OCD Hobbs

HOBBS OCD

15-817

Form 3160-3
(March 2012)

UNORTHODOX LOCATION

AUG 29 2016

RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NM132073

6. If Indian, Allotee or Tribe Name

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

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. (316762)
Mastiff 22 Federal State Com #4H

2. Name of Operator GMT Exploration Company LLC (260511)

9. API Well No.
30-025-43400

3a. Address 1560 Broadway Suite 2000
Denver, CO 80202

3b. Phone No. *(include area code)*
303.586.9275

10. Field and Pool, or Exploratory (2209)
Antelope Ridge; Bone Spring West

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 200' FSL & 490' FEL Lat 32.170023 Lon 103.270348
At proposed prod. zone 330' FNL & 380' FEL Lat 32.174724 Lon 103.270225

11. Sec., T. R. M. or Blk. and Survey or Area
Sec 22 T23S R34E

14. Distance in miles and direction from nearest town or post office*
19 miles NW of Jal, NM

12. County or Parish
Lea

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
200'

16. No. of acres in lease
320

17. Spacing Unit dedicated to this well
160

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
1210'

19. Proposed Depth
11,400' TVD
15,900' MD

20. BLM/BIA Bond No. on file
~~NLB0014473~~ NMB000886

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3406' GL

22. Approximate date work will start*
06/15/2016

23. Estimated duration
45 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature

Name *(Printed Typed)*
Marissa Walters

Date 6/9/15

Title
Petrotech

Approved by *(Signature)* /s/George MacDonell

Name *(Printed Typed)*

Date AUG 23 2016

Title
FIELD MANAGER

Office
CARLSBAD FIELD OFFICE

Application approval 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.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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.

(Continued on page 2)

*(Instructions on page 2)

KZ
08/29/16

PM

Capitan Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

GMT Exploration Company LLC
Mastiff 22 Federal State COM #4H
200' FSL 490' FEL Section 22, T23S, R34E
Lea County, New Mexico

DRILLING PROGRAM

Drilling operations for this well will be conducted in accordance with the Onshore Oil and Gas Order #1, 2, 6 as provided for in 43 CFR 3164.1. This includes the well control equipment and its testing, the mud system and associated equipment, and the casing and cementing.

1. Estimated tops of important geologic markers (Measured Depth):

Ground Level	***3406'***
Fresh Water	600'
Rustler	970'
Salt Top	2,035'
Salt Base	4,325'
Delaware Mountain Group	5,075'
Delaware Bell Canyon	5,100'
Delaware Cherry Canyon	5,845'
Delaware Brushy Canyon	7,270'
Lower Brushy Canyon Marker	8,380'
Bone Spring	8,575'
Avalon Shale Top	8,700'
1st Bone Spring Sand	9,650'
1st Bone Spring Carbonate	9,905'
2nd Bone Spring Sand	10,175'
2nd Bone Spring Carbonate	10,590'
3rd Bone Spring Sand	11,130'
Actual Target	11,400'

2. Estimated depths of anticipated water, oil, gas or minerals:

Mineral	Formation	Depth (Measured Depth)
Water		600'
Natural Gas/Oil	Lower Brushy Canyon Marker	8,380'
Natural Gas/Oil	Avalon Shale Top	8,700'
Natural Gas/Oil	1st Bone Spring Sand	9,650'
Natural Gas/Oil	2nd Bone Spring Sand	10,175'
Natural Gas/Oil	3rd Bone Spring Sand	11,130'
Actual Target		11,400'

Fresh water: Fresh water aquifers will be protected with surface casing set at ~~1070'~~ 865' and cemented to surface.

Hydrocarbons: All potentially productive usable water, hydrocarbons, and other mineral zones will be protected with casing and cement as necessary.

3. Minimum specifications for pressure control:

The BOP and related equipment will meet or exceed the requirements of a 5M-psi system as set forth in On Shore Order No. 2. See attached BOP Schematic.

A. Casinghead: 13⅜" – 5000 psi SOW x 13⅝" – 5000 psi WP

Intermediate Spool: 13⅝" – 5000 psi WP x 11" – 5000 psi WP

Tubinghead: 11" – 5000 psi WP x 71/16" – 10,000 psi WP

B. Minimum Specified Pressure Control Equipment

- Annular preventer
- One Pipe ram, One blind ram
- Drilling spool, or blowout preventer with 2 side outlets. Choke side will be a 3-inch minimum diameter, kill line shall be at least 2-inch diameter
- 3 inch diameter choke line
- 2 – 3 inch choke line valves
- 2 inch kill line
- 2 chokes with 1 remotely controlled from rig floor (see Figure 2)
- 2 – 2 inch kill line valves and a check valve
- Upper kelly cock valve with handle available
- When the expected pressures approach working pressure of the system, 1 remote kill line tested to stack pressure (which shall run to the outer edge of the substructure and be unobstructed)
- Lower kelly cock valve with handle available
- Safety valve(s) and subs to fit all drill string connections in use
- Inside BOP or float sub available
- Pressure gauge on choke manifold
- All BOPE connections subjected to well pressure shall be flanged, welded, or clamped
- Fill-up line above the uppermost preventer.

C. Auxiliary Equipment

- Audio and visual mud monitoring equipment shall be placed to detect volume changes indicating loss or gain of circulating fluid volume. (OOS 1, III.C.2)
- Gas Buster will be used below intermediate casing setting depth.
- Upper and lower kelly cocks with handles, safety valve and subs to fit all drill string connections and a pressure gauge installed on choke manifold.

D. BOP Testing procedures:

- The BOP test shall be performed before drilling out of the surface casing shoe and will occur at a minimum:
  a. when initially installed
  b. whenever any seal subject to test pressure is broken
  c. following related repairs
  d. at 30 day intervals
  e. checked daily as to mechanical operating conditions.

- The ram type preventer(s) will be tested using a test plug to 250 psi (low) and 5000 psi (high) (casinghead WP) with a test plug upon its installation onto the 13⅜" surface casing. If a test plug is not used, the ram type preventer(s) shall be tested to 70% of the minimum internal yield pressure of the casing.

- The annular type preventer(s) shall be tested to 50% of its working

pressure. Pressure will be maintained for at least 10 minutes or until provisions of the test are met, whichever is longer.

- A Sundry Notice (Form 3160-5), along with a copy of the BOP test report, shall be submitted to the local BLM office within 5 working days following the test.
- If the bleed line is connected into the buffer tank (header), all BOP equipment including the buffer tank and associated valves will be rated at the required BOP pressure.

- The BLM office will be provided with a minimum of four (4) hours' notice of BOP testing to allow witnessing.

The BOP Configuration, choke manifold layout, and accumulator system, will be in compliance with Onshore Order 2 for a 5000 psi system.

A remote accumulator will be used. Pressures, capacities, and specific placement and use of the manual and/or hydraulic controls, accumulator controls, bleed lines, etc., will be identified at the time of the BLM witnessed BOP test. Any remote controls will be capable of both opening and closing all preventers and shall be readily accessible

4. **Supplementary Information:**

Any required operational changes in the casing and cement design specified below will be submitted to the BLM Authorized Officer for approval **prior** to running casing and cementing.

See COA

A: Proposed Casing Program:

PURPOSE	INTERVAL	HOLE SIZE	CASING SIZE	WT/FT (lbs/ft)	GRADE	COND	THREAD & Coupling
CONDUCTOR	0' - 40'	26"	20"	94	H-40	NEW	Welded
SURFACE	0' - ~~1070'~~ 865'	17½"	13⅜"	54.5	J-55	NEW	ST&C
INTERMEDIATE	0' - 4000' 4000' - ~~5200'~~ 5000'	12¼"	8⅝"	36	J-55 HCL-80	NEW	LT&C
PRODUCTION	0' - 15,900'	7⅞"	5½"	20	P-110	NEW	LT&C

Minimum design safety factors: Burst-1.0, Collapse-1.125, Axial -1.6.

Centralizer Program:

Surface:

- Bow spring centralizers will be installed in the middle of the shoe joint, on the first connection above the float collar and then every third joint to surface.
- No Cement baskets will be run

Intermediate:

- Bow centralizers will be installed in the middle of shoe joint, on the first connection above the float collar, every other connection to 4700' and then on every fourth joint to surface.

Production:

- 1 positive standoff centralizer on a stop ring 6' above float shoe

- 1 positive standoff centralizer every other joint to KOP
- 1 bow centralizer every 4 joints to 4700'
- The actual number and placement of centralizers will be determined from hole deviation and potential production zones. Centralizers will be run for maximum practical standoff and through all potential productive zones.

All casing strings below the conductor shall be tested, prior to drilling out the casing shoe, to 0.22 psi/ft of casing string length or 1500 psi, whichever is greater, but not to exceed 70% of the internal yield pressure of the casing. If pressure declines more than 10 percent in 30 minutes, corrective action will be taken.

The surface and intermediate casing shoes will be tested by drilling 10' - 20' below the shoe and pressure testing to the maximum expected mud weight equivalent as shown in the mud program listed in the drilling plan.

No freshly hard banded pipe will be rotated in the surface casing

An air-drilling rig will not be used to drill the surface hole.

B. Proposed Cementing Program:

Casing Size	Interval	% Excess	Cement Blend
Surface: 13 3/8"	0' – ~~1070'~~ 865'	100% over theoretical hole volume (lead slurry volume may be adjusted if fluid caliper is run)	Cement with 525 sacks of 35/65 POZ - Class "C" lead and 285 sacks Class "C" Tail. Intention is to circulate cement to surface. Lead: Slurry Density: 12.8 lb/gal Yield: 2.00 ft^3/sack Mix Fluid: 10.643 gal/sk Sack Reference: 89 lb of Blend Blend: 186.59 lb/ft^3 Fresh Water 10.486 gal/sk 5% BWOW Salt 6% BWOB Extender 0.3% BWOB Fluid Loss 0.2% BWOB Dispersant 0.2% BWOB Antifoam 5 lb/sk LCM/extender Tail: Slurry Density: 14.8 lb/gal Yield: 1.34 ft^3/sk Mix Fluid: 6.336 gal/sk Sack Reference: 94 lb of Blend Blend: 197.27 lb/ft^3 Fresh Water: 6.366 gal/sk 1% BWOC Accelerator 0.2% BWOC Antifoam

Intermediate: 8 5/8"	0' – 5,200' 5000'	100% over theoretical open hole volume (lead slurry volume may be adjusted if fluid caliper is run)	Cement intermediate with 1150 sacks of 35/65 POZ - Class "C" lead and 200 sacks Class "C" Tail. Intention is to circulate cement to surface. Lead: Slurry Density: 12.8 lb/gal Yield: 2.0 ft^3/sk Mix Fluid: 10.617 gal/sk Sack Reference: 89 lb of Blend Blend: 186.59/ft^3 Fresh Water: 10.440 gal/sk 5% BWOW Salt 6% BWOB Extender 0.5% BWOB Fluid Loss 5 lb/sk LCM/extender 0.4% BWOB Retarder 0.2% BWOB Dispersant 0.02 gal/sk Antifoam Tail: Slurry Density: 14.8 lb/gal Yield: 1.33 ft^3/sk Mix Fluid: 6.375 gal/sk Sack Reference: 94lb of Blend Blend Density: 197.27 lb/ft^3 Fresh Water: 6.344 gal/sk 0.35% BWOC Retarder 0.20% BWOC Antifoam 0.02 gal/sk Retarder
Production: 5 1/2"	0- 15,900'	25% over theoretical hole volume	Cement from MDTD to 4700' (500' into 8⅝" x 5½" annulus) with 510 sacks of 50/50 Class "H" – POZ lead and tail slurries of 775 sacks of Trinity Lite followed by 100 sx of ASC . Lead: Slurry Density: 11.8 lb/gal Yield: 2.45 ft^3/sk Mix Fluid: 14.325 gal/sk Sack Reference: 84 lb of Blend Blend: 182.12 lb/ft^3 Fresh Water: 14.325 gal/sk 10% BWOB Extender 5% BWOW Salt .2% BWOB Fluid Loss .2% BWOB Antifoam .5% BWOB Retarder Tail: Slurry Density: 13.2 lb/gal

See COA

			Yield: 1.59 ft^3/sk Mix Fluid: 8.017 gal/sk Sack Reference: 75lb of Blend Blend: 176.05 lb/ft^3 Fresh Water: 8.017 gal/sk 7% BWOB Extender 0.40% BWOB Retarder 0.20% BWOB Fluid Loss 0.20% BWOB Antifoam 0.20% BWOB Dispersant Acid Soluble Cement: Slurry Density: 13.5 lb/gal Yield: 1.67 ft^3/sk Mix Fluid: 8.112 gal/sk Sack Reference: 75 lb of Blend Blend: 176.05 lb/ft^3 Fresh Water: 8.112 gal/sk 30% Calcium Carbonate 4% BWOB Extender 0.5% Retarder BWOB 0.2% Fluid Loss 0.2% BWOB Antifoam 0.1% Dispersant

The **surface casing** shall be cemented back to surface. In the event cement does not circulate to surface or fall back of the cement column occurs, remedial cementing shall be done to cement the casing back to surface. Pea Gravel or other material will not be used to fill up around the surface casing in the event cement fall back occurs.

A Sundry Notice (Form 3160-5), along with a copy of the service company's materials ticket and job log, shall be submitted to the local BLM office within 5 working days following the running and cementing of each casing string.

5. **Mud System:**

The following is meant as a guide only. Actual mud weights will be determined by hole conditions. Sufficient quantities of mud materials will be maintained or readily accessible for assuring well control.

See COA

Interval	Mud Weight PPG	Viscosity SEC	Fluid Loss CC	PH	Remarks
0' – 1070' (865')	8.4 – 8.8	29 – 36	Natural	8.5 - 9.5	Fresh Water
1070' – 5200' (5000')	8.4 – 8.8	29 – 32	No Control	10.0 – 10.2	Brine w/ sweeps
5200' – 16,100'	9.0 – 9.4	29 – 40	As required	9.0 – 10.5	Cut-Bine w/ sweeps

Mud tests will be performed at a minimum interval of every 24 hours after mudding up to determine: density, viscosity, filtration, and pH for formation compatibility.

Freshwater will be used to drill the surface hole.

Saturated brine water will be use to drill the intermediate hole to minimize washout of salt sections.

Cut brine of sufficient weight to control formation pressures will be used to drill the production hole.

Sufficient quantities of mud materials shall be maintained at the well site, at all times, for the purpose of assuring well control.

Drilling of the surface casing will occur with fresh water.

If a temporary surface pipeline is used to transport drilling water, the pipeline shall be laid and removed when the ground surface is dry so as to minimize surface disturbance. No blading or other alteration of the ground surface shall be allowed.

6. **Testing, Logging, and Coring Program**

Cores-DST's: None anticipated at this time.

Surveys: Inclination & azimuth surveys while drilling vertical & directional intervals

Mud Logger: Morco Geological Services Intermediate casing depth to MD TD

Logging: MWD – Gamma Ray Surface casing shoe to MD TD

Stimulation Program:

Evaluate open hole logs to determine interval to perforate. Perforate selected intervals of interest after addressing spacing and commingling considerations. A completion program will be based upon evaluation of the logs and formation parameters.

7. **Abnormal Conditions/Expected BHP**

See COA

a. GMT does not expect any temperatures in excess of 200°F or pressures exceeding the normal gradient.

8. **Additional Information**

a. Anticipated starting date based upon approval will be 1/1/2016.

b. Duration of the drilling operations will be approximately 45 days.

c. This well is a directional well per attached directional plan from Weatherford. Please refer to Exhibit 2.

d. Rat and mouse holes (or any subgrade excavations for drilling operations) shall be filled and compacted, with appropriate native materials, immediately upon release of the drilling rig from the location.

e. Any permanent plug placed in the well during drilling and/or completion operations must have **prior** approval of the Authorized Officer.

f. As provided in NTL-4A, gas produced from this well may not be vented or flared beyond an initial test period, 30 days or 50 MMCF, whichever first occurs, without approval of the Authorized Officer.

g. GMT shall report all fresh water flows encountered while drilling to the Authorized

Officers representative (Petroleum Engineer) prior to the running the next string of casing. The reported information shall include a) well name, number and location, b) the date the water flow was encountered, c) depth at which the water flow was encountered and d) estimated water flow rate into the well bore. The operator shall file a Form 3160-5 (Subsequent Report Sundry Notice) of this same information within 30 days of releasing the drilling rig.

h. Anticipated bottom hole temperature is 200°F, and its anticipated pressure is ~4873psi.

GMT Exploration Company, LLC will promptly plug and abandon each newly completed, re-completed or producing well which is not capable of producing in paying quantities. No well may be temporarily abandoned for more than 30 days without prior approval of the Authorized Officer. When justified by the Operator, the Authorized Officer may authorize additional delays, no one of which may exceed an additional 12 months. Upon removal of drilling or producing equipment from the site of a well which is to be permanently abandoned, the surface of the lands disturbed shall be reclaimed in accordance with a plan first approved or prescribed by the Authorized Officer or per the reclamation conditions of approval stated herein.

Weatherford

Weatherford Drilling Services

GeoDec4 v2.1.0.0

Report Date:	May 28, 2015
Job Number:	
Customer:	GMT Exploration Company, LLC
Well Name:	Mastiff 22 Federal State Com 4H
API Number:	
Rig Name:	
Location:	Lea Co, NM Nad83 NME
Block:	
Engineer:	RWJ

NAD83 / New Mexico East (ftUS)	NAD83 (1986)
Projected Coordinate System	Geodetic Coordinate System
Datum: North American Datum 1983 (1986)	Datum: North American Datum 1983 (1986)
Ellipsoid: GRS 1980	Ellipsoid: GRS 1980
EPSG: 2257	EPSG: 4269
North: 467954.70 US Survey Foot	Latitude: 32.283399 Degree
East: 814020.30 US Survey Foot	Longitude: -103.450968 Degree
Convergence: 0.47°	
Declination: 7.15°	
Total Correction: 6.68°	
Datum Transformation: none	

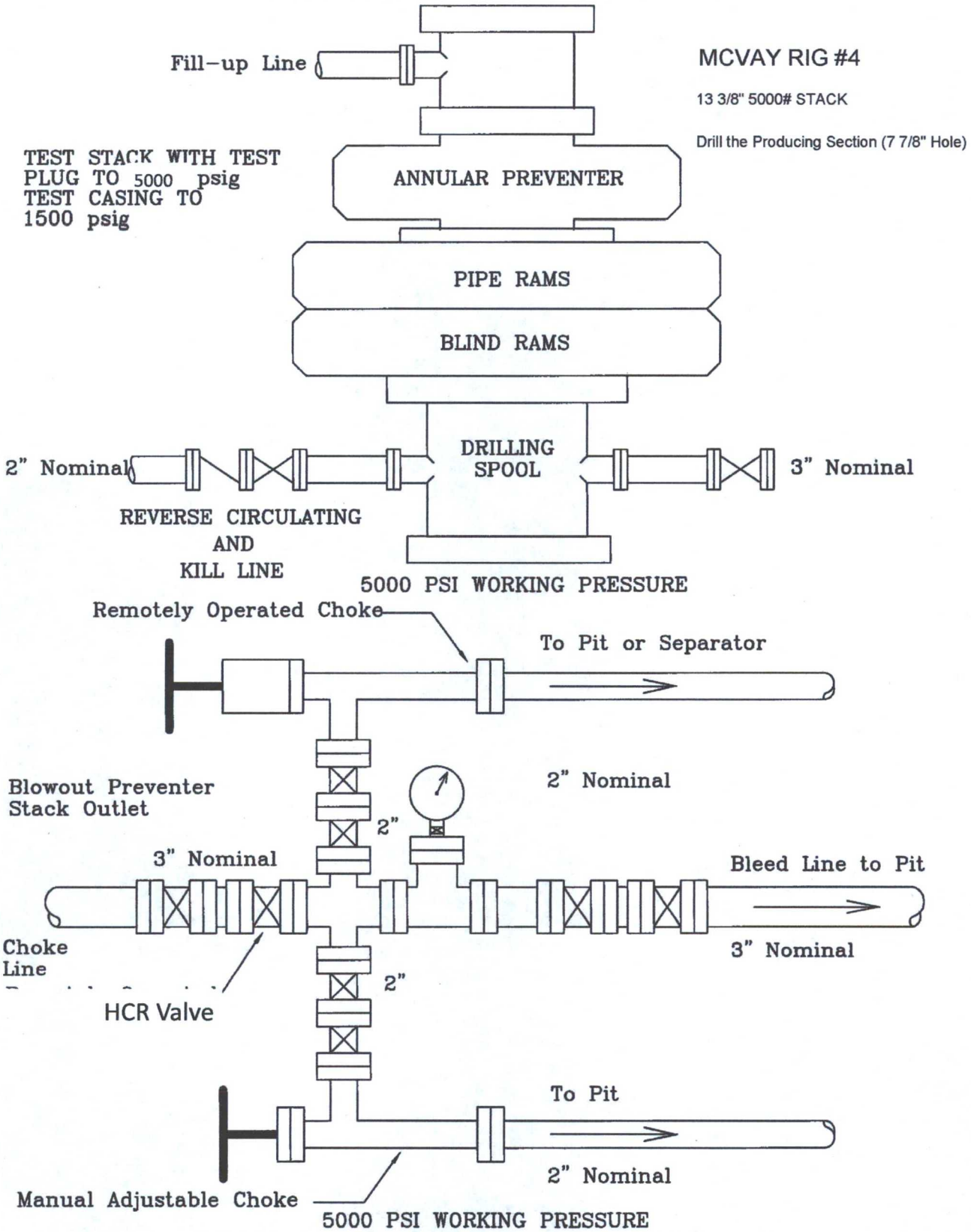
Geodetic Location WGS84

MSL Elevation	=	0 m
Latitude	=	32° 17' 00.23" N
Longitude	=	103° 27' 03.48" W

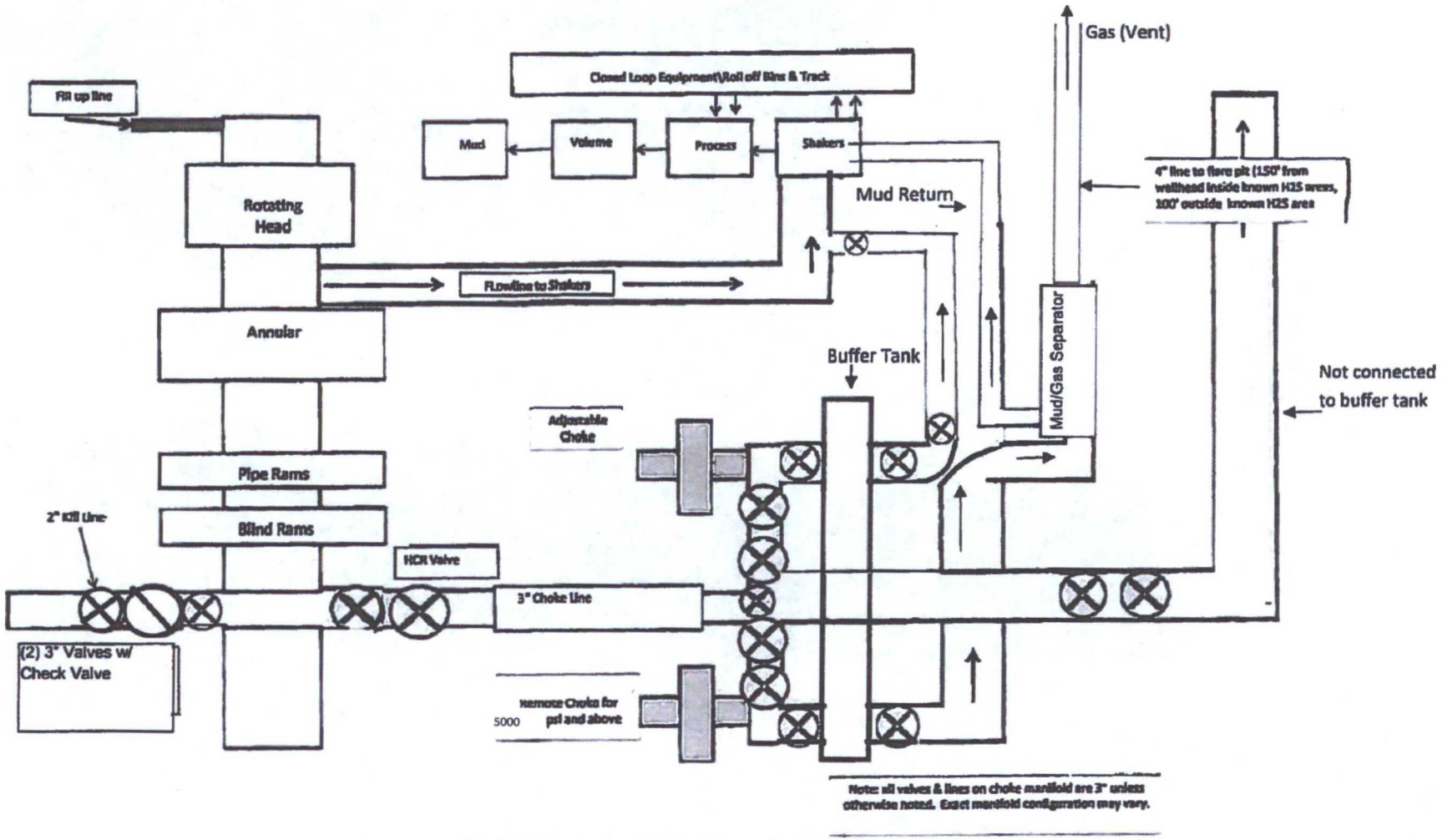
Magnetic Declination	=	7.15 deg	[True North Offset]		
Local Gravity	=	.9988 g	CheckSum	=	6604
Local Field Strength	=	48248 nT	Magnetic Vector X	=	23780 nT
Magnetic Dip	=	60.22 deg	Magnetic Vector Y	=	2982 nT
Magnetic Model	=	bggm2015.dat	Magnetic Vector Z	=	41875 nT
Run Date	=	November 30, 2015	Magnetic Vector H	=	23966 nT

Signed:_____ Date:_____

PRODUCTION HOLE SECTION



Location: Sec. 22 T23S R34E Lea County, New Mexico	Mastiff 22 Federal State Com #4H BLOWOUT PREVENTER AND CHOKE MANIFOLD		05/16/2016
		Scale: None	

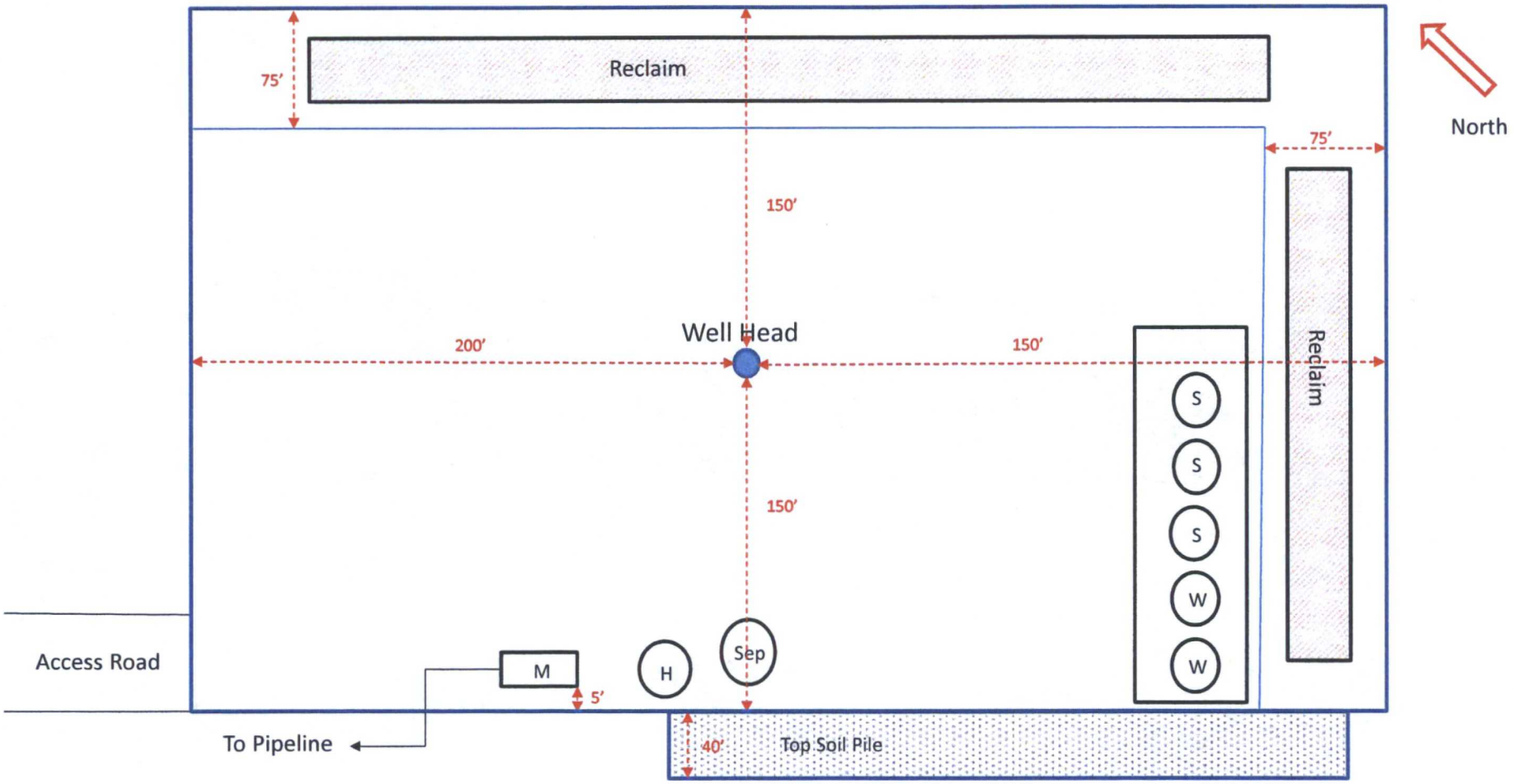


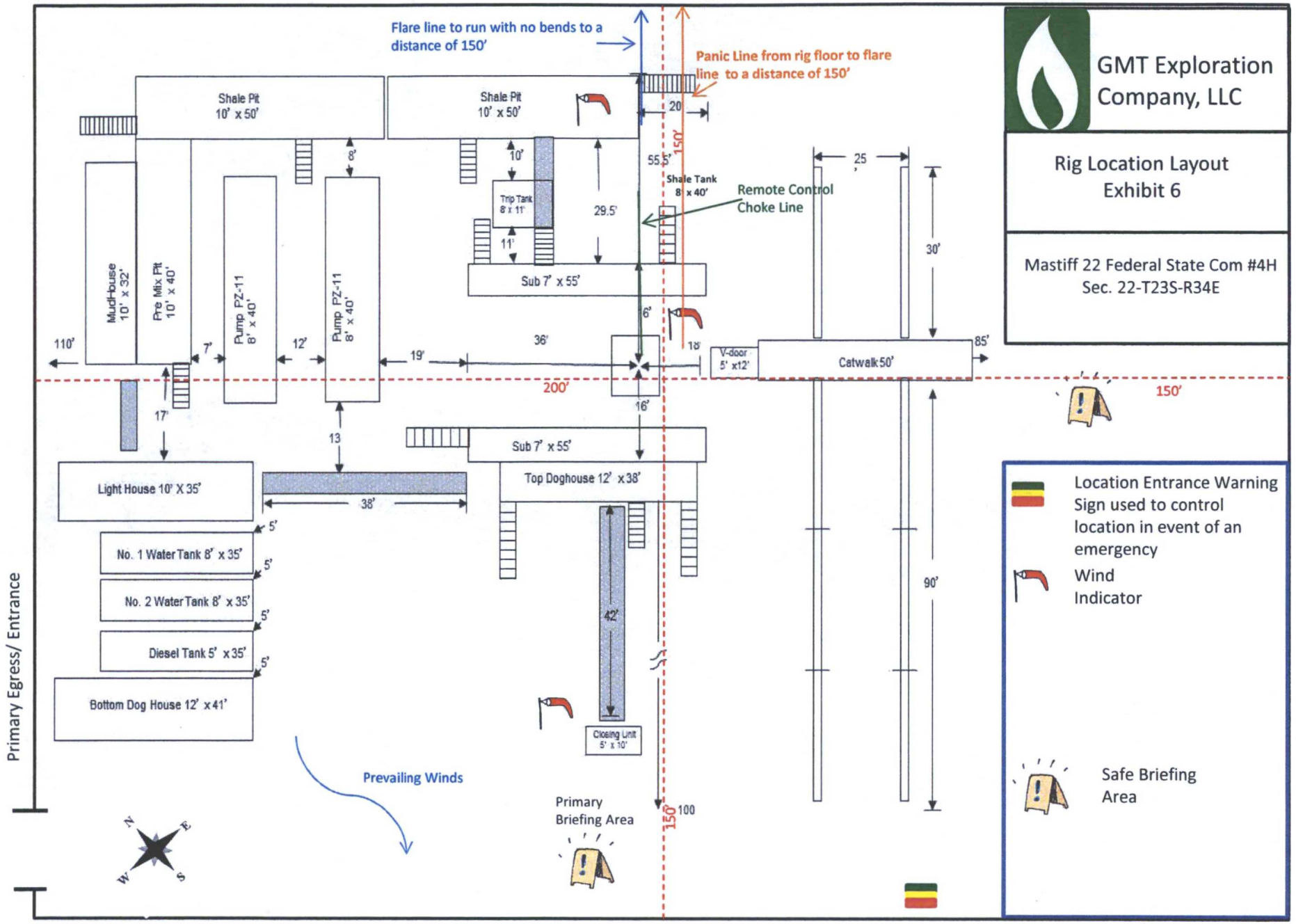
13 3/8" **X 5-M BOPE (2 Rams and Rotating Head) & Closed Loop System Equipment Schematic Diagram 2**

Location: Sec. 22 T23S R34E Lea County, New Mexico	Mastiff 22 Federal State Com #4H BLOWOUT PREVENTER AND CHOKE MANIFOLD		05/16/2016
		Scale: None	

Exhibit 5

Mastiff 22 4H




Flare line to run with no bends to a distance of 150'
Panic Line from rig floor to flare line to a distance of 150'
Shale Pit 10' x 50'
Shale Pit 10' x 50'
20
150'
55.5'
10'
Trip Tank 8' x 11'
11'
29.5'
Shale Tank 8' x 40'
Remote Control Choke Line
25'
30'
Mud House 10' x 32'
Pre Mix Pit 10' x 40'
Pump PZ-11 8' x 40'
Pump PZ-11 8' x 40'
8'
Sub 7' x 55'
6'
18'
110'
7'
12'
19'
36'
V-door 5' x12'
Catwalk 50'
85'
200'
150'
17'
13
16'
Sub 7' x 55'
Top Doghouse 12' x 38'
Light House 10' X 35'
38'
5'
No. 1 Water Tank 8' x 35'
No. 2 Water Tank 8' x 35'
Diesel Tank 5' x 35'
Bottom Dog House 12' x 41'
42'
90'
Closing Unit 5' x 10'
Prevailing Winds
Primary Briefing Area
150'
100
N
E
W
S
Primary Egress/ Entrance
GMT Exploration Company, LLC
Rig Location Layout
Exhibit 6
Mastiff 22 Federal State Com #4H
Sec. 22-T23S-R34E
Location Entrance Warning Sign used to control location in event of an emergency
Wind Indicator
Safe Briefing Area

Not to Scale

GMT EXPLORATION COMPANY LLC

ACQUISITIONS • EXPLORATION • PRODUCTION

May 27, 2015

RE: BLM On Site Visit

To Whom It May Concern,

On December 3, 2014 Trisha Badbear of the BLM met GMT Exploration's representative Harvey Waller on location at the Mastiff 22 Federal State Com #4H, Lease NM132073, Sec 22 T23S R34E, Lea County, NM.

Sincerely,

Keith Kress
VP Operations

Keith Kress, Vice President Operations
kkress@gmtexploration.com
1560 Broadway, Suite 2000 Denver, CO 80202
Office: 720.946.3028 Direct: 303.586.9281 Fax: 720.946.3034

Weatherford

Weatherford Drilling Services

GeoDec4 v2.1.0.0

Report Date:	May 28, 2015
Job Number:	
Customer:	GMT Exploration Company, LLC
Well Name:	Mastiff 22 Federal State Com 4H
API Number:	
Rig Name:	
Location:	Lea Co, NM Nad83 NME
Block:	
Engineer:	RWJ

NAD83 / New Mexico East (ftUS)	NAD83 (1986)
Projected Coordinate System	Geodetic Coordinate System
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East: 814020.30 US Survey Foot	Longitude: -103.450968 Degree
Convergence: 0.47°	
Declination: 7.15°	
Total Correction: 6.68°	
Datum Transformation: none	

Geodetic Location WGS84

MSL Elevation	=	0 m
Latitude	=	32° 17' 00.23" N
Longitude	=	103° 27' 03.48" W

Magnetic Declination	=	7.15 deg	[True North Offset]		
Local Gravity	=	.9988 g	CheckSum	=	6604
Local Field Strength	=	48248 nT	Magnetic Vector X	=	23780 nT
Magnetic Dip	=	60.22 deg	Magnetic Vector Y	=	2982 nT
Magnetic Model	=	bggm2015.dat	Magnetic Vector Z	=	41875 nT
Run Date	=	November 30, 2015	Magnetic Vector H	=	23966 nT

Signed:_____ Date:_____