

Well Name: JAWBONE FED COM LW	Well Location: T25S / R26E / SEC 2 / SESE /	County or Parish/State:
Well Number: 14H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM0441951	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001549459	Well Status: Approved Application for Permit to Drill	Operator: FLAT CREEK RESOURCES LLC

Notice of Intent

Sundry ID: 2761059

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 11/10/2023

Time Sundry Submitted: 01:23

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 9350' to 7691'. MD has changed from 19521' to 18185'. BHL was at 330' FNL and 2315' FEL 35-24s-26e. BHL has now moved 336' NW to 50' FNL & 2501' 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_20231110132205.pdf
- Jawbone_14H_Casing_Design_Assumptions_20231110132148.pdf
- Jawbone_14H_Anticollision_Report_20231110132136.pdf
- Jawbone_14H_Horizontal_Plan_20231110132124.pdf
- Jawbone_14H_C102_20231110132102.pdf
- Jawbone_14H_Drill_Plan_20231110132044.pdf

Well Name: JAWBONE FED COM LW

Well Location: T25S / R26E / SEC 2 / SESE /

County or Parish/State:

Well Number: 14H

Type of Well: CONVENTIONAL GAS WELL

Allottee or Tribe Name:

Lease Number: NMNM0441951

Unit or CA Name:

Unit or CA Number:

US Well Number: 3001549459

Well Status: Approved Application for Permit to Drill

Operator: FLAT CREEK RESOURCES LLC

Conditions of Approval

Additional

2_25_26_P_Sundry_ID_2761059_Jawbone_Federal_Com_LW_14H_Eddy_NM0441951_FLAT_CREEK_RESOURCES_LLC_13_22fa_11_21_2023_LV_20231215100345.pdf
Jawbone_Fed_Com_LW_14H_Dr_COA_20231215100345.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 10, 2023 01:21 PM

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

Table with 3 main columns: API Number (30-015-49459), Pool Code (97494), Pool Name (COTTONWOOD DRAW; BONE SPRING (O)). Sub-headers include Property Code, Property Name (JAWBONE FED COM LW), Well Number (14H), OGRID No. (374034), Operator Name (FLAT CREEK RESOURCES, LLC), and Elevation (3,356').

Surface Location table with columns: 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 (1,070), East/West line (EAST), County (EDDY).

Bottom Hole Location If Different From Surface table with columns: UL or lot no. (B), Section (35), Township (24 S), Range (26 E), Lot Idn, Feet from the (50), North/South line (NORTH), Feet from the (2,501), East/West line (EAST), County (EDDY).

Dedicated Acres (640.16), Joint or Infill, Consolidation Code (C), Order No.

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.

Main plat diagram showing well location, acreage tables, coordinate tables, and operator/surveyor certifications. Includes 'LOT ACREAGE TABLE', 'LEGEND', 'COORDINATE TABLE', 'OPERATOR CERTIFICATION' by Rodney Littleton, and 'SURVEYOR CERTIFICATION' by Mark Dillon Harp. Also includes corner coordinates for NAD 83 NME and NAD 27 NME.

P:\618.005 Flat Creek\002 Jawbone Lease\00 - Jawbone Lease\Wells\10 - LW 14H\DWG\14H C-102.dwg

Flat Creek Resources, LLC
 Jawbone Federal Com 014H
 SHL: 200' FSL & 1070' FEL 2-25S-26E
 BHL: 50' FNL & 2501' FEL 35-24S-26E
 Eddy County, NM

DRILL PLAN PAGE 1
 30-015-49459
 "fee/fee/Fed"

The well was originally permitted by Murchison. Well, not yet spudded, was subsequently acquired by Flat Rock 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 9350' to 7691'. MD will change from 19521' to 18185'. BHL will move 336' NW from 330' FNL & 2315' FEL to 50' FNL & 2501' FEL. No change in SHL or in pad footprint.

Drilling Program

1. ESTIMATED TOPS

Formation	TVD	MD	Bearing
Salado salt	0'	0'	Fresh water
Base salt	1704'	1722'	N/A
Lamar limestone	1918'	1944'	N/A
Bell Canyon sandstone	1975'	2003'	hydrocarbons
Cherry Canyon sandstone	2818'	2876'	hydrocarbons
Brushy Canyon sandstone	3865'	3960'	hydrocarbons
Bone Spring limestone	5412'	5663'	hydrocarbons
First Bone Spring sandstone	6329'	6512'	hydrocarbons
Second Bone Spring shale	6497'	6684'	hydrocarbons
Second Bone Spring sandstone	6839'	7018'	hydrocarbons
KOP	7118'	7307'	hydrocarbons
Third Bone Spring shale	7267'	7458'	hydrocarbons
Harkey Bone Spring sandstone	7562'	7816'	hydrocarbons
TD	7691'	18185'	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.

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DRILL PLAN PAGE 2

30-015-49459

"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' - 1876'	7.625" intermediate	29.7	P-110 HC	BTC	7.2	7.0	12.1
6.75"	0' - 18185'	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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 Eddy County, NM

DRILL PLAN PAGE 3

30-015-49459

"fee/fee/Fed"

						alternative + 0.2% suspension aid + 0.3% fluid loss additive + 0.3% dispersant + 0.2% retarder
	Tail	725	1.42	1029	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' - 18185'	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 ≈167° F.

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Eddy County, NM

DRILL PLAN PAGE 4

30-015-49459

"fee/fee/Fed"

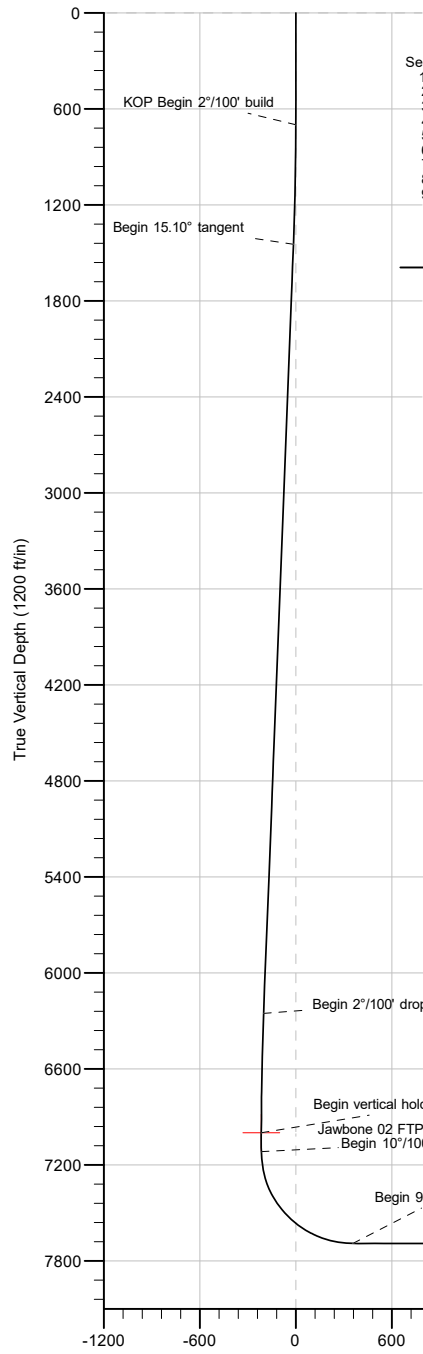
An H2S plan was attached to the original APD per 43 CFR 3176. H2S monitoring equipment will be used from surface casing setting point to TD per 43 CFR 3176.

8. OTHER INFORMATION

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

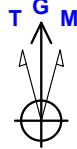


Well: Jawbone Fed Com LW 14H
Site: Jawbone
Project: Eddy County, New Mexico NAD27 NME
Design: rev1



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	700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	KOP Begin 2"/100' build	
3	1454.95	15.10	264.114	1446.25	-10.14	-98.38	2.00	-14.22	Begin 15.10° tangent	
4	6434.37	15.10	264.114	6253.75	-143.16	-1388.62	0.00	-200.75	Begin 2"/100' drop	
5	7189.32	0.00	0.000	7000.00	-153.30	-1487.00	2.00	-214.97	Begin vertical hold @ 7000.00 TVD	
6	7307.36	0.00	0.000	7118.04	-153.30	-1487.00	0.00	-214.97	Begin 10"/100' build	
7	8207.36	90.00	0.257	7691.00	419.65	-1484.43	10.00	357.59	Begin 90.00° lateral	
8	18135.03	90.00	0.257	7691.00	10347.22	-1439.90	0.00	10278.44	LTP @ 18135.03 MD 7691.00 TVD	
9	18185.02	90.00	0.257	7691.00	10397.21	-1439.68	0.00	10328.39	PBHL/TD @ 18185.02 MD 7691.00 TVD	

DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	
Jawbone 02 BHL 50 FNL 2555 FEL r1	7691.00	10397.22	-1439.90	429481.400	521800.400	
- plan misses target center by 0.22ft at 18185.02ft MD (7691.00 TVD, 10397.21 N, -1439.68 E)						
Jawbone 02 FTP 100 FSL 2555 FEL r1	7000.00	-153.30	-1487.00	418930.900	521753.300	
- plan hits target center						
Jawbone 02 LTP 100 FNL 2555 FEL r1	7691.00	10347.22	-1439.90	429431.400	521800.400	
- plan hits target center						

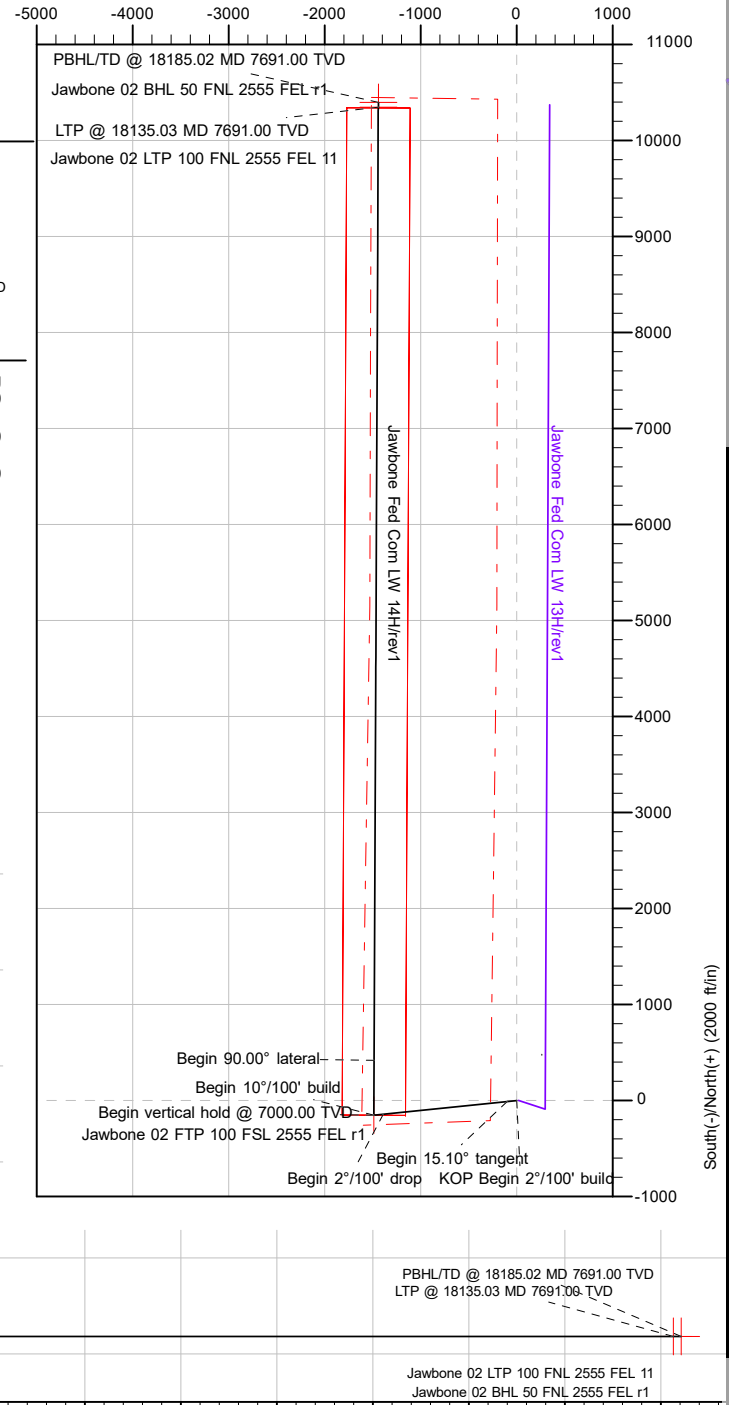


Azimuths to Grid North
 True North: -0.04°
 Magnetic North: 6.56°
 Magnetic Field
 Strength: 47151.5nT
 Dip Angle: 59.66°
 Date: 8/30/2023
 Model: IGRF2020

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=3356+26.5 @ 3382.50ft

Northing	Easting	Latitude	Longitude
419084.200	523240.300	32.152156981	-104.258239075

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





FLAT CREEK
RESOURCES

Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 14H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3356+26.5 @ 3382.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 14H	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 14H, Surf loc: 1070 FEL 200 FSL Section 02-T25S-R26E					
Well Position	+N/-S	0.00 ft	Northing:	419,084.200 usft	Latitude:	32.152156982
	+E/-W	0.00 ft	Easting:	523,240.300 usft	Longitude:	-104.258239075
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,356.00 ft
Grid Convergence:		0.04 °				

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	8/30/2023	6.60	59.66	47,151.46407316

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	2.382

Plan Survey Tool Program	Date	9/6/2023		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	18,185.02 rev1 (Original Hole)	MWD	
			OWSG MWD - Standard	



FLAT CREEK
RESOURCES

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Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 14H	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	
700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,454.95	15.10	264.114	1,446.25	-10.14	-98.38	2.00	2.00	0.00	264.11	
6,434.37	15.10	264.114	6,253.75	-143.16	-1,388.62	0.00	0.00	0.00	0.00	
7,189.32	0.00	0.000	7,000.00	-153.30	-1,487.00	2.00	-2.00	0.00	180.00	Jawbone 02 FTP 100
7,307.36	0.00	0.000	7,118.04	-153.30	-1,487.00	0.00	0.00	0.00	0.00	
8,207.36	90.00	0.257	7,691.00	419.65	-1,484.43	10.00	10.00	0.03	0.26	
18,135.03	90.00	0.257	7,691.00	10,347.22	-1,439.90	0.00	0.00	0.00	0.00	Jawbone 02 LTP 100
18,185.02	90.00	0.257	7,691.00	10,397.21	-1,439.68	0.00	0.00	0.00	0.00	Jawbone 02 BHL 50 F



FLAT CREEK
RESOURCES

Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 14H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3356+26.5 @ 3382.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 14H	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	
KOP Begin 2°/100' build										
800.00	2.00	264.114	799.98	-0.18	-1.74	-0.25	2.00	2.00	0.00	
900.00	4.00	264.114	899.84	-0.72	-6.94	-1.00	2.00	2.00	0.00	
1,000.00	6.00	264.114	999.45	-1.61	-15.61	-2.26	2.00	2.00	0.00	
1,100.00	8.00	264.114	1,098.70	-2.86	-27.73	-4.01	2.00	2.00	0.00	
1,200.00	10.00	264.114	1,197.47	-4.46	-43.29	-6.26	2.00	2.00	0.00	
1,300.00	12.00	264.114	1,295.62	-6.42	-62.27	-9.00	2.00	2.00	0.00	
1,400.00	14.00	264.114	1,393.06	-8.73	-84.65	-12.24	2.00	2.00	0.00	
1,454.95	15.10	264.114	1,446.25	-10.14	-98.38	-14.22	2.00	2.00	0.00	
Begin 15.10° tangent										
1,500.00	15.10	264.114	1,489.74	-11.35	-110.05	-15.91	0.00	0.00	0.00	
1,600.00	15.10	264.114	1,586.28	-14.02	-135.96	-19.66	0.00	0.00	0.00	
1,700.00	15.10	264.114	1,682.83	-16.69	-161.88	-23.40	0.00	0.00	0.00	
1,800.00	15.10	264.114	1,779.38	-19.36	-187.79	-27.15	0.00	0.00	0.00	
1,900.00	15.10	264.114	1,875.93	-22.03	-213.70	-30.89	0.00	0.00	0.00	
2,000.00	15.10	264.114	1,972.48	-24.70	-239.61	-34.64	0.00	0.00	0.00	
2,100.00	15.10	264.114	2,069.02	-27.37	-265.52	-38.39	0.00	0.00	0.00	
2,200.00	15.10	264.114	2,165.57	-30.04	-291.43	-42.13	0.00	0.00	0.00	
2,300.00	15.10	264.114	2,262.12	-32.72	-317.34	-45.88	0.00	0.00	0.00	
2,400.00	15.10	264.114	2,358.67	-35.39	-343.26	-49.62	0.00	0.00	0.00	
2,500.00	15.10	264.114	2,455.21	-38.06	-369.17	-53.37	0.00	0.00	0.00	
2,600.00	15.10	264.114	2,551.76	-40.73	-395.08	-57.12	0.00	0.00	0.00	
2,700.00	15.10	264.114	2,648.31	-43.40	-420.99	-60.86	0.00	0.00	0.00	
2,800.00	15.10	264.114	2,744.86	-46.07	-446.90	-64.61	0.00	0.00	0.00	
2,900.00	15.10	264.114	2,841.40	-48.74	-472.81	-68.35	0.00	0.00	0.00	
3,000.00	15.10	264.114	2,937.95	-51.42	-498.73	-72.10	0.00	0.00	0.00	
3,100.00	15.10	264.114	3,034.50	-54.09	-524.64	-75.84	0.00	0.00	0.00	
3,200.00	15.10	264.114	3,131.05	-56.76	-550.55	-79.59	0.00	0.00	0.00	
3,300.00	15.10	264.114	3,227.60	-59.43	-576.46	-83.34	0.00	0.00	0.00	
3,400.00	15.10	264.114	3,324.14	-62.10	-602.37	-87.08	0.00	0.00	0.00	
3,500.00	15.10	264.114	3,420.69	-64.77	-628.28	-90.83	0.00	0.00	0.00	
3,600.00	15.10	264.114	3,517.24	-67.44	-654.19	-94.57	0.00	0.00	0.00	
3,700.00	15.10	264.114	3,613.79	-70.11	-680.11	-98.32	0.00	0.00	0.00	
3,800.00	15.10	264.114	3,710.33	-72.79	-706.02	-102.07	0.00	0.00	0.00	
3,900.00	15.10	264.114	3,806.88	-75.46	-731.93	-105.81	0.00	0.00	0.00	
4,000.00	15.10	264.114	3,903.43	-78.13	-757.84	-109.56	0.00	0.00	0.00	
4,100.00	15.10	264.114	3,999.98	-80.80	-783.75	-113.30	0.00	0.00	0.00	
4,200.00	15.10	264.114	4,096.52	-83.47	-809.66	-117.05	0.00	0.00	0.00	
4,300.00	15.10	264.114	4,193.07	-86.14	-835.58	-120.80	0.00	0.00	0.00	
4,400.00	15.10	264.114	4,289.62	-88.81	-861.49	-124.54	0.00	0.00	0.00	
4,500.00	15.10	264.114	4,386.17	-91.49	-887.40	-128.29	0.00	0.00	0.00	
4,600.00	15.10	264.114	4,482.72	-94.16	-913.31	-132.03	0.00	0.00	0.00	
4,700.00	15.10	264.114	4,579.26	-96.83	-939.22	-135.78	0.00	0.00	0.00	
4,800.00	15.10	264.114	4,675.81	-99.50	-965.13	-139.53	0.00	0.00	0.00	
4,900.00	15.10	264.114	4,772.36	-102.17	-991.04	-143.27	0.00	0.00	0.00	
5,000.00	15.10	264.114	4,868.91	-104.84	-1,016.96	-147.02	0.00	0.00	0.00	



FLAT CREEK
RESOURCES

Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 14H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3356+26.5 @ 3382.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 14H	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)	
5,100.00	15.10	264.114	4,965.45	-107.51	-1,042.87	-150.76	0.00	0.00	0.00	
5,200.00	15.10	264.114	5,062.00	-110.18	-1,068.78	-154.51	0.00	0.00	0.00	
5,300.00	15.10	264.114	5,158.55	-112.86	-1,094.69	-158.26	0.00	0.00	0.00	
5,400.00	15.10	264.114	5,255.10	-115.53	-1,120.60	-162.00	0.00	0.00	0.00	
5,500.00	15.10	264.114	5,351.64	-118.20	-1,146.51	-165.75	0.00	0.00	0.00	
5,600.00	15.10	264.114	5,448.19	-120.87	-1,172.43	-169.49	0.00	0.00	0.00	
5,700.00	15.10	264.114	5,544.74	-123.54	-1,198.34	-173.24	0.00	0.00	0.00	
5,800.00	15.10	264.114	5,641.29	-126.21	-1,224.25	-176.98	0.00	0.00	0.00	
5,900.00	15.10	264.114	5,737.84	-128.88	-1,250.16	-180.73	0.00	0.00	0.00	
6,000.00	15.10	264.114	5,834.38	-131.55	-1,276.07	-184.48	0.00	0.00	0.00	
6,100.00	15.10	264.114	5,930.93	-134.23	-1,301.98	-188.22	0.00	0.00	0.00	
6,200.00	15.10	264.114	6,027.48	-136.90	-1,327.89	-191.97	0.00	0.00	0.00	
6,300.00	15.10	264.114	6,124.03	-139.57	-1,353.81	-195.71	0.00	0.00	0.00	
6,400.00	15.10	264.114	6,220.57	-142.24	-1,379.72	-199.46	0.00	0.00	0.00	
6,434.37	15.10	264.114	6,253.75	-143.16	-1,388.62	-200.75	0.00	0.00	0.00	
Begin 2°/100' drop										
6,500.00	13.79	264.114	6,317.31	-144.84	-1,404.91	-203.10	2.00	-2.00	0.00	
6,600.00	11.79	264.114	6,414.83	-147.11	-1,426.92	-206.28	2.00	-2.00	0.00	
6,700.00	9.79	264.114	6,513.06	-149.03	-1,445.54	-208.98	2.00	-2.00	0.00	
6,800.00	7.79	264.114	6,611.88	-150.59	-1,460.73	-211.17	2.00	-2.00	0.00	
6,900.00	5.79	264.114	6,711.17	-151.80	-1,472.48	-212.87	2.00	-2.00	0.00	
7,000.00	3.79	264.114	6,810.82	-152.66	-1,480.78	-214.07	2.00	-2.00	0.00	
7,100.00	1.79	264.114	6,910.69	-153.16	-1,485.62	-214.77	2.00	-2.00	0.00	
7,189.32	0.00	0.000	7,000.00	-153.30	-1,487.00	-214.97	2.00	-2.00	0.00	
Begin vertical hold @ 7000.00 TVD										
7,200.00	0.00	0.000	7,010.68	-153.30	-1,487.00	-214.97	0.00	0.00	0.00	
7,307.36	0.00	0.000	7,118.04	-153.30	-1,487.00	-214.97	0.00	0.00	0.00	
Begin 10°/100' build										
7,350.00	4.26	0.257	7,160.64	-151.71	-1,487.00	-213.39	10.00	10.00	0.00	
7,400.00	9.26	0.257	7,210.28	-145.83	-1,486.97	-207.50	10.00	10.00	0.00	
7,450.00	14.26	0.257	7,259.21	-135.64	-1,486.92	-197.32	10.00	10.00	0.00	
7,500.00	19.26	0.257	7,307.07	-121.22	-1,486.86	-182.91	10.00	10.00	0.00	
7,550.00	24.26	0.257	7,353.49	-102.69	-1,486.78	-164.39	10.00	10.00	0.00	
7,600.00	29.26	0.257	7,398.12	-80.18	-1,486.68	-141.90	10.00	10.00	0.00	
7,650.00	34.26	0.257	7,440.62	-53.87	-1,486.56	-115.60	10.00	10.00	0.00	
7,700.00	39.26	0.257	7,480.66	-23.95	-1,486.42	-85.71	10.00	10.00	0.00	
7,750.00	44.26	0.257	7,517.94	9.34	-1,486.27	-52.44	10.00	10.00	0.00	
7,800.00	49.26	0.257	7,552.18	45.76	-1,486.11	-16.05	10.00	10.00	0.00	
7,850.00	54.26	0.257	7,583.12	85.02	-1,485.93	23.19	10.00	10.00	0.00	
7,900.00	59.26	0.257	7,610.51	126.82	-1,485.75	64.97	10.00	10.00	0.00	
7,950.00	64.26	0.257	7,634.16	170.86	-1,485.55	108.97	10.00	10.00	0.00	
8,000.00	69.26	0.257	7,653.88	216.79	-1,485.34	154.87	10.00	10.00	0.00	
8,050.00	74.26	0.257	7,669.52	264.26	-1,485.13	202.31	10.00	10.00	0.00	
8,100.00	79.26	0.257	7,680.97	312.92	-1,484.91	250.93	10.00	10.00	0.00	
8,150.00	84.26	0.257	7,688.13	362.39	-1,484.69	300.37	10.00	10.00	0.00	
8,200.00	89.26	0.257	7,690.95	412.29	-1,484.47	350.24	10.00	10.00	0.00	
8,207.36	90.00	0.257	7,691.00	419.65	-1,484.43	357.59	10.00	10.00	0.00	
Begin 90.00° lateral										
8,300.00	90.00	0.257	7,691.00	512.29	-1,484.02	450.17	0.00	0.00	0.00	
8,400.00	90.00	0.257	7,691.00	612.29	-1,483.57	550.10	0.00	0.00	0.00	
8,500.00	90.00	0.257	7,691.00	712.29	-1,483.12	650.03	0.00	0.00	0.00	
8,600.00	90.00	0.257	7,691.00	812.29	-1,482.67	749.96	0.00	0.00	0.00	
8,700.00	90.00	0.257	7,691.00	912.29	-1,482.22	849.89	0.00	0.00	0.00	



FLAT CREEK
RESOURCES

Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 14H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3356+26.5 @ 3382.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 14H	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)	
8,800.00	90.00	0.257	7,691.00	1,012.28	-1,481.77	949.83	0.00	0.00	0.00	
8,900.00	90.00	0.257	7,691.00	1,112.28	-1,481.33	1,049.76	0.00	0.00	0.00	
9,000.00	90.00	0.257	7,691.00	1,212.28	-1,480.88	1,149.69	0.00	0.00	0.00	
9,100.00	90.00	0.257	7,691.00	1,312.28	-1,480.43	1,249.62	0.00	0.00	0.00	
9,200.00	90.00	0.257	7,691.00	1,412.28	-1,479.98	1,349.55	0.00	0.00	0.00	
9,300.00	90.00	0.257	7,691.00	1,512.28	-1,479.53	1,449.48	0.00	0.00	0.00	
9,400.00	90.00	0.257	7,691.00	1,612.28	-1,479.08	1,549.41	0.00	0.00	0.00	
9,500.00	90.00	0.257	7,691.00	1,712.28	-1,478.63	1,649.34	0.00	0.00	0.00	
9,600.00	90.00	0.257	7,691.00	1,812.28	-1,478.19	1,749.27	0.00	0.00	0.00	
9,700.00	90.00	0.257	7,691.00	1,912.28	-1,477.74	1,849.21	0.00	0.00	0.00	
9,800.00	90.00	0.257	7,691.00	2,012.27	-1,477.29	1,949.14	0.00	0.00	0.00	
9,900.00	90.00	0.257	7,691.00	2,112.27	-1,476.84	2,049.07	0.00	0.00	0.00	
10,000.00	90.00	0.257	7,691.00	2,212.27	-1,476.39	2,149.00	0.00	0.00	0.00	
10,100.00	90.00	0.257	7,691.00	2,312.27	-1,475.94	2,248.93	0.00	0.00	0.00	
10,200.00	90.00	0.257	7,691.00	2,412.27	-1,475.50	2,348.86	0.00	0.00	0.00	
10,300.00	90.00	0.257	7,691.00	2,512.27	-1,475.05	2,448.79	0.00	0.00	0.00	
10,400.00	90.00	0.257	7,691.00	2,612.27	-1,474.60	2,548.72	0.00	0.00	0.00	
10,500.00	90.00	0.257	7,691.00	2,712.27	-1,474.15	2,648.66	0.00	0.00	0.00	
10,600.00	90.00	0.257	7,691.00	2,812.27	-1,473.70	2,748.59	0.00	0.00	0.00	
10,700.00	90.00	0.257	7,691.00	2,912.27	-1,473.25	2,848.52	0.00	0.00	0.00	
10,800.00	90.00	0.257	7,691.00	3,012.26	-1,472.80	2,948.45	0.00	0.00	0.00	
10,900.00	90.00	0.257	7,691.00	3,112.26	-1,472.36	3,048.38	0.00	0.00	0.00	
11,000.00	90.00	0.257	7,691.00	3,212.26	-1,471.91	3,148.31	0.00	0.00	0.00	
11,100.00	90.00	0.257	7,691.00	3,312.26	-1,471.46	3,248.24	0.00	0.00	0.00	
11,200.00	90.00	0.257	7,691.00	3,412.26	-1,471.01	3,348.17	0.00	0.00	0.00	
11,300.00	90.00	0.257	7,691.00	3,512.26	-1,470.56	3,448.11	0.00	0.00	0.00	
11,400.00	90.00	0.257	7,691.00	3,612.26	-1,470.11	3,548.04	0.00	0.00	0.00	
11,500.00	90.00	0.257	7,691.00	3,712.26	-1,469.66	3,647.97	0.00	0.00	0.00	
11,600.00	90.00	0.257	7,691.00	3,812.26	-1,469.22	3,747.90	0.00	0.00	0.00	
11,700.00	90.00	0.257	7,691.00	3,912.26	-1,468.77	3,847.83	0.00	0.00	0.00	
11,800.00	90.00	0.257	7,691.00	4,012.25	-1,468.32	3,947.76	0.00	0.00	0.00	
11,900.00	90.00	0.257	7,691.00	4,112.25	-1,467.87	4,047.69	0.00	0.00	0.00	
12,000.00	90.00	0.257	7,691.00	4,212.25	-1,467.42	4,147.62	0.00	0.00	0.00	
12,100.00	90.00	0.257	7,691.00	4,312.25	-1,466.97	4,247.56	0.00	0.00	0.00	
12,200.00	90.00	0.257	7,691.00	4,412.25	-1,466.52	4,347.49	0.00	0.00	0.00	
12,300.00	90.00	0.257	7,691.00	4,512.25	-1,466.08	4,447.42	0.00	0.00	0.00	
12,400.00	90.00	0.257	7,691.00	4,612.25	-1,465.63	4,547.35	0.00	0.00	0.00	
12,500.00	90.00	0.257	7,691.00	4,712.25	-1,465.18	4,647.28	0.00	0.00	0.00	
12,600.00	90.00	0.257	7,691.00	4,812.25	-1,464.73	4,747.21	0.00	0.00	0.00	
12,700.00	90.00	0.257	7,691.00	4,912.25	-1,464.28	4,847.14	0.00	0.00	0.00	
12,800.00	90.00	0.257	7,691.00	5,012.24	-1,463.83	4,947.07	0.00	0.00	0.00	
12,900.00	90.00	0.257	7,691.00	5,112.24	-1,463.38	5,047.01	0.00	0.00	0.00	
13,000.00	90.00	0.257	7,691.00	5,212.24	-1,462.94	5,146.94	0.00	0.00	0.00	
13,100.00	90.00	0.257	7,691.00	5,312.24	-1,462.49	5,246.87	0.00	0.00	0.00	
13,200.00	90.00	0.257	7,691.00	5,412.24	-1,462.04	5,346.80	0.00	0.00	0.00	
13,300.00	90.00	0.257	7,691.00	5,512.24	-1,461.59	5,446.73	0.00	0.00	0.00	
13,400.00	90.00	0.257	7,691.00	5,612.24	-1,461.14	5,546.66	0.00	0.00	0.00	
13,500.00	90.00	0.257	7,691.00	5,712.24	-1,460.69	5,646.59	0.00	0.00	0.00	
13,600.00	90.00	0.257	7,691.00	5,812.24	-1,460.24	5,746.52	0.00	0.00	0.00	
13,700.00	90.00	0.257	7,691.00	5,912.24	-1,459.80	5,846.46	0.00	0.00	0.00	
13,800.00	90.00	0.257	7,691.00	6,012.23	-1,459.35	5,946.39	0.00	0.00	0.00	
13,900.00	90.00	0.257	7,691.00	6,112.23	-1,458.90	6,046.32	0.00	0.00	0.00	
14,000.00	90.00	0.257	7,691.00	6,212.23	-1,458.45	6,146.25	0.00	0.00	0.00	
14,100.00	90.00	0.257	7,691.00	6,312.23	-1,458.00	6,246.18	0.00	0.00	0.00	



FLAT CREEK
RESOURCES

Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 14H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3356+26.5 @ 3382.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 14H	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)
14,200.00	90.00	0.257	7,691.00	6,412.23	-1,457.55	6,346.11	0.00	0.00	0.00
14,300.00	90.00	0.257	7,691.00	6,512.23	-1,457.10	6,446.04	0.00	0.00	0.00
14,400.00	90.00	0.257	7,691.00	6,612.23	-1,456.66	6,545.97	0.00	0.00	0.00
14,500.00	90.00	0.257	7,691.00	6,712.23	-1,456.21	6,645.91	0.00	0.00	0.00
14,600.00	90.00	0.257	7,691.00	6,812.23	-1,455.76	6,745.84	0.00	0.00	0.00
14,700.00	90.00	0.257	7,691.00	6,912.23	-1,455.31	6,845.77	0.00	0.00	0.00
14,800.00	90.00	0.257	7,691.00	7,012.22	-1,454.86	6,945.70	0.00	0.00	0.00
14,900.00	90.00	0.257	7,691.00	7,112.22	-1,454.41	7,045.63	0.00	0.00	0.00
15,000.00	90.00	0.257	7,691.00	7,212.22	-1,453.96	7,145.56	0.00	0.00	0.00
15,100.00	90.00	0.257	7,691.00	7,312.22	-1,453.52	7,245.49	0.00	0.00	0.00
15,200.00	90.00	0.257	7,691.00	7,412.22	-1,453.07	7,345.42	0.00	0.00	0.00
15,300.00	90.00	0.257	7,691.00	7,512.22	-1,452.62	7,445.36	0.00	0.00	0.00
15,400.00	90.00	0.257	7,691.00	7,612.22	-1,452.17	7,545.29	0.00	0.00	0.00
15,500.00	90.00	0.257	7,691.00	7,712.22	-1,451.72	7,645.22	0.00	0.00	0.00
15,600.00	90.00	0.257	7,691.00	7,812.22	-1,451.27	7,745.15	0.00	0.00	0.00
15,700.00	90.00	0.257	7,691.00	7,912.22	-1,450.83	7,845.08	0.00	0.00	0.00
15,800.00	90.00	0.257	7,691.00	8,012.21	-1,450.38	7,945.01	0.00	0.00	0.00
15,900.00	90.00	0.257	7,691.00	8,112.21	-1,449.93	8,044.94	0.00	0.00	0.00
16,000.00	90.00	0.257	7,691.00	8,212.21	-1,449.48	8,144.87	0.00	0.00	0.00
16,100.00	90.00	0.257	7,691.00	8,312.21	-1,449.03	8,244.81	0.00	0.00	0.00
16,200.00	90.00	0.257	7,691.00	8,412.21	-1,448.58	8,344.74	0.00	0.00	0.00
16,300.00	90.00	0.257	7,691.00	8,512.21	-1,448.13	8,444.67	0.00	0.00	0.00
16,400.00	90.00	0.257	7,691.00	8,612.21	-1,447.69	8,544.60	0.00	0.00	0.00
16,500.00	90.00	0.257	7,691.00	8,712.21	-1,447.24	8,644.53	0.00	0.00	0.00
16,600.00	90.00	0.257	7,691.00	8,812.21	-1,446.79	8,744.46	0.00	0.00	0.00
16,700.00	90.00	0.257	7,691.00	8,912.21	-1,446.34	8,844.39	0.00	0.00	0.00
16,800.00	90.00	0.257	7,691.00	9,012.20	-1,445.89	8,944.32	0.00	0.00	0.00
16,900.00	90.00	0.257	7,691.00	9,112.20	-1,445.44	9,044.25	0.00	0.00	0.00
17,000.00	90.00	0.257	7,691.00	9,212.20	-1,444.99	9,144.19	0.00	0.00	0.00
17,100.00	90.00	0.257	7,691.00	9,312.20	-1,444.55	9,244.12	0.00	0.00	0.00
17,200.00	90.00	0.257	7,691.00	9,412.20	-1,444.10	9,344.05	0.00	0.00	0.00
17,300.00	90.00	0.257	7,691.00	9,512.20	-1,443.65	9,443.98	0.00	0.00	0.00
17,400.00	90.00	0.257	7,691.00	9,612.20	-1,443.20	9,543.91	0.00	0.00	0.00
17,500.00	90.00	0.257	7,691.00	9,712.20	-1,442.75	9,643.84	0.00	0.00	0.00
17,600.00	90.00	0.257	7,691.00	9,812.20	-1,442.30	9,743.77	0.00	0.00	0.00
17,700.00	90.00	0.257	7,691.00	9,912.20	-1,441.85	9,843.70	0.00	0.00	0.00
17,800.00	90.00	0.257	7,691.00	10,012.19	-1,441.41	9,943.64	0.00	0.00	0.00
17,900.00	90.00	0.257	7,691.00	10,112.19	-1,440.96	10,043.57	0.00	0.00	0.00
18,000.00	90.00	0.257	7,691.00	10,212.19	-1,440.51	10,143.50	0.00	0.00	0.00
18,100.00	90.00	0.257	7,691.00	10,312.19	-1,440.06	10,243.43	0.00	0.00	0.00
18,135.03	90.00	0.257	7,691.00	10,347.22	-1,439.90	10,278.44	0.00	0.00	0.00
LTP @ 18135.03 MD 7691.00 TVD									
18,185.02	90.00	0.257	7,691.00	10,397.21	-1,439.68	10,328.39	0.00	0.00	0.00
PBHL/TD @ 18185.02 MD 7691.00 TVD									



FLAT CREEK
RESOURCES

Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 14H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3356+26.5 @ 3382.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 14H	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 02 FTP 100 F5 - plan hits target center - Rectangle (sides W660.00 H10,493.41 D0.00)	0.00	0.257	7,000.00	-153.30	-1,487.00	418,930.900	521,753.300	32.151738316	-104.263044203
Jawbone 02 BHL 50 FNI - plan misses target center by 0.22ft at 18185.02ft MD (7691.00 TVD, 10397.21 N, -1439.68 E) - Point	0.00	0.000	7,691.00	10,397.22	-1,439.90	429,481.400	521,800.400	32.180741753	-104.262869693
Jawbone 02 LTP 100 FN - plan hits target center - Point	0.00	0.000	7,691.00	10,347.22	-1,439.90	429,431.400	521,800.400	32.180604303	-104.262869799

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)		
700.00	700.00	0.00	0.00	KOP Begin 2°/100' build	
1,454.95	1,446.25	-10.14	-98.38	Begin 15.10° tangent	
6,434.37	6,253.75	-143.16	-1,388.62	Begin 2°/100' drop	
7,189.32	7,000.00	-153.30	-1,487.00	Begin vertical hold @ 7000.00 TVD	
7,307.36	7,118.04	-153.30	-1,487.00	Begin 10°/100' build	
8,207.36	7,691.00	419.65	-1,484.43	Begin 90.00° lateral	
18,135.03	7,691.00	10,347.22	-1,439.90	LTP @ 18135.03 MD 7691.00 TVD	
18,185.02	7,691.00	10,397.21	-1,439.68	PBHL/TD @ 18185.02 MD 7691.00 TVD	



FLAT CREEK
RESOURCES

Planning Report - Geographic

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Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3356+26.5 @ 3382.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 14H	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 14H, Surf loc: 1070 FEL 200 FSL Section 02-T25S-R26E					
Well Position	+N/-S	0.00 ft	Northing:	419,084.200 usft	Latitude:	32.152156982
	+E/-W	0.00 ft	Easting:	523,240.300 usft	Longitude:	-104.258239075
Position Uncertainty	0.00 ft		Wellhead Elevation:	ft	Ground Level:	3,356.00 ft
Grid Convergence:						

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2020	8/30/2023	6.60	59.66	47,151.46407316

Design	rev1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	2.382

Plan Survey Tool Program		Date			
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks	
(ft)	(ft)				
1	0.00	18,185.02 rev1 (Original Hole)			



FLAT CREEK
RESOURCES

Planning Report - Geographic

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Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 14H	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	
700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,454.95	15.10	264.114	1,446.25	-10.14	-98.38	2.00	2.00	0.00	264.11	
6,434.37	15.10	264.114	6,253.75	-143.16	-1,388.62	0.00	0.00	0.00	0.00	
7,189.32	0.00	0.000	7,000.00	-153.30	-1,487.00	2.00	-2.00	0.00	180.00	Jawbone 02 FTP 100
7,307.36	0.00	0.000	7,118.04	-153.30	-1,487.00	0.00	0.00	0.00	0.00	
8,207.36	90.00	0.257	7,691.00	419.65	-1,484.43	10.00	10.00	0.03	0.26	
18,135.03	90.00	0.257	7,691.00	10,347.22	-1,439.90	0.00	0.00	0.00	0.00	Jawbone 02 LTP 100
18,185.02	90.00	0.257	7,691.00	10,397.21	-1,439.68	0.00	0.00	0.00	0.00	Jawbone 02 BHL 50 F



FLAT CREEK
RESOURCES

Planning Report - Geographic

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Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 14H	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	419,084.200	523,240.300	32.152156982	-104.258239075	
100.00	0.00	0.000	100.00	0.00	0.00	419,084.200	523,240.300	32.152156982	-104.258239075	
200.00	0.00	0.000	200.00	0.00	0.00	419,084.200	523,240.300	32.152156982	-104.258239075	
300.00	0.00	0.000	300.00	0.00	0.00	419,084.200	523,240.300	32.152156982	-104.258239075	
400.00	0.00	0.000	400.00	0.00	0.00	419,084.200	523,240.300	32.152156982	-104.258239075	
500.00	0.00	0.000	500.00	0.00	0.00	419,084.200	523,240.300	32.152156982	-104.258239075	
600.00	0.00	0.000	600.00	0.00	0.00	419,084.200	523,240.300	32.152156982	-104.258239075	
700.00	0.00	0.000	700.00	0.00	0.00	419,084.200	523,240.300	32.152156982	-104.258239075	
KOP Begin 2°/100' build										
800.00	2.00	264.114	799.98	-0.18	-1.74	419,084.021	523,238.564	32.152156493	-104.258244685	
900.00	4.00	264.114	899.84	-0.72	-6.94	419,083.484	523,233.358	32.152155028	-104.258261507	
1,000.00	6.00	264.114	999.45	-1.61	-15.61	419,082.591	523,224.689	32.152152587	-104.258289520	
1,100.00	8.00	264.114	1,098.70	-2.86	-27.73	419,081.341	523,212.567	32.152149175	-104.258328692	
1,200.00	10.00	264.114	1,197.47	-4.46	-43.29	419,079.737	523,197.007	32.152144795	-104.258378974	
1,300.00	12.00	264.114	1,295.62	-6.42	-62.27	419,077.780	523,178.028	32.152139452	-104.258440304	
1,400.00	14.00	264.114	1,393.06	-8.73	-84.65	419,075.473	523,155.652	32.152133154	-104.258512609	
1,454.95	15.10	264.114	1,446.25	-10.14	-98.38	419,074.058	523,141.920	32.152129288	-104.258556983	
Begin 15.10° tangent										
1,500.00	15.10	264.114	1,489.74	-11.35	-110.05	419,072.854	523,130.248	32.152126003	-104.258594702	
1,600.00	15.10	264.114	1,586.28	-14.02	-135.96	419,070.183	523,104.337	32.152118709	-104.258678433	
1,700.00	15.10	264.114	1,682.83	-16.69	-161.88	419,067.512	523,078.425	32.152111414	-104.258762164	
1,800.00	15.10	264.114	1,779.38	-19.36	-187.79	419,064.841	523,052.514	32.152104120	-104.258845895	
1,900.00	15.10	264.114	1,875.93	-22.03	-213.70	419,062.169	523,026.602	32.152096826	-104.258929627	
2,000.00	15.10	264.114	1,972.48	-24.70	-239.61	419,059.498	523,000.691	32.152089532	-104.259013358	
2,100.00	15.10	264.114	2,069.02	-27.37	-265.52	419,056.827	522,974.779	32.152082237	-104.259097089	
2,200.00	15.10	264.114	2,165.57	-30.04	-291.43	419,054.155	522,948.868	32.152074943	-104.259180820	
2,300.00	15.10	264.114	2,262.12	-32.72	-317.34	419,051.484	522,922.956	32.152067649	-104.259264552	
2,400.00	15.10	264.114	2,358.67	-35.39	-343.26	419,048.813	522,897.045	32.152060354	-104.259348283	
2,500.00	15.10	264.114	2,455.21	-38.06	-369.17	419,046.141	522,871.133	32.152053060	-104.259432014	
2,600.00	15.10	264.114	2,551.76	-40.73	-395.08	419,043.470	522,845.222	32.152045765	-104.259515745	
2,700.00	15.10	264.114	2,648.31	-43.40	-420.99	419,040.799	522,819.310	32.152038470	-104.259599477	
2,800.00	15.10	264.114	2,744.86	-46.07	-446.90	419,038.127	522,793.399	32.152031176	-104.259683208	
2,900.00	15.10	264.114	2,841.40	-48.74	-472.81	419,035.456	522,767.487	32.152023881	-104.259766939	
3,000.00	15.10	264.114	2,937.95	-51.42	-498.73	419,032.785	522,741.576	32.152016586	-104.259850670	
3,100.00	15.10	264.114	3,034.50	-54.09	-524.64	419,030.114	522,715.664	32.152009291	-104.259934401	
3,200.00	15.10	264.114	3,131.05	-56.76	-550.55	419,027.442	522,689.753	32.152001996	-104.260018132	
3,300.00	15.10	264.114	3,227.60	-59.43	-576.46	419,024.771	522,663.841	32.151994701	-104.260101863	
3,400.00	15.10	264.114	3,324.14	-62.10	-602.37	419,022.100	522,637.930	32.151987406	-104.260185594	
3,500.00	15.10	264.114	3,420.69	-64.77	-628.28	419,019.428	522,612.018	32.151980111	-104.260269325	
3,600.00	15.10	264.114	3,517.24	-67.44	-654.19	419,016.757	522,586.107	32.151972816	-104.260353057	
3,700.00	15.10	264.114	3,613.79	-70.11	-680.11	419,014.086	522,560.195	32.151965520	-104.260436788	
3,800.00	15.10	264.114	3,710.33	-72.79	-706.02	419,011.414	522,534.284	32.151958225	-104.260520519	
3,900.00	15.10	264.114	3,806.88	-75.46	-731.93	419,008.743	522,508.372	32.151950930	-104.260604250	
4,000.00	15.10	264.114	3,903.43	-78.13	-757.84	419,006.072	522,482.461	32.151943634	-104.260687981	
4,100.00	15.10	264.114	3,999.98	-80.80	-783.75	419,003.401	522,456.549	32.151936339	-104.260771712	
4,200.00	15.10	264.114	4,096.52	-83.47	-809.66	419,000.729	522,430.638	32.151929043	-104.260855443	
4,300.00	15.10	264.114	4,193.07	-86.14	-835.58	418,998.058	522,404.726	32.151921748	-104.260939174	
4,400.00	15.10	264.114	4,289.62	-88.81	-861.49	418,995.387	522,378.815	32.151914452	-104.261022905	
4,500.00	15.10	264.114	4,386.17	-91.49	-887.40	418,992.715	522,352.903	32.151907157	-104.261106635	
4,600.00	15.10	264.114	4,482.72	-94.16	-913.31	418,990.044	522,326.992	32.151899861	-104.261190366	
4,700.00	15.10	264.114	4,579.26	-96.83	-939.22	418,987.373	522,301.080	32.151892565	-104.261274097	
4,800.00	15.10	264.114	4,675.81	-99.50	-965.13	418,984.701	522,275.169	32.151885269	-104.261357828	
4,900.00	15.10	264.114	4,772.36	-102.17	-991.04	418,982.030	522,249.257	32.151877973	-104.261441559	
5,000.00	15.10	264.114	4,868.91	-104.84	-1,016.96	418,979.359	522,223.346	32.151870677	-104.261525290	



FLAT CREEK
RESOURCES

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Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 14H	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	
5,100.00	15.10	264.114	4,965.45	-107.51	-1,042.87	418,976.687	522,197.435	32.151863381	-104.261609021	
5,200.00	15.10	264.114	5,062.00	-110.18	-1,068.78	418,974.016	522,171.523	32.151856085	-104.261692752	
5,300.00	15.10	264.114	5,158.55	-112.86	-1,094.69	418,971.345	522,145.612	32.151848789	-104.261776482	
5,400.00	15.10	264.114	5,255.10	-115.53	-1,120.60	418,968.674	522,119.700	32.151841493	-104.261860213	
5,500.00	15.10	264.114	5,351.64	-118.20	-1,146.51	418,966.002	522,093.789	32.151834197	-104.261943944	
5,600.00	15.10	264.114	5,448.19	-120.87	-1,172.43	418,963.331	522,067.877	32.151826901	-104.262027675	
5,700.00	15.10	264.114	5,544.74	-123.54	-1,198.34	418,960.660	522,041.966	32.151819604	-104.262111406	
5,800.00	15.10	264.114	5,641.29	-126.21	-1,224.25	418,957.988	522,016.054	32.151812308	-104.262195136	
5,900.00	15.10	264.114	5,737.84	-128.88	-1,250.16	418,955.317	521,990.143	32.151805011	-104.262278867	
6,000.00	15.10	264.114	5,834.38	-131.55	-1,276.07	418,952.646	521,964.231	32.151797715	-104.262362598	
6,100.00	15.10	264.114	5,930.93	-134.23	-1,301.98	418,949.974	521,938.320	32.151790418	-104.262446329	
6,200.00	15.10	264.114	6,027.48	-136.90	-1,327.89	418,947.303	521,912.408	32.151783122	-104.262530059	
6,300.00	15.10	264.114	6,124.03	-139.57	-1,353.81	418,944.632	521,886.497	32.151775825	-104.262613790	
6,400.00	15.10	264.114	6,220.57	-142.24	-1,379.72	418,941.960	521,860.585	32.151768528	-104.262697521	
6,434.37	15.10	264.114	6,253.75	-143.16	-1,388.62	418,941.042	521,851.680	32.151766021	-104.262726297	
Begin 2°/100' drop										
6,500.00	13.79	264.114	6,317.31	-144.84	-1,404.91	418,939.364	521,835.397	32.151761435	-104.262778914	
6,600.00	11.79	264.114	6,414.83	-147.11	-1,426.92	418,937.094	521,813.383	32.151755236	-104.262850049	
6,700.00	9.79	264.114	6,513.06	-149.03	-1,445.54	418,935.175	521,794.768	32.151749994	-104.262910203	
6,800.00	7.79	264.114	6,611.88	-150.59	-1,460.73	418,933.609	521,779.574	32.151745715	-104.262959300	
6,900.00	5.79	264.114	6,711.17	-151.80	-1,472.48	418,932.397	521,767.820	32.151742405	-104.262997282	
7,000.00	3.79	264.114	6,810.82	-152.66	-1,480.78	418,931.541	521,759.521	32.151740068	-104.263024102	
7,100.00	1.79	264.114	6,910.69	-153.16	-1,485.62	418,931.043	521,754.685	32.151738706	-104.263039727	
7,189.32	0.00	0.000	7,000.00	-153.30	-1,487.00	418,930.900	521,753.300	32.151738316	-104.263044203	
Begin vertical hold @ 7000.00 TVD										
7,200.00	0.00	0.000	7,010.68	-153.30	-1,487.00	418,930.900	521,753.300	32.151738316	-104.263044203	
7,307.36	0.00	0.000	7,118.04	-153.30	-1,487.00	418,930.900	521,753.300	32.151738316	-104.263044203	
Begin 10°/100' build										
7,350.00	4.26	0.257	7,160.64	-151.71	-1,487.00	418,932.486	521,753.307	32.151742676	-104.263044176	
7,400.00	9.26	0.257	7,210.28	-145.83	-1,486.97	418,938.373	521,753.334	32.151758859	-104.263044078	
7,450.00	14.26	0.257	7,259.21	-135.64	-1,486.92	418,948.564	521,753.379	32.151786873	-104.263043909	
7,500.00	19.26	0.257	7,307.07	-121.22	-1,486.86	418,962.980	521,753.444	32.151826505	-104.263043670	
7,550.00	24.26	0.257	7,353.49	-102.69	-1,486.78	418,981.513	521,753.527	32.151877453	-104.263043362	
7,600.00	29.26	0.257	7,398.12	-80.18	-1,486.68	419,004.022	521,753.628	32.151939328	-104.263042988	
7,650.00	34.26	0.257	7,440.62	-53.87	-1,486.56	419,030.334	521,753.746	32.152011662	-104.263042552	
7,700.00	39.26	0.257	7,480.66	-23.95	-1,486.42	419,060.250	521,753.880	32.152093901	-104.263042055	
7,750.00	44.26	0.257	7,517.94	9.34	-1,486.27	419,093.542	521,754.030	32.152185422	-104.263041502	
7,800.00	49.26	0.257	7,552.18	45.76	-1,486.11	419,129.957	521,754.193	32.152285527	-104.263040898	
7,850.00	54.26	0.257	7,583.12	85.02	-1,485.93	419,169.218	521,754.369	32.152393455	-104.263040246	
7,900.00	59.26	0.257	7,610.51	126.82	-1,485.75	419,211.025	521,754.557	32.152508384	-104.263039552	
7,950.00	64.26	0.257	7,634.16	170.86	-1,485.55	419,255.061	521,754.754	32.152629439	-104.263038820	
8,000.00	69.26	0.257	7,653.88	216.79	-1,485.34	419,300.990	521,754.960	32.152755699	-104.263038058	
8,050.00	74.26	0.257	7,669.52	264.26	-1,485.13	419,348.463	521,755.173	32.152886203	-104.263037270	
8,100.00	79.26	0.257	7,680.97	312.92	-1,484.91	419,397.119	521,755.391	32.153019959	-104.263036462	
8,150.00	84.26	0.257	7,688.13	362.39	-1,484.69	419,446.587	521,755.613	32.153155947	-104.263035640	
8,200.00	89.26	0.257	7,690.95	412.29	-1,484.47	419,496.490	521,755.837	32.153293133	-104.263034812	
8,207.36	90.00	0.257	7,691.00	419.65	-1,484.43	419,503.851	521,755.870	32.153313367	-104.263034690	
Begin 90.00° lateral										
8,300.00	90.00	0.257	7,691.00	512.29	-1,484.02	419,596.489	521,756.286	32.153568031	-104.263033152	
8,400.00	90.00	0.257	7,691.00	612.29	-1,483.57	419,696.488	521,756.734	32.153842930	-104.263031491	
8,500.00	90.00	0.257	7,691.00	712.29	-1,483.12	419,796.487	521,757.183	32.154117828	-104.263029831	
8,600.00	90.00	0.257	7,691.00	812.29	-1,482.67	419,896.485	521,757.631	32.154392726	-104.263028170	
8,700.00	90.00	0.257	7,691.00	912.29	-1,482.22	419,996.484	521,758.080	32.154667624	-104.263026510	
8,800.00	90.00	0.257	7,691.00	1,012.28	-1,481.77	420,096.483	521,758.528	32.154942523	-104.263024850	



FLAT CREEK
RESOURCES

Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 14H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3356+26.5 @ 3382.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 14H	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	
8,900.00	90.00	0.257	7,691.00	1,112.28	-1,481.33	420,196.482	521,758.977	32.155217421	-104.263023189	
9,000.00	90.00	0.257	7,691.00	1,212.28	-1,480.88	420,296.481	521,759.426	32.155492319	-104.263021529	
9,100.00	90.00	0.257	7,691.00	1,312.28	-1,480.43	420,396.479	521,759.874	32.155767217	-104.263019868	
9,200.00	90.00	0.257	7,691.00	1,412.28	-1,479.98	420,496.478	521,760.323	32.156042116	-104.263018208	
9,300.00	90.00	0.257	7,691.00	1,512.28	-1,479.53	420,596.477	521,760.771	32.156317014	-104.263016547	
9,400.00	90.00	0.257	7,691.00	1,612.28	-1,479.08	420,696.476	521,761.220	32.156591912	-104.263014887	
9,500.00	90.00	0.257	7,691.00	1,712.28	-1,478.63	420,796.474	521,761.668	32.156866810	-104.263013226	
9,600.00	90.00	0.257	7,691.00	1,812.28	-1,478.19	420,896.473	521,762.117	32.157141708	-104.263011566	
9,700.00	90.00	0.257	7,691.00	1,912.28	-1,477.74	420,996.472	521,762.565	32.157416606	-104.263009905	
9,800.00	90.00	0.257	7,691.00	2,012.27	-1,477.29	421,096.471	521,763.014	32.157691505	-104.263008245	
9,900.00	90.00	0.257	7,691.00	2,112.27	-1,476.84	421,196.470	521,763.462	32.157966403	-104.263006584	
10,000.00	90.00	0.257	7,691.00	2,212.27	-1,476.39	421,296.468	521,763.911	32.158241301	-104.263004924	
10,100.00	90.00	0.257	7,691.00	2,312.27	-1,475.94	421,396.467	521,764.360	32.158516198	-104.263003263	
10,200.00	90.00	0.257	7,691.00	2,412.27	-1,475.50	421,496.466	521,764.808	32.158791096	-104.263001603	
10,300.00	90.00	0.257	7,691.00	2,512.27	-1,475.05	421,596.465	521,765.257	32.159065994	-104.262999942	
10,400.00	90.00	0.257	7,691.00	2,612.27	-1,474.60	421,696.464	521,765.705	32.159340892	-104.262998281	
10,500.00	90.00	0.257	7,691.00	2,712.27	-1,474.15	421,796.462	521,766.154	32.159615790	-104.262996621	
10,600.00	90.00	0.257	7,691.00	2,812.27	-1,473.70	421,896.461	521,766.602	32.159890688	-104.262994960	
10,700.00	90.00	0.257	7,691.00	2,912.27	-1,473.25	421,996.460	521,767.051	32.160165586	-104.262993300	
10,800.00	90.00	0.257	7,691.00	3,012.26	-1,472.80	422,096.459	521,767.499	32.160440484	-104.262991639	
10,900.00	90.00	0.257	7,691.00	3,112.26	-1,472.36	422,196.458	521,767.948	32.160715382	-104.262989978	
11,000.00	90.00	0.257	7,691.00	3,212.26	-1,471.91	422,296.456	521,768.396	32.160990280	-104.262988318	
11,100.00	90.00	0.257	7,691.00	3,312.26	-1,471.46	422,396.455	521,768.845	32.161265178	-104.262986657	
11,200.00	90.00	0.257	7,691.00	3,412.26	-1,471.01	422,496.454	521,769.294	32.161540076	-104.262984996	
11,300.00	90.00	0.257	7,691.00	3,512.26	-1,470.56	422,596.453	521,769.742	32.161814974	-104.262983336	
11,400.00	90.00	0.257	7,691.00	3,612.26	-1,470.11	422,696.451	521,770.191	32.162089872	-104.262981675	
11,500.00	90.00	0.257	7,691.00	3,712.26	-1,469.66	422,796.450	521,770.639	32.162364770	-104.262980014	
11,600.00	90.00	0.257	7,691.00	3,812.26	-1,469.22	422,896.449	521,771.088	32.162639668	-104.262978353	
11,700.00	90.00	0.257	7,691.00	3,912.26	-1,468.77	422,996.448	521,771.536	32.162914566	-104.262976693	
11,800.00	90.00	0.257	7,691.00	4,012.25	-1,468.32	423,096.447	521,771.985	32.163189464	-104.262975032	
11,900.00	90.00	0.257	7,691.00	4,112.25	-1,467.87	423,196.445	521,772.433	32.163464362	-104.262973371	
12,000.00	90.00	0.257	7,691.00	4,212.25	-1,467.42	423,296.444	521,772.882	32.163739260	-104.262971710	
12,100.00	90.00	0.257	7,691.00	4,312.25	-1,466.97	423,396.443	521,773.330	32.164014158	-104.262970050	
12,200.00	90.00	0.257	7,691.00	4,412.25	-1,466.52	423,496.442	521,773.779	32.164289055	-104.262968389	
12,300.00	90.00	0.257	7,691.00	4,512.25	-1,466.08	423,596.441	521,774.228	32.164563953	-104.262966728	
12,400.00	90.00	0.257	7,691.00	4,612.25	-1,465.63	423,696.439	521,774.676	32.164838851	-104.262965067	
12,500.00	90.00	0.257	7,691.00	4,712.25	-1,465.18	423,796.438	521,775.125	32.165113749	-104.262963406	
12,600.00	90.00	0.257	7,691.00	4,812.25	-1,464.73	423,896.437	521,775.573	32.165388647	-104.262961746	
12,700.00	90.00	0.257	7,691.00	4,912.25	-1,464.28	423,996.436	521,776.022	32.165663544	-104.262960085	
12,800.00	90.00	0.257	7,691.00	5,012.24	-1,463.83	424,096.435	521,776.470	32.165938442	-104.262958424	
12,900.00	90.00	0.257	7,691.00	5,112.24	-1,463.38	424,196.433	521,776.919	32.166213340	-104.262956763	
13,000.00	90.00	0.257	7,691.00	5,212.24	-1,462.94	424,296.432	521,777.367	32.166488238	-104.262955102	
13,100.00	90.00	0.257	7,691.00	5,312.24	-1,462.49	424,396.431	521,777.816	32.166763136	-104.262953441	
13,200.00	90.00	0.257	7,691.00	5,412.24	-1,462.04	424,496.430	521,778.264	32.167038033	-104.262951780	
13,300.00	90.00	0.257	7,691.00	5,512.24	-1,461.59	424,596.428	521,778.713	32.167312931	-104.262950119	
13,400.00	90.00	0.257	7,691.00	5,612.24	-1,461.14	424,696.427	521,779.161	32.167587829	-104.262948458	
13,500.00	90.00	0.257	7,691.00	5,712.24	-1,460.69	424,796.426	521,779.610	32.167862726	-104.262946797	
13,600.00	90.00	0.257	7,691.00	5,812.24	-1,460.24	424,896.425	521,780.059	32.168137624	-104.262945136	
13,700.00	90.00	0.257	7,691.00	5,912.24	-1,459.80	424,996.424	521,780.507	32.168412522	-104.262943475	
13,800.00	90.00	0.257	7,691.00	6,012.23	-1,459.35	425,096.422	521,780.956	32.168687419	-104.262941814	
13,900.00	90.00	0.257	7,691.00	6,112.23	-1,458.90	425,196.421	521,781.404	32.168962317	-104.262940153	
14,000.00	90.00	0.257	7,691.00	6,212.23	-1,458.45	425,296.420	521,781.853	32.169237215	-104.262938492	
14,100.00	90.00	0.257	7,691.00	6,312.23	-1,458.00	425,396.419	521,782.301	32.169512112	-104.262936831	
14,200.00	90.00	0.257	7,691.00	6,412.23	-1,457.55	425,496.418	521,782.750	32.169787010	-104.262935170	
14,300.00	90.00	0.257	7,691.00	6,512.23	-1,457.10	425,596.416	521,783.198	32.170061907	-104.262933509	



FLAT CREEK
RESOURCES

Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 14H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3356+26.5 @ 3382.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 14H	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	
14,400.00	90.00	0.257	7,691.00	6,612.23	-1,456.66	425,696.415	521,783.647	32.170336805	-104.262931848	
14,500.00	90.00	0.257	7,691.00	6,712.23	-1,456.21	425,796.414	521,784.095	32.170611703	-104.262930187	
14,600.00	90.00	0.257	7,691.00	6,812.23	-1,455.76	425,896.413	521,784.544	32.170886600	-104.262928526	
14,700.00	90.00	0.257	7,691.00	6,912.23	-1,455.31	425,996.412	521,784.993	32.171161498	-104.262926865	
14,800.00	90.00	0.257	7,691.00	7,012.22	-1,454.86	426,096.410	521,785.441	32.171436395	-104.262925204	
14,900.00	90.00	0.257	7,691.00	7,112.22	-1,454.41	426,196.409	521,785.890	32.171711293	-104.262923543	
15,000.00	90.00	0.257	7,691.00	7,212.22	-1,453.96	426,296.408	521,786.338	32.171986190	-104.262921882	
15,100.00	90.00	0.257	7,691.00	7,312.22	-1,453.52	426,396.407	521,786.787	32.172261088	-104.262920221	
15,200.00	90.00	0.257	7,691.00	7,412.22	-1,453.07	426,496.405	521,787.235	32.172535985	-104.262918559	
15,300.00	90.00	0.257	7,691.00	7,512.22	-1,452.62	426,596.404	521,787.684	32.172810883	-104.262916898	
15,400.00	90.00	0.257	7,691.00	7,612.22	-1,452.17	426,696.403	521,788.132	32.173085780	-104.262915237	
15,500.00	90.00	0.257	7,691.00	7,712.22	-1,451.72	426,796.402	521,788.581	32.173360678	-104.262913576	
15,600.00	90.00	0.257	7,691.00	7,812.22	-1,451.27	426,896.401	521,789.029	32.173635575	-104.262911915	
15,700.00	90.00	0.257	7,691.00	7,912.22	-1,450.83	426,996.399	521,789.478	32.173910473	-104.262910253	
15,800.00	90.00	0.257	7,691.00	8,012.21	-1,450.38	427,096.398	521,789.927	32.174185370	-104.262908592	
15,900.00	90.00	0.257	7,691.00	8,112.21	-1,449.93	427,196.397	521,790.375	32.174460267	-104.262906931	
16,000.00	90.00	0.257	7,691.00	8,212.21	-1,449.48	427,296.396	521,790.824	32.174735165	-104.262905270	
16,100.00	90.00	0.257	7,691.00	8,312.21	-1,449.03	427,396.395	521,791.272	32.175010062	-104.262903609	
16,200.00	90.00	0.257	7,691.00	8,412.21	-1,448.58	427,496.393	521,791.721	32.175284960	-104.262901947	
16,300.00	90.00	0.257	7,691.00	8,512.21	-1,448.13	427,596.392	521,792.169	32.175559857	-104.262900286	
16,400.00	90.00	0.257	7,691.00	8,612.21	-1,447.69	427,696.391	521,792.618	32.175834754	-104.262898625	
16,500.00	90.00	0.257	7,691.00	8,712.21	-1,447.24	427,796.390	521,793.066	32.176109652	-104.262896963	
16,600.00	90.00	0.257	7,691.00	8,812.21	-1,446.79	427,896.389	521,793.515	32.176384549	-104.262895302	
16,700.00	90.00	0.257	7,691.00	8,912.21	-1,446.34	427,996.387	521,793.963	32.176659446	-104.262893641	
16,800.00	90.00	0.257	7,691.00	9,012.20	-1,445.89	428,096.386	521,794.412	32.176934343	-104.262891979	
16,900.00	90.00	0.257	7,691.00	9,112.20	-1,445.44	428,196.385	521,794.861	32.177209241	-104.262890318	
17,000.00	90.00	0.257	7,691.00	9,212.20	-1,444.99	428,296.384	521,795.309	32.177484138	-104.262888657	
17,100.00	90.00	0.257	7,691.00	9,312.20	-1,444.55	428,396.382	521,795.758	32.177759035	-104.262886995	
17,200.00	90.00	0.257	7,691.00	9,412.20	-1,444.10	428,496.381	521,796.206	32.178033933	-104.262885334	
17,300.00	90.00	0.257	7,691.00	9,512.20	-1,443.65	428,596.380	521,796.655	32.178308830	-104.262883673	
17,400.00	90.00	0.257	7,691.00	9,612.20	-1,443.20	428,696.379	521,797.103	32.178583727	-104.262882011	
17,500.00	90.00	0.257	7,691.00	9,712.20	-1,442.75	428,796.378	521,797.552	32.178858624	-104.262880350	
17,600.00	90.00	0.257	7,691.00	9,812.20	-1,442.30	428,896.376	521,798.000	32.179133521	-104.262878688	
17,700.00	90.00	0.257	7,691.00	9,912.20	-1,441.85	428,996.375	521,798.449	32.179408419	-104.262877027	
17,800.00	90.00	0.257	7,691.00	10,012.19	-1,441.41	429,096.374	521,798.897	32.179683316	-104.262875365	
17,900.00	90.00	0.257	7,691.00	10,112.19	-1,440.96	429,196.373	521,799.346	32.179958213	-104.262873704	
18,000.00	90.00	0.257	7,691.00	10,212.19	-1,440.51	429,296.372	521,799.795	32.180233110	-104.262872043	
18,100.00	90.00	0.257	7,691.00	10,312.19	-1,440.06	429,396.370	521,800.243	32.180508007	-104.262870381	
18,135.03	90.00	0.257	7,691.00	10,347.22	-1,439.90	429,431.400	521,800.400	32.180604303	-104.262869799	
LTP @ 18135.03 MD 7691.00 TVD										
18,185.02	90.00	0.257	7,691.00	10,397.21	-1,439.68	429,481.390	521,800.624	32.180741727	-104.262868968	
PBHL/TD @ 18185.02 MD 7691.00 TVD										



FLAT CREEK
RESOURCES

Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 14H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3356+26.5 @ 3382.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com LW 14H	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 02 FTP 100 F5 - plan hits target center - Rectangle (sides W660.00 H10,493.41 D0.00)	0.00	0.257	7,000.00	-153.30	-1,487.00	418,930.900	521,753.300	32.151738316	-104.263044203
Jawbone 02 BHL 50 FNI - plan misses target center by 0.22ft at 18185.02ft MD (7691.00 TVD, 10397.21 N, -1439.68 E) - Point	0.00	0.000	7,691.00	10,397.22	-1,439.90	429,481.400	521,800.400	32.180741753	-104.262869693
Jawbone 02 LTP 100 FN - plan hits target center - Point	0.00	0.000	7,691.00	10,347.22	-1,439.90	429,431.400	521,800.400	32.180604303	-104.262869799

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)		
700.00	700.00	0.00	0.00	KOP Begin 2°/100' build	
1,454.95	1,446.25	-10.14	-98.38	Begin 15.10° tangent	
6,434.37	6,253.75	-143.16	-1,388.62	Begin 2°/100' drop	
7,189.32	7,000.00	-153.30	-1,487.00	Begin vertical hold @ 7000.00 TVD	
7,307.36	7,118.04	-153.30	-1,487.00	Begin 10°/100' build	
8,207.36	7,691.00	419.65	-1,484.43	Begin 90.00° lateral	
18,135.03	7,691.00	10,347.22	-1,439.90	LTP @ 18135.03 MD 7691.00 TVD	
18,185.02	7,691.00	10,397.21	-1,439.68	PBHL/TD @ 18185.02 MD 7691.00 TVD	



Anticollision Report

Company:	Flat Creek Resources, LLC	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 14H
Project:	Eddy County, New Mexico NAD27 NME	TVD Reference:	RKB=3356+26.5 @ 3382.50ft
Reference Site:	Jawbone	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Jawbone Fed Com LW 14H	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 2,018.50ft	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	18,185.02	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 13H - Original Hole - rev1	700.00	699.00	19.91	13.88	3.301	CC, ES
Jawbone Fed Com LW 13H - Original Hole - rev1	800.00	798.98	21.65	14.98	3.243	SF

Offset Design:	Jawbone - Jawbone Fed Com LW 13H - Original Hole - rev1										Offset Site Error:	0.00 ft
Survey Program:	0-MWD										Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Highside		Offset Wellbore Centre		Distance		Minimum Separation	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	(ft)	
0.00	0.00	0.00	0.00	0.00	0.00	87.99	0.70	19.90	19.94	19.08	0.83	23.894
100.00	100.00	99.00	99.00	0.42	0.41	87.99	0.70	19.90	19.91	17.43	2.49	8.009
200.00	200.00	199.00	199.00	1.25	1.24	87.99	0.70	19.90	19.91	16.43	3.48	5.720
300.00	300.00	299.00	299.00	1.74	1.74	87.99	0.70	19.90	19.91	15.66	4.26	4.680
400.00	400.00	399.00	399.00	2.13	2.13	87.99	0.70	19.90	19.91	15.00	4.91	4.052
500.00	500.00	499.00	499.00	2.46	2.46	87.99	0.70	19.90	19.91	14.41	5.50	3.621
600.00	600.00	599.00	599.00	2.75	2.75	87.99	0.70	19.90	19.91	13.88	6.03	3.301 CC, ES
700.00	700.00	699.00	699.00	3.02	3.01	87.99	0.70	19.90	19.91	14.98	6.68	3.243 SF
800.00	799.98	798.98	798.98	3.42	3.26	-176.44	0.70	19.90	21.65	19.10	7.78	3.454
900.00	899.84	898.84	898.84	4.29	3.49	-177.13	0.70	19.90	26.88	15.00	8.75	4.066
1,000.00	999.45	998.45	998.45	5.04	3.71	-177.82	0.70	19.90	35.59	144.41	13.03	12.084
1,100.00	1,098.70	1,096.18	1,096.16	5.73	4.02	-177.65	0.20	21.44	49.29	39.56	9.73	5.066
1,200.00	1,197.47	1,192.24	1,192.10	6.37	4.73	-176.65	-1.28	26.04	69.54	58.55	10.99	6.326
1,300.00	1,295.62	1,288.09	1,287.67	6.98	4.92	-175.71	-3.51	32.94	95.51	83.75	11.76	8.122
1,400.00	1,393.06	1,383.64	1,382.93	7.57	5.11	-175.24	-5.78	39.97	124.99	112.46	12.53	9.977
1,500.00	1,489.74	1,478.22	1,477.23	7.86	5.33	-175.06	-8.03	46.93	157.44	144.41	13.03	12.084
1,600.00	1,586.28	1,572.64	1,571.37	8.14	5.57	-174.98	-10.27	53.88	190.39	176.85	13.53	14.067
1,700.00	1,682.83	1,667.05	1,665.50	8.46	5.81	-174.92	-12.51	60.82	223.34	209.26	14.08	15.863
1,800.00	1,779.38	1,761.47	1,759.63	8.78	6.07	-174.87	-14.75	67.77	256.29	241.64	14.65	17.494
1,900.00	1,875.93	1,855.88	1,853.76	9.13	6.34	-174.84	-17.00	74.72	289.23	273.99	15.25	18.972
2,000.00	1,972.48	1,950.30	1,947.90	9.49	6.61	-174.81	-19.24	81.66	322.18	306.32	15.86	20.313
2,100.00	2,069.02	2,044.72	2,042.03	9.86	6.89	-174.79	-21.48	88.61	355.13	338.64	16.50	21.529
2,200.00	2,165.57	2,139.13	2,136.16	10.24	7.18	-174.77	-23.72	95.56	388.08	370.93	17.15	22.632
2,300.00	2,262.12	2,233.55	2,230.30	10.63	7.48	-174.75	-25.97	102.50	421.03	403.22	17.81	23.636
2,400.00	2,358.67	2,327.96	2,324.43	11.03	7.78	-174.74	-28.21	109.45	453.98	435.49	18.49	24.549

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



Anticollision Report

Company:	Flat Creek Resources, LLC	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 14H
Project:	Eddy County, New Mexico NAD27 NME	TVD Reference:	RKB=3356+26.5 @ 3382.50ft
Reference Site:	Jawbone	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Jawbone Fed Com LW 14H	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 13H - Original Hole - rev1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Rule Assigned:														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	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	
2,500.00	2,455.21	2,422.38	2,418.56	11.44	8.08	-174.73	-30.45	116.39	486.93	467.74	19.18	25.382		
2,600.00	2,551.76	2,516.79	2,512.70	11.85	8.39	-174.72	-32.69	123.34	519.88	499.99	19.89	26.143		
2,700.00	2,648.31	2,611.21	2,606.83	12.27	8.70	-174.71	-34.93	130.29	552.83	532.23	20.60	26.839		
2,800.00	2,744.86	2,705.63	2,700.96	12.70	9.02	-174.70	-37.18	137.23	585.78	564.46	21.32	27.478		
2,900.00	2,841.40	2,800.04	2,795.10	13.13	9.34	-174.70	-39.42	144.18	618.73	596.68	22.05	28.066		
3,000.00	2,937.95	2,894.46	2,889.23	13.57	9.66	-174.69	-41.66	151.13	651.67	628.89	22.78	28.606		
3,100.00	3,034.50	2,988.87	2,983.36	14.01	9.98	-174.68	-43.90	158.07	684.62	661.10	23.52	29.106		
3,200.00	3,131.05	3,083.29	3,077.50	14.45	10.31	-174.68	-46.15	165.02	717.57	693.30	24.27	29.567		
3,300.00	3,227.60	3,177.71	3,171.63	14.90	10.64	-174.67	-48.39	171.97	750.52	725.50	25.02	29.995		
3,400.00	3,324.14	3,272.12	3,265.76	15.35	10.97	-174.67	-50.63	178.91	783.47	757.69	25.78	30.392		
3,500.00	3,420.69	3,366.54	3,359.90	15.80	11.30	-174.67	-52.87	185.86	816.42	789.88	26.54	30.761		
3,600.00	3,517.24	3,460.95	3,454.03	16.26	11.63	-174.66	-55.12	192.80	849.37	822.06	27.31	31.105		
3,700.00	3,613.79	3,555.37	3,548.16	16.72	11.96	-174.66	-57.36	199.75	882.32	854.24	28.08	31.426		
3,800.00	3,710.33	3,649.78	3,642.30	17.18	12.30	-174.66	-59.60	206.70	915.27	886.42	28.85	31.726		
3,900.00	3,806.88	3,744.20	3,736.43	17.64	12.63	-174.65	-61.84	213.64	948.22	918.59	29.62	32.008		
4,000.00	3,903.43	3,838.62	3,830.56	18.11	12.97	-174.65	-64.08	220.59	981.17	950.76	30.40	32.271		
4,100.00	3,999.98	3,933.03	3,924.70	18.57	13.31	-174.65	-66.33	227.54	1,014.12	982.93	31.19	32.519		
4,200.00	4,096.52	4,027.45	4,018.83	19.04	13.65	-174.65	-68.57	234.48	1,047.06	1,015.09	31.97	32.752		
4,300.00	4,193.07	4,121.86	4,112.96	19.51	13.99	-174.64	-70.81	241.43	1,080.01	1,047.26	32.76	32.971		
4,400.00	4,289.62	4,216.28	4,207.10	19.98	14.33	-174.64	-73.05	248.37	1,112.96	1,079.42	33.55	33.178		
4,500.00	4,386.17	4,310.70	4,301.23	20.46	14.67	-174.64	-75.30	255.32	1,145.91	1,111.58	34.34	33.373		
4,600.00	4,482.72	4,405.11	4,395.36	20.93	15.01	-174.64	-77.54	262.27	1,178.86	1,143.73	35.13	33.558		
4,700.00	4,579.26	4,499.53	4,489.50	21.41	15.36	-174.64	-79.78	269.21	1,211.81	1,175.89	35.92	33.733		
4,800.00	4,675.81	4,593.94	4,583.63	21.88	15.70	-174.63	-82.02	276.16	1,244.76	1,208.04	36.72	33.899		
4,900.00	4,772.36	4,688.36	4,677.76	22.36	16.05	-174.63	-84.27	283.11	1,277.71	1,240.19	37.52	34.056		
5,000.00	4,868.91	4,782.78	4,771.90	22.84	16.39	-174.63	-86.51	290.05	1,310.66	1,272.35	38.31	34.210		
5,100.00	4,965.45	4,947.23	4,936.12	23.32	17.01	-174.69	-89.08	298.02	1,341.32	1,301.64	39.68	33.805		
5,200.00	5,062.00	5,072.12	5,061.00	23.80	17.26	-174.81	-89.30	298.70	1,367.64	1,327.16	40.48	33.787		
5,300.00	5,158.55	5,168.67	5,157.55	24.28	17.29	-174.91	-89.30	298.70	1,393.59	1,352.60	40.99	33.997		
5,400.00	5,255.10	5,265.22	5,254.10	24.76	17.33	-175.00	-89.30	298.70	1,419.55	1,378.04	41.51	34.198		
5,500.00	5,351.64	5,361.76	5,350.64	25.24	17.37	-175.09	-89.30	298.70	1,445.50	1,403.47	42.03	34.393		
5,600.00	5,448.19	5,458.31	5,447.19	25.72	17.42	-175.18	-89.30	298.70	1,471.46	1,428.91	42.55	34.582		
5,700.00	5,544.74	5,554.86	5,543.74	26.21	17.46	-175.26	-89.30	298.70	1,497.43	1,454.36	43.07	34.766		
5,800.00	5,641.29	5,651.41	5,640.29	26.69	17.50	-175.34	-89.30	298.70	1,523.40	1,479.80	43.59	34.944		
5,900.00	5,737.84	5,747.96	5,736.84	27.18	17.54	-175.42	-89.30	298.70	1,549.37	1,505.25	44.12	35.118		
6,000.00	5,834.38	5,844.50	5,833.38	27.66	17.58	-175.50	-89.30	298.70	1,575.34	1,530.70	44.64	35.287		
6,100.00	5,930.93	5,941.05	5,929.93	28.15	17.62	-175.57	-89.30	298.70	1,601.31	1,556.14	45.17	35.451		
6,200.00	6,027.48	6,037.60	6,026.48	28.63	17.67	-175.64	-89.30	298.70	1,627.29	1,581.60	45.70	35.611		
6,300.00	6,124.03	6,134.15	6,123.03	29.12	17.71	-175.71	-89.30	298.70	1,653.27	1,607.05	46.22	35.767		
6,400.00	6,220.57	6,230.69	6,219.57	29.61	17.75	-175.78	-89.30	298.70	1,679.25	1,632.50	46.75	35.918		
6,500.00	6,317.11	6,327.23	6,316.11	30.09	17.80	-175.86	-89.30	298.70	1,704.51	1,657.24	47.27	36.058		
6,600.00	6,414.83	6,424.95	6,413.83	30.61	17.84	-175.95	-89.30	298.70	1,726.59	1,678.75	47.84	36.093		
6,700.00	6,513.06	6,523.18	6,512.06	31.14	17.89	-176.02	-89.30	298.70	1,745.26	1,696.84	48.41	36.049		
6,800.00	6,611.88	6,622.00	6,610.88	31.66	17.93	-176.07	-89.30	298.70	1,760.50	1,711.53	48.97	35.950		
6,900.00	6,711.17	6,721.29	6,710.17	32.14	17.98	-176.12	-89.30	298.70	1,772.29	1,722.78	49.50	35.803		
7,000.00	6,810.82	6,820.94	6,809.82	32.60	18.02	-176.14	-89.30	298.70	1,780.61	1,730.61	50.00	35.612		
7,100.00	6,910.69	6,920.81	6,909.69	33.00	18.07	-176.16	-89.30	298.70	1,785.46	1,735.01	50.45	35.390		
7,200.00	7,010.68	7,020.80	7,009.68	33.15	18.11	87.95	-89.30	298.70	1,786.85	1,736.20	50.65	35.280		
7,300.00	7,110.68	7,120.80	7,109.68	33.17	18.14	87.95	-89.30	298.70	1,786.85	1,736.15	50.70	35.243		
7,400.00	7,210.28	7,210.61	7,199.22	33.16	18.11	87.72	-83.52	298.73	1,786.81	1,736.13	50.68	35.255		
7,500.00	7,307.07	7,300.00	7,286.36	33.14	18.07	87.82	-64.02	298.81	1,786.70	1,736.05	50.65	35.277		
7,600.00	7,398.12	7,389.32	7,369.35	33.12	18.03	87.97	-31.24	298.96	1,786.52	1,735.90	50.62	35.294		

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



Anticollision Report

Company:	Flat Creek Resources, LLC	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 14H
Project:	Eddy County, New Mexico NAD27 NME	TVD Reference:	RKB=3356+26.5 @ 3382.50ft
Reference Site:	Jawbone	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Jawbone Fed Com LW 14H	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 13H - Original Hole - rev1													Offset Site Error:	0.00 ft		
Survey Program: 0-MWD													Rule Assigned:		Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning			
		Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)						
7,700.00	7,480.66	7,479.62	7,447.05	33.11	18.02	88.18	14.58	299.16	1,786.30	1,735.67	50.63	35.281				
7,800.00	7,552.18	7,570.88	7,517.28	33.14	18.05	88.44	72.70	299.42	1,786.06	1,735.33	50.73	35.210				
7,900.00	7,610.51	7,663.32	7,578.12	33.25	18.16	88.75	142.17	299.73	1,785.82	1,734.87	50.95	35.050				
8,000.00	7,653.88	7,757.20	7,627.66	33.47	18.37	89.10	221.80	300.09	1,785.62	1,734.27	51.35	34.774				
8,100.00	7,680.97	7,852.76	7,664.06	33.84	18.73	89.47	310.02	300.48	1,785.47	1,733.51	51.96	34.364				
8,200.00	7,690.95	7,950.20	7,685.57	34.35	19.23	89.86	404.94	300.90	1,785.39	1,732.59	52.80	33.816				
8,300.00	7,691.00	8,049.84	7,691.00	34.98	19.89	90.03	504.33	301.35	1,785.38	1,731.54	53.84	33.158				
8,400.00	7,691.00	8,149.84	7,691.00	35.69	20.67	90.03	604.33	301.79	1,785.38	1,730.31	55.07	32.419				
8,500.00	7,691.00	8,249.84	7,691.00	36.45	21.55	90.03	704.33	302.24	1,785.38	1,728.91	56.47	31.617				
8,600.00	7,691.00	8,349.84	7,691.00	37.27	22.50	90.03	804.33	302.68	1,785.37	1,727.35	58.03	30.769				
8,700.00	7,691.00	8,449.84	7,691.00	38.12	23.53	90.03	904.33	303.13	1,785.37	1,725.64	59.73	29.893				
8,800.00	7,691.00	8,549.84	7,691.00	39.02	24.63	90.03	1,004.33	303.57	1,785.37	1,723.81	61.55	29.005				
8,900.00	7,691.00	8,649.84	7,691.00	39.95	25.78	90.03	1,104.33	304.02	1,785.36	1,721.86	63.50	28.116				
9,000.00	7,691.00	8,749.84	7,691.00	40.92	26.99	90.03	1,204.33	304.47	1,785.36	1,719.81	65.55	27.236				
9,100.00	7,691.00	8,849.84	7,691.00	41.92	28.24	90.03	1,304.33	304.91	1,785.36	1,717.66	67.70	26.372				
9,200.00	7,691.00	8,949.84	7,691.00	42.95	29.53	90.03	1,404.33	305.36	1,785.35	1,715.42	69.93	25.529				
9,300.00	7,691.00	9,049.84	7,691.00	44.01	30.85	90.03	1,504.32	305.80	1,785.35	1,713.10	72.25	24.711				
9,400.00	7,691.00	9,149.84	7,691.00	45.10	32.20	90.03	1,604.32	306.25	1,785.35	1,710.72	74.63	23.922				
9,500.00	7,691.00	9,249.84	7,691.00	46.21	33.58	90.03	1,704.32	306.69	1,785.35	1,708.26	77.08	23.162				
9,600.00	7,691.00	9,349.84	7,691.00	47.35	34.99	90.03	1,804.32	307.14	1,785.34	1,705.75	79.59	22.432				
9,700.00	7,691.00	9,449.84	7,691.00	48.50	36.41	90.03	1,904.32	307.58	1,785.34	1,703.19	82.15	21.732				
9,800.00	7,691.00	9,549.84	7,691.00	49.69	37.85	90.03	2,004.32	308.03	1,785.34	1,700.58	84.76	21.063				
9,900.00	7,691.00	9,649.84	7,691.00	50.89	39.31	90.03	2,104.32	308.48	1,785.33	1,697.92	87.42	20.423				
10,000.00	7,691.00	9,749.84	7,691.00	52.11	40.78	90.03	2,204.32	308.92	1,785.33	1,695.22	90.11	19.812				
10,100.00	7,691.00	9,849.84	7,691.00	53.35	42.27	90.03	2,304.32	309.37	1,785.33	1,692.48	92.85	19.229				
10,200.00	7,691.00	9,949.84	7,691.00	54.61	43.77	90.03	2,404.32	309.81	1,785.33	1,689.71	95.61	18.672				
10,300.00	7,691.00	10,049.84	7,691.00	55.88	45.28	90.03	2,504.31	310.26	1,785.32	1,686.91	98.41	18.141				
10,400.00	7,691.00	10,149.84	7,691.00	57.18	46.80	90.03	2,604.31	310.70	1,785.32	1,684.08	101.24	17.634				
10,500.00	7,691.00	10,249.84	7,691.00	58.48	48.32	90.03	2,704.31	311.15	1,785.32	1,681.22	104.10	17.151				
10,600.00	7,691.00	10,349.84	7,691.00	59.80	49.86	90.03	2,804.31	311.59	1,785.31	1,678.34	106.97	16.689				
10,700.00	7,691.00	10,449.84	7,691.00	61.14	51.40	90.03	2,904.31	312.04	1,785.31	1,675.43	109.88	16.248				
10,800.00	7,691.00	10,549.84	7,691.00	62.49	52.95	90.03	3,004.31	312.49	1,785.31	1,672.51	112.80	15.827				
10,900.00	7,691.00	10,649.84	7,691.00	63.85	54.51	90.03	3,104.31	312.93	1,785.30	1,669.56	115.74	15.425				
11,000.00	7,691.00	10,749.84	7,691.00	65.22	56.07	90.03	3,204.31	313.38	1,785.30	1,666.60	118.71	15.040				
11,100.00	7,691.00	10,849.84	7,691.00	66.60	57.63	90.03	3,304.31	313.82	1,785.30	1,663.62	121.68	14.672				
11,200.00	7,691.00	10,949.84	7,691.00	67.99	59.20	90.03	3,404.31	314.27	1,785.30	1,660.62	124.68	14.319				
11,300.00	7,691.00	11,049.84	7,691.00	69.40	60.78	90.03	3,504.30	314.71	1,785.29	1,657.61	127.69	13.982				
11,400.00	7,691.00	11,149.84	7,691.00	70.81	62.36	90.03	3,604.30	315.16	1,785.29	1,654.58	130.71	13.658				
11,500.00	7,691.00	11,249.84	7,691.00	72.23	63.94	90.03	3,704.30	315.60	1,785.29	1,651.54	133.75	13.348				
11,600.00	7,691.00	11,349.84	7,691.00	73.66	65.53	90.03	3,804.30	316.05	1,785.28	1,648.49	136.79	13.051				
11,700.00	7,691.00	11,449.84	7,691.00	75.10	67.11	90.03	3,904.30	316.50	1,785.28	1,645.43	139.85	12.766				
11,800.00	7,691.00	11,549.84	7,691.00	76.55	68.71	90.03	4,004.30	316.94	1,785.28	1,642.36	142.92	12.491				
11,900.00	7,691.00	11,649.84	7,691.00	78.00	70.30	90.03	4,104.30	317.39	1,785.28	1,639.27	146.00	12.228				
12,000.00	7,691.00	11,749.84	7,691.00	79.46	71.90	90.03	4,204.30	317.83	1,785.27	1,636.18	149.09	11.975				
12,100.00	7,691.00	11,849.84	7,691.00	80.93	73.50	90.03	4,304.30	318.28	1,785.27	1,633.08	152.19	11.731				
12,200.00	7,691.00	11,949.84	7,691.00	82.40	75.10	90.03	4,404.30	318.72	1,785.27	1,629.97	155.29	11.496				
12,300.00	7,691.00	12,049.84	7,691.00	83.88	76.70	90.03	4,504.29	319.17	1,785.26	1,626.86	158.41	11.270				
12,400.00	7,691.00	12,149.84	7,691.00	85.37	78.31	90.03	4,604.29	319.62	1,785.26	1,623.73	161.53	11.052				
12,500.00	7,691.00	12,249.84	7,691.00	86.86	79.92	90.03	4,704.29	320.06	1,785.26	1,620.60	164.65	10.842				
12,600.00	7,691.00	12,349.84	7,691.00	88.36	81.53	90.03	4,804.29	320.51	1,785.25	1,617.47	167.79	10.640				
12,700.00	7,691.00	12,449.84	7,691.00	89.86	83.14	90.03	4,904.29	320.95	1,785.25	1,614.32	170.93	10.444				
12,800.00	7,691.00	12,549.84	7,691.00	91.37	84.75	90.03	5,004.29	321.40	1,785.25	1,611.17	174.08	10.256				

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



Anticollision Report

Company:	Flat Creek Resources, LLC	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 14H
Project:	Eddy County, New Mexico NAD27 NME	TVD Reference:	RKB=3356+26.5 @ 3382.50ft
Reference Site:	Jawbone	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Jawbone Fed Com LW 14H	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 13H - Original Hole - rev1													Offset Site Error:	0.00 ft		
Survey Program: 0-MWD													Rule Assigned:		Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning			
		Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)						
12,900.00	7,691.00	12,649.84	7,691.00	92.88	86.37	90.03	5,104.29	321.84	1,785.25	1,608.02	177.23	10.073				
13,000.00	7,691.00	12,749.84	7,691.00	94.39	87.98	90.03	5,204.29	322.29	1,785.24	1,604.86	180.38	9.897				
13,100.00	7,691.00	12,849.84	7,691.00	95.91	89.60	90.03	5,304.29	322.73	1,785.24	1,601.69	183.55	9.726				
13,200.00	7,691.00	12,949.84	7,691.00	97.43	91.22	90.03	5,404.29	323.18	1,785.24	1,598.52	186.71	9.561				
13,300.00	7,691.00	13,049.84	7,691.00	98.96	92.84	90.03	5,504.28	323.63	1,785.23	1,595.35	189.89	9.402				
13,400.00	7,691.00	13,149.84	7,691.00	100.49	94.46	90.03	5,604.28	324.07	1,785.23	1,592.17	193.06	9.247				
13,500.00	7,691.00	13,249.84	7,691.00	102.03	96.08	90.03	5,704.28	324.52	1,785.23	1,588.99	196.24	9.097				
13,600.00	7,691.00	13,349.84	7,691.00	103.57	97.70	90.03	5,804.28	324.96	1,785.23	1,585.80	199.43	8.952				
13,700.00	7,691.00	13,449.84	7,691.00	105.11	99.32	90.03	5,904.28	325.41	1,785.22	1,582.61	202.61	8.811				
13,800.00	7,691.00	13,549.84	7,691.00	106.65	100.95	90.03	6,004.28	325.85	1,785.22	1,579.41	205.81	8.674				
13,900.00	7,691.00	13,649.84	7,691.00	108.20	102.57	90.03	6,104.28	326.30	1,785.22	1,576.22	209.00	8.542				
14,000.00	7,691.00	13,749.84	7,691.00	109.75	104.20	90.03	6,204.28	326.74	1,785.21	1,573.02	212.20	8.413				
14,100.00	7,691.00	13,849.84	7,691.00	111.30	105.83	90.03	6,304.28	327.19	1,785.21	1,569.81	215.40	8.288				
14,200.00	7,691.00	13,949.84	7,691.00	112.86	107.45	90.03	6,404.28	327.64	1,785.21	1,566.60	218.60	8.166				
14,300.00	7,691.00	14,049.84	7,691.00	114.42	109.08	90.03	6,504.27	328.08	1,785.20	1,563.39	221.81	8.048				
14,400.00	7,691.00	14,149.84	7,691.00	115.98	110.71	90.03	6,604.27	328.53	1,785.20	1,560.18	225.02	7.934				
14,500.00	7,691.00	14,249.84	7,691.00	117.54	112.34	90.03	6,704.27	328.97	1,785.20	1,556.97	228.23	7.822				
14,600.00	7,691.00	14,349.84	7,691.00	119.10	113.97	90.03	6,804.27	329.42	1,785.20	1,553.75	231.45	7.713				
14,700.00	7,691.00	14,449.84	7,691.00	120.67	115.60	90.03	6,904.27	329.86	1,785.19	1,550.53	234.66	7.607				
14,800.00	7,691.00	14,549.84	7,691.00	122.24	117.23	90.03	7,004.27	330.31	1,785.19	1,547.31	237.88	7.504				
14,900.00	7,691.00	14,649.84	7,691.00	123.81	118.87	90.03	7,104.27	330.76	1,785.19	1,544.08	241.11	7.404				
15,000.00	7,691.00	14,749.84	7,691.00	125.39	120.50	90.03	7,204.27	331.20	1,785.18	1,540.85	244.33	7.306				
15,100.00	7,691.00	14,849.84	7,691.00	126.96	122.13	90.03	7,304.27	331.65	1,785.18	1,537.62	247.56	7.211				
15,200.00	7,691.00	14,949.84	7,691.00	128.54	123.77	90.03	7,404.27	332.09	1,785.18	1,534.39	250.78	7.118				
15,300.00	7,691.00	15,049.84	7,691.00	130.12	125.40	90.03	7,504.27	332.54	1,785.17	1,531.16	254.01	7.028				
15,400.00	7,691.00	15,149.84	7,691.00	131.70	127.03	90.03	7,604.26	332.98	1,785.17	1,527.93	257.25	6.940				
15,500.00	7,691.00	15,249.84	7,691.00	133.28	128.67	90.03	7,704.26	333.43	1,785.17	1,524.69	260.48	6.853				
15,600.00	7,691.00	15,349.84	7,691.00	134.87	130.30	90.03	7,804.26	333.87	1,785.17	1,521.45	263.71	6.769				
15,700.00	7,691.00	15,449.84	7,691.00	136.45	131.94	90.03	7,904.26	334.32	1,785.16	1,518.21	266.95	6.687				
15,800.00	7,691.00	15,549.84	7,691.00	138.04	133.58	90.03	8,004.26	334.77	1,785.16	1,514.97	270.19	6.607				
15,900.00	7,691.00	15,649.84	7,691.00	139.63	135.21	90.03	8,104.26	335.21	1,785.16	1,511.73	273.43	6.529				
16,000.00	7,691.00	15,749.84	7,691.00	141.22	136.85	90.03	8,204.26	335.66	1,785.15	1,508.48	276.67	6.452				
16,100.00	7,691.00	15,849.84	7,691.00	142.81	138.49	90.03	8,304.26	336.10	1,785.15	1,505.24	279.91	6.377				
16,200.00	7,691.00	15,949.84	7,691.00	144.40	140.12	90.03	8,404.26	336.55	1,785.15	1,501.99	283.16	6.304				
16,300.00	7,691.00	16,049.84	7,691.00	146.00	141.76	90.03	8,504.26	336.99	1,785.15	1,498.74	286.40	6.233				
16,400.00	7,691.00	16,149.84	7,691.00	147.59	143.40	90.03	8,604.25	337.44	1,785.14	1,495.49	289.65	6.163				
16,500.00	7,691.00	16,249.84	7,691.00	149.19	145.04	90.03	8,704.25	337.88	1,785.14	1,492.24	292.90	6.095				
16,600.00	7,691.00	16,349.84	7,691.00	150.78	146.68	90.03	8,804.25	338.33	1,785.14	1,488.99	296.15	6.028				
16,700.00	7,691.00	16,449.84	7,691.00	152.38	148.32	90.03	8,904.25	338.78	1,785.13	1,485.73	299.40	5.962				
16,800.00	7,691.00	16,549.84	7,691.00	153.98	149.96	90.03	9,004.25	339.22	1,785.13	1,482.48	302.65	5.898				
16,900.00	7,691.00	16,649.84	7,691.00	155.58	151.60	90.03	9,104.25	339.67	1,785.13	1,479.22	305.90	5.836				
17,000.00	7,691.00	16,749.84	7,691.00	157.18	153.24	90.03	9,204.25	340.11	1,785.12	1,475.97	309.16	5.774				
17,100.00	7,691.00	16,849.84	7,691.00	158.79	154.88	90.03	9,304.25	340.56	1,785.12	1,472.71	312.41	5.714				
17,200.00	7,691.00	16,949.84	7,691.00	160.39	156.52	90.03	9,404.25	341.00	1,785.12	1,469.45	315.67	5.655				
17,300.00	7,691.00	17,049.84	7,691.00	162.00	158.16	90.03	9,504.25	341.45	1,785.12	1,466.19	318.93	5.597				
17,400.00	7,691.00	17,149.84	7,691.00	163.60	159.80	90.03	9,604.24	341.90	1,785.11	1,462.93	322.18	5.541				
17,500.00	7,691.00	17,249.84	7,691.00	165.21	161.44	90.03	9,704.24	342.34	1,785.11	1,459.67	325.44	5.485				
17,600.00	7,691.00	17,349.84	7,691.00	166.82	163.08	90.03	9,804.24	342.79	1,785.11	1,456.41	328.70	5.431				
17,700.00	7,691.00	17,449.84	7,691.00	168.42	164.72	90.03	9,904.24	343.23	1,785.10	1,453.14	331.96	5.377				
17,800.00	7,691.00	17,549.84	7,691.00	170.03	166.36	90.03	10,004.24	343.68	1,785.10	1,449.88	335.22	5.325				
17,900.00	7,691.00	17,649.84	7,691.00	171.64	168.00	90.03	10,104.24	344.12	1,785.10	1,446.61	338.48	5.274				
18,000.00	7,691.00	17,749.84	7,691.00	173.25	169.65	90.03	10,204.24	344.57	1,785.10	1,443.35	341.75	5.223				

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 14H
Project:	Eddy County, New Mexico NAD27 NME	TVD Reference:	RKB=3356+26.5 @ 3382.50ft
Reference Site:	Jawbone	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Jawbone Fed Com LW 14H	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 13H - Original Hole - rev1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		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		
18,100.00	7,691.00	17,849.84	7,691.00	174.86	171.29	90.03	10,304.24	345.01	1,785.09	1,440.08	345.01	5.174		
18,169.45	7,691.00	17,919.23	7,691.00	175.98	172.43	90.03	10,373.62	345.32	1,785.09	1,437.82	347.27	5.140		
18,185.02	7,691.00	17,919.23	7,691.00	176.23	172.43	90.03	10,373.62	345.32	1,785.16	1,437.79	347.37	5.139		

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

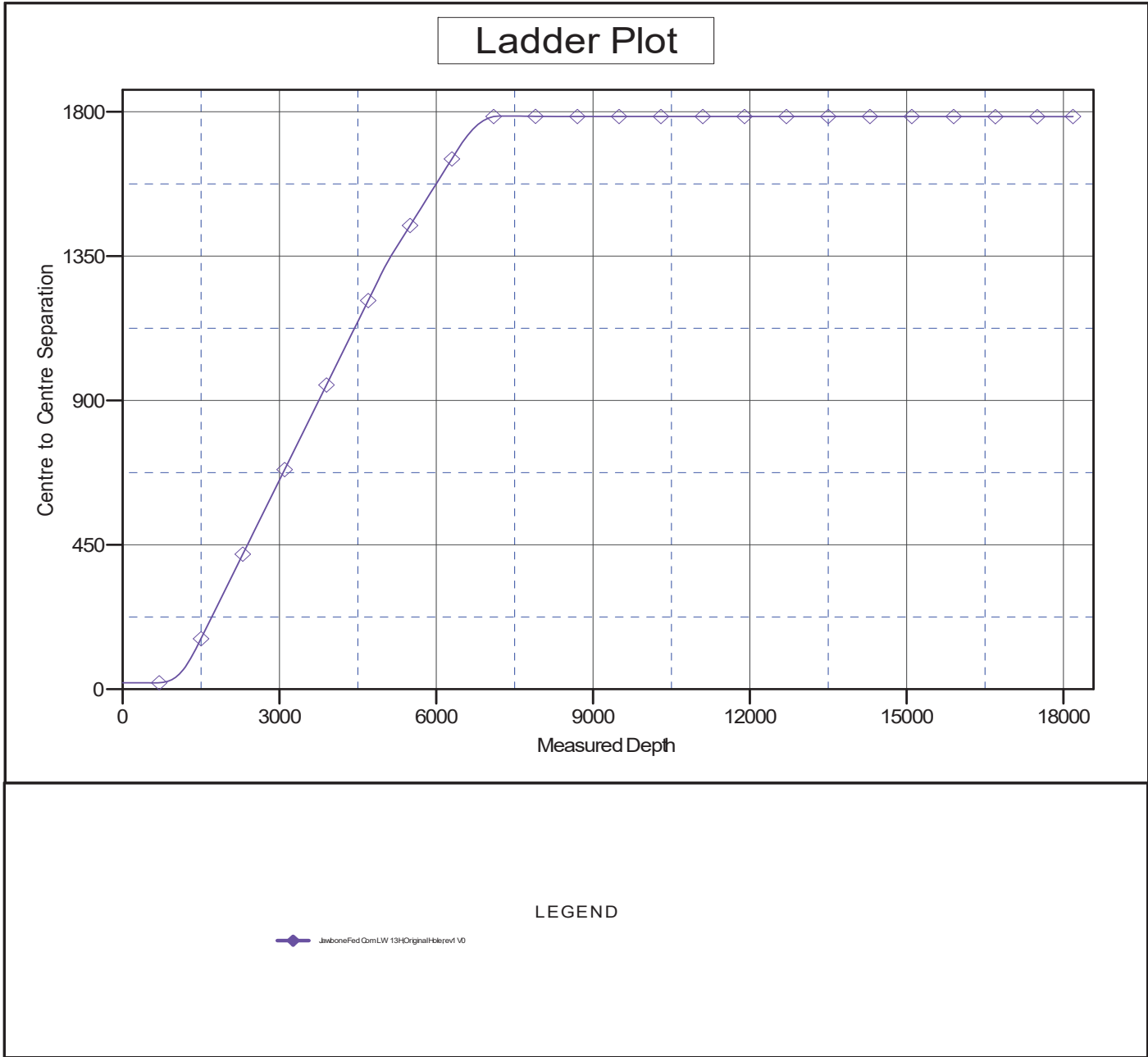


Anticollision Report

Company:	Flat Creek Resources, LLC	Local Co-ordinate Reference:	Well Jawbone Fed Com LW 14H
Project:	Eddy County, New Mexico NAD27 NME	TVD Reference:	RKB=3356+26.5 @ 3382.50ft
Reference Site:	Jawbone	MD Reference:	RKB=3356+26.5 @ 3382.50ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Jawbone Fed Com LW 14H	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=3356+26.5 @ 3382.50ft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333333333

Coordinates are relative to: Jawbone Fed Com LW 14H
 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



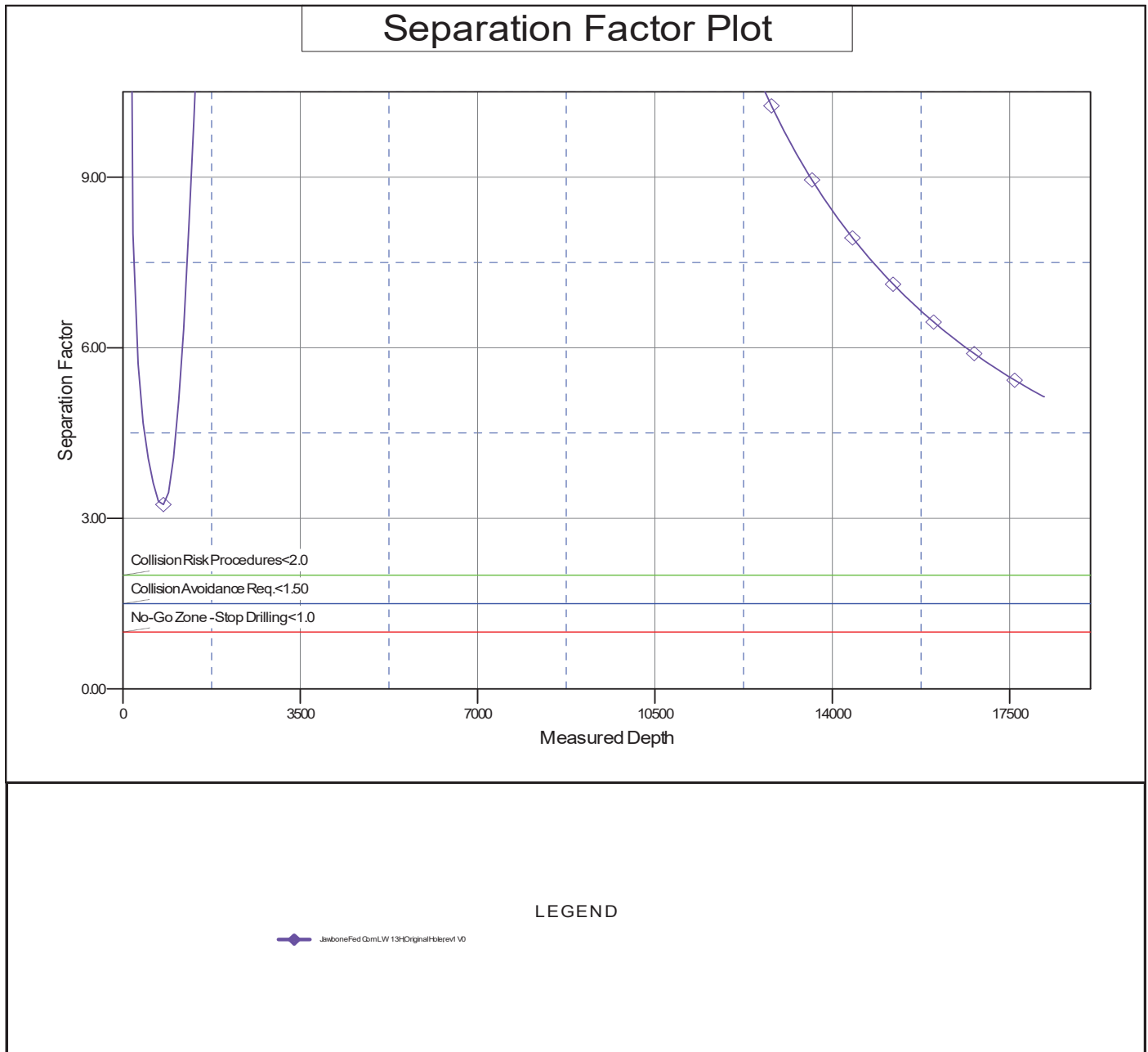
FLAT CREEK
RESOURCES

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Casing Design Worksheet: Jawbone Fed Com LW 14H				
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</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

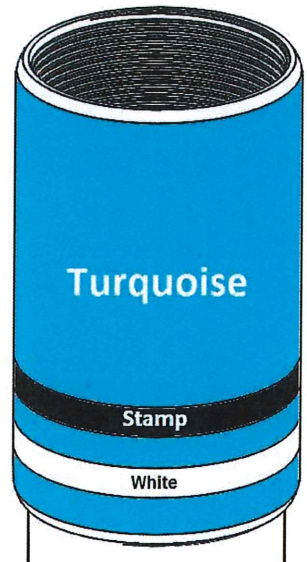
TCBC-HT

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				

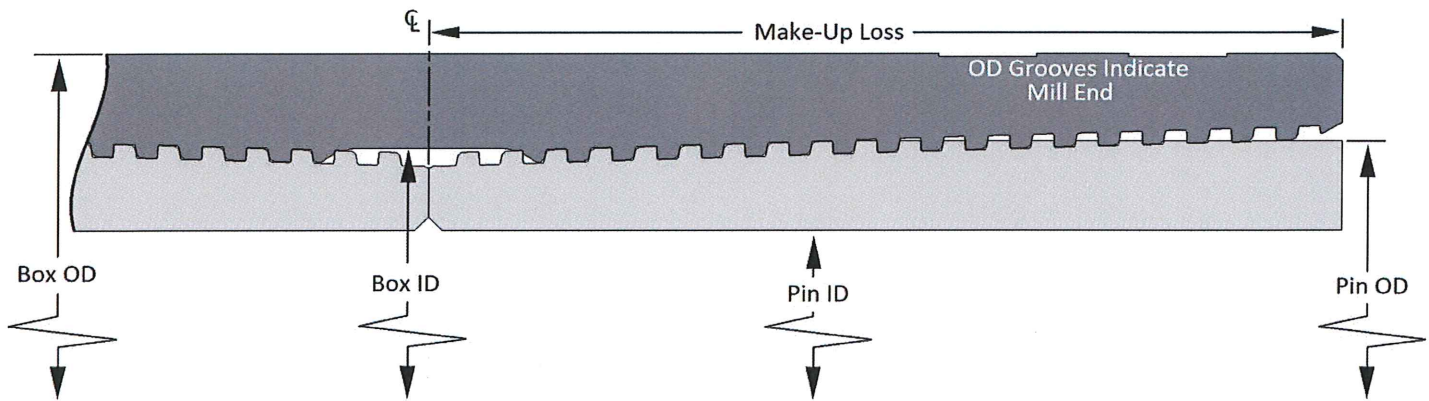
Torque Values (ft-lbs)				
Field End Make-Up			Max. Working Torque ¹	Yield Torque
Minimum	Optimum ²	Maximum		
10,000	13,500	18,500	20,250	24,000

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.

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 1000 Rio Brazos Rd., Aztec, NM 87410
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 1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 298500

CONDITIONS

Operator: Flat Creek Resources, LLC 777 Main St. Fort Worth, TX 76102	OGRID: 374034
	Action Number: 298500
	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