160.4	156.50	2.025	
15,500.0	7,460.0	15,004.1	7,300.0	108.3	104.8	-59.68	6,186.4	4,477.4	316.9	158.5	158.40	2.000	
15,523.3	7,460.0	15,027.4	7,300.0	108.5	105.0	-59.68	6,209.7	4,477.4	316.9	157.9	158.98	1.993	Collision Risk Procedures Req.
15,600.0	7,460.0	15,104.1	7,300.0	109.4	105.9	-59.68	6,286.4	4,477.4	316.9	156.0	160.89	1.970	Collision Risk Procedures Req.
15,623.3	7,460.0	15,127.4	7,300.0	109.7	106.2	-59.68	6,309.7	4,477.4	316.9	155.4	161.47	1.963	Collision Risk Procedures Req.
15,700.0	7,460.0	15,204.1	7,300.0	110.6	107.1	-59.68	6,386.4	4,477.4	316.9	153.5	163.38	1.940	Collision Risk Procedures Req.
15,723.3	7,460.0	15,227.4	7,300.0	110.8	107.4	-59.68	6,409.7	4,477.4	316.9	152.9	163.96	1.933	Collision Risk Procedures Req.
15,800.0	7,460.0	15,304.1	7,300.0	111.7	108.3	-59.68	6,486.4	4,477.4	316.9	151.0	165.87	1.911	Collision Risk Procedures Req.
15,823.3	7,460.0	15,327.4	7,300.0	112.0	108.6	-59.68	6,509.7	4,477.4	316.9	150.5	166.45	1.904	Collision Risk Procedures Req.
15,900.0	7,460.0	15,404.1	7,300.0	112.9	109.5	-59.68	6,586.4	4,477.4	316.9	148.6	168.36	1.882	Collision Risk Procedures Req.

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,923.3	7,460.0	15,427.4	7,300.0	113.2	109.7	-59.68	6,609.7	4,477.4	316.9	148.0	168.95	1.876	Collision Risk Procedures Req.
16,000.0	7,460.0	15,504.1	7,300.0	114.1	110.7	-59.68	6,686.4	4,477.4	316.9	146.1	170.86	1.855	Collision Risk Procedures Req.
16,023.3	7,460.0	15,527.4	7,300.0	114.4	110.9	-59.68	6,709.7	4,477.3	316.9	145.5	171.44	1.849	Collision Risk Procedures Req.
16,100.0	7,460.0	15,604.1	7,300.0	115.3	111.9	-59.68	6,786.4	4,477.3	316.9	143.6	173.35	1.828	Collision Risk Procedures Req.
16,123.3	7,460.0	15,627.4	7,300.0	115.6	112.2	-59.68	6,809.7	4,477.3	316.9	143.0	173.94	1.822	Collision Risk Procedures Req.
16,200.0	7,460.0	15,704.1	7,300.0	116.5	113.1	-59.68	6,886.4	4,477.3	316.9	141.1	175.85	1.802	Collision Risk Procedures Req.
16,223.3	7,460.0	15,727.4	7,300.0	116.8	113.4	-59.68	6,909.7	4,477.3	317.0	140.5	176.43	1.796	Collision Risk Procedures Req.
16,300.0	7,460.0	15,804.1	7,300.0	117.7	114.3	-59.68	6,986.4	4,477.3	317.0	138.6	178.35	1.777	Collision Risk Procedures Req.
16,323.3	7,460.0	15,827.4	7,300.0	118.0	114.6	-59.68	7,009.7	4,477.3	317.0	138.0	178.93	1.771	Collision Risk Procedures Req.
16,400.0	7,460.0	15,904.1	7,300.0	118.9	115.5	-59.69	7,086.4	4,477.3	317.0	136.1	180.85	1.753	Collision Risk Procedures Req.
16,423.3	7,460.0	15,927.4	7,300.0	119.2	115.8	-59.69	7,109.7	4,477.3	317.0	135.5	181.43	1.747	Collision Risk Procedures Req.
16,500.0	7,460.0	16,004.1	7,300.0	120.1	116.8	-59.69	7,186.4	4,477.3	317.0	133.6	183.35	1.729	Collision Risk Procedures Req.
16,523.3	7,460.0	16,027.4	7,300.0	120.4	117.1	-59.69	7,209.7	4,477.3	317.0	133.0	183.94	1.723	Collision Risk Procedures Req.
16,600.0	7,460.0	16,104.1	7,300.0	121.4	118.0	-59.69	7,286.4	4,477.3	317.0	131.1	185.85	1.706	Collision Risk Procedures Req.
16,623.3	7,460.0	16,127.4	7,300.0	121.7	118.3	-59.69	7,309.7	4,477.3	317.0	130.5	186.44	1.700	Collision Risk Procedures Req.
16,700.0	7,460.0	16,204.1	7,300.0	122.6	119.3	-59.69	7,386.4	4,477.3	317.0	128.6	188.36	1.683	Collision Risk Procedures Req.
16,723.3	7,460.0	16,227.4	7,300.0	122.9	119.6	-59.69	7,409.7	4,477.3	317.0	128.1	188.94	1.678	Collision Risk Procedures Req.
16,800.0	7,460.0	16,304.1	7,300.0	123.9	120.5	-59.69	7,486.4	4,477.3	317.0	126.1	190.86	1.661	Collision Risk Procedures Req.
16,823.3	7,460.0	16,327.4	7,300.0	124.1	120.8	-59.69	7,509.7	4,477.3	317.0	125.6	191.45	1.656	Collision Risk Procedures Req.
16,900.0	7,460.0	16,404.1	7,300.0	125.1	121.8	-59.69	7,586.4	4,477.3	317.0	123.6	193.37	1.639	Collision Risk Procedures Req.
16,923.3	7,460.0	16,427.4	7,300.0	125.4	122.1	-59.69	7,609.7	4,477.3	317.0	123.1	193.95	1.634	Collision Risk Procedures Req.
17,000.0	7,460.0	16,504.1	7,300.0	126.4	123.0	-59.69	7,686.4	4,477.3	317.0	121.1	195.88	1.618	Collision Risk Procedures Req.
17,023.3	7,460.0	16,527.4	7,300.0	126.7	123.3	-59.69	7,709.7	4,477.3	317.0	120.6	196.46	1.614	Collision Risk Procedures Req.
17,100.0	7,460.0	16,604.1	7,300.0	127.6	124.3	-59.69	7,786.4	4,477.3	317.0	118.6	198.39	1.598	Collision Risk Procedures Req.
17,123.3	7,460.0	16,627.4	7,300.0	127.9	124.6	-59.69	7,809.7	4,477.3	317.0	118.1	198.97	1.593	Collision Risk Procedures Req.
17,200.0	7,460.0	16,704.1	7,300.0	128.9	125.6	-59.69	7,886.4	4,477.3	317.0	116.1	200.90	1.578	Collision Risk Procedures Req.
17,223.3	7,460.0	16,727.4	7,300.0	129.2	125.9	-59.69	7,909.7	4,477.3	317.0	115.6	201.48	1.574	Collision Risk Procedures Req.
17,300.0	7,460.0	16,804.1	7,300.0	130.2	126.9	-59.69	7,986.4	4,477.3	317.1	113.6	203.41	1.559	Collision Risk Procedures Req.
17,323.3	7,460.0	16,827.4	7,300.0	130.5	127.2	-59.69	8,009.7	4,477.3	317.1	113.1	203.99	1.554	Collision Risk Procedures Req.
17,400.0	7,460.0	16,904.1	7,300.0	131.4	128.2	-59.69	8,086.4	4,477.3	317.1	111.1	205.92	1.540	Collision Risk Procedures Req.
17,423.3	7,460.0	16,927.4	7,300.0	131.7	128.5	-59.69	8,109.7	4,477.2	317.1	110.6	206.50	1.535	Collision Risk Procedures Req.
17,500.0	7,460.0	17,004.1	7,300.0	132.7	129.5	-59.70	8,186.4	4,477.2	317.1	108.6	208.43	1.521	Collision Risk Procedures Req.
17,523.3	7,460.0	17,027.4	7,300.0	133.0	129.8	-59.70	8,209.7	4,477.2	317.1	108.1	209.02	1.517	Collision Risk Procedures Req.
17,600.0	7,460.0	17,104.1	7,300.0	134.0	130.7	-59.70	8,286.4	4,477.2	317.1	106.1	210.94	1.503	Collision Risk Procedures Req.
17,623.3	7,460.0	17,127.4	7,300.0	134.3	131.0	-59.70	8,309.7	4,477.2	317.1	105.6	211.53	1.499	Collision Risk Procedures Req.
17,700.0	7,460.0	17,204.1	7,300.0	135.3	132.0	-59.70	8,386.4	4,477.2	317.1	103.6	213.46	1.485	Collision Risk Procedures Req.
17,723.3	7,460.0	17,227.4	7,300.0	135.6	132.3	-59.70	8,409.7	4,477.2	317.1	103.0	214.04	1.481	Collision Risk Procedures Req.
17,800.0	7,460.0	17,304.1	7,300.0	136.6	133.3	-59.70	8,486.4	4,477.2	317.1	101.1	215.97	1.468	Collision Risk Procedures Req.
17,823.3	7,460.0	17,327.4	7,300.0	136.9	133.7	-59.70	8,509.7	4,477.2	317.1	100.5	216.56	1.464	Collision Risk Procedures Req.
17,900.0	7,460.0	17,404.1	7,300.0	137.9	134.7	-59.70	8,586.4	4,477.2	317.1	98.6	218.49	1.451	Collision Risk Procedures Req.
17,923.3	7,460.0	17,427.4	7,300.0	138.2	135.0	-59.70	8,609.7	4,477.2	317.1	98.0	219.07	1.447	Collision Risk Procedures Req.
18,000.0	7,460.0	17,504.1	7,300.0	139.2	136.0	-59.70	8,686.4	4,477.2	317.1	96.1	221.00	1.435	Collision Risk Procedures Req.
18,023.3	7,460.0	17,527.4	7,300.0	139.5	136.3	-59.70	8,709.7	4,477.2	317.1	95.5	221.59	1.431	Collision Risk Procedures Req.
18,100.0	7,460.0	17,604.1	7,300.0	140.5	137.3	-59.70	8,786.4	4,477.2	317.1	93.6	223.52	1.419	Collision Risk Procedures Req.
18,123.3	7,460.0	17,627.4	7,300.0	140.8	137.6	-59.70	8,809.7	4,477.2	317.1	93.0	224.11	1.415	Collision Risk Procedures Req.
18,200.0	7,460.0	17,704.1	7,300.0	141.8	138.6	-59.70	8,886.4	4,477.2	317.1	91.1	226.04	1.403	Collision Risk Procedures Req.
18,223.3	7,460.0	17,727.4	7,300.0	142.1	138.9	-59.70	8,909.7	4,477.2	317.1	90.5	226.63	1.399	Collision Risk Procedures Req.
18,300.0	7,460.0	17,804.1	7,300.0	143.1	139.9	-59.70	8,986.4	4,477.2	317.1	88.6	228.56	1.388	Collision Risk Procedures Req.
18,323.3	7,460.0	17,827.4	7,300.0	143.4	140.2	-59.70	9,009.7	4,477.2	317.1	88.0	229.15	1.384	Collision Risk Procedures Req.
18,400.0	7,460.0	17,904.1	7,300.0	144.4	141.2	-59.70	9,086.4	4,477.2	317.2	86.1	231.08	1.372	Collision Risk Procedures Req.
18,423.3	7,460.0	17,927.4	7,300.0	144.8	141.6	-59.70	9,109.7	4,477.2	317.2	85.5	231.66	1.369	Collision Risk Procedures Req.
18,500.0	7,460.0	18,004.1	7,300.0	145.8	142.6	-59.70	9,186.4	4,477.2	317.2	83.6	233.60	1.358	Collision Risk Procedures Req.

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
18,523.3	7,460.0	18,027.4	7,300.0	146.1	142.9	-59.70	9,209.7	4,477.2	317.2	83.0	234.18	1.354	Collision Risk Procedures Req.
18,600.0	7,460.0	18,104.1	7,300.0	147.1	143.9	-59.70	9,286.4	4,477.2	317.2	81.1	236.12	1.343	Collision Risk Procedures Req.
18,623.3	7,460.0	18,127.4	7,300.0	147.4	144.2	-59.71	9,309.7	4,477.2	317.2	80.5	236.71	1.340	Collision Risk Procedures Req.
18,700.0	7,460.0	18,204.1	7,300.0	148.4	145.2	-59.71	9,386.4	4,477.2	317.2	78.5	238.64	1.329	Collision Risk Procedures Req.
18,723.3	7,460.0	18,227.4	7,300.0	148.7	145.5	-59.71	9,409.7	4,477.2	317.2	78.0	239.23	1.326	Collision Risk Procedures Req.
18,800.0	7,460.0	18,304.1	7,300.0	149.7	146.6	-59.71	9,486.4	4,477.2	317.2	76.0	241.16	1.315	Collision Risk Procedures Req.
18,823.3	7,460.0	18,327.4	7,300.0	150.1	146.9	-59.71	9,509.7	4,477.2	317.2	75.4	241.75	1.312	Collision Risk Procedures Req.
18,900.0	7,460.0	18,404.1	7,300.0	151.1	147.9	-59.71	9,586.4	4,477.1	317.2	73.5	243.68	1.302	Collision Risk Procedures Req.
18,923.3	7,460.0	18,427.4	7,300.0	151.4	148.2	-59.71	9,609.7	4,477.1	317.2	72.9	244.27	1.299	Collision Risk Procedures Req.
19,000.0	7,460.0	18,504.1	7,300.0	152.4	149.2	-59.71	9,686.4	4,477.1	317.2	71.0	246.21	1.288	Collision Risk Procedures Req.
19,023.3	7,460.0	18,527.4	7,300.0	152.7	149.6	-59.71	9,709.7	4,477.1	317.2	70.4	246.79	1.285	Collision Risk Procedures Req.
19,100.0	7,460.0	18,604.1	7,300.0	153.7	150.6	-59.71	9,786.4	4,477.1	317.2	68.5	248.73	1.275	Collision Risk Procedures Req.
19,103.8	7,460.0	18,607.9	7,300.0	153.8	150.6	-59.71	9,790.2	4,477.1	317.2	68.4	248.83	1.275	Collision Risk Procedures Req., ES, SF
19,116.5	7,460.0	18,617.5	7,300.0	154.0	150.8	-59.71	9,799.8	4,477.1	317.2	69.0	248.22	1.278	Collision Risk Procedures Req.
19,116.5	7,460.0	18,617.5	7,300.0	154.0	150.8	-59.71	9,799.8	4,477.1	317.2	69.0	248.20	1.278	Collision Risk Procedures Req.
19,116.9	7,460.0	18,617.5	7,300.0	154.0	150.8	-59.71	9,799.8	4,477.1	317.2	69.1	248.11	1.279	Collision Risk Procedures Req.

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-135.59	-30.3	-29.7	42.4				
100.0	100.0	100.0	100.0	1.0	1.0	-135.59	-30.3	-29.7	42.4	40.5	1.96	21.662	
200.0	200.0	200.0	200.0	1.6	1.6	-135.59	-30.3	-29.7	42.4	39.3	3.12	13.592	
300.0	300.0	300.0	300.0	2.0	2.0	-135.59	-30.3	-29.7	42.4	38.5	3.96	10.706	
400.0	400.0	400.0	400.0	2.3	2.3	-135.59	-30.3	-29.7	42.4	37.8	4.66	9.104	
500.0	500.0	500.0	500.0	2.6	2.6	-135.59	-30.3	-29.7	42.4	37.1	5.27	8.049	
600.0	600.0	600.0	600.0	2.9	2.9	-135.59	-30.3	-29.7	42.4	36.6	5.82	7.286	
700.0	700.0	700.0	700.0	3.2	3.2	-135.59	-30.3	-29.7	42.4	36.1	6.33	6.702	
800.0	800.0	800.0	800.0	3.4	3.4	-135.59	-30.3	-29.7	42.4	35.6	6.80	6.235	
900.0	900.0	900.0	900.0	3.6	3.6	-135.59	-30.3	-29.7	42.4	35.2	7.25	5.851	
1,000.0	1,000.0	1,000.0	1,000.0	3.8	3.8	-135.59	-30.3	-29.7	42.4	34.7	7.67	5.527	
1,100.0	1,100.0	1,100.0	1,100.0	4.0	4.0	-135.59	-30.3	-29.7	42.4	34.3	8.08	5.250 CC	
1,200.0	1,200.0	1,200.7	1,200.7	4.5	4.1	130.94	-30.4	-29.0	43.7	35.2	8.49	5.144	
1,300.0	1,299.6	1,302.2	1,302.0	5.0	4.6	133.16	-31.1	-23.7	45.6	36.5	9.11	5.001	
1,400.0	1,398.8	1,403.8	1,403.0	5.4	5.1	134.93	-32.6	-13.0	47.6	37.9	9.73	4.895	
1,500.0	1,497.1	1,505.5	1,503.5	5.8	5.5	136.28	-34.9	3.0	49.8	39.5	10.34	4.819	
1,600.0	1,594.3	1,607.4	1,603.0	6.1	5.9	137.25	-37.9	24.3	52.2	41.2	10.94	4.766	
1,700.0	1,690.2	1,709.4	1,701.4	6.5	6.2	137.89	-41.6	50.9	54.6	43.0	11.54	4.728	
1,800.0	1,784.4	1,811.5	1,798.3	6.8	6.6	138.23	-46.0	82.6	57.1	44.9	12.15	4.698	
1,900.0	1,876.8	1,913.7	1,893.5	7.1	6.9	138.30	-51.2	119.5	59.6	46.9	12.77	4.670	
2,000.0	1,967.1	2,016.0	1,986.6	7.4	7.2	138.13	-57.1	161.5	62.2	48.8	13.42	4.637	
2,004.4	1,971.0	2,020.6	1,990.7	7.4	7.2	138.12	-57.3	163.4	62.4	48.9	13.45	4.635	
2,100.0	2,054.9	2,118.4	2,077.4	7.7	7.5	137.76	-63.6	208.3	64.9	50.8	14.13	4.595	
2,104.4	2,058.8	2,123.0	2,081.4	7.7	7.5	137.74	-63.9	210.5	65.0	50.9	14.16	4.592	
2,200.0	2,140.2	2,220.9	2,165.7	7.9	7.8	137.21	-70.8	259.9	67.6	52.7	14.91	4.538	
2,204.4	2,143.9	2,225.5	2,169.5	7.9	7.8	137.18	-71.2	262.4	67.8	52.8	14.95	4.534	
2,300.0	2,222.6	2,323.5	2,251.0	8.2	8.1	136.50	-78.7	316.2	70.4	54.6	15.78	4.462	
2,304.4	2,226.2	2,328.0	2,254.7	8.2	8.1	136.47	-79.1	318.9	70.6	54.7	15.82	4.459	
2,400.0	2,301.9	2,426.1	2,333.2	8.6	8.4	135.66	-87.2	377.0	73.3	56.5	16.73	4.379	
2,401.7	2,303.2	2,427.8	2,334.6	8.6	8.4	135.64	-87.4	378.1	73.3	56.6	16.74	4.378	
2,437.4	2,330.8	2,463.9	2,362.8	8.9	8.7	135.38	-90.5	400.5	74.4	57.3	17.07	4.360	
2,440.2	2,332.9	2,466.7	2,365.0	8.9	8.7	135.37	-90.8	402.2	74.5	57.4	17.09	4.358	
2,500.0	2,378.6	2,526.5	2,411.5	9.4	9.2	135.25	-95.9	439.2	76.7	59.0	17.71	4.332	
2,504.4	2,382.0	2,530.9	2,415.0	9.4	9.2	135.24	-96.3	442.0	76.9	59.1	17.75	4.329	
2,600.0	2,455.1	2,626.4	2,489.5	10.2	10.0	135.04	-104.6	501.2	80.4	61.5	18.83	4.267	
2,604.4	2,458.5	2,630.9	2,492.9	10.3	10.0	135.04	-105.0	504.0	80.5	61.6	18.89	4.263	
2,700.0	2,531.5	2,726.3	2,567.4	11.1	10.8	134.86	-113.3	563.2	84.0	64.0	20.02	4.197	
2,704.4	2,535.0	2,730.8	2,570.8	11.1	10.9	134.85	-113.7	566.0	84.2	64.1	20.07	4.193	
2,800.0	2,608.0	2,826.3	2,645.3	12.0	11.7	134.69	-122.0	625.2	87.7	66.4	21.26	4.125	
2,804.4	2,611.4	2,830.7	2,648.7	12.0	11.7	134.69	-122.4	627.9	87.8	66.5	21.31	4.122	
2,900.0	2,684.5	2,926.2	2,723.2	12.9	12.6	134.54	-130.7	687.2	91.3	68.8	22.53	4.054	
2,904.4	2,687.9	2,930.7	2,726.6	12.9	12.6	134.53	-131.0	689.9	91.5	68.9	22.59	4.050	
3,000.0	2,760.9	3,026.1	2,801.1	13.8	13.5	134.40	-139.3	749.1	95.0	71.2	23.85	3.984	
3,004.4	2,764.4	3,030.6	2,804.6	13.9	13.5	134.39	-139.7	751.9	95.2	71.3	23.91	3.981	
3,100.0	2,837.4	3,126.1	2,879.0	14.8	14.4	134.26	-148.0	811.1	98.7	73.5	25.19	3.917	
3,104.4	2,840.8	3,130.5	2,882.5	14.8	14.4	134.26	-148.4	813.9	98.8	73.6	25.25	3.914	
3,200.0	2,913.9	3,226.0	2,956.9	15.7	15.3	134.14	-156.7	873.1	102.3	75.8	26.56	3.853	
3,204.4	2,917.3	3,230.4	2,960.4	15.7	15.3	134.14	-157.1	875.9	102.5	75.9	26.62	3.850	
3,300.0	2,990.3	3,325.9	3,034.8	16.6	16.2	134.03	-165.4	935.1	106.0	78.0	27.95	3.792	
3,304.4	2,993.8	3,330.4	3,038.3	16.7	16.2	134.02	-165.7	937.8	106.2	78.1	28.01	3.790	
3,400.0	3,066.8	3,425.9	3,112.7	17.6	17.1	133.92	-174.0	997.1	109.7	80.3	29.36	3.735	
3,404.4	3,070.2	3,430.3	3,116.2	17.6	17.1	133.92	-174.4	999.8	109.8	80.4	29.42	3.733	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Rule Assigned:

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
3,500.0	3,143.3	3,525.8	3,190.6	18.5	18.0	133.82	-182.7	1,059.0	113.3	82.5	30.79	3.681	
3,504.4	3,146.7	3,530.2	3,194.1	18.6	18.1	133.82	-183.1	1,061.8	113.5	82.6	30.85	3.679	
3,600.0	3,219.8	3,625.7	3,268.5	19.5	18.9	133.73	-191.4	1,121.0	117.0	84.8	32.23	3.630	
3,604.4	3,223.2	3,630.2	3,272.0	19.6	19.0	133.73	-191.8	1,123.8	117.1	84.9	32.29	3.628	
3,700.0	3,296.2	3,725.7	3,346.5	20.5	19.9	133.64	-200.1	1,183.0	120.7	87.0	33.68	3.582	
3,704.4	3,299.6	3,730.1	3,349.9	20.5	19.9	133.64	-200.5	1,185.7	120.8	87.1	33.75	3.580	
3,800.0	3,372.7	3,825.6	3,424.4	21.4	20.8	133.56	-208.7	1,245.0	124.3	89.2	35.15	3.537	
3,804.4	3,376.1	3,830.0	3,427.8	21.5	20.9	133.56	-209.1	1,247.7	124.5	89.3	35.21	3.535	
3,900.0	3,449.2	3,925.5	3,502.3	22.4	21.8	133.48	-217.4	1,306.9	128.0	91.4	36.62	3.495	
3,904.4	3,452.6	3,930.0	3,505.7	22.5	21.8	133.48	-217.8	1,309.7	128.1	91.5	36.69	3.493	
4,000.0	3,525.6	4,025.5	3,580.2	23.4	22.7	133.41	-226.1	1,368.9	131.7	93.5	38.10	3.455	
4,004.4	3,529.0	4,029.9	3,583.7	23.4	22.7	133.40	-226.5	1,371.7	131.8	93.6	38.17	3.453	
4,100.0	3,602.1	4,125.4	3,658.1	24.4	23.6	133.34	-234.8	1,430.9	135.3	95.7	39.60	3.417	
4,104.4	3,605.5	4,129.8	3,661.6	24.4	23.7	133.34	-235.2	1,433.7	135.5	95.8	39.66	3.416	
4,200.0	3,678.6	4,225.3	3,736.0	25.3	24.6	133.27	-243.4	1,492.9	139.0	97.9	41.09	3.382	
4,204.4	3,682.0	4,229.8	3,739.5	25.4	24.6	133.27	-243.8	1,495.6	139.1	98.0	41.16	3.381	
4,300.0	3,755.0	4,325.3	3,813.9	26.3	25.5	133.21	-252.1	1,554.9	142.7	100.1	42.60	3.349	
4,304.4	3,758.4	4,329.7	3,817.4	26.4	25.6	133.21	-252.5	1,557.6	142.8	100.1	42.67	3.347	
4,400.0	3,831.5	4,425.2	3,891.8	27.3	26.5	133.15	-260.8	1,616.8	146.3	102.2	44.11	3.317	
4,404.4	3,834.9	4,429.6	3,895.3	27.3	26.5	133.15	-261.2	1,619.6	146.5	102.3	44.18	3.316	
4,500.0	3,908.0	4,525.1	3,969.7	28.3	27.4	133.09	-269.5	1,678.8	150.0	104.4	45.63	3.287	
4,504.4	3,911.4	4,529.6	3,973.2	28.3	27.5	133.09	-269.9	1,681.6	150.1	104.5	45.69	3.286	
4,600.0	3,984.4	4,625.1	4,047.6	29.3	28.4	133.04	-278.2	1,740.8	153.7	106.5	47.15	3.259	
4,604.4	3,987.8	4,629.5	4,051.1	29.3	28.4	133.04	-278.5	1,743.6	153.8	106.6	47.22	3.258	
4,700.0	4,060.9	4,725.0	4,125.6	30.2	29.3	132.99	-286.8	1,802.8	157.3	108.6	48.67	3.232	
4,704.4	4,064.3	4,729.4	4,129.0	30.3	29.4	132.99	-287.2	1,805.5	157.5	108.7	48.74	3.231	
4,800.0	4,137.4	4,824.9	4,203.5	31.2	30.3	132.94	-295.5	1,864.8	161.0	110.8	50.20	3.207	
4,804.4	4,140.8	4,829.4	4,206.9	31.3	30.3	132.94	-295.9	1,867.5	161.1	110.9	50.27	3.206	
4,900.0	4,213.8	4,924.9	4,281.4	32.2	31.2	132.89	-304.2	1,926.7	164.7	112.9	51.73	3.183	
4,904.4	4,217.2	4,929.3	4,284.8	32.3	31.3	132.89	-304.6	1,929.5	164.8	113.0	51.80	3.182	
5,000.0	4,290.3	5,024.8	4,359.3	33.2	32.2	132.85	-312.9	1,988.7	168.3	115.1	53.27	3.160	
5,004.4	4,293.7	5,029.2	4,362.8	33.2	32.2	132.85	-313.2	1,991.5	168.5	115.1	53.34	3.159	
5,100.0	4,366.8	5,124.7	4,437.2	34.2	33.1	132.81	-321.5	2,050.7	172.0	117.2	54.81	3.138	
5,104.4	4,370.2	5,129.2	4,440.7	34.2	33.2	132.81	-321.9	2,053.4	172.2	117.3	54.88	3.137	
5,200.0	4,443.2	5,224.7	4,515.1	35.2	34.1	132.77	-330.2	2,112.7	175.7	119.3	56.35	3.117	
5,204.4	4,446.6	5,229.1	4,518.6	35.2	34.1	132.76	-330.6	2,115.4	175.8	119.4	56.42	3.116	
5,300.0	4,519.7	5,324.6	4,593.0	36.2	35.0	132.73	-338.9	2,174.6	179.3	121.4	57.89	3.098	
5,304.4	4,523.1	5,329.0	4,596.5	36.2	35.1	132.73	-339.3	2,177.4	179.5	121.5	57.96	3.097	
5,400.0	4,596.2	5,424.5	4,670.9	37.2	36.0	132.69	-347.6	2,236.6	183.0	123.6	59.44	3.079	
5,404.4	4,599.6	5,429.0	4,674.4	37.2	36.0	132.69	-348.0	2,239.4	183.2	123.6	59.51	3.078	
5,500.0	4,672.6	5,524.5	4,748.8	38.1	37.0	132.65	-356.2	2,298.6	186.7	125.7	60.99	3.061	
5,504.4	4,676.0	5,528.9	4,752.3	38.2	37.0	132.65	-356.6	2,301.4	186.8	125.8	61.06	3.060	
5,600.0	4,749.1	5,624.4	4,826.7	39.1	37.9	132.62	-364.9	2,360.6	190.3	127.8	62.54	3.043	
5,604.4	4,752.5	5,628.8	4,830.2	39.2	38.0	132.62	-365.3	2,363.3	190.5	127.9	62.61	3.043	
5,700.0	4,825.6	5,724.3	4,904.7	40.1	38.9	132.58	-373.6	2,422.6	194.0	129.9	64.09	3.027	
5,704.4	4,829.0	5,728.8	4,908.1	40.2	38.9	132.58	-374.0	2,425.3	194.2	130.0	64.16	3.026	
5,800.0	4,902.0	5,824.2	4,982.6	41.1	39.8	132.55	-382.3	2,484.5	197.7	132.0	65.65	3.011	
5,804.4	4,905.4	5,828.7	4,986.0	41.2	39.9	132.55	-382.7	2,487.3	197.8	132.1	65.72	3.010	
5,900.0	4,978.5	5,924.2	5,060.5	42.1	40.8	132.52	-391.0	2,546.5	201.3	134.1	67.20	2.996	
5,904.4	4,981.9	5,928.6	5,063.9	42.1	40.8	132.52	-391.3	2,549.3	201.5	134.2	67.27	2.995	
6,000.0	5,055.0	6,024.1	5,138.4	43.1	41.7	132.49	-399.6	2,608.5	205.0	136.2	68.76	2.981	
6,004.4	5,058.4	6,028.6	5,141.8	43.1	41.8	132.49	-400.0	2,611.3	205.2	136.3	68.83	2.981	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,100.0	5,131.4	6,124.0	5,216.3	44.1	42.7	132.46	-408.3	2,670.5	208.7	138.4	70.32	2.968	
6,104.4	5,134.8	6,128.5	5,219.8	44.1	42.7	132.46	-408.7	2,673.2	208.8	138.4	70.39	2.967	
6,200.0	5,207.9	6,224.0	5,294.2	45.1	43.7	132.43	-417.0	2,732.4	212.3	140.5	71.88	2.954	
6,204.4	5,211.3	6,228.4	5,297.7	45.1	43.7	132.43	-417.4	2,735.2	212.5	140.6	71.95	2.954	
6,300.0	5,284.4	6,323.9	5,372.1	46.1	44.6	132.41	-425.7	2,794.4	216.0	142.6	73.44	2.941	
6,304.4	5,287.8	6,328.4	5,375.6	46.1	44.7	132.41	-426.0	2,797.2	216.2	142.7	73.51	2.941	
6,400.0	5,360.8	6,423.8	5,450.0	47.1	45.6	132.38	-434.3	2,856.4	219.7	144.7	75.00	2.929	
6,404.4	5,364.2	6,428.3	5,453.5	47.1	45.6	132.38	-434.7	2,859.2	219.8	144.8	75.07	2.928	
6,500.0	5,437.3	6,523.8	5,527.9	48.1	46.5	132.36	-443.0	2,918.4	223.3	146.8	76.57	2.917	
6,504.4	5,440.7	6,528.2	5,531.4	48.1	46.6	132.36	-443.4	2,921.1	223.5	146.9	76.64	2.916	
6,600.0	5,513.8	6,623.7	5,605.8	49.0	47.5	132.33	-451.7	2,980.4	227.0	148.9	78.13	2.906	
6,604.4	5,517.2	6,628.2	5,609.3	49.1	47.5	132.33	-452.1	2,983.1	227.2	149.0	78.20	2.905	
6,700.0	5,590.2	6,723.6	5,683.7	50.0	48.5	132.31	-460.4	3,042.3	230.7	151.0	79.70	2.894	
6,704.4	5,593.6	6,728.1	5,687.2	50.1	48.5	132.31	-460.8	3,045.1	230.8	151.1	79.77	2.894	
6,800.0	5,666.7	6,823.6	5,761.7	51.0	49.4	132.29	-469.0	3,104.3	234.4	153.1	81.26	2.884	
6,804.4	5,670.1	6,828.0	5,765.1	51.1	49.5	132.28	-469.4	3,107.1	234.5	153.2	81.33	2.883	
6,900.0	5,743.2	6,923.5	5,839.6	52.0	50.4	132.26	-477.7	3,166.3	238.0	155.2	82.83	2.874	
6,904.4	5,746.6	6,928.0	5,843.0	52.1	50.4	132.26	-478.1	3,169.1	238.2	155.3	82.90	2.873	
7,000.0	5,819.6	7,023.4	5,917.5	53.0	51.3	132.24	-486.4	3,228.3	241.7	157.3	84.40	2.864	
7,004.4	5,823.0	7,027.9	5,920.9	53.1	51.4	132.24	-486.8	3,231.0	241.9	157.4	84.47	2.863	
7,100.0	5,896.1	7,123.4	5,995.4	54.0	52.3	132.22	-495.1	3,290.3	245.4	159.4	85.97	2.854	
7,104.4	5,899.5	7,127.8	5,998.9	54.1	52.4	132.22	-495.5	3,293.0	245.5	159.5	86.04	2.854	
7,200.0	5,972.6	7,223.3	6,073.3	55.0	53.3	132.20	-503.7	3,352.2	249.0	161.5	87.54	2.845	
7,204.4	5,976.0	7,227.8	6,076.8	55.1	53.3	132.20	-504.1	3,355.0	249.2	161.6	87.61	2.844	
7,300.0	6,049.0	7,323.2	6,151.2	56.0	54.2	132.18	-512.4	3,414.2	252.7	163.6	89.11	2.836	
7,304.4	6,052.4	7,327.7	6,154.7	56.1	54.3	132.18	-512.8	3,417.0	252.9	163.7	89.18	2.835	
7,400.0	6,125.5	7,423.2	6,229.1	57.0	55.2	132.16	-521.1	3,476.2	256.4	165.7	90.68	2.827	
7,404.4	6,128.9	7,427.6	6,232.6	57.0	55.2	132.16	-521.5	3,478.9	256.5	165.8	90.75	2.827	
7,500.0	6,202.0	7,523.1	6,307.0	58.0	56.2	132.14	-529.8	3,538.2	260.0	167.8	92.25	2.819	
7,504.4	6,205.4	7,527.6	6,310.5	58.0	56.2	132.14	-530.2	3,540.9	260.2	167.9	92.32	2.818	
7,600.0	6,278.4	7,623.0	6,384.9	59.0	57.1	132.13	-538.5	3,600.1	263.7	169.9	93.83	2.811	
7,604.4	6,281.8	7,627.5	6,388.4	59.0	57.2	132.12	-538.8	3,602.9	263.9	170.0	93.90	2.810	
7,700.0	6,354.9	7,723.0	6,462.8	60.0	58.1	132.11	-547.1	3,662.1	267.4	172.0	95.40	2.803	
7,704.4	6,358.3	7,727.4	6,466.3	60.0	58.1	132.11	-547.5	3,664.9	267.5	172.1	95.47	2.802	
7,800.0	6,431.4	7,822.9	6,540.8	61.0	59.0	132.09	-555.8	3,724.1	271.0	174.1	96.98	2.795	
7,804.4	6,434.8	7,827.3	6,544.2	61.0	59.1	132.09	-556.2	3,726.9	271.2	174.2	97.05	2.795	
7,900.0	6,507.8	7,922.8	6,618.7	62.0	60.0	132.07	-564.5	3,786.1	274.7	176.2	98.55	2.788	
7,904.4	6,511.2	7,927.3	6,622.1	62.0	60.1	132.07	-564.9	3,788.8	274.9	176.3	98.62	2.787	
8,000.0	6,584.3	8,022.8	6,696.6	63.0	61.0	132.06	-573.2	3,848.1	278.4	178.3	100.12	2.780	
8,004.4	6,587.7	8,027.2	6,700.0	63.0	61.0	132.06	-573.5	3,850.8	278.5	178.3	100.19	2.780	
8,100.0	6,660.8	8,122.7	6,774.5	64.0	61.9	132.04	-581.8	3,910.0	282.1	180.3	101.70	2.773	
8,104.4	6,664.2	8,127.1	6,778.0	64.0	62.0	132.04	-582.2	3,912.8	282.2	180.4	101.77	2.773	
8,200.0	6,737.2	8,222.6	6,852.4	65.0	62.9	132.03	-590.5	3,972.0	285.7	182.4	103.28	2.767	
8,204.4	6,740.6	8,227.1	6,855.9	65.0	62.9	132.03	-590.9	3,974.8	285.9	182.5	103.35	2.766	
8,300.0	6,813.7	8,322.6	6,930.3	66.0	63.9	132.01	-599.2	4,034.0	289.4	184.5	104.85	2.760	
8,304.4	6,817.1	8,327.0	6,933.8	66.0	63.9	132.01	-599.6	4,036.8	289.6	184.6	104.92	2.760	
8,400.0	6,890.2	8,422.5	7,008.2	67.0	64.8	132.00	-607.9	4,096.0	293.1	186.6	106.43	2.754	
8,404.4	6,893.6	8,426.9	7,011.7	67.0	64.9	132.00	-608.3	4,098.7	293.2	186.7	106.50	2.753	
8,500.0	6,966.6	8,539.1	7,099.2	68.0	66.0	132.25	-616.1	4,168.4	295.9	188.2	107.71	2.747	
8,536.2	6,994.3	8,594.7	7,142.7	68.3	66.5	133.26	-613.7	4,202.9	294.0	187.4	106.63	2.757	
8,550.0	7,004.9	8,615.6	7,158.9	68.4	66.7	135.36	-611.4	4,215.9	292.8	186.9	105.87	2.765	
8,600.0	7,043.2	8,689.8	7,215.8	69.0	67.3	143.22	-597.2	4,261.2	287.6	185.5	102.06	2.818	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,650.0	7,081.3	8,761.4	7,269.0	69.4	67.9	151.34	-574.7	4,303.4	281.3	184.5	96.81	2.906	
8,700.0	7,118.9	8,830.3	7,317.7	69.9	68.4	159.56	-545.2	4,342.2	274.4	183.8	90.56	3.030	
8,750.0	7,155.9	8,896.3	7,361.4	70.4	68.8	167.71	-510.1	4,377.0	267.0	183.2	83.81	3.186	
8,800.0	7,191.8	8,959.5	7,400.1	70.8	69.2	175.71	-470.7	4,407.7	259.6	182.5	77.10	3.367	
8,850.0	7,226.4	9,020.0	7,433.7	71.2	69.5	-176.51	-428.2	4,434.4	252.5	181.5	70.96	3.558	
8,900.0	7,259.4	9,077.9	7,462.4	71.6	69.7	-168.99	-383.4	4,457.3	245.8	180.0	65.84	3.734	
8,950.0	7,290.6	9,133.5	7,486.5	71.9	69.9	-161.73	-337.1	4,476.5	240.1	178.0	62.07	3.868	
9,000.0	7,319.8	9,186.9	7,506.2	72.2	70.0	-154.75	-290.0	4,492.2	235.4	175.7	59.70	3.942	
9,050.0	7,346.7	9,238.4	7,521.9	72.5	70.1	-148.06	-242.7	4,504.7	231.9	173.3	58.54	3.961	
9,062.4	7,353.0	9,250.8	7,525.2	72.5	70.2	-146.44	-231.0	4,507.3	231.2	172.8	58.40	3.959	
9,100.0	7,371.1	9,288.0	7,533.9	72.7	70.2	-141.66	-195.5	4,514.2	229.8	171.5	58.21	3.947	
9,111.4	7,376.3	9,299.0	7,536.1	72.7	70.2	-140.26	-184.8	4,515.9	229.5	171.3	58.20	3.943	
9,150.0	7,392.8	9,336.0	7,542.3	72.9	70.3	-135.59	-148.7	4,520.9	229.0	170.7	58.27	3.930	
9,152.2	7,393.7	9,338.1	7,542.6	72.9	70.3	-135.33	-146.6	4,521.1	229.0	170.7	58.28	3.930	
9,200.0	7,411.8	9,382.6	7,547.6	73.1	70.3	-129.87	-102.6	4,525.1	229.7	171.3	58.39	3.933	
9,202.2	7,412.5	9,384.7	7,547.8	73.1	70.3	-129.63	-100.6	4,525.2	229.7	171.3	58.40	3.934	
9,250.0	7,427.7	9,427.9	7,549.9	73.2	70.3	-124.54	-57.5	4,526.9	231.6	173.2	58.40	3.966	
9,252.2	7,428.3	9,429.9	7,549.9	73.2	70.3	-124.31	-55.4	4,526.9	231.7	173.3	58.40	3.968	
9,300.0	7,440.6	9,474.3	7,550.0	73.3	70.3	-119.63	-11.0	4,527.0	234.5	176.3	58.20	4.030	
9,302.2	7,441.1	9,476.4	7,550.0	73.3	70.3	-119.43	-8.9	4,527.0	234.7	176.5	58.19	4.033	
9,350.0	7,450.2	9,522.7	7,550.0	73.4	70.2	-115.80	37.3	4,527.0	237.5	179.5	57.96	4.098	
9,352.2	7,450.6	9,524.9	7,550.0	73.4	70.2	-115.66	39.5	4,527.0	237.6	179.7	57.95	4.100	
9,400.0	7,456.6	9,571.9	7,550.0	73.4	70.2	-113.26	86.6	4,527.0	239.8	182.0	57.85	4.145	
9,402.2	7,456.8	9,574.2	7,550.0	73.4	70.2	-113.18	88.8	4,527.0	239.9	182.1	57.85	4.147	
9,450.0	7,459.7	9,621.8	7,550.0	73.4	70.2	-112.04	136.4	4,527.0	241.0	183.1	57.96	4.159	
9,451.0	7,459.7	9,622.7	7,550.0	73.4	70.2	-112.03	137.4	4,527.0	241.0	183.1	57.96	4.159	
9,471.1	7,460.0	9,642.9	7,550.0	73.4	70.2	-111.92	157.6	4,527.0	241.2	183.1	58.07	4.153	
9,472.4	7,460.0	9,644.2	7,550.0	73.4	70.2	-111.92	158.9	4,527.0	241.2	183.1	58.08	4.152	
9,500.0	7,460.0	9,671.8	7,550.0	73.4	70.2	-111.92	186.4	4,527.0	241.2	182.9	58.26	4.139	
9,504.4	7,460.0	9,676.2	7,550.0	73.4	70.2	-111.92	190.9	4,527.0	241.2	182.9	58.29	4.137	
9,600.0	7,460.0	9,771.8	7,550.0	73.5	70.2	-111.92	286.4	4,527.0	241.2	182.2	59.00	4.087	
9,604.4	7,460.0	9,776.2	7,550.0	73.5	70.2	-111.92	290.9	4,527.0	241.2	182.1	59.04	4.085	
9,700.0	7,460.0	9,871.8	7,550.0	73.5	70.3	-111.92	386.4	4,527.0	241.2	181.3	59.86	4.028	
9,704.4	7,460.0	9,876.2	7,550.0	73.5	70.3	-111.92	390.9	4,527.0	241.2	181.3	59.91	4.026	
9,800.0	7,460.0	9,971.8	7,550.0	73.5	70.3	-111.92	486.4	4,527.0	241.2	180.3	60.83	3.964	
9,804.4	7,460.0	9,976.2	7,550.0	73.5	70.3	-111.92	490.9	4,527.0	241.2	180.3	60.88	3.961	
9,900.0	7,460.0	10,071.8	7,550.0	73.6	70.3	-111.92	586.4	4,527.0	241.2	179.3	61.90	3.896	
9,904.4	7,460.0	10,076.2	7,550.0	73.6	70.3	-111.92	590.9	4,527.0	241.2	179.2	61.95	3.893	
10,000.0	7,460.0	10,171.8	7,550.0	73.6	70.4	-111.92	686.4	4,527.0	241.2	178.1	63.07	3.823	
10,004.4	7,460.0	10,176.2	7,550.0	73.6	70.4	-111.92	690.9	4,527.0	241.2	178.0	63.13	3.820	
10,100.0	7,460.0	10,271.8	7,550.0	73.7	70.5	-111.92	786.4	4,527.0	241.2	176.8	64.34	3.748	
10,104.4	7,460.0	10,276.2	7,550.0	73.7	70.5	-111.92	790.9	4,527.0	241.2	176.8	64.40	3.745	
10,200.0	7,460.0	10,371.8	7,550.0	73.8	70.6	-111.92	886.4	4,527.0	241.2	175.5	65.69	3.671	
10,204.4	7,460.0	10,376.2	7,550.0	73.8	70.6	-111.92	890.9	4,527.0	241.2	175.4	65.75	3.668	
10,300.0	7,460.0	10,471.8	7,550.0	73.9	70.7	-111.92	986.4	4,527.0	241.2	174.0	67.13	3.593	
10,304.4	7,460.0	10,476.2	7,550.0	73.9	70.7	-111.92	990.9	4,527.0	241.2	174.0	67.19	3.589	
10,400.0	7,460.0	10,571.8	7,550.0	74.1	70.8	-111.92	1,086.4	4,527.0	241.2	172.5	68.64	3.514	
10,404.4	7,460.0	10,576.2	7,550.0	74.1	70.8	-111.92	1,090.9	4,527.0	241.2	172.5	68.71	3.510	
10,500.0	7,460.0	10,671.8	7,550.0	74.2	71.0	-111.92	1,186.4	4,527.0	241.2	171.0	70.22	3.434	
10,504.4	7,460.0	10,676.2	7,550.0	74.2	71.0	-111.92	1,190.9	4,527.0	241.2	170.9	70.29	3.431	
10,600.0	7,460.0	10,771.8	7,550.0	74.4	71.1	-111.92	1,286.4	4,527.0	241.2	169.3	71.87	3.356	
10,604.4	7,460.0	10,776.2	7,550.0	74.4	71.2	-111.92	1,290.9	4,527.0	241.2	169.2	71.95	3.352	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,700.0	7,460.0	10,871.8	7,550.0	74.6	71.3	-111.92	1,386.4	4,527.0	241.2	167.6	73.59	3.277	
10,704.4	7,460.0	10,876.2	7,550.0	74.6	71.3	-111.92	1,390.9	4,527.0	241.2	167.5	73.67	3.274	
10,800.0	7,460.0	10,971.8	7,550.0	74.8	71.5	-111.92	1,486.4	4,527.0	241.2	165.8	75.36	3.200	
10,804.4	7,460.0	10,976.2	7,550.0	74.8	71.5	-111.92	1,490.9	4,527.0	241.2	165.7	75.44	3.197	
10,900.0	7,460.0	11,071.8	7,550.0	75.0	71.8	-111.92	1,586.4	4,527.0	241.2	164.0	77.19	3.124	
10,904.4	7,460.0	11,076.2	7,550.0	75.0	71.8	-111.92	1,590.9	4,527.0	241.2	163.9	77.28	3.121	
11,000.0	7,460.0	11,171.8	7,550.0	75.2	72.0	-111.91	1,686.4	4,527.0	241.2	162.1	79.07	3.050	
11,004.4	7,460.0	11,176.2	7,550.0	75.2	72.0	-111.91	1,690.9	4,527.0	241.2	162.0	79.16	3.047	
11,100.0	7,460.0	11,271.8	7,550.0	75.5	72.3	-111.91	1,786.4	4,527.0	241.2	160.2	81.00	2.978	
11,104.4	7,460.0	11,276.2	7,550.0	75.5	72.3	-111.91	1,790.9	4,527.0	241.2	160.1	81.09	2.974	
11,200.0	7,460.0	11,371.8	7,550.0	75.7	72.6	-111.91	1,886.4	4,527.0	241.2	158.2	82.97	2.907	
11,204.4	7,460.0	11,376.2	7,550.0	75.7	72.6	-111.91	1,890.9	4,527.0	241.2	158.1	83.06	2.904	
11,300.0	7,460.0	11,471.8	7,550.0	76.0	72.9	-111.91	1,986.4	4,527.0	241.2	156.2	84.98	2.838	
11,304.4	7,460.0	11,476.2	7,550.0	76.0	72.9	-111.91	1,990.9	4,527.0	241.2	156.1	85.07	2.835	
11,400.0	7,460.0	11,571.8	7,550.0	76.3	73.2	-111.91	2,086.4	4,527.0	241.2	154.2	87.03	2.771	
11,404.4	7,460.0	11,576.2	7,550.0	76.4	73.2	-111.91	2,090.9	4,527.0	241.2	154.1	87.13	2.768	
11,500.0	7,460.0	11,671.8	7,550.0	76.7	73.6	-111.91	2,186.4	4,527.0	241.2	152.1	89.12	2.706	
11,504.4	7,460.0	11,676.2	7,550.0	76.7	73.6	-111.91	2,190.9	4,527.0	241.2	152.0	89.21	2.704	
11,600.0	7,460.0	11,771.8	7,550.0	77.0	74.0	-111.91	2,286.4	4,527.0	241.2	150.0	91.24	2.644	
11,604.4	7,460.0	11,776.2	7,550.0	77.0	74.0	-111.91	2,290.9	4,527.0	241.2	149.9	91.33	2.641	
11,700.0	7,460.0	11,871.8	7,550.0	77.4	74.4	-111.91	2,386.4	4,527.0	241.2	147.8	93.39	2.583	
11,704.4	7,460.0	11,876.2	7,550.0	77.4	74.4	-111.91	2,390.9	4,527.0	241.2	147.7	93.48	2.580	
11,800.0	7,460.0	11,971.8	7,550.0	77.8	74.8	-111.91	2,486.4	4,527.0	241.2	145.6	95.57	2.524	
11,804.4	7,460.0	11,976.2	7,550.0	77.8	74.8	-111.91	2,490.9	4,527.0	241.2	145.5	95.66	2.521	
11,900.0	7,460.0	12,071.8	7,550.0	78.2	75.3	-111.91	2,586.4	4,527.0	241.2	143.4	97.77	2.467	
11,904.4	7,460.0	12,076.2	7,550.0	78.2	75.3	-111.91	2,590.9	4,527.0	241.2	143.3	97.87	2.464	
12,000.0	7,460.0	12,171.8	7,550.0	78.7	75.7	-111.91	2,686.4	4,527.0	241.2	141.2	100.00	2.412	
12,004.4	7,460.0	12,176.2	7,550.0	78.7	75.8	-111.91	2,690.9	4,527.0	241.2	141.1	100.10	2.410	
12,100.0	7,460.0	12,271.8	7,550.0	79.1	76.2	-111.91	2,786.4	4,527.0	241.2	138.9	102.26	2.359	
12,104.4	7,460.0	12,276.2	7,550.0	79.2	76.3	-111.91	2,790.9	4,527.0	241.2	138.8	102.36	2.356	
12,200.0	7,460.0	12,371.8	7,550.0	79.6	76.8	-111.91	2,886.4	4,527.0	241.2	136.7	104.53	2.307	
12,204.4	7,460.0	12,376.2	7,550.0	79.6	76.8	-111.91	2,890.9	4,527.0	241.2	136.6	104.64	2.305	
12,300.0	7,460.0	12,471.8	7,550.0	80.1	77.4	-111.91	2,986.4	4,527.0	241.2	134.4	106.83	2.258	
12,304.4	7,460.0	12,476.2	7,550.0	80.2	77.4	-111.91	2,990.9	4,527.0	241.2	134.3	106.93	2.256	
12,400.0	7,460.0	12,571.8	7,550.0	80.7	77.9	-111.91	3,086.4	4,527.0	241.2	132.1	109.15	2.210	
12,404.4	7,460.0	12,576.2	7,550.0	80.7	78.0	-111.91	3,090.9	4,527.0	241.2	132.0	109.25	2.208	
12,500.0	7,460.0	12,671.8	7,550.0	81.2	78.6	-111.91	3,186.4	4,527.0	241.2	129.7	111.48	2.164	
12,504.4	7,460.0	12,676.2	7,550.0	81.3	78.6	-111.91	3,190.9	4,527.0	241.2	129.6	111.58	2.162	
12,600.0	7,460.0	12,771.8	7,550.0	81.8	79.2	-111.91	3,286.4	4,527.0	241.2	127.4	113.83	2.119	
12,604.4	7,460.0	12,776.2	7,550.0	81.9	79.2	-111.91	3,290.9	4,527.0	241.2	127.3	113.94	2.117	
12,700.0	7,460.0	12,871.8	7,550.0	82.5	79.9	-111.91	3,386.4	4,527.0	241.2	125.0	116.20	2.076	
12,704.4	7,460.0	12,876.2	7,550.0	82.5	79.9	-111.91	3,390.9	4,527.0	241.2	124.9	116.30	2.074	
12,800.0	7,460.0	12,971.8	7,550.0	83.1	80.6	-111.91	3,486.4	4,527.0	241.2	122.6	118.58	2.034	
12,804.4	7,460.0	12,976.2	7,550.0	83.1	80.6	-111.91	3,490.9	4,527.0	241.2	122.5	118.68	2.032	
12,900.0	7,460.0	13,071.8	7,550.0	83.8	81.3	-111.91	3,586.4	4,527.0	241.2	120.2	120.97	1.994	Collision Risk Procedures Req.
12,904.4	7,460.0	13,076.2	7,550.0	83.8	81.3	-111.91	3,590.9	4,527.0	241.2	120.1	121.08	1.992	Collision Risk Procedures Req.
13,000.0	7,460.0	13,171.8	7,550.0	84.4	82.1	-111.91	3,686.4	4,527.0	241.2	117.8	123.38	1.955	Collision Risk Procedures Req.
13,004.4	7,460.0	13,176.2	7,550.0	84.5	82.1	-111.91	3,690.9	4,527.0	241.2	117.7	123.49	1.953	Collision Risk Procedures Req.
13,100.0	7,460.0	13,271.8	7,550.0	85.2	82.8	-111.91	3,786.4	4,527.0	241.2	115.4	125.80	1.917	Collision Risk Procedures Req.
13,104.4	7,460.0	13,276.2	7,550.0	85.2	82.9	-111.91	3,790.9	4,527.0	241.2	115.3	125.91	1.916	Collision Risk Procedures Req.
13,200.0	7,460.0	13,371.8	7,550.0	85.9	83.6	-111.91	3,886.4	4,527.0	241.2	113.0	128.24	1.881	Collision Risk Procedures Req.
13,204.4	7,460.0	13,376.2	7,550.0	85.9	83.7	-111.91	3,890.9	4,527.0	241.2	112.9	128.35	1.880	Collision Risk Procedures Req.

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
13,300.0	7,460.0	13,471.8	7,550.0	86.7	84.5	-111.91	3,986.4	4,527.0	241.2	110.5	130.68	1.846	Collision Risk Procedures Req.
13,304.4	7,460.0	13,476.2	7,550.0	86.7	84.5	-111.91	3,990.9	4,527.0	241.2	110.4	130.79	1.844	Collision Risk Procedures Req.
13,400.0	7,460.0	13,571.8	7,550.0	87.4	85.3	-111.91	4,086.4	4,527.0	241.2	108.1	133.14	1.812	Collision Risk Procedures Req.
13,404.4	7,460.0	13,576.2	7,550.0	87.5	85.4	-111.91	4,090.9	4,527.0	241.2	108.0	133.25	1.810	Collision Risk Procedures Req.
13,500.0	7,460.0	13,671.8	7,550.0	88.2	86.2	-111.91	4,186.4	4,527.0	241.2	105.6	135.60	1.779	Collision Risk Procedures Req.
13,504.4	7,460.0	13,676.2	7,550.0	88.3	86.2	-111.91	4,190.9	4,527.0	241.2	105.5	135.71	1.778	Collision Risk Procedures Req.
13,600.0	7,460.0	13,771.8	7,550.0	89.1	87.1	-111.91	4,286.4	4,527.0	241.2	103.2	138.07	1.747	Collision Risk Procedures Req.
13,604.4	7,460.0	13,776.2	7,550.0	89.1	87.1	-111.91	4,290.9	4,527.0	241.2	103.0	138.19	1.746	Collision Risk Procedures Req.
13,700.0	7,460.0	13,871.8	7,550.0	89.9	88.0	-111.91	4,386.4	4,527.0	241.2	100.7	140.56	1.716	Collision Risk Procedures Req.
13,704.4	7,460.0	13,876.2	7,550.0	90.0	88.1	-111.91	4,390.9	4,527.0	241.2	100.6	140.67	1.715	Collision Risk Procedures Req.
13,800.0	7,460.0	13,971.8	7,550.0	90.8	89.0	-111.91	4,486.4	4,527.0	241.2	98.2	143.05	1.686	Collision Risk Procedures Req.
13,804.4	7,460.0	13,976.2	7,550.0	90.8	89.0	-111.91	4,490.9	4,527.0	241.2	98.1	143.16	1.685	Collision Risk Procedures Req.
13,900.0	7,460.0	14,071.8	7,550.0	91.7	89.9	-111.91	4,586.4	4,527.0	241.2	95.7	145.55	1.657	Collision Risk Procedures Req.
13,904.4	7,460.0	14,076.2	7,550.0	91.7	90.0	-111.91	4,590.9	4,527.0	241.2	95.6	145.66	1.656	Collision Risk Procedures Req.
14,000.0	7,460.0	14,171.8	7,550.0	92.6	90.9	-111.91	4,686.4	4,527.0	241.2	93.2	148.06	1.629	Collision Risk Procedures Req.
14,004.4	7,460.0	14,176.2	7,550.0	92.6	90.9	-111.91	4,690.9	4,527.0	241.2	93.1	148.17	1.628	Collision Risk Procedures Req.
14,100.0	7,460.0	14,271.8	7,550.0	93.5	91.9	-111.91	4,786.4	4,527.0	241.2	90.7	150.57	1.602	Collision Risk Procedures Req.
14,104.4	7,460.0	14,276.2	7,550.0	93.6	91.9	-111.91	4,790.9	4,527.0	241.2	90.6	150.68	1.601	Collision Risk Procedures Req.
14,200.0	7,460.0	14,371.8	7,550.0	94.5	92.9	-111.91	4,886.4	4,527.1	241.2	88.2	153.09	1.576	Collision Risk Procedures Req.
14,204.4	7,460.0	14,376.2	7,550.0	94.5	93.0	-111.91	4,890.9	4,527.1	241.2	88.0	153.20	1.575	Collision Risk Procedures Req.
14,300.0	7,460.0	14,471.8	7,550.0	95.4	93.9	-111.91	4,986.4	4,527.1	241.2	85.6	155.62	1.550	Collision Risk Procedures Req.
14,304.4	7,460.0	14,476.2	7,550.0	95.5	94.0	-111.91	4,990.9	4,527.1	241.2	85.5	155.73	1.549	Collision Risk Procedures Req.
14,400.0	7,460.0	14,571.8	7,550.0	96.4	95.0	-111.91	5,086.4	4,527.1	241.2	83.1	158.15	1.525	Collision Risk Procedures Req.
14,404.4	7,460.0	14,576.2	7,550.0	96.5	95.0	-111.91	5,090.9	4,527.1	241.2	83.0	158.26	1.524	Collision Risk Procedures Req.
14,500.0	7,460.0	14,671.8	7,550.0	97.4	96.1	-111.91	5,186.4	4,527.1	241.3	80.6	160.69	1.501	Collision Risk Procedures Req.
14,504.4	7,460.0	14,676.2	7,550.0	97.5	96.1	-111.91	5,190.9	4,527.1	241.3	80.4	160.80	1.500	Collision Risk Procedures Req.
14,600.0	7,460.0	14,771.8	7,550.0	98.5	97.1	-111.91	5,286.4	4,527.1	241.3	78.0	163.24	1.478	Collision Risk Procedures Req.
14,604.4	7,460.0	14,776.2	7,550.0	98.5	97.2	-111.91	5,290.9	4,527.1	241.3	77.9	163.35	1.477	Collision Risk Procedures Req.
14,700.0	7,460.0	14,871.8	7,550.0	99.5	98.2	-111.91	5,386.4	4,527.1	241.3	75.5	165.79	1.455	Collision Risk Procedures Req.
14,704.4	7,460.0	14,876.2	7,550.0	99.5	98.3	-111.91	5,390.9	4,527.1	241.3	75.4	165.90	1.454	Collision Risk Procedures Req.
14,800.0	7,460.0	14,971.8	7,550.0	100.5	99.3	-111.91	5,486.4	4,527.1	241.3	72.9	168.34	1.433	Collision Risk Procedures Req.
14,804.4	7,460.0	14,976.2	7,550.0	100.6	99.4	-111.91	5,490.9	4,527.1	241.3	72.8	168.46	1.432	Collision Risk Procedures Req.
14,900.0	7,460.0	15,071.8	7,550.0	101.6	100.5	-111.91	5,586.4	4,527.1	241.3	70.4	170.90	1.412	Collision Risk Procedures Req.
14,904.4	7,460.0	15,076.2	7,550.0	101.7	100.5	-111.91	5,590.9	4,527.1	241.3	70.2	171.02	1.411	Collision Risk Procedures Req.
15,000.0	7,460.0	15,171.8	7,550.0	102.7	101.6	-111.91	5,686.4	4,527.1	241.3	67.8	173.47	1.391	Collision Risk Procedures Req.
15,004.4	7,460.0	15,176.2	7,550.0	102.7	101.6	-111.91	5,690.9	4,527.1	241.3	67.7	173.58	1.390	Collision Risk Procedures Req.
15,100.0	7,460.0	15,271.8	7,550.0	103.8	102.7	-111.91	5,786.4	4,527.1	241.3	65.2	176.04	1.370	Collision Risk Procedures Req.
15,104.4	7,460.0	15,276.2	7,550.0	103.8	102.8	-111.91	5,790.9	4,527.1	241.3	65.1	176.15	1.370	Collision Risk Procedures Req.
15,200.0	7,460.0	15,371.8	7,550.0	104.9	103.9	-111.91	5,886.4	4,527.1	241.3	62.7	178.61	1.351	Collision Risk Procedures Req.
15,204.4	7,460.0	15,376.2	7,550.0	104.9	103.9	-111.91	5,890.9	4,527.1	241.3	62.5	178.73	1.350	Collision Risk Procedures Req.
15,300.0	7,460.0	15,471.8	7,550.0	106.0	105.0	-111.90	5,986.4	4,527.1	241.3	60.1	181.19	1.332	Collision Risk Procedures Req.
15,304.4	7,460.0	15,476.2	7,550.0	106.0	105.1	-111.90	5,990.9	4,527.1	241.3	60.0	181.31	1.331	Collision Risk Procedures Req.
15,400.0	7,460.0	15,571.8	7,550.0	107.1	106.2	-111.90	6,086.4	4,527.1	241.3	57.5	183.78	1.313	Collision Risk Procedures Req.
15,404.4	7,460.0	15,576.2	7,550.0	107.2	106.3	-111.90	6,090.9	4,527.1	241.3	57.4	183.89	1.312	Collision Risk Procedures Req.
15,500.0	7,460.0	15,671.8	7,550.0	108.3	107.4	-111.90	6,186.4	4,527.1	241.3	54.9	186.36	1.295	Collision Risk Procedures Req.
15,504.4	7,460.0	15,676.2	7,550.0	108.3	107.5	-111.90	6,190.9	4,527.1	241.3	54.8	186.48	1.294	Collision Risk Procedures Req.
15,600.0	7,460.0	15,771.8	7,550.0	109.4	108.6	-111.90	6,286.4	4,527.1	241.3	52.3	188.95	1.277	Collision Risk Procedures Req.
15,604.4	7,460.0	15,776.2	7,550.0	109.5	108.6	-111.90	6,290.9	4,527.1	241.3	52.2	189.07	1.276	Collision Risk Procedures Req.
15,700.0	7,460.0	15,871.8	7,550.0	110.6	109.8	-111.90	6,386.4	4,527.1	241.3	49.7	191.54	1.260	Collision Risk Procedures Req.
15,704.4	7,460.0	15,876.2	7,550.0	110.6	109.9	-111.90	6,390.9	4,527.1	241.3	49.6	191.66	1.259	Collision Risk Procedures Req.
15,800.0	7,460.0	15,971.8	7,550.0	111.7	111.0	-111.90	6,486.4	4,527.1	241.3	47.1	194.14	1.243	Collision Risk Procedures Req.
15,804.4	7,460.0	15,976.2	7,550.0	111.8	111.1	-111.90	6,490.9	4,527.1	241.3	47.0	194.26	1.242	Collision Risk Procedures Req.

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,900.0	7,460.0	16,071.8	7,550.0	112.9	112.2	-111.90	6,586.4	4,527.1	241.3	44.5	196.74	1.226	Collision Risk Procedures Req.
15,904.4	7,460.0	16,076.2	7,550.0	113.0	112.3	-111.90	6,590.9	4,527.1	241.3	44.4	196.86	1.226	Collision Risk Procedures Req.
16,000.0	7,460.0	16,171.8	7,550.0	114.1	113.5	-111.90	6,686.4	4,527.1	241.3	41.9	199.34	1.210	Collision Risk Procedures Req.
16,004.4	7,460.0	16,176.2	7,550.0	114.1	113.5	-111.90	6,690.9	4,527.1	241.3	41.8	199.46	1.210	Collision Risk Procedures Req.
16,100.0	7,460.0	16,271.8	7,550.0	115.3	114.7	-111.90	6,786.4	4,527.1	241.3	39.3	201.95	1.195	Collision Risk Procedures Req.
16,104.4	7,460.0	16,276.2	7,550.0	115.3	114.7	-111.90	6,790.9	4,527.1	241.3	39.2	202.07	1.194	Collision Risk Procedures Req.
16,200.0	7,460.0	16,371.8	7,550.0	116.5	115.9	-111.90	6,886.4	4,527.1	241.3	36.7	204.56	1.180	Collision Risk Procedures Req.
16,204.4	7,460.0	16,376.2	7,550.0	116.5	116.0	-111.90	6,890.9	4,527.1	241.3	36.6	204.67	1.179	Collision Risk Procedures Req.
16,300.0	7,460.0	16,471.8	7,550.0	117.7	117.2	-111.90	6,986.4	4,527.1	241.3	34.1	207.17	1.165	Collision Risk Procedures Req.
16,304.4	7,460.0	16,476.2	7,550.0	117.8	117.2	-111.90	6,990.9	4,527.1	241.3	34.0	207.29	1.164	Collision Risk Procedures Req.
16,400.0	7,460.0	16,571.8	7,550.0	118.9	118.4	-111.90	7,086.4	4,527.1	241.3	31.5	209.78	1.150	Collision Risk Procedures Req.
16,404.4	7,460.0	16,576.2	7,550.0	119.0	118.5	-111.90	7,090.9	4,527.1	241.3	31.4	209.90	1.150	Collision Risk Procedures Req.
16,500.0	7,460.0	16,671.8	7,550.0	120.1	119.7	-111.90	7,186.4	4,527.1	241.3	28.9	212.40	1.136	Collision Risk Procedures Req.
16,504.4	7,460.0	16,676.2	7,550.0	120.2	119.7	-111.90	7,190.9	4,527.1	241.3	28.8	212.52	1.135	Collision Risk Procedures Req.
16,600.0	7,460.0	16,771.8	7,550.0	121.4	120.9	-111.90	7,286.4	4,527.1	241.3	26.3	215.02	1.122	Collision Risk Procedures Req.
16,604.4	7,460.0	16,776.2	7,550.0	121.4	121.0	-111.90	7,290.9	4,527.1	241.3	26.2	215.14	1.122	Collision Risk Procedures Req.
16,700.0	7,460.0	16,871.8	7,550.0	122.6	122.2	-111.90	7,386.4	4,527.1	241.3	23.7	217.64	1.109	Collision Risk Procedures Req.
16,704.4	7,460.0	16,876.2	7,550.0	122.7	122.3	-111.90	7,390.9	4,527.1	241.3	23.5	217.76	1.108	Collision Risk Procedures Req.
16,800.0	7,460.0	16,971.8	7,550.0	123.9	123.5	-111.90	7,486.4	4,527.1	241.3	21.0	220.27	1.095	Collision Risk Procedures Req.
16,804.4	7,460.0	16,976.2	7,550.0	123.9	123.5	-111.90	7,490.9	4,527.1	241.3	20.9	220.38	1.095	Collision Risk Procedures Req.
16,900.0	7,460.0	17,071.8	7,550.0	125.1	124.8	-111.90	7,586.4	4,527.1	241.3	18.4	222.89	1.083	Collision Risk Procedures Req.
16,904.4	7,460.0	17,076.2	7,550.0	125.2	124.8	-111.90	7,590.9	4,527.1	241.3	18.3	223.01	1.082	Collision Risk Procedures Req.
17,000.0	7,460.0	17,171.8	7,550.0	126.4	126.1	-111.90	7,686.4	4,527.1	241.3	15.8	225.52	1.070	Collision Risk Procedures Req.
17,004.4	7,460.0	17,176.2	7,550.0	126.4	126.1	-111.90	7,690.9	4,527.1	241.3	15.7	225.64	1.069	Collision Risk Procedures Req.
17,100.0	7,460.0	17,271.8	7,550.0	127.6	127.3	-111.90	7,786.4	4,527.1	241.3	13.2	228.15	1.058	Collision Risk Procedures Req.
17,104.4	7,460.0	17,276.2	7,550.0	127.7	127.4	-111.90	7,790.9	4,527.1	241.3	13.0	228.27	1.057	Collision Risk Procedures Req.
17,200.0	7,460.0	17,371.8	7,550.0	128.9	128.6	-111.90	7,886.4	4,527.1	241.3	10.5	230.78	1.046	Collision Risk Procedures Req.
17,204.4	7,460.0	17,376.2	7,550.0	128.9	128.7	-111.90	7,890.9	4,527.1	241.3	10.4	230.90	1.045	Collision Risk Procedures Req.
17,300.0	7,460.0	17,471.8	7,550.0	130.2	129.9	-111.90	7,986.4	4,527.1	241.3	7.9	233.42	1.034	Collision Risk Procedures Req.
17,304.4	7,460.0	17,476.2	7,550.0	130.2	130.0	-111.90	7,990.9	4,527.1	241.3	7.8	233.53	1.033	Collision Risk Procedures Req.
17,400.0	7,460.0	17,571.8	7,550.0	131.4	131.2	-111.90	8,086.4	4,527.1	241.3	5.3	236.05	1.022	Collision Risk Procedures Req.
17,404.4	7,460.0	17,576.2	7,550.0	131.5	131.3	-111.90	8,090.9	4,527.1	241.3	5.1	236.17	1.022	Collision Risk Procedures Req.
17,500.0	7,460.0	17,671.8	7,550.0	132.7	132.5	-111.90	8,186.4	4,527.1	241.3	2.6	238.69	1.011	Collision Risk Procedures Req.
17,504.4	7,460.0	17,676.2	7,550.0	132.8	132.6	-111.90	8,190.9	4,527.1	241.3	2.5	238.81	1.010	Collision Risk Procedures Req.
17,600.0	7,460.0	17,771.8	7,550.0	134.0	133.9	-111.90	8,286.4	4,527.1	241.3	0.0	241.33	1.000	Collision Risk Procedures Req.
17,604.4	7,460.0	17,776.2	7,550.0	134.1	133.9	-111.90	8,290.9	4,527.1	241.3	-0.1	241.45	0.999	Collision Risk Procedures Req.
17,700.0	7,460.0	17,871.8	7,550.0	135.3	135.2	-111.90	8,386.4	4,527.1	241.3	-2.7	243.97	0.989	Collision Risk Procedures Req.
17,704.4	7,460.0	17,876.2	7,550.0	135.4	135.2	-111.90	8,390.9	4,527.1	241.3	-2.8	244.09	0.989	Collision Risk Procedures Req.
17,800.0	7,460.0	17,971.8	7,550.0	136.6	136.5	-111.90	8,486.4	4,527.1	241.3	-5.3	246.61	0.979	Collision Risk Procedures Req.
17,804.4	7,460.0	17,976.2	7,550.0	136.7	136.5	-111.90	8,490.9	4,527.1	241.3	-5.4	246.73	0.978	Collision Risk Procedures Req.
17,900.0	7,460.0	18,071.8	7,550.0	137.9	137.8	-111.90	8,586.4	4,527.1	241.3	-7.9	249.26	0.968	Collision Risk Procedures Req.
17,904.4	7,460.0	18,076.2	7,550.0	138.0	137.9	-111.90	8,590.9	4,527.1	241.3	-8.1	249.37	0.968	Collision Risk Procedures Req.
18,000.0	7,460.0	18,171.8	7,550.0	139.2	139.1	-111.90	8,686.4	4,527.1	241.3	-10.6	251.90	0.958	Collision Risk Procedures Req.
18,004.4	7,460.0	18,176.2	7,550.0	139.3	139.2	-111.90	8,690.9	4,527.1	241.3	-10.7	252.02	0.958	Collision Risk Procedures Req.
18,100.0	7,460.0	18,271.8	7,550.0	140.5	140.5	-111.90	8,786.4	4,527.1	241.3	-13.2	254.55	0.948	Collision Risk Procedures Req.
18,104.4	7,460.0	18,276.2	7,550.0	140.6	140.5	-111.90	8,790.9	4,527.1	241.3	-13.3	254.67	0.948	Collision Risk Procedures Req.
18,200.0	7,460.0	18,371.8	7,550.0	141.8	141.8	-111.90	8,886.4	4,527.1	241.3	-15.9	257.20	0.938	Collision Risk Procedures Req.
18,204.4	7,460.0	18,376.2	7,550.0	141.9	141.9	-111.90	8,890.9	4,527.1	241.3	-16.0	257.32	0.938	Collision Risk Procedures Req.
18,300.0	7,460.0	18,471.8	7,550.0	143.1	143.1	-111.90	8,986.4	4,527.1	241.3	-18.5	259.85	0.929	Collision Risk Procedures Req.
18,304.4	7,460.0	18,476.2	7,550.0	143.2	143.2	-111.90	8,990.9	4,527.1	241.3	-18.6	259.97	0.928	Collision Risk Procedures Req.
18,400.0	7,460.0	18,571.8	7,550.0	144.4	144.5	-111.90	9,086.4	4,527.1	241.3	-21.2	262.50	0.919	Collision Risk Procedures Req.
18,404.4	7,460.0	18,576.2	7,550.0	144.5	144.5	-111.90	9,090.9	4,527.1	241.3	-21.3	262.62	0.919	Collision Risk Procedures Req.

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-2NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
18,500.0	7,460.0	18,671.8	7,550.0	145.8	145.8	-111.90	9,186.4	4,527.1	241.3	-23.8	265.15	0.910	Collision Risk Procedures Req.
18,504.4	7,460.0	18,676.2	7,550.0	145.8	145.9	-111.90	9,190.9	4,527.1	241.3	-23.9	265.27	0.910	Collision Risk Procedures Req.
18,600.0	7,460.0	18,771.8	7,550.0	147.1	147.1	-111.90	9,286.4	4,527.1	241.3	-26.5	267.81	0.901	Collision Risk Procedures Req.
18,604.4	7,460.0	18,776.2	7,550.0	147.1	147.2	-111.90	9,290.9	4,527.1	241.3	-26.6	267.92	0.901	Collision Risk Procedures Req.
18,700.0	7,460.0	18,871.8	7,550.0	148.4	148.5	-111.90	9,386.4	4,527.1	241.3	-29.1	270.46	0.892	Collision Risk Procedures Req.
18,704.4	7,460.0	18,876.2	7,550.0	148.5	148.5	-111.90	9,390.9	4,527.1	241.3	-29.2	270.58	0.892	Collision Risk Procedures Req.
18,800.0	7,460.0	18,971.8	7,550.0	149.7	149.8	-111.90	9,486.4	4,527.1	241.3	-31.8	273.12	0.884	Collision Risk Procedures Req.
18,804.4	7,460.0	18,976.2	7,550.0	149.8	149.9	-111.90	9,490.9	4,527.1	241.3	-31.9	273.24	0.883	Collision Risk Procedures Req.
18,900.0	7,460.0	19,071.8	7,550.0	151.1	151.2	-111.90	9,586.4	4,527.1	241.3	-34.4	275.78	0.875	Collision Risk Procedures Req.
18,904.4	7,460.0	19,076.2	7,550.0	151.1	151.2	-111.90	9,590.9	4,527.1	241.3	-34.6	275.89	0.875	Collision Risk Procedures Req.
19,000.0	7,460.0	19,171.8	7,550.0	152.4	152.5	-111.90	9,686.4	4,527.1	241.3	-37.1	278.43	0.867	Collision Risk Procedures Req.
19,004.4	7,460.0	19,176.2	7,550.0	152.5	152.6	-111.90	9,690.9	4,527.1	241.3	-37.2	278.55	0.866	Collision Risk Procedures Req.
19,100.0	7,460.0	19,271.8	7,550.0	153.7	153.9	-111.90	9,786.4	4,527.1	241.3	-39.8	281.09	0.859	Collision Risk Procedures Req.
19,100.7	7,460.0	19,272.5	7,550.0	153.8	153.9	-111.90	9,787.2	4,527.1	241.3	-39.8	281.11	0.859	Collision Risk Procedures Req., ES, SF
19,116.5	7,460.0	19,285.7	7,550.0	154.0	154.1	-111.90	9,800.3	4,527.1	241.4	-39.2	280.56	0.860	Collision Risk Procedures Req.
19,116.5	7,460.0	19,285.7	7,550.0	154.0	154.1	-111.90	9,800.3	4,527.1	241.4	-39.2	280.55	0.860	Collision Risk Procedures Req.
19,116.9	7,460.0	19,285.7	7,550.0	154.0	154.1	-111.90	9,800.3	4,527.1	241.4	-39.1	280.43	0.861	Collision Risk Procedures Req.

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-168.50	-140.3	-28.5	143.1				
100.0	100.0	100.0	100.0	1.0	1.0	-168.50	-140.3	-28.5	143.1	141.2	1.96	73.109	
200.0	200.0	200.0	200.0	1.6	1.6	-168.50	-140.3	-28.5	143.1	140.0	3.12	45.873	
300.0	300.0	300.0	300.0	2.0	2.0	-168.50	-140.3	-28.5	143.1	139.2	3.96	36.134	
400.0	400.0	400.0	400.0	2.3	2.3	-168.50	-140.3	-28.5	143.1	138.5	4.66	30.726	
500.0	500.0	500.0	500.0	2.6	2.6	-168.50	-140.3	-28.5	143.1	137.9	5.27	27.165	
600.0	600.0	600.0	600.0	2.9	2.9	-168.50	-140.3	-28.5	143.1	137.3	5.82	24.591	
700.0	700.0	700.0	700.0	3.2	3.2	-168.50	-140.3	-28.5	143.1	136.8	6.33	22.618	
800.0	800.0	800.0	800.0	3.4	3.4	-168.50	-140.3	-28.5	143.1	136.3	6.80	21.042	
900.0	900.0	900.0	900.0	3.6	3.6	-168.50	-140.3	-28.5	143.1	135.9	7.25	19.746	
1,000.0	1,000.0	1,000.0	1,000.0	3.8	3.8	-168.50	-140.3	-28.5	143.1	135.5	7.67	18.655	
1,100.0	1,100.0	1,100.1	1,100.0	4.0	4.4	-169.55	-140.7	-26.0	143.1	135.0	8.07	17.733	
1,105.7	1,105.7	1,105.8	1,105.7	4.1	4.4	94.91	-140.8	-25.7	143.1	135.0	8.09	17.686	CC
1,200.0	1,200.0	1,199.9	1,199.5	4.5	4.8	92.93	-142.1	-18.3	143.4	134.9	8.44	16.995	ES
1,300.0	1,299.6	1,299.4	1,298.1	5.0	5.2	90.84	-144.4	-5.5	144.3	135.5	8.79	16.405	
1,400.0	1,398.8	1,398.6	1,395.7	5.4	5.6	88.79	-147.5	12.3	145.8	136.6	9.17	15.898	
1,500.0	1,497.1	1,497.6	1,491.9	5.8	6.0	86.80	-151.5	34.9	147.8	138.3	9.58	15.438	
1,600.0	1,594.3	1,596.2	1,586.6	6.1	6.3	84.90	-156.4	62.3	150.5	140.4	10.04	14.991	
1,700.0	1,690.2	1,694.7	1,679.4	6.5	6.6	83.10	-162.1	94.5	153.7	143.1	10.57	14.534	
1,800.0	1,784.4	1,792.8	1,770.2	6.8	7.0	81.42	-168.6	131.2	157.4	146.2	11.20	14.052	
1,900.0	1,876.8	1,890.7	1,858.8	7.1	7.2	79.87	-175.9	172.3	161.5	149.6	11.93	13.541	
2,000.0	1,967.1	1,988.4	1,944.8	7.4	7.5	78.46	-184.0	217.7	166.1	153.4	12.78	13.003	
2,100.0	2,054.9	2,085.8	2,028.2	7.7	7.8	77.17	-192.8	267.2	171.2	157.4	13.75	12.445	
2,200.0	2,140.2	2,182.9	2,108.7	7.9	8.0	76.02	-202.3	320.8	176.6	161.7	14.86	11.878	
2,300.0	2,222.6	2,279.9	2,186.2	8.2	8.4	75.00	-212.5	378.1	182.3	166.2	16.12	11.311	
2,400.0	2,301.9	2,376.6	2,260.5	8.6	9.2	74.11	-223.4	439.1	188.4	170.8	17.50	10.760	
2,437.4	2,330.8	2,412.7	2,287.4	8.9	9.5	73.80	-227.6	462.9	190.7	172.7	18.02	10.580	
2,500.0	2,378.6	2,474.4	2,332.5	9.4	10.0	73.26	-234.9	504.2	194.8	175.9	18.95	10.282	
2,600.0	2,455.1	2,574.1	2,405.4	10.2	10.9	72.37	-246.8	571.2	201.6	181.0	20.54	9.813	
2,700.0	2,531.5	2,673.8	2,478.3	11.1	11.9	71.54	-258.7	638.2	208.4	186.2	22.17	9.398	
2,800.0	2,608.0	2,773.6	2,551.2	12.0	12.8	70.77	-270.6	705.3	215.2	191.4	23.82	9.034	
2,900.0	2,684.5	2,873.3	2,624.1	12.9	13.8	70.04	-282.5	772.3	222.0	196.6	25.48	8.713	
3,000.0	2,760.9	2,973.0	2,697.0	13.8	14.8	69.35	-294.4	839.3	228.9	201.8	27.16	8.431	
3,100.0	2,837.4	3,072.7	2,769.8	14.8	15.8	68.71	-306.3	906.3	235.9	207.0	28.83	8.180	
3,200.0	2,913.9	3,172.5	2,842.7	15.7	16.8	68.10	-318.2	973.3	242.8	212.3	30.51	7.957	
3,300.0	2,990.3	3,272.2	2,915.6	16.6	17.8	67.53	-330.2	1,040.3	249.8	217.6	32.20	7.758	
3,400.0	3,066.8	3,371.9	2,988.5	17.6	18.8	66.98	-342.1	1,107.4	256.8	222.9	33.88	7.579	
3,500.0	3,143.3	3,471.6	3,061.4	18.5	19.9	66.47	-354.0	1,174.4	263.8	228.3	35.56	7.419	
3,600.0	3,219.8	3,571.4	3,134.3	19.5	20.9	65.98	-365.9	1,241.4	270.9	233.6	37.24	7.273	
3,700.0	3,296.2	3,671.1	3,207.2	20.5	21.9	65.52	-377.8	1,308.4	277.9	239.0	38.92	7.141	
3,800.0	3,372.7	3,770.8	3,280.0	21.4	23.0	65.08	-389.7	1,375.4	285.0	244.4	40.59	7.021	
3,900.0	3,449.2	3,870.6	3,352.9	22.4	24.0	64.66	-401.6	1,442.4	292.1	249.8	42.27	6.911	
4,000.0	3,525.6	3,970.3	3,425.8	23.4	25.0	64.26	-413.5	1,509.5	299.2	255.3	43.94	6.810	
4,100.0	3,602.1	4,070.0	3,498.7	24.4	26.1	63.88	-425.4	1,576.5	306.3	260.7	45.60	6.718	
4,200.0	3,678.6	4,169.7	3,571.6	25.3	27.1	63.52	-437.3	1,643.5	313.5	266.2	47.26	6.632	
4,300.0	3,755.0	4,269.5	3,644.5	26.3	28.2	63.17	-449.2	1,710.5	320.6	271.7	48.92	6.553	
4,400.0	3,831.5	4,369.2	3,717.4	27.3	29.2	62.84	-461.1	1,777.5	327.8	277.2	50.58	6.480	
4,500.0	3,908.0	4,468.9	3,790.2	28.3	30.3	62.52	-473.0	1,844.5	334.9	282.7	52.23	6.413	
4,600.0	3,984.4	4,568.6	3,863.1	29.3	31.3	62.22	-484.9	1,911.6	342.1	288.2	53.88	6.349	
4,700.0	4,060.9	4,668.4	3,936.0	30.2	32.4	61.93	-496.8	1,978.6	349.3	293.8	55.53	6.290	
4,800.0	4,137.4	4,768.1	4,008.9	31.2	33.4	61.65	-508.7	2,045.6	356.5	299.3	57.18	6.235	
4,900.0	4,213.8	4,867.8	4,081.8	32.2	34.5	61.38	-520.6	2,112.6	363.7	304.9	58.82	6.184	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,290.3	4,967.5	4,154.7	33.2	35.5	61.12	-532.5	2,179.6	370.9	310.5	60.46	6.136	
5,100.0	4,366.8	5,067.3	4,227.6	34.2	36.6	60.87	-544.4	2,246.6	378.2	316.1	62.09	6.090	
5,200.0	4,443.2	5,167.0	4,300.4	35.2	37.6	60.63	-556.4	2,313.6	385.4	321.7	63.73	6.047	
5,300.0	4,519.7	5,266.7	4,373.3	36.2	38.7	60.40	-568.3	2,380.7	392.6	327.3	65.36	6.007	
5,400.0	4,596.2	5,366.4	4,446.2	37.2	39.8	60.18	-580.2	2,447.7	399.9	332.9	66.99	5.969	
5,500.0	4,672.6	5,466.2	4,519.1	38.1	40.8	59.97	-592.1	2,514.7	407.1	338.5	68.62	5.933	
5,600.0	4,749.1	5,565.9	4,592.0	39.1	41.9	59.76	-604.0	2,581.7	414.4	344.1	70.24	5.899	
5,700.0	4,825.6	5,665.6	4,664.9	40.1	42.9	59.56	-615.9	2,648.7	421.6	349.7	71.86	5.867	
5,800.0	4,902.0	5,765.3	4,737.8	41.1	44.0	59.37	-627.8	2,715.7	428.9	355.4	73.48	5.836	
5,900.0	4,978.5	5,865.1	4,810.6	42.1	45.0	59.18	-639.7	2,782.8	436.1	361.0	75.10	5.807	
6,000.0	5,055.0	5,964.8	4,883.5	43.1	46.1	59.00	-651.6	2,849.8	443.4	366.7	76.72	5.780	
6,100.0	5,131.4	6,064.5	4,956.4	44.1	47.2	58.83	-663.5	2,916.8	450.7	372.3	78.34	5.753	
6,200.0	5,207.9	6,164.2	5,029.3	45.1	48.2	58.66	-675.4	2,983.8	458.0	378.0	79.95	5.728	
6,300.0	5,284.4	6,264.0	5,102.2	46.1	49.3	58.49	-687.3	3,050.8	465.2	383.7	81.56	5.704	
6,400.0	5,360.8	6,363.7	5,175.1	47.1	50.3	58.34	-699.2	3,117.8	472.5	389.4	83.17	5.681	
6,500.0	5,437.3	6,463.4	5,248.0	48.1	51.4	58.18	-711.1	3,184.9	479.8	395.0	84.78	5.660	
6,600.0	5,513.8	6,563.1	5,320.8	49.0	52.5	58.03	-723.0	3,251.9	487.1	400.7	86.39	5.639	
6,700.0	5,590.2	6,662.9	5,393.7	50.0	53.5	57.89	-734.9	3,318.9	494.4	406.4	87.99	5.619	
6,800.0	5,666.7	6,762.6	5,466.6	51.0	54.6	57.75	-746.8	3,385.9	501.7	412.1	89.60	5.600	
6,900.0	5,743.2	6,862.3	5,539.5	52.0	55.6	57.61	-758.7	3,452.9	509.0	417.8	91.20	5.581	
7,000.0	5,819.6	6,962.1	5,612.4	53.0	56.7	57.48	-770.6	3,519.9	516.3	423.5	92.80	5.564	
7,100.0	5,896.1	7,061.8	5,685.3	54.0	57.8	57.35	-782.6	3,587.0	523.6	429.2	94.40	5.547	
7,200.0	5,972.6	7,161.5	5,758.1	55.0	58.8	57.22	-794.5	3,654.0	530.9	434.9	96.00	5.530	
7,300.0	6,049.0	7,261.2	5,831.0	56.0	59.9	57.10	-806.4	3,721.0	538.2	440.6	97.60	5.515	
7,400.0	6,125.5	7,361.0	5,903.9	57.0	60.9	56.98	-818.3	3,788.0	545.6	446.4	99.20	5.500	
7,500.0	6,202.0	7,460.7	5,976.8	58.0	62.0	56.87	-830.2	3,855.0	552.9	452.1	100.79	5.485	
7,600.0	6,278.4	7,560.4	6,049.7	59.0	63.1	56.76	-842.1	3,922.0	560.2	457.8	102.39	5.471	
7,700.0	6,354.9	7,660.1	6,122.6	60.0	64.1	56.65	-854.0	3,989.1	567.5	463.5	103.98	5.458	
7,800.0	6,431.4	7,759.9	6,195.5	61.0	65.2	56.54	-865.9	4,056.1	574.8	469.3	105.58	5.445	
7,900.0	6,507.8	7,859.6	6,268.3	62.0	66.2	56.44	-877.8	4,123.1	582.2	475.0	107.17	5.432	
8,000.0	6,584.3	7,959.3	6,341.2	63.0	67.3	56.33	-889.7	4,190.1	589.5	480.7	108.76	5.420	
8,100.0	6,660.8	8,059.0	6,414.1	64.0	68.4	56.24	-901.6	4,257.1	596.8	486.5	110.35	5.408	
8,200.0	6,737.2	8,158.8	6,487.0	65.0	69.4	56.14	-913.5	4,324.1	604.2	492.2	111.94	5.397	
8,300.0	6,813.7	8,258.5	6,559.9	66.0	70.5	56.04	-925.4	4,391.2	611.5	498.0	113.53	5.386	
8,400.0	6,890.2	8,358.2	6,632.8	67.0	71.6	55.95	-937.3	4,458.2	618.8	503.7	115.12	5.376	
8,500.0	6,966.6	8,457.9	6,705.7	68.0	72.6	55.86	-949.2	4,525.2	626.2	509.5	116.70	5.365	
8,536.2	6,994.3	8,494.0	6,732.0	68.3	73.0	55.83	-953.5	4,549.4	628.8	511.5	117.28	5.362	
8,550.0	7,004.9	8,507.8	6,742.1	68.4	73.2	57.41	-955.2	4,558.7	630.0	512.5	117.50	5.361	
8,600.0	7,043.2	8,557.3	6,778.3	69.0	73.7	63.13	-961.1	4,592.0	636.6	518.1	118.51	5.372	
8,650.0	7,081.3	8,606.1	6,814.0	69.4	74.2	68.76	-966.9	4,624.8	646.9	527.1	119.75	5.402	
8,700.0	7,118.9	8,653.8	6,848.8	69.9	74.7	74.10	-972.6	4,656.8	660.8	539.6	121.20	5.452	
8,750.0	7,155.9	8,700.0	6,882.6	70.4	75.2	79.01	-978.1	4,687.9	678.4	555.6	122.83	5.524	
8,800.0	7,191.8	8,744.4	6,915.0	70.8	75.7	83.37	-983.4	4,717.7	699.6	575.0	124.57	5.616	
8,850.0	7,226.4	8,859.1	6,999.2	71.2	76.9	88.55	-991.1	4,795.1	722.4	595.6	126.74	5.700	
8,900.0	7,259.4	9,000.7	7,103.1	71.6	78.3	93.42	-981.6	4,890.6	743.2	616.6	126.63	5.869	
8,950.0	7,290.6	9,157.8	7,215.7	71.9	79.8	97.66	-946.8	4,994.2	761.3	638.1	123.17	6.181	
9,000.0	7,319.8	9,330.5	7,332.9	72.2	81.2	101.23	-880.2	5,101.9	775.8	660.3	115.49	6.717	
9,050.0	7,346.7	9,485.8	7,429.0	72.5	82.3	103.94	-796.6	5,190.3	785.8	679.3	106.50	7.378	
9,100.0	7,371.1	9,684.5	7,535.5	72.7	83.3	106.10	-660.9	5,288.2	790.7	700.5	90.16	8.770	
9,150.0	7,392.8	9,884.1	7,619.3	72.9	84.1	107.46	-497.5	5,365.3	790.1	718.9	71.27	11.087	
9,200.0	7,411.8	10,103.8	7,680.7	73.1	84.5	107.91	-294.9	5,421.8	784.4	734.1	50.32	15.587	
9,250.0	7,427.7	10,285.3	7,704.5	73.2	84.7	107.83	-116.5	5,443.7	773.7	732.8	40.88	18.925	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,300.0	7,440.6	10,390.8	7,707.0	73.3	84.7	108.12	-11.1	5,446.0	759.8	718.8	41.00	18.533	
9,350.0	7,450.2	10,439.2	7,707.0	73.4	84.7	108.86	37.3	5,446.0	748.9	707.5	41.39	18.096	
9,400.0	7,456.6	10,488.5	7,707.0	73.4	84.6	109.32	86.5	5,446.0	741.7	700.0	41.72	17.777	
9,450.0	7,459.7	10,538.3	7,707.0	73.4	84.6	109.54	136.4	5,446.0	738.2	696.2	42.03	17.566	
9,454.9	7,459.8	10,543.2	7,707.0	73.4	84.6	109.55	141.2	5,446.0	738.1	696.0	42.05	17.552	
9,471.1	7,460.0	10,559.4	7,707.0	73.4	84.6	109.56	157.5	5,446.0	737.9	695.7	42.13	17.515	
9,472.4	7,460.0	10,560.7	7,707.0	73.4	84.6	109.56	158.8	5,446.0	737.9	695.7	42.13	17.513	
9,500.0	7,460.0	10,588.3	7,707.0	73.4	84.6	109.56	186.4	5,446.0	737.9	695.6	42.26	17.459	
9,504.4	7,460.0	10,592.7	7,707.0	73.4	84.6	109.56	190.8	5,446.0	737.9	695.6	42.29	17.449	
9,600.0	7,460.0	10,688.3	7,707.0	73.5	84.6	109.56	286.4	5,446.0	737.9	695.0	42.88	17.210	
9,604.4	7,460.0	10,692.7	7,707.0	73.5	84.6	109.56	290.8	5,446.0	737.9	695.0	42.91	17.197	
9,700.0	7,460.0	10,788.3	7,707.0	73.5	84.7	109.56	386.4	5,446.0	737.9	694.2	43.65	16.903	
9,704.4	7,460.0	10,792.7	7,707.0	73.5	84.7	109.56	390.8	5,446.0	737.9	694.2	43.69	16.888	
9,800.0	7,460.0	10,888.3	7,707.0	73.5	84.7	109.56	486.4	5,446.0	737.9	693.3	44.59	16.549	
9,804.4	7,460.0	10,892.7	7,707.0	73.5	84.7	109.56	490.8	5,446.0	737.9	693.3	44.63	16.532	
9,900.0	7,460.0	10,988.3	7,707.0	73.6	84.7	109.56	586.4	5,446.1	737.9	692.2	45.67	16.157	
9,904.4	7,460.0	10,992.7	7,707.0	73.6	84.7	109.56	590.8	5,446.1	737.9	692.2	45.72	16.139	
10,000.0	7,460.0	11,088.3	7,707.0	73.6	84.8	109.56	686.4	5,446.1	737.9	691.0	46.89	15.738	
10,004.4	7,460.0	11,092.7	7,707.0	73.6	84.8	109.56	690.8	5,446.1	737.9	691.0	46.95	15.718	
10,100.0	7,460.0	11,188.3	7,707.0	73.7	84.9	109.56	786.4	5,446.1	737.9	689.7	48.23	15.299	
10,104.4	7,460.0	11,192.7	7,707.0	73.7	84.9	109.56	790.8	5,446.1	737.9	689.6	48.30	15.279	
10,200.0	7,460.0	11,288.3	7,707.0	73.8	85.0	109.56	886.4	5,446.1	737.9	688.2	49.69	14.849	
10,204.4	7,460.0	11,292.7	7,707.0	73.8	85.0	109.56	890.8	5,446.1	737.9	688.1	49.76	14.829	
10,300.0	7,460.0	11,388.3	7,707.0	73.9	85.1	109.56	986.4	5,446.1	737.9	686.7	51.26	14.395	
10,304.4	7,460.0	11,392.7	7,707.0	73.9	85.1	109.56	990.8	5,446.1	737.9	686.6	51.34	14.374	
10,400.0	7,460.0	11,488.3	7,707.0	74.1	85.2	109.56	1,086.4	5,446.1	737.9	685.0	52.93	13.942	
10,404.4	7,460.0	11,492.7	7,707.0	74.1	85.2	109.56	1,090.8	5,446.1	737.9	684.9	53.00	13.922	
10,500.0	7,460.0	11,588.3	7,707.0	74.2	85.3	109.56	1,186.4	5,446.1	737.9	683.2	54.68	13.495	
10,504.4	7,460.0	11,592.7	7,707.0	74.2	85.3	109.56	1,190.8	5,446.1	737.9	683.2	54.76	13.475	
10,600.0	7,460.0	11,688.3	7,707.0	74.4	85.4	109.56	1,286.4	5,446.1	737.9	681.4	56.52	13.057	
10,604.4	7,460.0	11,692.7	7,707.0	74.4	85.4	109.56	1,290.8	5,446.1	737.9	681.3	56.60	13.038	
10,700.0	7,460.0	11,788.3	7,707.0	74.6	85.6	109.56	1,386.4	5,446.1	737.9	679.5	58.42	12.631	
10,704.4	7,460.0	11,792.7	7,707.0	74.6	85.6	109.56	1,390.8	5,446.1	737.9	679.4	58.51	12.612	
10,800.0	7,460.0	11,888.3	7,707.0	74.8	85.7	109.56	1,486.4	5,446.1	737.9	677.5	60.39	12.219	
10,804.4	7,460.0	11,892.7	7,707.0	74.8	85.8	109.56	1,490.8	5,446.1	737.9	677.5	60.48	12.201	
10,900.0	7,460.0	11,988.3	7,707.0	75.0	85.9	109.56	1,586.4	5,446.1	737.9	675.5	62.42	11.821	
10,904.4	7,460.0	11,992.7	7,707.0	75.0	85.9	109.56	1,590.8	5,446.1	737.9	675.4	62.52	11.804	
11,000.0	7,460.0	12,088.3	7,707.0	75.2	86.1	109.56	1,686.4	5,446.1	737.9	673.4	64.51	11.439	
11,004.4	7,460.0	12,092.7	7,707.0	75.2	86.1	109.56	1,690.8	5,446.1	737.9	673.3	64.60	11.423	
11,100.0	7,460.0	12,188.3	7,707.0	75.5	86.3	109.56	1,786.4	5,446.2	738.0	671.3	66.64	11.073	
11,104.4	7,460.0	12,192.7	7,707.0	75.5	86.4	109.56	1,790.8	5,446.2	738.0	671.2	66.74	11.057	
11,200.0	7,460.0	12,288.3	7,707.0	75.7	86.6	109.56	1,886.4	5,446.2	738.0	669.1	68.82	10.723	
11,204.4	7,460.0	12,292.7	7,707.0	75.7	86.6	109.56	1,890.8	5,446.2	738.0	669.0	68.92	10.708	
11,300.0	7,460.0	12,388.3	7,707.0	76.0	86.8	109.56	1,986.4	5,446.2	738.0	666.9	71.04	10.388	
11,304.4	7,460.0	12,392.7	7,707.0	76.0	86.8	109.56	1,990.8	5,446.2	738.0	666.8	71.14	10.374	
11,400.0	7,460.0	12,488.3	7,707.0	76.3	87.1	109.56	2,086.4	5,446.2	738.0	664.7	73.29	10.069	
11,404.4	7,460.0	12,492.7	7,707.0	76.4	87.1	109.56	2,090.8	5,446.2	738.0	664.6	73.39	10.055	
11,500.0	7,460.0	12,588.3	7,707.0	76.7	87.4	109.56	2,186.4	5,446.2	738.0	662.4	75.58	9.764	
11,504.4	7,460.0	12,592.7	7,707.0	76.7	87.4	109.56	2,190.8	5,446.2	738.0	662.3	75.68	9.751	
11,600.0	7,460.0	12,688.3	7,707.0	77.0	87.7	109.56	2,286.4	5,446.2	738.0	660.1	77.89	9.474	
11,604.4	7,460.0	12,692.7	7,707.0	77.0	87.7	109.56	2,290.8	5,446.2	738.0	660.0	78.00	9.461	
11,700.0	7,460.0	12,788.3	7,707.0	77.4	88.0	109.56	2,386.4	5,446.2	738.0	657.7	80.24	9.197	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,704.4	7,460.0	12,792.7	7,707.0	77.4	88.0	109.56	2,390.8	5,446.2	738.0	657.6	80.34	9.185	
11,800.0	7,460.0	12,888.3	7,707.0	77.8	88.3	109.56	2,486.4	5,446.2	738.0	655.4	82.61	8.934	
11,804.4	7,460.0	12,892.7	7,707.0	77.8	88.4	109.56	2,490.8	5,446.2	738.0	655.3	82.71	8.922	
11,900.0	7,460.0	12,988.3	7,707.0	78.2	88.7	109.56	2,586.4	5,446.2	738.0	653.0	85.00	8.682	
11,904.4	7,460.0	12,992.7	7,707.0	78.2	88.7	109.56	2,590.8	5,446.2	738.0	652.9	85.11	8.671	
12,000.0	7,460.0	13,088.3	7,707.0	78.7	89.1	109.56	2,686.4	5,446.2	738.0	650.6	87.41	8.443	
12,004.4	7,460.0	13,092.7	7,707.0	78.7	89.1	109.56	2,690.8	5,446.2	738.0	650.5	87.52	8.432	
12,100.0	7,460.0	13,188.3	7,707.0	79.1	89.5	109.56	2,786.4	5,446.2	738.0	648.2	89.85	8.214	
12,104.4	7,460.0	13,192.7	7,707.0	79.2	89.5	109.56	2,790.8	5,446.2	738.0	648.0	89.96	8.204	
12,200.0	7,460.0	13,288.3	7,707.0	79.6	89.9	109.56	2,886.4	5,446.2	738.0	645.7	92.30	7.996	
12,204.4	7,460.0	13,292.7	7,707.0	79.6	89.9	109.56	2,890.8	5,446.2	738.0	645.6	92.41	7.986	
12,300.0	7,460.0	13,388.3	7,707.0	80.1	90.3	109.56	2,986.4	5,446.3	738.0	643.2	94.77	7.788	
12,304.4	7,460.0	13,392.7	7,707.0	80.2	90.4	109.56	2,990.8	5,446.3	738.0	643.1	94.88	7.779	
12,400.0	7,460.0	13,488.3	7,707.0	80.7	90.8	109.55	3,086.4	5,446.3	738.0	640.8	97.25	7.589	
12,404.4	7,460.0	13,492.7	7,707.0	80.7	90.8	109.55	3,090.8	5,446.3	738.0	640.7	97.36	7.580	
12,500.0	7,460.0	13,588.3	7,707.0	81.2	91.3	109.55	3,186.4	5,446.3	738.0	638.3	99.74	7.399	
12,504.4	7,460.0	13,592.7	7,707.0	81.3	91.3	109.55	3,190.8	5,446.3	738.0	638.2	99.86	7.391	
12,600.0	7,460.0	13,688.3	7,707.0	81.8	91.8	109.55	3,286.4	5,446.3	738.0	635.8	102.25	7.217	
12,604.4	7,460.0	13,692.7	7,707.0	81.9	91.8	109.55	3,290.8	5,446.3	738.0	635.7	102.37	7.210	
12,700.0	7,460.0	13,788.3	7,707.0	82.5	92.3	109.55	3,386.4	5,446.3	738.0	633.2	104.78	7.044	
12,704.4	7,460.0	13,792.7	7,707.0	82.5	92.4	109.55	3,390.8	5,446.3	738.0	633.1	104.89	7.036	
12,800.0	7,460.0	13,888.3	7,707.0	83.1	92.9	109.55	3,486.4	5,446.3	738.0	630.7	107.31	6.878	
12,804.4	7,460.0	13,892.7	7,707.0	83.1	92.9	109.55	3,490.8	5,446.3	738.0	630.6	107.42	6.870	
12,900.0	7,460.0	13,988.3	7,707.0	83.8	93.5	109.55	3,586.4	5,446.3	738.0	628.2	109.85	6.718	
12,904.4	7,460.0	13,992.7	7,707.0	83.8	93.5	109.55	3,590.8	5,446.3	738.0	628.1	109.97	6.711	
13,000.0	7,460.0	14,088.3	7,707.0	84.4	94.1	109.55	3,686.4	5,446.3	738.0	625.6	112.41	6.566	
13,004.4	7,460.0	14,092.7	7,707.0	84.5	94.1	109.55	3,690.8	5,446.3	738.0	625.5	112.52	6.559	
13,100.0	7,460.0	14,188.3	7,707.0	85.2	94.7	109.55	3,786.4	5,446.3	738.0	623.1	114.97	6.419	
13,104.4	7,460.0	14,192.7	7,707.0	85.2	94.7	109.55	3,790.8	5,446.3	738.0	623.0	115.08	6.413	
13,200.0	7,460.0	14,288.3	7,707.0	85.9	95.3	109.55	3,886.4	5,446.3	738.0	620.5	117.54	6.279	
13,204.4	7,460.0	14,292.7	7,707.0	85.9	95.4	109.55	3,890.8	5,446.3	738.0	620.4	117.66	6.273	
13,300.0	7,460.0	14,388.3	7,707.0	86.7	96.0	109.55	3,986.4	5,446.3	738.1	617.9	120.12	6.144	
13,304.4	7,460.0	14,392.7	7,707.0	86.7	96.0	109.55	3,990.8	5,446.3	738.1	617.8	120.24	6.138	
13,400.0	7,460.0	14,488.3	7,707.0	87.4	96.7	109.55	4,086.4	5,446.3	738.1	615.4	122.71	6.015	
13,404.4	7,460.0	14,492.7	7,707.0	87.5	96.7	109.55	4,090.8	5,446.3	738.1	615.2	122.82	6.009	
13,500.0	7,460.0	14,588.3	7,707.0	88.2	97.4	109.55	4,186.4	5,446.4	738.1	612.8	125.30	5.890	
13,504.4	7,460.0	14,592.7	7,707.0	88.3	97.4	109.55	4,190.8	5,446.4	738.1	612.6	125.42	5.885	
13,600.0	7,460.0	14,688.3	7,707.0	89.1	98.2	109.55	4,286.4	5,446.4	738.1	610.2	127.90	5.771	
13,604.4	7,460.0	14,692.7	7,707.0	89.1	98.2	109.55	4,290.8	5,446.4	738.1	610.1	128.02	5.765	
13,700.0	7,460.0	14,788.3	7,707.0	89.9	98.9	109.55	4,386.4	5,446.4	738.1	607.6	130.51	5.655	
13,704.4	7,460.0	14,792.7	7,707.0	90.0	98.9	109.55	4,390.8	5,446.4	738.1	607.4	130.62	5.650	
13,800.0	7,460.0	14,888.3	7,707.0	90.8	99.7	109.55	4,486.4	5,446.4	738.1	605.0	133.12	5.544	
13,804.4	7,460.0	14,892.7	7,707.0	90.8	99.7	109.55	4,490.8	5,446.4	738.1	604.8	133.24	5.540	
13,900.0	7,460.0	14,988.3	7,707.0	91.7	100.5	109.55	4,586.4	5,446.4	738.1	602.3	135.74	5.438	
13,904.4	7,460.0	14,992.7	7,707.0	91.7	100.5	109.55	4,590.8	5,446.4	738.1	602.2	135.85	5.433	
14,000.0	7,460.0	15,088.3	7,707.0	92.6	101.3	109.55	4,686.4	5,446.4	738.1	599.7	138.36	5.335	
14,004.4	7,460.0	15,092.7	7,707.0	92.6	101.4	109.55	4,690.8	5,446.4	738.1	599.6	138.48	5.330	
14,100.0	7,460.0	15,188.3	7,707.0	93.5	102.2	109.55	4,786.4	5,446.4	738.1	597.1	140.99	5.235	
14,104.4	7,460.0	15,192.7	7,707.0	93.6	102.2	109.55	4,790.8	5,446.4	738.1	597.0	141.10	5.231	
14,200.0	7,460.0	15,288.3	7,707.0	94.5	103.0	109.55	4,886.4	5,446.4	738.1	594.5	143.62	5.139	
14,204.4	7,460.0	15,292.7	7,707.0	94.5	103.1	109.55	4,890.8	5,446.4	738.1	594.4	143.74	5.135	
14,300.0	7,460.0	15,388.3	7,707.0	95.4	103.9	109.55	4,986.4	5,446.4	738.1	591.8	146.26	5.047	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,304.4	7,460.0	15,392.7	7,707.0	95.5	103.9	109.55	4,990.8	5,446.4	738.1	591.7	146.37	5.043	
14,400.0	7,460.0	15,488.3	7,707.0	96.4	104.8	109.55	5,086.4	5,446.4	738.1	589.2	148.90	4.957	
14,404.4	7,460.0	15,492.7	7,707.0	96.5	104.8	109.55	5,090.8	5,446.4	738.1	589.1	149.02	4.953	
14,500.0	7,460.0	15,588.3	7,707.0	97.4	105.7	109.55	5,186.4	5,446.4	738.1	586.6	151.54	4.871	
14,504.4	7,460.0	15,592.7	7,707.0	97.5	105.8	109.55	5,190.8	5,446.4	738.1	586.4	151.66	4.867	
14,600.0	7,460.0	15,688.3	7,707.0	98.5	106.7	109.55	5,286.4	5,446.4	738.1	583.9	154.19	4.787	
14,604.4	7,460.0	15,692.7	7,707.0	98.5	106.7	109.55	5,290.8	5,446.4	738.1	583.8	154.31	4.783	
14,700.0	7,460.0	15,788.3	7,707.0	99.5	107.6	109.55	5,386.4	5,446.5	738.1	581.3	156.84	4.706	
14,704.4	7,460.0	15,792.7	7,707.0	99.5	107.7	109.55	5,390.8	5,446.5	738.1	581.2	156.96	4.703	
14,800.0	7,460.0	15,888.3	7,707.0	100.5	108.6	109.55	5,486.4	5,446.5	738.1	578.6	159.50	4.628	
14,804.4	7,460.0	15,892.7	7,707.0	100.6	108.6	109.55	5,490.8	5,446.5	738.1	578.5	159.62	4.624	
14,900.0	7,460.0	15,988.3	7,707.0	101.6	109.6	109.55	5,586.4	5,446.5	738.1	576.0	162.16	4.552	
14,904.4	7,460.0	15,992.7	7,707.0	101.7	109.6	109.55	5,590.8	5,446.5	738.1	575.9	162.28	4.549	
15,000.0	7,460.0	16,088.3	7,707.0	102.7	110.6	109.55	5,686.4	5,446.5	738.1	573.3	164.82	4.478	
15,004.4	7,460.0	16,092.7	7,707.0	102.7	110.6	109.55	5,690.8	5,446.5	738.1	573.2	164.94	4.475	
15,100.0	7,460.0	16,188.3	7,707.0	103.8	111.6	109.55	5,786.4	5,446.5	738.1	570.7	167.48	4.407	
15,104.4	7,460.0	16,192.7	7,707.0	103.8	111.6	109.55	5,790.8	5,446.5	738.1	570.5	167.60	4.404	
15,200.0	7,460.0	16,288.3	7,707.0	104.9	112.6	109.55	5,886.4	5,446.5	738.1	568.0	170.15	4.338	
15,204.4	7,460.0	16,292.7	7,707.0	104.9	112.7	109.55	5,890.8	5,446.5	738.1	567.9	170.27	4.335	
15,300.0	7,460.0	16,388.3	7,707.0	106.0	113.7	109.55	5,986.4	5,446.5	738.1	565.3	172.82	4.271	
15,304.4	7,460.0	16,392.7	7,707.0	106.0	113.7	109.55	5,990.8	5,446.5	738.1	565.2	172.94	4.268	
15,400.0	7,460.0	16,488.3	7,707.0	107.1	114.7	109.55	6,086.4	5,446.5	738.1	562.7	175.49	4.206	
15,404.4	7,460.0	16,492.7	7,707.0	107.2	114.8	109.55	6,090.8	5,446.5	738.2	562.5	175.61	4.203	
15,500.0	7,460.0	16,588.3	7,707.0	108.3	115.8	109.55	6,186.4	5,446.5	738.2	560.0	178.17	4.143	
15,504.4	7,460.0	16,592.7	7,707.0	108.3	115.8	109.55	6,190.8	5,446.5	738.2	559.9	178.29	4.140	
15,600.0	7,460.0	16,688.3	7,707.0	109.4	116.9	109.55	6,286.4	5,446.5	738.2	557.3	180.84	4.082	
15,604.4	7,460.0	16,692.7	7,707.0	109.5	116.9	109.55	6,290.8	5,446.5	738.2	557.2	180.96	4.079	
15,700.0	7,460.0	16,788.3	7,707.0	110.6	118.0	109.55	6,386.4	5,446.5	738.2	554.6	183.52	4.022	
15,704.4	7,460.0	16,792.7	7,707.0	110.6	118.0	109.55	6,390.8	5,446.5	738.2	554.5	183.64	4.020	
15,800.0	7,460.0	16,888.3	7,707.0	111.7	119.1	109.55	6,486.4	5,446.5	738.2	552.0	186.21	3.964	
15,804.4	7,460.0	16,892.7	7,707.0	111.8	119.1	109.55	6,490.8	5,446.5	738.2	551.8	186.32	3.962	
15,900.0	7,460.0	16,988.3	7,707.0	112.9	120.2	109.55	6,586.4	5,446.6	738.2	549.3	188.89	3.908	
15,904.4	7,460.0	16,992.7	7,707.0	113.0	120.3	109.55	6,590.8	5,446.6	738.2	549.2	189.01	3.906	
16,000.0	7,460.0	17,088.3	7,707.0	114.1	121.3	109.55	6,686.4	5,446.6	738.2	546.6	191.57	3.853	
16,004.4	7,460.0	17,092.7	7,707.0	114.1	121.4	109.55	6,690.8	5,446.6	738.2	546.5	191.69	3.851	
16,100.0	7,460.0	17,188.3	7,707.0	115.3	122.5	109.55	6,786.4	5,446.6	738.2	543.9	194.26	3.800	
16,104.4	7,460.0	17,192.7	7,707.0	115.3	122.5	109.55	6,790.8	5,446.6	738.2	543.8	194.38	3.798	
16,200.0	7,460.0	17,288.3	7,707.0	116.5	123.6	109.55	6,886.4	5,446.6	738.2	541.2	196.95	3.748	
16,204.4	7,460.0	17,292.7	7,707.0	116.5	123.7	109.55	6,890.8	5,446.6	738.2	541.1	197.07	3.746	
16,300.0	7,460.0	17,388.3	7,707.0	117.7	124.8	109.55	6,986.4	5,446.6	738.2	538.6	199.64	3.698	
16,304.4	7,460.0	17,392.7	7,707.0	117.8	124.8	109.55	6,990.8	5,446.6	738.2	538.4	199.76	3.695	
16,400.0	7,460.0	17,488.3	7,707.0	118.9	125.9	109.55	7,086.4	5,446.6	738.2	535.9	202.33	3.648	
16,404.4	7,460.0	17,492.7	7,707.0	119.0	126.0	109.55	7,090.8	5,446.6	738.2	535.7	202.45	3.646	
16,500.0	7,460.0	17,588.3	7,707.0	120.1	127.1	109.55	7,186.4	5,446.6	738.2	533.2	205.03	3.601	
16,504.4	7,460.0	17,592.7	7,707.0	120.2	127.2	109.55	7,190.8	5,446.6	738.2	533.1	205.15	3.598	
16,600.0	7,460.0	17,688.3	7,707.0	121.4	128.3	109.55	7,286.4	5,446.6	738.2	530.5	207.72	3.554	
16,604.4	7,460.0	17,692.7	7,707.0	121.4	128.4	109.55	7,290.8	5,446.6	738.2	530.4	207.84	3.552	
16,700.0	7,460.0	17,788.3	7,707.0	122.6	129.5	109.55	7,386.4	5,446.6	738.2	527.8	210.42	3.508	
16,704.4	7,460.0	17,792.7	7,707.0	122.7	129.6	109.55	7,390.8	5,446.6	738.2	527.7	210.54	3.506	
16,800.0	7,460.0	17,888.3	7,707.0	123.9	130.7	109.55	7,486.4	5,446.6	738.2	525.1	213.12	3.464	
16,804.4	7,460.0	17,892.7	7,707.0	123.9	130.8	109.55	7,490.8	5,446.6	738.2	525.0	213.24	3.462	
16,900.0	7,460.0	17,988.3	7,707.0	125.1	131.9	109.55	7,586.4	5,446.6	738.2	522.4	215.82	3.421	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3CDH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
16,904.4	7,460.0	17,992.7	7,707.0	125.2	132.0	109.55	7,590.8	5,446.6	738.2	522.3	215.94	3.419	
17,000.0	7,460.0	18,088.3	7,707.0	126.4	133.1	109.55	7,686.4	5,446.6	738.2	519.7	218.52	3.378	
17,004.4	7,460.0	18,092.7	7,707.0	126.4	133.2	109.55	7,690.8	5,446.6	738.2	519.6	218.64	3.376	
17,100.0	7,460.0	18,188.3	7,707.0	127.6	134.3	109.55	7,786.4	5,446.7	738.2	517.0	221.22	3.337	
17,104.4	7,460.0	18,192.7	7,707.0	127.7	134.4	109.55	7,790.8	5,446.7	738.2	516.9	221.34	3.335	
17,200.0	7,460.0	18,288.3	7,707.0	128.9	135.6	109.55	7,886.4	5,446.7	738.2	514.3	223.92	3.297	
17,204.4	7,460.0	18,292.7	7,707.0	128.9	135.6	109.55	7,890.8	5,446.7	738.2	514.2	224.04	3.295	
17,300.0	7,460.0	18,388.3	7,707.0	130.2	136.8	109.55	7,986.4	5,446.7	738.2	511.6	226.63	3.258	
17,304.4	7,460.0	18,392.7	7,707.0	130.2	136.9	109.55	7,990.8	5,446.7	738.2	511.5	226.75	3.256	
17,400.0	7,460.0	18,488.3	7,707.0	131.4	138.0	109.55	8,086.4	5,446.7	738.2	508.9	229.33	3.219	
17,404.4	7,460.0	18,492.7	7,707.0	131.5	138.1	109.55	8,090.8	5,446.7	738.2	508.8	229.45	3.217	
17,500.0	7,460.0	18,588.3	7,707.0	132.7	139.3	109.55	8,186.4	5,446.7	738.2	506.2	232.04	3.182	
17,504.4	7,460.0	18,592.7	7,707.0	132.8	139.3	109.55	8,190.8	5,446.7	738.2	506.1	232.16	3.180	
17,600.0	7,460.0	18,688.3	7,707.0	134.0	140.5	109.55	8,286.4	5,446.7	738.3	503.5	234.75	3.145	
17,604.4	7,460.0	18,692.7	7,707.0	134.1	140.6	109.55	8,290.8	5,446.7	738.3	503.4	234.87	3.143	
17,700.0	7,460.0	18,788.3	7,707.0	135.3	141.8	109.55	8,386.4	5,446.7	738.3	500.8	237.46	3.109	
17,704.4	7,460.0	18,792.7	7,707.0	135.4	141.8	109.55	8,390.8	5,446.7	738.3	500.7	237.58	3.107	
17,800.0	7,460.0	18,888.3	7,707.0	136.6	143.0	109.55	8,486.4	5,446.7	738.3	498.1	240.16	3.074	
17,804.4	7,460.0	18,892.7	7,707.0	136.7	143.1	109.55	8,490.8	5,446.7	738.3	498.0	240.29	3.072	
17,900.0	7,460.0	18,988.3	7,707.0	137.9	144.3	109.55	8,586.4	5,446.7	738.3	495.4	242.88	3.040	
17,904.4	7,460.0	18,992.7	7,707.0	138.0	144.4	109.55	8,590.8	5,446.7	738.3	495.3	243.00	3.038	
18,000.0	7,460.0	19,088.3	7,707.0	139.2	145.6	109.55	8,686.4	5,446.7	738.3	492.7	245.59	3.006	
18,004.4	7,460.0	19,092.7	7,707.0	139.3	145.6	109.55	8,690.8	5,446.7	738.3	492.6	245.71	3.005	
18,100.0	7,460.0	19,188.3	7,707.0	140.5	146.9	109.55	8,786.4	5,446.7	738.3	490.0	248.30	2.973	
18,104.4	7,460.0	19,192.7	7,707.0	140.6	146.9	109.55	8,790.8	5,446.7	738.3	489.9	248.42	2.972	
18,200.0	7,460.0	19,288.3	7,707.0	141.8	148.1	109.55	8,886.4	5,446.7	738.3	487.3	251.01	2.941	
18,204.4	7,460.0	19,292.7	7,707.0	141.9	148.2	109.55	8,890.8	5,446.7	738.3	487.1	251.13	2.940	
18,300.0	7,460.0	19,388.3	7,707.0	143.1	149.4	109.55	8,986.4	5,446.8	738.3	484.6	253.73	2.910	
18,304.4	7,460.0	19,392.7	7,707.0	143.2	149.5	109.55	8,990.8	5,446.8	738.3	484.4	253.85	2.908	
18,400.0	7,460.0	19,488.3	7,707.0	144.4	150.7	109.55	9,086.4	5,446.8	738.3	481.8	256.44	2.879	
18,404.4	7,460.0	19,492.7	7,707.0	144.5	150.8	109.55	9,090.8	5,446.8	738.3	481.7	256.56	2.878	
18,500.0	7,460.0	19,588.3	7,707.0	145.8	152.0	109.55	9,186.4	5,446.8	738.3	479.1	259.16	2.849	
18,504.4	7,460.0	19,592.7	7,707.0	145.8	152.1	109.55	9,190.8	5,446.8	738.3	479.0	259.28	2.848	
18,600.0	7,460.0	19,688.3	7,707.0	147.1	153.3	109.55	9,286.4	5,446.8	738.3	476.4	261.87	2.819	
18,604.4	7,460.0	19,692.7	7,707.0	147.1	153.4	109.55	9,290.8	5,446.8	738.3	476.3	261.99	2.818	
18,700.0	7,460.0	19,788.3	7,707.0	148.4	154.6	109.55	9,386.4	5,446.8	738.3	473.7	264.59	2.790	
18,704.4	7,460.0	19,792.7	7,707.0	148.5	154.7	109.55	9,390.8	5,446.8	738.3	473.6	264.71	2.789	
18,800.0	7,460.0	19,888.3	7,707.0	149.7	155.9	109.55	9,486.4	5,446.8	738.3	471.0	267.31	2.762	
18,804.4	7,460.0	19,892.7	7,707.0	149.8	156.0	109.55	9,490.8	5,446.8	738.3	470.9	267.43	2.761	
18,900.0	7,460.0	19,988.3	7,707.0	151.1	157.2	109.55	9,586.4	5,446.8	738.3	468.3	270.03	2.734	
18,904.4	7,460.0	19,992.7	7,707.0	151.1	157.3	109.55	9,590.8	5,446.8	738.3	468.2	270.15	2.733	
19,000.0	7,460.0	20,088.3	7,707.0	152.4	158.5	109.54	9,686.4	5,446.8	738.3	465.6	272.74	2.707	
19,004.4	7,460.0	20,092.7	7,707.0	152.5	158.6	109.54	9,690.8	5,446.8	738.3	465.4	272.87	2.706	
19,100.0	7,460.0	20,188.3	7,707.0	153.7	159.8	109.54	9,786.4	5,446.8	738.3	462.9	275.46	2.680	
19,100.7	7,460.0	20,189.0	7,707.0	153.8	159.8	109.54	9,787.1	5,446.8	738.3	462.8	275.48	2.680	
19,116.5	7,460.0	20,204.8	7,707.0	154.0	160.0	109.54	9,802.8	5,446.8	738.3	462.4	275.91	2.676	
19,116.5	7,460.0	20,204.8	7,707.0	154.0	160.0	109.54	9,802.9	5,446.8	738.3	462.4	275.91	2.676	
19,116.9	7,460.0	20,205.1	7,707.0	154.0	160.0	109.54	9,803.2	5,446.8	738.3	462.4	275.92	2.676	SF

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-14.08	124.6	-31.3	128.5				
100.0	100.0	100.0	100.0	1.0	1.0	-14.08	124.6	-31.3	128.5	126.6	1.96	65.635	
200.0	200.0	200.0	200.0	1.6	1.6	-14.08	124.6	-31.3	128.5	125.4	3.12	41.184	
300.0	300.0	300.0	300.0	2.0	2.0	-14.08	124.6	-31.3	128.5	124.6	3.96	32.440	
400.0	400.0	400.0	400.0	2.3	2.3	-14.08	124.6	-31.3	128.5	123.9	4.66	27.585	
500.0	500.0	500.0	500.0	2.6	2.6	-14.08	124.6	-31.3	128.5	123.2	5.27	24.388	
600.0	600.0	600.0	600.0	2.9	2.9	-14.08	124.6	-31.3	128.5	122.7	5.82	22.077	
700.0	700.0	700.0	700.0	3.2	3.2	-14.08	124.6	-31.3	128.5	122.2	6.33	20.306	
800.0	800.0	800.0	800.0	3.4	3.4	-14.08	124.6	-31.3	128.5	121.7	6.80	18.891	
900.0	900.0	900.0	900.0	3.6	3.6	-14.08	124.6	-31.3	128.5	121.3	7.25	17.727	
1,000.0	1,000.0	1,000.0	1,000.0	3.8	3.8	-14.08	124.6	-31.3	128.5	120.8	7.67	16.748	
1,100.0	1,100.0	1,100.0	1,100.0	4.0	4.0	-14.08	124.6	-31.3	128.5	120.4	8.08	15.908	
1,200.0	1,200.0	1,202.8	1,202.7	4.5	4.8	-109.08	124.4	-27.6	128.3	119.7	8.54	15.016	
1,300.0	1,299.6	1,305.4	1,304.7	5.0	5.5	-107.79	123.7	-16.6	127.7	118.7	8.95	14.259	
1,400.0	1,398.8	1,407.7	1,405.3	5.4	6.0	-105.63	122.5	1.6	126.7	117.4	9.33	13.589	
1,500.0	1,497.1	1,509.4	1,503.9	5.8	6.6	-102.58	120.8	26.7	125.8	116.1	9.69	12.980	
1,600.0	1,594.3	1,610.5	1,599.7	6.1	7.0	-98.66	118.6	58.5	125.1	115.0	10.09	12.399	
1,659.6	1,651.6	1,670.3	1,655.4	6.3	7.3	-95.91	117.2	80.5	124.9	114.6	10.37	12.043 CC	
1,700.0	1,690.2	1,710.7	1,692.3	6.5	7.4	-93.90	116.1	96.7	125.0	114.4	10.58	11.813 ES	
1,800.0	1,784.4	1,809.9	1,781.2	6.8	7.8	-88.41	113.2	140.7	126.0	114.8	11.24	11.209	
1,900.0	1,876.8	1,908.0	1,865.8	7.1	8.2	-82.37	109.8	190.2	128.6	116.5	12.11	10.619	
2,000.0	1,967.1	2,004.9	1,945.9	7.4	8.5	-76.01	106.2	244.6	133.0	119.9	13.16	10.105	
2,100.0	2,054.9	2,100.0	2,020.7	7.7	8.8	-69.64	102.3	303.1	139.7	125.4	14.33	9.747	
2,200.0	2,140.2	2,195.2	2,091.6	7.9	9.0	-63.38	98.1	366.5	148.7	133.2	15.54	9.569	
2,300.0	2,222.6	2,294.0	2,163.3	8.2	9.1	-58.43	93.5	434.4	158.1	141.3	16.82	9.398	
2,400.0	2,301.9	2,393.4	2,235.4	8.6	9.9	-55.53	89.0	502.6	165.4	147.3	18.10	9.137	
2,437.4	2,330.8	2,430.7	2,262.5	8.9	10.3	-54.90	87.2	528.3	167.4	148.9	18.56	9.022	
2,500.0	2,378.6	2,493.2	2,307.8	9.4	10.9	-54.13	84.4	571.2	170.6	151.2	19.35	8.814	
2,600.0	2,455.1	2,593.0	2,380.2	10.2	11.8	-52.95	79.8	639.7	175.6	154.9	20.65	8.502	
2,700.0	2,531.5	2,692.8	2,452.6	11.1	12.8	-51.84	75.2	708.2	180.7	158.7	21.96	8.228	
2,800.0	2,608.0	2,792.6	2,525.0	12.0	13.8	-50.78	70.6	776.8	185.9	162.6	23.26	7.989	
2,900.0	2,684.5	2,892.4	2,597.4	12.9	14.8	-49.79	66.1	845.3	191.1	166.5	24.56	7.781	
3,000.0	2,760.9	2,992.3	2,669.8	13.8	15.8	-48.85	61.5	913.9	196.4	170.5	25.85	7.597	
3,100.0	2,837.4	3,092.1	2,742.2	14.8	16.9	-47.96	56.9	982.4	201.7	174.6	27.12	7.437	
3,200.0	2,913.9	3,191.9	2,814.6	15.7	17.9	-47.11	52.3	1,050.9	207.1	178.7	28.39	7.295	
3,300.0	2,990.3	3,291.7	2,887.1	16.6	18.9	-46.31	47.7	1,119.5	212.5	182.9	29.64	7.170	
3,400.0	3,066.8	3,391.5	2,959.5	17.6	20.0	-45.54	43.1	1,188.0	218.0	187.1	30.87	7.060	
3,500.0	3,143.3	3,491.3	3,031.9	18.5	21.0	-44.82	38.6	1,256.6	223.5	191.4	32.10	6.962	
3,600.0	3,219.8	3,591.1	3,104.3	19.5	22.1	-44.13	34.0	1,325.1	229.0	195.7	33.31	6.874	
3,700.0	3,296.2	3,690.9	3,176.7	20.5	23.1	-43.47	29.4	1,393.7	234.5	200.0	34.51	6.796	
3,800.0	3,372.7	3,790.7	3,249.1	21.4	24.2	-42.84	24.8	1,462.2	240.1	204.4	35.70	6.727	
3,900.0	3,449.2	3,890.5	3,321.5	22.4	25.2	-42.24	20.2	1,530.7	245.8	208.9	36.88	6.664	
4,000.0	3,525.6	3,990.4	3,393.9	23.4	26.3	-41.67	15.6	1,599.3	251.4	213.4	38.04	6.608	
4,100.0	3,602.1	4,090.2	3,466.3	24.4	27.3	-41.12	11.1	1,667.8	257.1	217.9	39.20	6.558	
4,200.0	3,678.6	4,190.0	3,538.7	25.3	28.4	-40.60	6.5	1,736.4	262.8	222.4	40.35	6.513	
4,300.0	3,755.0	4,289.8	3,611.1	26.3	29.4	-40.10	1.9	1,804.9	268.5	227.0	41.48	6.472	
4,400.0	3,831.5	4,389.6	3,683.6	27.3	30.5	-39.62	-2.7	1,873.4	274.2	231.6	42.61	6.435	
4,500.0	3,908.0	4,489.4	3,756.0	28.3	31.6	-39.16	-7.3	1,942.0	280.0	236.2	43.73	6.402	
4,600.0	3,984.4	4,589.2	3,828.4	29.3	32.6	-38.72	-11.8	2,010.5	285.7	240.9	44.84	6.372	
4,700.0	4,060.9	4,689.0	3,900.8	30.2	33.7	-38.29	-16.4	2,079.1	291.5	245.6	45.95	6.345	
4,800.0	4,137.4	4,788.8	3,973.2	31.2	34.7	-37.88	-21.0	2,147.6	297.3	250.3	47.04	6.320	
4,900.0	4,213.8	4,888.6	4,045.6	32.2	35.8	-37.49	-25.6	2,216.1	303.1	255.0	48.13	6.297	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Rule Assigned:

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,290.3	4,988.4	4,118.0	33.2	36.9	-37.11	-30.2	2,284.7	308.9	259.7	49.22	6.277	
5,100.0	4,366.8	5,088.3	4,190.4	34.2	37.9	-36.75	-34.8	2,353.2	314.8	264.5	50.30	6.259	
5,200.0	4,443.2	5,188.1	4,262.8	35.2	39.0	-36.40	-39.3	2,421.8	320.6	269.3	51.37	6.242	
5,300.0	4,519.7	5,287.9	4,335.2	36.2	40.1	-36.06	-43.9	2,490.3	326.5	274.1	52.44	6.227	
5,400.0	4,596.2	5,387.7	4,407.6	37.2	41.1	-35.74	-48.5	2,558.8	332.4	278.9	53.50	6.213	
5,500.0	4,672.6	5,487.5	4,480.1	38.1	42.2	-35.42	-53.1	2,627.4	338.3	283.7	54.55	6.201	
5,600.0	4,749.1	5,587.3	4,552.5	39.1	43.3	-35.12	-57.7	2,695.9	344.2	288.6	55.61	6.189	
5,700.0	4,825.6	5,687.1	4,624.9	40.1	44.3	-34.83	-62.2	2,764.5	350.1	293.4	56.65	6.179	
5,800.0	4,902.0	5,786.9	4,697.3	41.1	45.4	-34.54	-66.8	2,833.0	356.0	298.3	57.70	6.170	
5,900.0	4,978.5	5,886.7	4,769.7	42.1	46.5	-34.27	-71.4	2,901.6	361.9	303.2	58.74	6.161	
6,000.0	5,055.0	5,986.5	4,842.1	43.1	47.6	-34.00	-76.0	2,970.1	367.8	308.1	59.77	6.154	
6,100.0	5,131.4	6,086.4	4,914.5	44.1	48.6	-33.74	-80.6	3,038.6	373.8	313.0	60.81	6.147	
6,200.0	5,207.9	6,186.2	4,986.9	45.1	49.7	-33.50	-85.2	3,107.2	379.7	317.9	61.84	6.141	
6,300.0	5,284.4	6,286.0	5,059.3	46.1	50.8	-33.25	-89.7	3,175.7	385.7	322.8	62.86	6.135	
6,400.0	5,360.8	6,385.8	5,131.7	47.1	51.8	-33.02	-94.3	3,244.3	391.6	327.7	63.89	6.130	
6,500.0	5,437.3	6,485.6	5,204.2	48.1	52.9	-32.79	-98.9	3,312.8	397.6	332.7	64.91	6.126	
6,600.0	5,513.8	6,585.4	5,276.6	49.0	54.0	-32.57	-103.5	3,381.3	403.6	337.6	65.92	6.122	
6,700.0	5,590.2	6,685.2	5,349.0	50.0	55.1	-32.36	-108.1	3,449.9	409.5	342.6	66.94	6.118	
6,800.0	5,666.7	6,785.0	5,421.4	51.0	56.1	-32.15	-112.6	3,518.4	415.5	347.6	67.95	6.115	
6,900.0	5,743.2	6,884.8	5,493.8	52.0	57.2	-31.95	-117.2	3,587.0	421.5	352.5	68.96	6.112	
7,000.0	5,819.6	6,984.6	5,566.2	53.0	58.3	-31.75	-121.8	3,655.5	427.5	357.5	69.97	6.110	
7,100.0	5,896.1	7,084.5	5,638.6	54.0	59.3	-31.56	-126.4	3,724.0	433.5	362.5	70.97	6.108	
7,200.0	5,972.6	7,184.3	5,711.0	55.0	60.4	-31.38	-131.0	3,792.6	439.5	367.5	71.98	6.106	
7,300.0	6,049.0	7,284.1	5,783.4	56.0	61.5	-31.20	-135.6	3,861.1	445.5	372.5	72.98	6.104	
7,400.0	6,125.5	7,383.9	5,855.8	57.0	62.6	-31.02	-140.1	3,929.7	451.5	377.5	73.98	6.103	
7,500.0	6,202.0	7,483.7	5,928.2	58.0	63.6	-30.85	-144.7	3,998.2	457.5	382.5	74.98	6.102	
7,600.0	6,278.4	7,583.5	6,000.7	59.0	64.7	-30.68	-149.3	4,066.8	463.5	387.6	75.97	6.101	
7,700.0	6,354.9	7,683.3	6,073.1	60.0	65.8	-30.52	-153.9	4,135.3	469.6	392.6	76.97	6.101	
7,800.0	6,431.4	7,783.1	6,145.5	61.0	66.8	-30.36	-158.5	4,203.8	475.6	397.6	77.96	6.100	
7,900.0	6,507.8	7,882.9	6,217.9	62.0	67.9	-30.21	-163.0	4,272.4	481.6	402.7	78.95	6.100	
8,000.0	6,584.3	7,982.7	6,290.3	63.0	69.0	-30.06	-167.6	4,340.9	487.6	407.7	79.94	6.100	
8,100.0	6,660.8	8,082.6	6,362.7	64.0	70.1	-29.91	-172.2	4,409.5	493.7	412.7	80.93	6.100	
8,200.0	6,737.2	8,182.4	6,435.1	65.0	71.1	-29.77	-176.8	4,478.0	499.7	417.8	81.92	6.100	
8,300.0	6,813.7	8,282.2	6,507.5	66.0	72.2	-29.63	-181.4	4,546.5	505.8	422.9	82.90	6.101	
8,400.0	6,890.2	8,382.0	6,579.9	67.0	73.3	-29.49	-186.0	4,615.1	511.8	427.9	83.89	6.101	
8,500.0	6,966.6	8,481.8	6,652.3	68.0	74.4	-29.36	-190.5	4,683.6	517.9	433.0	84.87	6.102	
8,536.2	6,994.3	8,517.9	6,678.5	68.3	74.7	-29.31	-192.2	4,708.4	520.0	434.8	85.22	6.102	
8,550.0	7,004.9	8,531.7	6,688.5	68.4	74.9	-27.70	-192.8	4,717.9	520.8	435.5	85.33	6.103	
8,600.0	7,043.2	8,581.5	6,724.7	69.0	75.4	-21.50	-195.1	4,752.1	522.4	437.1	85.27	6.126	
8,640.6	7,074.2	8,621.7	6,753.9	69.4	75.9	-16.09	-197.0	4,779.7	522.4	437.7	84.70	6.168	
8,650.0	7,081.3	8,630.9	6,760.5	69.4	76.0	-14.81	-197.4	4,786.0	522.2	437.7	84.50	6.180	
8,693.0	7,113.7	8,672.8	6,790.9	69.9	76.4	-8.80	-199.3	4,814.8	520.8	437.5	83.24	6.256	
8,700.0	7,118.9	8,679.5	6,795.8	69.9	76.5	-7.82	-199.6	4,819.4	520.5	437.5	82.99	6.271	
8,744.4	7,151.7	8,721.7	6,826.4	70.3	76.9	-1.50	-201.6	4,848.4	517.8	436.7	81.04	6.389	
8,750.0	7,155.9	8,727.0	6,830.2	70.4	77.0	-0.69	-201.8	4,852.0	517.4	436.6	80.75	6.407	
8,794.8	7,188.1	8,768.2	6,860.1	70.8	77.4	5.71	-203.7	4,880.3	513.8	435.6	78.14	6.575	
8,800.0	7,191.8	8,772.9	6,863.5	70.8	77.5	6.44	-203.9	4,883.5	513.3	435.5	77.81	6.597	
8,843.8	7,222.2	8,800.0	6,883.2	71.1	77.8	11.90	-204.6	4,902.2	509.6	435.0	74.64	6.828	
8,850.0	7,226.4	8,808.5	6,889.3	71.2	77.9	12.88	-204.5	4,908.0	509.1	434.9	74.27	6.855	
8,892.7	7,254.7	8,839.0	6,911.5	71.5	78.2	18.03	-203.3	4,928.9	506.0	434.9	71.14	7.112	
8,900.0	7,259.4	8,844.3	6,915.3	71.6	78.3	18.89	-202.9	4,932.6	505.5	434.9	70.61	7.159	
8,941.6	7,285.5	8,874.7	6,937.3	71.8	78.6	23.58	-199.8	4,953.3	503.0	435.4	67.61	7.440	

Amazon.com

Anticollision Report

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Rule Assigned:

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,950.0	7,290.6	8,880.9	6,941.8	71.9	78.6	24.50	-199.0	4,957.6	502.6	435.6	67.03	7.499	
8,990.5	7,314.4	8,911.2	6,963.5	72.1	79.0	28.76	-194.0	4,978.1	500.9	436.5	64.37	7.782	
9,000.0	7,319.8	8,918.4	6,968.6	72.2	79.0	29.72	-192.6	4,983.0	500.6	436.8	63.80	7.847	
9,039.5	7,341.2	8,950.0	6,990.9	72.4	79.4	33.67	-185.3	5,004.1	499.8	438.0	61.73	8.096	
9,050.0	7,346.7	8,957.0	6,995.8	72.5	79.4	34.59	-183.5	5,008.7	499.7	438.5	61.20	8.164	
9,066.8	7,355.2	8,970.2	7,005.0	72.5	79.6	36.14	-179.8	5,017.5	499.6	439.1	60.51	8.256	
9,100.0	7,371.1	8,996.8	7,023.4	72.7	79.8	39.11	-171.4	5,034.8	499.9	440.4	59.48	8.404	
9,109.9	7,375.6	9,004.9	7,028.9	72.7	79.9	39.97	-168.7	5,040.0	500.0	440.8	59.25	8.440	
9,150.0	7,392.8	9,038.0	7,051.2	72.9	80.2	43.32	-156.2	5,061.2	501.3	442.6	58.76	8.532	
9,159.1	7,396.5	9,045.7	7,056.3	72.9	80.3	44.05	-153.1	5,066.0	501.8	443.0	58.74	8.542	
9,200.0	7,411.8	9,081.0	7,079.3	73.1	80.6	47.23	-137.5	5,087.7	504.2	445.2	59.03	8.541	
9,250.0	7,427.7	9,126.0	7,107.5	73.2	80.9	50.87	-114.8	5,114.5	508.4	448.3	60.09	8.462	
9,300.0	7,440.6	9,173.4	7,135.8	73.3	81.3	54.27	-87.7	5,141.2	514.1	452.5	61.60	8.345	
9,350.0	7,450.2	9,223.8	7,163.9	73.4	81.6	57.43	-55.5	5,167.8	521.1	457.9	63.16	8.249	
9,400.0	7,456.6	9,277.7	7,191.6	73.4	82.0	60.39	-17.4	5,194.0	529.3	464.9	64.38	8.221	
9,450.0	7,459.7	9,335.9	7,218.4	73.4	82.3	63.17	27.5	5,219.4	538.5	473.6	64.89	8.299	
9,471.1	7,460.0	9,362.0	7,229.3	73.4	82.4	64.29	48.9	5,229.8	542.7	477.9	64.82	8.372	
9,500.0	7,460.0	9,399.9	7,243.9	73.4	82.6	66.32	81.0	5,243.6	548.4	484.0	64.40	8.515	
9,600.0	7,460.0	9,554.6	7,286.5	73.5	83.0	71.98	223.6	5,283.9	564.2	503.6	60.60	9.310	
9,700.0	7,460.0	9,719.0	7,300.0	73.5	83.1	73.67	386.4	5,296.7	568.9	510.3	58.62	9.705	
9,778.9	7,460.0	9,797.9	7,300.0	73.5	83.2	73.67	465.3	5,296.7	568.9	509.7	59.25	9.602	
9,800.0	7,460.0	9,819.0	7,300.0	73.5	83.2	73.67	486.4	5,296.7	568.9	509.5	59.43	9.573	
9,878.9	7,460.0	9,897.9	7,300.0	73.6	83.2	73.67	565.3	5,296.7	568.9	508.8	60.16	9.458	
9,900.0	7,460.0	9,919.0	7,300.0	73.6	83.2	73.67	586.4	5,296.7	568.9	508.6	60.36	9.425	
9,978.9	7,460.0	9,997.9	7,300.0	73.6	83.2	73.67	665.3	5,296.7	568.9	507.7	61.17	9.300	
10,000.0	7,460.0	10,019.0	7,300.0	73.6	83.3	73.67	686.4	5,296.7	568.9	507.5	61.40	9.266	
10,078.9	7,460.0	10,097.9	7,300.0	73.7	83.3	73.67	765.3	5,296.7	568.9	506.6	62.30	9.132	
10,100.0	7,460.0	10,119.0	7,300.0	73.7	83.3	73.67	786.4	5,296.7	568.9	506.4	62.55	9.096	
10,178.9	7,460.0	10,197.9	7,300.0	73.8	83.4	73.67	865.3	5,296.7	568.9	505.4	63.53	8.955	
10,200.0	7,460.0	10,219.0	7,300.0	73.8	83.4	73.67	886.4	5,296.7	568.9	505.1	63.80	8.917	
10,278.9	7,460.0	10,297.9	7,300.0	73.9	83.5	73.67	965.3	5,296.7	568.9	504.1	64.85	8.772	
10,300.0	7,460.0	10,319.0	7,300.0	73.9	83.5	73.67	986.4	5,296.7	568.9	503.8	65.15	8.733	
10,378.9	7,460.0	10,397.9	7,300.0	74.0	83.5	73.67	1,065.3	5,296.7	568.9	502.6	66.27	8.585	
10,400.0	7,460.0	10,419.0	7,300.0	74.1	83.6	73.67	1,086.4	5,296.7	568.9	502.3	66.58	8.545	
10,478.9	7,460.0	10,497.9	7,300.0	74.2	83.7	73.67	1,165.3	5,296.7	568.9	501.1	67.78	8.394	
10,500.0	7,460.0	10,519.0	7,300.0	74.2	83.7	73.67	1,186.4	5,296.7	568.9	500.8	68.10	8.354	
10,578.9	7,460.0	10,597.9	7,300.0	74.3	83.8	73.67	1,265.3	5,296.7	568.9	499.6	69.36	8.202	
10,600.0	7,460.0	10,619.0	7,300.0	74.4	83.8	73.67	1,286.4	5,296.7	568.9	499.2	69.70	8.162	
10,678.9	7,460.0	10,697.9	7,300.0	74.5	83.9	73.67	1,365.3	5,296.7	568.9	497.9	71.02	8.011	
10,700.0	7,460.0	10,719.0	7,300.0	74.6	83.9	73.67	1,386.4	5,296.7	568.9	497.5	71.38	7.970	
10,778.9	7,460.0	10,797.9	7,300.0	74.7	84.1	73.67	1,465.3	5,296.7	568.9	496.2	72.75	7.820	
10,800.0	7,460.0	10,819.0	7,300.0	74.8	84.1	73.67	1,486.4	5,296.7	568.9	495.8	73.12	7.780	
10,878.9	7,460.0	10,897.9	7,300.0	74.9	84.2	73.67	1,565.3	5,296.7	568.9	494.4	74.54	7.632	
10,900.0	7,460.0	10,919.0	7,300.0	75.0	84.3	73.67	1,586.4	5,296.7	568.9	494.0	74.93	7.593	
10,978.9	7,460.0	10,997.9	7,300.0	75.2	84.4	73.67	1,665.3	5,296.7	568.9	492.5	76.39	7.447	
11,000.0	7,460.0	11,019.0	7,300.0	75.2	84.4	73.67	1,686.4	5,296.7	568.9	492.1	76.79	7.408	
11,078.9	7,460.0	11,097.9	7,300.0	75.4	84.6	73.67	1,765.3	5,296.7	568.9	490.6	78.30	7.265	
11,100.0	7,460.0	11,119.0	7,300.0	75.5	84.6	73.67	1,786.4	5,296.7	568.9	490.2	78.71	7.227	
11,178.9	7,460.0	11,197.9	7,300.0	75.7	84.8	73.67	1,865.3	5,296.7	568.9	488.6	80.27	7.088	
11,200.0	7,460.0	11,219.0	7,300.0	75.7	84.9	73.67	1,886.4	5,296.7	568.9	488.2	80.69	7.051	
11,278.9	7,460.0	11,297.9	7,300.0	76.0	85.0	73.67	1,965.3	5,296.7	568.9	486.6	82.28	6.915	
11,300.0	7,460.0	11,319.0	7,300.0	76.0	85.1	73.67	1,986.4	5,296.7	568.9	486.2	82.71	6.879	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,378.9	7,460.0	11,397.9	7,300.0	76.3	85.3	73.67	2,065.3	5,296.7	568.9	484.6	84.33	6.746	
11,400.0	7,460.0	11,419.0	7,300.0	76.3	85.3	73.67	2,086.4	5,296.7	568.9	484.1	84.77	6.711	
11,478.9	7,460.0	11,497.9	7,300.0	76.6	85.5	73.67	2,165.3	5,296.7	568.9	482.5	86.43	6.582	
11,500.0	7,460.0	11,519.0	7,300.0	76.7	85.6	73.67	2,186.4	5,296.7	568.9	482.0	86.88	6.548	
11,578.9	7,460.0	11,597.9	7,300.0	76.9	85.8	73.67	2,265.3	5,296.7	568.9	480.3	88.56	6.424	
11,600.0	7,460.0	11,619.0	7,300.0	77.0	85.9	73.67	2,286.4	5,296.7	568.9	479.9	89.02	6.391	
11,678.9	7,460.0	11,697.9	7,300.0	77.3	86.1	73.67	2,365.3	5,296.7	568.9	478.2	90.73	6.270	
11,700.0	7,460.0	11,719.0	7,300.0	77.4	86.1	73.67	2,386.4	5,296.7	568.9	477.7	91.20	6.238	
11,778.9	7,460.0	11,797.9	7,300.0	77.7	86.4	73.67	2,465.3	5,296.7	568.9	476.0	92.94	6.121	
11,800.0	7,460.0	11,819.0	7,300.0	77.8	86.5	73.67	2,486.4	5,296.7	568.9	475.5	93.41	6.090	
11,878.9	7,460.0	11,897.9	7,300.0	78.1	86.7	73.67	2,565.3	5,296.7	568.9	473.7	95.18	5.977	
11,900.0	7,460.0	11,919.0	7,300.0	78.2	86.8	73.67	2,586.4	5,296.7	568.9	473.2	95.65	5.948	
11,978.9	7,460.0	11,997.9	7,300.0	78.6	87.1	73.67	2,665.3	5,296.7	568.9	471.5	97.44	5.838	
12,000.0	7,460.0	12,019.0	7,300.0	78.7	87.1	73.67	2,686.4	5,296.7	568.9	471.0	97.92	5.810	
12,078.9	7,460.0	12,097.9	7,300.0	79.0	87.4	73.67	2,765.3	5,296.7	568.9	469.2	99.73	5.704	
12,100.0	7,460.0	12,119.0	7,300.0	79.1	87.5	73.67	2,786.4	5,296.7	568.9	468.7	100.22	5.676	
12,178.9	7,460.0	12,197.9	7,300.0	79.5	87.8	73.67	2,865.3	5,296.7	568.9	466.8	102.05	5.575	
12,200.0	7,460.0	12,219.0	7,300.0	79.6	87.9	73.67	2,886.4	5,296.7	568.9	466.3	102.54	5.548	
12,278.9	7,460.0	12,297.9	7,300.0	80.0	88.2	73.67	2,965.3	5,296.7	568.9	464.5	104.39	5.450	
12,300.0	7,460.0	12,319.0	7,300.0	80.1	88.3	73.67	2,986.4	5,296.7	568.9	464.0	104.89	5.424	
12,378.9	7,460.0	12,397.9	7,300.0	80.6	88.6	73.67	3,065.3	5,296.7	568.9	462.1	106.75	5.329	
12,400.0	7,460.0	12,419.0	7,300.0	80.7	88.7	73.67	3,086.4	5,296.7	568.9	461.6	107.26	5.304	
12,478.9	7,460.0	12,497.9	7,300.0	81.1	89.0	73.67	3,165.3	5,296.7	568.9	459.7	109.14	5.213	
12,500.0	7,460.0	12,519.0	7,300.0	81.2	89.1	73.67	3,186.4	5,296.7	568.9	459.2	109.64	5.188	
12,578.9	7,460.0	12,597.9	7,300.0	81.7	89.5	73.67	3,265.3	5,296.7	568.9	457.3	111.54	5.100	
12,600.0	7,460.0	12,619.0	7,300.0	81.8	89.6	73.67	3,286.4	5,296.7	568.9	456.8	112.05	5.077	
12,678.9	7,460.0	12,697.9	7,300.0	82.3	90.0	73.67	3,365.3	5,296.7	568.9	454.9	113.96	4.992	
12,700.0	7,460.0	12,719.0	7,300.0	82.5	90.1	73.67	3,386.4	5,296.7	568.9	454.4	114.47	4.970	
12,778.9	7,460.0	12,797.9	7,300.0	83.0	90.5	73.67	3,465.3	5,296.8	568.9	452.5	116.40	4.887	
12,800.0	7,460.0	12,819.0	7,300.0	83.1	90.6	73.67	3,486.4	5,296.8	568.9	452.0	116.92	4.866	
12,878.9	7,460.0	12,897.9	7,300.0	83.6	91.0	73.67	3,565.3	5,296.8	568.9	450.0	118.85	4.786	
12,900.0	7,460.0	12,919.0	7,300.0	83.8	91.1	73.67	3,586.4	5,296.8	568.9	449.5	119.37	4.766	
12,978.9	7,460.0	12,997.9	7,300.0	84.3	91.5	73.67	3,665.3	5,296.8	568.9	447.6	121.32	4.689	
13,000.0	7,460.0	13,019.0	7,300.0	84.4	91.6	73.67	3,686.4	5,296.8	568.9	447.0	121.84	4.669	
13,078.9	7,460.0	13,097.9	7,300.0	85.0	92.1	73.67	3,765.3	5,296.8	568.9	445.1	123.80	4.595	
13,100.0	7,460.0	13,119.0	7,300.0	85.2	92.2	73.67	3,786.4	5,296.8	568.9	444.5	124.33	4.576	
13,178.9	7,460.0	13,197.9	7,300.0	85.7	92.7	73.67	3,865.3	5,296.8	568.9	442.6	126.30	4.504	
13,200.0	7,460.0	13,219.0	7,300.0	85.9	92.8	73.67	3,886.4	5,296.8	568.9	442.0	126.83	4.485	
13,278.9	7,460.0	13,297.9	7,300.0	86.5	93.3	73.67	3,965.3	5,296.8	568.9	440.1	128.81	4.417	
13,300.0	7,460.0	13,319.0	7,300.0	86.7	93.4	73.67	3,986.4	5,296.8	568.9	439.5	129.34	4.398	
13,378.9	7,460.0	13,397.9	7,300.0	87.3	93.9	73.67	4,065.3	5,296.8	568.9	437.5	131.33	4.332	
13,400.0	7,460.0	13,419.0	7,300.0	87.4	94.0	73.67	4,086.4	5,296.8	568.9	437.0	131.86	4.314	
13,478.9	7,460.0	13,497.9	7,300.0	88.1	94.5	73.67	4,165.3	5,296.8	568.9	435.0	133.86	4.250	
13,500.0	7,460.0	13,519.0	7,300.0	88.2	94.7	73.67	4,186.4	5,296.8	568.9	434.5	134.39	4.233	
13,578.9	7,460.0	13,597.9	7,300.0	88.9	95.2	73.67	4,265.3	5,296.8	568.9	432.5	136.40	4.171	
13,600.0	7,460.0	13,619.0	7,300.0	89.1	95.3	73.67	4,286.4	5,296.8	568.9	431.9	136.94	4.154	
13,678.9	7,460.0	13,697.9	7,300.0	89.7	95.9	73.67	4,365.3	5,296.8	568.9	429.9	138.95	4.094	
13,700.0	7,460.0	13,719.0	7,300.0	89.9	96.0	73.67	4,386.4	5,296.8	568.9	429.4	139.49	4.078	
13,778.9	7,460.0	13,797.9	7,300.0	90.6	96.6	73.67	4,465.3	5,296.8	568.9	427.4	141.51	4.020	
13,800.0	7,460.0	13,819.0	7,300.0	90.8	96.8	73.67	4,486.4	5,296.8	568.9	426.8	142.05	4.005	
13,878.9	7,460.0	13,897.9	7,300.0	91.5	97.3	73.67	4,565.3	5,296.8	568.9	424.8	144.08	3.948	
13,900.0	7,460.0	13,919.0	7,300.0	91.7	97.5	73.67	4,586.4	5,296.8	568.9	424.2	144.62	3.933	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
13,978.9	7,460.0	13,997.9	7,300.0	92.4	98.1	73.67	4,665.3	5,296.8	568.9	422.2	146.66	3.879	
14,000.0	7,460.0	14,019.0	7,300.0	92.6	98.2	73.67	4,686.4	5,296.8	568.9	421.7	147.20	3.865	
14,078.9	7,460.0	14,097.9	7,300.0	93.3	98.8	73.67	4,765.3	5,296.8	568.9	419.6	149.24	3.812	
14,100.0	7,460.0	14,119.0	7,300.0	93.5	99.0	73.67	4,786.4	5,296.8	568.9	419.1	149.79	3.798	
14,178.9	7,460.0	14,197.9	7,300.0	94.3	99.6	73.67	4,865.3	5,296.8	568.9	417.0	151.83	3.747	
14,200.0	7,460.0	14,219.0	7,300.0	94.5	99.8	73.67	4,886.4	5,296.8	568.9	416.5	152.38	3.733	
14,278.9	7,460.0	14,297.9	7,300.0	95.2	100.4	73.67	4,965.3	5,296.8	568.9	414.4	154.43	3.684	
14,300.0	7,460.0	14,319.0	7,300.0	95.4	100.6	73.67	4,986.4	5,296.8	568.9	413.9	154.99	3.670	
14,378.9	7,460.0	14,397.9	7,300.0	96.2	101.3	73.66	5,065.3	5,296.8	568.9	411.8	157.04	3.622	
14,400.0	7,460.0	14,419.0	7,300.0	96.4	101.5	73.66	5,086.4	5,296.8	568.9	411.3	157.59	3.610	
14,478.9	7,460.0	14,497.9	7,300.0	97.2	102.1	73.66	5,165.3	5,296.8	568.9	409.2	159.66	3.563	
14,500.0	7,460.0	14,519.0	7,300.0	97.4	102.3	73.66	5,186.4	5,296.8	568.9	408.7	160.21	3.551	
14,578.9	7,460.0	14,597.9	7,300.0	98.2	103.0	73.66	5,265.3	5,296.8	568.9	406.6	162.27	3.506	
14,600.0	7,460.0	14,619.0	7,300.0	98.5	103.2	73.66	5,286.4	5,296.8	568.9	406.0	162.83	3.494	
14,678.9	7,460.0	14,697.9	7,300.0	99.3	103.9	73.66	5,365.3	5,296.8	568.9	404.0	164.90	3.450	
14,700.0	7,460.0	14,719.0	7,300.0	99.5	104.1	73.66	5,386.4	5,296.8	568.9	403.4	165.46	3.438	
14,778.9	7,460.0	14,797.9	7,300.0	100.3	104.8	73.66	5,465.3	5,296.8	568.9	401.3	167.53	3.396	
14,800.0	7,460.0	14,819.0	7,300.0	100.5	105.0	73.66	5,486.4	5,296.8	568.9	400.8	168.09	3.384	
14,878.9	7,460.0	14,897.9	7,300.0	101.4	105.7	73.66	5,565.3	5,296.8	568.9	398.7	170.17	3.343	
14,900.0	7,460.0	14,919.0	7,300.0	101.6	105.9	73.66	5,586.4	5,296.8	568.9	398.1	170.72	3.332	
14,978.9	7,460.0	14,997.9	7,300.0	102.5	106.6	73.66	5,665.3	5,296.8	568.9	396.0	172.81	3.292	
15,000.0	7,460.0	15,019.0	7,300.0	102.7	106.8	73.66	5,686.4	5,296.8	568.9	395.5	173.37	3.281	
15,078.9	7,460.0	15,097.9	7,300.0	103.5	107.6	73.66	5,765.3	5,296.8	568.9	393.4	175.45	3.242	
15,100.0	7,460.0	15,119.0	7,300.0	103.8	107.8	73.66	5,786.4	5,296.8	568.9	392.8	176.01	3.232	
15,178.9	7,460.0	15,197.9	7,300.0	104.6	108.6	73.66	5,865.3	5,296.8	568.9	390.7	178.11	3.194	
15,200.0	7,460.0	15,219.0	7,300.0	104.9	108.8	73.66	5,886.4	5,296.8	568.9	390.2	178.67	3.184	
15,278.9	7,460.0	15,297.9	7,300.0	105.8	109.5	73.66	5,965.3	5,296.8	568.8	388.1	180.76	3.147	
15,300.0	7,460.0	15,319.0	7,300.0	106.0	109.7	73.66	5,986.4	5,296.8	568.8	387.5	181.32	3.137	
15,378.9	7,460.0	15,397.9	7,300.0	106.9	110.5	73.66	6,065.3	5,296.8	568.8	385.4	183.42	3.101	
15,400.0	7,460.0	15,419.0	7,300.0	107.1	110.8	73.66	6,086.4	5,296.8	568.8	384.9	183.98	3.092	
15,478.9	7,460.0	15,497.9	7,300.0	108.0	111.6	73.66	6,165.3	5,296.8	568.8	382.8	186.08	3.057	
15,500.0	7,460.0	15,519.0	7,300.0	108.3	111.8	73.66	6,186.4	5,296.8	568.8	382.2	186.65	3.048	
15,578.9	7,460.0	15,597.9	7,300.0	109.2	112.6	73.66	6,265.3	5,296.8	568.8	380.1	188.75	3.014	
15,600.0	7,460.0	15,619.0	7,300.0	109.4	112.8	73.66	6,286.4	5,296.8	568.8	379.5	189.31	3.005	
15,678.9	7,460.0	15,697.9	7,300.0	110.3	113.6	73.66	6,365.3	5,296.8	568.8	377.4	191.42	2.972	
15,700.0	7,460.0	15,719.0	7,300.0	110.6	113.8	73.66	6,386.4	5,296.8	568.8	376.9	191.99	2.963	
15,778.9	7,460.0	15,797.9	7,300.0	111.5	114.7	73.66	6,465.3	5,296.8	568.8	374.7	194.10	2.931	
15,800.0	7,460.0	15,819.0	7,300.0	111.7	114.9	73.66	6,486.4	5,296.8	568.8	374.2	194.66	2.922	
15,878.9	7,460.0	15,897.9	7,300.0	112.7	115.7	73.66	6,565.3	5,296.8	568.8	372.1	196.77	2.891	
15,900.0	7,460.0	15,919.0	7,300.0	112.9	116.0	73.66	6,586.4	5,296.8	568.8	371.5	197.34	2.883	
15,978.9	7,460.0	15,997.9	7,300.0	113.8	116.8	73.66	6,665.3	5,296.8	568.8	369.4	199.46	2.852	
16,000.0	7,460.0	16,019.0	7,300.0	114.1	117.0	73.66	6,686.4	5,296.8	568.8	368.8	200.02	2.844	
16,078.9	7,460.0	16,097.9	7,300.0	115.0	117.9	73.66	6,765.3	5,296.8	568.8	366.7	202.14	2.814	
16,100.0	7,460.0	16,119.0	7,300.0	115.3	118.1	73.66	6,786.4	5,296.8	568.8	366.1	202.71	2.806	
16,178.9	7,460.0	16,197.9	7,300.0	116.2	119.0	73.66	6,865.3	5,296.8	568.8	364.0	204.83	2.777	
16,200.0	7,460.0	16,219.0	7,300.0	116.5	119.2	73.66	6,886.4	5,296.8	568.8	363.4	205.40	2.769	
16,278.9	7,460.0	16,297.9	7,300.0	117.4	120.1	73.66	6,965.3	5,296.8	568.8	361.3	207.52	2.741	
16,300.0	7,460.0	16,319.0	7,300.0	117.7	120.4	73.66	6,986.4	5,296.8	568.8	360.7	208.09	2.734	
16,378.9	7,460.0	16,397.9	7,300.0	118.7	121.2	73.66	7,065.3	5,296.8	568.8	358.6	210.21	2.706	
16,400.0	7,460.0	16,419.0	7,300.0	118.9	121.5	73.66	7,086.4	5,296.8	568.8	358.1	210.78	2.699	
16,478.9	7,460.0	16,497.9	7,300.0	119.9	122.4	73.66	7,165.3	5,296.8	568.8	355.9	212.91	2.672	
16,500.0	7,460.0	16,519.0	7,300.0	120.1	122.6	73.66	7,186.4	5,296.8	568.8	355.4	213.48	2.665	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
16,578.9	7,460.0	16,597.9	7,300.0	121.1	123.5	73.66	7,265.3	5,296.8	568.8	353.2	215.61	2.638	
16,600.0	7,460.0	16,619.0	7,300.0	121.4	123.8	73.66	7,286.4	5,296.8	568.8	352.7	216.18	2.631	
16,678.9	7,460.0	16,697.9	7,300.0	122.3	124.7	73.66	7,365.3	5,296.8	568.8	350.5	218.31	2.606	
16,700.0	7,460.0	16,719.0	7,300.0	122.6	124.9	73.66	7,386.4	5,296.8	568.8	350.0	218.88	2.599	
16,778.9	7,460.0	16,797.9	7,300.0	123.6	125.8	73.66	7,465.3	5,296.8	568.8	347.8	221.01	2.574	
16,800.0	7,460.0	16,819.0	7,300.0	123.9	126.1	73.66	7,486.4	5,296.8	568.8	347.2	221.58	2.567	
16,878.9	7,460.0	16,897.9	7,300.0	124.8	127.0	73.66	7,565.3	5,296.8	568.8	345.1	223.72	2.543	
16,900.0	7,460.0	16,919.0	7,300.0	125.1	127.2	73.66	7,586.4	5,296.8	568.8	344.5	224.29	2.536	
16,978.9	7,460.0	16,997.9	7,300.0	126.1	128.2	73.66	7,665.3	5,296.8	568.8	342.4	226.42	2.512	
17,000.0	7,460.0	17,019.0	7,300.0	126.4	128.4	73.66	7,686.4	5,296.8	568.8	341.8	227.00	2.506	
17,078.9	7,460.0	17,097.9	7,300.0	127.4	129.4	73.66	7,765.3	5,296.8	568.8	339.7	229.13	2.483	
17,100.0	7,460.0	17,119.0	7,300.0	127.6	129.6	73.66	7,786.4	5,296.8	568.8	339.1	229.71	2.476	
17,178.9	7,460.0	17,197.9	7,300.0	128.6	130.5	73.66	7,865.3	5,296.8	568.8	337.0	231.85	2.453	
17,200.0	7,460.0	17,219.0	7,300.0	128.9	130.8	73.66	7,886.4	5,296.8	568.8	336.4	232.42	2.447	
17,278.9	7,460.0	17,297.9	7,300.0	129.9	131.7	73.66	7,965.3	5,296.8	568.8	334.3	234.56	2.425	
17,300.0	7,460.0	17,319.0	7,300.0	130.2	132.0	73.66	7,986.4	5,296.8	568.8	333.7	235.13	2.419	
17,378.9	7,460.0	17,397.9	7,300.0	131.2	133.0	73.66	8,065.3	5,296.8	568.8	331.5	237.28	2.397	
17,400.0	7,460.0	17,419.0	7,300.0	131.4	133.2	73.66	8,086.4	5,296.8	568.8	331.0	237.85	2.392	
17,478.9	7,460.0	17,497.9	7,300.0	132.5	134.2	73.66	8,165.3	5,296.8	568.8	328.8	239.99	2.370	
17,500.0	7,460.0	17,519.0	7,300.0	132.7	134.4	73.66	8,186.4	5,296.8	568.8	328.3	240.57	2.364	
17,578.9	7,460.0	17,597.9	7,300.0	133.7	135.4	73.66	8,265.3	5,296.8	568.8	326.1	242.71	2.344	
17,600.0	7,460.0	17,619.0	7,300.0	134.0	135.6	73.66	8,286.4	5,296.8	568.8	325.5	243.29	2.338	
17,678.9	7,460.0	17,697.9	7,300.0	135.0	136.6	73.66	8,365.3	5,296.8	568.8	323.4	245.44	2.318	
17,700.0	7,460.0	17,719.0	7,300.0	135.3	136.9	73.66	8,386.4	5,296.8	568.8	322.8	246.01	2.312	
17,778.9	7,460.0	17,797.9	7,300.0	136.3	137.8	73.66	8,465.3	5,296.8	568.8	320.7	248.16	2.292	
17,800.0	7,460.0	17,819.0	7,300.0	136.6	138.1	73.66	8,486.4	5,296.8	568.8	320.1	248.73	2.287	
17,878.9	7,460.0	17,897.9	7,300.0	137.6	139.1	73.66	8,565.3	5,296.8	568.8	317.9	250.88	2.267	
17,900.0	7,460.0	17,919.0	7,300.0	137.9	139.3	73.66	8,586.4	5,296.8	568.8	317.4	251.46	2.262	
17,978.9	7,460.0	17,997.9	7,300.0	138.9	140.3	73.66	8,665.3	5,296.8	568.8	315.2	253.61	2.243	
18,000.0	7,460.0	18,019.0	7,300.0	139.2	140.6	73.66	8,686.4	5,296.8	568.8	314.6	254.19	2.238	
18,078.9	7,460.0	18,097.9	7,300.0	140.2	141.6	73.66	8,765.3	5,296.9	568.8	312.5	256.34	2.219	
18,100.0	7,460.0	18,119.0	7,300.0	140.5	141.8	73.66	8,786.4	5,296.9	568.8	311.9	256.91	2.214	
18,178.9	7,460.0	18,197.9	7,300.0	141.5	142.8	73.66	8,865.3	5,296.9	568.8	309.7	259.07	2.196	
18,200.0	7,460.0	18,219.0	7,300.0	141.8	143.1	73.66	8,886.4	5,296.9	568.8	309.2	259.64	2.191	
18,278.9	7,460.0	18,297.9	7,300.0	142.8	144.1	73.66	8,965.3	5,296.9	568.8	307.0	261.80	2.173	
18,300.0	7,460.0	18,319.0	7,300.0	143.1	144.4	73.66	8,986.4	5,296.9	568.8	306.4	262.38	2.168	
18,378.9	7,460.0	18,397.9	7,300.0	144.2	145.3	73.66	9,065.3	5,296.9	568.8	304.3	264.53	2.150	
18,400.0	7,460.0	18,419.0	7,300.0	144.4	145.6	73.66	9,086.4	5,296.9	568.8	303.7	265.11	2.146	
18,478.9	7,460.0	18,497.9	7,300.0	145.5	146.6	73.66	9,165.3	5,296.9	568.8	301.5	267.26	2.128	
18,500.0	7,460.0	18,519.0	7,300.0	145.8	146.9	73.66	9,186.4	5,296.9	568.8	301.0	267.84	2.124	
18,578.9	7,460.0	18,597.9	7,300.0	146.8	147.9	73.66	9,265.3	5,296.9	568.8	298.8	270.00	2.107	
18,600.0	7,460.0	18,619.0	7,300.0	147.1	148.2	73.66	9,286.4	5,296.9	568.8	298.2	270.58	2.102	
18,678.9	7,460.0	18,697.9	7,300.0	148.1	149.2	73.66	9,365.3	5,296.9	568.8	296.1	272.73	2.086	
18,700.0	7,460.0	18,719.0	7,300.0	148.4	149.4	73.66	9,386.4	5,296.9	568.8	295.5	273.31	2.081	
18,778.9	7,460.0	18,797.9	7,300.0	149.5	150.4	73.66	9,465.3	5,296.9	568.8	293.3	275.47	2.065	
18,800.0	7,460.0	18,819.0	7,300.0	149.7	150.7	73.66	9,486.4	5,296.9	568.8	292.8	276.05	2.060	
18,878.9	7,460.0	18,897.9	7,300.0	150.8	151.7	73.66	9,565.3	5,296.9	568.8	290.6	278.21	2.044	
18,900.0	7,460.0	18,919.0	7,300.0	151.1	152.0	73.66	9,586.4	5,296.9	568.8	290.0	278.79	2.040	
18,978.9	7,460.0	18,997.9	7,300.0	152.1	153.0	73.66	9,665.3	5,296.9	568.8	287.8	280.95	2.025	
19,000.0	7,460.0	19,019.0	7,300.0	152.4	153.3	73.66	9,686.4	5,296.9	568.8	287.3	281.53	2.020	
19,078.9	7,460.0	19,097.9	7,300.0	153.5	154.3	73.66	9,765.3	5,296.9	568.8	285.1	283.69	2.005	
19,100.0	7,460.0	19,119.0	7,300.0	153.7	154.6	73.66	9,786.4	5,296.9	568.8	284.5	284.27	2.001	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3NAH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
19,113.0	7,460.0	19,132.0	7,300.0	153.9	154.8	73.66	9,799.4	5,296.9	568.8	284.2	284.63	1.998	Collision Risk Procedures Req.
19,116.5	7,460.0	19,135.5	7,300.0	154.0	154.8	73.66	9,802.9	5,296.9	568.8	284.1	284.72	1.998	Collision Risk Procedures Req.
19,116.8	7,460.0	19,135.8	7,300.0	154.0	154.8	73.66	9,803.2	5,296.9	568.8	284.1	284.73	1.998	Collision Risk Procedures Req.
19,116.9	7,460.0	19,135.9	7,300.0	154.0	154.8	73.66	9,803.3	5,296.9	568.8	284.1	284.73	1.998	Collision Risk Procedures Req., SF

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3NBH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	179.39	-15.0	0.2	15.0				
100.0	100.0	100.0	100.0	1.0	1.0	179.39	-15.0	0.2	15.0	13.0	1.96	7.661	
200.0	200.0	200.0	200.0	1.6	1.6	179.39	-15.0	0.2	15.0	11.9	3.12	4.807	
300.0	300.0	300.0	300.0	2.0	2.0	179.39	-15.0	0.2	15.0	11.0	3.96	3.787	
400.0	400.0	400.0	400.0	2.3	2.3	179.39	-15.0	0.2	15.0	10.3	4.66	3.220	
500.0	500.0	500.0	500.0	2.6	2.6	179.39	-15.0	0.2	15.0	9.7	5.27	2.847	
600.0	600.0	600.0	600.0	2.9	2.9	179.39	-15.0	0.2	15.0	9.2	5.82	2.577	
700.0	700.0	700.0	700.0	3.2	3.2	179.39	-15.0	0.2	15.0	8.7	6.33	2.370	
800.0	800.0	800.0	800.0	3.4	3.4	179.39	-15.0	0.2	15.0	8.2	6.80	2.205	
900.0	900.0	900.0	900.0	3.6	3.6	179.39	-15.0	0.2	15.0	7.8	7.25	2.069	
1,000.0	1,000.0	1,000.0	1,000.0	3.8	3.8	179.39	-15.0	0.2	15.0	7.3	7.67	1.955	Collision Risk Procedures Req.
1,100.0	1,100.0	1,100.0	1,100.0	4.0	4.0	179.39	-15.0	0.2	15.0	6.9	8.08	1.857	Collision Risk Procedures Req., CC
1,200.0	1,200.0	1,199.8	1,199.8	4.5	4.8	80.76	-15.4	3.6	15.2	6.7	8.48	1.795	Collision Risk Procedures Req., ES, SF
1,300.0	1,299.6	1,299.5	1,298.9	5.0	5.4	71.84	-16.7	13.9	16.2	7.2	8.98	1.799	Collision Risk Procedures Req.
1,400.0	1,398.8	1,398.9	1,396.7	5.4	6.0	59.57	-18.9	31.0	18.4	8.7	9.78	1.885	Collision Risk Procedures Req.
1,500.0	1,497.1	1,497.8	1,492.7	5.8	6.5	47.39	-21.9	54.6	22.6	11.8	10.82	2.090	
1,600.0	1,594.3	1,596.2	1,586.3	6.1	7.0	37.51	-25.7	84.6	28.9	17.0	11.87	2.436	
1,700.0	1,690.2	1,693.9	1,677.0	6.5	7.4	30.26	-30.2	120.6	37.2	24.5	12.79	2.912	
1,800.0	1,784.4	1,790.7	1,764.2	6.8	7.8	25.10	-35.5	162.2	47.4	33.9	13.57	3.496	
1,900.0	1,876.8	1,886.6	1,847.7	7.1	8.1	21.40	-41.4	209.1	59.3	45.1	14.23	4.168	
2,000.0	1,967.1	1,981.5	1,926.9	7.4	8.4	18.70	-48.0	260.9	72.7	57.9	14.80	4.915	
2,100.0	2,054.9	2,075.3	2,001.7	7.7	8.7	16.68	-55.1	317.1	87.6	72.3	15.30	5.727	
2,200.0	2,140.2	2,168.0	2,071.7	7.9	8.9	15.14	-62.7	377.2	103.8	88.1	15.67	6.623	
2,300.0	2,222.6	2,265.4	2,142.5	8.2	9.1	14.10	-71.1	443.6	119.3	103.1	16.20	7.365	
2,400.0	2,301.9	2,364.8	2,214.7	8.6	9.7	13.82	-79.7	511.5	129.9	113.1	16.79	7.738	
2,437.4	2,330.8	2,402.1	2,241.7	8.9	10.0	13.88	-82.9	536.9	132.5	115.6	16.93	7.829	
2,500.0	2,378.6	2,464.6	2,287.1	9.4	10.6	14.06	-88.3	579.6	136.4	119.2	17.20	7.930	
2,600.0	2,455.1	2,564.4	2,359.5	10.2	11.6	14.32	-96.9	647.7	142.6	124.9	17.69	8.061	
2,700.0	2,531.5	2,664.2	2,431.9	11.1	12.6	14.56	-105.5	715.9	148.8	130.6	18.21	8.170	
2,800.0	2,608.0	2,764.0	2,504.3	12.0	13.5	14.78	-114.2	784.0	155.0	136.2	18.76	8.261	
2,900.0	2,684.5	2,863.8	2,576.7	12.9	14.5	14.99	-122.8	852.1	161.2	141.8	19.33	8.335	
3,000.0	2,760.9	2,963.6	2,649.1	13.8	15.6	15.18	-131.4	920.3	167.3	147.4	19.94	8.394	
3,100.0	2,837.4	3,063.4	2,721.6	14.8	16.6	15.36	-140.0	988.4	173.5	153.0	20.56	8.441	
3,200.0	2,913.9	3,163.2	2,794.0	15.7	17.6	15.52	-148.6	1,056.5	179.7	158.5	21.20	8.476	
3,300.0	2,990.3	3,263.0	2,866.4	16.6	18.6	15.68	-157.2	1,124.7	185.9	164.1	21.87	8.501	
3,400.0	3,066.8	3,362.9	2,938.8	17.6	19.7	15.82	-165.9	1,192.8	192.1	169.6	22.55	8.519	
3,500.0	3,143.3	3,462.7	3,011.2	18.5	20.7	15.95	-174.5	1,261.0	198.3	175.1	23.25	8.529	
3,600.0	3,219.8	3,562.5	3,083.7	19.5	21.8	16.08	-183.1	1,329.1	204.5	180.5	23.97	8.533	
3,700.0	3,296.2	3,662.3	3,156.1	20.5	22.8	16.20	-191.7	1,397.2	210.7	186.0	24.70	8.532	
3,800.0	3,372.7	3,762.1	3,228.5	21.4	23.9	16.31	-200.3	1,465.4	216.9	191.5	25.44	8.527	
3,900.0	3,449.2	3,861.9	3,300.9	22.4	24.9	16.42	-209.0	1,533.5	223.1	196.9	26.19	8.518	
4,000.0	3,525.6	3,961.7	3,373.3	23.4	26.0	16.52	-217.6	1,601.6	229.3	202.4	26.96	8.506	
4,100.0	3,602.1	4,061.5	3,445.8	24.4	27.0	16.62	-226.2	1,669.8	235.5	207.8	27.73	8.492	
4,200.0	3,678.6	4,161.3	3,518.2	25.3	28.1	16.71	-234.8	1,737.9	241.7	213.2	28.52	8.476	
4,300.0	3,755.0	4,261.1	3,590.6	26.3	29.1	16.79	-243.4	1,806.1	247.9	218.6	29.31	8.458	
4,400.0	3,831.5	4,360.9	3,663.0	27.3	30.2	16.87	-252.1	1,874.2	254.1	224.0	30.11	8.439	
4,500.0	3,908.0	4,460.7	3,735.4	28.3	31.3	16.95	-260.7	1,942.3	260.3	229.4	30.92	8.419	
4,600.0	3,984.4	4,560.5	3,807.8	29.3	32.3	17.02	-269.3	2,010.5	266.5	234.8	31.74	8.398	
4,700.0	4,060.9	4,660.3	3,880.3	30.2	33.4	17.09	-277.9	2,078.6	272.7	240.2	32.56	8.376	
4,800.0	4,137.4	4,760.2	3,952.7	31.2	34.5	17.16	-286.5	2,146.7	279.0	245.6	33.39	8.354	
4,900.0	4,213.8	4,860.0	4,025.1	32.2	35.5	17.23	-295.1	2,214.9	285.2	250.9	34.23	8.332	
5,000.0	4,290.3	4,959.8	4,097.5	33.2	36.6	17.29	-303.8	2,283.0	291.4	256.3	35.07	8.309	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3NBH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Rule Assigned:

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	4,366.8	5,059.6	4,169.9	34.2	37.7	17.35	-312.4	2,351.1	297.6	261.7	35.91	8.287	
5,200.0	4,443.2	5,159.4	4,242.4	35.2	38.7	17.40	-321.0	2,419.3	303.8	267.0	36.76	8.264	
5,300.0	4,519.7	5,259.2	4,314.8	36.2	39.8	17.46	-329.6	2,487.4	310.0	272.4	37.61	8.242	
5,400.0	4,596.2	5,359.0	4,387.2	37.2	40.9	17.51	-338.2	2,555.6	316.2	277.7	38.47	8.219	
5,500.0	4,672.6	5,458.8	4,459.6	38.1	41.9	17.56	-346.9	2,623.7	322.4	283.1	39.33	8.197	
5,600.0	4,749.1	5,558.6	4,532.0	39.1	43.0	17.61	-355.5	2,691.8	328.6	288.4	40.20	8.175	
5,700.0	4,825.6	5,658.4	4,604.5	40.1	44.1	17.66	-364.1	2,760.0	334.8	293.8	41.06	8.154	
5,800.0	4,902.0	5,758.2	4,676.9	41.1	45.1	17.70	-372.7	2,828.1	341.0	299.1	41.93	8.132	
5,900.0	4,978.5	5,858.0	4,749.3	42.1	46.2	17.75	-381.3	2,896.2	347.2	304.4	42.81	8.111	
6,000.0	5,055.0	5,957.8	4,821.7	43.1	47.3	17.79	-390.0	2,964.4	353.4	309.8	43.69	8.091	
6,100.0	5,131.4	6,057.6	4,894.1	44.1	48.3	17.83	-398.6	3,032.5	359.7	315.1	44.56	8.070	
6,200.0	5,207.9	6,157.4	4,966.6	45.1	49.4	17.87	-407.2	3,100.6	365.9	320.4	45.45	8.050	
6,300.0	5,284.4	6,257.3	5,039.0	46.1	50.5	17.91	-415.8	3,168.8	372.1	325.7	46.33	8.031	
6,400.0	5,360.8	6,357.1	5,111.4	47.1	51.5	17.94	-424.4	3,236.9	378.3	331.1	47.22	8.011	
6,500.0	5,437.3	6,456.9	5,183.8	48.1	52.6	17.98	-433.0	3,305.1	384.5	336.4	48.11	7.993	
6,600.0	5,513.8	6,556.7	5,256.2	49.0	53.7	18.01	-441.7	3,373.2	390.7	341.7	49.00	7.974	
6,700.0	5,590.2	6,656.5	5,328.6	50.0	54.8	18.04	-450.3	3,441.3	396.9	347.0	49.89	7.956	
6,800.0	5,666.7	6,756.3	5,401.1	51.0	55.8	18.08	-458.9	3,509.5	403.1	352.3	50.78	7.938	
6,900.0	5,743.2	6,856.1	5,473.5	52.0	56.9	18.11	-467.5	3,577.6	409.3	357.7	51.68	7.921	
7,000.0	5,819.6	6,955.9	5,545.9	53.0	58.0	18.14	-476.1	3,645.7	415.5	363.0	52.58	7.903	
7,100.0	5,896.1	7,055.7	5,618.3	54.0	59.0	18.17	-484.8	3,713.9	421.8	368.3	53.48	7.887	
7,200.0	5,972.6	7,155.5	5,690.7	55.0	60.1	18.20	-493.4	3,782.0	428.0	373.6	54.38	7.870	
7,300.0	6,049.0	7,255.3	5,763.2	56.0	61.2	18.22	-502.0	3,850.2	434.2	378.9	55.28	7.854	
7,400.0	6,125.5	7,355.1	5,835.6	57.0	62.3	18.25	-510.6	3,918.3	440.4	384.2	56.18	7.838	
7,500.0	6,202.0	7,454.9	5,908.0	58.0	63.3	18.28	-519.2	3,986.4	446.6	389.5	57.09	7.823	
7,600.0	6,278.4	7,554.7	5,980.4	59.0	64.4	18.30	-527.9	4,054.6	452.8	394.8	57.99	7.808	
7,700.0	6,354.9	7,654.5	6,052.8	60.0	65.5	18.33	-536.5	4,122.7	459.0	400.1	58.90	7.793	
7,800.0	6,431.4	7,754.4	6,125.3	61.0	66.6	18.35	-545.1	4,190.8	465.2	405.4	59.81	7.779	
7,900.0	6,507.8	7,854.2	6,197.7	62.0	67.6	18.37	-553.7	4,259.0	471.4	410.7	60.72	7.764	
8,000.0	6,584.3	7,954.0	6,270.1	63.0	68.7	18.40	-562.3	4,327.1	477.7	416.0	61.63	7.751	
8,100.0	6,660.8	8,053.8	6,342.5	64.0	69.8	18.42	-571.0	4,395.2	483.9	421.3	62.54	7.737	
8,200.0	6,737.2	8,153.6	6,414.9	65.0	70.8	18.44	-579.6	4,463.4	490.1	426.6	63.45	7.724	
8,300.0	6,813.7	8,253.4	6,487.3	66.0	71.9	18.46	-588.2	4,531.5	496.3	431.9	64.36	7.711	
8,400.0	6,890.2	8,353.2	6,559.8	67.0	73.0	18.48	-596.8	4,599.7	502.5	437.2	65.28	7.698	
8,500.0	6,966.6	8,453.0	6,632.2	68.0	74.1	18.50	-605.4	4,667.8	508.7	442.5	66.19	7.685	
8,536.2	6,994.3	8,489.1	6,658.4	68.3	74.5	18.51	-608.5	4,692.4	511.0	444.4	66.52	7.681	
8,550.0	7,004.9	8,502.9	6,668.4	68.4	74.6	20.08	-609.7	4,701.9	511.9	445.2	66.67	7.678	
8,600.0	7,043.2	8,552.6	6,704.4	69.0	75.1	25.98	-614.0	4,735.8	516.3	448.7	67.59	7.639	
8,650.0	7,081.3	8,601.7	6,740.1	69.4	75.7	32.05	-618.3	4,769.3	522.4	453.3	69.12	7.559	
8,700.0	7,118.9	8,649.8	6,775.0	69.9	76.2	38.08	-622.4	4,802.1	530.4	459.1	71.26	7.443	
8,750.0	7,155.9	8,696.6	6,808.9	70.4	76.7	43.87	-626.5	4,834.1	540.3	466.3	74.02	7.300	
8,800.0	7,191.8	8,741.7	6,841.7	70.8	77.2	49.28	-630.4	4,864.9	552.5	475.2	77.36	7.142	
8,850.0	7,226.4	8,784.8	6,872.9	71.2	77.6	54.17	-634.1	4,894.3	567.1	485.9	81.23	6.981	
8,900.0	7,259.4	8,825.5	6,902.4	71.6	78.1	58.43	-637.6	4,922.1	584.3	498.7	85.53	6.831	
8,950.0	7,290.6	8,863.5	6,930.0	71.9	78.5	61.99	-640.9	4,948.0	604.2	514.1	90.14	6.703	
9,000.0	7,319.8	8,898.6	6,955.5	72.2	78.9	64.78	-643.9	4,972.0	627.1	532.2	94.91	6.607	
9,050.0	7,346.7	8,930.4	6,978.6	72.5	79.2	66.73	-646.7	4,993.7	652.8	553.1	99.71	6.547	
9,100.0	7,371.1	8,958.8	6,999.2	72.7	79.5	67.76	-649.1	5,013.1	681.4	577.0	104.42	6.526	
9,150.0	7,392.8	9,090.1	7,094.6	72.9	80.9	75.58	-647.7	5,102.9	711.7	603.4	108.27	6.573	
9,200.0	7,411.8	9,555.3	7,378.9	73.1	84.4	90.13	-418.7	5,370.3	732.2	657.2	75.04	9.758	
9,250.0	7,427.7	9,939.7	7,460.0	73.2	85.0	88.22	-58.1	5,446.7	723.8	673.8	50.02	14.469	
9,300.0	7,440.6	9,986.8	7,460.0	73.3	85.0	89.00	-11.1	5,446.7	712.5	661.9	50.61	14.080	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3NBH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Rule Assigned:

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,350.0	7,450.2	10,035.2	7,460.0	73.4	85.0	89.52	37.3	5,446.7	704.2	653.1	51.13	13.775	
9,400.0	7,456.6	10,084.5	7,460.0	73.4	85.0	89.84	86.6	5,446.7	698.8	647.3	51.55	13.556	
9,450.0	7,459.7	10,134.3	7,460.0	73.4	85.0	89.99	136.4	5,446.7	696.2	644.3	51.89	13.417	
9,471.1	7,460.0	10,155.4	7,460.0	73.4	85.0	90.00	157.5	5,446.7	696.0	644.0	52.00	13.385	
9,500.0	7,460.0	10,184.3	7,460.0	73.4	85.0	90.00	186.4	5,446.7	696.0	643.8	52.13	13.350	
9,600.0	7,460.0	10,284.3	7,460.0	73.5	85.0	90.00	286.4	5,446.7	696.0	643.2	52.72	13.200	
9,700.0	7,460.0	10,384.3	7,460.0	73.5	85.0	90.00	386.4	5,446.7	696.0	642.5	53.47	13.016	
9,800.0	7,460.0	10,484.3	7,460.0	73.5	85.0	90.00	486.4	5,446.7	696.0	641.6	54.36	12.803	
9,900.0	7,460.0	10,584.3	7,460.0	73.6	85.0	90.00	586.4	5,446.7	696.0	640.6	55.38	12.566	
10,000.0	7,460.0	10,684.3	7,460.0	73.6	85.1	90.00	686.4	5,446.7	696.0	639.4	56.54	12.309	
10,100.0	7,460.0	10,784.3	7,460.0	73.7	85.1	90.00	786.4	5,446.7	696.0	638.1	57.82	12.036	
10,200.0	7,460.0	10,884.3	7,460.0	73.8	85.2	90.00	886.4	5,446.7	696.0	636.7	59.22	11.752	
10,300.0	7,460.0	10,984.3	7,460.0	73.9	85.3	90.00	986.4	5,446.7	696.0	635.2	60.72	11.461	
10,400.0	7,460.0	11,084.3	7,460.0	74.1	85.4	90.00	1,086.4	5,446.7	696.0	633.6	62.32	11.167	
10,500.0	7,460.0	11,184.3	7,460.0	74.2	85.5	90.00	1,186.4	5,446.7	696.0	631.9	64.02	10.871	
10,600.0	7,460.0	11,284.3	7,460.0	74.4	85.6	90.00	1,286.4	5,446.7	695.9	630.2	65.79	10.578	
10,700.0	7,460.0	11,384.3	7,460.0	74.6	85.7	90.00	1,386.4	5,446.7	695.9	628.3	67.65	10.287	
10,800.0	7,460.0	11,484.3	7,460.0	74.8	85.9	90.00	1,486.4	5,446.7	695.9	626.4	69.58	10.002	
10,900.0	7,460.0	11,584.3	7,460.0	75.0	86.0	90.00	1,586.4	5,446.7	695.9	624.4	71.57	9.724	
11,000.0	7,460.0	11,684.3	7,460.0	75.2	86.2	90.00	1,686.4	5,446.7	695.9	622.3	73.62	9.453	
11,100.0	7,460.0	11,784.3	7,460.0	75.5	86.4	90.00	1,786.4	5,446.7	695.9	620.2	75.73	9.189	
11,200.0	7,460.0	11,884.3	7,460.0	75.7	86.6	90.00	1,886.4	5,446.7	695.9	618.0	77.89	8.934	
11,300.0	7,460.0	11,984.3	7,460.0	76.0	86.8	90.00	1,986.4	5,446.7	695.9	615.8	80.10	8.688	
11,400.0	7,460.0	12,084.3	7,460.0	76.3	87.1	90.00	2,086.4	5,446.7	695.9	613.6	82.35	8.451	
11,500.0	7,460.0	12,184.3	7,460.0	76.7	87.3	90.00	2,186.4	5,446.7	695.9	611.3	84.64	8.222	
11,600.0	7,460.0	12,284.3	7,460.0	77.0	87.6	90.00	2,286.4	5,446.7	695.9	609.0	86.97	8.002	
11,700.0	7,460.0	12,384.3	7,460.0	77.4	87.9	90.00	2,386.4	5,446.7	695.9	606.6	89.33	7.791	
11,800.0	7,460.0	12,484.3	7,460.0	77.8	88.2	90.00	2,486.4	5,446.7	695.9	604.2	91.72	7.587	
11,900.0	7,460.0	12,584.3	7,460.0	78.2	88.5	90.00	2,586.4	5,446.7	695.9	601.8	94.14	7.392	
12,000.0	7,460.0	12,684.3	7,460.0	78.7	88.9	90.00	2,686.4	5,446.7	695.9	599.3	96.59	7.205	
12,100.0	7,460.0	12,784.3	7,460.0	79.1	89.2	90.00	2,786.4	5,446.7	695.9	596.9	99.06	7.025	
12,200.0	7,460.0	12,884.3	7,460.0	79.6	89.6	90.00	2,886.4	5,446.7	695.9	594.4	101.55	6.853	
12,300.0	7,460.0	12,984.3	7,460.0	80.1	90.0	90.00	2,986.4	5,446.7	695.9	591.8	104.07	6.687	
12,400.0	7,460.0	13,084.3	7,460.0	80.7	90.5	90.00	3,086.4	5,446.7	695.9	589.3	106.60	6.528	
12,500.0	7,460.0	13,184.3	7,460.0	81.2	90.9	90.00	3,186.4	5,446.7	695.9	586.8	109.16	6.375	
12,600.0	7,460.0	13,284.3	7,460.0	81.8	91.4	90.00	3,286.4	5,446.7	695.9	584.2	111.73	6.229	
12,700.0	7,460.0	13,384.3	7,460.0	82.5	91.9	90.00	3,386.4	5,446.7	695.9	581.6	114.31	6.088	
12,800.0	7,460.0	13,484.3	7,460.0	83.1	92.4	90.00	3,486.4	5,446.7	695.9	579.0	116.91	5.952	
12,900.0	7,460.0	13,584.3	7,460.0	83.8	92.9	90.00	3,586.4	5,446.7	695.9	576.4	119.53	5.822	
13,000.0	7,460.0	13,684.3	7,460.0	84.4	93.5	90.00	3,686.4	5,446.7	695.9	573.7	122.16	5.697	
13,100.0	7,460.0	13,784.3	7,460.0	85.2	94.1	90.00	3,786.4	5,446.7	695.9	571.1	124.80	5.576	
13,200.0	7,460.0	13,884.3	7,460.0	85.9	94.7	90.00	3,886.4	5,446.7	695.9	568.4	127.45	5.460	
13,300.0	7,460.0	13,984.3	7,460.0	86.7	95.3	90.00	3,986.4	5,446.7	695.9	565.8	130.11	5.348	
13,400.0	7,460.0	14,084.3	7,460.0	87.4	95.9	90.00	4,086.4	5,446.7	695.9	563.1	132.78	5.241	
13,500.0	7,460.0	14,184.3	7,460.0	88.2	96.6	90.00	4,186.4	5,446.7	695.9	560.4	135.46	5.137	
13,600.0	7,460.0	14,284.3	7,460.0	89.1	97.3	90.00	4,286.4	5,446.7	695.9	557.7	138.16	5.037	
13,700.0	7,460.0	14,384.3	7,460.0	89.9	98.0	90.00	4,386.4	5,446.7	695.9	555.0	140.85	4.940	
13,800.0	7,460.0	14,484.3	7,460.0	90.8	98.7	90.00	4,486.4	5,446.7	695.9	552.3	143.56	4.847	
13,900.0	7,460.0	14,584.3	7,460.0	91.7	99.5	90.00	4,586.4	5,446.7	695.9	549.6	146.28	4.757	
14,000.0	7,460.0	14,684.3	7,460.0	92.6	100.3	90.00	4,686.4	5,446.8	695.9	546.9	149.00	4.670	
14,100.0	7,460.0	14,784.3	7,460.0	93.5	101.1	90.00	4,786.4	5,446.8	695.9	544.2	151.72	4.586	
14,200.0	7,460.0	14,884.3	7,460.0	94.5	101.9	90.00	4,886.4	5,446.8	695.9	541.4	154.46	4.505	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3NBH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,300.0	7,460.0	14,984.3	7,460.0	95.4	102.7	90.00	4,986.4	5,446.8	695.9	538.7	157.20	4.427	
14,400.0	7,460.0	15,084.3	7,460.0	96.4	103.6	90.00	5,086.4	5,446.8	695.9	535.9	159.95	4.351	
14,500.0	7,460.0	15,184.3	7,460.0	97.4	104.5	90.00	5,186.4	5,446.8	695.9	533.2	162.70	4.277	
14,600.0	7,460.0	15,284.3	7,460.0	98.5	105.4	90.00	5,286.4	5,446.8	695.9	530.4	165.45	4.206	
14,700.0	7,460.0	15,384.3	7,460.0	99.5	106.3	90.00	5,386.4	5,446.8	695.9	527.7	168.22	4.137	
14,800.0	7,460.0	15,484.3	7,460.0	100.5	107.2	90.00	5,486.4	5,446.8	695.9	524.9	170.98	4.070	
14,900.0	7,460.0	15,584.3	7,460.0	101.6	108.2	90.00	5,586.4	5,446.8	695.9	522.1	173.75	4.005	
15,000.0	7,460.0	15,684.3	7,460.0	102.7	109.1	90.00	5,686.4	5,446.8	695.9	519.3	176.53	3.942	
15,100.0	7,460.0	15,784.3	7,460.0	103.8	110.1	90.00	5,786.4	5,446.8	695.9	516.6	179.31	3.881	
15,200.0	7,460.0	15,884.3	7,460.0	104.9	111.1	90.00	5,886.4	5,446.8	695.9	513.8	182.09	3.822	
15,300.0	7,460.0	15,984.3	7,460.0	106.0	112.1	90.00	5,986.4	5,446.8	695.9	511.0	184.88	3.764	
15,400.0	7,460.0	16,084.3	7,460.0	107.1	113.2	90.00	6,086.4	5,446.8	695.9	508.2	187.67	3.708	
15,500.0	7,460.0	16,184.3	7,460.0	108.3	114.2	90.00	6,186.4	5,446.8	695.9	505.4	190.46	3.654	
15,600.0	7,460.0	16,284.3	7,460.0	109.4	115.3	90.00	6,286.4	5,446.8	695.8	502.6	193.26	3.601	
15,700.0	7,460.0	16,384.3	7,460.0	110.6	116.3	90.00	6,386.4	5,446.8	695.8	499.8	196.06	3.549	
15,800.0	7,460.0	16,484.3	7,460.0	111.7	117.4	90.00	6,486.4	5,446.8	695.8	497.0	198.86	3.499	
15,900.0	7,460.0	16,584.3	7,460.0	112.9	118.5	90.00	6,586.4	5,446.8	695.8	494.2	201.66	3.451	
16,000.0	7,460.0	16,684.3	7,460.0	114.1	119.6	90.00	6,686.4	5,446.8	695.8	491.4	204.47	3.403	
16,100.0	7,460.0	16,784.3	7,460.0	115.3	120.7	90.00	6,786.4	5,446.8	695.8	488.6	207.28	3.357	
16,200.0	7,460.0	16,884.3	7,460.0	116.5	121.9	90.00	6,886.4	5,446.8	695.8	485.7	210.10	3.312	
16,300.0	7,460.0	16,984.3	7,460.0	117.7	123.0	90.00	6,986.4	5,446.8	695.8	482.9	212.91	3.268	
16,400.0	7,460.0	17,084.3	7,460.0	118.9	124.1	90.00	7,086.4	5,446.8	695.8	480.1	215.73	3.226	
16,500.0	7,460.0	17,184.3	7,460.0	120.1	125.3	90.00	7,186.4	5,446.8	695.8	477.3	218.55	3.184	
16,600.0	7,460.0	17,284.3	7,460.0	121.4	126.5	90.00	7,286.4	5,446.8	695.8	474.5	221.37	3.143	
16,700.0	7,460.0	17,384.3	7,460.0	122.6	127.6	90.00	7,386.4	5,446.8	695.8	471.6	224.19	3.104	
16,800.0	7,460.0	17,484.3	7,460.0	123.9	128.8	90.00	7,486.4	5,446.8	695.8	468.8	227.02	3.065	
16,900.0	7,460.0	17,584.3	7,460.0	125.1	130.0	90.00	7,586.4	5,446.8	695.8	466.0	229.85	3.027	
17,000.0	7,460.0	17,684.3	7,460.0	126.4	131.2	90.00	7,686.4	5,446.8	695.8	463.1	232.68	2.990	
17,100.0	7,460.0	17,784.3	7,460.0	127.6	132.4	90.00	7,786.4	5,446.8	695.8	460.3	235.51	2.955	
17,200.0	7,460.0	17,884.3	7,460.0	128.9	133.6	90.00	7,886.4	5,446.8	695.8	457.5	238.34	2.919	
17,300.0	7,460.0	17,984.3	7,460.0	130.2	134.8	90.00	7,986.4	5,446.8	695.8	454.6	241.18	2.885	
17,400.0	7,460.0	18,084.3	7,460.0	131.4	136.1	90.00	8,086.4	5,446.8	695.8	451.8	244.02	2.852	
17,500.0	7,460.0	18,184.3	7,460.0	132.7	137.3	90.00	8,186.4	5,446.8	695.8	449.0	246.85	2.819	
17,600.0	7,460.0	18,284.3	7,460.0	134.0	138.5	90.00	8,286.4	5,446.8	695.8	446.1	249.69	2.787	
17,700.0	7,460.0	18,384.3	7,460.0	135.3	139.8	90.00	8,386.4	5,446.8	695.8	443.3	252.53	2.755	
17,800.0	7,460.0	18,484.3	7,460.0	136.6	141.0	90.00	8,486.4	5,446.8	695.8	440.4	255.38	2.725	
17,900.0	7,460.0	18,584.3	7,460.0	137.9	142.3	90.00	8,586.4	5,446.8	695.8	437.6	258.22	2.695	
18,000.0	7,460.0	18,684.3	7,460.0	139.2	143.5	90.00	8,686.4	5,446.8	695.8	434.7	261.07	2.665	
18,100.0	7,460.0	18,784.3	7,460.0	140.5	144.8	90.00	8,786.4	5,446.8	695.8	431.9	263.91	2.636	
18,200.0	7,460.0	18,884.3	7,460.0	141.8	146.1	90.00	8,886.4	5,446.8	695.8	429.0	266.76	2.608	
18,300.0	7,460.0	18,984.3	7,460.0	143.1	147.3	90.00	8,986.4	5,446.8	695.8	426.2	269.61	2.581	
18,400.0	7,460.0	19,084.3	7,460.0	144.4	148.6	90.00	9,086.4	5,446.8	695.8	423.3	272.46	2.554	
18,500.0	7,460.0	19,184.3	7,460.0	145.8	149.9	90.00	9,186.4	5,446.8	695.8	420.5	275.31	2.527	
18,600.0	7,460.0	19,284.3	7,460.0	147.1	151.2	90.00	9,286.4	5,446.8	695.8	417.6	278.16	2.501	
18,700.0	7,460.0	19,384.3	7,460.0	148.4	152.5	90.00	9,386.4	5,446.8	695.8	414.8	281.01	2.476	
18,800.0	7,460.0	19,484.3	7,460.0	149.7	153.8	90.00	9,486.4	5,446.8	695.8	411.9	283.87	2.451	
18,900.0	7,460.0	19,584.3	7,460.0	151.1	155.1	90.00	9,586.4	5,446.8	695.8	409.1	286.72	2.427	
19,000.0	7,460.0	19,684.3	7,460.0	152.4	156.4	90.00	9,686.4	5,446.8	695.8	406.2	289.58	2.403	
19,100.0	7,460.0	19,784.3	7,460.0	153.7	157.7	90.00	9,786.4	5,446.8	695.8	403.3	292.43	2.379	
19,116.5	7,460.0	19,800.8	7,460.0	154.0	157.9	90.00	9,802.9	5,446.8	695.8	402.9	292.91	2.375	
19,116.9	7,460.0	19,801.1	7,460.0	154.0	157.9	90.00	9,803.3	5,446.8	695.8	402.9	292.92	2.375	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	179.41	-30.0	0.3	30.0				
100.0	100.0	100.0	100.0	1.0	1.0	179.41	-30.0	0.3	30.0	28.0	1.96	15.318	
200.0	200.0	200.0	200.0	1.6	1.6	179.41	-30.0	0.3	30.0	26.9	3.12	9.611	
300.0	300.0	300.0	300.0	2.0	2.0	179.41	-30.0	0.3	30.0	26.0	3.96	7.571	
400.0	400.0	400.0	400.0	2.3	2.3	179.41	-30.0	0.3	30.0	25.3	4.66	6.438	
500.0	500.0	500.0	500.0	2.6	2.6	179.41	-30.0	0.3	30.0	24.7	5.27	5.692	
600.0	600.0	600.0	600.0	2.9	2.9	179.41	-30.0	0.3	30.0	24.2	5.82	5.152	
700.0	700.0	700.0	700.0	3.2	3.2	179.41	-30.0	0.3	30.0	23.7	6.33	4.739	
800.0	800.0	800.0	800.0	3.4	3.4	179.41	-30.0	0.3	30.0	23.2	6.80	4.409	
900.0	900.0	900.0	900.0	3.6	3.6	179.41	-30.0	0.3	30.0	22.7	7.25	4.137	
1,000.0	1,000.0	1,000.0	1,000.0	3.8	3.8	179.41	-30.0	0.3	30.0	22.3	7.67	3.908	
1,100.0	1,100.0	1,100.0	1,100.0	4.0	4.0	179.41	-30.0	0.3	30.0	21.9	8.08	3.712 CC	
1,200.0	1,200.0	1,199.8	1,199.8	4.5	4.5	84.00	-30.3	2.9	30.1	21.6	8.46	3.553	
1,300.0	1,299.6	1,299.6	1,299.2	5.0	5.0	84.07	-31.2	10.7	30.2	21.4	8.81	3.433	
1,400.0	1,398.8	1,399.4	1,398.2	5.4	5.4	84.18	-32.8	23.6	30.6	21.4	9.17	3.334 ES	
1,500.0	1,497.1	1,499.2	1,496.3	5.8	5.8	84.33	-35.0	41.6	31.0	21.5	9.54	3.250	
1,600.0	1,594.3	1,599.0	1,593.3	6.1	6.1	84.52	-37.7	64.7	31.6	21.6	9.96	3.173	
1,700.0	1,690.2	1,698.8	1,689.0	6.5	6.5	84.73	-41.1	92.7	32.3	21.9	10.43	3.097	
1,800.0	1,784.4	1,798.6	1,783.1	6.8	6.8	84.97	-45.1	125.8	33.1	22.1	10.98	3.015	
1,900.0	1,876.8	1,898.4	1,875.3	7.1	7.1	85.24	-49.6	163.6	34.1	22.4	11.64	2.925	
2,000.0	1,967.1	1,998.2	1,965.5	7.4	7.4	85.52	-54.8	206.2	35.1	22.7	12.43	2.825	
2,100.0	2,054.9	2,098.0	2,053.2	7.7	7.7	85.80	-60.4	253.4	36.3	22.9	13.37	2.715	
2,200.0	2,140.2	2,197.8	2,138.4	7.9	7.9	86.10	-66.7	305.0	37.6	23.1	14.47	2.598	
2,300.0	2,222.6	2,297.7	2,220.7	8.2	8.2	86.39	-73.4	361.1	39.0	23.2	15.74	2.477	
2,400.0	2,301.9	2,397.5	2,299.9	8.6	8.6	86.68	-80.6	421.3	40.5	23.3	17.19	2.356	
2,437.4	2,330.8	2,434.8	2,328.8	8.9	8.9	86.79	-83.5	444.9	41.1	23.3	17.77	2.312	
2,500.0	2,378.6	2,497.3	2,375.9	9.4	9.4	85.61	-88.4	485.5	42.2	23.4	18.75	2.249	
2,600.0	2,455.1	2,596.9	2,448.6	10.2	10.3	78.97	-96.5	553.3	44.6	24.3	20.29	2.197 SF	
2,700.0	2,531.5	2,696.7	2,520.7	11.1	11.2	72.00	-104.8	621.7	47.8	26.1	21.72	2.203	
2,800.0	2,608.0	2,796.5	2,592.8	12.0	12.2	65.98	-113.0	690.2	51.7	28.7	22.98	2.250	
2,900.0	2,684.5	2,896.3	2,664.9	12.9	13.1	60.85	-121.2	758.7	56.1	32.0	24.11	2.326	
3,000.0	2,760.9	2,996.1	2,737.1	13.8	14.1	56.49	-129.5	827.2	60.8	35.7	25.12	2.421	
3,100.0	2,837.4	3,095.9	2,809.2	14.8	15.1	52.78	-137.7	895.7	65.9	39.8	26.05	2.528	
3,200.0	2,913.9	3,195.7	2,881.3	15.7	16.2	49.60	-146.0	964.1	71.1	44.2	26.91	2.643	
3,300.0	2,990.3	3,295.5	2,953.4	16.6	17.2	46.87	-154.2	1,032.6	76.6	48.9	27.74	2.762	
3,400.0	3,066.8	3,395.3	3,025.5	17.6	18.2	44.51	-162.4	1,101.1	82.2	53.7	28.53	2.881	
3,500.0	3,143.3	3,495.0	3,097.6	18.5	19.3	42.45	-170.7	1,169.6	88.0	58.6	29.31	3.001	
3,600.0	3,219.8	3,594.8	3,169.7	19.5	20.3	40.65	-178.9	1,238.0	93.8	63.7	30.07	3.119	
3,700.0	3,296.2	3,694.6	3,241.9	20.5	21.3	39.05	-187.2	1,306.5	99.7	68.9	30.83	3.234	
3,800.0	3,372.7	3,794.4	3,314.0	21.4	22.4	37.64	-195.4	1,375.0	105.7	74.1	31.58	3.347	
3,900.0	3,449.2	3,894.2	3,386.1	22.4	23.4	36.38	-203.6	1,443.5	111.7	79.4	32.33	3.456	
4,000.0	3,525.6	3,994.0	3,458.2	23.4	24.5	35.25	-211.9	1,512.0	117.8	84.8	33.08	3.562	
4,100.0	3,602.1	4,093.8	3,530.3	24.4	25.6	34.23	-220.1	1,580.4	124.0	90.1	33.83	3.664	
4,200.0	3,678.6	4,193.6	3,602.4	25.3	26.6	33.31	-228.4	1,648.9	130.1	95.6	34.59	3.763	
4,300.0	3,755.0	4,293.4	3,674.6	26.3	27.7	32.47	-236.6	1,717.4	136.3	101.0	35.34	3.858	
4,400.0	3,831.5	4,393.1	3,746.7	27.3	28.7	31.70	-244.8	1,785.9	142.6	106.5	36.10	3.949	
4,500.0	3,908.0	4,492.9	3,818.8	28.3	29.8	31.00	-253.1	1,854.4	148.8	112.0	36.86	4.037	
4,600.0	3,984.4	4,592.7	3,890.9	29.3	30.9	30.36	-261.3	1,922.8	155.1	117.5	37.63	4.122	
4,700.0	4,060.9	4,692.5	3,963.0	30.2	31.9	29.76	-269.6	1,991.3	161.4	123.0	38.39	4.203	
4,800.0	4,137.4	4,792.3	4,035.1	31.2	33.0	29.21	-277.8	2,059.8	167.7	128.5	39.16	4.282	
4,900.0	4,213.8	4,892.1	4,107.2	32.2	34.1	28.70	-286.0	2,128.3	174.0	134.1	39.94	4.357	
5,000.0	4,290.3	4,991.9	4,179.4	33.2	35.1	28.23	-294.3	2,196.7	180.3	139.6	40.71	4.430	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Offset Well Error: 0.0 usft

Rule Assigned:

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	4,366.8	5,091.7	4,251.5	34.2	36.2	27.79	-302.5	2,265.2	186.7	145.2	41.49	4.499	
5,200.0	4,443.2	5,191.5	4,323.6	35.2	37.3	27.37	-310.7	2,333.7	193.0	150.8	42.27	4.567	
5,300.0	4,519.7	5,291.2	4,395.7	36.2	38.3	26.99	-319.0	2,402.2	199.4	156.3	43.06	4.631	
5,400.0	4,596.2	5,391.0	4,467.8	37.2	39.4	26.62	-327.2	2,470.7	205.8	161.9	43.84	4.693	
5,500.0	4,672.6	5,490.8	4,539.9	38.1	40.5	26.28	-335.5	2,539.1	212.2	167.5	44.63	4.753	
5,600.0	4,749.1	5,590.6	4,612.0	39.1	41.6	25.96	-343.7	2,607.6	218.5	173.1	45.43	4.811	
5,700.0	4,825.6	5,690.4	4,684.2	40.1	42.6	25.66	-351.9	2,676.1	224.9	178.7	46.22	4.867	
5,800.0	4,902.0	5,790.2	4,756.3	41.1	43.7	25.37	-360.2	2,744.6	231.3	184.3	47.02	4.920	
5,900.0	4,978.5	5,890.0	4,828.4	42.1	44.8	25.10	-368.4	2,813.1	237.7	189.9	47.81	4.972	
6,000.0	5,055.0	5,989.8	4,900.5	43.1	45.8	24.84	-376.7	2,881.5	244.1	195.5	48.61	5.022	
6,100.0	5,131.4	6,089.5	4,972.6	44.1	46.9	24.60	-384.9	2,950.0	250.6	201.1	49.42	5.071	
6,200.0	5,207.9	6,189.3	5,044.7	45.1	48.0	24.37	-393.1	3,018.5	257.0	206.8	50.22	5.117	
6,300.0	5,284.4	6,289.1	5,116.8	46.1	49.1	24.15	-401.4	3,087.0	263.4	212.4	51.02	5.162	
6,400.0	5,360.8	6,388.9	5,189.0	47.1	50.1	23.94	-409.6	3,155.4	269.8	218.0	51.83	5.206	
6,500.0	5,437.3	6,488.7	5,261.1	48.1	51.2	23.74	-417.9	3,223.9	276.3	223.6	52.64	5.248	
6,600.0	5,513.8	6,588.5	5,333.2	49.0	52.3	23.55	-426.1	3,292.4	282.7	229.2	53.45	5.289	
6,700.0	5,590.2	6,688.3	5,405.3	50.0	53.4	23.37	-434.3	3,360.9	289.1	234.9	54.26	5.328	
6,800.0	5,666.7	6,788.1	5,477.4	51.0	54.4	23.19	-442.6	3,429.4	295.6	240.5	55.08	5.367	
6,900.0	5,743.2	6,887.9	5,549.5	52.0	55.5	23.03	-450.8	3,497.8	302.0	246.1	55.89	5.404	
7,000.0	5,819.6	6,987.6	5,621.7	53.0	56.6	22.87	-459.1	3,566.3	308.5	251.7	56.71	5.439	
7,100.0	5,896.1	7,087.4	5,693.8	54.0	57.7	22.71	-467.3	3,634.8	314.9	257.4	57.52	5.474	
7,200.0	5,972.6	7,187.2	5,765.9	55.0	58.8	22.57	-475.5	3,703.3	321.3	263.0	58.34	5.508	
7,300.0	6,049.0	7,287.0	5,838.0	56.0	59.8	22.43	-483.8	3,771.8	327.8	268.6	59.16	5.541	
7,400.0	6,125.5	7,386.8	5,910.1	57.0	60.9	22.29	-492.0	3,840.2	334.2	274.3	59.98	5.573	
7,500.0	6,202.0	7,486.6	5,982.2	58.0	62.0	22.16	-500.3	3,908.7	340.7	279.9	60.80	5.603	
7,600.0	6,278.4	7,586.4	6,054.3	59.0	63.1	22.03	-508.5	3,977.2	347.2	285.5	61.62	5.633	
7,700.0	6,354.9	7,686.2	6,126.5	60.0	64.1	21.91	-516.7	4,045.7	353.6	291.2	62.45	5.663	
7,800.0	6,431.4	7,786.0	6,198.6	61.0	65.2	21.79	-525.0	4,114.1	360.1	296.8	63.27	5.691	
7,900.0	6,507.8	7,885.7	6,270.7	62.0	66.3	21.68	-533.2	4,182.6	366.5	302.4	64.10	5.718	
8,000.0	6,584.3	7,985.5	6,342.8	63.0	67.4	21.57	-541.5	4,251.1	373.0	308.1	64.92	5.745	
8,100.0	6,660.8	8,085.3	6,414.9	64.0	68.5	21.47	-549.7	4,319.6	379.5	313.7	65.75	5.771	
8,200.0	6,737.2	8,185.1	6,487.0	65.0	69.5	21.37	-557.9	4,388.1	385.9	319.3	66.58	5.797	
8,300.0	6,813.7	8,284.9	6,559.1	66.0	70.6	21.27	-566.2	4,456.5	392.4	325.0	67.40	5.821	
8,400.0	6,890.2	8,384.7	6,631.3	67.0	71.7	21.17	-574.4	4,525.0	398.8	330.6	68.23	5.845	
8,500.0	6,966.6	8,484.5	6,703.4	68.0	72.8	21.08	-582.7	4,593.5	405.3	336.3	69.06	5.869	
8,536.2	6,994.3	8,520.6	6,729.5	68.3	73.2	21.05	-585.6	4,618.3	407.7	338.3	69.36	5.878	
8,550.0	7,004.9	8,534.4	6,739.4	68.4	73.3	22.61	-586.8	4,627.7	408.6	339.1	69.50	5.879	
8,600.0	7,043.2	8,584.1	6,775.3	69.0	73.8	28.52	-590.9	4,661.8	413.3	342.8	70.52	5.861	
8,650.0	7,081.3	8,633.2	6,810.8	69.4	74.4	34.67	-594.9	4,695.5	419.9	347.6	72.31	5.806	
8,700.0	7,118.9	8,681.3	6,845.6	69.9	74.9	40.86	-598.9	4,728.6	428.5	353.6	74.87	5.723	
8,750.0	7,155.9	8,728.2	6,879.5	70.4	75.4	46.86	-602.8	4,760.7	439.3	361.1	78.15	5.621	
8,800.0	7,191.8	8,773.3	6,912.1	70.8	75.9	52.50	-606.5	4,791.7	452.5	370.4	82.09	5.512	
8,850.0	7,226.4	8,816.5	6,943.3	71.2	76.4	57.63	-610.1	4,821.3	468.4	381.9	86.57	5.411	
8,900.0	7,259.4	8,857.3	6,972.8	71.6	76.8	62.12	-613.4	4,849.3	487.2	395.8	91.43	5.329	
8,950.0	7,290.6	8,895.4	7,000.4	71.9	77.2	65.89	-616.6	4,875.5	509.1	412.5	96.50	5.275	
9,000.0	7,319.8	8,930.6	7,025.8	72.2	77.6	68.84	-619.5	4,899.7	534.0	432.4	101.60	5.255	
9,050.0	7,346.7	8,962.6	7,048.9	72.5	77.9	70.90	-622.1	4,921.6	562.0	455.4	106.58	5.272	
9,100.0	7,371.1	8,991.1	7,069.5	72.7	78.2	71.98	-624.5	4,941.2	592.9	481.6	111.32	5.327	
9,150.0	7,392.8	9,016.0	7,087.5	72.9	78.5	71.98	-626.5	4,958.2	626.7	511.0	115.72	5.416	
9,200.0	7,411.8	9,075.3	7,130.4	73.1	79.2	74.63	-629.9	4,999.0	663.0	543.0	120.04	5.523	
9,250.0	7,427.7	9,950.1	7,549.4	73.2	84.2	96.56	-87.8	5,396.8	684.8	639.3	45.44	15.071	
9,300.0	7,440.6	10,026.9	7,550.0	73.3	84.2	96.80	-11.0	5,397.4	672.0	625.7	46.28	14.520	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,350.0	7,450.2	10,075.3	7,550.0	73.4	84.2	97.39	37.4	5,397.4	662.4	615.7	46.75	14.170	
9,400.0	7,456.6	10,124.6	7,550.0	73.4	84.1	97.74	86.6	5,397.4	656.2	609.0	47.14	13.919	
9,450.0	7,459.7	10,174.4	7,550.0	73.4	84.1	97.91	136.5	5,397.4	653.2	605.7	47.45	13.766	
9,455.4	7,459.8	10,179.8	7,550.0	73.4	84.1	97.92	141.9	5,397.4	653.1	605.6	47.47	13.756	
9,471.1	7,460.0	10,195.5	7,550.0	73.4	84.1	97.92	157.6	5,397.4	652.9	605.4	47.54	13.734	
9,477.2	7,460.0	10,201.6	7,550.0	73.4	84.1	97.92	163.7	5,397.4	652.9	605.3	47.56	13.727	
9,500.0	7,460.0	10,224.4	7,550.0	73.4	84.1	97.92	186.5	5,397.4	652.9	605.2	47.67	13.697	
9,521.2	7,460.0	10,245.5	7,550.0	73.4	84.1	97.92	207.6	5,397.4	652.9	605.1	47.78	13.665	
9,600.0	7,460.0	10,324.4	7,550.0	73.5	84.1	97.92	286.5	5,397.4	652.9	604.7	48.21	13.541	
9,621.2	7,460.0	10,345.5	7,550.0	73.5	84.1	97.92	307.6	5,397.4	652.9	604.5	48.36	13.500	
9,700.0	7,460.0	10,424.4	7,550.0	73.5	84.1	97.92	386.5	5,397.4	652.9	604.0	48.93	13.344	
9,721.2	7,460.0	10,445.5	7,550.0	73.5	84.1	97.92	407.6	5,397.4	652.9	603.8	49.11	13.295	
9,800.0	7,460.0	10,524.4	7,550.0	73.5	84.2	97.92	486.5	5,397.4	652.9	603.1	49.79	13.112	
9,821.2	7,460.0	10,545.5	7,550.0	73.5	84.2	97.92	507.6	5,397.4	652.9	602.9	50.01	13.056	
9,900.0	7,460.0	10,624.4	7,550.0	73.6	84.2	97.93	586.5	5,397.4	652.9	602.1	50.81	12.849	
9,921.2	7,460.0	10,645.5	7,550.0	73.6	84.2	97.93	607.6	5,397.4	652.9	601.8	51.05	12.788	
10,000.0	7,460.0	10,724.4	7,550.0	73.6	84.3	97.93	686.5	5,397.4	652.9	600.9	51.97	12.563	
10,021.2	7,460.0	10,745.5	7,550.0	73.7	84.3	97.93	707.6	5,397.4	652.9	600.6	52.23	12.498	
10,100.0	7,460.0	10,824.4	7,550.0	73.7	84.3	97.93	786.5	5,397.4	652.8	599.6	53.25	12.259	
10,121.2	7,460.0	10,845.5	7,550.0	73.7	84.3	97.93	807.6	5,397.3	652.8	599.3	53.55	12.192	
10,200.0	7,460.0	10,924.4	7,550.0	73.8	84.4	97.93	886.5	5,397.3	652.8	598.2	54.66	11.944	
10,221.2	7,460.0	10,945.5	7,550.0	73.8	84.4	97.93	907.6	5,397.3	652.8	597.9	54.98	11.874	
10,300.0	7,460.0	11,024.4	7,550.0	73.9	84.5	97.93	986.5	5,397.3	652.8	596.6	56.18	11.620	
10,321.2	7,460.0	11,045.5	7,550.0	74.0	84.5	97.93	1,007.6	5,397.3	652.8	596.3	56.52	11.550	
10,400.0	7,460.0	11,124.4	7,550.0	74.1	84.6	97.93	1,086.5	5,397.3	652.8	595.0	57.80	11.294	
10,421.2	7,460.0	11,145.5	7,550.0	74.1	84.6	97.93	1,107.6	5,397.3	652.8	594.7	58.17	11.223	
10,500.0	7,460.0	11,224.4	7,550.0	74.2	84.7	97.93	1,186.5	5,397.3	652.8	593.3	59.52	10.967	
10,521.2	7,460.0	11,245.5	7,550.0	74.3	84.7	97.93	1,207.6	5,397.3	652.8	592.9	59.90	10.898	
10,600.0	7,460.0	11,324.4	7,550.0	74.4	84.8	97.93	1,286.5	5,397.3	652.8	591.5	61.33	10.644	
10,621.2	7,460.0	11,345.5	7,550.0	74.4	84.8	97.93	1,307.6	5,397.3	652.8	591.1	61.73	10.576	
10,700.0	7,460.0	11,424.4	7,550.0	74.6	84.9	97.93	1,386.5	5,397.3	652.8	589.6	63.21	10.327	
10,721.2	7,460.0	11,445.5	7,550.0	74.6	85.0	97.93	1,407.6	5,397.3	652.8	589.2	63.63	10.260	
10,800.0	7,460.0	11,524.4	7,550.0	74.8	85.1	97.93	1,486.5	5,397.3	652.8	587.6	65.17	10.016	
10,821.2	7,460.0	11,545.5	7,550.0	74.8	85.1	97.93	1,507.6	5,397.3	652.8	587.2	65.60	9.951	
10,900.0	7,460.0	11,624.4	7,550.0	75.0	85.3	97.93	1,586.5	5,397.3	652.8	585.6	67.19	9.715	
10,921.2	7,460.0	11,645.5	7,550.0	75.0	85.3	97.93	1,607.6	5,397.3	652.8	585.1	67.63	9.651	
11,000.0	7,460.0	11,724.4	7,550.0	75.2	85.5	97.93	1,686.5	5,397.3	652.8	583.5	69.28	9.422	
11,021.2	7,460.0	11,745.5	7,550.0	75.3	85.5	97.93	1,707.6	5,397.3	652.8	583.0	69.73	9.361	
11,100.0	7,460.0	11,824.4	7,550.0	75.5	85.7	97.93	1,786.5	5,397.3	652.8	581.3	71.42	9.140	
11,121.2	7,460.0	11,845.5	7,550.0	75.5	85.7	97.93	1,807.6	5,397.3	652.8	580.9	71.88	9.081	
11,200.0	7,460.0	11,924.4	7,550.0	75.7	85.9	97.93	1,886.5	5,397.3	652.7	579.1	73.61	8.868	
11,221.2	7,460.0	11,945.5	7,550.0	75.8	85.9	97.93	1,907.6	5,397.3	652.7	578.7	74.08	8.811	
11,300.0	7,460.0	12,024.4	7,550.0	76.0	86.1	97.93	1,986.5	5,397.3	652.7	576.9	75.84	8.606	
11,321.2	7,460.0	12,045.5	7,550.0	76.1	86.2	97.93	2,007.6	5,397.3	652.7	576.4	76.32	8.552	
11,400.0	7,460.0	12,124.4	7,550.0	76.3	86.4	97.93	2,086.5	5,397.3	652.7	574.6	78.12	8.355	
11,421.2	7,460.0	12,145.5	7,550.0	76.4	86.4	97.93	2,107.6	5,397.3	652.7	574.1	78.61	8.303	
11,500.0	7,460.0	12,224.4	7,550.0	76.7	86.6	97.93	2,186.5	5,397.3	652.7	572.3	80.44	8.115	
11,521.2	7,460.0	12,245.5	7,550.0	76.7	86.7	97.93	2,207.6	5,397.3	652.7	571.8	80.93	8.065	
11,600.0	7,460.0	12,324.4	7,550.0	77.0	86.9	97.93	2,286.5	5,397.3	652.7	569.9	82.79	7.884	
11,621.2	7,460.0	12,345.5	7,550.0	77.1	87.0	97.93	2,307.6	5,397.3	652.7	569.4	83.29	7.836	
11,700.0	7,460.0	12,424.4	7,550.0	77.4	87.2	97.93	2,386.5	5,397.3	652.7	567.5	85.17	7.663	
11,721.2	7,460.0	12,445.5	7,550.0	77.5	87.3	97.93	2,407.6	5,397.3	652.7	567.0	85.68	7.618	

Amazon.com

Anticollision Report

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,800.0	7,460.0	12,524.4	7,550.0	77.8	87.5	97.93	2,486.5	5,397.3	652.7	565.1	87.59	7.452	
11,821.2	7,460.0	12,545.5	7,550.0	77.9	87.6	97.93	2,507.6	5,397.3	652.7	564.6	88.10	7.408	
11,900.0	7,460.0	12,624.4	7,550.0	78.2	87.9	97.93	2,586.5	5,397.2	652.7	562.7	90.03	7.250	
11,921.2	7,460.0	12,645.5	7,550.0	78.3	87.9	97.93	2,607.6	5,397.2	652.7	562.1	90.55	7.208	
12,000.0	7,460.0	12,724.4	7,550.0	78.7	88.2	97.93	2,686.5	5,397.2	652.7	560.2	92.49	7.057	
12,021.2	7,460.0	12,745.5	7,550.0	78.8	88.3	97.93	2,707.6	5,397.2	652.7	559.7	93.02	7.017	
12,100.0	7,460.0	12,824.4	7,550.0	79.1	88.6	97.93	2,786.5	5,397.2	652.7	557.7	94.98	6.872	
12,121.2	7,460.0	12,845.5	7,550.0	79.2	88.7	97.93	2,807.6	5,397.2	652.7	557.2	95.51	6.833	
12,200.0	7,460.0	12,924.4	7,550.0	79.6	89.0	97.93	2,886.5	5,397.2	652.7	555.2	97.49	6.695	
12,221.2	7,460.0	12,945.5	7,550.0	79.7	89.1	97.93	2,907.6	5,397.2	652.7	554.6	98.02	6.658	
12,300.0	7,460.0	13,024.4	7,550.0	80.1	89.4	97.93	2,986.5	5,397.2	652.6	552.6	100.02	6.525	
12,321.2	7,460.0	13,045.5	7,550.0	80.3	89.5	97.93	3,007.6	5,397.2	652.6	552.1	100.56	6.490	
12,400.0	7,460.0	13,124.4	7,550.0	80.7	89.8	97.93	3,086.5	5,397.2	652.6	550.1	102.57	6.363	
12,421.2	7,460.0	13,145.5	7,550.0	80.8	89.9	97.93	3,107.6	5,397.2	652.6	549.5	103.11	6.330	
12,500.0	7,460.0	13,224.4	7,550.0	81.2	90.3	97.93	3,186.5	5,397.2	652.6	547.5	105.13	6.208	
12,521.2	7,460.0	13,245.5	7,550.0	81.4	90.4	97.93	3,207.6	5,397.2	652.6	546.9	105.68	6.176	
12,600.0	7,460.0	13,324.4	7,550.0	81.8	90.8	97.93	3,286.5	5,397.2	652.6	544.9	107.71	6.059	
12,621.2	7,460.0	13,345.5	7,550.0	82.0	90.9	97.93	3,307.6	5,397.2	652.6	544.4	108.26	6.028	
12,700.0	7,460.0	13,424.4	7,550.0	82.5	91.3	97.93	3,386.5	5,397.2	652.6	542.3	110.31	5.916	
12,721.2	7,460.0	13,445.5	7,550.0	82.6	91.4	97.93	3,407.6	5,397.2	652.6	541.7	110.86	5.887	
12,800.0	7,460.0	13,524.4	7,550.0	83.1	91.8	97.93	3,486.5	5,397.2	652.6	539.7	112.92	5.779	
12,821.2	7,460.0	13,545.5	7,550.0	83.2	91.9	97.93	3,507.6	5,397.2	652.6	539.1	113.47	5.751	
12,900.0	7,460.0	13,624.4	7,550.0	83.8	92.3	97.93	3,586.5	5,397.2	652.6	537.1	115.54	5.648	
12,921.2	7,460.0	13,645.5	7,550.0	83.9	92.5	97.93	3,607.6	5,397.2	652.6	536.5	116.10	5.621	
13,000.0	7,460.0	13,724.4	7,550.0	84.4	92.9	97.93	3,686.5	5,397.2	652.6	534.4	118.17	5.522	
13,021.2	7,460.0	13,745.5	7,550.0	84.6	93.0	97.93	3,707.6	5,397.2	652.6	533.9	118.73	5.496	
13,100.0	7,460.0	13,824.4	7,550.0	85.2	93.5	97.93	3,786.5	5,397.2	652.6	531.8	120.82	5.401	
13,121.2	7,460.0	13,845.5	7,550.0	85.3	93.6	97.93	3,807.6	5,397.2	652.6	531.2	121.38	5.376	
13,200.0	7,460.0	13,924.4	7,550.0	85.9	94.1	97.93	3,886.5	5,397.2	652.6	529.1	123.47	5.285	
13,221.2	7,460.0	13,945.5	7,550.0	86.1	94.3	97.93	3,907.6	5,397.2	652.6	528.5	124.04	5.261	
13,300.0	7,460.0	14,024.4	7,550.0	86.7	94.8	97.93	3,986.5	5,397.2	652.6	526.4	126.14	5.173	
13,321.2	7,460.0	14,045.5	7,550.0	86.8	94.9	97.93	4,007.6	5,397.2	652.6	525.9	126.70	5.150	
13,400.0	7,460.0	14,124.4	7,550.0	87.4	95.4	97.93	4,086.5	5,397.2	652.5	523.7	128.81	5.066	
13,421.2	7,460.0	14,145.5	7,550.0	87.6	95.6	97.93	4,107.6	5,397.2	652.5	523.2	129.38	5.044	
13,500.0	7,460.0	14,224.4	7,550.0	88.2	96.1	97.93	4,186.5	5,397.2	652.5	521.0	131.49	4.963	
13,521.2	7,460.0	14,245.5	7,550.0	88.4	96.2	97.93	4,207.6	5,397.2	652.5	520.5	132.06	4.941	
13,600.0	7,460.0	14,324.4	7,550.0	89.1	96.8	97.93	4,286.5	5,397.1	652.5	518.3	134.18	4.863	
13,621.2	7,460.0	14,345.5	7,550.0	89.2	97.0	97.93	4,307.6	5,397.1	652.5	517.8	134.75	4.842	
13,700.0	7,460.0	14,424.4	7,550.0	89.9	97.5	97.93	4,386.5	5,397.1	652.5	515.6	136.88	4.767	
13,721.2	7,460.0	14,445.5	7,550.0	90.1	97.7	97.93	4,407.6	5,397.1	652.5	515.1	137.45	4.747	
13,800.0	7,460.0	14,524.4	7,550.0	90.8	98.3	97.93	4,486.5	5,397.1	652.5	512.9	139.59	4.675	
13,821.2	7,460.0	14,545.5	7,550.0	91.0	98.4	97.93	4,507.6	5,397.1	652.5	512.3	140.16	4.655	
13,900.0	7,460.0	14,624.4	7,550.0	91.7	99.0	97.93	4,586.5	5,397.1	652.5	510.2	142.30	4.585	
13,921.2	7,460.0	14,645.5	7,550.0	91.9	99.2	97.93	4,607.6	5,397.1	652.5	509.6	142.87	4.567	
14,000.0	7,460.0	14,724.4	7,550.0	92.6	99.8	97.93	4,686.5	5,397.1	652.5	507.5	145.02	4.499	
14,021.2	7,460.0	14,745.5	7,550.0	92.8	100.0	97.93	4,707.6	5,397.1	652.5	506.9	145.59	4.482	
14,100.0	7,460.0	14,824.4	7,550.0	93.5	100.6	97.93	4,786.5	5,397.1	652.5	504.7	147.74	4.416	
14,121.2	7,460.0	14,845.5	7,550.0	93.7	100.8	97.93	4,807.6	5,397.1	652.5	504.2	148.32	4.399	
14,200.0	7,460.0	14,924.4	7,550.0	94.5	101.5	97.93	4,886.5	5,397.1	652.5	502.0	150.47	4.336	
14,221.2	7,460.0	14,945.5	7,550.0	94.7	101.7	97.93	4,907.6	5,397.1	652.5	501.4	151.05	4.320	
14,300.0	7,460.0	15,024.4	7,550.0	95.4	102.3	97.93	4,986.5	5,397.1	652.5	499.3	153.21	4.259	
14,321.2	7,460.0	15,045.5	7,550.0	95.7	102.5	97.93	5,007.6	5,397.1	652.5	498.7	153.79	4.243	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,400.0	7,460.0	15,124.4	7,550.0	96.4	103.2	97.93	5,086.5	5,397.1	652.5	496.5	155.95	4.184	
14,421.2	7,460.0	15,145.5	7,550.0	96.6	103.4	97.93	5,107.6	5,397.1	652.5	495.9	156.53	4.168	
14,500.0	7,460.0	15,224.4	7,550.0	97.4	104.1	97.93	5,186.5	5,397.1	652.4	493.8	158.69	4.111	
14,521.2	7,460.0	15,245.5	7,550.0	97.7	104.3	97.93	5,207.6	5,397.1	652.4	493.2	159.27	4.096	
14,600.0	7,460.0	15,324.4	7,550.0	98.5	105.0	97.93	5,286.5	5,397.1	652.4	491.0	161.44	4.041	
14,621.2	7,460.0	15,345.5	7,550.0	98.7	105.2	97.93	5,307.6	5,397.1	652.4	490.4	162.03	4.027	
14,700.0	7,460.0	15,424.4	7,550.0	99.5	105.9	97.93	5,386.5	5,397.1	652.4	488.2	164.20	3.973	
14,721.2	7,460.0	15,445.5	7,550.0	99.7	106.1	97.93	5,407.6	5,397.1	652.4	487.6	164.78	3.959	
14,800.0	7,460.0	15,524.4	7,550.0	100.5	106.9	97.93	5,486.5	5,397.1	652.4	485.5	166.96	3.908	
14,821.2	7,460.0	15,545.5	7,550.0	100.8	107.1	97.93	5,507.6	5,397.1	652.4	484.9	167.54	3.894	
14,900.0	7,460.0	15,624.4	7,550.0	101.6	107.8	97.93	5,586.5	5,397.1	652.4	482.7	169.72	3.844	
14,921.2	7,460.0	15,645.5	7,550.0	101.8	108.0	97.93	5,607.6	5,397.1	652.4	482.1	170.30	3.831	
15,000.0	7,460.0	15,724.4	7,550.0	102.7	108.8	97.93	5,686.5	5,397.1	652.4	479.9	172.48	3.782	
15,021.2	7,460.0	15,745.5	7,550.0	102.9	109.0	97.93	5,707.6	5,397.1	652.4	479.3	173.07	3.770	
15,100.0	7,460.0	15,824.4	7,550.0	103.8	109.8	97.93	5,786.5	5,397.1	652.4	477.1	175.25	3.723	
15,121.2	7,460.0	15,845.5	7,550.0	104.0	110.0	97.93	5,807.6	5,397.1	652.4	476.6	175.84	3.710	
15,200.0	7,460.0	15,924.4	7,550.0	104.9	110.8	97.93	5,886.5	5,397.1	652.4	474.4	178.03	3.665	
15,221.2	7,460.0	15,945.5	7,550.0	105.1	111.0	97.93	5,907.6	5,397.1	652.4	473.8	178.61	3.652	
15,300.0	7,460.0	16,024.4	7,550.0	106.0	111.8	97.93	5,986.5	5,397.1	652.4	471.6	180.80	3.608	
15,321.2	7,460.0	16,045.5	7,550.0	106.2	112.0	97.93	6,007.6	5,397.0	652.4	471.0	181.39	3.597	
15,400.0	7,460.0	16,124.4	7,550.0	107.1	112.9	97.93	6,086.5	5,397.0	652.4	468.8	183.58	3.554	
15,421.2	7,460.0	16,145.5	7,550.0	107.4	113.1	97.93	6,107.6	5,397.0	652.4	468.2	184.17	3.542	
15,500.0	7,460.0	16,224.4	7,550.0	108.3	113.9	97.93	6,186.5	5,397.0	652.4	466.0	186.36	3.500	
15,521.2	7,460.0	16,245.5	7,550.0	108.5	114.1	97.93	6,207.6	5,397.0	652.4	465.4	186.95	3.489	
15,600.0	7,460.0	16,324.4	7,550.0	109.4	115.0	97.93	6,286.5	5,397.0	652.3	463.2	189.15	3.449	
15,621.2	7,460.0	16,345.5	7,550.0	109.6	115.2	97.93	6,307.6	5,397.0	652.3	462.6	189.74	3.438	
15,700.0	7,460.0	16,424.4	7,550.0	110.6	116.0	97.93	6,386.5	5,397.0	652.3	460.4	191.94	3.399	
15,721.2	7,460.0	16,445.5	7,550.0	110.8	116.3	97.93	6,407.6	5,397.0	652.3	459.8	192.53	3.388	
15,800.0	7,460.0	16,524.4	7,550.0	111.7	117.1	97.93	6,486.5	5,397.0	652.3	457.6	194.73	3.350	
15,821.2	7,460.0	16,545.5	7,550.0	112.0	117.4	97.93	6,507.6	5,397.0	652.3	457.0	195.32	3.340	
15,900.0	7,460.0	16,624.4	7,550.0	112.9	118.2	97.93	6,586.5	5,397.0	652.3	454.8	197.52	3.303	
15,921.2	7,460.0	16,645.5	7,550.0	113.2	118.5	97.93	6,607.6	5,397.0	652.3	454.2	198.11	3.293	
16,000.0	7,460.0	16,724.4	7,550.0	114.1	119.3	97.93	6,686.5	5,397.0	652.3	452.0	200.32	3.256	
16,021.2	7,460.0	16,745.5	7,550.0	114.3	119.6	97.93	6,707.6	5,397.0	652.3	451.4	200.91	3.247	
16,100.0	7,460.0	16,824.4	7,550.0	115.3	120.5	97.93	6,786.5	5,397.0	652.3	449.2	203.11	3.212	
16,121.2	7,460.0	16,845.5	7,550.0	115.5	120.7	97.93	6,807.6	5,397.0	652.3	448.6	203.70	3.202	
16,200.0	7,460.0	16,924.4	7,550.0	116.5	121.6	97.93	6,886.5	5,397.0	652.3	446.4	205.91	3.168	
16,221.2	7,460.0	16,945.5	7,550.0	116.7	121.8	97.93	6,907.6	5,397.0	652.3	445.8	206.50	3.159	
16,300.0	7,460.0	17,024.4	7,550.0	117.7	122.7	97.93	6,986.5	5,397.0	652.3	443.6	208.71	3.125	
16,321.2	7,460.0	17,045.5	7,550.0	118.0	123.0	97.93	7,007.6	5,397.0	652.3	443.0	209.31	3.116	
16,400.0	7,460.0	17,124.4	7,550.0	118.9	123.9	97.93	7,086.5	5,397.0	652.3	440.8	211.52	3.084	
16,421.2	7,460.0	17,145.5	7,550.0	119.2	124.1	97.93	7,107.6	5,397.0	652.3	440.2	212.11	3.075	
16,500.0	7,460.0	17,224.4	7,550.0	120.1	125.0	97.93	7,186.5	5,397.0	652.3	437.9	214.32	3.043	
16,521.2	7,460.0	17,245.5	7,550.0	120.4	125.3	97.93	7,207.6	5,397.0	652.3	437.3	214.92	3.035	
16,600.0	7,460.0	17,324.4	7,550.0	121.4	126.2	97.93	7,286.5	5,397.0	652.3	435.1	217.13	3.004	
16,621.2	7,460.0	17,345.5	7,550.0	121.6	126.5	97.93	7,307.6	5,397.0	652.3	434.5	217.73	2.996	
16,700.0	7,460.0	17,424.4	7,550.0	122.6	127.4	97.93	7,386.5	5,397.0	652.3	432.3	219.94	2.966	
16,721.2	7,460.0	17,445.5	7,550.0	122.9	127.6	97.93	7,407.6	5,397.0	652.2	431.7	220.54	2.958	
16,800.0	7,460.0	17,524.4	7,550.0	123.9	128.6	97.93	7,486.5	5,397.0	652.2	429.5	222.75	2.928	
16,821.2	7,460.0	17,545.5	7,550.0	124.1	128.8	97.93	7,507.6	5,397.0	652.2	428.9	223.35	2.920	
16,900.0	7,460.0	17,624.4	7,550.0	125.1	129.8	97.93	7,586.5	5,397.0	652.2	426.7	225.56	2.892	
16,921.2	7,460.0	17,645.5	7,550.0	125.4	130.0	97.93	7,607.6	5,397.0	652.2	426.1	226.16	2.884	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - *Buckley 21-16-3NCH - Original Hole - Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM+SAG+FDIR

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,000.0	7,460.0	17,724.4	7,550.0	126.4	131.0	97.93	7,686.5	5,397.0	652.2	423.8	228.38	2.856	
17,021.2	7,460.0	17,745.5	7,550.0	126.6	131.2	97.93	7,707.6	5,397.0	652.2	423.2	228.97	2.848	
17,100.0	7,460.0	17,824.4	7,550.0	127.6	132.2	97.93	7,786.5	5,396.9	652.2	421.0	231.19	2.821	
17,121.2	7,460.0	17,845.5	7,550.0	127.9	132.4	97.93	7,807.6	5,396.9	652.2	420.4	231.79	2.814	
17,200.0	7,460.0	17,924.4	7,550.0	128.9	133.4	97.93	7,886.5	5,396.9	652.2	418.2	234.01	2.787	
17,221.2	7,460.0	17,945.5	7,550.0	129.2	133.7	97.93	7,907.6	5,396.9	652.2	417.6	234.61	2.780	
17,300.0	7,460.0	18,024.4	7,550.0	130.2	134.6	97.93	7,986.5	5,396.9	652.2	415.4	236.83	2.754	
17,321.2	7,460.0	18,045.5	7,550.0	130.4	134.9	97.93	8,007.6	5,396.9	652.2	414.8	237.43	2.747	
17,400.0	7,460.0	18,124.4	7,550.0	131.4	135.9	97.93	8,086.5	5,396.9	652.2	412.5	239.65	2.721	
17,421.2	7,460.0	18,145.5	7,550.0	131.7	136.1	97.93	8,107.6	5,396.9	652.2	411.9	240.25	2.715	
17,500.0	7,460.0	18,224.4	7,550.0	132.7	137.1	97.93	8,186.5	5,396.9	652.2	409.7	242.47	2.690	
17,521.2	7,460.0	18,245.5	7,550.0	133.0	137.3	97.93	8,207.6	5,396.9	652.2	409.1	243.07	2.683	
17,600.0	7,460.0	18,324.4	7,550.0	134.0	138.3	97.93	8,286.5	5,396.9	652.2	406.9	245.29	2.659	
17,621.2	7,460.0	18,345.5	7,550.0	134.3	138.6	97.93	8,307.6	5,396.9	652.2	406.3	245.89	2.652	
17,700.0	7,460.0	18,424.4	7,550.0	135.3	139.6	97.93	8,386.5	5,396.9	652.2	404.0	248.12	2.628	
17,721.2	7,460.0	18,445.5	7,550.0	135.6	139.8	97.93	8,407.6	5,396.9	652.2	403.4	248.72	2.622	
17,800.0	7,460.0	18,524.4	7,550.0	136.6	140.8	97.93	8,486.5	5,396.9	652.2	401.2	250.94	2.599	
17,821.2	7,460.0	18,545.5	7,550.0	136.9	141.1	97.93	8,507.6	5,396.9	652.1	400.6	251.54	2.593	
17,900.0	7,460.0	18,624.4	7,550.0	137.9	142.1	97.93	8,586.5	5,396.9	652.1	398.4	253.77	2.570	
17,921.2	7,460.0	18,645.5	7,550.0	138.2	142.3	97.93	8,607.6	5,396.9	652.1	397.8	254.37	2.564	
18,000.0	7,460.0	18,724.4	7,550.0	139.2	143.3	97.93	8,686.5	5,396.9	652.1	395.5	256.60	2.541	
18,021.2	7,460.0	18,745.5	7,550.0	139.5	143.6	97.93	8,707.6	5,396.9	652.1	394.9	257.20	2.536	
18,100.0	7,460.0	18,824.4	7,550.0	140.5	144.6	97.93	8,786.5	5,396.9	652.1	392.7	259.43	2.514	
18,121.2	7,460.0	18,845.5	7,550.0	140.8	144.9	97.93	8,807.6	5,396.9	652.1	392.1	260.02	2.508	
18,200.0	7,460.0	18,924.4	7,550.0	141.8	145.9	97.93	8,886.5	5,396.9	652.1	389.9	262.26	2.487	
18,221.2	7,460.0	18,945.5	7,550.0	142.1	146.2	97.93	8,907.6	5,396.9	652.1	389.3	262.85	2.481	
18,300.0	7,460.0	19,024.4	7,550.0	143.1	147.2	97.93	8,986.5	5,396.9	652.1	387.0	265.09	2.460	
18,321.2	7,460.0	19,045.5	7,550.0	143.4	147.4	97.93	9,007.6	5,396.9	652.1	386.4	265.69	2.454	
18,400.0	7,460.0	19,124.4	7,550.0	144.4	148.4	97.93	9,086.5	5,396.9	652.1	384.2	267.92	2.434	
18,421.2	7,460.0	19,145.5	7,550.0	144.7	148.7	97.93	9,107.6	5,396.9	652.1	383.6	268.52	2.429	
18,500.0	7,460.0	19,224.4	7,550.0	145.8	149.7	97.93	9,186.5	5,396.9	652.1	381.3	270.75	2.408	
18,521.2	7,460.0	19,245.5	7,550.0	146.0	150.0	97.93	9,207.6	5,396.9	652.1	380.7	271.35	2.403	
18,600.0	7,460.0	19,324.4	7,550.0	147.1	151.0	97.93	9,286.5	5,396.9	652.1	378.5	273.58	2.383	
18,621.2	7,460.0	19,345.5	7,550.0	147.4	151.3	97.93	9,307.6	5,396.9	652.1	377.9	274.18	2.378	
18,700.0	7,460.0	19,424.4	7,550.0	148.4	152.3	97.93	9,386.5	5,396.9	652.1	375.7	276.42	2.359	
18,721.2	7,460.0	19,445.5	7,550.0	148.7	152.6	97.93	9,407.6	5,396.9	652.1	375.0	277.02	2.354	
18,800.0	7,460.0	19,524.4	7,550.0	149.7	153.6	97.93	9,486.5	5,396.8	652.1	372.8	279.25	2.335	
18,821.2	7,460.0	19,545.5	7,550.0	150.0	153.9	97.93	9,507.6	5,396.8	652.1	372.2	279.85	2.330	
18,900.0	7,460.0	19,624.4	7,550.0	151.1	154.9	97.93	9,586.5	5,396.8	652.1	370.0	282.09	2.312	
18,921.2	7,460.0	19,645.5	7,550.0	151.4	155.2	97.93	9,607.6	5,396.8	652.0	369.4	282.69	2.307	
19,000.0	7,460.0	19,724.4	7,550.0	152.4	156.2	97.93	9,686.5	5,396.8	652.0	367.1	284.93	2.288	
19,021.2	7,460.0	19,745.5	7,550.0	152.7	156.5	97.93	9,707.6	5,396.8	652.0	366.5	285.53	2.284	
19,100.0	7,460.0	19,824.4	7,550.0	153.7	157.5	97.93	9,786.5	5,396.8	652.0	364.3	287.76	2.266	
19,103.5	7,460.0	19,827.9	7,550.0	153.8	157.6	97.93	9,789.9	5,396.8	652.0	364.2	287.86	2.265	
19,116.5	7,460.0	19,840.9	7,550.0	154.0	157.7	97.93	9,802.9	5,396.8	652.0	363.8	288.23	2.262	
19,116.6	7,460.0	19,840.9	7,550.0	154.0	157.7	97.93	9,803.0	5,396.8	652.0	363.8	288.23	2.262	
19,116.9	7,460.0	19,841.2	7,550.0	154.0	157.7	97.93	9,803.3	5,396.8	652.0	363.8	288.24	2.262	

Amazon.com

Anticollision Report

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - 20-17-1CDH - Original Hole - Final Surveys

Offset Site Error: 0.0 usft

Survey Program: 126-MWD

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-140.76	-256.9	-209.8	331.7				
100.0	100.0	99.8	99.8	1.0	0.7	-140.80	-257.1	-209.7	331.8	330.0	1.71	193.548	
200.0	200.0	198.8	198.8	1.6	1.3	-140.93	-257.7	-209.2	331.9	329.1	2.87	115.696	
300.0	300.0	300.0	299.9	2.0	1.8	-141.15	-258.7	-208.4	332.2	328.5	3.71	89.633	
400.0	400.0	399.5	399.5	2.3	2.2	-141.28	-259.3	-207.8	332.3	327.9	4.38	75.802	
500.0	500.0	498.8	498.7	2.6	2.5	-141.37	-259.8	-207.6	332.5	327.5	4.97	66.836	
600.0	600.0	599.5	599.5	2.9	2.8	-141.52	-260.7	-207.2	333.0	327.5	5.54	60.146	
700.0	700.0	704.2	704.2	3.2	3.0	-141.41	-259.8	-207.3	332.4	326.4	6.05	54.980	
800.0	800.0	801.0	801.0	3.4	3.1	-141.17	-258.1	-207.7	331.3	324.8	6.47	51.232	
815.5	815.5	815.5	815.5	3.4	3.2	-141.14	-258.0	-207.9	331.3	324.8	6.53	50.748	CC, ES
900.0	900.0	897.0	897.0	3.6	3.3	-140.95	-257.6	-209.0	331.7	324.8	6.87	48.309	
1,000.0	1,000.0	994.8	994.8	3.8	3.4	-140.67	-257.5	-211.0	333.0	325.7	7.26	45.872	
1,100.0	1,100.0	1,093.7	1,093.6	4.0	3.6	-140.40	-257.9	-213.4	334.8	327.2	7.65	43.771	
1,200.0	1,200.0	1,199.3	1,199.2	4.5	3.8	124.49	-258.7	-213.9	337.2	329.1	8.13	41.464	
1,300.0	1,299.6	1,299.8	1,299.7	5.0	4.0	125.18	-259.8	-212.7	341.7	333.2	8.57	39.890	
1,400.0	1,398.8	1,400.6	1,400.4	5.4	4.1	126.28	-261.7	-210.4	349.3	340.3	9.01	38.786	
1,500.0	1,497.1	1,507.8	1,507.4	5.8	4.5	127.58	-264.8	-204.7	358.9	349.4	9.47	37.914	
1,600.0	1,594.3	1,619.6	1,618.4	6.1	5.1	128.61	-269.8	-191.9	368.8	358.8	9.96	37.017	
1,700.0	1,690.2	1,722.7	1,719.8	6.5	5.4	129.31	-276.3	-174.9	379.7	369.3	10.46	36.315	
1,800.0	1,784.4	1,823.3	1,818.3	6.8	5.7	130.07	-284.1	-155.8	393.4	382.5	10.96	35.897	
1,900.0	1,876.8	1,921.8	1,914.5	7.1	6.0	131.03	-292.5	-136.1	410.3	398.8	11.57	35.451	
2,000.0	1,967.1	2,010.5	2,000.5	7.4	6.4	131.82	-302.4	-117.4	431.8	419.5	12.31	35.069	SF
2,100.0	2,054.9	2,106.6	2,093.5	7.7	6.7	132.71	-315.4	-96.5	457.9	444.9	13.03	35.151	
2,200.0	2,140.2	2,200.4	2,184.3	7.9	7.1	133.85	-327.6	-76.5	487.7	474.0	13.78	35.387	
2,300.0	2,222.6	2,291.9	2,273.0	8.2	7.4	135.13	-339.4	-57.2	521.7	507.1	14.57	35.798	
2,400.0	2,301.9	2,381.5	2,359.9	8.6	7.8	136.50	-350.5	-38.8	559.9	544.5	15.38	36.399	
2,437.4	2,330.8	2,414.2	2,391.8	8.9	7.9	137.02	-354.4	-32.2	575.4	559.7	15.65	36.755	
2,500.0	2,378.6	2,468.5	2,444.5	9.4	8.1	138.43	-360.7	-21.4	601.9	585.8	16.10	37.382	
2,600.0	2,455.1	2,554.0	2,527.9	10.2	8.5	140.50	-370.3	-5.0	645.2	628.4	16.82	38.356	
2,700.0	2,531.5	2,632.7	2,604.9	11.1	8.8	142.26	-378.7	9.2	689.9	672.4	17.49	39.442	
2,800.0	2,608.0	2,736.6	2,706.5	12.0	9.2	144.32	-389.4	28.3	734.8	716.5	18.28	40.196	
2,900.0	2,684.5	2,816.6	2,784.5	12.9	9.5	145.65	-398.1	43.9	779.5	760.5	18.96	41.109	
3,000.0	2,760.9	2,895.1	2,860.8	13.8	9.9	146.76	-407.8	58.8	825.4	805.8	19.63	42.054	
3,100.0	2,837.4	2,990.5	2,953.6	14.8	10.3	147.89	-420.7	77.2	871.9	851.5	20.42	42.700	
3,200.0	2,913.9	3,080.9	3,041.2	15.7	10.7	148.82	-433.0	95.5	917.6	896.5	21.17	43.337	
3,300.0	2,990.3	3,175.3	3,132.9	16.6	11.1	149.77	-444.9	114.4	963.5	941.6	21.95	43.902	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - 20-17-1NAH - Original Hole - Final Survey

Offset Site Error: 0.0 usft

Survey Program: 134-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-147.36	-257.1	-164.7	305.3				
100.0	100.0	100.5	100.5	1.0	0.8	-147.43	-257.2	-164.3	305.2	303.5	1.76	173.199	
198.7	198.7	198.7	198.7	1.6	1.4	-147.64	-257.7	-163.3	305.1	302.2	2.91	104.857	
200.0	200.0	200.0	200.0	1.6	1.4	-147.64	-257.7	-163.3	305.1	302.2	2.92	104.376	
300.0	300.0	300.4	300.4	2.0	1.8	-147.91	-258.5	-162.1	305.1	301.3	3.74	81.526	
400.0	400.0	401.2	401.2	2.3	2.2	-148.14	-258.9	-160.9	304.8	300.4	4.42	68.957	
493.6	493.6	493.7	493.6	2.6	2.5	-148.21	-258.9	-160.5	304.6	299.6	5.02	60.716	
500.0	500.0	499.9	499.9	2.6	2.5	-148.21	-258.9	-160.5	304.6	299.5	5.08	59.973	
600.0	600.0	598.5	598.5	2.9	3.0	-148.01	-258.6	-161.6	304.9	299.1	5.84	52.222	
700.0	700.0	698.4	698.3	3.2	3.1	-147.71	-258.2	-163.2	305.5	299.2	6.28	48.636	
800.0	800.0	800.3	800.3	3.4	3.3	-147.39	-257.6	-164.8	305.8	299.1	6.71	45.599	
900.0	900.0	901.0	901.0	3.6	3.5	-147.36	-257.3	-164.8	305.5	298.4	7.12	42.935	
1,000.0	1,000.0	1,001.8	1,001.7	3.8	3.7	-147.39	-257.0	-164.4	305.1	297.6	7.51	40.614	
1,100.0	1,100.0	1,102.6	1,102.5	4.0	3.9	-147.42	-256.5	-164.0	304.5	296.6	7.90	38.520	
1,178.3	1,178.3	1,184.1	1,184.0	4.4	4.0	117.38	-255.8	-163.1	304.1	295.9	8.27	36.793	CC
1,200.0	1,200.0	1,206.2	1,206.1	4.5	4.1	117.51	-255.5	-162.6	304.2	295.8	8.37	36.354	ES
1,300.0	1,299.6	1,308.3	1,308.1	5.0	4.3	118.21	-255.3	-158.7	305.5	296.7	8.84	34.548	
1,400.0	1,398.8	1,409.9	1,409.3	5.4	4.7	118.77	-257.2	-150.1	308.6	299.3	9.31	33.161	
1,500.0	1,497.1	1,512.7	1,511.0	5.8	5.1	119.07	-261.9	-136.2	313.6	303.9	9.77	32.090	
1,600.0	1,594.3	1,618.7	1,614.8	6.1	5.7	119.05	-269.2	-115.8	319.7	309.5	10.26	31.163	
1,700.0	1,690.2	1,724.7	1,716.9	6.5	6.2	118.70	-278.5	-89.0	326.4	315.6	10.81	30.187	
1,800.0	1,784.4	1,828.7	1,815.5	6.8	6.6	118.27	-288.8	-57.6	333.7	322.3	11.42	29.230	
1,900.0	1,876.8	1,933.7	1,914.5	7.1	7.0	118.38	-299.1	-23.9	342.4	330.2	12.17	28.135	
2,000.0	1,967.1	2,030.0	2,005.1	7.4	7.4	119.07	-308.3	7.3	353.2	340.1	13.01	27.140	
2,100.0	2,054.9	2,127.4	2,096.9	7.7	7.8	120.37	-318.0	38.4	367.3	353.3	13.95	26.321	
2,200.0	2,140.2	2,226.6	2,190.5	7.9	8.2	122.24	-327.5	69.9	384.2	369.2	14.99	25.638	
2,300.0	2,222.6	2,322.3	2,280.9	8.2	8.6	124.44	-336.2	100.1	404.5	388.4	16.07	25.170	
2,400.0	2,301.9	2,414.4	2,368.1	8.6	9.0	126.86	-344.2	128.3	429.0	411.8	17.19	24.962	SF
2,437.4	2,330.8	2,447.8	2,399.8	8.9	9.1	127.72	-347.5	138.7	439.4	421.8	17.56	25.019	
2,500.0	2,378.6	2,504.2	2,452.9	9.4	9.4	129.49	-353.5	156.4	457.8	439.6	18.20	25.155	
2,600.0	2,455.1	2,597.0	2,540.7	10.2	9.8	132.19	-363.3	184.9	488.4	469.2	19.24	25.389	
2,700.0	2,531.5	2,689.6	2,628.1	11.1	10.2	134.55	-373.0	213.8	519.5	499.3	20.24	25.663	
2,800.0	2,608.0	2,779.0	2,712.9	12.0	10.7	136.66	-382.1	240.8	552.0	530.8	21.21	26.030	
2,900.0	2,684.5	2,869.9	2,798.7	12.9	11.1	138.43	-392.7	268.9	585.3	563.2	22.16	26.410	
3,000.0	2,760.9	2,966.3	2,890.0	13.8	11.6	140.18	-403.5	298.1	619.5	596.3	23.15	26.756	
3,100.0	2,837.4	3,067.0	2,984.7	14.8	12.1	141.73	-414.7	330.3	652.5	628.3	24.17	26.995	
3,200.0	2,913.9	3,154.7	3,067.5	15.7	12.6	143.07	-423.2	357.7	685.9	660.8	25.08	27.352	
3,300.0	2,990.3	3,240.2	3,148.1	16.6	13.0	144.13	-433.4	384.4	720.6	694.6	25.97	27.753	
3,400.0	3,066.8	3,330.8	3,233.9	17.6	13.5	145.25	-443.5	411.6	756.3	729.4	26.86	28.157	
3,500.0	3,143.3	3,424.0	3,321.9	18.5	14.0	146.22	-454.7	440.2	791.9	764.2	27.78	28.512	
3,600.0	3,219.8	3,513.5	3,406.7	19.5	14.5	147.11	-465.1	467.1	828.2	799.6	28.66	28.903	
3,700.0	3,296.2	3,604.7	3,492.7	20.5	15.0	147.85	-477.0	495.1	864.6	835.0	29.56	29.248	
3,800.0	3,372.7	3,708.8	3,591.2	21.4	15.5	148.73	-489.1	526.3	901.4	870.8	30.55	29.501	
3,900.0	3,449.2	3,805.7	3,682.4	22.4	16.1	149.45	-500.2	557.2	936.3	904.8	31.50	29.727	
4,000.0	3,525.6	3,921.5	3,791.4	23.4	16.8	150.28	-512.6	594.3	971.1	938.6	32.58	29.811	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - 20-17-1NBH - Original Hole - Final Surveys

Offset Site Error: 0.0 usft

Survey Program: 100-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-145.21	-257.2	-178.7	313.2				
100.0	100.0	100.6	100.6	1.0	0.6	-145.20	-257.1	-178.7	313.1	311.5	1.60	196.036	
200.0	200.0	201.0	201.0	1.6	1.4	-145.15	-256.7	-178.8	312.9	309.9	2.93	106.633	
275.1	275.1	275.1	275.1	1.9	1.7	-145.08	-256.4	-179.0	312.7	309.1	3.60	86.956	
300.0	300.0	300.0	300.0	2.0	1.9	-145.05	-256.3	-179.2	312.7	308.9	3.82	81.941	
400.0	400.0	400.5	400.5	2.3	2.3	-144.95	-256.0	-179.6	312.7	308.2	4.54	68.919	
455.3	455.3	455.3	455.3	2.5	2.4	-144.94	-255.9	-179.6	312.7	307.8	4.88	64.122	CC
500.0	500.0	500.0	500.0	2.6	2.6	-144.96	-256.0	-179.6	312.7	307.6	5.15	60.703	
600.0	600.0	599.2	599.2	2.9	2.8	-145.04	-256.4	-179.3	312.9	307.2	5.69	55.009	
700.0	700.0	698.9	698.8	3.2	3.0	-145.15	-257.0	-179.0	313.2	307.0	6.18	50.644	ES
800.0	800.0	797.8	797.8	3.4	3.2	-145.25	-257.8	-178.8	313.8	307.1	6.65	47.187	
900.0	900.0	896.5	896.5	3.6	3.5	-145.31	-258.7	-179.1	314.7	307.6	7.10	44.343	
1,000.0	1,000.0	998.3	998.3	3.8	3.7	-145.28	-259.3	-179.7	315.5	308.0	7.53	41.878	
1,100.0	1,100.0	1,101.0	1,101.0	4.0	3.9	-145.20	-259.2	-180.1	315.6	307.7	7.93	39.786	
1,109.9	1,109.9	1,110.8	1,110.7	4.1	3.9	119.38	-259.2	-180.1	315.6	307.6	7.99	39.489	
1,200.0	1,200.0	1,200.0	1,200.0	4.5	4.2	119.60	-259.6	-179.4	316.8	308.3	8.52	37.166	
1,300.0	1,299.6	1,303.5	1,303.4	5.0	4.4	120.23	-260.9	-176.6	320.2	311.3	8.95	35.785	
1,400.0	1,398.8	1,410.5	1,410.2	5.4	4.7	121.14	-262.6	-170.0	324.6	315.2	9.40	34.527	
1,500.0	1,497.1	1,516.8	1,515.8	5.8	5.2	122.00	-265.2	-158.4	329.5	319.7	9.89	33.314	
1,600.0	1,594.3	1,620.6	1,618.0	6.1	5.8	122.44	-270.5	-140.8	335.7	325.3	10.40	32.281	
1,700.0	1,690.2	1,724.2	1,718.7	6.5	6.3	122.63	-278.5	-118.3	343.8	332.9	10.93	31.459	
1,800.0	1,784.4	1,830.9	1,821.2	6.8	6.7	122.73	-288.0	-90.0	352.6	341.0	11.53	30.570	
1,900.0	1,876.8	1,929.5	1,915.1	7.1	7.0	123.04	-297.9	-61.6	363.6	351.4	12.20	29.804	
2,000.0	1,967.1	2,028.0	2,008.6	7.4	7.3	123.74	-308.5	-32.6	377.7	364.7	12.96	29.139	
2,100.0	2,054.9	2,124.1	2,099.8	7.7	7.6	124.86	-319.1	-4.3	395.0	381.2	13.80	28.614	
2,200.0	2,140.2	2,215.1	2,186.4	7.9	8.0	126.27	-329.5	21.8	416.6	401.9	14.70	28.334	SF
2,300.0	2,222.6	2,300.5	2,267.8	8.2	8.3	127.79	-340.3	45.0	443.6	427.9	15.63	28.382	
2,400.0	2,301.9	2,392.1	2,355.5	8.6	8.6	129.64	-352.3	68.9	475.5	458.9	16.60	28.653	
2,437.4	2,330.8	2,425.5	2,387.4	8.9	8.8	130.34	-356.7	77.6	488.6	471.7	16.93	28.865	
2,500.0	2,378.6	2,480.9	2,440.5	9.4	9.0	131.99	-363.9	91.7	511.2	493.8	17.47	29.256	
2,600.0	2,455.1	2,569.3	2,525.3	10.2	9.3	134.39	-375.3	114.0	548.5	530.1	18.36	29.881	
2,700.0	2,531.5	2,657.5	2,610.0	11.1	9.7	136.53	-386.6	135.7	586.8	567.6	19.21	30.546	
2,800.0	2,608.0	2,744.9	2,694.2	12.0	10.1	138.49	-397.2	156.5	626.2	606.2	20.04	31.251	
2,900.0	2,684.5	2,834.4	2,780.8	12.9	10.4	140.37	-407.3	177.0	666.5	645.7	20.86	31.956	
3,000.0	2,760.9	2,928.6	2,871.5	13.8	10.9	142.02	-418.8	199.6	706.9	685.2	21.70	32.570	
3,100.0	2,837.4	3,025.8	2,965.1	14.8	11.3	143.55	-430.3	223.4	747.2	724.7	22.57	33.109	
3,200.0	2,913.9	3,141.1	3,075.6	15.7	11.8	145.16	-442.5	254.0	785.6	762.1	23.56	33.345	
3,300.0	2,990.3	3,238.5	3,168.2	16.6	12.3	146.27	-453.2	282.2	822.3	797.9	24.46	33.616	
3,400.0	3,066.8	3,324.2	3,249.9	17.6	12.7	147.21	-462.2	306.4	859.7	834.5	25.28	34.007	
3,500.0	3,143.3	3,417.3	3,338.5	18.5	13.1	148.12	-472.4	332.8	897.5	871.3	26.14	34.331	
3,600.0	3,219.8	3,505.8	3,422.9	19.5	13.5	148.93	-482.0	357.8	935.6	908.6	26.97	34.687	
3,700.0	3,296.2	3,602.2	3,514.8	20.5	13.9	149.73	-492.6	385.0	973.7	945.8	27.85	34.961	

Amazon.com

Anticollision Report

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - 20-17-1NCH - Original Hole - Final Surveys

Offset Site Error: 0.0 usft

Survey Program: 134-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-142.77	-257.3	-195.5	323.2				
100.0	100.0	100.8	100.8	1.0	0.8	-142.81	-257.4	-195.3	323.1	321.3	1.77	182.992	
200.0	200.0	200.7	200.7	1.6	1.4	-142.97	-257.7	-194.4	322.8	319.9	2.93	110.185	
300.0	300.0	300.4	300.4	2.0	1.8	-143.25	-258.5	-193.0	322.6	318.9	3.75	86.122	
319.2	319.2	319.2	319.2	2.0	1.9	-143.28	-258.6	-192.9	322.6	318.7	3.88	83.220 CC	
400.0	400.0	397.4	397.4	2.3	2.2	-143.34	-259.0	-192.8	322.9	318.5	4.40	73.370	
500.0	500.0	498.1	498.0	2.6	2.4	-143.33	-259.6	-193.2	323.6	318.6	4.98	64.940	
600.0	600.0	597.3	597.3	2.9	2.7	-143.34	-260.2	-193.7	324.4	318.9	5.52	58.750	
700.0	700.0	697.5	697.5	3.2	2.9	-143.38	-260.9	-194.0	325.1	319.1	6.04	53.871	
800.0	800.0	800.4	800.4	3.4	3.2	-143.37	-261.4	-194.4	325.7	319.2	6.54	49.843	
900.0	900.0	902.8	902.8	3.6	3.3	-143.21	-260.3	-194.7	325.1	318.1	6.94	46.865	
1,000.0	1,000.0	1,003.8	1,003.7	3.8	3.5	-142.96	-258.7	-195.2	324.1	316.8	7.30	44.407	
1,100.0	1,100.0	1,103.0	1,102.9	4.0	3.6	-142.86	-257.5	-195.0	323.1	315.4	7.65	42.223	
1,131.7	1,131.7	1,134.6	1,134.5	4.2	3.7	121.70	-257.5	-194.6	322.9	315.1	7.79	41.441 ES	
1,200.0	1,200.0	1,202.2	1,202.1	4.5	3.8	121.88	-257.6	-193.6	323.6	315.5	8.08	40.040	
1,300.0	1,299.6	1,300.4	1,300.3	5.0	4.0	122.66	-258.2	-192.2	327.4	318.9	8.50	38.526	
1,400.0	1,398.8	1,404.1	1,404.0	5.4	4.3	124.03	-259.4	-189.9	334.1	325.2	8.95	37.326	
1,500.0	1,497.1	1,514.4	1,514.0	5.8	4.8	125.40	-261.6	-181.9	341.4	332.0	9.47	36.045	
1,600.0	1,594.3	1,620.1	1,618.5	6.1	5.4	126.17	-266.3	-167.0	349.2	339.2	10.00	34.914	
1,700.0	1,690.2	1,725.9	1,721.9	6.5	5.9	126.52	-274.0	-145.9	358.4	347.8	10.54	34.010	
1,800.0	1,784.4	1,827.4	1,820.0	6.8	6.2	126.81	-283.3	-122.1	369.6	358.5	11.09	33.314	
1,900.0	1,876.8	1,926.0	1,915.1	7.1	6.5	127.38	-293.1	-97.8	383.6	371.9	11.73	32.693	
2,000.0	1,967.1	2,023.0	2,008.4	7.4	6.9	128.30	-302.9	-73.2	400.7	388.2	12.47	32.142	
2,100.0	2,054.9	2,113.3	2,095.3	7.7	7.2	129.42	-312.8	-50.7	422.1	408.8	13.29	31.755	
2,200.0	2,140.2	2,208.0	2,186.5	7.9	7.5	130.86	-324.1	-28.0	448.5	434.4	14.14	31.721 SF	
2,300.0	2,222.6	2,302.3	2,277.7	8.2	7.9	132.59	-334.5	-6.0	478.8	463.8	15.03	31.851	
2,400.0	2,301.9	2,389.6	2,361.9	8.6	8.2	134.16	-344.8	14.4	513.7	497.8	15.93	32.251	
2,437.4	2,330.8	2,423.8	2,394.9	8.9	8.4	134.78	-349.1	22.4	527.9	511.7	16.24	32.508	
2,500.0	2,378.6	2,480.6	2,449.7	9.4	8.6	136.33	-355.8	35.6	552.3	535.6	16.76	32.963	
2,600.0	2,455.1	2,568.9	2,535.1	10.2	9.0	138.56	-365.8	55.9	592.0	574.4	17.58	33.673	
2,700.0	2,531.5	2,651.0	2,614.4	11.1	9.3	140.33	-375.8	74.4	633.1	614.7	18.37	34.470	
2,800.0	2,608.0	2,734.2	2,694.9	12.0	9.7	141.91	-386.7	92.6	675.6	656.4	19.13	35.316	
2,900.0	2,684.5	2,836.5	2,793.5	12.9	10.2	143.54	-400.6	115.7	718.1	698.1	20.02	35.875	
3,000.0	2,760.9	2,918.0	2,872.0	13.8	10.5	144.65	-411.9	134.8	760.4	739.7	20.78	36.596	
3,100.0	2,837.4	3,005.7	2,956.6	14.8	10.9	145.81	-423.3	154.5	803.5	781.9	21.58	37.233	
3,200.0	2,913.9	3,089.7	3,038.1	15.7	11.3	146.89	-433.5	172.6	847.3	825.0	22.33	37.946	
3,300.0	2,990.3	3,201.2	3,146.2	16.6	11.8	148.24	-446.0	196.8	890.9	867.7	23.24	38.331	
3,400.0	3,066.8	3,290.0	3,232.0	17.6	12.2	149.21	-455.2	217.6	933.1	909.1	24.02	38.844	
3,500.0	3,143.3	3,375.7	3,314.8	18.5	12.6	150.04	-464.6	237.5	975.8	951.0	24.80	39.350	

Amazon.com

Anticollision Report

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - 20-17-2CDH - Original Hole - Final Survey

Offset Site Error: 0.0 usft

Survey Program: 135-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-157.72	-256.6	-105.2	277.4				
100.0	100.0	100.3	100.3	1.0	0.8	-157.76	-256.7	-104.9	277.3	275.5	1.76	157.283	
200.0	200.0	200.8	200.8	1.6	1.4	-157.86	-256.7	-104.4	277.1	274.2	2.93	94.520	
300.0	300.0	302.6	302.6	2.0	1.8	-157.97	-256.3	-103.7	276.5	272.8	3.77	73.429	
400.0	400.0	403.0	403.0	2.3	2.2	-158.13	-255.6	-102.6	275.5	271.0	4.46	61.698	
500.0	500.0	501.3	501.2	2.6	2.5	-158.24	-255.1	-101.8	274.7	269.6	5.07	54.197	
546.0	546.0	546.0	546.0	2.8	2.6	-158.24	-255.0	-101.8	274.6	269.3	5.31	51.748	
600.0	600.0	599.5	599.5	2.9	2.7	-158.19	-255.0	-102.0	274.7	269.1	5.57	49.280	
700.0	700.0	700.5	700.5	3.2	2.9	-158.10	-254.9	-102.5	274.7	268.7	6.04	45.514	
800.0	800.0	801.6	801.6	3.4	3.1	-157.94	-254.2	-103.0	274.3	267.8	6.49	42.239	
900.0	900.0	902.6	902.6	3.6	3.3	-157.74	-253.2	-103.6	273.6	266.6	6.94	39.409	
1,000.0	1,000.0	1,002.5	1,002.5	3.8	3.5	-157.61	-252.0	-103.9	272.6	265.2	7.38	36.925	
1,100.0	1,100.0	1,100.7	1,100.6	4.0	4.2	-157.96	-252.2	-102.1	272.1	263.8	8.29	32.830	
1,200.0	1,200.0	1,204.9	1,204.5	4.5	4.5	105.44	-254.3	-94.1	271.9	263.2	8.66	31.378	
1,287.9	1,287.6	1,295.5	1,294.1	4.9	4.9	104.06	-256.9	-81.1	271.6	262.6	8.98	30.251 CC	
1,300.0	1,299.6	1,307.5	1,305.9	5.0	5.0	103.85	-257.4	-79.0	271.6	262.6	9.02	30.110 ES	
1,400.0	1,398.8	1,405.6	1,401.6	5.4	5.4	101.89	-262.5	-58.0	272.7	263.3	9.38	29.071	
1,500.0	1,497.1	1,507.6	1,500.3	5.8	5.7	100.28	-269.0	-33.4	275.5	265.7	9.78	28.153	
1,600.0	1,594.3	1,610.4	1,598.8	6.1	6.2	98.94	-275.3	-4.5	277.9	267.7	10.26	27.079	
1,700.0	1,690.2	1,712.1	1,694.3	6.5	6.7	97.52	-282.0	29.7	280.4	269.6	10.85	25.845	
1,800.0	1,784.4	1,809.3	1,783.7	6.8	7.1	96.10	-289.8	67.1	284.0	272.5	11.55	24.589	
1,900.0	1,876.8	1,908.7	1,874.4	7.1	7.4	95.38	-298.6	106.7	288.8	276.4	12.39	23.304	
2,000.0	1,967.1	2,005.1	1,961.9	7.4	7.8	95.41	-307.8	146.0	294.5	281.2	13.37	22.034	
2,100.0	2,054.9	2,104.1	2,051.3	7.7	8.3	96.15	-318.4	187.3	301.8	287.3	14.50	20.818	
2,200.0	2,140.2	2,206.1	2,143.6	7.9	8.9	97.96	-328.7	229.4	309.4	293.6	15.78	19.609	
2,300.0	2,222.6	2,305.8	2,234.2	8.2	9.4	100.66	-338.0	270.1	317.6	300.4	17.16	18.513	
2,400.0	2,301.9	2,402.8	2,322.8	8.6	10.0	104.16	-346.2	308.8	327.5	308.9	18.60	17.604	
2,437.4	2,330.8	2,436.0	2,353.1	8.9	10.3	105.48	-349.2	321.9	332.1	313.0	19.12	17.372	
2,500.0	2,378.6	2,491.7	2,404.0	9.4	10.6	107.89	-354.8	343.7	341.3	321.3	19.99	17.076	
2,600.0	2,455.1	2,582.6	2,487.1	10.2	11.3	111.53	-365.3	379.2	358.7	337.3	21.38	16.778	
2,700.0	2,531.5	2,675.8	2,572.7	11.1	11.9	115.08	-376.2	414.4	378.4	355.7	22.73	16.649	
2,800.0	2,608.0	2,771.1	2,660.0	12.0	12.5	118.23	-388.2	450.7	400.0	375.9	24.06	16.626	
2,900.0	2,684.5	2,873.1	2,752.3	12.9	13.3	120.92	-401.7	492.1	421.6	396.1	25.45	16.563	
3,000.0	2,760.9	2,973.3	2,842.2	13.8	14.1	123.16	-414.7	534.1	442.7	415.8	26.83	16.497	
3,100.0	2,837.4	3,071.3	2,930.6	14.8	14.9	125.28	-426.2	574.9	463.8	435.6	28.15	16.476 SF	
3,200.0	2,913.9	3,170.3	3,020.7	15.7	15.6	127.52	-436.1	614.8	485.2	455.9	29.38	16.517	
3,300.0	2,990.3	3,263.0	3,105.6	16.6	16.3	129.65	-443.7	651.3	506.9	476.4	30.49	16.627	
3,400.0	3,066.8	3,357.8	3,192.0	17.6	17.0	131.45	-453.6	689.0	530.3	498.7	31.62	16.771	
3,500.0	3,143.3	3,457.5	3,281.8	18.5	17.8	132.91	-465.6	730.7	553.5	520.6	32.84	16.854	
3,600.0	3,219.8	3,550.2	3,365.0	19.5	18.6	134.10	-477.1	769.7	576.9	542.9	33.99	16.970	
3,700.0	3,296.2	3,653.3	3,458.3	20.5	19.4	135.48	-488.7	812.1	600.7	565.5	35.18	17.074	
3,800.0	3,372.7	3,750.0	3,545.5	21.4	20.2	136.69	-499.0	852.6	623.9	587.6	36.31	17.184	
3,900.0	3,449.2	3,844.5	3,630.7	22.4	21.0	137.75	-509.4	892.1	647.5	610.1	37.41	17.309	
4,000.0	3,525.6	3,946.1	3,722.2	23.4	21.8	138.82	-520.5	934.8	671.2	632.6	38.56	17.406	
4,100.0	3,602.1	4,045.5	3,811.7	24.4	22.6	139.82	-530.5	977.0	694.1	654.5	39.67	17.497	
4,200.0	3,678.6	4,132.5	3,890.6	25.3	23.3	140.76	-538.5	1,012.7	718.1	677.5	40.62	17.677	
4,300.0	3,755.0	4,225.1	3,975.0	26.3	24.0	141.75	-546.9	1,049.8	743.1	701.5	41.58	17.871	
4,400.0	3,831.5	4,317.3	4,058.7	27.3	24.8	142.55	-556.7	1,087.1	768.7	726.1	42.57	18.056	
4,500.0	3,908.0	4,408.4	4,141.4	28.3	25.5	143.24	-567.5	1,123.8	795.1	751.6	43.57	18.247	
4,600.0	3,984.4	4,502.4	4,226.5	29.3	26.2	143.82	-579.6	1,162.1	821.8	777.2	44.64	18.411	
4,700.0	4,060.9	4,594.2	4,309.8	30.2	27.0	144.38	-591.5	1,198.7	849.2	803.6	45.66	18.599	
4,800.0	4,137.4	4,703.1	4,408.4	31.2	27.8	144.99	-605.6	1,242.8	876.3	829.5	46.87	18.698	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - 20-17-2CDH - Original Hole - Final Survey

Offset Site Error: 0.0 usft

Survey Program: 135-MWD

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,900.0	4,213.8	4,814.2	4,508.8	32.2	28.8	145.67	-617.5	1,288.7	901.6	853.6	48.04	18.769	
5,000.0	4,290.3	4,917.8	4,602.5	33.2	29.6	146.38	-626.5	1,331.9	925.9	876.9	49.08	18.867	
5,100.0	4,366.8	5,004.0	4,680.8	34.2	30.3	146.97	-633.7	1,367.3	950.7	900.8	49.96	19.031	
5,200.0	4,443.2	5,072.9	4,743.6	35.2	30.8	147.39	-640.6	1,394.8	977.4	926.7	50.68	19.285	

Amazon.com

Anticollision Report

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - 20-17-2NBH (3CDH) - Original Hole - Final Surveys

Offset Site Error: 0.0 usft

Survey Program: 135-MWD

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-155.01	-256.7	-119.7	283.3				
100.0	100.0	100.3	100.3	1.0	0.8	-154.97	-256.6	-119.8	283.2	281.5	1.76	160.662	
200.0	200.0	200.9	200.9	1.6	1.4	-154.86	-256.2	-120.2	283.0	280.1	2.93	96.516	
300.0	300.0	303.1	303.1	2.0	1.8	-154.69	-255.2	-120.7	282.4	278.6	3.77	74.967	
400.0	400.0	400.1	400.1	2.3	2.2	-154.43	-254.1	-121.6	281.7	277.3	4.44	63.508	
500.0	500.0	500.2	500.2	2.6	2.5	-154.30	-253.9	-122.2	281.7	276.7	5.03	55.986	
600.0	600.0	601.2	601.2	2.9	2.8	-154.44	-253.9	-121.4	281.4	275.8	5.62	50.034	
700.0	700.0	701.2	701.2	3.2	3.0	-154.66	-254.0	-120.3	281.0	274.9	6.10	46.080	
800.0	800.0	801.6	801.5	3.4	3.2	-154.88	-254.0	-119.1	280.5	274.0	6.55	42.860	
900.0	900.0	901.2	901.2	3.6	3.4	-155.10	-254.0	-117.9	280.0	273.1	6.97	40.171	
1,000.0	1,000.0	1,000.6	1,000.6	3.8	3.5	-155.36	-254.2	-116.6	279.7	272.3	7.37	37.955	
1,100.0	1,100.0	1,101.9	1,101.8	4.0	3.7	-155.71	-254.5	-114.9	279.3	271.5	7.75	36.013	
1,130.9	1,130.9	1,132.5	1,132.4	4.2	3.8	108.77	-254.7	-114.2	279.2	271.3	7.88	35.424	CC, ES
1,200.0	1,200.0	1,201.5	1,201.4	4.5	3.9	108.74	-255.4	-111.9	279.6	271.5	8.15	34.316	
1,300.0	1,299.6	1,304.8	1,304.4	5.0	4.3	108.93	-257.0	-105.5	281.1	272.6	8.53	32.956	
1,400.0	1,398.8	1,406.2	1,405.1	5.4	4.8	109.04	-259.9	-94.0	283.2	274.3	8.94	31.683	
1,500.0	1,497.1	1,505.6	1,503.3	5.8	5.1	109.23	-264.4	-78.9	287.0	277.7	9.35	30.689	
1,600.0	1,594.3	1,609.0	1,604.5	6.1	5.7	109.45	-270.9	-58.7	292.3	282.4	9.82	29.758	
1,700.0	1,690.2	1,713.4	1,705.1	6.5	6.2	109.41	-278.5	-32.0	297.6	287.2	10.37	28.702	
1,800.0	1,784.4	1,812.2	1,798.5	6.8	6.7	109.09	-287.8	-1.2	304.2	293.2	10.99	27.675	
1,900.0	1,876.8	1,911.4	1,891.6	7.1	7.1	109.23	-298.2	31.4	312.6	300.9	11.76	26.585	
2,000.0	1,967.1	2,011.3	1,985.4	7.4	7.5	110.19	-308.6	64.3	322.9	310.3	12.65	25.534	
2,100.0	2,054.9	2,110.2	2,078.3	7.7	7.9	111.92	-318.6	96.5	335.0	321.4	13.64	24.564	
2,200.0	2,140.2	2,208.6	2,171.0	7.9	8.3	114.31	-328.1	128.2	349.6	334.9	14.73	23.728	
2,300.0	2,222.6	2,304.1	2,261.1	8.2	8.7	117.11	-337.0	158.7	367.2	351.3	15.90	23.095	
2,400.0	2,301.9	2,393.8	2,345.4	8.6	9.1	119.79	-346.8	187.7	389.3	372.2	17.10	22.760	
2,437.4	2,330.8	2,428.7	2,378.1	8.9	9.3	120.84	-350.9	199.1	398.8	381.2	17.54	22.735	SF
2,500.0	2,378.6	2,486.8	2,432.8	9.4	9.5	123.00	-357.5	217.7	415.5	397.2	18.25	22.769	
2,600.0	2,455.1	2,579.5	2,520.1	10.2	10.0	126.22	-367.7	247.1	443.3	423.9	19.38	22.867	
2,700.0	2,531.5	2,668.8	2,604.7	11.1	10.4	129.14	-376.9	274.1	472.7	452.3	20.45	23.117	
2,800.0	2,608.0	2,757.1	2,688.2	12.0	10.8	131.62	-387.0	300.9	504.1	482.6	21.47	23.478	
2,900.0	2,684.5	2,846.0	2,772.6	12.9	11.2	133.91	-397.2	327.0	537.0	514.6	22.45	23.916	
3,000.0	2,760.9	2,940.6	2,862.2	13.8	11.7	135.96	-408.9	355.2	570.9	547.4	23.46	24.331	
3,100.0	2,837.4	3,043.5	2,958.8	14.8	12.3	137.78	-422.2	387.7	604.1	579.5	24.55	24.607	
3,200.0	2,913.9	3,138.2	3,048.0	15.7	12.8	139.38	-433.1	417.7	636.9	611.4	25.54	24.936	
3,300.0	2,990.3	3,238.6	3,142.2	16.6	13.3	140.87	-444.5	450.4	669.4	642.8	26.57	25.193	
3,400.0	3,066.8	3,334.3	3,232.1	17.6	13.8	142.23	-454.4	481.6	701.7	674.2	27.55	25.474	
3,500.0	3,143.3	3,430.2	3,322.0	18.5	14.3	143.42	-464.6	513.6	733.8	705.2	28.52	25.725	
3,600.0	3,219.8	3,521.6	3,407.9	19.5	14.9	144.54	-473.6	543.6	766.3	736.9	29.46	26.016	
3,700.0	3,296.2	3,614.2	3,494.5	20.5	15.4	145.45	-484.3	574.6	799.2	768.8	30.41	26.282	
3,800.0	3,372.7	3,703.0	3,577.8	21.4	15.9	146.30	-494.1	603.7	832.6	801.2	31.32	26.582	
3,900.0	3,449.2	3,791.4	3,660.4	22.4	16.5	146.95	-505.9	633.0	866.7	834.4	32.25	26.873	
4,000.0	3,525.6	3,879.4	3,742.7	23.4	17.0	147.56	-517.7	661.8	901.5	868.3	33.17	27.179	
4,100.0	3,602.1	3,968.4	3,826.3	24.4	17.5	148.19	-529.0	689.9	936.9	902.8	34.07	27.499	
4,200.0	3,678.6	4,055.5	3,907.9	25.3	18.1	148.70	-541.2	717.7	972.7	937.7	34.97	27.817	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - 20-17-2NCH - Original Hole - Final Surveys

Offset Site Error: 0.0 usft

Survey Program: 134-MWD

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-152.48	-256.9	-133.8	289.6				
100.0	100.0	100.4	100.4	1.0	0.8	-152.37	-256.5	-134.3	289.6	287.8	1.76	164.398	
200.0	200.0	200.8	200.8	1.6	1.4	-152.16	-255.9	-135.1	289.3	286.4	2.93	98.835	
300.0	300.0	300.4	300.4	2.0	1.8	-152.17	-255.7	-135.0	289.1	285.4	3.74	77.210	
400.0	400.0	400.8	400.8	2.3	2.1	-152.24	-255.7	-134.6	288.9	284.5	4.42	65.361	
493.7	493.7	493.7	493.7	2.6	2.3	-152.34	-255.8	-134.1	288.8	283.8	4.96	58.176	
500.0	500.0	499.9	499.9	2.6	2.4	-152.35	-255.8	-134.0	288.8	283.8	5.00	57.775	
600.0	600.0	598.6	598.6	2.9	2.6	-152.46	-256.3	-133.6	289.0	283.5	5.50	52.519	
700.0	700.0	697.6	697.6	3.2	2.8	-152.64	-257.3	-133.1	289.7	283.8	5.97	48.494	
800.0	800.0	799.4	799.4	3.4	3.1	-152.82	-258.3	-132.6	290.4	284.0	6.42	45.239	
900.0	900.0	900.6	900.6	3.6	3.2	-152.78	-258.2	-132.8	290.3	283.5	6.84	42.463	
1,000.0	1,000.0	1,001.4	1,001.3	3.8	3.4	-152.54	-257.3	-133.7	290.0	282.8	7.23	40.110	
1,100.0	1,100.0	1,103.4	1,103.4	4.0	3.6	-152.42	-256.3	-133.9	289.2	281.5	7.64	37.850	
1,168.3	1,168.3	1,172.2	1,172.2	4.4	3.9	112.05	-256.3	-132.0	288.8	280.7	8.06	35.817 CC	
1,200.0	1,200.0	1,204.9	1,204.8	4.5	3.9	112.01	-256.6	-130.4	288.8	280.6	8.21	35.198 ES	
1,300.0	1,299.6	1,310.1	1,309.6	5.0	4.5	111.80	-258.3	-121.5	289.3	280.7	8.63	33.526	
1,400.0	1,398.8	1,414.9	1,413.1	5.4	5.1	111.20	-261.3	-105.5	289.7	280.7	9.05	32.009	
1,500.0	1,497.1	1,517.5	1,513.2	5.8	5.5	110.32	-266.1	-83.7	290.9	281.5	9.48	30.689	
1,600.0	1,594.3	1,617.3	1,609.7	6.1	5.8	109.65	-272.0	-58.9	293.6	283.7	9.95	29.510	
1,700.0	1,690.2	1,720.3	1,708.2	6.5	6.3	109.16	-279.3	-29.8	297.6	287.1	10.52	28.299	
1,800.0	1,784.4	1,822.5	1,803.9	6.8	6.8	108.42	-288.1	5.0	302.2	291.0	11.18	27.031	
1,900.0	1,876.8	1,921.0	1,895.6	7.1	7.1	108.29	-297.2	39.9	308.4	296.5	11.96	25.789	
2,000.0	1,967.1	2,018.2	1,985.6	7.4	7.5	108.77	-307.1	75.0	316.9	304.0	12.87	24.617	
2,100.0	2,054.9	2,117.4	2,077.0	7.7	7.9	109.76	-318.3	112.0	327.6	313.7	13.92	23.529	
2,200.0	2,140.2	2,216.8	2,168.4	7.9	8.3	111.39	-329.4	149.5	340.1	325.0	15.09	22.535	
2,300.0	2,222.6	2,313.0	2,256.8	8.2	8.7	113.50	-340.3	185.6	355.2	338.9	16.32	21.760	
2,400.0	2,301.9	2,408.4	2,344.7	8.6	9.2	116.04	-351.2	221.4	373.4	355.8	17.62	21.192	
2,437.4	2,330.8	2,442.9	2,376.4	8.9	9.4	117.05	-355.2	234.1	381.3	363.2	18.08	21.084	
2,500.0	2,378.6	2,501.2	2,430.3	9.4	9.7	119.11	-362.0	255.4	395.2	376.4	18.86	20.959	
2,600.0	2,455.1	2,596.3	2,518.4	10.2	10.2	122.28	-372.8	289.7	418.7	398.6	20.11	20.822	
2,700.0	2,531.5	2,691.3	2,605.7	11.1	10.8	124.90	-384.4	325.2	443.0	421.6	21.34	20.757 SF	
2,800.0	2,608.0	2,784.1	2,691.2	12.0	11.3	127.22	-395.9	359.6	468.4	445.9	22.52	20.795	
2,900.0	2,684.5	2,885.1	2,784.5	12.9	12.0	129.62	-407.6	396.3	494.5	470.8	23.73	20.837	
3,000.0	2,760.9	2,983.6	2,874.6	13.8	12.7	131.53	-419.2	434.3	519.7	494.8	24.94	20.841	
3,100.0	2,837.4	3,075.9	2,959.3	14.8	13.4	133.23	-429.7	469.4	545.6	519.5	26.06	20.935	
3,200.0	2,913.9	3,172.1	3,048.2	15.7	14.0	134.98	-439.9	504.8	572.4	545.2	27.16	21.078	
3,300.0	2,990.3	3,269.8	3,138.3	16.6	14.7	136.61	-449.8	541.3	599.0	570.8	28.24	21.214	
3,400.0	3,066.8	3,363.4	3,224.8	17.6	15.3	138.11	-458.6	575.9	626.0	596.8	29.26	21.395	
3,500.0	3,143.3	3,462.4	3,316.0	18.5	16.0	139.46	-468.9	613.1	653.4	623.0	30.33	21.538	
3,600.0	3,219.8	3,556.3	3,402.0	19.5	16.7	140.54	-479.4	649.1	680.6	649.2	31.38	21.688	
3,700.0	3,296.2	3,644.9	3,483.8	20.5	17.4	141.61	-488.4	682.1	708.7	676.3	32.34	21.911	
3,800.0	3,372.7	3,731.3	3,563.8	21.4	18.0	142.59	-497.4	713.4	738.0	704.7	33.26	22.185	
3,900.0	3,449.2	3,821.8	3,647.7	22.4	18.6	143.50	-507.8	745.8	768.4	734.2	34.22	22.456	
4,000.0	3,525.6	3,921.8	3,740.3	23.4	19.3	144.42	-519.4	781.6	798.9	763.7	35.24	22.668	
4,100.0	3,602.1	4,013.0	3,824.8	24.4	19.9	145.20	-529.9	814.4	829.5	793.3	36.19	22.919	
4,200.0	3,678.6	4,104.0	3,909.2	25.3	20.5	145.94	-540.4	846.6	860.7	823.6	37.13	23.181	
4,300.0	3,755.0	4,204.9	4,002.3	26.3	21.3	146.60	-553.2	883.3	891.6	853.4	38.19	23.348	
4,400.0	3,831.5	4,299.9	4,090.0	27.3	21.9	147.19	-565.0	918.0	922.4	883.3	39.20	23.534	
4,500.0	3,908.0	4,402.6	4,184.5	28.3	22.7	147.78	-577.5	956.0	952.7	912.4	40.27	23.660	
4,600.0	3,984.4	4,493.4	4,268.5	29.3	23.3	148.36	-587.3	989.3	982.9	941.7	41.20	23.854	

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - 20-17-3NBH - Original Hole - Final Surveys

Offset Site Error: 0.0 usft

Survey Program: 126-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-155.10	-256.7	-119.2	283.1				
100.0	100.0	101.4	101.4	1.0	0.8	-155.07	-256.5	-119.2	282.8	281.1	1.73	163.445	
200.0	200.0	203.8	203.8	1.6	1.4	-154.98	-255.5	-119.2	282.0	279.0	2.92	96.584	
300.0	300.0	303.1	303.1	2.0	1.8	-154.90	-254.2	-119.0	280.7	276.9	3.78	74.283	
400.0	400.0	401.5	401.4	2.3	2.2	-154.84	-253.4	-119.0	279.9	275.4	4.49	62.407	
500.0	500.0	500.7	500.7	2.6	2.5	-154.71	-252.5	-119.3	279.3	274.2	5.09	54.830	
511.5	511.5	511.6	511.5	2.7	2.5	-154.70	-252.5	-119.3	279.3	274.1	5.15	54.197	CC
600.0	600.0	595.7	595.7	2.9	2.7	-154.73	-253.2	-119.5	280.0	274.5	5.58	50.222	
700.0	700.0	697.6	697.5	3.2	2.9	-154.78	-254.9	-120.1	281.7	275.7	6.01	46.899	
800.0	800.0	801.1	801.1	3.4	3.1	-154.88	-255.0	-119.6	281.7	275.2	6.46	43.614	
900.0	900.0	900.9	900.9	3.6	3.3	-154.96	-254.9	-119.0	281.3	274.4	6.89	40.804	
1,000.0	1,000.0	1,001.2	1,001.1	3.8	3.5	-155.11	-254.8	-118.2	280.9	273.6	7.31	38.434	
1,100.0	1,100.0	1,102.9	1,102.8	4.0	3.8	-155.77	-255.5	-115.0	280.2	272.5	7.70	36.392	
1,200.0	1,200.0	1,204.8	1,204.4	4.5	4.3	107.73	-257.6	-107.3	279.9	271.7	8.11	34.503	
1,204.4	1,204.4	1,209.5	1,209.0	4.6	4.3	107.68	-257.7	-106.9	279.9	271.7	8.13	34.429	
1,300.0	1,299.6	1,307.2	1,305.9	5.0	4.7	106.58	-260.7	-94.3	280.1	271.6	8.50	32.962	ES
1,400.0	1,398.8	1,408.9	1,405.8	5.4	5.2	105.31	-265.4	-76.0	281.4	272.5	8.89	31.652	
1,500.0	1,497.1	1,510.3	1,504.4	5.8	5.6	104.08	-271.0	-53.0	283.4	274.1	9.32	30.407	
1,600.0	1,594.3	1,613.3	1,603.3	6.1	6.1	102.97	-277.6	-25.3	286.1	276.3	9.82	29.128	
1,700.0	1,690.2	1,717.1	1,701.6	6.5	6.5	102.01	-284.2	7.2	288.6	278.2	10.44	27.659	
1,800.0	1,784.4	1,815.2	1,792.5	6.8	7.1	100.87	-291.8	43.6	291.9	280.8	11.13	26.219	
1,900.0	1,876.8	1,912.9	1,881.8	7.1	7.5	100.12	-301.1	82.2	297.1	285.0	12.04	24.670	
2,000.0	1,967.1	2,014.1	1,974.3	7.4	7.9	100.36	-310.8	121.9	303.4	290.4	13.05	23.247	
2,100.0	2,054.9	2,112.0	2,064.2	7.7	8.3	101.61	-319.6	159.8	310.5	296.3	14.15	21.938	
2,200.0	2,140.2	2,201.8	2,146.2	7.9	8.7	103.25	-329.6	194.8	320.6	305.3	15.38	20.851	
2,300.0	2,222.6	2,300.3	2,235.6	8.2	9.2	105.42	-342.3	234.3	334.0	317.2	16.73	19.968	
2,400.0	2,301.9	2,395.0	2,321.4	8.6	9.7	107.99	-355.0	272.1	349.8	331.7	18.14	19.291	
2,437.4	2,330.8	2,431.0	2,354.1	8.9	9.9	109.11	-359.8	286.4	356.6	337.9	18.66	19.109	
2,500.0	2,378.6	2,490.5	2,408.3	9.4	10.3	111.28	-367.7	309.8	368.4	348.9	19.54	18.856	
2,600.0	2,455.1	2,585.1	2,494.5	10.2	10.9	114.54	-380.3	346.6	388.8	367.8	20.94	18.562	
2,700.0	2,531.5	2,680.5	2,581.8	11.1	11.5	117.63	-392.4	383.0	410.1	387.8	22.30	18.391	
2,800.0	2,608.0	2,772.1	2,666.5	12.0	12.1	120.58	-403.3	416.3	433.2	409.7	23.57	18.384	SF
2,900.0	2,684.5	2,866.9	2,753.7	12.9	12.8	123.16	-415.7	451.4	457.8	432.9	24.82	18.444	
3,000.0	2,760.9	2,968.0	2,846.6	13.8	13.5	125.64	-428.6	489.2	482.6	456.5	26.12	18.480	
3,100.0	2,837.4	3,069.0	2,938.4	14.8	14.3	127.67	-441.3	529.2	506.5	479.0	27.42	18.474	
3,200.0	2,913.9	3,159.0	3,020.7	15.7	14.9	129.43	-452.1	564.0	531.1	502.5	28.57	18.589	
3,300.0	2,990.3	3,253.1	3,107.3	16.6	15.6	131.25	-463.1	599.0	557.2	527.5	29.71	18.757	
3,400.0	3,066.8	3,353.2	3,198.7	17.6	16.3	132.82	-475.8	638.0	583.1	552.2	30.91	18.866	
3,500.0	3,143.3	3,463.5	3,299.4	18.5	17.2	134.48	-488.2	681.3	608.2	576.1	32.16	18.910	
3,600.0	3,219.8	3,559.9	3,386.7	19.5	17.9	135.75	-498.5	720.8	632.0	598.6	33.31	18.970	
3,700.0	3,296.2	3,648.4	3,467.5	20.5	18.6	136.96	-507.2	755.8	656.7	622.3	34.35	19.118	
3,800.0	3,372.7	3,739.8	3,551.0	21.4	19.3	138.09	-517.1	791.6	682.6	647.2	35.40	19.282	
3,900.0	3,449.2	3,833.0	3,636.0	22.4	20.0	139.06	-528.5	828.2	709.4	672.9	36.48	19.447	
4,000.0	3,525.6	3,933.1	3,727.0	23.4	20.8	139.97	-541.1	867.9	736.1	698.5	37.63	19.564	
4,100.0	3,602.1	4,024.9	3,810.4	24.4	21.5	140.76	-552.5	904.5	762.8	724.1	38.69	19.717	
4,200.0	3,678.6	4,110.2	3,888.8	25.3	22.1	141.60	-561.9	936.8	790.8	751.1	39.63	19.955	
4,300.0	3,755.0	4,214.0	3,983.8	26.3	22.9	142.47	-574.2	976.7	818.7	778.0	40.75	20.092	
4,400.0	3,831.5	4,310.9	4,072.5	27.3	23.6	143.24	-585.4	1,014.1	846.5	804.7	41.80	20.252	
4,500.0	3,908.0	4,406.2	4,159.2	28.3	24.4	143.88	-597.0	1,051.8	873.9	831.0	42.86	20.389	
4,600.0	3,984.4	4,496.9	4,242.2	29.3	25.1	144.49	-608.1	1,086.6	902.4	858.5	43.87	20.571	
4,700.0	4,060.9	4,595.4	4,331.7	30.2	25.8	145.01	-621.1	1,125.7	930.3	885.3	44.98	20.683	
4,800.0	4,137.4	4,677.4	4,406.7	31.2	26.5	145.47	-631.6	1,157.3	959.1	913.2	45.90	20.896	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Amazon.com

Anticollision Report

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - 20-17-3NBH - Original Hole - Final Surveys

Offset Site Error: 0.0 usft

Survey Program: 126-MWD

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,900.0	4,213.8	4,784.0	4,504.7	32.2	27.3	146.10	-644.8	1,197.0	989.1	942.1	47.04	21.027	

Amazon.com

Anticollision Report

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design: Sec 20-T1S-R66W - Extraction PC-1S-66-2928-2CDH - Original Hole - Original Hole

Offset Site Error: 0.0 usft

Survey Program: 1582-MWD

Rule Assigned:

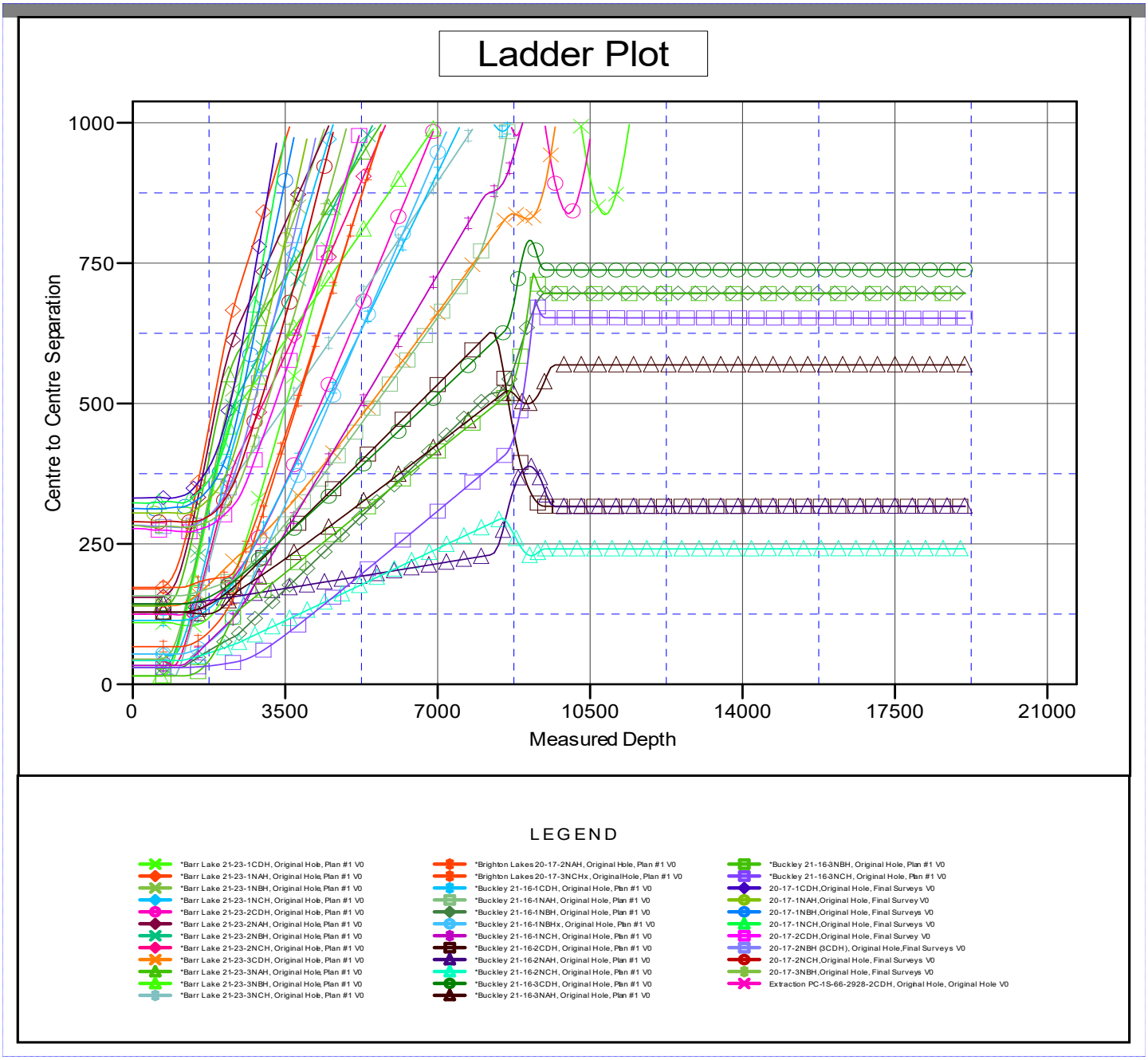
Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,700.0	7,118.9	14,859.9	7,703.3	69.9	213.3	125.37	-1,219.5	4,495.2	991.3	722.1	269.21	3.682	
8,750.0	7,155.9	14,886.3	7,702.6	70.4	213.8	129.01	-1,219.0	4,521.7	981.3	707.7	273.57	3.587	
8,800.0	7,191.8	14,907.7	7,702.2	70.8	214.3	132.64	-1,218.7	4,543.0	977.1	699.5	277.66	3.519	
8,809.3	7,198.3	14,911.6	7,702.2	70.9	214.4	133.28	-1,218.6	4,547.0	977.0	698.6	278.39	3.509	CC
8,850.0	7,226.4	14,928.6	7,702.0	71.2	214.7	135.96	-1,218.5	4,563.9	979.0	697.6	281.43	3.479	ES
8,852.2	7,227.9	14,929.5	7,702.0	71.2	214.7	136.10	-1,218.5	4,564.9	979.3	697.7	281.59	3.478	
8,900.0	7,259.4	14,948.9	7,702.0	71.6	215.1	138.97	-1,218.4	4,584.2	987.0	702.2	284.76	3.466	SF

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

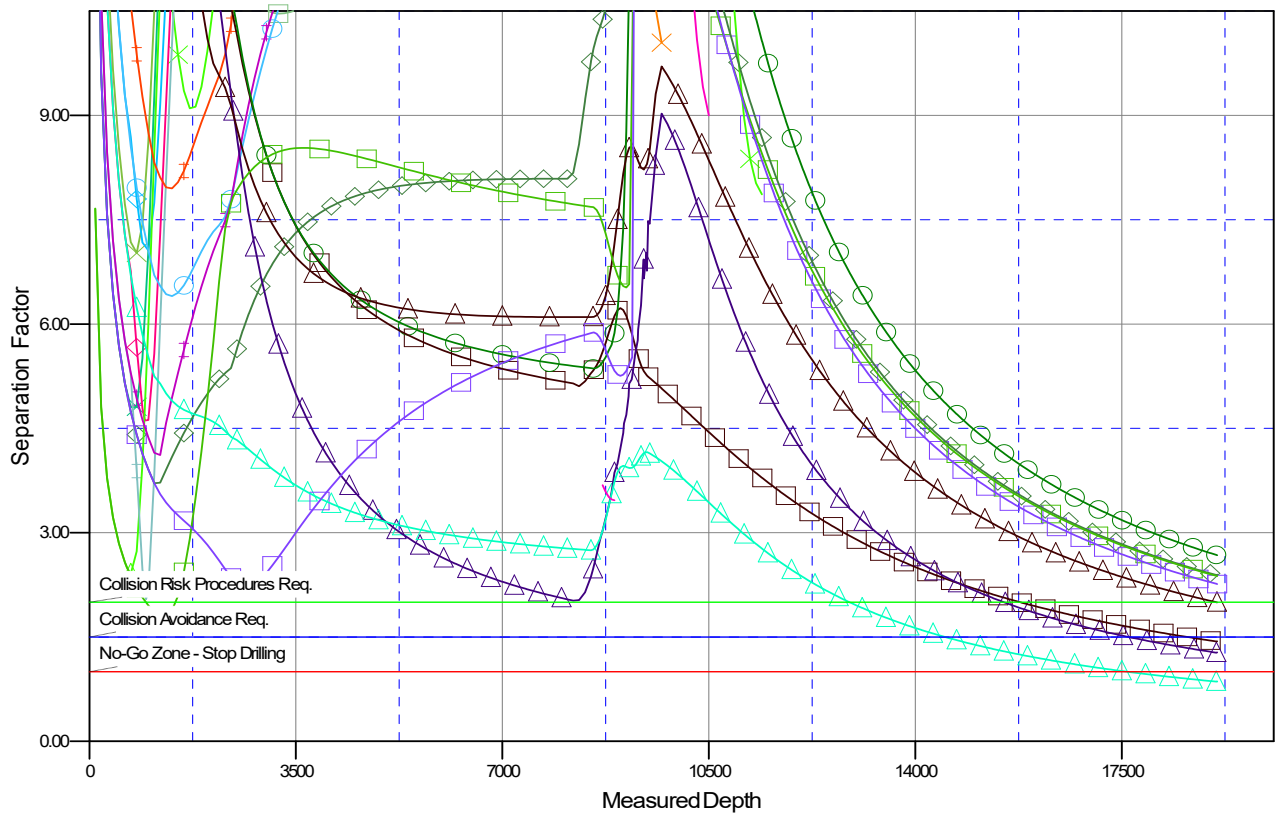
Reference Depths are relative to RKB @ 5063.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W
Coordinates are relative to: *Buckley 21-16-2NBH
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: 0.43°



Company:	APEX	**Local Co-ordinate Reference:**	Well *Buckley 21-16-2NBH
Project:	POCO Brighton Lakes Expansion	**TVD Reference:**	RKB @ 5063.0usft
Reference Site:	Sec 20-T1S-R66W	**MD Reference:**	RKB @ 5063.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	*Buckley 21-16-2NBH	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Hole	**Database:**	WC365
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to RKB @ 5063.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W
Coordinates are relative to: *Buckley 21-16-2NBH
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: 0.43°

Separation Factor Plot



LEGEND

*Barr Lake 21-23-1CDH, Original Hole, Plan #1 V0
*Barr Lake 21-23-1NAH, Original Hole, Plan #1 V0
*Barr Lake 21-23-1NBH, Original Hole, Plan #1 V0
*Barr Lake 21-23-1NCH, Original Hole, Plan #1 V0
*Barr Lake 21-23-2CDH, Original Hole, Plan #1 V0
*Barr Lake 21-23-2NAH, Original Hole, Plan #1 V0
*Barr Lake 21-23-2NBH, Original Hole, Plan #1 V0
*Barr Lake 21-23-2NCH, Original Hole, Plan #1 V0
*Barr Lake 21-23-3CDH, Original Hole, Plan #1 V0
*Barr Lake 21-23-3NAH, Original Hole, Plan #1 V0
*Barr Lake 21-23-3NBH, Original Hole, Plan #1 V0
*Barr Lake 21-23-3NCH, Original Hole, Plan #1 V0
*Brighton Lakes 20-17-2NAH, Original Hole, Plan #1 V0
*Brighton Lakes 20-17-3NCHx, Original Hole, Plan #1 V0
*Buckley 21-16-1CDH, Original Hole, Plan #1 V0
*Buckley 21-16-1NAH, Original Hole, Plan #1 V0
*Buckley 21-16-1NBH, Original Hole, Plan #1 V0
*Buckley 21-16-1NBHx, Original Hole, Plan #1 V0
*Buckley 21-16-1NCH, Original Hole, Plan #1 V0
*Buckley 21-16-2CDH, Original Hole, Plan #1 V0
*Buckley 21-16-2NAH, Original Hole, Plan #1 V0
*Buckley 21-16-2NCH, Original Hole, Plan #1 V0
*Buckley 21-16-3CDH, Original Hole, Plan #1 V0
*Buckley 21-16-3NAH, Original Hole, Plan #1 V0
*Buckley 21-16-3NBH, Original Hole, Plan #1 V0
*Buckley 21-16-3NCH, Original Hole, Plan #1 V0
20-17-1CDH, Original Hole, Final Surveys V0
20-17-1NAH, Original Hole, Final Survey V0
20-17-1NBH, Original Hole, Final Surveys V0
20-17-1NCH, Original Hole, Final Surveys V0
20-17-2CDH, Original Hole, Final Survey V0
20-17-2NBH (SCDH), Original Hole, Final Surveys V0
20-17-2NCH, Original Hole, Final Surveys V0
20-17-3NBH, Original Hole, Final Surveys V0
Extraction PC-1S-66-2928-2CDH, Original Hole, Original Hole V0