Carlsbad Field Office
OCD Hobbs
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SEP 26 2018
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Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM084728

6. If Indian, Allotee or Tribe Name

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

8. Lease Name and Well No.
BALLISTA ~~FEDERAL~~ 23 32 13 WXY FEDERAL (322475)
3H

9. API Well No.
30-025-45227

10. Field and Pool, or Exploratory
DIAMONDTAIL; WOLFCAMP / DIAMOND

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 13 / T23S / R32E / NMP

1a. Type of work: [x] DRILL [ ] REENTER

1b. Type of Well: [ ] Oil Well [x] Gas Well [ ] Other

1c. Type of Completion: [ ] Hydraulic Fracturing [x] Single Zone [ ] Multiple Zone

2. Name of Operator
MARATHON OIL PERMIAN LLC (372098)

3a. Address
5555 San Felipe St. Houston TX 77056

3b. Phone No. *(include area code)*
(713)629-6600

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface SESW / 231 FSL / 1524 FWL / LAT 32.2980052 / LONG -103.6314839

At proposed prod. zone NWNW / 330 FNL / 330 FWL / LAT 32.3109756 / LONG -103.6353551

14. Distance in miles and direction from nearest town or post office* 17.33 miles	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) 330 feet	16. No of acres in lease 800	17. Spacing Unit dedicated to this well 320
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 30 feet	19. Proposed Depth 12310 feet / 17119 feet	20. BLM/BIA Bond No. in file FED: WYB002107
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3714 feet	22. Approximate date work will start* 03/16/2018	23. Estimated duration 30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

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 requested by the BLM.

25. Signature (Electronic Submission)	Name *(Printed/Typed)* Jennifer Van Curen / Ph: (713)296-2500	Date 02/09/2018
Title Sr. Regulatory Compliance Rep		
Approved by *(Signature)* (Electronic Submission)	Name *(Printed/Typed)* Cody Layton / Ph: (575)234-5959	Date 09/11/2018
Title Assistant Field Manager Lands & Minerals	Office CARLSBAD	

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.

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.

GCP Rec 09/26/18

KZ 09/26/18 Requires NSL

APPROVED WITH CONDITIONS

(Continued on page 2)

Approval Date: 09/11/2018

*(Instructions on page 2)

Double sided

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the wen, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionany drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160
PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.
ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.
EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

(Continued on page 3)

Additional Operator Remarks

Location of Well

1. SHL: SESW / 231 FSL / 1524 FWL / TWSP: 23S / RANGE: 32E / SECTION: 13 / LAT: 32.2980052 / LONG: -103.6314839 (TVD: 0 feet, MD: 0 feet)
   PPP: SWSW / 330 FSL / 330 FWL / TWSP: 23S / RANGE: 32E / SECTION: 13 / LAT: 32.298268 / LONG: -103.6353476 (TVD: 12282 feet, MD: 12485 feet)
   BHL: NWNW / 330 FNL / 330 FWL / TWSP: 23S / RANGE: 32E / SECTION: 13 / LAT: 32.3109756 / LONG: -103.6353551 (TVD: 12310 feet, MD: 17119 feet)

BLM Point of Contact

Name: Priscilla Perez
Title: Legal Instruments Examiner
Phone: 5752345934
Email: pperez@blm.gov

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Application Data Report

09/12/2018

APD ID: 10400027038 Submission Date: 02/09/2018

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 3H

Well Type: CONVENTIONAL GAS WELL Well Work Type: Drill

Highlighted data reflects the most recent change

Show Final Text

Section 1 - General

APD ID: 10400027038 Tie to previous NOS? Submission Date: 02/09/2018

BLM Office: CARLSBAD User: Jennifer Van Curen Title: Sr. Regulatory Compliance Rep

Federal/Indian APD: FED Is the first lease penetrated for production Federal or Indian? FED

Lease number: NMNM084728 Lease Acres: 800

Surface access agreement in place? Allotted? Reservation:

Agreement in place? NO Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO APD Operator: MARATHON OIL PERMIAN LLC

Operator letter of designation:

Operator Info

Operator Organization Name: MARATHON OIL PERMIAN LLC

Operator Address: 5555 San Felipe St.

Zip: 77056

Operator PO Box:

Operator City: Houston State: TX

Operator Phone: (713)629-6600

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO Mater Development Plan name:

Well in Master SUPO? NO Master SUPO name:

Well in Master Drilling Plan? NO Master Drilling Plan name:

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 3H Well API Number:

Field/Pool or Exploratory? Field and Pool Field Name: DIAMONDTAIL; WOLFCAMP Pool Name: DIAMONDTAIL; WOLFCAMP

Is the proposed well in an area containing other mineral resources? USEABLE WATER

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 3H

Describe other minerals:

Is the proposed well in a Helium production area? N Use Existing Well Pad? NO New surface disturbance?

Type of Well Pad: MULTIPLE WELL Multiple Well Pad Name: BALLISTA FEDERAL 23 32 13 Number: 214-1

Well Class: HORIZONTAL Number of Legs: 1

Well Work Type: Drill

Well Type: CONVENTIONAL GAS WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 17.33 Miles Distance to nearest well: 30 FT Distance to lease line: 330 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: signed_BALLISTA_FEDERAL_23_32_13_WXY__3H_REV1_CERTIFIED__FORM_C_102__20180207090606.pdf
APP_2_3160_3_BALLISTA_FEDERAL_23_32_13_WXY_3H_20180711115425.pdf

Well work start Date: 03/16/2018 Duration: 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD27 Vertical Datum: NAVD88

Survey number: 21653

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	231	FSL	1524	FWL	23S	32E	13	Aliquot SESW	32.2980052	-103.6314839	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 084728	3714	0	0
KOP Leg #1	100	FSL	330	FWL	23S	32E	13	Aliquot SWSW	32.2976239	-103.6353492	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 084728	-8098	11934	11812

Form 3160-3
(March 2012)

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.: NMNM084728

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.: BALLISTA FEDERAL 23 32 13 WXY 3H

2. Name of Operator: MARATHON OIL PERMIAN LLC

9. API Well No.:

3a. Address: 5555 San Felipe St. Houston TX 77056

3b. Phone No. *(include area code)*: (713)629-6600

10. Field and Pool, or Exploratory: DIAMONDTAIL; WOLFCAMP / DIAMONI

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: SESW / 231 FSL / 1524 FWL / LAT 32.2980052 / LONG -103.6314839

At proposed prod. zone: NWNW / 330 FNL / 330 FWL / LAT 32.3109756 / LONG -103.6353551

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 13 / T23S / R32E / NMP

14. Distance in miles and direction from nearest town or post office*: 17.33 miles

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): 330 feet

16. No. of acres in lease: 800

17. Spacing Unit dedicated to this well: 320

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 30 feet

19. Proposed Depth: 12310 feet / 17119 feet

20. BLM/BIA Bond No. on file: FED: WYB002107

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3714 feet

22. Approximate date work will start*: 03/16/2018

23. Estimated duration: 30 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: (Electronic Submission)

Name *(Printed/Typed)*: Jennifer Van Curen / Ph: (713)296-2500

Date: 02/09/2018

Title: Sr. Regulatory Compliance Rep

Approved by *(Signature)*:

Name *(Printed/Typed)*:

Date:

Title:

Office: CARLSBAD

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.

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(Continued on page 2)

*(Instructions on page 2)

APD ID: 10400027038 Submission Date: 02/09/2018

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 3H

Well Type: CONVENTIONAL GAS WELL Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	RUSTLER	2468	1246	1246	DOLOMITE,ANHYDRITE	OTHER : Brine	No
2	SALADO	-1126	1718	1718	SALT,ANHYDRITE	OTHER : Brine	No
3	CASTILE	-2999	3591	3618	SALT	OTHER : Brine	No
4	BASE OF SALT	-4273	4865	4921	OTHER : Limy Sands	OTHER : Brine	No
5	LAMAR	-4382	4974	5033	OTHER : Sand/Shales	OIL	No
6	BELL CANYON	-4434	5026	5086	OTHER : Sands/Shale	OIL	No
7	CHERRY CANYON	-5562	6154	6240	OTHER : Sands/Carbonates	OIL	No
8	BRUSHY CANYON	-6626	7218	7328	OTHER : Sands/Carbonate	OIL	No
9	BONE SPRING	-8202	8794	8918	OTHER : Sands/Carbonate	OIL	No
10	WOLFCAMP	-11621	12213	12378	SHALE,SANDSTONE,OTHER : Carbonates	NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M Rating Depth: 15000

Equipment: 13 5/8 5M Annular, 10M pipe ram, and 10M double ram will be installed and tested for each of the 12 ¼, 8 ¾ and 6 1/8 hole sections.
Requesting Variance? YES

Variance request: 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. BOP variance is requested for the annular to be 5000 psi on 10000 psi BOP stack. Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table attached. If the system is upgraded all the components installed will be functional and tested. The Annular will be tested to 70% of 5000 working pressure (see attached BOP plan). The working pressure of 10000 for the Blind Ram and Double Ram will be tested to 10000 psi. - Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock, full opening safety valve / inside BOP and choke lines and

choke manifold. See attached schematics. - 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. - 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.

Choke Diagram Attachment:

Drill_Plan___Choke_Line_Test_Chart_SN_63393___Ballista_Federal_23_32_13_PAD_20180207095559.pdf

Drill_Plan___5M_10M.TWO_CHOKE_MANIFOLD.BLM___Ballista_Federal_23_32_13_PAD_20180207095618.pdf

Drill_Plan___Choke_Line_System_Flex_III_Rig___Ballista_Federal_23_32_13_PAD_20180207095634.pdf

Drill_Plan___Choke_and_Kill_Hose_SN_663393___Ballista_Federal_23_32_13_PAD_20180207095756.pdf

BOP Diagram Attachment:

Drill_Plan___5M_Flex_BOPE_Well_Head___Ballista_Federal_23_32_13_PAD_20180207095844.pdf

Drill_Plan___WH_TH_Design_1B__5K__10K__7in_x_4.5in____Ballista_Federal_23_32_13_PAD_20180207095926.pdf

Marathon_Permian___Drilling_Well_Control_Plan_06_05_2018_20180711104614.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	1250	0	1250	3714	2464	1250	J-55	54.5	STC	3.28	1.69	BUOY	2.77	BUOY	2.77
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	5050	0	5000	3714	1286	5050	J-55	40	LTC	1.16	1.36	BUOY	2.55	BUOY	2.55
3	INTERMEDIATE	8.75	7.0	NEW	API	N	0	12800	0	12400	3714	-8686	12800	P-110	29	BUTT	2.11	1.18	BUOY	2.22	BUOY	2.22
4	PRODUCTION	6.125	4.5	NEW	API	N	11900	17119	11800	12310	-8086	-8596	5219	P-110	13.5	BUTT	1.36	1.56	BUOY	2.39	BUOY	2.39

Casing Attachments

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 3H

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Drill_Plan___Red_Hills_3_csg___liner__Surface_Csg___Ballista_Federal_23_32_13_WXY_3H_20180207103550.pdf

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Drill_Plan___Red_Hills_3_csg___liner__Int_I_Csg___Ballista_Federal_23_32_13_WXY_3H_20180207104211.pdf

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Drill_Plan___Red_Hills_3_csg___liner__Int_II_Csg___Ballista_Federal_23_32_13_WXY_3H_20180207104353.pdf

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 3H

Casing Attachments

Casing ID: 4 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Drill_Plan___Red_Hills_3_csg___liner__Prod_Liner___Ballista_Federal_23_32_13_WXY_3H_20180207104601.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Lead		0	0	0	0	0	758	0	N/A. No lead, tail only.	N/A. No lead, tail only.
PRODUCTION	Tail		11900	17119	524	1.22	14.5	639	30	Class H	0.15% retarder + 3.5% extender + 0.25% fluid loss
SURFACE	Lead		0	1000	795	1.47	13.5	1389	100	Class C	3 lbm/sk granular LCM + 0.1250 lbm/sk Poly-E-Flake
SURFACE	Tail		100	1250	255	1.36	14.8	347	100	Class C	0.25 % Accelerator
INTERMEDIATE	Lead		0	4040	1280	1.73	12.8	2214	75	Class C	0.02 Gal/Sx Defoamer + 0.5% Extender + 1% Accelerator
INTERMEDIATE	Tail		4040	5050	357	1.33	14.8	474	50	Class C	0.07 % Retarder
INTERMEDIATE	Lead		3000	12800	833	2.7	11	2249	70	Class C	0.8% retarder + 10% extender + 0.02 gal/sk + 2.0% Extender + 0.15% Viscosifier
INTERMEDIATE	Tail		11800	12800	179	1.09	15.6	195	30	Class H	3% extender + 0.1% Dispersant + 0.2% retarder

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: The necessary mud products for additional weight and fluid loss control will be on location at all times.

Describe the mud monitoring system utilized: Losses or gains in the mud system will be monitored visually/manually as well as with an electronic PVT.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
12800	17119	OIL-BASED MUD	12	12.5							
12500	5050	OTHER : Brine	9.9	10.2							
0	12500	WATER-BASED MUD	8.4	8.8							
5050	12800	OTHER : Cut Brine	9	9.4							

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

None Planned.

List of open and cased hole logs run in the well:

GR,MUDLOG

Coring operation description for the well:

None Planned.

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 3H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 8001 Anticipated Surface Pressure: 6282.8

Anticipated Bottom Hole Temperature(F): 185

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Drill_Plan___H2S_Contingency_Plan___Ballista_Federal_23_32_13_PAD_20180207113226.pdf

Pad_Flex_III_Rev1_20180711104638.pdf

Drill_Plan___Plat___H2S_Map___Ballista_Federal_23_32_13_PAD_20180207113651_20180711105855.pdf

GCP___Ballista_Federal_23_32_13_Pad___2_6_2018_20180711110000.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Plat___Ballista_Federal_23_32_13_Pad___Federal_Minerals_Map_20180207113833.pdf

Plat___Ballista_Federal_23_32_13_Pad___Mineral_Ownership_Map_20180207113850.pdf

Ballista_Federal_3H_Directional_Plans_20180207113911.pdf

Other proposed operations facets description:

- Kelly cock will be in the drill string at all times.
- A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor unobstructed and readily accessible at all times.
- Hydrogen Sulfide detection equipment will be in operation after drilling out the surface casing shoe until the production casing is cemented. Breathing equipment will be on location upon drilling the surface casing shoe until total depth is reached. If Hydrogen Sulfide is encountered , measured amounts and formations will be reported to the BLM.

Potential Hazards:

- H2S detection equipment will be in operation after drilling out the surface casing shoe until the production casing has been cemented. Breathing equipment will be on location from drilling out the surface shoe until production casing is cemented. If H2S is encountered the operator will comply with Onshore Order #6.
- No abnormal temperatures or pressures are anticipated. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.
- No losses are anticipated at this time.
- All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well.
- Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.

Other proposed operations facets attachment:

Batch_Drilling_Plan_and_Surface_Rig_Request_20180711110127.pdf

Ballista_Federal_23_32_13_WXY_3H_Drilling_APD_Information_20180711110148.doc

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 3H

Other Variance attachment:

Certificate of Conformity

ContiTech

Certificate Number	COM Order Reference	Customer Name & Address
953233-4	953233	HELMERICH & PAYNE DRILLING CO 1434 SOUTH BOULDER AVE TULSA, OK 74119 USA
Customer Purchase Order No:	740053080	
Project:		

Test Center Address	Accepted by COM Inspection		Accepted by Client Inspection
ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Date:	Roger Suarez 5/11/17	

We certify that the items detailed below meet the requirements of the customer's Purchase Order referenced above, and are in conformance with the specifications given below.

Item	Part No	Description	Qty	Serial Number	Specifications
30		RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL	1	63393	ContiTech Standard

Hydrostatic Test Certificate

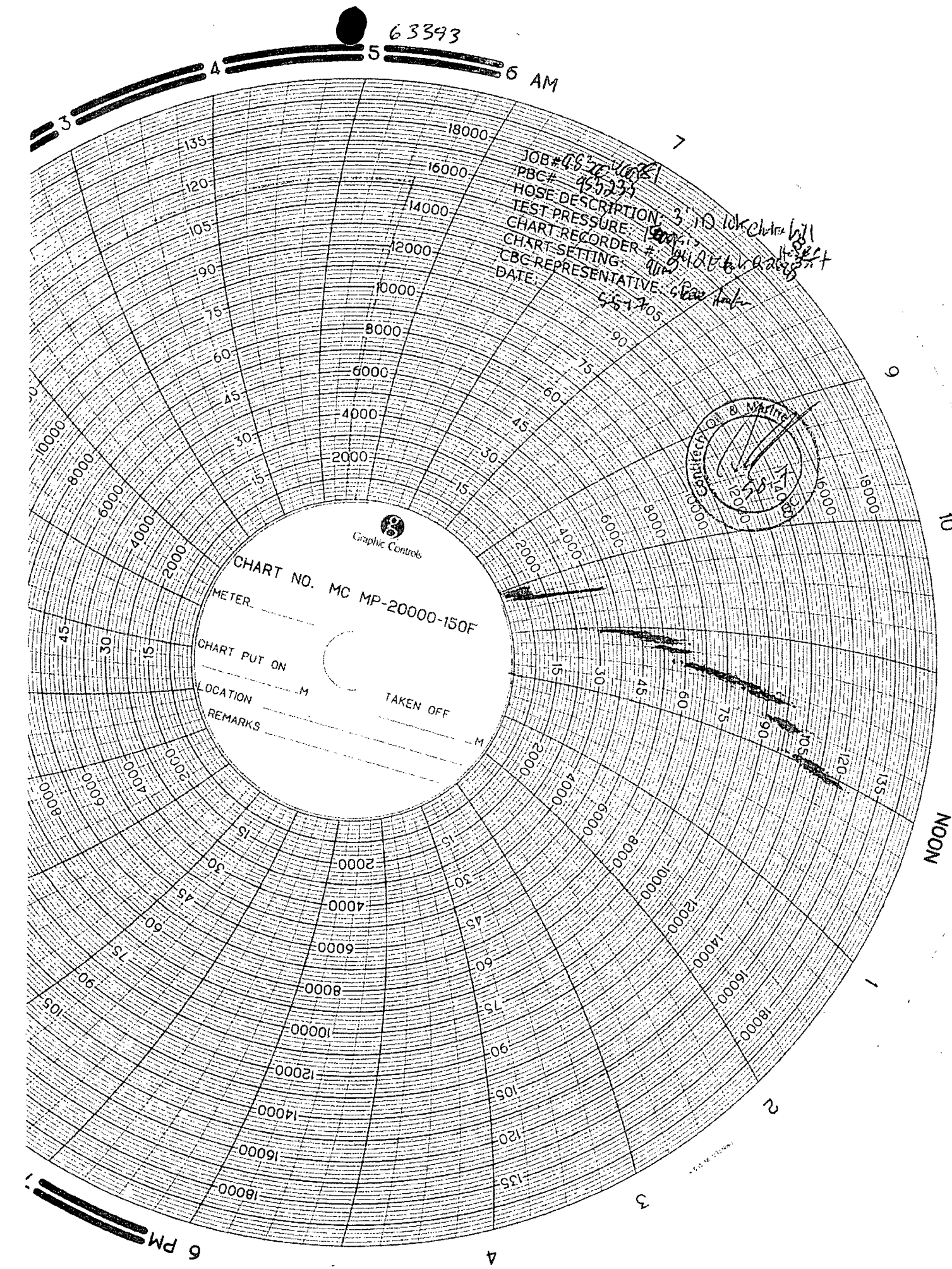
ContiTech

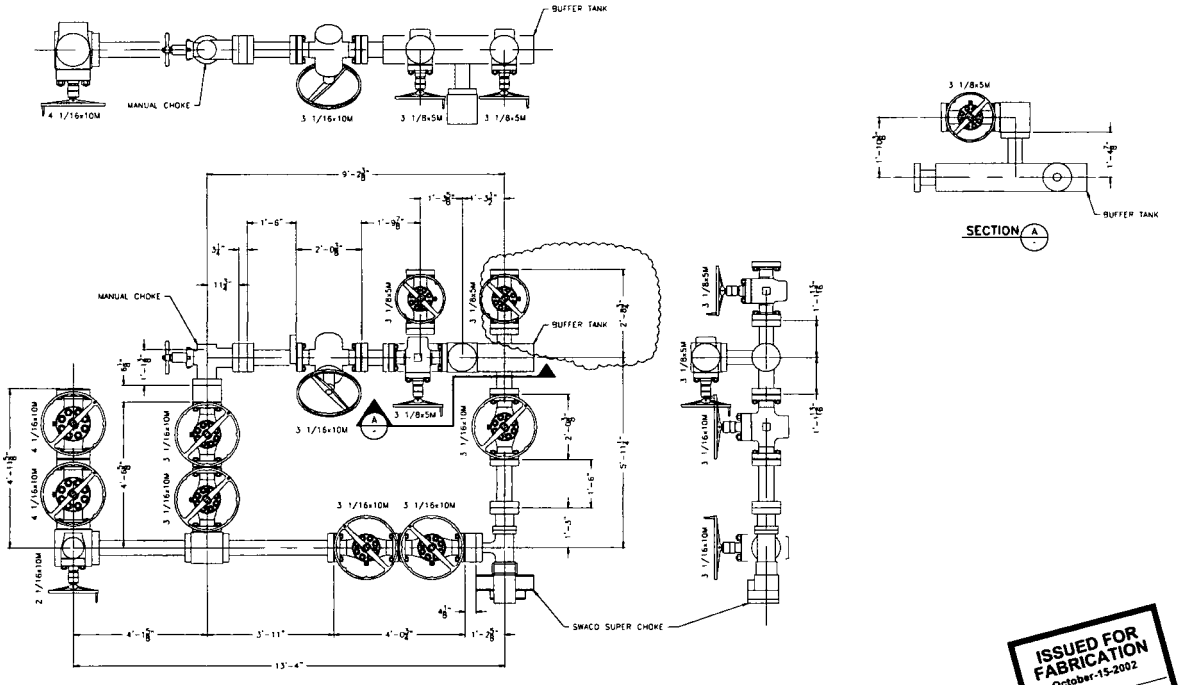
Certificate Number	COM Order Reference	Customer Name & Address
953233-4	953233	HELMERICH & PAYNE DRILLING CO 1434 SOUTH BOULDER AVE TULSA, OK 74119 USA
Customer Purchase Order No:	740053080	
Project:		

Test Center Address	Accepted by COM Inspection		Accepted by Client Inspection
ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Date:	Roger Suarez 5/11/17	

We certify that the goods detailed hereon have been inspected as described below by our Quality Management System, and to the best of our knowledge are found to conform the requirements of the above referenced purchase order as issued to ContiTech Oil & Marine Corporation.

Item	Part No.	Description	Qty	Serial Number	Work Press.	Test Press.	Test Time (minutes)
30		RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL	1	63393	10,000 psi	15,000 psi	60


63393
JOB#
PBC#
HOSE DESCRIPTION:
TEST PRESSURE:
CHART RECORDER #:
CHART SETTING:
CBC REPRESENTATIVE:
DATE:
Graphic Controls
CHART NO. MC MP-20000-150F
METER
CHART PUT ON
M
TAKEN OFF
M
LOCATION
REMARKS
NOON
6 AM
6 PM



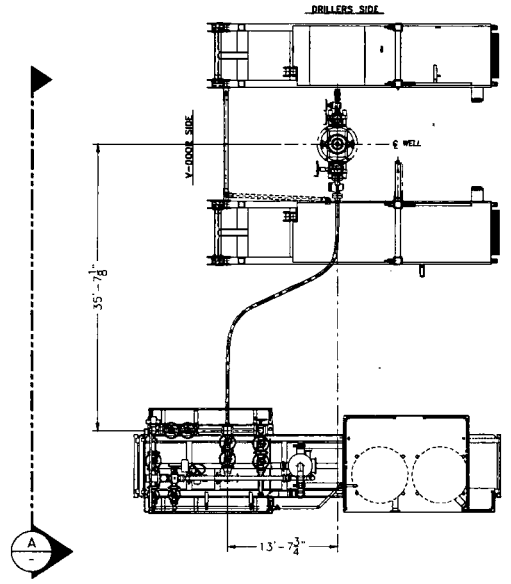
ISSUED FOR FABRICATION
October-15-2002
DRAFTSMAN
ENGINEER

REV	DATE	DESCRIPTION	BY	ENGINEERING APPROVAL	DATE
1	10/15/02	ADJUST DIM TO FIELD CONFIRMED DIM	RAY		

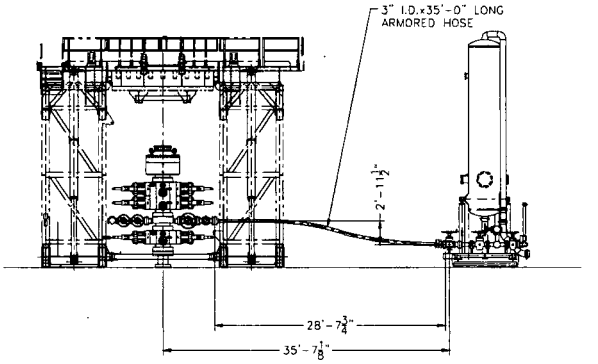
HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.

TITLE: CHOKE MANIFOLD
RIG 216-234

CUSTOMER: H&P
PROJECT: FLEXRIG3
DRAWN: MTS
DATE: 2-28-02
DWG NO.: 216-P1-05
REV.: A
SCALE: 3/4"=1'
SHEET 1 OF 1



PLAN VIEW



SECTION "A"

ISSUED FOR FABRICATION
December-19-2007
DRAFTSMAN
ENGINEER

REV	DATE	DESCRIPTION	BY
		ENGINEERING APPROVAL	DATE
1	12/18/07	REMOVED SHEET TOTAL CALLOUT	JMV

HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.

TITLE: CHOKE LINE SYSTEM
FLEXRIG3

CUSTOMER

PROJECT

DRAWN JBC | DATE: 4-10-07 | DWG NO 210-P1-07 | REV A

SCALE 3/16"=1" | SHEET 2 OF 0

Continental CONTITECH

QUALITY CONTROL	No.: QC-DB- 380 / 2012
	Page : 1 / 61
Hose No.: 63389, 63390, 63391 63392, 63393	Revision : 0
	Date: 28. August 2012.
	Prepared by : Szabó Sándor
	Appr. by: [signature]

CHOKE AND KILL HOSES

id.: 3" 69 MPa x 35 ft (10,67 m)

DATA BOOK

Purchaser: H & P

Purchaser Order No.:

ContiTech Rubber Order No.: 531895

ContiTech Beattie Co. Order No.: 006227

NOT DESIGNED FOR WELL TESTING

ContiTech Rubber Industrial Kft.
Budapesti út 10., Szeged H-6728
P.O.Box 152 Szeged H-6701
Hungary

Phone: +36 62 566 737
Fax: +36 62 566 738
e-mail: info@fluid.contitech.hu
Internet: www.contitech-rubber.hu

The Court of Csongrád County as Registry Court
Registry Court No: HU 06-09-002502
EU VAT No. HU11087209

Bank data
Commercial and Creditbank
Szeged
10402805-28014250-00000000

CONTENT

ContiTech Rubber
Industrial Kft.
Quality Control Dept.
(1)

QMS REGISTERED

Certificate of Registration

APIQR REGISTRATION NUMBER
0760

This certifies that the quality management system of

CONTITECH RUBBER INDUSTRIAL LTD.
Budapesti ut 10
Szeged
Hungary

has been assessed by the American Petroleum Institute Quality Registrar (APIQR®) and found it to be in conformance with the following standard:

ISO 9001:2008

The scope of this registration and the approved quality management system applies to the
Design and Manufacture of High Pressure Hoses

APIQR® approves the organization's justification for excluding:
No Exclusions Identified as Applicable

COPY

Effective Date: October 15, 2010
Expiration Date: October 15, 2013
Registered Since: October 15, 2007

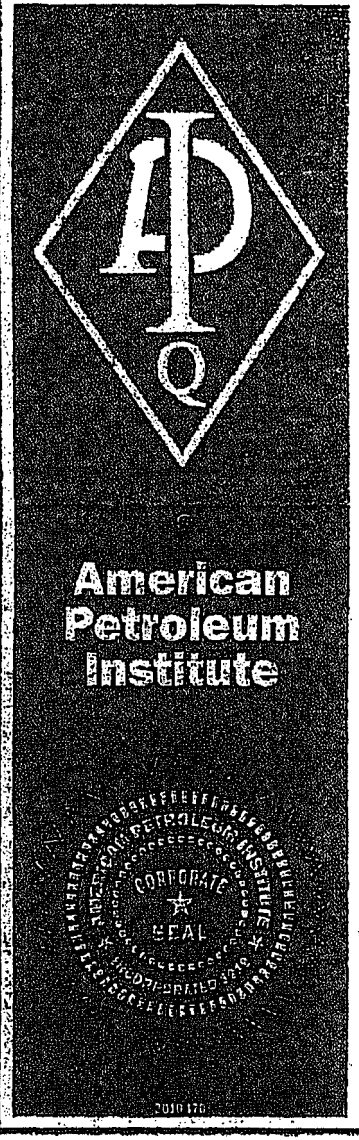
W. Dan Whittaker
Manager of Operations, APIQR

Accredited by Member of the International Accreditation Forum Multilateral Recognition Arrangement for Quality Management Systems

GMA IAF

This certificate is valid for the period specified herein. The registered organization must continually meet all requirements of APIQR's Registration Program and the requirements of the Registration Agreement. Registration is maintained and regularly monitored through annual full system audits. Further clarifications regarding the scope of this certificate and the applicability of ISO 9001 standard requirements may be obtained by consulting the registered organization. This certificate has been issued from APIQR offices located at 1220 L Street, N.W., Washington, D.C. 20005-4070, U.S.A. It is the property of APIQR, and must be returned upon request. To verify the authenticity of this certificate, go to www.api.org/compositelist.

QUALITY REGISTRAR



Certificate of Authority to use the Official API Monogram

License Number: 16C-0004 **ORIGINAL**

The American Petroleum Institute hereby grants to

CONTITECH RUBBER INDUSTRIAL LTD.
Budapesti ut 10
Szeged
Hungary

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and **API Spec 16C** and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram should be used in conjunction with this certificate number: **16C-0004**

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following product: Flexible Choke and Kill Lines

QMS Exclusions: No Exclusions Identified as Applicable

American Petroleum Institute

Effective Date: OCTOBER 15, 2010
Expiration Date: OCTOBER 15, 2013

To verify the authenticity of this license, go to www.api.org/compositelist.

Director of Global Industry Services

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE

CERT. N°: 1599

PURCHASER:	ContiTech Beattie Co.					P.O. N°:	006227	
CONTITECH ORDER N°:	531895		HOSE TYPE:	3"	ID	Choke and Kill Hose		
HOSE SERIAL N°:	63393		NOMINAL / ACTUAL LENGTH:			10,67 m / 10,72 m		
W.P. 68,9	MPa	10000 psi	T.P. 103,4	MPa	15000 psi	Duration:	60	min.

Pressure test with water at ambient temperature

See attachment. (1 page)

↑ 10 mm = 10 Min.

→ 10 mm = 20 MPa

COUPLINGS Type	Serial N°		Quality	Heat N°
3" coupling with	2156	2153	AISI 4130	20231
4 1/16" 10K API Flange end			AISI 4130	34031

NOT DESIGNED FOR WELL TESTING

API Spec 16 C

Temperature rate:"B"

All metal parts are flawless

WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.

COUNTRY OF ORIGIN HUNGARY/EU

Date:	Inspector	Quality Control
23. August 2012.		ContiTech Rubber Industrial Kft. Quality Control Dept. (1)

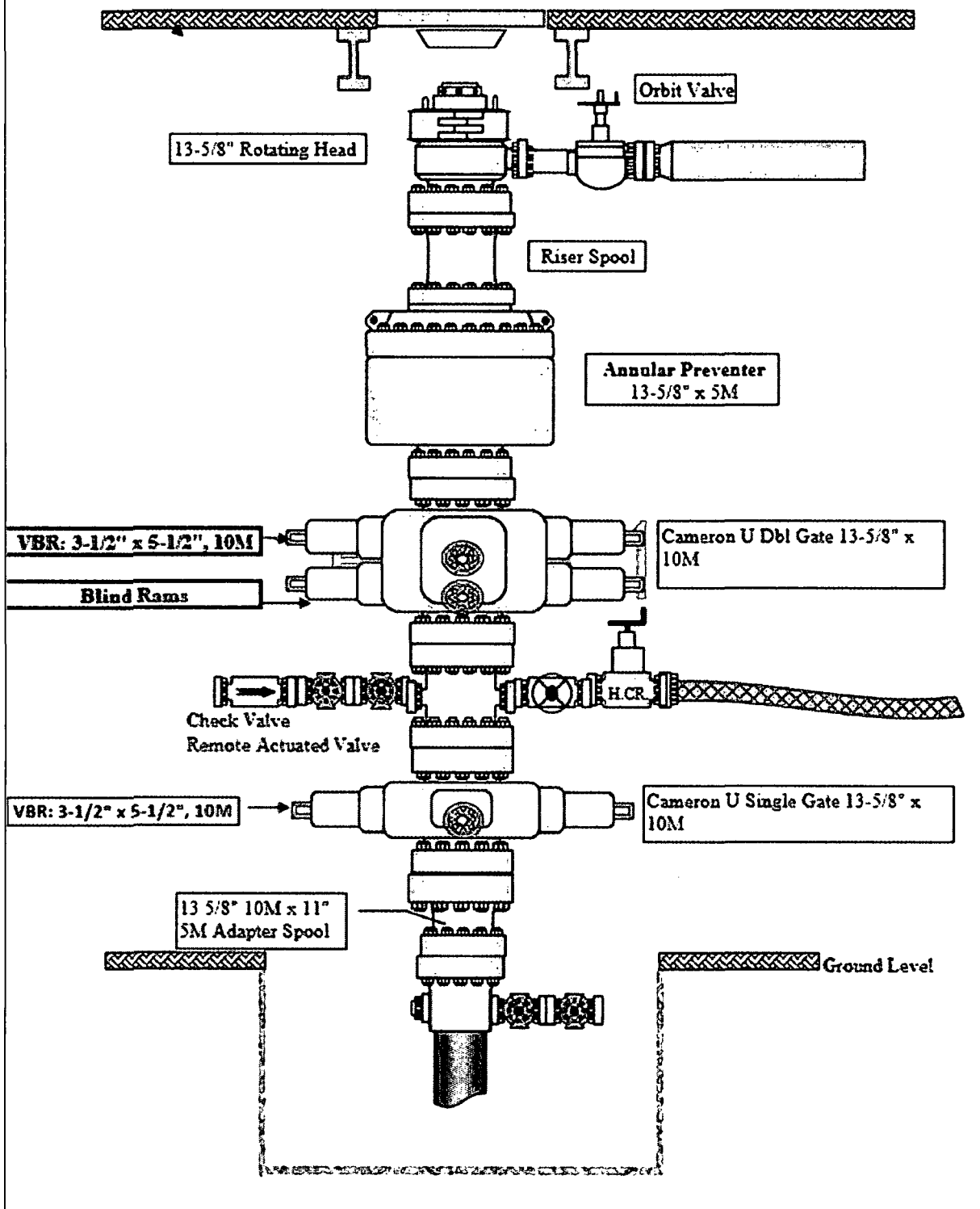
Continental CONTITECH

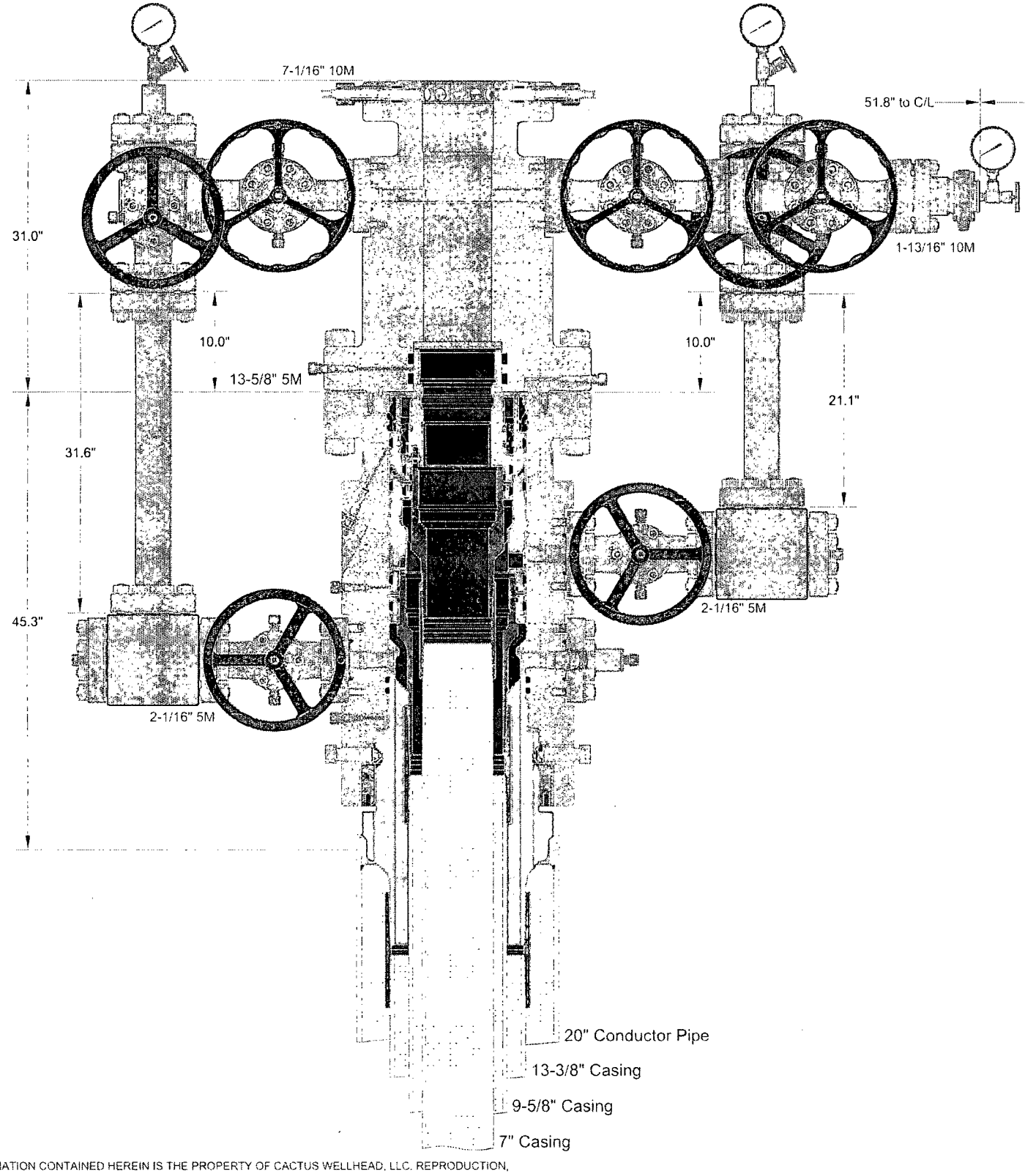
Hose Data Sheet

CRI Order No.	531895
Customer	ContiTech Beattie Co.
Customer Order No	PO6227 Pbc13080-H&P
Item No.	1
Hose Type	Flexible Hose
Standard	**API SPEC 16 C**
Inside dia in inches	3
Length	35 ft
Type of coupling one end	FLANGE 4 1/16" API SPEC 6A TYPE 6BX FOR 10000 PSI C/W BX155RING GROOVE
Type of coupling other end	FLANGE 4 1/16" API SPEC 6A TYPE 6BX FOR 10000 PSI C/W BX155 RING GROOVE
H2S service NACE MR0175	Yes
Working Pressure	10 000 psi
Design Pressure	10 000 psi
Test Pressure	15 000 psi
Safety Factor	2,25
Marking	USUAL PHOENIX
Cover	NOT FIRE RESISTANT
Outside protection	St.steel outer wrap
Internal stripwound tube	No
Lining	OIL RESISTANT
Safety clamp	No
Lifting collar	No
Element C	No
Safety chain	No
Safety wire rope	No
Max.design temperature [°C]	100
Min.design temperature [°C]	-20
MBR operating [m]	1,60
MBR storage [m]	1,40
Type of packing	WOODEN CRATE ISPM-15

Operator : Marathon Oil

5M BOPE





CACTUS WELLHEAD LLC

MARATHON OIL COMPANY

20" x 13-3/8" x 9-5/8" x 7" MBU-3T-CFL-R-DBLO Wellhead
With 13-5/8" 5M x 7-1/16" 10M CTH-DBLHPS Tubing Head (31" LG)
Utilizing Pin Down Mandrel Casing Hangers

DRAWN	DLE	24JUL17
APPRV		
DRAWING NO.	ODE0001624	

1. DRILLING WELL CONTROL PLAN

1.1 WELL CONTROL - CERTIFICATIONS

Required IADC/IWCF Well Control Certifications Supervisor Level:

Any personnel who supervises or operates the BOP must possess a valid current IADC training certification and photo identification. This would include the onsite drilling supervisor, tool pusher/rig manager, driller, and any personnel that will be acting in these capacities. Another example of this may be a wireline or snubbing crew rigged up on the rig to assist the rig, the operator of each system must also have a valid control certification for their level of operation.

BLM recognizes IADC training as the industry approved accredited training. Online self-certifications will not be acceptable. Enforcement actions for the lack of a valid Supervisory Level certificate shall be prompt action to correct the deficiency. **Enforcement actions include but are not limited to immediate replacement of personnel lacking certifications, drilling operations being shut down or installment of a 10M annular.**

IADC Driller Level for all Drillers and general knowledge for the Assistant Driller, Derrick Hands, Floor Hands and Motor Hands is recognized by the BLM; however, a Driller Level certification will need to be presented only if acting in a temporary Driller Level certification capacity.

Well Control-Position/Roles

IADC Well control training and certification is targeted toward each role, e.g., Supervisor Level toward those who direct, Driller Level to those who act, Introductory to those who need to know.

- **Supervisor Level**
  - Specifies and has oversight that the correct actions are carried out
  - Role is to supervise well control equipment, training, testing, and well control events
  - Directs the testing of BOP and other well control equipment
  - Regularly direct well control crew drills
  - Land based rigs – usually runs the choke during a well kill operation
  - Due to role on the rig, training and certification is targeted more toward management of well control and managing an influx out of the well

- **Driller Level**
  - Performs an action to prevent or respond to well control accident
  - Role is to monitor the well via electronic devices while drilling and detect unplanned influxes
  - Assist with the testing of BOP and other well control equipment
  - Regularly assist with well control crew drills
  - When influx is detected, responsible to close the BOP
  - Due to role on the rig, training and certification is targeted more toward monitoring and shutting the well in (closing the BOP) when an influx is detected

(Well Control-Positions/Roles Continued)

- **Derrick Hand, Assistant Driller Introductory Level**
  - Role is to assist Driller with kick detection by physically monitoring the well at the mixing pits/tanks
  - Regularly record mud weights/viscosity for analysis by the Supervisor level and mud engineer so pre-influx signs can be detected
  - Mix required kill fluids as directed by Supervisor or Driller
  - Due to role on the rig, training and certification is targeted more toward monitoring for influxes, either via mud samples or visual signs on the pits/tanks

- **Motorman, Floor Hand Introductory Level**
  - Role is to assist the Supervisor, Driller, or Derrick Hand with detecting influxes
  - Be certain all valves are aligned for proper well control as directed by Supervisor
  - Perform Supervisor or Driller assigned tasks during a well control event
  - Due to role on the rig, training and certification is targeted more toward monitoring for influxes

1.2 WELL CONTROL-COMPONENT AND PREVENTER COMPATIBILITY CHECKLIST

The table below, which covers the drilling and casing of the 10M Stack portion of the well, outlines the tubulars and the compatible preventers in use. This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the rating of the annular preventer.

- Example 6-1/8" Production hole section, 10M requirement

Component	OD	Preventer	RWP
Drill pipe	4"	Upper and Lower 3.5-5.5" VBRs	10M
HWDP	4"	Upper and Lower 3.5-5.5" VBRs	10M
Drill collars and MWD tools	4.75-5"	Upper and Lower 3.5-5.5" VBRs	10M
Mud Motor	4.75-5.25"	Upper and Lower 3.5-5.5" VBRs	10M
Production casing	4.5"	Upper and Lower 3.5-5.5" VBRs	10M
ALL	0-13-5/8"	Annular	5M
Open-hole	-	Blind Rams	10M

- VBR = Variable Bore Ram. Compatible range listed in chart.

1.3 WELL CONTROL-BOP TESTING

BOP Test will be completed per Onshore Oil and Gas Order #2 Well Control requirements. The 5M Annular Preventer on a required 10M BOP stack will be tested to 70 % of rated working

pressure including a 10 minute low pressure test. Pressure shall be maintained at least 10 minutes.

1.4 WELL CONTROL - DRILLS

The following drills are conducted and recorded in the Daily Drilling Report and the Contractor's reporting system while engaged in drilling operations:

Type	Frequency	Objective	Comments
Shallow gas kick drill - drilling	Once per well with crew on tour	Response training to a shallow gas influx	To be done prior to drilling surface hole if shallow gas is noted
Kick drill - drilling	Once per week per crew	Response training to an influx while drilling (bit on bottom)	Only one kick drill per week per crew is required, alternating between drilling and tripping.
Kick drill - tripping	Once per week per crew	Response training to an influx while tripping (bit off bottom). Practice stabbing TIW valve	

1.5 WELL CONTROL – MONITORING

- Drilling operations which utilize static fluid levels in the wellbore as the active barrier element, a means of accurately monitoring fill-up and displacement volumes during trips are available to the driller and operator. A recirculating trip tank is installed and equipped with a volume indicator easily read from the driller's / operator's position. This data is recorded on a calibrated chart recorder or digitally. The actual volumes are compared to the calculated volumes.
- The On-Site Supervisor ensures hole-filling and pit monitoring procedures are established and documented for every rig operation.
- The well is kept full of fluid with a known density and monitored at all times even when out of the hole.
- Flow checks are a minimum of 15 minutes.
- A flow check is made:
  - In the event of a drilling break.
  - After indications of down hole gains or losses.
  - Prior to all trips out of the hole.
  - After pulling into the casing shoe.
  - Before the BHA enters the BOP stack.
  - If trip displacement is incorrect.

Well Control-Monitoring (Continued)

  - Prior to dropping a survey instrument.
  - Prior to dropping a core ball.

- After a well kill operation.
- When the mud density is reduced in the well.

- Flow checks may be made at any time at the sole discretion of the driller or his designate. The Onsite Supervisor ensures that personnel are aware of this authority and the authority to close the well in immediately without further consultation.
- Record slow circulating rates (SCR) after each crew change, bit trip, and 500' of new hole drilled and after any variance greater than 0.2 ppg in MW. Slow pump rate recordings should include return flow percent, TVD, MD & pressure. SCR's will be done on all pumps at 30, 40 & 50 SPM. Pressures will be recorded at the choke panel. SCR will be recorded in the IADC daily report and ORB Wellview daily report
- Drilling blind (i.e. without returns) is permissible only in known lithology where the absence of hydrocarbons has been predetermined and written approval of the Drilling Manager.
- All open hole logs to be run with pack-off or lubricator.
- The Drilling Contractor has a fully working pit level totalizer / monitoring system with read out for the driller and an audible alarm set to 10 BBL gain / loss volume. Systems are selectable to enable monitoring of all pits in use. Pit volumes are monitored at all times, especially when transferring fluids. Both systems data is recorded on a calibrated chart recorder or electronically.
- The Drilling Contractor has a fully working return mud flow indicator with drillers display and an audible alarm, and is adjustable to record any variance in return volumes.

1.6 WELL CONTROL – SHUT IN

- The "hard shut in" method (i.e. against a closed choke using either an annular or ram type preventer) is the Company standard.
- The HCR(s) or failsafe valves are left closed during drilling to prevent any erosion and buildup of solids. The adjustable choke should also be left closed.
- The rig specific shut in procedure, the BOP configuration along with space-out position for the tool joints is posted in the Driller's control cabin or doghouse.
- No well kill operation commences until there is a plan agreed by the Superintendent, On-Site Supervisor and the Drilling Manager.
- During a well kill by circulation, constant bottom hole pressure is maintained throughout.
- Kill sheets are maintained by the Driller and posted in the Driller's control cabin or doghouse. The sheet is updated at a minimum every 500 feet.

2. SHUT-IN PROCEDURES:

2.1 PROCEDURE WHILE DRILLING

- Sound alarm (alert crew)

- Space out drill string – Stop rotating, pick the drill string up off bottom, and space out to ensure no tool joint is located in the BOP element selected for initial closure.
- Shut down pumps (stop pumps and observe well.)
- Shut-in Well - If flow is suspected or confirmed, close uppermost applicable BOP element. (HCR and choke will already be in the closed position.)
    - **Note:** Either the uppermost pipe ram or annular preventer can be used.
- Confirm shut-in
- Notify toolpusher/company representative
- Gather all relevant data required:
    - SIDPP and SICP
    - Hole Depth and Hole TVD
    - Pit gain
    - Time
    - Kick Volume
    - Pipe depth
    - MW in, MW out
    - SPR's (Slow Pump Rate's)
- Regroup and identify forward plan (let well stabilize, update kill sheet, inventory mud additives and mud volumes on location)
- Company Representative, Drilling Superintendent, Drilling Engineer and Drilling Manager will discuss well control kill method to be utilized. A verbal Risk Assessment and preferred kill method will be finalized. Initial Risk Assessment will be finalized within 1 hour of initial shut in.
- <u>No well kill operation commences until there is a plan agreed by the Superintendent, On-Site Supervisor and the Drilling Contractor PIC</u>.
- Recheck all pressures and fluid volume on accumulator unit
- **If pressure has built or is anticipated during the kill to reach 1,000 psi or greater, the annular preventer will not be used as the primary pressure control device and operations will swap to the upper BOP pipe ram.**

2.2 PROCEDURE WHILE TRIPPING

- Sound alarm (alert crew)
- Stab full opening safety valve in the drill string and close.
- Space out drill string (ensure no tool joint is located in the BOP element selected for initial closure).
- Shut down pumps (stop pumps and observe well.)
- Shut-in Well - If flow is suspected or confirmed, close uppermost applicable BOP element. (HCR and choke will already be in the closed position.)
    - **Note:** Either the uppermost pipe ram or annular preventer can be used.
- Confirm shut-in
- Notify tool pusher/company representative
- Gather all relevant data required:
    - SIDPP and SICP
    - Hole Depth and Hole TVD
    - Pit gain

Procedure While Tripping (Continued)

    - Time
    - Kick Volume
    - Pipe depth

    - MW in, MW out
    - SPR's (Slow Pump Rate's)
- Regroup and identify forward plan (let well stabilize, update kill sheet, inventory mud additives and mud volumes on location)
- Company Representative, Drilling Superintendent, Drilling Engineer and Drilling Manager will discuss well control kill method to be utilized. A verbal Risk Assessment and preferred kill method will be finalized. Initial Risk Assessment will be finalized within 1 hour of initial shut in.
- No well kill operation commences until there is a plan agreed by the Superintendent, On-Site Supervisor and the Drilling Contractor PIC.
- Recheck all pressures and fluid volume on accumulator unit
- If pressure has built or is anticipated during the kill to reach 1,000 psi or greater, the annular preventer will not be used as the primary pressure control device and operations will swap to the upper BOP pipe ram.

2.3 PROCEDURE WHILE RUNNING CASING

- Sound alarm (alert crew)
- Stab crossover and full opening safety valve and close
- Space out casing (ensure no coupling is located in the BOP element selected for initial closure).
- Shut down pumps (stop pumps and observe well.)
- Shut-in Well - If flow is suspected or confirmed, close uppermost applicable BOP element. (HCR and choke will already be in the closed position.)
    - **Note:** Either the uppermost pipe ram or annular preventer can be used.
- Confirm shut-in
- Notify tool pusher/company representative
- Gather all relevant data required:
    - SIDPP and SICP
    - Hole Depth and Hole TVD
    - Pit gain
    - Time
    - Kick Volume
    - Pipe depth
    - MW in, MW out
    - SPR's (Slow Pump Rate's)
- Regroup and identify forward plan (let well stabilize, update kill sheet, inventory mud additives and mud volumes on location)
- Company Representative, Drilling Superintendent, Drilling Engineer and Drilling Manager will discuss well control kill method to be utilized. A verbal Risk Assessment and preferred kill method will be finalized. Initial Risk Assessment will be finalized within 1 hour of initial shut in.
- No well kill operation commences until there is a plan agreed by the Superintendent, On-Site Supervisor and the Drilling Contractor PIC.
- Recheck all pressures and fluid volume on accumulator unit
- If pressure has built or is anticipated during the kill to reach 1,000 psi or greater, the annular preventer will not be used as the primary pressure control device and operations will swap to the upper BOP pipe ram.

2.4 PROCEDURE WITH NO PIPE IN HOLE (OPEN HOLE)

- Sound alarm (alert crew)
- Shut-in with blind rams or BSR. (HCR and choke will already be in the closed position.)
- Confirm shut-in

- Notify toolpusher/company representative
- Gather all relevant data required:
    - Shut-In Pressure
    - Hole Depth and Hole TVD
    - Pit gain
    - Time
    - Kick Volume
    - MW in, MW out
    - SPR's (Slow Pump Rate's)
- Regroup and identify forward plan (let well stabilize, update kill sheet, inventory mud additives and mud volumes on location)
- Company Representative, Drilling Superintendent, Drilling Engineer and Drilling Manager will discuss well control kill method to be utilized. A verbal Risk Assessment and preferred kill method will be finalized. Initial Risk Assessment will be finalized within 1 hour of initial shut in.
- No well kill operation commences until there is a plan agreed by the Superintendent, On-Site Supervisor and the Drilling Contractor PIC.
- Recheck all pressures and fluid volume on accumulator unit.

2.5 PROCEDURE WHILE PULLING BHA THRU STACK

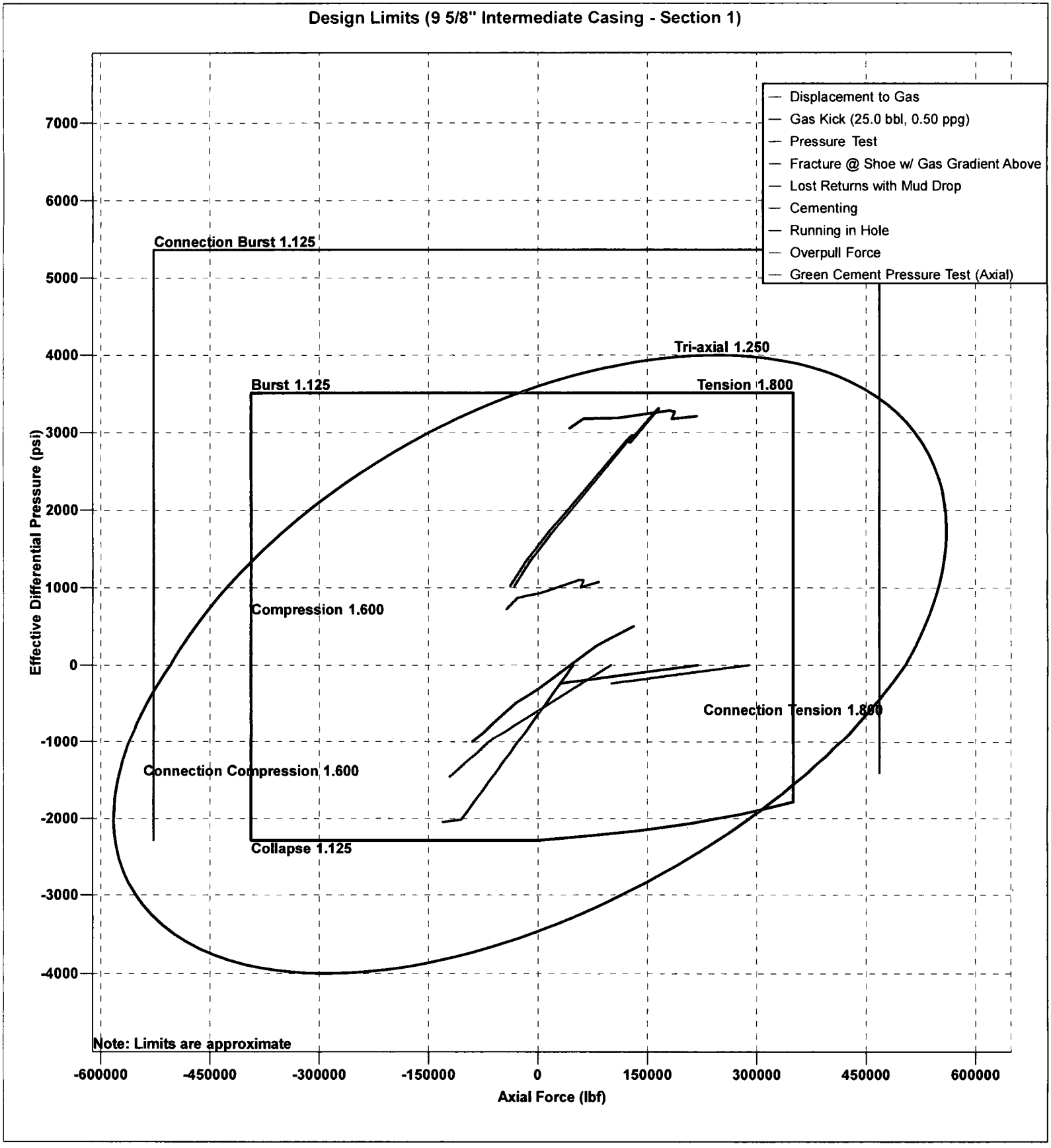
- PRIOR to pulling last joint of drill pipe thru the stack.
- Perform flow check, if flowing.
- Sound alarm (alert crew).
- Stab full opening safety valve and close
- Space out drill string with tool joint just beneath the upper pipe ram.
- Shut-in using upper pipe ram. (HCR and choke will already be in the closed position).
- Confirm shut-in.
- Notify toolpusher/company representative
- Read and record the following:
    - SIDPP and SICP
    - Pit gain
    - Time
- Regroup and identify forward plan

- **With BHA in the stack and compatible ram preventer and pipe combo immediately available.**
    - Sound alarm (alert crew)
    - Stab crossover and full opening safety valve and close
    - Space out drill string with upset just beneath the compatible pipe ram.
    - Shut-in using compatible pipe ram. (HCR and choke will already be in the closed position.)
    - Confirm shut-in
    - Notify toolpusher/company representative
    - Read and record the following:
        - SIDPP and SICP
        - Pit gain

Procedures While Pulling BHA thru Stack (Continued)

        - Time
    - Regroup and identify forward plan

- **With BHA in the stack and NO compatible ram preventer and pipe combo immediately available.**
    - Sound alarm (alert crew)
    - If possible to pick up high enough, pull string clear of the stack and follow "Open Hole" scenario.
    - If impossible to pick up high enough to pull the string clear of the stack:
    - Stab crossover, make up one joint/stand of drill pipe, and full opening safety valve and close
    - Space out drill string with tool joint just beneath the upper pipe ram.
    - Shut-in using upper pipe ram. (HCR and choke will already be in the closed position.)
    - Confirm shut-in
    - Notify toolpusher/company representative
    - Read and record the following:
        - SIDPP and SICP
        - Pit gain
        - Time


Design Limits (9 5/8" Intermediate Casing - Section 1)
Displacement to Gas
Gas Kick (25.0 bbl, 0.50 ppg)
Pressure Test
Fracture @ Shoe w/ Gas Gradient Above
Lost Returns with Mud Drop
Cementing
Running in Hole
Overpull Force
Green Cement Pressure Test (Axial)
Connection Burst 1.125
Tri-axial 1.250
Burst 1.125
Tension 1.800
Compression 1.600
Connection Tension 1.800
Connection Compression 1.600
Collapse 1.125
Note: Limits are approximate
Effective Differential Pressure (psi)
Axial Force (lbf)
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-600000
-450000
-300000
-150000
0
150000
300000
450000
600000

MARATHON OIL PERMIAN LLC

DRILLING AND OPERATIONS PLAN

WELL NAME / NUMBER: BALLISTA FEDERAL 23 32 13 WXY 3H
STATE: NEW MEXICO **COUNTY:** LEA

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	TWSP	Range	Section	Aliquot/Lot/Trac	Latitude	Longitud	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL	231	FSL	1524	FWL	23S	32E	13	SESW	32.29800521 N	103.63148385 W	Lea	NM	NMP	F		3714	0	0
KOP	100	FSL	330	FWL	23S	32E	13	SWSW	32.297623889 N	103.635349167 W	Lea	NM	NMP	F		-8098	11934	11812
PPP	330	FSL	330	FWL	23S	32E	13	SWSW	32.29826801 N	103.63534762 W	Lea	NM	NMP	F		-8568	12485	12282
EXIT	330	FNL	330	FWL	23S	32E	13	NWNW	32.31097563 N	103.63535510 W	Lea	NM	NMP	F		-8596	17119	12310
BHL	330	FNL	330	FWL	23S	32E	13	NWNW	32.31097563 N	103.63535510 W	Lea	NM	NMP	F		-8596	17119	12310

1. **GEOLOGIC NAME OF SURFACE FORMATION**
   a. Permian/Quaternary Alluvium

2. **ESTIMATED TOPS OF GEOLOGICAL MARKERS & DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS**

Formation	True Vertical Depth (ft)	Measured Depth (ft)	Lithologies	Mineral Resources	Producing Formation
Rustler	1,246	1,246	Anhydrite/Dolomite	BRINE	N
Salado	1,718	1,718	Salt/Anhydrite	BRINE	N
Castile	3,591	3,618	Base Salt	BRINE	N
Base of Salt	4,865	4,921	Limy Sands	BRINE	N
Lamar	4,974	5,033	Sand/Shales	OIL	Y
Bell Canyon	5,026	5,086	Sands/Shale	OIL	Y
Cherry Canyon	6,154	6,240	Sands/Carbonates	OIL	Y
Brushy Canyon	7,218	7,328	Sands/Carbonates	OIL	Y
Bone Spring	8,794	8,918	Sands/Carbonates	OIL	Y
1st Bone Spring Sand	9,919	10,043	Sands/Carbonates	OIL	Y
2nd Bone Spring Sand	10,655	10,779	Sands/Carbonates	OIL	Y
3rd Bone Spring Sand	11,928	12,053	Sands/Carbonates	OIL	Y
Wolfcamp	12,213	12,378	Carbonates/Shales/Sands	OIL	Y

DEEPEST EXPECTED FRESH WATER: 400' TVD

ANTICIPATED BOTTOM HOLE PRESSURE: 6,771 psi

ANTICIPATED BOTTOM HOLE TEMPERATURE: 185 °F

ANTICIPATED ABNORMAL PRESSURE: N

ANTICIPATED ABNORMAL TEMPERATURE: N

3. CASING PROGRAM

String Type	Hole Size	Csg Size	Top Set MD	Bottom Set MD	Top Set TVD	TVDBottom Set	Weight (lbs/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
Surface	17 1/2	13 3/8	0	1250	0	1250	54.5	J55	STC	3.28	1.69	2.77
Intermediate I	12 1/4	9 5/8	0	5050	0	5000	40	J55	LTC	1.16	1.36	2.55
Intermediate II	8 3/4	7	0	12800	0	12400	29	P110	BTC	2.11	1.18	2.22
Production Liner	6 1/8	4 1/2	11900	17119	11800	12310	13.5	P110	BTC	1.36	1.56	2.39

Minimum safety factors: Burst 1.125 Collapse 1.125 Tension 1.8 Wet/1.6 Dry

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

	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).	Y
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?	

4. CEMENT PROGRAM:

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity (sx)	Yield (ft3/sx)	Density (ppg)	Slurry Volume (ft3)	Excess (%)	Cement Type	Additives
Surface	Lead	--	0	1000	795	1.747	13.5	1389	100	Class C	3 lbm/sk granular LCM + 0.1250 lbm/sk Poly-E-Flake
Surface	Tail	--	100	1250	255	1.364	14.8	347	100	Class C	0.25 % Accelerator
Intermediate I	Lead	--	0	4040	1280	1.73	12.8	2214	75	Class C	0.02 Gal/Sx Defoamer + 0.5% Extender + 1% Accelerator
Intermediate I	Tail	--	4040	5050	357	1.33	14.8	474	50	Class C	0.07 % Retarder
Intermediate II	Lead	--	3000	12800	833	2.70	11	2249	70	Class C	0.8% retarder + 10% extender + 0.02 gal/sk + 2.0% Extender + 015% Viscosifier
Intermediate II	Tail	--	11800	12800	179	1.09	15.6	195	30	Class H	3% extender + 0.1% Dispersant + 0.2% retarder
Production Liner	Tail	--	11900	17119	524	1.22	14.5	639	30	Class H	0.15% retarder + 3.5% extender + 0.25% fluid loss

Stage tool may be utilized based on hole conditions. Stage tool depth(s) and cement volumes will be adjusted accordingly. Stage tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Pilot hole depth: N/A TVD/MD
KOP: N/A TVD/MD

Plug top	Plug Bottom	Excess (%)	Quantity (sx)	Density (ppg)	Yield (ft3/sx)	Water gal/sk	Slurry Description and Cement Type

Attach plugging procedure for pilot hole.

5. PRESSURE CONTROL EQUIPMENT

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12 ¼"	13 5/8	5000	Annular	X	50% of working pressure
			Blind Ram	X	5000
			Pipe Ram		
			Double Ram	X	
			Other*		
8 ¾"	13 5/8	5000	Annular	X	50% testing pressure
			Blind Ram	X	5000
			Pipe Ram		
			Double Ram	X	
			Other *		
6 1/8"	13 5/8	5000	Annular	X	50% testing pressure
			Blind Ram	X	5000
			Pipe Ram		
			Double Ram	X	
			Other *		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock, full opening safety valve / inside BOP and choke lines and choke manifold. See attached schematics.

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.
	N Are anchors required by manufacturer?
Y	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.

6. MUD PROGRAM:

Top Depth	Bottom Depth	Mud Type	Min. Weight (ppg)	Max. Weight (ppg)	Additional Characteristics
0	1250	Water Based Mud	8.4	8.8	

1250	5050	Brine	9.9	10.2	
5050	12800	Cut Brine	9.0	9.4	
12800	17119	Oil Based mud	12	12.5	

Losses or gains in the mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times.

7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT

a. A Kelly cock will be in the drill string at all times.

b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor unobstructed and readily accessible at all times.

c. Hydrogen Sulfide detection equipment will be in operation after drilling out the surface casing shoe until the production casing is cemented. Breathing equipment will be on location upon drilling the surface casing shoe until total depth is reached. **If Hydrogen Sulfide is encountered , measured amounts and formations will be reported to the BLM**

8. LOGGING / CORING AND TESTING PROGRAM:

A. Mud Logger: Intermediate I shoe to TD.

B. DST's: None.

C. Open Hole Logs: GR while drilling from Intermediate I casing shoe to TD.

9. POTENTIAL HAZARDS:

A. H2S detection equipment will be in operation after drilling out the surface casing shoe until the production casing has been cemented. Breathing equipment will be on location from drilling out the surface shoe until production casing is cemented. If H2S is encountered the operator will comply with Onshore Order #6.

B. No abnormal temperatures or pressures are anticipated. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.

C. No losses are anticipated at this time.

D. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well.

E. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.

10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon as possible after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 30 days.

APD ID: 10400027038 Submission Date: 02/09/2018

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 3H

Well Type: CONVENTIONAL GAS WELL Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Plat___Ballista_Federal_23_32_13_Pad___Existing_Road_Map_20180207114048.pdf

Plat___Ballista_Federal_23_32_13_Pad___Well_Location_Plat_20180207120757.pdf

Existing Road Purpose: ACCESS Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

Plat___Ballista_Federal_23_32_13_Pad___Proposed_Lease_Road_ATTACHMENT_20180207114121.pdf

Plat___Ballista_Federal_23_32_13_Pad___New_road_vicinity_Plat_20180712100520.pdf

New road type: LOCAL

Length: 705.53 Feet Width (ft.): 20

Max slope (%): 3 Max grade (%): 3

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: Road will be crowned to allow proper water drainage and BMP will be used to control erosion.

New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: Caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: Strip a minimum of 6" topsoil and temporarily pile while road is being constructed. After the road has been constructed, the topsoil will be spread and seeded along the road ditch in Marathon's ROW.
Access other construction information:

Access miscellaneous information:

Number of access turnouts: **Access turnout map:**

Drainage Control

New road drainage crossing: OTHER

Drainage Control comments: Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2%. The road shall conform to cross section and plans for typical road construction found in the BLM Gold Book.
Road Drainage Control Structures (DCS) description: Road will be crowned to allow proper water drainage and ditching will be constructed on both sides of the road.
Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Additional Attachment(s):

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Plat___Ballista_Federal_23_32_13_Pad___Existing_Well_Location_Map_20180207114505.pdf

Existing Wells description:

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: Well Pad and Production Facilities will be located off lease in SESW Quarter/Quarter of Section 13, Township 23S, Range 32E on Lease # NMNM084728. - Pool commingle will be applied for as needed. - No open

top tanks will be used. - Open vent exhaust stacks will be modified to prevent birds or bats from entering, discourage perching, roosting, and nesting. - The proposed Production Facilities will have a secondary containment 1.5 times the holding capacity of largest storage tank. - All above ground structures will be painted a non-reflective shale green for blending with the surrounding environment. - The proposed Production Facility will have oil and water truck hauled from the facility. - There are 6 - 750 bbl steel tanks for oil storage and 12 – 750 bbl steel tanks for water storage planned for the Production Facility . Pipelines: Flowlines will run from the well head to production facility all on the proposed pad. - All construction activity will be confined to the approved ROW. Powerlines: No powerlines, power will be provided via a natural gas generator.

Production Facilities map:

Plat___Ballista_Federal_23_32_13_Pad___Facility_Layout_20180208100044.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: STIMULATION
Water source type: FRESH WATER LAKE
Describe type:
Source latitude: 32.3302
Source longitude: -103.68713
Source datum: NAD83
Water source permit type: PRIVATE CONTRACT
Source land ownership: PRIVATE
Water source transport method: PIPELINE
Source transportation land ownership: PRIVATE
Water source volume (barrels): 147500
Source volume (acre-feet): 19.011732
Source volume (gal): 6195000

Water source use type: STIMULATION
Water source type: FRESH WATER LAKE
Describe type:
Source latitude: 32.29495
Source longitude: -103.64632
Source datum: NAD83
Water source permit type: PRIVATE CONTRACT
Source land ownership: PRIVATE
Water source transport method: PIPELINE
Source transportation land ownership: PRIVATE
Water source volume (barrels): 147500
Source volume (acre-feet): 19.011732
Source volume (gal): 6195000

Water source use type: STIMULATION
Water source type: FRESH WATER LAKE
Describe type:
Source latitude: 32.284058
Source longitude: -103.61731
Source datum: NAD83
Water source permit type: PRIVATE CONTRACT

Source land ownership: PRIVATE

Water source transport method: PIPELINE

Source transportation land ownership: PRIVATE

Water source volume (barrels): 147500 Source volume (acre-feet): 19.011732

Source volume (gal): 6195000

Water source and transportation map:

SUPO_5___Ballista_Federal_23_32_13___Water___Caliche_20180711110310.jpg

Water source comments: • All Fresh water will be obtained from a private water source. • 1st proposed (Red tank pond in Section 4, T23S, R32E – LAT 32.330201 LONG -103.687131) will be utilized for fresh water. • A temporary 10" expanding pipe transfer line will run East from pond along lease rd. then turn South along proposed access road approx. 4.53 Miles. • 2nd proposed (Diamond pond in section 23 T23S R32E – LAT 32.294947 LONG -103.646318) will be utilized for fresh water. • A temporary 10" expanding pipe transfer line will run East from pond along access rd. then turn North along proposed access road approx. 1.72 miles. • 3rd proposed pond (Tres Equis in Section 19,T23S-R33E – LAT 32.284058 LONG -103.617308) will be utilized for fresh water. • A temporary 10" expanding pipe transfer line will run North from pond along access rd. then West along proposed access road approx. 2.90 Miles. • Fresh water line will run parallel to existing disturbance and will stay within 10' of access road. Proposed water suppliers Madera Travis Glenn Rockhouse
New water well? NO

New Water Well Info

Well latitude: Well Longitude: Well datum:

Well target aquifer:

Est. depth to top of aquifer(ft): Est thickness of aquifer:

Aquifer comments:

Aquifer documentation:

Well depth (ft): Well casing type:

Well casing outside diameter (in.): Well casing inside diameter (in.):

New water well casing? Used casing source:

Drilling method: Drill material:

Grout material: Grout depth:

Casing length (ft.): Casing top depth (ft.):

Well Production type: Completion Method:

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description: • Caliche will be used to construct well pad and roads. Material will be purchased from the nearest federal, state, or private permitted pit. • Source 1 - Caliche will be used to construct well pad and roads. Material will be purchased from the Mack Energy caliche pit located in Sec 32, T23S, R32E, Lea County, NM (32.256302, -103.697449). • Source 2 - Caliche will be used to construct well pad and roads. Material will be purchased from the BLM caliche pit located in Sec 11, T23, R32E, Lea County, NM(32.308154, -103.657816). • The proposed source of construction material will be located and purchased by construction contractor.

Construction Materials source location attachment:

SUPO_5___Ballista_Federal_23_32_13___Water___Caliche_20180711110332.jpg

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: All chemicals, salts, frac sand, produced oil, produced water and other waste material produced during drilling and completion operations.

Amount of waste: 5100 barrels

Waste disposal frequency : Daily

Safe containment description: Open Top Tanks

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY Disposal location ownership: PRIVATE

Disposal type description:

Disposal location description: Waste will be removed and disposed of properly at a state approved disposal facility.

Waste type: GARBAGE

Waste content description: Garbage and trash produced during drilling and completion operations

Amount of waste: 1200 pounds

Waste disposal frequency : Weekly

Safe containment description: All garbage will be stored in secure containers with lids.

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY Disposal location ownership: PRIVATE

Disposal type description:

Disposal location description: All garbage will be collected and disposed of properly at a State approved disposal facility.

Waste type: SEWAGE

Waste content description: Human waste and grey water.

Amount of waste: 600 barrels

Waste disposal frequency : Weekly

Safe containment description: Portable toilets and sewage tanks.

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY Disposal location ownership: PRIVATE
Disposal type description:

Disposal location description: All sewage waste will be disposed of properly at a State approved disposal facility.

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.) Reserve pit width (ft.)

Reserve pit depth (ft.) Reserve pit volume (cu. yd.)

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? YES

Description of cuttings location The well will be drilled utilizing a closed loop system. Drill cutting will be properly disposed of into steel tanks and taken to a State approved disposal facility.

Cuttings area length (ft.) Cuttings area width (ft.)

Cuttings area depth (ft.) Cuttings area volume (cu. yd.)

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

Plat___Ballista_Federal_23_32_13_Pad___Well_Pad_Plat_with_Acres_20180712100822.pdf

20180726_R3818_001_BALLISTA_FEDERAL_23_32_13_REV0_CERT_CUT_AND_FILL_20180730052902.pdf

Plat___Ballista_Federal_23_32_13_Pad___Well_Pad_Plat_with_Footages_20180809133331.pdf

Comments: Exterior well pad dimensions are 400' x 540' This pad will have 4 wells total. Interior well pad dimensions from first point of entry (well head) are: - Ballista Federal 23 32 13 WXY 3H - N-220', S-180', E-310', W-230'. - Ballista Federal 23 32 13 WA 6H - N-220', S-180', E-250', W-290'. - Ballista Federal 23 32 13 TB 7H - N-220', S-180', E-280', W-260'. - Ballista Federal 23 32 13 WXY 12H - N-220', S-180', E-220', W-320' Total pad disturbance area will be 4.96 acres. Topsoil will be places on the north side of the pad to accommodate interim reclamation activities. Cut and fill will be attached.

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: BALLISTA FEDERAL 23 32 13

Multiple Well Pad Number: 214-1

Recontouring attachment:

20180726_R3818_001_BALLISTA_FEDERAL_23_32_13_REV0_CERT_CUT_AND_FILL_IR_20180730052631.pdf

Drainage/Erosion control construction: During construction, BMP will be used to control erosion, runoff and siltation of surrounding area.

Drainage/Erosion control reclamation: BMP will be used to control erosion, runoff and siltation of surrounding area.

Well pad proposed disturbance (acres): 6.18	Well pad interim reclamation (acres): 2.54	Well pad long term disturbance (acres): 3.64
Road proposed disturbance (acres): 0.32	Road interim reclamation (acres): 0.09	Road long term disturbance (acres): 0.23
Powerline proposed disturbance (acres): 0	Powerline interim reclamation (acres): 0	Powerline long term disturbance (acres): 0
Pipeline proposed disturbance (acres): 0	Pipeline interim reclamation (acres): 0	Pipeline long term disturbance (acres): 0
Other proposed disturbance (acres): 0	Other interim reclamation (acres): 0	Other long term disturbance (acres): 0
Total proposed disturbance: 6.5	Total interim reclamation: 2.63	Total long term disturbance: 3.87

Disturbance Comments:

Reconstruction method: IR - Well pad and ditch banks FR - all disturbances Reclamation Objectives • The objective of interim reclamation is to restore vegetative cover and a portion of the landform sufficient to maintain healthy, biologically active topsoil; control erosion; and minimize habitat and forage loss, visual impact, and weed infestation, during the life of the well or facilities. • The BLM will be notified at least 3 days prior to commencement of any reclamation procedures. • If circumstances allow, interim reclamation and/or final reclamation actions will be completed no later than 6 months from when the final well on the location has been completed or plugged. We will gain written permission from the BLM if more time is needed. • Reclamation will be performed by using the following procedures: For Interim Reclamation: • Within 6 months of first production, the well location and surrounding areas will be cleared of, and maintained free of, all materials, trash, and equipment not required for production. A plan will be submitted showing where interim reclamation will be completed in order to allow for safe operations, protection of the environment outside of drilled well, and following best management practices found in the BLM "Gold Book". • Current plans for interim reclamation include reducing the pad size to approximately 3.64 acres from the proposed size of 6.18 acres. • In areas planned for interim reclamation, all the surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads. • The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be

backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation. For Final Reclamation: • Prior to final reclamation procedures, the well pad, road, and surrounding area will be cleared of material, trash, and equipment. • All surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads. • All disturbed areas, including roads, pipelines, pads, production facilities, and interim reclaimed areas will be recontoured to the contour existing prior to initial construction or a contour that blends in distinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation. • After all the disturbed areas have been properly prepared; the areas will be seeded with the proper BLM LPC seed mixture free of noxious weeds. • Proper erosion control methods will be used on the entire area to control erosion, runoff and siltation of the surrounding area. The topsoil will be evenly distributed across all reclaimed areas, ripped across the slopes, and seed accordingly. During final reclamation, Marathon will grab and evenly redistribute topsoil across the entire disturbed area (disc plowing if needed) area and seed accordingly.
Topsoil redistribution: • Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts & fills. To seed the area, the proper BLM seed mixture free of noxious weeds, will be used. • Proper erosion control methods will be used on the area to control erosion, runoff and siltation of the surrounding area. • The interim reclamation will be monitored periodically to ensure that vegetation has reestablished.
Soil treatment: Topsoil will be stockpiled until interim reclamation. Topsoil and subsoil (fill) will be piled separately. The topsoil will be seeded after being spread across IR area.
Existing Vegetation at the well pad:

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road:

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline:

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances:

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type: ANNUAL GRASS Seed source: COMMERCIAL

Seed name: LPC

Source name: Source address:

Source phone:

Seed cultivar:

Seed use location: NEW ACCESS ROAD,WELL PAD

PLS pounds per acre: 38 Proposed seeding season: AUTUMN

Seed Summary

Total pounds/Acre: 38

Seed Type	Pounds/Acre
ANNUAL GRASS	38

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: Last Name:

Phone: Email:

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: Marathon Oil will control weeds per Federal, County and State regulations by contracting a certified third party sprayer.
Weed treatment plan attachment:

Monitoring plan description: Marathon Oil will monitor monthly during growing season for weeds through routine inspections.
Monitoring plan attachment:

Success standards: Maintain all disturbed areas as per Gold Book Standards.

Pit closure description: N/A

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: USFS Ranger District:

Section 12 - Other Information

Right of Way needed? NO Use APD as ROW?

ROW Type(s):

ROW Applications

SUPO Additional Information:

Use a previously conducted onsite? YES

Previous Onsite information: Performed 12/8/2017 Marathon Oil Attendees: Brian Hall and Harvey Waller BLM Attendee: Colleen Cepero-Rios (NRS) and Chelsie Dugan (Hydrologist)

Other SUPO Attachment

LR2000_NMNM084728_20180711110401.pdf
LR2000___NMNM077062_20180711110417.pdf

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 3H

General_Lease_map_20180711110425.jpg

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

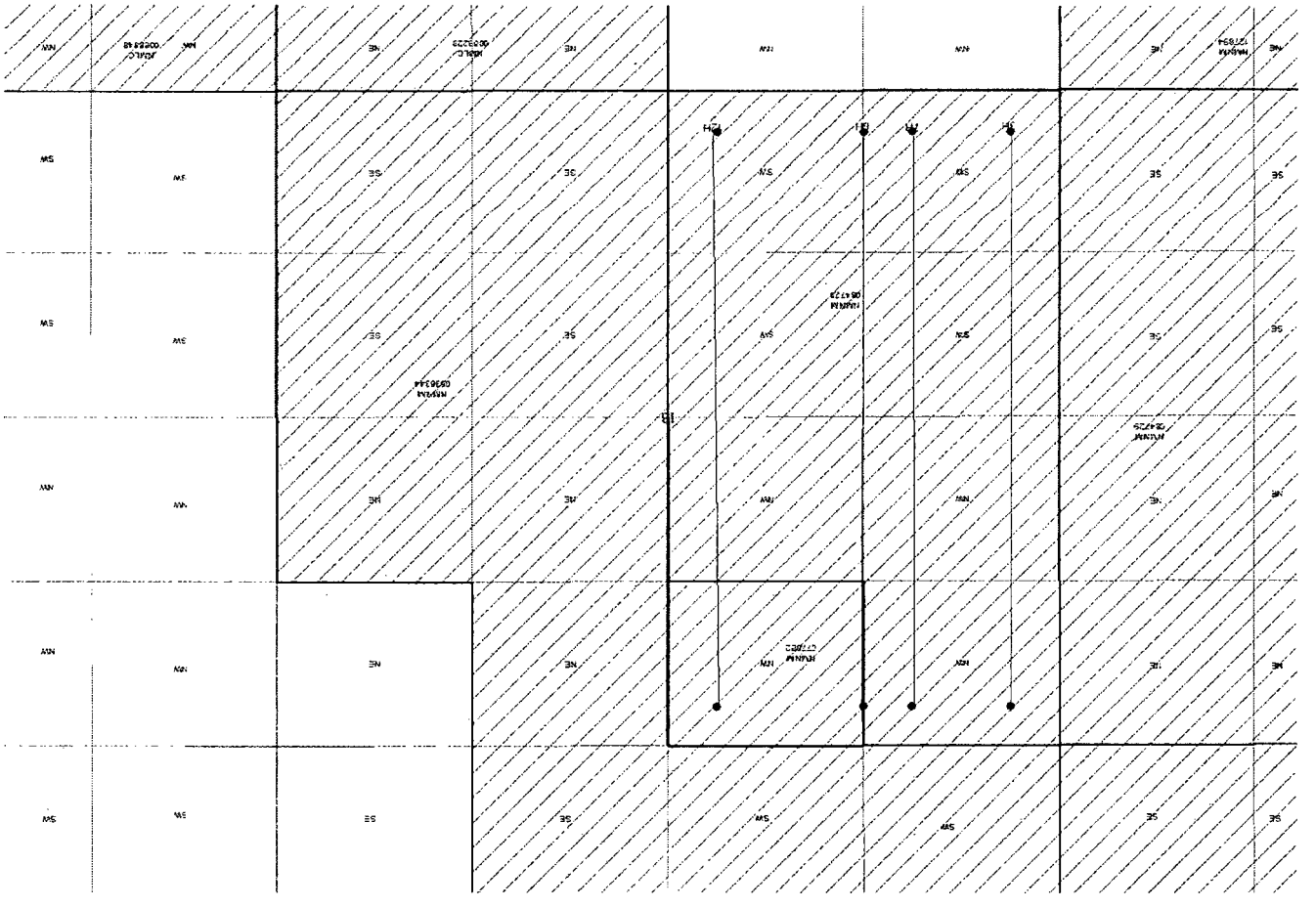
Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:



Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: PWD disturbance (acres):

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: PWD disturbance (acres):

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: Injection well name:

Assigned injection well API number? Injection well API number:

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: PWD disturbance (acres):

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: PWD disturbance (acres):

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Bond Info Data Report

09/12/2018

Bond Information

Federal/Indian APD: FED

BLM Bond number: WYB002107

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

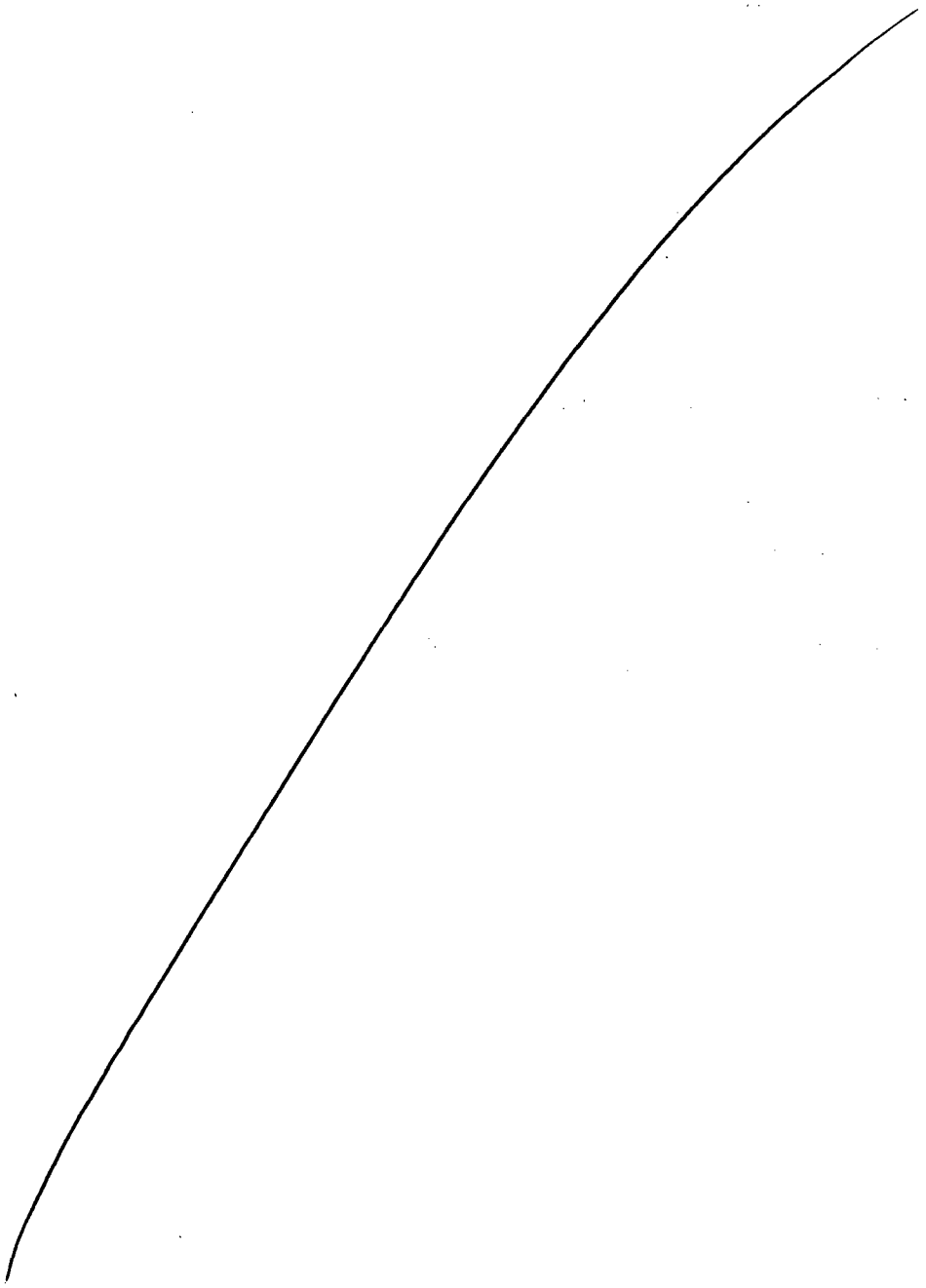
Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:



Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 3H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
PPP Leg #1	330	FSL	330	FWL	23S	32E	13	Aliquot SWSW	32.298268	-103.6353476	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 084728	-8568	12485	12282
EXIT Leg #1	330	FNL	330	FWL	23S	32E	13	Aliquot NWNW	32.3109756	-103.6353551	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 084728	-8596	17119	12310
BHL Leg #1	330	FNL	330	FWL	23S	32E	13	Aliquot NWNW	32.3109756	-103.6353551	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 084728	-8596	17119	12310