

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

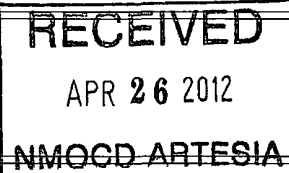
Instructions: Please submit one application (Form C-144 CLEZ) per individual closed-loop system request. For any application request other than for a closed-loop system that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure, please submit a Form C-144.

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: **ARABIAN "6" FEE #5H**
API Number: **30-015-40215** OCD Permit Number: **212870**
U/L or Qtr/Qtr **UL M** Section **6** Township **19S** Range **26E** 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



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): **Kacie Connally** Title: **PERMITTING TECH**
Signature: *Kacie Connally* Date: **4-25-12**
e-mail address: **kconnally@concho.com** Telephone: **432-221-0336**

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

OCD Representative Signature: [Signature]

Approval Date: 04/27/2012

Title: D. S. Supervisor

OCD Permit Number: 212870

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)

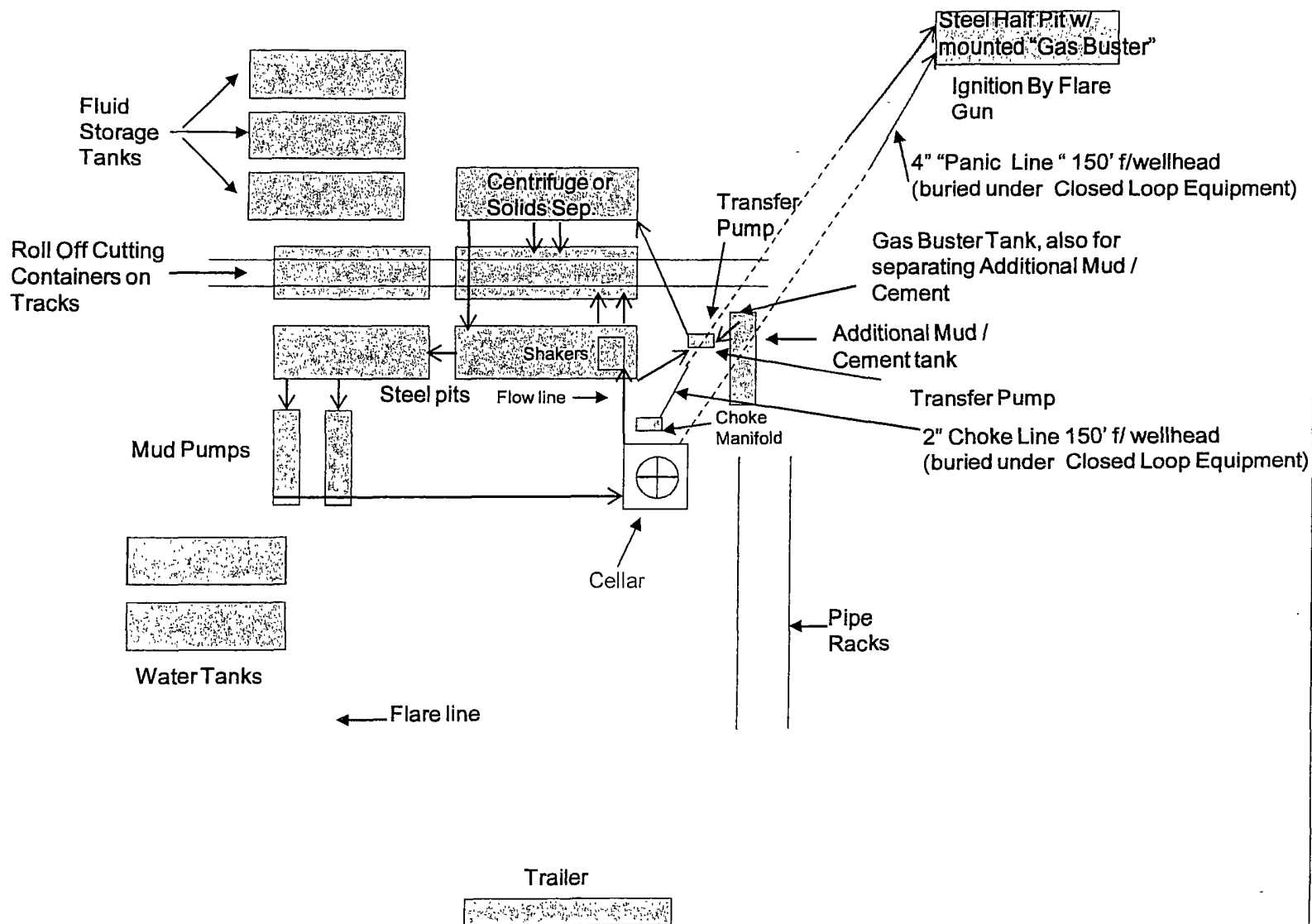
or

GMI (permit number 711-019-001)

dependent upon which rig is available to drill this well.

COG Operating LLC

Closed Loop Equipment Diagram



COG Operating LLC

Eddy County, NM

Arabian 6 Fee 5H

Arabian 6 Fee 5H

Wellbore #1

Surface: 110' FSL, 1040' FWL, Sec 6, T19S, R26E, Unit M (Lot 7)

BHL: 330' FNL, 1040' FWL, Sec 6, T19S, R26E, Unit D (Lot 4)

PP: 330' FSL, 1040' FWL, Sec 6, T19S, R26E, Unit D (Lot 4)

Plan: Plan #1

Standard Planning Report

12 April, 2012

Crescent Directional Drilling

Planning Report

Database:	R5000 Houston DB	Local Co-ordinate Reference:	Site Arabian 6 Fee 5H
Company:	COG Operating LLC	TVD Reference:	WELL @ 3396.00ft (Original Well Elev)
Project:	Eddy County, NM	MD Reference:	WELL @ 3396.00ft (Original Well Elev)
Site:	Arabian 6 Fee 5H	North Reference:	Gnd
Well:	Arabian 6 Fee 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Project	Eddy County, NM		
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	Arabian 6 Fee 5H		
Site Position:		Northing:	612,038 20 ft
From:	Map	Easting:	471,556 50 ft
Position Uncertainty:	0 00 ft	Slot Radius:	13 200 in
		Latitude:	32° 40' 57 20 N
		Longitude:	104° 25' 32 82 W
		Grid Convergence:	-0.05 °

Well	Arabian 6 Fee 5H		
Well Position	+N/-S	0 00 ft	Northing:
	+E/-W	0 00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	Ground Level:
			3,378 00 ft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	4/3/2012	7 91
			Dip Angle
			60.44
			Field Strength
			48,716

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0 00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0 00	0 00	0 00
			Direction
			0 42

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)	(°)	
0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
2,272 54	0 00	0 00	2,272 54	0 00	0 00	0 00	0 00	0 00	0 00	
3,022 54	90 00	0 42	2,750 00	477 45	3 48	12.00	12 00	0 00	0 42	
7,390 30	90 00	0 42	2,750 00	4,845 10	35 30	0 00	0 00	0 00	0 00	PBHL (Arabian 6 Fee

Crescent Directional Drilling

Planning Report

Database:	R5000 Houston DB	Local Co-ordinate/Reference:	Site Arabian 6-Fee 5H
Company:	COG Operating LLC	TVD Reference:	WELL @ 3396 00ft (Original Well Elev)
Project:	Eddy County, NM	MD Reference:	WELL @ 3396 00ft (Original Well Elev)
Site:	Arabian 6 Fee 5H	North Reference:	Grd
Well:	Arabian 6 Fee 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

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)
2,272.54	0 00	0 00	2,272.54	0 00	0 00	0.00	0 00	0 00	0.00
KOP - Start Build @ 12.00°/100'									
2,300.00	3 30	0 42	2,299.98	0 79	0 01	0 79	12 00	12 00	0 00
2,400.00	15 30	0 42	2,398.49	16 91	0 12	16 91	12 00	12 00	0 00
2,500.00	27 30	0 42	2,491.49	53 16	0 39	53 17	12 00	12 00	0 00
2,600.00	39 30	0 42	2,574.93	107 96	0 79	107 96	12 00	12 00	0 00
2,700.00	51 30	0 42	2,645.14	178 90	1 30	178 91	12 00	12 00	0 00
2,752.98	57 65	0 42	2,675.91	222 00	1 62	222 00	12 00	12 00	0 00
PP @ 2752.98 MD, 2675.91 TVD, 57.65 INC, 0.42° AZ, 222.00 VS									
2,800.00	63 30	0 42	2,699.07	262 89	1 92	262 90	12 00	12 00	0 00
2,900.00	75 30	0 42	2,734.36	356 26	2 60	356 27	12 00	12 00	0 00
3,000.00	87 30	0 42	2,749.47	454 93	3 31	454 94	12 00	12 00	0 00
3,022.54	90 00	0 42	2,750.00	477 45	3 48	477 46	12 00	12 00	0 00
Landing Point - Hold @ 90.00° INC, 0.42° AZ									
3,100.00	90 00	0 42	2,750.00	554.91	4 04	554.93	0 00	0 00	0 00
3,200.00	90 00	0 42	2,750.00	654.91	4 77	654.93	0 00	0 00	0 00
3,300.00	90 00	0 42	2,750.00	754.91	5 50	754.93	0 00	0 00	0 00
3,400.00	90 00	0 42	2,750.00	854.91	6 23	854.93	0 00	0 00	0 00
3,500.00	90 00	0 42	2,750.00	954.90	6 96	954.93	0 00	0 00	0 00
3,600.00	90 00	0 42	2,750.00	1,054.90	7 69	1,054.93	0 00	0 00	0 00
3,700.00	90 00	0 42	2,750.00	1,154.90	8 41	1,154.93	0 00	0 00	0 00
3,800.00	90 00	0 42	2,750.00	1,254.90	9 14	1,254.93	0 00	0 00	0 00
3,900.00	90 00	0 42	2,750.00	1,354.89	9 87	1,354.93	0 00	0 00	0 00
4,000.00	90 00	0 42	2,750.00	1,454.89	10 60	1,454.93	0 00	0 00	0 00
4,100.00	90 00	0 42	2,750.00	1,554.89	11 33	1,554.93	0 00	0 00	0 00
4,200.00	90 00	0 42	2,750.00	1,654.89	12 06	1,654.93	0 00	0 00	0 00
4,300.00	90 00	0 42	2,750.00	1,754.88	12 79	1,754.93	0 00	0 00	0 00
4,400.00	90 00	0 42	2,750.00	1,854.88	13 51	1,854.93	0 00	0 00	0 00
4,500.00	90 00	0 42	2,750.00	1,954.88	14 24	1,954.93	0 00	0 00	0 00
4,600.00	90 00	0 42	2,750.00	2,054.88	14 97	2,054.93	0 00	0 00	0 00
4,700.00	90 00	0 42	2,750.00	2,154.87	15 70	2,154.93	0 00	0 00	0 00
4,800.00	90 00	0 42	2,750.00	2,254.87	16 43	2,254.93	0 00	0 00	0 00
4,900.00	90 00	0 42	2,750.00	2,354.87	17 16	2,354.93	0 00	0 00	0 00
5,000.00	90 00	0 42	2,750.00	2,454.86	17 89	2,454.93	0 00	0 00	0 00
5,100.00	90 00	0 42	2,750.00	2,554.86	18 61	2,554.93	0 00	0 00	0 00
5,200.00	90 00	0 42	2,750.00	2,654.86	19 34	2,654.93	0 00	0 00	0 00
5,300.00	90 00	0 42	2,750.00	2,754.86	20 07	2,754.93	0 00	0 00	0 00
5,400.00	90 00	0 42	2,750.00	2,854.85	20 80	2,854.93	0 00	0 00	0 00
5,500.00	90 00	0 42	2,750.00	2,954.85	21 53	2,954.93	0 00	0 00	0 00
5,600.00	90 00	0 42	2,750.00	3,054.85	22 26	3,054.93	0 00	0 00	0 00
5,700.00	90 00	0 42	2,750.00	3,154.85	22 99	3,154.93	0 00	0 00	0 00
5,800.00	90 00	0 42	2,750.00	3,254.84	23 71	3,254.93	0 00	0 00	0 00
5,900.00	90 00	0 42	2,750.00	3,354.84	24 44	3,354.93	0 00	0 00	0 00
6,000.00	90 00	0 42	2,750.00	3,454.84	25 17	3,454.93	0 00	0 00	0 00
6,100.00	90 00	0 42	2,750.00	3,554.84	25 90	3,554.93	0 00	0 00	0 00
6,200.00	90 00	0 42	2,750.00	3,654.83	26 63	3,654.93	0 00	0 00	0 00
6,300.00	90 00	0 42	2,750.00	3,754.83	27 36	3,754.93	0 00	0 00	0 00
6,400.00	90 00	0 42	2,750.00	3,854.83	28 09	3,854.93	0 00	0 00	0 00
6,500.00	90 00	0 42	2,750.00	3,954.82	28 81	3,954.93	0 00	0 00	0 00
6,600.00	90 00	0 42	2,750.00	4,054.82	29 54	4,054.93	0 00	0 00	0 00
6,700.00	90 00	0 42	2,750.00	4,154.82	30 27	4,154.93	0 00	0 00	0 00
6,800.00	90 00	0 42	2,750.00	4,254.82	31 00	4,254.93	0 00	0 00	0 00
6,900.00	90 00	0 42	2,750.00	4,354.81	31 73	4,354.93	0 00	0 00	0 00

Crescent Directional Drilling

Planning Report

Database:	R5000 Houston DB	Local Co-ordinate Reference:	Site Arabian 6 Fee 5H
Company:	COG Operating LLC	TVD Reference:	WELL @ 3396 00ft (Original Well Elev)
Project:	Eddy County, NM	MD Reference:	WELL @ 3396 00ft (Original Well Elev)
Site:	Arabian 6 Fee 5H	North Reference:	Grid
Well:	Arabian 6 Fee 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

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)
7,000 00	90 00	0 42	2,750 00	4,454 81	32 46	4,454 93	0 00	0 00	0 00
7,100 00	90 00	0 42	2,750 00	4,554 81	33 19	4,554 93	0 00	0 00	0 00
7,200 00	90 00	0 42	2,750 00	4,654 81	33 91	4,654 93	0 00	0 00	0 00
7,300 00	90 00	0 42	2,750 00	4,754 80	34 64	4,754 93	0 00	0 00	0 00
7,390 30	90 00	0 42	2,750 00	4,845 10	35 30	4,845 23	0 00	0 00	0 00
TD @ 7390.30' MD, 2750.00' TVD - PBHL (Arabian 6 Fee 5H Plan 1)									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL (Arabian 6 Fee 5H)	0 00	0 00	2,750.00	4,845 10	35 30	616,883 30	471,591 80	32° 41' 45 14 N	104° 25' 32 45 W
- plan hits target center									
- Point									

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
2,272 54	2,272 54	0 00	0 00	KOP - Start Build @ 12 00°/100'
2,752 98	2,675 91	222 00	1 62	PP @ 2752.98 MD, 2675 91 TVD, 57 65 INC, 0 42 AZ, 222.00 VS
3,022 54	2,750 00	477 45	3 48	Landing Point - Hold @ 90 00° INC, 0 42° AZ
7,390 30	2,750 00	4,845 10	35 30	TD @ 7390 30' MD, 2750 00' TVD



COG Operating LLC
Arabian 6 Fee 5H
Eddy County, NM
Plan #1



Surface Location		Ground Elev: 3378.00 WELL @ 3396.00ft (Original Well Elev)			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	612038.20	471556.50	32° 40' 57.20 N	104° 25' 32.82 W

TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude Longitude
PBHL (Arabian 6 Fee 5H Plan 1)	2750.00	4845.10	35.30	616883.30	471591.80	32° 41' 45.14 N 104° 25' 32.45 W

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	2272.54	0.00	0.00	2272.54	0.00	0.00	0.00	0.00	0.00	KOP - Start Build @ 12.00°/100'
3	3022.54	90.00	0.42	2750.00	477.45	3.48	12.00	0.42	477.46	Landing Point - Hold @ 90.00° INC, 0.42° AZ
4	7390.30	90.00	0.42	2750.00	4845.10	35.30	0.00	0.00	4845.23	TD @ 7390.30' MD, 2750.00' TVD



Azimuths to Grid North
True North 0.05°
Magnetic North 7.96°

Magnetic Field
Strength: 48716.4snT
Dip Angle: 60.44°
Date: 4/3/2012
Model: IGRF2010

