

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-101
August 1, 2011

Permit 276034

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address KAISER-FRANCIS OIL CO P.O. Box 21468 Tulsa, OK 74121		2. OGRID Number 12361
4. Property Code 316706		3. API Number 30-025-46626
5. Property Name BELL LAKE UNIT SOUTH		6. Well No. 235H

7. Surface Location

UL - Lot J	Section 5	Township 24S	Range 34E	Lot Idn J	Feet From 1850	N/S Line S	Feet From 2030	E/W Line E	County Lea
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8. Proposed Bottom Hole Location

UL - Lot B	Section 32	Township 23S	Range 34E	Lot Idn B	Feet From 330	N/S Line N	Feet From 1410	E/W Line E	County Lea
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9. Pool Information

BELL LAKE;BONE SPRING, SOUTH	98264
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Additional Well Information

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3588
16. Multiple N	17. Proposed Depth 18900	18. Formation Bone Spring	19. Contractor	20. Spud Date 1/1/2020
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	54.5	1250	1000	0
Int1	12.25	9.625	40	5200	1200	0
Prod	8.75	5.5	20	18900	2000	4700

Casing/Cement Program: Additional Comments

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22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	10000	5000	Cameron

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒ if applicable.	OIL CONSERVATION DIVISION	
Signature:		
Printed Name: Electronically filed by Kristin L Gray	Approved By: Paul F Kautz	
Title:	Title: Geologist	
Email Address: kristing@kfoc.net	Approved Date: 12/20/2019	Expiration Date: 12/20/2021
Date: 12/17/2019	Phone: 918-491-4209	Conditions of Approval Attached

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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code 5150	³ Pool Name Bell Lake; Bone Spring, North
⁴ Property Code 316706	⁵ Property Name BELL LAKE UNIT SOUTH	⁶ Well Number 235H
⁷ OGRID No. 12361	⁸ Operator Name KAISER-FRANCIS OIL CO.	⁹ Elevation 3588.4

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	5	24 S	34 E	J	1850	SOUTH	2030	EAST	LEA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	32	23 S	34 E	B	330	NORTH	1410	EAST	LEA

¹² Dedicated Acres 480	¹³ Joint or Infill	¹⁴ Consolidation Code -	¹⁵ Order No. -
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Charlotte Van Valkenburg</i> Signature 12/17/19 Date Charlotte Van Valkenburg Printed Name Charlotv@kfoc.net E-mail Address		18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. DECEMBER 4, 2019 Date of Survey <i>[Signature]</i> Signature and Seal of Professional Surveyor Certificate Number: 12797 Professional Surveyor No. 7758
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Oil Conservation Division
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Santa Fe, NM 87505

GAS CAPTURE PLAN

Date: 12/20/2019

☒ Original

Operator & OGRID No.: [12361] KAISER-FRANCIS OIL CO

☐ Amended - Reason for
Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
BELL LAKE UNIT SOUTH #235H	30-025-46626	J-5-24S-34E	1850S 2030E	2000	None	Gas will go into the Tornado Plant located in Sec. 12, Blk 55, T1, Charles F Carmine Survey, Loving Co., TX

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to MARKWEST RESOURCES INC and will be connected to MARKWEST RESOURCES INC Low Pressure gathering system located in Lea County, New Mexico. It will require 0' of pipeline to connect the facility to Low Pressure gathering system. KAISER-FRANCIS OIL CO provides (periodically) to MARKWEST RESOURCES INC a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, KAISER-FRANCIS OIL CO and MARKWEST RESOURCES INC have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at MARKWEST RESOURCES INC Processing Plant located in Sec. 05, Twn. 24S, Rng. 34E, Lea County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on MARKWEST RESOURCES INC system at that time. Based on current information, it is KAISER-FRANCIS OIL CO's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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Form APD Comments

Permit 276034

PERMIT COMMENTS

Operator Name and Address: KAISER-FRANCIS OIL CO [12361] P.O. Box 21468 Tulsa, OK 74121		API Number: 30-025-46626
		Well: BELL LAKE UNIT SOUTH #235H

Created By	Comment	Comment Date
cv	Dedicated acreage is 480 acres which comprises the E2 of 32 23S 34E and the NE of 5 24S 34E.	12/17/2019

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Form APD Conditions

Permit 276034

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: KAISER-FRANCIS OIL CO [12361] P.O. Box 21468 Tulsa, OK 74121	API Number: 30-025-46626
	Well: BELL LAKE UNIT SOUTH #235H

OCD Reviewer	Condition
pkautz	Will require a directional survey with the C-104
pkautz	1) SURFACE & INTERMEDIATE CASING - Cement must circulate to surface -- 2) PRODUCTION CASING - Cement must tie back into intermediate casing --
pkautz	If cement does not circulate to surface, must run temperature survey or other log to determine top of cement
pkautz	Surface casing must be set 25' below top of Rustler Anhydrite in order to seal off protectable water
pkautz	1)- The Operator is to notify NMOC by sundry (Form C-103) within ten (10) days of the well being spud 2)- Drilling Sundries Form C-103 (Casing and Cement test are to be submitted within 10 days 3)- Completion Reports & Logs are to be submitted within 45 days 4)- Deviation / Directional Drill Survey are to be filed with or prior to C-104
pkautz	It is the operator's responsibility to monitor cancellation dates of approved APDs. APD's are good for 2 years and may be extended for one year. Only one 1 year extension will be granted if submitted by C-103 before expiration date. After expiration date or after a 1 year extension must submit new APD. If an APD expires and if site construction has occurred, site remediation is required.
pkautz	Stage Tool 1) Must notify OCD Hobbs Office prior to running Stage Tool at 5753703186 2) If using Stage Tool on Surface casing, Stage Tool must be set greater than 350' from surface and a minimum of 200 feet above surface shoe. 3) When using a Stage Tool on Intermediate or Production Casing Stage must be a minimum of 50 feet below previous casing shoe.



Kaiser-Francis Oil Company

Lea County, NM (NAD 83)

Sec 5-T24S-R34E

Bell Lake Unit South 235H

Wellbore #1

Plan: Plan #1

Standard Planning Report

11 December, 2019

KAISER-FRANCIS OIL COMPANY



Microsoft
Planning Report

KAISER-FRANCIS OIL COMPANY

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Bell Lake Unit South 235H
Company:	Kaiser-Francis Oil Company	TVD Reference:	3588.4+23 @ 3611.40usft
Project:	Lea County, NM (NAD 83)	MD Reference:	3588.4+23 @ 3611.40usft
Site:	Sec 5-T24S-R34E	North Reference:	Grid
Well:	Bell Lake Unit South 235H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Project	Lea County, NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 5-T24S-R34E				
Site Position:		Northing:	453,577.65 usft	Latitude:	32.24496527
From:	Map	Easting:	760,872.47 usft	Longitude:	-103.62324220
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.38 °

Well	Bell Lake Unit South 235H					
Well Position	+N/-S	30.04 usft	Northing:	453,607.69 usft	Latitude:	32.24504785
	+E/-W	-0.28 usft	Easting:	760,872.19 usft	Longitude:	-103.62324246
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,588.40 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/11/19	6.71	60.04	47,688.50552199

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 (°)	
	0.00	0.00	0.00	359.46	

Plan Survey Tool Program	Date	12/11/19			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	18,622.86	Plan #1 (Wellbore #1)	MWD	
				OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,100.00	10.00	69.79	2,097.46	15.04	40.84	2.00	2.00	0.00	69.79	
6,362.90	10.00	69.79	6,295.60	270.76	735.51	0.00	0.00	0.00	0.00	
6,862.90	0.00	0.00	6,793.07	285.80	776.36	2.00	-2.00	0.00	180.00	
10,191.88	0.00	0.00	10,122.05	285.80	776.36	0.00	0.00	0.00	0.00	
11,091.88	90.00	359.46	10,695.00	858.73	770.99	10.00	10.00	-0.06	359.46	
18,622.96	90.00	359.46	10,695.00	8,389.48	700.40	0.00	0.00	0.00	0.00	BHL Bell Lake Unit S



Microsoft
Planning Report

KAISER-FRANCIS OIL COMPANY

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Bell Lake Unit South 235H
Company:	Kaiser-Francis Oil Company	TVD Reference:	3588.4+23 @ 3611.40usft
Project:	Lea County, NM (NAD 83)	MD Reference:	3588.4+23 @ 3611.40usft
Site:	Sec 5-T24S-R34E	North Reference:	Grid
Well:	Bell Lake Unit South 235H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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
1,350.00	0.00	0.00	1,350.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
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	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
Nudge 2°/100'									
1,700.00	2.00	69.79	1,699.98	0.60	1.64	0.59	2.00	2.00	0.00
1,725.04	2.50	69.79	1,725.00	0.94	2.56	0.92	2.00	2.00	0.00
Salado									
1,800.00	4.00	69.79	1,799.84	2.41	6.55	2.35	2.00	2.00	0.00
1,900.00	6.00	69.79	1,899.45	5.42	14.73	5.28	2.00	2.00	0.00
2,000.00	8.00	69.79	1,998.70	9.63	26.16	9.38	2.00	2.00	0.00
2,051.87	9.04	69.79	2,050.00	12.29	33.37	11.97	2.00	2.00	0.00
Top of Salt									
2,100.00	10.00	69.79	2,097.46	15.04	40.84	14.65	2.00	2.00	0.00
EON HLD 10° Inc.									
2,200.00	10.00	69.79	2,195.95	21.03	57.14	20.49	0.00	0.00	0.00
2,300.00	10.00	69.79	2,294.43	27.03	73.43	26.34	0.00	0.00	0.00
2,400.00	10.00	69.79	2,392.91	33.03	89.73	32.18	0.00	0.00	0.00
2,500.00	10.00	69.79	2,491.39	39.03	106.03	38.03	0.00	0.00	0.00
2,600.00	10.00	69.79	2,589.87	45.03	122.32	43.88	0.00	0.00	0.00
2,700.00	10.00	69.79	2,688.35	51.03	138.62	49.72	0.00	0.00	0.00
2,800.00	10.00	69.79	2,786.83	57.03	154.91	55.57	0.00	0.00	0.00
2,900.00	10.00	69.79	2,885.31	63.03	171.21	61.41	0.00	0.00	0.00
3,000.00	10.00	69.79	2,983.79	69.03	187.50	67.26	0.00	0.00	0.00
3,100.00	10.00	69.79	3,082.27	75.02	203.80	73.10	0.00	0.00	0.00
3,200.00	10.00	69.79	3,180.75	81.02	220.10	78.95	0.00	0.00	0.00
3,300.00	10.00	69.79	3,279.23	87.02	236.39	84.79	0.00	0.00	0.00
3,400.00	10.00	69.79	3,377.72	93.02	252.69	90.64	0.00	0.00	0.00
3,500.00	10.00	69.79	3,476.20	99.02	268.98	96.48	0.00	0.00	0.00
3,600.00	10.00	69.79	3,574.68	105.02	285.28	102.33	0.00	0.00	0.00
3,700.00	10.00	69.79	3,673.16	111.02	301.57	108.17	0.00	0.00	0.00
3,800.00	10.00	69.79	3,771.64	117.02	317.87	114.02	0.00	0.00	0.00
3,900.00	10.00	69.79	3,870.12	123.02	334.17	119.86	0.00	0.00	0.00
4,000.00	10.00	69.79	3,968.60	129.01	350.46	125.71	0.00	0.00	0.00
4,100.00	10.00	69.79	4,067.08	135.01	366.76	131.55	0.00	0.00	0.00
4,200.00	10.00	69.79	4,165.56	141.01	383.05	137.40	0.00	0.00	0.00
4,300.00	10.00	69.79	4,264.04	147.01	399.35	143.24	0.00	0.00	0.00
4,400.00	10.00	69.79	4,362.52	153.01	415.64	149.09	0.00	0.00	0.00



Microsoft
Planning Report

KAISER-FRANCIS OIL COMPANY

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Bell Lake Unit South 235H
Company:	Kaiser-Francis Oil Company	TVD Reference:	3588.4+23 @ 3611.40usft
Project:	Lea County, NM (NAD 83)	MD Reference:	3588.4+23 @ 3611.40usft
Site:	Sec 5-T24S-R34E	North Reference:	Grid
Well:	Bell Lake Unit South 235H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,500.00	10.00	69.79	4,461.00	159.01	431.94	154.93	0.00	0.00	0.00
4,600.00	10.00	69.79	4,559.48	165.01	448.24	160.78	0.00	0.00	0.00
4,700.00	10.00	69.79	4,657.97	171.01	464.53	166.62	0.00	0.00	0.00
4,800.00	10.00	69.79	4,756.45	177.01	480.83	172.47	0.00	0.00	0.00
4,900.00	10.00	69.79	4,854.93	183.00	497.12	178.31	0.00	0.00	0.00
5,000.00	10.00	69.79	4,953.41	189.00	513.42	184.16	0.00	0.00	0.00
5,072.70	10.00	69.79	5,025.00	193.36	525.27	188.41	0.00	0.00	0.00
Base of Salt									
5,100.00	10.00	69.79	5,051.89	195.00	529.71	190.00	0.00	0.00	0.00
5,200.00	10.00	69.79	5,150.37	201.00	546.01	195.85	0.00	0.00	0.00
5,300.00	10.00	69.79	5,248.85	207.00	562.31	201.69	0.00	0.00	0.00
5,301.17	10.00	69.79	5,250.00	207.07	562.50	201.76	0.00	0.00	0.00
Lamar									
5,377.32	10.00	69.79	5,325.00	211.64	574.91	206.21	0.00	0.00	0.00
Bell Canyon									
5,400.00	10.00	69.79	5,347.33	213.00	578.60	207.54	0.00	0.00	0.00
5,500.00	10.00	69.79	5,445.81	219.00	594.90	213.38	0.00	0.00	0.00
5,600.00	10.00	69.79	5,544.29	225.00	611.19	219.23	0.00	0.00	0.00
5,700.00	10.00	69.79	5,642.77	231.00	627.49	225.07	0.00	0.00	0.00
5,800.00	10.00	69.79	5,741.25	236.99	643.78	230.92	0.00	0.00	0.00
5,900.00	10.00	69.79	5,839.73	242.99	660.08	236.76	0.00	0.00	0.00
6,000.00	10.00	69.79	5,938.22	248.99	676.38	242.61	0.00	0.00	0.00
6,100.00	10.00	69.79	6,036.70	254.99	692.67	248.45	0.00	0.00	0.00
6,200.00	10.00	69.79	6,135.18	260.99	708.97	254.30	0.00	0.00	0.00
6,240.44	10.00	69.79	6,175.00	263.42	715.56	256.66	0.00	0.00	0.00
Cherry Canyon									
6,300.00	10.00	69.79	6,233.66	266.99	725.26	260.14	0.00	0.00	0.00
6,362.90	10.00	69.79	6,295.60	270.76	735.51	263.82	0.00	0.00	0.00
DROP 2°/100'									
6,400.00	9.26	69.79	6,332.18	272.91	741.34	265.91	2.00	-2.00	0.00
6,500.00	7.26	69.79	6,431.14	277.87	754.81	270.74	2.00	-2.00	0.00
6,600.00	5.26	69.79	6,530.54	281.63	765.04	274.41	2.00	-2.00	0.00
6,700.00	3.26	69.79	6,630.26	284.20	772.01	276.91	2.00	-2.00	0.00
6,800.00	1.26	69.79	6,730.17	285.56	775.71	278.24	2.00	-2.00	0.00
6,862.90	0.00	0.00	6,793.07	285.80	776.36	278.47	2.00	-2.00	0.00
EOD HLD 0° Inc.									
6,900.00	0.00	0.00	6,830.17	285.80	776.36	278.47	0.00	0.00	0.00
7,000.00	0.00	0.00	6,930.17	285.80	776.36	278.47	0.00	0.00	0.00
7,100.00	0.00	0.00	7,030.17	285.80	776.36	278.47	0.00	0.00	0.00
7,200.00	0.00	0.00	7,130.17	285.80	776.36	278.47	0.00	0.00	0.00
7,300.00	0.00	0.00	7,230.17	285.80	776.36	278.47	0.00	0.00	0.00
7,400.00	0.00	0.00	7,330.17	285.80	776.36	278.47	0.00	0.00	0.00
7,500.00	0.00	0.00	7,430.17	285.80	776.36	278.47	0.00	0.00	0.00
7,600.00	0.00	0.00	7,530.17	285.80	776.36	278.47	0.00	0.00	0.00
7,694.83	0.00	0.00	7,625.00	285.80	776.36	278.47	0.00	0.00	0.00
Brushy Canyon									
7,700.00	0.00	0.00	7,630.17	285.80	776.36	278.47	0.00	0.00	0.00
7,800.00	0.00	0.00	7,730.17	285.80	776.36	278.47	0.00	0.00	0.00
7,900.00	0.00	0.00	7,830.17	285.80	776.36	278.47	0.00	0.00	0.00
8,000.00	0.00	0.00	7,930.17	285.80	776.36	278.47	0.00	0.00	0.00
8,100.00	0.00	0.00	8,030.17	285.80	776.36	278.47	0.00	0.00	0.00
8,200.00	0.00	0.00	8,130.17	285.80	776.36	278.47	0.00	0.00	0.00
8,300.00	0.00	0.00	8,230.17	285.80	776.36	278.47	0.00	0.00	0.00



Microsoft
Planning Report

KAISER-FRANCIS OIL COMPANY

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Bell Lake Unit South 235H
Company:	Kaiser-Francis Oil Company	TVD Reference:	3588.4+23 @ 3611.40usft
Project:	Lea County, NM (NAD 83)	MD Reference:	3588.4+23 @ 3611.40usft
Site:	Sec 5-T24S-R34E	North Reference:	Grid
Well:	Bell Lake Unit South 235H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,400.00	0.00	0.00	8,330.17	285.80	776.36	278.47	0.00	0.00	0.00
8,500.00	0.00	0.00	8,430.17	285.80	776.36	278.47	0.00	0.00	0.00
8,600.00	0.00	0.00	8,530.17	285.80	776.36	278.47	0.00	0.00	0.00
8,700.00	0.00	0.00	8,630.17	285.80	776.36	278.47	0.00	0.00	0.00
8,800.00	0.00	0.00	8,730.17	285.80	776.36	278.47	0.00	0.00	0.00
8,819.83	0.00	0.00	8,750.00	285.80	776.36	278.47	0.00	0.00	0.00
Bone Spring									
8,900.00	0.00	0.00	8,830.17	285.80	776.36	278.47	0.00	0.00	0.00
9,000.00	0.00	0.00	8,930.17	285.80	776.36	278.47	0.00	0.00	0.00
9,029.83	0.00	0.00	8,960.00	285.80	776.36	278.47	0.00	0.00	0.00
Avalon									
9,100.00	0.00	0.00	9,030.17	285.80	776.36	278.47	0.00	0.00	0.00
9,200.00	0.00	0.00	9,130.17	285.80	776.36	278.47	0.00	0.00	0.00
9,300.00	0.00	0.00	9,230.17	285.80	776.36	278.47	0.00	0.00	0.00
9,400.00	0.00	0.00	9,330.17	285.80	776.36	278.47	0.00	0.00	0.00
9,500.00	0.00	0.00	9,430.17	285.80	776.36	278.47	0.00	0.00	0.00
9,600.00	0.00	0.00	9,530.17	285.80	776.36	278.47	0.00	0.00	0.00
9,700.00	0.00	0.00	9,630.17	285.80	776.36	278.47	0.00	0.00	0.00
9,800.00	0.00	0.00	9,730.17	285.80	776.36	278.47	0.00	0.00	0.00
9,900.00	0.00	0.00	9,830.17	285.80	776.36	278.47	0.00	0.00	0.00
10,000.00	0.00	0.00	9,930.17	285.80	776.36	278.47	0.00	0.00	0.00
10,019.83	0.00	0.00	9,950.00	285.80	776.36	278.47	0.00	0.00	0.00
1st Bone Spring									
10,100.00	0.00	0.00	10,030.17	285.80	776.36	278.47	0.00	0.00	0.00
10,191.88	0.00	0.00	10,122.05	285.80	776.36	278.47	0.00	0.00	0.00
KOP BLD 10°/100'									
10,200.00	0.81	359.46	10,130.17	285.85	776.36	278.53	10.00	10.00	0.00
10,250.00	5.81	359.46	10,180.07	288.74	776.33	281.41	10.00	10.00	0.00
10,300.00	10.81	359.46	10,229.53	295.97	776.26	288.64	10.00	10.00	0.00
10,350.00	15.81	359.46	10,278.17	307.48	776.15	300.15	10.00	10.00	0.00
10,400.00	20.81	359.46	10,325.62	323.18	776.01	315.85	10.00	10.00	0.00
10,450.00	25.81	359.46	10,371.52	342.96	775.82	335.63	10.00	10.00	0.00
10,500.00	30.81	359.46	10,415.53	366.67	775.60	359.34	10.00	10.00	0.00
10,550.00	35.81	359.46	10,457.30	394.12	775.34	386.79	10.00	10.00	0.00
10,597.99	40.61	359.46	10,495.00	423.79	775.06	416.47	10.00	10.00	0.00
2nd Bone Spring									
10,600.00	40.81	359.46	10,496.52	425.10	775.05	417.78	10.00	10.00	0.00
10,650.00	45.81	359.46	10,532.89	459.39	774.73	452.07	10.00	10.00	0.00
10,700.00	50.81	359.46	10,566.13	496.71	774.38	489.39	10.00	10.00	0.00
10,750.00	55.81	359.46	10,596.00	536.80	774.00	529.48	10.00	10.00	0.00
10,800.00	60.81	359.46	10,622.25	579.33	773.60	572.01	10.00	10.00	0.00
10,850.00	65.81	359.46	10,644.70	623.98	773.19	616.67	10.00	10.00	0.00
10,900.00	70.81	359.46	10,663.17	670.43	772.75	663.11	10.00	10.00	0.00
10,950.00	75.81	359.46	10,677.53	718.30	772.30	710.99	10.00	10.00	0.00
11,000.00	80.81	359.46	10,687.65	767.25	771.84	759.94	10.00	10.00	0.00
11,050.00	85.81	359.46	10,693.47	816.89	771.38	809.59	10.00	10.00	0.00
11,091.88	90.00	359.46	10,695.00	858.73	770.99	851.43	10.00	10.00	0.00
EOB HLD 90° Inc. - FTP Bell Lake Unit South 235H									
11,100.00	90.00	359.46	10,695.00	866.85	770.91	859.55	0.00	0.00	0.00
11,200.00	90.00	359.46	10,695.00	966.85	769.97	959.55	0.00	0.00	0.00
11,300.00	90.00	359.46	10,695.00	1,066.84	769.04	1,059.55	0.00	0.00	0.00
11,400.00	90.00	359.46	10,695.00	1,166.84	768.10	1,159.55	0.00	0.00	0.00
11,500.00	90.00	359.46	10,695.00	1,266.83	767.16	1,259.55	0.00	0.00	0.00



Microsoft
Planning Report

KAISER-FRANCIS OIL COMPANY

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Bell Lake Unit South 235H
Company:	Kaiser-Francis Oil Company	TVD Reference:	3588.4+23 @ 3611.40usft
Project:	Lea County, NM (NAD 83)	MD Reference:	3588.4+23 @ 3611.40usft
Site:	Sec 5-T24S-R34E	North Reference:	Grid
Well:	Bell Lake Unit South 235H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,600.00	90.00	359.46	10,695.00	1,366.83	766.22	1,359.55	0.00	0.00	0.00
11,700.00	90.00	359.46	10,695.00	1,466.83	765.29	1,459.55	0.00	0.00	0.00
11,800.00	90.00	359.46	10,695.00	1,566.82	764.35	1,559.55	0.00	0.00	0.00
11,900.00	90.00	359.46	10,695.00	1,666.82	763.41	1,659.55	0.00	0.00	0.00
12,000.00	90.00	359.46	10,695.00	1,766.81	762.47	1,759.55	0.00	0.00	0.00
12,100.00	90.00	359.46	10,695.00	1,866.81	761.54	1,859.55	0.00	0.00	0.00
12,200.00	90.00	359.46	10,695.00	1,966.80	760.60	1,959.55	0.00	0.00	0.00
12,300.00	90.00	359.46	10,695.00	2,066.80	759.66	2,059.55	0.00	0.00	0.00
12,400.00	90.00	359.46	10,695.00	2,166.80	758.73	2,159.55	0.00	0.00	0.00
12,500.00	90.00	359.46	10,695.00	2,266.79	757.79	2,259.55	0.00	0.00	0.00
12,600.00	90.00	359.46	10,695.00	2,366.79	756.85	2,359.55	0.00	0.00	0.00
12,700.00	90.00	359.46	10,695.00	2,466.78	755.91	2,459.55	0.00	0.00	0.00
12,800.00	90.00	359.46	10,695.00	2,566.78	754.98	2,559.55	0.00	0.00	0.00
12,900.00	90.00	359.46	10,695.00	2,666.77	754.04	2,659.55	0.00	0.00	0.00
13,000.00	90.00	359.46	10,695.00	2,766.77	753.10	2,759.55	0.00	0.00	0.00
13,100.00	90.00	359.46	10,695.00	2,866.76	752.16	2,859.55	0.00	0.00	0.00
13,200.00	90.00	359.46	10,695.00	2,966.76	751.23	2,959.55	0.00	0.00	0.00
13,300.00	90.00	359.46	10,695.00	3,066.76	750.29	3,059.55	0.00	0.00	0.00
13,400.00	90.00	359.46	10,695.00	3,166.75	749.35	3,159.55	0.00	0.00	0.00
13,500.00	90.00	359.46	10,695.00	3,266.75	748.42	3,259.55	0.00	0.00	0.00
13,600.00	90.00	359.46	10,695.00	3,366.74	747.48	3,359.55	0.00	0.00	0.00
13,700.00	90.00	359.46	10,695.00	3,466.74	746.54	3,459.55	0.00	0.00	0.00
13,800.00	90.00	359.46	10,695.00	3,566.73	745.60	3,559.55	0.00	0.00	0.00
13,900.00	90.00	359.46	10,695.00	3,666.73	744.67	3,659.55	0.00	0.00	0.00
14,000.00	90.00	359.46	10,695.00	3,766.72	743.73	3,759.55	0.00	0.00	0.00
14,100.00	90.00	359.46	10,695.00	3,866.72	742.79	3,859.55	0.00	0.00	0.00
14,200.00	90.00	359.46	10,695.00	3,966.72	741.85	3,959.55	0.00	0.00	0.00
14,300.00	90.00	359.46	10,695.00	4,066.71	740.92	4,059.55	0.00	0.00	0.00
14,400.00	90.00	359.46	10,695.00	4,166.71	739.98	4,159.55	0.00	0.00	0.00
14,500.00	90.00	359.46	10,695.00	4,266.70	739.04	4,259.55	0.00	0.00	0.00
14,600.00	90.00	359.46	10,695.00	4,366.70	738.11	4,359.55	0.00	0.00	0.00
14,700.00	90.00	359.46	10,695.00	4,466.69	737.17	4,459.55	0.00	0.00	0.00
14,800.00	90.00	359.46	10,695.00	4,566.69	736.23	4,559.55	0.00	0.00	0.00
14,900.00	90.00	359.46	10,695.00	4,666.69	735.29	4,659.55	0.00	0.00	0.00
15,000.00	90.00	359.46	10,695.00	4,766.68	734.36	4,759.55	0.00	0.00	0.00
15,100.00	90.00	359.46	10,695.00	4,866.68	733.42	4,859.55	0.00	0.00	0.00
15,200.00	90.00	359.46	10,695.00	4,966.67	732.48	4,959.55	0.00	0.00	0.00
15,300.00	90.00	359.46	10,695.00	5,066.67	731.54	5,059.55	0.00	0.00	0.00
15,400.00	90.00	359.46	10,695.00	5,166.66	730.61	5,159.55	0.00	0.00	0.00
15,500.00	90.00	359.46	10,695.00	5,266.66	729.67	5,259.55	0.00	0.00	0.00
15,600.00	90.00	359.46	10,695.00	5,366.65	728.73	5,359.55	0.00	0.00	0.00
15,700.00	90.00	359.46	10,695.00	5,466.65	727.80	5,459.55	0.00	0.00	0.00
15,800.00	90.00	359.46	10,695.00	5,566.65	726.86	5,559.55	0.00	0.00	0.00
15,900.00	90.00	359.46	10,695.00	5,666.64	725.92	5,659.55	0.00	0.00	0.00
16,000.00	90.00	359.46	10,695.00	5,766.64	724.98	5,759.55	0.00	0.00	0.00
16,100.00	90.00	359.46	10,695.00	5,866.63	724.05	5,859.55	0.00	0.00	0.00
16,200.00	90.00	359.46	10,695.00	5,966.63	723.11	5,959.55	0.00	0.00	0.00
16,300.00	90.00	359.46	10,695.00	6,066.62	722.17	6,059.55	0.00	0.00	0.00
16,400.00	90.00	359.46	10,695.00	6,166.62	721.23	6,159.55	0.00	0.00	0.00
16,500.00	90.00	359.46	10,695.00	6,266.62	720.30	6,259.55	0.00	0.00	0.00
16,600.00	90.00	359.46	10,695.00	6,366.61	719.36	6,359.55	0.00	0.00	0.00
16,700.00	90.00	359.46	10,695.00	6,466.61	718.42	6,459.55	0.00	0.00	0.00
16,800.00	90.00	359.46	10,695.00	6,566.60	717.49	6,559.55	0.00	0.00	0.00
16,900.00	90.00	359.46	10,695.00	6,666.60	716.55	6,659.55	0.00	0.00	0.00



Microsoft
Planning Report

KAISER-FRANCIS OIL COMPANY

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Bell Lake Unit South 235H
Company:	Kaiser-Francis Oil Company	TVD Reference:	3588.4+23 @ 3611.40usft
Project:	Lea County, NM (NAD 83)	MD Reference:	3588.4+23 @ 3611.40usft
Site:	Sec 5-T24S-R34E	North Reference:	Grid
Well:	Bell Lake Unit South 235H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
17,000.00	90.00	359.46	10,695.00	6,766.59	715.61	6,759.55	0.00	0.00	0.00
17,100.00	90.00	359.46	10,695.00	6,866.59	714.67	6,859.55	0.00	0.00	0.00
17,200.00	90.00	359.46	10,695.00	6,966.58	713.74	6,959.55	0.00	0.00	0.00
17,300.00	90.00	359.46	10,695.00	7,066.58	712.80	7,059.55	0.00	0.00	0.00
17,400.00	90.00	359.46	10,695.00	7,166.58	711.86	7,159.55	0.00	0.00	0.00
17,500.00	90.00	359.46	10,695.00	7,266.57	710.93	7,259.55	0.00	0.00	0.00
17,600.00	90.00	359.46	10,695.00	7,366.57	709.99	7,359.55	0.00	0.00	0.00
17,700.00	90.00	359.46	10,695.00	7,466.56	709.05	7,459.55	0.00	0.00	0.00
17,800.00	90.00	359.46	10,695.00	7,566.56	708.11	7,559.55	0.00	0.00	0.00
17,900.00	90.00	359.46	10,695.00	7,666.55	707.18	7,659.55	0.00	0.00	0.00
18,000.00	90.00	359.46	10,695.00	7,766.55	706.24	7,759.55	0.00	0.00	0.00
18,100.00	90.00	359.46	10,695.00	7,866.54	705.30	7,859.55	0.00	0.00	0.00
18,200.00	90.00	359.46	10,695.00	7,966.54	704.36	7,959.55	0.00	0.00	0.00
18,300.00	90.00	359.46	10,695.00	8,066.54	703.43	8,059.55	0.00	0.00	0.00
18,400.00	90.00	359.46	10,695.00	8,166.53	702.49	8,159.55	0.00	0.00	0.00
18,500.00	90.00	359.46	10,695.00	8,266.53	701.55	8,259.55	0.00	0.00	0.00
18,600.00	90.00	359.46	10,695.00	8,366.52	700.62	8,359.55	0.00	0.00	0.00
18,622.96	90.00	359.46	10,695.00	8,389.48	700.40	8,382.51	0.00	0.00	0.00
TD at 18622.96 - BHL Bell Lake Unit South 235H									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
BHL Bell Lake Unit Sour	0.00	0.00	10,695.00	8,389.48	700.40	461,997.17	761,572.59	32.26809509	-103.62079704
- plan hits target center									
- Point									
FTP Bell Lake Unit Soutl	0.00	0.00	10,695.00	858.73	770.99	454,466.42	761,643.18	32.24739419	-103.62073041
- plan hits target center									
- Point									

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,350.00	1,350.00	Rustler		0.00		
1,725.04	1,725.00	Salado		0.00		
2,051.87	2,050.00	Top of Salt		0.00		
5,072.70	5,025.00	Base of Salt		0.00		
5,301.17	5,250.00	Lamar		0.00		
5,377.32	5,325.00	Bell Canyon		0.00		
6,240.44	6,175.00	Cherry Canyon		0.00		
7,694.83	7,625.00	Brushy Canyon		0.00		
8,819.83	8,750.00	Bone Spring		0.00		
9,029.83	8,960.00	Avalon		0.00		
10,019.83	9,950.00	1st Bone Spring		0.00		
10,597.99	10,495.00	2nd Bone Spring		0.00		



Microsoft
Planning Report

KAISER-FRANCIS OIL COMPANY

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Bell Lake Unit South 235H
Company:	Kaiser-Francis Oil Company	TVD Reference:	3588.4+23 @ 3611.40usft
Project:	Lea County, NM (NAD 83)	MD Reference:	3588.4+23 @ 3611.40usft
Site:	Sec 5-T24S-R34E	North Reference:	Grid
Well:	Bell Lake Unit South 235H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
1,600.00	1,600.00	0.00	0.00	Nudge 2°/100'	
2,100.00	2,097.46	15.04	40.84	EON HLD 10° Inc.	
6,362.90	6,295.60	270.76	735.51	DROP 2°/100'	
6,862.90	6,793.07	285.80	776.36	EOD HLD 0° Inc.	
10,191.88	10,122.05	285.80	776.36	KOP BLD 10°/100'	
11,091.88	10,695.00	858.73	770.99	EOB HLD 90° Inc.	
18,622.96	10,695.00	8,389.48	700.40	TD at 18622.96	