Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

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.

5. Lease Serial No.
NMNM111965

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
MASTIFF FEDERAL 3H

2. Name of Operator
COG OPERATING LLC
Contact: MAYTE X REYES
E-Mail: mreyes1@concho.com

9. API Well No.
30-025-42064-00-X1

3a. Address
ONE CONCHO CENTER 600 W ILLINOIS AVENUE
MIDLAND, TX 79701-4287

3b. Phone No. (include area code)
Ph: 575-748-6945

HOBBS OCD

10. Field and Pool, or Exploratory
MESA VERDE

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 4 T24S R32E Lot 3 190FNL 1980FWL
32.253145 N Lat, 103.681255 W Lon

AUG 21 2015

11. County or Parish, and State
LEA COUNTY, NM

RECEIVED

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original APD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

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.)

COG Operating LLC, respectfully requests approval for the following changes to the original approved APD.

Flex Hose: See attached.

Drilling Changes
Drilling program and directional plan attached.

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

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

Electronic Submission #313020 verified by the BLM Well Information System
For COG OPERATING LLC, sent to the Hobbs
Committed to AFMSS for processing by JENNIFER SANCHEZ on 08/18/2015 (15JAS0101SE)

Name *(Printed/Typed)* MAYTE X REYES — Title REGULATORY ANALYST

Signature (Electronic Submission) — Date 08/18/2015

APPROVED
AUG 18 2015
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

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.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

AUG 24 2015

COG Operating LLC, Mastiff Federal 3H

1. Geologic Formations

TVD of target	10610'	Pilot hole depth	12600'
MD at TD:	15166'	Deepest expected fresh water:	380'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	1102'	Water	
Top of Salt	1593'	Salt	
Lamar	4844'	Barren	
Delaware Group	4885'	Oil/Gas	Possible lost circ
Bone Spring	8663'	Oil/Gas	
2nd Bone Spring Sand	10434'	Target Zone	
Wolfcamp	12039'	Oil/Gas	
Pennsylvanian	13383'	Oil/Gas	Will not penetrate

2. Casing Program

Hole Size	Casing Interval From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17.5"	0'	1240'	13.375"	54.5	J55	STC	1.95	1.20	7.61 D
12.25"	0'	4860'	9.625"	40	L80	BTC	1.70	0.95	4.71 D
8.75"	0'	12600'	None	Pilot Hole					
8.75"	0'	15166'	5-1/2"	17	P110	LTC	1.51	2.14	1.73 D
				BLM Minimum Safety Factor			1.125	1.00	1.6 Dry 1.8 Wet

- All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h
- BLM standard formulas where used on all SF calculations.
- Used 9 PPG for pore pressure calculations to T/ Wolfcamp & 9.2 PPG for Wolfcamp.
- Explanation for SF's below BLM's minimum standards:
  - 9-5/8" Burst SF @ 0.95 – used BLM's frac gradient scenario to qualify.
    5750 psi / 4860' = 1.18 > 0.70

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	N
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

2. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	750	13.5	1.75	9.2	13	Lead: Class C + 4% Gel + 1% CaCl2
	250	14.8	1.34	6.4	6	Tail: Class C + 2% CaCl2
Inter.	1330	12.7	1.89	10.2	10	Lead: 35:65:6 C blend w/ 8# salt, 5# kolseal, etc.
	250	14.8	1.34	6.4	6	Tail: Class C
Prod.	1030	10.3	3.50	21.2	75	Lead: Halliburton Tuned Lite w/ 2# kolseal, 1.5# salt, 1/4# D-Air 5000, 1/8# PEF, etc
	1215	14.4	1.25	5.7	22	Tail:50:50:2 H blend (FR, Retarder, FL adds as req.)

Plug top	Plug Bottom	% Excess	No. Sacks	Wt. lb/gal	Yld ft3/sack	Water gal/sk	Slurry Description and Cement Type
12300'	12600'	11	140	17.2	0.97	3.62	Class H
9900'	10700'	16	400	17.2	0.97	3.62	Class H

Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
Surface	0'	90%
Intermediate	0'	110%
Production	0'	48%

Pilot hole depth: 12600'
KOP: 10145'

4. Pressure Control Equipment

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
	Are anchors required by manufacturer? No.
N	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. See attached schematic.

See COA

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. shoe	FW Gel	8.6 – 9.0	28-34	N/C
Surf csg	Int shoe	Saturated Brine	10.0 - 10.2	28-34	N/C
Int shoe	PH TD	Cut Brine	8.8 - 9.5	28-34	N/C
KOP	Lat TD	Cut Brine	9.0 – 9.3	32 – 34	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	Pason PVT

6. Logging and Testing Procedures

Logging, Coring and Testing.	
X	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		Interval
X	Triple Combo	PH TD – Int Shoe
X	GR-Neutron	Int Shoe - Surf
X	CMR-ECS	PH TD – Int Shoe
X	Sonic Scanner	PH TD – Int Shoe

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure @ PH TD	6028 psi – Wolfcamp (9.2 PPGE @ PH TD of 12600')
Abnormal Temperature	No

Mitigation measure for abnormal conditions.

- Lost circulation material/sweeps/mud scavengers.
- Maintain stock of LCM and weighting materials onsite.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
	H2S is present
	H2S Plan attached

8. Other facets of operation

Is this a walking operation? No.
Will be pre-setting casing? No.
Will well be fraced? Yes.

Attachments

- Directional Plan
- Flex hose certification

COG Operating, LLC

Lea County, NM
Sec 4, T24-S, R-32-E, N.M.P.M
Mastiff Federal #3H

Wellbore #1

Plan: Design #1

DDC Curve Report

19 March, 2015

The DIRECTIONAL DRILLING COMPANY

HP

Curve Report

Database:	Compass	**Local Co-ordinate Reference:**	Well Mastiff Federal #3H
Company:	COG Operating, LLC	**TVD Reference:**	well @ 3695.0usft (Ensign #772)
Project:	Lea County, NM	**MD Reference:**	well @ 3695.0usft (Ensign #772)
Site:	Sec 4, T24-S, R-32-E, N.M.P.M	**North Reference:**	Grid
Well:	Mastiff Federal #3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project Lea 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 Sec 4, T24-S, R-32-E, N.M.P.M

Site Position:		**Northing:**	456,424.49 usft	**Latitude:**	32° 15' 11.322 N
From:	Lat/Long	**Easting:**	701,585.37 usft	**Longitude:**	103° 40' 52.518 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.35 °

Well Mastiff Federal #3H

Well Position	**+N/-S**	-0.1 usft	**Northing:**	456,424.40 usft	**Latitude:**	32° 15' 11.321 N
	+E/-W	-0.2 usft	**Easting:**	701,585.20 usft	**Longitude:**	103° 40' 52.520 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	0.0 usft	**Ground Level:**	3,664.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/19/2015	7.18	60.10	48,244

Design Design #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	179.87

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
10,144.5	0.00	0.00	10,144.5	0.0	0.0	0.00	0.00	0.00	0.00	
10,895.8	90.16	179.87	10,622.0	-478.8	1.1	12.00	12.00	23.94	179.87	
15,166.4	90.16	179.87	10,610.0	-4,749.3	11.0	0.00	0.00	0.00	0.00	PBHL: Mastiff Fed #3

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Well:	Mastiff Federal #3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
Rustler									
1,102.0	0.00	0.00	1,102.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
TOS									
1,593.0	0.00	0.00	1,593.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
BOS(Fletcher)									
4,532.0	0.00	0.00	4,532.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00

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Well:	Mastiff Federal #3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
LMAR(Top Delaware)									
4,844.0	0.00	0.00	4,844.0	0.0	0.0	0.0	0.00	0.00	0.00
BLCN									
4,885.0	0.00	0.00	4,885.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
CYCN									
5,754.0	0.00	0.00	5,754.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
BYCN									
7,064.0	0.00	0.00	7,064.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00
8,600.0	0.00	0.00	8,600.0	0.0	0.0	0.0	0.00	0.00	0.00
Bone Sprg (BSGL)									
8,663.0	0.00	0.00	8,663.0	0.0	0.0	0.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,700.0	0.0	0.0	0.0	0.00	0.00	0.00
8,800.0	0.00	0.00	8,800.0	0.0	0.0	0.0	0.00	0.00	0.00
8,900.0	0.00	0.00	8,900.0	0.0	0.0	0.0	0.00	0.00	0.00

HP

Curve Report

Database:	Compass	**Local Co-ordinate Reference:**	Well Mastiff Federal #3H
Company:	COG Operating, LLC	**TVD Reference:**	well @ 3695.0usft (Ensign #772)
Project:	Lea County, NM	**MD Reference:**	well @ 3695.0usft (Ensign #772)
Site:	Sec 4, T24-S, R-32-E, N.M.P.M	**North Reference:**	Grid
Well:	Mastiff Federal #3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
U Avalon Sh									
8,952.0	0.00	0.00	8,952.0	0.0	0.0	0.0	0.00	0.00	0.00
9,000.0	0.00	0.00	9,000.0	0.0	0.0	0.0	0.00	0.00	0.00
9,100.0	0.00	0.00	9,100.0	0.0	0.0	0.0	0.00	0.00	0.00
9,200.0	0.00	0.00	9,200.0	0.0	0.0	0.0	0.00	0.00	0.00
L Avalon Sh									
9,219.0	0.00	0.00	9,219.0	0.0	0.0	0.0	0.00	0.00	0.00
9,300.0	0.00	0.00	9,300.0	0.0	0.0	0.0	0.00	0.00	0.00
9,400.0	0.00	0.00	9,400.0	0.0	0.0	0.0	0.00	0.00	0.00
9,500.0	0.00	0.00	9,500.0	0.0	0.0	0.0	0.00	0.00	0.00
9,600.0	0.00	0.00	9,600.0	0.0	0.0	0.0	0.00	0.00	0.00
9,700.0	0.00	0.00	9,700.0	0.0	0.0	0.0	0.00	0.00	0.00
9,800.0	0.00	0.00	9,800.0	0.0	0.0	0.0	0.00	0.00	0.00
FBSG_sand									
9,820.0	0.00	0.00	9,820.0	0.0	0.0	0.0	0.00	0.00	0.00
9,900.0	0.00	0.00	9,900.0	0.0	0.0	0.0	0.00	0.00	0.00
10,000.0	0.00	0.00	10,000.0	0.0	0.0	0.0	0.00	0.00	0.00
10,100.0	0.00	0.00	10,100.0	0.0	0.0	0.0	0.00	0.00	0.00
BUILD @ 12° / 100'									
10,144.5	0.00	0.00	10,144.5	0.0	0.0	0.0	0.00	0.00	0.00
10,200.0	6.66	179.87	10,199.9	-3.2	0.0	3.2	12.00	12.00	0.00
10,300.0	18.66	179.87	10,297.3	-25.1	0.1	25.1	12.00	12.00	0.00
10,400.0	30.66	179.87	10,388.0	-66.7	0.2	66.7	12.00	12.00	0.00
SBSG_sand									
10,455.2	37.28	179.87	10,433.7	-97.6	0.2	97.6	12.00	12.00	0.00
10,500.0	42.66	179.87	10,468.1	-126.3	0.3	126.3	12.00	12.00	0.00
10,600.0	54.66	179.87	10,534.0	-201.3	0.5	201.3	12.00	12.00	0.00
10,700.0	66.66	179.87	10,582.9	-288.3	0.7	288.3	12.00	12.00	0.00
10,800.0	78.66	179.87	10,612.6	-383.6	0.9	383.6	12.00	12.00	0.00
EOB @ 90.16° Inc. 179.86°Azm. / 10622' TVD									
10,895.8	90.16	179.87	10,622.0	-478.8	1.1	478.8	12.00	12.00	0.00
10,900.0	90.16	179.87	10,622.0	-483.0	1.1	483.0	0.00	0.00	0.00
11,000.0	90.16	179.87	10,621.7	-583.0	1.4	583.0	0.00	0.00	0.00
11,100.0	90.16	179.87	10,621.4	-683.0	1.6	683.0	0.00	0.00	0.00
11,200.0	90.16	179.87	10,621.1	-783.0	1.8	783.0	0.00	0.00	0.00
11,300.0	90.16	179.87	10,620.8	-883.0	2.0	883.0	0.00	0.00	0.00
11,400.0	90.16	179.87	10,620.6	-983.0	2.3	983.0	0.00	0.00	0.00
11,500.0	90.16	179.87	10,620.3	-1,083.0	2.5	1,083.0	0.00	0.00	0.00
11,600.0	90.16	179.87	10,620.0	-1,183.0	2.7	1,183.0	0.00	0.00	0.00
11,700.0	90.16	179.87	10,619.7	-1,283.0	3.0	1,283.0	0.00	0.00	0.00
11,800.0	90.16	179.87	10,619.4	-1,383.0	3.2	1,383.0	0.00	0.00	0.00
11,900.0	90.16	179.87	10,619.1	-1,483.0	3.4	1,483.0	0.00	0.00	0.00
12,000.0	90.16	179.87	10,618.9	-1,583.0	3.7	1,583.0	0.00	0.00	0.00
12,100.0	90.16	179.87	10,618.6	-1,683.0	3.9	1,683.0	0.00	0.00	0.00
12,200.0	90.16	179.87	10,618.3	-1,783.0	4.1	1,783.0	0.00	0.00	0.00
12,300.0	90.16	179.87	10,618.0	-1,883.0	4.4	1,883.0	0.00	0.00	0.00
12,400.0	90.16	179.87	10,617.7	-1,983.0	4.6	1,983.0	0.00	0.00	0.00
12,500.0	90.16	179.87	10,617.5	-2,083.0	4.8	2,083.0	0.00	0.00	0.00
12,600.0	90.16	179.87	10,617.2	-2,183.0	5.1	2,183.0	0.00	0.00	0.00
12,700.0	90.16	179.87	10,616.9	-2,283.0	5.3	2,283.0	0.00	0.00	0.00
12,800.0	90.16	179.87	10,616.6	-2,383.0	5.5	2,383.0	0.00	0.00	0.00
12,900.0	90.16	179.87	10,616.3	-2,483.0	5.8	2,483.0	0.00	0.00	0.00
13,000.0	90.16	179.87	10,616.1	-2,582.9	6.0	2,583.0	0.00	0.00	0.00

HP

Curve Report

Database:	Compass	**Local Co-ordinate Reference:**	Well Mastiff Federal #3H
Company:	COG Operating, LLC	**TVD Reference:**	well @ 3695.0usft (Ensign #772)
Project:	Lea County, NM	**MD Reference:**	well @ 3695.0usft (Ensign #772)
Site:	Sec 4, T24-S, R-32-E, N.M.P.M	**North Reference:**	Grid
Well:	Mastiff Federal #3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
13,100.0	90.16	179.87	10,615.8	-2,682.9	6.2	2,683.0	0.00	0.00	0.00
13,200.0	90.16	179.87	10,615.5	-2,782.9	6.4	2,783.0	0.00	0.00	0.00
13,300.0	90.16	179.87	10,615.2	-2,882.9	6.7	2,883.0	0.00	0.00	0.00
13,400.0	90.16	179.87	10,614.9	-2,982.9	6.9	2,983.0	0.00	0.00	0.00
13,500.0	90.16	179.87	10,614.7	-3,082.9	7.1	3,083.0	0.00	0.00	0.00
13,600.0	90.16	179.87	10,614.4	-3,182.9	7.4	3,183.0	0.00	0.00	0.00
13,700.0	90.16	179.87	10,614.1	-3,282.9	7.6	3,283.0	0.00	0.00	0.00
13,800.0	90.16	179.87	10,613.8	-3,382.9	7.8	3,383.0	0.00	0.00	0.00
13,900.0	90.16	179.87	10,613.5	-3,482.9	8.1	3,483.0	0.00	0.00	0.00
14,000.0	90.16	179.87	10,613.3	-3,582.9	8.3	3,583.0	0.00	0.00	0.00
14,100.0	90.16	179.87	10,613.0	-3,682.9	8.5	3,683.0	0.00	0.00	0.00
14,200.0	90.16	179.87	10,612.7	-3,782.9	8.8	3,783.0	0.00	0.00	0.00
14,300.0	90.16	179.87	10,612.4	-3,882.9	9.0	3,883.0	0.00	0.00	0.00
14,400.0	90.16	179.87	10,612.1	-3,982.9	9.2	3,983.0	0.00	0.00	0.00
14,500.0	90.16	179.87	10,611.9	-4,082.9	9.5	4,083.0	0.00	0.00	0.00
14,600.0	90.16	179.87	10,611.6	-4,182.9	9.7	4,183.0	0.00	0.00	0.00
14,700.0	90.16	179.87	10,611.3	-4,282.9	9.9	4,282.9	0.00	0.00	0.00
14,800.0	90.16	179.87	10,611.0	-4,382.9	10.2	4,382.9	0.00	0.00	0.00
14,900.0	90.16	179.87	10,610.7	-4,482.9	10.4	4,482.9	0.00	0.00	0.00
15,000.0	90.16	179.87	10,610.5	-4,582.9	10.6	4,582.9	0.00	0.00	0.00
15,100.0	90.16	179.87	10,610.2	-4,682.9	10.8	4,682.9	0.00	0.00	0.00
PBHL @ 15166.4' MD / 10610' TVD									
15,166.4	90.16	179.87	10,610.0	-4,749.3	11.0	4,749.3	0.00	0.00	0.00

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
PBHL: Mastiff Fed #3H - plan hits target center - Point	0.00	0.00	10,610.0	-4,749.3	11.0	451,675.10	701,596.20	32° 14' 24.323 N	103° 40' 52.728 W

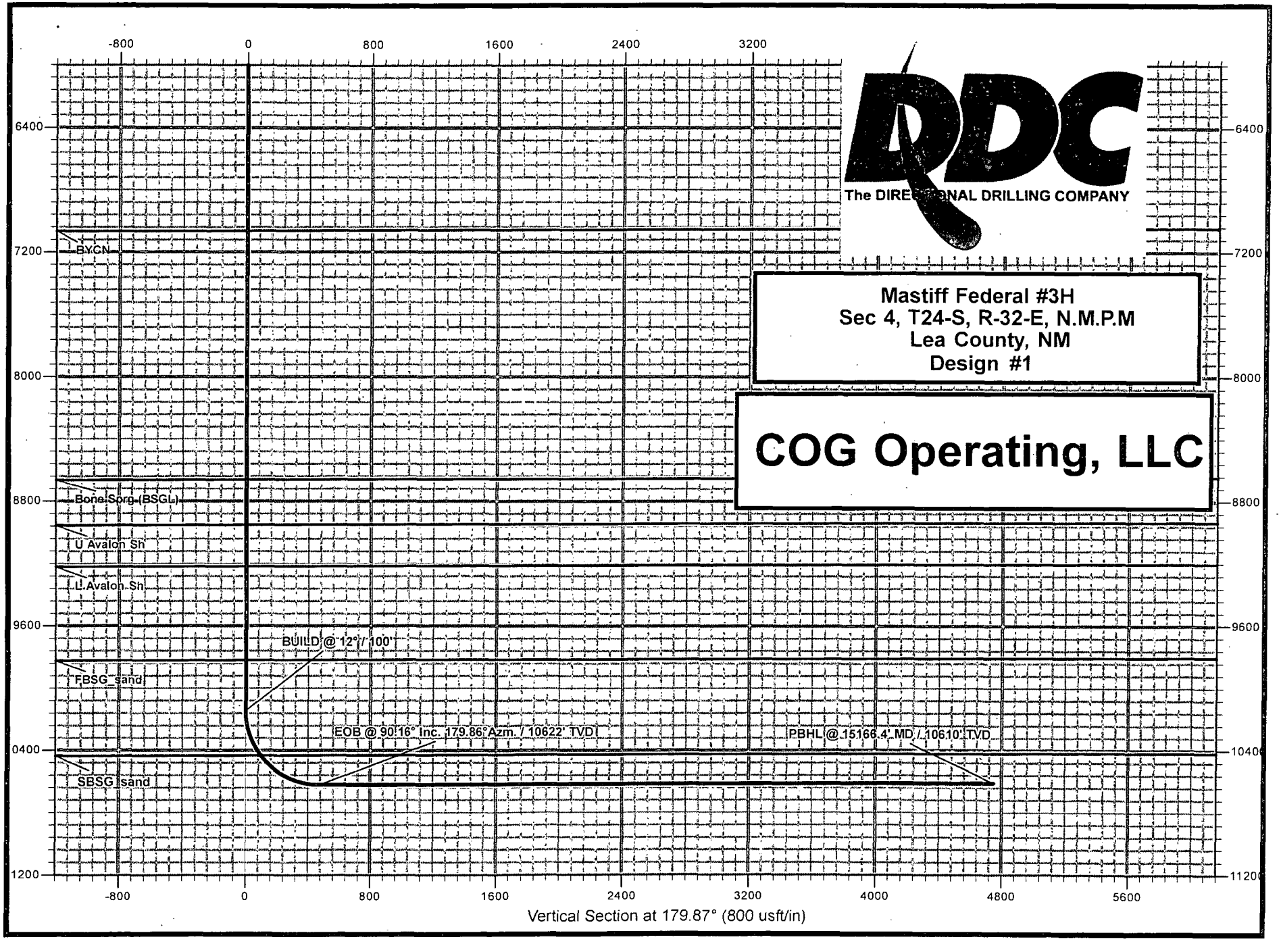
Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,102.0	1,102.0	Rustler		-0.16	179.87
1,593.0	1,593.0	TOS		-0.16	179.87
4,532.0	4,532.0	BOS(Fletcher)		-0.16	179.87
4,844.0	4,844.0	LMAR(Top Delaware)		-0.16	179.87
4,885.0	4,885.0	BLCN		-0.16	179.87
5,754.0	5,754.0	CYCN		-0.16	179.87
7,064.0	7,064.0	BYCN		-0.16	179.87
8,663.0	8,663.0	Bone Sprg (BSGL)		-0.16	179.87
8,952.0	8,952.0	U Avalon Sh		-0.16	179.87
9,219.0	9,219.0	L Avalon Sh		-0.16	179.87
9,820.0	9,820.0	FBSG_sand		-0.16	179.87
10,455.2	10,433.7	SBSG_sand		-0.16	179.87

Database:	Compass	**Local Co-ordinate Reference:**	Well Mastiff Federal #3H
Company:	COG Operating, LLC	**TVD Reference:**	well @ 3695.0usft (Ensign #772)
Project:	Lea County, NM	**MD Reference:**	well @ 3695.0usft (Ensign #772)
Site:	Sec 4, T24-S, R-32-E, N.M.P.M	**North Reference:**	Grid
Well:	Mastiff Federal #3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
10,144.5	10,144.5	0.0	0.0	BUILD @ 12° / 100'
10,895.8	10,622.0	-478.8	1.1	EOB @ 90.16° Inc. 179.86°Azm. / 10622' TVD
15,166.4	10,610.0	-4,749.3	11.0	PBHL @ 15166.4' MD / 10610' TVD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7200
8000
8800
9600
0400
1200
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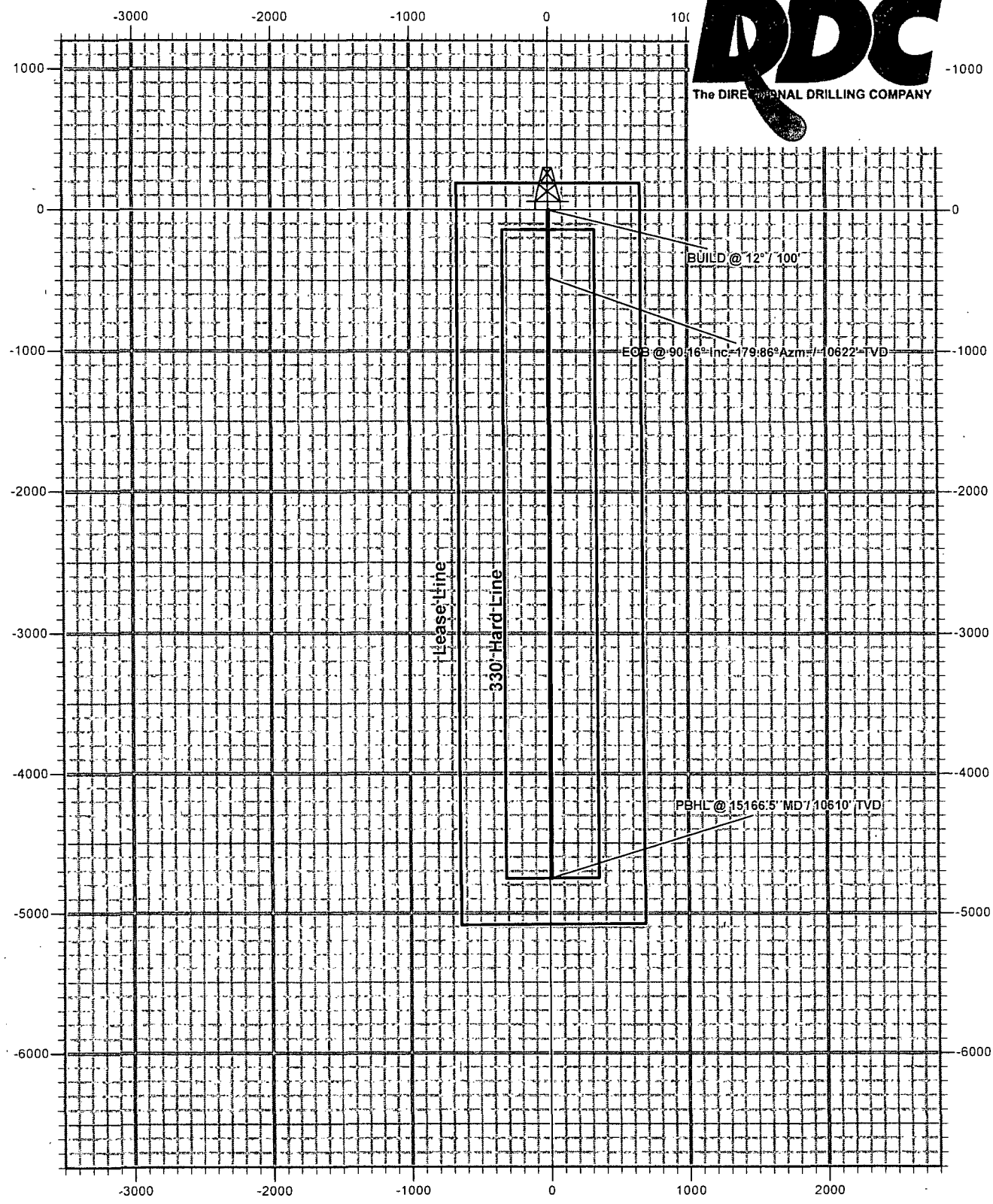
1120
BYCN
Bone Sprg (BSGL)
U Avalon Sh
L Avalon Sh
FBSG sand
SBSG sand
BUILD @ 12°/ 100'
EOB @ 90.16° Inc. 179.86°Azm. / 10622' TVD
PBHL @ 15166.4' MD / 10610' TVD
Vertical Section at 179.87° (800 usft/in)
The DIRECTIONAL DRILLING COMPANY
Mastiff Federal #3H
Sec 4, T24-S, R-32-E, N.M.P.M
Lea County, NM
Design #1
COG Operating, LLC

Mastiff Federal #3H
Sec 4, T24-S, R-32-E, N.M.P.M
Lea County, NM
Design #1

COG Operating, LLC



Technip

TECHNIP Umbilicals Inc.
COFLEXIP® Products Division

Quality Control Department

Control Report Dated 4/28/2015

COFLEXIP FLEXIBLE PIPE TEST CERTIFICATE

Customer	OFS CANADA INC	**Job Number**	K12387
Address		**Line Serial Number**	K12387-202
		Part Number	076 60414 13 13

Application 3" x 30' 10K CHOKE/KILL LINE

COFLEXIP certifies that the results of the test and controls performed on the above mentioned flexible pipe is as follows:

Internal Diameter	3	**inches**
Length	30.83	**feet**
Working Pressure	10000	**psi**
Test Pressure	15000	**psi**
As per attached recorder chart Test Duration	24	**hours**

4-28-15

THIRD PARTY INSPECTION FIRM OR CUSTOMER REPRESENTATIVE

DUCO INC. QUALITY CONTROL

Test Configuration 12 Zone

Production Information Input

Customer ID	
OFS CANADA INC.	
Line S-N	Technician
K12386-202@K12387-202	ROY

QC Information Input

QC Insp	Third Party
PAT	BV
Witness?	Test Procedure
Yes	SIC 01 60
Special Instructions	

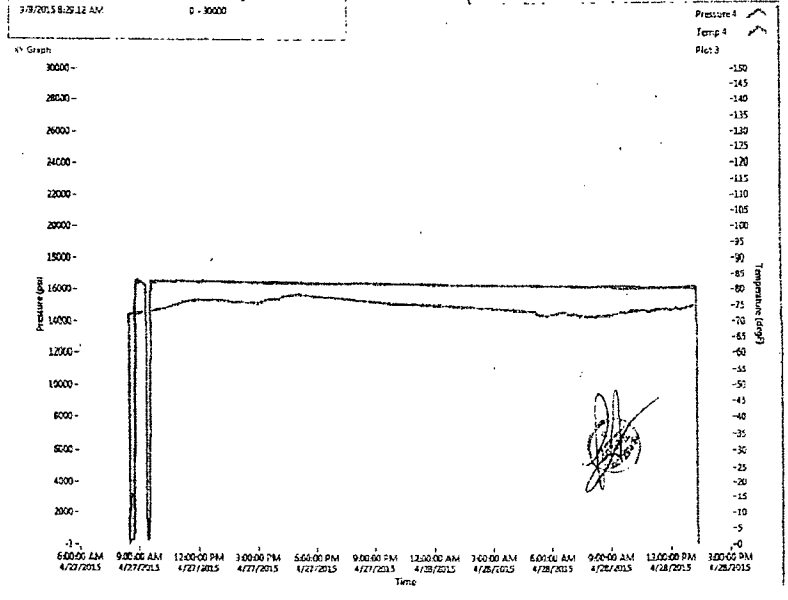
Station 04

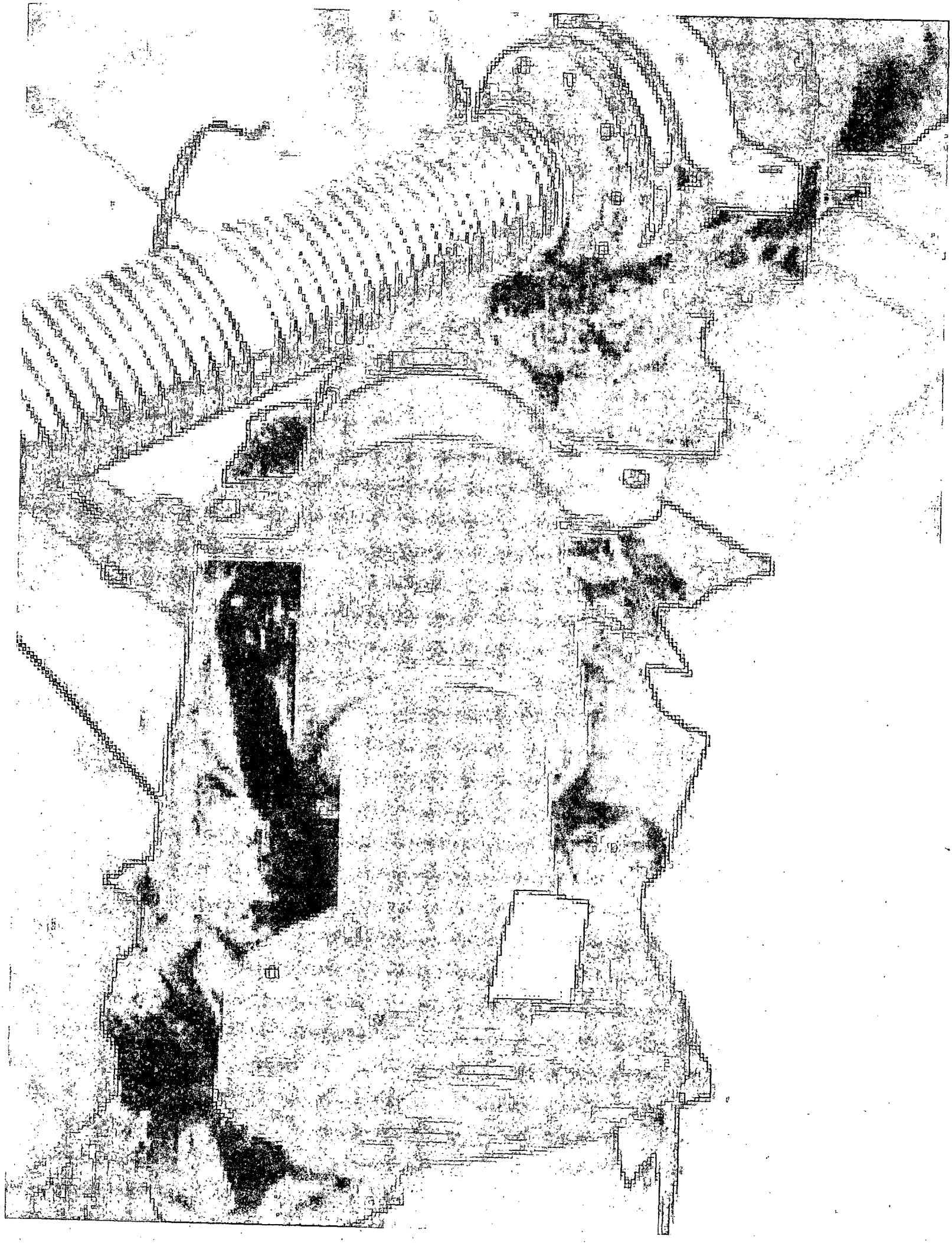
Station Information

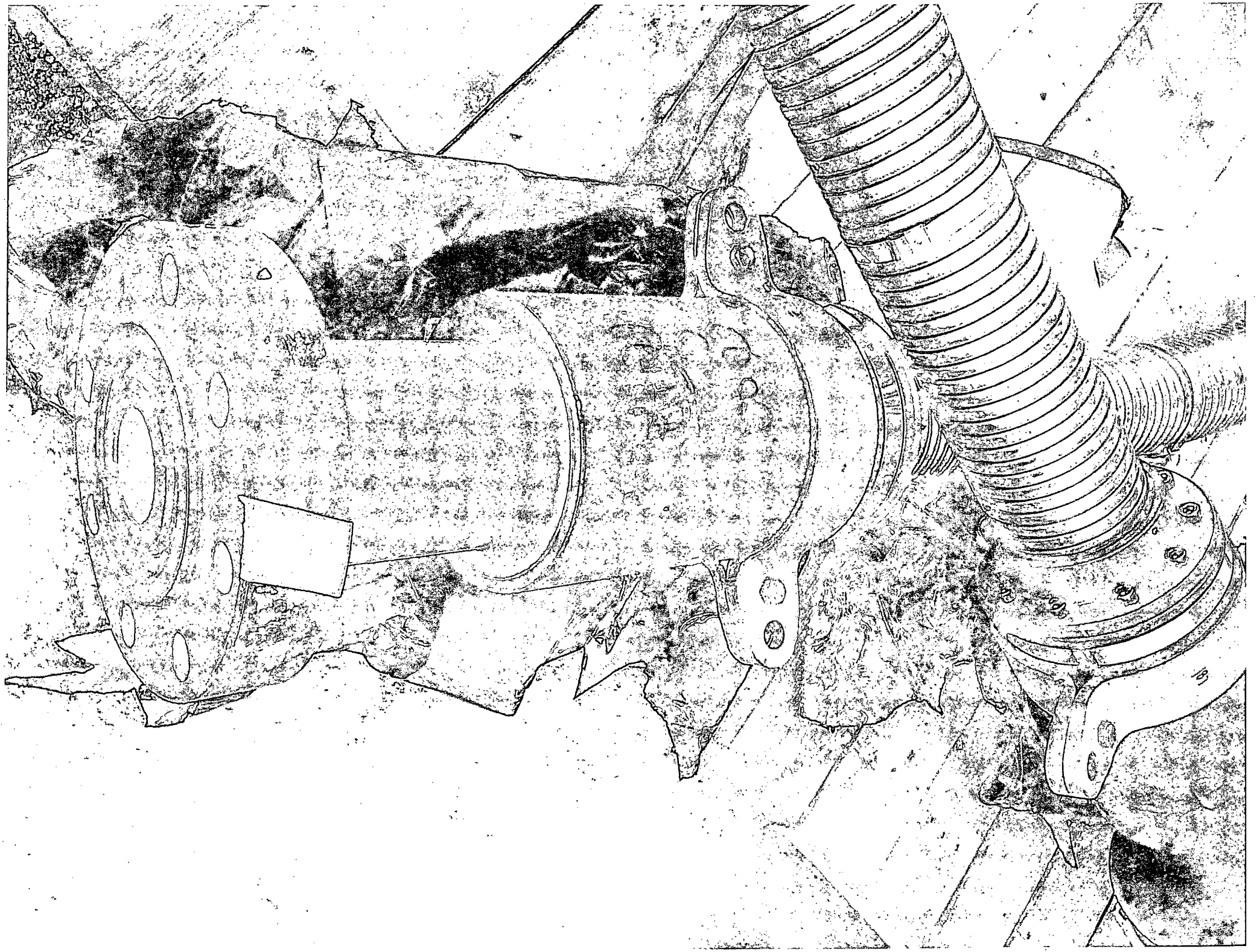
Pressure Transducer S/N	Temperature S/N
1211570	T13A
Static Press	Test Press
16500	15000
Calib. Due	Pressure Range
3/9/2015 8:29:12 AM	0 - 30000

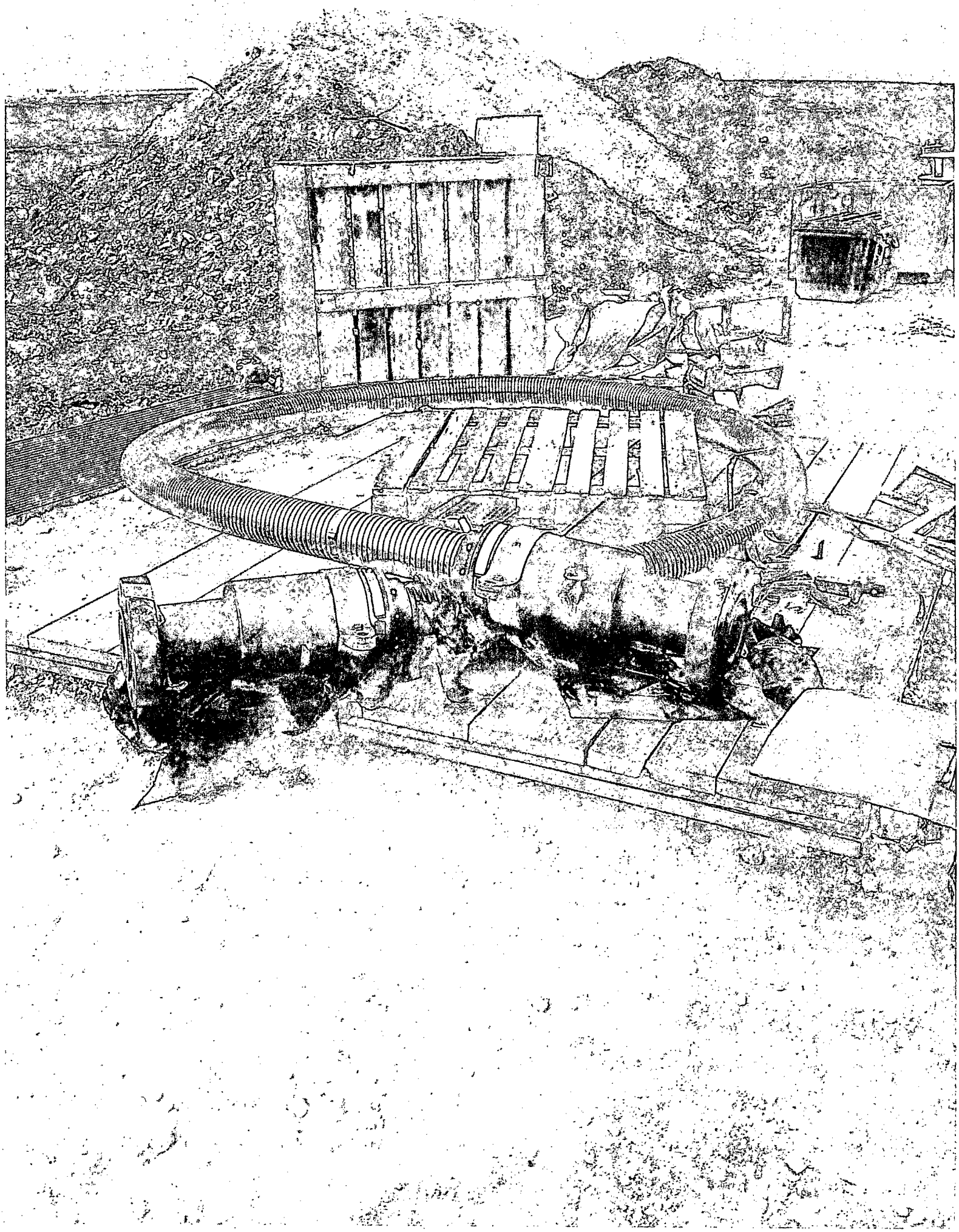
Calibration

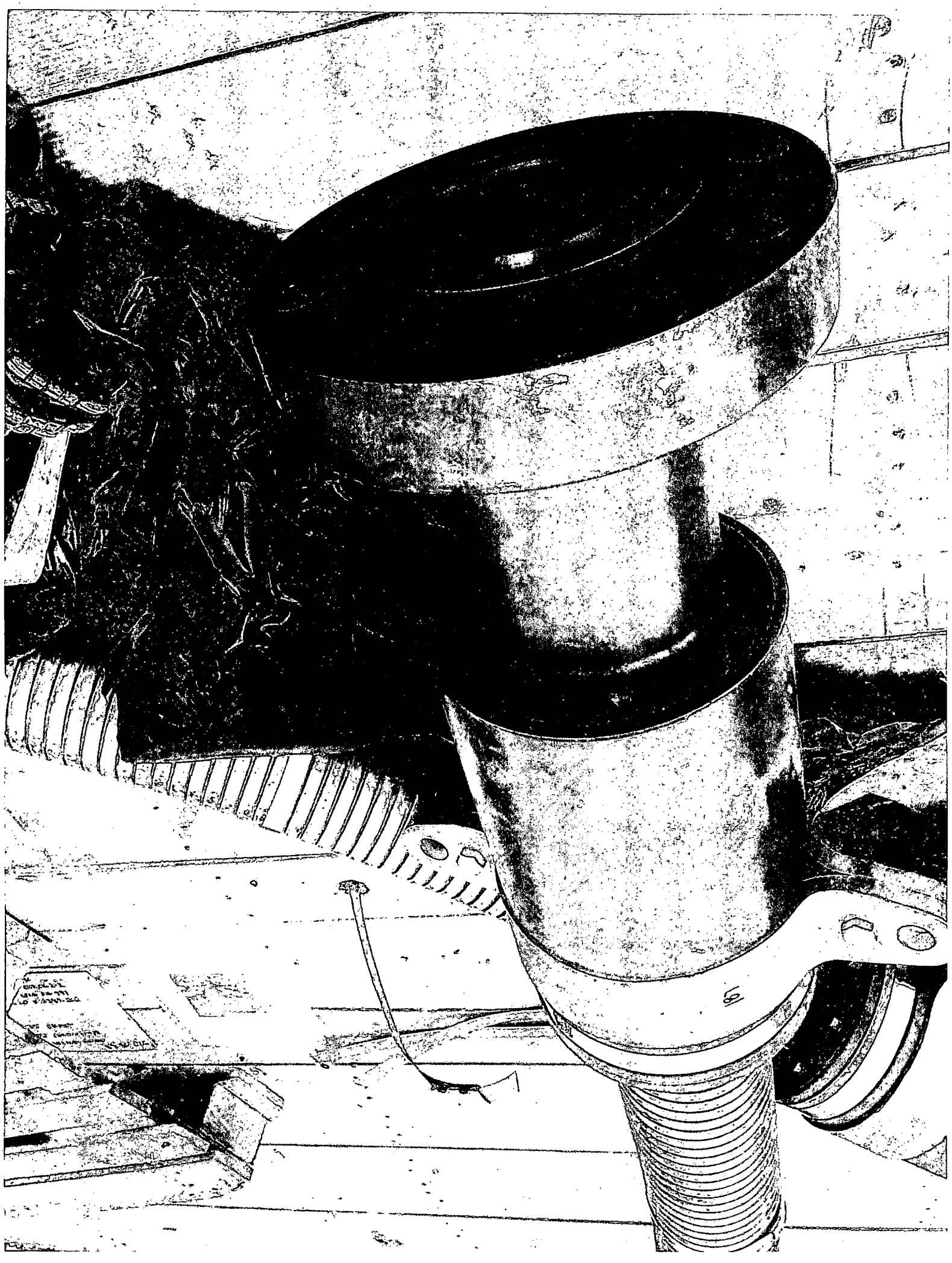
Raw Minimum	Eng Minimum
0.004000	0.000000
Raw Maximum	Eng Maximum
0.029000	30000.000000











PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**COG Operating, LLC.**
LEASE NO.:	**NMNM-11965**
WELL NAME & NO.:	**Mastiff Federal 3H**
SURFACE HOLE FOOTAGE:	**0190' FNL & 1980' FWL**
BOTTOM HOLE FOOTAGE	**0330' FSL & 1980' FWL**
LOCATION:	**Section 04, T. 24 S., R 32 E., NMPM**
COUNTY:	**Lea County, New Mexico**
API:	**30-025-42064**

The original COAs still stand with the following drilling modifications:

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)

☒ **Lea County**
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 393-3612

1. **Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, 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.). The initial wellhead installed on the well will remain on the well with spools used as needed.

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

Wait on cement (WOC) for Water Basin:
After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. 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 Castile.
Possibility of lost circulation in the Red Beds, Rustler, and Delaware.
Abnormal pressures may be encountered within the 3rd Bone Spring Sandstone and the Wolfcamp formations.

1. The **13-3/8** inch surface casing shall be set at approximately **1240** 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.

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

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

Pilot hole is required to have a plug at the bottom of the hole. If two plugs are set, the BLM is to be contacted (575-393-3612) prior to tag of bottom plug, which must be a minimum of 200' in length. Operator can set one plug from bottom of pilot hole to kick-off point and save the WOC time for tagging the first plug.

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

    ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

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. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi. **5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**

4. 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.

g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

E. DRILL STEM TEST

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

F. 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.

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