

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

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.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NNNM114356
2. Name of Operator CIMAREX ENERGY COMPANY OF CO Contact: DEYSI FAVELA Mail: dfavela@cimarex.com		6. If Indian, Allottee or Tribe Name
3a. Address 600 NORTH MARIENFELD STREET SUITE 600 MIDLAND, TX 79701	3b. Phone No. (include area code) Ph: 432-620-1964	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 23 T23S R30E SESE 165FSL 250FEL 32.170122 N Lat, 103.503761 W Lon		8. Well Name and No. SANDY FEDERAL 23H
		9. API Well No. 30-015-41793-00-X1
		10. Field and Pool, or Exploratory WILDCAT
		11. County or Parish, and State EDDY COUNTY, NM

12. CHECK 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	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original APD
	☐ 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 recomplete 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 shall 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 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

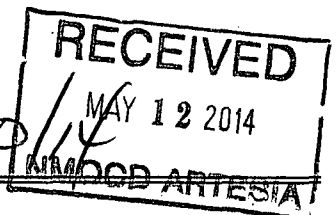
Cimarex Energy Respectfully requests changes to the original APD as Follows:

Well Name Change & BHL Move

Approved:
Name of Well Sandy Federal 23H
BHL UL: H, 24-23S-30E, 2310' FNL & 330' FEL
KOP 9498'
EOC 10249'
MD 15149'
TVD 9900'

Original COAs STW/ Sand

Accepted for record
15-141 NMOC
SSR 4/30/14



14. I hereby certify that the foregoing is true and correct.

Electronic Submission #241953 verified by the BLM Well Information System
For CIMAREX ENERGY COMPANY OF CO, sent to the Carlsbad
Committed to AFMSS for processing by CHRISTOPHER WALLS on 04/29/2014 (14CRW0250SE)

Name (Printed/Typed) DEYSI FAVELA

Title DRILLING TECHNICIAN

Signature (Electronic Submission)

Date 04/11/2014

APPROVED

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Title

Date

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.

Office

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

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.

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

see attached plat (C-102)

DISTRICT I
1020 N. French Dr., Hobbs, NM 88240
Phone (505) 833-8100 Fax (505) 833-8100

DISTRICT II
111 S. First St., Artesia, NM 88210
Phone (505) 744-4100 Fax (505) 744-4100

DISTRICT III
1000 Rio Hondo Rd., Artesia, NM 87410
Phone (505) 831-8100 Fax (505) 831-8100

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 474-3100 Fax (505) 474-3100

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

☐ AMENDED REPORT

API Number 30-015-41793	Pool Code 24720	Pool Name Bone Spring; Wildcat
Property Code 30937	Property Name FORTYNINER RIDGE 25 FEDERAL	Well Number 2H
COORD No. 215099	Operator Name CIMAREX ENERGY CO.	Nelevation 3294'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	23	23 S	30 E		165	SOUTH	250	EAST	EDDY

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
O	25	23 S	30 E		330	SOUTH	2310	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
240			

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

UL: 472207.2 E: 467414.8 I: 472207.2 UL: 472207.1 E: 467414.9 I: 472207.1 UL: 472207.4 E: 467415.2 I: 472207.4 UL: 472207.5 E: 467415.3 I: 472207.5 UL: 467417.8 E: 467415.1 I: 467417.8 UL: 467417.9 E: 467415.2 I: 467417.9 UL: 467418.0 E: 467415.3 I: 467418.0 UL: 467418.1 E: 467415.4 I: 467418.1 UL: 467418.2 E: 467415.5 I: 467418.2 UL: 467418.3 E: 467415.6 I: 467418.3 UL: 467418.4 E: 467415.7 I: 467418.4 UL: 467418.5 E: 467415.8 I: 467418.5 UL: 467418.6 E: 467415.9 I: 467418.6 UL: 467418.7 E: 467416.0 I: 467418.7 UL: 467418.8 E: 467416.1 I: 467418.8 UL: 467418.9 E: 467416.2 I: 467418.9 UL: 467419.0 E: 467416.3 I: 467419.0 UL: 467419.1 E: 467416.4 I: 467419.1 UL: 467419.2 E: 467416.5 I: 467419.2 UL: 467419.3 E: 467416.6 I: 467419.3 UL: 467419.4 E: 467416.7 I: 467419.4 UL: 467419.5 E: 467416.8 I: 467419.5 UL: 467419.6 E: 467416.9 I: 467419.6 UL: 467419.7 E: 467417.0 I: 467419.7 UL: 467419.8 E: 467417.1 I: 467419.8 UL: 467419.9 E: 467417.2 I: 467419.9 UL: 467420.0 E: 467417.3 I: 467420.0 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Additional data for EC transaction #241953 that would not fit on the form

32. Additional remarks, continued

Changes

Change Name of Well to Forty Niner Ridge 25 Fed 2H

BHL UL: 0, 25-23S-30E, 330 FSL & 2310 FEL

KOP 9478'

EOC 10219'

MD 16479'

TVD 9900' (no change)



Cimarex



Forty Nine Ridge 25 Federal #2H

Cactus 137

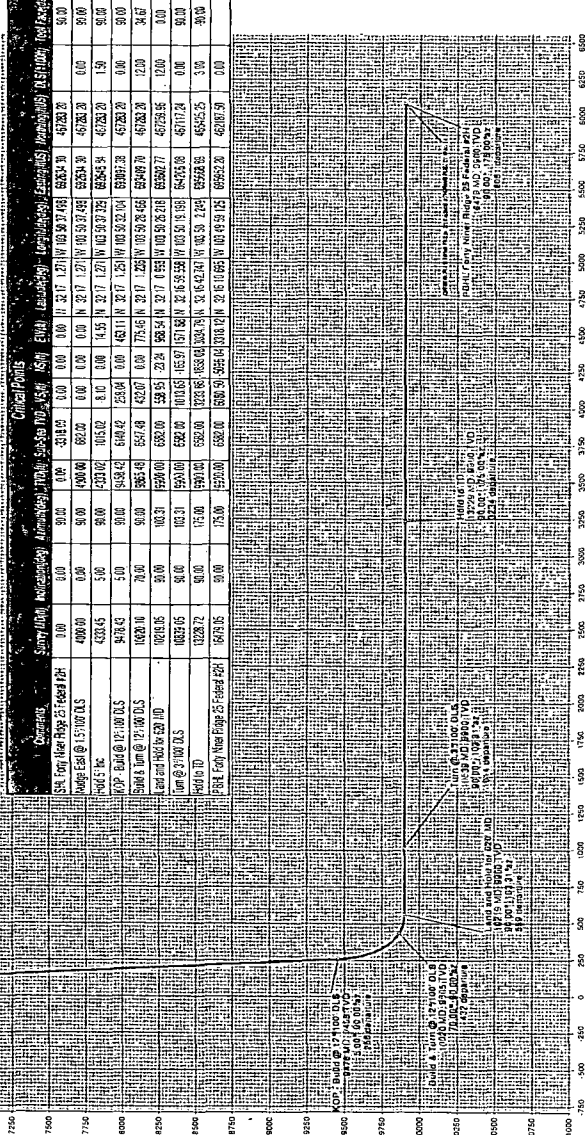
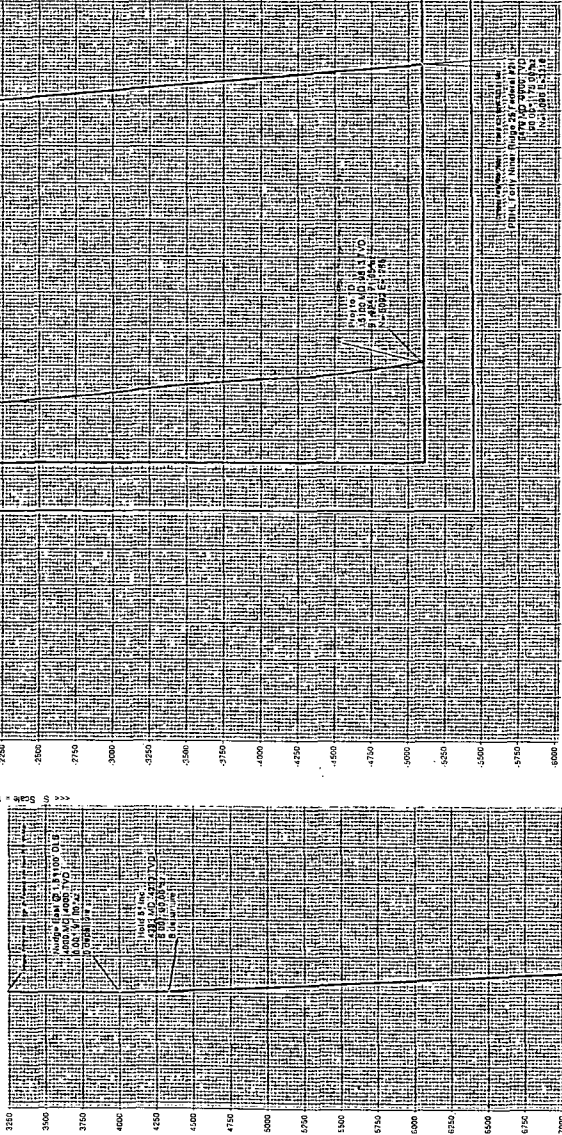
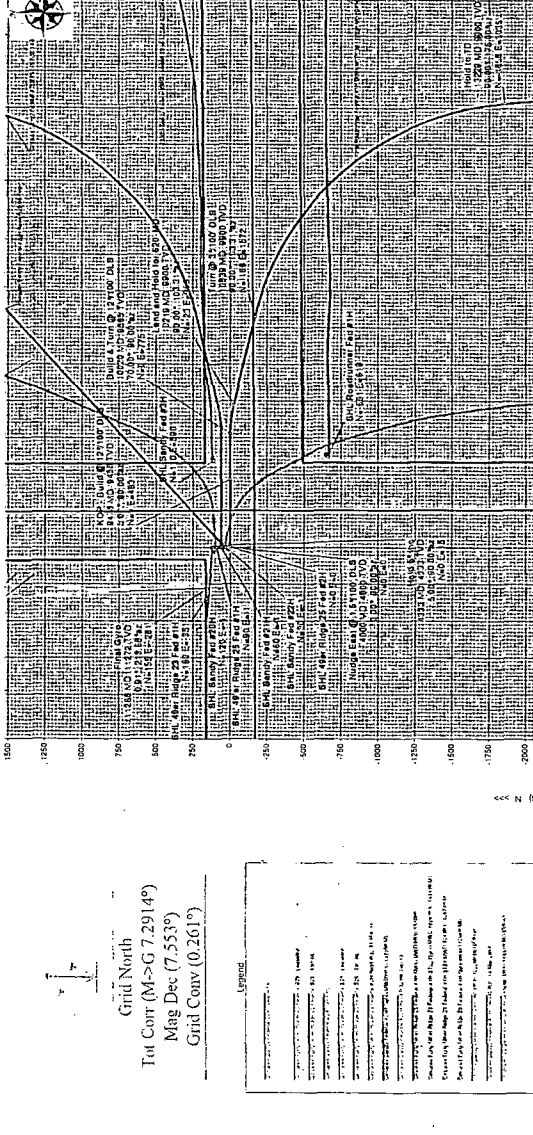
Rev5

NW Eddy County

Cactus 137

REV 5

DATE	BY	CHKD	APP'D	REVISION
10/12/2010	10/12/2010	10/12/2010	10/12/2010	10/12/2010

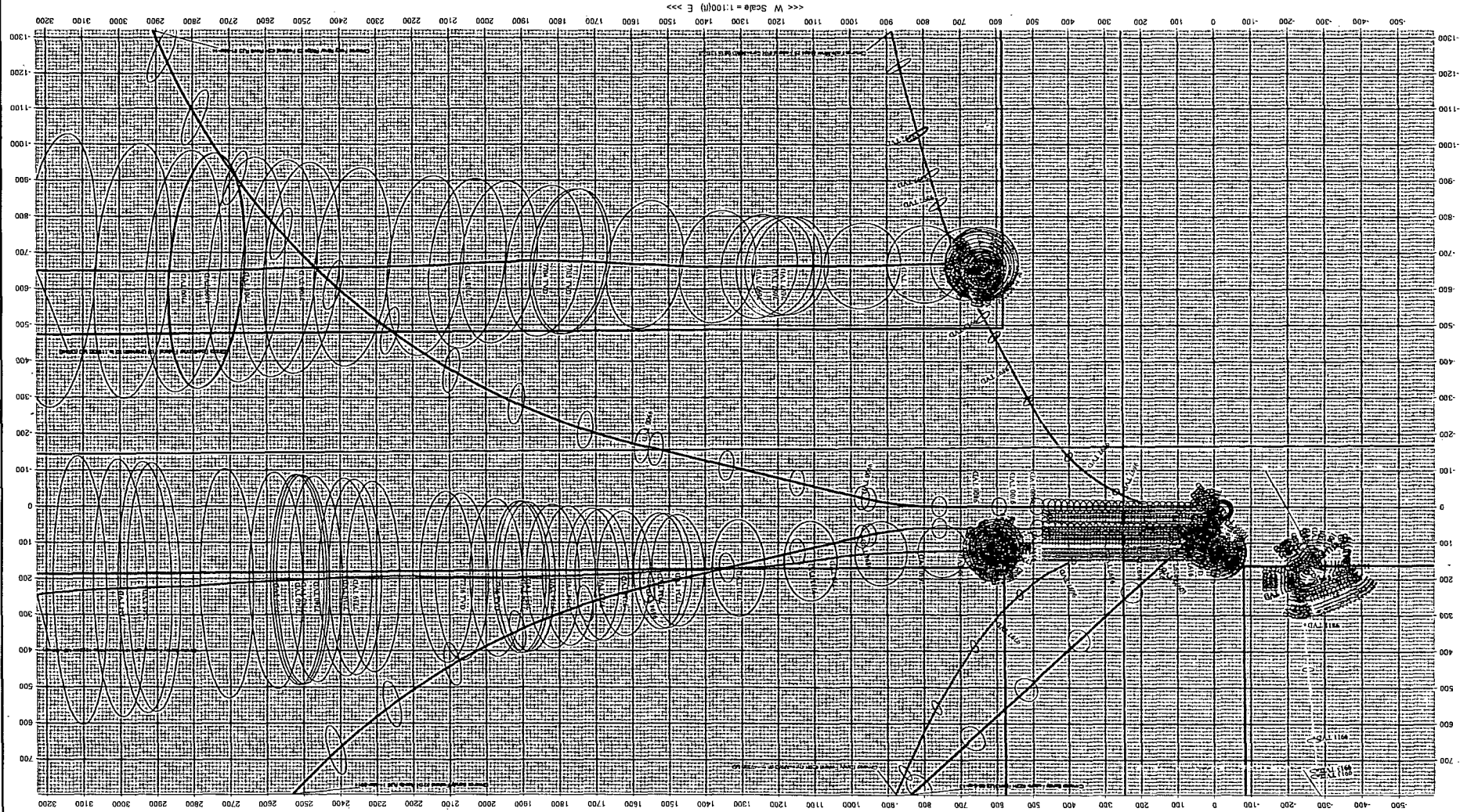


Drawn by: R. B. B. B. B.
Checked by: R. B. B. B. B.
Approved by: R. B. B. B. B.
Date: 10/12/2010

WELL:	Forty Niner Ridge 25 Federal #2H	FIELD:	NM Eddy County	STRUCTURE:	Cactus 137			
<table><tr><td>Magnetometer Parameters Model: BGM 1013 Date: September 07, 2013 Dip: 7.55° Mag Dec: 66.12° 7.55°</td><td>Surface Location Lat: N 32 17.1 271 Long: W 103 50 37.608 Easting: 609364.10 NUTS Northing: 467184.00 NUTS Cont. Elev: 0.9995531 Seal Elev: 0.9617 Station Name: T5 Post</td><td>Magnetometer Pole: T5 Post Pole NUTS 31-Mile-14 TYP Ref: XG01311 (State) Survey Date: February 08, 2013</td></tr></table>						Magnetometer Parameters Model: BGM 1013 Date: September 07, 2013 Dip: 7.55° Mag Dec: 66.12° 7.55°	Surface Location Lat: N 32 17.1 271 Long: W 103 50 37.608 Easting: 609364.10 NUTS Northing: 467184.00 NUTS Cont. Elev: 0.9995531 Seal Elev: 0.9617 Station Name: T5 Post	Magnetometer Pole: T5 Post Pole NUTS 31-Mile-14 TYP Ref: XG01311 (State) Survey Date: February 08, 2013
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2-D 95% Confidence
2.44775 sigma

Grid North
Tol Corr (M-G 7.29149)
Mag Dec (7.5539)
Grid Conv (0.2619)



<<< S Scale = 1:100(m) N >>>

<< W Scale = 1:100(n) E >>

Drawn By: A. Schneider
Date Created: March 31, 2014 12:58:47 PM
Checked By:
Checked Date:
Approved By:
Approved Date:



Cimarex Forty Niner Ridge 25 Federal #2H Rev5 RJS 31-Mar-14 Proposal Report (Non-Def Plan)



Report Date: March 31, 2014 - 12:51 PM
Client: Cimarex
Field: NM Eddy County (NAD 83)
Structure / Slot: Cactus 137 / Cimarex Forty Niner Ridge 25 Federal #2H
Well: Cimarex Forty Niner Ridge 25 Federal #2H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Forty Niner Ridge 25 Federal #2H Rev5 RJS 31-Mar-14
Survey Date: February 08, 2013
Tort / AHD / DDI / ERD Ratio: 165.567 ° / 7230.365 ft / 6.299 / 0.730
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 17' 1.27147", W 103° 50' 37.49823"
Location Grid N/E Y/X: N 467283.200 ftUS, E 692634.300 ftUS
CRS Grid Convergence Angle: 0.2615 °
Grid Scale Factor: 0.99993531

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 146.139 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: KB
TVD Reference Elevation: 3318.000 ft above
Seabed / Ground Elevation: 3294.000 ft above
Magnetic Declination: 7.553 °
Total Gravity Field Strength: 998.5020mgn (9.80665 Based)
Total Magnetic Field Strength: 48386.982 nT
Magnetic Dip Angle: 60.128 °
Declination Date: September 03, 2013
Magnetic Declination Model: BGGM 2013
North Reference: Grid North
Grid Convergence Used: 0.2615 °
Total Corr Mag North->Grid North: 7.2914 °
Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL Forty Niner, Ridge 25 Federal #2H	0.00	0.00	90.00	0.00	0.00	0.00	0.00	N/A	467283.20	692634.30	N 32 17 1.27	W 103 50 37.50
Nudge East @ 1.5°/100' DLS	4000.00	0.00	90.00	4000.00	0.00	0.00	0.00	0.00	467283.20	692634.30	N 32 17 1.27	W 103 50 37.50
Hold 5° Inc	4333.45	5.00	90.00	4333.02	8.10	0.00	14.55	1.50	467283.20	692648.84	N 32 17 1.27	W 103 50 37.33
KOP - Build @ 12°/100' DLS	9478.43	5.00	90.00	9458.42	258.04	0.00	463.11	0.00	467283.20	693097.38	N 32 17 1.25	W 103 50 32.10
Build & Turn @ 12°/100' DLS	10020.10	70.00	90.00	9865.48	432.07	0.00	775.46	12.00	467283.20	693409.70	N 32 17 1.24	W 103 50 28.47
Land and Hold for 620' MD	10219.05	90.00	103.31	9900.00	558.95	-23.24	968.54	12.00	467259.96	693602.77	N 32 17 1.00	W 103 50 26.22
Turn @ 3°/100' DLS	10839.05	90.00	103.31	9900.00	1013.65	-165.97	1571.88	0.00	467117.24	694206.08	N 32 16 59.56	W 103 50 19.20
Hold to TD	13228.72	90.00	175.00	9900.00	3233.86	-1858.08	3034.79	3.00	465425.25	695668.89	N 32 16 42.75	W 103 50 2.25
PBHL Forty Niner Ridge 25 Federal #2H	16479.05	90.00	175.00	9900.00	6080.50	-5096.04	3318.12	0.00	462187.50	695952.20	N 32 16 10.69	W 103 49 59.13

Survey Type: Non-Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey					
	0.000	24.000		1/100.000	30.000	30.000	SLB_MWD-STD-Depth Only	Original Borehole / Cimarex Forty Niner Ridge 25 Federal #2H Rev5				
	24.000	16479.055		1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Forty Niner Ridge 25 Federal #2H Rev5				



Cimarex Forty Niner Ridge 25 Federal #2H Rev5 AC 3D Summary Report

Analysis Date-24hr Time: March 31, 2014 - 12:55
 Client: Cimarex
 Field: NM Eddy County (NAD 83)
 Structure: Cimarex Forty Niner Ridge 25 Federal #2H
 Slot: Cimarex Forty Niner Ridge 25 Federal #2H
 Well: Cimarex Forty Niner Ridge 25 Federal #2H
 Borehole: Original Borehole

Analysis Method: 3D Least Distance
 Reference Trajectory: Cimarex Forty Niner Ridge 25 Federal #2H Rev5 RJS 31-Mar-14 (Non-Def Plan)
 Depth Interval: Every 10.00 Measured Depth (ft)
 Rule Set: D&M AntiCollision Standard S002 v5.1/5.2
 Min Pts: All local minima indicated.

Offset Trajectories Summary

Offset Selection Criteria

Wellhead distance scan:

Selection filters:

Restricted within 57489.55 ft

Definitive Surveys - Definitive Plans - Definitive surveys exclude definitive plans

- All Non-Def Surveys when no Def-Survey is set in a borehole - All Non-Def Plans when no Def-Plan is set in a borehole

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
Cimarex Sandy Federal #22H Rev4 RJS 09-Sep-13 (Def Plan)													
	30.01	24.51	27.51	5.50	N/A	MAS = 7.47 (m)	0.00	0.00	CtCt<=15m<15.00			Enter Alert	Fail Minor
	30.01	30.03	9.15	-0.02	1.50	OSF 1.50	2980.00	2980.00		OSF<1.50		Enter Minor	
	30.01	39.64	2.74	-9.64	1.11	OSF 1.50	4000.00	4000.00				MinPt-CtCt	
	30.13	40.50	2.30	-10.37	1.09	OSF 1.50	4130.00	4129.97				MINPT-O-EQU	
	30.17	40.55	2.30	-10.38	1.09	OSF 1.50	4140.00	4139.97				MinPt-O-SF	
	30.21	40.60	2.31	-10.39	1.09	OSF 1.50	4150.00	4149.96				MinPt-O-ADP	
	42.19	42.43	13.08	-0.23	1.49	OSF 1.50	4500.00	4498.94		OSF>1.50		Exit Minor	
	168.37	52.45	132.57	115.92	4.98	OSF 1.50	6060.00	6053.00	OSF>5.00			Exit Alert	
	1820.22	93.38	1757.13	1726.84	30.00	OSF 1.50	11060.00	9900.00				MinPts	
	1890.10	97.08	1824.54	1793.01	29.94	OSF 1.50	11160.00	9900.00				MinPt-O-SF	
	6101.60	94.44	6037.80	6007.16	99.50	OSF 1.50	16479.05	9900.00				TD	
Cimarex Sandy Federal #21H Rev4b RJS 14-Mar-2014 (Def Plan)													
	60.01	32.81	57.51	27.20	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Fail Minor
	60.01	32.81	46.00	27.20	5.00	MAS = 10.00 (m)	1890.00	1890.00	OSF<5.00			Enter Alert	
	60.00	40.23	32.35	19.78	2.29	OSF 1.50	4333.45	4333.02				MinPt-CtCt	
	60.00	60.06	19.13	-0.05	1.50	OSF 1.50	8280.00	8264.55		OSF<1.50		Enter Minor	
	60.00	69.75	12.67	-9.75	1.28	OSF 1.50	9500.00	9479.85				MinPt-CtCt	
	60.39	81.16	5.45	-20.77	1.10	OSF 1.50	10030.00	9868.78				MinPts	
	85.77	86.34	27.38	-0.57	1.49	OSF 1.50	10170.00	9897.87		OSF>1.50		Exit Minor	
	409.90	124.81	325.86	285.09	5.00	OSF 1.50	10900.00	9900.00	OSF>5.00			Exit Alert	
	5597.30	145.67	5499.35	5451.63	58.62	OSF 1.50	16479.05	9900.00				TD	
Cimarex Forty Niner Ridge 25 Federal #1H Gyro-MWD Off to 15100ft (Def Survey)													
	90.01	32.81	87.51	57.20	221640.44	MAS = 10.00 (m)	0.00	0.00				Surface	Warning Alert
	85.63	32.81	79.27	52.83	21.50	MAS = 10.00 (m)	820.00	820.00				MinPts	
	85.31	32.81	72.47	52.50	8.00	MAS = 10.00 (m)	2310.00	2310.00				MinPts	
	86.70	32.81	67.33	53.89	4.99	MAS = 10.00 (m)	3850.00	3850.00	OSF<5.00			Enter Alert	
	85.65	32.81	65.35	52.84	4.67	MAS = 10.00 (m)	4270.00	4269.78				MinPts	
	85.65	32.81	65.35	52.85	4.67	MAS = 10.00 (m)	4280.00	4279.75				MINPT-O-EQU	
	85.80	32.81	65.45	52.99	4.67	MAS = 10.00 (m)	4330.00	4329.59				MinPt-O-SF	
	96.23	32.81	74.95	63.42	4.99	MAS = 10.00 (m)	4790.00	4787.84	OSF>5.00			Exit Alert	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
431.87	49.12	398.28	382.74	13.81		OSF 1.50	9200.00	9181.05				MinPt-O-SF	
427.25	48.62	394.01	378.63	13.81		OSF 1.50	9230.00	9210.93				MinPt-O-SF	
381.47	44.32	351.09	337.15	13.59		OSF 1.50	9350.00	9330.47				MinPt-O-SF	
239.53	50.71	204.89	188.82	7.38		OSF 1.50	9720.00	9683.72				MinPt-CICt	
239.70	51.31	204.66	188.39	7.29		OSF 1.50	9730.00	9691.95				MinPt-O-EOU	
240.23	51.91	204.79	188.32	7.22		OSF 1.50	9740.00	9700.06				MinPt-O-ADP	
248.31	54.71	211.01	193.61	7.06		OSF 1.50	9790.00	9738.69				MinPt-O-SF	
1327.15	84.34	1270.10	1242.82	24.28		OSF 1.50	11280.00	9900.00				MinPt-O-SF	
1674.33	100.32	1606.62	1574.01	25.64		OSF 1.50	11840.00	9900.00				MinPt-O-SF	
1891.44	111.29	1816.41	1780.15	26.04		OSF 1.50	12330.00	9900.00				MinPt-O-SF	
2060.71	147.71	1961.40	1913.00	21.26		OSF 1.50	13640.00	9900.00				MinPt-CICt	
2045.15	188.55	1918.62	1856.60	16.47		OSF 1.50	14730.00	9900.00				MinPt-CICt	
2048.68	202.15	1913.08	1846.54	15.37		OSF 1.50	15130.00	9900.00				MinPt-O-EOU	
2049.77	203.46	1913.29	1846.31	15.28		OSF 1.50	15190.00	9900.00				MinPt-O-ADP	
2052.13	205.85	1914.06	1846.28	15.12		OSF 1.50	15280.00	9900.00				MinPt-O-ADP	
2030.08	310.99	1821.92	1719.09	9.86		OSF 1.50	16190.00	9900.00				MinPt-O-SF	
2028.04	309.77	1820.69	1718.27	9.89		OSF 1.50	16240.00	9900.00				MinPt-O-ADP	
2027.57	309.23	1820.58	1718.34	9.90		OSF 1.50	16260.00	9900.00				MinPt-O-EOU	
2027.22	308.08	1821.00	1719.14	9.94		OSF 1.50	16300.00	9900.00				MinPt-CICt	
2035.31	301.64	1833.39	1733.68	10.19		OSF 1.50	16479.05	9900.00				TD	

Stratita Sandy Federal #3H
Unknown Off to 12226R MD (Offset)
(Def Survey)

Warning Alert

601.41	32.81	598.91	568.60	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
600.74	32.81	598.18	567.93	9499.79	MAS = 10.00 (m)	20.00	20.00					MinPt-O-SF	
600.66	32.81	598.14	567.85	44869.79	MAS = 10.00 (m)	30.00	30.00					MinPts	
600.48	39.16	573.54	561.33	24.47	OSF 1.50	480.00	480.00					MinPts	
597.47	40.00	569.96	557.46	23.80	OSF 1.50	870.00	870.00					MinPt-CICt	
597.48	40.03	569.96	557.45	23.78	OSF 1.50	880.00	880.00					MinPt-O-EOU	
597.50	40.05	569.96	557.44	23.77	OSF 1.50	890.00	890.00					MinPt-O-ADP	
597.58	40.10	570.01	557.48	23.74	OSF 1.50	910.00	910.00					MinPt-O-SF	
601.83	101.19	533.53	500.64	9.11	OSF 1.50	1870.00	1870.00					MinPts	
603.86	102.27	534.85	501.59	9.04	OSF 1.50	1960.00	1960.00					MinPt-O-SF	
624.74	156.80	519.37	467.94	6.05	OSF 1.50	3110.00	3110.00					MinPt-O-EOU	
625.97	158.83	519.26	467.15	5.98	OSF 1.50	3180.00	3180.00					MinPts	
623.41	150.48	522.26	472.93	6.29	OSF 1.50	3470.00	3470.00					MinPt-CICt	
623.95	158.80	517.25	465.15	5.96	OSF 1.50	3570.00	3570.00					MinPt-O-EOU	
624.14	159.56	516.94	464.59	5.94	OSF 1.50	3640.00	3640.00					MinPts	
469.56	143.08	373.28	326.49	4.99	OSF 1.50	5840.00	5833.84		OSF<5.00			Enter Alert	
387.03	183.42	263.82	203.62	3.19	OSF 1.50	6800.00	6790.18					MinPt-O-SF	
386.02	182.75	263.24	203.27	3.19	OSF 1.50	6810.00	6800.15					MinPt-O-ADP	
338.26	139.98	243.97	198.27	3.67	OSF 1.50	7310.00	7298.24					MinPt-CICt	
338.44	140.70	243.68	197.74	3.65	OSF 1.50	7330.00	7318.17					MinPt-O-EOU	
338.75	141.03	243.76	197.71	3.65	OSF 1.50	7340.00	7328.13					MinPt-O-ADP	
339.78	141.62	244.41	198.17	3.64	OSF 1.50	7360.00	7348.05					MinPt-O-SF	
464.77	142.66	368.84	322.12	4.95	OSF 1.50	7780.00	7766.45		OSF>5.00			Exit Alert	
2176.49	80.96	2121.68	2095.53	41.56	OSF 1.50	10240.00	9900.00					MinPt-O-EOU	
2175.83	78.92	2122.38	2096.91	42.66	OSF 1.50	10300.00	9900.00					MinPt-CICt	
2183.88	84.42	2126.77	2099.46	39.94	OSF 1.50	10520.00	9900.00					MinPt-O-EOU	
2187.60	123.15	2104.66	2064.45	27.17	OSF 1.50	10650.00	9900.00					MinPts	
2198.34	145.31	2100.64	2053.03	23.06	OSF 1.50	10920.00	9900.00					MinPts	
2202.86	165.84	2091.46	2037.01	20.21	OSF 1.50	11000.00	9900.00					MinPt-O-EOU	
2203.35	166.49	2091.52	2036.86	20.13	OSF 1.50	11010.00	9900.00					MinPt-O-ADP	
2214.13	199.11	2080.55	2015.01	16.87	OSF 1.50	11160.00	9900.00					MinPts	
2238.91	241.07	2077.37	1997.85	14.06	OSF 1.50	11410.00	9900.00					MinPt-O-EOU	
2251.18	254.82	2080.46	1996.36	13.37	OSF 1.50	11510.00	9900.00					MinPt-O-ADP	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
	2309.14	309.97	2101.66	1999.17	11.25	OSF 1.50	11810.00	9900.00				MinPts	
	2355.82	345.62	2124.57	2010.19	10.29	OSF 1.50	11980.00	9900.00				MinPt-O-ADP	
	2931.54	605.81	2526.84	2325.74	7.28	OSF 1.50	13130.00	9900.00				MinPt-O-SF	
	5751.68	825.06	5200.81	4926.62	10.48	OSF 1.50	16479.05	9900.00				TD	

Stratta Roadrunner, Federal #1H:
Unknown OR to 11993ft MD (Offset)
(Def Survey)

	905.23	32.81	902.73	872.42	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	902.70	42.93	873.24	859.76	33.40	OSF 1.50	460.00	460.00				MinPt-CtCt	
	909.83	124.04	826.40	785.89	11.20	OSF 1.50	1490.00	1490.00				MinPts	
	901.00	79.92	846.88	821.07	17.41	OSF 1.50	2730.00	2730.00				MinPt-CtCt	
	910.88	169.06	797.33	741.81	8.18	OSF 1.50	3640.00	3640.00				MinPts	
	911.74	169.70	797.78	742.05	8.16	OSF 1.50	3730.00	3730.00				MinPt-O-SF	
	882.90	139.83	788.84	743.07	9.62	OSF 1.50	4680.00	4678.26				MinPt-O-SF	
	784.92	237.56	625.66	547.36	5.00	OSF 1.50	6800.00	6790.18	OSF<5.00			Enter Alert	
	775.38	247.93	609.20	527.45	4.73	OSF 1.50	7040.00	7029.27				MinPt-O-SF	
	768.73	243.60	605.45	525.14	4.77	OSF 1.50	7200.00	7188.66				MinPt-O-ADP	
	768.26	242.98	605.38	525.27	4.78	OSF 1.50	7210.00	7198.62				MINPT-O-EOU	
	765.72	239.58	605.11	526.14	4.83	OSF 1.50	7270.00	7258.39				MinPt-O-SF	
	765.36	239.38	604.88	525.98	4.83	OSF 1.50	7290.00	7278.32				MinPts	
	765.28	239.27	604.88	526.01	4.83	OSF 1.50	7310.00	7298.24				MinPt-CtCt	
	765.46	239.74	604.74	525.72	4.83	OSF 1.50	7330.00	7318.17				MINPT-O-EOU	
	765.63	239.96	604.77	525.67	4.82	OSF 1.50	7340.00	7328.13				MinPt-O-ADP	
	767.90	241.14	606.25	526.76	4.81	OSF 1.50	7400.00	7387.90				MinPt-O-SF	
	804.23	243.15	641.29	561.09	5.00	OSF 1.50	7660.00	7646.91	OSF>5.00			Exit Alert	
	2223.24	232.18	2067.62	1991.07	14.50	OSF 1.50	11260.00	9900.00				MinPt-O-SF	
	2207.79	224.24	2057.46	1983.55	14.92	OSF 1.50	11490.00	9900.00				MinPt-O-ADP	
	2205.65	221.67	2057.04	1983.98	15.08	OSF 1.50	11550.00	9900.00				MINPT-O-EOU	
	2199.98	235.24	2042.32	1964.74	14.16	OSF 1.50	11860.00	9900.00				MinPt-CtCt	
	2204.18	245.45	2039.71	1958.72	13.59	OSF 1.50	12060.00	9900.00				MINPT-O-EOU	
	2206.20	248.29	2039.84	1957.91	13.45	OSF 1.50	12100.00	9900.00				MinPt-O-ADP	
	2206.78	248.71	2040.14	1958.07	13.43	OSF 1.50	12110.00	9900.00				MinPt-O-SF	
	2236.75	277.97	2050.61	1958.78	12.17	OSF 1.50	12370.00	9900.00				MinPts	
	2295.07	320.10	2080.83	1974.96	10.83	OSF 1.50	12650.00	9900.00				MinPts	
	3153.04	639.50	2725.88	2513.55	7.42	OSF 1.50	14280.00	9900.00				MinPt-O-SF	
	3449.62	698.33	2983.23	2751.29	7.43	OSF 1.50	14680.00	9900.00				MinPt-O-SF	
	4962.44	854.00	4392.28	4108.45	8.74	OSF 1.50	16479.05	9900.00				TD	

Cimarex Sandy Federal #20H:
Gyro+MWD, 0ft to 14735ft MD (Def Survey)

	120.01	32.81	117.51	87.20	371173.75	MAS = 10.00 (m)	0.00	0.00				Surface	
	115.45	32.81	109.67	82.64	34.48	MAS = 10.00 (m)	640.00	640.00				MinPts	
	115.57	32.81	108.66	82.77	25.61	MAS = 10.00 (m)	960.00	960.00				MinPts	
	119.81	32.81	98.36	87.00	6.19	MAS = 10.00 (m)	4100.00	4099.99				MinPts	
	326.42	45.19	295.46	281.23	11.38	OSF 1.50	9330.00	9310.55				MinPt-O-SF	
	198.53	50.96	163.73	147.58	6.07	OSF 1.50	9650.00	9623.02				MinPt-CtCt	
	198.56	51.48	163.41	147.08	6.00	OSF 1.50	9660.00	9631.99				MINPT-O-EOU	
	198.93	51.97	163.45	146.96	5.96	OSF 1.50	9670.00	9640.87				MinPt-O-ADP	
	201.97	53.28	165.62	148.69	5.89	OSF 1.50	9700.00	9666.90				MinPt-O-SF	
	6009.84	83.20	5953.54	5926.64	111.67	OSF 1.50	16479.05	9900.00				TD	

Cimarex Forty Niner Ridge 23
Federal #1H ST02 Gyro+MWD
10295ft to 14343ft MD (Def Survey)

	387.26	32.81	384.76	354.45	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
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Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
387.11	32.81	384.60	354.30	78709.58	MAS = 10.00 (m)	10.00	10.00					MinPts	
387.02	32.81	384.16	354.22	1050.34	MAS = 10.00 (m)	130.00	130.00					MinPts	
387.15	32.81	384.04	354.34	638.24	MAS = 10.00 (m)	180.00	180.00					MINPT-O-EOU	
325.51	32.81	304.71	292.70	17.68	MAS = 10.00 (m)	4090.00	4089.99					MinPts	
325.53	32.81	304.71	292.72	17.67	MAS = 10.00 (m)	4100.00	4099.99					MinPts	
436.63	34.56	412.76	402.07	20.31	OSF 1.50	5950.00	5943.42					MinPt-O-SF	
521.19	39.98	493.70	481.21	20.76	OSF 1.50	7110.00	7099.00					MinPt-O-SF	
558.46	43.16	528.85	515.30	20.51	OSF 1.50	7660.00	7646.91					MinPt-O-SF	
736.36	49.75	702.37	686.62	23.30	OSF 1.50	9419.68	9399.89					MinPt-O-SF	
749.56	56.96	710.75	692.60	20.58	OSF 1.50	9530.00	9509.45					MinPts	
751.67	57.85	712.27	693.82	20.30	OSF 1.50	9540.00	9519.24					MinPt-O-SF	
6370.81	71.60	6322.25	6299.22	138.25	OSF 1.50	16479.05	9900.00					TD	

Cimarex Forty Niner Ridge 23
Federal #1H Gyro-MWD Off to 12674R MD (Def Survey)

387.26	32.81	384.76	354.45	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
387.11	32.81	384.60	354.30	78709.58	MAS = 10.00 (m)	10.00	10.00					MinPts	
387.02	32.81	384.16	354.22	1050.34	MAS = 10.00 (m)	130.00	130.00					MinPts	
387.15	32.81	384.04	354.34	638.24	MAS = 10.00 (m)	180.00	180.00					MINPT-O-EOU	
325.51	32.81	304.71	292.70	17.68	MAS = 10.00 (m)	4090.00	4089.99					MinPts	
325.53	32.81	304.71	292.72	17.67	MAS = 10.00 (m)	4100.00	4099.99					MinPts	
436.63	34.56	412.76	402.07	20.31	OSF 1.50	5950.00	5943.42					MinPt-O-SF	
521.19	39.98	493.70	481.21	20.76	OSF 1.50	7110.00	7099.00					MinPt-O-SF	
558.46	43.16	528.85	515.30	20.51	OSF 1.50	7660.00	7646.91					MinPt-O-SF	
736.36	49.75	702.37	686.62	23.30	OSF 1.50	9419.68	9399.89					MinPt-O-SF	
749.56	56.96	710.75	692.60	20.58	OSF 1.50	9530.00	9509.45					MinPts	
751.67	57.85	712.27	693.82	20.30	OSF 1.50	9540.00	9519.24					MinPt-O-SF	
6370.81	71.60	6322.25	6299.22	138.25	OSF 1.50	16479.05	9900.00					TD	

Cimarex Forty Niner Ridge 23
Federal #1H Gyro-MWD Off to 11268R MD (Def Survey)

387.26	32.81	384.76	354.45	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
387.11	32.81	384.60	354.30	78709.58	MAS = 10.00 (m)	10.00	10.00					MinPts	
387.02	32.81	384.16	354.22	1050.34	MAS = 10.00 (m)	130.00	130.00					MinPts	
387.15	32.81	384.04	354.34	638.24	MAS = 10.00 (m)	180.00	180.00					MINPT-O-EOU	
325.51	32.81	304.71	292.70	17.68	MAS = 10.00 (m)	4090.00	4089.99					MinPts	
325.53	32.81	304.71	292.72	17.67	MAS = 10.00 (m)	4100.00	4099.99					MinPts	
436.63	34.56	412.76	402.07	20.31	OSF 1.50	5950.00	5943.42					MinPt-O-SF	
521.19	39.98	493.70	481.21	20.76	OSF 1.50	7110.00	7099.00					MinPt-O-SF	
558.46	43.16	528.85	515.30	20.51	OSF 1.50	7660.00	7646.91					MinPt-O-SF	
736.36	49.75	702.37	686.62	23.30	OSF 1.50	9419.68	9399.89					MinPt-O-SF	
742.11	49.90	708.01	692.21	23.40	OSF 1.50	9490.00	9469.93					MinPt-O-SF	
6357.21	71.09	6308.98	6286.12	138.96	OSF 1.50	16479.05	9900.00					TD	

Cimarex Forty Niner Ridge 23
Federal #2H Gyro-MWD Off to 14169R MD (Def Survey)

1744.96	32.81	1742.46	1712.16	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
1744.83	32.81	1742.31	1712.02	89288.00	MAS = 10.00 (m)	10.00	10.00					MinPt-O-SF	
1744.69	32.81	1741.86	1711.89	5162.05	MAS = 10.00 (m)	110.00	110.00					MinPts	
1745.10	32.81	1741.14	1712.30	1190.30	MAS = 10.00 (m)	310.00	310.00					MINPT-O-EOU	
1748.89	32.81	1742.33	1716.08	430.01	MAS = 10.00 (m)	800.00	800.00					MINPT-O-EOU	
1749.78	32.81	1742.23	1716.97	346.28	MAS = 10.00 (m)	990.00	990.00					MINPT-O-EOU	
1784.23	32.81	1761.72	1751.43	89.04	MAS = 10.00 (m)	3840.00	3840.00					MinPts	
1784.34	32.81	1761.66	1751.53	88.29	MAS = 10.00 (m)	3890.00	3890.00					MINPT-O-EOU	
1783.74	33.50	1760.57	1750.24	86.18	OSF 1.50	4040.00	4040.00					MinPt-CICt	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
1783.76	33.53	1760.57	1750.23	86.10		OSF 1.50	4050.00	4050.00					MinPts
1784.27	33.68	1760.98	1750.59	85.73		OSF 1.50	4100.00	4099.99					MinPt-O-SF
2231.69	51.44	2196.56	2180.25	68.32		OSF 1.50	9419.68	9399.89					MinPt-O-SF
2267.95	52.34	2232.22	2215.61	68.18		OSF 1.50	9610.00	9586.26					MinPt-O-SF
7378.63	68.36	7332.23	7310.28	168.00		OSF 1.50	16479.05	9900.00					TD