

CASE NO. 21419

**APPLICATION OF KAISER-FRANCIS OIL COMPANY FOR COMPULSORY
POOLING, EDDY COUNTY, NEW MEXICO**

EXHIBITS

1. Application and Proposed Ad
2. Landman's Affidavit (Brendon Kushnerick)
3. Geologist's Affidavit (Lee J. Lindman)
4. Affidavit of Notice
5. Affidavit of Publication
6. Pooling Checklist

BEFORE THE NEW MEXICO OIL CONSERVATION DIVISION

APPLICATION OF KAISER-FRANCIS OIL
COMPANY FOR COMPULSORY POOLING,
EDDY COUNTY, NEW MEXICO.

Case No. 21419

APPLICATION

Kaiser-Francis Oil Company applies for an order pooling all mineral interests in the Wolfcamp formation underlying a horizontal spacing unit comprised of the SE/4 of Section 20 and the SW/4 of Section 21, Township 23 South, Range 28 East, N.M.P.M., Eddy County, New Mexico, and in support thereof, states:

1. Applicant is an interest owner in the SE/4 of Section 20 and the SW/4 of Section 21, and has the right to drill a well or wells thereon.
2. Applicant proposes to drill the following wells to test the Wolfcamp formation:
 - (a) The Loving Townsite 2021 WC Well No. 1H, with a first take point in the NW/4SE/4 of Section 20, and a final take point in the NE/4SW/4 of Section 21;
 - (b) The Loving Townsite 2021 WA Well No. 1H, with a first take point in the NW/4SE/4 of Section 20, and a final take point in the NE/4SW/4 of Section 21;
 - (c) The Loving Townsite 2021 WC Well No. 2H, well with a first take point in the SW/4SE/4 of Section 20, and a final take point in the SE/4SW/4 of Section 21; and
 - (d) The Loving Townsite 2021 WA Well No. 2H, with a first take point in the SW/4SE/4 of Section 20, and a final take point in the SE/4SW/4 of Section 21.
3. Applicant has in good faith sought to obtain the voluntary joinder of all other mineral interest owners in the SE/4 of Section 20 and the SW/4 of Section 21 for the purposes set forth herein.

EXHIBIT

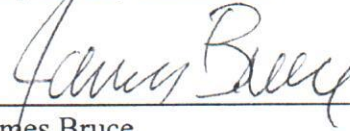
4. Although applicant attempted to obtain voluntary agreements from all mineral interest owners to participate in the drilling of the wells or to otherwise commit their interests to the wells, certain interest owners have failed or refused to join in dedicating their interests. Therefore, applicant seeks an order pooling all mineral interest owners in the Wolfcamp formation in the SE/4 of Section 20 and the SW/4 of Section 21, pursuant to NMSA 1978 §§70-2-17, 18.

5. The pooling of all mineral interests in the Wolfcamp formation underlying the SE/4 of Section 20 and the SW/4 of Section 21 will prevent the drilling of unnecessary wells, prevent waste, and protect correlative rights.

WHEREFORE, applicant requests that, after notice and hearing, the Division enter its order:

- A. Pooling all mineral interests in the Wolfcamp formation underlying the SE/4 of Section 20 and the SW/4 of Section 21;
- B. Designating applicant as operator of the wells;
- C. Considering the cost of drilling, completing, and equipping the wells, and allocating the cost among the wells' working interest owners;
- D. Approving actual operating charges and costs charged for supervision, together with a provision adjusting the rates pursuant to the COPAS accounting procedure; and
- E. Setting a 200% charge for the risk involved in drilling, completing, and equipping the wells in the event a working interest owner elects not to participate in the wells.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "James Bruce", written over a horizontal line.

James Bruce
Post Office Box 1056
Santa Fe, New Mexico 87504
(505) 982-2043

Attorney for Kaiser-Francis Oil Company

PROPOSED ADVERTISEMENT

Case No. 21419:

Application of Kaiser-Francis Oil Company for a compulsory pooling, Eddy County, New Mexico. Kaiser-Francis Oil Company seeks an order pooling all mineral interests in the Wolfcamp formation underlying spacing and proration unit in the Wolfcamp formation comprised of the SE/4 of Section 20 and the SW/4 of Section 21, Township 23 South, Range 28 East, NMPM. The unit will be dedicated to: (a) the Loving Townsite 2021 WC Well No. 1H, with a first take point in the NW/4SE/4 of Section 20 and a final take point in the NE/4SW/4 of Section 21; (b) the Loving Townsite 2021 WA Well No. 1H, a with a first take point in the NW/4SE/4 of Section 20 and a final take point in the NE/4SW/4 of Section 21; (c) the Loving Townsite 2021 WC Well No. 2H, well with a first take point in the SW/4SE/4 of Section 20 and a final take point in the SE/4SW/4 of Section 21; and (d) the Loving Townsite 2021 WA Well No. 2H, with a first take point in the SW/4SE/4 of Section 20 and a final take point in the SE/4SW/4 of Section 21. Also to be considered will be the cost of drilling, completing, and equipping the wells and the allocation of the cost thereof, as well as actual operating costs and charges for supervision, designation of applicant as operator of the wells, and a 200% charge for the risk involved in drilling, completing, and equipping the wells. The unit is located in the center of Loving, New Mexico.

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

**IN THE MATTER OF THE HEARING CALLED
BY THE OIL CONSERVATION DIVISION FOR
THE PURPOSE OF CONSIDERING:**

**APPLICATION OF KAISER-FRANCIS OIL
COMPANY COMPULSORY POOLING, EDDY
COUNTY, NEW MEXICO.**

Case No. 21419

VERIFIED STATEMENT OF BRENDON KUSHNERICK

Brendon Kushnerick, being duly sworn upon his oath, deposes and states:

1. I am a landman for Kaiser-Francis Oil Company ("KFOC"), and have personal knowledge of the matters stated herein. I have been qualified by the Division as an expert petroleum landman.

2. The following information is submitted in support of the compulsory pooling application filed herein:

(a) The purpose of this application is to force pool working interest owners into the Wolfcamp horizontal spacing unit described below, and in wells that have been drilled or are to be drilled in the unit.

(b) No opposition is expected because KFOC has attempted to contact all the interest owners being pooled regarding the proposed well, and the interest owners have either failed or refused to voluntarily commit their interests to the well.

(c) A Midland Map Co. plat outlining the unit being pooled is attached hereto as Attachment A. KFOC seeks an order pooling the Wolfcamp formation underlying a horizontal spacing unit comprised of the SE/4 of Section 20 & SW/4 of Section 21, Township 23 South, Range 28 East, NMPM, containing 324.1 acres.

(i) Pool Code: 98220 Pool Name: Purple Sage; Wolfcamp Gas Pool, to be dedicated to the Loving Townsite 2021 WC No 1H. The well is a horizontal well with a first take point in the NW/4 SE/4 of Section 20 and a final take point in the NE/4 SW/4 of Section 21.

SHL: 1,078' FSL & 2,519' FEL

BHL: 1,893' FSL & 2,413' FWL

15,157' MD/ 10,496' TVD

EXHIBIT

2

(ii) Pool Code: 98220 Pool Name: Purple Sage; Wolfcamp Gas Pool, to be dedicated to the Loving Townsite 2021 WC No 2H. The well is a horizontal well with a first take point in the SW/4 SE/4 of Section 20 and a final take point in the SE/4 SW/4 of Section 21.

SHL: 1,048' FSL & 2,519' FEL

BHL: 725' FSL & 2,584' FWL

15,353' MD/ 10,475' TVD

(iii) Pool Code: 98220 Pool Name: Purple Sage; Wolfcamp Gas Pool, to be dedicated to the Loving Townsite 2021 WA No 1H. The well is a horizontal well with a first take point in the NW/4 SE/4 of Section 20 and a final take point in the NE/4 SW/4 of Section 21.

SHL: 1,148' FSL & 2,499' FEL

BHL: 1,980' FSL & 2,310' FWL

14,900' MD/ 10,100' TVD

(iv) Pool Code: 98220 Pool Name: Purple Sage; Wolfcamp Gas Pool, to be dedicated to the Loving Townsite 2021 WA No 2H. The well is a horizontal well with a first take point in the SW/4 SE/4 of Section 20 and a final take point in the SE/4 SW/4 of Section 21.

SHL: 948' FSL & 2,499' FEL

BHL: 660' FSL & 2,310' FWL

14,900' MD/ 10,100' TVD

A Form C-102 for each well is attached as Attachment B.

- (d) There is no depth severance in the Wolfcamp formation.
- (d) The parties being pooled and their interests are set forth in Attachment C. Their current or last known address are also set forth.
- (e) There were five unlocatable interest owners.
- (f) Attachment D contains a summary of contacts or attempted contacts with the interest owners, together with copies of the proposal letters sent to the interest owners.
- (g) KFOC has made a good faith effort to obtain the voluntary joinder of the working interest owners in the proposed wells.
- (h) KFOC has the right to pool the overriding royalty owners in the well unit.
- (i) Attachment E contains the Authorization for Expenditures for the proposed wells. The estimated cost of the wells set forth therein is fair and reasonable, and are comparable to the costs of other wells of similar depth and length drilled in this area of Eddy County.

(j) KFOC requests overhead and administrative rates of \$8,000.00/month while drilling a well and \$800.00/month for a producing well. These rates are fair, and are comparable to the rates charged by other operators for wells of this type in this portion of Eddy County. They are also the rates set forth in the Joint Operating Agreement for the well unit. KFOC requests that these rates be adjusted periodically as provided in the COPAS Accounting Procedure.

(k) KFOC requests that the maximum cost plus 200% risk charge be assessed against non-consenting working interest owners.

(l) KFOC requests that it be designated operator of the well.

(m) The attachments to this affidavit were prepared by me, or compiled from company business records.

(n) The granting of this application is in the interests of conservation and the prevention of waste.

VERIFICATION

STATE OF OKLAHOMA)
) ss.
COUNTY OF TULSA)

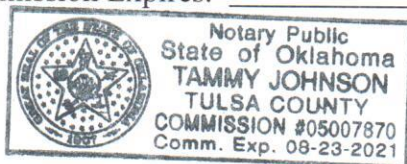
Brendon Kushnerick, being duly sworn upon his oath, deposes and states that: He is a Staff Landman for Kaiser-Francis Oil Company; he is authorized to make this verification on its behalf; he has read the foregoing statement, and knows the contents thereof; and the same is true and correct to the best of his knowledge, information, and belief.



Brendon Kushnerick

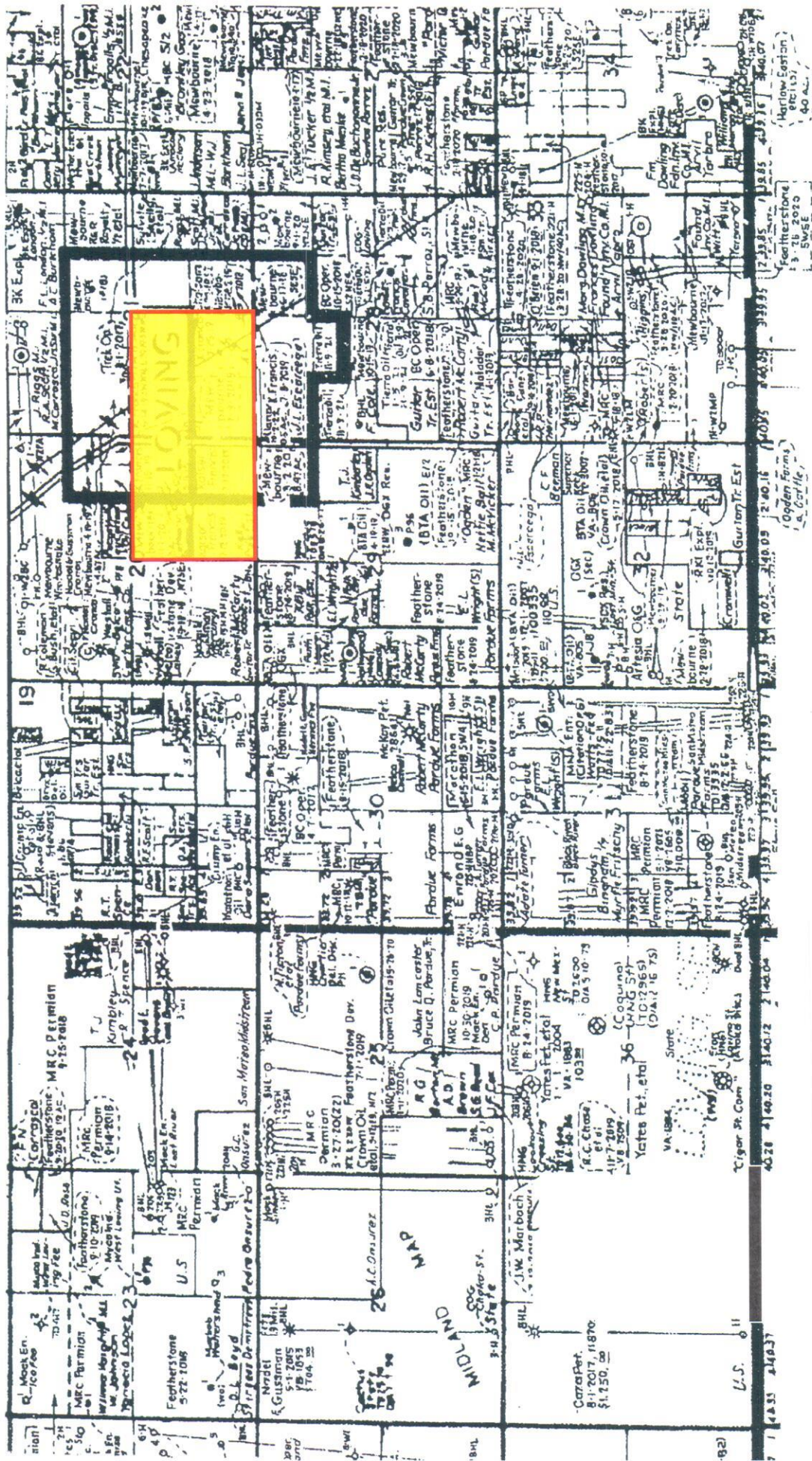
SUBSCRIBED AND SWORN TO before me this 1st day of September, 2020 by Brendon Kushnerick.

My Commission Expires: 08-23-2021





Notary Public



ATTACHMENT

A

NM OIL CONSERVATION ARTESIA DISTRICT

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

District I
1625 N French Dr., Hobbs, NM 88240
Phone: (505) 393-6181 Fax: (505) 393-0720
District II
811 S First St., Artesia, NM 88210
Phone: (505) 748-1283 Fax: (505) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-45003	¹ Pool Code 98220	¹ Pool Name Purple Sage - Wolfcamp Gas Pool
¹ Property Code 321475	¹ Property Name LOVING TOWNSITE 2021 WA	
¹ OGRID No. 12361	¹ Operator Name KAISER-FRANCIS OIL COMPANY	¹ Well Number 1H
		¹ Elevation 3069.1

10 Surface Location

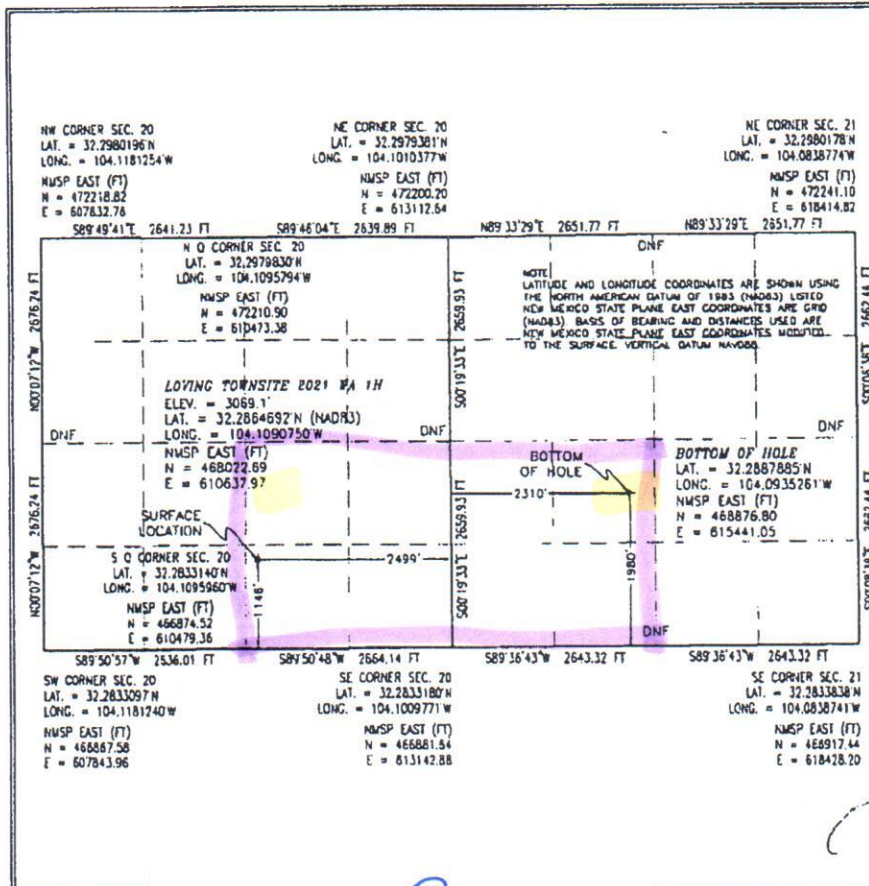
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	20	23 S	28 E		1148	SOUTH	2499	EAST	EDDY

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
K	21	23 S	28 E		1980	SOUTH	2310	WEST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
320	-	-	-

No allowance will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



" 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 in a completion pooling order previously approved by the division.

Signature: *Charlotte Van Valkenburg* Date: 5/24/18

Printed Name: **Charlotte Van Valkenburg**

E-mail Address: **Charlotv@kfoc.net**

"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.

Signature: *William F. Jaramillo* Date of Survey: MAY 16, 2018

Signature and Seal of Professional Surveyor: *William F. Jaramillo*

Certificate Number: **12361** FLEMING F. JARAMILLO, PLS 12797

SURVEY NO. 62361

ATTACHMENT

B

NSP required

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) 745-1253 Fax: (575) 745-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
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Phone: (505) 476-3460 Fax: (505) 476-3462

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

NM OIL CONSERVATION
ARTESIA DISTRICT

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office
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JUN 01 2018

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WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-45004	¹ Pool Code 98220	¹ Pool Name Purple Sage - Wolfcamp Gas Pool
⁴ Property Code 321475	³ Property Name LOVING TOWNSITE 2021 WA	
⁷ OGRID No. 12361	⁴ Operator Name KAISER-FRANCIS OIL COMPANY	⁵ Well Number 2H
		⁶ Elevation 3070.2

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
O	20	23 S	28 E		948	SOUTH	2499	EAST	EDDY

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
N	21	23 S	28 E		660	SOUTH	2310	WEST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
320	-	-	-

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 undivided 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 a voluntary pooling agreement or a compulsory pooling order issued by the division. Signature: <i>Charlotte Van Valkenburg</i> Date: <i>5/24/18</i> Printed Name: Charlotte Van Valkenburg E-mail Address: Charlotv@kfoc.net	
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. Signature and Seal of Professional Surveyor: <i>Filimon F. Jaramillo</i> Certificate Number: FILIMON F. JARAMILLO, PLS 11797 SURVEY NO. A251	

NSP required

RECEIVED

Form C-102

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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

MAY 03 2019

Revised August 1, 2011

Submit one copy to appropriate

DISTRICT II-ARTESIA O.C.D.

District Office

☒ AMENDED REPORT

As-Drilled

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-45005	¹ Pool Code 98220	¹ Pool Name Purple Sage; Wolfcamp, Gas
⁴ Property Code 321476	³ Property Name LOVING TOWNSITE 2021 WC	⁶ Well Number 1H
⁷ OGRID No. 12361	⁵ Operator Name KAISER-FRANCIS OIL COMPANY	⁸ Elevation 3069.6

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
O	20	23 S	28 E		1078	SOUTH	2519	EAST	EDDY

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
J	21	23 S	28 E		1893	SOUTH	2413	WEST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
320	-	-	-

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.

NW CORNER SEC. 20 LAT. = 32.2980196°N LONG. = 104.1181254°W NMSP EAST (FT) N = 472218.82 E = 607832.76 NE CORNER SEC. 20 LAT. = 32.2979381°N LONG. = 104.1010377°W NMSP EAST (FT) N = 472200.20 E = 613112.64 NW CORNER SEC. 21 LAT. = 32.2980178°N LONG. = 104.0838774°W NMSP EAST (FT) N = 472241.10 E = 618414.82		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 unconsolidated 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. Signature: <i>Charlotte Van Valkenburg</i> Date: 5/2/19 Printed Name: Charlotte Van Valkenburg E-mail Address: Charlotv@kfoc.net	
NW CORNER SEC. 20 LAT. = 32.2979830°N LONG. = 104.1095794°W NMSP EAST (FT) N = 472210.90 E = 610473.38 NE CORNER SEC. 20 LAT. = 32.2885389°N LONG. = 104.1076761°W NMSP EAST (FT) N = 468812.90 E = 611068.80 NW CORNER SEC. 21 LAT. = 32.2885493°N LONG. = 104.0931933°W NMSP EAST (FT) N = 468790.03 E = 615544.06		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. APRIL 11, 2019 Date of Survey: <i>ELIMON F. JARAMILLO</i> Signature and Seal of Professional Surveyor: Certificate Number: ELIMON F. JARAMILLO, PLS 12797 SURVEY NO. 6250	
AS-DRILLED FIRST TAKE POINT 1937° PSL, 2064° PEL LAT. = 32.2885389°N LONG. = 104.1076761°W NMSP EAST (FT) N = 468812.90 E = 611068.80 LOVING TOWNSITE 2021 WC 1H DNF ELEV. = 3069.6 LAT. = 32.2882789°N (NAD83) LONG. = 104.1091392°W NMSP EAST (FT) N = 467952.69 E = 610418.27 SW CORNER SEC. 20 LAT. = 32.2833097°N LONG. = 104.1181240°W NMSP EAST (FT) N = 468867.58 E = 607843.95 SE CORNER SEC. 20 LAT. = 32.2833180°N LONG. = 104.1009771°W NMSP EAST (FT) N = 468881.64 E = 613142.88 SW CORNER SEC. 21 LAT. = 32.2833838°N LONG. = 104.0838741°W NMSP EAST (FT) N = 468917.44 E = 618428.20 SE CORNER SEC. 21 LAT. = 32.2833838°N LONG. = 104.0838741°W NMSP EAST (FT) N = 468917.44 E = 618428.20			

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Form C-102

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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
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Santa Fe, NM 87505

MAY 03 2019

Revised August 1, 2011

Submit one copy to appropriate

DISTRICT II-ARTESIA O.C.D.

District Office

☒ AMENDED REPORT

As-Drilled

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-45006	¹ Pool Code 98220	¹ Pool Name Purple Sage; Woldcamp, Gas
⁴ Property Code 321476	³ Property Name LOVING TOWNSITE 2021 WC	⁶ Well Number 2H
⁷ OGRID No. 12361	⁸ Operator Name KAISER-FRANCIS OIL COMPANY	⁹ Elevation 3069.7

¹⁰ Surface Location

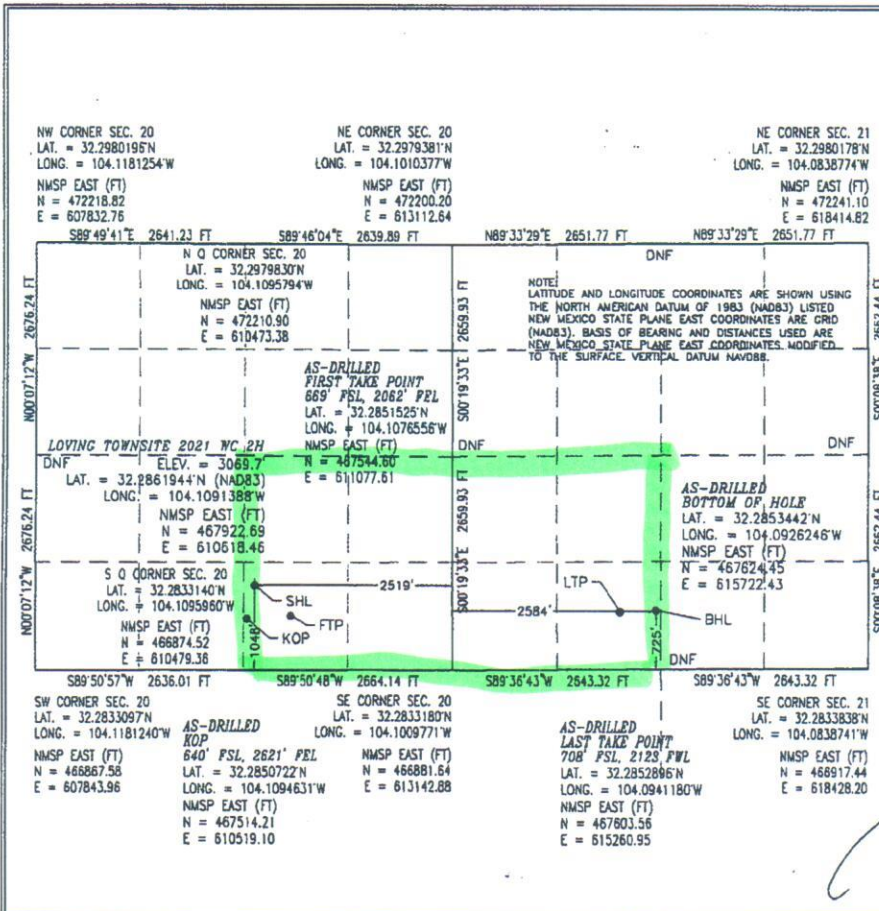
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	20	23 S	28 E		1048	SOUTH	2519	EAST	EDDY

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
N	21	23 S	28 E		725	SOUTH	2584	WEST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
320	I	-	-

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 undivided 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.

Signature: *Charlotte Van Valkenburg*
Date: 5/2/19

Printed Name: Charlotte Van Valkenburg

E-mail Address: Charlotv@kfoc.net

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.

APRIL 11, 2019
Date of Survey

Signature and Seal of Professional Surveyor:
F. JARAMILLO
NEW MEXICO
PLS 12797

Certificate Number: F. JARAMILLO, PLS 12797

SURVEY NO. 6251A

Pooling Respondent list for Pooling of the SE/4 of Section 20 and the SW/4 of Section 21 T23S-R29E; Eddy County, New Mexico

Mineral Owner	Address line 1	Address line 2	City	State	Zip	Working Interest
Theodore Aguilar	P.O. Box 433		Loving	NM	88256	0.0007302
Edward Campos	P.O. Box 13		Loving	NM	88256	0.0003548
Teresa Dean	610 Airport Avenue		Carlsbad	NM	88220	0.0007714
Heirs of Maria Garza, Deceased	c/o Cruz Garza Hernandez	2121 North Rojo	Hobbs	NM	88240	0.0007097
Josi Harvey	1602 West Tansil Street		Carlsbad	NM	88220	0.0002366
Josefa Harvey	1801 West Jefferson Avenue		Lovington	NM	88260-3012	0.0001774
Heirs of Alfred Reid Lawrence, Deceased	c/o Thelma McLain Lawrence	621 Wild Willow Drive	El Paso	TX	79922	0.0025224
Heirs of Thelma McNutt, Deceased	5850 Eubank Boulevard	Suite B49	Albuquerque	NM	87111	0.0007097
Pardue Limited Company	P.O. Box 96		Loving	NM	88256	0.0039494
Maria Rojas	4321 Dry Creek Road		Sacramento	CA	95838	0.0007302
Saul Sanchez	P.O. Box 421		Loving	NM	88256	0.0005245
Heirs of Geraldine Hoose Stevens	c/o Curtis Stevens	112 Durham Drive	Crawfordsville	IN	47933	0.0001774
Heirs of Steven Frank Williams	c/o Sondra Lynn William Ellyson	536 Rose Branch Drive	La Vernia	TX	78121	0.0005184
Linda Williams	33764 La Highway 16		Denham Springs	LA	70706	0.0001037

ATTACHMENT

C

Summary of Communications

Loving Townsite 2021 WC 1H & 2H

Loving Townsite 2021 WA 1H & 2H

Company Name: Theodore Aguilar	
Date:	Comments/Actions
July 1, 2020	Mailed well proposals via certified mail dated July 1, 2020
July 7, 2020	Certified mail receipt showed successful delivery

Company Name: Edward Campos	
Date:	Comments/Actions
July 1, 2020	Mailed well proposals via certified mail dated July 1, 2020
July 11, 2020	Certified mail receipt showed successful delivery
	Multiple discussions between Kaiser's leasing agent and Mr. Campos about leasing his interest

Company Name: Teresa Dean	
Date:	Comments/Actions
July 1, 2020	Mailed well proposals via certified mail dated July 1, 2020
	Recipient refused to sign for the letter due to Covid-19

Company Name: Heirs of Maria Garza, Deceased	
Date:	Comments/Actions
July 1, 2020	Mailed well proposals via certified mail dated July 1, 2020

Company Name: Josi Harvey	
Date:	Comments/Actions
July 1, 2020	Mailed well proposals via certified mail dated July 1, 2020
July 8, 2020	Certified mail receipt showed successful delivery

Company Name: Josefa Harvey	
Date:	Comments/Actions
July 1, 2020	Mailed well proposals via certified mail dated July 1, 2020
July 8, 2020	Certified mail receipt showed successful delivery

Company Name: Heirs of Alfred Reid Lawrence, Deceased	
Date:	Comments/Actions
July 1, 2020	Mailed well proposals via certified mail dated July 1, 2020

Company Name: Heirs of Thelma McNutt, Deceased	
Date:	Comments/Actions
July 1, 2020	Mailed well proposals via certified mail dated July 1, 2020
July 19, 2020	Certified mail returned to sender
July 20, 2020	Attempted to locate a better address but was unable to locate one

Company Name: Pardue Limited Company	
Date:	Comments/Actions
July 1, 2020	Mailed well proposals via certified mail dated July 1, 2020
July 7, 2020	Certified mail receipt showed successful delivery

Company Name: Marias Rojas	
Date:	Comments/Actions
July 1, 2020	Mailed well proposals via certified mail dated July 1, 2020
August 22, 2020	Certified mail returned to sender
August 24, 2020	Attempted to locate a better address but was unable to locate one

Company Name: Saul Sanchez	
Date:	Comments/Actions
July 1, 2020	Mailed well proposals via certified mail dated July 1, 2020
July 6, 2020	Certified mail receipt showed successful delivery
	Multiple phone conversations have happened between Kaiser employees/contractors and Mr. Sanchez.

Company Name: Heirs of Geraldine Hoose Stevens	
Date:	Comments/Actions
July 1, 2020	Mailed well proposals via certified mail dated July 1, 2020
July 10, 2020	Certified mail returned to sender
July 13, 2020	Attempted to locate a better address but was unable to locate one

Company Name: Heirs of Steven Frank Williams	
Date:	Comments/Actions
July 1, 2020	Mailed well proposals via certified mail dated July 1, 2020
July 6, 2020	Certified mail receipt showed successful delivery

Company Name: Linda Williams	
Date:	Comments/Actions
July 1, 2020	Mailed well proposals via certified mail dated July 1, 2020
July 7, 2020	Certified mail receipt showed successful delivery

KAISER-FRANCIS OIL COMPANY

P.O. BOX 21468

TULSA, OKLAHOMA 74121-1468

Michael Maxey, Landman
Phone: (918) 491-4424
Fax: (918) 491-4387
E-mail: MikeMa@kfoc.net

6733 South Yale Avenue, 74136
Phone: (918) 494-0000

Sent by Certified Mail

January 31, 2019



Re: Loving Townsite 2021 WA #1H
SE/4 Section 20 and SW/4 of Section 21-23S-28E
Eddy Co., NM



Kaiser-Francis Oil Company hereby proposes the drilling of a 15,495' MD / 9,466' TVD horizontal Wolfcamp test well, covering the referenced 1 mile well path. The well will have an approximate surface location of 2,450' FEL and 1,600' FSL of Section 20-23S-28E, and a terminus of approximately 2,310' FWL and 2,310' FSL of Section 21-23S-28E.

AFE costs are estimated to be \$2,749,050 DHC and \$7,603,112 CWC. Two copies of the AFE are enclosed.

Should  wish to participate in the well, please execute and return one copy of the AFE, along with a reply letter indicating your desire to participate, and we will in turn send you a JOA for your review and approval.

We will be filing for an APD with the State of NM soon, therefore, a prompt answer regarding our proposal would be greatly appreciated.

Should you have any questions, I can be reached at any of the above contact information.

Respectfully,

Michael D. Maxey, Landman
Kaiser-Francis Oil Company

KAISER-FRANCIS OIL COMPANY

P.O. BOX 21468

TULSA, OKLAHOMA 74121-1468

Michael Maxey, Landman
Phone: (918) 491-4424
Fax: (918) 491-4387
E-mail: MikeMa@kfoc.net

6733 South Yale Avenue, 74136
Phone: (918) 494-0000

Sent by Certified Mail

January 31, 2019

[REDACTED]

Re: Loving Townsite 2021 WA #2H
SE/4 Section 20 and SW/4 of Section 21-23S-28E
Eddy Co., NM

[REDACTED]:

Kaiser-Francis Oil Company hereby proposes the drilling of a 15,495' MD / 9,466' TVD horizontal Wolfcamp test well, covering the referenced 1 mile well path. The well will have an approximate surface location of 2,450' FEL and 1,180' FSL of Section 20-23S-28E, and a terminus of approximately 2,310' FWL and 330' FSL of Section 21-23S-28E.

AFE costs are estimated to be \$2,708,674 DHC and \$7,579,220 CWC. Two copies of the AFE are enclosed.

Should [REDACTED] wish to participate in the well, please execute and return one copy of the AFE, along with a reply letter indicating your desire to participate, and we will in turn send you a JOA for your review and approval.

We will be filing for an APD with the State of NM soon, therefore, a prompt answer regarding our proposal would be greatly appreciated.

Should you have any questions, I can be reached at any of the above contact information.

Respectfully,



Michael D. Maxey, Landman
Kaiser-Francis Oil Company

KAISER-FRANCIS OIL COMPANY

P.O. BOX 21468 TULSA, OKLAHOMA 74121-1468

Michael Maxey, Landman
Phone: (918) 491-4424
Fax: (918) 491-4387
E-mail: MikeMa@kfoc.net

6733 South Yale Avenue, 74136
Phone: (918) 494-0000

Sent by Certified Mail

January 31, 2019

Alfred R. Lawrence
412 Elizabeth St. N.E.
Albuquerque, NM 87112

Re: Loving Townsite 2021 WC #1H
SE/4 Section 20 and SW/4 of Section 21-23S-28E
Eddy Co., NM

Alfred R. Lawrence

Kaiser-Francis Oil Company hereby proposes the drilling of a 15,495' MD / 10,347' TVD horizontal Wolfcamp test well, covering the referenced 1 mile well path. The well will have an approximate surface location of 2,450' FEL and 1,600' FSL of Section 20-23S-28E, and a terminus of approximately 2,310' FWL and 2,310' FSL of Section 21-23S-28E.

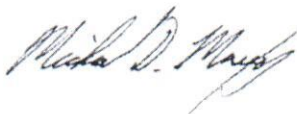
AFE costs are estimated to be \$2,860,382 DHC and \$7,789,930 CWC. Two copies of the AFE are enclosed.

Should Alfred R. Lawrence wish to participate in the well, please execute and return one copy of the AFE, along with a reply letter indicating your desire to participate, and we will in turn send you a JOA for your review and approval.

We will be filing for an APD with the State of NM soon, therefore, a prompt answer regarding our proposal would be greatly appreciated.

Should you have any questions, I can be reached at any of the above contact information.

Respectfully,



Michael D. Maxey, Landman
Kaiser-Francis Oil Company

KAISER-FRANCIS OIL COMPANY

P.O. BOX 21468

TULSA, OKLAHOMA 74121-1468

Michael Maxey, Landman
Phone: (918) 491-4424
Fax: (918) 491-4387
E-mail: MikeMa@kfoc.net

6733 South Yale Avenue, 74136
Phone: (918) 494-0000

Sent by Certified Mail

January 31, 2019

[REDACTED]

Re: Loving Townsite 2021 WC #2H
SE/4 Section 20 and SW/4 of Section 21-23S-28E
Eddy Co., NM

[REDACTED]:

Kaiser-Francis Oil Company hereby proposes the drilling of a 15,495' MD / 10,347' TVD horizontal Wolfcamp test well, covering the referenced 1 mile well path. The well will have an approximate surface location of 2,450' FEL and 1,180' FSL of Section 20-23S-28E, and a terminus of approximately 2,310' FWL and 330' FSL of Section 21-23S-28E.

AFE costs are estimated to be \$2,821,436 DHC and \$7,750,984 CWC. Two copies of the AFE are enclosed.

Should [REDACTED] wish to participate in the well, please execute and return one copy of the AFE, along with a reply letter indicating your desire to participate, and we will in turn send you a JOA for your review and approval.

We will be filing for an APD with the State of NM soon, therefore, a prompt answer regarding our proposal would be greatly appreciated.

Should you have any questions, I can be reached at any of the above contact information.

Respectfully,



Michael D. Maxey, Landman
Kaiser-Francis Oil Company

KAISER-FRANCIS OIL COMPANY

P.O. BOX 21468

TULSA, OKLAHOMA 74121-1468

Brendon Kushnerick, Landman
Phone: (918) 491-4431
E-mail: brendonk@kfoc.net

6733 South Yale Avenue, 74136
Phone: (918) 494-0000

Sent by Certified Mail

June 30, 2020

Heirs of Geraldine Hoose Stevens
c/o Curtis Stevens
112 Durham Drive
Crawfordsville, IN 47933

Re: Loving Townsite 2021 WC #1H
SE/4 Section 20 and SW/4 of Section 21-23S-28E
Eddy Co., NM

Heirs of Geraldine Hoose Stevens:

Kaiser-Francis Oil Company hereby proposes the drilling of a 15,495' MD / 10,347' TVD horizontal Wolfcamp test well, covering the referenced 1 mile well path. The well will have an approximate surface location of 2,450' FEL and 1,600' FSL of Section 20-23S-28E, and a terminus of approximately 2,310' FWL and 2,310' FSL of Section 21-23S-28E.

AFE costs are estimated to be \$2,860,382 DHC and \$7,789,930 CWC. Two copies of the AFE are enclosed.

Should Heirs of Geraldine Hoose Stevens wish to participate in the well, please execute and return one copy of the AFE, along with a reply letter indicating your desire to participate, and we will in turn send you a JOA for your review and approval.

We will be filing for an APD with the State of NM soon, therefore, a prompt answer regarding our proposal would be greatly appreciated.

Should you have any questions, I can be reached at any of the above contact information.

Respectfully,



Brendon Kushnerick, Landman
Kaiser-Francis Oil Company

KAISER-FRANCIS OIL COMPANY

P.O. BOX 21468

TULSA, OKLAHOMA 74121-1468

Brendon Kushnerick, Landman
Phone: (918) 491-4431
E-mail: brendonk@kfoc.net

6733 South Yale Avenue, 74136
Phone: (918) 494-0000

Sent by Certified Mail

June 30, 2020

Heirs of Geraldine Hoose Stevens
c/o Curtis Stevens
112 Durham Drive
Crawfordsville, IN 47933

Re: Loving Townsite 2021 WC #2H
SE/4 Section 20 and SW/4 of Section 21-23S-28E
Eddy Co., NM

Heirs of Geraldine Hoose Stevens:

Kaiser-Francis Oil Company hereby proposes the drilling of a 15,495' MD / 10,347' TVD horizontal Wolfcamp test well, covering the referenced 1 mile well path. The well will have an approximate surface location of 2,450' FEL and 1,180' FSL of Section 20-23S-28E, and a terminus of approximately 2,310' FWL and 330' FSL of Section 21-23S-28E.

AFE costs are estimated to be \$2,821,436 DHC and \$7,750,984 CWC. Two copies of the AFE are enclosed.

Should Heirs of Geraldine Hoose Stevens, wish to participate in the well, please execute and return one copy of the AFE, along with a reply letter indicating your desire to participate, and we will in turn send you a JOA for your review and approval.

We will be filing for an APD with the State of NM soon, therefore, a prompt answer regarding our proposal would be greatly appreciated.

Should you have any questions, I can be reached at any of the above contact information.

Respectfully,



Brendon Kushnerick, Landman
Kaiser-Francis Oil Company

Kaiser-Francis Oil Company
Authority for Expenditure

OPERATOR: Kaiser-Francis Oil Company
WELL NAME & NO: Loving Townsite 2021 WC #1H
PROSPECT NAME: Loving Townsite
LOCATION: SHL Sec 20-23-28 BHL Sec 21-23-28
PROPOSED TO: 15,495 MD 10,347' TVD
OBJECTIVE HORIZON: Wolfcamp C
OBJECTIVE: Drill and complete new horizontal well in WC / net lateral 4,620' 5-1/2" Long String

DATE: 12/1/2018
FIELD: Purple Sage
PSH/COUNTY: Eddy
STATE: NM
PREPARER: M Warner / D Zenger

Classification of Account	DRILLING	COMPLETION	EQPT/CONST	TOTAL
INTANGIBLE DRILLING & COMPLETION				
500/600 Location / Road Expense / Earthen Pit / Frac Pit Construction	\$40,000	\$7,000	\$60,000	\$107,000
501/**** Cond. Rat Hole, Mouse Hole Services	\$37,000			\$37,000
502/602 Location Damages				\$0
504/604 Drilling Rig Turnkey Completion Rig		\$20,000		\$20,000
Footage @ per foot				\$0
Daywork 30 days at \$20,500	\$615,000			\$615,000
505/605 Coiled Tubing & Related Services		\$240,000		\$240,000
506/606 Rig Mob / Demob	\$67,470			\$67,470
507/**** Directional Drilling Services	\$284,200			\$284,200
508/608 Bits & Reamers	\$100,000			\$100,000
510/610 Fuel/Power	\$61,484			\$61,484
512/612 Drilling Water / Completion Fluid	\$25,000	\$470,000		\$495,000
514/614 Mud & Chemicals	\$140,000	\$30,000		\$170,000
515/615 Closed Loop System / Mud & Cuttings Disposal/SWD	\$120,000	\$50,000		\$170,000
516/616 Surface Equipment Rental / Inspection	\$145,727	\$184,300		\$330,027
517/617 Downhole Equipment Rental / Inspection	\$48,900	\$47,000		\$95,900
518/618 Transportation & Loading	\$15,000	\$38,000		\$53,000
520/**** DST, Coring & Analysis				\$0
522/622 Open Hole Logs / Cased Hole Logs & Perforating / Stickline / Plugs				\$0
523/**** Mud Logging / Geosteering / LWD	\$28,600			\$28,600
524/624 Cementing & Squeezing	\$82,000	\$67,000		\$149,000
526/626 Casing Crews & Equipment	\$10,000			\$10,000
528/628 Plug & Abandon				\$0
630 Stimulation		\$2,500,000		\$2,500,000
632/632 Geological & Engineering		\$10,000		\$10,000
634/634 Supervision	\$114,824	\$51,750		\$166,574
636/636 Miscellaneous Contract Labor	\$5,000	\$30,000	\$50,000	\$85,000
638/638 Prof. Fees & Abstracts				\$0
641/641 Liability Insurance / Bonds				\$0
642/642 Drilling Overhead / Completion Overhead	\$12,538	\$6,300		\$18,838
644/644 Miscellaneous & Unforeseen	\$179,611	\$187,568	\$5,500	\$372,679
TOTAL INTANGIBLE DRILLING & COMPLETION	\$2,172,562	\$3,938,918	\$115,500	\$6,226,970
WELL AND LEASE EQUIPMENT				
700 Conductor Feet				\$0
701 Surface Casing 20" 94# 500	\$38,500			\$38,500
702 Intermediate Casing 13-3/8" 72# 2700	\$148,300			\$148,300
702 Intermediate Casing 9-5/8" 53.5# P-110 9900	\$408,500			\$408,500
704 Drilling Liner (BCP)				\$0
703 Production Liner (ACP) 5-1/2" 20# P-110 GBCD 15495		\$218,457		\$218,457
706 Production Casing (ACP)				\$0
710 Tubing 2 7/8" 6.5# L-80 10500		\$63,000		\$63,000
721/720 Wellhead Equip. BCP/ACP	\$27,000	\$40,000		\$67,000
724 Packers & Downhole Equipment				\$0
726 Rods & Pumps				\$0
737 Line Pipe / Fittings / Pipeline			\$40,000	\$40,000
747 Valves			\$35,000	\$35,000
752 Tanks & Walkways			\$170,000	\$170,000
765 Heaters / Treaters / Separator / VRU			\$110,000	\$110,000
768 Artificial Lift / Compressor			\$85,000	\$85,000
770 Gas Sales Unit / Dehy / Line Heater / Flare			\$5,000	\$5,000
775/774 Transportation and Freight BCP/ACP		\$2,000	\$60,000	\$62,000
777/776 Inspect/Test Tubulars BCP/ACP	\$5,000	\$5,000		\$10,000
779/778 Non-Controllable Equipment BCP/ACP	\$62,530	\$16,423	\$25,250	\$104,203
TOTAL WELL AND LEASE EQUIPMENT	\$687,830	\$344,880	\$530,250	\$1,562,960
TOTAL DRILLING AND COMPLETION COST	\$2,860,392	\$4,283,798	\$645,750	\$7,789,930
	Drilling	Completion	Eqpt/Const	Total

This AFE is only an **estimate** of costs and the **actual** costs incurred may be less or greater than stated.

APPROVED BY: _____

DATE: _____

ATTACHMENT

E

Kaiser-Francis Oil Company
Authority for Expenditure

OPERATOR: Kaiser-Francis Oil Company
WELL NAME & NO: Loving Townsite 2021 WC #2H
PROSPECT NAME: Loving Townsite
LOCATION: SHL Sec 20-23-28 BHL Sec 21-23-28
PROPOSED TD: 15,495 MD 10,347' TVD
OBJECTIVE HORIZON: Wolfcamp C
OBJECTIVE: Drill and complete new horizontal well in WC / net lateral 4,820' 5-1/2" Long String

DATE: 4/3/2018
FIELD: Purple Sage
PSH/COUNTY: Eddy
STATE: NM
PREPARER: M Warner / D Zorger

Classification of Account	DRILLING	COMPLETION	EQPT/CONST	TOTAL
INTANGIBLE DRILLING & COMPLETION				
500/600 Location / Road Expense / Earthen Pit / Frac Pit Construction	\$30,000	\$7,000	\$60,000	\$97,000
501*** Cond, Rat Hole, Mouse Hole Services	\$37,000			\$37,000
502/602 Location Damages				\$0
504/604 Drilling Rig Turnkey Completion Rig		\$20,000		\$20,000
Footage @ per foot				\$0
Daywork 30 days at \$20,500	\$615,000			\$615,000
505/605 Coiled Tubing & Related Services		\$240,000		\$240,000
506/606 Rig Mob / Demob	\$65,500			\$65,500
507*** Directional Drilling Services	\$284,200			\$284,200
508/608 Bits & Reamers	\$100,000			\$100,000
510/610 Fuel/Power	\$80,800			\$80,800
512/612 Drilling Water / Completion Fluid	\$25,000	\$470,000		\$495,000
514/614 Mud & Chemicals	\$140,000	\$30,000		\$170,000
515/615 Closed Loop System / Mud & Cuttings Disposal/SWD	\$120,000	\$50,000		\$170,000
516/616 Surface Equipment Rental / Inspection	\$144,416	\$184,300		\$328,716
517/617 Downhole Equipment Rental / Inspection	\$48,900	\$47,000		\$95,900
518/618 Transportation & Loading	\$15,000	\$38,000		\$53,000
520*** DST, Coring & Analysis				\$0
522/622 Open Hole Logs / Cased Hole Logs & Perforating / Slickline / Plugs				\$0
523*** Mud Logging / Geosteering / LWD	\$28,800			\$28,800
524/624 Cementing & Squeezing	\$82,000	\$87,000		\$149,000
526/626 Casing Crews & Equipment	\$10,000			\$10,000
528/628 Plug & Abandon				\$0
630 Stimulation		\$2,500,000		\$2,500,000
532/632 Geological & Engineering		\$10,000		\$10,000
534/634 Supervision	\$113,600	\$51,750		\$165,350
536/636 Miscellaneous Contract Labor	\$5,000	\$30,000	\$50,000	\$85,000
538/638 Prof. Fees & Abstracts				\$0
541/641 Liability Insurance / Bonds				\$0
542/642 Drilling Overhead / Completion Overhead	\$12,400	\$9,300		\$18,700
544/644 Miscellaneous & Unforeseen	\$179,380	\$187,568	\$5,500	\$369,458
TOTAL INTANGIBLE DRILLING & COMPLETION	\$2,133,606	\$3,938,918	\$115,500	\$6,188,024
WELL AND LEASE EQUIPMENT				
700 Conductor				\$0
701 Surface Casing 20" 84# 500	\$38,500			\$38,500
702 Intermediate Casing 13-3/8" 72# 2700	\$146,300			\$146,300
702 Intermediate Casing 9-5/8" 63.5# P-110 9900	\$408,500			\$408,500
704 Drilling Liner (BCP)				\$0
703 Production Liner (ACP) 5-1/2" 20# P-110 GBCD 15495		\$218,457		\$218,457
706 Production Casing (ACP)				\$0
710 Tubing 2 7/8" 6.5# L-80 10500		\$83,000		\$83,000
721/720 Wellhead Equip. BCP/ACP	\$27,000	\$40,000		\$67,000
724 Packers & Downhole Equipment				\$0
726 Rods & Pumps				\$0
737 Line Pipe / Fittings / Pipeline			\$40,000	\$40,000
747 Valves			\$35,000	\$35,000
752 Tanks & Walkways			\$170,000	\$170,000
765 Heaters / Treaters / Separator / VRU			\$110,000	\$110,000
768 Artificial Lift / Compressor			\$85,000	\$85,000
770 Gas Sales Unit / Dehy / Line Heater / Flare			\$5,000	\$5,000
775/774 Transportation and Freight BCP/ACP		\$2,000	\$60,000	\$62,000
777/776 Inspect/Test Tubulars BCP/ACP	\$5,000	\$5,000		\$10,000
779/778 Non-Controllable Equipment BCP/ACP	\$82,530	\$18,423	\$25,250	\$104,203
TOTAL WELL AND LEASE EQUIPMENT	\$687,830	\$344,880	\$530,250	\$1,562,960
TOTAL DRILLING AND COMPLETION COST	\$2,821,436	\$4,283,798	\$645,750	\$7,750,984
	Drilling	Completion	Eqpt/Const	Total

This AFE is only an estimate of costs and the actual costs incurred may be less or greater than stated.

APPROVED BY: _____

DATE: _____

Kaiser-Francis Oil Company
Authority for Expenditure

Operator:	Kaiser-Francis Oil Company	Date:	7/10/2020
Well Name:	Loving Townsite WA #1H	Field:	Purple Sage
Prospect:	Loving Townsite	County / Psh	Eddy
Location:	Sec 20/21 - 23S - 28E	State:	NM
Depth:	14900 MD 10100 TVD	Preparer:	RS/DZ/JC
Horizon:	Wolfcamp A		

Objective: Drill and complete a 1.0 mile horizontal Wolfcamp A well on an two-well pad

JIB Code	Intangible Drilling and Completion Costs	Drilling	Completion	Eqpt/Const	Total
500/600	Location / Road Expense / Frac Pit Construction	\$35,000	\$14,000	\$4,000	\$53,000
501/***	Cond, Rat Hole, Mouse Hole Services	\$32,000			\$32,000
502/602	Location Damages	\$200,000	\$40,000		\$240,000
503/603	Environmental, Regulatory, and Permitting	\$20,000			\$20,000
504/604	Turnkey Completion Rig		\$8,000		\$8,000
	Footage @ per foot				\$0
	Daywork 21 days at \$18,850	\$386,425			\$386,425
505/605	Coiled Tubing & Related Services		\$60,000		\$60,000
506/606	Rig Mob / Demob	\$97,250			\$97,250
507/***	Directional Drilling Services	\$298,500			\$298,500
508/608	Bits & Reamers	\$78,000			\$78,000
510/610	Fuel/Power	\$92,250			\$92,250
512/612	Drilling Water / Completion Fluid	\$37,000	\$375,000		\$412,000
514/614	Mud & Chemicals	\$201,000	\$20,000		\$221,000
515/615	Closed Loop System / Mud & Cuttings Disposal / SWD	\$125,000	\$35,000		\$160,000
516/616	Surface Equipment Rental / Inspection	\$254,300	\$120,800		\$375,100
517/617	Downhole Equipment Rental / Inspection	\$166,700	\$31,000		\$197,700
518/618	Transportation & Loading	\$35,000	\$63,000		\$98,000
520/***	DST, Coring & Analysis				\$0
521/621	Downhole tools: Whipstocks, Liner Hangers, Frac Plugs		\$20,000		\$20,000
522/622	OH Logs / CH Logs / Perforating / Slickline		\$75,000		\$75,000
523/***	Mud Logging / Geosteering / LWD	\$24,000			\$24,000
524/624	Cementing & Squeezing	\$178,500			\$178,500
526/626	Casing Crews & Equipment	\$57,500			\$57,500
528/628	Plug & Abandon				\$0
***/630	Stimulation		\$1,300,000		\$1,300,000
532/632	Geological & Engineering				\$0
534/634	Supervision	\$111,800	\$41,750		\$153,550
536/636	Miscellaneous Contract Labor	\$45,000	\$60,000	\$20,000	\$125,000
538/638	Prof. Fees & Abstracts	\$10,000			\$10,000
541/641	Liability Insurance / Bonds				\$0
542/642	Drilling Overhead / Completion Overhead	\$9,200	\$5,250		\$14,450
544/644	Miscellaneous & Unforeseen	\$102,671	\$226,880	\$1,200	\$330,751
	Total Intangible Drilling & Completion	\$2,597,096	\$2,495,680	\$25,200	\$5,117,976

JIB Code	Tangible Well and Lease Equipment Costs	Drilling	Completion	Eqpt/Const	Total
700	Conductor				\$0
701	Surface Casing 13-3/8" 48# H40 STC 2020 COPAS 500	\$31,840			\$31,840
702	Intermediate Casing 10 3/4" 40.50# J-55 BTC 2020 COPAS 2400	\$109,248			\$109,248
702	Intermediate Casing 7-5/8" 29.7# P-110 HC BTC 2020 COPAS 8900	\$211,758			\$211,758
704	Drilling Liner (BCP)				\$0
703	Production Liner (ACP)				\$0
706	Production Casing (ACP) 5-1/2" P110HP 20# SF 2020 COPAS 14900	\$403,262			\$403,262
710	Tubing 2-7/8" 6.5# L-80 EUE 2020 COPAS 10300		\$56,238		\$56,238
721/720	Wellhead Equip. BCP/ACP	\$45,000	\$45,000		\$90,000
724	Packers & Downhole Equipment		\$20,000		\$20,000
726	Rods & Pumps				\$0
737	Line Pipe / Fittings / Pipeline			\$20,000	\$20,000
738	Automation/SCADA/Misc Electrical Equipment			\$15,000	\$15,000
747	Valves			\$20,000	\$20,000
752	Tanks & Walkways			\$55,000	\$55,000
765	Heaters / Treaters / Separator / VRU			\$55,000	\$55,000
768	Artificial Lift / Compressor			\$40,000	\$40,000
770	Gas Sales Unit / Dehy / Line Heater / Flare				\$0
775/774	Transportation and Freight BCP/ACP	\$10,000	\$2,000	\$40,000	\$52,000
777/776	Inspect/Test Tubulars BCP/ACP	\$4,400	\$5,000		\$9,400
779/778	Non-Controllable Equipment BCP/ACP	\$20,612	\$6,412	\$23,000	\$50,024
	Total Well and Lease Equipment	\$836,120	\$134,650	\$268,000	\$1,238,770
	Total Drilling and Completion Cost	\$3,433,217	\$2,630,330	\$293,200	\$6,356,746

KFOC APPROVALS	PARTNER APPROVAL
Drilling	Signature
Completion	Printed Name
Land	Position
Geology	Company
Reservoir	Date
Asset Manager	
Chief Operating Officer	

Kaiser-Francis Oil Company
Authority for Expenditure

Operator: Kaiser-Francis Oil Company		Date: 7/10/2020
Well Name: Loving Townsite WA #2H		Field: Purple Sage
Prospect: Loving Townsite		County / Psh: Eddy
Location: Sec 20/21 - 23S - 28E		State: NM
Depth: 14900 MD 10100 TVD	Preparer: RS/DZ/JC	
Horizon: Wolfcamp A		

Objective: Drill and complete a 1.0 mile horizontal Wolfcamp A well on an two-well pad

JIB Code	Intangible Drilling and Completion Costs	Drilling	Completion	Eqpt/Const	Total
500/600	Location / Road Expense / Frac Pit Construction	\$35,000	\$14,000	\$4,000	\$53,000
501/***	Cond, Rat Hole, Mouse Hole Services	\$32,000			\$32,000
502/602	Location Damages	\$200,000	\$40,000		\$240,000
503/603	Environmental, Regulatory, and Permitting	\$20,000			\$20,000
504/604	Turnkey Completion Rig		\$8,000		\$8,000
	Footage @ per foot				\$0
	Daywork 21 days at \$18,850	\$386,425			\$386,425
505/605	Coiled Tubing & Related Services		\$60,000		\$60,000
506/606	Rig Mob / Demob	\$97,250			\$97,250
507/***	Directional Drilling Services	\$298,500			\$298,500
508/608	Bits & Reamers	\$78,000			\$78,000
510/610	Fuel/Power	\$92,250			\$92,250
512/612	Drilling Water / Completion Fluid	\$37,000	\$375,000		\$412,000
514/614	Mud & Chemicals	\$201,000	\$20,000		\$221,000
515/615	Closed Loop System / Mud & Cuttings Disposal / SWD	\$125,000	\$35,000		\$160,000
516/616	Surface Equipment Rental / Inspection	\$254,300	\$120,800		\$375,100
517/617	Downhole Equipment Rental / Inspection	\$166,700	\$31,000		\$197,700
518/618	Transportation & Loading	\$35,000	\$63,000		\$98,000
520/***	DST, Coring & Analysis				\$0
521/621	Downhole tools: Whipstocks, Liner Hangers, Frac Plugs		\$20,000		\$20,000
522/622	OH Logs / CH Logs / Perforating / Slickline		\$75,000		\$75,000
523/***	Mud Logging / Geosteering / LWD	\$24,000			\$24,000
524/624	Cementing & Squeezing	\$178,500			\$178,500
526/626	Casing Crews & Equipment	\$57,500			\$57,500
528/628	Plug & Abandon				\$0
***/630	Stimulation		\$1,300,000		\$1,300,000
532/632	Geological & Engineering				\$0
534/634	Supervision	\$111,800	\$41,750		\$153,550
536/636	Miscellaneous Contract Labor	\$45,000	\$60,000	\$20,000	\$125,000
538/638	Prof. Fees & Abstracts	\$10,000			\$10,000
541/641	Liability Insurance / Bonds				\$0
542/642	Drilling Overhead / Completion Overhead	\$9,200	\$5,250		\$14,450
544/644	Miscellaneous & Unforeseen	\$102,671	\$226,880	\$1,200	\$330,751
	Total Intangible Drilling & Completion	\$2,597,096	\$2,495,680	\$25,200	\$5,117,976

JIB Code	Tangible Well and Lease Equipment Costs	Drilling	Completion	Eqpt/Const	Total
700	Conductor				\$0
701	Surface Casing 13-3/8" 48# H40 STC 2020 COPAS 500	\$31,840			\$31,840
702	Intermediate Casing 10 3/4" 40.50# J-55 BTC 2020 COPAS 2400	\$109,248			\$109,248
702	Intermediate Casing 7-5/8" 29.7# P-110 HC BTC 2020 COPAS 8900	\$211,758			\$211,758
704	Drilling Liner (BCP)				\$0
703	Production Liner (ACP)				\$0
706	Production Casing (ACP) S-1/2" P110HP 20# SF 2020 COPAS 14900	\$403,262			\$403,262
710	Tubing 2-7/8" 6.5# L-80 EUE 2020 COPAS 10300		\$56,238		\$56,238
721/720	Wellhead Equip. BCP/ACP	\$45,000	\$45,000		\$90,000
724	Packers & Downhole Equipment		\$20,000		\$20,000
726	Rods & Pumps				\$0
737	Line Pipe / Fittings / Pipeline			\$20,000	\$20,000
738	Automation/SCADA/Misc Electrical Equipment			\$15,000	\$15,000
747	Valves			\$20,000	\$20,000
752	Tanks & Walkways			\$55,000	\$55,000
765	Heaters / Treaters / Separator / VRU			\$55,000	\$55,000
768	Artificial Lift / Compressor			\$40,000	\$40,000
770	Gas Sales Unit / Dehy / Line Heater / Flare				\$0
775/774	Transportation and Freight BCP/ACP	\$10,000	\$2,000	\$40,000	\$52,000
777/776	Inspect/Test Tubulars BCP/ACP	\$4,400	\$5,000		\$9,400
779/778	Non-Controllable Equipment BCP/ACP	\$20,612	\$6,412	\$23,000	\$50,024
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KFOC APPROVALS	PARTNER APPROVAL
Drilling	Signature
Completion	Printed Name
Land	Position
Geology	Company
Reservoir	Date
Asset Manager	
Chief Operating Officer	

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

**APPLICATION OF KAISER-FRANCIS OIL
COMPANY FOR COMPULSORY POOLING,
EDDY COUNTY, NEW MEXICO.**

Case No. 21419

VERIFIED STATEMENT OF LEE LINDMAN

Lee J. Lindman, being duly sworn upon his oath, deposes and states:

1. I am over the age of 18, and have personal knowledge of the geological matters stated herein.
2. I am a geologist for Kaiser-Francis Oil Company ("KFOC"). I have been qualified by the Division as an expert petroleum geologist. My area of responsibility at KFOC includes this portion of Southeast New Mexico.
3. The following geological plats are attached hereto:
 - (a) Attachment A is a structure map on the Base of the Wolfcamp Y Sand. It shows that structure dips gently to the East. It also displays other Wolfcamp X-Y wells and permits in the vicinity of the Loving Townsite 2021 WA 1H & 2H, and a line of cross-section. The proposed completion interval in the well is the upper Wolfcamp X-Y sand.
 - (b) Attachment B is a Gross Isopach map of the Wolfcamp X-Y Sand. This zone has uniform thickness across the proposed well unit.
 - (c) Attachment C is a cross-section B – B'. The well logs on the cross-section give a representative sample of the Wolfcamp X-Y formation in this area. The target zone for these wells is continuous across the well unit.
 - (d) Attachment D is a structure map of the Base of the Wolfcamp C. It shows that the structure dips gently to the East. It also displays the other Wolfcamp C wells and permits in the vicinity of the Loving Townsite 2021 WC 1H & 2H, and a line of cross-section. The completed interval is the Wolfcamp C.
 - (e) Attachment E is a Gross Isopach map of the Wolfcamp C. This zone has uniform thickness across the well unit.
 - (f) Attachment F is a cross-section B – B'. The well logs on the cross-section give a representative sample of the Wolfcamp C formation in this area. The target zone for these wells is continuous across the well unit.

EXHIBIT

3

4. I conclude from the maps that:

(a) The horizontal spacing unit is justified from a geologic standpoint.

(b) Each quarter section in the well unit will contribute more or less equally to production from the well.

(c) There is no faulting or other geologic impediment which will adversely affect the drilling of the subject well.

5. Based on production from wells in this area, KFOC sees no difference for standup or laydown wells in this area.

6. Attachment G contains the proposed horizontal drilling plans for the Loving Townsite WA 1H & 2H wells and the as drilled surveys for the Loving Townsite 2021 WC 1H & #2H wells. The producing interval of the proposed wells will be orthodox and the producing wells are orthodox. The completed Loving Townsite 2021 WC 1H and 2H are orthodox and comply with Division setback requirements. The proposed wells will also be orthodox and comply with Division setback requirements.

VERIFICATION

STATE OF OKLAHOMA)
) ss.
COUNTY OF TULSA)

Lee J. Lindman, being duly sworn upon his oath, deposes and states that: He is a geologist for Kaiser-Francis Oil Company; he is authorized to make this verification on its behalf; he has read the foregoing statement, and knows the contents thereof; and the same is true and correct to the best of his knowledge, information, and belief.



Lee J. Lindman

SUBSCRIBED AND SWORN TO before me this 1st day of September, 2020 by Diann Coggins.

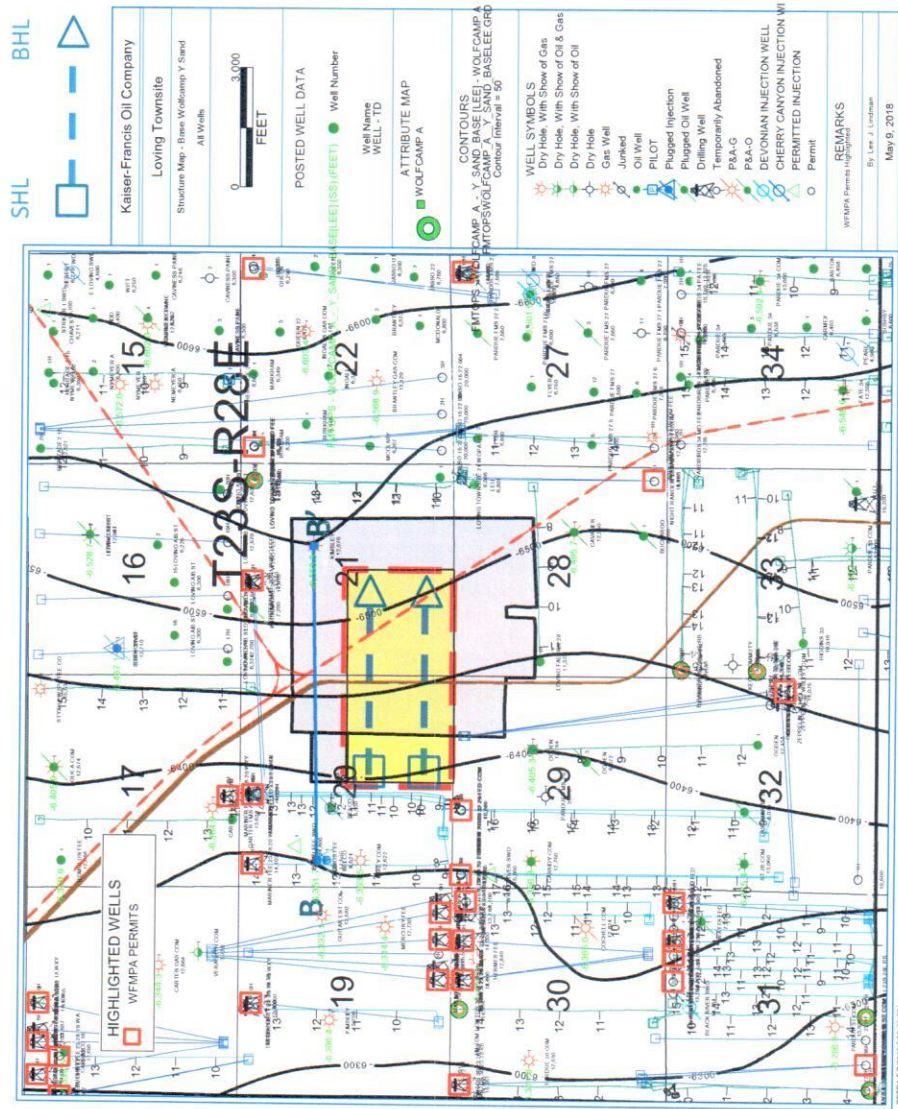


My Commission Expires: 6-21-24



Notary Public
State of Oklahoma
DIANN L. COGGINS
WAGONER COUNTY
COMMISSION #04005555
Comm. Exp. 06-21-2024

Notary Public



Structure Map (Base Wolfcamp Y Sand - Subsea)

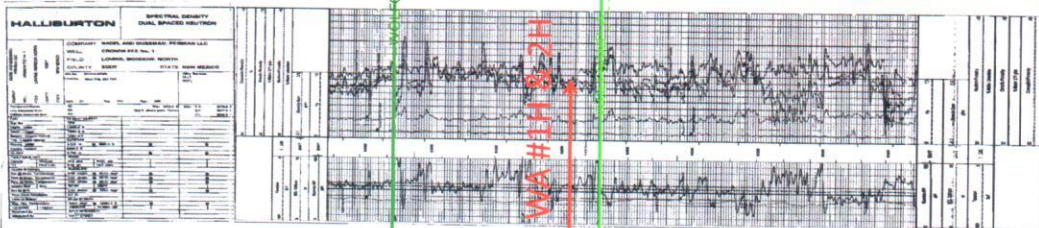
ATTACHMENT

A

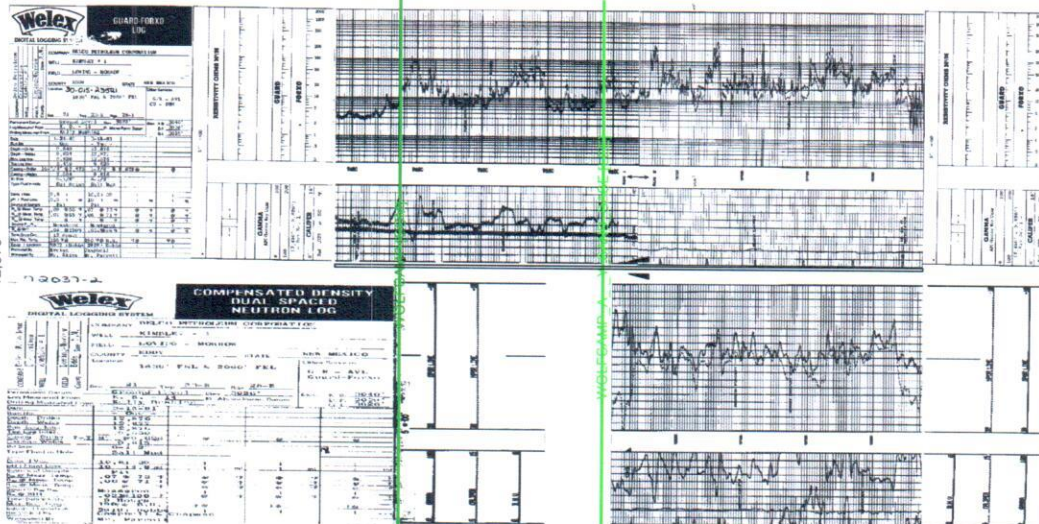
Project Area

B

MARATHON
CRONOS FEE
12.650



NORDSTRAND ENG
KIMBLEY
12.876



Rel
Depth(ft)
-50
0
50
100
150
200
250
300
350
400

Datum

Loving Townsite 2021 WA #1H & 2H

ATTACHMENT

C

Rel
Depth(ft)
-50
0
50
100
150
200
250
300
350
400

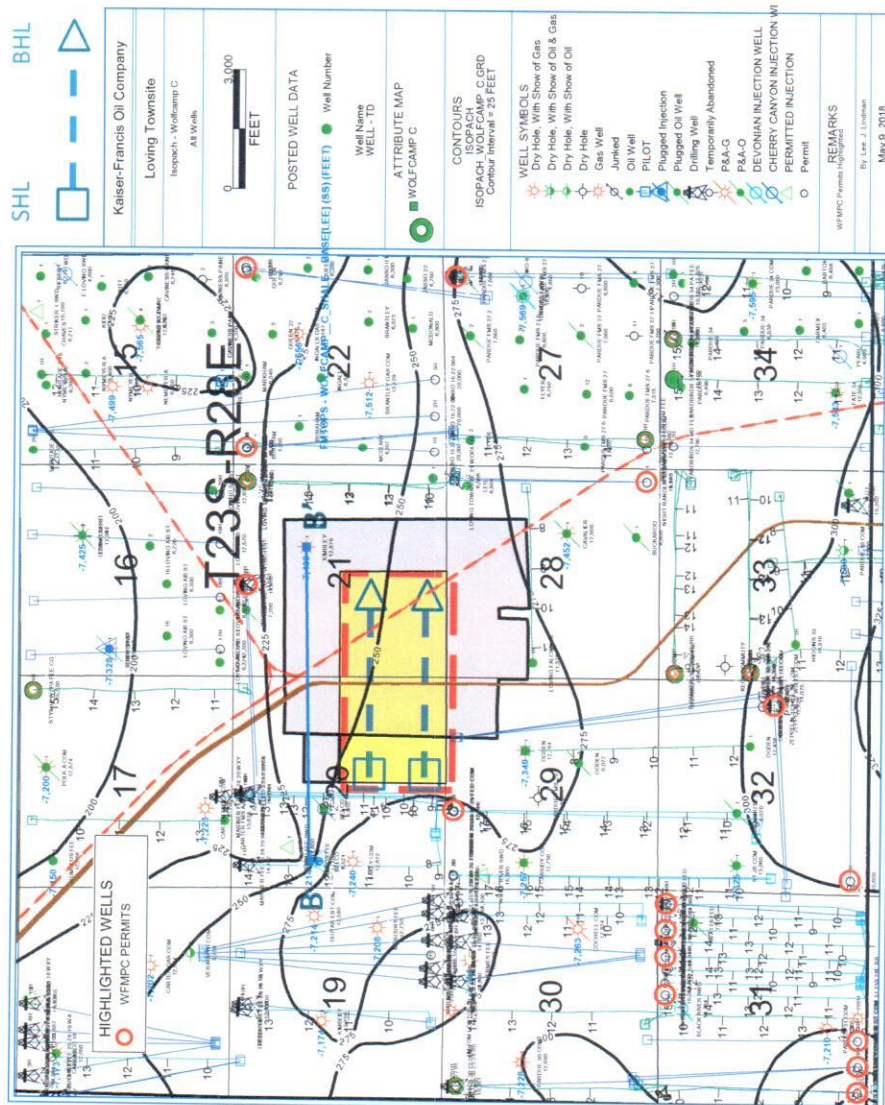
B'

Stratigraphic Cross Section B – B'

D



Structure Map (Base Wolfcamp C - Subsea)

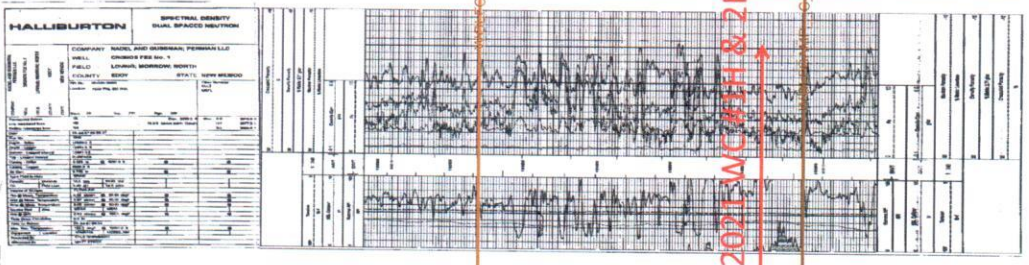


Isopach Map (Wolfcamp C)

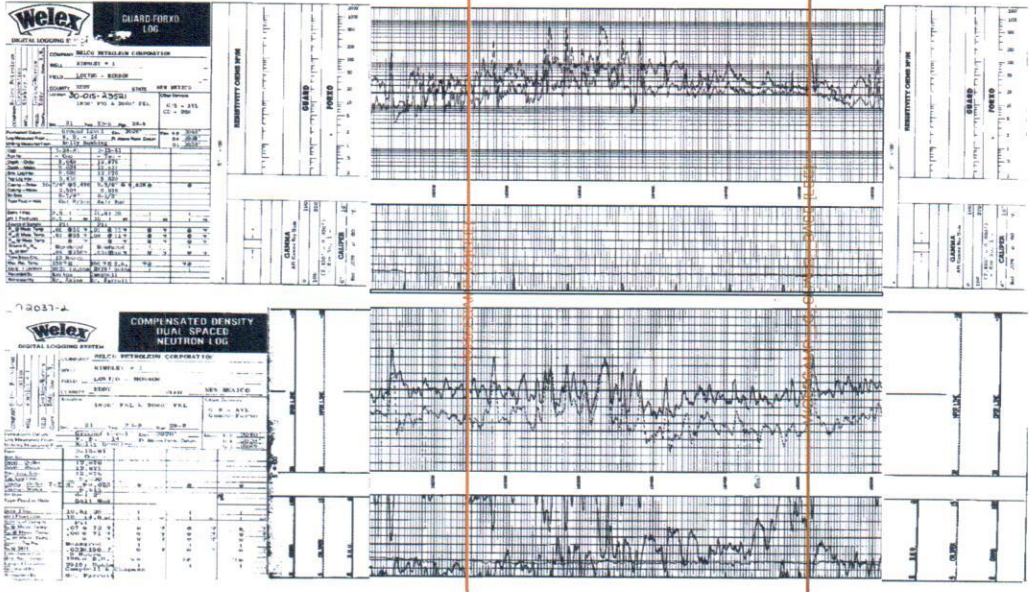
ATTACHMENT

B

MARATHON
CRONOS FEE
12,650



NORDSTRAND ENG
KIMBLEY
12,876



Rel
Depth(ft)
-300
-250
-200
-150
-100
-50
0
50

ATTACHMENT

F

Loving Townsite 2021 W-001 H & 2H

Datum

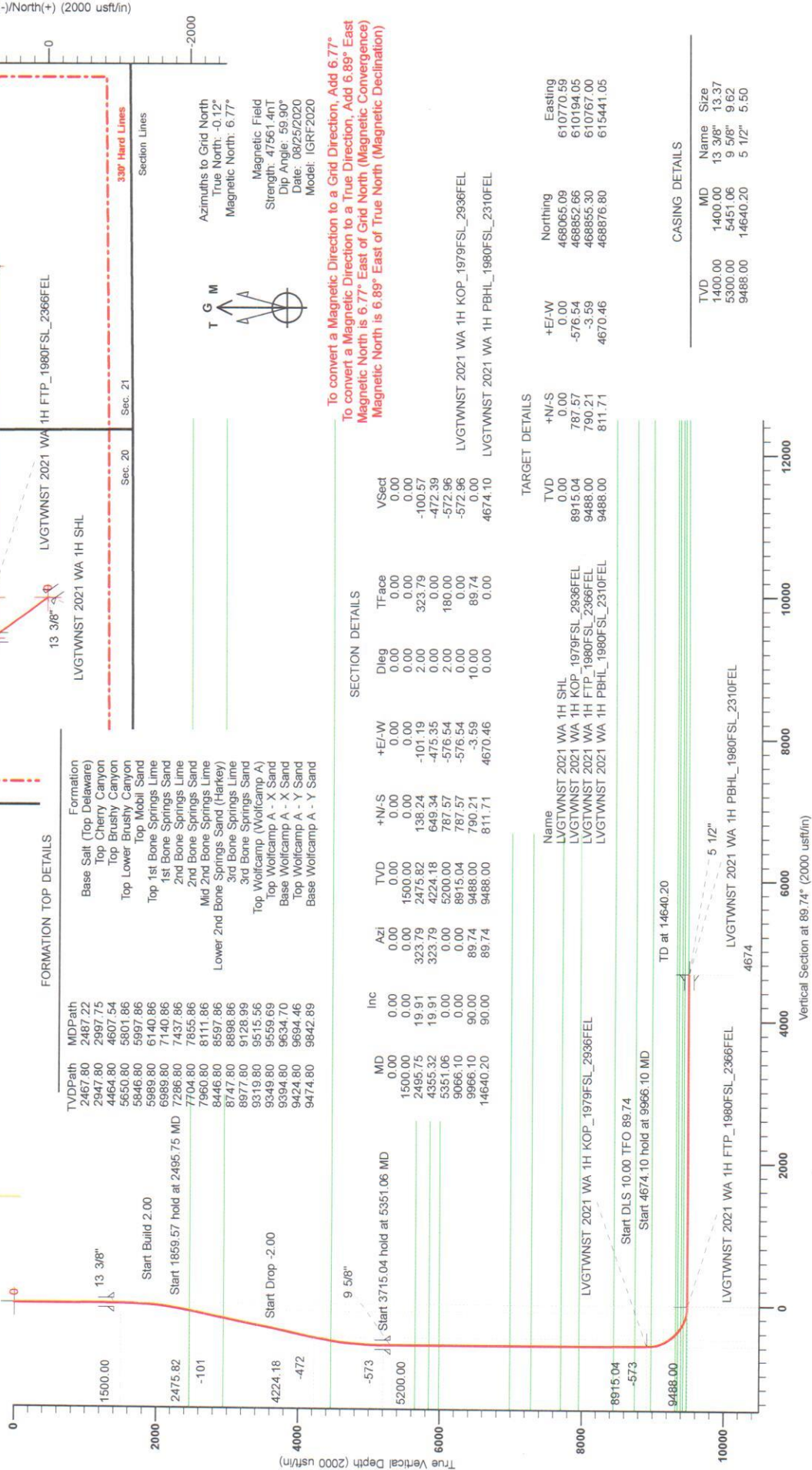
Stratigraphic Cross Section B – B'

KAISER-FRANCIS OIL COMPANY

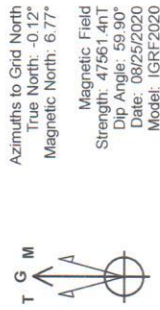
Project: Eddy County, NM (NMEZ) NAD83 Grid
 Site: Loving Townsite 2021 WA
 Well: WA 1H
 Wellbore: Lateral
 Design: Plan #1

3069.8 @ 3069.80usft (GL Only)
 North American Datum 1983

Kaiser-Francis Oil Company



To convert a Magnetic Direction to a Grid Direction, Add 6.77°
 To convert a Magnetic Direction to a True Direction, Add 6.89° East
 Magnetic North is 6.77° East of Grid North (Magnetic Convergence)
 Magnetic North is 6.89° East of True North (Magnetic Declination)



Kaiser-Francis Oil Company

KAISER-FRANCIS OIL COMPANY

Eddy County, NM (NMEZ) NAD83 Grid

Loving Townsite 2021 WA

WA 1H - Slot 1H

Lateral

Plan: Plan #1

Survey Report Landscape

25 August, 2020





Survey Report Landscape

Company: KAISER-FRANCIS OIL COMPANY
Project: Eddy County, NM (NMEZ) NAD83 Grid
Site: Loving Townsite 2021 WA
Well: WA 1H
Wellbore: Lateral
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference: Well WA 1H - Slot 1H
3069.8 @ 3069.80usft (GLOnly)
MD Reference: 3069.8 @ 3069.80usft (GLOnly)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: SBDIR_EDM

Project Eddy County, NM (NMEZ) NAD83 Grid
Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

Site Loving Townsite 2021 WA
Site Position:
From: Map
Position Uncertainty: 0.00 usft
Northing: 468,065.09 usft
Easting: 610,770.59 usft
Slot Radius: 13.20 in
Latitude: 32.2865850°N
Longitude: 104.1086456°W
Grid Convergence: 0.12 °

Well WA 1H - Slot 1H
Well Position +N/-S 0.00 usft
+E/-W 0.00 usft
Position Uncertainty 0.00 usft
Northing: 468,065.09 usft
Easting: 610,770.59 usft
Wellhead Elevation: usft
Latitude: 32.2865850°N
Longitude: 104.1086456°W
Ground Level: 3,069.80 usft

Wellbore Lateral
Magnetics Model Name Sample Date Declination (°) Dip Angle (°) Field Strength (nT)
IGRF2020 08/25/20 6.89 59.90 47,561.35418065

Design Plan #1
Audit Notes:
Version: Phase: PROTOTYPE
Vertical Section: Depth From (TVD) (usft) Tie On Depth: 0.00
0.00 +N/-S (usft) +E/-W (usft) Direction (°)
0.00 0.00 0.00 89.74

Survey Tool Program Date 08/25/20
From (usft) **To** (usft) **Survey (Wellbore)** **Tool Name** **Description**
0.00 14,640.09 Plan #1 (Lateral)



Survey Report Landscape

Company: KAISER-FRANCIS OIL COMPANY
Project: Eddy County, NM (NMEZ) NAD83 Grid
Site: Loving Townsite 2021 WA
Well: WA 1H
Wellbore: Lateral
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well WA 1H - Slot 1H
3069.8 @ 3069.80usft (GLOnly)
3069.8 @ 3069.80usft (GLOnly)
Grid
Minimum Curvature
SBDIR_EDM

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100ft)	Northing (usft)	Easting (usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	468,065.09	610,770.59
LVGTWNST 2021 WA 1H SHL										
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	468,065.09	610,770.59
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	468,065.09	610,770.59
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	468,065.09	610,770.59
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	468,065.09	610,770.59
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	468,065.09	610,770.59
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	468,065.09	610,770.59
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	468,065.09	610,770.59
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	468,065.09	610,770.59
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	468,065.09	610,770.59
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	468,065.09	610,770.59
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	468,065.09	610,770.59
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	468,065.09	610,770.59
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	468,065.09	610,770.59
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	468,065.09	610,770.59
13 3/8"										
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	468,065.09	610,770.59
1,600.00	2.00	323.79	1,599.98	1.41	-1.03	1.75	323.79	2.00	468,066.50	610,769.56
1,700.00	4.00	323.79	1,699.84	5.63	-4.12	6.98	323.79	2.00	468,070.72	610,766.47
1,800.00	6.00	323.79	1,799.45	12.66	-9.27	15.69	323.79	2.00	468,077.75	610,761.32
1,900.00	8.00	323.79	1,898.70	22.50	-16.47	27.88	323.79	2.00	468,087.59	610,754.12
2,000.00	10.00	323.79	1,997.47	35.12	-25.71	43.52	323.79	2.00	468,100.21	610,744.88
2,100.00	12.00	323.79	2,095.62	50.51	-36.98	62.60	323.79	2.00	468,115.60	610,733.61
2,200.00	14.00	323.79	2,193.06	68.66	-50.27	85.10	323.79	2.00	468,133.75	610,720.32
2,300.00	16.00	323.79	2,289.64	89.55	-65.55	110.98	323.79	2.00	468,154.64	610,705.04
2,400.00	18.00	323.79	2,385.27	113.14	-82.82	140.21	323.79	2.00	468,178.23	610,687.77



Survey Report Landscape

Kaiser-Francis Oil Company

Company: KAISER-FRANCIS OIL COMPANY
Project: Eddy County, NM (NMEZ) NAD83 Grid
Site: Loving Townsite 2021 WA
Well: WA 1H
Wellbore: Lateral
Design: Plan #1

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Well WA 1H - Slot 1H
3069.8 @ 3069.80usft (GLOnly)
3069.8 @ 3069.80usft (GLOnly)
TVD Reference:
Grid
MD Reference:
Minimum Curvature
North Reference:
Survey Calculation Method:
Database:
SBDIR_EDM

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100ft)	Northing (usft)	Easting (usft)
2,487.22	19.74	323.79	2,467.80	135.90	-99.49	168.43	323.79	2.00	468,200.99	610,671.10
Base Salt (Top Delaware)										
2,495.75	19.91	323.79	2,475.82	138.24	-101.19	171.32	323.79	2.00	468,203.33	610,669.40
2,500.00	19.91	323.79	2,479.82	139.40	-102.05	172.77	323.79	0.00	468,204.49	610,668.54
2,600.00	19.91	323.79	2,573.84	166.89	-122.17	206.83	323.79	0.00	468,231.98	610,648.42
2,700.00	19.91	323.79	2,667.86	194.37	-142.29	240.89	323.79	0.00	468,259.46	610,628.30
2,800.00	19.91	323.79	2,761.88	221.86	-162.41	274.95	323.79	0.00	468,286.95	610,608.18
2,900.00	19.91	323.79	2,855.90	249.34	-182.53	309.02	323.79	0.00	468,314.43	610,588.06
2,997.75	19.91	323.79	2,947.80	276.21	-202.20	342.31	323.79	0.00	468,341.30	610,568.39
Top Cherry Canyon										
3,000.00	19.91	323.79	2,949.92	276.83	-202.65	343.08	323.79	0.00	468,341.92	610,567.94
3,100.00	19.91	323.79	3,043.94	304.31	-222.77	377.14	323.79	0.00	468,369.40	610,547.82
3,200.00	19.91	323.79	3,137.96	331.80	-242.89	411.20	323.79	0.00	468,396.89	610,527.70
3,300.00	19.91	323.79	3,231.98	359.28	-263.01	445.27	323.79	0.00	468,424.37	610,507.58
3,400.00	19.91	323.79	3,326.00	386.77	-283.13	479.33	323.79	0.00	468,451.86	610,487.46
3,500.00	19.91	323.79	3,420.02	414.25	-303.25	513.39	323.79	0.00	468,479.34	610,467.34
3,600.00	19.91	323.79	3,514.04	441.74	-323.37	547.45	323.79	0.00	468,506.83	610,447.22
3,700.00	19.91	323.79	3,608.06	469.22	-343.49	581.52	323.79	0.00	468,534.31	610,427.10
3,800.00	19.91	323.79	3,702.08	496.71	-363.61	615.58	323.79	0.00	468,561.80	610,406.98
3,900.00	19.91	323.79	3,796.10	524.19	-383.73	649.64	323.79	0.00	468,589.28	610,386.86
4,000.00	19.91	323.79	3,890.12	551.68	-403.85	683.70	323.79	0.00	468,616.77	610,366.74
4,100.00	19.91	323.79	3,984.14	579.16	-423.98	717.77	323.79	0.00	468,644.25	610,346.61
4,200.00	19.91	323.79	4,078.16	606.65	-444.10	751.83	323.79	0.00	468,671.74	610,326.49
4,300.00	19.91	323.79	4,172.18	634.13	-464.22	785.89	323.79	0.00	468,699.22	610,306.37
4,355.32	19.91	323.79	4,224.18	649.34	-475.35	804.73	323.79	0.00	468,714.43	610,295.24
4,400.00	19.02	323.79	4,266.31	661.36	-484.14	819.62	323.79	2.00	468,726.45	610,286.45
4,500.00	17.02	323.79	4,361.40	686.32	-502.42	850.56	323.79	2.00	468,751.41	610,268.17



Survey Report Landscape

Kaiser-Francis Oil Company

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Project: Eddy County, NM (NMEZ) NAD83 Grid
Site: Loving Townsite 2021 WA
Well: WA 1H
Wellbore: Lateral
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference: 3069.8 @ 3069.80usft (GLOnly)
MD Reference: 3069.8 @ 3069.80usft (GLOnly)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: SBDIR_EDM

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100ft)	Northing (usft)	Easting (usft)
4,600.00	15.02	323.79	4,457.51	708.59	-518.72	878.16	323.79	2.00	468,773.68	610,251.87
4,607.54	14.87	323.79	4,464.80	710.16	-519.87	880.10	323.79	2.00	468,775.25	610,250.72
Top Brushy Canyon										
4,700.00	13.02	323.79	4,554.53	728.13	-533.03	902.38	323.79	2.00	468,793.22	610,237.56
4,800.00	11.02	323.79	4,652.33	744.94	-545.33	923.21	323.79	2.00	468,810.03	610,225.26
4,900.00	9.02	323.79	4,750.80	758.98	-555.61	940.61	323.79	2.00	468,824.07	610,214.98
5,000.00	7.02	323.79	4,849.82	770.24	-563.85	954.57	323.79	2.00	468,835.33	610,206.74
5,100.00	5.02	323.79	4,949.26	778.70	-570.05	965.05	323.79	2.00	468,843.79	610,200.54
5,200.00	3.02	323.79	5,049.01	784.36	-574.19	972.07	323.79	2.00	468,849.45	610,196.40
5,300.00	1.02	323.79	5,148.94	787.21	-576.27	975.59	323.79	2.00	468,852.30	610,194.32
5,351.06	0.00	0.00	5,200.00	787.57	-576.54	976.05	323.79	2.00	468,852.66	610,194.05
5,400.00	0.00	0.00	5,248.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
5,451.06	0.00	0.00	5,300.00	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
9 5/8"										
5,500.00	0.00	0.00	5,348.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
5,600.00	0.00	0.00	5,448.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
5,700.00	0.00	0.00	5,548.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
5,800.00	0.00	0.00	5,648.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
5,801.86	0.00	0.00	5,650.80	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
Top Lower Brushy Canyon										
5,900.00	0.00	0.00	5,748.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
5,997.86	0.00	0.00	5,846.80	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
Top Mobil Sand										
6,000.00	0.00	0.00	5,848.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
6,100.00	0.00	0.00	5,948.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
6,140.86	0.00	0.00	5,989.80	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
Top 1st Bone Springs Lime										
6,200.00	0.00	0.00	6,048.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05



Survey Report Landscape

Kaiser-Francis Oil Company

Company: KAISER-FRANCIS OIL COMPANY
Project: Eddy County, NM (NMEZ) NAD83 Grid
Site: Loving Townsite 2021 WA
Well: WA 1H
Wellbore: Lateral
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference: 3069.8 @ 3069.80ustf (GLOnly)
MD Reference: 3069.8 @ 3069.80ustf (GLOnly)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: SBDIR_EDM

Planned Survey

MD (ustf)	Inc (°)	Azi (azimuth) (°)	TVD (ustf)	N/S (ustf)	E/W (ustf)	Closure Distance (ustf)	Closure Azimuth (°)	DLeg (°/100ft)	Northing (ustf)	Easting (ustf)
6,300.00	0.00	0.00	6,148.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
6,400.00	0.00	0.00	6,248.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
6,500.00	0.00	0.00	6,348.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
6,600.00	0.00	0.00	6,448.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
6,700.00	0.00	0.00	6,548.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
6,800.00	0.00	0.00	6,648.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
6,900.00	0.00	0.00	6,748.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
7,000.00	0.00	0.00	6,848.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
7,100.00	0.00	0.00	6,948.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
7,140.86	0.00	0.00	6,989.80	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
1st Bone Springs Sand										
7,200.00	0.00	0.00	7,048.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
7,300.00	0.00	0.00	7,148.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
7,400.00	0.00	0.00	7,248.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
7,437.86	0.00	0.00	7,286.80	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
2nd Bone Springs Lime										
7,500.00	0.00	0.00	7,348.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
7,600.00	0.00	0.00	7,448.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
7,700.00	0.00	0.00	7,548.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
7,800.00	0.00	0.00	7,648.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
7,855.86	0.00	0.00	7,704.80	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
2nd Bone Springs Sand										
7,900.00	0.00	0.00	7,748.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
8,000.00	0.00	0.00	7,848.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
8,100.00	0.00	0.00	7,948.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
8,111.86	0.00	0.00	7,960.80	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
Mid 2nd Bone Springs Lime										



Survey Report Landscape

Kaiser-Francis Oil Company

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Site: Loving Townsite 2021 WA
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Wellbore: Lateral
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference: 3069.8 @ 3069.80ust (GLOnly)
MD Reference: 3069.8 @ 3069.80ust (GLOnly)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: SBDIR_EDM

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100ft)	Northing (usft)	Easting (usft)
8,200.00	0.00	0.00	8,048.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
8,300.00	0.00	0.00	8,148.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
8,400.00	0.00	0.00	8,248.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
8,500.00	0.00	0.00	8,348.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
8,597.86	0.00	0.00	8,446.80	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
Lower 2nd Bone Springs Sand (Harkey)										
8,600.00	0.00	0.00	8,448.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
8,700.00	0.00	0.00	8,548.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
8,800.00	0.00	0.00	8,648.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
8,898.86	0.00	0.00	8,747.80	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
3rd Bone Springs Lime										
8,900.00	0.00	0.00	8,748.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
9,000.00	0.00	0.00	8,848.94	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
9,066.10	0.00	0.00	8,915.04	787.57	-576.54	976.05	323.79	0.00	468,852.66	610,194.05
LVGTWNST 2021 WA 1H KOP_1979FSL_2936FEL										
9,100.00	3.39	89.74	8,948.92	787.58	-575.54	975.46	323.84	10.00	468,852.67	610,195.05
9,128.99	6.29	89.74	8,977.80	787.59	-573.09	974.03	323.96	10.00	468,852.68	610,197.50
3rd Bone Springs Sand										
9,150.00	8.39	89.74	8,998.64	787.60	-570.41	972.46	324.09	10.00	468,852.69	610,200.18
9,200.00	13.39	89.74	9,047.72	787.65	-560.97	966.99	324.54	10.00	468,852.74	610,209.62
9,250.00	18.39	89.74	9,095.80	787.71	-547.28	959.17	325.21	10.00	468,852.80	610,223.31
9,300.00	23.39	89.74	9,142.50	787.79	-529.46	949.18	326.10	10.00	468,852.88	610,241.13
9,350.00	28.39	89.74	9,187.46	787.89	-507.63	937.26	327.21	10.00	468,852.98	610,262.96
9,400.00	33.39	89.74	9,230.36	788.01	-481.97	923.72	328.55	10.00	468,853.10	610,288.62
9,450.00	38.39	89.74	9,270.85	788.14	-452.67	908.89	330.13	10.00	468,853.23	610,317.92
9,500.00	43.39	89.74	9,308.64	788.29	-419.95	893.18	331.95	10.00	468,853.38	610,350.64
9,515.56	44.95	89.74	9,319.80	788.34	-409.11	888.18	332.57	10.00	468,853.43	610,361.48
Top Wolfcamp (Wolfcamp A)										



Survey Report Landscape

Kaiser-Francis Oil Company

Company: KAISER-FRANCIS OIL COMPANY
Project: Eddy County, NM (NMEZ) NAD83 Grid
Site: Loving Townsite 2021 WA
Well: WA 1H
Wellbore: Lateral
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference: Well WA 1H - Slot 1H
3069.8 @ 3069.80ust (GLOnly)
MD Reference: 3069.8 @ 3069.80ust (GLOnly)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: SBDIR_EDM

Planned Survey

MD (ustft)	Inc (°)	Azi (°)	TVD (ustft)	N/S (ustft)	E/W (ustft)	Closure Distance (ustft)	Closure Azimuth (°)	DLeg (°/100ft)	Northing (ustft)	Easting (ustft)
9,550.00	48.39	89.74	9,343.43	788.46	-384.06	877.02	334.03	10.00	468,853.55	610,386.53
9,559.69	49.36	89.74	9,349.80	788.49	-376.77	873.88	334.46	10.00	468,853.58	610,393.82
Top Wolfcamp A - X Sand										
9,600.00	53.39	89.74	9,374.96	788.64	-345.28	860.91	336.36	10.00	468,853.73	610,425.31
9,634.70	56.86	89.74	9,394.80	788.77	-316.81	850.01	338.12	10.00	468,853.86	610,453.78
Base Wolfcamp A - X Sand										
9,650.00	58.39	89.74	9,402.99	788.83	-303.89	845.34	338.93	10.00	468,853.92	610,466.70
9,694.46	62.84	89.74	9,424.80	789.01	-265.17	832.37	341.42	10.00	468,854.10	610,505.42
Top Wolfcamp A - Y Sand										
9,700.00	63.39	89.74	9,427.31	789.03	-260.22	830.83	341.75	10.00	468,854.12	610,510.37
9,750.00	68.39	89.74	9,447.72	789.24	-214.60	817.89	344.79	10.00	468,854.33	610,555.99
9,800.00	73.39	89.74	9,464.09	789.46	-167.37	807.00	348.03	10.00	468,854.55	610,603.22
9,842.89	77.68	89.74	9,474.80	789.65	-125.85	799.61	350.94	10.00	468,854.74	610,644.74
Base Wolfcamp A - Y Sand										
9,850.00	78.39	89.74	9,476.27	789.68	-118.90	798.58	351.44	10.00	468,854.77	610,651.69
9,900.00	83.39	89.74	9,484.19	789.91	-69.54	792.96	354.97	10.00	468,855.00	610,701.05
9,950.00	88.39	89.74	9,487.77	790.14	-19.69	790.38	358.57	10.00	468,855.23	610,750.90
9,966.10	90.00	89.74	9,488.00	790.21	-3.59	790.22	359.74	10.00	468,855.30	610,767.00
LVGTWNST 2021 WA 1H FTP_1980FSL_2366FEL										
10,000.00	90.00	89.74	9,488.00	790.37	30.31	790.95	2.20	0.00	468,855.46	610,800.90
10,100.00	90.00	89.74	9,488.00	790.83	130.31	801.49	9.36	0.00	468,855.92	610,900.90
10,200.00	90.00	89.74	9,488.00	791.29	230.31	824.12	16.23	0.00	468,856.38	611,000.90
10,300.00	90.00	89.74	9,488.00	791.75	330.31	857.88	22.65	0.00	468,856.84	611,100.90
10,400.00	90.00	89.74	9,488.00	792.21	430.31	901.53	28.51	0.00	468,857.30	611,200.90
10,500.00	90.00	89.74	9,488.00	792.67	530.30	953.70	33.78	0.00	468,857.76	611,300.89
10,600.00	90.00	89.74	9,488.00	793.13	630.30	1,013.08	38.47	0.00	468,858.22	611,400.89
10,700.00	90.00	89.74	9,488.00	793.59	730.30	1,078.48	42.62	0.00	468,858.68	611,500.89
10,800.00	90.00	89.74	9,488.00	794.05	830.30	1,148.87	46.28	0.00	468,859.14	611,600.89



Survey Report Landscape

Kaiser-Francis Oil Company

Company: KAISER-FRANCIS OIL COMPANY
Project: Eddy County, NM (NMEZ) NAD83 Grid
Site: Loving Township 2021 WA
Well: WA 1H
Wellbore: Lateral
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well WA 1H - Slot 1H
3069.8 @ 3069.80ustf (GLOnly)
3069.8 @ 3069.80ustf (GLOnly)
Grid
Minimum Curvature
SBDIR_EDM

Planned Survey

MD (ustf)	Inc (°)	Azi (azimuth) (°)	TVD (ustf)	N/S (ustf)	E/W (ustf)	Closure Distance (ustf)	Closure Azimuth (°)	DLeg (°/100ft)	Northing (ustf)	Easting (ustf)
10,900.00	90.00	89.74	9,488.00	794.51	930.30	1,223.40	49.50	0.00	468,859.60	611,700.89
11,000.00	90.00	89.74	9,488.00	794.97	1,030.30	1,301.34	52.35	0.00	468,860.06	611,800.89
11,100.00	90.00	89.74	9,488.00	795.43	1,130.30	1,382.13	54.86	0.00	468,860.52	611,900.89
11,200.00	90.00	89.74	9,488.00	795.89	1,230.30	1,465.29	57.10	0.00	468,860.98	612,000.89
11,300.00	90.00	89.74	9,488.00	796.35	1,330.30	1,550.44	59.09	0.00	468,861.44	612,100.89
11,400.00	90.00	89.74	9,488.00	796.81	1,430.30	1,637.27	60.88	0.00	468,861.90	612,200.89
11,500.00	90.00	89.74	9,488.00	797.27	1,530.29	1,725.52	62.48	0.00	468,862.36	612,300.88
11,600.00	90.00	89.74	9,488.00	797.73	1,630.29	1,815.00	63.93	0.00	468,862.82	612,400.88
11,700.00	90.00	89.74	9,488.00	798.19	1,730.29	1,905.52	65.24	0.00	468,863.28	612,500.88
11,800.00	90.00	89.74	9,488.00	798.65	1,830.29	1,996.95	66.43	0.00	468,863.74	612,600.88
11,900.00	90.00	89.74	9,488.00	799.11	1,930.29	2,089.16	67.51	0.00	468,864.20	612,700.88
12,000.00	90.00	89.74	9,488.00	799.57	2,030.29	2,182.06	68.50	0.00	468,864.66	612,800.88
12,100.00	90.00	89.74	9,488.00	800.03	2,130.29	2,275.56	69.42	0.00	468,865.12	612,900.88
12,200.00	90.00	89.74	9,488.00	800.49	2,230.29	2,369.59	70.26	0.00	468,865.58	613,000.88
12,300.00	90.00	89.74	9,488.00	800.95	2,330.29	2,464.09	71.03	0.00	468,866.04	613,100.88
12,400.00	90.00	89.74	9,488.00	801.41	2,430.28	2,559.01	71.75	0.00	468,866.50	613,200.87
12,500.00	90.00	89.74	9,488.00	801.87	2,530.28	2,654.30	72.42	0.00	468,866.96	613,300.87
12,600.00	90.00	89.74	9,488.00	802.33	2,630.28	2,749.93	73.04	0.00	468,867.42	613,400.87
12,700.00	90.00	89.74	9,488.00	802.79	2,730.28	2,845.86	73.62	0.00	468,867.88	613,500.87
12,800.00	90.00	89.74	9,488.00	803.25	2,830.28	2,942.06	74.16	0.00	468,868.34	613,600.87
12,900.00	90.00	89.74	9,488.00	803.71	2,930.28	3,038.50	74.66	0.00	468,868.80	613,700.87
13,000.00	90.00	89.74	9,488.00	804.17	3,030.28	3,135.17	75.14	0.00	468,869.26	613,800.87
13,100.00	90.00	89.74	9,488.00	804.63	3,130.28	3,232.04	75.58	0.00	468,869.72	613,900.87
13,200.00	90.00	89.74	9,488.00	805.09	3,230.28	3,329.09	76.01	0.00	468,870.18	614,000.87
13,300.00	90.00	89.74	9,488.00	805.55	3,330.28	3,426.32	76.40	0.00	468,870.64	614,100.87
13,400.00	90.00	89.74	9,488.00	806.01	3,430.27	3,523.69	76.78	0.00	468,871.10	614,200.86
13,500.00	90.00	89.74	9,488.00	806.47	3,530.27	3,621.22	77.13	0.00	468,871.56	614,300.86



Survey Report Landscape

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Design: Plan #1

Local Co-ordinate Reference: Well WA 1H - Slot 1H
TVD Reference: 3069.8 @ 3069.80usft (GLOnly)
MD Reference: 3069.8 @ 3069.80usft (GLOnly)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: SBDIR_EDM

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/1000ft)	Northing (usft)	Easting (usft)
13,600.00	90.00	89.74	9,488.00	806.93	3,630.27	3,718.87	77.47	0.00	468,872.02	614,400.86
13,700.00	90.00	89.74	9,488.00	807.39	3,730.27	3,816.65	77.79	0.00	468,872.48	614,500.86
13,800.00	90.00	89.74	9,488.00	807.85	3,830.27	3,914.53	78.09	0.00	468,872.94	614,600.86
13,900.00	90.00	89.74	9,488.00	808.31	3,930.27	4,012.53	78.38	0.00	468,873.40	614,700.86
14,000.00	90.00	89.74	9,488.00	808.77	4,030.27	4,110.62	78.65	0.00	468,873.86	614,800.86
14,100.00	90.00	89.74	9,488.00	809.23	4,130.27	4,208.79	78.91	0.00	468,874.32	614,900.86
14,200.00	90.00	89.74	9,488.00	809.69	4,230.27	4,307.06	79.16	0.00	468,874.78	615,000.86
14,300.00	90.00	89.74	9,488.00	810.15	4,330.26	4,405.40	79.40	0.00	468,875.24	615,100.85
14,400.00	90.00	89.74	9,488.00	810.61	4,430.26	4,503.81	79.63	0.00	468,875.70	615,200.85
14,500.00	90.00	89.74	9,488.00	811.07	4,530.26	4,602.29	79.85	0.00	468,876.16	615,300.85
14,600.00	90.00	89.74	9,488.00	811.53	4,630.26	4,700.84	80.06	0.00	468,876.62	615,400.85
14,640.20	90.00	89.74	9,488.00	811.71	4,670.46	4,740.47	80.14	0.00	468,876.80	615,441.05

LVGTWNST 2021 WA 1H PBHL_1980FSL_2310FEL

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
5,451.06	5,300.00	9 5/8"	9.62	12.25
1,400.00	1,400.00	13 3/8"	13.37	17.50
14,640.20	9,488.00	5 1/2"	5.50	6.00



Survey Report Landscape

Kaiser-Francis Oil Company

Company: KAISER-FRANCIS OIL COMPANY
Project: Eddy County, NM (NMEZ) NAD83 Grid
Site: Loving Townsite 2021 WA
Well: WA 1H
Wellbore: Lateral
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference: 3069.8 @ 3069.80usft (GLOnly)
MD Reference: 3069.8 @ 3069.80usft (GLOnly)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: SBDIR_EDM

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
8,898.86	8,747.80	3rd Bone Springs Lime			
9,634.70	9,394.80	Base Wolfcamp A - X Sand			
7,437.86	7,286.80	2nd Bone Springs Lime			
7,855.86	7,704.80	2nd Bone Springs Sand			
5,801.86	5,650.80	Top Lower Brushy Canyon			
6,140.86	5,989.80	Top 1st Bone Springs Lime			
9,515.56	9,319.80	Top Wolfcamp (Wolfcamp A)			
7,140.86	6,989.80	1st Bone Springs Sand			
2,997.75	2,947.80	Top Cherry Canyon		0.00	
9,694.46	9,424.80	Top Wolfcamp A - Y Sand			
9,559.69	9,349.80	Top Wolfcamp A - X Sand			
5,997.86	5,846.80	Top Mobil Sand			
9,128.99	8,977.80	3rd Bone Springs Sand			
9,842.89	9,474.80	Base Wolfcamp A - Y Sand			
4,607.54	4,464.80	Top Brushy Canyon			
2,487.22	2,467.80	Base Salt (Top Delaware)			0.00
8,597.86	8,446.80	Lower 2nd Bone Springs Sand (Harkey)			
8,111.86	7,960.80	Mid 2nd Bone Springs Lime			

Checked By: _____ Approved By: _____ Date: _____

Kaiser-Francis Oil Company

KAISER-FRANCIS OIL COMPANY

Eddy County, NM (NMEZ) NAD83 Grid

Loving Townsite 2021 WA

WA 1H - Slot 1H

Lateral

Plan: Plan #1

Standard Planning Report

25 August, 2020





Planning Report

Kaiser-Francis Oil Company

Database:	SBDIR_EDM	Local Co-ordinate Reference:	Well WA 1H - Slot 1H
Company:	KAISER-FRANCIS OIL COMPANY	TVD Reference:	3069.8 @ 3069.80usft (GLOnly)
Project:	Eddy County, NM (NMEZ) NAD83 Grid	MD Reference:	3069.8 @ 3069.80usft (GLOnly)
Site:	Loving Townsite 2021 WA	North Reference:	Grid
Well:	WA 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

Project	Eddy County, NM (NMEZ) NAD83 Grid		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Loving Townsite 2021 WA				
Site Position:		Northing:	468,065.09 usft	Latitude:	32.2865850°N
From:	Map	Easting:	610,770.59 usft	Longitude:	104.1086455°W
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.12 °

Well	WA 1H - Slot 1H					
Well Position	+N/-S	0.00 usft	Northing:	468,065.09 usft	Latitude:	32.2865850°N
	+E/-W	0.00 usft	Easting:	610,770.59 usft	Longitude:	104.1086455°W
Position Uncertainty	0.00 usft	Wellhead Elevation:		Ground Level:	3,069.80 usft	

Wellbore	Lateral
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	08/25/20	6.89	59.90	47,561.35418065

Design	Plan #1
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Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	89.74

Plan Survey Tool Program	Date	08/25/20
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Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	14,640.09	Plan #1 (Lateral)	

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	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,495.75	19.91	323.79	2,475.82	138.24	-101.19	2.00	2.00	0.00	323.79	
4,355.32	19.91	323.79	4,224.18	649.34	-475.35	0.00	0.00	0.00	0.00	
5,351.06	0.00	0.00	5,200.00	787.57	-576.54	2.00	-2.00	0.00	180.00	
9,086.10	0.00	0.00	8,915.04	787.57	-576.54	0.00	0.00	0.00	0.00	LVGTWNST 2021 WA
9,966.10	90.00	89.74	9,488.00	790.21	-3.59	10.00	10.00	9.97	89.74	
14,640.20	90.00	89.74	9,488.00	811.71	4,670.46	0.00	0.00	0.00	0.00	LVGTWNST 2021 WA



Planning Report

Kaiser-Francis Oil Company

Database:	SBDIR_EDM	Local Co-ordinate Reference:	Well WA 1H - Slot 1H
Company:	KAISER-FRANCIS OIL COMPANY	TVD Reference:	3069.8 @ 3069.80usft (GLOnly)
Project:	Eddy County, NM (NMEZ) NAD83 Grid	MD Reference:	3069.8 @ 3069.80usft (GLOnly)
Site:	Loving Townsite 2021 WA	North Reference:	Grid
Well:	WA 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
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
LVGTWNST 2021 WA 1H SHL									
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
13 3/8"									
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	323.79	1,599.98	1.41	-1.03	-1.02	2.00	2.00	0.00
1,700.00	4.00	323.79	1,699.84	5.63	-4.12	-4.10	2.00	2.00	0.00
1,800.00	6.00	323.79	1,799.45	12.66	-9.27	-9.21	2.00	2.00	0.00
1,900.00	8.00	323.79	1,898.70	22.50	-16.47	-16.37	2.00	2.00	0.00
2,000.00	10.00	323.79	1,997.47	35.12	-25.71	-25.55	2.00	2.00	0.00
2,100.00	12.00	323.79	2,095.62	50.51	-36.98	-36.75	2.00	2.00	0.00
2,200.00	14.00	323.79	2,193.06	68.66	-50.27	-49.95	2.00	2.00	0.00
2,300.00	16.00	323.79	2,289.64	89.55	-65.55	-65.15	2.00	2.00	0.00
2,400.00	18.00	323.79	2,385.27	113.14	-82.82	-82.31	2.00	2.00	0.00
2,487.22	19.74	323.79	2,467.80	135.90	-99.49	-98.87	2.00	2.00	0.00
Base Salt (Top Delaware)									
2,495.75	19.91	323.79	2,475.82	138.24	-101.19	-100.57	2.00	2.00	0.00
2,500.00	19.91	323.79	2,479.82	139.40	-102.05	-101.42	0.00	0.00	0.00
2,600.00	19.91	323.79	2,573.84	166.89	-122.17	-121.41	0.00	0.00	0.00
2,700.00	19.91	323.79	2,667.86	194.37	-142.29	-141.41	0.00	0.00	0.00
2,800.00	19.91	323.79	2,761.88	221.86	-162.41	-161.40	0.00	0.00	0.00
2,900.00	19.91	323.79	2,855.90	249.34	-182.53	-181.40	0.00	0.00	0.00
2,997.75	19.91	323.79	2,947.80	276.21	-202.20	-200.94	0.00	0.00	0.00
Top Cherry Canyon									
3,000.00	19.91	323.79	2,949.92	276.83	-202.65	-201.39	0.00	0.00	0.00
3,100.00	19.91	323.79	3,043.94	304.31	-222.77	-221.39	0.00	0.00	0.00
3,200.00	19.91	323.79	3,137.96	331.80	-242.89	-241.38	0.00	0.00	0.00
3,300.00	19.91	323.79	3,231.98	359.28	-263.01	-261.38	0.00	0.00	0.00
3,400.00	19.91	323.79	3,326.00	386.77	-283.13	-281.38	0.00	0.00	0.00
3,500.00	19.91	323.79	3,420.02	414.25	-303.25	-301.37	0.00	0.00	0.00
3,600.00	19.91	323.79	3,514.04	441.74	-323.37	-321.37	0.00	0.00	0.00
3,700.00	19.91	323.79	3,608.06	469.22	-343.49	-341.36	0.00	0.00	0.00
3,800.00	19.91	323.79	3,702.08	496.71	-363.61	-361.36	0.00	0.00	0.00
3,900.00	19.91	323.79	3,796.10	524.19	-383.73	-381.35	0.00	0.00	0.00
4,000.00	19.91	323.79	3,890.12	551.68	-403.85	-401.35	0.00	0.00	0.00
4,100.00	19.91	323.79	3,984.14	579.16	-423.98	-421.34	0.00	0.00	0.00
4,200.00	19.91	323.79	4,078.16	606.65	-444.10	-441.34	0.00	0.00	0.00
4,300.00	19.91	323.79	4,172.18	634.13	-464.22	-461.33	0.00	0.00	0.00
4,355.32	19.91	323.79	4,224.18	649.34	-475.35	-472.39	0.00	0.00	0.00
4,400.00	19.02	323.79	4,266.31	661.36	-484.14	-481.14	2.00	-2.00	0.00
4,500.00	17.02	323.79	4,361.40	686.32	-502.42	-499.30	2.00	-2.00	0.00



Planning Report

Kaiser-Francis Oil Company

Database:	SBDIR_EDM	Local Co-ordinate Reference:	Well WA 1H - Slot 1H
Company:	KAISER-FRANCIS OIL COMPANY	TVD Reference:	3069.8 @ 3069.80usft (GLOnly)
Project:	Eddy County, NM (NMEZ) NAD83 Grid	MD Reference:	3069.8 @ 3069.80usft (GLOnly)
Site:	Loving Townsite 2021 WA	North Reference:	Grid
Well:	WA 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
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)
4,600.00	15.02	323.79	4,457.51	708.59	-518.72	-515.50	2.00	-2.00	0.00
4,607.54	14.87	323.79	4,464.80	710.16	-519.87	-516.64	2.00	-2.00	0.00
Top Brushy Canyon									
4,700.00	13.02	323.79	4,554.53	728.13	-533.03	-529.72	2.00	-2.00	0.00
4,800.00	11.02	323.79	4,652.33	744.94	-545.33	-541.94	2.00	-2.00	0.00
4,900.00	9.02	323.79	4,750.80	758.98	-555.61	-552.16	2.00	-2.00	0.00
5,000.00	7.02	323.79	4,849.82	770.24	-563.85	-560.35	2.00	-2.00	0.00
5,100.00	5.02	323.79	4,949.26	778.70	-570.05	-566.51	2.00	-2.00	0.00
5,200.00	3.02	323.79	5,049.01	784.36	-574.19	-570.62	2.00	-2.00	0.00
5,300.00	1.02	323.79	5,148.94	787.21	-576.27	-572.69	2.00	-2.00	0.00
5,351.06	0.00	0.00	5,200.00	787.57	-576.54	-572.96	2.00	-2.00	0.00
5,400.00	0.00	0.00	5,248.94	787.57	-576.54	-572.96	0.00	0.00	0.00
5,451.06	0.00	0.00	5,300.00	787.57	-576.54	-572.96	0.00	0.00	0.00
9 5/8"									
5,500.00	0.00	0.00	5,348.94	787.57	-576.54	-572.96	0.00	0.00	0.00
5,600.00	0.00	0.00	5,448.94	787.57	-576.54	-572.96	0.00	0.00	0.00
5,700.00	0.00	0.00	5,548.94	787.57	-576.54	-572.96	0.00	0.00	0.00
5,800.00	0.00	0.00	5,648.94	787.57	-576.54	-572.96	0.00	0.00	0.00
5,801.86	0.00	0.00	5,650.80	787.57	-576.54	-572.96	0.00	0.00	0.00
Top Lower Brushy Canyon									
5,900.00	0.00	0.00	5,748.94	787.57	-576.54	-572.96	0.00	0.00	0.00
5,997.86	0.00	0.00	5,846.80	787.57	-576.54	-572.96	0.00	0.00	0.00
Top Mobil Sand									
6,000.00	0.00	0.00	5,848.94	787.57	-576.54	-572.96	0.00	0.00	0.00
6,100.00	0.00	0.00	5,948.94	787.57	-576.54	-572.96	0.00	0.00	0.00
6,140.86	0.00	0.00	5,989.80	787.57	-576.54	-572.96	0.00	0.00	0.00
Top 1st Bone Springs Lime									
6,200.00	0.00	0.00	6,048.94	787.57	-576.54	-572.96	0.00	0.00	0.00
6,300.00	0.00	0.00	6,148.94	787.57	-576.54	-572.96	0.00	0.00	0.00
6,400.00	0.00	0.00	6,248.94	787.57	-576.54	-572.96	0.00	0.00	0.00
6,500.00	0.00	0.00	6,348.94	787.57	-576.54	-572.96	0.00	0.00	0.00
6,600.00	0.00	0.00	6,448.94	787.57	-576.54	-572.96	0.00	0.00	0.00
6,700.00	0.00	0.00	6,548.94	787.57	-576.54	-572.96	0.00	0.00	0.00
6,800.00	0.00	0.00	6,648.94	787.57	-576.54	-572.96	0.00	0.00	0.00
6,900.00	0.00	0.00	6,748.94	787.57	-576.54	-572.96	0.00	0.00	0.00
7,000.00	0.00	0.00	6,848.94	787.57	-576.54	-572.96	0.00	0.00	0.00
7,100.00	0.00	0.00	6,948.94	787.57	-576.54	-572.96	0.00	0.00	0.00
7,140.86	0.00	0.00	6,989.80	787.57	-576.54	-572.96	0.00	0.00	0.00
1st Bone Springs Sand									
7,200.00	0.00	0.00	7,048.94	787.57	-576.54	-572.96	0.00	0.00	0.00
7,300.00	0.00	0.00	7,148.94	787.57	-576.54	-572.96	0.00	0.00	0.00
7,400.00	0.00	0.00	7,248.94	787.57	-576.54	-572.96	0.00	0.00	0.00
7,437.86	0.00	0.00	7,286.80	787.57	-576.54	-572.96	0.00	0.00	0.00
2nd Bone Springs Lime									
7,500.00	0.00	0.00	7,348.94	787.57	-576.54	-572.96	0.00	0.00	0.00
7,600.00	0.00	0.00	7,448.94	787.57	-576.54	-572.96	0.00	0.00	0.00
7,700.00	0.00	0.00	7,548.94	787.57	-576.54	-572.96	0.00	0.00	0.00
7,800.00	0.00	0.00	7,648.94	787.57	-576.54	-572.96	0.00	0.00	0.00
7,855.86	0.00	0.00	7,704.80	787.57	-576.54	-572.96	0.00	0.00	0.00
2nd Bone Springs Sand									
7,900.00	0.00	0.00	7,748.94	787.57	-576.54	-572.96	0.00	0.00	0.00
8,000.00	0.00	0.00	7,848.94	787.57	-576.54	-572.96	0.00	0.00	0.00
8,100.00	0.00	0.00	7,948.94	787.57	-576.54	-572.96	0.00	0.00	0.00



Database:	SBDIR_EDM	Local Co-ordinate Reference:	Well WA 1H - Slot 1H
Company:	KAISER-FRANCIS OIL COMPANY	TVD Reference:	3069.8 @ 3069.80usft (GLOnly)
Project:	Eddy County, NM (NMEZ) NAD83 Grid	MD Reference:	3069.8 @ 3069.80usft (GLOnly)
Site:	Loving Townsite 2021 WA	North Reference:	Grid
Well:	WA 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
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)
8,111.86	0.00	0.00	7,960.80	787.57	-576.54	-572.96	0.00	0.00	0.00
Mid 2nd Bone Springs Lime									
8,200.00	0.00	0.00	8,048.94	787.57	-576.54	-572.96	0.00	0.00	0.00
8,300.00	0.00	0.00	8,148.94	787.57	-576.54	-572.96	0.00	0.00	0.00
8,400.00	0.00	0.00	8,248.94	787.57	-576.54	-572.96	0.00	0.00	0.00
8,500.00	0.00	0.00	8,348.94	787.57	-576.54	-572.96	0.00	0.00	0.00
8,597.86	0.00	0.00	8,446.80	787.57	-576.54	-572.96	0.00	0.00	0.00
Lower 2nd Bone Springs Sand (Harkey)									
8,600.00	0.00	0.00	8,448.94	787.57	-576.54	-572.96	0.00	0.00	0.00
8,700.00	0.00	0.00	8,548.94	787.57	-576.54	-572.96	0.00	0.00	0.00
8,800.00	0.00	0.00	8,648.94	787.57	-576.54	-572.96	0.00	0.00	0.00
8,898.86	0.00	0.00	8,747.80	787.57	-576.54	-572.96	0.00	0.00	0.00
3rd Bone Springs Lime									
8,900.00	0.00	0.00	8,748.94	787.57	-576.54	-572.96	0.00	0.00	0.00
9,000.00	0.00	0.00	8,848.94	787.57	-576.54	-572.96	0.00	0.00	0.00
9,066.10	0.00	0.00	8,915.04	787.57	-576.54	-572.96	0.00	0.00	0.00
LVGTWNST 2021 WA 1H KOP_1979FSL_2936FEL									
9,100.00	3.39	89.74	8,948.92	787.58	-575.54	-571.96	10.00	10.00	0.00
9,128.99	6.29	89.74	8,977.80	787.59	-573.09	-569.51	10.00	10.00	0.00
3rd Bone Springs Sand									
9,150.00	8.39	89.74	8,998.64	787.60	-570.41	-566.83	10.00	10.00	0.00
9,200.00	13.39	89.74	9,047.72	787.65	-560.97	-557.39	10.00	10.00	0.00
9,250.00	18.39	89.74	9,095.80	787.71	-547.28	-543.70	10.00	10.00	0.00
9,300.00	23.39	89.74	9,142.50	787.79	-529.46	-525.88	10.00	10.00	0.00
9,350.00	28.39	89.74	9,187.46	787.89	-507.63	-504.05	10.00	10.00	0.00
9,400.00	33.39	89.74	9,230.36	788.01	-481.97	-478.39	10.00	10.00	0.00
9,450.00	38.39	89.74	9,270.85	788.14	-452.67	-449.09	10.00	10.00	0.00
9,500.00	43.39	89.74	9,308.64	788.29	-419.95	-416.37	10.00	10.00	0.00
9,515.56	44.95	89.74	9,319.80	788.34	-409.11	-405.53	10.00	10.00	0.00
Top Wolfcamp (Wolfcamp A)									
9,550.00	48.39	89.74	9,343.43	788.46	-384.06	-380.48	10.00	10.00	0.00
9,559.69	49.36	89.74	9,349.80	788.49	-376.77	-373.18	10.00	10.00	0.00
Top Wolfcamp A - X Sand									
9,600.00	53.39	89.74	9,374.96	788.64	-345.28	-341.70	10.00	10.00	0.00
9,634.70	56.86	89.74	9,394.80	788.77	-316.81	-313.23	10.00	10.00	0.00
Base Wolfcamp A - X Sand									
9,650.00	58.39	89.74	9,402.99	788.83	-303.89	-300.31	10.00	10.00	0.00
9,694.46	62.84	89.74	9,424.80	789.01	-265.17	-261.58	10.00	10.00	0.00
Top Wolfcamp A - Y Sand									
9,700.00	63.39	89.74	9,427.31	789.03	-260.22	-256.64	10.00	10.00	0.00
9,750.00	68.39	89.74	9,447.72	789.24	-214.60	-211.02	10.00	10.00	0.00
9,800.00	73.39	89.74	9,464.09	789.46	-167.37	-163.79	10.00	10.00	0.00
9,842.89	77.68	89.74	9,474.80	789.65	-125.85	-122.27	10.00	10.00	0.00
Base Wolfcamp A - Y Sand									
9,850.00	78.39	89.74	9,476.27	789.68	-118.90	-115.31	10.00	10.00	0.00
9,900.00	83.39	89.74	9,484.19	789.91	-69.54	-65.96	10.00	10.00	0.00
9,950.00	88.39	89.74	9,487.77	790.14	-19.69	-16.10	10.00	10.00	0.00
9,966.10	90.00	89.74	9,488.00	790.21	-3.59	0.00	10.00	10.00	0.00
LVGTWNST 2021 WA 1H FTP_1980FSL_2366FEL									
10,000.00	90.00	89.74	9,488.00	790.37	30.31	33.90	0.00	0.00	0.00
10,100.00	90.00	89.74	9,488.00	790.83	130.31	133.90	0.00	0.00	0.00
10,200.00	90.00	89.74	9,488.00	791.29	230.31	233.90	0.00	0.00	0.00



Planning Report

Kaiser-Francis Oil Company

Database:	SBDIR_EDM	Local Co-ordinate Reference:	Well WA 1H - Slot 1H
Company:	KAISER-FRANCIS OIL COMPANY	TVD Reference:	3069.8 @ 3069.80usft (GLOnly)
Project:	Eddy County, NM (NMEZ) NAD83 Grid	MD Reference:	3069.8 @ 3069.80usft (GLOnly)
Site:	Loving Townsite 2021 WA	North Reference:	Grid
Well:	WA 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
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)
10,300.00	90.00	89.74	9,488.00	791.75	330.31	333.90	0.00	0.00	0.00
10,400.00	90.00	89.74	9,488.00	792.21	430.31	433.90	0.00	0.00	0.00
10,500.00	90.00	89.74	9,488.00	792.67	530.30	533.90	0.00	0.00	0.00
10,600.00	90.00	89.74	9,488.00	793.13	630.30	633.90	0.00	0.00	0.00
10,700.00	90.00	89.74	9,488.00	793.59	730.30	733.90	0.00	0.00	0.00
10,800.00	90.00	89.74	9,488.00	794.05	830.30	833.90	0.00	0.00	0.00
10,900.00	90.00	89.74	9,488.00	794.51	930.30	933.90	0.00	0.00	0.00
11,000.00	90.00	89.74	9,488.00	794.97	1,030.30	1,033.90	0.00	0.00	0.00
11,100.00	90.00	89.74	9,488.00	795.43	1,130.30	1,133.90	0.00	0.00	0.00
11,200.00	90.00	89.74	9,488.00	795.89	1,230.30	1,233.90	0.00	0.00	0.00
11,300.00	90.00	89.74	9,488.00	796.35	1,330.30	1,333.90	0.00	0.00	0.00
11,400.00	90.00	89.74	9,488.00	796.81	1,430.30	1,433.90	0.00	0.00	0.00
11,500.00	90.00	89.74	9,488.00	797.27	1,530.29	1,533.90	0.00	0.00	0.00
11,600.00	90.00	89.74	9,488.00	797.73	1,630.29	1,633.90	0.00	0.00	0.00
11,700.00	90.00	89.74	9,488.00	798.19	1,730.29	1,733.90	0.00	0.00	0.00
11,800.00	90.00	89.74	9,488.00	798.65	1,830.29	1,833.90	0.00	0.00	0.00
11,900.00	90.00	89.74	9,488.00	799.11	1,930.29	1,933.90	0.00	0.00	0.00
12,000.00	90.00	89.74	9,488.00	799.57	2,030.29	2,033.90	0.00	0.00	0.00
12,100.00	90.00	89.74	9,488.00	800.03	2,130.29	2,133.90	0.00	0.00	0.00
12,200.00	90.00	89.74	9,488.00	800.49	2,230.29	2,233.90	0.00	0.00	0.00
12,300.00	90.00	89.74	9,488.00	800.95	2,330.29	2,333.90	0.00	0.00	0.00
12,400.00	90.00	89.74	9,488.00	801.41	2,430.28	2,433.90	0.00	0.00	0.00
12,500.00	90.00	89.74	9,488.00	801.87	2,530.28	2,533.90	0.00	0.00	0.00
12,600.00	90.00	89.74	9,488.00	802.33	2,630.28	2,633.90	0.00	0.00	0.00
12,700.00	90.00	89.74	9,488.00	802.79	2,730.28	2,733.90	0.00	0.00	0.00
12,800.00	90.00	89.74	9,488.00	803.25	2,830.28	2,833.90	0.00	0.00	0.00
12,900.00	90.00	89.74	9,488.00	803.71	2,930.28	2,933.90	0.00	0.00	0.00
13,000.00	90.00	89.74	9,488.00	804.17	3,030.28	3,033.90	0.00	0.00	0.00
13,100.00	90.00	89.74	9,488.00	804.63	3,130.28	3,133.90	0.00	0.00	0.00
13,200.00	90.00	89.74	9,488.00	805.09	3,230.28	3,233.90	0.00	0.00	0.00
13,300.00	90.00	89.74	9,488.00	805.55	3,330.28	3,333.90	0.00	0.00	0.00
13,400.00	90.00	89.74	9,488.00	806.01	3,430.27	3,433.90	0.00	0.00	0.00
13,500.00	90.00	89.74	9,488.00	806.47	3,530.27	3,533.90	0.00	0.00	0.00
13,600.00	90.00	89.74	9,488.00	806.93	3,630.27	3,633.90	0.00	0.00	0.00
13,700.00	90.00	89.74	9,488.00	807.39	3,730.27	3,733.90	0.00	0.00	0.00
13,800.00	90.00	89.74	9,488.00	807.85	3,830.27	3,833.90	0.00	0.00	0.00
13,900.00	90.00	89.74	9,488.00	808.31	3,930.27	3,933.90	0.00	0.00	0.00
14,000.00	90.00	89.74	9,488.00	808.77	4,030.27	4,033.90	0.00	0.00	0.00
14,100.00	90.00	89.74	9,488.00	809.23	4,130.27	4,133.90	0.00	0.00	0.00
14,200.00	90.00	89.74	9,488.00	809.69	4,230.27	4,233.90	0.00	0.00	0.00
14,300.00	90.00	89.74	9,488.00	810.15	4,330.26	4,333.90	0.00	0.00	0.00
14,400.00	90.00	89.74	9,488.00	810.61	4,430.26	4,433.90	0.00	0.00	0.00
14,500.00	90.00	89.74	9,488.00	811.07	4,530.26	4,533.90	0.00	0.00	0.00
14,600.00	90.00	89.74	9,488.00	811.53	4,630.26	4,633.90	0.00	0.00	0.00
14,640.20	90.00	89.74	9,488.00	811.71	4,670.46	4,674.10	0.00	0.00	0.00

LVGTWNST 2021 WA 1H PBHL_1980FSL_2310FEL



Planning Report

Kaiser-Francis Oil Company

Database:	SBDIR_EDM	Local Co-ordinate Reference:	Well WA 1H - Slot 1H
Company:	KAISER-FRANCIS OIL COMPANY	TVD Reference:	3069.8 @ 3069.80usft (GLOnly)
Project:	Eddy County, NM (NMEZ) NAD83 Grid	MD Reference:	3069.8 @ 3069.80usft (GLOnly)
Site:	Loving Townsite 2021 WA	North Reference:	Grid
Well:	WA 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LVGTWNST 2021 WA 1I - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	468,065.09	610,770.59	32.2865850°N	104.1086455°W
LVGTWNST 2021 WA 1I - plan hits target center - Point	0.00	0.00	8,915.04	787.57	-576.54	468,852.66	610,194.05	32.2887533°N	104.1105059°W
LVGTWNST 2021 WA 1I - plan hits target center - Point	0.00	0.00	9,488.00	790.21	-3.59	468,855.30	610,767.00	32.2887572°N	104.1086518°W
LVGTWNST 2021 WA 1I - plan hits target center - Point	0.00	0.00	9,488.00	811.71	4,670.46	468,876.80	615,441.05	32.2887885°N	104.0935260°W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,400.00	1,400.00	13 3/8"	13.37	17.50
5,451.06	5,300.00	9 5/8"	9.62	12.25
14,640.20	9,488.00	5 1/2"	5.50	6.00

Formations

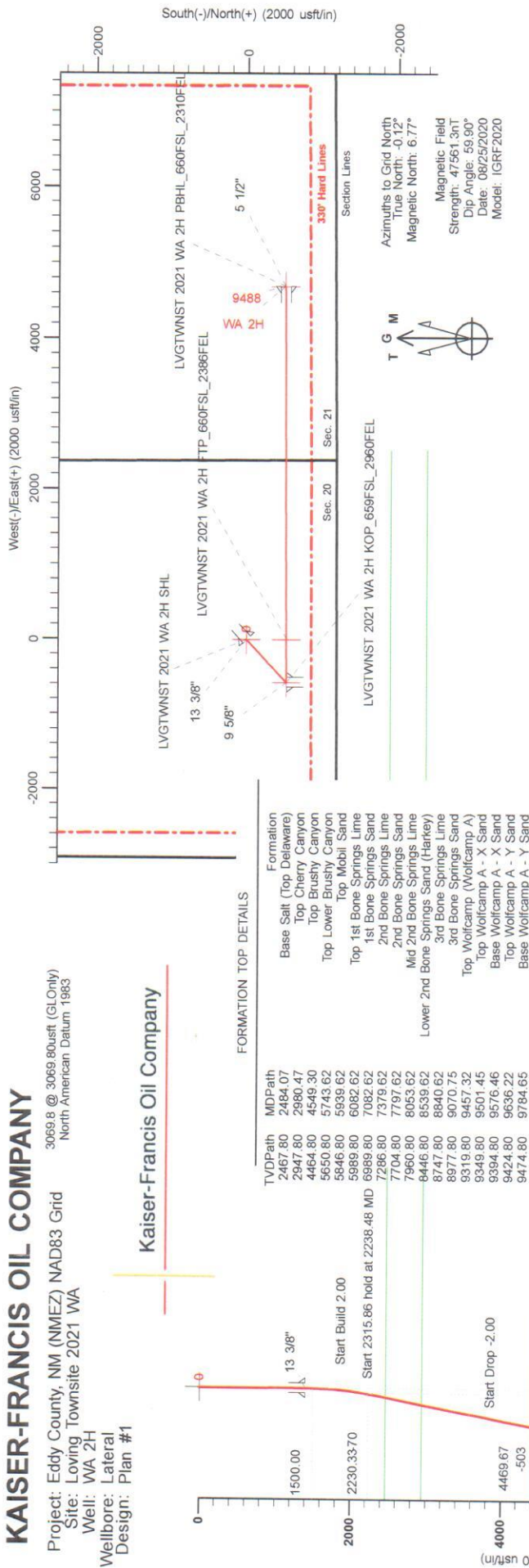
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,487.22	2,467.80	Base Salt (Top Delaware)		0.00	
2,997.75	2,947.80	Top Cherry Canyon		0.00	
4,607.54	4,464.80	Top Brushy Canyon			
5,801.86	5,650.80	Top Lower Brushy Canyon			
5,997.86	5,846.80	Top Mobil Sand			
6,140.86	5,989.80	Top 1st Bone Springs Lime			
7,140.86	6,989.80	1st Bone Springs Sand			
7,437.86	7,286.80	2nd Bone Springs Lime			
7,855.86	7,704.80	2nd Bone Springs Sand			
8,111.86	7,960.80	Mid 2nd Bone Springs Lime			
8,597.86	8,446.80	Lower 2nd Bone Springs Sand (Harkey)			
8,898.86	8,747.80	3rd Bone Springs Lime			
9,128.99	8,977.80	3rd Bone Springs Sand			
9,515.56	9,319.80	Top Wolfcamp (Wolfcamp A)			
9,559.69	9,349.80	Top Wolfcamp A - X Sand			
9,634.70	9,394.80	Base Wolfcamp A - X Sand			
9,694.46	9,424.80	Top Wolfcamp A - Y Sand			
9,842.89	9,474.80	Base Wolfcamp A - Y Sand			

3069.8 @ 3069.80usft (GLOnly)
North American Datum 1983

Project: Eddy County, NM (NMEZ) NAD83 Grid
Site: Loving Township 2021 WA

Well: WA 2H
Wellbore: Lateral
Design: Plan #1

Kaiser-Francis Oil Company



To convert a Magnetic Direction to a Grid Direction, Add 6.77°
To convert a Magnetic Direction to a True Direction, Add 6.89° East
Magnetic North is 6.77° East of Grid North (Magnetic Convergence)
Magnetic North is 6.89° East of True North (Magnetic Declination)

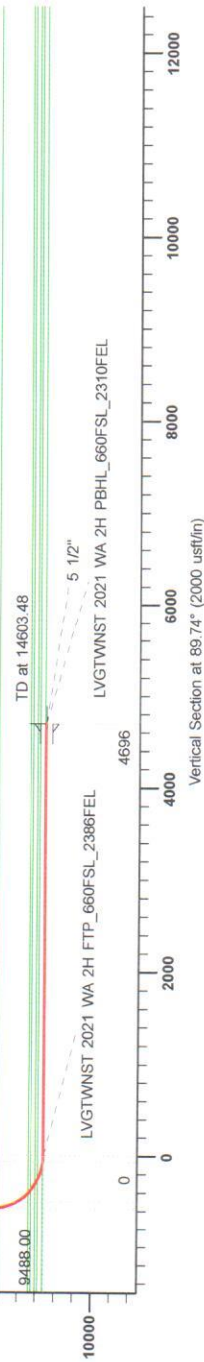
SECTION DETAILS			
	Dleg	TFace	Vsect
	0.00	0.00	0.00
	0.00	0.00	0.00
	2.00	227.03	-69.56
	0.00	0.00	-503.40
	2.00	180.00	-572.96
	0.00	0.00	-572.96
	10.00	89.74	0.00
	0.00	0.00	4695.62

Name	VA	2H SHL	TVD	+N/S
LVGTWNST 2021	WA	2H SHL	0.00	0.00
LVGTWNST 2021	WA	2H KOP	8915.04	-531.42
LVGTWNST 2021	WA	2H FTP	9488.00	-528.86
LVGTWNST 2021	WA	2H PBL	9488.00	-507.88

	+E-W	Northing	Easting
1	0.00	468065.00	610750.58
2	-570.55	467533.58	610180.03
3	2.40	467536.14	610752.98
4	4697.97	467557.12	615448.55

CASING DETAILS

TVD	MD	Name	Size
1400.00	1400.00	13 3/8"	13.37
5300.00	5392.82	9 5/8"	9.62
9488.00	14603.48	5 1/2"	5.50



Plan: Plan #1 (WA 2H/Lateral)
Created By: Mekka Williams
10:39, August 25 2020

SB DIRECTIONAL SERVICES
5135 SW 29TH ST
OKLAHOMA CITY, OK 73179



Kaiser-Francis Oil Company

KAISER-FRANCIS OIL COMPANY

Eddy County, NM (NMEZ) NAD83 Grid
Loving Townsite 2021 WA
WA 2H - Slot 2H
Lateral

Plan: Plan #1

Survey Report Landscape

25 August, 2020





Survey Report Landscape

Company: KAISER-FRANCIS OIL COMPANY		Local Co-ordinate Reference:	
Project: Eddy County, NM (NMEZ) NAD83 Grid		Well WA 2H - Slot 2H	
Site: Loving Townsite 2021 WA		3069.8 @ 3069.80usft (GLOnly)	
Well: WA 2H		3069.8 @ 3069.80usft (GLOnly)	
Wellbore: Lateral		Grid	
Design: Plan #1		Minimum Curvature	
		SBDIR_EDM	

Project	Eddy County, NM (NMEZ) NAD83 Grid	System Datum:	Mean Sea Level
Map System:	US State Plane 1983		
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Loving Townsite 2021 WA	Northings:	468,065.09 usft	Latitude:	32.2865850°N
Site Position:		Easting:	610,770.59 usft	Longitude:	104.1086456°W
Position Uncertainty:	Map 0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.12 °

Well	WA 2H - Slot 2H	Northings:	468,065.00 usft	Latitude:	32.2865849°N
Well Position	+N/-S 0.00 usft	Easting:	610,750.58 usft	Longitude:	104.1087103°W
Position Uncertainty	+E/-W 0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,069.80 usft

Wellbore	Lateral				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	08/25/20	6.89	59.90	47,561.34719509

Design	Plan #1				
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Audit Notes:					
Version:		Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		0.00	0.00	0.00	89.74

Survey Tool Program	Date	08/25/20			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	14,603.42	Plan #1 (Lateral)			



Survey Report Landscape

Company: KAISER-FRANCIS OIL COMPANY
Project: Eddy County, NM (NMEZ) NAD83 Grid
Site: Loving Township 2021 WA
Well: WA 2H
Wellbore: Lateral
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference: 3069.8 @ 3069.80usft (GLOnly)
MD Reference: 3069.8 @ 3069.80usft (GLOnly)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: SBDIR_EDM

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100ft)	Northing (usft)	Easting (usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	468,065.00	610,750.58
LVGTWNST 2021 WA 2H SHL										
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	468,065.00	610,750.58
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	468,065.00	610,750.58
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	468,065.00	610,750.58
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	468,065.00	610,750.58
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	468,065.00	610,750.58
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	468,065.00	610,750.58
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	468,065.00	610,750.58
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	468,065.00	610,750.58
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	468,065.00	610,750.58
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	468,065.00	610,750.58
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	468,065.00	610,750.58
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	468,065.00	610,750.58
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	468,065.00	610,750.58
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	468,065.00	610,750.58
13 3/8"										
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	468,065.00	610,750.58
1,600.00	2.00	227.03	1,599.98	-1.19	-1.28	1.75	227.03	2.00	468,063.81	610,749.30
1,700.00	4.00	227.03	1,699.84	-4.76	-5.11	6.98	227.03	2.00	468,060.24	610,745.47
1,800.00	6.00	227.03	1,799.45	-10.70	-11.48	15.69	227.03	2.00	468,054.30	610,739.10
1,900.00	8.00	227.03	1,898.70	-19.00	-20.40	27.88	227.03	2.00	468,046.00	610,730.18
2,000.00	10.00	227.03	1,997.47	-29.66	-31.85	43.52	227.03	2.00	468,035.34	610,718.73
2,100.00	12.00	227.03	2,095.62	-42.67	-45.81	62.60	227.03	2.00	468,022.33	610,704.77
2,200.00	14.00	227.03	2,193.06	-58.00	-62.27	85.10	227.03	2.00	468,007.00	610,688.31
2,238.48	14.77	227.03	2,230.33	-64.51	-69.26	94.66	227.03	2.00	468,000.49	610,681.32
2,300.00	14.77	227.03	2,289.82	-75.20	-80.74	110.34	227.03	0.00	467,989.80	610,669.84



Survey Report Landscape

Kaiser-Francis Oil Company

Company: KAISER-FRANCIS OIL COMPANY
Project: Eddy County, NM (NMEZ) NAD83 Grid
Site: Loving Townsite 2021 WA
Well: WA 2H
Wellbore: Lateral
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference: 3069.8 @ 3069.80ustf (GLOnly)
MD Reference: 3069.8 @ 3069.80ustf (GLOnly)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: SBDIR_EDM

Planned Survey

MD (ustf)	Inc (°)	Azi (azimuth) (°)	TVD (ustf)	N/S (ustf)	E/W (ustf)	Closure Distance (ustf)	Closure Azimuth (°)	DLeg (°/100ft)	Northing (ustf)	Easting (ustf)
2,400.00	14.77	227.03	2,386.51	-92.58	-99.40	135.83	227.03	0.00	467,972.42	610,651.18
2,484.07	14.77	227.03	2,467.80	-107.19	-115.08	157.26	227.03	0.00	467,957.81	610,635.50
Base Salt (Top Delaware)										
2,500.00	14.77	227.03	2,483.21	-109.95	-118.05	161.33	227.03	0.00	467,955.05	610,632.53
2,600.00	14.77	227.03	2,579.90	-127.33	-136.71	186.82	227.03	0.00	467,937.67	610,613.87
2,700.00	14.77	227.03	2,676.60	-144.71	-155.36	212.31	227.03	0.00	467,920.29	610,595.22
2,800.00	14.77	227.03	2,773.30	-162.08	-174.02	237.81	227.03	0.00	467,902.92	610,576.56
2,900.00	14.77	227.03	2,869.99	-179.46	-192.67	263.30	227.03	0.00	467,885.54	610,557.91
2,980.47	14.77	227.03	2,947.80	-193.44	-207.68	283.81	227.03	0.00	467,871.56	610,542.90
Top Cherry Canyon										
3,000.00	14.77	227.03	2,966.69	-196.83	-211.33	288.79	227.03	0.00	467,868.17	610,539.25
3,100.00	14.77	227.03	3,063.38	-214.21	-229.98	314.29	227.03	0.00	467,850.79	610,520.60
3,200.00	14.77	227.03	3,160.08	-231.58	-248.63	339.78	227.03	0.00	467,833.42	610,501.95
3,300.00	14.77	227.03	3,256.77	-248.96	-267.29	365.27	227.03	0.00	467,816.04	610,483.29
3,400.00	14.77	227.03	3,353.47	-266.33	-285.94	390.77	227.03	0.00	467,798.67	610,464.64
3,500.00	14.77	227.03	3,450.17	-283.71	-304.60	416.26	227.03	0.00	467,781.29	610,445.98
3,600.00	14.77	227.03	3,546.86	-301.08	-323.25	441.75	227.03	0.00	467,763.92	610,427.33
3,700.00	14.77	227.03	3,643.56	-318.46	-341.91	467.25	227.03	0.00	467,746.54	610,408.67
3,800.00	14.77	227.03	3,740.25	-335.84	-360.56	492.74	227.03	0.00	467,729.16	610,390.02
3,900.00	14.77	227.03	3,836.95	-353.21	-379.22	518.23	227.03	0.00	467,711.79	610,371.36
4,000.00	14.77	227.03	3,933.65	-370.59	-397.87	543.73	227.03	0.00	467,694.41	610,352.71
4,100.00	14.77	227.03	4,030.34	-387.96	-416.53	569.22	227.03	0.00	467,677.04	610,334.05
4,200.00	14.77	227.03	4,127.04	-405.34	-435.18	594.71	227.03	0.00	467,659.66	610,315.40
4,300.00	14.77	227.03	4,223.73	-422.71	-453.84	620.21	227.03	0.00	467,642.29	610,296.74
4,400.00	14.77	227.03	4,320.43	-440.09	-472.49	645.70	227.03	0.00	467,624.91	610,278.09
4,500.00	14.77	227.03	4,417.13	-457.46	-491.15	671.19	227.03	0.00	467,607.54	610,259.43
4,549.30	14.77	227.03	4,464.80	-466.03	-500.35	683.76	227.03	0.00	467,598.97	610,250.23
Top Brushy Canyon										



Survey Report Landscape

Kaiser-Francis Oil Company

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Wellbore: Lateral
Design: Plan #1

Local Co-ordinate Reference:
3069.8 @ 3069.80ust (GLOnly)
MD Reference:
3069.8 @ 3069.80ust (GLOnly)
North Reference:
Grid
Survey Calculation Method:
Minimum Curvature
Database:
SBDIR_EDM

Well WA 2H - Slot 2H

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100ft)	Northing (usft)	Easting (usft)
4,554.34	14.77	227.03	4,469.67	-466.91	-501.29	685.05	227.03	0.00	467,598.09	610,249.29
4,600.00	13.86	227.03	4,513.91	-474.60	-509.54	696.33	227.03	2.00	467,590.40	610,241.04
4,700.00	11.86	227.03	4,611.40	-489.76	-525.83	718.58	227.03	2.00	467,575.24	610,224.75
4,800.00	9.86	227.03	4,709.61	-502.60	-539.61	737.42	227.03	2.00	467,562.40	610,210.97
4,900.00	7.86	227.03	4,808.41	-513.09	-550.87	752.81	227.03	2.00	467,551.91	610,199.71
5,000.00	5.86	227.03	4,907.69	-521.23	-559.61	764.75	227.03	2.00	467,543.77	610,190.97
5,100.00	3.86	227.03	5,007.32	-527.00	-565.80	773.21	227.03	2.00	467,538.00	610,184.78
5,200.00	1.86	227.03	5,107.19	-530.40	-569.45	778.20	227.03	2.00	467,534.60	610,181.13
5,292.82	0.00	0.00	5,200.00	-531.42	-570.55	779.70	227.03	2.00	467,533.58	610,180.03
5,300.00	0.00	0.00	5,207.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
5,392.82	0.00	0.00	5,300.00	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
9 5/8"										
5,400.00	0.00	0.00	5,307.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
5,500.00	0.00	0.00	5,407.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
5,600.00	0.00	0.00	5,507.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
5,700.00	0.00	0.00	5,607.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
5,743.62	0.00	0.00	5,650.80	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
Top Lower Brushy Canyon										
5,800.00	0.00	0.00	5,707.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
5,900.00	0.00	0.00	5,807.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
5,939.62	0.00	0.00	5,846.80	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
Top Mobil Sand										
6,000.00	0.00	0.00	5,907.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
6,082.62	0.00	0.00	5,969.80	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
Top 1st Bone Springs Lime										
6,100.00	0.00	0.00	6,007.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
6,200.00	0.00	0.00	6,107.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
6,300.00	0.00	0.00	6,207.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03



Survey Report Landscape

Kaiser-Francis Oil Company

Company: KAISER-FRANCIS OIL COMPANY
Project: Eddy County, NM (NIMEZ) NAD83 Grid
Site: Loving Townsite 2021 WA
Well: WA 2H
Wellbore: Lateral
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference: 3069.8 @ 3069.80usft (GL Only)
MD Reference: 3069.8 @ 3069.80usft (GL Only)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: SBDIR_EDM

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	D Leg (°/100ft)	Northing (usft)	Easting (usft)
6,400.00	0.00	0.00	6,307.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
6,500.00	0.00	0.00	6,407.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
6,600.00	0.00	0.00	6,507.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
6,700.00	0.00	0.00	6,607.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
6,800.00	0.00	0.00	6,707.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
6,900.00	0.00	0.00	6,807.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
7,000.00	0.00	0.00	6,907.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
7,082.62	0.00	0.00	6,989.80	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
1st Bone Springs Sand										
7,100.00	0.00	0.00	7,007.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
7,200.00	0.00	0.00	7,107.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
7,300.00	0.00	0.00	7,207.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
7,379.62	0.00	0.00	7,286.80	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
2nd Bone Springs Lime										
7,400.00	0.00	0.00	7,307.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
7,500.00	0.00	0.00	7,407.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
7,600.00	0.00	0.00	7,507.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
7,700.00	0.00	0.00	7,607.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
7,797.62	0.00	0.00	7,704.80	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
2nd Bone Springs Sand										
7,800.00	0.00	0.00	7,707.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
7,900.00	0.00	0.00	7,807.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
8,000.00	0.00	0.00	7,907.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
8,053.62	0.00	0.00	7,960.80	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
Mid 2nd Bone Springs Lime										
8,100.00	0.00	0.00	8,007.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
8,200.00	0.00	0.00	8,107.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03



Survey Report Landscape

Kaiser-Francis Oil Company

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Well: WA 2H
Wellbore: Lateral
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference: 3069.8 @ 3069.80ust (GLOnly)
MD Reference: 3069.8 @ 3069.80ust (GLOnly)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: SBDIR_EDM

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100ft)	Northing (usft)	Easting (usft)
8,300.00	0.00	0.00	8,207.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
8,400.00	0.00	0.00	8,307.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
8,500.00	0.00	0.00	8,407.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
8,539.62	0.00	0.00	8,446.80	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
Lower 2nd Bone Springs Sand (Harkey)										
8,600.00	0.00	0.00	8,507.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
8,700.00	0.00	0.00	8,607.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
8,800.00	0.00	0.00	8,707.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
8,840.62	0.00	0.00	8,747.80	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
3rd Bone Springs Lime										
8,900.00	0.00	0.00	8,807.18	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
9,007.86	0.00	0.00	8,915.04	-531.42	-570.55	779.70	227.03	0.00	467,533.58	610,180.03
LVGTWNST 2021 WA 2H KOP_659FSL_2960FEL										
9,050.00	4.21	89.74	8,957.14	-531.41	-569.00	778.56	226.96	10.00	467,533.59	610,181.58
9,070.75	6.29	89.74	8,977.80	-531.40	-567.10	777.17	226.86	10.00	467,533.60	610,183.48
3rd Bone Springs Sand										
9,100.00	9.21	89.74	9,006.78	-531.39	-563.16	774.29	226.66	10.00	467,533.61	610,187.42
9,150.00	14.21	89.74	9,055.72	-531.34	-553.01	766.91	226.14	10.00	467,533.66	610,197.57
9,200.00	19.21	89.74	9,103.60	-531.28	-538.63	756.56	225.39	10.00	467,533.72	610,211.95
9,250.00	24.21	89.74	9,150.03	-531.19	-520.14	743.45	224.40	10.00	467,533.81	610,230.44
9,300.00	29.21	89.74	9,194.68	-531.09	-497.67	727.83	223.14	10.00	467,533.91	610,252.91
9,350.00	34.21	89.74	9,237.20	-530.98	-471.40	710.04	221.60	10.00	467,534.02	610,279.18
9,400.00	39.21	89.74	9,277.27	-530.84	-441.52	690.46	219.75	10.00	467,534.16	610,309.06
9,450.00	44.21	89.74	9,314.59	-530.69	-408.26	669.56	217.57	10.00	467,534.31	610,342.32
9,457.32	44.95	89.74	9,319.80	-530.67	-403.12	666.42	217.22	10.00	467,534.33	610,347.46
Top Wolfcamp (Wolfcamp A)										
9,500.00	49.21	89.74	9,348.86	-530.53	-371.87	647.88	215.03	10.00	467,534.47	610,378.71



Survey Report Landscape

Kaiser-Francis Oil Company

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Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100ft)	Northing (usft)	Easting (usft)
9,501.45	49.36	89.74	9,349.80	-530.53	-370.78	647.25	214.95	10.00	467,534.47	610,379.80
Top Wolfcamp A - X Sand										
9,550.00	54.21	89.74	9,379.83	-530.36	-332.64	626.04	212.10	10.00	467,534.64	610,417.94
9,576.46	56.86	89.74	9,394.80	-530.26	-310.82	614.64	210.38	10.00	467,534.74	610,439.76
Base Wolfcamp A - X Sand										
9,600.00	59.21	89.74	9,407.26	-530.17	-290.85	604.71	208.75	10.00	467,534.83	610,459.73
9,636.22	62.84	89.74	9,424.80	-530.03	-259.18	590.00	206.06	10.00	467,534.97	610,491.40
Top Wolfcamp A - Y Sand										
9,650.00	64.21	89.74	9,430.94	-529.97	-246.84	584.64	204.97	10.00	467,535.03	610,503.74
9,700.00	69.21	89.74	9,450.70	-529.77	-200.93	566.59	200.77	10.00	467,535.23	610,549.65
9,750.00	74.21	89.74	9,466.39	-529.56	-153.47	551.35	196.16	10.00	467,535.44	610,597.11
9,784.65	77.68	89.74	9,474.80	-529.41	-119.86	542.81	192.76	10.00	467,535.59	610,630.72
Base Wolfcamp A - Y Sand										
9,800.00	79.21	89.74	9,477.87	-529.34	-104.82	539.62	191.20	10.00	467,535.66	610,645.76
9,850.00	84.21	89.74	9,485.08	-529.12	-55.36	532.01	185.97	10.00	467,535.88	610,695.22
9,900.00	89.21	89.74	9,487.94	-528.90	-5.46	528.92	180.59	10.00	467,536.10	610,745.12
9,907.86	90.00	89.74	9,488.00	-528.86	2.40	528.87	179.74	10.00	467,536.14	610,752.98
LVGTWNST 2021 WA 2H FTP_660FSL_2386FEL										
10,000.00	90.00	89.74	9,488.00	-528.45	94.54	536.84	169.86	0.00	467,536.55	610,845.12
10,100.00	90.00	89.74	9,488.00	-528.00	194.54	562.70	159.77	0.00	467,537.00	610,945.12
10,200.00	90.00	89.74	9,488.00	-527.55	294.54	604.21	150.83	0.00	467,537.45	611,045.12
10,300.00	90.00	89.74	9,488.00	-527.11	394.54	658.41	143.19	0.00	467,537.89	611,145.12
10,400.00	90.00	89.74	9,488.00	-526.66	494.54	722.45	136.80	0.00	467,538.34	611,245.12
10,500.00	90.00	89.74	9,488.00	-526.21	594.53	793.96	131.51	0.00	467,538.79	611,345.11
10,600.00	90.00	89.74	9,488.00	-525.77	694.53	871.10	127.13	0.00	467,539.23	611,445.11
10,700.00	90.00	89.74	9,488.00	-525.32	794.53	952.49	123.47	0.00	467,539.68	611,545.11
10,800.00	90.00	89.74	9,488.00	-524.87	894.53	1,037.15	120.40	0.00	467,540.13	611,645.11
10,900.00	90.00	89.74	9,488.00	-524.43	994.53	1,124.33	117.80	0.00	467,540.57	611,745.11



Survey Report Landscape

Kaiser-Francis Oil Company

Company: KAISER-FRANCIS OIL COMPANY
Project: Eddy County, NM (NMEZ) NAD83 Grid
Site: Loving Townsite 2021 WA
Well: WA 2H
Wellbore: Lateral
Design: Plan #1

Local Co-ordinate Reference:
Well WA 2H - Slot 2H
3069.8 @ 3069.80usft (GLOnly)
3069.8 @ 3069.80usft (GLOnly)
MD Reference:
Grid
North Reference:
Minimum Curvature
Survey Calculation Method:
SBDIR_EDM
Database:

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100ft)	Northing (usft)	Easting (usft)
11,000.00	90.00	89.74	9,488.00	-523.98	1,094.53	1,213.49	115.58	0.00	467,541.02	611,845.11
11,100.00	90.00	89.74	9,488.00	-523.53	1,194.53	1,304.22	113.67	0.00	467,541.47	611,945.11
11,200.00	90.00	89.74	9,488.00	-523.09	1,294.53	1,396.22	112.00	0.00	467,541.91	612,045.11
11,300.00	90.00	89.74	9,488.00	-522.64	1,394.53	1,489.25	110.54	0.00	467,542.36	612,145.11
11,400.00	90.00	89.74	9,488.00	-522.19	1,494.53	1,583.13	109.26	0.00	467,542.81	612,245.11
11,500.00	90.00	89.74	9,488.00	-521.75	1,594.52	1,677.72	108.12	0.00	467,543.25	612,345.10
11,600.00	90.00	89.74	9,488.00	-521.30	1,694.52	1,772.90	107.10	0.00	467,543.70	612,445.10
11,700.00	90.00	89.74	9,488.00	-520.85	1,794.52	1,868.58	106.19	0.00	467,544.15	612,545.10
11,800.00	90.00	89.74	9,488.00	-520.41	1,894.52	1,964.70	105.36	0.00	467,544.59	612,645.10
11,900.00	90.00	89.74	9,488.00	-519.96	1,994.52	2,061.18	104.61	0.00	467,545.04	612,745.10
12,000.00	90.00	89.74	9,488.00	-519.51	2,094.52	2,157.99	103.93	0.00	467,545.49	612,845.10
12,100.00	90.00	89.74	9,488.00	-519.07	2,194.52	2,255.07	103.31	0.00	467,545.93	612,945.10
12,200.00	90.00	89.74	9,488.00	-518.62	2,294.52	2,352.40	102.74	0.00	467,546.38	613,045.10
12,300.00	90.00	89.74	9,488.00	-518.17	2,394.52	2,449.94	102.21	0.00	467,546.83	613,145.10
12,400.00	90.00	89.74	9,488.00	-517.73	2,494.52	2,547.68	101.73	0.00	467,547.27	613,245.10
12,500.00	90.00	89.74	9,488.00	-517.28	2,594.51	2,645.58	101.28	0.00	467,547.72	613,345.09
12,600.00	90.00	89.74	9,488.00	-516.83	2,694.51	2,743.63	100.86	0.00	467,548.17	613,445.09
12,700.00	90.00	89.74	9,488.00	-516.38	2,794.51	2,841.82	100.47	0.00	467,548.62	613,545.09
12,800.00	90.00	89.74	9,488.00	-515.94	2,894.51	2,940.13	100.11	0.00	467,549.06	613,645.09
12,900.00	90.00	89.74	9,488.00	-515.49	2,994.51	3,038.56	99.77	0.00	467,549.51	613,745.09
13,000.00	90.00	89.74	9,488.00	-515.04	3,094.51	3,137.08	99.45	0.00	467,549.96	613,845.09
13,100.00	90.00	89.74	9,488.00	-514.60	3,194.51	3,235.69	99.15	0.00	467,550.40	613,945.09
13,200.00	90.00	89.74	9,488.00	-514.15	3,294.51	3,334.39	98.87	0.00	467,550.85	614,045.09
13,300.00	90.00	89.74	9,488.00	-513.70	3,394.51	3,433.16	98.61	0.00	467,551.30	614,145.09
13,400.00	90.00	89.74	9,488.00	-513.26	3,494.51	3,532.00	98.36	0.00	467,551.74	614,245.09
13,500.00	90.00	89.74	9,488.00	-512.81	3,594.50	3,630.90	98.12	0.00	467,552.19	614,345.08
13,600.00	90.00	89.74	9,488.00	-512.36	3,694.50	3,729.86	97.90	0.00	467,552.64	614,445.08



Survey Report Landscape

Kaiser-Francis Oil Company

Company: KAISER-FRANCIS OIL COMPANY
Project: Eddy County, NM (NMEZ) NAD83 Grid
Site: Loving Townsite 2021 WA
Well: WA 2H
Wellbore: Lateral
Design: Plan #1

Local Co-ordinate Reference: Well WA 2H - Slot 2H
TVD Reference: 3069.8 @ 3069.80usft (GLOnly)
MD Reference: 3069.8 @ 3069.80usft (GLOnly)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: SBDIR_EDM

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100ft)	Northing (usft)	Easting (usft)
13,700.00	90.00	89.74	9,488.00	-511.92	3,794.50	3,828.88	97.68	0.00	467,553.08	614,545.08
13,800.00	90.00	89.74	9,488.00	-511.47	3,894.50	3,927.94	97.48	0.00	467,553.53	614,645.08
13,900.00	90.00	89.74	9,488.00	-511.02	3,994.50	4,027.06	97.29	0.00	467,553.98	614,745.08
14,000.00	90.00	89.74	9,488.00	-510.58	4,094.50	4,126.21	97.11	0.00	467,554.42	614,845.08
14,100.00	90.00	89.74	9,488.00	-510.13	4,194.50	4,225.41	96.93	0.00	467,554.87	614,945.08
14,200.00	90.00	89.74	9,488.00	-509.68	4,294.50	4,324.64	96.77	0.00	467,555.32	615,045.08
14,300.00	90.00	89.74	9,488.00	-509.24	4,394.50	4,423.90	96.61	0.00	467,555.76	615,145.08
14,400.00	90.00	89.74	9,488.00	-508.79	4,494.50	4,523.20	96.46	0.00	467,556.21	615,245.08
14,500.00	90.00	89.74	9,488.00	-508.34	4,594.49	4,622.53	96.31	0.00	467,556.66	615,345.07
14,603.48	90.00	89.74	9,488.00	-507.88	4,697.97	4,725.34	96.17	0.00	467,557.12	615,448.55

LVGTWNST 2021 WA 2H PBHL_660FSL_2310FEL

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
14,603.48	9,488.00	5 1/2"	5.50	6.00
5,392.82	5,300.00	9 5/8"	9.62	12.25
1,400.00	1,400.00	13 3/8"	13.37	17.50



Survey Report Landscape

Kaiser-Francis Oil Company

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Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well WA 2H - Slot 2H
3069.8 @ 3069.80ustf (GLOnly)
3069.8 @ 3069.80ustf (GLOnly)
Grid
Minimum Curvature
SBDIR_EDM

Formations

Measured Depth (ustf)	Vertical Depth (ustf)	Name	Lithology	Dip (°)	Dip Direction (°)
8,840.62	8,747.80	3rd Bone Springs Lime			
5,939.62	5,846.80	Top Mobil Sand			
7,379.62	7,286.80	2nd Bone Springs Lime			
9,636.22	9,424.80	Top Wolfcamp A - Y Sand			
2,980.47	2,947.80	Top Cherry Canyon			
2,484.07	2,467.80	Base Salt (Top Delaware)			
9,070.75	8,977.80	3rd Bone Springs Sand			
7,082.62	6,989.80	1st Bone Springs Sand			
9,576.46	9,394.80	Base Wolfcamp A - X Sand			
6,082.62	5,989.80	Top 1st Bone Springs Lime		0.00	
5,743.62	5,650.80	Top Lower Brushy Canyon		0.00	
8,053.62	7,960.80	Mid 2nd Bone Springs Lime			
9,457.32	9,319.80	Top Wolfcamp (Wolfcamp A)			
9,501.45	9,349.80	Top Wolfcamp A - X Sand			
7,797.62	7,704.80	2nd Bone Springs Sand			
9,784.65	9,474.80	Base Wolfcamp A - Y Sand			
4,549.30	4,464.80	Top Brushy Canyon			
8,539.62	8,446.80	Lower 2nd Bone Springs Sand (Harkey)			

Checked By: _____

Approved By: _____

Date: _____

SVY	MD	INC	TRUE AZM	TEMP °F	Course Length	TVD	N-S	E-W	30-025-45006			BURI 100'	DLS/100	CLOSURE		TVD AT 0° V. SEC.	Target Calculations		Mag X	Mag Y	Mag Z	Accel X	Accel Y	Accel Z	BHA Number
									Surface Vert Sect	DIST	DIR			RIGHT(+) LEFT(-)	ABOVE (+) BELOW (-)										
42	3751	1.40	231.50	114.5	95	3749.58	-6.95	8.30	8.27	10.83	128.93	0.12	0.11	10.83	128.93	0.08	0.00	3912.85	-380.56	6540.15					
43	3846	1.40	228.30	115.4	95	3844.56	-8.44	6.53	6.49	10.67	142.29	0.08	0.00	10.67	142.29	0.08	0.00	4007.88	-379.07	6445.12					
44	3940	0.80	221.60	116.3	94	3938.54	-9.70	5.24	5.19	11.02	151.64	0.05	-0.64	11.02	151.64	0.05	-0.64	4101.91	-377.82	6351.09					
45	4035	0.40	227.10	115.4	95	4033.53	-10.42	4.55	4.51	11.37	156.40	0.42	-0.42	11.37	156.40	0.42	-0.42	4196.93	-377.10	6256.07					
46	4129	0.50	214.10	115.4	94	4127.53	-10.98	4.08	4.03	11.72	159.61	0.15	0.11	11.72	159.61	0.15	0.11	4290.94	-376.54	6162.06					
47	4224	0.40	202.00	115.4	95	4222.53	-11.63	3.73	3.67	12.22	162.24	0.14	-0.11	12.22	162.24	0.14	-0.11	4385.95	-375.89	6067.05					
48	4318	0.40	211.80	117.2	94	4316.52	-12.22	3.43	3.37	12.69	164.32	0.07	0.00	12.69	164.32	0.07	0.00	4479.96	-375.31	5973.04					
49	4412	0.50	216.30	119.0	94	4410.52	-12.83	3.01	2.96	13.18	166.78	0.11	0.11	13.18	166.78	0.11	0.11	4573.97	-374.70	5879.03					
50	4507	0.30	244.20	121.6	95	4505.52	-13.27	2.54	2.48	13.51	169.14	0.29	-0.21	13.51	169.14	0.29	-0.21	4668.98	-374.26	5784.02					
51	4601	0.40	268.60	122.5	94	4599.52	-13.38	2.00	1.93	13.53	171.52	0.19	0.11	13.53	171.52	0.19	0.11	4763.00	-374.15	5690.00					
52	4695	0.50	225.60	123.4	94	4693.51	-13.68	1.37	1.31	13.75	174.26	0.36	0.11	13.75	174.26	0.36	0.11	4857.02	-373.86	5595.98					
53	4790	0.50	216.90	123.4	95	4788.51	-14.30	0.83	0.76	14.32	176.68	0.08	0.00	14.32	176.68	0.08	0.00	4952.03	-373.24	5500.97					
54	4884	0.60	210.50	125.2	94	4882.51	-15.05	0.33	0.26	15.06	178.73	0.12	0.11	15.06	178.73	0.12	0.11	5046.04	-372.49	5406.96					
55	4978	0.60	208.30	125.2	94	4976.50	-15.91	-0.15	-0.22	15.91	180.54	0.02	0.00	15.91	180.54	0.02	0.00	5140.05	-371.63	5312.95					
56	5073	0.60	202.90	126.1	95	5071.50	-16.81	-0.58	-0.66	16.82	181.98	0.06	0.00	16.82	181.98	0.06	0.00	5235.06	-370.74	5217.94					
57	5167	0.60	214.50	127.0	94	5165.49	-17.67	-1.05	-1.13	17.70	183.40	0.13	0.00	17.70	183.40	0.13	0.00	5329.08	-369.88	5123.92					
58	5262	0.80	206.90	128.8	95	5260.48	-18.67	-1.63	-1.72	18.74	185.00	0.23	0.21	18.74	185.00	0.23	0.21	5424.09	-368.88	5028.91					
59	5357	0.70	194.50	128.8	95	5355.48	-19.82	-2.08	-2.17	19.93	185.98	0.20	-0.11	19.93	185.98	0.20	-0.11	5519.10	-367.73	4933.90					
60	5451	0.90	158.80	128.8	94	5449.47	-21.06	-1.95	-2.05	21.15	185.30	0.56	0.21	21.15	185.30	0.56	0.21	5613.08	-366.49	4839.92					
61	5546	1.00	181.50	127.0	95	5544.45	-22.59	-1.71	-1.81	22.65	184.32	0.41	0.11	22.65	184.32	0.41	0.11	5708.06	-364.96	4744.94					
62	5641	0.70	192.40	127.0	95	5639.44	-23.98	-1.85	-1.96	24.06	184.42	0.36	-0.32	24.06	184.42	0.36	-0.32	5803.06	-363.57	4649.94					
63	5735	0.20	177.30	127.0	94	5733.44	-24.71	-1.97	-2.08	24.79	184.55	0.54	-0.53	24.79	184.55	0.54	-0.53	5967.06	-362.84	4555.94					
64	5829	0.10	58.10	128.0	94	5827.44	-24.83	-1.89	-2.00	24.90	184.35	0.28	-0.11	24.90	184.35	0.28	-0.11	5991.05	-362.72	4461.95					
65	5924	0.40	13.80	128.8	95	5922.44	-24.46	-1.74	-1.85	24.53	184.07	0.35	0.32	24.53	184.07	0.35	0.32	6086.05	-363.09	4366.95					
66	6019	0.50	35.50	129.7	95	6017.44	-23.80	-1.42	-1.53	23.85	183.42	0.21	0.11	23.85	183.42	0.21	0.11	6181.03	-363.75	4271.97					
67	6113	0.30	293.20	130.6	94	6111.44	-23.37	-1.41	-1.51	23.42	183.45	0.68	-0.21	23.42	183.45	0.68	-0.21	6275.03	-364.18	4177.97					
68	6208	3.10	258.00	131.5	95	6206.38	-23.81	-4.15	-4.26	24.17	189.89	3.01	2.95	24.17	189.89	3.01	2.95	6370.08	-363.75	4082.92					
69	6302	4.50	248.20	132.4	94	6300.18	-25.71	-10.06	-10.18	27.61	201.37	1.64	1.49	27.61	201.37	1.64	1.49	6464.07	-361.88	3988.93					
70	6397	4.20	247.60	132.4	95	6394.90	-28.42	-16.74	-16.87	32.98	210.50	0.32	-0.32	32.98	210.50	0.32	-0.32	6559.02	-359.20	3893.98					
71	6491	2.50	236.90	129.7	94	6488.74	-30.85	-21.64	-21.78	37.68	215.05	1.92	-1.81	37.68	215.05	1.92	-1.81	6653.02	-356.79	3799.98					
72	6586	2.90	221.20	131.5	95	6583.64	-33.79	-24.96	-25.11	42.01	216.45	0.88	0.42	42.01	216.45	0.88	0.42	6748.03	-353.87	3704.97					
73	6681	2.90	206.20	132.4	95	6678.52	-37.75	-27.60	-27.77	46.77	216.17	0.80	0.00	46.77	216.17	0.80	0.00	6843.00	-349.92	3610.00					
74	6775	2.70	194.70	133.3	94	6772.40	-42.03	-29.21	-29.40	51.18	214.80	0.63	-0.21	51.18	214.80	0.63	-0.21	6936.95	-345.65	3516.05					
75	6870	2.20	189.30	134.2	95	6867.32	-45.99	-30.07	-30.28	54.95	213.18	0.58	-0.53	54.95	213.18	0.58	-0.53	7031.89	-341.69	3421.11					
76	6965	2.70	199.10	136.0	95	6962.23	-49.91	-31.10	-31.33	58.80	211.93	0.68	0.53	58.80	211.93	0.68	0.53	7126.84	-337.78	3326.16					
77	7060	4.40	204.80	136.9	95	7057.04	-55.33	-33.36	-33.61	64.61	211.09	1.83	1.79	64.61	211.09	1.83	1.79	7221.73	-332.37	3231.27					
78	7155	5.70	205.00	137.8	95	7151.67	-62.91	-36.89	-37.17	72.93	210.38	1.37	1.37	72.93	210.38	1.37	1.37	7316.48	-324.80	3136.52					
79	7249	6.50	196.00	138.7	94	7245.14	-72.26	-40.32	-40.65	82.75	209.16	1.32	0.85	82.75	209.16	1.32	0.85	7410.07	-315.47	3042.93					
80	7344	8.10	191.70	139.6	95	7339.37	-83.98	-43.16	-43.54	94.42	207.20	1.78	1.68	94.42	207.20	1.78	1.68	7504.39	-303.76	2948.61					
81	7438	9.10	189.50	140.5	94	7432.31	-97.80	-45.73	-46.18	107.96	205.06	1.12	1.06	107.96	205.06	1.12	1.06	7597.42	-289.95	2855.58					
82	7533	10.30	184.20	140.5	95	7525.95	-113.68	-47.60	-48.11	123.24	202.72	1.57	1.26	123.24	202.72	1.57	1.26	7691.13	-274.08	2761.87					
83	7628	9.30	182.20	142.3	95	7619.57	-129.82	-48.51	-49.10	138.59	200.49	1.11	-1.05	138.59	200.49	1.11	-1.05	7784							

SVY	MD	INC	TRUE AZM	TEMP °F	Course Length	TVD	N-S	E-W	30-025-45006				Target Calculations				Mag X	Mag Y	Mag Z	Accel X	Accel Y	Accel Z	BHA Number
									Surface Vert Sect	CLOSURE		DLS/ 100	BUR/ 100'	TVD AT 0' V. SEC.	RIGHT(+) LEFT(-)	ABOVE (+) BELOW (-)							
156	13503	88.50	89.40	187.2	95	10413.99	-363.86	3259.08	3257.40	3279.33	96.37	0.47	-0.42	10467.20	-8.90	-14.20							
157	13598	86.30	88.90	188.1	95	10418.30	-362.45	3353.97	3352.29	3373.50	96.17	2.37	-2.32	10468.30	-9.88	-15.30							
158	13693	87.60	89.30	184.5	95	10423.35	-360.96	3448.82	3447.15	3467.66	95.97	1.43	1.37	10470.14	-10.94	-17.14							
159	13787	88.60	89.60	184.5	94	10426.47	-360.06	3542.76	3541.09	3561.01	95.80	1.11	1.06	10470.07	-11.41	-17.07							
160	13882	90.70	90.50	189.0	95	10427.05	-360.14	3637.76	3636.08	3655.54	95.65	2.40	2.21	10467.43	-10.90	-14.43							
161	13977	89.20	92.80	190.8	95	10427.13	-362.88	3732.71	3731.02	3750.30	95.55	2.89	-1.58	10464.30	-7.73	-11.30							
162	14071	85.60	90.00	192.6	94	10431.40	-365.17	3826.56	3824.86	3843.94	95.45	4.85	-3.83	10465.39	-5.01	-12.39							
163	14166	88.90	88.70	193.5	95	10435.96	-364.92	3921.43	3919.74	3938.38	95.32	3.49	3.47	10466.73	-4.83	-13.73							
164	14260	87.70	86.90	194.4	94	10438.74	-362.14	4015.34	4013.66	4031.64	95.15	3.24	-1.28	10466.34	-7.19	-13.34							
165	14355	89.60	87.40	195.3	95	10440.98	-357.42	4110.19	4108.53	4125.70	94.97	2.07	2.00	10465.36	-11.48	-12.36							
166	14449	88.00	86.50	196.2	94	10442.95	-352.42	4204.03	4202.39	4218.78	94.79	1.95	-1.70	10464.15	-16.05	-11.15							
167	14544	87.80	85.60	197.1	95	10446.43	-345.88	4288.74	4287.13	4312.64	94.60	0.97	-0.21	10464.42	-22.16	-11.42							
168	14638	86.80	84.90	189.0	94	10450.86	-338.10	4392.32	4390.74	4405.31	94.40	1.30	-1.06	10465.68	-29.51	-12.68							
169	14733	91.40	86.40	189.9	95	10452.35	-330.90	4487.00	4485.45	4499.19	94.22	5.09	4.84	10463.97	-36.29	-10.97							
170	14828	89.60	84.90	189.0	95	10451.52	-323.69	4581.72	4580.20	4593.14	94.04	2.47	-1.89	10459.93	-43.06	-6.93							
171	14922	87.90	86.80	193.5	94	10453.57	-316.89	4675.44	4673.96	4686.17	93.88	2.71	-1.81	10458.80	-49.44	-5.80							
172	15017	85.70	88.40	191.7	95	10458.88	-312.92	4770.20	4768.73	4780.45	93.75	2.86	-2.32	10460.90	-52.98	-7.90							
173	15112	84.30	88.70	196.2	95	10467.16	-310.53	4864.81	4863.35	4874.71	93.65	1.51	-1.47	10465.97	-54.95	-12.97							
174	15206	87.10	88.50	193.5	94	10474.20	-308.23	4958.50	4957.06	4968.08	93.56	2.99	2.98	10469.84	-56.81	-16.84							
175	15236	89.60	86.80	194.4	30	10475.07	-307.01	4988.46	4987.02	4997.90	93.52	10.08	8.33	10469.69	-57.91	-16.69							
176	15279	89.10	85.50	191.7	43	10475.56	-304.12	5031.36	5029.93	5040.55	93.46	3.24	-1.16	10468.73	-60.60	-15.73							
177	15353	89.10	85.50	PTB	74	10476.72	-298.31	5105.13	5103.72	5113.83	93.34	0.00	0.00	10467.39	-66.07	-14.39							

SURVEY CALCULATION PROGRAM

Minimum Curvature

OIL & GAS CO.:		KAISER FRANCIS		Target Information		API Number:		ctrl-shift-I = Insert Survey ctrl-shift-D = Delete Survey 30-015-45005											
WELL:		Loving Townsite 2021 WC 1H		TARGET TVD:		VS Referenced to Offset from Surface													
COUNTY / STATE:		Eddy Co.		STATE: NM		10466.00 NORTH/SOUTH:		924.02											
RIG:		CACTUS #171		TARGET INCL:		88.09 EAST/WEST:		4822.72											
JOB NUMBER:		MSMO-59485		TARGET AZM:		(Enter 0° N and 0° E for Surface)													
SURVEY COMPANY:		DIRECTIONAL COMPANY:		PROPOSED DIRECTION:		89.74 MAG-DEC. / TOTAL CORR (+/-):		6.98											
MS Guidance		MS Directional				REFERENCED TO:		Grid North											
MWD SPECIALIST(S):		Derek Scott				COMMENTS:													
Esias Henry																			
PTB:		MD		INC		AZM		TVD		N/S		E/W		VS					
30-015-45005																			
SVY	MD	INC	TRUE	TEMP	COURSE	TVD	N-S	E-W	Surface	CLOSURE	DIS/100'	BURI/100'	TVD AT 0° V. SEC.	RIGHT (+) LEFT (-)	ABOVE (+) BELOW (-)	Accel X	Accel Y	Accel Z	BHA Number
Tie In	0	0.00	0.00		Length	0.00	0.00	0.00	Vert Sect	DIST	DIR								
1	150	0.60	94.40	53.4	150	150.00	-0.06	0.78	0.78	0.79	94.40	0.40	0.40	310.94	902.19	10155.06			
2	244	0.30	53.70	55.2	94	243.99	0.05	1.47	1.47	1.47	88.15	0.45	-0.32	404.91	902.08	10061.09			
3	354	0.40	348.20	58.8	110	353.99	0.59	1.63	1.63	1.73	69.93	0.35	0.09	514.91	901.54	9951.09			
4	521	0.80	4.30	73.1	167	520.99	2.04	1.57	1.58	2.57	37.87	0.15	0.12	681.90	900.10	9784.10			
5	614	0.90	7.20	72.2	93	613.98	3.25	1.70	1.71	3.66	27.64	0.33	0.32	774.89	898.89	9691.11			
6	708	1.30	3.20	74.0	94	707.96	5.04	1.85	1.88	5.37	20.16	0.43	0.43	868.87	897.09	9597.13			
7	801	1.50	351.60	76.7	93	800.93	7.30	1.73	1.77	7.50	13.35	0.37	0.22	961.84	894.83	9504.16			
8	895	2.50	0.50	83.0	94	894.87	10.57	1.57	1.62	10.68	8.46	1.11	1.06	1055.79	891.56	9410.21			
9	988	3.60	358.80	89.3	94	988.74	15.57	1.53	1.60	15.64	5.60	1.17	1.17	1149.65	886.56	9316.35			
10	1083	4.10	357.60	94.7	94	1082.53	21.88	1.32	1.42	21.92	3.47	0.54	0.53	1243.45	880.25	9222.55			
11	1177	4.10	4.30	100.1	94	1176.29	28.59	1.44	1.57	28.62	2.88	0.51	0.00	1337.20	873.55	9128.80			
12	1270	3.80	0.30	100.1	93	1269.07	34.98	1.70	1.86	35.02	2.78	0.44	-0.32	1429.97	867.15	9036.03			
13	1364	4.20	5.30	106.4	94	1362.84	41.52	2.04	2.22	41.57	2.81	0.56	0.43	1523.73	860.61	8942.27			
14	1458	4.10	359.80	110.9	94	1456.59	48.31	2.34	2.56	48.37	2.78	0.44	-0.11	1617.47	853.82	8848.53			
15	1551	4.10	3.30	115.4	93	1549.35	54.96	2.52	2.77	55.01	2.63	0.27	0.00	1710.23	847.18	8755.77			
16	1645	4.00	5.70	118.1	94	1643.12	61.57	3.04	3.32	61.65	2.83	0.21	-0.11	1803.98	840.57	8662.02			
17	1739	3.50	13.20	119.9	94	1736.92	67.63	4.02	4.33	67.75	3.40	0.74	-0.53	1897.74	834.52	8568.26			
18	1834	3.50	33.70	122.5	95	1831.75	72.87	6.29	6.62	73.14	4.94	1.31	0.00	1992.49	829.29	8473.51			
19	1929	4.00	28.90	126.1	95	1926.54	78.18	9.50	9.86	78.75	6.93	0.62	0.53	2087.18	823.99	8378.82			
20	2024	4.70	18.90	127.9	95	2021.27	84.76	12.36	12.74	85.66	8.30	1.09	0.74	2181.81	817.42	8284.19			
21	2119	4.60	12.80	125.2	95	2115.96	92.16	14.46	14.88	93.29	8.92	0.52	-0.11	2276.43	810.03	8189.57			
22	2213	4.50	0.60	127.9	94	2209.66	99.53	15.33	15.78	100.70	8.76	1.03	-0.11	2370.10	802.67	8095.90			
23	2307	4.60	4.00	130.6	94	2303.37	106.97	15.63	16.12	108.11	8.31	0.31	0.11	2463.80	795.22	8002.20			
24	2392	4.20	3.90	133.3	85	2388.12	113.48	16.08	16.60	114.61	8.07	0.47	-0.47	2548.53	788.72	7917.47			
25	2491	4.10	5.20	85.7	99	2486.86	120.62	16.65	17.20	121.77	7.86	0.14	-0.10	2647.25	781.58	7818.75			
26	2596	3.80	1.00	88.4	95	2581.83	127.15	17.01	17.59	128.28	7.62	0.44	-0.32	2742.01	775.05	7723.99			
27	2680	4.10	1.30	90.2	94	2675.41	133.63	17.14	17.75	134.72	7.31	0.32	0.32	2835.78	768.58	7630.22			
28	2775	4.80	348.20	92.9	95	2770.12	140.91	16.41	17.05	141.86	6.64	1.29	0.74	2930.52	761.29	7535.48			
29	2868	5.10	345.30	95.6	93	2862.78	148.72	14.56	15.24	149.43	5.59	0.42	0.32	3023.23	753.47	7442.77			
30	2963	5.20	347.30	97.4	95	2957.59	157.00	12.54	13.26	157.50	4.57	0.22	0.11	3117.92	745.18	7348.08			
31	3057	5.00	346.50	99.2	94	3051.02	165.14	10.65	11.40	165.48	3.69	0.23	-0.21	3211.61	737.03	7254.39			
32	3152	4.90	345.70	101.0	95	3145.67	173.10	8.68	9.47	173.32	2.87	0.13	-0.11	3306.32	729.07	7159.68			
33	3246	4.70	345.30	102.8	94	3239.34	180.71	6.71	7.53	180.84	2.13	0.22	-0.21	3400.05	721.44	7085.95			
34	3340	3.90	343.00	105.5	94	3333.07	187.50	4.80	5.85	187.56	1.47	0.87	-0.85	3493.85	714.65	6972.15			
35	3434	4.00	341.40	106.4	94	3426.85	193.66	2.82	3.70	193.68	0.83	0.16	0.11	3587.69	708.48	6878.31			
36	3529	4.20	340.70	109.1	95	3521.00	200.08	0.62	1.52	200.08	0.18	0.22	0.21	3682.52	702.05	6783.48			
37	3624	5.30	345.90	110.9	95	3616.28	207.62	-1.60	-0.86	207.63	359.56	1.24	1.16	3777.27	694.50	6688.73			
38	3718	7.60	348.70	113.6	94	3709.68	217.93	-3.88	-2.89	217.96	358.98	2.47	2.45	3870.74	684.18	6595.26			
39	3813	9.60	349.90	114.5	95	3803.60	231.89	-6.50	-5.45	231.98	358.39	2.11	2.11	3964.75	670.21	6501.25			
40	3907	10.00	350.20	115.4	94	3896.23	247.65	-9.26	-8.14	247.82	357.86	0.43	0.43	4057.47	654.44	6408.53			
41	4002	10.30	350.70	114.5	95	3889.74	264.16	-12.04	-10.84	264.43	357.39	0.33	0.32	4151.07	637.91	6314.93			

SVY	MD	INC	TRUE AZM	TEMP °F	Course Length	TVD	N-S	E-W	30.015-45005			Target Calculations			Mag X	Mag Y	Mag Z	Accel X	Accel Y	Accel Z	BHA Number
									Surface Vert Sect	CLOSURE DIST DIR	DLS/ 100	BUR/ 100'	TVD AT 0° V. SEC.	RIGHT(+) LEFT(-)							
42	4096	11.90	352.70	114.5	94	4081.98	282.07	-14.63	-13.35	282.45	357.03	1.75	1.70	4243.40	620.00	6222.60					
43	4191	12.70	353.90	116.3	95	4174.80	302.17	-16.98	-15.61	302.64	356.78	0.88	0.84	4336.29	599.89	6129.71					
44	4295	13.30	356.00	117.2	94	4266.39	323.23	-18.84	-17.37	323.78	356.66	0.81	0.64	4427.94	578.82	6038.06					
45	4380	13.50	356.50	119.0	95	4358.81	345.20	-20.28	-18.71	345.79	356.64	0.24	0.21	4520.40	556.84	5945.60					
46	4474	13.80	356.60	119.9	94	4450.19	367.18	-21.60	-19.93	367.81	356.63	0.11	0.11	4611.82	534.85	5854.18					
47	4568	10.70	350.70	120.7	94	4542.08	386.83	-23.67	-21.91	387.55	356.50	3.35	-3.09	4703.78	515.19	5762.22					
48	4662	9.70	349.90	122.5	94	4634.59	403.24	-26.47	-24.64	404.10	356.24	1.07	-1.06	4796.38	498.77	5669.62					
49	4757	9.50	351.40	121.6	95	4728.26	418.87	-29.04	-27.14	419.87	356.03	0.34	-0.21	4890.13	483.13	5575.87					
50	4851	10.10	353.60	124.3	94	4820.89	434.73	-31.12	-29.15	435.84	355.91	0.75	0.64	4982.83	467.26	5483.17					
51	4946	10.10	355.20	125.2	95	4914.42	451.31	-32.75	-30.70	452.49	355.85	0.30	0.00	5076.41	450.67	5389.59					
52	5040	11.80	359.20	127.0	94	5006.70	469.13	-33.57	-31.44	470.33	355.91	1.98	1.81	5168.72	432.85	5297.28					
53	5135	11.70	359.40	128.8	95	5099.71	488.48	-33.81	-31.59	489.65	356.04	0.11	-0.11	5261.73	413.50	5204.27					
54	5229	11.20	357.90	129.7	94	5191.84	507.13	-34.24	-31.94	508.28	356.14	0.62	-0.53	5353.87	394.85	5112.13					
55	5324	12.60	358.30	130.6	95	5284.80	526.71	-34.89	-32.50	527.86	356.21	1.48	1.47	5446.85	375.26	5019.15					
56	5418	12.90	359.30	132.4	94	5376.48	547.45	-35.32	-32.83	548.59	356.31	0.40	0.32	5538.54	354.52	4827.46					
57	5513	11.80	355.50	127.0	95	5469.28	567.74	-36.21	-33.63	568.89	356.35	1.44	-1.16	5631.37	334.23	4834.63					
58	5608	12.80	351.70	129.7	95	5562.10	587.83	-38.49	-35.82	589.09	356.25	1.35	1.05	5724.26	314.12	4741.74					
59	5702	12.30	351.50	131.5	94	5653.86	608.04	-41.47	-38.72	609.45	356.10	0.53	-0.53	5816.11	293.90	4649.89					
60	5797	10.90	351.20	132.4	95	5746.91	626.93	-44.34	-41.50	628.49	355.95	1.48	-1.47	5909.26	275.00	4556.74					
61	5891	10.60	353.10	134.2	94	5839.26	644.29	-46.74	-43.82	645.99	355.85	0.49	-0.32	6001.69	257.63	4464.31					
62	5986	10.40	356.90	135.1	95	5932.67	661.53	-48.26	-45.25	663.29	355.83	0.76	-0.21	6095.15	240.38	4370.85					
63	6080	9.40	357.70	136.0	94	6025.27	677.67	-49.02	-45.95	679.44	355.86	1.07	-1.06	6187.77	224.24	4278.23					
64	6175	7.30	6.50	136.9	95	6119.27	691.42	-48.65	-45.51	693.13	355.98	2.58	-2.21	6281.75	210.49	4184.25					
65	6269	6.60	357.60	136.9	94	6212.58	702.75	-48.20	-45.01	704.40	356.08	1.36	-0.74	6375.04	196.16	4090.96					
66	6364	5.50	328.10	129.7	95	6307.07	712.08	-50.84	-47.61	713.89	355.92	3.43	-1.16	6469.62	189.83	3996.38					
67	6458	4.30	327.70	138.7	94	6400.72	718.88	-55.10	-51.84	720.99	355.62	1.28	-1.28	6563.42	183.00	3902.58					
68	6553	5.00	335.80	134.2	95	6495.41	725.67	-58.70	-55.41	728.04	355.38	1.01	0.74	6658.23	176.20	3807.77					
69	6648	3.90	342.40	136.9	95	6590.12	732.52	-61.37	-58.05	735.09	355.21	1.28	-1.16	6753.03	169.33	3712.97					
70	6743	2.00	6.80	123.4	95	6685.00	737.25	-62.16	-58.81	739.86	355.18	2.35	-2.00	6847.93	164.60	3618.07					
71	6837	3.50	8.10	128.8	94	6778.89	741.72	-61.56	-58.19	744.27	355.26	1.60	1.60	6941.79	160.14	3524.21					
72	6932	2.50	3.80	133.3	95	6873.75	746.66	-61.01	-57.62	749.14	355.33	1.08	-1.05	7036.64	155.20	3429.36					
73	7027	2.20	348.20	135.1	95	6968.68	750.51	-61.25	-57.84	753.00	355.33	0.74	-0.32	7131.57	151.35	3334.43					
74	7122	2.00	355.30	135.1	95	7063.61	753.95	-61.76	-58.33	756.47	355.32	0.35	-0.21	7226.52	147.91	3239.48					
75	7216	2.60	1.10	137.8	94	7157.54	757.71	-61.85	-58.41	760.23	355.33	0.68	0.64	7320.45	144.14	3145.55					
76	7311	2.90	7.20	140.5	95	7252.43	762.25	-61.51	-58.05	764.73	355.39	0.44	0.32	7415.33	139.60	3050.67					
77	7405	2.40	359.90	142.3	94	7346.33	766.58	-61.21	-57.73	769.02	355.43	0.64	-0.53	7509.22	135.28	2956.78					
78	7500	2.40	7.10	143.2	95	7441.24	770.54	-60.97	-57.47	772.95	355.48	0.32	0.00	7604.13	131.32	2861.87					
79	7595	4.40	0.20	144.1	95	7536.07	776.16	-60.71	-57.19	778.53	355.53	2.15	2.11	7698.95	125.70	2767.05					
80	7690	4.80	345.80	145.9	95	7630.77	783.66	-61.67	-58.12	786.08	355.50	1.28	0.42	7793.67	118.20	2672.33					
81	7784	3.80	346.10	147.7	94	7724.50	790.49	-63.39	-59.80	793.03	355.42	1.06	-1.06	7887.46	111.35	2578.54					
82	7879	2.90	326.70	148.6	95	7819.34	795.56	-65.46	-61.85	798.25	355.30	1.51	-0.95	7982.37	106.28	2483.63					
83	7974	2.40	325.40	149.5	95	7914.24	799.20	-67.91	-64.28	802.08	355.14	0.53	-0.53	8077.35	102.62	2388.65					
84	8068	1.90	317.70	150.4	94	8008.17	801.98	-70.08	-66.44	805.03	355.01	0.61	-0.53	8171.36	99.84	2294.64					
85	8162	1.50	293.90	151.3	94	8102.13	803.63	-72.25	-68.60	806.87	354.86	0.85	-0.43	8265.39	98.18	2200.61					
86	8257	1.20	310.00	151.3	95	8197.11	804.77	-74.15	-70.50	808.18	354.74	0.51	-0.32	8360.43	97.03	2105.57					
87	8352	0.60	229.80	153.1	95	8292.10	805.09	-75.29	-71.64	809.60	354.66	1.31	-0.63	8455.45	96.70	2010.55					
88	8446	1.40	108.00	152.2	94	8386.09	804.42	-74.58	-70.92	807.87	354.70	1.90	0.85	8549.42	97.38	1916.58					
89	8541	2.20	87.00	154.0	95	8481.04	804.15	-71.65	-68.00	807.34	354.91	1.08	0.84	8644.28	97.66	1821.72					
90	8636	1.20	83.10	154.9	95	8576.00	804.37	-68.84	-65.19	807.31	355.11	1.06	-1.05	8739.14	97.45	1726.86					
91	8730	0.50	44.50	154.9	94	8669.99	8														

SVY	MD	INC	TRUE AZM	TEMP °F	Course Length	TVD	N-S	E-W	30.015-45005			CLOSURE			DLS/ 100'	BUR/ 100'	Target Calculations			Mag X	Mag Y	Mag Z	Accel X	Accel Y	Accel Z	BHA Number
									Surface Verf Sect	DIST	DIR	TVD AT 0° V. SEC.	RIGHT(+) LEFT(-)	ABOVE (+) BELOW (-)												
99	9488	1.00	66.70	162.1	95	9427.79	794.51	-67.52	-63.91	797.38	355.14	0.21	0.21	9590.89	107.31	9590.89	107.31	875.11								
100	9582	0.40	75.50	163.0	94	9521.79	794.92	-66.45	-62.84	797.69	355.22	0.65	-0.64	9684.85	106.91	9684.85	106.91	781.15								
101	9668	0.40	81.00	162.1	86	9607.77	795.04	-65.86	-62.25	797.77	355.26	0.04	0.00	9770.83	106.79	9770.83	106.79	695.17								
102	9812	0.40	106.90	143.2	144	9751.78	794.97	-64.88	-61.28	797.62	355.33	0.12	0.00	9914.79	106.86	9914.79	106.86	551.21								
103	9859	6.40	77.70	145.0	47	9798.68	795.49	-62.17	-58.56	797.91	355.53	12.88	12.77	9961.60	106.37	9961.60	106.37	504.40								
104	9907	13.30	71.80	145.9	48	9845.94	797.78	-54.30	-50.68	799.83	356.11	14.51	14.38	10008.60	104.10	10008.60	104.10	457.40								
105	9954	21.10	75.60	147.7	47	9890.81	801.58	-40.95	-37.31	802.63	357.08	16.76	16.60	10053.02	100.37	10053.02	100.37	412.98								
106	10002	24.90	79.50	149.5	48	9934.99	805.57	-22.63	-18.98	805.89	358.39	8.53	7.92	10096.59	96.46	10096.59	96.46	369.41								
107	10049	28.70	83.90	151.3	47	9976.93	808.58	-1.67	1.99	808.58	359.88	9.12	8.09	10137.83	93.55	10137.83	93.55	328.17								
108	10096	32.20	87.00	151.3	47	10017.45	810.43	22.06	25.74	810.73	1.56	8.16	7.45	10177.56	91.80	10177.56	91.80	288.44								
109	10143	34.90	88.50	153.1	47	10056.61	811.44	48.01	51.69	812.86	3.39	6.01	5.74	10215.86	90.91	10215.86	90.91	250.14								
110	10191	36.50	87.00	154.0	48	10095.59	812.55	76.00	79.68	816.09	5.34	3.80	3.33	10253.90	89.93	10253.90	89.93	212.10								
111	10238	38.40	86.00	155.8	47	10132.90	814.30	104.52	108.22	820.98	7.31	4.24	4.04	10290.26	88.31	10290.26	88.31	175.74								
112	10285	40.70	84.90	156.7	47	10169.14	816.68	134.35	138.06	827.65	9.34	5.12	4.89	10325.51	86.07	10325.51	86.07	140.49								
113	10332	44.60	82.30	156.7	47	10203.71	820.25	165.98	169.70	836.88	11.44	9.10	8.30	10359.02	82.64	10359.02	82.64	106.98								
114	10380	49.30	81.80	157.6	48	10236.47	825.11	200.71	204.45	849.17	13.67	9.82	9.79	10390.61	77.94	10390.61	77.94	75.39								
115	10427	52.20	82.00	157.6	47	10266.20	830.23	236.74	240.50	863.33	15.92	6.18	6.17	10419.15	72.97	10419.15	72.97	46.85								
116	10474	57.80	82.60	157.6	47	10293.15	835.38	274.88	278.67	879.44	18.21	11.96	11.91	10444.82	68.00	10444.82	68.00	21.18								
117	10521	62.60	82.80	158.5	47	10316.50	840.56	315.32	319.13	897.76	20.56	10.22	10.21	10466.82	63.00	10466.82	63.00	-0.82								
118	10569	69.00	81.10	159.4	48	10336.17	846.71	358.64	362.48	919.53	22.96	13.72	13.33	10485.04	57.06	10485.04	57.06	-19.04								
119	10616	79.70	81.10	159.4	47	10348.83	853.70	403.29	407.16	944.16	25.29	22.77	22.77	10496.21	50.27	10496.21	50.27	-30.21								
120	10664	86.10	82.70	159.4	48	10354.76	860.40	450.42	454.32	971.17	27.63	13.74	13.33	10500.57	43.78	10500.57	43.78	-34.57								
121	10711	89.90	84.30	162.1	47	10356.40	865.72	497.08	501.01	998.28	29.86	8.77	8.09	10500.65	38.67	10500.65	38.67	-34.65								
122	10757	90.90	84.10	155.8	46	10356.07	870.36	542.84	546.79	1025.78	31.95	2.22	2.17	10498.81	34.23	10498.81	34.23	-32.81								
123	10852	90.10	86.10	162.1	95	10355.25	878.48	637.49	641.47	1085.41	35.97	2.27	-0.84	10494.82	26.55	10494.82	26.55	-28.82								
124	10947	89.90	87.80	163.9	95	10355.25	883.53	732.35	736.35	1147.58	39.65	1.80	-0.21	10491.66	21.92	10491.66	21.92	-25.66								
125	11042	87.40	87.70	167.5	95	10357.48	887.26	827.24	831.26	1213.08	43.00	2.63	-2.63	10490.73	18.63	10490.73	18.63	-24.73								
126	11136	88.50	89.10	166.6	94	10360.85	889.88	921.14	925.17	1280.78	45.99	1.89	1.17	10490.96	16.43	10490.96	16.43	-24.96								
127	11231	86.90	87.00	170.2	95	10364.66	893.11	1016.00	1020.05	1352.74	48.68	2.78	-1.68	10491.61	13.63	10491.61	13.63	-25.61								
128	11326	88.10	88.30	173.7	95	10368.80	897.00	1110.83	1114.89	1427.78	51.08	1.86	1.26	10492.59	10.17	10492.59	10.17	-26.59								
129	11420	88.50	87.80	179.1	94	10371.59	900.20	1204.73	1208.81	1503.91	53.23	0.68	0.43	10492.25	7.40	10492.25	7.40	-26.25								
130	11514	87.10	86.20	182.7	94	10375.20	905.12	1298.53	1302.62	1582.85	55.12	2.26	-1.49	10492.73	2.91	10492.73	2.91	-26.73								
131	11609	89.40	90.10	180.0	95	10378.10	908.18	1393.41	1397.52	1663.24	56.91	4.76	2.42	10492.46	0.28	10492.46	0.28	-26.46								
132	11704	88.70	90.10	184.5	95	10379.68	908.01	1488.40	1492.50	1743.51	58.61	0.74	-0.74	10490.87	0.88	10490.87	0.88	-24.87								
133	11798	88.70	90.90	187.2	94	10381.81	907.19	1582.37	1586.47	1823.98	60.17	0.85	0.00	10489.87	2.12	10489.87	2.12	-23.87								
134	11893	89.10	91.90	189.9	95	10383.63	904.87	1677.32	1681.41	1905.83	61.65	1.13	0.42	10488.53	4.87	10488.53	4.87	-22.53								
135	11988	88.30	87.80	191.7	95	10385.79	905.12	1772.28	1776.36	1990.03	62.95	4.40	-0.84	10487.52	5.06	10487.52	5.06	-21.52								
136	12082	87.70	82.80	193.5	94	10389.07	912.81	1865.87	1869.99	2077.19	63.93	5.35	-0.64	10487.68	-2.21	10487.68	-2.21	-21.68								
137	12177	88.60	84.90	189.9	95	10392.14	922.99	1960.27	1964.44	2166.69	64.79	2.40	0.95	10487.60	-11.95	10487.60	-11.95	-21.60								
138	12271	90.30	87.20	191.7	94	10393.04	929.46	2054.03	2058.23	2254.54	65.65	3.04	1.81	10485.37	-18.00	10485.37	-18.00	-19.37								
139	12366	90.80	89.20	190.8	95	10392.13	932.44	2148.98	2153.19	2342.55	66.54	2.17	0.53	10481.29	-20.56	10481.29	-20.56	-15.29								
140	12461	90.80	90.90	195.3	95	10390.80	932.36	2243.96	2248.17	2429.95	67.44	1.79	0.00	10476.80	-20.04	10476.80	-20.04	-10.80								
141	12555	89.30	89.80	196.0	94	10390.72	931.79	2337.96	2342.16	2516.80	68.27															

[illegible]

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

APPLICATION OF KAISER-FRANCIS OIL
COMPANY FOR COMPULSORY POOLING,
EDDY COUNTY, NEW MEXICO.

Case Nos. 21419

SELF-AFFIRMED STATEMENT OF NOTICE

COUNTY OF SANTA FE)
) ss.
STATE OF NEW MEXICO)

James Bruce deposes and states:

1. I am over the age of 18, and have personal knowledge of the matters stated herein.
2. I am an attorney for Kaiser-Francis Oil Company.
3. Kaiser-Francis Oil Company has conducted a good faith, diligent effort to find the names and correct addresses of the interest owners entitled to receive notice of the application filed herein.
4. Notice of the application was provided to the interest owner, at its last known address, by certified mail. Copies of the notice letter and certified return receipt are attached hereto as Attachment A.
5. Applicant has complied with the notice provisions of Division Rules.
6. I understand that this Self-Affirmed Statement will be used as written testimony in this case. I affirm that my testimony in paragraphs 1 through 5 above is true and correct and is made under penalty of perjury under the laws of the State of New Mexico. My testimony is made as of the date handwritten next to my signature below.

Date:

9/8/2020

James Bruce
James Bruce

EXHIBIT

A

JAMES BRUCE
ATTORNEY AT LAW

POST OFFICE BOX 1056
SANTA FE, NEW MEXICO 87504

369 MONTEZUMA, NO. 213
SANTA FE, NEW MEXICO 87501

(505) 982-2043 (Phone)
(505) 660-6612 (Cell)
(505) 982-2151 (Fax)
jamesbruce@aol.com

August 20, 2020

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

To: Persons on Exhibit A

Ladies and gentlemen:

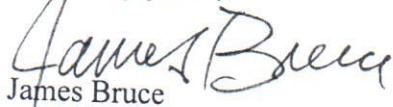
Enclosed is a copy of an application for compulsory pooling, filed with the New Mexico Oil Conservation Division by Kaiser-Francis Oil Company (Case No. 21419), regarding Wolfcamp wells in the SE/4 of Section 20 and the SW/4 of Section 21 Township 23 South, Range 28 East, NMPM, in Eddy County, New Mexico.

This matter is scheduled for hearing at 8:15 a.m. on Thursday, September 10, 2020. During the COVID-19 Public Health Emergency, state buildings are closed to the public and the hearing will be conducted remotely. To determine the location of the hearing or to participate in an electronic hearing, go to emnrd.state.nm.us/OCD/hearings or see the instructions posted on the Division's website, <http://emnrd.state.nm.us/OCD/announcements.html>.

You are not required to attend this hearing, but as an owner of an interest who may be affected by the applications, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from contesting these matters at a later date.

A party appearing in a Division case is required by Division Rules to file a Pre-Hearing Statement no later than Thursday, September 3, 2020. This statement may be filed online with the Division at ocd.hearings@state.nm.us, and should include: The name(s) of the party and his or her attorney; a concise statement of the case; the name(s) of the witness(es) the party will call to testify at the hearing; the approximate time the party will need to present his or her case; and identification of any procedural matters that need to be resolved prior to the hearing. The Pre-Hearing Statement must also be provided to the undersigned.

Very truly yours,


James Bruce

Attorney for Kaiser-Francis Oil Company

ATTACHMENT 

EXHIBIT A

Theodore Aguilar
P.O. Box 433
Loving, New Mexico 88256

Edward Campos
P.O. Box 13
Loving, New Mexico 88256

Theresa Dean
610 Airport Avenue
Carlsbad, New Mexico 88220

Heirs of Maria Garza
c/o Cruz Garza Hernandez
2121 North Rojo
Hobbs, New Mexico 88240

Josi Harvey
1602 West Tansil Street
Hobbs, New Mexico
Carlsbad, New Mexico 88220

Josefa Harvey
1801 West Jefferson Avenue
Lovington, New Mexico 88260

Heirs of Alfred Reid Lawrence
c/o Thelma McLain Lawrence
621 Wild Willow Drive
El Paso, Texas 79922

Heirs of Thelma McNutt
Suite B49
5850 Eubank Boulevard
Albuquerque, New Mexico 87111

Pardue Limited Company
P.O. Box 96
Loving, New Mexico 88256

Maria Rojas
4321 Dry Creek Road
Sacramento, California 95838

Saul Sanchez
P.O. Box 421
Loving, New Mexico 88256

Heirs of Geraldine Hoose Stevens
c/o Curtis Stevens
112 Durham Drive
Crawfordsville, Indiana 47933

Heirs of Steven Frank Williams
c/o Sondra Lynn Willams Ellyson
536 Rose Branch Drive
La Vernia, Texas 78121

Linda Williams
33764 State Highway 16
Denham Springs, Louisiana 70706

Tierra Oil Company, LLC
P.O. Box 700968
San Antonio, Texas 78270-0968

Mewbourne Oil Company
Suite 1020
500 West Texas
Midland, Texas 79701

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mewbourne Oil Company
Suite 1020
500 West Texas
Midland, Texas 79701



9590 9402 5941 0062 9784 92

2. Article Number: 7020 0640 0000 1403 9336

PS Form 3811, July 2015 PSN 7530-02-000-9053

FF L

Domestic Return Receipt

COMPLETE THIS SECTION ON DELIVERY

- A. Signature **X**
- B. Received by (Printed Name) **0827**
- C. Date of Delivery **0827**
- D. Is delivery address different from item 1? ☐ Yes ☐ No
If YES, enter delivery address below:

3. Service Type
- ☐ Adult Signature
 - ☐ Registered MailTM
 - ☐ Certified Mail[®]
 - ☐ Return Receipt for Merchandise
 - ☐ Signature ConfirmationTM
 - ☐ Signature Confirmation Restricted Delivery
 - ☐ Insured Mail Restricted Delivery (over \$500)

U.S. Postal ServiceTM
CERTIFIED MAIL[®] RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com.

OFFICIAL USE

Certified Mail Fee \$
Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) \$
☐ Return Receipt (electronic) \$
☐ Certified Mail Restricted Delivery \$
☐ Adult Signature Required \$
☐ Adult Signature Restricted Delivery \$
Postage \$

Total Postage and Fees \$

Sent To Mewbourne Oil Company
Suite 1020
500 West Texas
Midland, Texas 79701

City, State, ZIP+4[®]

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

U.S. Postal ServiceTM
CERTIFIED MAIL[®] RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com.

OFFICIAL USE

Certified Mail Fee \$
Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) \$
☐ Return Receipt (electronic) \$
☐ Certified Mail Restricted Delivery \$
☐ Adult Signature Required \$
☐ Adult Signature Restricted Delivery \$
Postage \$

Total Postage and Fees \$

Sent To Josefa Harvey
1801 West Jefferson Avenue
Lovington, New Mexico 88260

City, State, ZIP+4[®]

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Joséfa Harvey
1801 West Jefferson Avenue
Lovington, New Mexico 88260



9590 9402 5941 0062 9785 84

2.

7020 0640 0000 1403 9237

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

- A. Signature **X** **Josefa Harvey** ☐ Agent ☐ Addressee
- B. Received by (Printed Name) **Josefa Harvey** ☐ Date of Delivery
- C. Date of Delivery
- D. Is delivery address different from item 1? ☐ Yes ☐ No
If YES, enter delivery address below:

3. Service Type
- ☐ Priority Mail Express[®]
 - ☐ Registered MailTM
 - ☐ Registered Mail Restricted Delivery
 - ☐ Certified Mail[®]
 - ☐ Certified Mail Restricted Delivery
 - ☐ Collect on Delivery
 - ☐ Return Receipt for Merchandise
 - ☐ Signature ConfirmationTM
 - ☐ Signature Confirmation Restricted Delivery

(over \$500)

Domestic Return Receipt

FF L

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
■ Print your name and address on the reverse so that we can return the card to you.
■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Heirs of Alfred Reid Lawrence
c/o Thelma McLain Lawrence
621 Wild Willow Drive
El Paso, Texas 79922



9590 9402 5941 0062 9785 77

2. A

7020 0640 0000 1403 9244

(over \$500)

PS Form 3811, July 2015 PSN 7530-02-000-9053

Domestic Return Receipt

KF 6

COMPLETE THIS SECTION ON DELIVERY

- A. Signature ☒ Agent ☐ Addressee
B. Received by (Printed Name) Thelma Lawrence C. Date of Delivery 8/26/20
D. Is delivery address different from item 1? ☐ Yes ☐ No
If YES, enter delivery address below:

3. Service Type
☐ Priority Mail Express®
☐ Adult Signature
☐ Registered Mail™
☒ Certified Mail®
☐ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Restricted Delivery
☐ Restricted Delivery

U.S. Postal Service™

CERTIFIED MAIL® RECEIPT
Domestic Mail OnlyFor delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee

Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) \$
☐ Return Receipt (electronic) \$
☐ Certified Mail Restricted Delivery \$
☐ Adult Signature Required \$
☐ Adult Signature Restricted Delivery \$

Postmark
Here

Total Postage and Fees

Sent To
Heirs of Alfred Reid Lawrence
c/o Thelma McLain Lawrence
621 Wild Willow Drive
El Paso, Texas 79922

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
■ Print your name and address on the reverse so that we can return the card to you.
■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Josi Harvey
1602 West Tansil Street
Hobbs, New Mexico
Carlsbad, New Mexico 88220



9590 9402 5941 0062 9785 91

2.

7020 0640 0000 1403 9220

PS Form 3811, July 2015 PSN 7530-02-000-9053

Domestic Return Receipt

KF 6

U.S. Postal Service

CERTIFIED MAIL® RECEIPT

Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee

Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) \$
☐ Return Receipt (electronic) \$
☐ Certified Mail Restricted Delivery \$
☐ Adult Signature Required \$
☐ Adult Signature Restricted Delivery \$

Postmark
Here

Postage

Total Postage and Fees

Sent To
Josi Harvey
1602 West Tansil Street
Hobbs, New Mexico
Carlsbad, New Mexico 88220

Street and Apt. No., or

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

COMPLETE THIS SECTION ON DELIVERY

- A. Signature ☒ Agent ☐ Addressee
B. Received by (Printed Name) JH C-F C. Date of Delivery 8-24-20
D. Is delivery address different from item 1? ☐ Yes ☐ No
If YES, enter delivery address below:

3. Service Type
☐ Priority Mail Express®
☐ Adult Signature
☐ Registered Mail™
☒ Certified Mail®
☐ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Restricted Delivery

Domestic Return Receipt

KF 6

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Saul Sanchez
P.O. Box 421
Loving, New Mexico 88256



9590 9402 5941 0062 9785 39

2. Article Number (Priority Mail®) 7020 0640 0000 1403 9282

Insured Mail Restricted Delivery (over \$500)

PS Form 3811, July 2015 PSN 7530-02-000-9053

Domestic Return Receipt

KFL

COMPLETE THIS SECTION ON DELIVERY

- A. Signature ☒ Agent ☐ Addressee
- B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes ☐ No
If YES, enter delivery address below:

3. Service Type
- ☐ Priority Mail Express®
 - ☐ Adult Signature
 - ☐ Adult Signature Restricted Delivery
 - ☒ Certified Mail®
 - ☐ Certified Mail Restricted Delivery
 - ☐ Collect on Delivery
 - ☐ Return Receipt for Merchandise
 - ☐ Signature Confirmation™
 - ☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

KFL

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Certified Mail Fee

Extra Services & Fees (check box, add fee as appropriate)

☐ Return Receipt (hardcopy)	\$
☐ Return Receipt (electronic)	\$
☐ Certified Mail Restricted Delivery	\$
☐ Adult Signature Required	\$
☐ Adult Signature Restricted Delivery	\$

Postage \$

Total Postage and Fees

Sent To Saul Sanchez
P.O. Box 421

Street and Apt. No. Loving, New Mexico 88256

City, State, ZIP+4®

Postmark
Here

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Heirs of Steven Frank Williams
c/o Sondra Lynn Williams Ellyson
536 Rose Branch Drive
La Vernia, Texas 78121



9590 9402 5941 0062 9785 15

2. Article Number (Priority Mail®)

7020 0640 0000 1403 9305

PS Form 3811, July 2015 PSN 7530-02-000-9053

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Extra Services & Fees (check box, add fee as appropriate)

☐ Return Receipt (hardcopy)	\$
☐ Return Receipt (electronic)	\$
☐ Certified Mail Restricted Delivery	\$
☐ Adult Signature Required	\$
☐ Adult Signature Restricted Delivery	\$

Postage \$

Postmark
Here

Total Postage and Fees

Sent To Heirs of Steven Frank Williams
c/o Sondra Lynn Williams Ellyson
536 Rose Branch Drive
La Vernia, Texas 78121

Street and Apt. No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

COMPLETE THIS SECTION ON DELIVERY

- A. Signature ☒ Agent ☐ Addressee
- B. Received by (Printed Name) C. Date of Delivery
- D. Is delivery address different from item 1? ☐ Yes ☐ No
If YES, enter delivery address below:

3. Service Type
- ☐ Adult Signature
 - ☐ Adult Signature Restricted Delivery
 - ☒ Certified Mail®
 - ☐ Certified Mail Restricted Delivery
 - ☐ Collect on Delivery
 - ☐ Collect on Delivery Restricted Delivery
 - ☐ Return Receipt for Merchandise
 - ☐ Signature Confirmation™
 - ☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

KFL

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Linda Williams
33764 State Highway 16
Denham Springs, Louisiana 70706



9590 9402 5941 0062 9785 08

2. At

7020 0640 0000 1403 9312

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Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) \$
☐ Return Receipt (electronic) \$
☐ Certified Mail Restricted Delivery \$
☐ Adult Signature Required \$
☐ Adult Signature Restricted Delivery \$
 Postage \$

Total Postage and Fees \$

Sent To Linda Williams

33764 State Highway 16

Denham Springs, Louisiana 70706

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

COMPLETE THIS SECTION ON DELIVERY

A. Signature ☒ Agent

☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes ☐ No

If YES, enter delivery address below:

3. Service Type

☐ Adult Signature ☐ Priority Mail Express®

☐ Certified Mail® ☐ Registered Mail™

☐ Certified Mail Restricted Delivery ☐ Registered Mail Restricted Delivery

☐ Collect on Delivery ☐ Return Receipt for Merchandise

☐ Collect on Delivery Restricted Delivery ☐ Signature Confirmation™

☐ Restricted Delivery ☐ Signature Confirmation Restricted Delivery

(over \$500)

KF L

Domestic Return Receipt

7020 0640 0000 1403 9329

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Extra Services & Fees (check box, add fee as appropriate)

☐ Return Receipt (hardcopy) \$☐ Return Receipt (electronic) \$☐ Certified Mail Restricted Delivery \$☐ Adult Signature Required \$☐ Adult Signature Restricted Delivery \$Postmark
Here

Postage

\$

Total Postage and Fees

\$

Sent To Tierra Oil Company, LLC

P.O. Box 700968

Street and Apt. No., c San Antonio, Texas 78270-0968

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

7020 0640 0000 1403 9275

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Extra Services & Fees (check box, add fee as appropriate)

☐ Return Receipt (hardcopy) \$☐ Return Receipt (electronic) \$☐ Certified Mail Restricted Delivery \$☐ Adult Signature Required \$☐ Adult Signature Restricted Delivery \$Postmark
Here

Postage

\$

Total Postage and Fees

\$

Sent To Maria Rojas

4321 Dry Creek Road

Street and Apt. No., c Sacramento, California 95838

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

7020 0640 0000 1403 9206

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Extra Services & Fees (check box, add fee as appropriate)

☐ Return Receipt (hardcopy) \$☐ Return Receipt (electronic) \$☐ Certified Mail Restricted Delivery \$☐ Adult Signature Required \$☐ Adult Signature Restricted Delivery \$Postmark
Here

Postage

\$

Total Postage and Fees

\$

Sent To Theresa Dean

610 Airport Avenue

Street and Apt. No., c Carlsbad, New Mexico 88220

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

7020 0640 0000 1403 9213

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Extra Services & Fees (check box, add fee as appropriate)

☐ Return Receipt (hardcopy) \$☐ Return Receipt (electronic) \$☐ Certified Mail Restricted Delivery \$☐ Adult Signature Required \$☐ Adult Signature Restricted Delivery \$Postmark
Here

Postage

\$

Total Postage and Fees

\$

Sent To Heirs of Maria Garza

c/o Cruz Garza Hernandez

Street and Apt. No., c 2121 North Rojo

Hobbs, New Mexico 88240

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

7020 0640 0000 1403 9190

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Extra Services & Fees (check box, add fee as appropriate)

☐ Return Receipt (hardcopy) \$☐ Return Receipt (electronic) \$☐ Certified Mail Restricted Delivery \$☐ Adult Signature Required \$☐ Adult Signature Restricted Delivery \$Postmark
Here

Postage

\$

Total Postage and Fees

\$

Sent To Edward Campos

P.O. Box 13

Street and Apt. No., c Loving, New Mexico 88256

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

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- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Theodore Aguilar
P.O. Box 433
Loving, New Mexico 88256



9590 9402 5941 0062 9786 38

2. Art

7020 0640 0000 1403 9183

(USPS 3811)

PS Form 3811, July 2015 PSN 7530-02-000-9053

Domestic Return Receipt

KF 6

COMPLETE THIS SECTION ON DELIVERY

A. Signature ☐ Agent
X ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

☐ Adult Signature
☐ Adult Signature Restricted Delivery
☒ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery

☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

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Extra Services & Fees (check box, add fee as appropriate)

☐ Return Receipt (hardcopy) \$
☐ Return Receipt (electronic) \$
☐ Certified Mail Restricted Delivery \$
☐ Adult Signature Required \$
☐ Adult Signature Restricted Delivery \$

Postage

Total Postage and Fees

Sent To

Theodore Aguilar
P.O. Box 433
Loving, New Mexico 88256

Street and Apt. No., or PO Box

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

Postmark
Here

9590 9402 5941 0062 9786 38

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- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Heirs of Thelma McNutt
Suite B49
5850 Eubank Boulevard
Albuquerque, New Mexico 8711



9590 9402 5941 0062 9785 60

2. Article

7020 0640 0000 1403 9251

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

☒ Agent

☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below: ☐ No

3. Service Type

☐ Adult Signature

☐ Adult Signature Restricted Delivery

☒ Certified Mail®

☐ Certified Mail Restricted Delivery

☐ Collect on Delivery

☐ Insured Mail®

☐ Registered Mail™

☐ Registered Mail Restricted Delivery

☐ Return Receipt for Merchandise

☐ Signature Confirmation™

☐ Signature Confirmation Restricted Delivery

☐ Priority Mail Express®

☐ Registered Mail™

☐ Registered Mail Restricted Delivery

☐ Return Receipt for Merchandise

☐ Signature Confirmation™

☐ Signature Confirmation Restricted Delivery

☐ Priority Mail Express®

☐ Registered Mail™

☐ Registered Mail Restricted Delivery

☐ Return Receipt for Merchandise

☐ Signature Confirmation™

☐ Signature Confirmation Restricted Delivery

☐ Priority Mail Express®

☐ Registered Mail™

☐ Registered Mail Restricted Delivery

☐ Return Receipt for Merchandise

☐ Signature Confirmation™

☐ Signature Confirmation Restricted Delivery

☐ Priority Mail Express®

☐ Registered Mail™

☐ Registered Mail Restricted Delivery

☐ Return Receipt for Merchandise

☐ Signature Confirmation™

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Extra Services & Fees (check box, add fee as appropriate)

☐ Return Receipt (hardcopy) \$

☐ Return Receipt (electronic) \$

☐ Certified Mail Restricted Delivery \$

☐ Adult Signature Required \$

☐ Adult Signature Restricted Delivery \$

Postage \$

Total Postage amt \$

Sent To Heirs of Thelma McNutt

Suite B49

5850 Eubank Boulevard

Albuquerque, New Mexico 8711

Street and Apt. No.

City, State, Zip+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

Postmark Here

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Pardue Limited Company
P.O. Box 96
Loving, New Mexico 88256



9590 9402 5941 0062 9785 53

2. Article Number (Transfer from service label)

7020 0640 0000 1403 9268

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent

☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☒ Certified Mail®
- ☐ Collect on Delivery
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

(over \$500)

Domestic Return Receipt

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Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) \$
☐ Return Receipt (electronic) \$
☐ Certified Mail Restricted Delivery \$
☐ Adult Signature Required \$
☐ Adult Signature Restricted Delivery \$
Postage \$

Total Postage and Fees

\$ Sent To Pardue Limited Company

P.O. Box 96

Street and Apt. No. Loving, New Mexico 88256

City, State, ZIP+4®

Postmark
Here

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Heirs of Geraldine Hoose Stevens
c/o Curtis Stevens
112 Durham Drive
Crawfordsville, Indiana 47933



9590 9402 5941 0062 9785 22

2. Article Number (Transfer from envelope back)

7020 0640 0000 1403 9299

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature ☒ Agent
☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☒ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Restricted Delivery
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

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Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) \$
☐ Return Receipt (electronic) \$
☐ Certified Mail Restricted Delivery \$
☐ Adult Signature Required \$
☐ Adult Signature Restricted Delivery \$
Postage \$

Postmark
Here

Total Postage and Fees

Sent To Heirs of Geraldine Hoose Stevens
c/o Curtis Stevens
Street and Apt. No. 112 Durham Drive
City, State, ZIP+4® Crawfordsville, Indiana 47933

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

6626 6047 0000 0490 0202

Affidavit of Publication

Ad # 0004345689

This is not an invoice

JAMES BRUCE ATTORNEY AT LAW
POBOX 1056

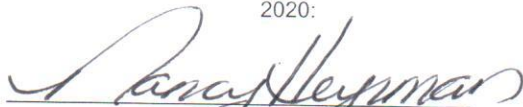
SANTA FE, NM 87504

I, a legal clerk of the **Carlsbad Current Argus**, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

08/26/2020


Legal Clerk

Subscribed and sworn before me this August 26,
2020:


State of WI, County of Brown
NOTARY PUBLIC
5.15.23
My commission expires

NOTICE

To: Theodore Aguilar, Edward Campos, Theresa Dean, Heirs of Maria Garza c/o Cruz Garza Hernandez, Josi Harvey, Josefa Harvey, Heirs of Alfred Reid Lawrence c/o Thelma McLain Lawrence, Heirs of Thelma McNutt, Pardue Limited Company, Maria Rojas, Saul Sanchez, Heirs of Geraldine Hoose Stevens c/o Curtis Stevens, Heirs of Steven Frank Williams c/o Sondra Lynn Williams Ellyson, Linda Williams, and Tierra Oil Company, LLC, or your heirs, devisees, successors or assigns: Kaiser-Francis Oil Company has filed an application with the New Mexico Oil Conservation Division (Case No. 21419) seeking an order pooling all mineral interests in the Wolfcamp formation for the following wells and lands:

The Loving Townsite 2021 WC Well No. 1H, Loving Townsite 2021 WA Well No. 1H, Loving Townsite 2021 WC Well No. 2H, and Loving Townsite 2021 WA Well No. 2H, all located in the SE/4 of Section 20 and the SW/4 of Section 21, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico.

Also to be considered will be the cost of drilling and completing the wells and the allocation of the cost thereof, as well as actual operating costs and charges for supervision, designation of applicant as operator of the wells and a 200% charge for the risk involved in drilling and completing the wells. The application is scheduled to be heard at 8:15 a.m. on Thursday, September 10, 2020. During the COVID-19 Public Health Emergency, state buildings are closed to the public and the hearing will be conducted remotely. To determine the location of the hearing or to participate in an electronic hearing, go to emnrd.state.nm.us/OCD/hearings or see the instructions posted on the Division's website, <http://emnrd.state.nm.us/OCD/announcements.html>. As an interest owner in the well unit you have the right to enter an appearance and participate in the case. Failure to appear will preclude you from contesting this matter at a later date. The attorney for applicant is James Bruce, P.O. Box 1056, Santa Fe, New Mexico 87504, jamesbruc@aol.com. The unit is located in the center of Loving, New Mexico. #4345689, Current Argus, Aug. 26, 2020

EXHIBIT 5

Ad # 0004345689

PO #: Kaiser
of Affidavits 1

This is not an invoice

NANCY HEYRMAN
Notary Public
State of Wisconsin

COMPULSORY POOLING APPLICATION CHECKLIST

ALL INFORMATION IN THE APPLICATION MUST BE SUPPORTED BY SIGNED AFFIDAVITS

Case:	21419
Date	September 10, 2020
Applicant	Kaiser-Francis Oil Company
Designated Operator & OGRID (affiliation if applicable)	Kaiser-Francis Oil Company/OGRID No. 12361
Applicant's Counsel:	James Bruce
Case Title:	Application of Kaiser-Francis Oil Company for Compulsory Pooling, Eddy County, New Mexico
Entries of Appearance/Intervenors:	
Well Family	Loving Townsite Wolfcamp Wells
Formation/Pool	
Formation Name(s) or Vertical Extent:	Wolfcamp Formation
Primary Product (Oil or Gas):	Gas
Pooling this vertical extent:	Entire Wolfcamp formation
Pool Name and Pool Code:	Purple Sage; Wolfcamp, Gas/Pool Code 98220
Well Location Setback Rules:	Purple Sage rules and current horizontal well rules
Spacing Unit Size:	Half Section/320 acres
Spacing Unit	
Type (Horizontal/Vertical)	Horizontal
Size (Acres)	320 acres
Building Blocks:	160 acres
Orientation:	West-East
Description: TRS/County	SE/4 §20 and SW/4 §21-23S-28E, NMPM, Eddy County
Standard Horizontal Well Spacing Unit (Y/N), If No, describe	No, at the time the first well was drilled. But, a non-standard spacing unit was previously approved by the Division.
Other Situations	
Depth Severance: Y/N. If yes, description	No
Proximity Tracts: If yes, description	No
Proximity Defining Well: if yes, description	
Applicant's Ownership in Each Tract	Exhibit 2-C
Well(s)	
Name & API (if assigned), surface and bottom hole location, footages, completion target, orientation, completion status (standard or non-standard)	<u>Loving Townsite 2021 WA Well No. 1H, API No. 30-015-45003</u> SHL: 1148 feet from the South line and 2499 feet from the East line of Section 20 BHL: 1980 feet from the South line and 2310 feet from the West line of Section 21 FTP: 1980 feet from the South line and 2310 from the East line of Section 20

EXHIBIT 6

LTP: 1980 feet from the South line and 2310 feet from the West line of Section 21

Completion Target: Upper Wolfcamp (A) zone

TVD 9466 feet/MD 15495 Feet

Well Orientation: West to East

Completion Location expected to be: standard

Loving Townsite 2021 WA Well No. 2H, API No. 30-015-45004

SHL: 948 feet from the South line and 2499 feet from the East line of Section 20

BHL: 660 feet from the South line and 2310 feet from the West line of Section 21

FTP: 660 feet from the South line and 2310 from the East line of Section 20

LTP: 660 feet from the South line and 2310 feet from the West line of Section 21

Completion Target: Upper Wolfcamp (A) zone

TVD 9466 feet/MD 15495 Feet

Well Orientation: West to East

Completion Location expected to be: standard

Loving Townsite 2021 WC Well No. 1H, API No. 30-015-45005

SHL: 1078 feet from the South line and 2519 feet from the East line of Section 20

BHL: 1893 feet from the South line and 2413 feet from the West line of Section 21

FTP: 1980 feet from the South line and 2310 from the East line of Section 20

LTP: 1893 feet from the South line and 2310 feet from the West line of Section 21

Completion Target: Wolfcamp (C) zone

TVD 10347 feet/MD 15495 Feet

Well Orientation: West to East

Completion Location expected to be: standard

Loving Townsite 2021 WC Well No. 2H, API No. 30-015-45006

SHL: 1048 feet from the South line and 2519 feet from the East line of Section 20

BHL: 725 feet from the South line and 2584 feet from the West line of Section 21

FTP: 660 feet from the South line and 2310 from the East line of Section 20

LTP: 725 feet from the South line and 2310 feet from the West line of Section 21

Completion Target: Wolfcamp (C) zone

TVD 10347 feet/MD 15495 Feet

Well Orientation: West to East

Completion Location expected to be: standard

Horizontal Well First and Last Take Points

See above

Completion Target (Formation, TVD and MD)

See above

AFE Capex and Operating Costs

Drilling Supervision/Month \$

\$8000

Production Supervision/Month \$

\$800

Justification for Supervision Costs

Exhibit 2, page 3

Requested Risk Charge

Cost + 200%/Exhibit 2, page 3

Notice of Hearing

Proposed Notice of Hearing

Exhibit 1

Proof of Mailed Notice of Hearing (20 days before hearing)

Exhibit 4

Proof of Published Notice of Hearing (10 days before hearing)

Exhibit 5

Ownership Determination

Land Ownership Schematic of the Spacing Unit

Exhibit 2-A

Tract List (including lease numbers and owners)

Exhibit 2-C

Pooled Parties (including ownership type)

Exhibit 2-C (unleased mineral owners)

Unlocatable Parties to be Pooled

Exhibit 2, page 2 and Exhibit 4

Ownership Depth Severance (including percentage above & below)

None

Joinder

Sample Copy of Proposal Letter

Exhibit 2-D

List of Interest Owners (i.e. Exhibit A of JOA)

Exhibit 2-C

Chronology of Contact with Non-Joined Working Interests

Exhibit 2-D

Overhead Rates In Proposal Letter

Cost Estimate to Drill and Complete

Exhibit 2-E

Cost Estimate to Equip Well

Exhibit 2-E

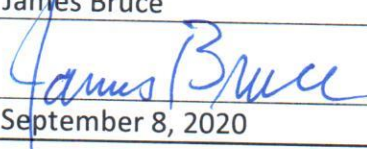
Cost Estimate for Production Facilities

Exhibit 2-E

Geology

Summary (including special

Exhibit 3

considerations)	
Spacing Unit Schematic	Exhibit 3-A
Gunbarrel/Lateral Trajectory Schematic	Exhibits 3-C and 3-F
Well Orientation (with rationale)	Laydown/Exhibit 3, page 2
Target Formation	Wolfcamp
HSU Cross Section	Exhibits 3-C and 3-F
Depth Severance Discussion	Not Applicable
Forms, Figures and Tables	
C-102	Exhibit 2-B
Tracts	Exhibit 2-A (small lots in the Town of Lovington)
Summary of Interests, Unit Recapitulation (Tracts)	Exhibit 2-C
General Location Map (including basin)	Exhibit 2-A
Well Bore Location Map	Exhibit 3-A
Structure Contour Map - Subsea Depth	Exhibits 3-A and 3-D
Cross Section Location Map (including wells)	Exhibits 3-C and 3-F
Cross Section (including Landing Zone)	Exhibits 3-C and 3-F
Additional Information	
CERTIFICATION: I hereby certify that the information provided in this checklist is complete and accurate.	
Printed Name (Attorney or Party Representative):	James Bruce
Signed Name (Attorney or Party Representative):	
Date:	September 8, 2020