

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*5. Lease Serial No.
NMNM0245247

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		8. Well Name and No. EK 31 BS2 FEDERAL COM 4H
2. Name of Operator MCELVAIN ENERGY INC Contact: TONY G COOPER E-Mail: tony.cooper@mcelvain.com		9. API Well No. 30-025-43149
3a. Address 511 16TH STREET STE. 700 DENVER, CO 80202	3b. Phone No. (include area code) Ph: 303-962-6489 Fx: 303-893-0914	10. Field and Pool or Exploratory Area EK BONE SPRING
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 31 T18S R34E Mer NMP 80FNL 1050FWL		11. County or Parish, State LEA COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original APD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomple horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

McElvain is respectfully requesting the following changes to this previously approved APD.

Extend the lateral portion of the well in the Bone Spring formation from 1 mile to 1.5 miles. Amended C-102 is attached

Revised Production Casing Depth & Cement Volumes: (New Directional Plan attached)
TD 17,731' TMD. Revised cement volumes for the 5.5' production casing will be:
? Lead 650 sx (11 ppg, 2.9 yield, 17.9 gal/sx)
? Tail 2700 sx (14.5 ppg, 1.225 yield, 5.59 gal/

Mud Properties for Production Casing Interval:

From 4900 feet to TD McElvain is requesting the use of oil based mud (OBM).

- All previous COAs will apply. Additional COA is not required.

14. I hereby certify that the foregoing is true and correct. Electronic Submission #433386 verified by the BLM Well Information System For MCELVAIN ENERGY INC, sent to the Hobbs Committed to AFMSS for processing by DEBORAH MCKINNEY on 09/05/2018 ()	
Name (Printed/Typed) TONY G COOPER	Title REGULATORY MANAGER
Signature (Electronic Submission)	Date 08/30/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <u>Mustafa Hagar</u>	Title <u>Petroleum Engineer</u> <u>Carlsbad Field Office</u>	Date <u>10-05-20</u>
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		

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.

(Instructions on page 2)

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED *****KZ*

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone (505) 393-6161 Fax: (505) 393-0720

DISTRICT II
811 S. First St., Artesia, NM 88210
Phone (505) 746-1253 Fax: (505) 746-0720

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

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

WELL LOCATION AND ACREAGE DEDICATION PLAT

~~X~~ AMENDED REPORT

API Number 30-025-43149	Pool Code 21650	Pool Name EK Bone Spring
Property Code	Property Name EK 31 BS2 FEDERAL COM	Well Number 4H
OGRID No. 22044	Operator Name McELVAIN ENERGY, INC	Elevation 3861'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
LOT 1	31	18 S	34 E		80	NORTH	1050	WEST	LEA

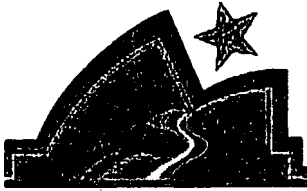
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
LOT 5	6	18 S	34 E		2705	NORTH	660	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	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

SURFACE LOCATION Lat - N 32.711244° Long - W 103.604557° NMSPCE- N 623252.2 E 765490.6 (NAD-83) FIRST TAKE POINT 100' FNL & 660' FWL Lat - N 32.711189° Long - W 103.605823° NMSPCE- N 623229.6 E 765101.4 (NAD-83) LAST TAKE POINT 2630' FNL & 660' FWL Lat - N 32.689717° Long - W 103.605838° NMSPCE- N 615417.8 E 765150.3 (NAD-83) BOTTOM HOLE LOCATION Lat - N 32.689511° Long - W 103.605839° NMSPCE- N 615342.8 E 765150.5 (NAD-83)	Map showing well location and acreage dedication plat. The map includes a grid of sections (Lot 1, Lot 2, Lot 3, Lot 4, Lot 5) and a well location marked with a star. The well is located in Section 31, Township 18 S, Range 34 E, Lot 1. The well is labeled 'EK 31 BS2 FEDERAL COM' and 'McELVAIN ENERGY, INC'. The map also shows the surface location and bottom hole location. The well is located 80 feet from the North/South line and 1050 feet from the East/West line. The bottom hole is located 2705 feet from the North/South line and 660 feet from the East/West line. The map includes a scale bar and a north arrow.	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. Signature: <u>Rony Cooper</u> Date: <u>8/30/12</u> Printed Name: <u>Rony Cooper</u> Email Address: <u>ronc@mcelvain.com</u> SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my belief. Signature: <u>[Signature]</u> Date: <u>8/30/12</u> Professional Surveyor Certificate No. <u>7977</u> Scale: 1" = 1000' WO Num.: 33464
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McElvain Energy, Inc.

Sec. 30 T18S R34E

EK 30 WCD Federal Com

EK 31 BS2 Federal Com 4H - Slot 31 BS2 4H

Wellbore #1

Plan: Plan #4 28Aug18 kjs

Standard Planning Report - Geographic

28 August, 2018



Planning Report - Geographic

Database: EDM 5000.15 Single User Db
 Company: McElvain Energy, Inc.
 Project: Sec. 30 T18S R34E
 Site: EK 30 WCD Federal Com
 Well: EK 31 BS2 Federal Com 4H
 Wellbore: Wellbore #1
 Design: Plan #4 28Aug18 kjs

Local Co-ordinate Reference: Well EK 31 BS2 Federal Com 4H - Slot 31 BS2 4H
 TVD Reference: KB @ 3881.00usft
 MD Reference: KB @ 3881.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Project: Sec. 30 T18S R34E, Lea County, NM
 Map System: US State Plane 1983
 Geo Datum: North American Datum 1983
 Map Zone: New Mexico Eastern Zone
 System Datum: Mean Sea Level

Site: EK 30 WCD Federal Com
 Site Position: Northing: 626,476.830 usft Latitude: 32.720115
 From: Map Easting: 765,038.760 usft Longitude: -103.605955
 Position Uncertainty: 0.00 usft Slot Radius: 13-3/16 " Grid Convergence: 0.39 °

Well: EK 31 BS2 Federal Com 4H - Slot 31 BS2 4H
 Well Position: +N-S 0.00 usft Northing: 623,252.200 usft Latitude: 32.711244
 +E-W 0.00 usft Easting: 765,490.600 usft Longitude: -103.604558
 Position Uncertainty: 0.00 usft Wellhead Elevation: Ground Level: 3,861.00 usft

Wellbore: Wellbore #1
 Magnetics: Model Name Sample Date Declination (") Dip Angle (") Field Strength (nT)
 IGRF2010 7/29/2015 7.13 60.53 48,489.15240705

Design: Plan #4 28Aug18 kjs
 Audit Notes:
 Version: Phase: PLAN Tie On Depth: 0.00
 Vertical Section: Depth From (TVD) (usft) +N-S (usft) +E-W (usft) Direction (")
 0.00 0.00 0.00 179.61

Plan Survey Tool Program Date: 8/28/2018

Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1 0.00	17,737.31	Plan #4 28Aug18 kjs (Wellbore #	MWD	
			MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (")	Azimuth (")	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Dogleg Rate ("/100usft)	Build Rate ("/100usft)	Turn Rate ("/100usft)	TFO (")	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,091.40	2.87	278.07	2,091.32	0.67	-4.75	1.50	1.50	0.00	278.07	
9,471.28	2.87	278.07	9,461.94	52.56	-370.73	0.00	0.00	0.00	0.00	
10,056.38	69.77	179.66	9,913.24	-260.00	-385.50	12.00	11.43	-16.82	-99.44	
10,211.59	88.39	179.66	9,942.52	-411.73	-384.59	12.00	12.00	0.00	0.00	
17,637.32	88.39	179.66	10,151.00	-7,834.40	-340.30	0.00	0.00	0.00	0.00	
17,737.32	88.39	179.66	10,153.81	-7,934.36	-339.70	0.00	0.00	0.00	0.00	



Planning Report - Geographic

Database: EDM 5000.15 Single User Db

Local Co-ordinate Reference:

Well EK 31 BS2 Federal Com 4H - Slot 31
BS2 4H

Company: McElvain Energy, Inc.

TVD Reference:

KB @ 3881.00usft

Project: Sec. 30 T18S R34E

MD Reference:

KB @ 3881.00usft

Site: EK 30 WCD Federal Com

North Reference:

Grid

Well: EK 31 BS2 Federal Com 4H

Survey Calculation Method:

Minimum Curvature

Wellbore: Wellbore #1

Design: Plan #4 28Aug18 kjs

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
100.00	0.00	0.00	100.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
200.00	0.00	0.00	200.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
300.00	0.00	0.00	300.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
400.00	0.00	0.00	400.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
500.00	0.00	0.00	500.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
600.00	0.00	0.00	600.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
700.00	0.00	0.00	700.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
800.00	0.00	0.00	800.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
900.00	0.00	0.00	900.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
1,000.00	0.00	0.00	1,000.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
1,100.00	0.00	0.00	1,100.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
1,200.00	0.00	0.00	1,200.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
1,300.00	0.00	0.00	1,300.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
1,400.00	0.00	0.00	1,400.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
1,500.00	0.00	0.00	1,500.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
1,600.00	0.00	0.00	1,600.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
1,681.00	0.00	0.00	1,681.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
Rustler									
1,700.00	0.00	0.00	1,700.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
1,741.00	0.00	0.00	1,741.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
Salt									
1,800.00	0.00	0.00	1,800.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
1,900.00	0.00	0.00	1,900.00	0.00	0.00	623,252.200	765,490.600	32.711244	-103.604558
Start Build 1.50									
2,000.00	1.50	278.07	1,999.99	0.18	-1.30	623,252.384	765,489.304	32.711244	-103.604562
2,091.40	2.87	278.07	2,091.32	0.67	-4.75	623,252.873	765,485.853	32.711246	-103.604573
Hold 2.87 Inc, 278.06 Az									
2,100.00	2.87	278.07	2,099.91	0.73	-5.17	623,252.934	765,485.426	32.711246	-103.604574
2,200.00	2.87	278.07	2,199.78	1.44	-10.13	623,253.637	765,480.467	32.711248	-103.604591
2,300.00	2.87	278.07	2,299.66	2.14	-15.09	623,254.340	765,475.508	32.711250	-103.604607
2,400.00	2.87	278.07	2,399.53	2.84	-20.05	623,255.043	765,470.548	32.711252	-103.604623
2,500.00	2.87	278.07	2,499.41	3.55	-25.01	623,255.746	765,465.589	32.711254	-103.604639
2,600.00	2.87	278.07	2,599.28	4.25	-29.97	623,256.449	765,460.630	32.711256	-103.604655
2,700.00	2.87	278.07	2,699.16	4.95	-34.93	623,257.152	765,455.671	32.711258	-103.604671
2,800.00	2.87	278.07	2,799.03	5.65	-39.89	623,257.855	765,450.711	32.711260	-103.604687
2,900.00	2.87	278.07	2,898.91	6.36	-44.85	623,258.558	765,445.752	32.711262	-103.604703
3,000.00	2.87	278.07	2,998.78	7.06	-49.81	623,259.261	765,440.793	32.711264	-103.604719
3,100.00	2.87	278.07	3,098.65	7.76	-54.77	623,259.964	765,435.834	32.711266	-103.604736
3,200.00	2.87	278.07	3,198.53	8.47	-59.73	623,260.667	765,430.874	32.711268	-103.604752
3,257.28	2.87	278.07	3,255.74	8.87	-62.57	623,261.070	765,428.034	32.711269	-103.604761
Yates									
3,300.00	2.87	278.07	3,298.40	9.17	-64.68	623,261.371	765,425.915	32.711270	-103.604768
3,400.00	2.87	278.07	3,398.28	9.87	-69.64	623,262.074	765,420.956	32.711272	-103.604784
3,401.72	2.87	278.07	3,400.00	9.89	-69.73	623,262.086	765,420.870	32.711272	-103.604784
9 5/8"									
3,500.00	2.87	278.07	3,498.15	10.58	-74.60	623,262.777	765,415.997	32.711274	-103.604800
3,600.00	2.87	278.07	3,598.03	11.28	-79.56	623,263.480	765,411.037	32.711276	-103.604816
3,700.00	2.87	278.07	3,697.90	11.98	-84.52	623,264.183	765,406.078	32.711278	-103.604832
3,732.78	2.87	278.07	3,730.64	12.21	-86.15	623,264.413	765,404.452	32.711279	-103.604837
Seven Rivers									
3,800.00	2.87	278.07	3,797.78	12.69	-89.48	623,264.886	765,401.119	32.711280	-103.604848
3,900.00	2.87	278.07	3,897.65	13.39	-94.44	623,265.589	765,396.160	32.711282	-103.604864



Planning Report - Geographic

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BS2 4H

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Site: EK 30 WCD Federal Com

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Well: EK 31 BS2 Federal Com 4H

Survey Calculation Method: Minimum Curvature

Wellbore: Wellbore #1

Design: Plan #4 28Aug18 kjs

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,000.00	2.87	278.07	3,997.52	14.09	-99.40	623,266.292	765,391.200	32.711284	-103.604880
4,100.00	2.87	278.07	4,097.40	14.79	-104.36	623,266.995	765,386.241	32.711286	-103.604897
4,200.00	2.87	278.07	4,197.27	15.50	-109.32	623,267.698	765,381.282	32.711288	-103.604913
4,300.00	2.87	278.07	4,297.15	16.20	-114.28	623,268.401	765,376.323	32.711290	-103.604929
4,400.00	2.87	278.07	4,397.02	16.90	-119.24	623,269.104	765,371.363	32.711292	-103.604945
4,433.52	2.87	278.07	4,430.50	17.14	-120.90	623,269.340	765,369.701	32.711293	-103.604950
Queen									
4,500.00	2.87	278.07	4,496.90	17.61	-124.20	623,269.807	765,366.404	32.711294	-103.604961
4,600.00	2.87	278.07	4,596.77	18.31	-129.15	623,270.510	765,361.445	32.711296	-103.604977
4,700.00	2.87	278.07	4,696.65	19.01	-134.11	623,271.213	765,356.486	32.711298	-103.604993
4,708.81	2.87	278.07	4,705.44	19.07	-134.55	623,271.275	765,356.049	32.711299	-103.604995
Penrose									
4,800.00	2.87	278.07	4,796.52	19.72	-139.07	623,271.916	765,351.526	32.711300	-103.605009
4,900.00	2.87	278.07	4,896.39	20.42	-144.03	623,272.620	765,346.567	32.711302	-103.605025
5,000.00	2.87	278.07	4,996.27	21.12	-148.99	623,273.323	765,341.608	32.711304	-103.605042
5,100.00	2.87	278.07	5,096.14	21.83	-153.95	623,274.026	765,336.649	32.711306	-103.605058
5,200.00	2.87	278.07	5,196.02	22.53	-158.91	623,274.729	765,331.689	32.711309	-103.605074
5,259.38	2.87	278.07	5,255.33	22.95	-161.86	623,275.146	765,328.744	32.711310	-103.605083
San Andres									
5,300.00	2.87	278.07	5,295.89	23.23	-163.87	623,275.432	765,326.730	32.711311	-103.605090
5,400.00	2.87	278.07	5,395.77	23.93	-168.83	623,276.135	765,321.771	32.711313	-103.605106
5,409.54	2.87	278.07	5,405.30	24.00	-169.30	623,276.202	765,321.298	32.711313	-103.605107
Delaware									
5,449.58	2.87	278.07	5,445.29	24.28	-171.29	623,276.483	765,319.312	32.711314	-103.605114
1st Delaware Sand									
5,500.00	2.87	278.07	5,495.64	24.64	-173.79	623,276.838	765,316.812	32.711315	-103.605122
5,600.00	2.87	278.07	5,595.52	25.34	-178.75	623,277.541	765,311.852	32.711317	-103.605138
5,700.00	2.87	278.07	5,695.39	26.04	-183.71	623,278.244	765,306.893	32.711319	-103.605154
5,734.88	2.87	278.07	5,730.23	26.29	-185.44	623,278.489	765,305.163	32.711319	-103.605160
2nd Delaware Sand									
5,800.00	2.87	278.07	5,795.26	26.75	-188.67	623,278.947	765,301.934	32.711321	-103.605170
5,900.00	2.87	278.07	5,895.14	27.45	-193.63	623,279.650	765,296.975	32.711323	-103.605186
6,000.00	2.87	278.07	5,995.01	28.15	-198.58	623,280.353	765,292.015	32.711325	-103.605203
6,100.00	2.87	278.07	6,094.89	28.86	-203.54	623,281.056	765,287.056	32.711327	-103.605219
6,200.00	2.87	278.07	6,194.76	29.56	-208.50	623,281.759	765,282.097	32.711329	-103.605235
6,300.00	2.87	278.07	6,294.64	30.26	-213.46	623,282.462	765,277.138	32.711331	-103.605251
6,400.00	2.87	278.07	6,394.51	30.97	-218.42	623,283.165	765,272.178	32.711333	-103.605267
6,500.00	2.87	278.07	6,494.39	31.67	-223.38	623,283.869	765,267.219	32.711335	-103.605283
6,600.00	2.87	278.07	6,594.26	32.37	-228.34	623,284.572	765,262.260	32.711337	-103.605299
6,700.00	2.87	278.07	6,694.14	33.07	-233.30	623,285.275	765,257.301	32.711339	-103.605315
6,800.00	2.87	278.07	6,794.01	33.78	-238.26	623,285.978	765,252.341	32.711341	-103.605331
6,900.00	2.87	278.07	6,893.88	34.48	-243.22	623,286.681	765,247.382	32.711343	-103.605348
7,000.00	2.87	278.07	6,993.76	35.18	-248.18	623,287.384	765,242.423	32.711345	-103.605364
7,100.00	2.87	278.07	7,093.63	35.89	-253.14	623,288.087	765,237.463	32.711347	-103.605380
7,200.00	2.87	278.07	7,193.51	36.59	-258.10	623,288.790	765,232.504	32.711349	-103.605396
7,300.00	2.87	278.07	7,293.38	37.29	-263.05	623,289.493	765,227.545	32.711351	-103.605412
7,400.00	2.87	278.07	7,393.26	38.00	-268.01	623,290.196	765,222.586	32.711353	-103.605428
7,500.00	2.87	278.07	7,493.13	38.70	-272.97	623,290.899	765,217.626	32.711355	-103.605444
7,600.00	2.87	278.07	7,593.01	39.40	-277.93	623,291.602	765,212.667	32.711357	-103.605460
7,601.84	2.87	278.07	7,594.85	39.41	-278.02	623,291.615	765,212.576	32.711357	-103.605461
Bone Spring									
7,700.00	2.87	278.07	7,692.88	40.10	-282.89	623,292.305	765,207.708	32.711359	-103.605476
7,800.00	2.87	278.07	7,792.75	40.81	-287.85	623,293.008	765,202.749	32.711361	-103.605493



Planning Report - Geographic

Database: EDM 5000.15 Single User Db
Company: McElvain Energy, Inc.
Project: Sec. 30 T18S R34E
Site: EK 30 WCD Federal Com
Well: EK 31 BS2 Federal Com 4H
Wellbore: Wellbore #1
Design: Plan #4 28Aug18 kjs

Local Co-ordinate Reference: Well EK 31 BS2 Federal Com 4H - Slot 31
 BS2 4H
TVD Reference: KB @ 3881.00usft
MD Reference: KB @ 3881.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
7,900.00	2.87	278.07	7,892.63	41.51	-292.81	623,293.711	765,197.789	32.711363	-103.605509
8,000.00	2.87	278.07	7,992.50	42.21	-297.77	623,294.414	765,192.830	32.711365	-103.605525
8,100.00	2.87	278.07	8,092.38	42.92	-302.73	623,295.118	765,187.871	32.711367	-103.605541
8,200.00	2.87	278.07	8,192.25	43.62	-307.69	623,295.821	765,182.912	32.711369	-103.605557
8,300.00	2.87	278.07	8,292.13	44.32	-312.65	623,296.524	765,177.952	32.711371	-103.605573
8,400.00	2.87	278.07	8,392.00	45.03	-317.61	623,297.227	765,172.993	32.711373	-103.605589
8,500.00	2.87	278.07	8,491.88	45.73	-322.57	623,297.930	765,168.034	32.711375	-103.605605
8,600.00	2.87	278.07	8,591.75	46.43	-327.52	623,298.633	765,163.075	32.711377	-103.605621
8,700.00	2.87	278.07	8,691.62	47.14	-332.48	623,299.336	765,158.115	32.711379	-103.605637
8,800.00	2.87	278.07	8,791.50	47.84	-337.44	623,300.039	765,153.156	32.711381	-103.605654
8,900.00	2.87	278.07	8,891.37	48.54	-342.40	623,300.742	765,148.197	32.711383	-103.605670
8,938.24	2.87	278.07	8,929.57	48.81	-344.30	623,301.011	765,146.300	32.711384	-103.605676
1st Bone Spring Sand									
9,000.00	2.87	278.07	8,991.25	49.24	-347.36	623,301.445	765,143.238	32.711386	-103.605686
9,100.00	2.87	278.07	9,091.12	49.95	-352.32	623,302.148	765,138.278	32.711388	-103.605702
9,200.00	2.87	278.07	9,191.00	50.65	-357.28	623,302.851	765,133.319	32.711390	-103.605718
9,300.00	2.87	278.07	9,290.87	51.35	-362.24	623,303.554	765,128.360	32.711392	-103.605734
9,400.00	2.87	278.07	9,390.75	52.06	-367.20	623,304.257	765,123.401	32.711394	-103.605750
9,471.28	2.87	278.07	9,461.94	52.56	-370.73	623,304.758	765,119.866	32.711395	-103.605762
KOP 12/100									
9,488.83	3.27	238.61	9,479.47	52.36	-371.60	623,304.559	765,119.003	32.711395	-103.605765
2nd Bone Spring Sand									
9,500.00	4.11	222.17	9,490.61	51.90	-372.14	623,304.097	765,118.463	32.711393	-103.605766
9,600.00	15.23	189.08	9,589.09	36.21	-376.63	623,288.413	765,113.970	32.711350	-103.605781
9,700.00	27.11	184.16	9,682.17	0.38	-380.37	623,252.582	765,110.230	32.711252	-103.605794
9,800.00	39.06	182.11	9,765.81	-54.03	-383.19	623,198.170	765,107.409	32.711102	-103.605805
9,900.00	51.03	180.91	9,836.34	-124.64	-384.97	623,127.556	765,105.628	32.710908	-103.605812
10,000.00	63.01	180.06	9,890.67	-208.37	-385.63	623,043.826	765,104.967	32.710678	-103.605816
10,056.38	69.77	179.66	9,913.24	-260.00	-385.50	622,992.196	765,105.100	32.710536	-103.605817
POP									
10,056.39	69.77	179.66	9,913.24	-260.01	-385.50	622,992.191	765,105.100	32.710536	-103.605817
TOP TARGET WINDOW									
10,100.00	75.00	179.66	9,926.44	-301.56	-385.25	622,950.637	765,105.348	32.710422	-103.605817
10,200.00	87.00	179.66	9,942.05	-400.15	-384.66	622,852.051	765,105.936	32.710151	-103.605817
10,208.38	88.01	179.66	9,942.42	-408.53	-384.61	622,843.675	765,105.986	32.710128	-103.605817
TARGET CENTER LINE									
10,211.59	88.39	179.66	9,942.52	-411.73	-384.59	622,840.470	765,106.005	32.710119	-103.605817
LP 88.39 Inc, 179.66 Az									
10,300.00	88.39	179.66	9,945.00	-500.10	-384.07	622,752.097	765,106.532	32.709876	-103.605817
10,400.00	88.39	179.66	9,947.81	-600.06	-383.47	622,652.138	765,107.129	32.709602	-103.605818
10,500.00	88.39	179.66	9,950.62	-700.02	-382.87	622,552.179	765,107.725	32.709327	-103.605818
10,600.00	88.39	179.66	9,953.42	-799.98	-382.28	622,452.220	765,108.322	32.709052	-103.605818
10,700.00	88.39	179.66	9,956.23	-899.94	-381.68	622,352.262	765,108.918	32.708777	-103.605819
10,800.00	88.39	179.66	9,959.04	-999.90	-381.08	622,252.303	765,109.515	32.708503	-103.605819
10,900.00	88.39	179.66	9,961.85	-1,099.86	-380.49	622,152.344	765,110.111	32.708228	-103.605819
11,000.00	88.39	179.66	9,964.65	-1,199.82	-379.89	622,052.385	765,110.708	32.707953	-103.605819
11,100.00	88.39	179.66	9,967.46	-1,299.77	-379.30	621,952.426	765,111.304	32.707678	-103.605820
11,200.00	88.39	179.66	9,970.27	-1,399.73	-378.70	621,852.468	765,111.901	32.707404	-103.605820
11,300.00	88.39	179.66	9,973.08	-1,499.69	-378.10	621,752.509	765,112.497	32.707129	-103.605820
11,400.00	88.39	179.66	9,975.88	-1,599.65	-377.51	621,652.550	765,113.094	32.706854	-103.605821
11,500.00	88.39	179.66	9,978.69	-1,699.61	-376.91	621,552.591	765,113.690	32.706579	-103.605821
11,600.00	88.39	179.66	9,981.50	-1,799.57	-376.31	621,452.633	765,114.287	32.706305	-103.605821
11,700.00	88.39	179.66	9,984.31	-1,899.53	-375.72	621,352.674	765,114.883	32.706030	-103.605821



Planning Report - Geographic

Database: EDM 5000.15 Single User Db

Local Co-ordinate Reference:

Well EK 31 BS2 Federal Com 4H - Slot 31
BS2 4H

Company: McElvain Energy, Inc.

TVD Reference:

KB @ 3881.00usft

Project: Sec. 30 T18S R34E

MD Reference:

KB @ 3881.00usft

Site: EK 30 WCD Federal Com

North Reference:

Grid

Well: EK 31 BS2 Federal Com 4H

Survey Calculation Method:

Minimum Curvature

Wellbore: Wellbore #1

Design: Plan #4 28Aug18 kjs

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
11,800.00	88.39	179.66	9,987.11	-1,999.49	-375.12	621,252.715	765,115.480	32.705755	-103.605822
11,900.00	88.39	179.66	9,989.92	-2,099.44	-374.52	621,152.756	765,116.076	32.705480	-103.605822
12,000.00	88.39	179.66	9,992.73	-2,199.40	-373.93	621,052.796	765,116.673	32.705206	-103.605822
12,100.00	88.39	179.66	9,995.54	-2,299.36	-373.33	620,952.838	765,117.269	32.704931	-103.605823
12,200.00	88.39	179.66	9,998.34	-2,399.32	-372.73	620,852.879	765,117.866	32.704656	-103.605823
12,300.00	88.39	179.66	10,001.15	-2,499.28	-372.14	620,752.920	765,118.462	32.704381	-103.605823
12,400.00	88.39	179.66	10,003.96	-2,599.24	-371.54	620,652.961	765,119.059	32.704107	-103.605823
12,500.00	88.39	179.66	10,006.77	-2,699.20	-370.94	620,553.002	765,119.655	32.703832	-103.605824
12,600.00	88.39	179.66	10,009.57	-2,799.16	-370.35	620,453.044	765,120.252	32.703557	-103.605824
12,700.00	88.39	179.66	10,012.38	-2,899.11	-369.75	620,353.085	765,120.848	32.703282	-103.605824
12,800.00	88.39	179.66	10,015.19	-2,999.07	-369.15	620,253.126	765,121.445	32.703008	-103.605825
12,900.00	88.39	179.66	10,018.00	-3,099.03	-368.56	620,153.167	765,122.041	32.702733	-103.605825
13,000.00	88.39	179.66	10,020.80	-3,198.99	-367.96	620,053.208	765,122.638	32.702458	-103.605825
13,100.00	88.39	179.66	10,023.61	-3,298.95	-367.37	619,953.250	765,123.234	32.702183	-103.605826
13,200.00	88.39	179.66	10,026.42	-3,398.91	-366.77	619,853.291	765,123.831	32.701909	-103.605826
13,300.00	88.39	179.66	10,029.23	-3,498.87	-366.17	619,753.332	765,124.427	32.701634	-103.605826
13,400.00	88.39	179.66	10,032.04	-3,598.83	-365.58	619,653.373	765,125.024	32.701359	-103.605826
13,500.00	88.39	179.66	10,034.84	-3,698.79	-364.98	619,553.414	765,125.620	32.701084	-103.605827
13,600.00	88.39	179.66	10,037.65	-3,798.74	-364.38	619,453.456	765,126.217	32.700810	-103.605827
13,700.00	88.39	179.66	10,040.46	-3,898.70	-363.79	619,353.497	765,126.814	32.700535	-103.605827
13,800.00	88.39	179.66	10,043.27	-3,998.66	-363.19	619,253.538	765,127.410	32.700260	-103.605828
13,900.00	88.39	179.66	10,046.07	-4,098.62	-362.59	619,153.579	765,128.007	32.699985	-103.605828
14,000.00	88.39	179.66	10,048.88	-4,198.58	-362.00	619,053.620	765,128.603	32.699711	-103.605828
14,100.00	88.39	179.66	10,051.69	-4,298.54	-361.40	618,953.662	765,129.200	32.699436	-103.605828
14,200.00	88.39	179.66	10,054.50	-4,398.50	-360.80	618,853.703	765,129.796	32.699161	-103.605829
14,300.00	88.39	179.66	10,057.30	-4,498.46	-360.21	618,753.744	765,130.393	32.698887	-103.605829
14,400.00	88.39	179.66	10,060.11	-4,598.41	-359.61	618,653.785	765,130.989	32.698612	-103.605829
14,500.00	88.39	179.66	10,062.92	-4,698.37	-359.01	618,553.826	765,131.586	32.698337	-103.605830
14,600.00	88.39	179.66	10,065.73	-4,798.33	-358.42	618,453.868	765,132.182	32.698062	-103.605830
14,700.00	88.39	179.66	10,068.53	-4,898.29	-357.82	618,353.909	765,132.779	32.697788	-103.605830
14,800.00	88.39	179.66	10,071.34	-4,998.25	-357.22	618,253.950	765,133.375	32.697513	-103.605830
14,900.00	88.39	179.66	10,074.15	-5,098.21	-356.63	618,153.991	765,133.972	32.697238	-103.605831
15,000.00	88.39	179.66	10,076.96	-5,198.17	-356.03	618,054.032	765,134.568	32.696963	-103.605831
15,100.00	88.39	179.66	10,079.76	-5,298.13	-355.44	617,954.074	765,135.165	32.696689	-103.605831
15,200.00	88.39	179.66	10,082.57	-5,398.08	-354.84	617,854.115	765,135.761	32.696414	-103.605832
15,300.00	88.39	179.66	10,085.38	-5,498.04	-354.24	617,754.156	765,136.358	32.696139	-103.605832
15,400.00	88.39	179.66	10,088.19	-5,598.00	-353.65	617,654.197	765,136.954	32.695864	-103.605832
15,500.00	88.39	179.66	10,090.99	-5,697.96	-353.05	617,554.238	765,137.551	32.695590	-103.605832
15,600.00	88.39	179.66	10,093.80	-5,797.92	-352.45	617,454.280	765,138.147	32.695315	-103.605833
15,700.00	88.39	179.66	10,096.61	-5,897.88	-351.86	617,354.321	765,138.744	32.695040	-103.605833
15,800.00	88.39	179.66	10,099.42	-5,997.84	-351.26	617,254.362	765,139.340	32.694765	-103.605833
15,900.00	88.39	179.66	10,102.22	-6,097.80	-350.66	617,154.403	765,139.937	32.694491	-103.605834
16,000.00	88.39	179.66	10,105.03	-6,197.76	-350.07	617,054.444	765,140.533	32.694216	-103.605834
16,100.00	88.39	179.66	10,107.84	-6,297.71	-349.47	616,954.486	765,141.130	32.693941	-103.605834
16,200.00	88.39	179.66	10,110.65	-6,397.67	-348.87	616,854.527	765,141.726	32.693666	-103.605835
16,300.00	88.39	179.66	10,113.45	-6,497.63	-348.28	616,754.568	765,142.323	32.693392	-103.605835
16,400.00	88.39	179.66	10,116.26	-6,597.59	-347.68	616,654.609	765,142.919	32.693117	-103.605835
16,500.00	88.39	179.66	10,119.07	-6,697.55	-347.08	616,554.651	765,143.516	32.692842	-103.605835
16,600.00	88.39	179.66	10,121.88	-6,797.51	-346.49	616,454.692	765,144.112	32.692567	-103.605836
16,700.00	88.39	179.66	10,124.68	-6,897.47	-345.89	616,354.733	765,144.709	32.692293	-103.605836
16,800.00	88.39	179.66	10,127.49	-6,997.43	-345.29	616,254.774	765,145.305	32.692018	-103.605836
16,900.00	88.39	179.66	10,130.30	-7,097.38	-344.70	616,154.815	765,145.902	32.691743	-103.605837
17,000.00	88.39	179.66	10,133.11	-7,197.34	-344.10	616,054.857	765,146.498	32.691468	-103.605837
17,100.00	88.39	179.66	10,135.91	-7,297.30	-343.51	615,954.898	765,147.095	32.691194	-103.605837



Planning Report - Geographic

Database: EDM 5000.15 Single User Db

Local Co-ordinate Reference:

Well EK 31 BS2 Federal Com 4H - Slot 31
BS2 4H

Company: McElvain Energy, Inc.

TVD Reference:

KB @ 3881.00usft

Project: Sec. 30 T18S R34E

MD Reference:

KB @ 3881.00usft

Site: EK 30 WCD Federal Com

North Reference:

Grid

Well: EK 31 BS2 Federal Com 4H

Survey Calculation Method:

Minimum Curvature

Wellbore: Wellbore #1

Design: Plan #4 28Aug18 kjs

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
17,200.00	88.39	179.66	10,138.72	-7,397.26	-342.91	615,854.939	765,147.691	32.690919	-103.605837
17,300.00	88.39	179.66	10,141.53	-7,497.22	-342.31	615,754.980	765,148.288	32.690644	-103.605838
17,400.00	88.39	179.66	10,144.34	-7,597.18	-341.72	615,655.021	765,148.884	32.690369	-103.605838
17,500.00	88.39	179.66	10,147.14	-7,697.14	-341.12	615,555.063	765,149.481	32.690095	-103.605838
17,600.00	88.39	179.66	10,149.95	-7,797.10	-340.52	615,455.104	765,150.077	32.689820	-103.605839
17,635.09	88.39	179.66	10,150.94	-7,832.17	-340.31	615,420.029	765,150.286	32.689723	-103.605839
TD / PBHL 31 BS2 4H									
17,637.32	88.39	179.66	10,151.00	-7,834.40	-340.30	615,417.799	765,150.300	32.689717	-103.605839
TD at 17637.3									
17,700.00	88.39	179.66	10,152.76	-7,897.05	-339.93	615,355.145	765,150.674	32.689545	-103.605839
17,731.32	88.39	179.66	10,153.64	-7,928.36	-339.74	615,323.838	765,150.860	32.689459	-103.605839
End of 100' Rathole									
17,737.32	88.39	179.66	10,153.81	-7,934.36	-339.70	615,317.841	765,150.896	32.689443	-103.605839

Design Targets

Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
TD / PBHL 31 BS2 4H	0.00	359.61	10,071.55	-7,834.40	-340.30	615,417.800	765,150.300	32.689717	-103.605839
- plan misses target center by 79.42usft at 17635.09usft MD (10150.94 TVD, -7832.17 N, -340.31 E)									
- Point									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
3,401.72	3,400.00	9 5/8"	9-5/8	12-1/4



Planning Report - Geographic

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well EK 31 BS2 Federal Com 4H - Slot 31 BS2 4H
Company:	McElvain Energy, Inc.	TVD Reference:	KB @ 3881.00usft
Project:	Sec. 30 T18S R34E	MD Reference:	KB @ 3881.00usft
Site:	EK 30 WCD Federal Com	North Reference:	Grid
Well:	EK 31 BS2 Federal Com 4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #4 28Aug18 kjs		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,681.00	1,681.00	Rustler		1.61	179.66
1,741.00	1,741.00	Salt		1.61	179.66
3,257.28	3,255.74	Yates		1.61	179.66
3,732.78	3,730.64	Seven Rivers		1.61	179.66
4,433.52	4,430.50	Queen		1.61	179.66
4,708.81	4,705.44	Penrose		1.61	179.66
5,259.38	5,255.33	San Andres		1.61	179.66
5,409.54	5,405.30	Delaware		1.61	179.66
5,449.58	5,445.29	1st Delaware Sand		1.61	179.66
5,734.88	5,730.23	2nd Delaware Sand		1.61	179.66
7,601.84	7,594.85	Bone Spring		1.61	179.66
8,938.24	8,929.57	1st Bone Spring Sand		1.61	179.66
9,488.83	9,479.47	2nd Bone Spring Sand		1.61	179.66
10,056.39	9,913.24	TOP TARGET WINDOW		1.61	179.66
10,208.38	9,942.42	TARGET CENTER LINE		1.61	179.66

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,900.00	1,900.00	0.00	0.00	Start Build 1.50
2,091.40	2,091.32	0.67	-4.75	Hold 2.87 Inc, 278.06 Az
9,471.28	9,461.94	52.56	-370.73	KOP 12/100
10,056.38	9,913.24	-260.00	-385.50	POP
10,211.59	9,942.52	-411.73	-384.59	LP 88.39 Inc, 179.66 Az
17,637.32	10,151.00	-7,834.40	-340.30	TD at 17637.3
17,731.32	10,153.64	-7,928.36	-339.74	End of 100' Rathole