

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.

5. Lease Serial No.
NMLC029387B

6. If Indian, Allottee or Tribe Name

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

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well
 Oil Well Gas Well Other

8. Well Name and No.
FLYING SQUIRREL FEDERAL 1H

2. Name of Operator
COG PRODUCTION LLC
Contact: MELANIE PARKER
E-Mail: mparker@concho.com

9. API Well No.
30-015-42608-00-X1

3a. Address
2208 W MAIN STREET
ARTESIA, NM 88210

3b. Phone No. (include area code)
Ph: 575-748-6952

10. Field and Pool, or Exploratory
SHUGART

4. Location of Well (Footage, Sec., T., R., M., or Survey-Description)
Sec 30 T18S R31E NESE 2000FSL 450FEL
32.716537 N Lat, 103.901180 W Lon

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
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Deepen
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Production (Start/Resume)
	<input type="checkbox"/> Alter Casing
	<input type="checkbox"/> Fracture Treat
	<input type="checkbox"/> Reclamation
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Recomplete
	<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
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Well Integrity
	<input checked="" type="checkbox"/> Other Change to Original APD

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.)

This well is not in the Capitan Reef area, therefore we respectfully request the following changes to the casing and cementing program:

Propose to set 9 5/8" 36# J-55 LTC intermediate casing at 2500' and cement as follows:

Lead - 600 sx Class C + 4% Gel (13.5 ppg / 1.75 cf/sk / 9.2 gal/sk)
Tail - 250 sx Class C (14.8 ppg / 1.34 cf/sk / 6.3 gal/sk)

Propose to reduce hole size from 8 3/4" to 7 7/8" after landing curve and drill to a final TD at 14,021' MD / 8,820' TVD. Set 5 1/2" 17# LTC P-110 production casing at 14,021' and cement as follows:

Lead - 1050 sx 35:65:6 H Blend (12.7 ppg / 2 cf/sk / 11.5 gal/sk)
Tail - 1150 sx 50:50:2 H Blend (14.4 ppg / 1.24 cf/sk / 6.4 gal/sk)

NM OIL CONSERVATION

ARTESIA DISTRICT

SEP 22 2014

RECEIVED

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Accepted for record

NMOCD
9-22-14

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

Electronic Submission #263732 verified by the BLM Well Information System
For COG PRODUCTION LLC, sent to the Carlsbad

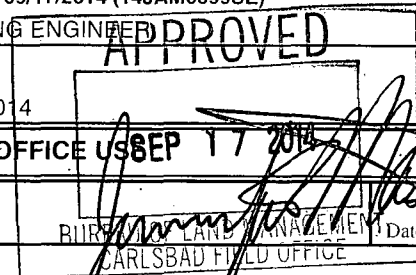
Committed to AFMSS for processing by JENNIFER MASON on 09/17/2014 (14JAM0399SE)

Name (Printed/Typed) TIM SMITH

Title DRILLING ENGINEER

Signature (Electronic Submission)

Date 09/15/2014



THIS SPACE FOR FEDERAL OR STATE OFFICE USE SEP 17 2014

Approved By

Title

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

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.

Additional data for EC transaction #263732 that would not fit on the form

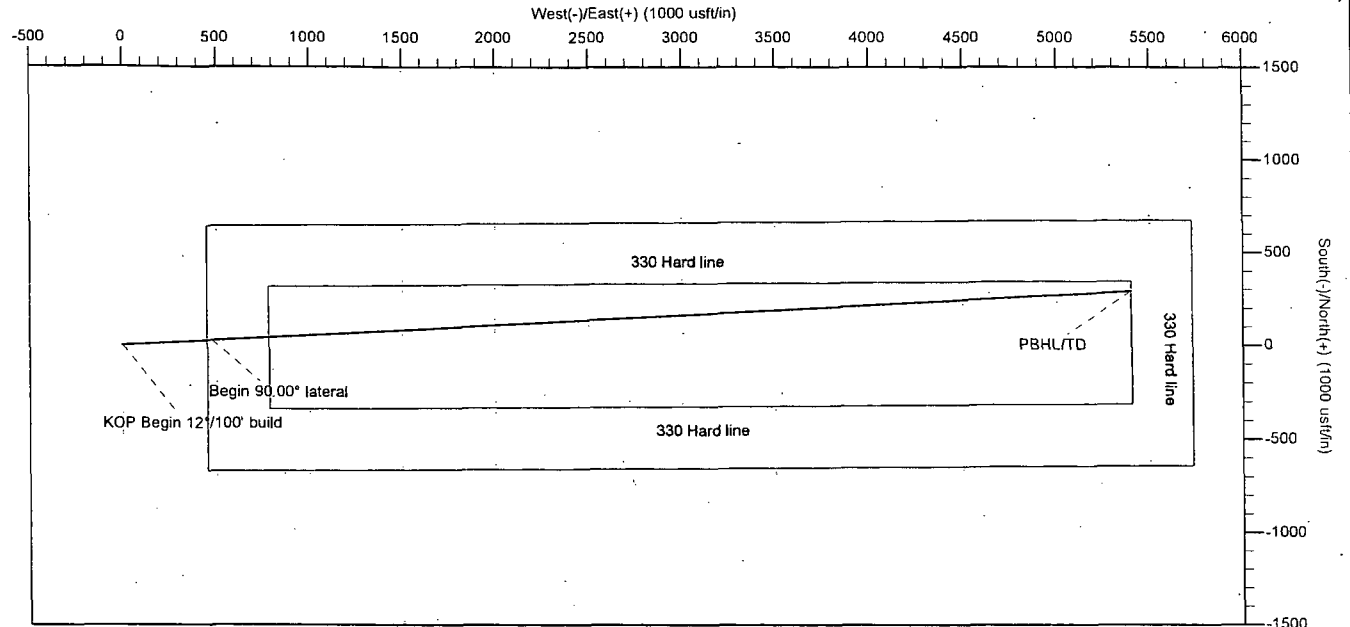
32. Additional remarks, continued

Production cement will tie back a minimum of 500' into intermediate casing.



COG Operating LLC

Well: Flying Squirrel Federal Well No. 1H
 Site: Flying Squirrel Federal
 Project: Eddy County, New Mexico
 Design: rev2
 Rig: Patriot 6



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	8342.54	0.00	0.00	8342.54	0.00	0.00	0.00	0.00	0.00	KOP Begin 12°/100' build
3	9092.54	90.00	86.89	8820.00	25.88	476.76	12.00	86.89	477.46	Begin 90.00° lateral
4	14021.52	90.00	86.89	8820.00	293.00	5398.50	0.00	0.00	5406.45	PBHL/TD

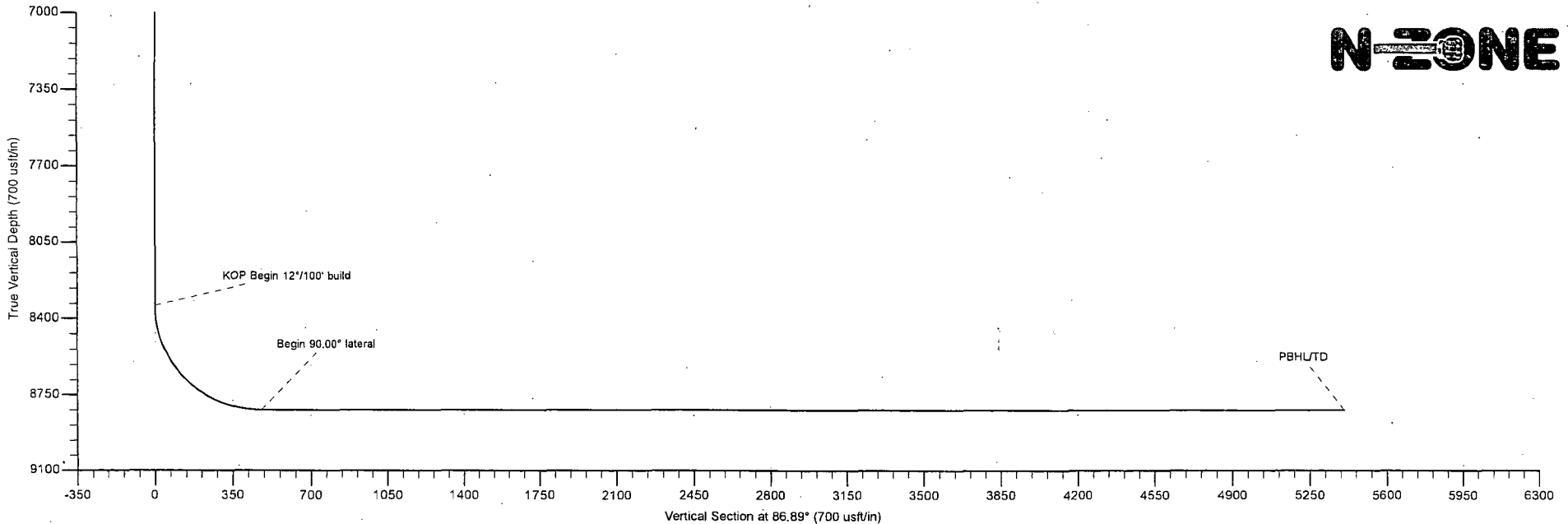


Azimuths to Grid North
 True North: -0.23°
 Magnetic North: 7.20°

Magnetic Field
 Strength: 48595.3snT
 Dip Angle: 60.52°
 Date: 4/2/2014
 Model: IGRF2010

Surface Location: RKB=3600+18 @ 3618.00usft (Patriot 6)
 US State Plane 1927 (Exact solution)
 New Mexico East 3001

Northing: 624658.00 Easting: 632913.60 Latitude: 32.71653686 Longitude: -103.90117977
 Total Correction (M => G) To convert a Magnetic Direction to a Grid Direction, Add 7.20°





COG Operating LLC

Eddy County, New Mexico

Flying Squirrel Federal

Flying Squirrel Federal Well No. 1H

Original Hole

SHL: 2000 FSL 450 FEL Sect 30

BHL: 2260 FSL 330 FEL Sect 29

Plan: rev2

Standard_report

06 June, 2014



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well: Flying Squirrel Federal Well No: 1H
Project:	Eddy County New Mexico	TVD Reference:	RKB=3600+18 @ 3618.00usft (Patriot 6)
Site:	Flying Squirrel Federal	MD Reference:	RKB=3600+18 @ 3618.00usft (Patriot 6)
Well:	Flying Squirrel Federal Well No: 1H	North Reference:	Gnd
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	rev2	Database:	EDM 5000.1 Database

Project:	Eddy County New Mexico		
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:	Flying Squirrel Federal		
Site Position:	Northing:	624,658.00 usft	Latitude: 32.71653686
From: Map	Easting:	632,913.60 usft	Longitude: -103.90117977
Position Uncertainty: 0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.23 °

Well:	Flying Squirrel Federal Well No: 1H		
Well Position	+N/-S	0.00 usft	Northing: 624,658.00 usft
	+E/-W	0.00 usft	Easting: 632,913.60 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32.71653686
		Longitude:	-103.90117977
		Ground Level:	3,600.00 usft

Wellbore:	Original Hole				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2010	4/2/2014	(^o) 7.43	(^o) 60.52	(nT) 48,595

Design:	rev2			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth: 0.00	
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(^o)
	0.00	0.00	0.00	86.89

Survey Tool Program	Date:	6/6/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	14,021.52	rev2 (Original Hole)	MWD	MWD - Standard



Standard_report

Company:	COG Operating, LLC	Local Co-ordinate Reference:	Well: Flying Squirrel Federal Well No: 1H
Project:	Eddy County New Mexico	TVD Reference:	RKB=3600+18 @ 3618.00usft (Patriot 6)
Site:	Flying Squirrel Federal	MD Reference:	RKB=3600+18 @ 3618.00usft (Patriot 6)
Well:	Flying Squirrel Federal Well No: 1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	rev2	Database:	EDM:5000.1 Database

Planned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	D/Leg (°/100ft)	V/Sec (usft)	Northing (usft)	Easting (usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	



Standard_report

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well Flying Squirrel Federal Well No. 1H
Project:	Eddy County, New Mexico	TVD Reference:	RKB=3600+18 @ 3618.00usft (Patriot 6)
Site:	Flying Squirrel Federal	MD Reference:	RKB=3600+18 @ 3618.00usft (Patriot 6)
Well:	Flying Squirrel Federal Well No. 1H	North Reference:	Grid:
Wellbore Design:	Original Hole rev2	Survey Calculation Method:	Minimum Curvature
		Database:	EDM 5000.1 Database

Planned Survey											
MD (usft)	Inc (%)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	DLeg (°/100ft)	V. Sec (usft)	Northing (usft)	Easting (usft)		
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		



Standard_report

Company:	COG Operating, LLC	Local Co-ordinate Reference:	Well: Flying Squirrel Federal Well No: 1H
Project:	Eddy County, New Mexico	TVD Reference:	RKB=3600+18 @ 3618.00usft (Patriot 6)
Site:	Flying Squirrel Federal	MD Reference:	RKB=3600+18 @ 3618.00usft (Patriot 6)
Well:	Flying Squirrel Federal Well No: 1H	North Reference:	Gnd:
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	rev2	Database:	EDM 5000.1 Database

Planned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100ft)	V. Sec (usft)	Northing (usft)	Easting (usft)	
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60	



Standard_report

Company	COG Operating, LLC	Local Co-ordinate Reference	Well: Flying Squirrel Federal Well No: 1H
Project	Eddy County, New Mexico	TVD Reference	RKB=3600+18 @ 3618.00usft (Patrol 6)
Site	Flying Squirrel Federal	MD Reference	RKB=3600+18 @ 3618.00usft (Patrol 6)
Well	Flying Squirrel Federal Well No: 1H	North Reference	Grid
Wellbore	Original Hole	Survey Calculation Method	Minimum Curvature
Design	rev2	Database	EDM 5000.1 Database

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg ("/100ft)	V. Sec (usft)	Northing (usft)	Easting (usft)		
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
8,342.54	0.00	0.00	8,342.54	0.00	0.00	0.00	0.00	624,658.00	632,913.60		
KOP Begin 12°/100' build											
8,400.00	6.90	86.89	8,399.86	0.19	3.45	12.00	3.45	624,658.19	632,917.05		
8,500.00	18.90	86.89	8,497.16	1.39	25.69	12.00	25.73	624,659.39	632,939.29		
8,600.00	30.90	86.89	8,587.70	3.67	67.65	12.00	67.75	624,661.67	632,981.25		
8,700.00	42.90	86.89	8,667.53	6.92	127.49	12.00	127.67	624,664.92	633,041.09		
8,800.00	54.90	86.89	8,733.15	11.00	202.59	12.00	202.89	624,669.00	633,116.19		
8,900.00	66.90	86.89	8,781.71	15.72	289.67	12.00	290.10	624,673.72	633,203.27		
9,000.00	78.90	86.89	8,811.06	20.89	384.94	12.00	385.50	624,678.89	633,298.54		
9,092.54	90.00	86.89	8,820.00	25.88	476.76	12.00	477.47	624,683.88	633,390.36		
Begin 90.00° lateral											
9,100.00	90.00	86.89	8,820.00	26.28	484.21	0.00	484.93	624,684.28	633,397.81		
9,200.00	90.00	86.89	8,820.00	31.70	584.07	0.00	584.93	624,689.70	633,497.67		
9,300.00	90.00	86.89	8,820.00	37.12	683.92	0.00	684.93	624,695.12	633,597.52		
9,400.00	90.00	86.89	8,820.00	42.54	783.77	0.00	784.93	624,700.54	633,697.37		
9,500.00	90.00	86.89	8,820.00	47.96	883.62	0.00	884.93	624,705.96	633,797.22		
9,600.00	90.00	86.89	8,820.00	53.38	983.48	0.00	984.93	624,711.38	633,897.08		
9,700.00	90.00	86.89	8,820.00	58.80	1,083.33	0.00	1,084.93	624,716.80	633,996.93		
9,800.00	90.00	86.89	8,820.00	64.22	1,183.18	0.00	1,184.93	624,722.22	634,096.78		
9,900.00	90.00	86.89	8,820.00	69.64	1,283.04	0.00	1,284.93	624,727.64	634,196.64		
10,000.00	90.00	86.89	8,820.00	75.06	1,382.89	0.00	1,384.93	624,733.06	634,296.49		
10,100.00	90.00	86.89	8,820.00	80.47	1,482.74	0.00	1,484.93	624,738.47	634,396.34		
10,200.00	90.00	86.89	8,820.00	85.89	1,582.60	0.00	1,584.93	624,743.89	634,496.20		
10,300.00	90.00	86.89	8,820.00	91.31	1,682.45	0.00	1,684.93	624,749.31	634,596.05		



Standard_report

Company	COG Operating LLC	Local Co-ordinate Reference	Well: Flying Squirrel Federal Well No: 1H
Project	Eddy County: New Mexico	TVD Reference	RKB=3600+18 @ 3618.00usft (Patnot 6)
Site	Flying Squirrel Federal	MD Reference	RKB=3600+18 @ 3618.00usft (Patnot 6)
Well	Flying Squirrel Federal Well No: 1H	North Reference	Gnd
Wellbore	Original Hole	Survey Calculation Method	Minimum Curvature
Design	rev2	Database	EDM: 5000.1 Database

Planned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	DLeg (°/100ft)	V- Sec (usft)	Northing (usft)	Easting (usft)	
10,400.00	90.00	86.89	8,820.00	96.73	1,782.30	0.00	1,784.93	624,754.73	634,695.90	
10,500.00	90.00	86.89	8,820.00	102.15	1,882.16	0.00	1,884.93	624,760.15	634,795.76	
10,600.00	90.00	86.89	8,820.00	107.57	1,982.01	0.00	1,984.93	624,765.57	634,895.61	
10,700.00	90.00	86.89	8,820.00	112.99	2,081.86	0.00	2,084.93	624,770.99	634,995.46	
10,800.00	90.00	86.89	8,820.00	118.41	2,181.71	0.00	2,184.93	624,776.41	635,095.31	
10,900.00	90.00	86.89	8,820.00	123.83	2,281.57	0.00	2,284.93	624,781.83	635,195.17	
11,000.00	90.00	86.89	8,820.00	129.25	2,381.42	0.00	2,384.93	624,787.25	635,295.02	
11,100.00	90.00	86.89	8,820.00	134.67	2,481.27	0.00	2,484.93	624,792.67	635,394.87	
11,200.00	90.00	86.89	8,820.00	140.09	2,581.13	0.00	2,584.93	624,798.09	635,494.73	
11,300.00	90.00	86.89	8,820.00	145.51	2,680.98	0.00	2,684.93	624,803.51	635,594.58	
11,400.00	90.00	86.89	8,820.00	150.93	2,780.83	0.00	2,784.93	624,808.93	635,694.43	
11,500.00	90.00	86.89	8,820.00	156.35	2,880.69	0.00	2,884.93	624,814.35	635,794.29	
11,600.00	90.00	86.89	8,820.00	161.77	2,980.54	0.00	2,984.93	624,819.77	635,894.14	
11,700.00	90.00	86.89	8,820.00	167.19	3,080.39	0.00	3,084.93	624,825.19	635,993.99	
11,800.00	90.00	86.89	8,820.00	172.61	3,180.24	0.00	3,184.93	624,830.61	636,093.84	
11,900.00	90.00	86.89	8,820.00	178.03	3,280.10	0.00	3,284.93	624,836.03	636,193.70	
12,000.00	90.00	86.89	8,820.00	183.44	3,379.95	0.00	3,384.93	624,841.44	636,293.55	
12,100.00	90.00	86.89	8,820.00	188.86	3,479.80	0.00	3,484.93	624,846.86	636,393.40	
12,200.00	90.00	86.89	8,820.00	194.28	3,579.66	0.00	3,584.93	624,852.28	636,493.26	
12,300.00	90.00	86.89	8,820.00	199.70	3,679.51	0.00	3,684.93	624,857.70	636,593.11	
12,400.00	90.00	86.89	8,820.00	205.12	3,779.36	0.00	3,784.93	624,863.12	636,692.96	
12,500.00	90.00	86.89	8,820.00	210.54	3,879.22	0.00	3,884.93	624,868.54	636,792.82	
12,600.00	90.00	86.89	8,820.00	215.96	3,979.07	0.00	3,984.93	624,873.96	636,892.67	
12,700.00	90.00	86.89	8,820.00	221.38	4,078.92	0.00	4,084.93	624,879.38	636,992.52	
12,800.00	90.00	86.89	8,820.00	226.80	4,178.78	0.00	4,184.93	624,884.80	637,092.38	
12,900.00	90.00	86.89	8,820.00	232.22	4,278.63	0.00	4,284.93	624,890.22	637,192.23	
13,000.00	90.00	86.89	8,820.00	237.64	4,378.48	0.00	4,384.93	624,895.64	637,292.08	



Standard_report

Company	COG Operating LLC	Local Co-ordinate Reference	Well: Flying Squirrel Federal Well No. 1H
Project	Eddy County New Mexico	TVD Reference	RKB=3600+18 @ 3618.00usft (Patnot 6)
Site	Flying Squirrel Federal	MD Reference	RKB=3600+18 @ 3618.00usft (Patnot 6)
Well	Flying Squirrel Federal Well No. 1H	North Reference	Grid
Wellbore	Original Hole	Survey Calculation Method	Minimum Curvature
Design	rev2	Database	EDM 5000.1 Database

Planned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100ft)	V. Sec (usft)	Northing (usft)	Easting (usft)	
13,100.00	90.00	86.89	8,820.00	243.06	4,478.33	0.00	4,484.93	624,901.06	637,391.93	
13,200.00	90.00	86.89	8,820.00	248.48	4,578.19	0.00	4,584.93	624,906.48	637,491.79	
13,300.00	90.00	86.89	8,820.00	253.90	4,678.04	0.00	4,684.93	624,911.90	637,591.64	
13,400.00	90.00	86.89	8,820.00	259.32	4,777.89	0.00	4,784.93	624,917.32	637,691.49	
13,500.00	90.00	86.89	8,820.00	264.74	4,877.75	0.00	4,884.93	624,922.74	637,791.35	
13,600.00	90.00	86.89	8,820.00	270.16	4,977.60	0.00	4,984.93	624,928.16	637,891.20	
13,700.00	90.00	86.89	8,820.00	275.58	5,077.45	0.00	5,084.93	624,933.58	637,991.05	
13,800.00	90.00	86.89	8,820.00	280.99	5,177.31	0.00	5,184.93	624,938.99	638,090.91	
13,900.00	90.00	86.89	8,820.00	286.41	5,277.16	0.00	5,284.93	624,944.41	638,190.76	
14,000.00	90.00	86.89	8,820.00	291.83	5,377.01	0.00	5,384.93	624,949.83	638,290.61	
14,021.51	90.00	86.89	8,820.00	293.00	5,398.49	0.00	5,406.44	624,951.00	638,312.09	
PBHL/TD										
14,021.52	90.00	86.89	8,820.00	293.00	5,398.50	0.01	5,406.45	624,951.00	638,312.10	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		N/S (usft)	E/W (usft)		
8,342.54	8,342.54	0.00	0.00	KOP Begin 12°/100' build	
9,092.54	8,820.00	25.88	476.76	Begin 90.00° lateral	
14,021.51	8,820.00	293.00	5,398.49	PBHL/TD	

**PECOS DISTRICT
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	COG Operating, LLC.
LEASE NO.:	NMLC-029387A
WELL NAME & NO.:	Flying Squirrel Federal 1H.
SURFACE HOLE FOOTAGE:	2000' FSL & 0450' FEL
BOTTOM HOLE FOOTAGE	2260' FSL & 0330' FEL Sec. 29, T. 18 S., R 31 E.
LOCATION:	Section 30, T. 18 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico
API:	30-015-42608

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

1. A Hydrogen Sulfide (H₂S) Drilling Plan shall be activated 500 feet prior to drilling into the Yates formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. Operator has stated that they will have monitoring equipment in place prior to drilling out of the surface shoe. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. **DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE.** Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. **IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS.** See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possibility of water flows in the Salado and Queen.

Possibility of lost circulation in the Artesia Group, Red Beds, Rustler, Grayburg, San Andres, and Delaware.

1. The 13-3/8 inch surface casing shall be set at approximately 630 feet (**in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet above the salt**) and cemented to the surface. **Fresh water mud to be used to setting depth.**
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

- Cement to surface. If cement does not circulate see B.1.a, c-d above.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

3. The minimum required fill of cement behind the 5-1/2 inch production casing is:

- Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification.

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. **In the case where the only BOP installed is an annular preventer, it shall be tested to a minimum of 2000 psi (which may require upgrading to 3M or 5M annular).**
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.
4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** intermediate casing shoe shall be **3000 (3M)** psi.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer.**
 - c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - d. The results of the test shall be reported to the appropriate BLM office.
 - e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
 - f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

JAM 091714