

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.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM67106
2. Name of Operator COG OPERATING LLC		6. If Indian, Allottee or Tribe Name
Contact: STORMI DAVIS E-Mail: sdavis@conchoresources.com		7. If Unit or CA/Agreement, Name and/or No.
3a. Address 2208 W. MAIN ARTESIA, NM 88210	3b. Phone No. (include area code) Ph: 575-748-6946	8. Well Name and No. SEABISCUIT FEDERAL COM 2H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 12 T24S R31E SESW 330FSL 2260FWL		9. API Well No. 30-015-37607
		10. Field and Pool, or Exploratory SAND DUNES; BONE SPRING
		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
☒ Notice of Intent	☐ Acidize
☐ Subsequent Report	☐ Deepen
☐ Final Abandonment Notice	☐ Alter Casing
	☐ Fracture Treat
	☐ Casing Repair
	☐ New Construction
	☐ Change Plans
	☐ Plug and Abandon
	☐ Convert to Injection
	☐ Plug Back
	☐ Production (Start/Resume)
	☐ Reclamation
	☐ Recomplete
	☐ Temporarily Abandon
	☐ Water Disposal
	☐ Water Shut-Off
	☐ Well Integrity
	☒ Other Change to Original PD

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 recompleat 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 recompleat 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.)

COG respectfully requests the following:

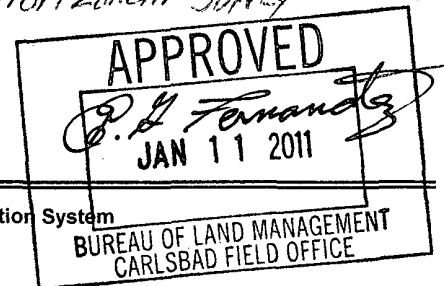
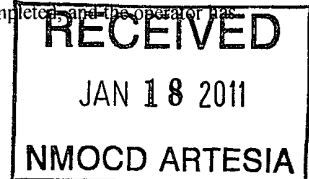
Drill an 8 3/4" hole from 4500-9400' MD & 7 7/8" hole from 9400-10920' MD. Run tapered string of 7" 23# P-110 & 5 1/2" 17# N-80 casing set @ 9920' MD (9440' TVD). Cement design will remain the same as approved APD.

13,560 (9140 TVD)

per operator

New Horizontal Survey

*Condition of Approval
Original COR still Applies*



14. I hereby certify that the foregoing is true and correct. Electronic Submission #100197 verified by the BLM Well Information System For COG OPERATING LLC, sent to the Carlsbad	
Name (Printed/Typed) STORMI DAVIS	Title PREPARER
Signature (Electronic Submission)	Date 01/07/2011

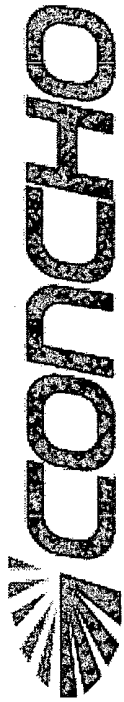
THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By	Title	Date
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.

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

SECRETARY'S POTASH



Cog Operating LLC- Eastern NM

Eddy County

Seabiscuit Federal Com

#2H

OH

Plan: Plan #4

Pathfinder X & Y Planning Report

10 January, 2011

PATHFINDER
A Schlumberger Company



Pathfinder

Pathfinder X & Y Planning Report



Company: Cog Operating LLC- Eastern NM
Project: Eddy County
Site: Seabiscuit Federal Com
Well: #2H
Wellbore: OH
Design: Plan #4

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #2H
WELL @ 3588.00usft (22' KB)
WELL @ 3588.00usft (22' KB)
Grid
Minimum Curvature
EDM 5000.1 Single User Db

Project: Eddy County
Map System: US State Plane 1927 (Exact solution)
Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: New Mexico East 3001

System Datum: Mean Sea Level

Site: Seabiscuit Federal Com

Site Position: 446,236.500 usft
From: 683,988.900 usft
Position Uncertainty: 13-3/16 " Slot Radius: 0.32 "

Latitude: 32° 13' 31.515 N
Longitude: 103° 43' 56.197 W
Grid Convergence: 0.32 "

Well: #2H

Well Position: +N/-S 0.00 usft
+E/-W 0.00 usft
Position Uncertainty: 0.00 usft

Latitude: 32° 13' 31.477 N
Longitude: 103° 43' 56.197 W
Ground Level: 3,566.00 usft

Wellbore: OH

Magnetics: Model Name: IGRF200510
Sample Date: 07/16/09
Dip Angle: 7.88
Field Strength: 48,819

Design: Plan #4

Audit Notes: Version: Phase: PLAN
Tie On Depth: 0.00

Vertical Section: Depth From (TVD) (usft) 0.00
+E/-W (usft) 0.00
Direction (°) 359.71

Survey Tool Program: Date: 01/10/11

From (usft) To (usft) Survey (Wellbore) Tool Name Description
0.00 13,560.02 Plan #4 (OH) MWD MWD - Standard



Pathfinder

Pathfinder X & Y Planning Report



Company: Cog Operating LLC- Eastern NM
Project: Eddy County
Site: Seabiscuit Federal Com
Well: #2H
Wellbore: OH
Design: Plan #4

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #2H
WELL @ 3588.00usft (22' KB)
WELL @ 3588.00usft (22' KB)
Grid
Minimum Curvature
EDM 5000.1 Single User Db

Planned Survey													
MD (usft)	Inc (")	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLog ("/100usft)	Northing (usft)	Easting (usft)			
0.00	0.00	0.00	0.00	3,588.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
100.00	0.00	0.00	100.00	3,488.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
200.00	0.00	0.00	200.00	3,388.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
300.00	0.00	0.00	300.00	3,288.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
400.00	0.00	0.00	400.00	3,188.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
500.00	0.00	0.00	500.00	3,088.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
600.00	0.00	0.00	600.00	2,988.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
700.00	0.00	0.00	700.00	2,888.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
800.00	0.00	0.00	800.00	2,788.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
900.00	0.00	0.00	900.00	2,688.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
1,000.00	0.00	0.00	1,000.00	2,588.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
1,100.00	0.00	0.00	1,100.00	2,488.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
1,200.00	0.00	0.00	1,200.00	2,388.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
1,300.00	0.00	0.00	1,300.00	2,288.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
1,400.00	0.00	0.00	1,400.00	2,188.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
1,500.00	0.00	0.00	1,500.00	2,088.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
1,600.00	0.00	0.00	1,600.00	1,988.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
1,700.00	0.00	0.00	1,700.00	1,888.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
1,800.00	0.00	0.00	1,800.00	1,788.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
1,900.00	0.00	0.00	1,900.00	1,688.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
2,000.00	0.00	0.00	2,000.00	1,588.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
2,100.00	0.00	0.00	2,100.00	1,488.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
2,200.00	0.00	0.00	2,200.00	1,388.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
2,300.00	0.00	0.00	2,300.00	1,288.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
2,400.00	0.00	0.00	2,400.00	1,188.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
2,500.00	0.00	0.00	2,500.00	1,088.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			
2,600.00	0.00	0.00	2,600.00	988.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50			



Pathfinder

Pathfinder X & Y Planning Report



Company: Cog Operating LLC- Eastern NM
Project: Eddy County
Site: Seabiscuit Federal Com
Well: #2H
Wellbore: OH
Design: Plan #4

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #2H
WELL @ 3588.00usft (22' KB)
WELL @ 3588.00usft (22' KB)
Grid
Minimum Curvature
EDM 5000.1 Single User Db

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	D/Log (°/100usft)	Northing (usft)	Easting (usft)
2,700.00	0.00	0.00	2,700.00	888.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
2,800.00	0.00	0.00	2,800.00	788.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
2,900.00	0.00	0.00	2,900.00	688.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
3,000.00	0.00	0.00	3,000.00	588.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
3,100.00	0.00	0.00	3,100.00	488.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
3,200.00	0.00	0.00	3,200.00	388.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
3,300.00	0.00	0.00	3,300.00	288.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
3,400.00	0.00	0.00	3,400.00	188.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
3,500.00	0.00	0.00	3,500.00	88.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
3,600.00	0.00	0.00	3,600.00	-12.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
3,700.00	0.00	0.00	3,700.00	-112.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
3,800.00	0.00	0.00	3,800.00	-212.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
3,900.00	0.00	0.00	3,900.00	-312.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
4,000.00	0.00	0.00	4,000.00	-412.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
4,100.00	0.00	0.00	4,100.00	-512.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
4,200.00	0.00	0.00	4,200.00	-612.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
4,300.00	0.00	0.00	4,300.00	-712.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
4,400.00	0.00	0.00	4,400.00	-812.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
4,500.00	0.00	0.00	4,500.00	-912.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
4,600.00	0.00	0.00	4,600.00	-1,012.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
4,700.00	0.00	0.00	4,700.00	-1,112.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
4,800.00	0.00	0.00	4,800.00	-1,212.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
4,900.00	0.00	0.00	4,900.00	-1,312.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
5,000.00	0.00	0.00	5,000.00	-1,412.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
5,100.00	0.00	0.00	5,100.00	-1,512.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
5,200.00	0.00	0.00	5,200.00	-1,612.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
5,300.00	0.00	0.00	5,300.00	-1,712.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50



Pathfinder

Pathfinder X & Y Planning Report



Company: Cog Operating LLC- Eastern NM
Project: Eddy County
Site: Seabiscuit Federal Com
Well: #2H
Wellbore: OH
Design: Plan #4

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #2H
WELL @ 3588.00usft (22' KB)
WELL @ 3589.00usft (22' KB)
Grid
Minimum Curvature
EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
5,400.00	0.00	0.00	5,400.00	-1,812.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
5,500.00	0.00	0.00	5,500.00	-1,912.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
5,600.00	0.00	0.00	5,600.00	-2,012.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
5,700.00	0.00	0.00	5,700.00	-2,112.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
5,800.00	0.00	0.00	5,800.00	-2,212.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
5,900.00	0.00	0.00	5,900.00	-2,312.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
6,000.00	0.00	0.00	6,000.00	-2,412.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
6,100.00	0.00	0.00	6,100.00	-2,512.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
6,200.00	0.00	0.00	6,200.00	-2,612.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
6,300.00	0.00	0.00	6,300.00	-2,712.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
6,400.00	0.00	0.00	6,400.00	-2,812.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
6,500.00	0.00	0.00	6,500.00	-2,912.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
6,600.00	0.00	0.00	6,600.00	-3,012.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
6,700.00	0.00	0.00	6,700.00	-3,112.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
6,800.00	0.00	0.00	6,800.00	-3,212.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
6,900.00	0.00	0.00	6,900.00	-3,312.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
7,000.00	0.00	0.00	7,000.00	-3,412.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
7,100.00	0.00	0.00	7,100.00	-3,512.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
7,200.00	0.00	0.00	7,200.00	-3,612.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
7,300.00	0.00	0.00	7,300.00	-3,712.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
7,400.00	0.00	0.00	7,400.00	-3,812.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
7,500.00	0.00	0.00	7,500.00	-3,912.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
7,600.00	0.00	0.00	7,600.00	-4,012.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
7,700.00	0.00	0.00	7,700.00	-4,112.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
7,800.00	0.00	0.00	7,800.00	-4,212.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
7,900.00	0.00	0.00	7,900.00	-4,312.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50
8,000.00	0.00	0.00	8,000.00	-4,412.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50



Pathfinder

Pathfinder X & Y Planning Report



Company Project: Site: Well: Wellbore: Design:				Cog Operating LLC- Eastern NM Eddy County Seabiscuit Federal Com #2H OH Plan #4				Local Co-ordinate Reference: TYD Reference: MD Reference: North Reference: Survey Calculation Method: Database				Well #2H WELL @ 3588.00ust (22' KB) WELL @ 3588.00ust (22' KB) Grid Minimum Curvature EDM 5000.1 Single User Db			
MD (ust)	Inc (°)	Azi (°)	TYD (ust)	TYDSS (ust)	N/S (ust)	E/W (ust)	V. Sec (ust)	DLeg (°/100ust)	Northing (ust)	Easting (ust)					
8,100.00	0.00	0.00	8,100.00	-4,512.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50					
8,200.00	0.00	0.00	8,200.00	-4,612.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50					
8,300.00	0.00	0.00	8,300.00	-4,712.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50					
8,400.00	0.00	0.00	8,400.00	-4,812.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50					
8,500.00	0.00	0.00	8,500.00	-4,912.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50					
8,600.00	0.00	0.00	8,600.00	-5,012.00	0.00	0.00	0.00	0.00	446,243.10	685,868.50					
8,662.50	0.00	0.00	8,662.50	-5,074.50	0.00	0.00	0.00	0.00	446,243.10	685,868.50					
8,675.00	1.50	359.71	8,675.00	-5,087.00	0.16	0.00	0.16	12.00	446,243.26	685,868.50					
8,700.00	4.50	359.71	8,699.96	-5,111.96	1.47	-0.01	1.47	12.00	446,244.57	685,868.49					
8,725.00	7.50	359.71	8,724.82	-5,136.82	4.08	-0.02	4.08	12.00	446,247.18	685,868.48					
8,750.00	10.50	359.71	8,749.51	-5,161.51	7.99	-0.04	7.99	12.00	446,251.09	685,868.46					
8,775.00	13.50	359.71	8,773.96	-5,185.96	13.19	-0.07	13.19	12.00	446,256.29	685,868.43					
8,800.00	16.50	359.71	8,798.11	-5,210.11	19.66	-0.10	19.66	12.00	446,262.76	685,868.40					
8,825.00	19.50	359.71	8,821.88	-5,233.88	27.38	-0.14	27.38	12.00	446,270.48	685,868.36					
8,850.00	22.50	359.71	8,845.22	-5,257.22	36.34	-0.18	36.34	12.00	446,279.44	685,868.32					
8,875.00	25.50	359.71	8,868.05	-5,280.05	46.51	-0.24	46.51	12.00	446,289.61	685,868.26					
8,900.00	28.50	359.71	8,890.33	-5,302.33	57.86	-0.29	57.86	12.00	446,300.96	685,868.21					
8,925.00	31.50	359.71	8,911.98	-5,323.98	70.35	-0.36	70.35	12.00	446,313.45	685,868.14					
8,950.00	34.50	359.71	8,932.94	-5,344.94	83.97	-0.43	83.97	12.00	446,327.07	685,868.07					
8,975.00	37.50	359.71	8,953.17	-5,365.17	98.66	-0.50	98.66	12.00	446,341.76	685,868.00					
9,000.00	40.50	359.71	8,972.59	-5,384.59	114.39	-0.58	114.39	12.00	446,357.49	685,867.92					
9,025.00	43.50	359.71	8,991.17	-5,403.17	131.11	-0.66	131.12	12.00	446,374.21	685,867.84					
9,050.00	46.50	359.71	9,008.85	-5,420.85	148.79	-0.75	148.79	12.00	446,391.89	685,867.75					
9,075.00	49.50	359.71	9,025.57	-5,437.57	167.36	-0.85	167.37	12.00	446,410.46	685,867.65					
9,100.00	52.50	359.71	9,041.31	-5,453.31	186.79	-0.95	186.79	12.00	446,429.89	685,867.55					
9,125.00	55.50	359.71	9,056.00	-5,468.00	207.01	-1.05	207.01	12.00	446,450.11	685,867.45					
9,150.00	58.50	359.71	9,069.62	-5,481.62	227.97	-1.15	227.98	12.00	446,471.07	685,867.35					



Pathfinder

Pathfinder X & Y Planning Report



Company Cog Operating LLC- Eastern NM				Local Co-ordinate Reference				Well #2H			
Project: Eddy County				TVD Reference				WELL @ 3588.00usft (22' KB)			
Site: Seabiscuit Federal Com				MD Reference				WELL @ 3588.00usft (22' KB)			
Well: #2H				North Reference				Grid			
Wellbore: OH				Survey Calculation Method				Minimum Curvature			
Design: Plan #4				Database				EDM 5000.1 Single User Db			
Planned Survey											
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
9,175.00	61.50	359.71	9,082.12	-5,494.12	249.62	-1.26	249.62	12.00	446,492.72	685,867.24	
9,200.00	64.50	359.71	9,093.47	-5,505.47	271.89	-1.38	271.90	12.00	446,514.99	685,867.12	
9,225.00	67.50	359.71	9,103.64	-5,515.64	294.73	-1.49	294.73	12.00	446,537.83	685,867.01	
9,250.00	70.49	359.71	9,112.60	-5,524.60	318.06	-1.61	318.07	12.00	446,561.16	685,866.89	
9,275.00	73.49	359.71	9,120.32	-5,532.32	341.84	-1.73	341.84	12.00	446,584.94	685,866.77	
9,300.00	76.49	359.71	9,126.80	-5,538.80	365.98	-1.85	365.98	12.00	446,609.08	685,866.65	
9,325.00	79.49	359.71	9,132.00	-5,544.00	390.43	-1.98	390.43	12.00	446,633.53	685,866.52	
9,350.00	82.49	359.71	9,135.91	-5,547.91	415.12	-2.10	415.12	12.00	446,658.22	685,866.40	
9,375.00	85.49	359.71	9,138.52	-5,550.52	439.98	-2.23	439.98	12.00	446,683.08	685,866.27	
9,400.00	88.49	359.71	9,139.83	-5,551.83	464.94	-2.36	464.95	12.00	446,708.04	685,866.14	
9,412.56	90.00	359.71	9,140.00	-5,552.00	477.49	-2.42	477.50	12.00	446,720.59	685,866.08	
9,500.00	90.00	359.71	9,140.00	-5,552.00	564.94	-2.86	564.94	0.00	446,808.04	685,865.64	
9,600.00	90.00	359.71	9,140.00	-5,552.00	664.94	-3.37	664.94	0.00	446,908.04	685,865.13	
9,700.00	90.00	359.71	9,140.00	-5,552.00	764.93	-3.88	764.94	0.00	447,008.03	685,864.62	
9,800.00	90.00	359.71	9,140.00	-5,552.00	864.93	-4.38	864.94	0.00	447,108.03	685,864.12	
9,900.00	90.00	359.71	9,140.00	-5,552.00	964.93	-4.89	964.94	0.00	447,208.03	685,863.61	
10,000.00	90.00	359.71	9,140.00	-5,552.00	1,064.93	-5.39	1,064.94	0.00	447,308.03	685,863.11	
10,100.00	90.00	359.71	9,140.00	-5,552.00	1,164.93	-5.90	1,164.94	0.00	447,408.03	685,862.60	
10,200.00	90.00	359.71	9,140.00	-5,552.00	1,264.93	-6.41	1,264.94	0.00	447,508.03	685,862.09	
10,300.00	90.00	359.71	9,140.00	-5,552.00	1,364.93	-6.91	1,364.94	0.00	447,608.03	685,861.59	
10,400.00	90.00	359.71	9,140.00	-5,552.00	1,464.93	-7.42	1,464.94	0.00	447,708.03	685,861.08	
10,500.00	90.00	359.71	9,140.00	-5,552.00	1,564.92	-7.93	1,564.94	0.00	447,808.02	685,860.57	
10,600.00	90.00	359.71	9,140.00	-5,552.00	1,664.92	-8.43	1,664.94	0.00	447,908.02	685,860.07	
10,700.00	90.00	359.71	9,140.00	-5,552.00	1,764.92	-8.94	1,764.94	0.00	448,008.02	685,859.56	
10,800.00	90.00	359.71	9,140.00	-5,552.00	1,864.92	-9.45	1,864.94	0.00	448,108.02	685,859.05	
10,900.00	90.00	359.71	9,140.00	-5,552.00	1,964.92	-9.95	1,964.94	0.00	448,208.02	685,858.55	
11,000.00	90.00	359.71	9,140.00	-5,552.00	2,064.92	-10.46	2,064.94	0.00	448,308.02	685,858.04	



Pathfinder

Pathfinder X & Y Planning Report



A Schlumberger Company

Company: Project: Site: Well: Wellbore: Design:				Cog Operating LLC- Eastern NM Eddy County Seabiscuit Federal Com #2H OH Plan #4				Local Co-ordinate Reference TVD Reference MD Reference North Reference Survey Calculation Method: Database:				Well #2H WELL @ 3588.00usft (22' KB) WELL @ 3588.00usft (22' KB) Grid Minimum Curvature EDM 5000.1 Single User Db			
Planned Survey															
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	D/Leg (°/100usft)	Northing (usft)	Easting (usft)					
11,100.00	90.00	359.71	9,140.00	-5,552.00	2,164.92	-10.97	2,164.94	0.00	448,408.02	685,857.53					
11,200.00	90.00	359.71	9,140.00	-5,552.00	2,264.92	-11.47	2,264.94	0.00	448,508.02	685,857.03					
11,300.00	90.00	359.71	9,140.00	-5,552.00	2,364.91	-11.98	2,364.94	0.00	448,608.01	685,856.52					
11,400.00	90.00	359.71	9,140.00	-5,552.00	2,464.91	-12.49	2,464.94	0.00	448,708.01	685,856.01					
11,500.00	90.00	359.71	9,140.00	-5,552.00	2,564.91	-12.99	2,564.94	0.00	448,808.01	685,855.51					
11,600.00	90.00	359.71	9,140.00	-5,552.00	2,664.91	-13.50	2,664.94	0.00	448,908.01	685,855.00					
11,700.00	90.00	359.71	9,140.00	-5,552.00	2,764.91	-14.01	2,764.94	0.00	449,008.01	685,854.49					
11,800.00	90.00	359.71	9,140.00	-5,552.00	2,864.91	-14.51	2,864.94	0.00	449,108.01	685,853.99					
11,900.00	90.00	359.71	9,140.00	-5,552.00	2,964.91	-15.02	2,964.94	0.00	449,208.01	685,853.48					
12,000.00	90.00	359.71	9,140.00	-5,552.00	3,064.91	-15.53	3,064.94	0.00	449,308.01	685,852.97					
12,100.00	90.00	359.71	9,140.00	-5,552.00	3,164.90	-16.03	3,164.94	0.00	449,408.00	685,852.47					
12,200.00	90.00	359.71	9,140.00	-5,552.00	3,264.90	-16.54	3,264.94	0.00	449,508.00	685,851.96					
12,300.00	90.00	359.71	9,140.00	-5,552.00	3,364.90	-17.05	3,364.94	0.00	449,608.00	685,851.45					
12,400.00	90.00	359.71	9,140.00	-5,552.00	3,464.90	-17.55	3,464.94	0.00	449,708.00	685,850.95					
12,500.00	90.00	359.71	9,140.00	-5,552.00	3,564.90	-18.06	3,564.94	0.00	449,808.00	685,850.44					
12,600.00	90.00	359.71	9,140.00	-5,552.00	3,664.90	-18.57	3,664.94	0.00	449,908.00	685,849.93					
12,700.00	90.00	359.71	9,140.00	-5,552.00	3,764.90	-19.07	3,764.94	0.00	450,008.00	685,849.43					
12,800.00	90.00	359.71	9,140.00	-5,552.00	3,864.90	-19.58	3,864.94	0.00	450,108.00	685,848.92					
12,900.00	90.00	359.71	9,140.00	-5,552.00	3,964.89	-20.09	3,964.94	0.00	450,207.99	685,848.41					
13,000.00	90.00	359.71	9,140.00	-5,552.00	4,064.89	-20.59	4,064.94	0.00	450,307.99	685,847.91					
13,100.00	90.00	359.71	9,140.00	-5,552.00	4,164.89	-21.10	4,164.94	0.00	450,407.99	685,847.40					
13,200.00	90.00	359.71	9,140.00	-5,552.00	4,264.89	-21.61	4,264.94	0.00	450,507.99	685,846.89					
13,300.00	90.00	359.71	9,140.00	-5,552.00	4,364.89	-22.11	4,364.94	0.00	450,607.99	685,846.39					
13,400.00	90.00	359.71	9,140.00	-5,552.00	4,464.89	-22.62	4,464.94	0.00	450,707.99	685,845.88					
13,500.00	90.00	359.71	9,140.00	-5,552.00	4,564.89	-23.13	4,564.94	0.00	450,807.99	685,845.37					
13,560.02	90.00	359.71	9,140.00	-5,552.00	4,624.90	-23.43	4,624.96	0.00	450,868.00	685,845.07					
PBHL(SB#2)															



Pathfinder
Pathfinder X & Y Planning Report



Company: Cog Operating LLC- Eastern NM
Project: Eddy County
Site: Seabiscuit Federal Com
Well: #2H
Wellbore: OH
Design: Plan #4

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:
Well #2H
WELL @ 3588.00usft (22' KB)
WELL @ 3588.00usft (22' KB)
Grid
Minimum Curvature
EDM 5000.1 Single User Db

Checked By: _____

Approved By: _____

Date: _____