

5D Survey Report

Kaiser Francis Oil Company**Field Name:** *KFOC Lea Co, NM (Nad 27 NME)***Site Name:** *Bell Lake Unit South #263H***Well Name:** *Bell Lake Unit South #263H Lat***Survey:** *Definitive survey*

29 March 2017





Weatherford®

Bell Lake Unit South #263H Lat

Field Name: KFOC Lea Co, NM (Nad 27 NME)	Map Units: US ft		Company Name: Kaiser Francis Oil Company	
	Vertical Reference Datum (VRD):			
	Projected Coordinate System: NAD27 / New Mexico East			
	Comment:			
Site: Bell Lake Unit South #263H	Units: US ft	North Reference: Grid	Convergence Angle: 0.44	
	Position:	Northing: 453943.30 US ft	Latitude: 32° 14' 42.96"	
		Easting: 757323.30 US ft	Longitude: -103° 30' 3.72"	
	Elevation above Field Reference: 3602.00 US ft		Comment:	
Slot: Bell Lake Unit South #263H	Position (Relative to Site Centre)			
	+N/-S: 0.00 US ft	Northing: 453943.30 US ft	Latitude: 32°14'42.96"	
	+E/-W: 0.00 US ft	Easting: 757323.30 US ft	Longitude: -103°30'3.72"	
	Slot TVD Reference: Ground Elevation			
	Elevation above Field Reference: 3602.00 US ft			
Well: Bell Lake Unit South #263H Lat	Type: Sidetrack		UWI:	
	Parent: Bell Lake Unit South #263H Pilot		Tie Point Method: MD	
	File Number:	Comment:		
	Closure Distance: 8153.66 US ft		Closure Azimuth: 4.60°	
	Vertical Section: Position of Origin (Relative to Slot centre)			
	+N/-S: -0.00 US ft	+E/-W: 0.00 US ft	Az: 4.42°	

Drill floor: Survey Name: Definitive Survey

Rig Height (Well TVD Reference): 25.00 US ft	Elevation above Field Reference: 3627.00 US ft	Inclination: 0.00°	Azimuth: 0.00°
---	---	---------------------------	-----------------------

Survey Name: Definitive Survey

Date: 08/Dec/2016	Survey Tool: See Survey Tool Ranges below.	Comment:	Company:
--------------------------	---	-----------------	-----------------

Magnetic Model:

Model Name: bggm2016	Date: 15/Jan/2017	Field Strength: 48098.1 nT	Declination: 7.02°	Dip: 60.11°
-----------------------------	--------------------------	-----------------------------------	---------------------------	--------------------

Tie Point:

MD: 9745.00 US ft	Inclination: 8.98°	Azimuth: 86.71°	TVD: 9717.90 US ft	North Offset: -48.79 US ft	East Offset: 508.67 US ft
--------------------------	---------------------------	------------------------	---------------------------	-----------------------------------	----------------------------------

Survey Tool Ranges:

Name	Start MD(USFt)	End MD(USFt)	Source Survey
GYRO-NS_OW	0.00	1215.43	Gyro
MWD	1215.43	4978.00	Wft MWD Svy (1)
MWD	4978.00	9191.00	Wft MWD Svy (2)
MWD	9191.00	9745.00	Wft MWD Svy (3)

5D Survey Report

Survey Tool Ranges:			
Name	Start MD(USFt)	End MD(USFt)	Source Survey
MWD	9745.00	9892.00	Wft MWD Svy (5)
MWD	9892.00	12185.00	Wft MWD Svy (7)
MWD	12185.00	15513.00	Wft MWD Svy (10)
MWD	15513.00	18510.00	Wft MWD Svy (11)

Wellpath created using minimum curvature.

Survey Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
0.00	0.00	0.00	0.00	0.00	-0.00	0.00	453943.30	757323.30	0.00	
100.00	0.40	27.61	100.00	0.32	0.31	0.16	453943.61	757323.46	0.40	
200.00	0.33	44.60	200.00	0.86	0.82	0.53	453944.12	757323.83	0.13	
300.00	0.31	38.34	300.00	1.31	1.24	0.90	453944.54	757324.20	0.04	
400.00	0.17	27.89	399.99	1.67	1.58	1.13	453944.88	757324.43	0.15	
500.00	0.15	2.72	499.99	1.93	1.85	1.21	453945.15	757324.51	0.07	
600.00	0.17	339.50	599.99	2.20	2.12	1.16	453945.42	757324.46	0.07	
700.00	0.32	284.36	699.99	2.38	2.32	0.84	453945.62	757324.14	0.26	
800.00	0.35	293.87	799.99	2.53	2.52	0.29	453945.82	757323.59	0.06	
837.15	0.68	306.53	837.14	2.69	2.69	0.01	453945.99	757323.31	0.93	
931.72	0.42	321.97	931.71	3.24	3.30	-0.65	453946.60	757322.65	0.31	
1026.29	0.14	303.01	1026.27	3.55	3.64	-0.97	453946.94	757322.33	0.31	
1120.86	0.16	43.91	1120.84	3.71	3.80	-0.97	453947.10	757322.33	0.24	
1215.43	0.17	63.80	1215.41	3.88	3.95	-0.75	453947.25	757322.55	0.06	
1310.00	0.44	9.84	1309.98	4.32	4.37	-0.57	453947.67	757322.73	0.39	
1461.00	0.47	331.88	1460.98	5.41	5.49	-0.76	453948.79	757322.54	0.20	
1649.00	0.60	334.30	1648.97	6.92	7.06	-1.55	453950.36	757321.75	0.07	
1833.00	0.75	355.84	1832.96	8.94	9.13	-2.05	453952.43	757321.25	0.16	
2018.00	1.03	355.20	2017.93	11.78	11.99	-2.28	453955.29	757321.02	0.15	
2202.00	1.27	349.39	2201.90	15.38	15.64	-2.79	453958.94	757320.51	0.14	
2387.00	1.55	345.46	2386.84	19.73	20.08	-3.80	453963.38	757319.50	0.16	
2573.00	1.70	351.73	2572.77	24.80	25.24	-4.83	453968.54	757318.47	0.12	
2757.00	1.83	346.78	2756.68	30.26	30.81	-5.89	453974.11	757317.41	0.11	
2943.00	0.72	53.24	2942.64	33.86	34.40	-5.64	453977.70	757317.66	0.90	
3127.00	1.16	85.18	3126.61	34.92	35.24	-2.85	453978.54	757320.45	0.36	
3312.00	1.54	79.92	3311.56	35.84	35.84	1.46	453979.14	757324.76	0.22	
3497.00	2.52	87.46	3496.44	36.96	36.45	7.97	453979.75	757331.27	0.55	
3682.00	3.20	102.21	3681.22	36.75	35.54	17.08	453978.84	757340.38	0.54	
3867.00	2.73	83.57	3865.97	36.88	34.94	26.51	453978.24	757349.81	0.58	
4053.00	3.48	102.46	4051.70	36.93	34.22	36.42	453977.52	757359.72	0.68	
4238.00	2.52	104.76	4236.45	35.41	31.97	45.84	453975.27	757369.14	0.52	
4422.00	2.74	107.39	4420.25	33.70	29.63	53.94	453972.93	757377.24	0.14	
4607.00	2.13	102.37	4605.08	32.23	27.57	61.52	453970.87	757384.82	0.35	
4794.00	2.58	108.07	4791.93	30.75	25.52	68.92	453968.82	757392.22	0.27	
4978.00	1.43	114.64	4975.81	28.98	23.28	74.94	453966.58	757398.24	0.64	
5097.00	1.28	107.26	5094.78	28.17	22.26	77.57	453965.56	757400.87	0.19	9 5/8 in
5119.00	1.26	105.72	5116.77	28.07	22.12	78.03	453965.42	757401.33	0.19	
5304.00	2.14	106.32	5301.69	26.96	20.60	83.31	453963.90	757406.61	0.48	
5489.00	1.97	103.90	5486.57	25.73	18.87	89.71	453962.17	757413.01	0.10	
5675.00	2.25	100.73	5672.44	24.80	17.42	96.40	453960.72	757419.70	0.16	
5861.00	3.10	115.29	5858.24	22.60	14.59	104.53	453957.89	757427.83	0.58	
6046.00	3.04	114.34	6042.98	19.15	10.43	113.53	453953.73	757436.83	0.04	
6232.00	4.16	104.15	6228.61	16.33	6.75	124.56	453950.05	757447.86	0.69	
6418.00	4.26	108.02	6414.11	13.57	2.96	137.67	453946.26	757460.97	0.16	
6603.00	3.94	105.91	6598.63	10.68	-0.90	150.32	453942.40	757473.62	0.19	
6789.00	3.67	107.87	6784.22	8.03	-4.48	162.13	453938.82	757485.43	0.16	
6973.00	4.21	109.84	6967.79	4.86	-8.58	174.09	453934.72	757497.39	0.30	
7158.00	5.32	114.22	7152.15	0.15	-14.40	188.30	453928.90	757511.60	0.63	
7343.00	6.21	110.08	7336.21	-5.46	-21.36	205.52	453921.94	757528.82	0.53	

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)										Comment
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	
7527.00	4.81	108.63	7519.35	-10.04	-27.24	222.18	453916.06	757545.48	0.76	
7712.00	5.48	103.52	7703.61	-13.34	-31.78	238.11	453911.52	757561.41	0.44	
7897.00	5.84	95.83	7887.71	-14.97	-34.80	256.07	453908.50	757579.37	0.45	
8081.00	6.53	90.94	8070.64	-14.56	-35.93	275.84	453907.37	757599.14	0.47	
8267.00	6.69	89.72	8255.40	-13.03	-36.05	297.25	453907.25	757620.55	0.11	
8452.00	8.33	93.01	8438.81	-11.82	-36.70	321.41	453906.60	757644.71	0.92	
8637.00	6.84	89.76	8622.19	-10.59	-37.36	345.81	453905.94	757669.11	0.84	
8822.00	9.26	92.16	8805.35	-9.11	-37.87	371.70	453905.43	757695.00	1.32	
9006.00	8.23	96.72	8987.21	-9.06	-39.97	399.58	453903.33	757722.88	0.67	
9191.00	7.67	106.19	9170.44	-12.11	-44.96	424.59	453898.34	757747.89	0.77	
9374.00	8.17	94.36	9351.71	-14.58	-49.36	449.28	453893.94	757772.58	0.93	
9559.00	9.87	88.68	9534.42	-12.98	-49.99	478.24	453893.31	757801.54	1.04	
9745.00	8.98	86.71	9717.90	-9.44	-48.79	508.67	453894.51	757831.97	0.51	Tie On Wft
9892.00	14.96	83.04	9861.64	-4.15	-45.83	538.99	453897.47	757862.29	4.10	First Wft Svy
9953.00	14.26	82.54	9920.67	-1.05	-43.90	554.25	453899.40	757877.55	1.17	
9998.00	14.48	73.41	9964.27	2.10	-41.57	565.14	453901.73	757888.44	5.05	
10046.00	16.64	65.70	10010.51	7.56	-37.03	577.16	453906.27	757900.46	6.22	
10091.00	18.73	54.09	10053.40	15.33	-30.14	588.89	453913.16	757912.19	9.09	
10138.00	21.05	51.07	10097.59	26.01	-20.41	601.57	453922.89	757924.87	5.40	
10183.00	23.09	39.34	10139.31	38.80	-8.50	613.46	453934.80	757936.76	10.77	
10230.00	25.57	29.73	10182.15	55.54	7.45	624.33	453950.75	757947.63	9.92	
10275.00	29.10	25.17	10222.12	74.56	25.79	633.81	453969.09	757957.11	9.12	
10322.00	33.28	24.00	10262.32	97.41	47.92	643.92	453991.22	757967.22	8.99	
10367.00	37.78	18.93	10298.94	122.40	72.26	653.42	454015.56	757976.72	11.95	
10415.00	43.58	16.86	10335.33	152.82	102.03	663.00	454045.33	757986.30	12.40	
10460.00	47.65	13.13	10366.81	184.42	133.09	671.28	454076.39	757994.58	10.81	
10507.00	50.62	9.73	10397.56	219.69	167.92	678.30	454111.22	758001.60	8.36	
10552.00	53.20	6.76	10425.32	255.02	202.96	683.36	454146.26	758006.66	7.74	
10599.00	57.20	5.11	10452.14	293.59	241.34	687.33	454184.64	758010.63	8.99	
10644.00	61.18	2.92	10475.19	332.23	279.88	690.02	454223.18	758013.32	9.78	
10692.00	65.25	1.46	10496.81	375.03	322.69	691.65	454265.99	758014.95	8.90	
10737.00	69.66	1.15	10514.06	416.52	364.23	692.59	454307.53	758015.89	9.82	
10784.00	74.07	2.84	10528.69	461.14	408.85	694.16	454352.15	758017.46	9.99	
10822.36	76.84	3.51	10538.32	498.25	445.92	696.21	454389.22	758019.51	7.41	Cross Sec 5 1/2 Sec Line (10822.36'M D)
10829.00	77.32	3.62	10539.81	504.72	452.38	696.62	454395.68	758019.92	7.41	
10876.00	81.09	4.16	10548.61	550.88	498.44	699.75	454441.74	758023.05	8.10	
10921.00	86.08	2.85	10553.63	595.58	543.06	702.48	454486.36	758025.78	11.46	
10923.93	86.35	2.76	10553.83	598.50	545.98	702.62	454489.28	758025.92	9.80	FTP (10923.93 MD)
10969.00	90.56	1.41	10555.04	643.51	590.99	704.26	454534.29	758027.56	9.80	
11061.00	91.54	0.39	10553.35	735.32	682.96	705.71	454626.26	758029.01	1.54	
11153.00	91.61	0.51	10550.83	827.06	774.92	706.43	454718.22	758029.73	0.15	
11245.00	92.31	0.85	10547.68	918.81	866.86	707.52	454810.16	758030.82	0.85	
11430.00	90.35	359.83	10543.39	1103.28	1051.80	708.62	454995.10	758031.92	1.19	
11522.00	90.70	359.86	10542.54	1194.98	1143.79	708.37	455087.09	758031.67	0.38	
11615.00	89.37	359.50	10542.49	1287.66	1236.79	707.85	455180.09	758031.15	1.48	
11722.00	88.18	0.44	10544.77	1394.31	1343.76	707.79	455287.06	758031.09	1.42	
11815.00	90.28	0.10	10546.02	1487.06	1436.75	708.23	455380.05	758031.53	2.29	
11907.00	92.52	0.09	10543.78	1578.76	1528.71	708.38	455472.01	758031.68	2.43	
11999.00	92.45	359.97	10539.79	1670.40	1620.63	708.43	455563.93	758031.73	0.15	
12092.00	93.43	359.77	10535.02	1762.99	1713.50	708.22	455656.80	758031.52	1.08	
12185.00	93.15	0.41	10529.68	1855.57	1806.35	708.37	455749.65	758031.67	0.75	
12278.00	91.68	0.64	10525.76	1948.27	1899.26	709.22	455842.56	758032.52	1.60	
12370.00	89.30	0.41	10524.97	2040.05	1991.25	710.06	455934.55	758033.36	2.60	
12462.00	89.02	0.31	10526.32	2131.81	2083.23	710.64	456026.53	758033.94	0.32	
12554.00	88.32	359.06	10528.46	2223.46	2175.21	710.13	456118.51	758033.43	1.56	

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)										Comment
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	
12647.00	87.90	358.61	10531.53	2315.97	2268.14	708.24	456211.44	758031.54	0.66	
12739.00	87.06	358.37	10535.57	2407.39	2360.01	705.82	456303.31	758029.12	0.95	
12832.00	88.67	358.08	10539.03	2499.78	2452.90	702.94	456396.20	758026.24	1.76	
12924.00	87.83	358.34	10541.84	2591.20	2544.81	700.07	456488.11	758023.37	0.96	
13017.00	87.27	358.80	10545.82	2683.63	2637.70	697.75	456581.00	758021.05	0.78	
13109.00	88.53	358.69	10549.19	2775.11	2729.61	695.74	456672.91	758019.04	1.37	
13201.00	88.25	358.69	10551.78	2866.62	2821.55	693.64	456764.85	758016.94	0.30	
13293.00	89.72	358.31	10553.41	2958.11	2913.50	691.23	456856.80	758014.53	1.65	
13386.00	89.58	359.00	10553.97	3050.64	3006.48	689.04	456949.78	758012.34	0.76	
13478.00	87.27	359.45	10556.50	3142.22	3098.43	687.80	457041.73	758011.10	2.56	
13571.00	88.46	359.12	10559.97	3234.78	3191.35	686.64	457134.65	758009.94	1.33	
13663.00	85.94	0.85	10564.46	3326.38	3283.23	686.62	457226.53	758009.92	3.32	
13756.00	86.99	1.53	10570.20	3419.06	3376.03	688.54	457319.33	758011.84	1.34	
13848.00	84.89	1.45	10576.71	3510.70	3467.77	690.93	457411.07	758014.23	2.28	
13942.00	86.78	1.77	10583.54	3604.33	3561.48	693.56	457504.78	758016.86	2.04	
14034.00	88.95	1.97	10586.96	3696.17	3653.36	696.56	457596.66	758019.86	2.37	
14126.00	87.83	1.23	10589.55	3788.02	3745.28	699.13	457688.58	758022.43	1.46	
14218.00	87.76	0.74	10593.09	3879.79	3837.20	700.71	457780.50	758024.01	0.54	
14311.00	88.04	0.59	10596.50	3972.53	3930.13	701.79	457873.43	758025.09	0.34	
14403.00	87.55	358.82	10600.03	4064.15	4022.06	701.32	457965.36	758024.62	1.99	
14496.00	87.83	358.23	10603.78	4156.58	4114.95	698.93	458058.25	758022.23	0.70	
14588.00	89.72	359.13	10605.75	4248.09	4206.90	696.81	458150.20	758020.11	2.28	
14680.00	89.30	358.21	10606.54	4339.62	4298.87	694.67	458242.17	758017.97	1.10	
14774.00	90.42	359.05	10606.77	4433.14	4392.84	692.42	458336.14	758015.72	1.49	
14866.00	90.35	359.27	10606.15	4524.75	4484.83	691.08	458428.13	758014.38	0.25	
14959.00	91.61	359.31	10604.56	4617.36	4577.81	689.92	458521.11	758013.22	1.36	
15051.00	89.72	359.12	10603.49	4708.97	4669.79	688.66	458613.09	758011.96	2.06	
15143.00	91.12	359.70	10602.82	4800.62	4761.78	687.72	458705.08	758011.02	1.65	
15236.00	89.93	358.15	10601.96	4893.18	4854.75	685.97	458798.05	758009.27	2.10	
15329.00	88.32	357.83	10603.38	4985.58	4947.68	682.71	458890.98	758006.01	1.77	
15421.00	89.16	358.30	10605.41	5076.99	5039.61	679.60	458982.91	758002.90	1.05	
15513.00	90.07	358.77	10606.03	5168.51	5131.57	677.25	459074.87	758000.55	1.11	
15605.00	90.49	359.39	10605.58	5260.10	5223.56	675.77	459166.86	757999.07	0.81	
15697.00	91.47	359.58	10604.00	5351.75	5315.54	674.95	459258.84	757998.25	1.09	
15790.00	90.70	1.05	10602.24	5444.49	5408.52	675.46	459351.82	757998.76	1.78	
15882.00	89.65	1.11	10601.96	5536.33	5500.50	677.19	459443.80	758000.49	1.14	
15975.00	88.46	0.69	10603.49	5629.14	5593.48	678.65	459536.78	758001.95	1.36	
16067.00	87.55	0.57	10606.70	5720.89	5685.41	679.67	459628.71	758002.97	1.00	
16159.00	88.32	0.12	10610.01	5812.59	5777.35	680.22	459720.65	758003.52	0.97	
16252.00	88.53	358.19	10612.57	5905.16	5870.30	678.85	459813.60	758002.15	2.09	
16345.00	89.30	358.35	10614.33	5997.61	5963.24	676.04	459906.54	757999.34	0.85	
16437.00	90.07	358.17	10614.83	6089.07	6055.20	673.25	459998.50	757996.55	0.86	
16529.00	90.84	358.06	10614.10	6180.51	6147.14	670.22	460090.44	757993.52	0.85	
16623.00	91.89	358.55	10611.86	6273.95	6241.08	667.44	460184.38	757990.74	1.23	
16715.00	90.35	358.89	10610.07	6365.48	6333.03	665.39	460276.33	757988.69	1.71	
16807.00	88.67	359.19	10610.85	6457.06	6425.01	663.85	460368.31	757987.15	1.85	
16900.00	89.02	358.88	10612.73	6549.63	6517.98	662.28	460461.28	757985.58	0.50	
16992.00	89.93	358.96	10613.57	6641.21	6609.96	660.55	460553.26	757983.85	0.99	
17084.00	90.07	358.09	10613.57	6732.72	6701.93	658.18	460645.23	757981.48	0.96	
17176.00	90.77	358.52	10612.90	6824.19	6793.88	655.46	460737.18	757978.76	0.89	
17269.00	91.47	358.91	10611.08	6916.71	6886.84	653.37	460830.14	757976.67	0.86	
17362.00	90.35	359.20	10609.60	7009.29	6979.82	651.84	460923.12	757975.14	1.24	
17456.00	89.16	359.94	10610.00	7102.95	7073.81	651.13	461017.11	757974.43	1.49	
17550.00	89.30	359.89	10611.27	7196.65	7167.80	650.99	461111.10	757974.29	0.16	
17644.00	90.14	359.90	10611.73	7290.36	7261.80	650.82	461205.10	757974.12	0.89	
17737.00	89.09	0.25	10612.35	7383.09	7354.80	650.94	461298.10	757974.24	1.19	
17831.00	89.44	0.50	10613.56	7476.85	7448.79	651.56	461392.09	757974.86	0.46	
17925.00	90.00	0.64	10614.02	7570.63	7542.78	652.49	461486.08	757975.79	0.61	
18019.00	90.84	0.81	10613.33	7664.43	7636.77	653.68	461580.07	757976.98	0.91	

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
18113.00	90.98	359.80	10611.83	7758.18	7730.75	654.18	461674.05	757977.48	1.08	
18207.00	91.89	359.96	10609.48	7851.85	7824.72	653.99	461768.02	757977.29	0.98	
18301.00	91.89	359.86	10606.38	7945.51	7918.67	653.84	461861.97	757977.14	0.11	
18395.00	92.65	359.78	10602.66	8039.13	8012.60	653.54	461955.90	757976.84	0.81	
18410.80	92.85	359.86	10601.90	8054.86	8028.38	653.49	461971.68	757976.79	1.34	Cross 330 HL (18410.80 MD)
18440.00	93.21	0.00	10600.36	8083.93	8057.54	653.46	462000.84	757976.76	1.34	Last Wft Svy
18510.00	93.21	0.00	10596.44	8153.62	8127.43	653.46	462070.73	757976.76	0.00	PTB