

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

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

Form C-144 CLEZ
July 21, 2008

For closed-loop systems that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure, submit to the appropriate NMOCD District Office.

Closed-Loop System Permit or Closure Plan Application

(that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

Type of action: ☒ Permit ☐ Closure

Instructions: Please submit one application (Form C-144 CLEZ) per individual closed-loop system request. For any application request other than for a closed-loop system that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure, please submit a Form C-144.

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.
Operator: **COG OPERATING LLC** OGRID #: **229137**
Address: **550 WEST TEXAS, SUITE 100 MIDLAND, TX 79701**
Facility or well name: **Firecracker State #16**
API Number: **30-015- 38425** OCD Permit Number: **21114**
U/L or Qtr/Qtr **ULI** Section **14** Township **17S** Range **28E** County: **Eddy**
Center of Proposed Design: Latitude **N/A** Longitude **N/A** NAD: ☐ 1927 ☐ 1983
Surface Owner: ☐ Federal ☒ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
☒ **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
Operation: ☒ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent) ☐ P&A
☐ Above Ground Steel Tanks or ☒ Haul-off Bins

3.
Signs: Subsection C of 19.15.17.11 NMAC
☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
☒ Signed in compliance with 19.15.3.103 NMAC

RECEIVED

JAN 21 2011

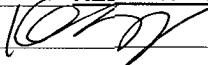
NMOCD ARTESIA

4.
Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.
☒ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☒ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☒ Closure Plan (Please complete Box 5) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
☐ Previously Approved Design (attach copy of design) API Number: _____
☐ Previously Approved Operating and Maintenance Plan API Number: _____

5.
Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC)
Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.
Disposal Facility Name: **CRI** Disposal Facility Permit Number: **R1966**
Disposal Facility Name: **GM INC** Disposal Facility Permit Number: **711-019-001**
Will any of the proposed closed-loop system operations and associated activities occur on or in areas that will not be used for future service and operations?
☐ Yes (If yes, please provide the information below) ☒ No
Required for impacted areas which will not be used for future service and operations:
☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

Operator Application Certification:

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): **KELLY J. HOLLY** Title: **PERMITTING TECH**
Signature:  Date: **12-08-2010**
e-mail address: **kholly@conchoresources.com** Telephone: **432-685-4384**

7. **OCD Approval:** ☒ Permit Application (including closure plan) ☐ Closure Plan (only)

OCD Representative Signature: _____

Approval Date: 01/21/2011

Title: Asst. Supervisor

OCD Permit Number: 211114

8. **Closure Report (required within 60 days of closure completion):** Subsection K of 19.15.17.13 NMAC

Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ Closure Completion Date: _____

9. **Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:**

Instructions: Please identify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations:

☐ Site Reclamation (Photo Documentation)

☐ Soil Backfilling and Cover Installation

☐ Re-vegetation Application Rates and Seeding Technique

10. **Operator Closure Certification:**

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

Closed Loop Operation & Maintenance Procedure

All drilling fluid circulated over shaker(s) with cuttings discharged into roll off container.

Fluid and fines below shaker(s) are circulated with transfer pump through centrifuge(s) or solids separator with cuttings and fines discharged into roll off container.

Fluid is continuously re-circulated through equipment with polymer added to aid separation of cutting fines.

Roll off containers are lined and de-watered with fluids re-circulated into system.

Additional tank is used to capture unused drilling fluid or cement returns from casing jobs.

This equipment will be maintained 24 hrs./day by solids control personnel and or rig crews that stay on location.

Cuttings will be hauled to either:

CRI (permit number R9166)

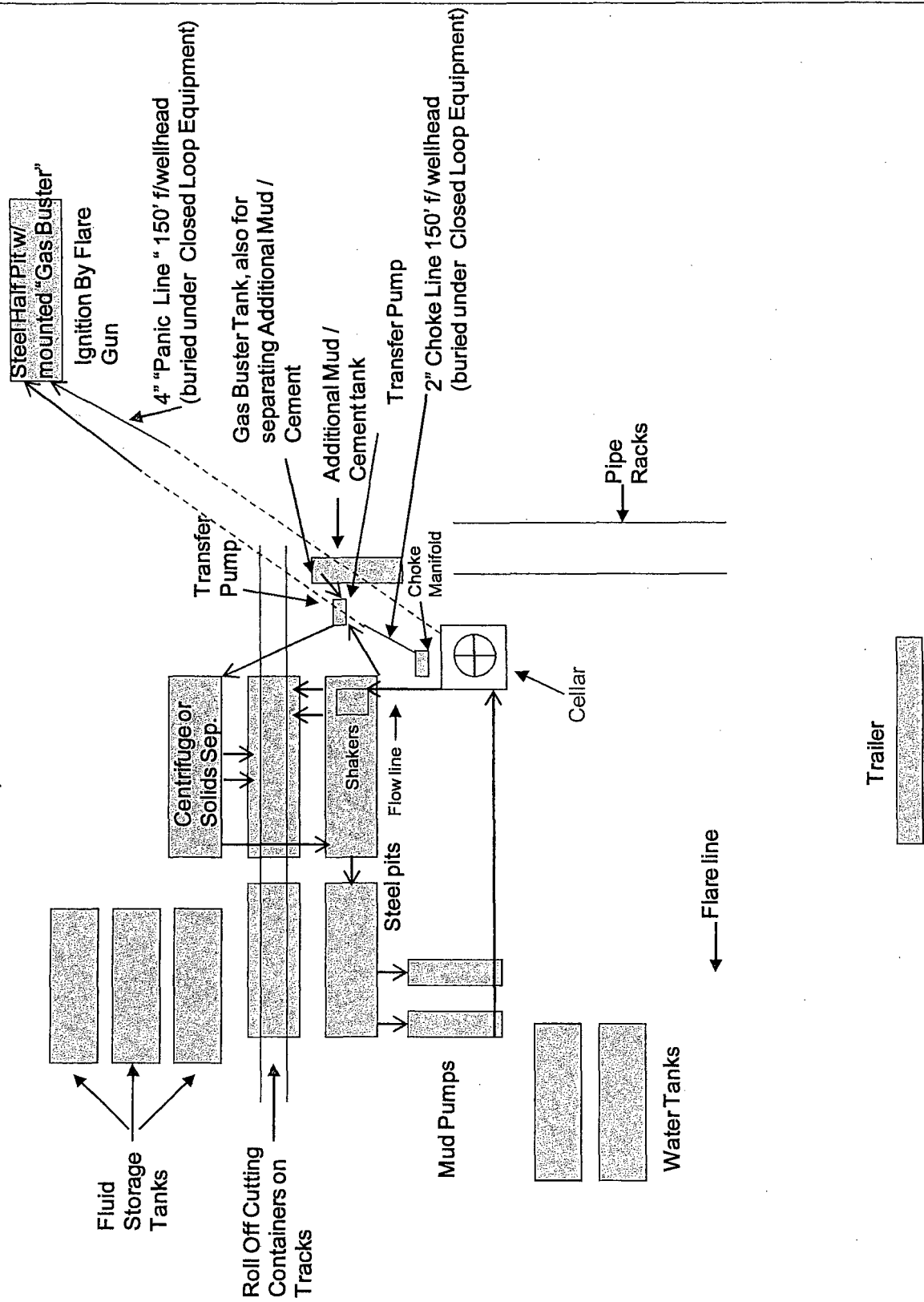
or

GMI (permit number 711-019-001)

dependent upon which rig is available to drill this well.

COG Operating LLC

Closed Loop Equipment Diagram



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

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102

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

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

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

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015	Pool Code 96210	Pool Name Empire; Glorieta - Yeso
Property Code 37882	Property Name FIRECRACKER STATE	Well Number 16
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3627'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	14	17-S	28-E		1955	SOUTH	260	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
1	14	17-S	28-E		1650	SOUTH	330	EAST	EDDY

Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No.
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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

GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=667073.6 N X=559751.6 E LAT.=32.833720° N LONG.=104.138802° W BOTTOM HOLE LOCATION Y=666761.4 N X=559689.1 E GRID AZ.=191°18'33" HORZ. DIST.=318.4' Penetration Point 1663' FSL + 373' FEL	OPERATOR CERTIFICATION 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>Kelly J. Holly</i> 1-20-2011 Signature Date Kelly J. Holly Printed Name 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. JANUARY 3, 2011 Date Surveyed DSS Signature & Seal of Professional Surveyor RONALD J. EDISON Certificate No. GARY G. EDISON 12641 RONALD J. EDISON 3239
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COG Operating LLC

Eddy County, NM (NAN27 NME)

Firecracker State #16

Firecracker State #16

OH

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

SHL = 1955' FSL & 260' FEL

BHL = 1660' FSL & 380' FEL

Paddock Top = 1660' FSL & 380' FEL @ 3700' TVD

Standard Planning Report

19 January, 2011





Scientific Drilling
Planning Report



Database:	EDM-Julio	Local Co-ordinate Reference:	Site Firecracker State #16
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3627.00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3627.00usft
Site:	Firecracker State #16	North Reference:	Grid
Well:	Firecracker State #16	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 #16				
Site Position:		Northing:	667,073.60 usft	Latitude:	32° 50' 1.393 N
From:	Map	Easting:	559,751.60 usft	Longitude:	104° 8' 19.689 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.11 °

Well	Firecracker State #16					
Well Position	+N/-S	0.00 usft	Northing:	667,073.60 usft	Latitude:	32° 50' 1.393 N
	+E/-W	0.00 usft	Easting:	559,751.60 usft	Longitude:	104° 8' 19.689 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,627.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2011/01/19	7.94	60.66	48,959

Design	Plan #1 - 7-7/8" Hole			
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	200.42

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	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,521.05	8.42	200.42	1,519.53	-28.94	-10.78	2.00	2.00	0.00	200.42	
3,301.17	8.42	200.42	3,280.47	-273.26	-101.72	0.00	0.00	0.00	0.00	
3,722.22	0.00	0.00	3,700.00	-302.20	-112.50	2.00	-2.00	0.00	180.00	TG1-Firecracker #16
5,422.22	0.00	0.00	5,400.00	-302.20	-112.50	0.00	0.00	0.00	0.00	PBHL-Firecracker #16



Scientific Drilling
Planning Report



Database:	EDM-Julio	Local Co-ordinate Reference:	Site Firecracker State #16
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3627.00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3627.00usft
Site:	Firecracker State #16	North Reference:	Grid
Well:	Firecracker State #16	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 - 7-7/8" Hole		

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
South HL-Firecracker #16 - East HL-Firecracker #16									
850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00	0.00
8-5/8" Casing									
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP Start Build 2.00°/100'									
1,200.00	2.00	200.42	1,199.98	-1.64	-0.61	1.75	2.00	2.00	0.00
1,300.00	4.00	200.42	1,299.84	-6.54	-2.43	6.98	2.00	2.00	0.00
1,400.00	6.00	200.42	1,399.45	-14.71	-5.48	15.69	2.00	2.00	0.00
1,500.00	8.00	200.42	1,498.70	-26.13	-9.73	27.88	2.00	2.00	0.00
1,521.05	8.42	200.42	1,519.54	-28.95	-10.78	30.89	2.00	2.00	0.00
EOC hold 8.42°									
1,600.00	8.42	200.42	1,597.63	-39.78	-14.81	42.45	0.00	0.00	0.00
1,700.00	8.42	200.42	1,696.56	-53.51	-19.92	57.09	0.00	0.00	0.00
1,800.00	8.42	200.42	1,795.48	-67.23	-25.03	71.74	0.00	0.00	0.00
1,900.00	8.42	200.42	1,894.40	-80.95	-30.14	86.38	0.00	0.00	0.00
2,000.00	8.42	200.42	1,993.32	-94.68	-35.25	101.03	0.00	0.00	0.00
2,100.00	8.42	200.42	2,092.24	-108.40	-40.35	115.67	0.00	0.00	0.00
2,200.00	8.42	200.42	2,191.17	-122.13	-45.46	130.31	0.00	0.00	0.00
2,300.00	8.42	200.42	2,290.09	-135.85	-50.57	144.96	0.00	0.00	0.00
2,400.00	8.42	200.42	2,389.01	-149.58	-55.68	159.60	0.00	0.00	0.00
2,500.00	8.42	200.42	2,487.93	-163.30	-60.79	174.25	0.00	0.00	0.00
2,600.00	8.42	200.42	2,586.85	-177.02	-65.90	188.89	0.00	0.00	0.00
2,700.00	8.42	200.42	2,685.78	-190.75	-71.01	203.54	0.00	0.00	0.00
2,800.00	8.42	200.42	2,784.70	-204.47	-76.12	218.18	0.00	0.00	0.00
2,900.00	8.42	200.42	2,883.62	-218.20	-81.23	232.83	0.00	0.00	0.00
3,000.00	8.42	200.42	2,982.54	-231.92	-86.34	247.47	0.00	0.00	0.00
3,100.00	8.42	200.42	3,081.46	-245.65	-91.45	262.11	0.00	0.00	0.00
3,200.00	8.42	200.42	3,180.38	-259.37	-96.56	276.76	0.00	0.00	0.00
3,300.00	8.42	200.42	3,279.31	-273.09	-101.66	291.40	0.00	0.00	0.00
3,301.17	8.42	200.42	3,280.46	-273.25	-101.72	291.57	0.00	0.00	0.00
Start Drop 2.00°/100'									
3,400.00	6.44	200.42	3,378.46	-285.24	-106.18	304.36	2.00	-2.00	0.00
3,500.00	4.44	200.42	3,478.00	-294.13	-109.49	313.85	2.00	-2.00	0.00
3,600.00	2.44	200.42	3,577.82	-299.76	-111.59	319.85	2.00	-2.00	0.00
3,700.00	0.44	200.42	3,677.78	-302.12	-112.47	322.37	2.00	-2.00	0.00
3,722.22	0.00	0.00	3,700.00	-302.20	-112.50	322.46	2.00	-2.00	718.19
EOC hold 0.00° - TG1-Firecracker #16									
5,422.22	0.00	0.00	5,400.00	-302.20	-112.50	322.46	0.00	0.00	0.00
PBHL-Firecracker #16									



Scientific Drilling
Planning Report



Database:	EDM-Julio	Local Co-ordinate Reference:	Site Firecracker State #16
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3627.00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3627.00usft
Site:	Firecracker State #16	North Reference:	Grid
Well:	Firecracker State #16	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 - 7-7/8" Hole		

Design Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
South HL-Firecracker #1 - plan misses target center by 318.39usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Rectangle (sides W150.00 H0.00 D0.00)	0.00	0.00	0.00	-312.20	-62.50	666,761.40	559,689.10	32° 49' 58.305 N	104° 8' 20.428 W
East HL-Firecracker #16 - plan misses target center by 318.39usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Rectangle (sides W0.00 H300.00 D0.00)	0.00	0.00	0.00	-312.20	-62.50	666,761.40	559,689.10	32° 49' 58.305 N	104° 8' 20.428 W
TG1-Firecracker #16 - plan hits target center - Point	0.00	0.00	3,700.00	-302.20	-112.50	666,771.40	559,639.10	32° 49' 58.405 N	104° 8' 21.014 W
PBHL-Firecracker #16 - plan hits target center - Circle (radius 50.00)	0.00	0.00	5,400.00	-302.20	-112.50	666,771.40	559,639.10	32° 49' 58.405 N	104° 8' 21.014 W

Casing Points

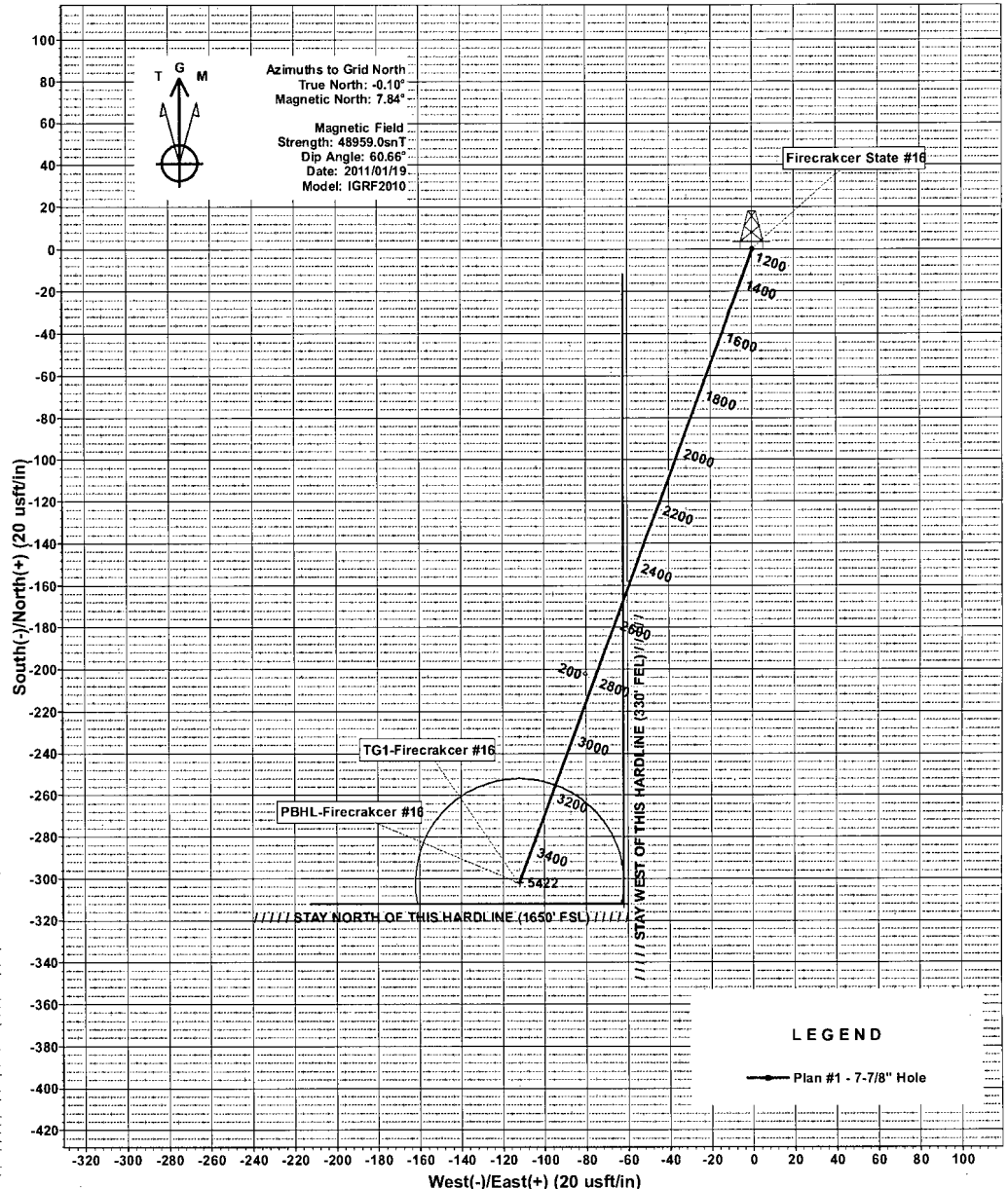
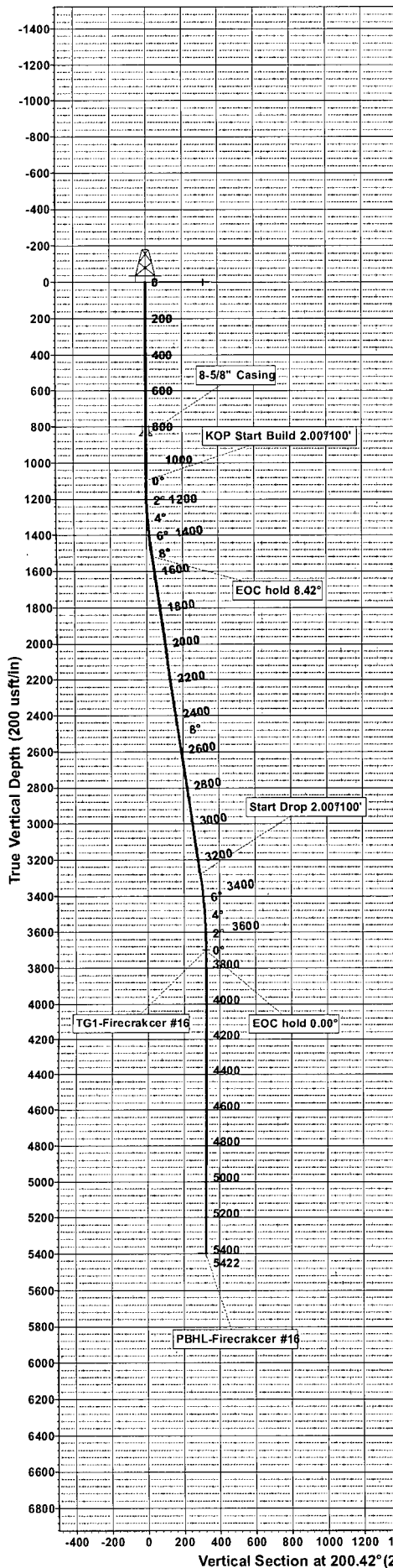
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
850.00	850.00	8-5/8" Casing	8-5/8	12-1/4

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,100.00	1,100.00	0.00	0.00	KOP Start Build 2.00°/100'
1,521.05	1,519.54	-28.95	-10.78	EOC hold 8.42°
3,301.17	3,280.46	-273.25	-101.72	Start Drop 2.00°/100'
3,722.22	3,700.00	-302.20	-112.50	EOC hold 0.00°



Scientific Drilling for COG Operating LLC
Site: Eddy County, NM (NAN27 NME)
Well: Firecracker State #16
Wellbore: OH
Design: Plan #1 - 7-7/8" Hole



Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
East HL-Firecracker #16	312.20	-312.20	-62.50	666761.40	559689.10	32°49' 58.305 N	104°8' 20.428 W	Rectangle (S ides: L300.00 W0.00)
South HL-Firecracker #16	312.20	-312.20	-62.50	666761.40	559689.10	32°49' 58.305 N	104°8' 20.428 W	Rectangle (Sides: L0.00 W150.00)
TG1-Firecracker #16	300.00	-302.20	-112.50	666771.40	559639.10	32°49' 58.405 N	104°8' 21.014 W	Point
PBHL-Firecracker #16	300.00	-302.20	-112.50	666771.40	559639.10	32°49' 58.405 N	104°8' 21.014 W	Circle (Radius: 50.00)

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dieg	TFace	VSeet	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	0.00	
3	1521.05	8.42	200.42	1519.53	-28.94	-10.78	2.00	200.42	30.89	
4	3301.17	8.42	200.42	3280.47	-273.26	-101.72	0.00	0.00	291.58	
5	3722.22	0.00	0.00	3700.00	-302.20	-112.50	2.00	180.00	322.46	TG1-Firecracker #16
6	5422.22	0.00	0.00	5400.00	-302.20	-112.50	0.00	0.00	322.46	PBHL-Firecracker #16

WELL DETAILS: Firecracker State #16

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	667073.60	559751.60	32°50' 1.393 N	104°8' 19.689 W	

PROJECT DETAILS: Eddy County, NM (NAN27 NME) Plan: Plan #1 - 7-7/8" Hole (Firecracker State #16/OH)

Geodetic System: US State Plane 1927 (Exact solution) Created By: Julio Pina Date: 19-Jan-11
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Checked: Date:
Reviewed: Date:
Approved: Date: