

Well Name: JAWBONE FED COM LW	Well Location: T25S / R26E / SEC 2 / SESE /	County or Parish/State:
Well Number: 13H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM0441951	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001549457	Well Status: Approved Application for Permit to Drill	Operator: FLAT CREEK RESOURCES LLC

Notice of Intent

Sundry ID: 2759784

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 11/05/2023	Time Sundry Submitted: 06:23
Date proposed operation will begin: 12/01/2023	

Procedure Description: Well type has changed from gas to oil. Zone has changed from Wolfcamp to Bone Spring. TVD has changed from 9525' to 7691'. MD has changed from 19468' to 17919' BHL was at 330' FNL and 1660' FEL 35-24s-26e. BHL has now moved 933' NE to 50' FNL & 770' FEL 35-24s-26e. No change in SHL. No change in pad footprint. Revised drilling documents attached.

NOI Attachments

Procedure Description

- 5.5in_Casing_Spec_20231105061924.pdf
- Jawbone_LW_13H_Casing_Design_Assumptions_20231105061909.pdf
- Jawbone_LW_13H_AntiCollision_Report_20231105061855.pdf
- Jawbone_LW_13H_Horizontal_Plan_20231105061842.pdf
- Jawbone_LW_13H_C102_20231105061827.pdf
- Jawbone_LW_13H_Drill_Plan_20231105061804.pdf

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Well Number: 13H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM0441951	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001549457	Well Status: Approved Application for Permit to Drill	Operator: FLAT CREEK RESOURCES LLC

Conditions of Approval

Additional

2_25_26_P_Sundry_ID_2759784_Jawbone_Federal_Com_LW_13H_Eddy_NM0441951_FLAT_CREEK_RESOURCES_LLC_13_22fa_11_21_2023_LV_20231215074641.pdf
Jawbone_Fed_Com_LW_13H_Dr_COA_20231215074641.pdf

Operator

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: BRIAN WOOD Signed on: NOV 05, 2023 06:17 AM
Name: FLAT CREEK RESOURCES LLC
Title: President
Street Address: 37 VERANO LOOP
City: SANTA FE State: NM
Phone: (505) 466-8120
Email address: AFMSS@PERMITSWEST.COM

Field

Representative Name:
Street Address:
City: State: Zip:
Phone:
Email address:

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS BLM POC Title: Petroleum Engineer
BLM POC Phone: 5752342234 BLM POC Email Address: cwalls@blm.gov
Disposition: Approved Disposition Date: 12/29/2023
Signature: Chris Walls

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 Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

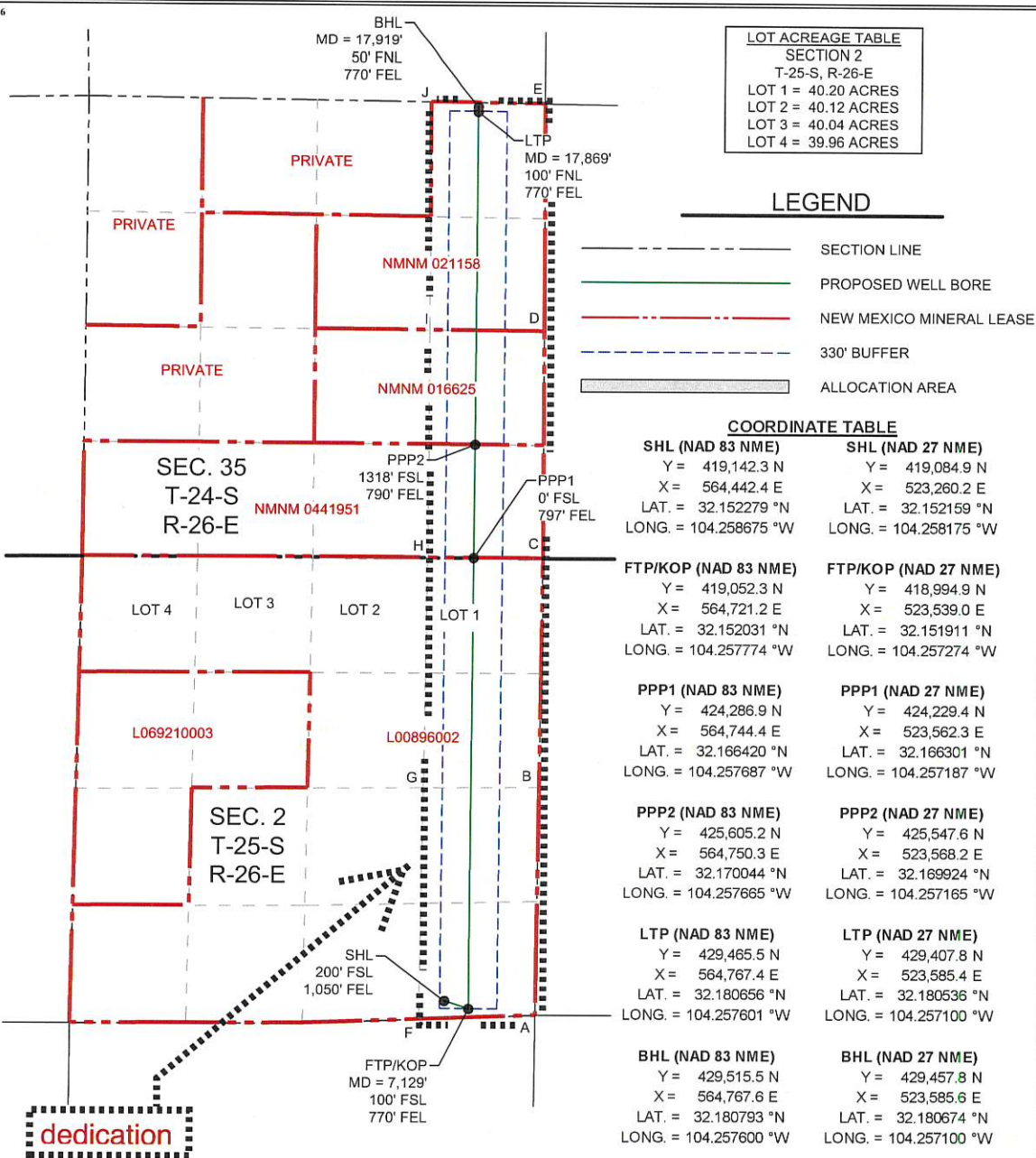
¹ API Number 30-015-49457		² Pool Code 97494		³ Pool Name COTTONWOOD DRAW; BONE SPRING (O)	
⁴ Property Code		⁵ Property Name JAWBONE FEDERAL COM LW			⁶ Well Number 13H
⁷ OGRID No. 374034		⁸ Operator Name FLAT CREEK RESOURCES, LLC			⁹ Elevation 3,355'

¹⁰ Surface Location									
UL or lot no. P	Section 2	Township 25 S	Range 26 E	Lot Idn	Feet from the 200	North/South line SOUTH	Feet from the 1,050	East/West line EAST	County EDDY

¹¹ Bottom Hole Location If Different From Surface									
UL or lot no. A	Section 35	Township 24 S	Range 26 E	Lot Idn	Feet from the 50	North/South line NORTH	Feet from the 770	East/West line EAST	County EDDY

¹² Dedicated Acres 320.20	¹³ Joint or Infill	¹⁴ Consolidation Code C	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



¹⁷ OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Rodney Littleton 9/21/23
Signature Date

Rodney Littleton
Printed Name

rodney.littleton@flatcreekresources.com
E-mail Address

¹⁸ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

09/21/2023
Date of Survey

Signature and Seal of Professional Surveyor:

[Signature]



MARK DILLON HARP 23786
Certificate Number

AI 618.005002.00-09

P:\618.005 Flat Creek\002 Jawbone Lease\00 - LW 13H\DWG\13H C-102.dwg

Flat Creek Resources, LLC
 Jawbone Federal Com 013H
 SHL: 200' FSL & 1050' FEL 2-25S-26E
 BHL: 50' FNL & 770' FEL 35-24S-26E
 Eddy County, NM

DRILL PLAN PAGE 1

30-015-49457

"fee/fee/Fed"

The well was originally permitted by Murchison. Well, not yet spudded, was subsequently acquired by Flat Creek which is proposing downhole changes. Well type will change from gas to oil. Zone will change from Wolfcamp to Bone Spring. TVD will change from 9525' to 7691'. MD will change from 19468' to 17919'. BHL will move 933' NE from 330' FNL & 1660' FEL to 50' FNL & 770' FEL. No change in SHL or in pad footprint.

Drilling Program1. ESTIMATED TOPS

Formation	TVD	MD	Bearing
Salado salt	0'	0'	Fresh water
Base salt	1704'	1706'	N/A
Lamar limestone	1918'	1920'	N/A
Bell Canyon sandstone	1975'	1978'	hydrocarbons
Cherry Canyon sandstone	2818'	2823'	hydrocarbons
Brushy Canyon sandstone	3865'	3873'	hydrocarbons
Bone Spring limestone	5412'	5423'	hydrocarbons
First Bone Spring sandstone	6329'	6340'	hydrocarbons
Second Bone Spring shale	6497'	6508'	hydrocarbons
Second Bone Spring sandstone	6839'	6850'	hydrocarbons
KOP	7118'	7129'	hydrocarbons
Third Bone Spring shale	7267'	7280'	hydrocarbons
Harkey Bone Spring sandstone	7562'	7638'	hydrocarbons
TD	7691'	17919'	hydrocarbons

2. NOTABLE ZONES

Harkey member of the Bone Spring is the goal. Closest water well (C 03200 POD 1) is 1.53 miles northwest. Water bearing strata were reported from 65' to 75' in the 80' deep well.

Flat Creek Resources, LLC
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 Eddy County, NM

DRILL PLAN PAGE 2

30-015-49457

"fee/fee/Fed"

3. PRESSURE CONTROL

No change from original APD.

4. CASING & CEMENT

All casing will be new and API. No change in speed head from original APD.

Hole OD	Set MD	Set TVD	Casing OD	Weight (lb/ft)	Grade	Joint	Collapse	Burst	Tension
14.75"	0' – 300'	0' – 300'	10.75" surface	40.5	J-55	BTC	14.9	25.5	58.8
9.875"	0' – 1900'	0' – 1898'	7.625" intermediate	29.7	P-110 HC	BTC	7.2	7.0	12.1
6.75"	0' – 17919'	0' – 7691'	5.5" production	20	P-110 HC	TCBC-HT	3.1	3.3	3.9

Name	Type	Sacks	Yield	Cu. Ft.	Weight	Blend
Surface	Lead	135	1.68	226	12.8	35/65 Poz Premium C + 5% salt + 6% bentonite gel + 0.4% CPT-503P + 1/8 #/sk Dura-fiber
	Tail	85	1.34	113	14.8	Class C + 1% CaCl ₂ + ¼ #/sk cellophane flakes
TOC = GL		100% Excess			Centralizers per Onshore Order 1	
Intermediate	Lead	270	1.68	453	12.8	35/65 Poz Premium C + 5% salt + 6% bentonite gel + 0.4% CPT-503P + 1/8 #/sk Dura-fiber
	Tail	85	1.74	147	13.5	Class C + 1% CaCl ₂ + 4% bentonite gel + 0.4% CPT-503P + 1/8 #/sk Dura-fiber
TOC = GL		50% excess			Bow spring centralizers	
Production	Lead	260	2.82	733	10.4	Class C + 10% light weight bead + 5% silica fume

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DRILL PLAN PAGE 3

30-015-49457

"fee/fee/Fed"

						alternative + 0.2% suspension aid + 0.3% fluid loss additive + 0.3% dispersant + 0.2% retarder
	Tail	710	1.42	1008	13.2	35/65 Poz Premium H + 0.2% CPT-23
TOC = GL		15% Excess			Bow & solid body centralizers	

5. MUD PROGRAM

A closed loop system will be used. An electronic pit volume totalizer (PVT) mud system complying with 43 CFR 3172 will monitor pit volumes for gains or losses, flow rate, pump pressures, and stroke rate. Sufficient mud materials (e. g., barite, bentonite, LCM) to maintain mud properties and meet minimum lost circulation and weight increase requirements will always be on site.

Hole	Type	Interval (MD)	lb/gal	Viscosity	Fluid Loss
Surface	fresh water	0' - 300'	8.8	45 - 60	NC
Intermediate	cut brine	300' - 1900'	10.0	29 - 30	NC
Production	High performance water base	1900' - 17919'	9.4	34 - 38	6 - 8

6. CORES, TESTS, & LOGS

No core is planned. GR, MWD, and mud logs will be run.

7. DOWN HOLE CONDITIONS

No abnormal pressure or temperature is expected. Maximum expected bottom hole pressure is ≈ 3461 psi. Expected bottom hole temperature is $\approx 167^\circ$ F.

Flat Creek Resources, LLC
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Eddy County, NM

DRILL PLAN PAGE 4

30-015-49457

"fee/fee/Fed"

An H2S plan was attached to the original APD per 43 CFR 3176. H2S monitoring equipment will be used from surface casing setting point to TD per 43 CFR 3176.

8. OTHER INFORMATION

Anticipated spud date is upon approval. It is expected it will take 1 - 2 months to drill and complete the well.



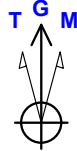
Well: Jawbone Fed Com LW 13H
Site: Jawbone
Project: Eddy County, New Mexico NAD27 NME
Design: rev1

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect	Annotation
1	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	
2	1000.00	0.00	0.000	1000.00	0.00	0.00	0.00	0.00	KOP Begin 2"/100' build
3	1221.70	4.43	107.891	1221.48	-2.63	8.16	2.00	-2.60	Begin 4.43° tangent
4	4789.42	4.43	107.891	4778.52	-87.37	270.64	0.00	-86.17	Begin 2"/100' drop
5	5011.12	0.00	0.000	5000.00	-90.00	278.80	2.00	-88.76	Begin vertical hold @ 5000.00 TVD
6	7011.12	0.00	0.000	7000.00	-90.00	278.80	0.00	-88.76	
7	7129.16	0.00	0.000	7118.04	-90.00	278.80	0.00	-88.76	Begin 10"/100' build
8	8029.16	90.00	0.255	7691.00	482.95	281.35	10.00	484.19	Begin 90.00° lateral
9	17869.23	90.00	0.255	7691.00	10322.92	325.20	0.00	10324.26	LTP @ 17869.23 MD 7691.00 TVD
10	17919.23	90.00	0.255	7691.00	10372.92	325.42	0.00	10374.26	PBHL/TD @ 17919.23 MD 7691.00 TVD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
Jawbone 01 BHL 770 FEL 50 FNL r1	7691.00	10372.92	325.20	429457.800	523585.400
- plan misses target center by 0.22ft at 17919.23ft MD (7691.00 TVD, 10372.92 N, 325.42 E)					
Jawbone 01 FTP 770 FEL 100 FSL r1	7000.00	-90.00	278.80	418994.900	523539.000
- plan hits target center					
Jawbone 01 LTP 100 FNL 770 FEL r1	7691.00	10322.92	325.20	429407.800	523585.400
- plan hits target center					



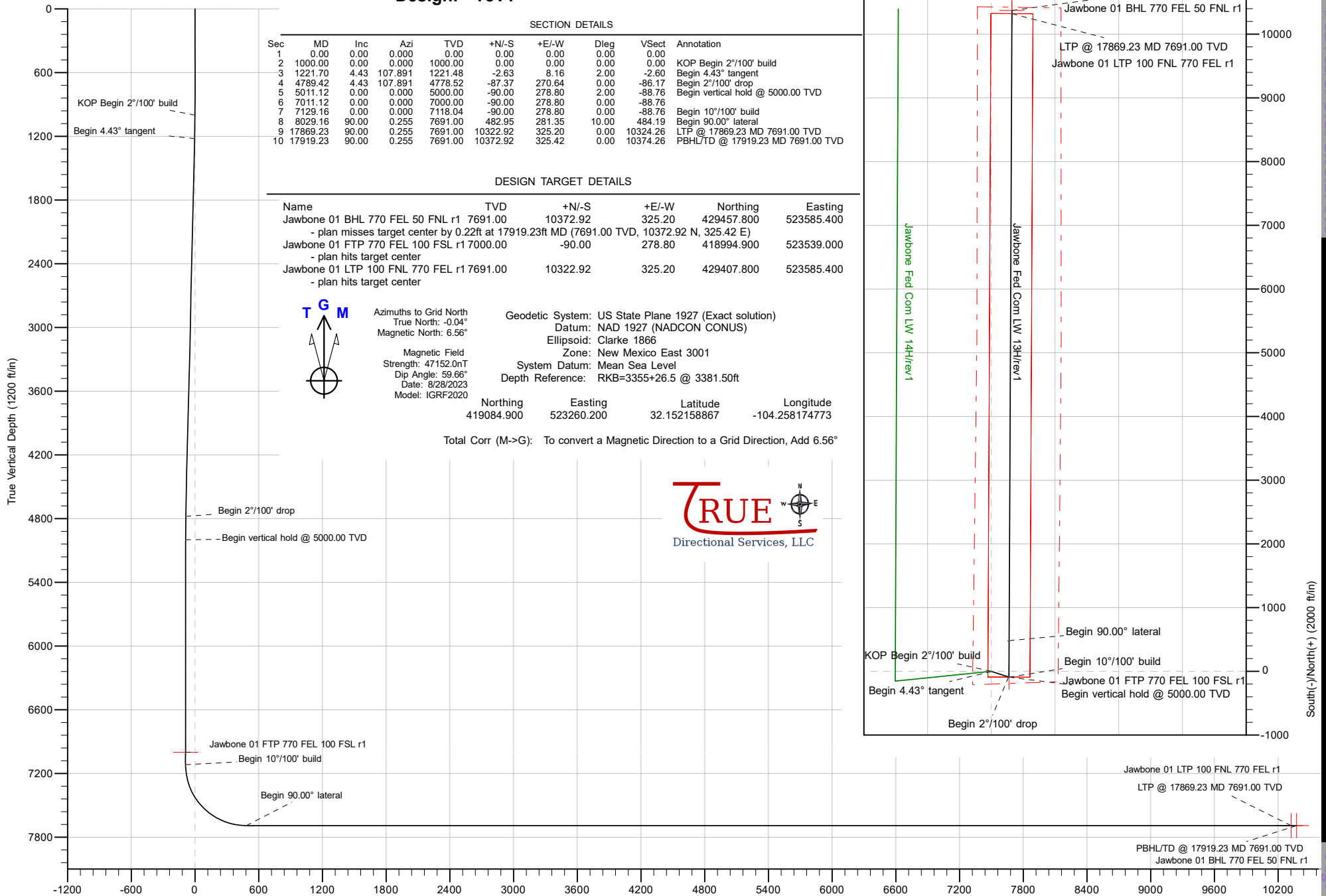
Azimuths to Grid North
True North: -0.04°
Magnetic North: 6.56°

Magnetic Field
Strength: 47152.0nT
Dip Angle: 59.66°
Date: 8/28/2023
Model: IGRF2020

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Depth Reference: RKB=3355+26.5 @ 3381.50ft

Northing	Easting	Latitude	Longitude
419084.900	523260.200	32.152158867	-104.258174773

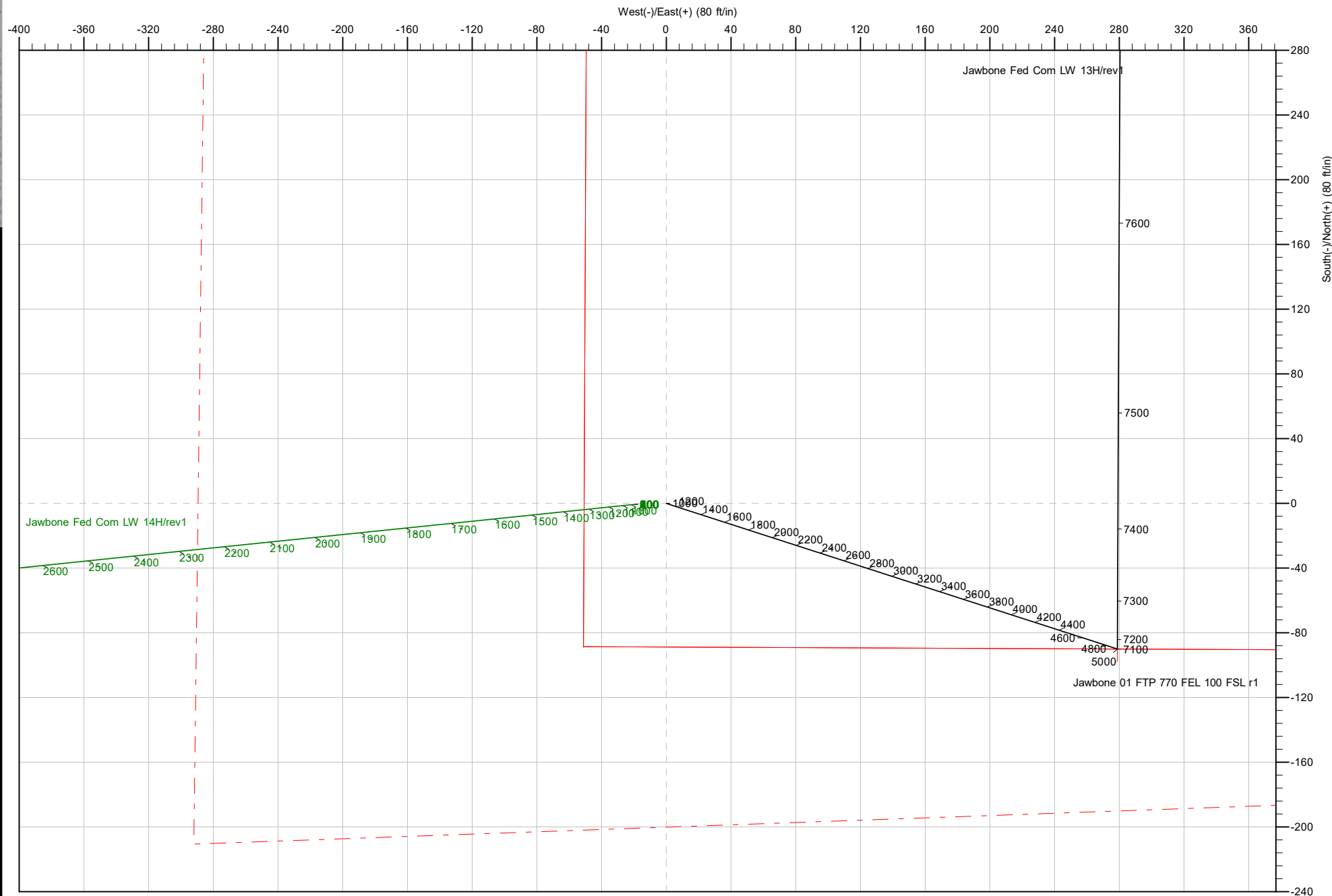
Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Add 6.56°





FLAT CREEK
RESOURCES

Well: Jawbone Fed Com LW 13H
Site: Jawbone
Project: Eddy County, New Mexico NAD27 NME
Design: rev1



FLAT CREEK
RESOURCES

Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Project	Eddy County, New Mexico NAD27 NME		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Jawbone			
Site Position:		Northing:	419,218.600 usft	Latitude:	32.152532039
From:	Map	Easting:	520,115.600 usft	Longitude:	-104.268335365
Position Uncertainty:		0.00 ft	Slot Radius:	13-3/16 "	

Well	Jawbone Fed Com LW 13H, Surf loc: 200 FSL 1050 FEL Section 02-T25S-R26E					
Well Position	+N/-S	0.00 ft	Northing:	419,084.900 usft	Latitude:	32.152158868
	+E/-W	0.00 ft	Easting:	523,260.200 usft	Longitude:	-104.258174772
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,355.00 ft
Grid Convergence:		0.04 °				

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	8/28/2023	6.60	59.66	47,152.04512177

Design	rev1				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	0.254	

Plan Survey Tool Program	Date	9/6/2023			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	17,919.23 rev1 (Original Hole)	MWD		
			OWSG MWD - Standard		

FLAT CREEK
RESOURCES

Planning Report

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Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,221.70	4.43	107.891	1,221.48	-2.63	8.16	2.00	2.00	0.00	107.89	
4,789.42	4.43	107.891	4,778.52	-87.37	270.64	0.00	0.00	0.00	0.00	
5,011.12	0.00	0.000	5,000.00	-90.00	278.80	2.00	-2.00	0.00	180.00	
7,011.12	0.00	0.000	7,000.00	-90.00	278.80	0.00	0.00	0.00	0.00	Jawbone 01 FTP 770
7,129.16	0.00	0.000	7,118.04	-90.00	278.80	0.00	0.00	0.00	0.00	
8,029.16	90.00	0.255	7,691.00	482.95	281.35	10.00	10.00	0.03	0.26	
17,869.23	90.00	0.255	7,691.00	10,322.92	325.20	0.00	0.00	0.00	0.00	Jawbone 01 LTP 100
17,919.23	90.00	0.255	7,691.00	10,372.92	325.42	0.00	0.00	0.00	0.00	Jawbone 01 BHL 770

FLAT CREEK
RESOURCES

Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.000	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.000	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP Begin 2°/100' build									
1,100.00	2.00	107.891	1,099.98	-0.54	1.66	-0.53	2.00	2.00	0.00
1,200.00	4.00	107.891	1,199.84	-2.14	6.64	-2.11	2.00	2.00	0.00
1,221.70	4.43	107.891	1,221.48	-2.63	8.16	-2.60	2.00	2.00	0.00
Begin 4.43° tangent									
1,300.00	4.43	107.891	1,299.54	-4.49	13.92	-4.43	0.00	0.00	0.00
1,400.00	4.43	107.891	1,399.25	-6.87	21.28	-6.77	0.00	0.00	0.00
1,500.00	4.43	107.891	1,498.95	-9.24	28.63	-9.12	0.00	0.00	0.00
1,600.00	4.43	107.891	1,598.65	-11.62	35.99	-11.46	0.00	0.00	0.00
1,700.00	4.43	107.891	1,698.35	-13.99	43.35	-13.80	0.00	0.00	0.00
1,800.00	4.43	107.891	1,798.05	-16.37	50.71	-16.14	0.00	0.00	0.00
1,900.00	4.43	107.891	1,897.75	-18.74	58.06	-18.49	0.00	0.00	0.00
2,000.00	4.43	107.891	1,997.45	-21.12	65.42	-20.83	0.00	0.00	0.00
2,100.00	4.43	107.891	2,097.15	-23.49	72.78	-23.17	0.00	0.00	0.00
2,200.00	4.43	107.891	2,196.85	-25.87	80.13	-25.51	0.00	0.00	0.00
2,300.00	4.43	107.891	2,296.55	-28.24	87.49	-27.86	0.00	0.00	0.00
2,400.00	4.43	107.891	2,396.25	-30.62	94.85	-30.20	0.00	0.00	0.00
2,500.00	4.43	107.891	2,495.95	-32.99	102.21	-32.54	0.00	0.00	0.00
2,600.00	4.43	107.891	2,595.65	-35.37	109.56	-34.88	0.00	0.00	0.00
2,700.00	4.43	107.891	2,695.35	-37.74	116.92	-37.22	0.00	0.00	0.00
2,800.00	4.43	107.891	2,795.06	-40.12	124.28	-39.57	0.00	0.00	0.00
2,900.00	4.43	107.891	2,894.76	-42.49	131.63	-41.91	0.00	0.00	0.00
3,000.00	4.43	107.891	2,994.46	-44.87	138.99	-44.25	0.00	0.00	0.00
3,100.00	4.43	107.891	3,094.16	-47.24	146.35	-46.59	0.00	0.00	0.00
3,200.00	4.43	107.891	3,193.86	-49.62	153.71	-48.94	0.00	0.00	0.00
3,300.00	4.43	107.891	3,293.56	-51.99	161.06	-51.28	0.00	0.00	0.00
3,400.00	4.43	107.891	3,393.26	-54.37	168.42	-53.62	0.00	0.00	0.00
3,500.00	4.43	107.891	3,492.96	-56.74	175.78	-55.96	0.00	0.00	0.00
3,600.00	4.43	107.891	3,592.66	-59.12	183.13	-58.31	0.00	0.00	0.00
3,700.00	4.43	107.891	3,692.36	-61.49	190.49	-60.65	0.00	0.00	0.00
3,800.00	4.43	107.891	3,792.06	-63.87	197.85	-62.99	0.00	0.00	0.00
3,900.00	4.43	107.891	3,891.76	-66.24	205.21	-65.33	0.00	0.00	0.00
4,000.00	4.43	107.891	3,991.46	-68.62	212.56	-67.67	0.00	0.00	0.00
4,100.00	4.43	107.891	4,091.16	-70.99	219.92	-70.02	0.00	0.00	0.00
4,200.00	4.43	107.891	4,190.87	-73.37	227.28	-72.36	0.00	0.00	0.00
4,300.00	4.43	107.891	4,290.57	-75.74	234.63	-74.70	0.00	0.00	0.00
4,400.00	4.43	107.891	4,390.27	-78.12	241.99	-77.04	0.00	0.00	0.00
4,500.00	4.43	107.891	4,489.97	-80.49	249.35	-79.39	0.00	0.00	0.00
4,600.00	4.43	107.891	4,589.67	-82.87	256.71	-81.73	0.00	0.00	0.00
4,700.00	4.43	107.891	4,689.37	-85.24	264.06	-84.07	0.00	0.00	0.00
4,789.42	4.43	107.891	4,778.52	-87.37	270.64	-86.17	0.00	0.00	0.00
Begin 2°/100' drop									

FLAT CREEK
RESOURCES

Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,800.00	4.22	107.891	4,789.07	-87.61	271.40	-86.41	2.00	-2.00	0.00
4,900.00	2.22	107.891	4,888.91	-89.34	276.75	-88.11	2.00	-2.00	0.00
5,000.00	0.22	107.891	4,988.88	-89.99	278.78	-88.76	2.00	-2.00	0.00
5,011.12	0.00	0.000	5,000.00	-90.00	278.80	-88.76	2.00	-2.00	0.00
Begin vertical hold @ 5000.00 TVD									
5,100.00	0.00	0.000	5,088.88	-90.00	278.80	-88.76	0.00	0.00	0.00
5,200.00	0.00	0.000	5,188.88	-90.00	278.80	-88.76	0.00	0.00	0.00
5,300.00	0.00	0.000	5,288.88	-90.00	278.80	-88.76	0.00	0.00	0.00
5,400.00	0.00	0.000	5,388.88	-90.00	278.80	-88.76	0.00	0.00	0.00
5,500.00	0.00	0.000	5,488.88	-90.00	278.80	-88.76	0.00	0.00	0.00
5,600.00	0.00	0.000	5,588.88	-90.00	278.80	-88.76	0.00	0.00	0.00
5,700.00	0.00	0.000	5,688.88	-90.00	278.80	-88.76	0.00	0.00	0.00
5,800.00	0.00	0.000	5,788.88	-90.00	278.80	-88.76	0.00	0.00	0.00
5,900.00	0.00	0.000	5,888.88	-90.00	278.80	-88.76	0.00	0.00	0.00
6,000.00	0.00	0.000	5,988.88	-90.00	278.80	-88.76	0.00	0.00	0.00
6,100.00	0.00	0.000	6,088.88	-90.00	278.80	-88.76	0.00	0.00	0.00
6,200.00	0.00	0.000	6,188.88	-90.00	278.80	-88.76	0.00	0.00	0.00
6,300.00	0.00	0.000	6,288.88	-90.00	278.80	-88.76	0.00	0.00	0.00
6,400.00	0.00	0.000	6,388.88	-90.00	278.80	-88.76	0.00	0.00	0.00
6,500.00	0.00	0.000	6,488.88	-90.00	278.80	-88.76	0.00	0.00	0.00
6,600.00	0.00	0.000	6,588.88	-90.00	278.80	-88.76	0.00	0.00	0.00
6,700.00	0.00	0.000	6,688.88	-90.00	278.80	-88.76	0.00	0.00	0.00
6,800.00	0.00	0.000	6,788.88	-90.00	278.80	-88.76	0.00	0.00	0.00
6,900.00	0.00	0.000	6,888.88	-90.00	278.80	-88.76	0.00	0.00	0.00
7,000.00	0.00	0.000	6,988.88	-90.00	278.80	-88.76	0.00	0.00	0.00
7,011.12	0.00	0.000	7,000.00	-90.00	278.80	-88.76	0.00	0.00	0.00
7,100.00	0.00	0.000	7,088.88	-90.00	278.80	-88.76	0.00	0.00	0.00
7,129.16	0.00	0.000	7,118.04	-90.00	278.80	-88.76	0.00	0.00	0.00
Begin 10°/100' build									
7,150.00	2.08	0.255	7,138.88	-89.62	278.80	-88.38	10.00	10.00	0.00
7,200.00	7.08	0.255	7,188.70	-85.63	278.82	-84.39	10.00	10.00	0.00
7,250.00	12.08	0.255	7,237.99	-77.30	278.86	-76.07	10.00	10.00	0.00
7,300.00	17.08	0.255	7,286.36	-64.72	278.91	-63.48	10.00	10.00	0.00
7,350.00	22.08	0.255	7,333.45	-47.96	278.99	-46.73	10.00	10.00	0.00
7,400.00	27.08	0.255	7,378.91	-27.17	279.08	-25.93	10.00	10.00	0.00
7,450.00	32.08	0.255	7,422.37	-2.49	279.19	-1.26	10.00	10.00	0.00
7,500.00	37.08	0.255	7,463.53	25.88	279.32	27.12	10.00	10.00	0.00
7,550.00	42.08	0.255	7,502.05	57.73	279.46	58.97	10.00	10.00	0.00
7,600.00	47.08	0.255	7,537.65	92.81	279.62	94.05	10.00	10.00	0.00
7,650.00	52.08	0.255	7,570.05	130.87	279.78	132.11	10.00	10.00	0.00
7,700.00	57.08	0.255	7,599.02	171.60	279.97	172.84	10.00	10.00	0.00
7,750.00	62.08	0.255	7,624.33	214.71	280.16	215.95	10.00	10.00	0.00
7,800.00	67.08	0.255	7,645.78	259.86	280.36	261.10	10.00	10.00	0.00
7,850.00	72.08	0.255	7,663.21	306.70	280.57	307.94	10.00	10.00	0.00
7,900.00	77.08	0.255	7,676.50	354.88	280.78	356.13	10.00	10.00	0.00
7,950.00	82.08	0.255	7,685.54	404.04	281.00	405.29	10.00	10.00	0.00
8,000.00	87.08	0.255	7,690.26	453.80	281.22	455.05	10.00	10.00	0.00
8,029.16	90.00	0.255	7,691.00	482.95	281.35	484.19	10.00	10.00	0.00
Begin 90.00° lateral									
8,100.00	90.00	0.255	7,691.00	553.79	281.67	555.03	0.00	0.00	0.00
8,200.00	90.00	0.255	7,691.00	653.79	282.11	655.03	0.00	0.00	0.00
8,300.00	90.00	0.255	7,691.00	753.79	282.56	755.03	0.00	0.00	0.00
8,400.00	90.00	0.255	7,691.00	853.79	283.01	855.03	0.00	0.00	0.00

FLAT CREEK
RESOURCES

Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,500.00	90.00	0.255	7,691.00	953.79	283.45	955.03	0.00	0.00	0.00	
8,600.00	90.00	0.255	7,691.00	1,053.79	283.90	1,055.03	0.00	0.00	0.00	
8,700.00	90.00	0.255	7,691.00	1,153.79	284.34	1,155.03	0.00	0.00	0.00	
8,800.00	90.00	0.255	7,691.00	1,253.78	284.79	1,255.03	0.00	0.00	0.00	
8,900.00	90.00	0.255	7,691.00	1,353.78	285.23	1,355.03	0.00	0.00	0.00	
9,000.00	90.00	0.255	7,691.00	1,453.78	285.68	1,455.03	0.00	0.00	0.00	
9,100.00	90.00	0.255	7,691.00	1,553.78	286.13	1,555.03	0.00	0.00	0.00	
9,200.00	90.00	0.255	7,691.00	1,653.78	286.57	1,655.03	0.00	0.00	0.00	
9,300.00	90.00	0.255	7,691.00	1,753.78	287.02	1,755.03	0.00	0.00	0.00	
9,400.00	90.00	0.255	7,691.00	1,853.78	287.46	1,855.03	0.00	0.00	0.00	
9,500.00	90.00	0.255	7,691.00	1,953.78	287.91	1,955.03	0.00	0.00	0.00	
9,600.00	90.00	0.255	7,691.00	2,053.78	288.35	2,055.03	0.00	0.00	0.00	
9,700.00	90.00	0.255	7,691.00	2,153.78	288.80	2,155.03	0.00	0.00	0.00	
9,800.00	90.00	0.255	7,691.00	2,253.77	289.24	2,255.03	0.00	0.00	0.00	
9,900.00	90.00	0.255	7,691.00	2,353.77	289.69	2,355.03	0.00	0.00	0.00	
10,000.00	90.00	0.255	7,691.00	2,453.77	290.14	2,455.03	0.00	0.00	0.00	
10,100.00	90.00	0.255	7,691.00	2,553.77	290.58	2,555.03	0.00	0.00	0.00	
10,200.00	90.00	0.255	7,691.00	2,653.77	291.03	2,655.03	0.00	0.00	0.00	
10,300.00	90.00	0.255	7,691.00	2,753.77	291.47	2,755.03	0.00	0.00	0.00	
10,400.00	90.00	0.255	7,691.00	2,853.77	291.92	2,855.03	0.00	0.00	0.00	
10,500.00	90.00	0.255	7,691.00	2,953.77	292.36	2,955.03	0.00	0.00	0.00	
10,600.00	90.00	0.255	7,691.00	3,053.77	292.81	3,055.03	0.00	0.00	0.00	
10,700.00	90.00	0.255	7,691.00	3,153.77	293.25	3,155.03	0.00	0.00	0.00	
10,800.00	90.00	0.255	7,691.00	3,253.76	293.70	3,255.03	0.00	0.00	0.00	
10,900.00	90.00	0.255	7,691.00	3,353.76	294.15	3,355.03	0.00	0.00	0.00	
11,000.00	90.00	0.255	7,691.00	3,453.76	294.59	3,455.03	0.00	0.00	0.00	
11,100.00	90.00	0.255	7,691.00	3,553.76	295.04	3,555.03	0.00	0.00	0.00	
11,200.00	90.00	0.255	7,691.00	3,653.76	295.48	3,655.03	0.00	0.00	0.00	
11,300.00	90.00	0.255	7,691.00	3,753.76	295.93	3,755.03	0.00	0.00	0.00	
11,400.00	90.00	0.255	7,691.00	3,853.76	296.37	3,855.03	0.00	0.00	0.00	
11,500.00	90.00	0.255	7,691.00	3,953.76	296.82	3,955.03	0.00	0.00	0.00	
11,600.00	90.00	0.255	7,691.00	4,053.76	297.27	4,055.03	0.00	0.00	0.00	
11,700.00	90.00	0.255	7,691.00	4,153.76	297.71	4,155.03	0.00	0.00	0.00	
11,800.00	90.00	0.255	7,691.00	4,253.75	298.16	4,255.03	0.00	0.00	0.00	
11,900.00	90.00	0.255	7,691.00	4,353.75	298.60	4,355.03	0.00	0.00	0.00	
12,000.00	90.00	0.255	7,691.00	4,453.75	299.05	4,455.03	0.00	0.00	0.00	
12,100.00	90.00	0.255	7,691.00	4,553.75	299.49	4,555.03	0.00	0.00	0.00	
12,200.00	90.00	0.255	7,691.00	4,653.75	299.94	4,655.03	0.00	0.00	0.00	
12,300.00	90.00	0.255	7,691.00	4,753.75	300.38	4,755.03	0.00	0.00	0.00	
12,400.00	90.00	0.255	7,691.00	4,853.75	300.83	4,855.03	0.00	0.00	0.00	
12,500.00	90.00	0.255	7,691.00	4,953.75	301.28	4,955.03	0.00	0.00	0.00	
12,600.00	90.00	0.255	7,691.00	5,053.75	301.72	5,055.03	0.00	0.00	0.00	
12,700.00	90.00	0.255	7,691.00	5,153.75	302.17	5,155.03	0.00	0.00	0.00	
12,800.00	90.00	0.255	7,691.00	5,253.74	302.61	5,255.03	0.00	0.00	0.00	
12,900.00	90.00	0.255	7,691.00	5,353.74	303.06	5,355.03	0.00	0.00	0.00	
13,000.00	90.00	0.255	7,691.00	5,453.74	303.50	5,455.03	0.00	0.00	0.00	
13,100.00	90.00	0.255	7,691.00	5,553.74	303.95	5,555.03	0.00	0.00	0.00	
13,200.00	90.00	0.255	7,691.00	5,653.74	304.39	5,655.03	0.00	0.00	0.00	
13,300.00	90.00	0.255	7,691.00	5,753.74	304.84	5,755.03	0.00	0.00	0.00	
13,400.00	90.00	0.255	7,691.00	5,853.74	305.29	5,855.03	0.00	0.00	0.00	
13,500.00	90.00	0.255	7,691.00	5,953.74	305.73	5,955.03	0.00	0.00	0.00	
13,600.00	90.00	0.255	7,691.00	6,053.74	306.18	6,055.03	0.00	0.00	0.00	
13,700.00	90.00	0.255	7,691.00	6,153.74	306.62	6,155.03	0.00	0.00	0.00	
13,800.00	90.00	0.255	7,691.00	6,253.73	307.07	6,255.03	0.00	0.00	0.00	

FLAT CREEK
RESOURCES

Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,900.00	90.00	0.255	7,691.00	6,353.73	307.51	6,355.03	0.00	0.00	0.00
14,000.00	90.00	0.255	7,691.00	6,453.73	307.96	6,455.03	0.00	0.00	0.00
14,100.00	90.00	0.255	7,691.00	6,553.73	308.41	6,555.03	0.00	0.00	0.00
14,200.00	90.00	0.255	7,691.00	6,653.73	308.85	6,655.03	0.00	0.00	0.00
14,300.00	90.00	0.255	7,691.00	6,753.73	309.30	6,755.03	0.00	0.00	0.00
14,400.00	90.00	0.255	7,691.00	6,853.73	309.74	6,855.03	0.00	0.00	0.00
14,500.00	90.00	0.255	7,691.00	6,953.73	310.19	6,955.03	0.00	0.00	0.00
14,600.00	90.00	0.255	7,691.00	7,053.73	310.63	7,055.03	0.00	0.00	0.00
14,700.00	90.00	0.255	7,691.00	7,153.73	311.08	7,155.03	0.00	0.00	0.00
14,800.00	90.00	0.255	7,691.00	7,253.72	311.52	7,255.03	0.00	0.00	0.00
14,900.00	90.00	0.255	7,691.00	7,353.72	311.97	7,355.03	0.00	0.00	0.00
15,000.00	90.00	0.255	7,691.00	7,453.72	312.42	7,455.03	0.00	0.00	0.00
15,100.00	90.00	0.255	7,691.00	7,553.72	312.86	7,555.03	0.00	0.00	0.00
15,200.00	90.00	0.255	7,691.00	7,653.72	313.31	7,655.03	0.00	0.00	0.00
15,300.00	90.00	0.255	7,691.00	7,753.72	313.75	7,755.03	0.00	0.00	0.00
15,400.00	90.00	0.255	7,691.00	7,853.72	314.20	7,855.03	0.00	0.00	0.00
15,500.00	90.00	0.255	7,691.00	7,953.72	314.64	7,955.03	0.00	0.00	0.00
15,600.00	90.00	0.255	7,691.00	8,053.72	315.09	8,055.03	0.00	0.00	0.00
15,700.00	90.00	0.255	7,691.00	8,153.72	315.53	8,155.03	0.00	0.00	0.00
15,800.00	90.00	0.255	7,691.00	8,253.71	315.98	8,255.03	0.00	0.00	0.00
15,900.00	90.00	0.255	7,691.00	8,353.71	316.43	8,355.03	0.00	0.00	0.00
16,000.00	90.00	0.255	7,691.00	8,453.71	316.87	8,455.03	0.00	0.00	0.00
16,100.00	90.00	0.255	7,691.00	8,553.71	317.32	8,555.03	0.00	0.00	0.00
16,200.00	90.00	0.255	7,691.00	8,653.71	317.76	8,655.03	0.00	0.00	0.00
16,300.00	90.00	0.255	7,691.00	8,753.71	318.21	8,755.03	0.00	0.00	0.00
16,400.00	90.00	0.255	7,691.00	8,853.71	318.65	8,855.03	0.00	0.00	0.00
16,500.00	90.00	0.255	7,691.00	8,953.71	319.10	8,955.03	0.00	0.00	0.00
16,600.00	90.00	0.255	7,691.00	9,053.71	319.55	9,055.03	0.00	0.00	0.00
16,700.00	90.00	0.255	7,691.00	9,153.71	319.99	9,155.03	0.00	0.00	0.00
16,800.00	90.00	0.255	7,691.00	9,253.70	320.44	9,255.03	0.00	0.00	0.00
16,900.00	90.00	0.255	7,691.00	9,353.70	320.88	9,355.03	0.00	0.00	0.00
17,000.00	90.00	0.255	7,691.00	9,453.70	321.33	9,455.03	0.00	0.00	0.00
17,100.00	90.00	0.255	7,691.00	9,553.70	321.77	9,555.03	0.00	0.00	0.00
17,200.00	90.00	0.255	7,691.00	9,653.70	322.22	9,655.03	0.00	0.00	0.00
17,300.00	90.00	0.255	7,691.00	9,753.70	322.66	9,755.03	0.00	0.00	0.00
17,400.00	90.00	0.255	7,691.00	9,853.70	323.11	9,855.03	0.00	0.00	0.00
17,500.00	90.00	0.255	7,691.00	9,953.70	323.56	9,955.03	0.00	0.00	0.00
17,600.00	90.00	0.255	7,691.00	10,053.70	324.00	10,055.03	0.00	0.00	0.00
17,700.00	90.00	0.255	7,691.00	10,153.70	324.45	10,155.03	0.00	0.00	0.00
17,800.00	90.00	0.255	7,691.00	10,253.70	324.89	10,255.03	0.00	0.00	0.00
17,869.23	90.00	0.255	7,691.00	10,322.92	325.20	10,324.26	0.00	0.00	0.00
LTP @ 17869.23 MD 7691.00 TVD									
17,900.00	90.00	0.255	7,691.00	10,353.69	325.34	10,355.03	0.00	0.00	0.00
17,919.23	90.00	0.255	7,691.00	10,372.92	325.42	10,374.26	0.00	0.00	0.00
PBHL/TD @ 17919.23 MD 7691.00 TVD									

FLAT CREEK
RESOURCES

Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
Jawbone 01 FTP 770 FE	0.00	0.255	7,000.00	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
- plan hits target center									
- Rectangle (sides W660.00 H10,413.02 D0.00)									
Jawbone 01 LTP 100 FN	0.00	0.000	7,691.00	10,322.92	325.20	429,407.800	523,585.400	32.180536080	-104.257100357
- plan hits target center									
- Point									
Jawbone 01 BHL 770 FE	0.00	0.000	7,691.00	10,372.92	325.20	429,457.800	523,585.400	32.180673531	-104.257100243
- plan misses target center by 0.22ft at 17919.23ft MD (7691.00 TVD, 10372.92 N, 325.42 E)									
- Point									

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
1,000.00	1,000.00	0.00	0.00	KOP Begin 2°/100' build
1,221.70	1,221.48	-2.63	8.16	Begin 4.43° tangent
4,789.42	4,778.52	-87.37	270.64	Begin 2°/100' drop
5,011.12	5,000.00	-90.00	278.80	Begin vertical hold @ 5000.00 TVD
7,011.12	7,000.00	-90.00	278.80	
7,129.16	7,118.04	-90.00	278.80	Begin 10°/100' build
8,029.16	7,691.00	482.95	281.35	Begin 90.00° lateral
17,869.23	7,691.00	10,322.92	325.20	LTP @ 17869.23 MD 7691.00 TVD
17,919.23	7,691.00	10,372.92	325.42	PBHL/TD @ 17919.23 MD 7691.00 TVD

FLAT CREEK
RESOURCES

Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Project	Eddy County, New Mexico NAD27 NME		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Jawbone			
Site Position:		Northing:	419,218.600 usft	Latitude:	32.152532039
From:	Map	Easting:	520,115.600 usft	Longitude:	-104.268335365
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well		Jawbone Fed Com LW 13H, Surf loc: 200 FSL 1050 FEL Section 02-T25S-R26E				
Well Position	+N/-S	0.00 ft	Northing:	419,084.900 usft	Latitude:	32.152158868
	+E/-W	0.00 ft	Easting:	523,260.200 usft	Longitude:	-104.258174772
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,355.00 ft
Grid Convergence:						

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	8/28/2023	6.60	59.66	47,152.04512177

Design	rev1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	0.254

Plan Survey Tool Program		Date			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	17,919.23 rev1 (Original Hole)			

FLAT CREEK
RESOURCES

Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,221.70	4.43	107.891	1,221.48	-2.63	8.16	2.00	2.00	0.00	107.89	
4,789.42	4.43	107.891	4,778.52	-87.37	270.64	0.00	0.00	0.00	0.00	
5,011.12	0.00	0.000	5,000.00	-90.00	278.80	2.00	-2.00	0.00	180.00	
7,011.12	0.00	0.000	7,000.00	-90.00	278.80	0.00	0.00	0.00	0.00	Jawbone 01 FTP 770
7,129.16	0.00	0.000	7,118.04	-90.00	278.80	0.00	0.00	0.00	0.00	
8,029.16	90.00	0.255	7,691.00	482.95	281.35	10.00	10.00	0.03	0.26	
17,869.23	90.00	0.255	7,691.00	10,322.92	325.20	0.00	0.00	0.00	0.00	Jawbone 01 LTP 100
17,919.23	90.00	0.255	7,691.00	10,372.92	325.42	0.00	0.00	0.00	0.00	Jawbone 01 BHL 770

FLAT CREEK
RESOURCES

Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.000	0.00	0.00	0.00	419,084.900	523,260.200	32.152158868	-104.258174772
100.00	0.00	0.000	100.00	0.00	0.00	419,084.900	523,260.200	32.152158868	-104.258174772
200.00	0.00	0.000	200.00	0.00	0.00	419,084.900	523,260.200	32.152158868	-104.258174772
300.00	0.00	0.000	300.00	0.00	0.00	419,084.900	523,260.200	32.152158868	-104.258174772
400.00	0.00	0.000	400.00	0.00	0.00	419,084.900	523,260.200	32.152158868	-104.258174772
500.00	0.00	0.000	500.00	0.00	0.00	419,084.900	523,260.200	32.152158868	-104.258174772
600.00	0.00	0.000	600.00	0.00	0.00	419,084.900	523,260.200	32.152158868	-104.258174772
700.00	0.00	0.000	700.00	0.00	0.00	419,084.900	523,260.200	32.152158868	-104.258174772
800.00	0.00	0.000	800.00	0.00	0.00	419,084.900	523,260.200	32.152158868	-104.258174772
900.00	0.00	0.000	900.00	0.00	0.00	419,084.900	523,260.200	32.152158868	-104.258174772
1,000.00	0.00	0.000	1,000.00	0.00	0.00	419,084.900	523,260.200	32.152158868	-104.258174772
KOP Begin 2°/100' build									
1,100.00	2.00	107.891	1,099.98	-0.54	1.66	419,084.364	523,261.861	32.152157391	-104.258169407
1,200.00	4.00	107.891	1,199.84	-2.14	6.64	419,082.756	523,266.841	32.152152962	-104.258153319
1,221.70	4.43	107.891	1,221.48	-2.63	8.16	419,082.266	523,268.359	32.152151611	-104.258148414
Begin 4.43° tangent									
1,300.00	4.43	107.891	1,299.54	-4.49	13.92	419,080.407	523,274.120	32.152146488	-104.258129804
1,400.00	4.43	107.891	1,399.25	-6.87	21.28	419,078.032	523,281.477	32.152139945	-104.258106037
1,500.00	4.43	107.891	1,498.95	-9.24	28.63	419,075.657	523,288.835	32.152133402	-104.258082270
1,600.00	4.43	107.891	1,598.65	-11.62	35.99	419,073.282	523,296.192	32.152126859	-104.258058503
1,700.00	4.43	107.891	1,698.35	-13.99	43.35	419,070.907	523,303.549	32.152120316	-104.258034736
1,800.00	4.43	107.891	1,798.05	-16.37	50.71	419,068.532	523,310.906	32.152113773	-104.258010969
1,900.00	4.43	107.891	1,897.75	-18.74	58.06	419,066.157	523,318.263	32.152107230	-104.257987202
2,000.00	4.43	107.891	1,997.45	-21.12	65.42	419,063.782	523,325.620	32.152100687	-104.257963435
2,100.00	4.43	107.891	2,097.15	-23.49	72.78	419,061.407	523,332.977	32.152094144	-104.257939668
2,200.00	4.43	107.891	2,196.85	-25.87	80.13	419,059.032	523,340.334	32.152087601	-104.257915901
2,300.00	4.43	107.891	2,296.55	-28.24	87.49	419,056.657	523,347.691	32.152081058	-104.257892134
2,400.00	4.43	107.891	2,396.25	-30.62	94.85	419,054.282	523,355.048	32.152074515	-104.257868367
2,500.00	4.43	107.891	2,495.95	-32.99	102.21	419,051.907	523,362.406	32.152067972	-104.257844600
2,600.00	4.43	107.891	2,595.65	-35.37	109.56	419,049.532	523,369.763	32.152061429	-104.257820833
2,700.00	4.43	107.891	2,695.35	-37.74	116.92	419,047.157	523,377.120	32.152054886	-104.257797067
2,800.00	4.43	107.891	2,795.06	-40.12	124.28	419,044.782	523,384.477	32.152048343	-104.257773300
2,900.00	4.43	107.891	2,894.76	-42.49	131.63	419,042.407	523,391.834	32.152041800	-104.257749533
3,000.00	4.43	107.891	2,994.46	-44.87	138.99	419,040.032	523,399.191	32.152035257	-104.257725766
3,100.00	4.43	107.891	3,094.16	-47.24	146.35	419,037.657	523,406.548	32.152028714	-104.257701999
3,200.00	4.43	107.891	3,193.86	-49.62	153.71	419,035.282	523,413.905	32.152022171	-104.257678232
3,300.00	4.43	107.891	3,293.56	-51.99	161.06	419,032.907	523,421.262	32.152015628	-104.257654465
3,400.00	4.43	107.891	3,393.26	-54.37	168.42	419,030.532	523,428.619	32.152009085	-104.257630698
3,500.00	4.43	107.891	3,492.96	-56.74	175.78	419,028.157	523,435.977	32.152002542	-104.257606931
3,600.00	4.43	107.891	3,592.66	-59.12	183.13	419,025.782	523,443.334	32.151995999	-104.257583164
3,700.00	4.43	107.891	3,692.36	-61.49	190.49	419,023.407	523,450.691	32.151989456	-104.257559398
3,800.00	4.43	107.891	3,792.06	-63.87	197.85	419,021.032	523,458.048	32.151982913	-104.257535631
3,900.00	4.43	107.891	3,891.76	-66.24	205.21	419,018.657	523,465.405	32.151976370	-104.257511864
4,000.00	4.43	107.891	3,991.46	-68.62	212.56	419,016.283	523,472.762	32.151969827	-104.257488097
4,100.00	4.43	107.891	4,091.16	-70.99	219.92	419,013.908	523,480.119	32.151963284	-104.257464330
4,200.00	4.43	107.891	4,190.87	-73.37	227.28	419,011.533	523,487.476	32.151956740	-104.257440563
4,300.00	4.43	107.891	4,290.57	-75.74	234.63	419,009.158	523,494.833	32.151950197	-104.257416796
4,400.00	4.43	107.891	4,390.27	-78.12	241.99	419,006.783	523,502.191	32.151943654	-104.257393029
4,500.00	4.43	107.891	4,489.97	-80.49	249.35	419,004.408	523,509.548	32.151937111	-104.257369263
4,600.00	4.43	107.891	4,589.67	-82.87	256.71	419,002.033	523,516.905	32.151930568	-104.257345496
4,700.00	4.43	107.891	4,689.37	-85.24	264.06	418,999.658	523,524.262	32.151924025	-104.257321729
4,789.42	4.43	107.891	4,778.52	-87.37	270.64	418,997.534	523,530.841	32.151918174	-104.257300476
Begin 2°/100' drop									
4,800.00	4.22	107.891	4,789.07	-87.61	271.40	418,997.289	523,531.600	32.151917498	-104.257298022

FLAT CREEK
RESOURCES

Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,900.00	2.22	107.891	4,888.91	-89.34	276.75	418,995.562	523,536.950	32.151912741	-104.257280742
5,000.00	0.22	107.891	4,988.88	-89.99	278.78	418,994.907	523,538.980	32.151910936	-104.257274184
5,011.12	0.00	0.000	5,000.00	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
Begin vertical hold @ 5000.00 TVD									
5,100.00	0.00	0.000	5,088.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
5,200.00	0.00	0.000	5,188.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
5,300.00	0.00	0.000	5,288.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
5,400.00	0.00	0.000	5,388.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
5,500.00	0.00	0.000	5,488.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
5,600.00	0.00	0.000	5,588.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
5,700.00	0.00	0.000	5,688.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
5,800.00	0.00	0.000	5,788.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
5,900.00	0.00	0.000	5,888.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
6,000.00	0.00	0.000	5,988.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
6,100.00	0.00	0.000	6,088.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
6,200.00	0.00	0.000	6,188.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
6,300.00	0.00	0.000	6,288.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
6,400.00	0.00	0.000	6,388.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
6,500.00	0.00	0.000	6,488.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
6,600.00	0.00	0.000	6,588.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
6,700.00	0.00	0.000	6,688.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
6,800.00	0.00	0.000	6,788.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
6,900.00	0.00	0.000	6,888.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
7,000.00	0.00	0.000	6,988.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
7,011.12	0.00	0.000	7,000.00	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
7,100.00	0.00	0.000	7,088.88	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
7,129.16	0.00	0.000	7,118.04	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
Begin 10°/100' build									
7,150.00	2.08	0.255	7,138.88	-89.62	278.80	418,995.279	523,539.002	32.151911959	-104.257274111
7,200.00	7.08	0.255	7,188.70	-85.63	278.82	418,999.274	523,539.020	32.151922941	-104.257274045
7,250.00	12.08	0.255	7,237.99	-77.30	278.86	419,007.596	523,539.057	32.151945818	-104.257273906
7,300.00	17.08	0.255	7,286.36	-64.72	278.91	419,020.181	523,539.113	32.151980416	-104.257273696
7,350.00	22.08	0.255	7,333.45	-47.96	278.99	419,036.935	523,539.187	32.152026473	-104.257273416
7,400.00	27.08	0.255	7,378.91	-27.17	279.08	419,057.730	523,539.280	32.152083637	-104.257273069
7,450.00	32.08	0.255	7,422.37	-2.49	279.19	419,082.407	523,539.390	32.152151474	-104.257272658
7,500.00	37.08	0.255	7,463.53	25.88	279.32	419,110.778	523,539.516	32.152229468	-104.257272185
7,550.00	42.08	0.255	7,502.05	57.73	279.46	419,142.628	523,539.658	32.152317024	-104.257271653
7,600.00	47.08	0.255	7,537.65	92.81	279.62	419,177.714	523,539.815	32.152413476	-104.257271068
7,650.00	52.08	0.255	7,570.05	130.87	279.78	419,215.769	523,539.984	32.152518091	-104.257270433
7,700.00	57.08	0.255	7,599.02	171.60	279.97	419,256.504	523,540.166	32.152630071	-104.257269754
7,750.00	62.08	0.255	7,624.33	214.71	280.16	419,299.609	523,540.358	32.152748566	-104.257269035
7,800.00	67.08	0.255	7,645.78	259.86	280.36	419,344.755	523,540.559	32.152872673	-104.257268282
7,850.00	72.08	0.255	7,663.21	306.70	280.57	419,391.598	523,540.768	32.153001447	-104.257267500
7,900.00	77.08	0.255	7,676.50	354.88	280.78	419,439.784	523,540.983	32.153133909	-104.257266696
7,950.00	82.08	0.255	7,685.54	404.04	281.00	419,488.943	523,541.202	32.153269050	-104.257265876
8,000.00	87.08	0.255	7,690.26	453.80	281.22	419,538.704	523,541.423	32.153405842	-104.257265046
8,029.16	90.00	0.255	7,691.00	482.95	281.35	419,567.851	523,541.553	32.153485968	-104.257264560
Begin 90.00° lateral									
8,100.00	90.00	0.255	7,691.00	553.79	281.67	419,638.690	523,541.869	32.153680706	-104.257263378
8,200.00	90.00	0.255	7,691.00	653.79	282.11	419,738.689	523,542.314	32.153955604	-104.257261710
8,300.00	90.00	0.255	7,691.00	753.79	282.56	419,838.688	523,542.760	32.154230503	-104.257260042
8,400.00	90.00	0.255	7,691.00	853.79	283.01	419,938.686	523,543.206	32.154505401	-104.257258374
8,500.00	90.00	0.255	7,691.00	953.79	283.45	420,038.685	523,543.651	32.154780299	-104.257256706
8,600.00	90.00	0.255	7,691.00	1,053.79	283.90	420,138.684	523,544.097	32.155055197	-104.257255037



FLAT CREEK
RESOURCES

Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,700.00	90.00	0.255	7,691.00	1,153.79	284.34	420,238.683	523,544.542	32.155330095	-104.257253369
8,800.00	90.00	0.255	7,691.00	1,253.78	284.79	420,338.682	523,544.988	32.155604994	-104.257251701
8,900.00	90.00	0.255	7,691.00	1,353.78	285.23	420,438.680	523,545.434	32.155879892	-104.257250033
9,000.00	90.00	0.255	7,691.00	1,453.78	285.68	420,538.679	523,545.879	32.156154790	-104.257248364
9,100.00	90.00	0.255	7,691.00	1,553.78	286.13	420,638.678	523,546.325	32.156429688	-104.257246696
9,200.00	90.00	0.255	7,691.00	1,653.78	286.57	420,738.677	523,546.770	32.156704586	-104.257245028
9,300.00	90.00	0.255	7,691.00	1,753.78	287.02	420,838.676	523,547.216	32.156979484	-104.257243360
9,400.00	90.00	0.255	7,691.00	1,853.78	287.46	420,938.674	523,547.662	32.157254382	-104.257241691
9,500.00	90.00	0.255	7,691.00	1,953.78	287.91	421,038.673	523,548.107	32.157529280	-104.257240023
9,600.00	90.00	0.255	7,691.00	2,053.78	288.35	421,138.672	523,548.553	32.157804179	-104.257238355
9,700.00	90.00	0.255	7,691.00	2,153.78	288.80	421,238.671	523,548.998	32.158079077	-104.257236686
9,800.00	90.00	0.255	7,691.00	2,253.77	289.24	421,338.670	523,549.444	32.158353974	-104.257235018
9,900.00	90.00	0.255	7,691.00	2,353.77	289.69	421,438.668	523,549.890	32.158628872	-104.257233350
10,000.00	90.00	0.255	7,691.00	2,453.77	290.14	421,538.667	523,550.335	32.158903770	-104.257231681
10,100.00	90.00	0.255	7,691.00	2,553.77	290.58	421,638.666	523,550.781	32.159178668	-104.257230013
10,200.00	90.00	0.255	7,691.00	2,653.77	291.03	421,738.665	523,551.226	32.159453566	-104.257228345
10,300.00	90.00	0.255	7,691.00	2,753.77	291.47	421,838.664	523,551.672	32.159728464	-104.257226676
10,400.00	90.00	0.255	7,691.00	2,853.77	291.92	421,938.662	523,552.118	32.160003362	-104.257225008
10,500.00	90.00	0.255	7,691.00	2,953.77	292.36	422,038.661	523,552.563	32.160278260	-104.257223339
10,600.00	90.00	0.255	7,691.00	3,053.77	292.81	422,138.660	523,553.009	32.160553158	-104.257221671
10,700.00	90.00	0.255	7,691.00	3,153.77	293.25	422,238.659	523,553.454	32.160828056	-104.257220002
10,800.00	90.00	0.255	7,691.00	3,253.76	293.70	422,338.658	523,553.900	32.161102953	-104.257218334
10,900.00	90.00	0.255	7,691.00	3,353.76	294.15	422,438.657	523,554.346	32.161377851	-104.257216666
11,000.00	90.00	0.255	7,691.00	3,453.76	294.59	422,538.655	523,554.791	32.161652749	-104.257214997
11,100.00	90.00	0.255	7,691.00	3,553.76	295.04	422,638.654	523,555.237	32.161927647	-104.257213329
11,200.00	90.00	0.255	7,691.00	3,653.76	295.48	422,738.653	523,555.682	32.162202545	-104.257211660
11,300.00	90.00	0.255	7,691.00	3,753.76	295.93	422,838.652	523,556.128	32.162477443	-104.257209992
11,400.00	90.00	0.255	7,691.00	3,853.76	296.37	422,938.651	523,556.574	32.162752341	-104.257208323
11,500.00	90.00	0.255	7,691.00	3,953.76	296.82	423,038.649	523,557.019	32.163027239	-104.257206654
11,600.00	90.00	0.255	7,691.00	4,053.76	297.27	423,138.648	523,557.465	32.163302137	-104.257204986
11,700.00	90.00	0.255	7,691.00	4,153.76	297.71	423,238.647	523,557.910	32.163577034	-104.257203317
11,800.00	90.00	0.255	7,691.00	4,253.75	298.16	423,338.646	523,558.356	32.163851932	-104.257201649
11,900.00	90.00	0.255	7,691.00	4,353.75	298.60	423,438.645	523,558.802	32.164126830	-104.257199980
12,000.00	90.00	0.255	7,691.00	4,453.75	299.05	423,538.643	523,559.247	32.164401728	-104.257198312
12,100.00	90.00	0.255	7,691.00	4,553.75	299.49	423,638.642	523,559.693	32.164676626	-104.257196643
12,200.00	90.00	0.255	7,691.00	4,653.75	299.94	423,738.641	523,560.138	32.164951523	-104.257194974
12,300.00	90.00	0.255	7,691.00	4,753.75	300.38	423,838.640	523,560.584	32.165226421	-104.257193306
12,400.00	90.00	0.255	7,691.00	4,853.75	300.83	423,938.639	523,561.029	32.165501319	-104.257191637
12,500.00	90.00	0.255	7,691.00	4,953.75	301.28	424,038.637	523,561.475	32.165776216	-104.257189968
12,600.00	90.00	0.255	7,691.00	5,053.75	301.72	424,138.636	523,561.921	32.166051114	-104.257188300
12,700.00	90.00	0.255	7,691.00	5,153.75	302.17	424,238.635	523,562.366	32.166326012	-104.257186631
12,800.00	90.00	0.255	7,691.00	5,253.74	302.61	424,338.634	523,562.812	32.166600910	-104.257184962
12,900.00	90.00	0.255	7,691.00	5,353.74	303.06	424,438.633	523,563.257	32.166875807	-104.257183294
13,000.00	90.00	0.255	7,691.00	5,453.74	303.50	424,538.631	523,563.703	32.167150705	-104.257181625
13,100.00	90.00	0.255	7,691.00	5,553.74	303.95	424,638.630	523,564.149	32.167425603	-104.257179956
13,200.00	90.00	0.255	7,691.00	5,653.74	304.39	424,738.629	523,564.594	32.167700500	-104.257178287
13,300.00	90.00	0.255	7,691.00	5,753.74	304.84	424,838.628	523,565.040	32.167975398	-104.257176619
13,400.00	90.00	0.255	7,691.00	5,853.74	305.29	424,938.627	523,565.485	32.168250295	-104.257174950
13,500.00	90.00	0.255	7,691.00	5,953.74	305.73	425,038.625	523,565.931	32.168525193	-104.257173281
13,600.00	90.00	0.255	7,691.00	6,053.74	306.18	425,138.624	523,566.377	32.168800091	-104.257171612
13,700.00	90.00	0.255	7,691.00	6,153.74	306.62	425,238.623	523,566.822	32.169074988	-104.257169944
13,800.00	90.00	0.255	7,691.00	6,253.73	307.07	425,338.622	523,567.268	32.169349886	-104.257168275
13,900.00	90.00	0.255	7,691.00	6,353.73	307.51	425,438.621	523,567.713	32.169624783	-104.257166606
14,000.00	90.00	0.255	7,691.00	6,453.73	307.96	425,538.619	523,568.159	32.169899681	-104.257164937
14,100.00	90.00	0.255	7,691.00	6,553.73	308.41	425,638.618	523,568.605	32.170174578	-104.257163268

FLAT CREEK
RESOURCES

Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
14,200.00	90.00	0.255	7,691.00	6,653.73	308.85	425,738.617	523,569.050	32.170449476	-104.257161599
14,300.00	90.00	0.255	7,691.00	6,753.73	309.30	425,838.616	523,569.496	32.170724373	-104.257159931
14,400.00	90.00	0.255	7,691.00	6,853.73	309.74	425,938.615	523,569.941	32.170999271	-104.257158262
14,500.00	90.00	0.255	7,691.00	6,953.73	310.19	426,038.613	523,570.387	32.171274168	-104.257156593
14,600.00	90.00	0.255	7,691.00	7,053.73	310.63	426,138.612	523,570.833	32.171549066	-104.257154924
14,700.00	90.00	0.255	7,691.00	7,153.73	311.08	426,238.611	523,571.278	32.171823963	-104.257153255
14,800.00	90.00	0.255	7,691.00	7,253.72	311.52	426,338.610	523,571.724	32.172098861	-104.257151586
14,900.00	90.00	0.255	7,691.00	7,353.72	311.97	426,438.609	523,572.169	32.172373758	-104.257149917
15,000.00	90.00	0.255	7,691.00	7,453.72	312.42	426,538.607	523,572.615	32.172648656	-104.257148248
15,100.00	90.00	0.255	7,691.00	7,553.72	312.86	426,638.606	523,573.061	32.172923553	-104.257146579
15,200.00	90.00	0.255	7,691.00	7,653.72	313.31	426,738.605	523,573.506	32.173198451	-104.257144910
15,300.00	90.00	0.255	7,691.00	7,753.72	313.75	426,838.604	523,573.952	32.173473348	-104.257143241
15,400.00	90.00	0.255	7,691.00	7,853.72	314.20	426,938.603	523,574.397	32.173748245	-104.257141572
15,500.00	90.00	0.255	7,691.00	7,953.72	314.64	427,038.601	523,574.843	32.174023143	-104.257139903
15,600.00	90.00	0.255	7,691.00	8,053.72	315.09	427,138.600	523,575.289	32.174298040	-104.257138234
15,700.00	90.00	0.255	7,691.00	8,153.72	315.53	427,238.599	523,575.734	32.174572937	-104.257136565
15,800.00	90.00	0.255	7,691.00	8,253.71	315.98	427,338.598	523,576.180	32.174847835	-104.257134896
15,900.00	90.00	0.255	7,691.00	8,353.71	316.43	427,438.597	523,576.625	32.175122732	-104.257133227
16,000.00	90.00	0.255	7,691.00	8,453.71	316.87	427,538.595	523,577.071	32.175397629	-104.257131558
16,100.00	90.00	0.255	7,691.00	8,553.71	317.32	427,638.594	523,577.517	32.175672527	-104.257129889
16,200.00	90.00	0.255	7,691.00	8,653.71	317.76	427,738.593	523,577.962	32.175947424	-104.257128220
16,300.00	90.00	0.255	7,691.00	8,753.71	318.21	427,838.592	523,578.408	32.176222321	-104.257126551
16,400.00	90.00	0.255	7,691.00	8,853.71	318.65	427,938.591	523,578.853	32.176497218	-104.257124882
16,500.00	90.00	0.255	7,691.00	8,953.71	319.10	428,038.589	523,579.299	32.176772116	-104.257123212
16,600.00	90.00	0.255	7,691.00	9,053.71	319.55	428,138.588	523,579.745	32.177047013	-104.257121543
16,700.00	90.00	0.255	7,691.00	9,153.71	319.99	428,238.587	523,580.190	32.177321910	-104.257119874
16,800.00	90.00	0.255	7,691.00	9,253.70	320.44	428,338.586	523,580.636	32.177596807	-104.257118205
16,900.00	90.00	0.255	7,691.00	9,353.70	320.88	428,438.585	523,581.081	32.177871704	-104.257116536
17,000.00	90.00	0.255	7,691.00	9,453.70	321.33	428,538.583	523,581.527	32.178146602	-104.257114867
17,100.00	90.00	0.255	7,691.00	9,553.70	321.77	428,638.582	523,581.972	32.178421499	-104.257113197
17,200.00	90.00	0.255	7,691.00	9,653.70	322.22	428,738.581	523,582.418	32.178696396	-104.257111528
17,300.00	90.00	0.255	7,691.00	9,753.70	322.66	428,838.580	523,582.864	32.178971293	-104.257109859
17,400.00	90.00	0.255	7,691.00	9,853.70	323.11	428,938.579	523,583.309	32.179246190	-104.257108190
17,500.00	90.00	0.255	7,691.00	9,953.70	323.56	429,038.577	523,583.755	32.179521087	-104.257106521
17,600.00	90.00	0.255	7,691.00	10,053.70	324.00	429,138.576	523,584.200	32.179795984	-104.257104851
17,700.00	90.00	0.255	7,691.00	10,153.70	324.45	429,238.575	523,584.646	32.180070882	-104.257103182
17,800.00	90.00	0.255	7,691.00	10,253.70	324.89	429,338.574	523,585.092	32.180345779	-104.257101513
17,869.23	90.00	0.255	7,691.00	10,322.92	325.20	429,407.800	523,585.400	32.180536080	-104.257100357
LTP @ 17869.23 MD 7691.00 TVD									
17,900.00	90.00	0.255	7,691.00	10,353.69	325.34	429,438.573	523,585.537	32.180620676	-104.257099843
17,919.23	90.00	0.255	7,691.00	10,372.92	325.42	429,457.799	523,585.623	32.180673528	-104.257099522
PBHL/TD @ 17919.23 MD 7691.00 TVD									

FLAT CREEK
RESOURCES

Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
Jawbone 01 FTP 770 FE	0.00	0.255	7,000.00	-90.00	278.80	418,994.900	523,539.000	32.151910917	-104.257274117
- plan hits target center									
- Rectangle (sides W660.00 H10,413.02 D0.00)									
Jawbone 01 LTP 100 FN	0.00	0.000	7,691.00	10,322.92	325.20	429,407.800	523,585.400	32.180536080	-104.257100357
- plan hits target center									
- Point									
Jawbone 01 BHL 770 FE	0.00	0.000	7,691.00	10,372.92	325.20	429,457.800	523,585.400	32.180673531	-104.257100243
- plan misses target center by 0.22ft at 17919.23ft MD (7691.00 TVD, 10372.92 N, 325.42 E)									
- Point									

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
1,000.00	1,000.00	0.00	0.00	KOP Begin 2°/100' build
1,221.70	1,221.48	-2.63	8.16	Begin 4.43° tangent
4,789.42	4,778.52	-87.37	270.64	Begin 2°/100' drop
5,011.12	5,000.00	-90.00	278.80	Begin vertical hold @ 5000.00 TVD
7,011.12	7,000.00	-90.00	278.80	
7,129.16	7,118.04	-90.00	278.80	Begin 10°/100' build
8,029.16	7,691.00	482.95	281.35	Begin 90.00° lateral
17,869.23	7,691.00	10,322.92	325.20	LTP @ 17869.23 MD 7691.00 TVD
17,919.23	7,691.00	10,372.92	325.42	PBHL/TD @ 17919.23 MD 7691.00 TVD



FLAT CREEK
RESOURCES

Anticollision Report

Company:	Flat Creek Resources, LLC	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Project:	Eddy County, New Mexico NAD27 NME	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Reference Site:	Jawbone	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Aug2923v16
Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Reference	rev1		
Filter type:	GLOBAL FILTER APPLIED: All wellpaths within 200'+ 100/1000 of reference		
Interpolation Method:	MD Interval 100.00ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 1,991.92ft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	9/6/2023		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	17,919.23	rev1 (Original Hole)	MWD	OWSG MWD - Standard	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Jawbone						
Jawbone Fed Com LW 14H - Original Hole - rev1	900.00	901.00	19.91	12.92	2.847	CC, ES, SF

Offset Design: Jawbone - Jawbone Fed Com LW 14H - Original Hole - rev1													Offset Site Error:	0.00 ft	
Survey Program:		0-MWD		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error:	0.00 ft
Reference	Vertical	Measured	Vertical	Reference	Offset	Highside			Distance						
Measured Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	Tooface (")	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
0.00	0.00	1.00	1.00	0.00	0.00	-92.01	-0.70	-19.90	19.91						
100.00	100.00	101.00	101.00	0.42	0.43	-92.01	-0.70	-19.90	19.91	19.07	0.85	23.541			
200.00	200.00	201.00	201.00	1.25	1.25	-92.01	-0.70	-19.90	19.91	17.41	2.50	7.967			
300.00	300.00	301.00	301.00	1.74	1.75	-92.01	-0.70	-19.90	19.91	16.42	3.49	5.705			
400.00	400.00	401.00	401.00	2.13	2.13	-92.01	-0.70	-19.90	19.91	15.65	4.26	4.672			
500.00	500.00	501.00	501.00	2.46	2.46	-92.01	-0.70	-19.90	19.91	14.99	4.92	4.047			
600.00	600.00	601.00	601.00	2.75	2.75	-92.01	-0.70	-19.90	19.91	14.41	5.50	3.618			
700.00	700.00	701.00	701.00	3.02	3.02	-92.01	-0.70	-19.90	19.91	13.88	6.04	3.299			
800.00	800.00	801.00	801.00	3.26	3.27	-92.01	-0.70	-19.90	19.91	13.38	6.53	3.049			
900.00	900.00	901.00	901.00	3.50	3.50	-92.01	-0.70	-19.90	19.91	12.92	7.00	2.847	CC, ES, SF		
1,000.00	1,000.00	1,000.00	999.98	3.71	3.84	-92.32	-0.88	-21.60	21.64	14.09	7.55	2.867			
1,100.00	1,099.98	1,099.18	1,099.02	4.03	4.62	160.30	-1.40	-26.72	28.46	19.82	8.64	3.295			
1,200.00	1,199.84	1,197.06	1,196.53	4.79	5.31	161.77	-2.27	-35.10	41.97	31.96	10.01	4.192			
1,300.00	1,299.54	1,293.49	1,292.26	4.94	5.94	162.87	-3.45	-46.60	61.10	50.33	10.76	5.677			
1,400.00	1,399.25	1,388.55	1,386.20	5.15	6.53	163.18	-4.94	-61.07	83.56	72.04	11.52	7.252			
1,500.00	1,498.95	1,482.09	1,478.12	5.38	7.08	163.15	-6.72	-78.32	109.19	96.93	12.27	8.902			
1,600.00	1,598.65	1,573.95	1,567.78	5.63	7.61	162.97	-8.77	-98.16	137.92	124.92	12.99	10.616			
1,700.00	1,698.35	1,663.99	1,655.00	5.90	8.07	162.73	-11.06	-120.37	169.65	156.00	13.65	12.431			
1,800.00	1,798.05	1,756.65	1,744.22	6.18	8.37	162.49	-13.62	-145.27	203.52	189.33	14.19	14.347			
1,900.00	1,897.75	1,850.70	1,834.75	6.46	8.63	162.31	-16.24	-170.63	237.50	222.76	14.73	16.123			
2,000.00	1,997.45	1,944.75	1,925.27	6.76	8.93	162.18	-18.85	-196.00	271.47	256.17	15.31	17.735			
2,100.00	2,097.15	2,038.80	2,015.80	7.06	9.23	162.07	-21.47	-221.36	305.45	289.55	15.91	19.203			
2,200.00	2,196.85	2,132.85	2,106.33	7.37	9.55	161.99	-24.08	-246.72	339.43	322.91	16.53	20.539			
2,300.00	2,296.55	2,226.90	2,196.85	7.69	9.88	161.92	-26.70	-272.08	373.41	356.25	17.16	21.757			
2,400.00	2,396.25	2,320.95	2,287.38	8.01	10.23	161.86	-29.31	-297.45	407.39	389.58	17.82	22.866			
2,500.00	2,495.95	2,415.00	2,377.91	8.34	10.58	161.81	-31.93	-322.81	441.37	422.89	18.48	23.878			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

FLAT CREEK
RESOURCES

Anticollision Report

Company:	Flat Creek Resources, LLC	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Project:	Eddy County, New Mexico NAD27 NME	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Reference Site:	Jawbone	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Aug2923v16
Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Offset Design:		Jawbone - Jawbone Fed Com LW 14H - Original Hole - rev1											Offset Site Error:		0.00 ft	
Survey Program:		0-MWD						Rule Assigned:						Offset Well Error:		0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance				Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
2,600.00	2,595.65	2,509.04	2,468.43	8.67	10.94	161.77	-34.54	-348.17	475.35	456.19	19.17	24.803				
2,700.00	2,695.35	2,603.09	2,558.96	9.00	11.31	161.74	-37.16	-373.54	509.34	489.48	19.86	25.649				
2,800.00	2,795.06	2,697.14	2,649.49	9.34	11.69	161.71	-39.77	-398.90	543.32	522.76	20.56	26.425				
2,900.00	2,894.76	2,791.19	2,740.01	9.68	12.07	161.68	-42.39	-424.26	577.30	556.03	21.27	27.137				
3,000.00	2,994.46	2,885.24	2,830.54	10.02	12.47	161.65	-45.00	-449.62	611.28	589.29	22.00	27.792				
3,100.00	3,094.16	2,979.29	2,921.07	10.37	12.86	161.63	-47.62	-474.99	645.26	622.54	22.72	28.395				
3,200.00	3,193.86	3,073.34	3,011.59	10.71	13.26	161.61	-50.23	-500.35	679.24	655.78	23.46	28.953				
3,300.00	3,293.56	3,167.39	3,102.12	11.06	13.67	161.59	-52.85	-525.71	713.23	689.02	24.20	29.469				
3,400.00	3,393.26	3,261.44	3,192.65	11.41	14.08	161.58	-55.46	-551.07	747.21	722.26	24.95	29.947				
3,500.00	3,492.96	3,355.48	3,283.17	11.77	14.49	161.56	-58.08	-576.44	781.19	755.49	25.70	30.391				
3,600.00	3,592.66	3,449.53	3,373.70	12.12	14.91	161.55	-60.69	-601.80	815.17	788.71	26.46	30.804				
3,700.00	3,692.36	3,543.58	3,464.23	12.48	15.33	161.54	-63.30	-627.16	849.15	821.93	27.23	31.189				
3,800.00	3,792.06	3,637.63	3,554.75	12.83	15.75	161.53	-65.92	-652.53	883.14	855.14	27.99	31.549				
3,900.00	3,891.76	3,731.68	3,645.28	13.19	16.18	161.52	-68.53	-677.89	917.12	888.36	28.76	31.885				
4,000.00	3,991.46	3,825.73	3,735.81	13.55	16.61	161.51	-71.15	-703.25	951.10	921.56	29.54	32.199				
4,100.00	4,091.16	3,919.78	3,826.33	13.91	17.04	161.50	-73.76	-728.61	985.08	954.77	30.32	32.494				
4,200.00	4,190.87	4,013.83	3,916.86	14.27	17.47	161.49	-76.38	-753.98	1,019.07	987.97	31.10	32.771				
4,300.00	4,290.57	4,107.88	4,007.39	14.63	17.91	161.48	-78.99	-779.34	1,053.05	1,021.17	31.88	33.032				
4,400.00	4,390.27	4,201.92	4,097.91	15.00	18.34	161.47	-81.61	-804.70	1,087.03	1,054.36	32.67	33.277				
4,500.00	4,489.97	4,295.97	4,188.44	15.36	18.78	161.46	-84.22	-830.07	1,121.01	1,087.56	33.45	33.508				
4,600.00	4,589.67	4,390.02	4,278.97	15.72	19.22	161.46	-86.84	-855.43	1,154.99	1,120.75	34.25	33.727				
4,700.00	4,689.37	4,484.07	4,369.49	16.09	19.67	161.45	-89.45	-880.79	1,188.98	1,153.94	35.04	33.933				
4,800.00	4,789.07	4,578.13	4,460.03	16.44	20.11	161.47	-92.07	-906.16	1,222.94	1,187.12	35.82	34.137				
4,900.00	4,888.91	4,672.83	4,551.18	16.82	20.56	161.65	-94.70	-931.69	1,255.03	1,218.40	36.63	34.259				
5,000.00	4,988.88	4,768.53	4,643.30	17.23	21.01	161.75	-97.36	-957.50	1,283.97	1,246.49	37.47	34.264				
5,100.00	5,088.88	4,864.78	4,735.94	17.26	21.47	-90.46	-100.04	-983.46	1,310.98	1,273.00	37.98	34.515				
5,200.00	5,188.88	4,961.03	4,828.59	17.31	21.93	-90.57	-102.71	-1,009.42	1,337.98	1,299.48	38.50	34.750				
5,300.00	5,288.88	5,057.29	4,921.24	17.35	22.39	-90.67	-105.39	-1,035.37	1,364.99	1,325.96	39.02	34.978				
5,400.00	5,388.88	5,153.54	5,013.89	17.39	22.85	-90.77	-108.06	-1,061.33	1,391.99	1,352.45	39.55	35.197				
5,500.00	5,488.88	5,249.80	5,106.54	17.43	23.31	-90.87	-110.74	-1,087.29	1,419.01	1,378.93	40.07	35.410				
5,600.00	5,588.88	5,346.05	5,199.19	17.48	23.78	-90.96	-113.42	-1,113.25	1,446.02	1,405.42	40.60	35.616				
5,700.00	5,688.88	5,442.31	5,291.84	17.52	24.24	-91.05	-116.09	-1,139.21	1,473.04	1,431.91	41.13	35.816				
5,800.00	5,788.88	5,538.56	5,384.49	17.56	24.70	-91.14	-118.77	-1,165.16	1,500.06	1,458.41	41.66	36.009				
5,900.00	5,888.88	5,634.82	5,477.15	17.61	25.17	-91.23	-121.45	-1,191.12	1,527.09	1,484.90	42.19	36.197				
6,000.00	5,988.88	5,731.07	5,569.80	17.65	25.64	-91.31	-124.12	-1,217.08	1,554.12	1,511.40	42.72	36.378				
6,100.00	6,088.88	5,827.33	5,662.45	17.69	26.10	-91.39	-126.80	-1,243.04	1,581.15	1,537.90	43.25	36.554				
6,200.00	6,188.88	5,923.58	5,755.10	17.74	26.57	-91.46	-129.47	-1,268.99	1,608.19	1,564.40	43.79	36.725				
6,300.00	6,288.88	6,019.84	5,847.75	17.78	27.04	-91.53	-132.15	-1,294.95	1,635.22	1,590.90	44.33	36.891				
6,400.00	6,388.88	6,116.09	5,940.40	17.83	27.51	-91.61	-134.83	-1,320.91	1,662.26	1,617.40	44.86	37.052				
6,500.00	6,488.88	6,212.35	6,033.05	17.87	27.98	-91.67	-137.50	-1,346.87	1,689.30	1,643.90	45.40	37.209				
6,600.00	6,588.88	6,308.60	6,125.70	17.92	28.45	-91.74	-140.18	-1,372.82	1,716.35	1,670.41	45.94	37.360				
6,700.00	6,688.88	6,404.86	6,218.35	17.97	28.92	-91.80	-142.85	-1,398.78	1,743.39	1,696.91	46.48	37.509				
6,800.00	6,788.88	6,501.12	6,453.84	18.01	30.18	-91.94	-148.61	-1,454.64	1,766.68	1,718.63	48.05	36.768				
6,900.00	6,888.88	6,905.97	6,709.92	18.06	31.49	-92.02	-152.49	-1,492.26	1,781.27	1,731.90	49.37	36.081				
7,000.00	6,988.88	7,169.75	6,973.20	18.11	32.45	-92.05	-153.99	-1,506.78	1,786.80	1,736.80	50.00	35.737				
7,100.00	7,088.88	7,286.43	7,089.88	18.14	32.52	-92.05	-154.00	-1,506.90	1,786.85	1,736.81	50.04	35.708				
7,200.00	7,188.70	7,396.70	7,199.87	18.12	32.51	-92.28	-148.13	-1,506.88	1,786.82	1,736.79	50.03	35.718				
7,300.00	7,286.36	7,510.53	7,310.18	18.07	32.49	-92.18	-120.82	-1,506.75	1,786.69	1,736.71	49.98	35.747				
7,400.00	7,378.91	7,623.26	7,411.99	18.03	32.46	-92.00	-72.85	-1,506.54	1,786.49	1,736.54	49.95	35.765				
7,500.00	7,463.53	7,734.40	7,501.28	18.02	32.46	-91.76	-6.96	-1,506.24	1,786.24	1,736.26	49.98	35.740				
7,600.00	7,537.65	7,843.56	7,575.01	18.07	32.52	-91.45	73.32	-1,505.88	1,785.98	1,735.85	50.12	35.634				
7,700.00	7,599.02	7,950.51	7,631.21	18.22	32.68	-91.11	164.12	-1,505.48	1,785.73	1,735.30	50.43	35.410				

FLAT CREEK
RESOURCES

Anticollision Report

Company:	Flat Creek Resources, LLC	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Project:	Eddy County, New Mexico NAD27 NME	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Reference Site:	Jawbone	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Aug2923v16
Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Offset Design: Jawbone - Jawbone Fed Com LW 14H - Original Hole - rev1												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Rule Assigned:												Warning	
Measured Depth (ft)	Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
7,800.00	7,645.78	8,055.11	7,668.95	18.51	33.01	-90.73	261.53	-1,505.04	1,785.54	1,734.59	50.95	35.045	
7,900.00	7,676.50	8,157.37	7,688.14	18.95	33.49	-90.34	361.83	-1,504.59	1,785.42	1,733.72	51.70	34.535	
8,000.00	7,690.26	8,257.45	7,691.00	19.54	34.10	-89.99	461.81	-1,504.14	1,785.38	1,732.71	52.67	33.897	
8,100.00	7,691.00	8,357.44	7,691.00	20.26	34.79	-89.97	561.80	-1,503.69	1,785.38	1,731.57	53.81	33.182	
8,200.00	7,691.00	8,457.44	7,691.00	21.09	35.55	-89.97	661.80	-1,503.24	1,785.38	1,730.25	55.13	32.387	
8,300.00	7,691.00	8,557.44	7,691.00	22.01	36.36	-89.97	761.80	-1,502.80	1,785.37	1,728.76	56.62	31.535	
8,400.00	7,691.00	8,657.44	7,691.00	23.00	37.21	-89.97	861.80	-1,502.35	1,785.37	1,727.11	58.26	30.646	
8,500.00	7,691.00	8,757.44	7,691.00	24.07	38.10	-89.97	961.80	-1,501.90	1,785.37	1,725.33	60.03	29.739	
8,600.00	7,691.00	8,857.44	7,691.00	25.20	39.03	-89.97	1,061.79	-1,501.45	1,785.37	1,723.43	61.94	28.826	
8,700.00	7,691.00	8,957.44	7,691.00	26.38	39.99	-89.97	1,161.79	-1,501.00	1,785.36	1,721.41	63.95	27.919	
8,800.00	7,691.00	9,057.44	7,691.00	27.61	40.98	-89.97	1,261.79	-1,500.55	1,785.36	1,719.30	66.06	27.026	
8,900.00	7,691.00	9,157.44	7,691.00	28.88	42.00	-89.97	1,361.79	-1,500.10	1,785.36	1,717.09	68.27	26.153	
9,000.00	7,691.00	9,257.44	7,691.00	30.18	43.06	-89.97	1,461.79	-1,499.66	1,785.35	1,714.80	70.55	25.305	
9,100.00	7,691.00	9,357.44	7,691.00	31.52	44.14	-89.97	1,561.79	-1,499.21	1,785.35	1,712.43	72.92	24.485	
9,200.00	7,691.00	9,457.44	7,691.00	32.89	45.24	-89.97	1,661.79	-1,498.76	1,785.35	1,710.00	75.35	23.695	
9,300.00	7,691.00	9,557.44	7,691.00	34.28	46.38	-89.97	1,761.79	-1,498.31	1,785.34	1,707.51	77.84	22.937	
9,400.00	7,691.00	9,657.44	7,691.00	35.70	47.53	-89.97	1,861.79	-1,497.86	1,785.34	1,704.96	80.38	22.210	
9,500.00	7,691.00	9,757.44	7,691.00	37.13	48.71	-89.97	1,961.79	-1,497.41	1,785.34	1,702.36	82.98	21.515	
9,600.00	7,691.00	9,857.44	7,691.00	38.58	49.91	-89.97	2,061.78	-1,496.96	1,785.34	1,699.71	85.63	20.850	
9,700.00	7,691.00	9,957.44	7,691.00	40.05	51.13	-89.97	2,161.78	-1,496.52	1,785.33	1,697.02	88.31	20.216	
9,800.00	7,691.00	10,057.44	7,691.00	41.53	52.36	-89.97	2,261.78	-1,496.07	1,785.33	1,694.29	91.04	19.611	
9,900.00	7,691.00	10,157.44	7,691.00	43.02	53.62	-89.97	2,361.78	-1,495.62	1,785.33	1,691.53	93.80	19.033	
10,000.00	7,691.00	10,257.44	7,691.00	44.52	54.89	-89.97	2,461.78	-1,495.17	1,785.32	1,688.73	96.59	18.483	
10,100.00	7,691.00	10,357.44	7,691.00	46.04	56.18	-89.97	2,561.78	-1,494.72	1,785.32	1,685.90	99.42	17.958	
10,200.00	7,691.00	10,457.44	7,691.00	47.56	57.49	-89.97	2,661.78	-1,494.27	1,785.32	1,683.05	102.27	17.457	
10,300.00	7,691.00	10,557.44	7,691.00	49.09	58.81	-89.97	2,761.78	-1,493.82	1,785.31	1,680.17	105.14	16.980	
10,400.00	7,691.00	10,657.44	7,691.00	50.63	60.14	-89.97	2,861.78	-1,493.38	1,785.31	1,677.27	108.04	16.524	
10,500.00	7,691.00	10,757.44	7,691.00	52.18	61.49	-89.97	2,961.78	-1,492.93	1,785.31	1,674.34	110.97	16.089	
10,600.00	7,691.00	10,857.44	7,691.00	53.73	62.85	-89.97	3,061.77	-1,492.48	1,785.31	1,671.40	113.91	15.673	
10,700.00	7,691.00	10,957.44	7,691.00	55.29	64.22	-89.97	3,161.77	-1,492.03	1,785.30	1,668.44	116.87	15.276	
10,800.00	7,691.00	11,057.44	7,691.00	56.85	65.60	-89.97	3,261.77	-1,491.58	1,785.30	1,665.46	119.84	14.897	
10,900.00	7,691.00	11,157.44	7,691.00	58.42	67.00	-89.97	3,361.77	-1,491.13	1,785.30	1,662.46	122.84	14.534	
11,000.00	7,691.00	11,257.44	7,691.00	59.99	68.40	-89.97	3,461.77	-1,490.68	1,785.29	1,659.45	125.85	14.186	
11,100.00	7,691.00	11,357.44	7,691.00	61.57	69.81	-89.97	3,561.77	-1,490.24	1,785.29	1,656.42	128.87	13.853	
11,200.00	7,691.00	11,457.44	7,691.00	63.15	71.23	-89.97	3,661.77	-1,489.79	1,785.29	1,653.38	131.91	13.535	
11,300.00	7,691.00	11,557.44	7,691.00	64.73	72.67	-89.97	3,761.77	-1,489.34	1,785.29	1,650.33	134.95	13.229	
11,400.00	7,691.00	11,657.44	7,691.00	66.32	74.10	-89.97	3,861.77	-1,488.89	1,785.28	1,647.27	138.01	12.936	
11,500.00	7,691.00	11,757.44	7,691.00	67.91	75.55	-89.97	3,961.77	-1,488.44	1,785.28	1,644.20	141.08	12.654	
11,600.00	7,691.00	11,857.44	7,691.00	69.51	77.01	-89.97	4,061.76	-1,487.99	1,785.28	1,641.11	144.16	12.384	
11,700.00	7,691.00	11,957.44	7,691.00	71.10	78.47	-89.97	4,161.76	-1,487.54	1,785.27	1,638.02	147.25	12.124	
11,800.00	7,691.00	12,057.44	7,691.00	72.70	79.94	-89.97	4,261.76	-1,487.10	1,785.27	1,634.92	150.35	11.874	
11,900.00	7,691.00	12,157.44	7,691.00	74.30	81.41	-89.97	4,361.76	-1,486.65	1,785.27	1,631.81	153.46	11.634	
12,000.00	7,691.00	12,257.44	7,691.00	75.90	82.89	-89.97	4,461.76	-1,486.20	1,785.26	1,628.69	156.57	11.402	
12,100.00	7,691.00	12,357.44	7,691.00	77.51	84.38	-89.97	4,561.76	-1,485.75	1,785.26	1,625.57	159.69	11.179	
12,200.00	7,691.00	12,457.44	7,691.00	79.12	85.87	-89.97	4,661.76	-1,485.30	1,785.26	1,622.44	162.82	10.964	
12,300.00	7,691.00	12,557.44	7,691.00	80.72	87.37	-89.97	4,761.76	-1,484.85	1,785.26	1,619.30	165.96	10.757	
12,400.00	7,691.00	12,657.44	7,691.00	82.34	88.87	-89.97	4,861.76	-1,484.40	1,785.25	1,616.15	169.10	10.557	
12,500.00	7,691.00	12,757.44	7,691.00	83.95	90.38	-89.97	4,961.76	-1,483.96	1,785.25	1,613.00	172.25	10.364	
12,600.00	7,691.00	12,857.44	7,691.00	85.56	91.89	-89.97	5,061.75	-1,483.51	1,785.25	1,609.85	175.40	10.178	
12,700.00	7,691.00	12,957.44	7,691.00	87.18	93.41	-89.97	5,161.75	-1,483.06	1,785.24	1,606.68	178.56	9.998	
12,800.00	7,691.00	13,057.44	7,691.00	88.79	94.93	-89.97	5,261.75	-1,482.61	1,785.24	1,603.52	181.72	9.824	
12,900.00	7,691.00	13,157.44	7,691.00	90.41	96.45	-89.97	5,361.75	-1,482.16	1,785.24	1,600.35	184.89	9.656	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

FLAT CREEK
RESOURCES

Anticollision Report

Company:	Flat Creek Resources, LLC	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Project:	Eddy County, New Mexico NAD27 NME	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Reference Site:	Jawbone	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Aug2923v16
Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Offset Design: Jawbone - Jawbone Fed Com LW 14H - Original Hole - rev1												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
13,000.00	7,691.00	13,257.44	7,691.00	92.03	97.98	-89.97	5,461.75	-1,481.71	1,785.24	1,597.17	188.07	9.493	
13,100.00	7,691.00	13,357.44	7,691.00	93.65	99.51	-89.97	5,561.75	-1,481.27	1,785.23	1,593.99	191.24	9.335	
13,200.00	7,691.00	13,457.44	7,691.00	95.27	101.05	-89.97	5,661.75	-1,480.82	1,785.23	1,590.81	194.42	9.182	
13,300.00	7,691.00	13,557.44	7,691.00	96.89	102.59	-89.97	5,761.75	-1,480.37	1,785.23	1,587.62	197.61	9.034	
13,400.00	7,691.00	13,657.44	7,691.00	98.51	104.13	-89.97	5,861.75	-1,479.92	1,785.22	1,584.42	200.80	8.891	
13,500.00	7,691.00	13,757.44	7,691.00	100.14	105.67	-89.97	5,961.75	-1,479.47	1,785.22	1,581.23	203.99	8.751	
13,600.00	7,691.00	13,857.44	7,691.00	101.76	107.22	-89.97	6,061.74	-1,479.02	1,785.22	1,578.03	207.19	8.616	
13,700.00	7,691.00	13,957.44	7,691.00	103.39	108.77	-89.97	6,161.74	-1,478.57	1,785.21	1,574.83	210.39	8.485	
13,800.00	7,691.00	14,057.44	7,691.00	105.02	110.33	-89.97	6,261.74	-1,478.13	1,785.21	1,571.62	213.59	8.358	
13,900.00	7,691.00	14,157.44	7,691.00	106.64	111.88	-89.97	6,361.74	-1,477.68	1,785.21	1,568.41	216.79	8.235	
14,000.00	7,691.00	14,257.44	7,691.00	108.27	113.44	-89.97	6,461.74	-1,477.23	1,785.21	1,565.20	220.00	8.114	
14,100.00	7,691.00	14,357.44	7,691.00	109.90	115.00	-89.97	6,561.74	-1,476.78	1,785.20	1,561.99	223.21	7.998	
14,200.00	7,691.00	14,457.44	7,691.00	111.53	116.57	-89.97	6,661.74	-1,476.33	1,785.20	1,558.77	226.43	7.884	
14,300.00	7,691.00	14,557.44	7,691.00	113.16	118.14	-89.97	6,761.74	-1,475.88	1,785.20	1,555.55	229.64	7.774	
14,400.00	7,691.00	14,657.44	7,691.00	114.79	119.70	-89.97	6,861.74	-1,475.43	1,785.19	1,552.33	232.86	7.666	
14,500.00	7,691.00	14,757.44	7,691.00	116.42	121.27	-89.97	6,961.74	-1,474.99	1,785.19	1,549.11	236.08	7.562	
14,600.00	7,691.00	14,857.44	7,691.00	118.05	122.85	-89.97	7,061.73	-1,474.54	1,785.19	1,545.88	239.31	7.460	
14,700.00	7,691.00	14,957.44	7,691.00	119.68	124.42	-89.97	7,161.73	-1,474.09	1,785.19	1,542.65	242.53	7.361	
14,800.00	7,691.00	15,057.44	7,691.00	121.32	126.00	-89.97	7,261.73	-1,473.64	1,785.18	1,539.42	245.76	7.264	
14,900.00	7,691.00	15,157.44	7,691.00	122.95	127.58	-89.97	7,361.73	-1,473.19	1,785.18	1,536.19	248.99	7.170	
15,000.00	7,691.00	15,257.44	7,691.00	124.58	129.16	-89.97	7,461.73	-1,472.74	1,785.18	1,532.96	252.22	7.078	
15,100.00	7,691.00	15,357.44	7,691.00	126.22	130.74	-89.97	7,561.73	-1,472.29	1,785.17	1,529.72	255.45	6.988	
15,200.00	7,691.00	15,457.44	7,691.00	127.85	132.32	-89.97	7,661.73	-1,471.85	1,785.17	1,526.48	258.69	6.901	
15,300.00	7,691.00	15,557.44	7,691.00	129.49	133.91	-89.97	7,761.73	-1,471.40	1,785.17	1,523.24	261.92	6.816	
15,400.00	7,691.00	15,657.44	7,691.00	131.12	135.49	-89.97	7,861.73	-1,470.95	1,785.16	1,520.00	265.16	6.732	
15,500.00	7,691.00	15,757.44	7,691.00	132.76	137.08	-89.97	7,961.73	-1,470.50	1,785.16	1,516.76	268.40	6.651	
15,600.00	7,691.00	15,857.44	7,691.00	134.40	138.67	-89.97	8,061.72	-1,470.05	1,785.16	1,513.52	271.64	6.572	
15,700.00	7,691.00	15,957.44	7,691.00	136.03	140.26	-89.97	8,161.72	-1,469.60	1,785.16	1,510.27	274.88	6.494	
15,800.00	7,691.00	16,057.44	7,691.00	137.67	141.85	-89.97	8,261.72	-1,469.15	1,785.15	1,507.02	278.13	6.418	
15,900.00	7,691.00	16,157.44	7,691.00	139.31	143.45	-89.97	8,361.72	-1,468.71	1,785.15	1,503.78	281.37	6.344	
16,000.00	7,691.00	16,257.44	7,691.00	140.95	145.04	-89.97	8,461.72	-1,468.26	1,785.15	1,500.53	284.62	6.272	
16,100.00	7,691.00	16,357.44	7,691.00	142.58	146.64	-89.97	8,561.72	-1,467.81	1,785.14	1,497.28	287.87	6.201	
16,200.00	7,691.00	16,457.44	7,691.00	144.22	148.24	-89.97	8,661.72	-1,467.36	1,785.14	1,494.02	291.12	6.132	
16,300.00	7,691.00	16,557.44	7,691.00	145.86	149.83	-89.97	8,761.72	-1,466.91	1,785.14	1,490.77	294.37	6.064	
16,400.00	7,691.00	16,657.44	7,691.00	147.50	151.43	-89.97	8,861.72	-1,466.46	1,785.14	1,487.52	297.62	5.998	
16,500.00	7,691.00	16,757.44	7,691.00	149.14	153.03	-89.97	8,961.72	-1,466.01	1,785.13	1,484.26	300.87	5.933	
16,600.00	7,691.00	16,857.44	7,691.00	150.78	154.64	-89.97	9,061.71	-1,465.57	1,785.13	1,481.00	304.13	5.870	
16,700.00	7,691.00	16,957.44	7,691.00	152.42	156.24	-89.97	9,161.71	-1,465.12	1,785.13	1,477.75	307.38	5.808	
16,800.00	7,691.00	17,057.44	7,691.00	154.06	157.84	-89.97	9,261.71	-1,464.67	1,785.12	1,474.49	310.64	5.747	
16,900.00	7,691.00	17,157.44	7,691.00	155.70	159.45	-89.97	9,361.71	-1,464.22	1,785.12	1,471.23	313.89	5.687	
17,000.00	7,691.00	17,257.44	7,691.00	157.34	161.05	-89.97	9,461.71	-1,463.77	1,785.12	1,467.97	317.15	5.629	
17,100.00	7,691.00	17,357.44	7,691.00	158.98	162.66	-89.97	9,561.71	-1,463.32	1,785.11	1,464.71	320.41	5.571	
17,200.00	7,691.00	17,457.44	7,691.00	160.62	164.27	-89.97	9,661.71	-1,462.87	1,785.11	1,461.44	323.67	5.515	
17,300.00	7,691.00	17,557.44	7,691.00	162.26	165.87	-89.97	9,761.71	-1,462.43	1,785.11	1,458.18	326.93	5.460	
17,400.00	7,691.00	17,657.44	7,691.00	163.90	167.48	-89.97	9,861.71	-1,461.98	1,785.11	1,454.92	330.19	5.406	
17,500.00	7,691.00	17,757.44	7,691.00	165.54	169.09	-89.97	9,961.70	-1,461.53	1,785.10	1,451.65	333.45	5.353	
17,600.00	7,691.00	17,857.44	7,691.00	167.19	170.70	-89.97	10,061.70	-1,461.08	1,785.10	1,448.39	336.71	5.302	
17,700.00	7,691.00	17,957.44	7,691.00	168.83	172.31	-89.97	10,161.70	-1,460.63	1,785.10	1,445.12	339.98	5.251	
17,800.00	7,691.00	18,057.44	7,691.00	170.47	173.93	-89.97	10,261.70	-1,460.18	1,785.09	1,441.85	343.24	5.201	
17,900.00	7,691.00	18,157.44	7,691.00	172.11	175.54	-89.97	10,361.70	-1,459.73	1,785.09	1,438.59	346.51	5.152	
17,919.23	7,691.00	18,176.66	7,691.00	172.43	175.85	-89.97	10,380.93	-1,459.65	1,785.09	1,437.96	347.13	5.142	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

FLAT CREEK
RESOURCES

Anticollision Report

Company:	Flat Creek Resources, LLC	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Project:	Eddy County, New Mexico NAD27 NME	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Reference Site:	Jawbone	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Aug2923v16
Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB=3355+26.5 @ 3381.50ft

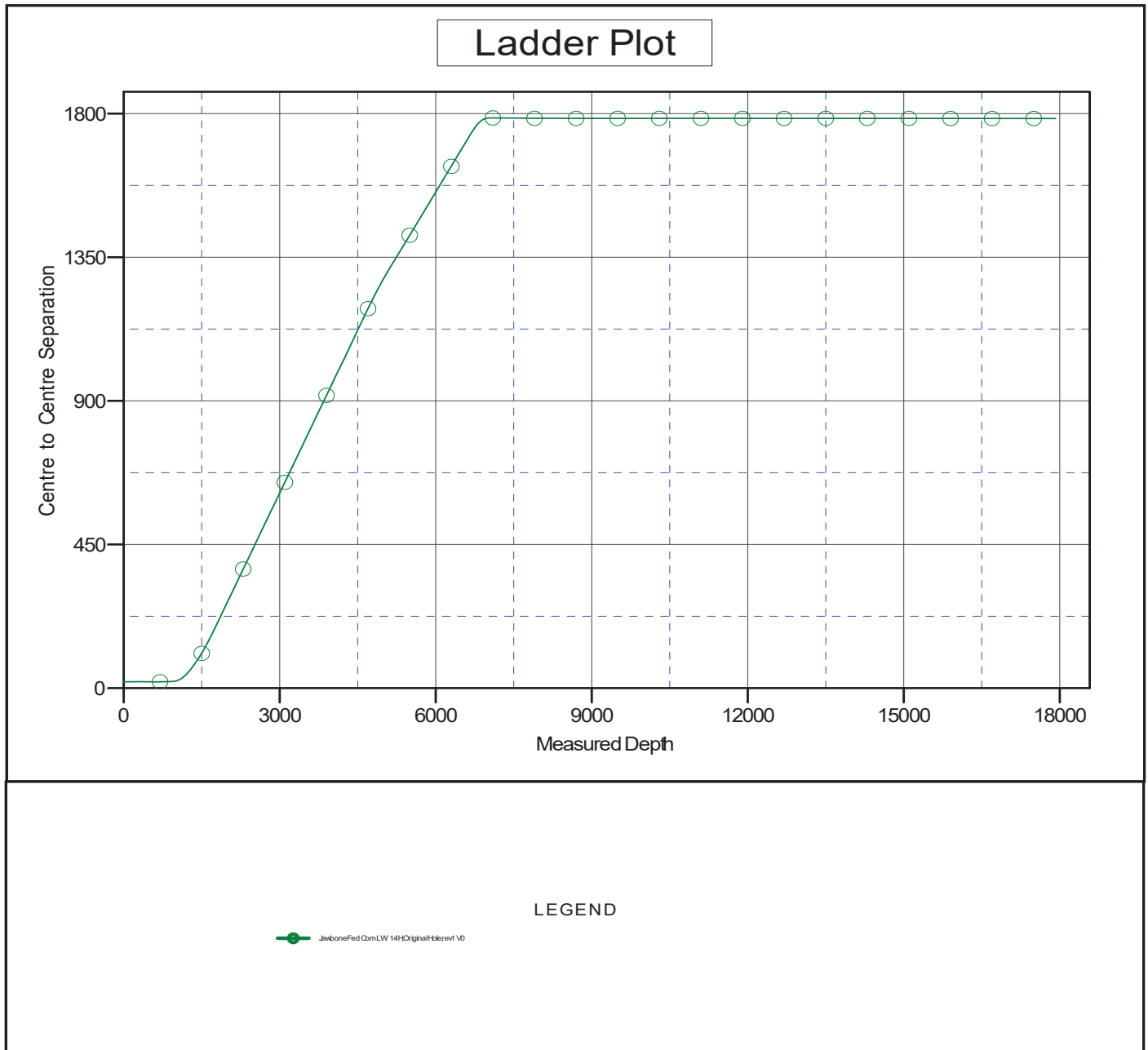
Offset Depths are relative to Offset Datum

Central Meridian is -104.333333333

Coordinates are relative to: Jawbone Fed Com LW 13H

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 300

Grid Convergence at Surface is: 0.04°



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

FLAT CREEK
RESOURCES

Anticollision Report

Company:	Flat Creek Resources, LLC	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 13H
Project:	Eddy County, New Mexico NAD27 NME	TVD Reference:	RKB=3355+26.5 @ 3381.50ft
Reference Site:	Jawbone	MD Reference:	RKB=3355+26.5 @ 3381.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Jawbone Fed Com LW 13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DT_Aug2923v16
Reference Design:	rev1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB=3355+26.5 @ 3381.50ft

Offset Depths are relative to Offset Datum

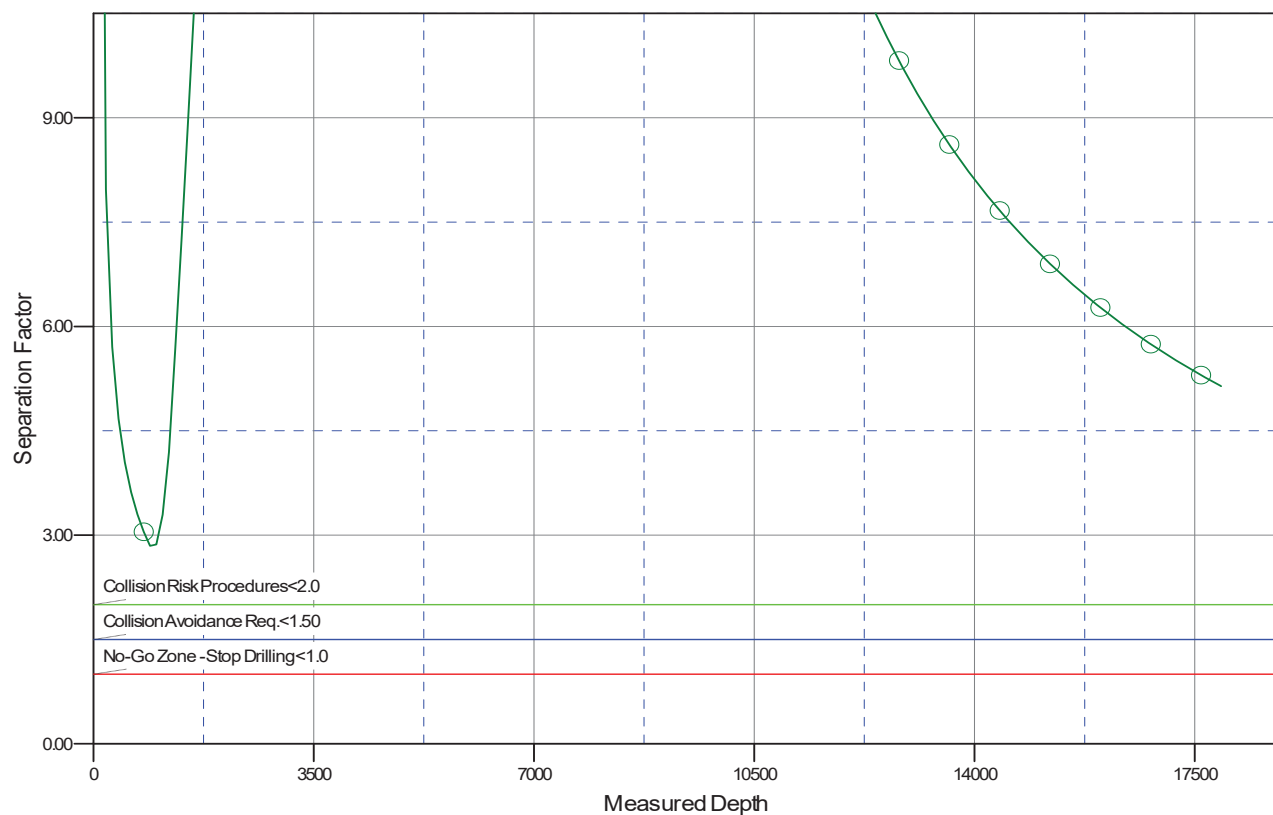
Central Meridian is -104.33333333

Coordinates are relative to: Jawbone Fed Com LW 13H

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 300

Grid Convergence at Surface is: 0.04°

Separation Factor Plot



LEGEND

JawboneFed ComLW 14HOriginalHolerev1 V0

Casing Design Worksheet: Jawbone Fed Com LW 13H				
Casing	10-3/4" 45.5#, J-55,STC	7-5/8" 29.7#, HCL-80, Butt	5-1/2" 20#, HC-P110, TCBC-HT	5-1/2" 20#, HC-P110, TCBC-HT
Collapse, psi	2090	7150	11500	11500
Internal Yield Pressure, psi	3580	6890	12000	12000
Body Yield, lbs.	715000	683000	600000	600000
Joint Strength, lbs.	796000	785000	600000	600000
<u>Collapse Load</u>	<u>Surface</u>	<u>Intermediate 1</u>	<u>Production Top</u>	<u>Production Bottom</u>
Depth, feet	300	1900	7691	7691
Mud Weight, ppg	9	10	9.2	9.2
Pressure, psi	140.4	988	3679.4	3679.4
Design Safety Factor	14.9	7.2	3.1	3.1
<u>Burst Load</u>				
Depth, feet	300	1900	7691	7691
Mud Weight, ppg	9	10	9.2	9.2
Pressure, psi	140.4	988	3679.4	3679.4
Design Safety Factor	25.5	7.0	3.3	3.3
<u>Body Tensile</u>				
Depth, feet	300	1900	7691	Horizontal
Pipe Weight, ppf	40.5	29.7	20	
String Weight, lbs.	12150	56430	153820	
Design Safety Factor	58.8	12.1	3.9	
<u>Joint Tensile</u>				
Depth, feet	300	1900	7691	Horizontal
Pipe Weight, ppf	40.5	29.7	20	
String Weight, lbs.	12150	56430	153820	
Design Safety Factor	65.5	13.9	3.9	



Size	5.5
Grade	HC-P110
Weight	20

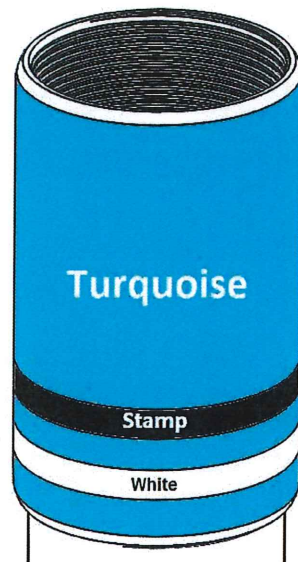
TCBC-HT

Coupling and Pipe Dimensions (in)						
	Outer Diameter	Inner Diameter	Coupling Length	Make-up Loss	Wall Thickness	Drift Diameter
Coupling	5.900	5.383	8.250	4.125	0.361	4.653
Pipe		4.778				
Pin		4.778				

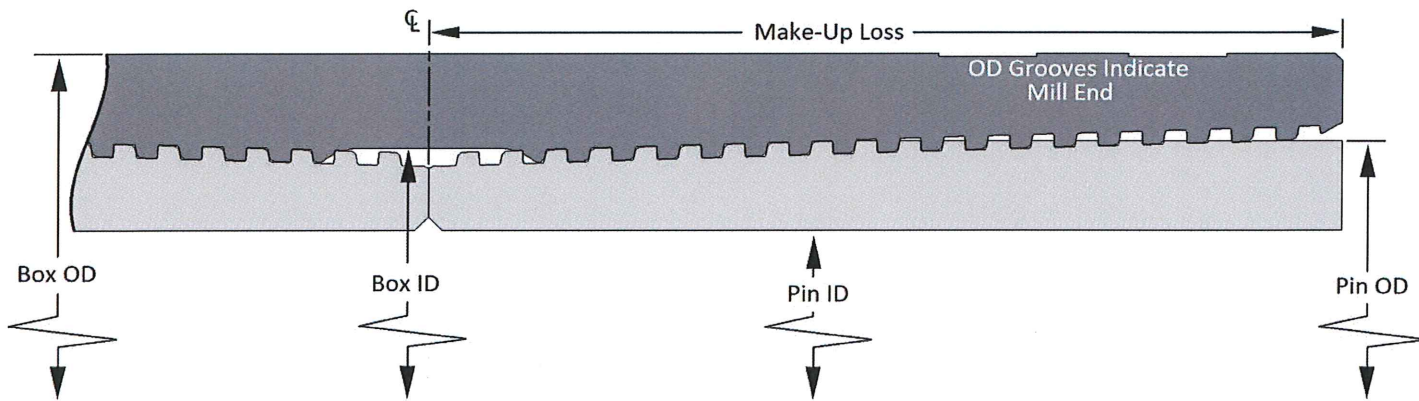
Torque Values (ft-lbs)				
Field End Make-Up			Max. Working Torque ¹	Yield Torque
Minimum	Optimum ²	Maximum		
10,000	13,500	18,500	20,250	24,000

Yield Stress (x1000 lbs.)	
Tensile	Compressive
600	600

Maximum Pressure (psi)	
Internal	External
12,000	11,500



- ¹. Max. Working Torque value is not to be exceeded during operation.
². If Optimum Torque does not meet the Base of Triangle Stamp, M/U to the Base of Triangle.



*Data are for information purposes only. Though HIS has made efforts to ensure accuracy, HIS makes no warranty for loss or damage due to its use.

Rev 0

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Phone:(505) 334-6178 Fax:(505) 334-6170
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 298495

CONDITIONS

Operator: Flat Creek Resources, LLC 777 Main St. Fort Worth, TX 76102	OGRID: 374034
	Action Number: 298495
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	All original COA's still apply.	1/29/2024