KAISER-FRANCIS OIL COMPANY

Kaiser - Francis Oil Company

Lea Co, NM (Nad 27 NME)
South Bell Lake Unit 6 3 BSS
#1H

OH

Plan: Plan #1

Standard Planning Report

24 November, 2015

Scientific Drilling

www.scientificdrilling.com

Database:	Midland District	**Local Co-ordinate Reference:**	Well #1H
Company:	Kaiser - Francis Oil Company	**TVD Reference:**	KB=23' @ 3624.00usft (Cactus 170)
Project:	Lea Co, NM (Nad 27 NME)	**MD Reference:**	KB=23' @ 3624.00usft (Cactus 170)
Site:	South Bell Lake Unit 6 3 BSS	**North Reference:**	Grid
Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project	Lea Co, NM (Nad 27 NME)		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	South Bell Lake Unit 6 3 BSS				
Site Position:		**Northing:**	453,957.70 usft	**Latitude:**	32° 14' 43.105 N
From:	Map	**Easting:**	757,248.20 usft	**Longitude:**	103° 30' 4.594 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.44 °

Well	#1H					
Well Position	**+N/-S**	0.00 usft	**Northing:**	453,957.70 usft	**Latitude:**	32° 14' 43.105 N
	+E/-W	0.00 usft	**Easting:**	757,248.20 usft	**Longitude:**	103° 30' 4.594 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,601.00 usft

Wellbore	OH			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	HDGM	11/18/2015	6.98	60.05	48,315

Design	Plan #1			
Audit Notes:				
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (bearing)**
	0.00	0.00	0.00	4.97

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,800.19	6.00	96.94	1,799.64	-1.90	15.60	2.00	2.00	0.00	96.94	
8,987.37	6.00	96.94	8,947.40	-92.71	761.83	0.00	0.00	0.00	0.00	
9,287.56	0.00	0.00	9,247.04	-94.61	777.42	2.00	-2.00	0.00	180.00	
9,767.56	0.00	0.00	9,727.04	-94.61	777.42	0.00	0.00	0.00	0.00	KOP (SBL Unit 6 3BS
10,667.56	90.00	359.43	10,300.00	478.32	771.69	10.00	10.00	-0.06	359.43	
18,203.22	90.00	359.43	10,300.00	8,013.60	696.30	0.00	0.00	0.00	0.00	PBHL (SBL Unit 6 3B

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Site:	South Bell Lake Unit 6 3 BSS	**North Reference:**	Grid
Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	2.00	96.94	1,599.98	-0.21	1.73	-0.06	2.00	2.00	0.00
1,700.00	4.00	96.94	1,699.84	-0.84	6.93	-0.24	2.00	2.00	0.00
1,800.19	6.00	96.94	1,799.64	-1.90	15.60	-0.54	2.00	2.00	0.00
1,900.00	6.00	96.94	1,898.90	-3.16	25.96	-0.90	0.00	0.00	0.00
2,000.00	6.00	96.94	1,998.36	-4.42	36.34	-1.26	0.00	0.00	0.00
2,100.00	6.00	96.94	2,097.81	-5.69	46.73	-1.62	0.00	0.00	0.00
2,200.00	6.00	96.94	2,197.26	-6.95	57.11	-1.98	0.00	0.00	0.00
2,300.00	6.00	96.94	2,296.71	-8.21	67.49	-2.34	0.00	0.00	0.00
2,400.00	6.00	96.94	2,396.16	-9.48	77.88	-2.70	0.00	0.00	0.00
2,500.00	6.00	96.94	2,495.61	-10.74	88.26	-3.06	0.00	0.00	0.00
2,600.00	6.00	96.94	2,595.06	-12.00	98.64	-3.42	0.00	0.00	0.00
2,700.00	6.00	96.94	2,694.52	-13.27	109.02	-3.78	0.00	0.00	0.00
2,800.00	6.00	96.94	2,793.97	-14.53	119.41	-4.14	0.00	0.00	0.00
2,900.00	6.00	96.94	2,893.42	-15.80	129.79	-4.50	0.00	0.00	0.00
3,000.00	6.00	96.94	2,992.87	-17.06	140.17	-4.86	0.00	0.00	0.00
3,100.00	6.00	96.94	3,092.32	-18.32	150.55	-5.22	0.00	0.00	0.00
3,200.00	6.00	96.94	3,191.77	-19.59	160.94	-5.58	0.00	0.00	0.00
3,300.00	6.00	96.94	3,291.22	-20.85	171.32	-5.94	0.00	0.00	0.00
3,400.00	6.00	96.94	3,390.68	-22.11	181.70	-6.30	0.00	0.00	0.00
3,500.00	6.00	96.94	3,490.13	-23.38	192.09	-6.66	0.00	0.00	0.00
3,600.00	6.00	96.94	3,589.58	-24.64	202.47	-7.02	0.00	0.00	0.00
3,700.00	6.00	96.94	3,689.03	-25.90	212.85	-7.38	0.00	0.00	0.00
3,800.00	6.00	96.94	3,788.48	-27.17	223.23	-7.74	0.00	0.00	0.00
3,900.00	6.00	96.94	3,887.93	-28.43	233.62	-8.10	0.00	0.00	0.00
4,000.00	6.00	96.94	3,987.39	-29.69	244.00	-8.46	0.00	0.00	0.00
4,100.00	6.00	96.94	4,086.84	-30.96	254.38	-8.82	0.00	0.00	0.00
4,200.00	6.00	96.94	4,186.29	-32.22	264.76	-9.18	0.00	0.00	0.00
4,300.00	6.00	96.94	4,285.74	-33.49	275.15	-9.54	0.00	0.00	0.00
4,400.00	6.00	96.94	4,385.19	-34.75	285.53	-9.90	0.00	0.00	0.00
4,500.00	6.00	96.94	4,484.64	-36.01	295.91	-10.26	0.00	0.00	0.00
4,600.00	6.00	96.94	4,584.09	-37.28	306.30	-10.62	0.00	0.00	0.00
4,700.00	6.00	96.94	4,683.55	-38.54	316.68	-10.98	0.00	0.00	0.00
4,800.00	6.00	96.94	4,783.00	-39.80	327.06	-11.34	0.00	0.00	0.00
4,900.00	6.00	96.94	4,882.45	-41.07	337.44	-11.70	0.00	0.00	0.00
5,000.00	6.00	96.94	4,981.90	-42.33	347.83	-12.06	0.00	0.00	0.00
5,100.00	6.00	96.94	5,081.35	-43.59	358.21	-12.42	0.00	0.00	0.00
5,200.00	6.00	96.94	5,180.80	-44.86	368.59	-12.78	0.00	0.00	0.00
5,300.00	6.00	96.94	5,280.25	-46.12	378.98	-13.14	0.00	0.00	0.00

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Site:	South Bell Lake Unit 6 3 BSS	**North Reference:**	Grid
Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.00	6.00	96.94	5,379.71	-47.38	389.36	-13.50	0.00	0.00	0.00
5,500.00	6.00	96.94	5,479.16	-48.65	399.74	-13.86	0.00	0.00	0.00
5,600.00	6.00	96.94	5,578.61	-49.91	410.12	-14.22	0.00	0.00	0.00
5,700.00	6.00	96.94	5,678.06	-51.18	420.51	-14.58	0.00	0.00	0.00
5,800.00	6.00	96.94	5,777.51	-52.44	430.89	-14.94	0.00	0.00	0.00
5,900.00	6.00	96.94	5,876.96	-53.70	441.27	-15.30	0.00	0.00	0.00
6,000.00	6.00	96.94	5,976.42	-54.97	451.65	-15.66	0.00	0.00	0.00
6,100.00	6.00	96.94	6,075.87	-56.23	462.04	-16.02	0.00	0.00	0.00
6,200.00	6.00	96.94	6,175.32	-57.49	472.42	-16.38	0.00	0.00	0.00
6,300.00	6.00	96.94	6,274.77	-58.76	482.80	-16.74	0.00	0.00	0.00
6,400.00	6.00	96.94	6,374.22	-60.02	493.19	-17.10	0.00	0.00	0.00
6,500.00	6.00	96.94	6,473.67	-61.28	503.57	-17.46	0.00	0.00	0.00
6,600.00	6.00	96.94	6,573.12	-62.55	513.95	-17.82	0.00	0.00	0.00
6,700.00	6.00	96.94	6,672.58	-63.81	524.33	-18.18	0.00	0.00	0.00
6,800.00	6.00	96.94	6,772.03	-65.07	534.72	-18.54	0.00	0.00	0.00
6,900.00	6.00	96.94	6,871.48	-66.34	545.10	-18.90	0.00	0.00	0.00
7,000.00	6.00	96.94	6,970.93	-67.60	555.48	-19.26	0.00	0.00	0.00
7,100.00	6.00	96.94	7,070.38	-68.87	565.86	-19.62	0.00	0.00	0.00
7,200.00	6.00	96.94	7,169.83	-70.13	576.25	-19.98	0.00	0.00	0.00
7,300.00	6.00	96.94	7,269.28	-71.39	586.63	-20.34	0.00	0.00	0.00
7,400.00	6.00	96.94	7,368.74	-72.66	597.01	-20.70	0.00	0.00	0.00
7,500.00	6.00	96.94	7,468.19	-73.92	607.40	-21.06	0.00	0.00	0.00
7,600.00	6.00	96.94	7,567.64	-75.18	617.78	-21.42	0.00	0.00	0.00
7,700.00	6.00	96.94	7,667.09	-76.45	628.16	-21.78	0.00	0.00	0.00
7,800.00	6.00	96.94	7,766.54	-77.71	638.54	-22.14	0.00	0.00	0.00
7,900.00	6.00	96.94	7,865.99	-78.97	648.93	-22.50	0.00	0.00	0.00
8,000.00	6.00	96.94	7,965.45	-80.24	659.31	-22.86	0.00	0.00	0.00
8,100.00	6.00	96.94	8,064.90	-81.50	669.69	-23.22	0.00	0.00	0.00
8,200.00	6.00	96.94	8,164.35	-82.76	680.08	-23.58	0.00	0.00	0.00
8,300.00	6.00	96.94	8,263.80	-84.03	690.46	-23.94	0.00	0.00	0.00
8,400.00	6.00	96.94	8,363.25	-85.29	700.84	-24.30	0.00	0.00	0.00
8,500.00	6.00	96.94	8,462.70	-86.56	711.22	-24.66	0.00	0.00	0.00
8,600.00	6.00	96.94	8,562.15	-87.82	721.61	-25.02	0.00	0.00	0.00
8,700.00	6.00	96.94	8,661.61	-89.08	731.99	-25.38	0.00	0.00	0.00
8,800.00	6.00	96.94	8,761.06	-90.35	742.37	-25.74	0.00	0.00	0.00
8,900.00	6.00	96.94	8,860.51	-91.61	752.75	-26.10	0.00	0.00	0.00
8,987.37	6.00	96.94	8,947.40	-92.71	761.83	-26.42	0.00	0.00	0.00
9,000.00	5.75	96.94	8,959.96	-92.87	763.11	-26.46	2.00	-2.00	0.00
9,100.00	3.75	96.94	9,059.61	-93.87	771.33	-26.75	2.00	-2.00	0.00
9,200.00	1.75	96.94	9,159.49	-94.45	776.10	-26.91	2.00	-2.00	0.00
9,287.56	0.00	0.00	9,247.04	-94.61	777.42	-26.96	2.00	-2.00	0.00
9,300.00	0.00	0.00	9,259.48	-94.61	777.42	-26.96	0.00	0.00	0.00
9,400.00	0.00	0.00	9,359.48	-94.61	777.42	-26.96	0.00	0.00	0.00
9,500.00	0.00	0.00	9,459.48	-94.61	777.42	-26.96	0.00	0.00	0.00
9,600.00	0.00	0.00	9,559.48	-94.61	777.42	-26.96	0.00	0.00	0.00
9,700.00	0.00	0.00	9,659.48	-94.61	777.42	-26.96	0.00	0.00	0.00
9,767.56	0.00	0.00	9,727.04	-94.61	777.42	-26.96	0.00	0.00	0.00
9,800.00	3.24	359.43	9,759.46	-93.69	777.42	-26.05	10.00	10.00	0.00
9,850.00	8.24	359.43	9,809.20	-88.69	777.37	-21.07	10.00	10.00	0.00
9,900.00	13.24	359.43	9,858.30	-79.37	777.27	-11.79	10.00	10.00	0.00
9,950.00	18.24	359.43	9,906.41	-65.81	777.14	1.71	10.00	10.00	0.00
10,000.00	23.24	359.43	9,953.16	-48.11	776.96	19.33	10.00	10.00	0.00
10,050.00	28.24	359.43	9,998.18	-26.40	776.74	40.94	10.00	10.00	0.00
10,100.00	33.24	359.43	10,041.14	-0.85	776.49	66.37	10.00	10.00	0.00

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Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,150.00	38.24	359.43	10,081.71	28.35	776.19	95.43	10.00	10.00	0.00
10,200.00	43.24	359.43	10,119.58	60.97	775.87	127.90	10.00	10.00	0.00
10,250.00	48.24	359.43	10,154.46	96.77	775.51	163.54	10.00	10.00	0.00
10,300.00	53.24	359.43	10,186.09	135.47	775.12	202.06	10.00	10.00	0.00
10,350.00	58.24	359.43	10,214.22	176.78	774.71	243.18	10.00	10.00	0.00
10,400.00	63.24	359.43	10,238.65	220.39	774.27	286.59	10.00	10.00	0.00
10,450.00	68.24	359.43	10,259.19	265.96	773.82	331.94	10.00	10.00	0.00
10,500.00	73.24	359.43	10,275.67	313.14	773.34	378.91	10.00	10.00	0.00
10,550.00	78.24	359.43	10,287.98	361.59	772.86	427.13	10.00	10.00	0.00
10,600.00	83.24	359.43	10,296.02	410.92	772.37	476.23	10.00	10.00	0.00
10,650.00	88.24	359.43	10,299.73	460.76	771.87	525.85	10.00	10.00	0.00
10,667.56	90.00	359.43	10,300.00	478.32	771.69	543.32	10.00	10.00	0.00
10,700.00	90.00	359.43	10,300.00	510.76	771.37	575.61	0.00	0.00	0.00
10,800.00	90.00	359.43	10,300.00	610.75	770.37	675.14	0.00	0.00	0.00
10,900.00	90.00	359.43	10,300.00	710.75	769.37	774.68	0.00	0.00	0.00
11,000.00	90.00	359.43	10,300.00	810.74	768.37	874.21	0.00	0.00	0.00
11,100.00	90.00	359.43	10,300.00	910.74	767.37	973.74	0.00	0.00	0.00
11,200.00	90.00	359.43	10,300.00	1,010.73	766.37	1,073.28	0.00	0.00	0.00
11,300.00	90.00	359.43	10,300.00	1,110.73	765.36	1,172.81	0.00	0.00	0.00
11,400.00	90.00	359.43	10,300.00	1,210.72	764.36	1,272.34	0.00	0.00	0.00
11,500.00	90.00	359.43	10,300.00	1,310.72	763.36	1,371.88	0.00	0.00	0.00
11,600.00	90.00	359.43	10,300.00	1,410.71	762.36	1,471.41	0.00	0.00	0.00
11,700.00	90.00	359.43	10,300.00	1,510.71	761.36	1,570.94	0.00	0.00	0.00
11,800.00	90.00	359.43	10,300.00	1,610.70	760.36	1,670.47	0.00	0.00	0.00
11,900.00	90.00	359.43	10,300.00	1,710.70	759.36	1,770.01	0.00	0.00	0.00
12,000.00	90.00	359.43	10,300.00	1,810.69	758.36	1,869.54	0.00	0.00	0.00
12,100.00	90.00	359.43	10,300.00	1,910.69	757.36	1,969.07	0.00	0.00	0.00
12,200.00	90.00	359.43	10,300.00	2,010.68	756.36	2,068.61	0.00	0.00	0.00
12,300.00	90.00	359.43	10,300.00	2,110.68	755.36	2,168.14	0.00	0.00	0.00
12,400.00	90.00	359.43	10,300.00	2,210.67	754.36	2,267.67	0.00	0.00	0.00
12,500.00	90.00	359.43	10,300.00	2,310.67	753.36	2,367.21	0.00	0.00	0.00
12,600.00	90.00	359.43	10,300.00	2,410.66	752.36	2,466.74	0.00	0.00	0.00
12,700.00	90.00	359.43	10,300.00	2,510.66	751.36	2,566.27	0.00	0.00	0.00
12,800.00	90.00	359.43	10,300.00	2,610.65	750.36	2,665.81	0.00	0.00	0.00
12,900.00	90.00	359.43	10,300.00	2,710.65	749.36	2,765.34	0.00	0.00	0.00
13,000.00	90.00	359.43	10,300.00	2,810.64	748.36	2,864.87	0.00	0.00	0.00
13,100.00	90.00	359.43	10,300.00	2,910.64	747.36	2,964.40	0.00	0.00	0.00
13,200.00	90.00	359.43	10,300.00	3,010.63	746.36	3,063.94	0.00	0.00	0.00
13,300.00	90.00	359.43	10,300.00	3,110.63	745.36	3,163.47	0.00	0.00	0.00
13,400.00	90.00	359.43	10,300.00	3,210.62	744.35	3,263.00	0.00	0.00	0.00
13,500.00	90.00	359.43	10,300.00	3,310.62	743.35	3,362.54	0.00	0.00	0.00
13,600.00	90.00	359.43	10,300.00	3,410.61	742.35	3,462.07	0.00	0.00	0.00
13,700.00	90.00	359.43	10,300.00	3,510.61	741.35	3,561.60	0.00	0.00	0.00
13,800.00	90.00	359.43	10,300.00	3,610.60	740.35	3,661.14	0.00	0.00	0.00
13,900.00	90.00	359.43	10,300.00	3,710.60	739.35	3,760.67	0.00	0.00	0.00
14,000.00	90.00	359.43	10,300.00	3,810.59	738.35	3,860.20	0.00	0.00	0.00
14,100.00	90.00	359.43	10,300.00	3,910.59	737.35	3,959.73	0.00	0.00	0.00
14,200.00	90.00	359.43	10,300.00	4,010.58	736.35	4,059.27	0.00	0.00	0.00
14,300.00	90.00	359.43	10,300.00	4,110.58	735.35	4,158.80	0.00	0.00	0.00
14,400.00	90.00	359.43	10,300.00	4,210.57	734.35	4,258.33	0.00	0.00	0.00
14,500.00	90.00	359.43	10,300.00	4,310.57	733.35	4,357.87	0.00	0.00	0.00
14,600.00	90.00	359.43	10,300.00	4,410.56	732.35	4,457.40	0.00	0.00	0.00
14,700.00	90.00	359.43	10,300.00	4,510.56	731.35	4,556.93	0.00	0.00	0.00
14,800.00	90.00	359.43	10,300.00	4,610.55	730.35	4,656.47	0.00	0.00	0.00

Database:	Midland District	**Local Co-ordinate Reference:**	Well #1H
Company:	Kaiser - Francis Oil Company	**TVD Reference:**	KB=23' @ 3624.00usft (Cactus 170)
Project:	Lea Co, NM (Nad 27 NME)	**MD Reference:**	KB=23' @ 3624.00usft (Cactus 170)
Site:	South Bell Lake Unit 6 3 BSS	**North Reference:**	Grid
Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,900.00	90.00	359.43	10,300.00	4,710.55	729.35	4,756.00	0.00	0.00	0.00
15,000.00	90.00	359.43	10,300.00	4,810.54	728.35	4,855.53	0.00	0.00	0.00
15,100.00	90.00	359.43	10,300.00	4,910.54	727.35	4,955.07	0.00	0.00	0.00
15,200.00	90.00	359.43	10,300.00	5,010.53	726.35	5,054.60	0.00	0.00	0.00
15,300.00	90.00	359.43	10,300.00	5,110.53	725.35	5,154.13	0.00	0.00	0.00
15,400.00	90.00	359.43	10,300.00	5,210.52	724.35	5,253.66	0.00	0.00	0.00
15,500.00	90.00	359.43	10,300.00	5,310.52	723.34	5,353.20	0.00	0.00	0.00
15,600.00	90.00	359.43	10,300.00	5,410.51	722.34	5,452.73	0.00	0.00	0.00
15,700.00	90.00	359.43	10,300.00	5,510.51	721.34	5,552.26	0.00	0.00	0.00
15,800.00	90.00	359.43	10,300.00	5,610.50	720.34	5,651.80	0.00	0.00	0.00
15,900.00	90.00	359.43	10,300.00	5,710.50	719.34	5,751.33	0.00	0.00	0.00
16,000.00	90.00	359.43	10,300.00	5,810.49	718.34	5,850.86	0.00	0.00	0.00
16,100.00	90.00	359.43	10,300.00	5,910.49	717.34	5,950.40	0.00	0.00	0.00
16,200.00	90.00	359.43	10,300.00	6,010.48	716.34	6,049.93	0.00	0.00	0.00
16,300.00	90.00	359.43	10,300.00	6,110.48	715.34	6,149.46	0.00	0.00	0.00
16,400.00	90.00	359.43	10,300.00	6,210.47	714.34	6,248.99	0.00	0.00	0.00
16,500.00	90.00	359.43	10,300.00	6,310.47	713.34	6,348.53	0.00	0.00	0.00
16,600.00	90.00	359.43	10,300.00	6,410.46	712.34	6,448.06	0.00	0.00	0.00
16,700.00	90.00	359.43	10,300.00	6,510.46	711.34	6,547.59	0.00	0.00	0.00
16,800.00	90.00	359.43	10,300.00	6,610.45	710.34	6,647.13	0.00	0.00	0.00
16,900.00	90.00	359.43	10,300.00	6,710.45	709.34	6,746.66	0.00	0.00	0.00
17,000.00	90.00	359.43	10,300.00	6,810.44	708.34	6,846.19	0.00	0.00	0.00
17,100.00	90.00	359.43	10,300.00	6,910.44	707.34	6,945.73	0.00	0.00	0.00
17,200.00	90.00	359.43	10,300.00	7,010.43	706.34	7,045.26	0.00	0.00	0.00
17,300.00	90.00	359.43	10,300.00	7,110.43	705.34	7,144.79	0.00	0.00	0.00
17,400.00	90.00	359.43	10,300.00	7,210.42	704.34	7,244.33	0.00	0.00	0.00
17,500.00	90.00	359.43	10,300.00	7,310.42	703.34	7,343.86	0.00	0.00	0.00
17,600.00	90.00	359.43	10,300.00	7,410.41	702.34	7,443.39	0.00	0.00	0.00
17,700.00	90.00	359.43	10,300.00	7,510.41	701.33	7,542.92	0.00	0.00	0.00
17,800.00	90.00	359.43	10,300.00	7,610.40	700.33	7,642.46	0.00	0.00	0.00
17,900.00	90.00	359.43	10,300.00	7,710.40	699.33	7,741.99	0.00	0.00	0.00
18,000.00	90.00	359.43	10,300.00	7,810.39	698.33	7,841.52	0.00	0.00	0.00
18,100.00	90.00	359.43	10,300.00	7,910.39	697.33	7,941.06	0.00	0.00	0.00
18,203.22	90.00	359.43	10,300.00	8,013.60	696.30	8,043.79	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (bearing	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
KOP (SBL Unit 6 3BSS - plan hits target center - Point	0.00	0.00	9,727.04	-94.61	777.42	453,863.09	758,025.62	32° 14' 42.109 N	103° 29' 55.551 W
FTP (SBL Unit 6 3BSS - plan misses target center by 1.99usft at 10668.16usft MD (10300.00 TVD, 478.92 N, 771.69 E) - Point	0.00	0.01	10,300.00	478.90	769.70	454,436.60	758,017.90	32° 14' 47.785 N	103° 29' 55.589 W
PBHL (SBL Unit 6 3BSS - plan hits target center - Point	0.00	0.01	10,300.00	8,013.60	696.30	461,971.30	757,944.50	32° 16' 2.348 N	103° 29' 55.761 W

Kaiser-Francis Oil Company

South Bell Lake Unit 6 3 BSS #1H
Lea Co, NM (Nad 27 NME)
Northing: (Y) 453957.70
Easting: (X) 757248.20
Plan #1

Scientific Drilling

To convert Magnetic North to Grid, Add 6.54°
To convert True North to Grid, Subtract 0.44°

Azimuths to Grid North
True North: -0.44°
Magnetic North: 6.54°

Magnetic Field
Strength: 48314.8snT
Dip Angle: 60.05°
Date: 11/18/2015
Model: HDGM

KB=23' @ 3624.00usft (Cactus 170)

3601.00

Surface Hole Location:

Ground Level: 3601.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	453957.70	757248.20	32° 14' 43.105 N	103° 30' 4.594 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.00	
1800.19	6.00	96.94	1799.64	-1.90	15.60	2.00	96.94	-0.54	
8987.37	6.00	96.94	8947.40	-92.71	761.83	0.00	0.00	-26.42	
9287.56	0.00	0.00	9247.04	-94.61	777.42	2.00	180.00	-26.96	
9767.56	0.00	0.00	9727.04	-94.61	777.42	0.00	0.00	-26.96	KOP (SBL Unit 6 3BSS 1H)
10667.56	90.00	359.43	10300.00	478.32	771.69	10.00	359.43	543.32	
18203.22	90.00	359.43	10300.00	8013.60	696.30	0.00	0.00	8043.79	PBHL (SBL Unit 6 3BSS 1H)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
KOP (SBL Unit 6 3BSS 1H)	9727.04	-94.61	777.42	453863.09	758025.62
PBHL (SBL Unit 6 3BSS 1H)	10300.00	8013.60	696.30	461971.30	757944.50
FTP (SBL Unit 6 3BSS 1H)	10300.00	478.90	769.70	454436.60	758017.90

Units In Feet

SITE DETAILS: South Bell Lake Unit 6 3 BSS
Site Centre Northing: 453957.70
Easting: 757248.20

Positional Uncertainity: 0.00
Convergence: 0.44
Local North: Grid

PROJECT DETAILS: Lea Co, NM (Nad 27 NME)
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001

System Datum: Mean Sea Level

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001

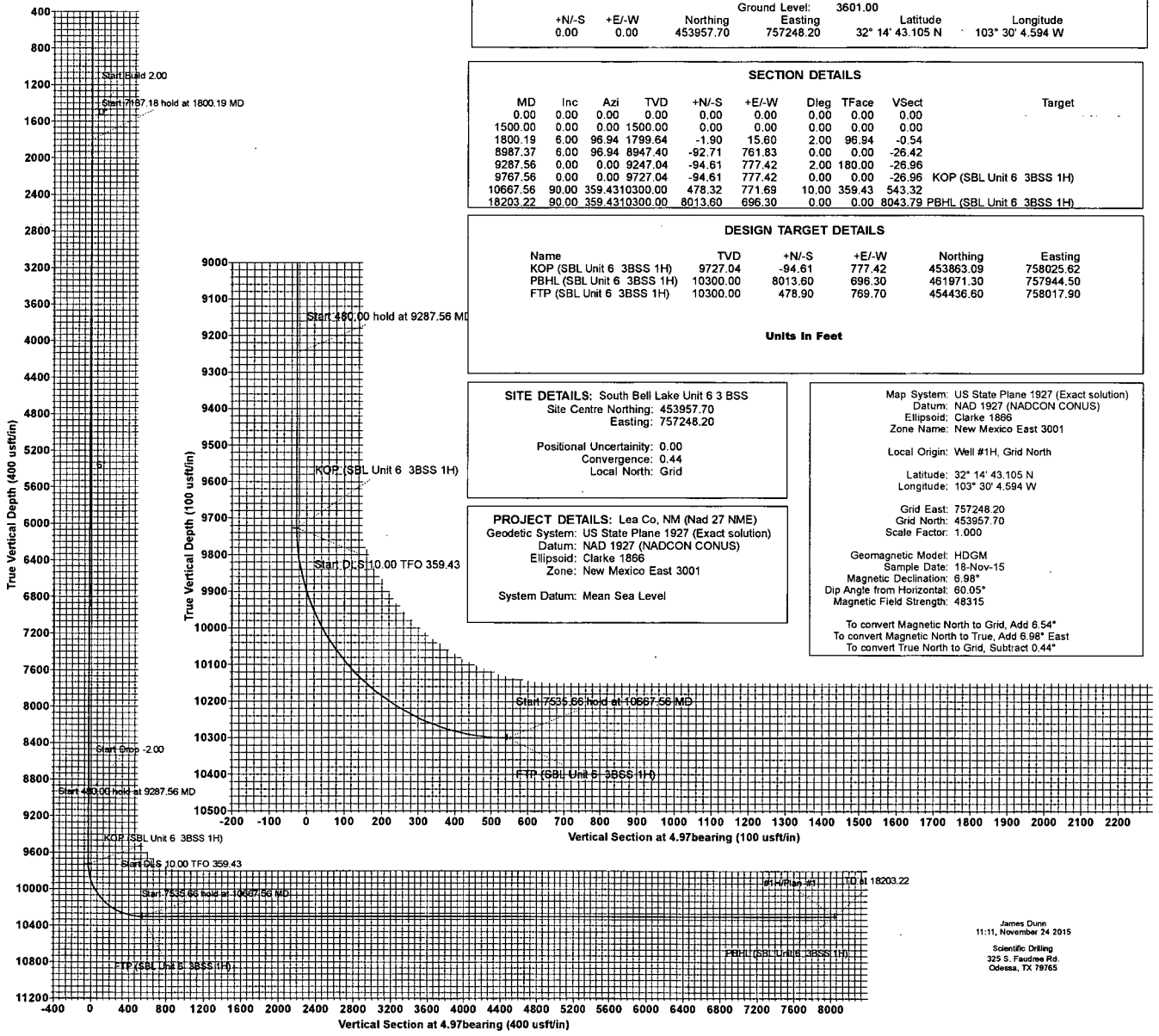
Local Origin: Well #1H, Grid North

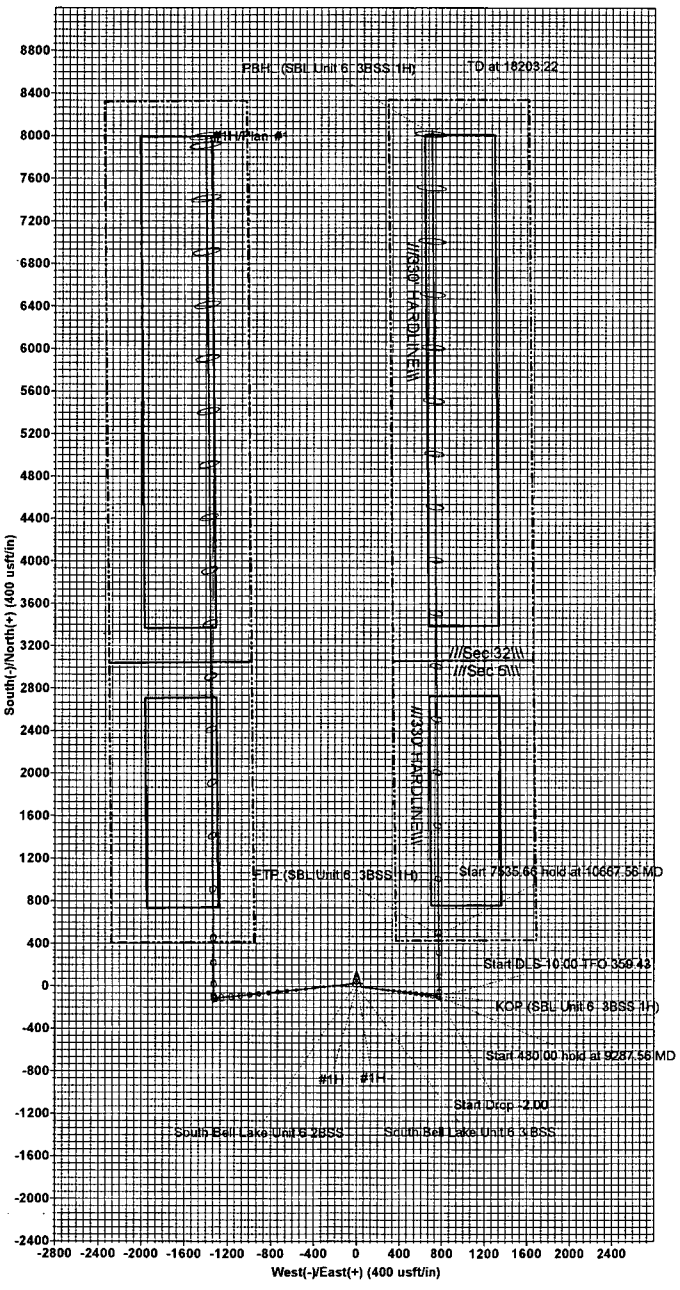
Latitude: 32° 14' 43.105 N
Longitude: 103° 30' 4.594 W

Grid East: 757248.20
Grid North: 453957.70
Scale Factor: 1.000

Geomagnetic Model: HDGM
Sample Date: 18-Nov-15
Magnetic Declination: 6.98°
Dip Angle from Horizontal: 60.05°
Magnetic Field Strength: 48315

To convert Magnetic North to Grid, Add 6.54°
To convert Magnetic North to True, Add 6.98° East
To convert True North to Grid, Subtract 0.44°





James Dunn
11:11, November 24 2015

Scientific Drilling
325 S. Faudree Rd.
Odessa, TX 79765

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

Kaiser-Francis Oil Company
P.O. Box 21468
Tulsa, Oklahoma 74121-1468

South Bell Lake Unit 6 3BSS Production Facility

November 16, 2015

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*Only relevant rule provisions are indicated. For a complete list of SPCC requirements, refer to the full text of 40 CFR part 112.

Introduction

The purpose of this Spill Prevention Control and Countermeasure (SPCC) Plan is to describe measures implemented by Kaiser-Francis Oil Company "KFOC" to prevent oil discharges from occurring, and to prepare KFOC to respond in a safe, effective, and timely manner to mitigate the impacts of a discharge from the South Bell Lake 3BSS production facility. This SPCC Plan has been prepared and implemented in accordance with the SPCC requirements contained in 40 CFR part 112.

In addition to fulfilling requirements of 40 CFR 112, this SPCC Plan is used as a reference for oil storage information and testing records, as a tool to communicate practices on preventing and responding to discharges with KFOC employees and contractors, as a guide on facility inspections, and as a resource during emergency response.

Management Approval

40 CFR 112.7

Kaiser-Francis Oil Company ("KFOC") is committed to maintaining the highest standards for preventing discharges of oil to navigable waters and the environment through the implementation of this SPCC Plan. This SPCC Plan has the full approval of KFOC management. KFOC's management has committed the necessary resources to implement the measures described in this Plan.

The Production Superintendent is the Designated Person Accountable for Oil Spill Prevention at this KFOC facility and has the authority to commit the necessary resources to implement the Plan as described.

Authorized Facility Representative: David Zerger

Signature: _____
Title: Operations Engineer

Date: _____

Professional Engineer Certification

40 CFR 112.3(d)

The undersigned Registered Professional Engineer is familiar with the requirements of Part 112 of Title 40 of the *Code of Federal Regulations* (40 CFR part 112) and has visited and examined the facility, or has supervised examination of the facility by appropriately qualified personnel. The undersigned Registered Professional Engineer attests that this Spill Prevention, Control and Countermeasure Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and the requirements of 40 CFR part 112; that procedures for required inspections have been established; and that this Plan is adequate for the facility. [112.3(d)]

This certification in no way relieves the owner or operator of the facility of his/her duty to prepare and fully implement this SPCC Plan in accordance with the requirements of 40 CFR part 112.

_____
Signature

_____
Date

Charles W. Lock
Name of Professional Engineer

16241 - OK
Registration Number/Issuing State

Plan Review
40 CFR 112.5

In accordance with 40 CFR 112.5, Kaiser-Francis Oil Company periodically reviews and evaluates this SPCC Plan for any change in the facility design, construction, operation, or maintenance that materially affects the facility's potential for an oil discharge. KFOC reviews this SPCC Plan at least once every five years. Revisions to the Plan, if any are needed, are made within six months of this five-year review. KFOC will implement any amendment as soon as possible, but not later than six months following preparation of any amendment. A registered PE certifies any technical amendment to the Plan, as described above, in accordance with 40 CFR (112.3(3).

Table 0-1: Record of Plan Review and Changes

MANAGEMENT REVIEW

- Management will review this SPCC Plan at least each five (5) years and document the review on the form below.

Review/ Amend Date	Signature	Amend Plan (will/will not)	Description of Review Amendment	Affected Page(s)	P.E. Certification (Y/N)

Location of SPCC Plan
40 CFR 112.3(e)

In accordance with 40 CFR 112.3(e), and because the facility is normally unmanned, a complete copy of this SPCC Plan is maintained at the Corporate Office, which is located at 6733 S. Yale Avenue, Tulsa, OK.

Certification of Substantial Harm Determination

40 CFR 112.20(e), 40 CFR 112.20(f)(1)

Facility Name: **Kaiser-Francis Oil Company, South Bell Lake 3BSS**

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?
Yes ☐ No ■

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil tank plus sufficient freeboard to allow for precipitation within any aboveground storage tank area?
Yes ☐ No ■

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?
Yes ☐ No ■

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula) such that a discharge from the facility would shut down a public drinking water intake?
Yes ☐ No ■

5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?
Yes ☐ No ■

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

_____	Safety and Environmental Coordinator
Signature	Title
Charles W. Lock	_____
Name (type or print)	Date

PART I – GENERAL FACILITY INFORMATION

40 CFR 112.7(a)(3)

1.1 Company Information

Name of Facility:	Kaiser-Francis Oil Company South Bell Lake 3BSS
Type	Onshore oil production facility
Location	30-23S-34E Lea County, NM
Name and Address of Owner	Kaiser-Francis Oil Company *Ardmore District Office* Box 197 (Dillard Route) Wilson, OK 73643 *Corporate Office* 6733 S. Yale Avenue Tulsa, OK 74133

1.2 Contact Information

The designated person accountable for overall oil spill prevention and response at the facility, also referred to as the "Response Coordinator" (RC), is the Production Superintendent, Bill Wilkinson. 24 hour contact information is provided in Table 1-1.

The pumper/gauger provides operation support activities for KFOC, including performing informal daily examinations of the facility equipment, as described in Section 3.4 of this SPCC Plan. The pumper regularly visits the facility to record production levels and perform other maintenance/inspection activities as requested by the Kaiser-Francis Operations Engineer. Pumper phone numbers are included in Table 1-1.

Table 1-1: Facility contact information

Name	Title	Telephone
Kelly Roach	Pumper	432/238-6996
Bill Wilkinson	Production Superintendent Kaiser-Francis Oil Company Ardmore District	580/668-2335 (office) 580/221-4637 (cell)
David Zerger	Operations Engineer Kaiser-Francis Oil Company Tulsa, OK	918/491-4350 (office)
Charles Lock	Safety & Environmental Kaiser-Francis Oil Company Tulsa, OK	918/491-4337 (office) 918/671-6510 (cell)

1.3 Facility Layout Diagram

Appendix A, at the end of this Plan, shows a general site plan for the facility. The site plan shows the site topography and the location of the facility relative to waterways, roads, and inhabited areas. Appendix A will also include a detailed facility diagram that shows the wells, tank battery, and transfer areas for the facility. The diagram will show the location, capacity, and contents of all oil storage containers greater than 55 gallons in capacity.

1.4 Facility Location and Operations

KFOC operates the South Bell Lake Unit 6 3BSS production facility; directions to the lease are as follows:

From the intersection of E21 (Delaware Basin) and ST highway 128 go North approx. 2.6 miles on Co Road E21 (Delaware Basin Road) Turn right on lease road and go SouthEast approx. 0.5 miles to the Kaiser Francis South Bell Lake Unit #26 Well Pad. Follow proposed access road NorthEast from the NE corner of this existing well pad. The SouthWest corner of the South Bell Lake Unit 6 3 BSS pad is approx. 220' to NorthEast along a short access road. The Well is another 255 to the NorthEast.

The production facility is generally unmanned. Field operations personnel from KFOC, or pumpers acting as contractors to KFOC visit the facility daily to record production rates and ensure the proper functioning of wellhead equipment and pumpjacks, storage tanks, flowlines, and separation vessels. This includes performing equipment inspection and maintenance as needed.

The produced water tank may contain an oil/produced water mixture making it subject to 40 CFR part 112 and is covered by this SPCC Plan.

1.5 Oil Storage and Handling

1.5.1 Production Equipment

All oil storage tanks are shop-built and meet the American Petroleum Institute (API) tank construction standard. Their design and construction are compatible with the oil they contain and the temperature and pressure conditions of storage.

Lubricating oil and other substances, such as solvents and chemicals for downhole treatment, are also sometimes stored at the facility, but in quantities below the 55-gallon threshold for SPCC applicability. Table 1-2 lists all oil containers present at the facility with capacity of 55 gallons or more.

Table 1-2: Characteristics of oil containers

ID	Construction	Primary Content	Capacity (barrels)	Capacity (gallons)
		TOTAL		

1.5.2 Transfer Activities

Wells produce crude oil, produced water (saltwater), and natural gas. Well liquids are then routed via steel flowlines to a separation vessel. Produced saltwater is routed from the separator to the saltwater storage tank. The crude oil is sent to the oil storage tanks.

Crude oil from the lease is purchased by a crude oil purchaser and transported from the facility by the purchaser's tanker truck. Tanker trucks come to the facility to transfer crude oil and produced water, but do not remain at the facility. Sorbent materials in conjunction with drip pans are used to contain spills. All transfer operations are attended by the trucker and meet the minimum requirements of the US Department of Transportation Hazardous Materials Regulations.

1.6 Conformance w/Applicable State and Local Requirements [112.7(j)]

The SPCC regulation of 40 CFR part 112 is more stringent than requirements from the state for this type of facility. This SPCC Plan was written to conform to 40 CFR part 112 requirements. The facility thereby conforms to general requirements for oil pollution facilities in the state. All discharge notifications are made in compliance with local, state, and federal requirements.

PART II. SPILL RESPONSE AND REPORTING
40 CFR 112.7

2.1 Discharge Discovery and Reporting [112.7(a)(3)]

Several individuals and organizations must be contacted in the event of an oil discharge. The Production Superintendent is responsible for ensuring that all required discharge notifications have been made. All discharges should be reported to the Production Superintendent. The summary table included in Appendix D to this SPCC Plan provides a list of agencies to be contacted under different circumstances. Discharges would typically be discovered during the inspections conducted at the facility in accordance with procedures set forth in Section 3.4.1 of this SPCC Plan, and on the checklist of Appendix B. The Form included in Appendix D of this Plan summarizes the information that must be provided when reporting a discharge, including contact lists and phone numbers.

2.1.1 Verbal Notification Requirements (Local, State, and Federal (40 CFR part 110))

For any discharge that reaches navigable waters, or threatens to reach navigable waters, *immediate* notification must be made to the National Response Center Hotline (800-424-8802) and to the Environmental Protection Agency.

In the event of a discharge that threatens to result in an emergency condition, facility field personnel must verbally notify the appropriate state agency immediately, and in no case later than *within one (1) hour* of the discovery of the discharge. An emergency condition is any condition that could reasonably be expected to endanger the health and safety of the public; cause significant adverse impact to the land, water, or air environment; or cause severe damage to property. This notification must be made regardless of the amount of the discharge.

In the event of a discharge that does not present an emergency situation, verbal notification must be made to the appropriate state agency *within twenty-four hours* of the discharge.

2.1.2 Written Notification Requirements (State and Federal (40 CFR part 112))

A written notification will be made to EPA for any single discharge of oil to a navigable water or adjoining shoreline waterway of more than 1,000 gallons, or for two discharges of 1 bbl (42 gallons) of oil to a waterway in any 12-month period. This written notification must be made within 60 days of the qualifying discharge, and a copy will be sent to the appropriate state agency in charge of oil production control activities. This reporting requirement is separate and in addition to reporting under 40 CFR part 110 discussed above.

2.1.3 Submission of SPCC Information

Whenever the facility experiences a discharge into navigable waters of more than 1,000 gallons, or two discharges of 42 gallons or more within a 12-month period, KFOC will provide information in writing to the EPA Region office within 60 days of a qualifying discharge as described above. The required information is described in Appendix D of this SPCC Plan.

2.2 Spill Mitigation Procedures [112.7(a)(5)]

The following is a summary of actions that must be taken in the event of a discharge. It summarizes the distribution of responsibilities among individuals and describes procedures to follow in the event of a discharge.

In the event of a discharge, KFOC or contract field personnel and the Production Superintendent shall be responsible for the following:

2.2.1 Shut off Ignition Sources

Field personnel must shut off all ignition sources, including motors, electrical circuits, and open flames. See Appendix E for more information about shut-off procedures.

2.2.2 Stop Oil Flow

Field personnel should determine the source of the discharge, and if safe to do so, immediately shut off the source of the discharge. Shut in the well(s) if necessary.

2.2.3 Stop Spread of Oil and Call the Production Superintendent

If safe to do so, field personnel must use resources available at the facility to stop the spilled material from spreading. Measures that may be implemented, depending on the location and size of the discharge, include placing sorbent material or other barriers in the path of the discharge (e.g., sand bags), or constructing earthen berms or trenches.

In the event of a significant discharge, field personnel must immediately contact the Production Superintendent, who may obtain assistance from authorized company contractors and direct the response and cleanup activities. Should a discharge reach navigable waters, only physical response and countermeasures should be employed, such as the construction of underflow dams, installation of hard boom and sorbent boom, use of sorbent pads, and use of vacuum trucks to recover oil and oily water from the water. If water flow is low, construction of any underflow dam downstream and ahead of the spill flow may be advantageous. Sorbent material and/or boom should be placed immediately downstream of the dam to recover any sheen from the water. If water flow is normal, floating booms and sorbent boom will be deployed. Vacuum trucks will then be utilized to remove oil and oily water at dams and other access points. At no time shall any surfactants, dispersants, or other chemicals be used to remove oil when the spill is in water.

2.2.4 Gather Spill Information

The Production Superintendent will ensure that the *Discharge Notification Form* is filled out and that notifications have been made to the appropriate authorities. The Production Superintendent may ask for assistance in gathering the spill information on the *Spill Report Form* (Appendix D) of this Plan.

2.2.5 Notify Agencies Verbally

Some notifications must be completed *immediately* upon discovering the discharge. It is important to immediately contact the Production Superintendent so that timely notifications can be made. If the Production Superintendent is not available, or the Production Superintendent requests it, field personnel must designate one person to begin notification. Section 2.1 of this Plan describes the required notifications to government agencies. The Notification List is included in Appendix D of this SPCC Plan. The Production Superintendent must also ensure that written notifications, if needed, are submitted to the appropriate agencies.

2.3 Disposal Plan

The cleanup contractor will handle the disposal of any recovered product, contaminated soil, contaminated materials and equipment, decontamination solutions, sorbents, and spent chemicals collected during a response to a discharge incident.

PART III. SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PROVISIONS

40 CFR 112.7 and 112.9

3.1 Potential Discharge Volume and Direction of Flow [112.7(b)] and Containment [112.7(a)(3)(iii)]

- The potential spills sources at the Facility are summarized in the following table:

Container ID	Substance Stored *(Oil)*	Shell Capacity *(Bbls)*	Potential Failure	Rate of Flow *(Bbls/hr)*	Direction of Flow	Containment System(s)
Bulk Storage Containers						
Operational Equipment						
Truck or Rail Loading/Unloading Rack						
Other Potential Spill Sources						

- The material and construction of bulk storage containers are compatible with the material stored and conditions of storage such as pressure and temperature.
- All bulk storage container installations, if required, are constructed so that a means of secondary containment is provided for the entire capacity of the largest single container plus sufficient freeboard to contain precipitation.
- Diked areas are sufficiently impervious to contain discharged oil.

3.2 Containment and Diversionary Structures [112.7(c)]

The facility is configured to minimize the likelihood of a discharge reaching navigable waters. The following measures are provided:

- Secondary containment for the oil storage tanks, saltwater tank (which may have small amounts of oil), is provided by an earthen berm or metal containment ring, as described in Section 3.2.2 below. The earthen berm is constructed of native soils and then covered with gravel.

3.2.1 Oil Production Facility Drainage [112.9(b)]

Facility drainage areas in the production/separation area, but outside containment berms, are visually examined by facility personnel on a daily basis during routine facility rounds to detect any discoloration or staining that would indicate the presence of oil from small leaks within the facility. Any accumulation of oil is promptly removed and disposed off site.

3.2.2 Secondary Containment for Bulk Storage Containers [112.9(c)(2)]

In order to further minimize the potential for a discharge to navigable waters, bulk storage containers such as all tank battery, separation, and treating equipment are placed inside a berm (fire wall). It provides secondary containment sufficient for the size of the largest tank, plus enough freeboard to contain precipitation. Per example below: This secondary containment capacity is equivalent to approximately 905 percent of the capacity of the largest tank within the containment area and exceeds the 10 percent freeboard recommended by API for firewalls around production tanks (API-12R1). An example of the berm capacity calculations is provided in Table 3-2.

EXAMPLE Table 3-2: BERM CAPACITY CALCULATIONS

BERM CAPACITY	
Berm height	3 ft
Berm dimensions	186 ft x 39 ft = 7,254 ft^2
Tank footprint	4 tanks @ 12 ft dia. each & 1 tank @ 6 ft dia = 4 x (π $12^2/4$) + (π $6^2/4$) = 480.66 ft^2
Net volume	3 ft x (7254-480.66) = 20,320.02 ft^3
Ratio to largest tank	20,320.02 /2245.84= 904.78 %
CORRESPONDING AMOUNT OF FREEBOARD	
100% volume of largest tank	16,800 gal = 2,245.84 ft^3
Net area	7,254 – 480.66= 6,773.34 ft^2
Minimum berm height for 100% of tank volume	2,245.84 / 6,773.34 ft = .33 ft
Freeboard	3 - .33 = 2.67 ft

Facility personnel inspect the berm daily for the presence of oil. The sides of the earthen berms are capped with gravel to minimize erosion.

3.2.3 Practicability of Secondary Containment [112.7(d)]

Flowlines adjacent to the production equipment and storage tanks are located within the berm, and therefore have secondary containment. Flowlines that go from the wells to the production equipment as well as the tank truck loading area are inspected daily by the pumper, as described in section 3.4 of this Plan. The installation of double-wall piping, berms, or other permanent structures (e.g., remote impoundment) around flowlines and tank truck loading area are impracticable at this facility due to the long distances involved and physical and road/fenceline right-of-way constraints. Sorbent materials in conjunction with drip pans provide adequate secondary containment for equipment and piping outside of the berm. Therefore, sorbent materials will be used when necessary.

3.3 Other Spill Prevention Measures

3.3.1 Bulk Storage Containers Overflow Prevention [112.9(c)(4)]

The tank battery is designed with a fail-safety system to prevent discharge, as follows:

- The capacity of the oil storage tanks is sufficient to ensure that oil storage is adequate in the event where facility personnel are unable to perform the daily visit to unload the tanks or the pumper is delayed in stopping production. The oil tanks are sized to provide sufficient storage for at least two days.
- Where applicable when multiple oil tanks are present the tanks are connected with overflow equalizing lines to ensure the full tank can overflow to an adjacent tank.

3.3.2 Transfer Operations and Saltwater Disposal System [112.9(d)]

All aboveground valves and piping associated with transfer operations are inspected daily by the pumper and/or truck driver, as described in Section 3.4 of this Plan. The inspection procedure includes observing flange joints, valve glands and bodies, drip pans, and pipe supports.

3.4 Inspections, Tests, and Records [112.7(e)]

This Plan outlines procedures for inspecting the facility equipment in accordance with SPCC requirements. Records of inspections performed as described in this Plan and signed by the appropriate supervisor are maintained at the Tulsa Corporate Office for a minimum of three years. The reports include a description of the inspection procedure, date of inspection and the inspector's signature.

Each container is inspected monthly by field operation personnel as described in this Plan section and following the checklist provided in Appendix B of this SPCC Plan. The inspection is aimed at identifying signs of deterioration and maintenance needs.

The inspection program is comprised of informal daily examinations, monthly scheduled inspections, and periodic condition inspections. Additional inspections and/or examinations are performed whenever an operation alert, malfunction, shell or deck leak, or potential bottom leak is reported following a scheduled examination. Written examination/inspection procedures and monthly examination/inspection reports are signed by the field inspector and are maintained at the corporate office for a period of at least three years.

3.4.1 Daily Examinations

The facility is visited daily by field operations personnel. The daily visual examination consists of a walk through of the tank battery and around the well. Field operations personnel check the wells and production equipment for leaks and proper operation. They examine all aboveground valves, polished rod stuffing boxes, wellheads, fittings, gauges, and flowline piping at the wellhead. Personnel inspect pumps to verify proper function and check for damage and leakage. They look for accumulation of water within the tank battery berms. The storage tanks are gauged every day. A daily production report is maintained. All malfunctions, improper operation of equipment, evidence of leakage, stained or discolored soil, etc. are logged and communicated to the KFOC Production Superintendent.

3.4.2 Monthly Reports

Leases and equipment are inspected daily. Any problems with the lease or equipment are recorded on the Monthly Inspection Report (Appendix B) and submitted with the gauge report for each month.

3.4.3 Brittle Fracture Evaluation [112.7(i)]

At the present time, none of the bulk storage containers at this site are field-erected, and therefore no brittle fracture evaluation is required.

3.4.4 Flowline Maintenance Program [112.9(d)(3)]

The facility is relying on sorbent materials to address discharges from flowlines. The flowline maintenance program is specifically implemented to maintain the integrity of the primary container (in this case piping) to minimize releases of oil from this part of the production facility. The facility's gathering lines and flowlines are inspected for leaks at connections and on each joint, corrosion (pitting, flaking), and maintained to minimize the potential for a discharge.

3.5 Personnel Training, and Discharge Prevention Procedures [112.7(f)]

The Production Superintendent has been designated as the point of contact for all oil discharge prevention and response at this facility.

All KFOC field personnel receive training on proper handling of oil products and procedures to respond to an oil discharge. The training ensures that all facility personnel understand the procedures described in the SPCC Plan and are informed of the requirements under applicable pollution control laws, rules and regulations. The training also covers risks associated with potential exposure to hydrogen sulfide (H2S) gas.

KFOC ensures that all contractor personnel are familiar with the facility operations, and spill prevention and control procedures described in this Plan.

KFOC management holds briefings with company field operations personnel at least once a year, as described below.

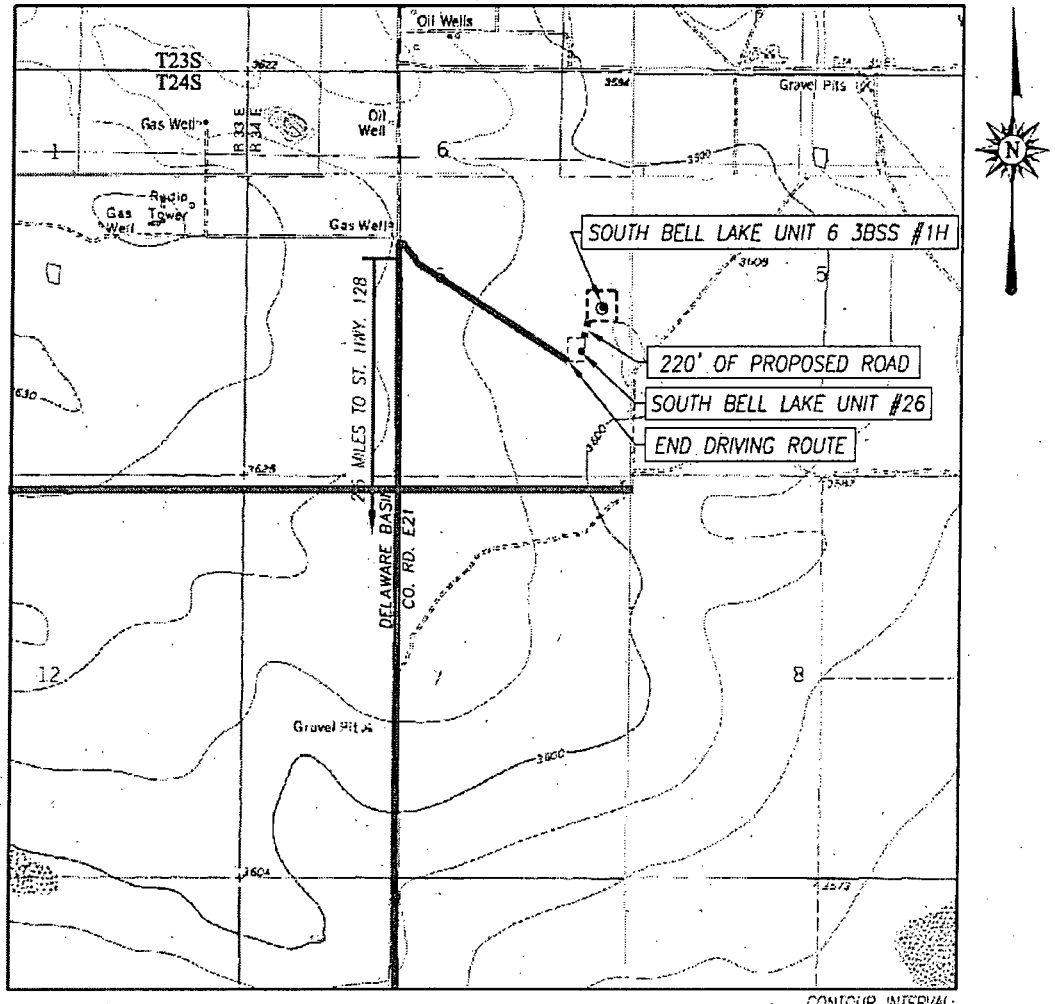
3.5.1 Spill Prevention Briefing

The Safety & Environmental Coordinator conducts Spill Prevention Briefings annually to ensure adequate understanding and effective implementation of this SPCC Plan. These briefings highlight and describe known events or failures, malfunctioning components, and recently developed precautionary measures. The briefings are conducted in conjunction with the company safety meetings. Sign-in sheets, which include the topics of discussion at each meeting, are maintained in the Safety Department at KFOC's Corporate Office. The scheduled annual briefing includes a review of KFOC policies and procedures for SPCC inspections and spill prevention procedures; spill reporting procedures; spill response; and recovery, disposal, and treatment of spilled material.

Personnel are instructed in applicable federal, state, and local pollution laws, rules, and regulations. Facility operators and other personnel have an opportunity during the briefings to share recommendations concerning health, safety, and environmental issues encountered during facility operations.

APPENDIX A: Facility Diagrams

TOPOGRAPHIC AND ACCESS ROAD MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
BELL LAKE, N.M. – 10'
WOODLEY FLAT, N.M. – 10'

SEC. 6 TWP. 24-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 2215' FSL & 375' FEL

ELEVATION 3601'

OPERATOR KAISER-FRANCIS OIL COMPANY

LEASE SOUTH BELL LAKE UNIT 6 3BSS

U.S.G.S. TOPOGRAPHIC MAP
BELL LAKE, N.M.

DIRECTIONS TO SOUTH BELL LAKE UNIT 6 3BSS #1H:

FROM THE INTERSECTION OF ST. HWY. 128 AND CO. RD. E21 (DELAWARE BASIN RD.), GO NORTH ON CO. RD. E21 APPROX. 2.6 MILES TO A LEASE ROAD. TURN RIGHT ON LEASE ROAD AND GO SOUTHEAST-EAST APPROX. 0.5 MILES TO THE KAISER-FRANCIS SOUTH BELL LAKE UNIT #26 WELL PAD. FOLLOW PROPOSED ACCESS ROAD NORTHEAST FROM THE NORTHEAST CORNER OF THIS EXISTING WELL APPROX. 220 FEET TO THE SOUTHWEST CORNER OF THE LOCATION. THIS WELL IS NORTHEAST APPROX. 255 FEET.

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SITE DIAGRAM FOR COMPLETED TANK BATTERY

APPENDIX B: Monthly Inspection Report

A record of the completed checklists, with signatures, is maintained at the Tulsa KFOC office. Inspections are conducted using the following checklist in accordance with section 3.4 of this SPCC plan.

SPCC Inspection Checklist			
Pumper:	**District:**		
Facility ID:			
Storage Areas and Separation Equipment	**Y**	**N**	**Description & Comments (Note tank/equipment ID)**
Tank surfaces showing signs of leakage			
Tanks showing signs of damage, rust or deterioration			
Damaged bolts, rivets or seams			
Deteriorated or buckled aboveground tank supports			
Eroded or settled Aboveground tank foundations			
Leaking gaskets			
Level gauges or alarms that are inoperative			
Obstructed vents			
Thief hatch and vent valve does not seal air tight			
Damaged or missing nets on open top vessels			
Containment berm showing discoloration or stains			
Berm that is breached or eroded or has vegetation			
Trash or vegetation inside of berm area			
Missing equipment guards, labels or signs			
Piping/Flowlines and Related Equipment			
Leaking valve seals or gaskets			
Damaged or deteriorated Pipelines or supports			
Buried pipelines that are exposed			
Visible line leaks			
Transfer Equipment			
Damaged or deteriorated loading/unloading lines			
Connections are not capped or blank-flanged			
Secondary Containment is damaged or stained			
Field drainage systems			
Accumulation of oil in drainage ditches or road ditches			
Accumulation of oil in oil traps, sumps, or skimmers			
If yes, you must promptly remove any accumulations of oil			
Response Kit Inventory:			
Discharge response material is missing or damaged or needs replaced			
Signature:	**Date:**		

Monthly Inspection Report

A detailed description of what to inspect is provided on page one of the Checklist

District: _____ Pumper: _____

Facility ID	Problems with Storage tanks & Separation Equipment		Problems with Piping/Flowlines & Related Equipment		Problems with Transfer Equipment		Description & Comments (Note tank/equipment ID)
	Y	N	Y	N	Y	N	

Pleas make sure all open top vessels are properly netted and the net is not damaged or deteriorated.

Further descriptions and comments, if needed, should be provided on the empty space at the bottom of this page or on a separate sheet of paper and attached to this page. Any item answered "Yes" needs to be promptly reported, repaired, or replaced as it may result in noncompliance with regulatory requirements.

Note: Leases and equipment should be inspected daily. Record any problems on this form and submit it monthly with your gauge report.

Date:_____ Signature:_____

APPENDIX C: Record of Dike Drainage

This record must be completed when rainwater from diked areas is drained into a storm drain or into an open watercourse, lake, or pond, and bypasses the water treatment system. The facility is not equipped with a manual valve of open-and–closed design. All water accumulated within the berm is closely inspected by field operations personnel (who are the persons providing "responsible supervision") to ensure that no free oil is present (i.e. there is no sheen or discoloration upon the surface, or a sludge or emulsion deposit beneath the surface of the water). Free oil is promptly removed and disposed of in accordance with waste regulations.

Date	Area	Presence of oil (y/n)	Time started	Time Finished	Signature

APPENDIX D: Discharge Notification Procedures

- **WHEN REPORTING A DISCHARGE PROVIDE THE FOLLOWING INFORMATION:**
  Exact location;
  Material involved;
  Quantity involved;
  Topographical and environmental conditions;
  Circumstances that may hinder response; and
  Injuries, if any.

- **WARN PERSONNEL.** All personnel on facility will be verbally warned of the oil spill. If an explosion or fire occurs, evacuate personnel from the area until the danger is over.

- **REQUEST ADDITIONAL RESOURCES.** If oil has reached water or could reach water, facility personnel will decide whether the available onsite containment materials are sufficient to contain the spill. If it is estimated that additional materials will be necessary, an Oil Spill Removal Organization will be contacted at this time. An estimate of the amount of oil released shall be relayed to the Oil Spill Removal Organization.

- **CONTAIN THE SPILLED OIL.** Facility personnel will attempt to prevent the spilled oil from spreading. Available containment material will be deployed.

- **GATHER INFORMATION.** Information on the spill will be collected and the "Spill Notification Form" will be completed.

- **MAKE NOTIFICATIONS.** Facility personnel will contact Company Management. Information on the spill along with actions taken will be relayed to Company Management and Company Management will make all necessary notifications. If Company Management is not available facility personnel will make the notifications.

- **CLEAN UP THE SPILLED OIL.** Once the spill is contained to the maximum extent possible, available supplies will be used to proceed with cleanup of the spill. An Oil Spill Removal Organization will be mobilized as required.

- **SPILL RESPONSE.** If immediate cleanup is not considered to be an appropriate remedial measure, the operator will notify the proper agency and give an alternative remedial plan and will promptly implement said plan upon approval.

Spill Report Form

Description of Discharge		
Date/time	Release date: Release time: Duration:	Discovery date: Discovery time:
Reporting Individual	Name:	Tel. #:
Location of discharge (Quarter, Block, Section, Survey, etc.)	County: State:	Description:
Surface Owner	Description of area: ❑ Farming ❑ Grazing ❑ Urban	
Equipment Sources Product	❑ Piping ❑ Flowline ❑ Well ❑ Stock, flare ❑ Unknown ❑ Crude oil ❑ Saltwater ❑ Other*	Description: Equipment ID: *Description other:
Appearance and description of area	❑ Sandy ❑ Sandy Loam ❑ Clay ❑ Rocky ❑ Wet ❑ Dry ❑ Snow	
Environmental conditions	Wind Direction: Wind Speed:	Rainfall: Current:
Site Drainage direction Distance to nearest navigable water		

Impacts		
Quantity	Released:	Recovered:
Receiving Medium	❑ Water** ❑ Land ❑ Other (describe):	❑ Release confined to company property. ❑ Release outside company property ** if water, indicate extent and body of water:
Describe Circumstances of the Release		
Assessment of impacts and remedial actions		
Disposal method for recovered material		
Action taken to prevent incident from reoccurring		
Safety Issues	❑ Fire ❑ Explosion ❑ Injuries ❑ Fatalities ❑ Evacuation ❑ *Other	*Description of other:

Notifications		
Agency	Name	Date/time reported & Comments
Company Spill Response Coordinator	Charles W. Lock (918)491-4337	
National Response Center 1-800-424-8802		
OSRO/cleanup contractor		

Contact List and Phone Numbers

Contact information for reporting a discharge to the National Response Center and other federal, state, and local agencies, and to other affected parties, is provided below. Note that any discharge to water must be reported immediately to the National Response Center.

The following is a contact list and phone number reference for the Facility:

Contacts	Primary	Alternate
Designated Person Accountable For Oil Spill Prevention and/or Facility Response Coordinator		
Name/Title: Kelly Roach/Pumper	432/238-6996	
Name/Title: Kenneth Wyatt/Prod. Foreman	432/563-2992	432/238-6986
Name/Title: Jeremy Parent/Prod. Foreman	580/504-2593	
Name/Title: Bill Wilkinson/Prod. Superintendent	580/221-4637	580/668-2334
Name/Title: David Zerger/Operations Engineer	918/491-4350	
Name/Title: Charles Lock/Safety & Envir.	918/491-4337	918/671-6510

Contact List and Phone Numbers

The following is a contact list and phone number reference for the Facility:

Contacts	Primary	Alternate (Cell)
Cleanup Contractors (as necessary):		
Dozers – B&B Oilfield Service – Lovington	505/396-2177	
Vacuum & Tank Trucks – Clay Tank Trucks – Denver City	806/592-2087	
Misc. Trucks & Labor – Forklift Enter. – Hobbs	575/397-6431	
Pump Trucks – Halliburton – Hobbs	505/392-6531	
Frac Tanks – Stearns – Crossroads	505/675-2356	
Welder – Chuck's Welding – Hobbs	505/393-3316	
Federal, State and local agencies (as necessary)		
National Response Center	(800) 424-8802	(202) 267-2675
NMOCC – Hobbs	505/393-6161	
EPA Region 6	866/372-7745	
OSHA – Lubbock	806/472-7681	800/321-OSHA
Other contact references:		
Fire Fighting – Hobbs	505/397-9308	
Police – Hobbs	505/397-9265	
Ambulance – Hobbs	505/397-2801	
Sheriff – Hobbs	505/393-2515	
Highway Patrol – Hobbs	505/392-5588	

APPENDIX E: Equipment Shut-off Procedures

Source	Action
Manifold, transfer pumps or hose failure	Shut in the well supplying oil to the tank battery if appropriate. Immediately close the header/manifold or appropriate valve(s). Shut off transfer pumps.
Tank overflow	Shut in the well supplying oil to the tank battery. Close header/manifold or appropriate valve(s).
Tank failure	Shut in the well supplying oil to the tank battery. Close inlet valve to the storage tanks.
Flowline rupture	Shut in the well supplying oil to the flowline. Immediately close the nearest valve to stop the flow of oil to the leaking section.
Flowline leak	Shut in the well supplying oil to the flowline. Immediately close the nearest valve to stop the flow of oil to the leaking section.
Explosion or fire	Immediately evacuate personnel from the area until the danger is over. Immediately shut in both wells if safe to do so. If possible, close all manifold valves. If the fire is small enough such that it is safe to do so, attempt to extinguish if extinguisher is available.
Equipment failure	Immediately close the nearest valve to stop the flow of oil into the leaking area.

APPENDIX F: Written Commitment of Manpower, Equipment, and Materials

In addition to implementing the preventive measures described in this Plan, Kaiser-Francis Oil Company will also:

In the event of a discharge:

- Make available trained field personnel to perform response actions
- Obtain assistance from additional employees from its main operations contractor.
- Collaborate with local, state, and federal authorities on response and cleanup operations.

Maintain all on-site oil spill control equipment described in this Plan and in the attached Oil Spill Contingency Plan.

Maintain all communications equipment in operating condition at all times.

Ensure that staging areas are accessible by field vehicles.

Review the adequacy of on-site and third party response capacity with pre-established response/cleanup contractors.

Maintain formal agreements/contracts with response and cleanup contractors who will provide assistance in responding to an oil discharge and/or completing cleanup.