

LM

District I 1625 N. French Dr., Hobbs, NM 88240
District II 1301 W. Grand Ave., Artesia, NM 88210
District III 1000 Rio Brazos Rd., Aztec, NM 87410
District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

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

WELL API NO. 30-015-37507
5. Indicate Type of Lease STATE [X] FEE [ ]
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Firecracker State
8. Well Number 1
9. OGRID Number 229137
10. Pool name or Wildcat 96210 Empire; Glorieta-Yeso

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-107) FOR SUCH PROPOSALS)
1. Type of Well: Oil Well [X] Gas Well [ ] Other [ ]
2. Name of Operator COG Operating LLC
3. Address of Operator 550 West Texas Ave., Suite 100, Midland, TX 79701
4. Well Location Unit Letter O : 330' feet from the South line and 2310' feet from the East line
Section 14 Township 17S Range 28E NMPM County EDDY
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3615' GR

RECEIVED
MAR 23 2010
NMOCD ARTESIA

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:
PERFORM REMEDIAL WORK [ ] PLUG AND ABANDON [ ]
TEMPORARILY ABANDON [ ] CHANGE PLANS [ ]
PULL OR ALTER CASING [ ] MULTIPLE COMPL [ ]
DOWNHOLE COMMINGLE [ ]
OTHER: [ ]
SUBSEQUENT REPORT OF:
REMEDIAL WORK [ ] ALTERING CASING [ ]
COMMENCE DRILLING OPNS. [ ] P AND A [ ]
CASING/CEMENT JOB [ ]
OTHER: Move location [X]

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

COG Operating LLC respectfully requests permission to move this location to:

SHL: 520' FSL & 1980' FEL, Section 14, T17S, R28E, UL O
BHL: 330' FSL & 2310' FEL, Section 14, T17S, R28E, UL O

An amended plat and directional plan are attached for your review.

This location move is requested due to the original location being too close to a playa.

Spud Date: [ ]

Rig Release Date: [ ]

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE [Signature] TITLE Regulatory Analyst DATE 03/22/2010

Type or print name Robyn M. Odom E-mail address: rodom@conchoresources.com PHONE: 432-685-4385
For State Use Only

APPROVED BY: [Signature] TITLE Geologist DATE 3/29/2010
Conditions of Approval (if any):

DISTRICT I  
1625 N. FRENCH DR., HOBBS, NM 88240

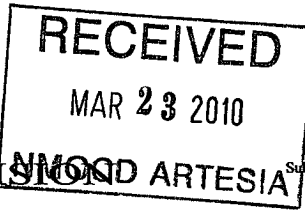
DISTRICT II  
1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III  
1000 RIO BRAZOS RD., AZTEC, NM 87410

DISTRICT IV  
11885 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION  
11885 SOUTH ST. FRANCIS DR.  
Santa Fe, New Mexico 87505



Form C-102  
Revised October 12, 2005  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

AMENDED REPORT

|                            |                                     |                                    |
|----------------------------|-------------------------------------|------------------------------------|
| API Number<br>30-015-37507 | Pool Code<br>96210                  | Pool Name<br>EMPIRE; GLORIETA-YESO |
| Property Code<br>37882     | Property Name<br>FIRECRACKER STATE  | Well Number<br>1                   |
| OGRID No.<br>229137        | Operator Name<br>COG OPERATING, LLC | Elevation<br>3630'                 |

Surface Location

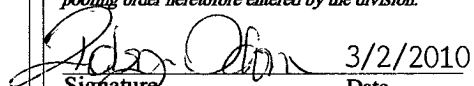
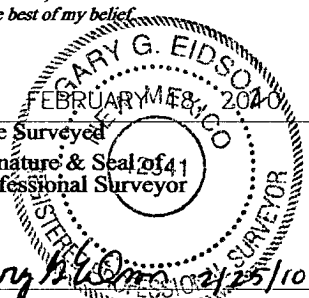

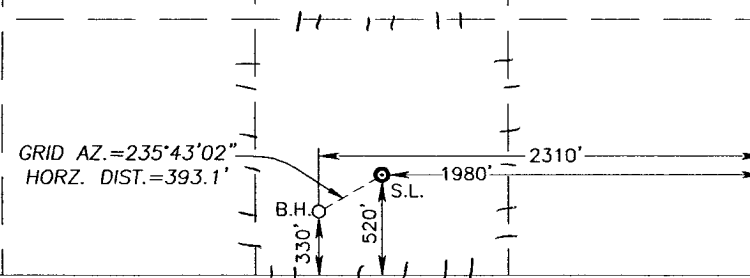
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| 0             | 14      | 17-S     | 28-E  |         | 520           | SOUTH            | 1980          | EAST           | EDDY   |

Bottom Hole Location If Different From Surface

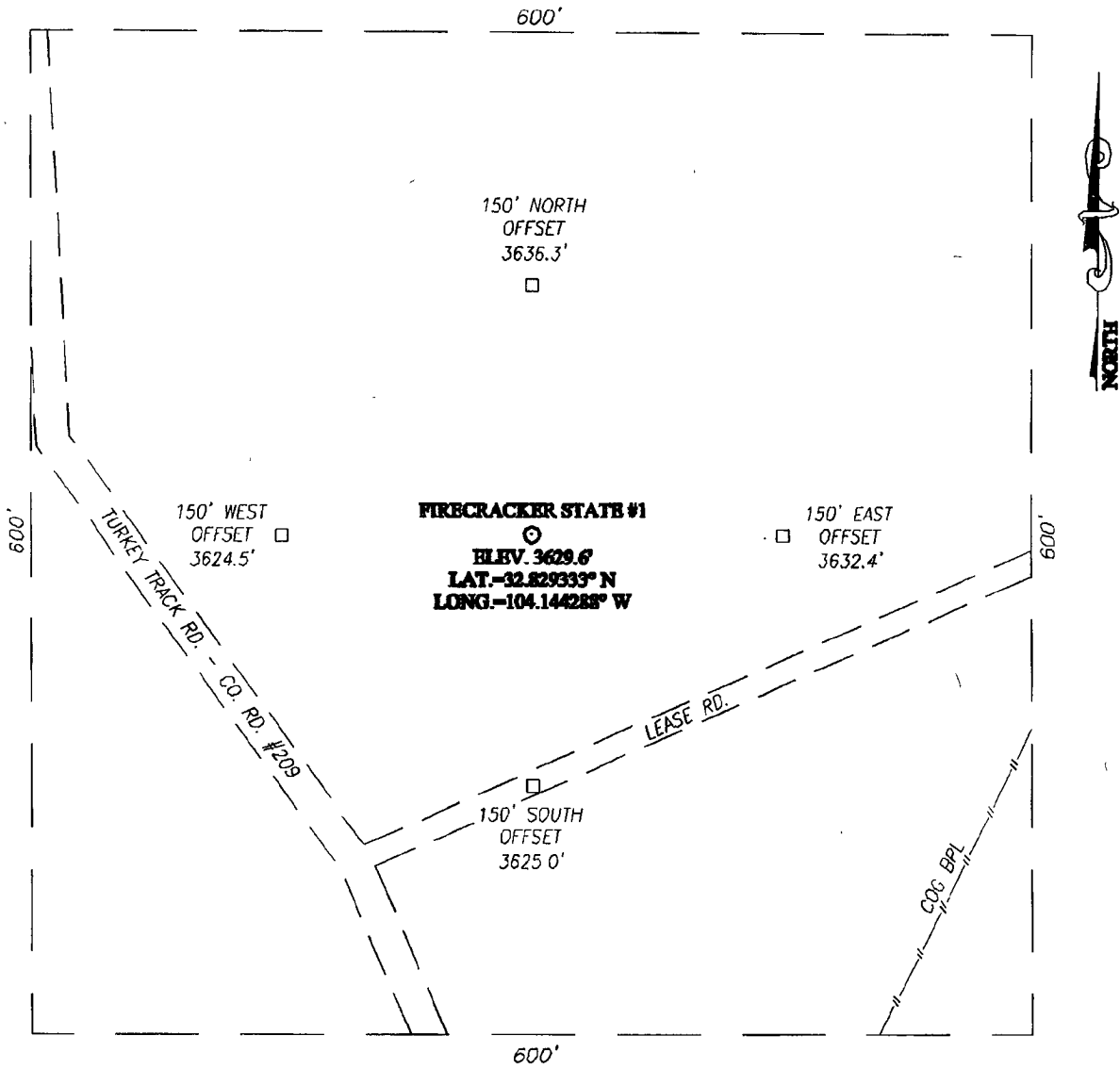
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/EAST line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| 0             | 14      | 17-S     | 28-E  |         | 330           | SOUTH            | 2310          | EAST           | EDDY   |

|                       |                 |                    |           |
|-----------------------|-----------------|--------------------|-----------|
| Dedicated Acres<br>40 | 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

|  |   |
|--|---|
| <p>GEODETIC COORDINATES<br/>NAD 27 NME</p> <p>SURFACE LOCATION<br/>Y=665474.2 N<br/>X=558069.6 E<br/>LAT.=32.829333° N<br/>LONG.=104.144288° W</p> <p>BOTTOM HOLE LOCATION<br/>Y=665253.0 N<br/>X=557745.0 E</p> | <p><b>OPERATOR CERTIFICATION</b></p> <p><i>I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i></p> <p><br/>Signature _____ Date 3/2/2010<br/>Robyn Odom<br/>Printed Name _____</p> <hr/> <p><b>SURVEYOR CERTIFICATION</b></p> <p><i>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.</i></p> <p><br/>Date Surveyed _____<br/>Signature &amp; Seal of Gary G. Eidson<br/>Professional Surveyor</p> <p><br/>10-11110-0198</p> |
|    | <p>Certificate No. GARY G. EIDSON 12641<br/>RONALD J. EIDSON 3239</p>   |

**SECTION 14, TOWNSHIP 17 SOUTH, RANGE 28 EAST, N.M.P.M.,**  
 EDDY COUNTY, NEW MEXICO



**FIRECRACKER STATE #1**  
 ○  
 ELEV. 3629.6'  
 LAT. -32.829333° N  
 LONG. -104.144283° W

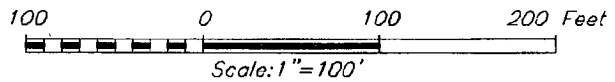
150' WEST  
 OFFSET  
 3624.5'

150' EAST  
 OFFSET  
 3632.4'

150' SOUTH  
 OFFSET  
 3625.0'

**DIRECTIONS TO LOCATION**

FROM THE INTERSECTION OF ST. HWY. #82 AND CO. RD. #209 (TURKEY TRACK RD.), GO NORTH ON CO. RD. #209 APPROX. 2.0 MILES. THIS LOCATION STAKE IS APPROX. 225 FEET EAST OF CO. RD. #209.



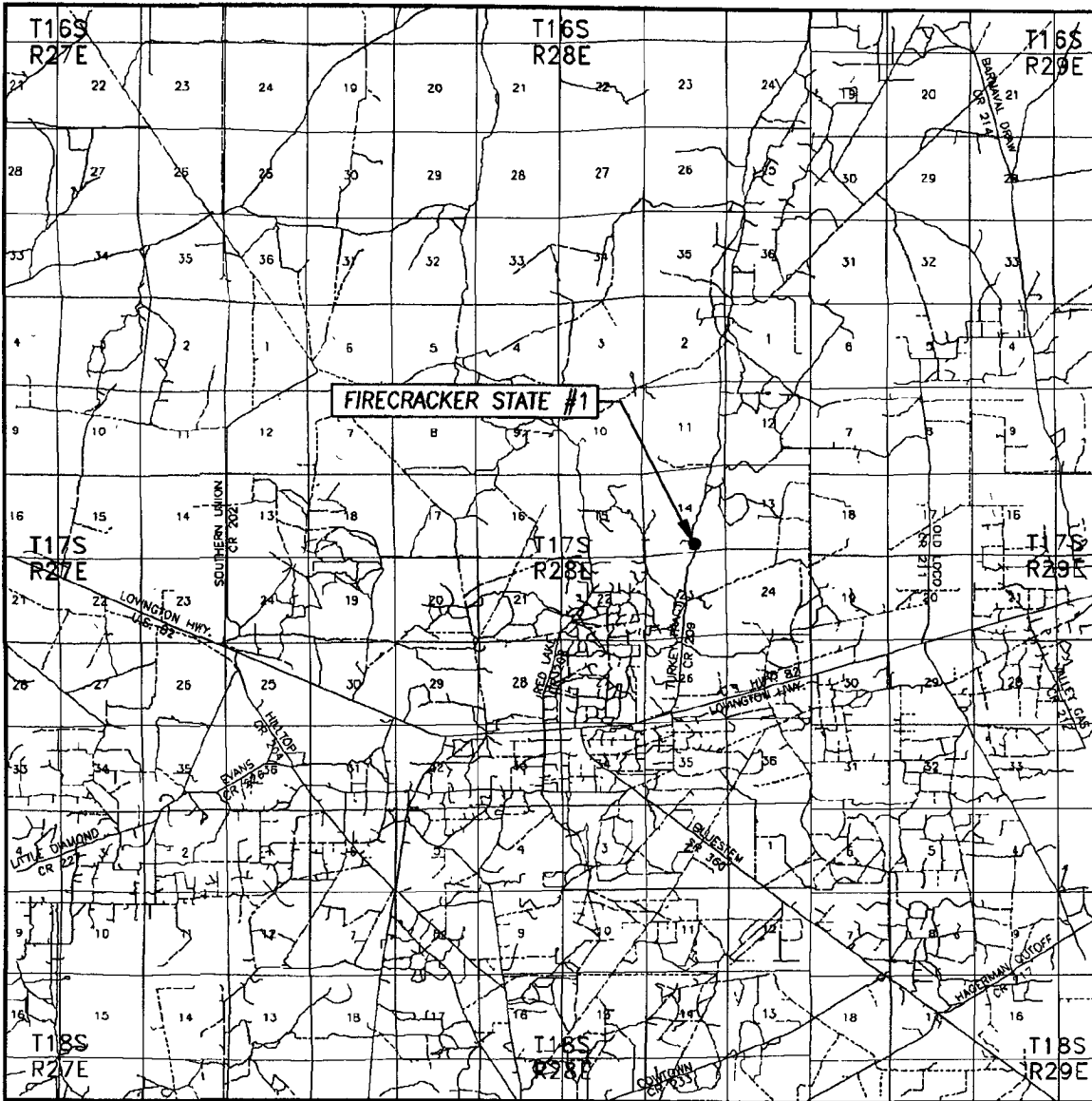
PROVIDING SURVEYING SERVICES  
 SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
 412 N. DAL PASO  
 HOBBS, N.M. 88240  
 (575) 393-3117

**COG OPERATING, LLC**

FIRECRACKER STATE #1 WELL  
 LOCATED 520 FEET FROM THE SOUTH LINE  
 AND 1980 FEET FROM THE EAST LINE OF SECTION 14,  
 TOWNSHIP 17 SOUTH, RANGE 28 EAST, N.M.P.M.,  
 EDDY COUNTY, NEW MEXICO.

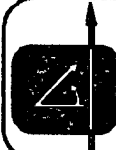
|                         |                     |                |
|-------------------------|---------------------|----------------|
| Survey Date. 02/18/10   | Sheet 1 of 1 Sheets |                |
| W.O. Number: 10.11.0178 | Dr By. DSS          | Rev 1:N/A      |
| Date: 02/24/10          | 10110178            | Scale: 1"=100' |

# VICINITY MAP



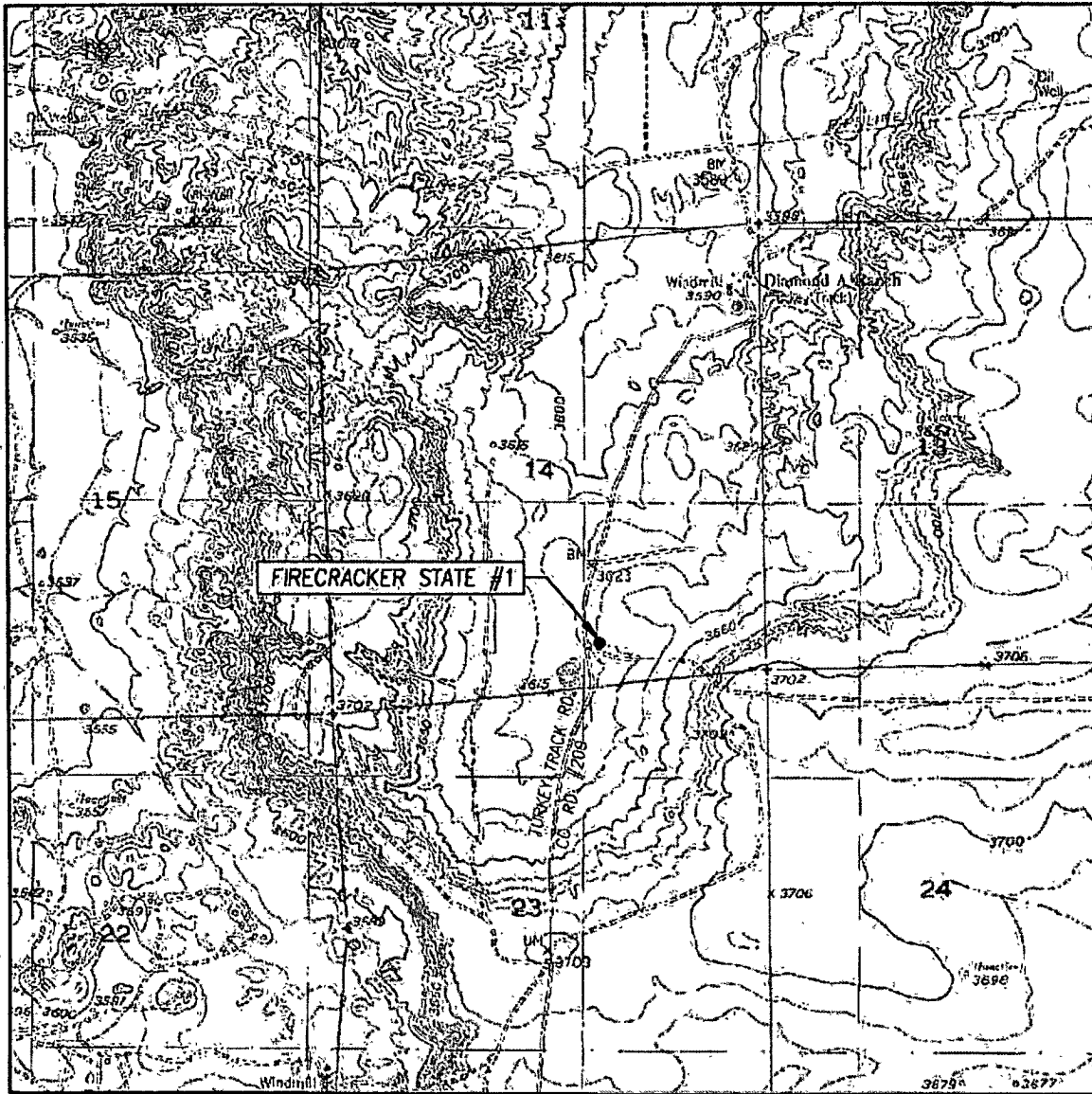
SCALE: 1" = 2 MILES

SEC. 14 TWP. 17-S RGE. 28-E  
 SURVEY \_\_\_\_\_ N.M.P.M. \_\_\_\_\_  
 COUNTY EDDY STATE NEW MEXICO  
 DESCRIPTION 520' FSL & 1980' FEL  
 ELEVATION \_\_\_\_\_ 3630' \_\_\_\_\_  
 OPERATOR \_\_\_\_\_ COG OPERATING, LLC \_\_\_\_\_  
 LEASE \_\_\_\_\_ FIRECRACKER STATE \_\_\_\_\_



PROVIDING SURVEYING SERVICES  
 SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
 412 N. DAL PASO  
 HOBBS, N.M. 88240  
 (575) 393-3117

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:  
RED LAKE, N.M. - 10'

SEC. 14 TWP. 17-S RGE. 28-E

SURVEY: \_\_\_\_\_ N.M.P.M.

COUNTY: EDDY STATE NEW MEXICO


DESCRIPTION 520' FSL & 1980' FEL

ELEVATION 3630'

OPERATOR COG OPERATING, LLC

LEASE FIRECRACKER STATE

U.S.G.S. TOPOGRAPHIC MAP  
RED LAKE, N.M.



PROVIDING SURVEYING SERVICES  
SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
412 N. DAL PASO  
HOBBS, N.M. 88240  
(575) 393-3117



## **COG Operating LLC**

Eddy County, NM (NAN27 NME)

Firecracker State #1

Firecracker State #1

OH

Plan: Plan #1 - 7-7/8" Hole

SHL = 520' FSL & 1980' FEL

BHL = 340' FSL & 2300' FEL

Paddock Top = 340' FSL & 2300' FEL @ 3700' TVD

## **Standard Planning Report**

19 March, 2010





Scientific Drilling  
Planning Report



|           |                             |                              |                           |
|-----------|-----------------------------|------------------------------|---------------------------|
| Database: | EDM 5000 1 Single User Db   | Local Co-ordinate Reference: | Site Firecracker State #1 |
| Company:  | COG Operating LLC           | TVD Reference:               | GL Elev @ 3630 00ft       |
| Project:  | Eddy County, NM (NAN27 NME) | MD Reference:                | GL Elev @ 3630 00ft       |
| Site:     | Firecracker State #1        | North Reference:             | Grid                      |
| Well:     | Firecracker State #1        | Survey Calculation Method:   | Minimum Curvature         |
| Wellbore: | OH                          |                              |                           |
| Design:   | Plan #1 - 7-7/8" Hole       |                              |                           |

|             |                                      |               |                |
|-------------|--------------------------------------|---------------|----------------|
| Project:    | Eddy County, NM (NAN27 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:                 | Firecracker State #1 |              |               |                   |                  |
| Site Position:        | From: Map            | Northing:    | 665,474 20 ft | Latitude:         | 32° 49' 45 597 N |
|                       |                      | Easting:     | 558,069 60 ft | Longitude:        | 104° 8' 39 436 W |
| Position Uncertainty: | 0 00 ft              | Slot Radius: | 0 "           | Grid Convergence: | 0 10 °           |

|                      |                      |         |                     |               |               |                  |
|----------------------|----------------------|---------|---------------------|---------------|---------------|------------------|
| Well:                | Firecracker State #1 |         |                     |               |               |                  |
| Well Position        | +N/-S                | 0 00 ft | Northing:           | 665,474 20 ft | Latitude:     | 32° 49' 45 597 N |
|                      | +E/-W                | 0 00 ft | Easting:            | 558,069 60 ft | Longitude:    | 104° 8' 39 436 W |
| Position Uncertainty |                      | 0 00 ft | Wellhead Elevation: |               | Ground Level: | 3,630 00 ft      |

|           |            |             |             |           |                |
|-----------|------------|-------------|-------------|-----------|----------------|
| Wellbore: | OH         |             |             |           |                |
| Magnetics | Model Name | Sample Date | Declination | Dip Angle | Field Strength |
|           | IGRF200510 | 2010/03/19  | (°)         | (°)       | (nT)           |
|           |            |             | 8 03        | 60 70     | 49,071         |

|                   |                       |       |               |           |
|-------------------|-----------------------|-------|---------------|-----------|
| Design:           | Plan #1 - 7-7/8" Hole |       |               |           |
| 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          | 236 13    |

| 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 00        | 0 00                | 0 00       | 0 00       | 0 00                  | 0 00                 | 0 00                | 0 00    |                     |
| 950 00              | 0 00            | 0 00        | 950 00              | 0 00       | 0 00       | 0 00                  | 0 00                 | 0 00                | 0 00    |                     |
| 1,422 53            | 9 45            | 236 13      | 1,420 39            | -21 67     | -32 28     | 2 00                  | 2 00                 | 0 00                | 236 13  |                     |
| 3,256 65            | 9 45            | 236 13      | 3,229 61            | -189 53    | -282 32    | 0 00                  | 0 00                 | 0 00                | 0 00    |                     |
| 3,729 17            | 0 00            | 0 00        | 3,700 00            | -211 20    | -314 60    | 2 00                  | -2 00                | 0 00                | 180 00  | TG1-Firecracker #1  |
| 5,429 17            | 0 00            | 0 00        | 5,400 00            | -211 20    | -314 60    | 0 00                  | 0 00                 | 0 00                | 0 00    | PBHL-Firecracker #1 |



Scientific Drilling  
Planning Report



|                  |                             |                                     |                           |
|------------------|-----------------------------|-------------------------------------|---------------------------|
| <b>Database:</b> | EDM 5000 1 Single User Db   | <b>Local Co-ordinate Reference:</b> | Site Firecracker State #1 |
| <b>Company:</b>  | COG Operating LLC           | <b>TVD Reference:</b>               | GL Elev @ 3630 00ft       |
| <b>Project:</b>  | Eddy County, NM (NAN27 NME) | <b>MD Reference:</b>                | GL Elev @ 3630 00ft       |
| <b>Site:</b>     | Firecracker State #1        | <b>North Reference:</b>             | Grid                      |
| <b>Well:</b>     | Firecracker State #1        | <b>Survey Calculation Method:</b>   | Minimum Curvature         |
| <b>Wellbore:</b> | OH                          |                                     |                           |
| <b>Design:</b>   | Plan #1 - 7-7/8" Hole       |                                     |                           |

| 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 00        | 0 00                | 0 00       | 0 00       | 0 00                  | 0 00                  | 0 00                 | 0 00                |  |
| <b>West HL-FS #1 - South HL-FS #1</b>      |                 |             |                     |            |            |                       |                       |                      |                     |  |
| 850 00                                     | 0 00            | 0 00        | 850 00              | 0 00       | 0 00       | 0 00                  | 0 00                  | 0 00                 | 0 00                |  |
| <b>8-5/8" Casing</b>                       |                 |             |                     |            |            |                       |                       |                      |                     |  |
| 950 00                                     | 0 00            | 0 00        | 950 00              | 0 00       | 0 00       | 0 00                  | 0 00                  | 0 00                 | 0 00                |  |
| <b>KOP Start Build 2.00°/100'</b>          |                 |             |                     |            |            |                       |                       |                      |                     |  |
| 1,000 00                                   | 1 00            | 236 13      | 1,000 00            | -0 24      | -0 36      | 0 44                  | 2 00                  | 2 00                 | 0 00                |  |
| 1,100 00                                   | 3 00            | 236 13      | 1,099 93            | -2 19      | -3 26      | 3 93                  | 2 00                  | 2 00                 | 0 00                |  |
| 1,200 00                                   | 5 00            | 236 13      | 1,199 68            | -6 08      | -9 05      | 10 90                 | 2 00                  | 2 00                 | 0 00                |  |
| 1,300 00                                   | 7 00            | 236 13      | 1,299 13            | -11 90     | -17 73     | 21 35                 | 2 00                  | 2 00                 | 0 00                |  |
| 1,400 00                                   | 9 00            | 236 13      | 1,398 15            | -19 66     | -29 28     | 35 27                 | 2 00                  | 2 00                 | 0 00                |  |
| 1,422 53                                   | 9 45            | 236 13      | 1,420 39            | -21 67     | -32 28     | 38 88                 | 2 00                  | 2 00                 | 0 00                |  |
| <b>EOC hold 9.45°</b>                      |                 |             |                     |            |            |                       |                       |                      |                     |  |
| 1,500 00                                   | 9 45            | 236 13      | 1,496 81            | -28 76     | -42 84     | 51 60                 | 0 00                  | 0 00                 | 0 00                |  |
| 1,600 00                                   | 9 45            | 236 13      | 1,595 45            | -37 91     | -56 48     | 68 02                 | 0 00                  | 0 00                 | 0 00                |  |
| 1,700 00                                   | 9 45            | 236 13      | 1,694 09            | -47 07     | -70 11     | 84 44                 | 0 00                  | 0 00                 | 0 00                |  |
| 1,800 00                                   | 9 45            | 236 13      | 1,792 74            | -56 22     | -83 74     | 100 86                | 0 00                  | 0 00                 | 0 00                |  |
| 1,900 00                                   | 9 45            | 236 13      | 1,891 38            | -65 37     | -97 37     | 117 28                | 0 00                  | 0 00                 | 0 00                |  |
| 2,000 00                                   | 9 45            | 236 13      | 1,990 02            | -74 52     | -111 01    | 133 70                | 0 00                  | 0 00                 | 0 00                |  |
| 2,100 00                                   | 9 45            | 236 13      | 2,088 67            | -83 67     | -124 64    | 150 12                | 0 00                  | 0 00                 | 0 00                |  |
| 2,200 00                                   | 9 45            | 236 13      | 2,187 31            | -92 83     | -138 27    | 166 54                | 0 00                  | 0 00                 | 0 00                |  |
| 2,300 00                                   | 9 45            | 236 13      | 2,285 95            | -101 98    | -151 90    | 182 96                | 0 00                  | 0 00                 | 0 00                |  |
| 2,400 00                                   | 9 45            | 236 13      | 2,384 59            | -111 13    | -165 54    | 199 38                | 0 00                  | 0 00                 | 0 00                |  |
| 2,500 00                                   | 9 45            | 236 13      | 2,483 24            | -120 28    | -179 17    | 215 80                | 0 00                  | 0 00                 | 0 00                |  |
| 2,600 00                                   | 9 45            | 236 13      | 2,581 88            | -129 43    | -192 80    | 232 22                | 0 00                  | 0 00                 | 0 00                |  |
| 2,700 00                                   | 9 45            | 236 13      | 2,680 52            | -138 58    | -206 43    | 248 64                | 0 00                  | 0 00                 | 0 00                |  |
| 2,800 00                                   | 9 45            | 236 13      | 2,779 17            | -147 74    | -220 07    | 265 06                | 0 00                  | 0 00                 | 0 00                |  |
| 2,900 00                                   | 9 45            | 236 13      | 2,877 81            | -156 89    | -233 70    | 281 48                | 0 00                  | 0 00                 | 0 00                |  |
| 3,000 00                                   | 9 45            | 236 13      | 2,976 45            | -166 04    | -247 33    | 297 90                | 0 00                  | 0 00                 | 0 00                |  |
| 3,100 00                                   | 9 45            | 236 13      | 3,075 09            | -175 19    | -260 96    | 314 32                | 0 00                  | 0 00                 | 0 00                |  |
| 3,200 00                                   | 9 45            | 236 13      | 3,173 74            | -184 34    | -274 60    | 330 73                | 0 00                  | 0 00                 | 0 00                |  |
| 3,256 65                                   | 9 45            | 236 13      | 3,229 61            | -189 53    | -282 32    | 340 04                | 0 00                  | 0 00                 | 0 00                |  |
| <b>Start Drop 2.00°/100'</b>               |                 |             |                     |            |            |                       |                       |                      |                     |  |
| 3,300 00                                   | 8 58            | 236 13      | 3,272 43            | -193 32    | -287 96    | 346 83                | 2 00                  | -2 00                | 0 00                |  |
| 3,400 00                                   | 6 58            | 236 13      | 3,371 55            | -200 67    | -298 92    | 360 03                | 2 00                  | -2 00                | 0 00                |  |
| 3,500 00                                   | 4 58            | 236 13      | 3,471 07            | -206 09    | -306 99    | 369 76                | 2 00                  | -2 00                | 0 00                |  |
| 3,600 00                                   | 2 58            | 236 13      | 3,570 87            | -209 58    | -312 18    | 376 01                | 2 00                  | -2 00                | 0 00                |  |
| 3,700 00                                   | 0 58            | 236 13      | 3,670 83            | -211 12    | -314 48    | 378 77                | 2 00                  | -2 00                | 0 00                |  |
| 3,729 17                                   | 0 00            | 0 00        | 3,700 00            | -211 20    | -314 60    | 378 92                | 2 00                  | -2 00                | 0 00                |  |
| <b>EOC hold 0.00° - TG1-Firecracker #1</b> |                 |             |                     |            |            |                       |                       |                      |                     |  |
| 5,429 17                                   | 0 00            | 0 00        | 5,400 00            | -211 20    | -314 60    | 378 92                | 0 00                  | 0 00                 | 0 00                |  |
| <b>PBHL-Firecracker #1</b>                 |                 |             |                     |            |            |                       |                       |                      |                     |  |





**Scientific Drilling**  
Planning Report



|                  |                             |                                     |                           |
|------------------|-----------------------------|-------------------------------------|---------------------------|
| <b>Database:</b> | EDM 5000 1 Single User Db   | <b>Local Co-ordinate Reference:</b> | Site Firecracker State #1 |
| <b>Company:</b>  | COG Operating LLC           | <b>TVD Reference:</b>               | GL Elev @ 3630 00ft       |
| <b>Project:</b>  | Eddy County, NM (NAN27 NME) | <b>MD Reference:</b>                | GL Elev @ 3630 00ft       |
| <b>Site:</b>     | Firecracker State #1        | <b>North Reference:</b>             | Grid                      |
| <b>Well:</b>     | Firecracker State #1        | <b>Survey Calculation Method:</b>   | Minimum Curvature         |
| <b>Wellbore:</b> | OH                          |                                     |                           |
| <b>Design:</b>   | Plan #1 - 7-7/8" Hole       |                                     |                           |

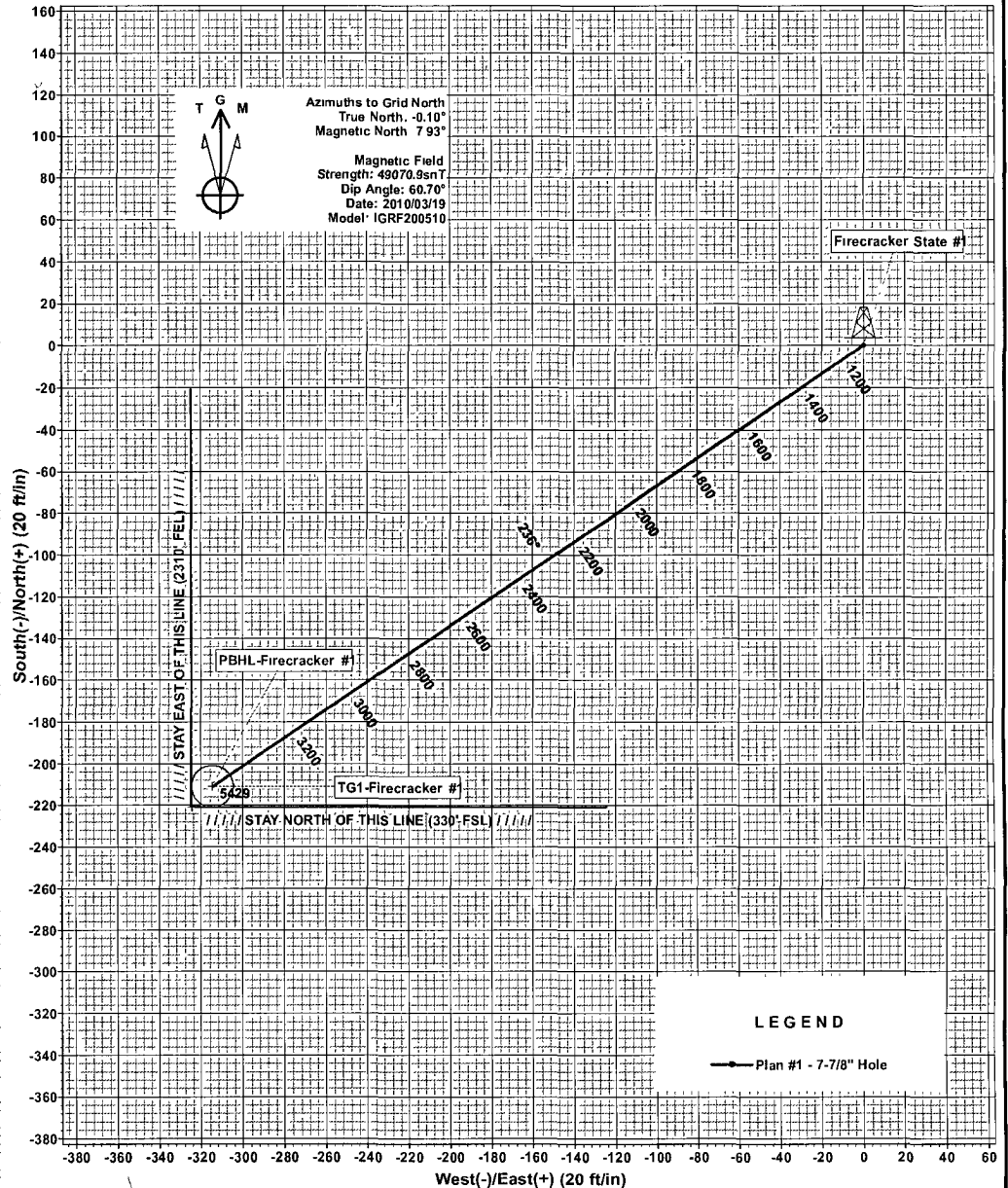
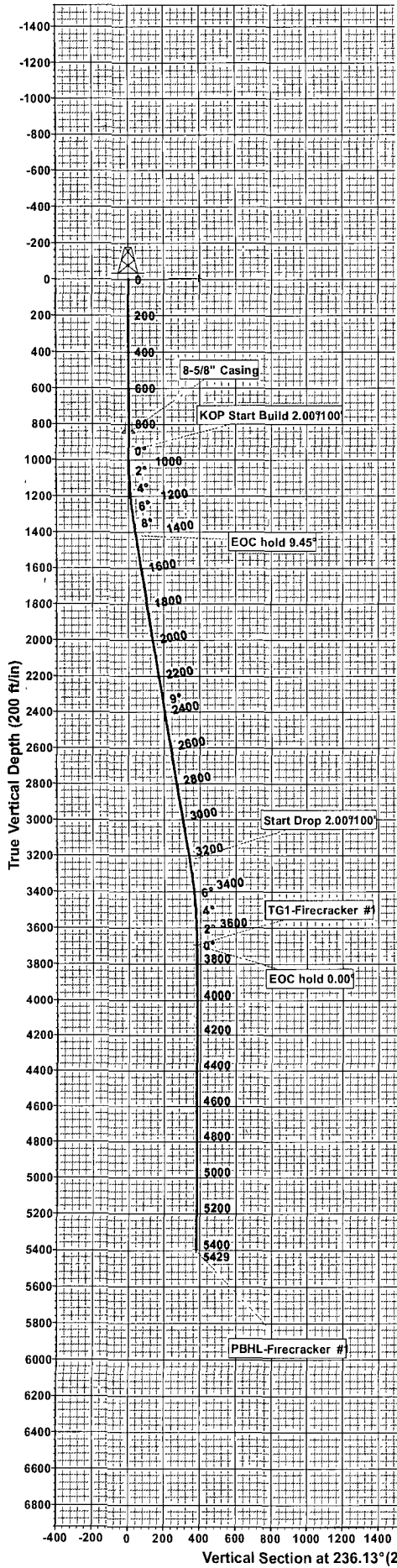
| Design Targets   |           |          |          |         |         |            |            |                  |                  |
|--|-----------|----------|----------|---------|---------|------------|------------|------------------|------------------|
| Target Name  | Dip Angle | Dip Dir. | TVD      | +N/-S   | +E/-W   | Northing   | Easting    | Latitude         | Longitude        |
| - hit/miss target  | (°)       | (°)      | (ft)     | (ft)    | (ft)    | (ft)       | (ft)       |                  |                  |
| West HL-FS #1<br>- plan misses target center by 392 80ft at 0 00ft MD (0 00 TVD, 0 00 N, 0 00 E)<br>- Rectangle (sides W0 00 H200 00 D0 00)  | 0 00      | 0 00     | 0 00     | -221 20 | -324 60 | 665,253 00 | 557,745 00 | 32° 49' 43 414 N | 104° 8' 43 244 W |
| South HL-FS #1<br>- plan misses target center by 392 80ft at 0 00ft MD (0 00 TVD, 0 00 N, 0 00 E)<br>- Rectangle (sides W200 00 H0 00 D0 00) | 0 00      | 0 00     | 0 00     | -221 20 | -324 60 | 665,253 00 | 557,745 00 | 32° 49' 43 414 N | 104° 8' 43 244 W |
| TG1-Firecracker #1<br>- plan hits target center<br>- Circle (radius 10 00)   | 0 00      | 0 00     | 3,700 00 | -211 20 | -314 60 | 665,263 00 | 557,755 00 | 32° 49' 43 512 N | 104° 8' 43 127 W |
| PBHL-Firecracker #1<br>- plan hits target center<br>- Circle (radius 10 00)  | 0 00      | 0 00     | 5,400 00 | -211 20 | -314 60 | 665,263 00 | 557,755 00 | 32° 49' 43 512 N | 104° 8' 43 127 W |

| Casing Points  |                |               |  |                 |               |
|----------------|----------------|---------------|--|-----------------|---------------|
| Measured Depth | Vertical Depth | Name          |  | Casing Diameter | Hole Diameter |
| (ft)           | (ft)           |               |  | (")             | (")           |
| 850 00         | 850 00         | 8-5/8" Casing |  | 8-5/8           | 12-1/4        |

| Plan Annotations |                |                   |            |                            |  |
|------------------|----------------|-------------------|------------|----------------------------|--|
| Measured Depth   | Vertical Depth | Local Coordinates |            | Comment                    |  |
| (ft)             | (ft)           | +N/-S (ft)        | +E/-W (ft) |                            |  |
| 950 00           | 950 00         | 0 00              | 0 00       | KOP Start Build 2 00°/100' |  |
| 1,422 53         | 1,420 39       | -21 67            | -32 28     | EOC hold 9 45°             |  |
| 3,256 65         | 3,229 61       | -189 53           | -282 32    | Start Drop 2 00°/100'      |  |
| 3,729 17         | 3,700 00       | -211 20           | -314 60    | EOC hold 0 00°             |  |



Scientific Drilling for COG Operating LLC  
 Site: Eddy County, NM (NAN27 NME)  
 Well: Firecracker State #1  
 Wellbore: OH  
 Design: Plan #1 - 7-7/8" Hole



**WELLBORE TARGET DETAILS (MAP CO-ORDINATES)**

| Name                | TVD     | +N/-S   | +E/-W   | Northing  | Easting   | Latitude        | Longitude       | Shape                             |
|---------------------|---------|---------|---------|-----------|-----------|-----------------|-----------------|-----------------------------------|
| South HL-FS #1      | 0.00    | -221.20 | -324.60 | 665253.00 | 557745.00 | 32°49' 43.414 N | 104°8' 43.244 W | Rectangle (Sides: L0 .00 W200.00) |
| West HL-FS #1       | 0.00    | -221.20 | -324.60 | 665253.00 | 557745.00 | 32°49' 43.414 N | 104°8' 43.244 W | Rectangle (Sides: L2 00 00 W0.00) |
| TG1-Firecracker #1  | 3700.00 | -211.20 | -314.60 | 665263.00 | 557755.00 | 32°49' 43.512 N | 104°8' 43.127 W | Circle (Radiu s. 10.00)           |
| PBHL-Firecracker #1 | 3800.00 | -211.20 | -314.60 | 665263.00 | 557755.00 | 32°49' 43.512 N | 104°8' 43.127 W | Circle (Radi us: 10.00)           |

**SECTION DETAILS**

| Sec | MD      | Inc  | Azi    | TVD     | +N/-S   | +E/-W   | Dleg | TFace  | Vsect  | Target              |
|-----|---------|------|--------|---------|---------|---------|------|--------|--------|---------------------|
| 1   | 0.00    | 0.00 | 0.00   | 0.00    | 0.00    | 0.00    | 0.00 | 0.00   | 0.00   |                     |
| 2   | 950.00  | 0.00 | 0.00   | 950.00  | 0.00    | 0.00    | 0.00 | 0.00   | 0.00   |                     |
| 3   | 1422.53 | 9.45 | 236.13 | 1420.39 | -21.67  | -32.28  | 2.00 | 236.13 | 38.88  |                     |
| 4   | 3256.65 | 9.45 | 236.13 | 3229.61 | -189.53 | -282.32 | 0.00 | 0.00   | 340.04 |                     |
| 5   | 3729.17 | 0.00 | 0.00   | 3700.00 | -211.20 | -314.60 | 2.00 | 180.00 | 378.92 | TG1-Firecracker #1  |
| 6   | 5429.17 | 0.00 | 0.00   | 5400.00 | -211.20 | -314.60 | 0.00 | 0.00   | 378.92 | PBHL-Firecracker #1 |

**WELL DETAILS: Firecracker State #1**

| +N/-S | +E/-W | Northing  | Ground Level | Easting   | Latitude        | Longitude        | Slot |
|-------|-------|-----------|--------------|-----------|-----------------|------------------|------|
| 0.00  | 0.00  | 665474.20 | 3630.00      | 558069.60 | 32°49' 45.597 N | 104°8' 3 9.436 W |      |

**PROJECT DETAILS: Eddy County, NM (NAN27 NME)** Plan: Plan #1 - 7-7/8" Hole (Firecracker State #1/OH)

Geodetic System: US State Plane 1927 (Exact solution) Created By: Julio Pina Date: 19-Mar-10  
 Datum: NAD 1927 (NADCON CONUS)  
 Ellipsoid: Clarke 1866  
 Zone: New Mexico East 3001  
 System Datum: Mean Sea Level

Checked: \_\_\_\_\_ Date: \_\_\_\_\_  
 Reviewed: \_\_\_\_\_ Date: \_\_\_\_\_  
 Approved: \_\_\_\_\_ Date: \_\_\_\_\_

Vertical Section at 236.13°(200 ft/in)