Form 3160-3
(June 2015)

Carlsbad Field Office
OCD Hobbs
HOBBSOCD
SEP 26 2018
RECEIVED

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:

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

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

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

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

8. Lease Name and Well No.: BALLISTA ~~FEDERAL~~ 23 32 13 WXY FEDERAL 12H (322475)

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

9. API Well No.: 30-025-46230

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 / DIAMOND

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

At surface: SESW / 230 FSL / 1614 FWL / LAT 32.2980036 / LONG -103.6311926

At proposed prod. zone: NENW / 330 FNL / 2316 FWL / LAT 32.3109383 / LONG -103.6289297

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 drlg. 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: 12319 feet / 17049 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	Name *(Printed/Typed)*	Date
(Electronic Submission)	Jennifer Van Curen / Ph: (713)296-2500	02/09/2018

Title: Sr. Regulatory Compliance Rep

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	09/11/2018

Title	Office
Assistant Field Manager Lands & Minerals	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

APPROVED WITH CONDITIONS

Approval Date: 09/11/2018

KZ 09/26/18
GAS WELL 660' FNL REQUIRES NSL

(Continued on page 2)

*(Instructions on page 2)

Double sided Upside DOWN

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 / 230 FSL / 1614 FWL / TWSP: 23S / RANGE: 32E / SECTION: 13 / LAT: 32.2980036 / LONG: -103.6311926 (TVD: 0 feet, MD: 0 feet)
   PPP: NENW / 1320 FNL / 2316 FWL / TWSP: 23S / RANGE: 32E / SECTION: 13 / LAT: 32.3073611 / LONG: -103.6289281 (TVD: 12342 feet, MD: 15729 feet)
   PPP: SESW / 330 FSL / 2315 FWL / TWSP: 23S / RANGE: 32E / SECTION: 13 / LAT: 32.2982842 / LONG: -103.6289243 (TVD: 12275 feet, MD: 12394 feet)
   BHL: NENW / 330 FNL / 2316 FWL / TWSP: 23S / RANGE: 32E / SECTION: 13 / LAT: 32.3109383 / LONG: -103.6289297 (TVD: 12319 feet, MD: 17049 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.

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 12H

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: OIL 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__12H_REV1_CERTIFIED__FORM_C_102__20180208121936.pdf
APP_2_3160_3_BALLISTA_FEDERAL_23_32_13_WXY_12H_20180711115321.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	230	FSL	1614	FWL	23S	32E	13	Aliquot SESW	32.298003	-103.631192	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 084728	3714	0	0
KOP Leg #1	100	FSL	2315	FWL	23S	32E	13	Aliquot SESW	32.297658	-103.628924	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 084728	-8107	11869	11821

AFMSS

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

Application Data Report

09/12/2018

APD ID: 10400027108 Submission Date: 02/09/2018

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 12H

Well Type: OIL WELL Well Work Type: Drill

Show Final Text

Section 1 - General

APD ID: 10400027108 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: 12H 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

AFMSS

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

Drilling Plan Data Report

09/12/2018

APD ID: 10400027108 Submission Date: 02/09/2018

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 12H

Well Type: OIL 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	3600	SALT	OTHER : Brine	No
4	BASE OF SALT	-4273	4865	4887	OTHER : Limy Sands	OTHER : Brine	No
5	LAMAR	-4382	4974	4997	OTHER : Sand/Shales	OIL	No
6	BELL CANYON	-4434	5026	5049	OTHER : Sands/Shale	OIL	No
7	CHERRY CANYON	-5562	6154	6189	OTHER : Sands/Carbonates	OIL	No
8	BRUSHY CANYON	-6626	7218	7264	OTHER : Sands/Carbonate	OIL	No
9	BONE SPRING	-8202	8794	8845	OTHER : Sands/Carbonate	OIL	No
10	WOLFCAMP	-11621	12213	12301	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 1/4, 8 3/4 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

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:

1a. Type of work: ☑ DRILL ☐ REENTER

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

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 12H

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 / 230 FSL / 1614 FWL / LAT 32.2980036 / LONG -103.6311926

At proposed prod. zone: NENW / 330 FNL / 2316 FWL / LAT 32.3109383 / LONG -103.6289297

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 drlg. unit line, if any): 0 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: 12319 feet / 17049 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	Name *(Printed Typed)*	Date
(Electronic Submission)	Jennifer Van Curen / Ph: (713)296-2500	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)

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_12H_20180208123148.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_12H_20180208123243.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_12H_20180208123347.pdf

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___Choke_and_Kill_Hose_SN_663393___Ballista_Federal_23_32_13_PAD_20180207095756.pdf

Drill_Plan___Choke_Line_System_Flex_III_Rig___Ballista_Federal_23_32_13_PAD_20180207095634.pdf

Drill_Plan___5M_10M.TWO_CHOKE_MANIFOLD.BLM___Ballista_Federal_23_32_13_PAD_20180207095618.pdf

BOP Diagram Attachment:

Drill_Plan___WH_TH_Design_1B__5K__10K__7in_x_4.5in____Ballista_Federal_23_32_13_PAD_20180207095926.pdf

Drill_Plan___5M_Flex_BOPE_Well_Head___Ballista_Federal_23_32_13_PAD_20180207095844.pdf

Marathon_Permian___Drilling_Well_Control_Plan_06_05_2018_20180711102700.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	5000	0	5000	3714	1286	5000	J-55	40	LTC	1.16	1.36	BUOY	2.55	BUOY	2.55
3	INTERMEDIATE	8.75	7.0	NEW	API	N	0	12700	0	12400	3714	-8686	12700	P-110	29	BUTT	2.11	1.18	BUOY	2.22	BUOY	2.22
4	PRODUCTION	6.125	4.5	NEW	API	N	11800	17049	11750	12319	-8038	-9145	5249	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: 12H

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_12H_20180208123554.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		11800	17049	527	1.22	14.5	643	30	Class H	0.15% retarder + 3.5% extender + 0.25% fluid loss
SURFACE	Lead		0	1000	795	1.75	13.5	1389	100	Class C	3 lbm/sk granular LCM + 0.1250 lbm/sk Poly-E-Flake
SURFACE	Tail		1000	1250	255	1.36	14.8	347	100	Class C	0.25 % Accelerator
INTERMEDIATE	Lead		0	4000	1267	1.73	12.8	2192	75	Class C	0.02 Gal/Sx Defoamer + 0.5% Extender + 1% Accelerator
INTERMEDIATE	Tail		4000	5000	353	1.33	14.8	470	50	Class C	0.07 % Retarder
INTERMEDIATE	Lead		3000	11700	823	2.7	11	2223	70	Class C	0.8% retarder + 10% extender + 0.02 gal/sk + 2.0% Extender + 0.15% Viscosifier
INTERMEDIATE	Tail		11700	12700	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
12700	17049	OIL-BASED MUD	12	12.5							
1250	5000	OTHER : Brine	9.9	10.2							
0	1250	WATER-BASED MUD	8.4	8.8							
5000	12700	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: 12H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 8007 Anticipated Surface Pressure: 5291.76

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_20180711102926.pdf

Drill_Plan___Plat___H2S_Map___Ballista_Federal_23_32_13_PAD_20180207113651_20180711110901.pdf

GCP___Ballista_Federal_23_32_13_Pad___2_6_2018_20180711110911.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Plat___Ballista_Federal_23_32_13_Pad___Mineral_Ownership_Map_20180207135248.pdf

Plat___Ballista_Federal_23_32_13_Pad___Federal_Minerals_Map_20180207135219.pdf

Ballista_Federal_12H_Directional_Plans_20180208124427.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_20180711102951.pdf

Ballista_Federal_23_32_13_WXY_12H_Drilling_APD_Information_20180711110926.doc

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 12H

Other Variance attachment:

Certificate of Conformity

ContiTech

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

Test Center Address:	Accepted by COM Inspection:		Accepted by Client Inspection:
ContiTech Oil & Marine Corp.		Roger Suarez	
11535 Brittmoore Park Drive	Signed:		
Houston, TX 77041			
USA	Date:	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	Qnty	Serial Number	Specifications
30		RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL	1	63393	ContiTech Standard

Hydrostatic Test Certificate

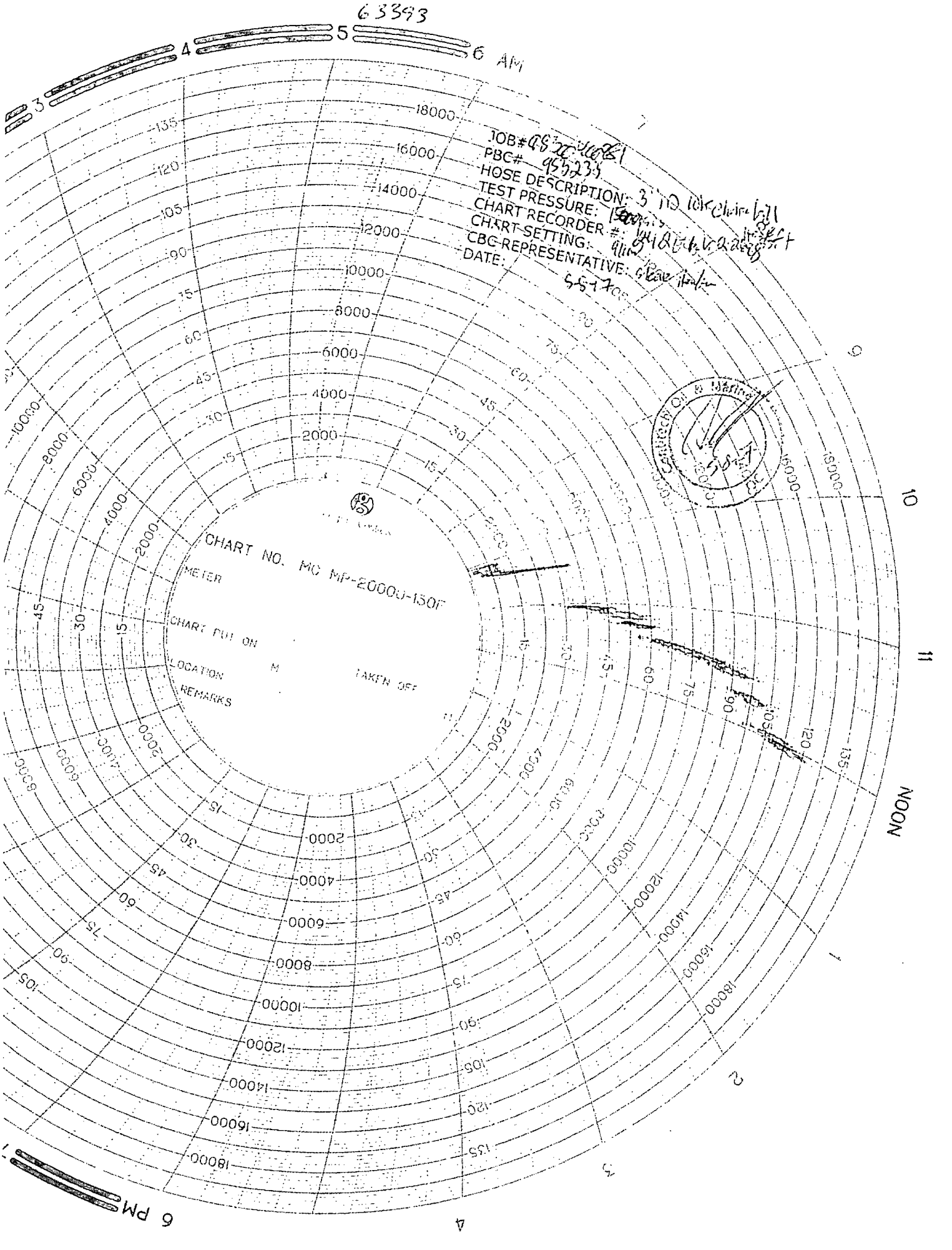
ContiTech

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	Qnty	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:
CHART NO. MC MP-20000-150F
METER
CHART PUT ON
LOCATION
TAKEN OFF
REMARKS
6 AM
NOON
6 PM

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 : [signature]
	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.

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

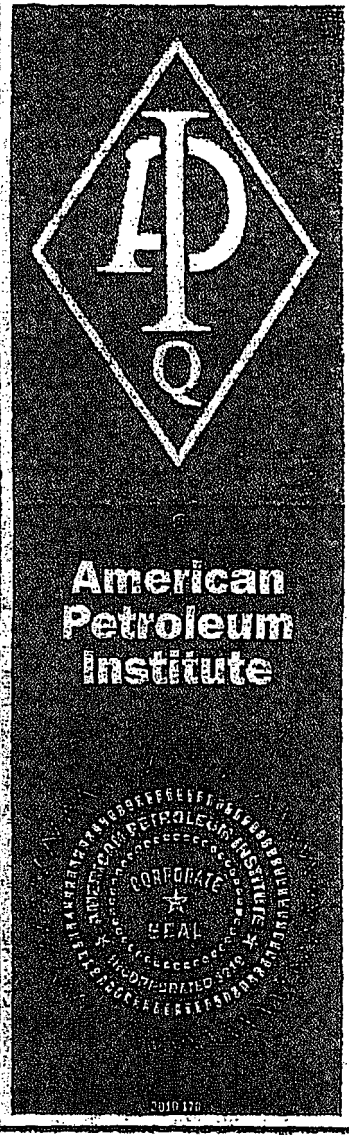
Effective Date: October 15, 2010
Expiration Date: October 15, 2013
Registered Since: October 15, 2007

W. Dan Whittaker
Manager of Operations, APIQR

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

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.apiqr.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

CONTITECH RUBBER Industrial Kft. | No:QC-DB- 380 /2012 | Page: 4 /61

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.

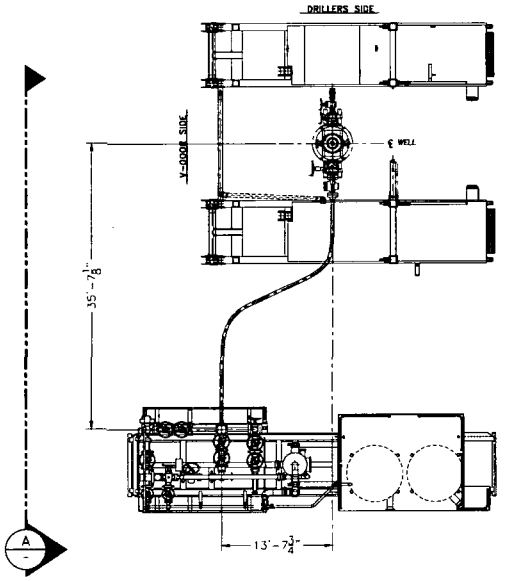
COUNTRY OF ORIGIN HUNGARY/EU

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

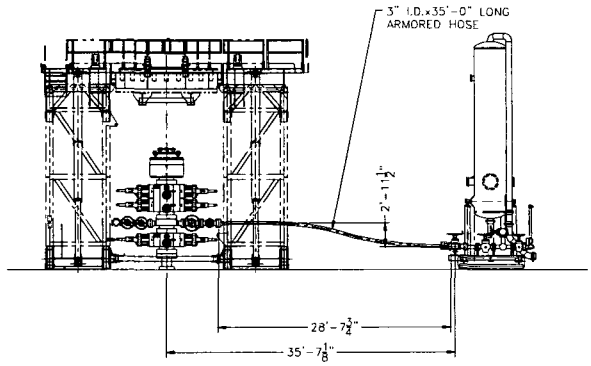
Continental CONTITECH

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



PLAN VIEW



SECTION "A"

ISSUED FOR FABRICATION
December-19-2007
DRAFTSMAN
ENGINEER

REV	DATE	DESCRIPTION	BY	ENGINEERING APPROVAL	DATE
3					
2					
1					
0					
A	12/18/07	REMOVED SHEET TOTAL CALLOUT	JAV		

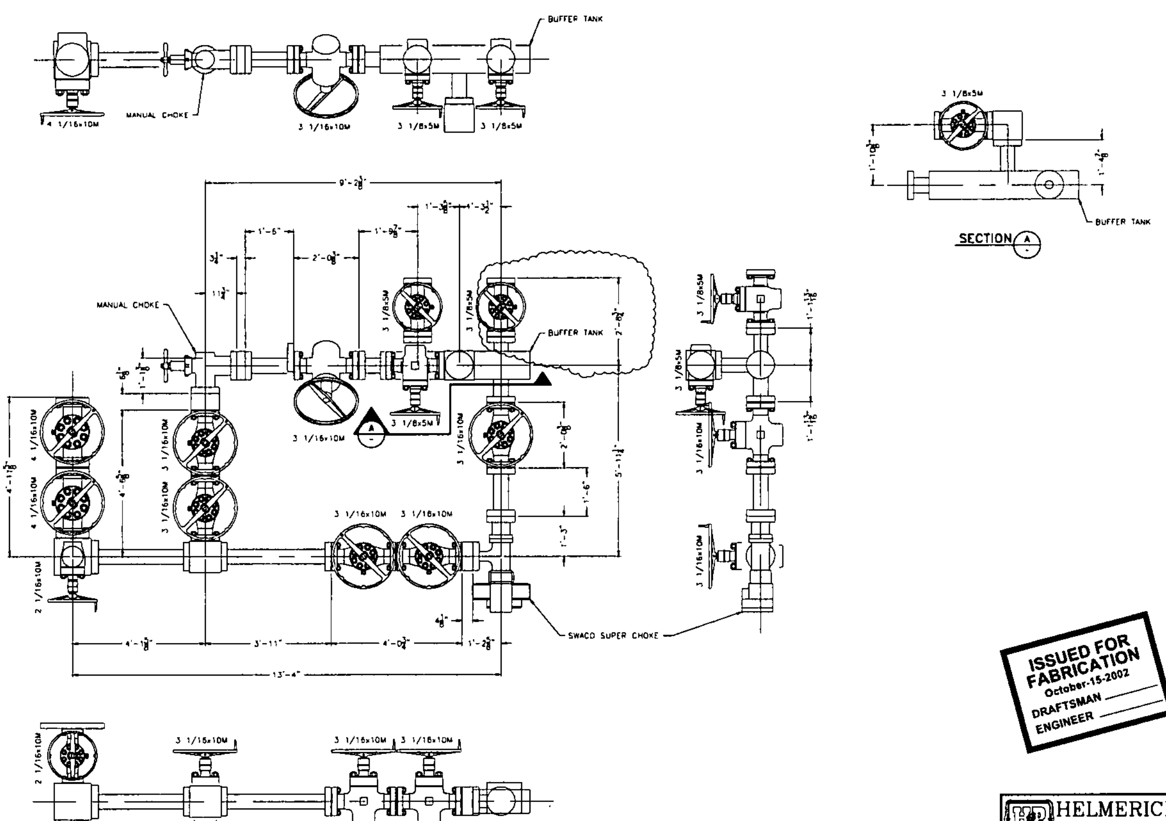
HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.

TITLE: CHOKE LINE SYSTEM FLEXRIG3

CUSTOMER:

PROJECT:

DRAWN	JBG	DATE: 4-10-07	DWG NO.	REV
SCALE	3/16"=1'	SHEET 2 OF 0	210-P1-07	A



ENGINEERING APPROVAL	DATE

REV	DATE	DESCRIPTION	BY
A	10/15/02	ADJUST DIM TO FIELD CONFIRMED DIM	RAY

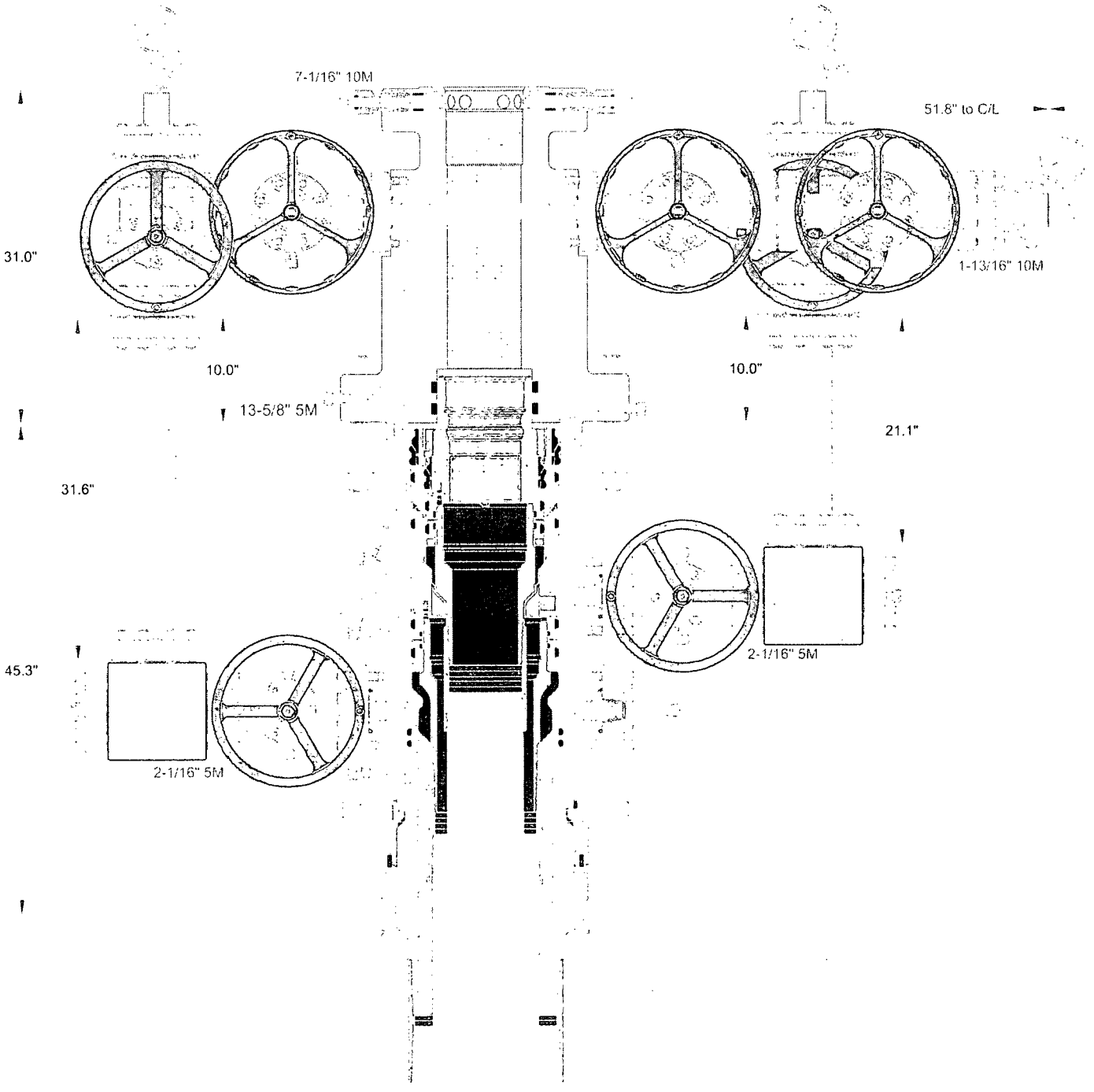
HELMERICH & PAYNE INTERNATIONAL DRILLING CO.

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		



20" Conductor Pipe

13-3/8" Casing

9-5/8" Casing

7" Casing

CACTUS WELLHEAD LLC

MARATHON OIL COMPANY

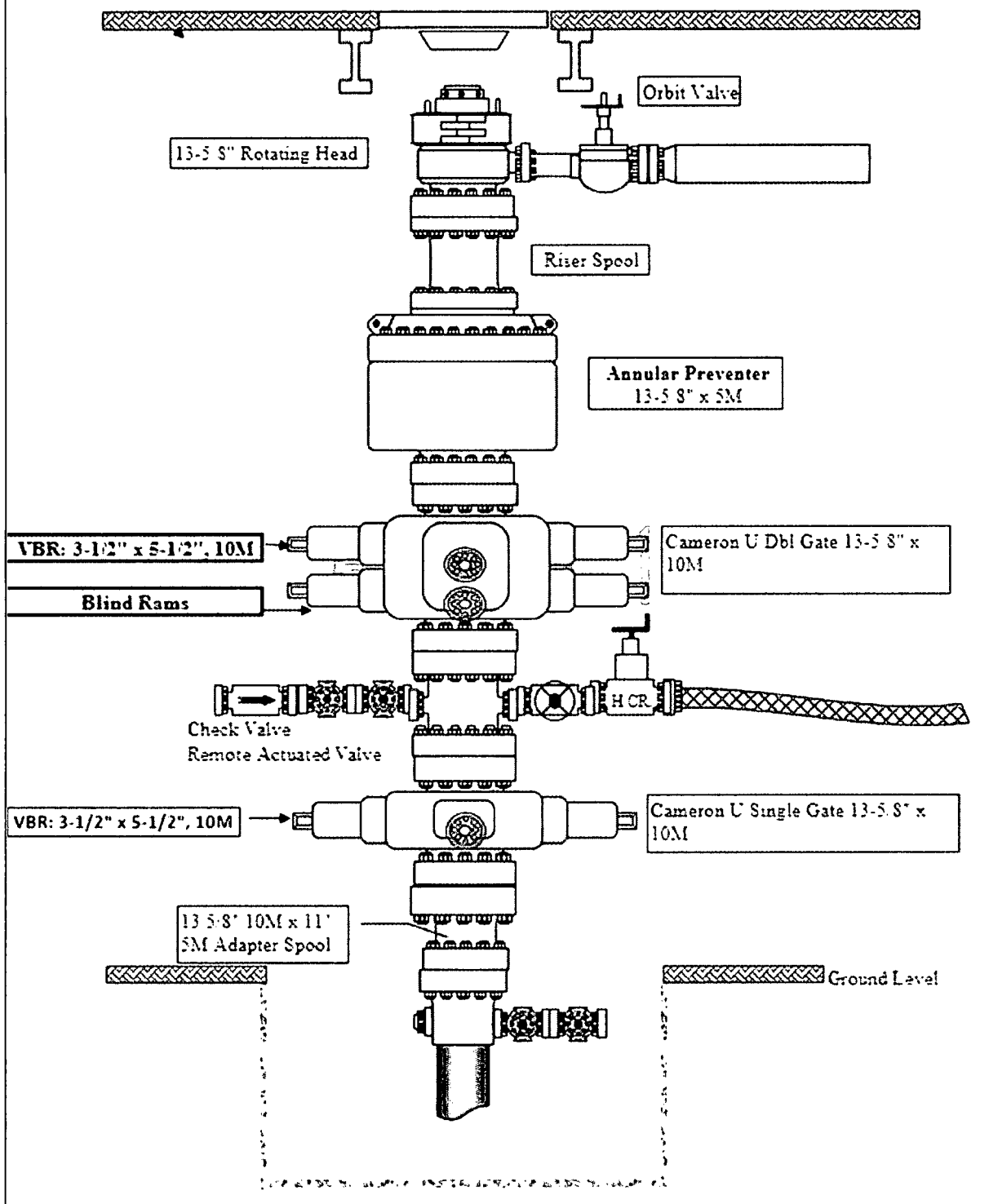
20" x 13-3/8" x 9-5/8" x 7" MBU-3T-CFL-R-DBLO Wellhead
With 13-5/8" 5M x 7-1/16" 10M CTH-DBLHPS Tubing Head (31" LG)
Utilizing Pin Down Mandrel Casing Hangers

DRAWN	DLE	24JUL17
APPRV		

DRAWING NO. ODE0001624

Operator : **Marathon Oil**

5M BOPE



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.

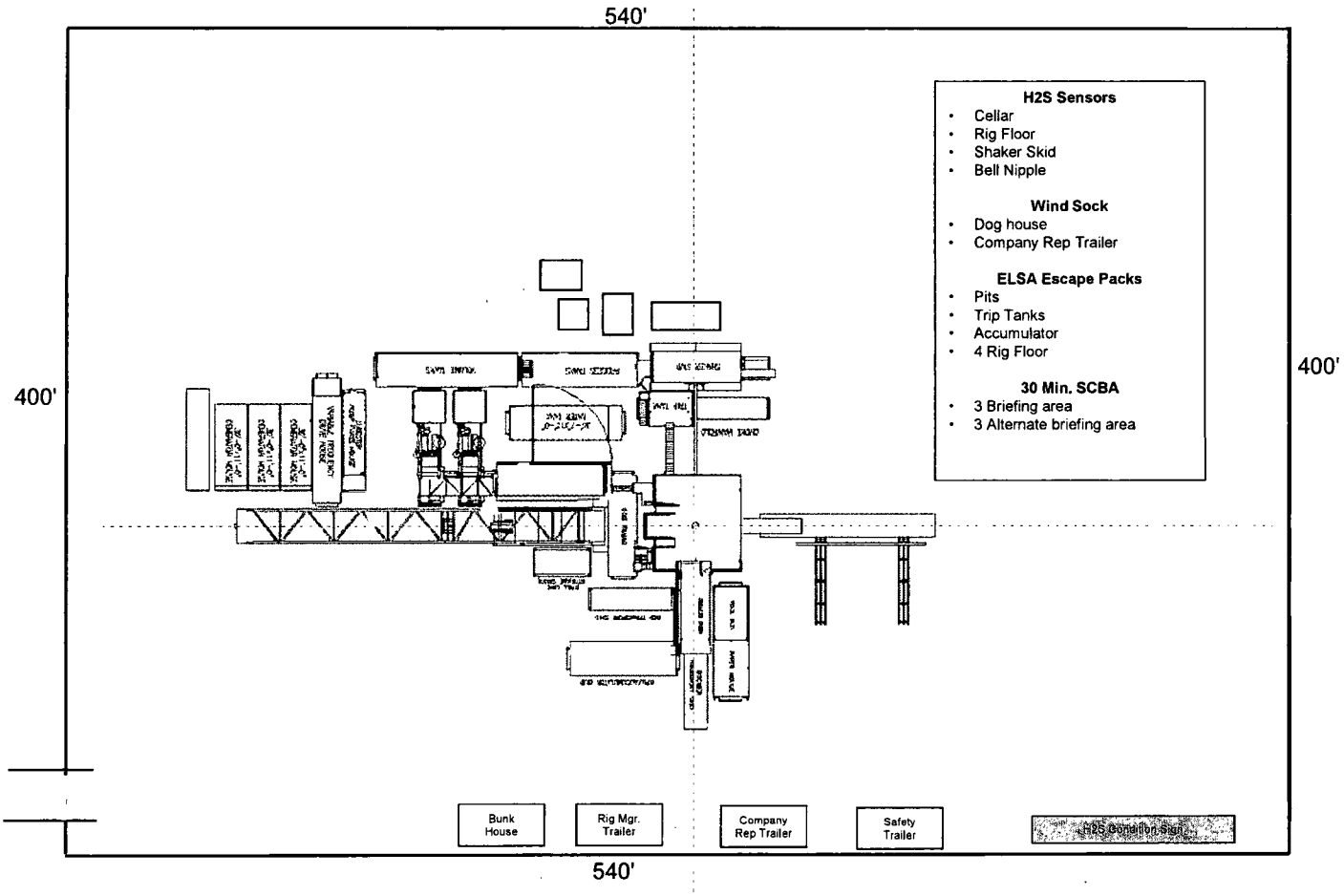
Well Control-Position/Roles

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.

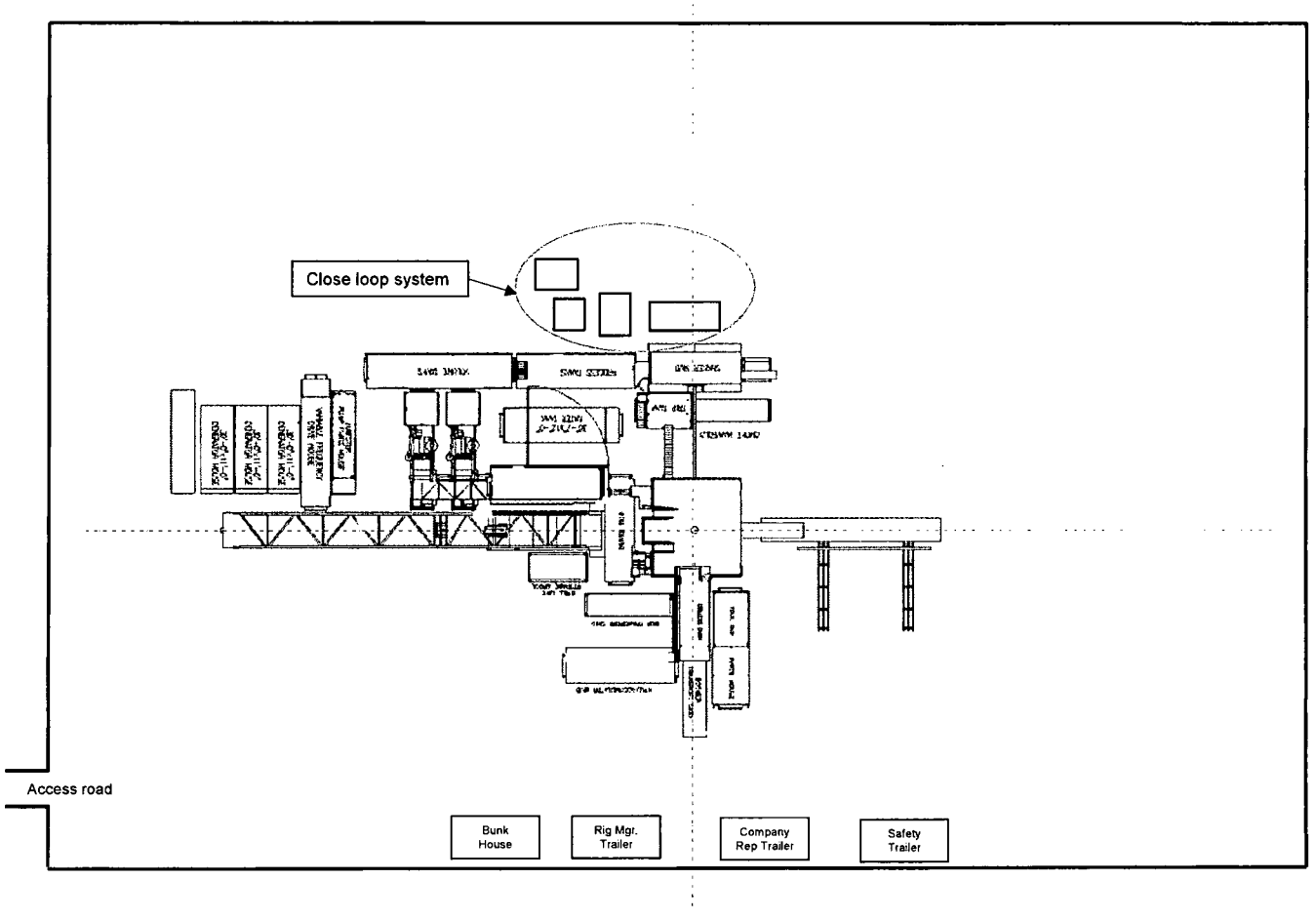
- **Supervisor Level**
  - Specifies and has oversight that the correct actions are carried out
  - Role is to supervise well control equipment, training, testing, and well control events
  - Directs the testing of BOP and other well control equipment
  - Regularly direct well control crew drills
  - 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

MARATHON OIL - H2S Preparedness and Contingency Plan Summary



MARATHON OIL - FLEX III PAD (Closed Loop System)



TOXICITY OF HYDROGEN SULFIDE TO MEN

H2S Per Cent (PPM)**	0 - 2 Minutes	0 - 15 Minutes	15 - 30 Minutes	30 Minutes to 1 hour	1 - 4 Hours	4 - 8 Hours	4 - 48 Hours
0.005 (50) 0.010 (100)				Mild Conjunctivities; respiratory tract irritation			
0.010 (100) 0.015 (150)		Coughing; irritation of eyes; loss of sense of smell	Disturbed respiration; pain in eyes; sleepiness	Throat	Salivation & mucous discharge; sharp pain in eyes; coughing	Increased symptoms*	Hemorrhage & death*
0.015 (150) 0.020 (200)		Loss of sense of smell	Throat & eye irritation	Throat & eye irritation	Difficult breathing; blurred vision; light & shy	Serious irritating effects	Hemorrhage & death*
0.025 (250) 0.035 (350)	Irritation of eyes; loss of sense of smell	Irritation of eyes	Painful secretion of tears; weariness	Light & shy; nasal catarrh; pain in eyes; difficult breathing	Hemorrhage & death		
0.035 (350)		Irritation of eyes; loss of sense of smell	Difficult respiration coughing; irritation of eyes	Increased irritation of eyes and nasal tract; dull pain head; weariness; light shy	Dizziness weakness; increased irritation; death	Death*	
0.050 (500)	Coughing collapse & unconsciousness	Respiratory disturbances; irritation of eyes; collapse	Serious eye irritation; palpitation of heart; few cases of death*	Severe pain in eyes and head dizziness; trembling of extreities; great weakness & death*			
0.060 (600) 0.070 (700) 0.808 (800) 0.100 (1000) 0.150 (1500)	Collapse * unconsciousness; death*	Collapse* unconsciousness; death*					

*Data secured from experiments of dogs which have susceptibility similar to men. **PPM - parts per million

F. SAFE PRACTICES

If you are faced with an H2S problem in your operations, the following safe practices are recommended:

1. Be absolutely sure all concerned are familiar with the hazards concerning H2S and how to avoid it.
2. All employees should know how to operate and maintain respiration equipment.
3. Be able to give and demonstrate artificial respiration.
4. Post areas where there is poisonous gas with suitable warning signs.
5. Be sure all new employees are thoroughly schooled before they are sent to the field-tomorrow may be too late.
6. Teach men to avoid gas whenever possible-work on the windward side, have fresh air mask available.
7. Never let bad judgment guide you-wear respiratory equipment when gauging tanks, etc. Never try to hold your breath in order to enter a contaminated atmosphere.
8. In areas of high concentration, a two-man operation is preferred.
9. Never enter a tank, cellar or other enclosed place where gas can accumulate without proper respiratory protective equipment and a safety belt secured to a lifeline held by another person outside.
10. Always check out danger areas first with H2S detectors before allowing anyone to enter. DO NOT TRY TO DETERMINE THE PRESENCE OF GAS BY its ODOR.
11. Wear proper respiratory equipment for the job at hand. Never take a chance with equipment with which you are unfamiliar. If in doubt, consult your supervisor.
12. Carry out practice drills every month with emergency and maintenance breathing air equipment. Telling or showing a group how to operate equipment is not enough-make them show you.
13. Maximum care should be taken to prevent the escape of fumes into the air of working places by leaks, etc.
14. Communication such as radio and telephones should be provided for those people employed where H2S may be present.

SUBACUTE: RESULTS IN IRRITATION, PRINCIPALLY OF THE EYES, PERSISTENT COUGH, TIGHTENING OR BURNING IN THE CHEST AND SKIN IRRITATION FOLOWED BY DEPRESSION OF THE CENTRAL NERVOUS SYSTEM. The eye irritation ranges in severity from mild conjunctivitis to swelling and bulging of the conjunctiva photophobia (abnormal intolerance of light) and temporary blindness.

D. TREATMENT

1. Victim should be removed to fresh air immediately by rescuers wearing respiratory protective equipment. Protect yourself while rescuing.
2. If the victim is not breathing, begin immediately to apply artificial respiration. (See other chart for the chances for life after breathing has stopped.) If a resuscitator is available let another employee get it and prepare for use.
3. Treat for shock, keep victim warm and comfortable
4. Call a doctor, in all cases, victims of poisoning should be attended by a physician.

E. CHARACTERISTICS OF H2S

1. Extremely Toxic (refer to chart for toxicity of Hydrogen Sulfide).
2. Heavier than air. Specific gravity= 1.19.
3. Colorless, has odor of rotten eggs.
4. Burns with a blue flame and produces sulfur Dioxide (SO2) gas, which is very irritating to eyes and lungs. The SO2 is also toxic and can cause serious injury.
5. H2S is almost as toxic as hydrogen cyanide.
6. H2S forms explosive mixture, with air between 4.3% and 46% by volume.
7. Between 5 and 6 times as toxic as carbon monoxide.
8. Produces irritation to eyes, throat, and respiratory tract.
9. Threshold Limit Value (TLV) maximum of eight hours exposure without protective respiratory equipment-10ppm.

ADDITIONAL INFORMATION

A. HYDROGEN SULFIDE ESSAY

A deadly enemy of those people employed in the petroleum industry, this gas can paralyze or kill quickly. At least part of the answer lies in education in the hazards, symptoms, characteristics, safe practices, treatment, and the proper use of personal protective equipment.

B. HYDROGEN SULFIDE HAZARDS

The principal hazard to personnel is asphyxiation or poisoning by inhalation. Hydrogen Sulfide is a colorless, flammable gas having an offensive odor and a sweetish taste. It is highly toxic and doubly hazardous because it is heavier than air (specific gravity = 1.19). It's offensive odor, like that of a rotten egg, has been used as an indicator by many old timers in the oil field, but is not a reliable warning of the presence of gas in a dangerous concentration because people differ greatly I their ability to detect smells. Where high concentrations are encountered, the olfactory nerves are rapidly paralyzed, diluting the sense of smell as a warning indicator. A concentration of a few hundredths of one percent higher than that causing irritation can cause asphyxia and death-in other words there is a very narrow margin between conscious ness and unconsciousness, and between unconsciousness and death.

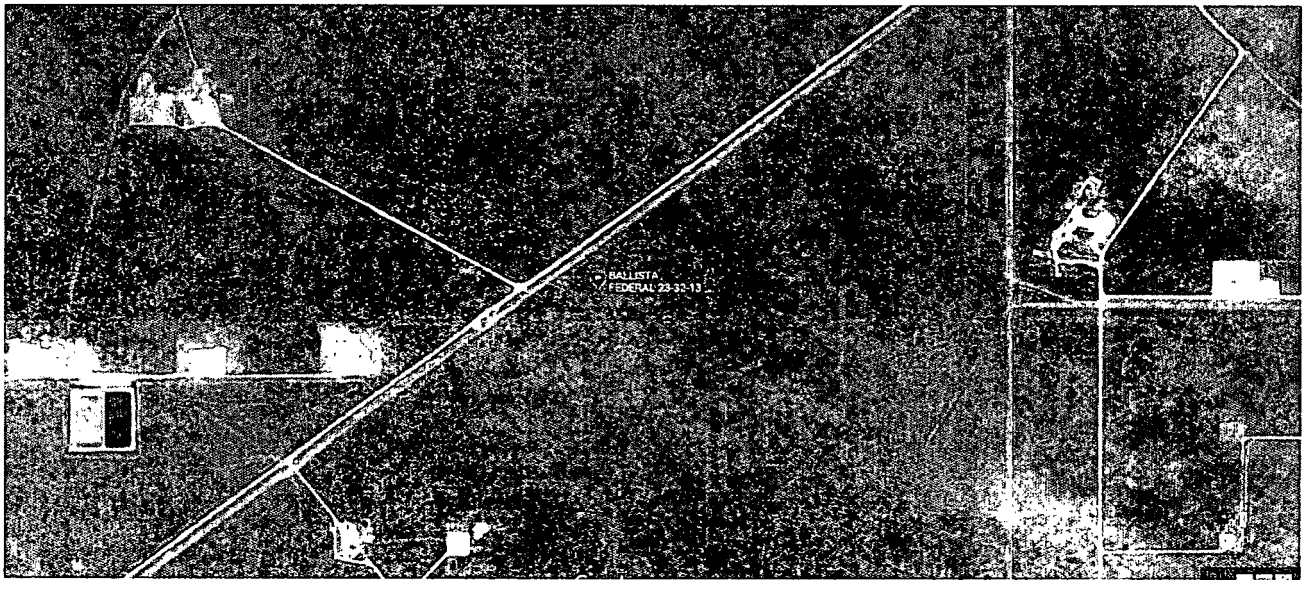
Where high concentrations cause respiratory paralysis, spontaneous breathing does not return unless artificial respiration is applies. Although breathing is paralyzed the heart may continue beating for ten minutes after the attack.

C. PHYSIOLOGICAL SYSTEMS

ACUTE: results in almost instantaneous asphyxia, with seeming respiratory paralysis acute poisoning, or strangulation, may occur after even a few seconds inhalation of high concentration and results in panting respiration, pallor, cramps, paralysis and almost immediate loss of consciousness with extreme rapidity from respiratory and cardiac paralysis. One breath of a sufficiently high concentration may have this result.

RESIDENTS AND LANDOWNERS

AERIAL SATELLITE MAP



RESIDENCE

THERE ARE NO RESIDENCE WITHIN 1 MILE RADIUS OF WELL LOCATION.

APPENDICES

EMERGENCY & MEDICAL FACILITIES:

Marathon Oil Corporation Emergency Numbers			
Brent Evans	Drilling Manager	blevans@marathonoil.com	832 967-8474
Mark Bly	Drilling Superintendent	permiansuper@marathonoil.com	281-840-0467
Chad Butler	Drilling Superintendent	permiansuper@marathonoil.com	281-840-0467
Jacob Beaty	Drilling Engineer	jabeaty@marathonoil.com	713-296-1915
Noah Adams	HES Professional	njadams@marathonoil.com	713-591-4068
Nick Rogers	Lead HES Advisor	permiandches@marathonoil.com	281-659-3734
Scott Doughty	Lead HES Advisor	permiandches@marathonoil.com	281-659-3734
H&P 480	Company Man	Hp480@marathonoil.com	281-768-9946
H&P 498	Company Man	Hp498@marathonoil.com	281-745-0771
H&P 441	Company Man	Hp441@marathonoil.com	
H&P 423	Company Man	Hp423@marathonoil.com	
Precision 594	Company Man	Prec594@marathonoil.com	
H&P 480	HES Advisor	Hp480hes@marathonoil.com	
H&P 498	HES Advisor	Hp498hes@marathonoil.com	
H&P 441	HES Advisor	Hp441hes@marathonoil.com	
H&P 423	HES Advisor	Hp423hes@marathonoil.com	
Precision 594	HES Advisor	Prec594hes@marathonoil.com	

Emergency Services Area Numbers: Or Call 911			
Sheriff (Eddy County, NM)	**575-887-7551**	**New Mexico Poison Control**	**800-222-1222**
Sheriff (Lea County, NM)	**575-396-3611**	**Border Patrol (Las Cruces, NM)**	**575-528-6600**
New Mexico State Police	**575-392-5580/5588**	**Energy Minerals & Natural Resources Dept.**	**575-748-1283**
Carlsbad Medical Center	**575-887-4100**	**Environmental Health Dept.**	**505-476-8600**
Lea Regional Medical Center	**575-492-5000**	**OSHA (Santa Fe, NM)**	**505-827-2855**
Police (Carlsbad, NM)	**575-885-2111**		
Police (Hobbs, NM)	**575-392-9265**		
Fire (Carlsbad, NM)	**575-885-3124**		
Fire (Hobbs, NM)	**575-397-9308**		
Ambulance Service	**911**	**TOTAL SAFETY H2S – SAFETY SERVICES**	**432-561-5049**

1. For Life Flight, 1st dial "911" They will determine nearest helicopter and confirm the need for helicopter.

CRITICAL OPERATIONS

These guidelines will be implemented during H2S alarms on drilling locations with the intent of minimizing catastrophic damage of "**critical tasks**" ONLY and exposure of field personnel (e.g. cement in the stack). We will wait on Total Safety (or H2S Safety Company) for all other alarm events that aren't defined as "critical".

1.) H2S alarm sounds, crews secure well, and muster based off of wind direction. MOC Operation, MOC Safety, and H2S service company notification will be made and representative from the H2S Service Company is in route to location.
2.) Two qualified in scope personnel will don SCBA, utilizing the "buddy system", and respond to area of H2S alarm location to verify the presence of H2S utilizing hand held four gas analyzer or other approved and provided method.
3.) If no H2S is found, the "all clear" will be authorized by the Marathon Oil Drilling Superintendent and HES to resume operations. H2S service company will still be required to respond.

Note: Personnel will return to muster area awaiting H2S service company and additional equipment if H2S is verified.

Note: Personnel will be trained annually on H2S and the elements of this guideline. The MOC HES Advisor and Co Man will receive hands on training from a H2S service company field tech, on how to properly identify the location of the alarming sensor, and the proper method for checking the alarmed area.

team is moving into the hazardous area. If trouble is incurred in igniting the leak by firing toward the leak, try firing 40 degrees to 90 degrees to each side of the area where you have been firing. If still no ignition is accomplished ignite the copper line burner and push it into the leak area. This should accomplish ignition. If ignition is not possible due to the makeup of the gas, the toxic leak perimeter must be established and maintained to insure evacuation is completed and continue until the emergency is secure.

3. The following equipment and man-power will be required to support the ignition team:
    a. one flare gun with flares
    b. four pressure demand air packs
    c. two nylon ropes tied to the ignition team
    d. two men in a clear area equipped with air packs
    e. portable propane bottle with copper line
4. The person with the final authority to ignite the well.

GENERAL EQUIPMENT

1. Two areas on the location will be designated as Briefing Areas. The one that is upwind from the well will be designated a the "Safe Briefing Area"
2. In the case of an emergency, personnel will assemble in the upwind area as per prior instructions from the operator's representative.
3. The H2S "Safety" trailer provide by TOTAL SAFETY will contain 10 air cylinders, a resuscitator, one 30-minute air pack and will have a windsock.
4. Two other windsocks will be installed.
5. A condition warning sign will be displayed at the location entrance.
6. A list of emergency telephone numbers will be kept on the rig floor, tool pusher's trailer and the Oil Company's trailer.
7. Two barricades will be available to block the entrance to location.
8. An undulating high and low pitch siren will be installed.
9. A telephone line or mobile phone will be available at the well site for incoming and outgoing communications.

STEPS TO BE TAKEN

In the event of an accidental release of a potentially hazardous volume of H2S, the following steps will be taken:

1. Contact by the quickest means of communications: the main offices of Oil Company & Contractor as listed on the preceding page.
2. An assigned crewmember will blockade the entrance to the location. No unauthorized personnel will be allowed entry into the location.
3. The operator's on-site representative will remain on location and attempt to regain control of the well.
4. The drilling company's rig superintendent will begin evacuation of those persons in immediate danger. He will begin by telephoning residents in the danger zone. In the event of no contact by telephoning, the tool pusher will proceed at once to each dwelling for a person-to-person contact. In the event the tool pusher cannot leave the location, he will assign a responsible crewmember to proceed in the evacuation off local residents. Upon arrival, the Sheriff's Department and TOTAL SAFETY personnel will aid in further evacuation.

LEAK IGNITION

Leak Ignition procedure: (used to ignite a leak in the event it becomes necessary to protect the public)

1. Two men, the operator's on-site representative and the contractor's rig superintendent or TOTAL SAFETY's representative(s), wearing self-contained pressure demand air masks must determine the perimeter of the flammable area. This should be done with one man using an H2S detector and the other one using a flammable gas detector. The flammable perimeter should be established at 30% to 40% of the lower flammable limits.
2. After the flammable perimeter has been established and all employees and citizens have been removed from the area, the ignition team should move to the up-wind area of the leak perimeter and fire a flare into the area if the leak isn't ignited on the first attempt, move in 20 to 30 feet and fire again. Continue moving in and firing until the leak is ignited or the flammable gas detector indicates the ignition

EMERGENCY PROCEDURES

SOUNDING ALARM

In case of an alarm the crews will muster up at the designated area. Total Safety will be dispatched with (2) HES Techs who are to go in under protective breathing air and check the alarm readings and sniff ambient air for the presence of H2S.

By no means are the Co. Rep or HES Advisor to go in under air with the HES Tech. If there is another method in place where the Rig Manager is to go in with the Tech we need to ensure that the rig company has cleared them and that they are properly trained.

1. The fact is to be instilled in the minds of all rig personnel that the sounding alarm means only one thing: H2S IS PRESENT. Everyone is to proceed to his assigned station and the contingency plan is put into effect.

DRILLING CREW ACTIONS

1. All personnel will don their protective breathing apparatus. The driller will take necessary precautions as indicated in operating procedures.
2. The Buddy system will be implemented. All personnel will act upon directions from the operator's on-site representative.
3. If there are non-essential personnel on location, they will move off location.
4. Entrance to the location will be patrolled, and the proper well condition flag will be displayed at the entrance to the location.

RESPONSIBILITIES OF PERSONNEL

In order to assure the proper execution of this plan, it is essential that one person be responsible for and in complete charge of implementing these procedures. The responsibility will be as follows:

1. The operator's on-site representative or his assistant
2. Contract Tool Pusher

on" conditions until such time that readings in the work area do not exceed 10ppm of H2S gas.

*all non-essential personnel must be moved to safe briefing area
*all remaining personnel will check out and keep with them their protective breathing apparatus.
*mud men will see that the proper amount of H2S scavenging chemical is in the mud and record times checked
*make sure ignition flare is burning and valves are open to designated flare stacks

CORING OPERATIONS IN H2S BEARING ZONES

1. Personal protective breathing apparatus will be worn from 10 to 15 stands in advance of retrieving the core barrel. Cores to be transported should be sealed and marked to the presence of H2S.
    a. Yellow Caution Flag will be flown at the well condition sign.
    b. The "NO SMOKING" rule will be enforced

DRILL STEM TESTING OF H2S ZONES

1. The DST subsurface equipment will be suitable for H2S service as recommended by the API
2. Drill stem testing of H2S zone will be conducted in daylight hours
3. All non-essential personnel will be moved to an established safe area or off location
4. The "NO SMOKING" rule will be enforced
5. DST fluids will be circulated through a remote controlled choke and a separator to permit flaring of gas. A continuous pilot light will be used.
6. A yellow or red flag will be flown at entrance to location depending on present gas condition
7. If warranted, the use of Aqua Ammonia for neutralizing the toxicity of H2S from drill string
    a. During drill stem tests adequate Filming Amine for H2S corrosion and Aqua Ammonia for neutralizing H2S should be on location.
8. On completion of DST, if H2S contaminated formation fluids or gases are present in drill string, floor workers will be masked up before test valve is removed from drill string and continue "mask

*MASK UP. All personal will have protective breathing equipment with them. All nonessential personnel will move to the Safe Briefing Area and stay there until instructed to do otherwise. All essential Qualified Personnel, using the "Buddy System" (those necessary to maintain control of the well) will don breathing apparatus to perform operations related to well control.

The decision to ignite the well is the responsibility of the operator's on-site representative and should be made only as a last resort, when it is clear that:

*human life is endangered

*there is no hope of controlling the well under prevailing conditions

Order evacuation of local people within the danger zone. Request help from local authorities, State Police, Sheriff's Dept. and Service Representative.

CIRCULATING OUT KICK (WAIT AND WEIGHT METHOD)

If it is suspected that H2S is present with the gas whenever a kick is taken, the wait and weight method of eliminating gas and raising the mud will be followed.

1. Wait and Weight Method:
    a. The wait and Weight Method is:
        *increase density of mud in pits to 'kill' weight mud.
        *open choke and bring pump to initial circulating pressure by holding casing pressure at original valve until pump is up to predetermined speed.
        *when initial circulating pressure is obtained on drill pipe, zero pump stroke counter and record time.
        *reduce drill pipe pressure from initial circulating pressure to final circulating pressure by using pump strokes and/or time according to graph
        *when 'kill' weight mud is at the bit, hold final circulating pressure until kill weight mud is to surface.

    b. If a kick has occurred, the standard blowout procedure will be followed and the wait and weight method will be used to kill the well. When the well has been put on the choke and circulation has been established, the following safety procedure must be established.
        *determine when gas is anticipated to reach surface.

OPERATING CONDITIONS

A Well Condition Sign and Flag will be posted on all access roads to the location. The sign shall be legible and large enough to be read by all persons entering the well site and be placed a minimum of 200' but no more than 500' from the well site which allows vehicles to turn around at a safe distance prior to reaching the site.

DEFINITION OF WARNING FLAGS

1. Condition:
   GREEN-NORMAL OPERATIONS
   Any operation where the possibility of encountering H2S exists but no H2S has been detected.

2. Condition:
   YELLOW-POTENTIAL DANGER, CAUTION
   Any operation where the possibility of encountering H2S exists and in all situations where concentrations of H2S are detected in the air below the threshold level (10ppm)
   a. Cause of condition:
      *Circulating up drill breaks
      *Trip gas after trip
      *Circulating out gas on choke
      *Poisonous gas present, but below threshold concentrations
      *Drill stem test
   b. Safety Action:
      *Check safety equipment and keep it with you
      *Be alert for a change in condition
      *Follow instructions

3. Condition:
   RED-EXTREME DANGER
   Presence of H2S at or greater than 10ppm. Breathing apparatus must be worn.

   a. Safety action:

WELL CONTROL EQUIPMENT

1. Flare System
    a. A flare system shall be designed and installed to safely gather and burn H2S Bearing gas.
        1. Flare lines shall be located as far from the operating site as feasible and in a manner to compensate for wind changes.
        2. The flare line mouth shall be located not less then 150' from wellbore.
        3. Flare lines shall be straight unless targeted with running tees.
        4. Flare Gun & Flares to ignite the well

2. Remote Controlled Choke
    a. A remote controlled choke shall be installed for all H2S drilling and where feasible for completion operations. A remote controlled valve may be used in lieu of this requirement for completions operations.

3. Mud-gas separators and rotating heads shall be installed and operable for all exploratory wells.

METALLURGICAL CONSIDERATONS

1. Steel drill pipe used in H2S environments should have yield strength of 95,000psi or less because of potential embrittlement problems. Must conform to the current National Association of Corrosion Engineers (NACE) Standard MR-0175-90, Material Requirement, Sulfide Stress Cracking Resistant Metallica Material for Oil Field Equipment. Drill stem joints near the top of the drill string are normally under the highest stress levels during drilling and do not have the protection of elevated down hole temperatures. These factors should be considered in design of the drill string. Precautions should be taken to minimize drill string stress caused by conditions such as excessive dogleg severity, improper torque, whip, abrasive wear or tool joints and joint imbalance. American Petroleum Institute, Bulletin RR 7G, will be used as a guideline for drill string precautions.

2. Corrosion inhibitors may be applied to the drill pipe or to the mud system as an additional safeguard.

3. Blowout preventors should meet or exceed the recommendations for H2S service as set forth in the latest edition of API RI 53.

MUD PROGRAM AND TREATING

1. It is of utmost importance that the mud be closely monitored for detection of H2S and reliability of the H2S treating chemicals.

2. Identification and analysis of sulfides in the mud and mud filtrates will be carried out per operators prescribed procedures.

3. The mud system will be pre-treated with Zinc Carbonate, Ironite Sponge or similar chemicals of H2S control prior to drilling into the H2s bearing formation. Sufficient quantities of corrosion inhibitor should be on location to treat the drill string during Drill Stem Test Operations. Additionally, Aqua Ammonia should be on hand to treat the drill string for crew protection, should H2S be encountered while tripping string following drill stem testing

CREW TRAINING AND PROTECTION

1. All personal working at the well site will be properly trained in accordance with the general training requirements outlined in the API Recommended Practices for Safe Drilling of Wells Containing H2S. The training will cover, but will not be limited to, the following:

a. General information of H2S AND SO2 GAS
b. Hazards of these gases
c. Safety equipment on location
d. Proper use and care of personal protective equipment
e. Operational procedures in dealing with H2S gas
f. Evacuation procedures
g. First aid, reviving an H2S victim, toxicity, etc.
h. Designated Safe Briefing Areas
i. Buddy System
j. Regulations
k. Review of Drilling Operations Plan

2. Initial training shall be completed when drilling reaches, a depth of 500' above or 3 days prior to penetrating (whichever comes first) the first zone containing or expected to contain H2S. It must also include a review of the site specific Drilling Operations Plan and, if applicable, the Public Protections Plan.

3. Weekly H2S and well control drills for all personnel on each working crew shall be conducted.

4. All training sessions and drills shall be recorded on the driller's log or its equivalent.

5. Safety Equipment:
As outlined in the Safety Equipment index, H2S safety protection equipment will be available to/or assigned each person on location.

6. One person (by job title) shall be designated and identified to all on-site personnel as the person primarily responsible for the overall operation of the on-site safety and training programs. This will be the PIC

OPERATING PROCEDURES

BLOWOUT PREVENTION MEASURES DURING DRILLING

1. Blowout Prevention Requirements:
   All BOP equipment shall meet the American Petroleum Institute specifications as to materials acceptable for H2S service and tested accordingly (or to BLM specifications).

2. Drilling String Requirements:
   All drill string components are to be of material that meets the American Petroleum Institute's specifications for H2S service. All drill string components should be inspected to IADC critical service specifications prior to running in well.

GAS MONITORING EQUIPMENT

1. A continuous H2S detection system, consisting of three H2S detectors and an audible/visual warning system will be in operating during all phases of this H2S Drilling Operations Plan. The detection system will be adjusted and calibrated such that an H2S exposure of 10 ppm or higher (at any sensor) will trigger the audible and visual portion (wailing or yelping siren) of the warning system (i.e. H2S continually present at or above threshold levels) a trained operator or H2S supervisor will monitor the H2S detection system.

2. When approaching or completing H2S formations, crewmembers may attach personnel H2S monitors to their person.

3. Hand held H2S sampling gas detectors will be used to check areas not covered by automatic monitoring equipment.

11. A barricade will be available to block the entrance to location should an emergency occur. In most cases the use of a vehicle is used to block the entrance.

12. A 6-channel H2S monitor will be located in the doghouse. The 3 sensors will be installed: one on the shale shaker, one at the Cellar, one at the rig floor.

13. An undulating high and low pitch siren and light will be installed on the derrick "A" leg.

14. If H2S concentration reach 10 ppm an explosion-proof bug blower (fan) will be installed under the rig floor to disperse possible accumulations of H2S.

15. Any time it is necessary to flare gas containing H2S, a Sulfur Dioxide monitor or Detector tubes will be used to determine SO2 concentrations.

16. A flare gun with flares will also be provided in the event it is necessary to ignite the well from a safe distance.

SAFETY EQUIPMENT

All H2S related Safety Equipment must be installed, tested and Operational at a depth of 500 fee above, or 3 days prior to penetrating the first zone expected to contain H2S.

SAFETY EQUIPMENT PROVIDED BY TOTAL SAFETY INC.

QTY	EQUIPMENT
6 each	30-minute self-contained breathing apparatus
6 each	ELSA Escape Packs
1 Lot	Sufficient low-pressure airline hose with quick connects
1	6 Channel fixed H2S monitor
4	H2S Sensors (Loc determined at rig up – General: Cellar, Shale Shaker, floor/driller area)
4	Explosion proof Alarm Station (1-Drill Floor, 1- Pits/Shakers, 1- Generators, 1 Quarters area)
10	Personal H2S Monitors
1	Gastec pump type gas detector
Set	Various range of H2s & SO2 detector tubes
2 each	Windsocks w/frames and poles
1 Set	H2S and briefing area signs
1 Set	Well condition signs and flags
1	Flare Gun & Flares

TYPE OF EQUIPMENT AND STORAGE LOCATIONS

1. There will be six 30-minute self-contained breathing apparatus on location. They will be positioned as follows: Two at Briefing Area #1 Two at Briefing Area #2, Two at rig dog house. SCBA Facepieces will be equipped with voice amplifiers for effective means of communication when using protective breathing apparatus.

2. There will be six Escape-type packs on location. One for the Derrickman. One on the Shaker. One at the bottom of rig dog house stairway and spares.

3. A Gastec, pump type, gas detector with low and high range detector tubes for H2S and SO2 will be located in the doghouse

4. Two Briefing Areas will be designated at opposite ends of the location.

5. The Briefing Area most upwind is designated as the Safety Briefing Area #1. In an emergency, personnel must assemble at this upwind area for instructions from their supervisor.

6.The H2S 'Safety" trailer provided by Total Safety, Inc. will contain a cascade system of at least 5 each -300 C.F. air cylinders that will provide a continuous air supply to air lines located on the rig. Note: This trailer will **Only** be provided if H2S conditions require the use of the Air Trailer. (If Required)

7. Two windsocks will be installed so as to be visible from all parts of the location.

8. A well condition warning sign will be displayed at the location entrance to advise of current operating conditions. The condition signs must be at least 200' from the entrance but not more than 500' away.

9. A list of emergency telephone numbers will be kept on rig floor, tool pusher's trailer, the Oil Company's trailer and in the "safety" trailer (if Provided).

10. The primary means of communication will be cell phones.

Definitions: For the purpose of this plan the following definitions are to be referred to:

Controlled Release – Any release that is planned and occurs during normal operations. A controlled release is managed, per the procedures outlined in this section.

Uncontrolled Release – Any release that is unplanned and not immediately contained utilizing established shut-in procedures. An uncontrolled release is normally associated with a loss of well control.

SCBA – (Self Contained Breathing Apparatus) – A full-face mask respirator with a supplied positive pressure air source.

Donned SCBA – When it is required per this plan to **"don"** a SCBA, personnel will be 100% masked up and be on supplied breathing air.

SCBA On Person – When it is required per this plan to have SCBA "on person", personnel will be required to wear the SCBA equipment - but not be masked up.

"Qualified Buddy" – Person who has been fit tested and is trained and is familiar with the requirements of donning an SCBA. This person will provide immediate assistance to another person who may be utilizing an SCBA or SkaPack in an IDLH atmosphere in the event of an emergency situation.

In Scope Personnel – Rig Personnel who will be working or otherwise present in potential H2S release areas, including the rig floor, cellar, pits, and shaker areas. This would not include 3rd party contractors who do not have a function, besides evacuating the rig, during an emergency condition such as during a well control event or H2S / LEL alarm. All qualified personnel that have a function to shut a well in during an emergency, will be considered In-Scope per this plan

Out of Scope Personnel –. All personnel that are not in scope will be Out of Scope per the definition of this plan

H2S Office – Onsite office trailer space or vehicle that will be designated as the H2S office

Marathon H2S Plan Custodian – Marathon HES Advisor, Supervisor or Technician that has been specifically assigned per the authorization page of this plan to maintain this document.

MARATHON OIL PERMIAN LLC

DRILLING AND OPERATIONS PLAN

WELL NAME / NUMBER: BALLISTA FEDERAL 23 32 13 WXY 12H
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	230	FSL	1614	FWL	23S	32E	13	SESW	32.29800359 N	103.63119260 W	Lea	NM	NMP	F	NMNM 084728	3714	0	0
KOP	100	FSL	2315	FWL	23S	32E	13	SESW	32.297650833 N	103.628924167 W	Lea	NM	NMP	F	NMNM 084728	-8107	11869	11821
PPP	330	FSL	2315	FWL	23S	32E	13	SESW	32.29828420 N	103.62892434 W	Lea	NM	NMP	F	NMNM 084728	-8561	12394	12275
EXIT/PPP	1320	FNL	2316	FWL	23S	32E	13	SENW/ NENW	32.307361111 N	103.628928056 W	Lea	NM	NMP	F	NMNM 084728/ NMNM 077062	-8628	15729	12342
EXIT	330	FNL	2316	FWL	23S	32E	13	NENW	32.31093829 N	103.62892971 W	Lea	NM	NMP	F	NMNM 077062	-8605	17049	12319
BHL	330	FNL	2316	FWL	23S	32E	13	NENW	32.31093829 N	103.62892971 W	Lea	NM	NMP	F	NMNM 077062	-8605	17049	12319

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	3,600	Base Salt	BRINE	N
Base of Salt	4,865	4,887	Limy Sands	BRINE	N
Lamar	4,974	4,997	Sand/Shales	OIL	Y
Bell Canyon	5,026	5,049	Sands/Shale	OIL	Y
Cherry Canyon	6,154	6,189	Sands/Carbonates	OIL	Y
Brushy Canyon	7,218	7,264	Sands/Carbonates	OIL	Y
Bone Spring	8,794	8,845	Sands/Carbonates	OIL	Y
1st Bone Spring Sand	9,919	9,970	Sands/Carbonates	OIL	Y
2nd Bone Spring Sand	10,655	10,706	Sands/Carbonates	OIL	Y
3rd Bone Spring Sand	11,928	11,979	Sands/Carbonates	OIL	Y
Wolfcamp	12,213	12,301	Carbonates/Shales/Sands	OIL	Y

DEEPEST EXPECTED FRESH WATER: 400' TVD

ANTICIPATED BOTTOM HOLE PRESSURE: 6,775 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	Bottom Set TVD	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	5000	0	5000	40	J55	LTC	1.16	1.36	2.55
Intermediate II	8 3/4	7	0	12700	0	12400	29	P110	BTC	2.11	1.18	2.22
Production Liner	6 1/8	4 1/2	11800	17049	11750	12319	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	--	1000	1250	255	1.364	14.8	347	100	Class C	0.25 % Accelerator
Intermediate I	Lead	--	0	4000	1267	1.73	12.8	2192	75	Class C	0.02 Gal/Sx Defoamer + 0.5% Extender + 1% Accelerator
Intermediate I	Tail	--	4000	5000	353	1.33	14.8	470	50	Class C	0.07 % Retarder
Intermediate II	Lead	--	3000	11700	823	2.70	11	2223	70	Class C	0.8% retarder + 10% extender + 0.02 gal/sk + 2.0% Extender + 015% Viscosifier
Intermediate II	Tail	--	11700	12700	179	1.09	15.6	195	30	Class H	3% extender + 0.1% Dispersant + 0.2% retarder
Production Liner	Tail	--	11800	17049	527	1.22	14.5	643	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	5000	Brine	9.9	10.2	
5000	12700	Cut Brine	9.0	9.4	
12700	17049	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: 10400027108 Submission Date: 02/09/2018

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 12H

Well Type: OIL 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___Well_Location_Plat_20180207120757.pdf
Plat___Ballista_Federal_23_32_13_Pad___Existing_Road_Map_20180207114048.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_20180712094358.pdf

New road type: LOCAL

Length: 705.53 Feet Width (ft.): 20

Max slope (%): 1 Max grade (%): 0

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 side 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 # NMNM84728. - A 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_20180208070255.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

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 12H

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_20180711104211.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_20180711104247.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.

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 12H

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_20180712094615.pdf

20180726_R3818_001_BALLISTA_FEDERAL_23_32_13_REV0_CERT_CUT_AND_FILL_20180730053839.pdf

Plat___Ballista_Federal_23_32_13_Pad___Well_Pad_Plat_with_Footages_20180809134122.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 6.18 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_20180730053854.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: 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 LPC 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: BLM Seed mix 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: Rip deep

Seed BMP: Leave pockets to protect seedlings and contain moisture

Seed method: Broadcast

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:

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 12H

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_20180711111041.pdf

LR2000___NMNM077062_20180711111050.pdf

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BALLISTA FEDERAL 23 32 13 WXY Well Number: 12H

General_Lease_map_20180711111100.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:

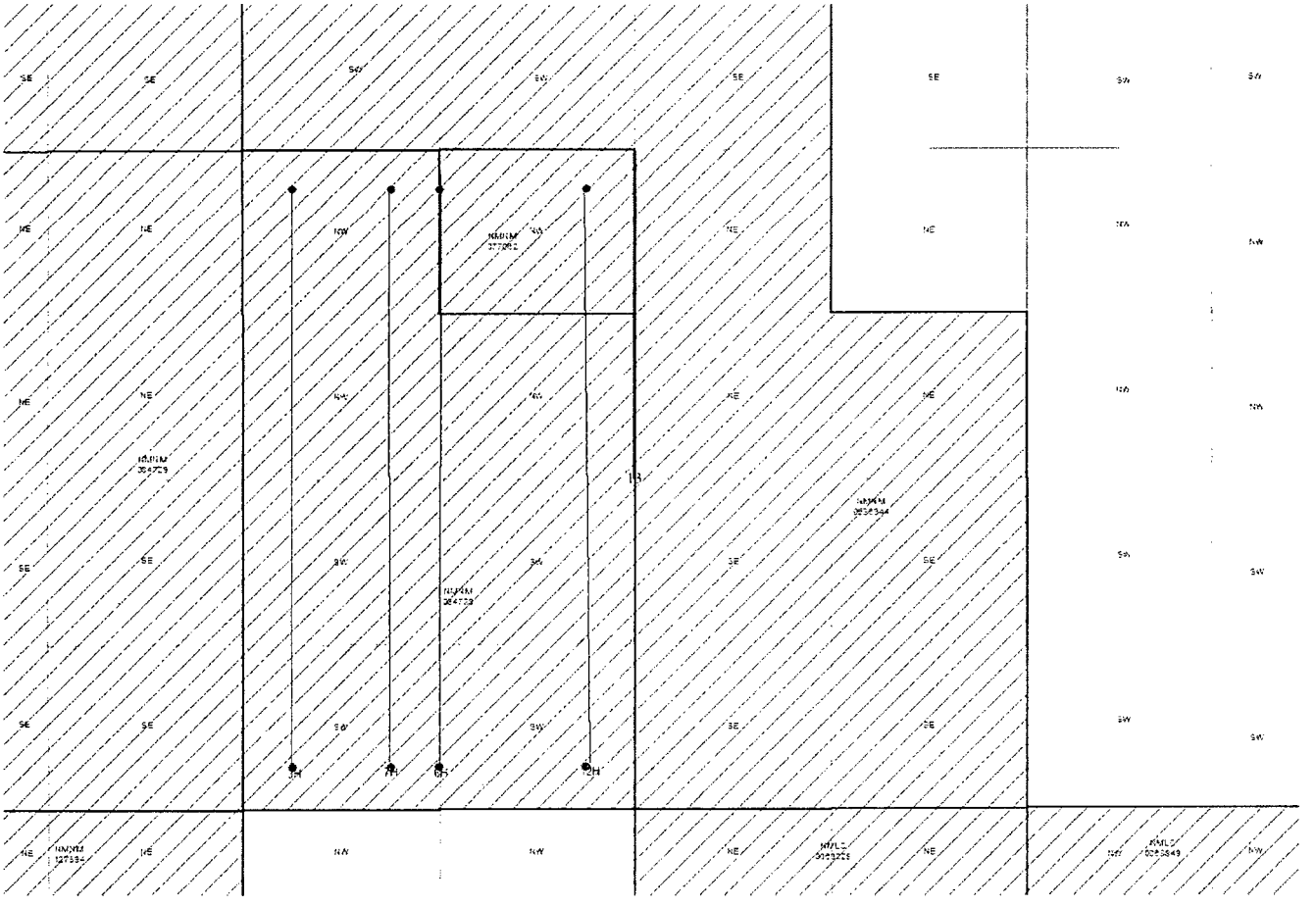
Lined pit: do you have a reclamation bond for the pit?

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: 12H

	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	2315	FWL	23S	32E	13	Aliquot SESW	32.2982842	-103.6289243	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 084728	-8561	12394	12275
PPP Leg #1	1320	FNL	2316	FWL	23S	32E	13	Aliquot NENW	32.3073611	-103.6289281	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 077062	-8628	15729	12342
EXIT Leg #1	330	FNL	2316	FWL	23S	32E	13	Aliquot NENW	32.3109383	-103.6289297	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 077062	-8605	17049	12319
BHL Leg #1	330	FNL	2316	FWL	23S	32E	13	Aliquot NENW	32.3109383	-103.6289297	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 077062	-8605	17049	12319