

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.*Lease Serial No.
M100844

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

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

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.

RUDOLPH FEDERAL 2H

2. Name of Operator

MACK ENERGY CORPORATION

Contact: JERRY W SHERRELL

E-Mail: jerrys@mec.com

9. API Well No.

30-015-44499-00-X1

3a. Address

P O BOX 960
ARTESIA, NM 88211-0960

3b. Phone No. (include area code)

Ph: 575-748-1288

10. Field and Pool or Exploratory Area

CROW FLATS

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 21 T16S R28E SWSW 940FSL 330FWL
32.902988 N Lat, 104.188370 W Lon

11. County or Parish, State

EDDY COUNTY, NM

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

| TYPE OF SUBMISSION | TYPE OF ACTION | | | |
|------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|----------------------------------------------------|-------------------------------------------|
| <input checked="" type="checkbox"/> Notice of Intent | <input type="checkbox"/> Acidize | <input type="checkbox"/> Deepen | <input type="checkbox"/> Production (Start/Resume) | <input type="checkbox"/> Water Shut-Off |
| <input type="checkbox"/> Subsequent Report | <input type="checkbox"/> Alter Casing | <input type="checkbox"/> Hydraulic Fracturing | <input type="checkbox"/> Reclamation | <input type="checkbox"/> Well Integrity |
| <input type="checkbox"/> Final Abandonment Notice | <input type="checkbox"/> Casing Repair | <input type="checkbox"/> New Construction | <input type="checkbox"/> Recomplete | <input checked="" type="checkbox"/> Other |
| | <input type="checkbox"/> Change Plans | <input type="checkbox"/> Plug and Abandon | <input type="checkbox"/> Temporarily Abandon | |
| | <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Plug Back | <input type="checkbox"/> 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 recompleate 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 recompleation 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.

Mack Energy Corporation respectfully requests approval to set a kick off plug and continue drilling the Rudolph Federal 2h as a horizontal well. Proposed BHL 940 FSL & 2613 FWL.

We are currently idling drilling rig awaiting approval to continue drilling.

Lease NMNM100844 covers all of section 21 T16S R28E.

Production string will be upgraded to 5.5 L-80 17# BTC Casing.
Cement Lead 275sx 13.2# yield 1.83, tail 495sx 13# yield 1.48

- All previous CoAn still apply.

12-13-17
Accepted for record - NMOC

NM OIL CONSERVATION
ARTESIA DISTRICT
DEC 12 2017

RECEIVED

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

Electronic Submission #397157 verified by the BLM Well Information System
For MACK ENERGY CORPORATION, sent to the Carlsbad
Committed to AFMSS for processing by MUSTAFA HAQUE on 12/07/2017 (18MH0010SE)

Name (Printed/Typed) JERRY W SHERRELL

Title PRODUCTION CLERK

Signature (Electronic Submission)

Date 12/06/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By MUSTAFA HAQUE

Title PETROLEUM ENGINEER

Date 12/07/2017

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 Carlsbad

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)

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

District I
1625 N. French Dr. Hobbs, NM 88240
Phone: (505) 393-6161 Fax: (505) 393-6162
District II
811 S. First St. Artesia, NM 88210
Phone: (505) 748-1233 Fax: (505) 748-1234
District III
1000 Rio Brazos Road, Aztec, NM 88010
Phone: (505) 334-6778 Fax: (505) 334-6779
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

| | | |
|------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------------|
| ¹ API Number 30-015-44499 | ² Pool Code 14860 | ³ Pool Name Crow Flats; San Andres |
| ⁴ Property Code 319788 | ⁵ Property Name RUDOLPH FEDERAL | |
| ⁷ OGRID No. 13837 | ⁶ Operator Name MACK ENERGY CORPORATION | |
| | ⁸ Well Number 2H | ⁹ Elevation 3605.6 |

¹⁰ Surface Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|-----------|-------------|-------------|---------|---------------|------------------|---------------|----------------|-------------|
| M | 21 | 16 S | 28 E | | 940 | SOUTH | 330 | WEST | EDDY |

¹¹ 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 |
|---------------|-----------|-------------|-------------|---------|---------------|------------------|---------------|----------------|-------------|
| N | 21 | 16 S | 28 E | | 940 | SOUTH | 2613 | WEST | EDDY |

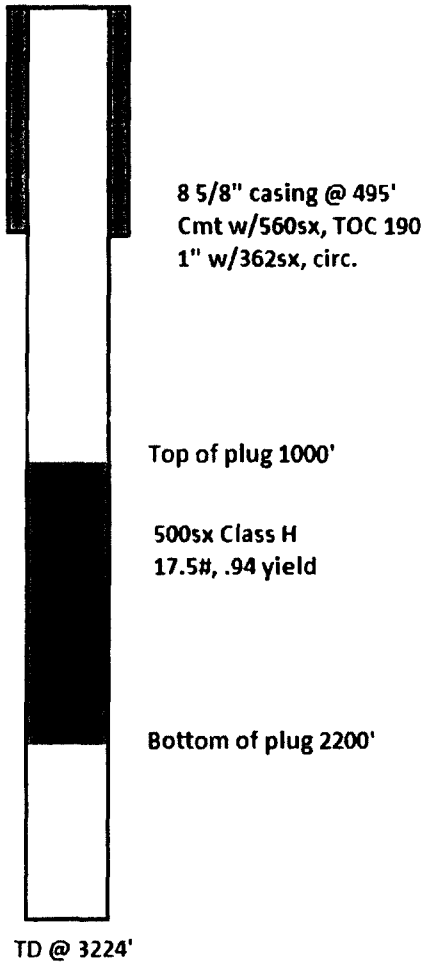
| | | | |
|--------------------------------------------|-------------------------------|----------------------------------|-------------------------|
| ¹² Dedicated Acres 80 | ¹³ Joint or Infill | ¹⁴ Consolidation Code | ¹⁵ Order No. |
|--------------------------------------------|-------------------------------|----------------------------------|-------------------------|

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.

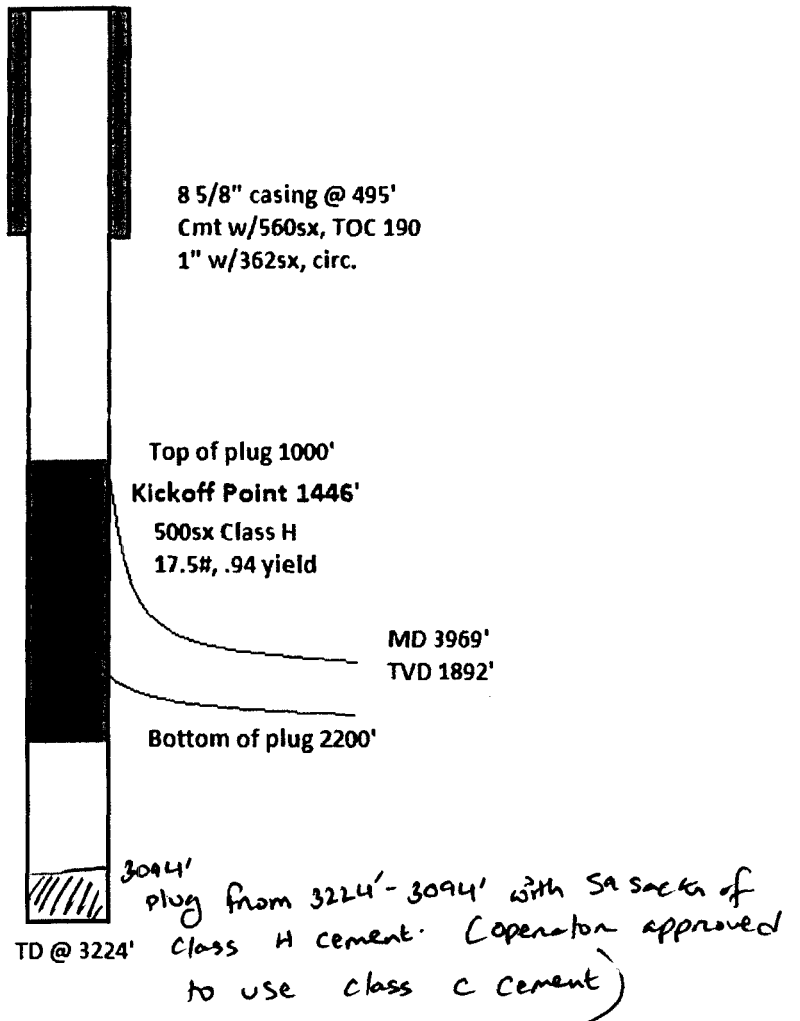
| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>N89°34'32"E 2610.06 FT</p> <p>N89°33'32"E 2611.04 FT</p> <p>NW CORNER SEC. 21 LAT. = 32.9153008°N LONG. = 104.1893709°W NMSP EAST (FT) N = 596751.08 E = 585515.16</p> <p>N/4 CORNER SEC. 21 LAT. = 32.9153439°N LONG. = 104.1808677°W NMSP EAST (FT) N = 596770.41 E = 588124.51</p> <p>NE CORNER SEC. 21 LAT. = 32.9153885°N LONG. = 104.1723613°W NMSP EAST (FT) N = 596790.52 E = 590734.83</p> <p>W/4 CORNER SEC. 21 LAT. = 32.9078479°N LONG. = 104.1894149°W NMSP EAST (FT) N = 594039.52 E = 585505.33</p> <p>E/4 CORNER SEC. 21 LAT. = 32.9079356°N LONG. = 104.1724050°W NMSP EAST (FT) N = 594078.99 E = 590725.55</p> <p>NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE. VERTICAL DATUM NAVD88.</p> <p>RUDOLPH FEDERAL 2H ELEV. = 3605.6' LAT. = 32.9029876°N (NAD83) LONG. = 104.1883687°W NMSP EAST (FT) N = 592271.67 E = 585828.84</p> <p>BOTTOM OF HOLE LAT. = 32.9030249°N LONG. = 104.1809380°W NMSP EAST (FT) N = 592288.46 E = 588110.92</p> <p>SURFACE LOCATION</p> <p>BOTTOM OF HOLE</p> <p>SW CORNER SEC. 21 LAT. = 32.9007988°N LONG. = 104.1894590°W NMSP EAST (FT) N = 591329.38 E = 585495.49</p> <p>S/4 CORNER SEC. 21 LAT. = 32.9004411°N LONG. = 104.1809468°W NMSP EAST (FT) N = 591348.42 E = 588108.07</p> <p>SE CORNER SEC. 21 LAT. = 32.9004833°N LONG. = 104.1724393°W NMSP EAST (FT) N = 591367.65 E = 590718.97</p> <p>59°34'57"W 2613.28 FT</p> <p>58°34'41"W 2611.60 FT</p> | | <p>¹⁶ OPERATOR CERTIFICATION</p> <p>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 hereby entered into by the division.</p> <p><i>Jerry W. Sherrell</i> 12/6/2017 Signature Date</p> <p>Jerry W. Sherrell Printed Name</p> <p><i>jerrysemec.com</i> E-mail Address</p> <p>¹⁷ SURVEYOR CERTIFICATION</p> <p>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.</p> <p>DECEMBER 6, 2017 Date of Survey</p> <p><i>[Signature]</i> Signature and Seal of Professional Surveyor</p> <p>Certificate Number: FELIMON F. JARAMILLO, PLS 12797 SURVEY NO. 51880</p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Mack Energy Corporation
Rudolph Federal 2H 30-015-44499

Before



After



Mack Energy

**Eddy County, NM
Sec 21 T16S R 28E
Rudolf Fed #2**

Lateral

Plan: Plan #1

Standard Planning Report

06 December, 2017

Planning Report

| | | | |
|------------------|-------------------|-------------------------------------|------------------------|
| Database: | EDM 5000.1 | Local Co-ordinate Reference: | Site Sec 21 T16S R 28E |
| Company: | Mack Energy | TVD Reference: | KB=17 5 @ 3623.1usft |
| Project: | Eddy County, NM | MD Reference: | KB=17 5 @ 3623.1usft |
| Site: | Sec 21 T16S R 28E | North Reference: | Grid |
| Well: | Rudolf Fed #2 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Lateral | | |
| Design: | Plan #1 | | |

| | | | |
|--------------------|---------------------------|----------------------|----------------|
| Project | Eddy County, NM | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | New Mexico Eastern Zone | | |

| | | | | | | |
|-----------------------|-----|-------------------|-----------------|------------|-------------------|--------|
| Site | | Sec 21 T16S R 28E | | | | |
| Site Position: | | Northing: | 692,271.67 usft | Latitude: | 32° 54' 10.755 N | |
| From: | Map | Easting: | 585,828.84 usft | Longitude: | 104° 11' 18.127 W | |
| Position Uncertainty: | | 0.0 usft | Slot Radius: | 13-3/16 " | Grid Convergence: | 0.08 ° |

| | | | | | | |
|----------------------|---------------|---------------------|-----------|-----------------|--------------|-------------------|
| Well | Rudolf Fed #2 | | | | | |
| Well Position | +N/-S | 0.0 usft | Northing: | 692,271.67 usft | Latitude: | 32° 54' 10.755 N |
| | +E/-W | 0.0 usft | Easting: | 585,828.84 usft | Longitude: | 104° 11' 18.127 W |
| Position Uncertainty | 0.0 usft | Wellhead Elevation: | 0.0 usft | Ground Level: | 3,605.6 usft | |

| | | | | | |
|------------------|-------------------|--------------------|----------------------------|--------------------------|--------------------------------|
| Wellbore | Lateral | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | HDGM | 12/6/2017 | 7.40 | 60.58 | 48,194 |

Design Plan #1

| | | | | |
|--------------------------|------------------------------------|-------------------------|-------------------------|--------------------------|
| Audit Notes: | | | | |
| Version: | Phase: | PLAN | Tie On Depth: | 1,446.8 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
| | 0.0 | 0.0 | 0.0 | 89.58 |

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 |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|------------------------------|-----------------------------|------------|-----------------------|
| 1,446.8 | 0.86 | 213.09 | 1,446.7 | -2.9 | -2.5 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2,075.6 | 87.55 | 89.38 | 1,859.0 | -3.6 | 389.3 | 14.00 | 13.79 | -19.68 | -123.74 | |
| 2,686.9 | 87.55 | 89.38 | 1,885.1 | 3.1 | 1,000.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2,798.4 | 89.78 | 89.38 | 1,887.7 | 4.3 | 1,111.4 | 2.00 | 2.00 | 0.00 | 0.00 | |
| 3,687.0 | 89.78 | 89.38 | 1,891.1 | 13.9 | 2,000.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3,689.0 | 89.82 | 89.41 | 1,891.1 | 13.9 | 2,002.0 | 2.39 | 1.93 | 1.42 | 36.30 | |
| 3,969.1 | 89.82 | 89.41 | 1,892.0 | 16.8 | 2,282.1 | 0.00 | 0.00 | 0.00 | 0.00 | Rudolf Fed #2 Lateral |

Planning Report

Database: EDM 5000.1
Company: Mack Energy
Project: Eddy County, NM
Site: Sec 21 T16S R 28E
Well: Rudolf Fed #2
Wellbore: Lateral
Design: Plan #1

Local Co-ordinate Reference: Site Sec 21 T16S R 28E
TVD Reference: KB=17.5 @ 3623.1usft
MD Reference: KB=17.5 @ 3623.1usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 1,446.8 | 0.86 | 213.09 | 1,446.7 | -2.9 | -2.5 | -2.5 | 0.00 | 0.00 | 0.00 |
| Tie-On Point BLD 14°/100' | | | | | | | | | |
| 2,075.6 | 87.55 | 89.38 | 1,859.0 | -3.6 | 389.3 | 389.3 | 14.00 | 13.79 | -19.68 |
| EOB HLD 87.55° Inc. | | | | | | | | | |
| 2,686.9 | 87.55 | 89.38 | 1,885.1 | 3.1 | 1,000.0 | 1,000.0 | 0.00 | 0.00 | 0.00 |
| BLD 2°/100' | | | | | | | | | |
| 2,798.4 | 89.78 | 89.38 | 1,887.7 | 4.3 | 1,111.4 | 1,111.4 | 2.00 | 2.00 | 0.00 |
| EOB HLD 89.78° Inc. | | | | | | | | | |
| 3,687.0 | 89.78 | 89.38 | 1,891.1 | 13.9 | 2,000.0 | 2,000.0 | 0.00 | 0.00 | 0.00 |
| BLD 2.39°/100' | | | | | | | | | |
| 3,689.0 | 89.82 | 89.41 | 1,891.1 | 13.9 | 2,002.0 | 2,002.0 | 2.39 | 1.93 | 1.42 |
| EOB HLD 89.82° Inc. | | | | | | | | | |
| 3,969.1 | 89.82 | 89.41 | 1,892.0 | 16.8 | 2,282.1 | 2,282.1 | 0.00 | 0.00 | 0.00 |
| TD at 3969.1 | | | | | | | | | |

Design Targets

| Target Name | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|---------------------------|---------------|--------------|------------|--------------|--------------|-----------------|----------------|------------------|-------------------|
| - hit/miss target | | | | | | | | | |
| - Shape | | | | | | | | | |
| Rudolf Fed #2 Lateral | 0.00 | 0.00 | 1,892.0 | 16.8 | 2,282.1 | 692,288.46 | 588,110.92 | 32° 54' 10.890 N | 104° 10' 51.359 W |
| - plan hits target center | | | | | | | | | |
| - Point | | | | | | | | | |

Plan Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment |
|-----------------------|-----------------------|-------------------|--------------|---------------------------|
| | | +N/-S (usft) | +E/-W (usft) | |
| 1,446.8 | 1,446.7 | -2.9 | -2.5 | Tie-On Point BLD 14°/100' |
| 2,075.6 | 1,859.0 | -3.6 | 389.3 | EOB HLD 87.55° Inc. |
| 2,686.9 | 1,885.1 | 3.1 | 1,000.0 | BLD 2°/100' |
| 2,798.4 | 1,887.7 | 4.3 | 1,111.4 | EOB HLD 89.78° Inc. |
| 3,687.0 | 1,891.1 | 13.9 | 2,000.0 | BLD 2.39°/100' |
| 3,689.0 | 1,891.1 | 13.9 | 2,002.0 | EOB HLD 89.82° Inc. |
| 3,969.1 | 1,892.0 | 16.8 | 2,282.1 | TD at 3969.1 |



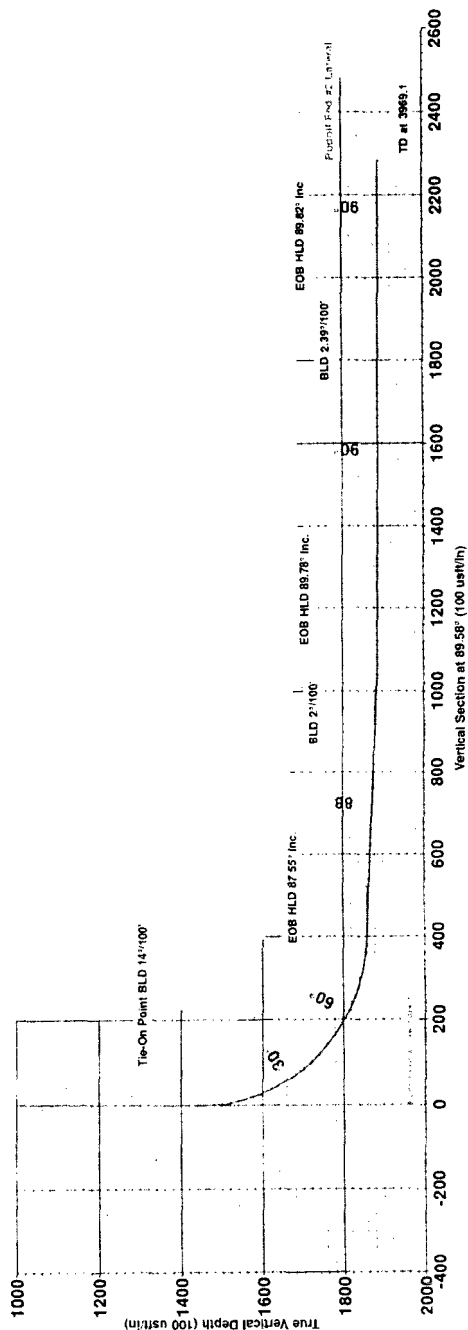
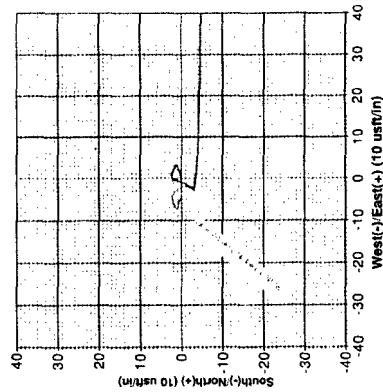
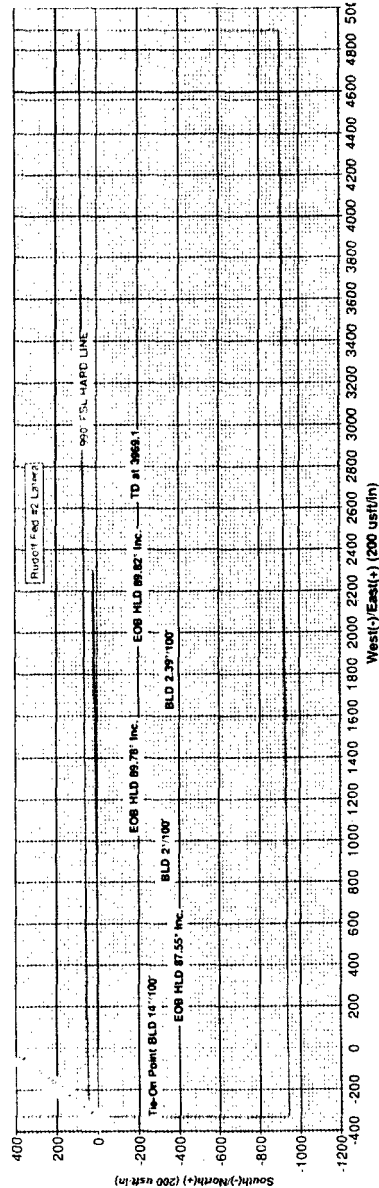
MAC
Energy Corporation

PROJECT DETAILS: Eddy County, NM
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level
Local North: Grid

Geographic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level
Local North: Grid

[illegible]

Annotation
 Tm-On Point BLD 14"100"
 EOB MLD 87.55" Inc.
 BLD 2' 100"
 EOB MLD 89.78" Inc.
 BLD 2' 78" 100"
 EOB MLD 89.82" Inc.
 TD at 3949.1



INTEGRITY
Directional Services