District I 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 District II 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720 District III 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 District IV 1220 S. St. Francis Dr., Santa Fc, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

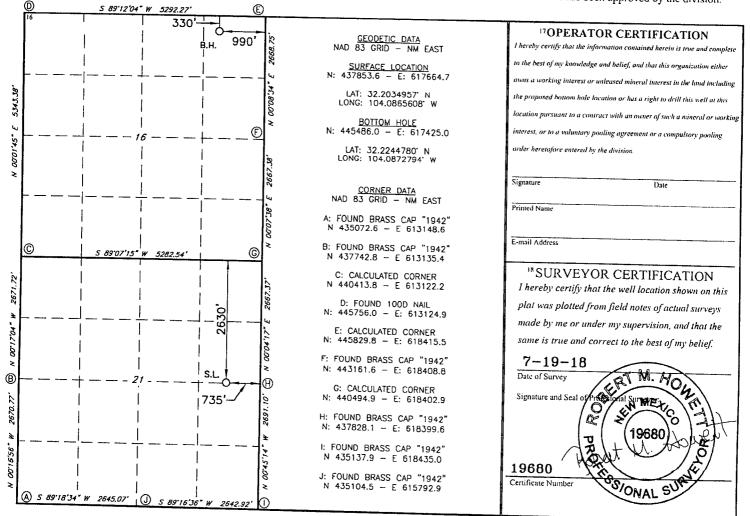
State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

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

AMENDED REPORT

1	API Numbe	r		2 Pool Cod		ACREAGE DEDICATION PLAT					
							- 1 001 144				
4Property Code			CF	EEDEN	<sup>6</sup> Well Number 5H						
<sup>7</sup> OGRID N			<sup>8 Operator Name</sup> MEWBOURNE OIL COMPANY					<sup>9</sup> Elevation 3025'			
					<sup>10</sup> Surface	e Location					
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West	line County		
H	21	24S	28E		2630	NORTH	735	EAST	,		
				Bottom I	Hole Locatio	n If Different Fr	om Surface				
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West 1	line County		
A	16	24S	28E		330	NORTH	990	EAST			
Dedicated Acres	13 Joint	or Infill 14	Consolidation	Code 15	Order No.			JADI			

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



RRC - Job No.:

LS1807920

District I 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 District II 811 S. First St., Anesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 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 Fc, NM 87505 Phone: (305) 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

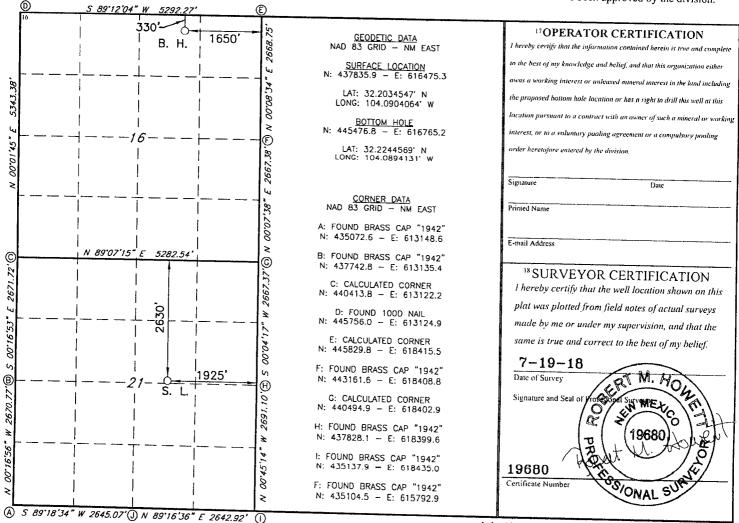
WELL LOOKTION INTO LO

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

AMENDED REPORT

:	API Numbe	r		<sup>2</sup> Pool Cod		ACREAGE DEDICATION PLAT				
4 Property Co	ode		CR	SProperty Name CREEDENCE 21/16 W2GB STATE COM						
7OGRID	NO.			* Operator Name MEWBOURNE OIL COMPANY					6H <sup>9Elevation</sup> 3036'	
					<sup>10</sup> Surface	Location		,	· · · · · · · · · · · · · · · · · · ·	
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West lin	County	
G	21	24S	28E		2630	NORTH	1925	EAST	EDDY	
				Bottom H	Iole Location	If Different Fre	om Surface			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
B	16	24S	28E		330	NORTH	1650	EAST	EDDY	
Dedicated Acres	s 13 Joint (	or Infill 14	Consolidation	Code 15	Order No.	<u></u>				

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



Job No.: LS1807917

District 1 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 District II 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720 District III 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 District IV 1220 S. St. Francis Dr., Santa Fc, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

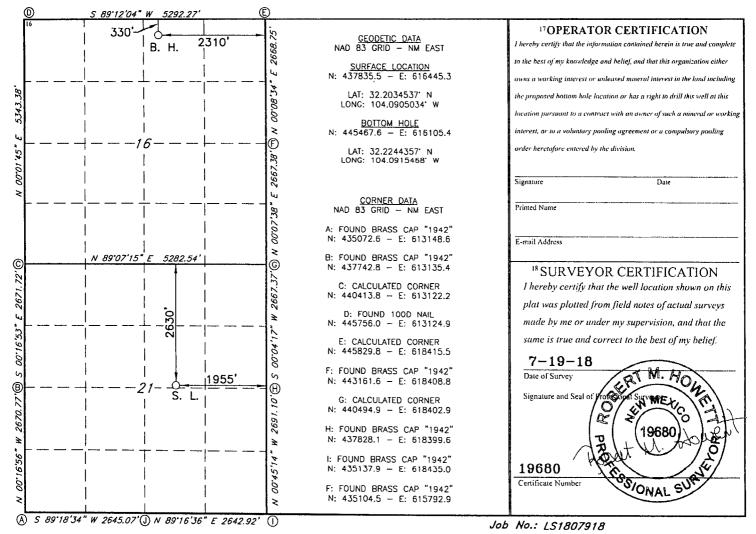
### State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

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

AMENDED REPORT

1	API Number			2 Pool Code			3 Pool Nan	ne		
			1							
4 Property Co	de		•	SProperty Name CREEDENCE 21/16 W2GB STATE COM						
			CR	EEDENC		7H				
70GRID NO.						9 Elevation				
				MEWE	OURNE OI		3037'			
					<sup>10</sup> Surface	Location				
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Fect From the	East/West line	County	
G	21	24S	28E		2630	NORTH	1955	EAST	EDDY	
			ן יי	Bottom H	ole Location	If Different Fro	om Surface			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
В	16	24S	28E		330	NORTH	2310	EAST	EDDY	
2 Dedicated Acre	s 13 Joint	or Infili 14	Consolidation	Code 15 (	Order No.	**************************************	·····	· · · · · · · · · · · · · · · · · · ·		

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



# TRACT OWNERSHIP Creedence 21-16 W0GB State Com #3H Creedence 21-16 W2GB State Com #4H Creedence 21-16 W2HA State Com #5H Creedence 21-16 W2GB State Com #6H Creedence 21-16 W2GB State Com #7H

# NE/4 of Section 21 and E/2 of Section 16, T24S, R28E, Eddy County, NM

Total	100.00000%
Attwell Interests, Inc.	0.181818%*
Stillwater Investments	0.356818%*
Tom M. Ragsdale	0.636364%*
Marathon Oil Permian LLC	10.463837%*
CM Resources, LLC	12.500000%*
Mewbourne Oil Company, et al.	75.361163%

Mewbourne Oil Company, et al. indicates parties signed up to proposed Operating Agreement dated April 15, 2018, naming Mewbourne Oil Company as Operator.

\*Indicates the entity being pooled.

4x.2

# **Summary of Communications**

Creedence 21-16 B3GB State Com #1H Creedence 21-16 B3HA State Com #1H Creedence 21-16 W0GB State Com #3H Creedence 21-16 W2GB State Com #6H Creedence 21-16 W2GB State Com #7H Creedence 21-16 W2HA State Com #4H Creedence 21-16 W2HA State Com #5H

# Marathon Oil Permian LLC

- 1) Mailed well proposal via Overnight Mail July 19, 2018; proof of receipt July 20, 2018 is also included.
- 2) Called Chase Rice at Marathon 8-6-2018 to ask about the Operating Agreement sent to Mewbourne by Marathon.
- 3) Corey and Drew visited with Steve Virant and Chase Rice regarding ownership in Section 16.

## CM Resources, LLC

1) Hand delivered well proposal letter with AFE's on July 24, 2018; proof of hand delivery attached.

# Tom M. Ragsdale

- 1) Mailed well proposal letter with AFE's via certified mail July 19, 2018; proof of delivery is included dated July 26, 2018.
- 2) Email conversation with Karen Stanford August 1, 2018.

# Attwell Interests, Inc.

1) Mailed well proposal letter with AFE's via certified mail July 19, 2018; proof of delivery is included dated July 26, 2018.

# Stillwater Investments

- 1) Mailed well proposal letter with AFE's via certified mail July 19, 2018; proof of delivery is included dated July 25, 2018.
- 2) Email conversation September 6, 2018 with Charlie McMillian about Stillwater's participation in the Creedence 21-16 wells.
- 3) Called and left voicemail to Charlie McMillian June 21, 2018.

Ex.3

500 West Texas, Suite 1020 Midland, Texas 79701 Phone (432) 682-3715 Fax (432) 685-4170

July 19, 2018

#### **Overnight** Mail

Marathon Oil Permian LLC 5555 San Felipe Street Houston, TX 77056 Attn: Matt Brown

Re: Proposed Horizontal Tests Creedence 21-16 B3GB State Com #1H Creedence 21-16 B3HA State Com #1H Creedence 21-16 W0GB State Com #3H Creedence 21-16 W2GB State Com #6H Creedence 21-16 W2GB State Com #7H Creedence 21-16 W2HA State Com #4H Creedence 21-16 W2HA State Com #5H All of Section 16 and the N2 of Section 21 T24S, R28E, Eddy County, New Mexico Creedence 21-16 Prospect

Ladies and Gentlemen:

Per Operating Agreement dated April 15, 2018, Mewbourne Oil Company, as Operator, hereby proposes drilling the following seven (7) horizontal tests:

 Creedence 21-16 B3GB State Com #1H – APD in process Surface Location: 2630' FNL, 2015' FEL, Section 21, UL G Bottom Hole Location: 100' FNL, 200' FEL, Section 16, UL B Proposed Total Vertical Depth: 9,385' Proposed Total Measured Depth: 16,735' Formation: Bone Spring

2) Creedence 21-16 B3HA State Com #1H – APD in process Surface Location: 2630' FNL, 635' FEL, Section 21, UL H Bottom Hole Location: 100' FNL, 700' FEL, Section 16, UL A Proposed Total Vertical Depth: 9,405' Proposed Total Measured Depth: 16,755' Formation: Bone Spring

3) Creedence 21-16 W0GB State Com #3H – APD in process Surface Location: 2630' FNL, 1985' FEL, Section 21, UL G
Bottom Hole Location: 330' FNL, 2220' FEL, Section 16, UL B
Proposed Total Vertical Depth: 9,540'
Proposed Total Measured Depth: 16,915'
Formation: Wolfcamp Creedence 21-16 Prospect Page 2 of 2

4) Creedence 21-16 W2GB State Com #6H – APD in process Surface Location: 2630' FNL, 1925' FEL, Section 21, UL G Bottom Hole Location: 330' FNL, 1650' FEL, Section 16, UL B Proposed Total Vertical Depth: 10,585' Proposed Total Measured Depth: 17,050' Formation: Wolfcamp

5) Creedence 21-16 W2GB State Com #7H – APD in process Surface Location: 2630' FNL, 1955' FEL, Section 21, UL G Bottom Hole Location: 330' FNL, 2310' FEL, Section 16, UL B Proposed Total Vertical Depth: 10,385' Proposed Total Measured Depth: 16,850' Formation: Wolfcamp

6) Creedence 21-16 W2HA State Com #4H – APD in process Surface Location: 2630' FNL, 605' FEL, Section 21, UL H Bottom Hole Location: 330' FNL, 330' FEL, Section 16, UL A Proposed Total Vertical Depth: 10,595' Proposed Total Measured Depth: 17,060' Formation: Wolfcamp

7) Creedence 21-16 W2HA State Com #5H – APD in process Surface Location: 2630' FNL, 735' FEL, Section 21, UL H Bottom Hole Location: 330' FNL, 990' FEL, Section 16, UL A Proposed Total Vertical Depth: 10,395' Proposed Total Measured Depth: 16,860' Formation: Wolfcamp

In the event you elect to participate in the proposed wells, please execute the enclosed AFEs and return them to the undersigned within thirty (30) days. Please enclose your most current well information requirements so that we may supply well data when available.

Please contact me at (432) 682-3715 or via email at tjolly@mewbourne.com if you have any questions.

Very truly yours,

**MEWBOURNE OIL COMPANY** 

Tyler Jolly Landman

Enclosures

## **Tyler Jolly**

From: Sent: To: Subject:

midrecep Friday, July 20, 2018 12:43 PM Tyler Jolly FW: FedEx Shipment 772752641343 Delivered

From: TrackingUpdates@fedex.com [mailto:TrackingUpdates@fedex.com] Sent: Friday, July 20, 2018 9:19 AM To: midrecep <midrecep@mewbourne.com> Subject: FedEx Shipment 772752641343 Delivered

# Your package has been delivered

Tracking # 772752641343



Ship date: Thu, 7/19/2018 **Tyler Jolly** Mewbourne Oil Company Midland, TX 79701 US



Delivery date: Fri, 7/20/2018 9:14 am Attn: Matt D Brown Marathon Oil Corporation 5555 San Felipe HOUSTON, TX 77056 US



# **Shipment Facts**

Our records indicate that the following package has been delivered.

Tracking number:	<u>772752641343</u>
Status:	Delivered: 07/20/2018 09:14 AM Signed for By: R.VARGAS
Reference:	Queen 23/24 WIU
Signed for by:	R.VARGAS
Delivery location:	HOUSTON, TX
Delivered to:	Receptionist/Front Desk
Service type:	FedEx Standard Overnight
Packaging type:	FedEx Envelope
Number of pieces:	1
Weight:	0.50 lb.

Standard transit:

.

7/20/2018 by 3:00 pm

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 9:19 AM CDT on 07/20/2018.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Standard transit is the date and time the package is scheduled to be delivered by, based on the selected service, destination and ship date. Limitations and exceptions may apply. Please see the FedEx Service Guide for terms and conditions of service, including the FedEx Money-Back Guarantee, or contact your FedEx Customer Support representative.

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Thank you for your business.

500 West Texas, Suite 1020 Midland, Texas 79701 Phone (432) 682-3715 Fax (432) 685-4170

July 20, 2018

Via Hand Delivery

CM Resources, LLC 306 W. Wall Street, Suite 500 Midland, TX 79701 Attn: Patrick Godwin

Re: Proposed Horizontal Tests Creedence 21-16 B3GB State Com #1H Creedence 21-16 B3HA State Com #1H All of Section 16 and the N2 of Section 21 T24S, R28E, Eddy County, New Mexico Creedence 21-16 Prospect

Ladies and Gentlemen:

Per Operating Agreement dated April 15, 2018, Mewbourne Oil Company, as Operator, hereby proposes drilling the following two (2) horizontal tests:

 Creedence 21-16 B3GB State Com #1H – APD in process Surface Location: 2630' FNL, 2015' FEL, Section 21, UL G Bottom Hole Location: 100' FNL, 200' FEL, Section 16, UL B Proposed Total Vertical Depth: 9,385' Proposed Total Measured Depth: 16,735' Formation: Bone Spring

2) Creedence 21-16 B3HA State Com #1H – APD in process Surface Location: 2630' FNL, 635' FEL, Section 21, UL H Bottom Hole Location: 100' FNL, 700' FEL, Section 16, UL A Proposed Total Vertical Depth: 9,405' Proposed Total Measured Depth: 16,755' Formation: Bone Spring

In the event you elect to participate in the proposed wells, please execute the enclosed AFEs and return them to the undersigned within thirty (30) days. Please enclose your most current well information requirements so that we may supply well data when available.

Creedence 21-16 Prospect Page 2 of 2

Please contact me at (432) 682-3715 or via email at tjolly@mewbourne.com if you have any questions.

Very truly yours,

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MEWBOURNE OIL COMPANY

Tyler Jolly Landman

Enclosures

500 West Texas, Suite 1020 Midland, Texas 79701 Phone (432) 682-3715 Fax (432) 685-4170

July 20, 2018

CM Resources, LLC 306 W. Wall Street, Suite 500 Midland, TX 79701 Attn: Patrick Godwin

#### **Receipt for Hand Delivered Documents** Re:

### **Document(s) Received:**

1. Creedence 21-16 Well Proposals and AFE's for the following: Creedence 21-16 B3GB State Com #1H Creedence 21-16 B3HA State Com #1H

Received on behalf of CM Resources, LLC by:

Signature

Brandon Gaynor int 7/9\_4/2018

Print

Date

500 West Texas, Suite 1020 Midland, Texas 79701 Phone (432) 682-3715 Fax (432) 685-4170

July 19, 2018

#### Certified Mail

Tom Ragsdale 400 N. Sam Houston Pkwy East Suite 601 Houston, TX 77060

Re: Proposed Horizontal Tests Creedence 21-16 B3GB State Com #1H Creedence 21-16 B3HA State Com #1H Creedence 21-16 W0GB State Com #3H Creedence 21-16 W2GB State Com #6H Creedence 21-16 W2GB State Com #7H Creedence 21-16 W2HA State Com #4H Creedence 21-16 W2HA State Com #5H All of Section 16 and the N2 of Section 21 T24S, R28E, Eddy County, New Mexico Creedence 21-16 Prospect

Ladies and Gentlemen:

Per Operating Agreement dated April 15, 2018, Mewbourne Oil Company, as Operator, hereby proposes drilling the following seven (7) horizontal tests:

 Creedence 21-16 B3GB State Com #1H – APD in process Surface Location: 2630' FNL, 2015' FEL, Section 21, UL G Bottom Hole Location: 100' FNL, 200' FEL, Section 16, UL B Proposed Total Vertical Depth: 9,385' Proposed Total Measured Depth: 16,735' Formation: Bone Spring

2) Creedence 21-16 B3HA State Com #1H -- APD in process
Surface Location: 2630' FNL, 635' FEL, Section 21, UL H
Bottom Hole Location: 100' FNL, 700' FEL, Section 16, UL A
Proposed Total Vertical Depth: 9,405'
Proposed Total Measured Depth: 16,755'
Formation: Bone Spring

3) Creedence 21-16 W0GB State Com #3H – APD in process Surface Location: 2630' FNL, 1985' FEL, Section 21, UL G
Bottom Hole Location: 330' FNL, 2220' FEL, Section 16, UL B
Proposed Total Vertical Depth: 9,540'
Proposed Total Measured Depth: 16,915'
Formation: Wolfcamp Creedence 21-16 Prospect Page 2 of 2

4) Creedence 21-16 W2GB State Com #6H – APD in process Surface Location: 2630' FNL, 1925' FEL, Section 21, UL G Bottom Hole Location: 330' FNL, 1650' FEL, Section 16, UL B Proposed Total Vertical Depth: 10,585' Proposed Total Measured Depth: 17,050' Formation: Wolfcamp

5) Creedence 21-16 W2GB State Com #7H – APD in process Surface Location: 2630' FNL, 1955' FEL, Section 21, UL G Bottom Hole Location: 330' FNL, 2310' FEL, Section 16, UL B Proposed Total Vertical Depth: 10,385' Proposed Total Measured Depth: 16,850' Formation: Wolfcamp

6) Creedence 21-16 W2HA State Com #4H – APD in process Surface Location: 2630' FNL, 605' FEL, Section 21, UL H Bottom Hole Location: 330' FNL, 330' FEL, Section 16, UL A Proposed Total Vertical Depth: 10,595' Proposed Total Measured Depth: 17,060' Formation: Wolfcamp

7) Creedence 21-16 W2HA State Com #5H – APD in process Surface Location: 2630' FNL, 735' FEL, Section 21, UL H Bottom Hole Location: 330' FNL, 990' FEL, Section 16, UL A Proposed Total Vertical Depth: 10,395' Proposed Total Measured Depth: 16,860' Formation: Wolfcamp

In the event you elect to participate in the proposed wells, please execute the enclosed AFEs and return them to the undersigned within thirty (30) days. Please enclose your most current well information requirements so that we may supply well data when available.

Please contact me at (432) 682-3715 or via email at tiolly@mewbourne.com if you have any questions.

Very truly yours,

**MEWBOURNE OIL COMPANY** 

Tyler Jolly

Tyler Jolly Landman

Enclosures



July 26, 2018

Dear Simple Certified:

The following is in response to your request for proof of delivery on your item with the tracking number: **9414 8106 9994 5032 9692 51**.

~ Z <sup>(7</sup>

Item Details	
Status:	Delivered, Left with Individual
Status Date / Time:	July 26, 2018, 12:25 pm
Location:	HOUSTON, TX 77060
Postal Product:	First-Class Mail <sup>®</sup>
Extra Services:	Certified Mail™
	Return Receipt Electronic
Recipient Name:	Tom M Ragsdale
Shipment Details	
Weight:	3.0oz
Recipient Signature	
Signature of Recipient:	Syndam X Davig Sterman
Address of Recipient:	Hanny 400 Shen Horson Hobol
Note: Scanned image may reflect a different destinat	tion address due to Intended Recipient's delivery instructions on file.

Thank you for selecting the United States Postal Service<sup>®</sup> for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely, United States Postal Service® 475 L'Enfant Plaza SW Washington, D.C. 20260-0004

> Tom M. Ragsdale 400 N SAM HOUSTON PKWY E STE 601 HOUSTON, TX 77060 Reference #: Creedence 21 16 Prospect TJ Item ID: Creedence 21 16 Prospect

# **Tyler Jolly**

From:Karen Stanford <kstanford@sianaoil.com>Sent:Wednesday, August 01, 2018 4:09 PMTo:Tyler JollySubject:RE: Creedence 21-16 Wells Eddy County NM

Ok - that makes sense. Thanks so much for the explanation. Karen

From: Tyler Jolly [mailto:tjolly@mewbourne.com] Sent: Wednesday, August 01, 2018 3:34 PM To: Karen Stanford Subject: RE: Creedence 21-16 Wells Eddy County NM

Karen,

Most other parties have already signed the JOA, which has a clock that activities must be performed by. These parties did not receive the five (5) additional Wolfcamp proposals.

It's a lengthy process to get the parties who have not signed the JOA signed up or under a pooling order.

This being the case, at this time there is no reason to propose the five (5) additional Wolfcamp wells to parties that have signed the agreement. We can propose the wells at a later date and they will be bound by the agreement to sign up in 30 days or go non-consent in the proposed wells.

**Tyler Jolly Mewbourne Oil Company** 500 West Texas, Suite 1020, Midland, TX 79701 Ph: 432-682-3715

From: Karen Stanford [mailto:kstanford@sianaoil.com] Sent: Wednesday, August 01, 2018 11:55 AM To: Tyler Jolly Subject: Creedence 21-16 Wells Eddy County NM

Hi Tyler,

Tom Ragsdale recently received the 7 new Creedence AFES Mewbourne is proposing. I just want to be sure that there are now a total of 11 Creedence AFE proposals. Peter Way told me he only received 2 new AFEs, so a total of 6 wells. I was wondering why there may be a discrepancy. Can you explain?

Thanks,

Karen Stanford

500 West Texas, Suite 1020 Midland, Texas 79701 Phone (432) 682-3715 Fax (432) 685-4170

July 19, 2018

### Certified Mail

Attwell Interests, Inc. 2410 Lock Lane Houston, TX 77019 Attn: Kirby Attwell

Re: Proposed Horizontal Tests Creedence 21-16 B3GB State Com #1H Creedence 21-16 B3HA State Com #1H Creedence 21-16 W0GB State Com #3H Creedence 21-16 W2GB State Com #6H Creedence 21-16 W2GB State Com #7H Creedence 21-16 W2HA State Com #4H Creedence 21-16 W2HA State Com #5H All of Section 16 and the N2 of Section 21 T24S, R28E, Eddy County, New Mexico Creedence 21-16 Prospect

Ladies and Gentlemen:

Per Operating Agreement dated April 15, 2018, Mewbourne Oil Company, as Operator, hereby proposes drilling the following seven (7) horizontal tests:

 Creedence 21-16 B3GB State Com #1H – APD in process Surface Location: 2630' FNL, 2015' FEL, Section 21, UL G Bottom Hole Location: 100' FNL, 200' FEL, Section 16, UL B Proposed Total Vertical Depth: 9,385'
 Proposed Total Measured Depth: 16,735'
 Formation: Bone Spring

2) Creedence 21-16 B3HA State Com #1H – APD in process Surface Location: 2630' FNL, 635' FEL, Section 21, UL H
Bottom Hole Location: 100' FNL, 700' FEL, Section 16, UL A
Proposed Total Vertical Depth: 9,405'
Proposed Total Measured Depth: 16,755'
Formation: Bone Spring

3) Creedence 21-16 W0GB State Com #3H – APD in process Surface Location: 2630' FNL, 1985' FEL, Section 21, UL G
Bottom Hole Location: 330' FNL, 2220' FEL, Section 16, UL B
Proposed Total Vertical Depth: 9,540'
Proposed Total Measured Depth: 16,915'
Formation: Wolfcamp Creedence 21-16 Prospect Page 2 of 2

4) Creedence 21-16 W2GB State Com #6H – APD in process Surface Location: 2630' FNL, 1925' FEL, Section 21, UL G Bottom Hole Location: 330' FNL, 1650' FEL, Section 16, UL B Proposed Total Vertical Depth: 10,585' Proposed Total Measured Depth: 17,050' Formation: Wolfcamp

5) Creedence 21-16 W2GB State Com #7H – APD in process Surface Location: 2630' FNL, 1955' FEL, Section 21, UL G Bottom Hole Location: 330' FNL, 2310' FEL, Section 16, UL B Proposed Total Vertical Depth: 10,385' Proposed Total Measured Depth: 16,850' Formation: Wolfcamp

6) Creedence 21-16 W2HA State Com #4H – APD in process Surface Location: 2630' FNL, 605' FEL, Section 21, UL H Bottom Hole Location: 330' FNL, 330' FEL, Section 16, UL A Proposed Total Vertical Depth: 10,595' Proposed Total Measured Depth: 17,060' Formation: Wolfcamp

7) Creedence 21-16 W2HA State Com #5H - APD in process Surface Location: 2630' FNL, 735' FEL, Section 21, UL H Bottom Hole Location: 330' FNL, 990' FEL, Section 16, UL A Proposed Total Vertical Depth: 10,395' Proposed Total Measured Depth: 16,860' Formation: Wolfcamp

In the event you elect to participate in the proposed wells, please execute the enclosed AFEs and return them to the undersigned within thirty (30) days. Please enclose your most current well information requirements so that we may supply well data when available.

Please contact me at (432) 682-3715 or via email at tiolly@mewbourne.com if you have any questions.

Very truly yours,

**MEWBOURNE OIL COMPANY** 

Tyler Jolly

Landman

Enclosures



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July 26, 2018

Dear Simple Certified:

The following is in response to your request for proof of delivery on your item with the tracking number: **9414 8106 9994 5032 9692 99**.

Item Details	
Status:	Delivered, Left with Individual
Status Date / Time:	July 26, 2018, 12:23 pm
Location:	HOUSTON, TX 77019
Postal Product:	First-Class Mail <sup>®</sup>
Extra Services:	Certified Mail™
	Return Receipt Electronic
Recipient Name:	Attwell Interests Inc
Shipment Details	
Weight:	3.0oz
Recipient Signature	
Signature of Recipient:	25
Address of Recipient:	2410 LOUKin MOL1

Note: Scanned image may reflect a different destination address due to Intended Recipient's delivery instructions on file.

Thank you for selecting the United States Postal Service<sup>®</sup> for your mailing needs. If you require additional assistance, please contact your local Post Office<sup>™</sup> or a Postal representative at 1-800-222-1811.

Sincerely, United States Postal Service<sup>®</sup> 475 L'Enfant Plaza SW Washington, D.C. 20260-0004

> Attwell Interests, Inc. 2410 LOCKE LN HOUSTON, TX 77019 Reference #: Creedence 21 16 Prospect TJ Item ID: Creedence 21 16 Prospect

500 West Texas, Suite 1020 Midland, Texas 79701 Phone (432) 682-3715 Fax (432) 685-4170

July 19, 2018

### Certified Mail

Stillwater Investments P.O. Box 51991 Midland, TX 79710

Re: Proposed Horizontal Tests Creedence 21-16 B3GB State Com #1H Creedence 21-16 B3HA State Com #1H Creedence 21-16 W0GB State Com #3H Creedence 21-16 W2GB State Com #6H Creedence 21-16 W2GB State Com #7H Creedence 21-16 W2HA State Com #4H Creedence 21-16 W2HA State Com #5H All of Section 16 and the N2 of Section 21 T24S, R28E, Eddy County, New Mexico Creedence 21-16 Prospect

Ladies and Gentlemen:

Per Operating Agreement dated April 15, 2018, Mewbourne Oil Company, as Operator, hereby proposes drilling the following seven (7) horizontal tests:

 Creedence 21-16 B3GB State Com #1H – APD in process Surface Location: 2630' FNL, 2015' FEL, Section 21, UL G Bottom Hole Location: 100' FNL, 200' FEL, Section 16, UL B Proposed Total Vertical Depth: 9,385' Proposed Total Measured Depth: 16,735' Formation: Bone Spring

2) Creedence 21-16 B3HA State Com #1H – APD in process
Surface Location: 2630' FNL, 635' FEL, Section 21, UL H
Bottom Hole Location: 100' FNL, 700' FEL, Section 16, UL A
Proposed Total Vertical Depth: 9,405'
Proposed Total Measured Depth: 16,755'
Formation: Bone Spring

3) Creedence 21-16 W0GB State Com #3H – APD in process Surface Location: 2630' FNL, 1985' FEL, Section 21, UL G Bottom Hole Location: 330' FNL, 2220' FEL, Section 16, UL B Proposed Total Vertical Depth: 9,540' Proposed Total Measured Depth: 16,915' Formation: Wolfcamp Creedence 21-16 Prospect Page 2 of 2

4) Creedence 21-16 W2GB State Com #6H – APD in process Surface Location: 2630' FNL, 1925' FEL, Section 21, UL G Bottom Hole Location: 330' FNL, 1650' FEL, Section 16, UL B Proposed Total Vertical Depth: 10,585' Proposed Total Measured Depth: 17,050' Formation: Wolfcamp

5) Creedence 21-16 W2GB State Com #7H – APD in process Surface Location: 2630' FNL, 1955' FEL, Section 21, UL G Bottom Hole Location: 330' FNL, 2310' FEL, Section 16, UL B Proposed Total Vertical Depth: 10,385' Proposed Total Measured Depth: 16,850' Formation: Wolfcamp

6) Creedence 21-16 W2HA State Com #4H – APD in process Surface Location: 2630' FNL, 605' FEL, Section 21, UL H Bottom Hole Location: 330' FNL, 330' FEL, Section 16, UL A Proposed Total Vertical Depth: 10,595' Proposed Total Measured Depth: 17,060' Formation: Wolfcamp

7) Creedence 21-16 W2HA State Com #5H – APD in process Surface Location: 2630' FNL, 735' FEL, Section 21, UL H Bottom Hole Location: 330' FNL, 990' FEL, Section 16, UL A Proposed Total Vertical Depth: 10.395' Proposed Total Measured Depth: 16,860' Formation: Wolfcamp

In the event you elect to participate in the proposed wells, please execute the enclosed AFEs and return them to the undersigned within thirty (30) days. Please enclose your most current well information requirements so that we may supply well data when available.

Please contact me at (432) 682-3715 or via email at tiolly@mewbourne.com if you have any questions.

Very truly yours,

**MEWBOURNE OIL COMPANY** 

**Tyler Jolly** 

Landman

Enclosures



July 25, 2018

Dear Simple Certified:

The following is in response to your request for proof of delivery on your item with the tracking number: **9414 8106 9994 5032 9693 29**.

Item Details	
Status:	Delivered
Status Date / Time:	July 25, 2018, 8:47 am
Location:	MIDLAND, TX 79705
Postal Product:	First-Class Mail <sup>®</sup>
Extra Services:	Certified Mail™
	Return Receipt Electronic
Recipient Name:	Tarpon Engineering Corp
Shipment Details	
Weight:	2.0oz
Recipient Signature	
Signature of Recipient:	J.Berry Anolow
Address of Recipient:	303 U241HNK

Note: Scanned image may reflect a different destination address due to Intended Recipient's delivery instructions on file.

Thank you for selecting the United States Postal Service<sup>®</sup> for your mailing needs. If you require additional assistance, please contact your local Post Office<sup>™</sup> or a Postal representative at 1-800-222-1811.

Sincerely, United States Postal Service<sup>®</sup> 475 L'Enfant Plaza SW Washington, D.C. 20260-0004

> Tarpon Engineering Corp. 303 VETERANS AIRPARK LN STE 4100 MIDLAND, TX 79705 Reference #: Creedence 21 16 Prospect TJ Item ID: Creedence 21 16 Prospect

## **Tyler Jolly**

From: Sent: To: Subject: Charlie McMillian <charlie@fivese.com> Monday, May 21, 2018 2:55 PM Tyler Jolly Creedence Wells

### Mr. Jolly,

I am in receipt of your well proposals for the Creedence wells in Eddy County, NM addressed to Tarpon Engineering & Stillwater Investments. They would consider assigning their interest in lieu of participating. However, they currently have offers for \$15,000/ac near by in Eddy county. Would Mewbourne be interested in ~ increasing their offer for any assignment?

Thank You, Charlie McMillian Landman Fivestones Energy, LLC P.O. Box 51082 Midland, TX 79710-1082 Phone: 432-618-9929 Fax: 432-617-2586 Cell: 432-978-0783 charlie@fivese.com



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# **Tyler Jolly**

From: Sent: To: Subject: Charlie McMillian <charlie@fivese.com> Thursday, September 06, 2018 12:57 PM Tyler Jolly Re: Signed Creedence 21-16 JOA Pages

He said he did not receive a JOA with the AFEs. The proposal referenced a JOA Tarpon signed back in the spring (Mar or Apr I believe). I can get him to sign it either way, no problem.

Thank You, Charlie McMillian Landman Fivestones Energy, LLC P.O. Box 51082 Midland, TX 79710-1082 Phone: 432-618-9929 Fax: 432-617-2586 Cell: 432-978-0783 charlie@fivese.com



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On Sep 4, 2018, at 10:54 AM, Tyler Jolly <<u>tjolly@mewbourne.com</u>> wrote:

Charlie,

I received AFE's for the Creedence from Tarpon. Is the JOA signed? I need that also.

Tyler

From: Charlie McMillian [mailto:charlie@fivese.com] Sent: Tuesday, August 28, 2018 1:59 PM **Confidentiality Notice**: The information contained in this e-mail is legally privileged and confidential information intended only for the use of the intended recipients. If you are not an intended recipient, or the employee or agent responsible to deliver it to the intended recipient, and you have received this e-mail in error, any review, dissemination, distribution or copying is strictly prohibited. If you have received this e-mail in error, please notify the sender immediately by return e-mail and permanently delete the copy you received.

On Aug 14, 2018, at 2:13 PM, Tyler Jolly <<u>tiolly@mewbourne.com</u>> wrote:

I'm showing Tarpon with 0.85 net acres limited to depths below the base of the Bone Spring formation in the N2 of Section 16.

From: Charlie McMillian [mailto:charlie@fivese.com] Sent: Monday, August 13, 2018 3:59 PM To: Tyler Jolly Subject: Re: Signed Creedence 21-16 JOA Pages

What is Tarpon's interest amount in the Creedence Wells?

Thank You, Charlie McMillian Landman Fivestones Energy, LLC P.O. Box 51082 Midland, TX 79710-1082 Phone: 432-618-9929 Fax: 432-617-2586 Cell: 432-978-0783 charlie@fivese.com

<image001.jpg>

## **Tyler Jolly**

From:Charlie McMillian <charlie@fivese.com>Sent:Thursday, September 06, 2018 1:06 PMTo:Tyler JollySubject:Re: Signed Creedence 21-16 JOA Pages

OK. I mailed Stillwater's to you on Tuesday.

Thank You, Charlie McMillian Landman Fivestones Energy, LLC P.O. Box 51082 Midland, TX 79710-1082 Phone: 432-618-9929 Fax: 432-617-2586 Cell: 432-978-0783 charlie@fivese.com



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On Sep 6, 2018, at 1:04 PM, Tyler Jolly <<u>tjolly@mewbourne.com</u>> wrote:

See attached pages. He can strike Engineering and write in Industries. What is Stillwater wanting to do? I'll send you the full JOA in another email.

**Tyler Jolly Mewbourne Oil Company** 500 West Texas, Suite 1020, Midland, TX 79701 Ph: 432-682-3715

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AUTHORIZATION FOR EXPENDITURE

Well Name: Creedence 21/16 W0GB State Com #3H	Pros	pect: Wo	olfcamp Y Sand		
Location: SL: 2630' FNL & 1985' FEL (21); BHL: 330' FNL & 2220' FEL (16)	c.	ounty: Ed	dy		ST: NM
Sec. 21/16 Blk: Survey: TWP:	24S		28E Prop. TVI	D: 9540	TMD: 16915
		1	T		
INTANGIBLE COSTS 0180 Regulatory Permits & Surveys		CODE 0180-0100	TCP \$10,000	CODE 0180-0200	CC
Location / Road / Site / Preparation		0180-0105		0180-0205	
Location / Restoration		0180-0106			
Daywork / Turnkey / Footage Drilling 28 days drlg / 4 days comp @ \$21,000/d		0180-0110		0180-0210	
Fuel 1500 gal/day @ 2.70/gal		0180-0114		0180-0214	\$385,000
Mud, Chemical & Additives Horizontal Drillout Services Coil Tbg Drillout		0180-0120	\$225,000	0180-0220	0000.000
Horizontal Drillout Services Coil Tbg Drillout Cementing		0190 0125	\$150,000	0180-0222	\$200,000 \$30,000
Logging & Wireline Services		0180-0125		0180-0225	\$360,000
Casing / Tubing / Snubbing Service		0180-0134		0180-0234	\$80,000
Mud Logging		0180-0137		0100 0201	\$00,000
Stimulation 45 Stg 18.0 MM gal / 18.0 MM lb				0180-0241	\$2,710,000
Stimulation Rentals & Other				0180-0242	\$175,000
Water & Other		0180-0145		0180-0245	\$450,000
Bits		0180-0148		0180-0248	\$8,000
Inspection & Repair Services Misc. Air & Pumping Services		0180-0150		0180-0250	\$5,000
Testing & Flowback Services	·	0180-0154 0180-0158		0180-0254 0180-0258	\$10,000 \$30,000
Completion / Workover Rig		0100-0130	\$10,000	0180-0250	\$10,500
Rig Mobilization		0180-0164	\$150,000		\$10,000
Transportation		0180-0165		0180-0265	\$20,000
Welding Services		0180-0168	\$5,000	0180-0268	\$15,000
Contract Services & Supervision		0180-0170	\$46,500	0180-0270	\$33,000
Directional Services Includes Vertical Control		0180-0175			
Equipment Rental		0180-0180		0180-0280	\$30,000
Well / Lease Legal Well / Lease Insurance	<u>.</u>	0180-0184		0180-0284	
Intangible Supplies		0180-0185		0180-0285	¢10.000
Damages		0180-0188 0180-0190		0180-0288 0180-0290	\$10,000
ROW & Easements		0180-0190	\$5,000	0180-0290	\$1,000
Pipeline Interconnect		0100-0132		0180-0293	\$1,000
Company Supervision		0180-0195	\$148,800	0180-0295	\$105,600
Overhead Fixed Rate		0180-0196		0180-0296	\$20,000
Well Abandonment		0180-0198		0180-0298	
Contingencies 10% (TCP) 10% (CC)		0180-0199	\$253,100	0180-0299	\$483,300
T	OTAL		\$2,783,600		\$5,316,100
Casing (19.1" - 30")           Casing (10.1" - 19.0")         450' - 13 3/8" 54.5# J-55 ST&C @ \$35.90/ft           Casing (8.1" - 10.0")         2500' - 9 5/8" 40# J-55 LT&C @ \$27.61/ft           Casing (6.1" - 8.0")         9945' - 7" 29# P-110 LT&C @ \$27.76/ft		0181-0793 0181-0794 0181-0795 0181-0796	\$17,300 \$73,800		
Casing (4.1" - 6.0")         8000' - 4 1/2" 13.5# P-110 LTC @ \$13.66/ft           Tubing (2" - 4")         9055' - 2 7/8" 6.5# L-80 EUE 8rd @ \$5.62/ft				0181-0797	\$116,800
Tubing (2" - 4")         9055' - 2 7/8" 6.5# L-80 EUE 8rd @ \$5.62/ft           Drilling Head		0181-0860	\$40,000	0181-0798	\$54,400
Tubing Head & Upper Section		0101-0000	\$40,000	0181-0870	\$48,000
Horizontal Completion Tools Completion Liner Hanger				0181-0871	\$70,000
Sucker Rods				0181-0875	φ <i>τ</i> 0,000
Subsurface Equipment				0181-0880	
Artificial Lift Systems Gas Lift Valves				0181-0884	\$15,000
Pumping Unit				0181-0885	
Surface Pumps & Prime Movers 1/2 VRU/SWD Pump/Circ Pump		·		0181-0886	\$35,000
Tanks - Oil         3 - 750 bbl           Tanks - Water         3 - 750 bbl				0181-0890	\$55,000
Separation / Treating Equipment 30"x10'x1k# 3 ph/36"x15'x1k# Hor 3ph/Gun	hbl		<u> </u>	0181-0891 0181-0895	\$60,000 \$45,000
Heater Treaters, Line Heaters 8'x20'x75# HT	100	}		0181-0895	\$45,000
Metering Equipment			<u> </u>	0181-0898	\$14,000
Line Pipe & Valves - Gathering	(1)			0181-0900	\$50,000
Fittings / Valves & Accessories	74			0181-0906	\$60,000
Cathodic Protection				0181-0908	\$8,000
Electrical Installation				0181-0909	\$50,000
Equipment Installation Pipeline Construction				0181-0910	
			1	0181-0920	\$10,000
Τ	OTAL		\$426,000		\$754,200
SUBT	OTAL		\$3,209,600		\$6,070,300
TOTAL WELL CO	ст	[	¢o.2	79,900	
Extra Expense Insurance I elect to be covered by Operator's Extra Expense Insurance and pay my Operator has secured Extra Expense Insurance covering costs of well control I elect to purchase my own well control insurance policy. If neither box is checked above, non-operating working interest owner elects to be covered by Operator's working interest ownelects to	clean ı	up and redrill	e of the premium	l.	0180-0185.
Prepared by: T. Cude	Date:	7/13/201	8		
Company Approval:	Date:	_			
Joint Owner Interest: Amount:					<u></u>
Joint Owner Interest: Amount: Joint Owner Name: Signatu	re:				
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AUTHORIZATION FOR EXPENDITURE

		camp D Shale	<b>)</b>	
	County: Eddy	—		
Sec. 21/16 Blk: Survey: TWP: 24S	RNG: 28	BE Prop. TVE	): 10595	TMD: 17060
INTANGIBLE COSTS 0180	CODE	TCP	CODE	cc
Regulatory Permits & Surveys _ocation / Road / Site / Preparation	0180-0100		0180-0200	\$25.00C
Location / Restoration	0180-0105		0180-0205	\$25,000 \$30,000
Daywork / Turnkey / Footage Drilling 32 days drlg / 4 days comp @ \$21,000/d	0180-0110		0180-0200	\$89,700
Fuel 1500 gal/day @ 2.70/gal	0180-0114		0180-0214	\$385,000
Mud, Chemical & Additives	0180-0120		0180-0220	
Horizontal Drillout Services Coil Tbg Drillout			0180-0222	\$200,000
Cementing	0180-0125		0180-0225	\$30,000
Logging & Wireline Services	0180-0130	and the second se	0180-0230	\$360,000
Casing / Tubing / Snubbing Service Mud Logging	0180-0134		0180-0234	\$80,000
Stimulation 45 Stg 18.0 MM gal / 18.0 MM lb	0180-0137	\$20,000	0180-0241	\$2,710,000
Stimulation Rentals & Other			0180-0241	\$175,000
Water & Other	0180-0145	\$50.000	0180-0245	\$450,000
Bits	0180-0148		0180-0248	\$8,000
nspection & Repair Services	0180-0150		0180-0250	\$5,000
Misc. Air & Pumping Services	0180-0154		0180-0254	\$10,000
Testing & Flowback Services	0180-0158	\$15,000	0180-0258	\$30,000
Completion / Workover Rig			0180-0260	\$10,500
Rig Mobilization	0180-0164	\$150,000		
Transportation	0180-0165	······	0180-0265	\$20,000
Welding Services	0180-0168		0180-0268	\$15,000
Contract Services & Supervision	0180-0170		0180-0270	\$33,000
Directional Services Includes Vertical Control	0180-0175	\$294,000	0400.0000	
Equipment Rental Well / Lease Legal	0180-0180		0180-0280 0180-0284	\$30,000
Well / Lease Insurance	0180-0184		0180-0284	
Intangible Supplies	0180-0188		0180-0288	\$10,000
Damages	0180-0190		0180-0290	φτ0,000
ROW & Easements	0180-0192	ψ0,000	0180-0292	\$1,000
Pipeline Interconnect			0180-0293	+
Company Supervision	0180-0195	\$168,000	0180-0295	\$105,600
Overhead Fixed Rate	0180-0196		0180-0296	\$20,000
Well Abandonment	0180-0198	· _ · _ · _ · _ · _ · _ · _ · _	0180-0298	
Contingencies 10% (TCP) 10% (CC)	0180-0199	\$273,300	0180-0299	\$483,300
TANGIBLE COSTS 0181           Casing (19.1" - 30")	0181-0793 0181-0794 0181-0795	\$17,300 \$73,800		
Casing (6.1" - 8.0") 10920' - 7" 29# P-110 LT&C @ \$27.76/ft	0181-0796	\$323,800		
Casing (4.1" - 6.0") 8000' - 4 1/2" 13.5# P-110 LTC @ \$13.66/ft			0181-0797	\$116,800
Tubing (2" - 4")	_		0181-0798	
Drilling Head	0181-0860	\$40,000		
Tubing Head & Upper Section           Horizontal Completion Tools         Completion Liner Hanger	_	·	0181-0870	\$30,000
Sucker Rods			0181-0871	\$70,000
Subsurface Equipment			0181-0875 0181-0880	
Artificial Lift Systems			0181-0884	
Pumping Unit			0181-0885	
Surface Pumps & Prime Movers 1/2 VRU/SWD Pump/Circ Pump			0181-0886	\$35,000
Tanks - Oil 3 - 750 bbl			0181-0890	\$55,000
Tanks - Water 3 - 750 bbl			0181-0891	\$60,000
Separation / Treating Equipment 30"x10'x1k# 3 ph/36"x15'x1k# Hor 3ph/Gun bbl			0181-0895	\$45,000
Heater Treaters, Line Heaters 8'x20'x75# HT			0181-0897	\$23,000
Metering Equipment			0181-0898	\$14,000
Line Pipe & Valves - Gathering			0181-0900	\$50,000
Fittings / Valves & Accessories			0181-0906	\$60,000
			0181-0908	\$8,000
Cathodic Protection			0181-0909	\$50,000 \$40,000
Cathodic Protection Electrical Installation			10181.0010	, φ <del>+</del> υ,υυί
Cathodic Protection Electrical Installation Equipment Installation			0181-0910	
Cathodic Protection Electrical Installation Equipment Installation Pipeline Construction			0181-0910 0181-0920	\$10,000
Cathodic Protection Electrical Installation Equipment Installation Pipeline Construction TOTAI		\$454,900	0181-0920	\$10,000 \$666,800
Cathodic Protection Electrical Installation Equipment Installation Pipeline Construction		\$454,900 \$3,461,100	0181-0920	
Cathodic Protection Electrical Installation Equipment Installation Pipeline Construction TOTAL SUBTOTAL TOTAL WELL COST		\$3,461,100	0181-0920	\$10,000 \$666,800
Cathodic Protection Electrical Installation Equipment Installation Pipeline Construction TOTAI SUBTOTAI SUBTOTAI Extra Expense Insurance I elect to be covered by Operator's Extra Expense Insurance and pay my prope Operator has secured Extra Expense Insurance covering costs of well control, clear I elect to purchase my own well control insurance policy.	ortionate share	\$3,461,100 \$9,4 of the premium	0181-0920 44,000	\$10,000 \$666,800 \$5,982,900
Cathodic Protection Electrical Installation Equipment Installation Pipeline Construction TOTAI SUBTOTAI SUBTOTAI Extra Expense Insurance I elect to be covered by Operator's Extra Expense Insurance and pay my prope Operator has secured Extra Expense Insurance covering costs of well control, clear I elect to purchase my own well control insurance policy.	ortionate share	\$3,461,100 \$9,4 of the premium	0181-0920 44,000	\$10,000 \$666,800 \$5,982,900
Cathodic Protection Electrical Installation Equipment Installation Pipeline Construction TOTAI SUBTOTAI SUBTOTAI Extra Expense Insurance I elect to be covered by Operator's Extra Expense Insurance and pay my prope Operator has secured Extra Expense Insurance covering costs of well control, clear I elect to purchase my own well control insurance policy.	ortionate share o up and redrillir trol insurance.	\$3,461,100 \$9,4 of the premium g as estimated i	0181-0920 44,000	\$10,000 \$666,800 \$5,982,900
Cathodic Protection  Electrical Installation  Equipment Installation  Pipeline Construction  TOTAL  SUBTOTAI  SUBTOTAI  Extra Expense Insurance  I elect to be covered by Operator's Extra Expense Insurance and pay my proper Operator has secured Extra Expense Insurance covering costs of well control, clear I elect to purchase my own well control insurance policy.  f neither box is checked above, non-operating working interest owner elects to be covered by Operator's well cor	e:	\$3,461,100 \$9,4 of the premium g as estimated i	0181-0920 44,000	\$10,000 \$666,800 \$5,982,900
Cathodic Protection  Electrical Installation  Equipment Installation  Pipeline Construction  TOTAL  SUBTOTAI  SUBTOTAI  TOTAL WELL COST  Extra Expense Insurance  I elect to be covered by Operator's Extra Expense Insurance and pay my prope Operator has secured Extra Expense Insurance covering costs of well control, clear I elect to purchase my own well control insurance policy. f neither box is checked above, non-operating working interest owner elects to be covered by Operator's well cor Prepared by: Company Approval: Dat	e:	\$3,461,100 \$9,4 of the premium g as estimated i	0181-0920 44,000	\$10,000 \$666,800 \$5,982,900
Cathodic Protection Electrical Installation Equipment Installation Pipeline Construction TOTAL SUBTOTAI SUBTOTAI Extra Expense Insurance I elect to be covered by Operator's Extra Expense Insurance and pay my prope Operator has secured Extra Expense Insurance covering costs of well control, clear I elect to purchase my own well control insurance policy. I elect to purchase my own well control insurance policy. I neither box is checked above, non-operating working interest owner elects to be covered by Operator's well corr Prepared by: T. Cude Dat Company Approval: Dat Joint Owner Interest: Amount:	e:	\$3,461,100 \$9,4 of the premium g as estimated i	0181-0920 44,000	\$10,000 \$666,800 \$5,982,900
Cathodic Protection  Electrical Installation  Guipment Installation  TOTAL  SUBTOTAI  SUBTOTAI  TOTAL WELL COST  Extra Expense Insurance  I elect to be covered by Operator's Extra Expense Insurance and pay my prope Operator has secured Extra Expense Insurance covering costs of well control, clear I elect to purchase my own well control insurance policy.  I elect to purchase my own well contr	e:	\$3,461,100 \$9,4 of the premium g as estimated i	0181-0920 44,000	\$10,00 \$666,80 \$5,982,90

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AUTHORIZATION FOR EXPENDITURE

	·	olfcamp D Shale	•	
Location: SL: 2630' FNL & 735' FEL (21); BHL: 330' FNL & 990' FEL (16)	ounty: Ed	dy		ST: NM
Sec.         21/16         Blk:         Survey:         TWP:         24S	] RNG:	28E Prop. TVI	D: 10395	TMD: 16860
INTANGIBLE COSTS 0180	CODE	TCP	CODE	сс
Regulatory Permits & Surveys	0180-0100		0180-0200	
_ocation / Road / Site / Preparation	0180-0105		0180-0205	
Daywork / Turnkey / Footage Drilling 32 days drlg / 4 days comp @ \$21,000/d	0180-0106		0180-0206	
Fuel 1500 gal/day @ 2.70/gal	0180-0110		0180-0210	
Mud, Chemical & Additives	0180-0120		0180-0220	
Horizontal Drillout Services Coil Tbg Drillout			0180-0222	
Cementing	0180-0125		0180-0225	
Logging & Wireline Services Casing / Tubing / Snubbing Service	0180-0130		0180-0230	
Mud Logging	0180-0134		0180-0234	\$80,000
Stimulation 45 Stg 18.0 MM gal / 18.0 MM lb	0180-0137	\$20,000	0180-0241	\$2,710,000
Stimulation Rentals & Other		-	0180-0242	+
Water & Other	0180-0145		0180-0245	
Bits	0180-0148		0180-0248	
Inspection & Repair Services	0180-0150		0180-0250	
Misc. Air & Pumping Services	0180-0154		0180-0254	
Completion / Workover Rig	0180-0158	a 15,000	0180-0258 0180-0260	
Rig Mobilization	0180-0164	\$150,000		φ10,500
Transportation	0180-0165		0180-0265	\$20,000
Welding Services	0180-0168	\$5,000	0180-0268	\$15,000
Contract Services & Supervision	0180-0170		0180-0270	\$33,000
Directional Services Includes Vertical Control	0180-0175			+-
Equipment Rental Well / Lease Legal	0180-0180		0180-0280	
Well / Lease Insurance	0180-0184		0180-0284 0180-0285	
Intangible Supplies	0180-0188		0180-0285	
Damages	0180-0190		0180-0290	
ROW & Easements	0180-0192		0180-0292	
Pipeline Interconnect			0180-0293	
Company Supervision	0180-0195		0180-0295	t
Overhead Fixed Rate	0180-0196		0180-0296	· · · · · · · · · · · · · · · · · · ·
Well Abandonment	0180-0198		0180-0298	
Contingencies 10% (TCP) 10% (CC) TOTAL	0180-0199		0180-0299	
TANGIBLE COSTS 0181		\$3,006,100		\$5,316,100
Casing (19.1" - 30")	0181-0793			
Casing (10.1" - 19.0") 450' - 13 3/8" 54.5# J-55 ST&C @ \$35.90/ft	0181-0794			
Casing (8.1" - 10.0") 2500' - 9 5/8" 40# J-55 LT&C @ \$27.61/ft	0181-0795	\$73,800		
Casing (6.1" - 8.0") 10720' - 7" 29# P-110 LT&C @ \$27.76/ft	0181-0796	\$317,900		
Casing (4.1" - 6.0") 8000' - 4 1/2" 13.5# P-110 LTC @ \$13.66/ft			0181-0797	
Tubing (2" - 4") Drilling Head	0404 0000	¢ 40,000	0181-0798	
Tubing Head & Upper Section	0181-0860	\$40,000	0181-0870	\$30,000
Horizontal Completion Tools Completion Liner Hanger			0181-0870	1
Sucker Rods			0181-0875	
Subsurface Equipment			0181-0880	***************************************
Artificial Lift Systems			0181-0884	
Pumping Unit			0181-0885	
Surface Pumps & Prime Movers         1/2 VRU/SWD Pump/Circ Pump           Tanks - Oil         3 - 750 bbl		.	0181-0886	
Tanks - Oil         3 - 750 bbl           Tanks - Water         3 - 750 bbl			0181-0890	f
Separation / Treating Equipment 30"x10'x1k# 3 ph/36"x15'x1k# Hor 3ph/Gun bbl	╢────		0181-0891 0181-0895	\$60,000 \$45,000
Heater Treaters, Line Heaters 8'x20'x75# HT	1		0181-0895	
Metering Equipment			0181-0898	1
			0181-0900	\$50,000
			0181-0906	\$60,000
Fittings / Valves & Accessories		1	0181-0908	
Line Pipe & Valves - Gathering Fittings / Valves & Accessories Cathodic Protection				
Fittings / Valves & Accessories Cathodic Protection Electrical Installation			0181-0909	\$40,000
Fittings / Valves & Accessories Cathodic Protection Electrical Installation Equipment Installation			0181-0910	
Fittings / Valves & Accessories Cathodic Protection Electrical Installation Equipment Installation Pipeline Construction			0181-0910 0181-0920	\$10,000
Fittings / Valves & Accessories Cathodic Protection Electrical Installation Equipment Installation Pipeline Construction TOTAL		\$449,000	0181-0910 0181-0920	\$10,000
Fittings / Valves & Accessories Cathodic Protection Electrical Installation Equipment Installation Pipeline Construction		\$449,000	0181-0910 0181-0920	
Tittings / Valves & Accessories         Cathodic Protection         Electrical Installation         Equipment Installation         Pipeline Construction         TOTAL		\$3,455,100	0181-0910 0181-0920	\$10,000 \$666,80
Tittings / Valves & Accessories         Cathodic Protection         Clectrical Installation         quipment Installation         Pipeline Construction         TOTAL         SUBTOTAL         TOTAL WELL COST	tionate sha	\$3,455,100 <b>\$9,4</b> re of the premium	0181-0910 0181-0920 38,000	\$10,000 \$666,800 \$5,982,900
Fittings / Valves & Accessories         Cathodic Protection         Electrical Installation         Equipment Installation         Pipeline Construction         TOTAL         SUBTOTAL         TOTAL WELL COST         Extra Expense Insurance         I elect to be covered by Operator's Extra Expense Insurance and pay my propor         Operator has secured Extra Expense Insurance covering costs of well control, clean in         I elect to purchase my own well control insurance policy.	up and redri	\$3,455,100 <b>\$9,4</b> re of the premium	0181-0910 0181-0920 38,000	\$10,000 \$666,800 \$5,982,900
Fittings / Valves & Accessories         Cathodic Protection         Electrical Installation         Equipment Installation         Pipeline Construction         TOTAL         SUBTOTAL         SUBTOTAL         TOTAL WELL COST         Extra Expense Insurance         I elect to be covered by Operator's Extra Expense Insurance and pay my propor         Operator has secured Extra Expense Insurance covering costs of well control, clean in	up and redril ol insurance.	\$3,455,100 <b>\$9,4</b> re of the premium ling as estimated i	0181-0910 0181-0920 38,000	\$10,000 \$666,800 \$5,982,900
Fittings / Valves & Accessories         Cathodic Protection         Electrical Installation         Equipment Installation         Pipeline Construction         TOTAL         SUBTOTAL         SUBTOTAL         TOTAL WELL COST         Extra Expense Insurance         I elect to be covered by Operator's Extra Expense Insurance and pay my propor         Operator has secured Extra Expense Insurance covering costs of well control, clean in         I elect to purchase my own well control insurance policy.         f neither box is checked above, non-operating working interest owner elects to be covered by Operator's well control	up and redrii ol insurance, : 7/13/20	\$3,455,100 <b>\$9,4</b> re of the premium ling as estimated i	0181-0910 0181-0920 38,000	\$10,000 \$666,800 \$5,982,900
Fittings / Valves & Accessories         Cathodic Protection         Electrical Installation         Equipment Installation         Pipeline Construction         TOTAL         SUBTOTAL         SUBTOTAL         SUBTOTAL         TOTAL WELL COST         Extra Expense Insurance         I elect to be covered by Operator's Extra Expense Insurance and pay my propor         Operator has secured Extra Expense Insurance covering costs of well control, clean in         I elect to purchase my own well control insurance policy.         f neither box is checked above, non-operating working interest owner elects to be covered by Operator's well control         Prepared by:       T, Cude       Date:	up and redrii ol insurance, : 7/13/20	\$3,455,100 <b>\$9,4</b> re of the premium ling as estimated i	0181-0910 0181-0920 38,000	\$10,000 \$666,800 \$5,982,900

AUTHORIZATION FOR EXPENDITURE

Sec. 21/16       Blk:       Survey:       TWP: 24S         INTANGIBLE COSTS 0180         Regulatory Permits & Surveys         ocation / Road / Site / Preparation         ocation / Restoration         Daywork / Turnkey / Footage Drilling 32 days drlg / 4 days comp @ \$21,000/d         Support / Turnkey / Footage Drilling 32 days drlg / 4 days comp @ \$21,000/d         Support / Turnkey / Footage Drilling 32 days drlg / 2.70/gal         Aud, Chemical & Additives         Horizontal Drillout Services         Coil Tbg Drillout         Cementing         .ogging & Wireline Services         Casing / Tubing / Snubbing Service	CODE 0180-0100	E Prop. TVE		
INTANGIBLE COSTS 0180 Regulatory Permits & Surveys .ocation / Road / Site / Preparation .ocation / Restoration Daywork / Turnkey / Footage Drilling 32 days drlg / 4 days comp @ \$21,000/d Fuel 1500 gal/day @ 2.70/gal Aud, Chemical & Additives Horizontal Drillout Services Coil Tbg Drillout Cementing .ogging & Wireline Services Casing / Tubing / Snubbing Service	CODE 0180-0100	E   <b>Prop. TV</b> E		ST: NM
Regulatory Permits & Surveys	0180-0100	<u> </u>	): <u>10585</u>	TMD: 17050
Location / Road / Site / Preparation       Image: constraint of the second		TCP	CODE	CC
.ocation / Restoration         Daywork / Turnkey / Footage Drilling       32 days drlg / 4 days comp @ \$21,000/d         Fuel       1500 gal/day @ 2.70/gal         Mud, Chemical & Additives       1500 gal/day @ 2.70/gal         Horizontal Drillout Services       Coil Tbg Drillout         Cementing       0.00000000000000000000000000000000000			0180-0200 0180-0205	\$25,00
Daywork / Turnkey / Footage Drilling 32 days drlg / 4 days comp @ \$21,000/d Fuei 1500 gal/day @ 2.70/gal Aud, Chemical & Additives Horizontal Drillout Services Coil Tbg Drillout Cementing Logging & Wireline Services Casing / Tubing / Snubbing Service	0180-0105		0180-0205	\$23,00
Tuel       1500 gal/day @ 2.70/gal         Aud, Chemical & Additives       1500 gal/day @ 2.70/gal         Horizontal Drillout Services       Coil Tbg Drillout         Cementing       1500 gal/day @ 2.70/gal         Logging & Wireline Services       Coil Tbg Drillout         Casing / Tubing / Snubbing Service       1500 gal/day @ 2.70/gal	0180-0110		0180-0210	\$89,70
Horizontal Drillout Services     Coil Tbg Drillout       Cementing	0180-0114	and the second se	0180-0214	\$385,00
Cementing .ogging & Wireline Services Casing / Tubing / Snubbing Service	0180-0120	\$225,000	0180-0220	
ogging & Wireline Services Casing / Tubing / Snubbing Service			0180-0222	\$200,00
Casing / Tubing / Snubbing Service	0180-0125		0180-0225 0180-0230	\$30,00 \$360,00
	0180-0130		0180-0230	\$80,00 \$80,00
	0180-0137	\$20,000		
Stimulation 45 Stg 18.0 MM gal / 18.0 MM lb			0180-0241	\$2,710,00
Stimulation Rentals & Other			0180-0242	\$175,00
	0180-0145		0180-0245	\$450,00
	0180-0148		0180-0248 0180-0250	\$8,00
	0180-0150	\$40,000	0180-0250	\$5,00 \$10,00
	0180-0154	\$15,000	0180-0254	\$10,00
Completion / Workover Rig		φ10,000	0180-0250	\$10,50
Rig Mobilization	0180-0164	\$150,000		
	0180-0165		0180-0265	\$20,00
	0180-0168		0180-0268	\$15,00
	0180-0170		0180-0270	\$33,00
	0180-0175	\$294,000	0180-0280	\$30,00
	0180-0180		0180-0280	<u>430,00</u>
	0180-0185		0180-0285	
	0180-0188		0180-0288	\$10,00
	0180-0190		0180-0290	
	0180-0192		0180-0292	\$1,00
Pipeline Interconnect			0180-0293	
	0180-0195		0180-0295	\$105,60
	0180-0196	\$10,000	0180-0296	\$20,00
	0180-0198	\$273 300	0180-0298 0180-0299	\$483,30
TOTAL	0100-0133	\$3,006,200		\$5,316,10
TANGIBLE COSTS 0181				φ0,010,10
	0181-0793			
	0181-0793	\$17.300		
	0181-0795	\$73,800		
	0181-0796	\$323,500		
Casing (4.1" - 6.0") 8000' - 4 1/2" 13.5# P-110 LTC @ \$13.66/ft			0181-0797	\$116,80
Tubing (2" - 4")			0181-0798	
	0181-0860	\$40,000		
Fubing Head & Upper Section         Completion Liner Hanger           Horizontal Completion Tools         Completion Liner Hanger			0181-0870	\$30,00
Horizontal Completion Tools Completion Liner Hanger			0181-0871	\$70,00
Subsurface Equipment			0181-0880	
			0181-0884	
			0181-0885	
Artificial Lift Systems Pumping Unit			0181-0886	\$35,00
Artificial Lift Systems Pumping Unit Surface Pumps & Prime Movers 1/2 VRU/SWD Pump/Circ Pump			0181-0890	\$55,00
Artificial Lift Systems Pumping Unit Surface Pumps & Prime Movers 1/2 VRU/SWD Pump/Circ Pump Fanks - Oil 3 - 750 bbl		1	0181-0891	\$60,00
Artificial Lift Systems Pumping Unit Surface Pumps & Prime Movers 1/2 VRU/SWD Pump/Circ Pump Fanks - Oil 3 - 750 bbl Fanks - Water 3 - 750 bbl				\$45,00
Artificial Lift Systems Pumping Unit Surface Pumps & Prime Movers 1/2 VRU/SWD Pump/Circ Pump fanks - Oil 3 - 750 bbl fanks - Water 3 - 750 bbl Separation / Treating Equipment 30"x10'x1k# 3 ph/36"x15'x1k# Hor 3ph/Gun bbl			0181-0895	
Artificial Lift Systems Pumping Unit Surface Pumps & Prime Movers 1/2 VRU/SWD Pump/Circ Pump Fanks - Oil Separation / Treating Equipment Separation / Treaters, Line Heaters 8'x20'x75# HT			0181-0897	\$23,00
Artificial Lift Systems Pumping Unit Surface Pumps & Prime Movers 1/2 VRU/SWD Pump/Circ Pump Fanks - Oil Separation / Treating Equipment Separation / Treating Equipment Separation / Treaters, Line Heaters 8'x20'x75# HT Metering Equipment			0181-0897 0181-0898	\$23,00 \$14,00
Artificial Lift Systems Pumping Unit Surface Pumps & Prime Movers 1/2 VRU/SWD Pump/Circ Pump Fanks - Oil Separation / Treating Equipment Separation / Treaters, Line Heaters 8'x20'x75# HT			0181-0897	\$23,00 \$14,00 \$50,00
Artificial Lift Systems Pumping Unit Surface Pumps & Prime Movers 1/2 VRU/SWD Pump/Circ Pump Fanks - Oil 7anks - Oil 7anks - Water 3 - 750 bbl Fanks - Water 3 - 750 bbl Separation / Treating Equipment 30"x10'x1k# 3 ph/36"x15'x1k# Hor 3ph/Gun bbl Heater Treaters, Line Heaters 8'x20'x75# HT Attering Equipment Ine Pipe & Valves - Gathering Tittings / Valves & Accessories Cathodic Protection			0181-0897 0181-0898 0181-0900	\$23,00 \$14,00 \$50,00 \$60,00
Artificial Lift Systems Pumping Unit Surface Pumps & Prime Movers 1/2 VRU/SWD Pump/Circ Pump Fanks - Oil 3 - 750 bbl Fanks - Water 3 - 750 bbl Separation / Treating Equipment 30"x10'x1k# 3 ph/36"x15'x1k# Hor 3ph/Gun bbl Heater Treaters, Line Heaters 8'x20'x75# HT Attering Equipment Line Pipe & Valves - Gathering Fittings / Valves & Accessories Cathodic Protection Electrical Installation			0181-0897 0181-0898 0181-0900 0181-0906	\$23,00 \$14,00 \$50,00 \$60,00 \$8,00 \$50,00
Artificial Lift Systems Pumping Unit Surface Pumps & Prime Movers 1/2 VRU/SWD Pump/Circ Pump Fanks - Oil 3 - 750 bbl Fanks - Water 3 - 750 bbl Separation / Treating Equipment 30"x10'x1k# 3 ph/36"x15'x1k# Hor 3ph/Gun bbl Heater Treaters, Line Heaters 8'x20'x75# HT Attering Equipment Line Pipe & Valves - Gathering Fittings / Valves & Accessories Cathodic Protection Electrical Installation Equipment Installation Electrical Installation Equipment Installation Equipment Installation Electrical Installation Electrica			0181-0897 0181-0898 0181-0900 0181-0906 0181-0908 0181-0909 0181-0910	\$23,00 \$14,00 \$50,00 \$60,00 \$8,00 \$50,00 \$40,00
Artificial Lift Systems Pumping Unit Surface Pumps & Prime Movers 1/2 VRU/SWD Pump/Circ Pump Fanks - Oil 3 - 750 bbl Fanks - Water 3 - 750 bbl Separation / Treating Equipment 30"x10'x1k# 3 ph/36"x15'x1k# Hor 3ph/Gun bbl Heater Treaters, Line Heaters 8'x20'x75# HT Attering Equipment Line Pipe & Valves - Gathering Fittings / Valves & Accessories Cathodic Protection Electrical Installation			0181-0897 0181-0898 0181-0900 0181-0906 0181-0908 0181-0909	\$23,00 \$14,00 \$50,00 \$60,00 \$8,00 \$50,00 \$40,00
Artificial Lift Systems Pumping Unit Surface Pumps & Prime Movers 1/2 VRU/SWD Pump/Circ Pump Fanks - Oil 3 - 750 bbl Fanks - Water 3 - 750 bbl Separation / Treating Equipment 30"x10'x1k# 3 ph/36"x15'x1k# Hor 3ph/Gun bbl Heater Treaters, Line Heaters 8'x20'x75# HT Attering Equipment Line Pipe & Valves - Gathering Fittings / Valves & Accessories Cathodic Protection Electrical Installation Equipment Installation Electrical Installation Equipment Installation Equipment Installation Electrical Installation Electrica		\$454,600	0181-0897 0181-0898 0181-0900 0181-0906 0181-0908 0181-0909 0181-0910 0181-0920	\$23,00 \$23,00 \$50,00 \$60,00 \$60,00 \$8,00 \$50,00 \$40,00 \$10,00 \$666,80
Artificial Lift Systems Pumping Unit Surface Pumps & Prime Movers 1/2 VRU/SWD Pump/Circ Pump Tanks - Oil 3 - 750 bbl Tanks - Water 3 - 750 bbl Separation / Treating Equipment 30"x10'x1k# 3 ph/36"x15'x1k# Hor 3ph/Gun bbl Heater Treaters, Line Heaters 8'x20'x75# HT Aetering Equipment Line Pipe & Valves - Gathering Fittings / Valves & Accessories Cathodic Protection Electrical Installation Equipment Installation Pipeline Construction		\$454,600	0181-0897 0181-0900 0181-0900 0181-0906 0181-0908 0181-0909 0181-0910 0181-0920	\$23,00 \$14,00 \$50,00 \$60,00 \$8,00 \$50,00 \$40,00 \$10,00

AUTHORIZATION FOR EXPENDITURE

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Well Name: Creedence 21/16 W2GB State Com #7H Pros	···	fcamp D Shale	····	
	ounty: Edd			ST: NM
Sec. 21/16 Blk: Survey: TWP: 24S	<u>-</u>	8E Prop. TVD	): 10385	
INTANGIBLE COSTS 0180 Regulatory Permits & Surveys	CODE	TCP \$10,000	CODE 0180-0200	<u> </u>
Location / Road / Site / Preparation	0180-0105		0180-0205	\$25,000
Location / Restoration	0180-0106		0180-0206	\$30,000
Daywork / Turnkey / Footage Drilling 32 days drlg / 4 days comp @ \$21,000/d	0180-0110		0180-0210	\$89,700
Fuel 1500 gal/day @ 2.70/gal	0180-0114		0180-0214	\$385,000
Mud, Chemical & Additives	0180-0120	\$225,000	0180-0220	
Horizontal Drillout Services Coil Tbg Drillout Cementing	0100 0105	#150.000	0180-0222 0180-0225	\$200,000
Logging & Wireline Services	0180-0125 0180-0130		0180-0225	\$30,000 \$360,000
Casing / Tubing / Snubbing Service	0180-0134		0180-0230	\$80,000
Mud Logging	0180-0137	\$20,000	0100 0201	400,000
Stimulation 45 Stg 18.0 MM gal / 18.0 MM lb			0180-0241	\$2,710,000
Stimulation Rentals & Other			0180-0242	\$175,000
Water & Other	0180-0145		0180-0245	\$450,000
Bits	0180-0148		0180-0248	\$8,000
Inspection & Repair Services Misc. Air & Pumping Services	0180-0150	\$40,000	0180-0250	\$5,000
Testing & Flowback Services	0180-0154	¢15.000	0180-0254 0180-0258	\$10,000 \$30,000
Completion / Workover Rig	10100-0158	<u>000,61</u> ھ	0180-0258	\$30,000
Rig Mobilization	0180-0164	\$150,000	0100-0200	φ10,30C
Transportation	0180-0165		0180-0265	\$20,000
Welding Services	0180-0168		0180-0268	
Contract Services & Supervision	0180-0170	\$52,500	0180-0270	\$33,000
Directional Services Includes Vertical Control	0180-0175	\$294,000		
Equipment Rental	0180-0180		0180-0280	\$30,000
Well / Lease Legal	0180-0184		0180-0284	
Well / Lease Insurance	0180-0185		0180-0285	
Intangible Supplies	0180-0188		0180-0288	\$10,000
Damages ROW & Easements	0180-0190	\$5,000	0180-0290	¢4.000
Pipeline Interconnect	0180-0192		0180-0292	\$1,000
Company Supervision	0180-0195	\$168,000	0180-0293	\$105,600
Overhead Fixed Rate	0180-0195		0180-0295	\$20,000
Well Abandonment	0180-0198	<del>\</del> 10,000	0180-0298	φ20,000
Contingencies 10% (TCP) 10% (CC)	0180-0199	\$273,300	0180-0299	\$483,300
TOTAL		\$3,006,100		\$5,316,100
Casing (19.1" - 30")         Casing (10.1" - 19.0")         450' - 13 3/8" 54.5# J-55 ST&C @ \$35.90/ft         Casing (8.1" - 10.0")         2500' - 9 5/8" 40# J-55 LT&C @ \$27.61/ft         Casing (6.1" - 8.0")         10710' - 7" 29# P-110 LT&C @ \$27.76/ft         Casing (4.1" - 6.0")         8000' - 4 1/2" 13.5# P-110 LTC @ \$13.66/ft	0181-0793 0181-0794 0181-0795 0181-0796	\$17,300 \$73,800 \$317,600	0181-0797	\$116,800
Tubing (2" - 4")			0181-0797	\$110,000
Drilling Head	0181-0860	\$40,000		
Tubing Head & Upper Section		· · · ·	0181-0870	\$30,000
Horizontal Completion Tools Completion Liner Hanger			0181-0871	\$70,000
Sucker Rods			0181-0875	
Subsurface Equipment			0181-0880	
Artificial Lift Systems			0181-0884	
Pumping Unit Surface Pumps & Prime Movers 1/2 VRU/SWD Pump/Circ Pump			0181-0885	
Tanks - Oil 3 - 750 bbl			0181-0886 0181-0890	\$35,000 \$55,000
Tanks - Water 3 - 750 bbl			0181-0890	\$60,000
Separation / Treating Equipment 30"x10'x1k# 3 ph/36"x15'x1k# Hor 3ph/Gun bbl			0181-0895	\$45,000
Heater Treaters, Line Heaters 8'x20'x75# HT			0181-0897	\$23,000
Metering Equipment			0181-0898	\$14,000
Line Pipe & Valves - Gathering			0181-0900	\$50,000
Fittings / Valves & Accessories			0181-0906	\$60,000
Cathodic Protection			0181-0908	\$8,000
Electrical Installation			0181-0909	\$50,000
Equipment Installation Pipeline Construction			0181-0910 0181-0920	
	1			<u></u>
TOTAL	-	\$448,700		\$666,80
SUBTOTAL		\$3,454,800		\$5,982,90
TOTAL WELL COST		\$9.4	37,700	
Extra Expense Insurance  I elect to be covered by Operator's Extra Expense Insurance and pay my propo Operator has secured Extra Expense Insurance covering costs of well control, clean I elect to purchase my own well control insurance policy.  If neither box is checked above, non-operating working interest owner elects to be covered by Operator's well control	up and redrill rol insurance.	ing as estimated i		0180-0185.
Prepared by: T. Cude Date	: 7/13/201	8		
Company Approval: Date	:			
Joint Owner Interest: Amount:				
Joint Owner Name: Signature:				
	· · · · · · · · · · · · · · · · · · ·			

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

## APPLICATION OF MEWBOURNE OIL COMPANY FOR COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.

APPLICATION OF MEWBOURNE OIL COMPANY FOR COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.

## APPLICATION OF MEWBOURNE OIL COMPANY FOR COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.

## **AFFIDAVIT OF NOTICE**

COUNTY OF SANTA FE )

) ss.

STATE OF NEW MEXICO )

James Bruce, being duly sworn upon his oath, 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 Mewbourne Oil Company.

3. Mewbourne 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 owners, at their last known addresses, by certified mail. Copies of the notice letter and certified return receipts are attached hereto as Attachment A.

5. Applicant has complied with the notice provisions of Division Regulations.

James Bruce

SUBSCRIBED AND SWORN TO before me this day of October, 2018 by James Bruce. OFFICIAL SEAL **KERRIE C. ALLEN** My Commission Expi Notary Public State of New Mexico Notary Public My Commission Expires 10-22-7 **EXHIBIT** 

Case No. 16386

Case No. 16387

Case No. 16388

#### 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)

jamesbruc@aol.com

August 11, 2018

# CERTIFIED MAIL - RETURN RECEIPT REQUESTED

To: Persons on Exhibit A

Ladies and gentlemen:

Enclosed are copies of the following compulsory pooling applications filed with the New Mexico Oil Conservation Division by Mewbourne Oil Company:

1. Case No. \_\_\_\_\_, for a Bone Spring well in the W/2NE/4 of Section 21 and W/2E/2 of Section 16;

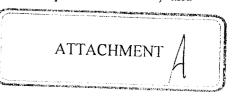
2. Case No. \_\_\_\_\_, for a Bone Spring well in the E/2NE/4 of Section 21 and E/2E/2 of Section 16; and

3. Case No. \_\_\_\_\_, for five Wolfcamp wells in the NE/4 of Section 21 and E/2 of Section 16,

all in Township 24 South, Range 28 East, NMPM, Eddy County, New Mexico.

These matters are scheduled for hearing at 8:15 a.m. on Thursday, September 6, 2018, in Porter Hall at the Division's offices at 1220 South St. Francis Drive, Santa Fe, New Mexico 87505. 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 this matter 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, August 30, 20178. This statement must be filed with the Division's Santa Fe office at the above address, and should include: The names of the party and his or her attorney; a concise statement of the case; the names of the witnesses the party will call to testify at the hearing; the approximate time the party will need to present its 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, lul James Bruce

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Attorney for Mewbourne Oil Company

# PARTIES NOTIFIED

COG Operating LLC 600 W. Illinois Avenue Midland, Texas 79701 Attn: Outside Operated Properties

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Marathon Oil Permian LLC 5555 San Felipe St. Houston, TX 77056 Attn: Matt Brown

CM Resources, LLC 306 W. Wall Street, Suite 500 Midland, TX 79701 Attn: Taylor Craighead

Attwell Interests, Inc. Attn: Kirby Attwell 2410 Lock Lane Houston, TX 77019

Kirby Attwell 2410 Lock Lane Houston, TX 77019

Fasken Land & Minerals 6101 Holiday Hill Road Midland, TX 79707

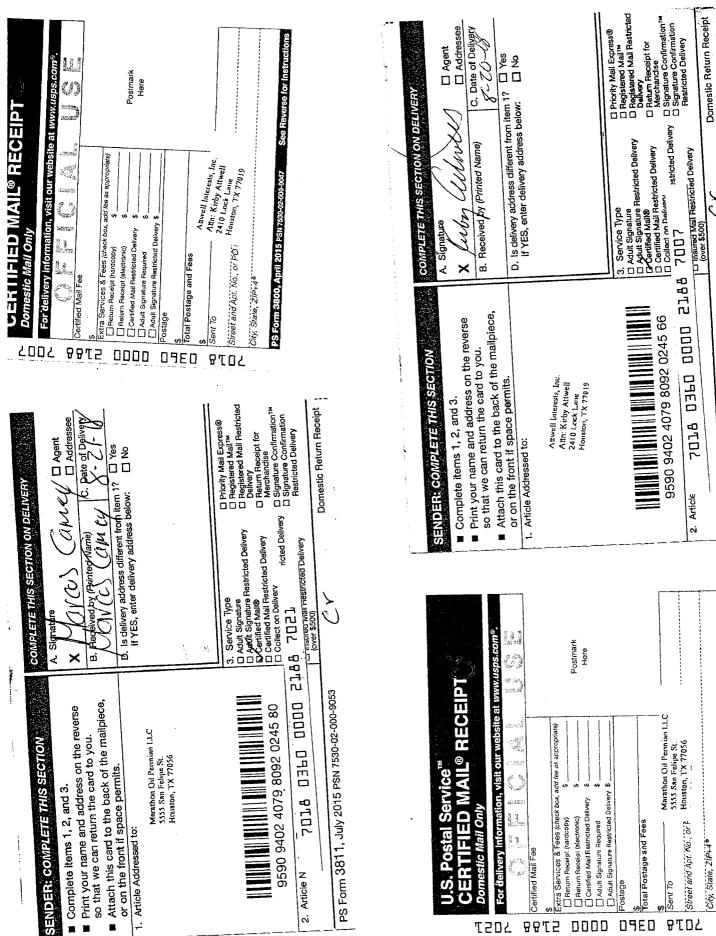
TSF WI LP P.O. Box 222 Midland, TX 79702

Stillwater Investments Tarpon Engineering Corp. P.O. Box 51082 Midland, TX 79710

T.I.G. Properties L.P. P.O. Box 10508 Midland, TX 79702

Tom M. Ragsdale 400 N. Sam Houston Pkwy East, Suite 601 Houston, TX 77060

Pacific VR LLC 11510 Montmarte Blvd. Houston, TX 77082



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

erse for Instructions

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

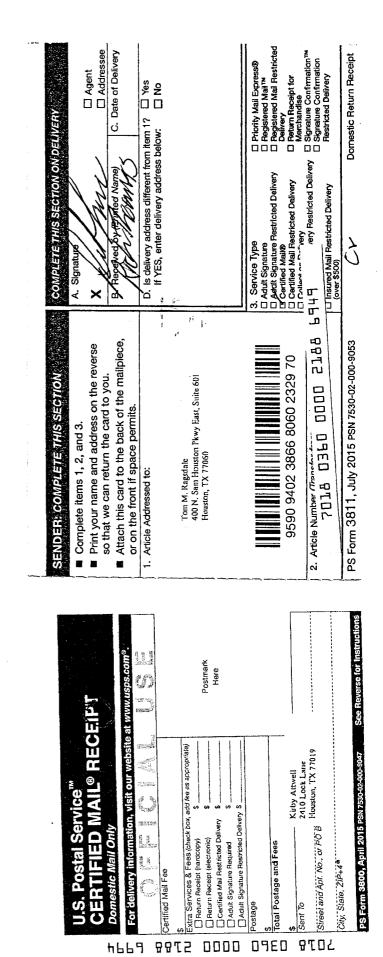
U.S. Postal Service <sup>III</sup> U.S. Postal Service <sup>III</sup> CERTIFIED MAIL® RECEIPT pomestic Mail Only For delivery information, visit our website at www.usps.com For delivery information, visit our website at www.usps.com Pomestic Mail Fee Erra Services & Fees (check box, and fee as appropriate Theum Receipt Inaurocopy) Baum Receipt Inaurocopy Certified Mail Fee Certified Mail Fee	Sent To Fracken Land & Minerals Sent To 6101 Holiday Hill Road Street and Api. No., or PO B City, State, ZiP.44 City, State, ZiP.44 PS Form 3800, April 2015 PSN 7550-02-000-6047 See Reverse for Instructions	Complete truis SECTION ON DELIVERY A Signature X A Signature A Sign		3. Service Type     Denoity Mail Express®       1. Aduit Signature     Registered Mail <sup>TW</sup> 1. Aduit Signature Restricted Delivery     Registered Mail <sup>TW</sup> 2. Certified Mail Pestricted Delivery     Delivery       1. Collect on Delivery     Return Receipt for       1. Collect on Delivery     Signature Confirmation <sup>TW</sup> 1. Collect on Delivery     Signature Confirmation	1 (over source) 153 C-r Domestic Return Receipt
WPLETE TIIS SECTION ON DELIVERY		<ul> <li>SENDER: COMPLETE THIS SECTION</li> <li>Complete items 1, 2, and 3.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the malipiece, or on the front if space permits.</li> <li>Article Addressed to:</li> </ul>	Fasken Land & Minerals 6101 Holiday 1111 Road Midland, TX 79707	9590 9402 3866 8060 2330 14 2. Article Number (Transfer from service lahval) 2. Article Number (Transfer from service lahval)	PS Form 3811, July 2015 PS
<ul> <li>SENDER: COMPLETE THIS SECTION</li> <li>Complete items 1, 2, and 3.</li> <li>Complete items 1, 2, and 3.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the maliplece, or on the front if space permits.</li> <li>1. Article Addressed to: <ul> <li>T. Article Addressed to:</li> <li>P. 0. Bux 10508</li> </ul> </li> </ul>	2. Article 70.1.6 03590 9402 3866 8060 2329 87	U.S. Postal Service <sup>Th</sup> CERTIFIED MAIL <sup>®</sup> RECEIPT Domestic Mail Only For delivery information, visit our website at www.usps.com	S     C     Strita Services & Fees (check box, add fee as appropriate)       Chatura Reservices & Fees (check box, add fee as appropriate)     Cartine Construction       Chatura Reservices (electronic)     S       Contribution Reserviced Delivery     S       Addit Signau e Required On Synaus Restricted Delivery     S	Postage       \$         \$       \$         Total Postage and Fees       \$         \$       \$	City: State, ZiP+4* PS Form 3800, April 2015 FSN 7530-02-000-9047 See Reverse for Instructions

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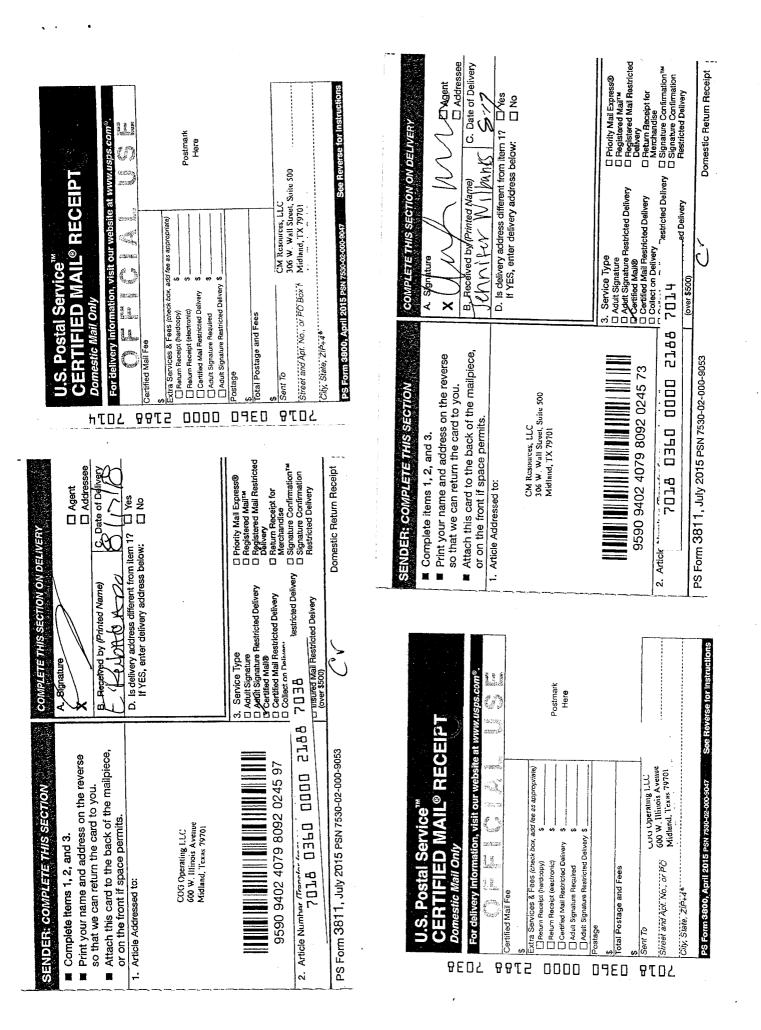
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U.S. Postal Service <sup>™</sup> CERTIFIED MAIL <sup>®</sup> RECEIPT Domestic Mail Only For delivery information, visit our website at www.usps.co	Pos	13     10tal Postage and Fer Tom M. Ragsdale       10tal Sent To       10tal Postage and Fer Tom M. Ragsdale       10tal Sent To       10tal Sineer and Apit No., or PO Box No.       10ty State, ZiP+4*	PS Form 3800, April 2015 FSN 7530-02-000-8047 See Reverse for Instructions
Complete This SECTION ON DELIVERY A. Signature X for Vry McDr. Agent B. Received by (Printed Name) C. Date of Delivery	D. Is delivery address different from item 1? 口 Yes If YES, enter delivery address below: 口 No	3. Service Type     □ Priority Mail Express®       1. Adult Signature     □ Registered Mail™       □ Adult Signature     □ Registered Mail™       □ Control Signature     □ Registered Mail™       □ Control Mail     □ Registered Mail™       □ Control Mail     □ Registered Mail       □ Control Mail     □ Registered Mail       □ Control Mail     □ Registered Mail       □ Control Mail     □ Restricted       □ Collect on Delivery     □ Signature Confirmation       □ Collect on Delivery     □ Signature Confirmation       □ Collect on Delivery     □ Signature Confirmation	C Domestic Return Receipt
R: COMPLETE THIS SECTION lete items 1, 2, and 3. your name and address on the reverse it we can return the card to you. this card to the back of the mailpiece, the fount if snace permits.	Addressed to: Xirby Atrwell 2/10 Lock Lane Houston, TX 77019	3. Service     3. Service     3. Service     3. Service     7. Adult Sign     6. Adult Sign     7. D148     7. D148	n 3811, July 2015 PSN 7530-02-000-9053



US: Postal Service "         US: Postal Service "         US: Postal Service "         Postal Service Mail Part Part Information, visit our website at www.usps.com"         Postal Services & Fees (tract Mail Fee         Certified Mail Fee         Part Method Mail Fee         Certified Mail Fee         Certified Mail Fee         Part Method Mail Fee         Certified Mail Fee         Postage         Postage         Postage         Stread on Fee         Tanpon Engineering Con-         Form 2005 April 2015 FSN resoocoocococococococococococococococococ	ION     CountEnt Trils SECTION ON DELIVERY       he reverse     A Signiture       he reverse     A Signiture       he reverse     A Signiture       he reverse     A Signiture       you.     B Agent       e malipiece,     B Addresse       D. Is delivery address different from tem 1?     Vs       D. Is delivery address different from tem 1?     Vs	3. Service Type     3. Service Type     3. Service Type       3. Service Type     3. Service Type     3. Service Type       3. Service Type     5. Registered Mail"       1. Adutt Signature Restricted Delivery     7. Registered Mail"       2329 94     1. Contined Mail®       1. Contined Mail®     1. Registered Mail"       2329 94     1. Contined Mail®       1. Contined Mail®     1. Registered Mail       1. Contraction Delivery     1. Return Receipt tor       1. Contexter S500     1. Restricted Delivery       0.02-000-3053     C
Collecter Hils Section Onerwerk         A. Signature         A. Signature         A. Signature         A. Signature         B. Received by (Printed Name)         D. Is delivery address different from item 1?         D. Is delivery address below:         D. Service Type         Addresses         Addresses         B. Hocostrue for the modelivery address below:         Definition         Definition <td><ul> <li>SENDER: COMPLETE THIS SECTION</li> <li>Complete items 1, 2, and 3.</li> <li>Complete items 1, 2, and 3.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the malipiece, or on the front if space permits.</li> <li>Article Addressed to:</li> <li>Article Addressed to:</li> <li>Stillwate Investments</li> <li>Trepon Engineering Corp. P. 0. Box 51092</li> <li>P.O. Box 51092</li> <li>P.O. Box 51092</li> <li>P.O. Box 51092</li> </ul></td> <td>2. Article Nui 701.6 01500-9053</td>	<ul> <li>SENDER: COMPLETE THIS SECTION</li> <li>Complete items 1, 2, and 3.</li> <li>Complete items 1, 2, and 3.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the malipiece, or on the front if space permits.</li> <li>Article Addressed to:</li> <li>Article Addressed to:</li> <li>Stillwate Investments</li> <li>Trepon Engineering Corp. P. 0. Box 51092</li> <li>P.O. Box 51092</li> <li>P.O. Box 51092</li> <li>P.O. Box 51092</li> </ul>	2. Article Nui 701.6 01500-9053
SENDER: COMPLETE THIS SECTION         Sender: The second address on the reverse so that your name and address on the reverse so that we can return the card to you.         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 malipiece, or on the front if space permits.         Attach this card to the back of the malipiece, or on the front if space permits.         Attach this card to the back of the malipiece, or on the front if space permits.         Attach this card to the back of the malipiece, or on the front if space permits.         Attach this card to the back of the malipiece, or on the front if space permits.         Attach this card to the back of the malipiece, or on the front if space permits.         Attach this card to the back of the malipiece, or on the front if space permits.         Attach this card to the back of the malipiece, or on the front if space permits.         Attach this card to:         Print Houten, TX 1708.2         9590 9402 3866 8060 2329 63         9590 9402 3866 8060 2329 63         2. Attach and a difference in the difference in th	U.S. Postal Service <sup>TM</sup> U.S. Postal Service <sup>TM</sup> CERTIFIED MAIL® RECEIPT Domestic Mail Only For delivery information, visit our website at www.usps.com For delivery information, visit our website For delivery information, visit our website	Adult Signature Restricted Delivery \$         Postage         Sear To         Total Postage and Fees         Sear To         Stieed and April 2015 Four To 200, 9017         See Reverse for Instructions



100 - 1000 -81/20/6000 \$ 0 1 2 0 + 0 5 9 0 × L TO SENDER L AIMED TO FORWARD US POSTAGE FIRST-CLASS 071V00607931 87501 000108668 \$6.910 TSF WILP Ч ш О N II TUNN UNABLAL 87584165656 667 For delivery information, visit our website at *www.usps.com* $^{st}$ Postmark Here 0 **RECEIP'** NI XI E i) M 7018 0360 0000 2188 6970 T'SF WJ LP P.O. Bux 222 Midland, TX 79702 C, @ . **1**7.-. 87504>1056 U N D ( Adult Signature Restricted Delivery Certified Mail Restricted Delivery Street and Apt. No., or PO Bo Domestic Mail Only PS Form 3800, April 2015 Adult Signature Required otal Postage and Fees laha 1990-Dity, State, ZIP+4\* Π Certified Mail Fee ΞO ostage ent To 0269 8825 0000 0980 ዋፒዐረ 2nd Notice James Bruce P.O. Box 1056 Santa Fe, New Mexico 87504 NAME 1st Notice Retarn 

# CURRENT-ARGUS

#### **AFFIDAVIT OF PUBLICATION**

Ad No. 0001258255

JAMES BRUCE ATTORNEY AT LAW PO BOX 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:

08/16/18

Legal Clerk

Subscribed and sworn before me this 16th of August 2018.

State of WI, County of Brown

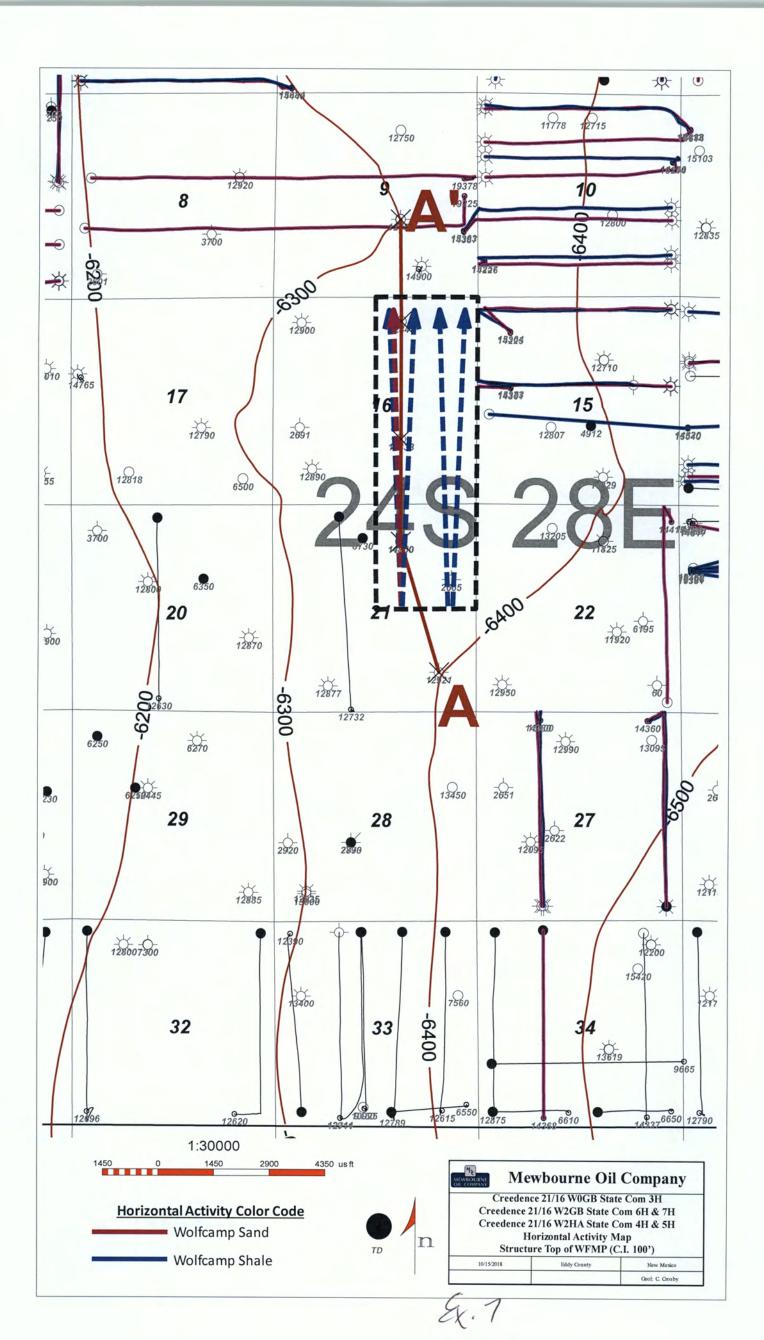
My Commission Expires

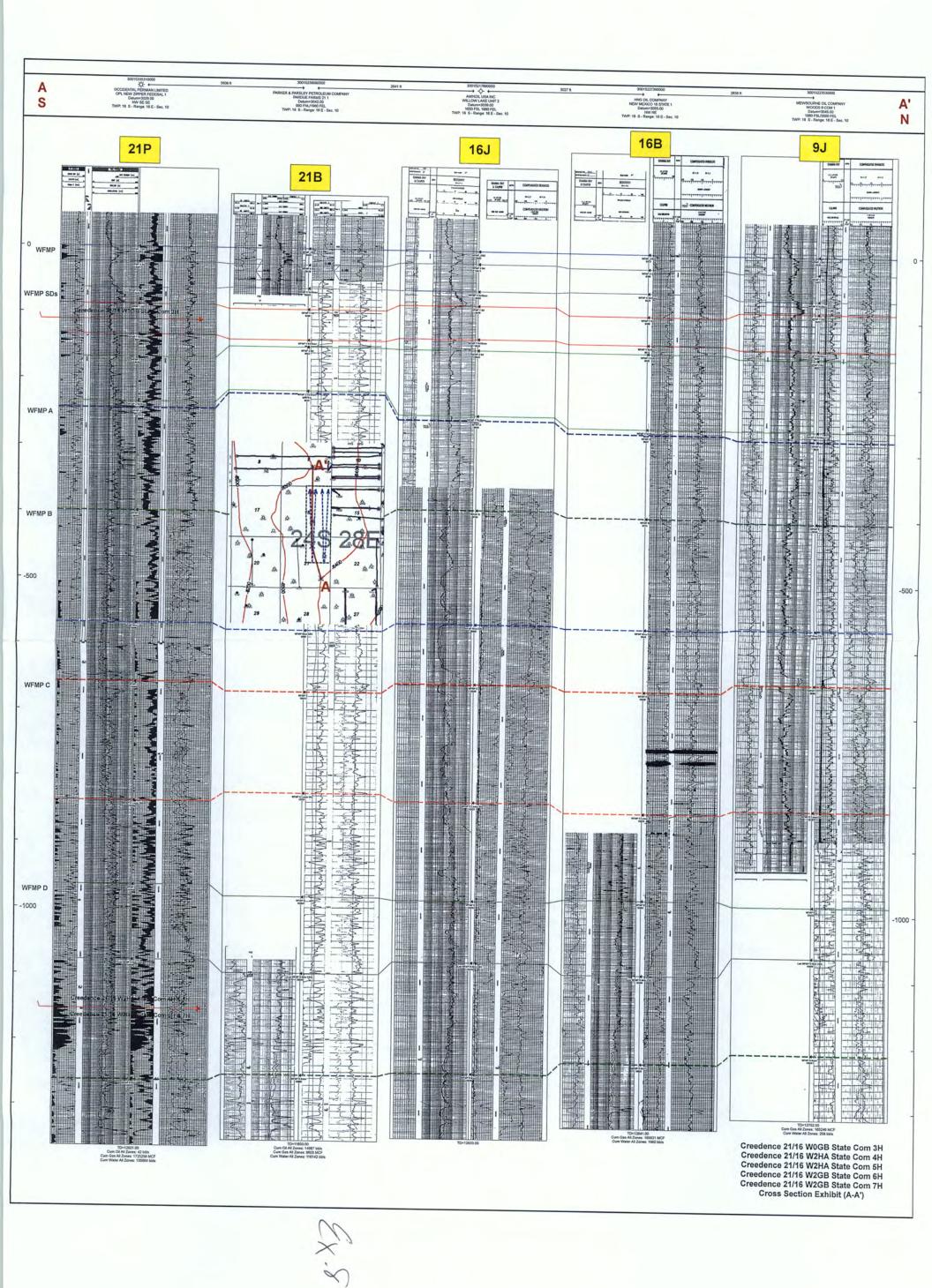
Ad#:0001258255 P O : East half # of Affidavits :0.00 NOTICE

To: CM Resources, LLC, Atwell Interests, Inc., Kirby Atwell, TSF WI LP, Stillwater Investments, T.I.G. Properties L.P., Tom M. Ragsdale, Pacific VR LLC, COG Operating LLC, Marathon Oil Permian LLC, and Fasken Land& Minerals, or your heirs, devisees, successors, or assigns: Mewbourne Oil Company has applied to the Oil Conservation Division seeking an order pooling all mineral interests in the Wolfcamp formation underlying a horizontal spacing unit comprised of the NE/4 of Section 21 and the E/2 of Section 16, Township 24 South, Range 28 East, NMPM. The unit will be dedicated to the Creedence 21/16 WOGB State Com. Well No. 3H, the Creedence W2GB State Com. Well No. 4H, the Creedence 21/16 W2HA State Com. Well No. 5H, the Creedence 21/16 W2GB State Com. Well No. 6H, and the Creedence 21/16 W2GB State Com. Well No. 7H, horizontal wells with surface locations in the S/2NE/4 of Section 21, and final take points in the N/2NE/4 of Section 16. 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 September 6, 2018 at the Division's offices at 1220 South St. Francis Drive, Santa Fe. New Mexico 87505. As an interest owner to 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 appli-cant is James Bruce, P.O. Box 1056, Santa Fe, New Mexico 87504. The unit is located approximately 1 mile west of Malaga, New Mexico. August 16, 2018



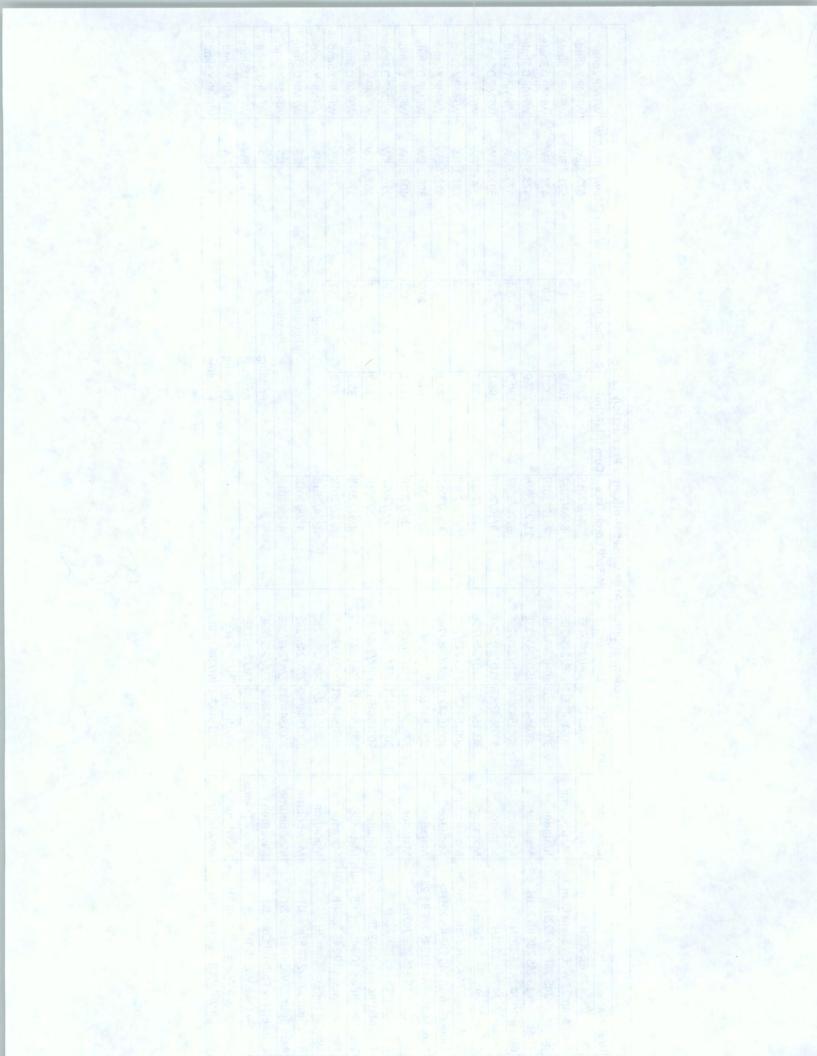






		Creed	Jence/Kansas	Creedence/Kansas Area Offset Wolfcamp Production Table	o Production Tab	le			
Well Name	Operator	API	Locaiton	WFMP Comp Date	Cum Oil (Mbo)	Cum Gas (Bcf)	Cum Water (Mbw) N	NS/EW WI	WFMP Zone
Guitar 10 24 28 RB 202H	Matador	3001542660	3001542660 10H/24S/28E	4/2/2015	225.4	0.4	672.3 EW		WFMP Y Sand
Rock Spur 27 W2CN State Com 1H	Mewbourne	3001543212	3001543212 27C/24S/28E	6/30/2017	162.9	1.8			WFMP D Shale
Guitar 10-24S-28E RB 222H	Matador	3001543693	3001543693 10H/24S/28E	8/12/2016	120.1	1.07			WFMP D Shale
Anne Com 15 24S 28E RB 221H	Matador	3001543899	3001543899 15D/24S/28E	11/21/2016	107.9				WFMP D Shale
Guitar 10 24 28 RB 201H	Matador	3001543940	3001543940 11D/24S/28E	5/20/2017	180.7	0.4			WFMP Y Sand
Guitar 10 24 28 RB 221H	Matador	3001543966	3001543966 11D/24S/28E	4/30/2017	93.1				WFMP D Shale
Guitar 10 24S 28E RB 205H	Matador	3001543993	3001543993 11D/24S/28E	5/17/2017	132.7	0.4			WFMP Y Sand
Rock Spur 27 W0CN State Com 2H	Mewbourne	3001544064	3001544064 27C/24S/28E	6/30/2017	256.9	0.6	681.1 NS		WFMP Y Sand
Anne Com 15 24S 28E RB 201H	Matador	3001544210	3001544210 15D/24S/28E	10/6/2017	149.1	0.3			WFMP Y Sand
Tom Matthews 10 24S 28E RB 223H Matador	Matador	3001544257 91/24/28E	9I/24/28E	10/21/2017	61.6	1.05			WFMP D Shale
Anne Com 15 24S 28E 202H	Matador	3001544417	3001544417 15E/24S/28E	1/7/2018	143.1	0.3			WFMP Y Sand
Anne Com 15 24S 28E 222H	Matador	3001544421	3001544421 15E/24S/28E	12/23/2017	54.5	0.8			WFMP D Shale
Tom Matthews 10 24S 28E RB 204H Matador	Matador	3001544515	3001544515 10M/24S/28E	5/5/2018	7.67	0.2			WFMP Y Sand
Tom Matthews 10 24S 28E RB 224H Matador	Matador	3001544516	3001544516 10M/24S/28E	4/14/2018	35.3	0.5			WFMP D Shale
Tom Matthews 10 24S 28E RB 203H Matador	Matador	3001544561 91/24S/28E	9I/24S/28E	4/22/2018	77.2	0.2			WFMP Y Sand
Kyle 34 Federal Com 3H	Marathon	3001543405	3001543405 34N/24S/28E	1/24/2018		Pending	NS		WFMP Y Sand
Rock Spur 27 W2AP State 1H	Mewbourne	3001544092	3001544092 27A/24S/28E	4/28/2018		Pending	NS		WFMP D Shale
Rock Spur 27 W0AP State 2H	Mewbourne	3001544093	3001544093 27A/24S/28E	4/28/2018		Pending	NS		WFMP Y Sand
Chicken Fry Federal Com 1H	Marathon	3001542882	3001542882 22A/24S/28E		Pending		NS		WFMP Y Sand
Willow Lake WC 15 1H	Kaiser-Francis		3001543990 14L/24S/28E		Pending	ing	A		WFMP D Shale
Chicago 9/8 W0HE Fee Com 1H	Mewbourne	3001544260	3001544260 9H/24S/28E		Pending	ing			WFMP Y Sand
Chicago 9/8 W0IL Fee Com 1H	Mewbourne	3001544261 9H/24S/28E	9H/24S/28E		Pending	ing		EW WF	WFMP Y Sand

Ex.9



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SURVEY CALCULATION REPORT Minimum Curvature Calculations

Le	ase Name:	9079.54 SL: 2630	e 21/16 W	mpany 70GB State ( 985 FEL Sec 200 FEL Se	c 21-24S-28			1	Declinatio	on Correct Bit	Sectio	et Angle: In Plane: In North:	358.66 6.63	Feet Degrees Degrees Degrees Feet	9557.00 90.42		
Survey No.	Measured Depth-ft	Drift (Deg.)	Azimuth (Deg.)	Course Length	TVD (Feet)	Vertical Section	+N/-S (Feet)	+E/-W (Feet)	Closure Distance	Closure Direction	BUR	DLS	KBTVD	+Above -Below Target	DRIFT (RADIANS)	AZIMUT (RADIAN	
Т/І	9079.54	0.00	358.66	N/A	9079.5	0.0	0.0	0.0	0.0	0.0	N/A	N/A	9079.5	477.5	1E-12	6.26	#VALUE!
1	9154.88	9.04	358.66	75.34721	9154.6	5.9	5.9	-0.1	5.9	358.7	12.0	12.0	9154.6	402.4	0.15780683	6.26	0.157807
2	9230.23	18.08	358.66	75.34721	9227.7	23.6	23.6	-0.5	23.6	358.7	12.0	12.0	9227.9	329.1	0.31561366	6.26	0.157807
3	9305.58			75.34721	9297.2	52.5	52.5	-1.2	52.5	358.7	12.0	12.0	9297.6	259.4	0.47342048	6.26	0.157807
4	9380.92		358.66 358.66	75.34721 75.34721	9361.3 9418.4	92.0	92.0	-2.1	92.0	358.7	12.0	12.0	9362.0	195.0	0.63122731	6.26	0.157807
6	9456.27 9531.62	45.21 54.25		75.34721	9418.4	141.1 198.5	141.0 198.5	-3.3 -4.6	141.1 198.5	358.7 358.7	12.0 12.0	12.0 12.0	9419.4 9468.5	137.6 88.5	0.78903414	6.26 6.26	0.157807
7	9606.97	63.29		75.34721	9506.1	262.9	262.8	-6.1	262.9	358.7	12.0	12.0	9508.0	49.0	1.10464779	6.26	0.157807
8	9682.31	72.33		75.34721	9534.5	332.6	332.5	-7.8	332.6	358.7	12.0	12.0	9536.9	20.1	1.26245462	6.26	0.157807
9	9757.66	81.37	358.66	75.34721	9551.6	405.9	405.8	-9.5	405.9	358.7	12.0	12.0	9554.6	2.4	1.42026145	6.26	0.157807
10	9833.01	90.42	358.66	75.34721	9557.0	480.9	480.8	-11.2	480.9	358.7	12.0	12.0	9560.5	-3.5	1.57806828	6.26	0.157807
11	9900.00	90.42		66.99273	9556.5	547.9	547.8	-12.8	547.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10
12	10000.00	90.42		100	9555.8	647.9	647.7	-15.1	647.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10
13 14	10100.00	90.42 90.42		100	9555.0 9554.3	747.9 847.9	747.7 847.7	-17.4	747.9 847.9	358.7 358.7	0.0	0.0	9560.5 9560.5	-3.5 -3.5	1.57806828	6.26	1E-10
15	10200.00	90.42		100	9553.6	947.9	947.7	-19.0	947.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828 1.57806828	6.26 6.26	1E-10 1E-10
16	10400.00	90.42		100	9552.9	1047.9	1047.6	-24.4	1047.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10
17	10500.00	90.42		100	9552.1	1147.9	1147.6	-26.8	1147.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10
18	10600.00	90.42	358.66	100	9551.4	1247.9	1247.6	-29.1	1247.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10
19	10700.00	90.42	358.66	100	9550.7	1347.9	1347.5	-31.4	1347.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10
20	10800.00	90.42	358.66	100	9550.0	1447.9	1447.5	-33.8	1447.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10
21	10900.00	90.42	358.66	100	9549.2	1547.9	1547.5	-36.1	1547.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10
22 23	11000.00	90.42 90.42	358.66 358.66	100 100	9548.5 9547.8	1647.9 1747.9	1647.5 1747.4	-38.4 -40.7	1647.9 1747.9	358.7 358.7	0.0	0.0	9560.5 9560.5	-3.5 -3.5	1.57806828 1.57806828	6.26 6.26	1E-10 1E-10
24	11200.00	90.42	358.66	100	9547.0	1847.9	1847.4	-43.1	1847.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10
25	11300.00	90.42	358.66	100	9546.3	1947.9	1947.4	-45.4	1947.9	358.7	0.0	0.0	9560.5		1.57806828	6.26	1E-10
26	11400.00	90.42	358.66	100	9545.6	2047.9	2047.3	-47.7	2047.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10
27	11500.00	90.42	358.66	100	9544.9	2147.9	2147.3	-50.1	2147.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10
28	11600.00	90.42	358.66	100	9544.1	2247.9	2247.3	-52.4	2247.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10
29	11700.00	90.42	358.66	100	9543.4	2347.9	2347.2	-54.7	2347.9	358.7	0.0	0.0	9560.5		1.57806828	6.26	1E-10
30	11800.00	90.42	358.66	100 100	9542.7	2447.9	2447.2 2547.2	-57.1 -59.4	2447.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10
31 32	11900.00 12000.00	90.42 90.42	358.66 358.66	100	9542.0 9541.2	2547.9 2647.9	2647.2	-59.4	2547.9 2647.9	358.7 358.7	0.0	0.0	9560.5 9560.5	-3.5 -3.5	1.57806828 1.57806828	6.26 6.26	1E-10 1E-10
33	12100.00	90.42	358.66	100	9540.5	2747.9	2747.1	-64.1	2747.9	358.7	0.0	0.0	9560.5		1.57806828	6.26	1E-10
34	12200.00	90.42	358.66	100	9539.8	2847.9	2847.1	-66.4	2847.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10
35	12300.00	90.42	358.66	100	9539.0	2947.9	2947.1	-68.7	2947.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10
36	12400.00	90.42	358.66	100	9538.3	3047.9	3047.0	-71.1	3047.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10
37	12500.00	90.42	358.66	100	9537.6	3147.9	3147.0	-73.4	3147.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10
38	12600.00	90.42	358.66	100	9536.9	3247.9	3247.0	-75.7 -78.0	3247.9	358.7	0.0	0.0	9560.5		1.57806828	6.26	1E-10
39 40	12700.00 12800.00	90.42 90.42	358.66 358.66	100	9536.1 9535.4	3347.9 3447.9	3346.9 3446.9	-78.0	3347.9 3447.9	358.7 358.7	0.0	0.0	9560.5 9560.5		1.57806828 1.57806828	6.26 6.26	1E-10 1E-10
40	12900.00	90.42	358.66	100	9534.7		3546.9	-82.7	3547.8	358.7	0.0	0.0	9560.5		1.57806828	6.26	1E-10
42	13000.00	90.42	358.66	100	9534.0		3646.9	-85.0	3647.8	358.7	0.0	0.0	9560.5		1.57806828	6.26	1E-10
43	13100.00	90.42	358.66	100	9533.2		3746.8	-87.4	3747.8	358.7	0.0	0.0	9560.5		1.57806828	6.26	1E-10
44	13200.00	90.42	358.66	100	9532.5	3847.8	3846.8	-89.7	3847.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10
45	13300.00	90.42	358.66	100	9531.8	3947.8	3946.8	-92.0	3947.8	358.7	0.0	0.0	9560.5		1.57806828	6.26	1E-10
46	13400.00	90.42	358.66	100		4047.8	4046.7	-94.4	4047.8	358.7	0.0	0.0	9560.5		1.57806828	6.26	1E-10
47	13500.00	90.42	358.66	100		4147.8	4146.7	-96.7	4147.8	358.7	0.0	0.0	9560.5		1.57806828	6.26	1E-10
48	13600.00	90.42	358.66	100	9529.6		4246.7	-99.0	4247.8	358.7	0.0	0.0	9560.5		1.57806828	6.26	1E-10
49	13700.00	90.42	358.66	100	9528.9 9528.1	4347.8 4447.8	4346.6 4446.6	-101.4 -103.7	4347.8 4447.8	358.7 358.7	0.0	0.0	9560.5 9560.5		1.57806828	6.26	1E-10
50 51	13800.00 13900.00	90.42 90.42	358.66 358.66	100 100	9528.1		4440.0	-105.7	4447.8	358.7	0.0	0.0	9560.5		1.57806828 1.57806828	6.26 6.26	1E-10 1E-10
52	14000.00	90.42	358.66	100	9526.7		4646.6	-108.4		358.7	0.0	0.0	9560.5		1.57806828	6.26	1E-10
53	14100.00	90.42	358.66	100	9526.0	4747.8	4746.5	-110.7	4747.8	358.7	0.0	0.0	9560.5		1.57806828	6.26	1E-10
54	14200.00	90.42	358.66	100	9525.2	4847.8	4846.5	-113.0	4847.8	358.7	0.0	0.0	9560.5		1.57806828	6.26	1E-10
55	14300.00	90.42	358.66	100	9524.5		4946.5	-115.3		358.7	0.0	0.0	9560.5		1.57806828	6.26	1E-10
56	14400.00	90.42	358.66	100	9523.8		5046.4	-117.7		358.7	0.0	0.0	9560.5		1.57806828	6.26	1E-10

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57	14500.00	90.42	358.66	100	9523.0	5147.8	5146.4	-120.0	5147.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
58	14600.00	90.42	358.66	100	9522.3	5247.8	5246.4	-122.3	5247.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
59	14700.00	90.42	358.66	100	9521.6	5347.8	5346.3	-124.7	5347.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
60	14800.00	90.42	358.66	100	9520.9	5447.8	5446.3	-127.0	5447.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
61	14900.00	90.42	358.66	100	9520.1	5547.8	5546.3	-129.3	5547.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
62	15000.00	90.42	358.66	100	9519.4	5647.8	5646.3	-131.7	5647.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
63	15100.00	90.42	358.66	100	9518.7	5747.8	5746.2	-134.0	5747.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
64	15200.00	90.42	358.66	100	9518.0	5847.8	5846.2	-136.3	5847.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
65	15300.00	90.42	358.66	100	9517.2	5947.8	5946.2	-138.7	5947.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
66	15400.00	90.42	358.66	100	9516.5	6047.8	6046.1	-141.0	6047.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
67	15500.00	90.42	358.66	100	9515.8	6147.8	6146.1	-143.3	6147.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
68	15600.00	90.42	358.66	100	9515.1	6247.8	6246.1	-145.7	6247.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
69	15700.00	90.42	358.66	100	9514.3	6347.8	6346.0	-148.0	6347.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
70	15800.00	90.42	358.66	100	9513.6	6447.8	6446.0	-150.3	6447.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
71	15900.00	90.42	358.66	100	9512.9	6547.8	6546.0	-152.6	6547.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
72	16000.00	90.42	358,66	100	9512.1	6647.8	6646.0	-155.0	6647.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
73	16100.00	90.42	358.66	100	9511.4	6747.8	6745.9	-157.3	6747.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
74	16200.00	90.42	358.66	100	9510.7	6847.8	6845.9	-159.6	6847.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
75	16300.00	90.42	358.66	100	9510.0	6947.8	6945.9	-162.0	6947.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
76		90.42	358.66	100	9509.2	7047.8	7045.8	-164.3	7047.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
77	16500.00	90.42	358.66	100	9508.5	7147.8	7145.8	-166.6	7147.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
78	16600.00	90.42	358.66	100	9507.8	7247.8	7245.8	-169.0	7247.8	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
79		90.42	358.66	100	9507.1	7347.7	7345.8	-171.3	7347.7	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
80		90.42	358.66	100	9506.3	7447.7	7445.7	-173.6	7447.7	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
81	16900.00	90.42	358.66	100	9505.6	7547.7	7545.7	-176.0	7547.7	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
82	16980.17	90.42	358.66		9505.0	7627.9	7625.8	-177.8	7627.9	358.7	0.0	0.0	9560.5	-3.5	1.57806828	6.26	1E-10	
02	10300.17	90.42	330.00	00.17540	1505.0	1021.9	1025.0	111.0		000.1		0.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		2			

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SURVEY CALCULATION REPORT Minimum Curvature Calculations

L	Operator: ease Name: KOP				Com 4H						Targ	KBTVD: et Angle: on Plane:		Feet Degrees Degrees	10610.00 90.50		
				5 FEL Sec 2 30 FEL Sec	21-24S-28E 16-24S-28E				Declinat	ion Correc Bi	ted to Tru t to Surve			Degrees Feet			
Survey No.	Measured Depth-ft	Drift (Deg.)	Azimuth (Deg.)	Course Length	TVD (Feet)	Vertical Section	+N/-S (Feet)	+E/-W (Feet)	Closure Distance	Closure	BUR	DLS	KBTVD	+Above -Below Target	DRIFT (RADIANS)	AZIMUT (RADIAN	
Т/І	10037.04	0.00	2.34	=	10037.0	0.0	0.0	0.0	0.0	0.0	N/A	N/A	10037.0	573.0	1E-12	0.04	#VALUE
1	10127.54	9.05	2.34	90.49538	10127.2	7.1	7.1	0.3	7.1	2.3	10.0	10.0	10127.2	482.8	0.15794424	0.04	0.157944
2	10218.03	18.10	2.34	90.49538	10215.0	28.3	28.3	1.2	28.3	2.3	10.0	10.0	10215.3	394.7	0.31588847	0.04	0.157944
3	10308.53	27.15		90.49538	10298.5	63.1	63.1	2.6	63.1	2.3	10.0	10.0	10299.0	311.0	0.47383271	0.04	0.157944
4	10399.02	36.20		90.49538	10375.4	110.6	110.5	4.5	110.6	2.3	10.0	10.0	10376.4	233.6	0.63177694	0.04	0.157944
5	10489.52	45.25		90.49538	10443.9	169.6	169.4	6.9	169.6	2.3	10.0	10.0	10445.4	164.6	0.78972118	0.04	0.157944
67	10580.01 10670.51	54.30 63.35		90.49538 90.49538	10502.3 10549.1	238.6 315.9	238.4 315.7	9.8 12.9	238.6 315.9	2.3	10.0	10.0	10504.4		0.94766541	0.04	0.157944
8	10670.51	72.40		90.49538	10549.1	399.7	399.3	12.9	315.9	2.3 2.3	10.0 10.0	10.0 10.0	10551.8 10586.6		1.10560965 1.26355388	0.04	0.157944
9	10851.50	81.45		90.49538	10603.6	487.7	487.3	20.0	487.7	2.3	10.0	10.0	10607.8	2.2	1.42149812	0.04	0.157944
10	10942.00	90.50		90.49538	10610.0	577.9	577.4	23.6	577.9	2.3	10.0	10.0	10615.0	-5.0	1.57944235	0.04	0.157944
11	11000.00	90.50		58.00399	10609.5	635.9	635.4	26.0	635.9	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
12	11100.00	90.50	2.34	100	10608.6	735.9	735.3	30.1	735.9	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
13	11200.00	90.50	2.34	100	10607.7	835.9	835.2	34.2	835.9	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
14	11300.00	90.50	2.34	100	10606.9	935.9	935.1	38.3	935.9	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
15	11400.00	90.50	2.34	100	10606.0	1035.9	1035.0	42.4	1035.9	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
16	11500.00	90.50	2.34	100	10605.2	1135.9	1134.9	46.5	1135.9	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
17 18	11600.00 11700.00	90.50 90.50	2.34	100 100	10604.3 10603.4	1235.9 1335.9	1234.9 1334.8	50.6 54.6	1235.9 1335.9	2.3 2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
19	11800.00	90.50	2.34 2.34	100	10603.4	1435.9	1434.7	58.7	1435.9	2.3	0.0	0.0	10615.0 10615.0		1.57944235 1.57944235	0.04	1E-10 1E-10
20	11900.00	90.50	2.34	100	10601.7		1534.6	62.8	1535.9	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
21	12000.00	90.50	2.34	100	10600.8	1635.9	1634.5	66.9	1635.9	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
22	12100.00	90.50	2.34	100	10600.0	1735.9	1734.4	71.0	1735.9	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
23	12200.00	90.50	2.34	100	10599.1	1835.9	1834.3	75.1	1835.9	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
24	12300.00	90.50	2.34	100	10598.2	1935.9	1934.2	79.2	1935.9	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
25	12400.00	90.50	2.34	100	10597.4	2035.9	2034.2	83.3	2035.9	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
26	12500.00	90.50	2.34	100	10596.5	2135.9	2134.1	87.4	2135.9	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
27	12600.00	90.50	2.34	100	10595.6		2234.0	91.5	2235.9	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
28 29	12700.00	90.50	2.34	100 100	10594.8 10593.9	2335.8 2435.8	2333.9 2433.8	95.6 99.6	2335.8	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
30	12800.00 12900.00	90.50 90.50	2.34 2.34	100	10593.9	2435.8	2433.8	103.7	2435.8 2535.8	2.3 2.3	0.0	0.0	10615.0 10615.0	-5.0	1.57944235 1.57944235	0.04	1E-10 1E-10
31	13000.00	90.50	2.34	100	10592.2	2635.8	2633.6	107.8	2635.8	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
32	13100.00	90.50	2.34	100	10591.3	2735.8	2733.5	111.9	2735.8	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
33	13200.00	90.50	2.34	100	10590.5	2835.8	2833.5	116.0	2835.8	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
34	13300.00	90.50	2.34	100	10589.6	2935.8	2933.4	120.1	2935.8	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
35	13400.00	90.50	2.34	100	10588.7	3035.8	3033.3	124.2	3035.8	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
36	13500.00	90.50	2.34	100	10587.9	3135.8	3133.2	128.3	3135.8	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
37	13600.00	90.50	2.34	100	10587.0	3235.8	3233.1	132.4	3235.8	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
38 39	13700.00 13800.00	90.50	2.34	100 100	10586.1 10585.3	3335.8	3333.0	136.5 140.6	3335.8	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
39 40	13800.00 13900.00	90.50 90.50	2.34	100	10585.3	3435.8 3535.8	3432.9 3532.8	140.6	3435.8 3535.8	2.3 2.3	0.0	0.0	10615.0		1.57944235 1.57944235	0.04	1E-10 1E-10
40	14000.00	90.50	2.34	100	10583.5		3632.8	144.0	3635.8	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10 1E-10
42	14100.00	90.50	2.34	100	10582.7		3732.7	152.8	3735.8	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10 1E-10
43	14200.00	90.50	2.34	100	10581.8		3832.6	156.9	3835.8	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
44	14300.00	90.50	2.34	100	10580.9		3932.5	161.0	3935.8	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
45	14400.00	90.50	2.34	100	10580.1	4035.8	4032.4	165.1	4035.8	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
46	14500.00	90.50	2.34	100	10579.2		4132.3	169.2	4135.8	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
47	14600.00	90.50	2.34	100	10578.4		4232.2	173.3	4235.8	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
48	14700.00	90.50	2.34	100	10577.5		4332.1	177.4	4335.8	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
49	14800.00	90.50	2.34	100	10576.6		4432.1	181.5	4435.8	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
50	14900.00	90.50	2.34	100	10575.8		4532.0	185.6	4535.8	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
51 52	15000.00	90.50	2.34	100 100	10574.9 10574.0	4635.8	4631.9 4731.8	189.6 193.7	4635.8 4735.8	2.3 2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
53	15100.00 15200.00	90.50 90.50	2.34 2.34	100	10573.2		4/31.8	195.7	4735.8	2.3	0.0	0.0	10615.0 10615.0		1.57944235 1.57944235	0.04	1E-10 1E-10
54	15200.00	90.50	2.34	100	10572.3		4931.6	201.9	4935.8	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
55	15400.00	90.50	2.34	100	10571.4		5031.5	206.0	5035.7	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10
56	15500.00	90.50	2.34	100	10570.6		5131.4	210.1	5135.7	2.3	0.0	0.0	10615.0		1.57944235	0.04	1E-10

57	15600.00	90.50	2.34	100	10569.7	5235.7	5231.4	214.2	5235.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
58	15700.00	90.50	2.34	100	10568.8	5335.7	5331.3	218.3	5335.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
59	15800.00	90.50	2.34	100	10568.0	5435.7	5431.2	222.4	5435.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
60	15900.00	90.50	2.34	100	10567.1	5535.7	5531.1	226.5	5535.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
61	16000.00	90.50	2.34	100	10566.2	5635.7	5631.0	230.5	5635.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
62	16100.00	90.50	2.34	100	10565.4	5735.7	5730.9	234.6	5735.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
63	16200.00	90.50	2.34	100	10564.5	5835.7	5830.8	238.7	5835.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
64	16300.00	90.50	2.34	100	10563.7	5935.7	5930.7	242.8	5935.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
65	16400.00	90.50	2.34	100	10562.8	6035.7	6030.7	246.9	6035.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
66	16500.00	90.50	2.34	100	10561.9	6135.7	6130.6	251.0	6135.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
67	16600.00	90.50	2.34	100	10561.1	6235.7	6230.5	255.1	6235.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
68	16700.00	90.50	2.34	100	10560.2	6335.7	6330.4	259.2	6335.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
69	16800.00	90.50	2.34	100	10559.3	6435.7	6430.3	263.3	6435.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
70	16900.00	90.50	2.34	100	10558.5	6535.7	6530.2	267.4	6535.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
71	17000.00	90.50	2.34	100	10557.6	6635.7	6630.1	271.5	6635.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
72	17100.00	90.50	2.34	100	10556.7	6735.7	6730.0	275.5	6735.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
73	17200.00	90.50	2.34	100	10555.9	6835.7	6830.0	279.6	6835.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
74	17300.00	90.50	2.34	100	10555.0	6935.7	6929.9	283.7	6935.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
75	17400.00	90.50	2.34	100	10554.1	7035.7	7029.8	287.8	7035.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
76	17500.00	90.50	2.34	100	10553.3	7135.7	7129.7	291.9	7135.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
77	17600.00	90.50	2.34	100	10552.4	7235.7	7229.6	296.0	7235.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
78	17700.00	90.50	2.34	100	10551.5	7335.7	7329.5	300.1	7335.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
79	17800.00	90.50	2.34	100	10550.7	7435.7	7429.4	304.2	7435.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
80	17900.00	90.50	2.34	100	10549.8	7535.7	7529.3	308.3	7535.7	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
81	17992.13	90.50	2.34	92.12985	10549.0	7627.8	7621.4	312.0	7627.8	2.3	0.0	0.0	10615.0	-5.0	1.57944235	0.04	1E-10
82	17992.13	90.50	2.34	0	10549.0	7627.8	7621.4	312.0	7627.8	2.3	######	#DIV/0!	10615.0	-5.0	1.57944235	0.04	1E-10
83	17992.13	90.50	2.34	0	10549.0	7627.8	7621.4	312.0	7627.8	2.3	#######	#DIV/0!	10615.0	-5.0	1.57944235	0.04	1E-10
11.00																	

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SURVEY CALCULATION REPORT Minimum Curvature Calculations

Le	Operator: ase Name: KOP	Creedenc 10034.04 SL: 2630	e 21/16 W FNL & 73	2HA State	e Com 5H c 21-24S-28 ec 16-24S-28				Declinatio		Targe		358.36 6.63	Feet Degrees Degrees Degrees Feet	10607.00 90.52		
Survey No.	Measured Depth-ft	Drift (Deg.)	Azimuth (Deg.)	Course Length	TVD (Feet)	Vertical Section	+N/-S (Feet)	+E/-W (Feet)	Closure Distance	Closure Direction	BUR	DLS	KBTVD	+Above -Below Target	DRIFT (RADIANS)	AZIMUT (RADIAN	
тл	10001.01		050.00	NUA	10024.0							NUA	10024.0	572.0			
T/I 1	10034.04	0.00		N/A 90.52	10034.0 10124.2	0.0	0.0	0.0		0.0 358.4	N/A 10.0	N/A 10.0	10034.0 10124.3	573.0 482.7	1E-12 0.1579873		#VALUE! 0.157987
2	10215.08	18.10		90.52	10124.2	28.4	28.4	-0.2		358.4	10.0	10.0	10124.3	394.7	0.1379873	6.25 6.25	0.157987
3	10305.60	27.16		90.52	10295.5	63.2	63.1	-1.8		358.4	10.0	10.0	10296.1	310.9	0.4739619	6.25	0.157987
4	10396.12	36.21	358.36	90.52	10372.5	110.7	110.6	-3.2		358.4	10.0	10.0	10373.5	233.5	0.6319493	6.25	0.157987
5	10486.64	45.26	358.36	90.52	10441.0	169.7	169.6	-4.8	169.7	358.4	10.0	10.0	10442.6	164.4	0.7899366	6.25	0.157987
6	10577.16	54.31	358.36	90.52	10499.4	238.7	238.6	-6.8	238.7	358.4	10.0	10.0	10501.6	105.4	0.9479239	6.25	0.157987
7	10667.68	63.36	358.36	90.52	10546.2	316.1	316.0	-9.0	316.1	358.4	10.0	10.0	10549.1	57.9	1.1059112	6.25	0.157987
8	10758.20	72.42	358.36	90.52	10580.2	399.9	399.7	-11.4	399.9	358.4	10.0	10.0	10583.9	23.1	1.2638985	6.25	0.157987
9	10848.72	81.47	358.36	90.52	10600.7	488.0	487.8	-13.9	488.0	358.4	10.0	10.0	10605.1	1.9	1.4218858	6.25	0.157987
10	10939.24	90.52		90.52	10607.0	578.2	577.9	-16.5	578.2	358.4	10.0	10.0	10612.2	-5.2	1.5798732	6.25	0.157987
11	11000.00	90.52		60.757	10606.4	638.9	638.7	-18.2	638.9	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
12	11100.00	90.52		100	10605.5 10604.6	738.9	738.6	-21.1	738.9	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
13 14	11200.00 11300.00	90.52		100 100	10604.6	838.9 938.9	838.6 938.5	-24.0 -26.8	838.9 938.9	358.4 358.4	0.0	0.0	10612.2 10612.2	-5.2 -5.2	1.5798732 1.5798732	6.25	1E-10
15	11400.00	90.52 90.52	358.36 358.36	100	10602.8		1038.5	-20.8		358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25 6.25	1E-10 1E-10
16	11500.00	90.52	358.36	100	10601.9		1138.4	-32.5		358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
17	11600.00	90.52	358.36	100	10601.0		1238.4	-35.4		358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
18	11700.00	90.52	358.36	100	10600.1	1338.9	1338.3	-38.2		358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
19	11800.00	90.52	358.36	100	10599.2	1438.9	1438.3	-41.1	1438.9	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
20	11900.00	90.52	358.36	100	10598.3	1538.9	1538.2	-43.9	1538.9	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
21	12000.00	90.52	358.36	100	10597.3	1638.9	1638.2	-46.8	1638.9	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
22	12100.00	90.52	358.36	100	10596.4	1738.9	1738.2	-49.7	1738.9	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
23	12200.00	90.52	358.36	100	10595.5	1838.9	1838.1	-52.5	1838.9	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
24	12300.00	90.52	358.36	100	10594.6		1938.1	-55.4		358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
25	12400.00	90.52	358.36	100	10593.7	2038.9	2038.0	-58.2		358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
26	12500.00	90.52	358.36	100	10592.8		2138.0	-61.1	2138.9	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
27	12600.00	90.52	358.36	100	10591.9	2238.8	2237.9	-63.9	2238.8	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
28 29	12700.00 12800.00	90.52	358.36 358.36	100 100	10591.0 10590.1	2338.8 2438.8	2337.9 2437.8	-66.8 -69.6	2338.8 2438.8	358.4 358.4	0.0	0.0	10612.2 10612.2	-5.2 -5.2	1.5798732	6.25	1E-10
30	12900.00	90.52 90.52	358.36	100	10590.1		2537.8	-72.5	2538.8	358.4	0.0	0.0	10612.2	-5.2	1.5798732 1.5798732	6.25 6.25	1E-10 1E-10
31	13000.00	90.52	358.36	100	10588.3	2638.8	2637.8	-75.4	2638.8	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
32	13100.00	90.52	358.36	100	10587.4		2737.7	-78.2		358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
33	13200.00	90.52	358.36	100	10586.5	2838.8	2837.7	-81.1	2838.8	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
34	13300.00	90.52	358.36	100	10585.5	2938.8	2937.6	-83.9	2938.8	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
35	13400.00	90.52	358.36	100	10584.6	3038.8	3037.6	-86.8	3038.8	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
36	13500.00	90.52	358.36	100	10583.7	3138.8	3137.5	-89.6	3138.8	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
37	13600.00	90.52	358.36	100	10582.8	3238.8	3237.5	-92.5	3238.8	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
38	13700.00	90.52	358.36	100	10581.9		3337.4	-95.4		358.4	0.0	0.0	10612.2		1.5798732	6.25	1E-10
39	13800.00	90.52	358.36	100		3438.8	3437.4	-98.2		358.4	0.0	0.0	10612.2		1.5798732	6.25	1E-10
40	13900.00	90.52	358.36	100		3538.8		-101.1		358.4	0.0	0.0	10612.2		1.5798732	6.25	1E-10
41	14000.00	90.52	358.36	100 100	10579.2	3038.8	3637.3	-103.9 -106.8		358.4	0.0	0.0	10612.2		1.5798732	6.25	1E-10
42 43	14100.00 14200.00	90.52 90.52	358.36 358.36	100	10578.5			-100.8		358.4 358.4	0.0	0.0	10612.2 10612.2		1.5798732 1.5798732	6.25	1E-10
43	14200.00	90.52	358.36	100	10576.5			-112.5		358.4	0.0	0.0	10612.2		1.5798732	6.25 6.25	1E-10 1E-10
45	14400.00	90.52	358.36	100	10575.6			-115.3		358.4	0.0	0.0	10612.2		1.5798732	6.25	1E-10
46	14500.00	90.52	358.36	100	10575.0			-118.2		358.4	0.0	0.0	10612.2		1.5798732	6.25	1E-10
47	14600.00	90.52	358.36	100	10573.7			-121.1		358.4	0.0	0.0	10612.2		1.5798732	6.25	1E-10
48	14700.00	90.52	358.36	100	10572.8			-123.9		358.4	0.0	0.0	10612.2		1.5798732	6.25	1E-10
49	14800.00	90.52	358.36	100	10571.9			-126.8		358.4	0.0	0.0	10612.2		1.5798732	6.25	1E-10
50	14900.00	90.52	358.36	100	10571.0			-129.6		358.4	0.0	0.0	10612.2		1.5798732	6.25	1E-10
51	15000.00	90.52	358.36	100	10570.1	4638.7	4636.9		4638.7	358.4	0.0	0.0	10612.2		1.5798732	6.25	1E-10
52	15100.00	90.52	358.36	100	10569.2	4738.7	4736.8	-135.3	4738.7	358.4	0.0	0.0	10612.2		1.5798732	6.25	1E-10
53	15200.00	90.52	358.36	100	10568.3	4838.7	4836.8	-138.2	4838.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
54	15300.00	90.52	358.36	100	10567.4	4938.7	4936.7	-141.0	4938.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10
55	15400.00	90.52	358.36	100	10566.5		5036.7		5038.7	358.4	0.0	0.0	10612.2		1.5798732	6.25	1E-10
56	15500.00	90.52	358.36	100	10565.6	5138.7	5136.6	-146.8	5138.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10

57	15600.00	90.52	358.36	100	10564.7	5238.7	5236.6	-149.6	5238.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
58	15700.00	90.52	358.36	100	10563.8	5338.7	5336.5	-152.5	5338.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
59	15800.00	90.52	358.36	100	10562.9	5438.7	5436.5	-155.3	5438.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
60	15900.00	90.52	358.36	100	10561.9	5538.7	5536.5	-158.2	5538.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
61	16000.00	90.52	358.36	100	10561.0	5638.7	5636.4	-161.0	5638.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
62	16100.00	90.52	358.36	100	10560.1	5738.7	5736.4	-163.9	5738.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
63	16200.00	90.52	358.36	100	10559.2	5838.7	5836.3	-166.7	5838.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
64	16300.00	90.52	358.36	100	10558.3	5938.7	5936.3	-169.6	5938.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
65	16400.00	90.52	358.36	100	10557.4	6038.7	6036.2	-172.5	6038.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
66	16500.00	90.52	358.36	100	10556.5	6138.7	6136.2	-175.3	6138.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
67	16600.00	90.52	358.36	100	10555.6	6238.7	6236.1	-178.2	6238.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
68	16700.00	90.52	358.36	100	10554.7	6338.7	6336.1	-181.0	6338.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
69	16800.00	90.52	358.36	100	10553.8	6438.7	6436.0	-183.9	6438.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
70	16900.00	90.52	358.36	100	10552.9	6538.7	6536.0	-186.7	6538.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
71	17000.00	90.52	358.36	100	10552.0	6638.7	6636.0	-189.6	6638.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
72	17100.00	90.52	358.36	100	10551.1	6738.7	6735.9	-192.4	6738.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
73	17200.00	90.52	358.36	100	10550.1	6838.7	6835.9	-195.3	6838.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
74	17300.00	90.52	358.36	100	10549.2	6938.7	6935.8	-198.2	6938.7	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
75	17400.00	90.52	358.36	100	10548.3	7038.6	7035.8	-201.0	7038.6	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
76	17500.00	90.52	358.36	100	10547.4	7138.6	7135.7	-203.9	7138.6	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
77	17600.00	90.52	358.36	100	10546.5	7238.6	7235.7	-206.7	7238.6	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
78	17700.00	90.52	358.36	100	10545.6	7338.6	7335.6	-209.6	7338.6	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
79	17800.00	90.52	358.36	100	10544.7	7438.6	7435.6	-212.4	7438.6	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
80	17900.00	90.52	358.36	100	10543.8	7538.6	7535.6	-215.3	7538.6	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
81	17984.76	90.52	358.36	84.764	10543.0	7623.4	7620.3	-217.7	7623.4	358.4	0.0	0.0	10612.2	-5.2	1.5798732	6.25	1E-10	
82	17984.76	90.52	358.36	0	10543.0	7623.4	7620.3	-217.7	7623.4	358.4	######	######	10612.2	-5.2	1.5798732	6.25	1E-10	
83	17984.76	90.52	358.36	0	10543.0	7623.4	7620.3	-217.7	7623.4	358.4	######	######	10612.2	-5.2	1.5798732	6.25	1E-10	

SURVEY CALCULATION REPORT Minimum Curvature Calculations

		KOP		21/16 W2	GB State C 5 FEL Sec	Com 6H 21-24S-28E 5 16-24S-28E			1	Declinatio	on Correct Bit	Targe Sectio		2.34 6.63	Feet Degrees Degrees Degrees Feet	10619.00 90.45		
5	Survey No.	Measured Depth-ft	Drift (Deg.)	Azimuth (Deg.)	Course Length	TVD (Feet)	Vertical Section	+N/-S (Feet)	+E/-W (Feet)	Closure Distance	Closure Direction	BUR	DLS	KBTVD	+Above -Below Target	DRIFT (RADIANS	AZIMUT (RADIAN	
-	T/I	10046.04	0.00	2.34	N/A	10046.0	0.0	0.0	0.0	0.0	0.0	N/A	N/A	10046.0	573.0	1E-12	0.04	#VALUE!
	1	10136.49	9.04	2.34	90.446	10136.1	7.1	7.1	0.3	7.1	2.3	10.0	10.0	10136.2	482.8	0.1578586	0.04	0.1578586
	2	10226.93	18.09	2.34	90.446	10223.9	28.3	28.3	1.2	28.3	2.3	10.0	10.0	10224.2	394.8	0.3157171	0.04	0.1578586
	3	10317.38	27.13		90.446	10307.4	63.1	63.0	2.6	63.1	2.3	10.0	10.0	10307.8	311.2		0.04	0.1578586
	4	10407.83	36.18		90.446	10384.3	110.5	110.4	4.5	110.5	2.3	10.0	10.0	10385.1	233.9		0.04	0.1578586
	5	10498.27	45.22		90.446 90.446	10452.8	169.4 238.4	169.3 238.2	6.9 9.7	169.4	2.3	10.0	10.0 10.0	10454.1	164.9		0.04	0.1578586
	67	10588.72 10679.17	54.27 63.31	2.34 2.34	90.446	10511.1 10558.0	315.6	315.4	12.9	238.4 315.6	2.3 2.3	10.0 10.0	10.0	10513.0 10560.4	106.0 58.6		0.04	0.1578586
	8	10769.61	72.36		90.446	10592.1	399.3	399.0	16.3	399.3	2.3	10.0	10.0	10595.2	23.8		0.04	0.1578586
	9	10860.06	81.40		90.446	10612.6	487.3	486.9	19.9	487.3	2.3	10.0	10.0	10616.4	2.6	1.420727	0.04	0.1578586
	10	10950.51	90.45	2.34	90.446	10619.0	577.4	576.9	23.6	577.4	2.3	10.0	10.0	10623.5	-4.5	1.5785855	0.04	0.1578586
	11	11000.00	90.45	2.34	49.495	10618.6	626.9	626.4	25.6	626.9	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
	12	11100.00	90.45		100	10617.8	726.9	726.3	29.7	726.9	2.3	0.0	0.0	10623.5	-4.5		0.04	1E-10
	13	11200.00	90.45		100	10617.0	826.9	826.2	33.8	826.9	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10
	14	11300.00	90.45		100 100	10616.3 10615.5	926.9 1026.9	926.1 1026.0	37.9 42.0	926.9 1026.9	2.3 2.3	0.0	0.0	10623.5 10623.5	-4.5 -4.5	1.5785855	0.04	1E-10 1E-10
	15 16	11400.00 11500.00	90.45 90.45		100	10613.5	1126.9	1126.0	42.0	1126.9	2.3	0.0	0.0	10623.5	-4.5	1.5785855 1.5785855	0.04	1E-10 1E-10
	17	11600.00	90.45		100	10613.9	1226.9	1225.9	50.2	1226.9	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10
	18	11700.00	90.45		100	10613.1	1326.9	1325.8	54.2	1326.9	2.3	0.0	0.0	10623.5	-4.5		0.04	1E-10
	19	11800.00	90.45	2.34	100	10612.4	1426.9	1425.7	58.3	1426.9	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10
	20	11900.00	90.45	2.34	100	10611.6	1526.9	1525.6	62.4	1526.9	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
	21	12000.00	90.45	2.34	100	10610.8	1626.9	1625.5	66.5	1626.9	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
	22	12100.00	90.45	2.34	100	10610.0	1726.9	1725.4	70.6	1726.9	2.3	0.0	0.0	10623.5	-4.5		0.04	1E-10
	23	12200.00	90.45	2.34	100	10609.3	1826.9	1825.4	74.7	1826.9	2.3	0.0	0.0	10623.5	-4.5		0.04	1E-10
	24	12300.00	90.45	2.34	100	10608.5	1926.9	1925.3	78.8	1926.9	2.3	0.0	0.0	10623.5	-4.5		0.04	1E-10
	25 26	12400.00	90.45 90.45	2.34	100 100	10607.7 10606.9	2026.9 2126.9	2025.2 2125.1	82.9 86.9	2026.9 2126.9	2.3 2.3	0.0	0.0	10623.5 10623.5	-4.5 -4.5	1.5785855 1.5785855	0.04	1E-10 1E-10
	20	12500.00 12600.00	90.45	2.34	100	10606.1	2226.9	2125.0	91.0	2120.9	2.3	0.0	0.0	10623.5	-4.5		0.04	1E-10
	28	12700.00	90.45	2.34	100	10605.4	2326.9	2324.9	95.1	2326.9	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10
	29	12800.00	90.45	2.34	100	10604.6	2426.9	2424.8	99.2	2426.9	2.3	0.0	0.0	10623.5	-4.5		0.04	1E-10
	30	12900.00	90.45	2.34	100	10603.8	2526.9	2524.7	103.3	2526.9	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10
	31	13000.00	90.45	2.34	100	10603.0	2626.9	2624.7	107.4	2626.9	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
	32	13100.00	90.45	2.34	100	10602.2	2726.9	2724.6	111.5	2726.9	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
	33	13200.00	90.45	2.34	100	10601.5	2826.8	2824.5	115.6	2826.8	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10
	34	13300.00	90.45	2.34	100	10600.7	2926.8	2924.4	119.6	2926.8	2.3	0.0	0.0	10623.5	-4.5		0.04	1E-10
	35	13400.00	90.45		100	10599.9	3026.8	3024.3	123.7	3026.8	2.3	0.0	0.0	10623.5			0.04	1E-10
	36 37	13500.00 13600.00	90.45 90.45	2.34	100 100	10599.1 10598.3	3126.8 3226.8	3124.2 3224.1	127.8 131.9	3126.8 3226.8	2.3 2.3	0.0	0.0	10623.5 10623.5	-4.5	1.5785855 1.5785855	0.04	1E-10 1E-10
	38	13700.00	90.45	2.34	100	10598.5	3326.8	3324.1	136.0	3326.8	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10 1E-10
	39	13800.00	90.45	2.34	100	10596.8	3426.8	3424.0	140.1	3426.8	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10
	40	13900.00	90.45	2.34	100	10596.0	3526.8	3523.9		3526.8	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10
	41	14000.00	90.45	2.34	100	10595.2	3626.8	3623.8	148.3	3626.8	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
	42	14100.00	90.45	2.34	100	10594.5	3726.8	3723.7	152.3	3726.8	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10
	43	14200.00	90.45		100	10593.7	3826.8	3823.6	156.4	3826.8	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10
	44	14300.00	90.45		100	10592.9	3926.8	3923.5	160.5	3926.8	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10
	45	14400.00	90.45	2.34	100 100	10592.1 10591.3	4026.8 4126.8	4023.4 4123.4	164.6 168.7	4026.8 4126.8	2.3 2.3	0.0	0.0	10623.5 10623.5		1.5785855 1.5785855	0.04	1E-10
	46 47	14500.00 14600.00	90.45 90.45	2.34 2.34	100	10591.5	4120.8	4123.4	172.8	4120.8	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10 1E-10
	48	14700.00	90.45	2.34	100	10590.0	4326.8	4323.2	176.9		2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10
	49	14800.00	90.45	2.34	100	10589.0	4426.8	4423.1	181.0	4426.8	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10
	50	14900.00	90.45	2.34	100	10588.2	4526.8	4523.0	185.0	4526.8	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10
	51	15000.00	90.45	2.34	100	10587.4	4626.8	4622.9	189.1	4626.8	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10
	52	15100.00	90.45		100	10586.7	4726.8	4722.8	193.2	4726.8	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10
	53	15200.00	90.45	2.34	100	10585.9	4826.8	4822.8	197.3	4826.8	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
	54	15300.00	90.45	2.34	100	10585.1	4926.8	4922.7	201.4	4926.8	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10
	55	15400.00	90.45	2.34	100	10584.3	5026.8	5022.6	205.5	5026.8	2.3	0.0	0.0	10623.5		1.5785855	0.04	1E-10
	56	15500.00	90.45	2.34	100	10583.5	5126.8	5122.5	209.6	5126.8	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10

57	15600.00	90.45	2.34	100	10582.8	5226.8	5222.4	213.7	5226.8	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
58	15700.00	90.45	2.34	100	10582.0	5326.8	5322.3	217.7	5326.8	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
59	15800.00	90.45	2.34	100	10581.2	5426.8	5422.2	221.8	5426.8	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
60	15900.00	90.45	2.34	100	10580.4	5526.8	5522.1	225.9	5526.8	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
61	16000.00	90.45	2.34	100	10579.7	5626.8	5622.1	230.0	5626.8	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
62	16100.00	90.45	2.34	100	10578.9	5726.8	5722.0	234.1	5726.8	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
63	16200.00	90.45	2.34	100	10578.1	5826.8	5821.9	238.2	5826.8	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
64	16300.00	90.45	2.34	100	10577.3	5926.8	5921.8	242.3	5926.8	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
65	16400.00	90.45	2.34	100	10576.5	6026.8	6021.7	246.4	6026.8	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
66	16500.00	90.45	2.34	100	10575.8	6126.7	6121.6	250.4	6126.7	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
67	16600.00	90.45	2.34	100	10575.0	6226.7	6221.5	254.5	6226.7	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
68	16700.00	90.45	2.34	100	10574.2	6326.7	6321.5	258.6	6326.7	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
69	16800.00	90.45	2.34	100	10573.4	6426.7	6421.4	262.7	6426.7	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
70	16900.00	90.45	2.34	100	10572.6	6526.7	6521.3	266.8	6526.7	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
71	17000.00	90.45	2.34	100	10571.9	6626.7	6621.2	270.9	6626.7	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
72	17100.00	90.45	2.34	100	10571.1	6726.7	6721.1	275.0	6726.7	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
73	17200.00	90.45	2.34	100	10570.3	6826.7	6821.0	279.1	6826.7	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
74	17300.00	90.45	2.34	100	10569.5	6926.7	6920.9	283.1	6926.7	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
75	17400.00	90.45	2.34	100	10568.7	7026.7	7020.8	287.2	7026.7	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
76	17500.00	90.45	2.34	100	10568.0	7126.7	7120.8	291.3	7126.7	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
77	17600.00	90.45	2.34	100	10567.2	7226.7	7220.7	295.4	7226.7	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
78	17700.00	90.45	2.34	100	10566.4	7326.7	7320.6	299.5	7326.7	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
79	17800.00	90.45	2.34	100	10565.6	7426.7	7420.5	303.6	7426.7	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
80	17900.00	90.45	2.34	100	10564.9	7526.7	7520.4	307.7	7526.7	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
81	18000.00	90.45	2.34	100	10564.1	7626.7	7620.3	311.8	7626.7	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
82	18006.94	90.45	2.34	6.945	10564.0	7633.6	7627.3	312.0	7633.6	2.3	0.0	0.0	10623.5	-4.5	1.5785855	0.04	1E-10
83	18006.94	90.45	2.34	0	10564.0	7633.6	7627.3	312.0	7633.6	2.3 #I	DIV/0! #I	DIV/0!	10623.5	-4.5	1.5785855	0.04	1E-10

SURVEY CALCULATION REPORT Minimum Curvature Calculations

Operator: Mewbourne Oil Company Lease Name: Creedence 21/16 W2GB State Com 7H KOP 10034.04 SL: 2630 FNL & 1955 FEL Sec 21-24S-28E BHL: 330 FNL & 2310 FEL Sec 16-24S-28E								1	Declinatio		Target KBTVD: Target Angle: Section Plane: ted to True North: it to Survey Offset:		10,607 Feet 90.50 Degrees 357.61 Degrees 6.63 Degrees 44 Feet		10607.00 90.50		
Survey No.	Measured Depth-ft	Drift (Deg.)	Azimuth (Deg.)	Course Length	TVD (Feet)	Vertical Section	+N/-S (Feet)	+E/-W (Feet)	Closure Distance	Closure Direction	BUR	DLS	KBTVD	+Above -Below Target	DRIFT (RADIANS)	AZIMUT (RADIAN	
Т/І	10034.04	0.00	357.61	N/A	10034.0	0.0	0.0	0.0	0.0	0.0	N/A	N/A	10034.0	573.0	1E-12	6.24	#VALUE!
1	10124.54	9.05	357.61	90.495	10124.2	7.1	7.1	-0.3	7.1	357.6	10.0	10.0	10124.2	482.8	0.1579438	6.24	0.157944
2	10215.03	18.10		90.495	10212.0	28.3	28.3	-1.2	28.3	357.6	10.0	10.0	10212.3	394.7	0.3158875	6.24	0.157944
3	10305.53 10396.02	27.15		90.495 90.495	10295.5 10372.4	63.1	63.1	-2.6	63.1	357.6 357.6	10.0	10.0	10296.0	311.0	0.4738313	6.24	0.157944
5	10396.02	36.20 45.25		90.495	10372.4	110.6 169.6	110.5 169.4	-4.6 -7.1	110.6 169.6	357.6	10.0 10.0	10.0 10.0	10373.4 10442.4	233.6 164.6	0.631775	6.24 6.24	0.157944 0.157944
6	10577.01	54.30		90.495	10499.3	238.6	238.4	-9.9	238.6	357.6	10.0	10.0	10501.4	105.6	0.9476626	6.24	0.157944
7	10667.51	63.35	357.61	90.495	10546.1	315.9	315.7	-13.2	315.9	357.6	10.0	10.0	10548.8	58.2	1.1056063	6.24	0.157944
8	10758.00	72.40		90.495	10580.2	399.7	399.3	-16.6	399.7	357.6	10.0	10.0	10583.6	23.4	1.2635501	6.24	0.157944
9	10848.50	81.45	357.61	90.495	10600.6	487.7	487.3	-20.3	487.7	357.6	10.0	10.0	10604.8	2.2	1.4214938	6.24	0.157944
10 11	10938.99 11000.00	90.50 90.50		90.495 61.007	10607.0 10606.5	577.9 638.9	577.4 638.4	-24.1 -26.6	577.9 638.9	357.6 357.6	10.0 0.0	10.0 0.0	10612.0 10612.0	-5.0 -5.0	1.5794376 1.5794376	6.24 6.24	0.157944 1E-10
12	11100.00	90.50	357.61	100	10605.6	738.9	738.3	-30.8	738.9	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
13	11200.00	90.50	357.61	100	10604.7	838.9	838.2	-34.9	838.9	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
14	11300.00	90.50	357.61	100	10603.9	938.9	938.1	-39.1	938.9	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
15	11400.00	90.50	357.61	100	10603.0		1038.0	-43.3	1038.9	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
16 17	11500.00 11600.00	90.50 90.50	357.61 357.61	100 100	10602.1 10601.3	1138.9 1238.9	1137.9 1237.8	-47.4	1138.9 1238.9	357.6 357.6	0.0	0.0	10612.0 10612.0	-5.0 -5.0	1.5794376 1.5794376	6.24 6.24	1E-10 1E-10
18	11700.00	90.50	357.61	100	10600.4	1338.9	1337.7	-55.8	1338.9	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
19	11800.00	90.50	357.61	100	10599.5	1438.9	1437.6	-59.9	1438.9	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
20	11900.00	90.50	357.61	100	10598.7	1538.9	1537.5	-64.1	1538.9	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
21	12000.00	90.50	357.61	100	10597.8		1637.5	-68.3	1638.9	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
22 23	12100.00 12200.00	90.50 90.50	357.61 357.61	100 100	10596.9 10596.1	1738.9 1838.9	1737.4 1837.3	-72.4 -76.6	1738.9 1838.9	357.6 357.6	0.0	0.0	10612.0 10612.0	-5.0	1.5794376 1.5794376	6.24 6.24	1E-10 1E-10
24	12300.00	90.50	357.61	100	10595.2	1938.9	1937.2	-80.8	1938.9	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
25	12400.00	90.50	357.61	100	10594.4	2038.9	2037.1	-84.9	2038.9	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
26	12500.00	90.50	357.61	100	10593.5	2138.9	2137.0	-89.1	2138.9	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
27	12600.00	90.50	357.61	100	10592.6		2236.9	-93.3		357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
28 29	12700.00 12800.00	90.50 90.50	357.61 357.61	100 100	10591.8 10590.9	2338.8 2438.8	2336.8 2436.7	-97.4 -101.6	2338.8 2438.8	357.6 357.6	0.0	0.0	10612.0 10612.0	-5.0 -5.0	1.5794376 1.5794376	6.24 6.24	1E-10 1E-10
30	12900.00	90.50	357.61	100	10590.0	2538.8	2536.6	-105.8	2538.8	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
31	13000.00	90.50	357.61	100	10589.2	2638.8	2636.5	-109.9	2638.8	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
32	13100.00	90.50	357.61	100	10588.3	2738.8	2736.5	-114.1	2738.8	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
33	13200.00	90.50	357.61	100	10587.4	2838.8	2836.4	-118.3	2838.8	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
34 35	13300.00 13400.00	90.50 90.50	357.61 357.61	100 100	10586.6 10585.7	2938.8 3038.8	2936.3 3036.2	-122.4 -126.6	2938.8 3038.8	357.6 357.6	0.0	0.0	10612.0 10612.0	-5.0 -5.0	1.5794376 1.5794376	6.24 6.24	1E-10 1E-10
36	13500.00	90.50	357.61	100	10584.8	3138.8	3136.1	-130.8	3138.8	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
37	13600.00	90.50	357.61	100	10584.0	3238.8	3236.0	-134.9	3238.8	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
38	13700.00	90.50	357.61	100	10583.1	3338.8	3335.9	-139.1	3338.8	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
39	13800.00	90.50	357.61	100	10582.3	3438.8	3435.8	-143.3	3438.8	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
40 41	13900.00 14000.00	90.50 90.50	357.61 357.61	100 100	10581.4 10580.5		3535.7 3635.6	-147.4 -151.6	3538.8 3638.8	357.6 357.6	0.0	0.0	10612.0 10612.0	-5.0	1.5794376 1.5794376	6.24 6.24	1E-10 1E-10
42	14100.00	90.50	357.61	100	10579.7		3735.6	-155.8	3738.8	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
43	14200.00	90.50	357.61	100	10578.8		3835.5	-159.9		357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
44	14300.00	90.50	357.61	100	10577.9		3935.4		3938.8	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
45	14400.00	90.50	357.61	100	10577.1	4038.8	4035.3	-168.2		357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
46 47	14500.00 14600.00	90.50	357.61	100	10576.2 10575.3		4135.2 4235.1	-172.4 -176.6	4138.8 4238.8	357.6 357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
48	14700.00	90.50 90.50	357.61 357.61	100	10575.5		4335.0	-180.7	4338.8	357.6	0.0	0.0	10612.0 10612.0	-5.0	1.5794376 1.5794376	6.24 6.24	1E-10 1E-10
49	14800.00	90.50	357.61	100	10573.6		4434.9	-184.9		357.6	0.0	0.0	10612.0		1.5794376	6.24	1E-10
50	14900.00	90.50	357.61	100	10572.8		4534.8	-189.1	4538.8	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
51	15000.00	90.50	357.61	100	10571.9		4634.7	-193.2	4638.8	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
52	15100.00	90.50	357.61	100	10571.0		4734.6	-197.4	4738.8	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
53	15200.00	90.50	357.61	100	10570.2		4834.6	-201.6	4838.8	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
54 55	15300.00 15400.00	90.50 90.50	357.61 357.61	100 100	10569.3 10568.4		4934.5 5034.4	-205.7 -209.9	4938.8 5038.7	357.6 357.6	0.0	0.0	10612.0 10612.0	-5.0	1.5794376 1.5794376	6.24	1E-10
56	15400.00	90.50	357.61	100	10567.6		5134.3		5138.7	357.6	0.0	0.0	10612.0		1.5794376	6.24 6.24	1E-10 1E-10
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57	15600.00	90.50	357.61	100	10566.7	5238.7	5234.2	-218.2	5238.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
58	15700.00	90.50	357.61	100	10565.8	5338.7	5334.1	-222.4	5338.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
59	15800.00	90.50	357.61	100	10565.0	5438.7	5434.0	-226.6	5438.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
60	15900.00	90.50	357.61	100	10564.1	5538.7	5533.9	-230.7	5538.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
61	16000.00	90.50	357.61	100	10563.2	5638.7	5633.8	-234.9	5638.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
62	16100.00	90.50	357.61	100	10562.4	5738.7	5733.7	-239.1	5738.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
63	16200.00	90.50	357.61	100	10561.5	5838.7	5833.7	-243.2	5838.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
64	16300.00	90.50	357.61	100	10560.7	5938.7	5933.6	-247.4	5938.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
65	16400.00	90.50	357.61	100	10559.8	6038.7	6033.5	-251.6	6038.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
66	16500.00	90.50	357.61	100	10558.9	6138.7	6133.4	-255.7	6138.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
67	16600.00	90.50	357.61	100	10558.1	6238.7	6233.3	-259.9	6238.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
68	16700.00	90.50	357.61	100	10557.2	6338.7	6333.2	-264.1	6338.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
69	16800.00	90.50	357.61	100	10556.3	6438.7	6433.1	-268.2	6438.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
70	16900.00	90.50	357.61	100	10555.5	6538.7	6533.0	-272.4	6538.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
71	17000.00	90.50	357.61	100	10554.6	6638.7	6632.9	-276.6	6638.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
72	17100.00	90.50	357.61	100	10553.7	6738.7	6732.8	-280.7	6738.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
73	17200.00	90.50	357.61	100	10552.9	6838.7	6832.7	-284.9	6838.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
74	17300.00	90.50	357.61	100	10552.0	6938.7	6932.7	-289.1	6938.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
75	17400.00	90.50	357.61	100	10551.1	7038.7	7032.6	-293.2	7038.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
76	17500.00	90.50	357.61	100	10550.3	7138.7	7132.5	-297.4	7138.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
77	17600.00	90.50	357.61	100	10549.4	7238.7	7232.4	-301.5	7238.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
78	17700.00	90.50	357.61	100	10548.6	7338.7	7332.3	-305.7	7338.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
79	17800.00	90.50	357.61	100	10547.7	7438.7	7432.2	-309.9	7438.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
80	17900.00	90.50	357.61	100	10546.8	7538.7	7532.1	-314.0	7538.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
81	17993.01	90.50	357.61	93.009	10546.0	7631.7	7625.0	-317.9	7631.7	357.6	0.0	0.0	10612.0	-5.0	1.5794376	6.24	1E-10
82	17993.01	90.50	357.61	0	10546.0	7631.7	7625.0	-317.9	7631.7	357.6	######	######	10612.0	-5.0	1.5794376	6.24	1E-10
83	17993.01	90.50	357.61	0	10546.0	7631.7	7625.0	-317.9	7631.7	357.6	######	######	10612.0	-5.0	1.5794376	6.24	1E-10