MIN F
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Form 3160-3
(June 2015)

Carlsbad Field Office
OCD Hobbs

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

HOBBS OCD
SEP 12 2018
RECEIVED

5. Lease Serial No.
NMNM113419

6. If Indian, Allotee or Tribe Name

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

8. Lease Name and Well No.
ENDER WIGGINS FC 25 34 14 WD 2H (322431)

9. API Well No.
30-025-45189

10. Field and Pool, or Exploratory
FAIRVIEW MILLS / WOLFCAMP (76560)

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 14 / T25S / R34E / NMP

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

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

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

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

3a. Address	3b. Phone No. *(include area code)*
5555 San Felipe St. Houston TX 77056	(713)629-6600

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SWNW / 2449 FNL / 582 FWL / LAT 32.1309005 / LONG -103.4469426
At proposed prod. zone NWNW / 330 FNL / 330 FWL / LAT 32.1512363 / LONG -103.4477752

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

12. County or Parish

13. State

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
612 feet	1240	480
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
1534 feet	13917 feet / 21183 feet	FED: WYB002107
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3331 feet	06/01/2018	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	03/12/2018
Title: Sr. Regulatory Compliance Rep		
Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	08/23/2018
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.

SCP Rec 09/12/18

KN 09/17/18

APPROVED WITH CONDITIONS
Approval Date: 08/23/2018

(Continued on page 2)

*(Instructions on page 2)

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 I: 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: SWNW / 2449 FNL / 582 FWL / TWSP: 25S / RANGE: 34E / SECTION: 14 / LAT: 32.1309005 / LONG: -103.4469426 (TVD: 0 feet, MD: 0 feet)
   PPP: SWNW / 2639 FSL / 330 FWL / TWSP: 25S / RANGE: 34E / SECTION: 11 / LAT: 32.1448914 / LONG: -103.4477697 (TVD: 13917 feet, MD: 18875 feet)
   PPP: SWSW / 0 FSL / 330 FWL / TWSP: 25S / RANGE: 34E / SECTION: 11 / LAT: 32.1376367 / LONG: -103.4477656 (TVD: 13917 feet, MD: 16236 feet)
   PPP: NWNW / 2310 FNL / 330 FWL / TWSP: 25S / RANGE: 34E / SECTION: 14 / LAT: 32.131287 / LONG: -103.4477585 (TVD: 13804 feet, MD: 13900 feet)
   BHL: NWNW / 330 FNL / 330 FWL / TWSP: 25S / RANGE: 34E / SECTION: 11 / LAT: 32.1512363 / LONG: -103.4477752 (TVD: 13917 feet, MD: 21183 feet)

BLM Point of Contact

Name: Tenille Ortiz
Title: Legal Instruments Examiner
Phone: 5752342224
Email: tortiz@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: ENDER WIGGINS F C 25 34 14 WD **Well Number:** 2H

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:** ENDER WIGGINS FED COM 25 34 11 **Number:** 289-8

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: CONVENTIONAL GAS WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 30 Miles **Distance to nearest well:** 1534 FT **Distance to lease line:** 612 FT

Reservoir well spacing assigned acres Measurement: 480 Acres

Well plat: ENDER_WIGGINS_F_C_25_34_14_WD__2H_C_102_20180202_R3816_001_20180613063119.pdf

APP_2_3160_3_ENDER_WIGGINS_F_C_25_34_14_WD_2H_20180711102849.pdf

Well work start Date: 06/01/2018 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD27 **Vertical Datum:** NAVD88

Survey number: R3817

	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	2449	FNL	582	FWL	25S	34E	14	Aliquot SWNW	32.1309005	-103.4469426	LEA	NEW MEXICO	NEW MEXICO	F	FEE	3331	0	0
KOP Leg #1	2679	FNL	330	FWL	25S	34E	14	Aliquot SWNW	32.1306522	-103.4476331	LEA	NEW MEXICO	NEW MEXICO	F	FEE	-10013	13366	13344

AFMSS

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

Application Data Report

08/24/2018

APD ID: 10400028057 **Submission Date:** 03/12/2018

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: ENDER WIGGINS F C 25 34 14 WD **Well Number:** 2H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400028057 **Tie to previous NOS?** **Submission Date:** 03/12/2018

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: NMNM113419 **Lease Acres:** 1240

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: ENDER WIGGINS F C 25 34 14 WD **Well Number:** 2H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** FAIRVIEW MILLS **Pool Name:** WOLFCAMP

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

APD ID: 10400028057 **Submission Date:** 03/12/2018

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: ENDER WIGGINS F C 25 34 14 WD **Well Number:** 2H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	RUSTLER	2227	908	908	DOLOMITE,ANHYDRITE	OTHER : Brine	No
2	SALADO	816	1411	1411	SALT,ANHYDRITE	OTHER : Brine	No
3	CASTILE	-1383	3610	3610	SALT	OTHER : Brine	No
4	BASE OF SALT	-2907	5134	5153	LIMESTONE,SANDSTONE	OTHER : Brine	No
5	LAMAR	-3192	5419	5440	SHALE,SANDSTONE	OIL	No
6	BELL CANYON	-3223	5450	5471	SHALE,SANDSTONE	OIL	No
7	CHERRY CANYON	-4532	6759	6781	SANDSTONE,OTHER : Carbonate	NATURAL GAS,OIL	No
8	BRUSHY CANYON	-5832	8059	8081	SANDSTONE,OTHER : Carbonate	NATURAL GAS,OIL	No
9	BONE SPRING	-7141	9368	9390	SANDSTONE,OTHER : Carbonate	NATURAL GAS,OIL	No
10	BONE SPRING 1ST	-8168	10395	10417	SANDSTONE,OTHER : Carbonate	NATURAL GAS,OIL	No
11	BONE SPRING 2ND	-8746	10973	10995	SANDSTONE,OTHER : Carbonate	NATURAL GAS,OIL	No
12	BONE SPRING 3RD	-9790	12017	12039	SANDSTONE,OTHER : Carbonates	NATURAL GAS,OIL	No
13	WOLFCAMP	-10243	12470	12492	SHALE,SANDSTONE,OTHER : Carbonate	NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

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. NMNM113419	
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. ENDER WIGGINS F C 25 34 14 WD 2H
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 FAIRVIEW MILLS / WOLFCAMP
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface SWNW / 2449 FNL / 582 FWL / LAT 32.1309005 / LONG -103.4469426 At proposed prod. zone NWNW / 330 FNL / 330 FWL / LAT 32.1512363 / LONG -103.4477752	11. Sec., T. R. M. or Blk. and Survey or Area SEC 14 / T25S / R34E / NMP
14. Distance in miles and direction from nearest town or post office* 30 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) 612 feet	16. No. of acres in lease 1240 / 17. Spacing Unit dedicated to this well 480
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1534 feet	19. Proposed Depth 13917 feet / 21183 feet / 20. BLM/BIA Bond No. on file FED: WYB002107
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3331 feet	22. Approximate date work will start* 06/01/2018 / 23. Estimated duration 30 days

24. Attachments

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

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

25. Signature (Electronic Submission)	Name (Printed Typed) Jennifer Van Curen / Ph: (713)296-2500	Date 03/12/2018
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.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: ENDER WIGGINS F C 25 34 14 WD **Well Number:** 2H

Pressure Rating (PSI): 10M **Rating Depth:** 15152

Equipment: 13 5/8 5M Annular, 10M blind ram, 10M pipe ram, and 10M double ram will be installed and tested for each of the 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 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 will be tested. See attached schematic.

Choke Diagram Attachment:

2_10M.THREE_CHOKE_MANIFOLD.BLM_20180308123942.pdf

5_Choke_Line_Flex_III_Rig_20180308123957.pdf

5_Choke_Line_Test_Chart_SN_63393_20180308124008.pdf

5_Contitech_Hose_SN_663393_20180308124026.pdf

BOP Diagram Attachment:

Ender_Wiggins_Federal_25_34_14_WD_2H_Wellhead_20180312043814.pdf

10M_Flex.BOPE_x_5M_ANNULAR.BLM_20180518045024.PDF

Well_Control_Plan___Permian_20180518045044.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	950	0	950	3331	2381	950	J-55	54.5	STC	1.53	2.92	BUOY	2.76	BUOY	2.76
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	5450	0	5450	3331	-2119	5450	J-55	40	LTC	1.21	1.26	BUOY	1.83	BUOY	1.83
3	PRODUCTION	6.125	5.5	NEW	API	Y	0	12000	0	12000	3331	-8669	12000	P-110	23	OTHER - W625	1.35	1.5	BUOY	2.26	BUOY	2.26

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: ENDER WIGGINS F C 25 34 14 WD **Well Number:** 2H

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
4	INTERMEDIATE	8.75	7.625	NEW	API	N	0	12000	0	12000	3331	-8669	12000	P-110	33.7	OTHER - W523	2.18	1.18	BUOY	2.03	BUOY	2.03
5	PRODUCTION	6.125	4.5	NEW	API	Y	12000	21183	12000	13917	-8669	-10586	9183	P-110	15.1	OTHER - BTC	1.4	1.26	BUOY	2.62	BUOY	2.62

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Surface_Casing_plot_20180518045201.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Intermediate_I_Casing_plot_20180518045222.pdf

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: ENDER WIGGINS F C 25 34 14 WD **Well Number:** 2H

Casing Attachments

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

5.500_BOX_x_4.500_PIN_Crossover_20180518045400.pdf

Casing Design Assumptions and Worksheet(s):

Production_Casing_Plot_20180518045434.pdf

10_5_5_Wedge_625_23lb_P110_Connection_Data_Sheet_20180518045740.pdf

Casing ID: 4 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

9_7_625_Wedge_523_33_7lb_P110_Connection_Data_Sheet_20180308124441.pdf

Intermediate_II_Casing_plot_20180518050012.pdf

Casing ID: 5 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

5.500_BOX_x_4.500_PIN_Crossover_20180518045829.pdf

Casing Design Assumptions and Worksheet(s):

Production_Casing_Plot_20180518045854.pdf

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: ENDER WIGGINS F C 25 34 14 WD **Well Number:** 2H

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	760	604	1.75	13.5	1056	100	Class C	3 lbm/sk granular LCM + 0.1250 lbm/sk Poly-EFlake
SURFACE	Tail		760	950	194	1.36	14.8	264	100	Class C	0.25 % Accelerator
INTERMEDIATE	Lead		0	4360	1381	1.73	12.8	2390	75	Class C	0.02 Gal/Sx Defoamer + 0.5% Extender + 1% Accelerator
INTERMEDIATE	Tail		4360	5450	385	1.33	14.8	512	50	Class C	0.07 % Retarder
INTERMEDIATE	Lead		5150	11000	370	2.7	11	999	70	Class C	0.8% retarder + 10% extender + 0.02 gal/sk + 2.0% Extender + 015% Viscosifier
INTERMEDIATE	Tail		11000	12000	120	1.09	15.6	131	30	Class H	3% extender + 0.1% Dispersant + 0.2% retarder
PRODUCTION	Lead		11700	13300	166	1.18	14.5	196	70	CLASS C	0.35% fluid loss + 0.3% dispersant + 0.1% extender + 0.20% retarder + 0.02% antifoam
PRODUCTION	Lead		13300	21183	0	0	0	0	0	TAIL ONLY	na
PRODUCTION	Tail		13300	21183	818	1.18	15.6	965	30	CLASS H	0.3% FLUID LOSS + 0.02% ANTIFOAM + 0.01% DISPERSANT + 0.04% RETARDER + 0.02% VISCOSIFIER

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: ENDER WIGGINS F C 25 34 14 WD **Well Number:** 2H

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
950	5450	SALT SATURATED	9.9	10.2							
0	950	WATER-BASED MUD	8.4	8.8							
12000	21183	OIL-BASED MUD	12	13.5							
5450	12000	OTHER : Cut Brine	9	9.4							

Section 6 - Test, Logging, Coring

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

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

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

GR

Coring operation description for the well:

d. DST's: None.
e. *Open Hole Logs: GR while drilling from Intermediate I casing shoe to TD.*

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 11133 **Anticipated Surface Pressure:** 8071.26

Anticipated Bottom Hole Temperature(F): 209

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:

4_Marathon_Carlsbad__Ender_Wiggins_Fed25_34_14_1H_2H_3H_Contingency_Plan_020918_20180305085331.pdf
4_H2S_Contiengency_Plan_Summary_20180305085341.pdf
ENDER_WIGGINS_FEDERAL_Com_1_2_3___Gas_Capture_Plan___2_13_2018_20180502105255.pdf
4_H2S_Contiengency_Plan_Summary_20180305085341_20180711113207.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Ender_Wiggins_F_C_25_34_14_WD_2H_Directional_Plans_20180626131329.pdf

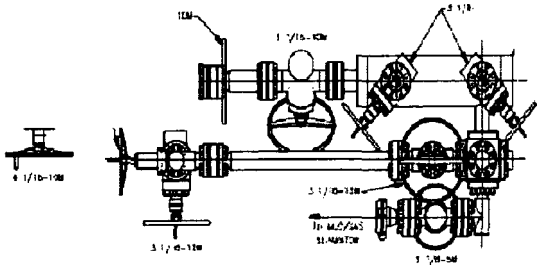
Other proposed operations facets description:

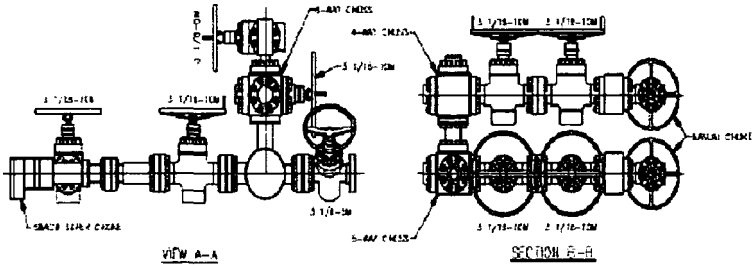
Potential Hazards:
- H2S detection equipment will be in operation after drilling out the surface casing shoe until the production casing has been cemented. Breathing equipment will be on location from drilling out the surface shoe until production casing is cemented. If H2S is encountered the operator 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.

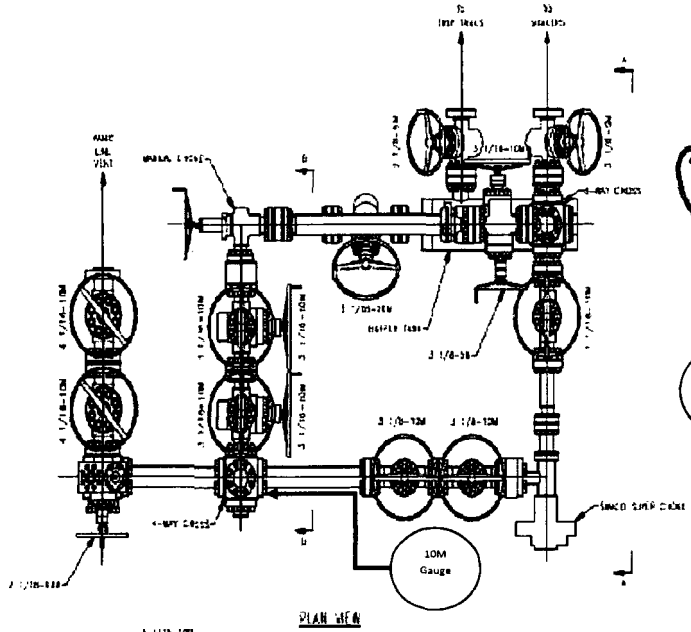
Other proposed operations facets attachment:

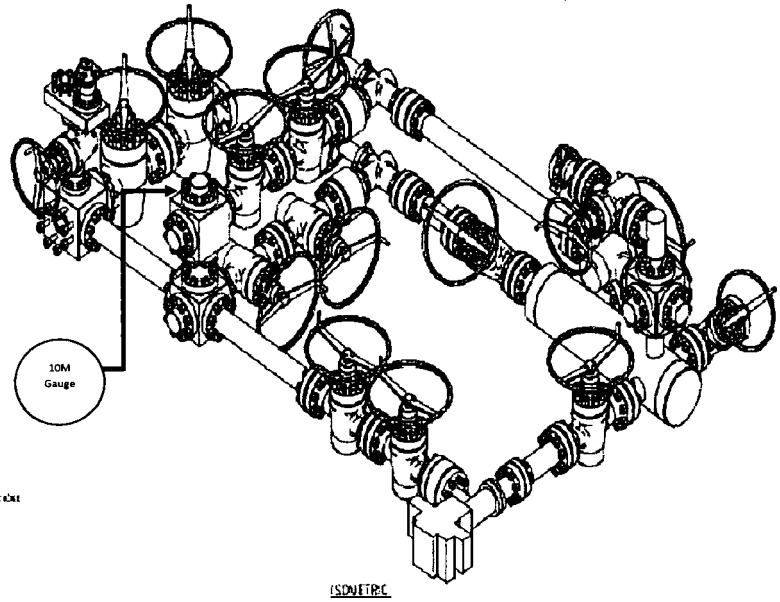
Batch_Drilling_Plan_and_Surface_Rig_Request_20180516112309_20180517055044.pdf
Ender_Wiggins_F_C_25_34_14_WD_2H_Drilling_APD_Information_20180621054204.doc

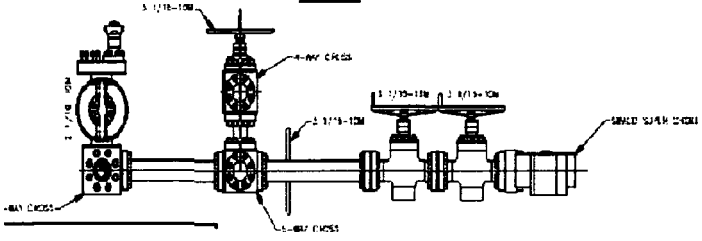
Other Variance attachment:

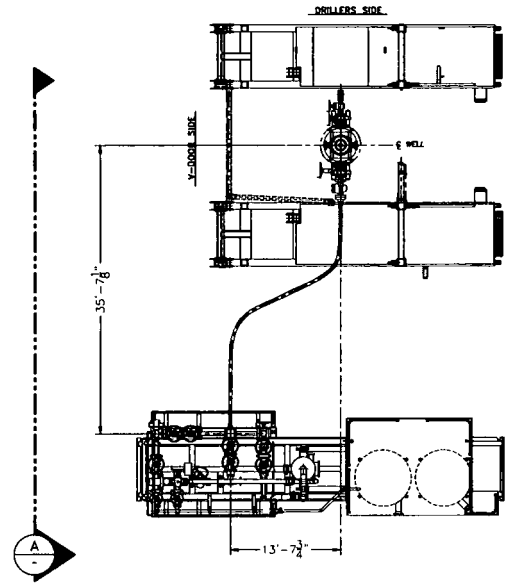



VIEW A-A
SECTION B-B

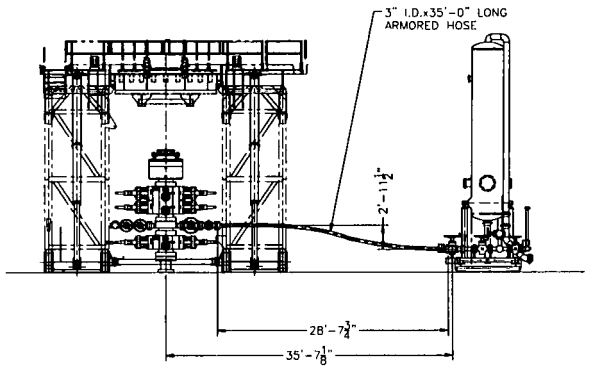

10M
Gauge
PLAN VIEW


10M
Gauge
ISOMETRIC





PLAN VIEW



SECTION "A"

ISSUED FOR FABRICATION
December-19-2007
DRAFTSMAN
ENGINEER

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

HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.

TITLE: CHOKE LINE SYSTEM
FLEXRIG3

CUSTOMER

PROJECT:

DRAWN	JBG	DATE: 4-10-07	DWG NO:	REV
SCALE	3/18"=1'	SHEET 2 OF 0	210-P1-07	A

Certificate of Conformity

ContiTech

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

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

Hydrostatic Test Certificate

ContiTech

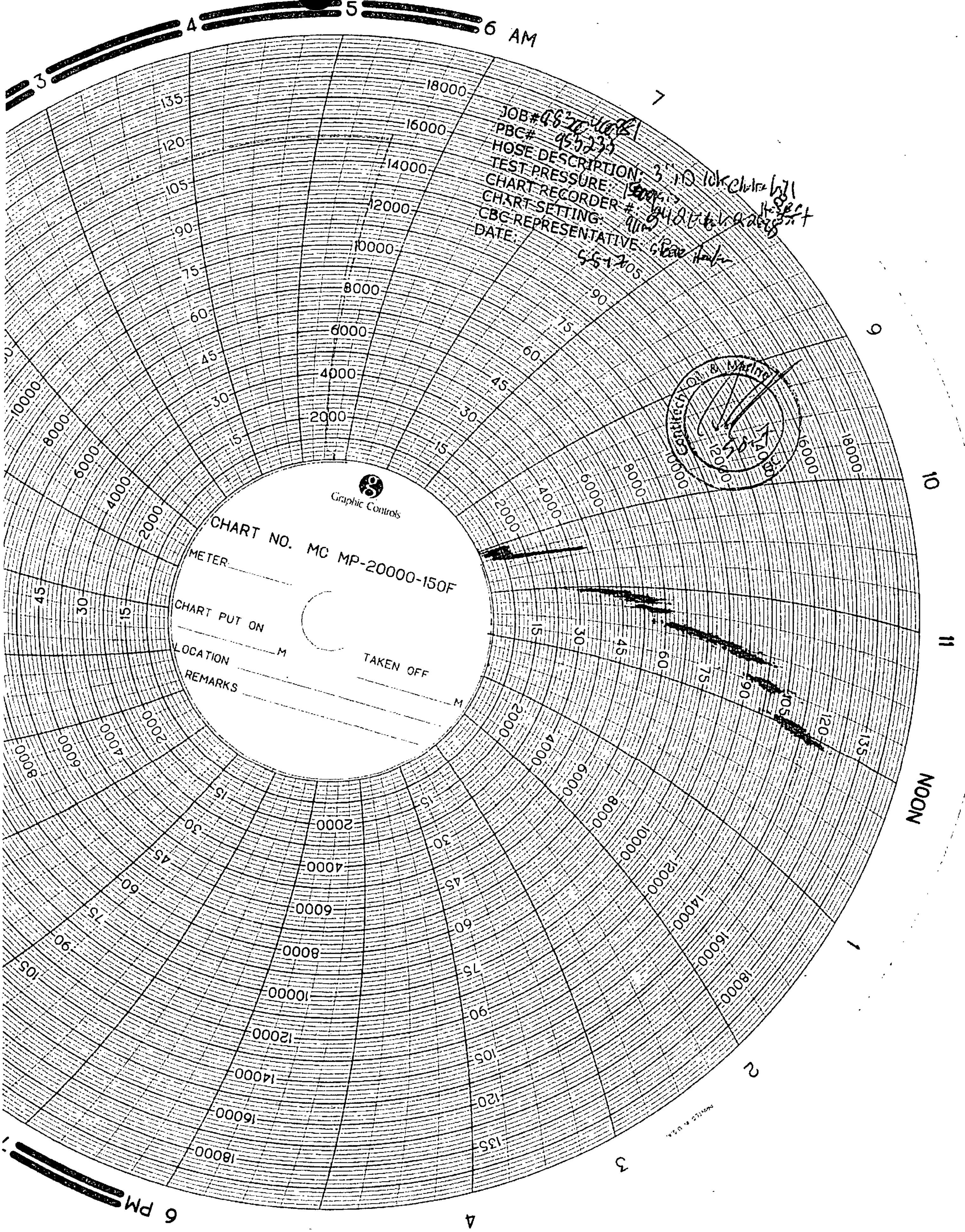
Certificate Number	COM Order Reference	Customer Name & Address
953233-4	953233	HELMERICH & PAYNE DRILLING CO 1434 SOUTH BOULDER AVE TULSA, OK 74119 USA
Customer Purchase Order No:	740053080	
Project:		

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

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

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

63393



JOB#
PBC#
HOSE DESCRIPTION:
TEST PRESSURE:
CHART RECORDER #
CHART SETTING:
CBC REPRESENTATIVE:
DATE:
Graphic Controls
CHART NO. MC MP-20000-150F
METER
CHART PUT ON
M
LOCATION
TAKEN OFF
M
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.
(1)

QMS REGISTERED

Certificate of Registration

APIQR REGISTRATION NUMBER
0760

This certifies that the quality management system of

CONTITECH RUBBER INDUSTRIAL LTD.
Budapesti ut 10
Szeged
Hungary

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

ISO 9001:2008

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

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

COPY

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

W. Dan Whittaker
Manager of Operations, APIQR

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

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

American Petroleum Institute

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

COPY

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.

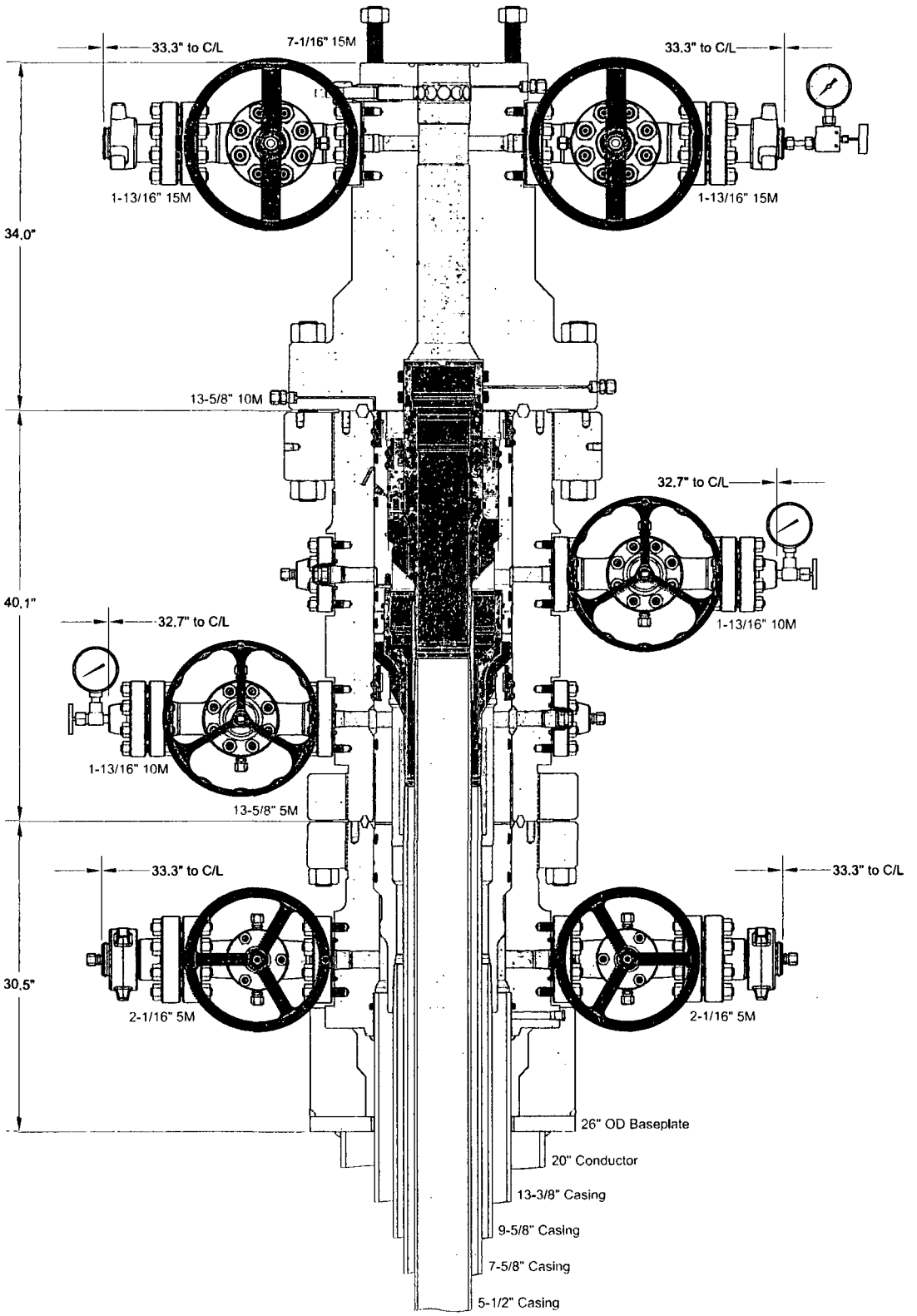
COUNTRY OF ORIGIN HUNGARY/EU

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

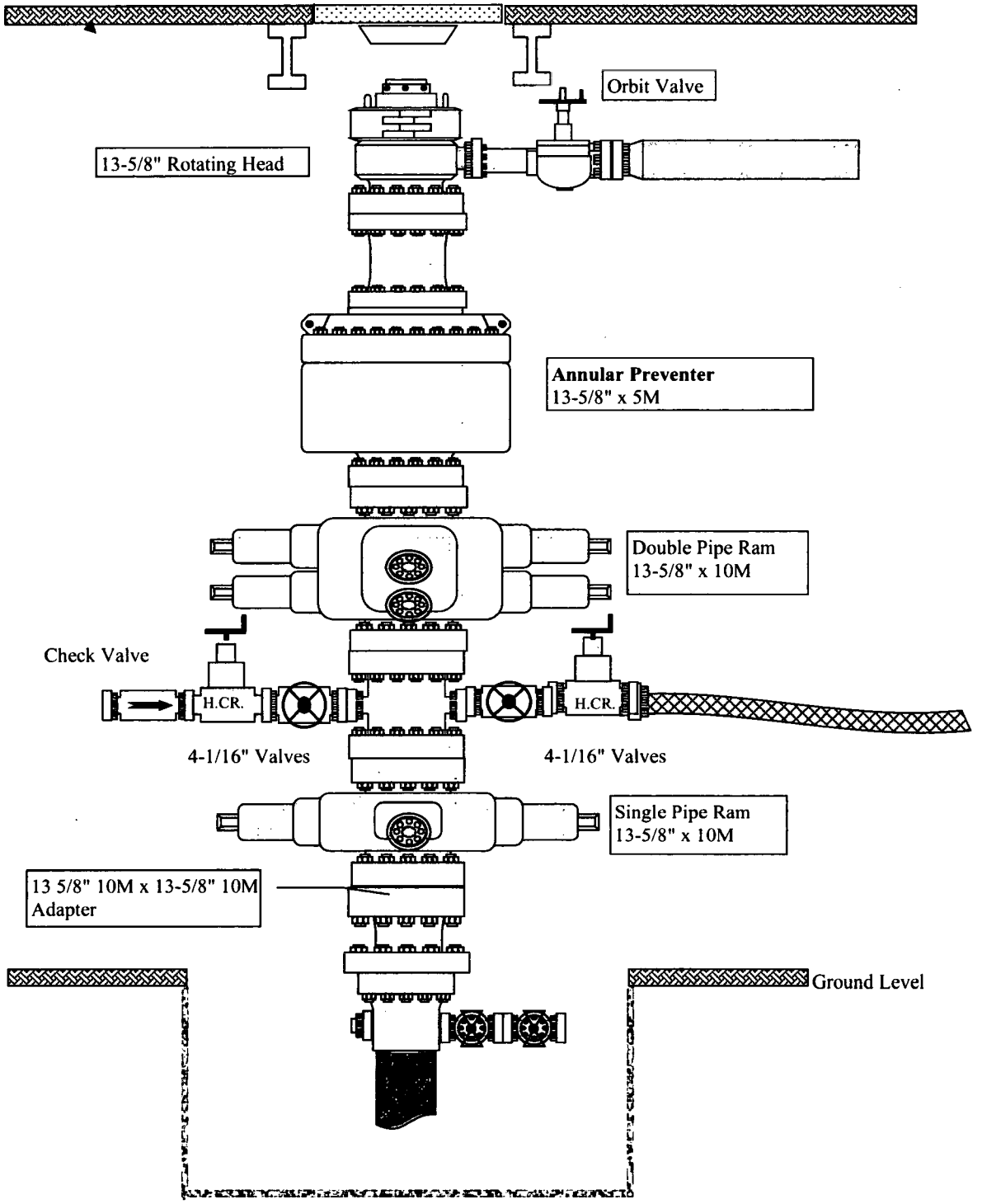


CACTUS WELLHEAD LLC

20" x 13-3/8" x 9-5/8" x 7-5/8" x 5-1/2" MBU-4T-SOW System
With 13-5/8" 10M x 5-1/8" 15M CMT-DBLHPS Tubing Head
And 9-5/8" & 7-5/8" & 5-1/2" Mandrel Casing Hangers

DRAWN	DLE	22DEC17
APPRV		
DRAWING NO.	ODE0002017	

Operator : **Marathon Oil**



1. DRILLING WELL CONTROL PLAN

1.1 WELL CONTROL - CERTIFICATIONS

Required IADC/IWCF Well Control Certifications Supervisor Level:

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

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

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

Well Control-Position/Roles

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

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

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

(Well Control-Positions/Roles Continued)

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

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

1.2 WELL CONTROL-COMPONENT AND PREVENTER COMPATIBILITY CHECKLIST

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

- **Example 8-3/4" Production hole section, 10M requirement**

Component	OD	Preventer	RWP
Drill pipe	5"	Fixed lower 5" Upper 4.5-7" VBR	10M
HWDP	5"	Fixed lower 5" Upper 4.5-7" VBR	10M
Drill collars and MWD tools	6.25-6.75"	Upper 4.5-7" VBR	10M
Mud Motor	6.75"	Upper 4.5-7" VBR	10M
Production casing	5.5"	Upper 4.5-7" VBR	10M
ALL	0-13-5/8"	Annular	5M
Open-hole	-	Blind Rams	10M

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

1.3 WELL CONTROL-BOP TESTING

BOP Test will be completed per Onshore Oil and Gas Order #2 Well Control requirements. The 5M Annular Preventer on a required 10M BOP stack will be tested to 70 % of rated working pressure including a 10 minute low pressure test. Pressure shall be maintained at least 10 minutes.

1.4 WELL CONTROL - DRILLS

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

Type	Frequency	Objective	Comments
Shallow gas kick drill - drilling	Once per well with crew on tour	Response training to a shallow gas influx	To be done prior to drilling surface hole if shallow gas is noted
Kick drill - drilling	Once per week per crew	Response training to an influx while drilling (bit on bottom)	Only one kick drill per week per crew is required, alternating between drilling and tripping.
Kick drill - tripping	Once per week per crew	Response training to an influx while tripping (bit off bottom). Practice stabbing TIW valve	
Choke drill	Once per well with crew on tour	Practice in operating the remotely operated choke with pressure in the well	Before drilling out of the last casing set above a prospective reservoir Include the scenario of flowing well with gas on drill floor as a table top
H_2S drill	Prior to drilling into a potential H_2S zone/reservoir	Practice in use of respiratory equipment	

1.5 WELL CONTROL – MONITORING

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

- Prior to dropping a survey instrument.
- Prior to dropping a core ball.
- After a well kill operation.
- When the mud density is reduced in the well.

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

1.6 WELL CONTROL – SHUT IN

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

2. SHUT-IN PROCEDURES:

2.1 PROCEDURE WHILE DRILLING

- Sound alarm (alert crew)
- Space out drill string – Stop rotating, pick the drill string up off bottom, and space out to ensure no tool joint is located in the BOP element selected for initial closure.
- Shut down pumps (stop pumps and observe well.)
- Shut-in Well - If flow is suspected or confirmed, close uppermost applicable BOP element. (HCR and choke will already be in the closed position.)
    - **Note:** Either the uppermost pipe ram or annular preventer can be used.
- Confirm shut-in
- Notify toolpusher/company representative
- Gather all relevant data required:
    - SIDPP and SICP
    - Hole Depth and Hole TVD
    - Pit gain
    - Time
    - Kick Volume
    - Pipe depth
    - MW in, MW out
    - SPR's (Slow Pump Rate's)
- Regroup and identify forward plan (let well stabilize, update kill sheet, inventory mud additives and mud volumes on location)
- Company Representative, Drilling Superintendent, Drilling Engineer and Drilling Manager will discuss well control kill method to be utilized. A verbal Risk Assessment and preferred kill method will be finalized. Initial Risk Assessment will be finalized within 1 hour of initial shut in.
- <u>No well kill operation commences until there is a plan agreed by the Superintendent, On-Site Supervisor and the Drilling Contractor PIC</u>.
- Recheck all pressures and fluid volume on accumulator unit
- **If pressure has built or is anticipated during the kill to reach 2,500 psi or greater, the annular preventer CANNOT be used as per Oil Company Well Control Policy, swap to the upper BOP pipe ram.**

2.2 PROCEDURE WHILE TRIPPING

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

Procedure While Tripping (Continued)

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

2.3 PROCEDURE WHILE RUNNING CASING

- Sound alarm (alert crew)
- Stab crossover and full opening safety valve and close
- Space out casing (ensure no coupling is located in the BOP element selected for initial closure).
- Shut down pumps (stop pumps and observe well.)
- Shut-in Well - If flow is suspected or confirmed, close uppermost applicable BOP element. (HCR and choke will already be in the closed position.)
  - **Note:** Either the uppermost pipe ram or annular preventer can be used.
- Confirm shut-in
- Notify tool pusher/company representative
- Gather all relevant data required:
  - SIDPP and SICP
  - Hole Depth and Hole TVD
  - Pit gain
  - Time
  - Kick Volume
  - Pipe depth
  - MW in, MW out
  - SPR's (Slow Pump Rate's)
- Regroup and identify forward plan (let well stabilize, update kill sheet, inventory mud additives and mud volumes on location)
- Company Representative, Drilling Superintendent, Drilling Engineer and Drilling Manager will discuss well control kill method to be utilized. A verbal Risk Assessment and preferred kill method will be finalized. Initial Risk Assessment will be finalized within 1 hour of initial shut in.
- <u>No well kill operation commences until there is a plan agreed by the Superintendent, On-Site Supervisor and the Drilling Contractor PIC</u>.
- Recheck all pressures and fluid volume on accumulator unit
  If pressure has built or is anticipated during the kill to reach 2,500 psi or greater, the annular preventer CANNOT be used, swap to the upper BOP pipe ram.

2.4 PROCEDURE WITH NO PIPE IN HOLE (OPEN HOLE)

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

2.5 PROCEDURE WHILE PULLING BHA THRU STACK

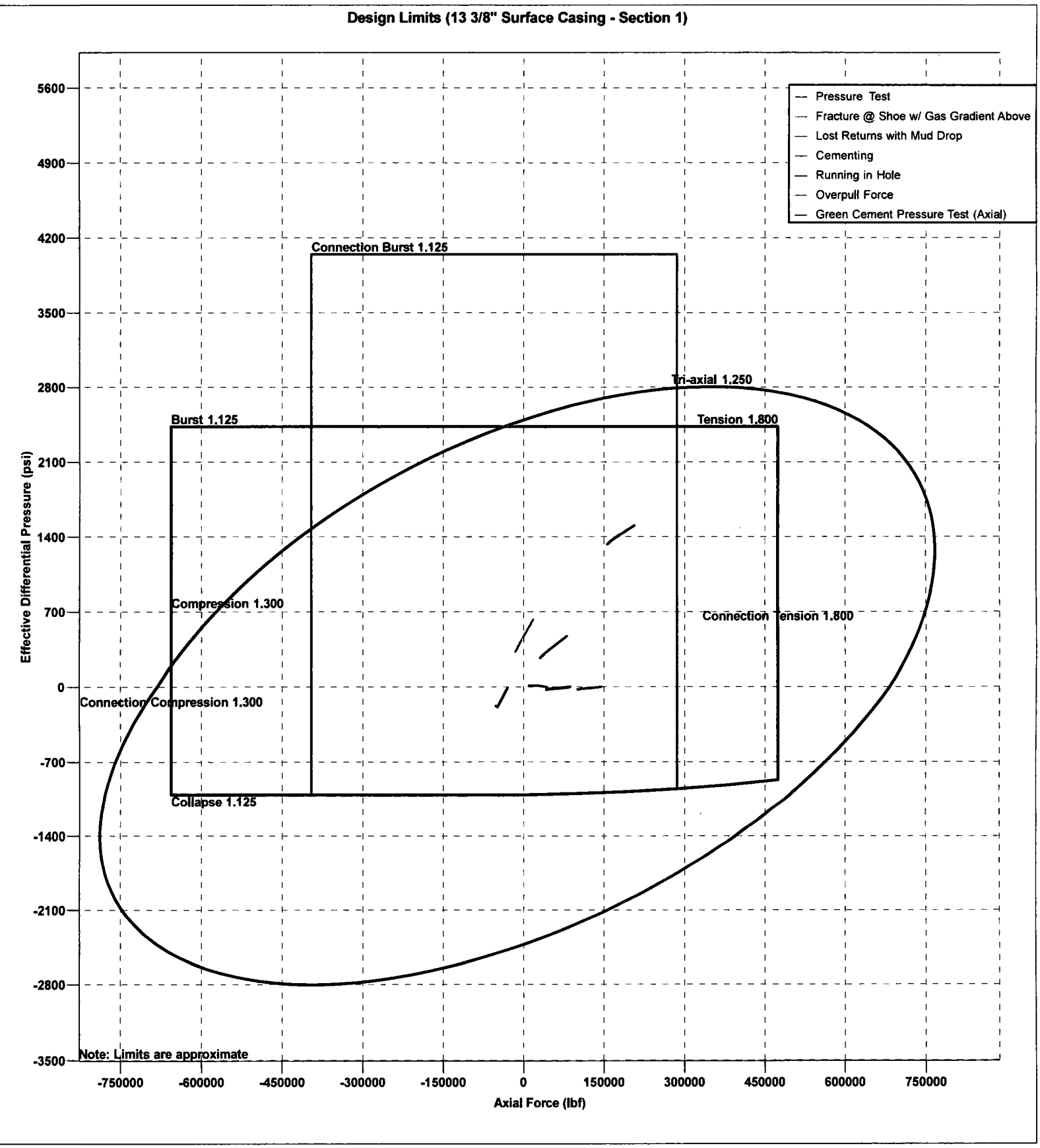
- PRIOR to pulling last joint of drill pipe thru the stack.
- Perform flow check, if flowing.
- Sound alarm (alert crew).
- Stab full opening safety valve and close
- Space out drill string with tool joint just beneath the upper pipe ram.
- Shut-in using upper pipe ram. (HCR and choke will already be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

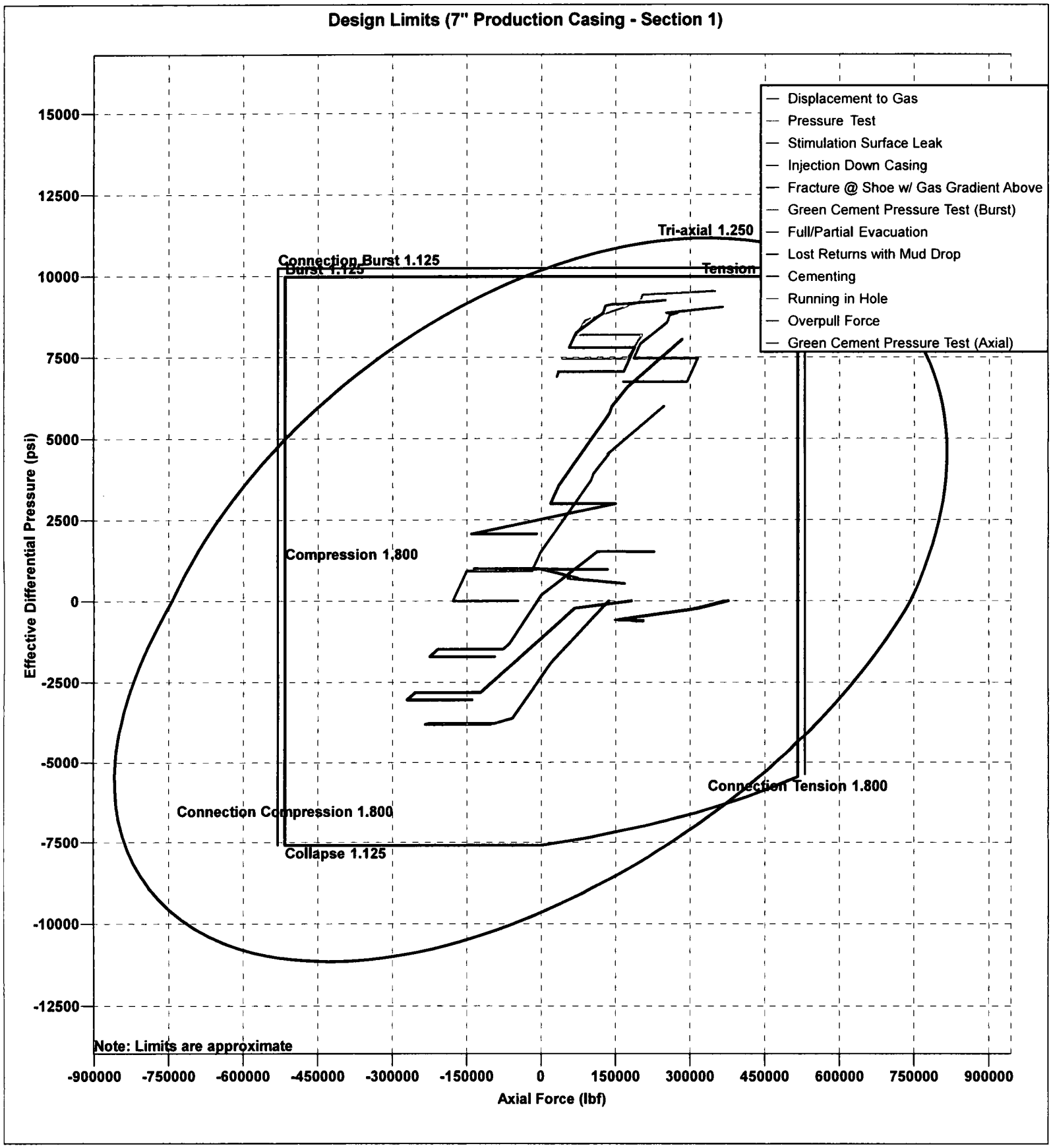
- **With BHA in the stack and compatible ram preventer and pipe combo immediately available.**
    - Sound alarm (alert crew)
    - Stab crossover and full opening safety valve and close
    - Space out drill string with upset just beneath the compatible pipe ram.
    - Shut-in using compatible pipe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

Procedures While Pulling BHA thru Stack (Continued)

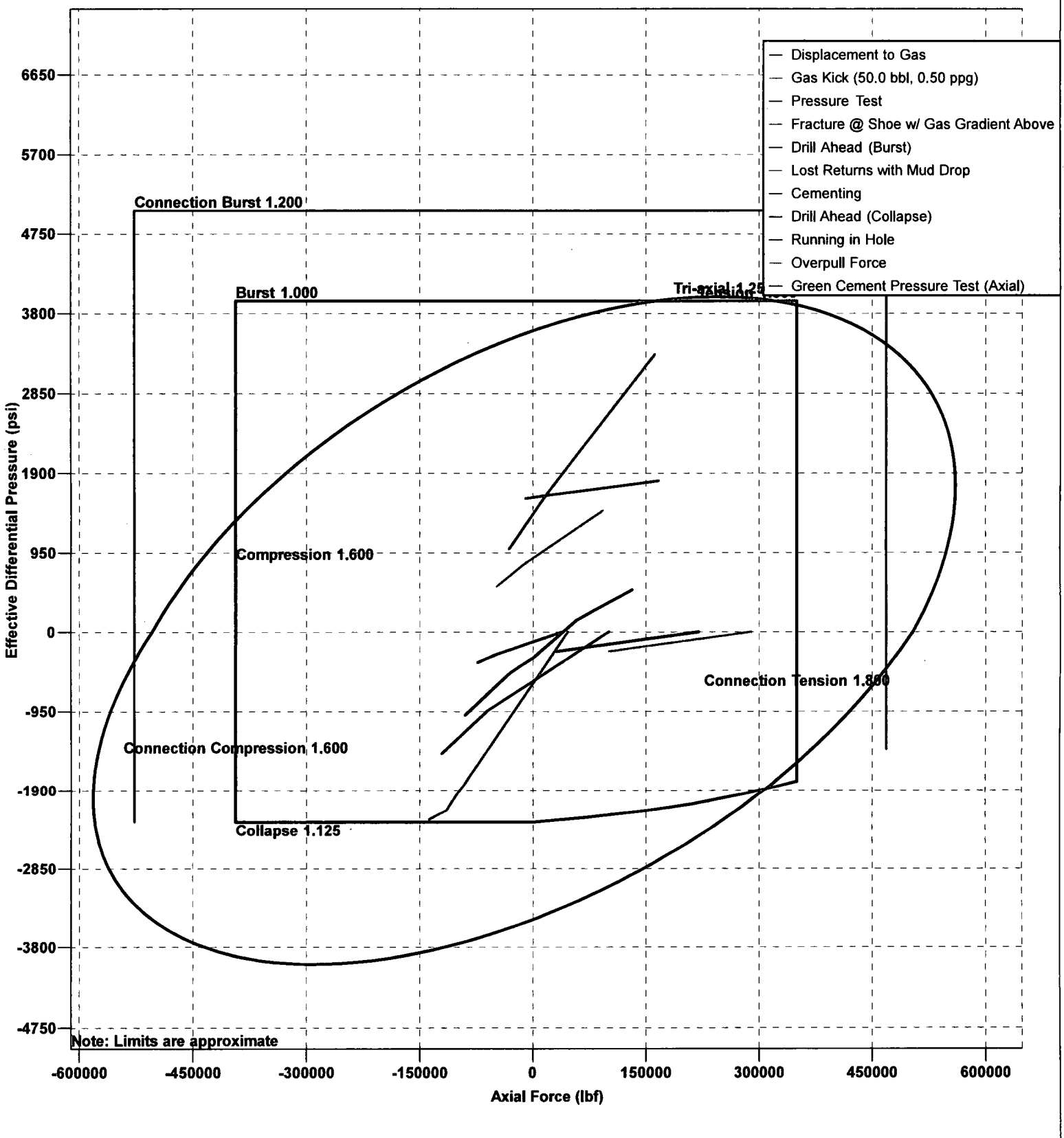
    - Time
  - Regroup and identify forward plan

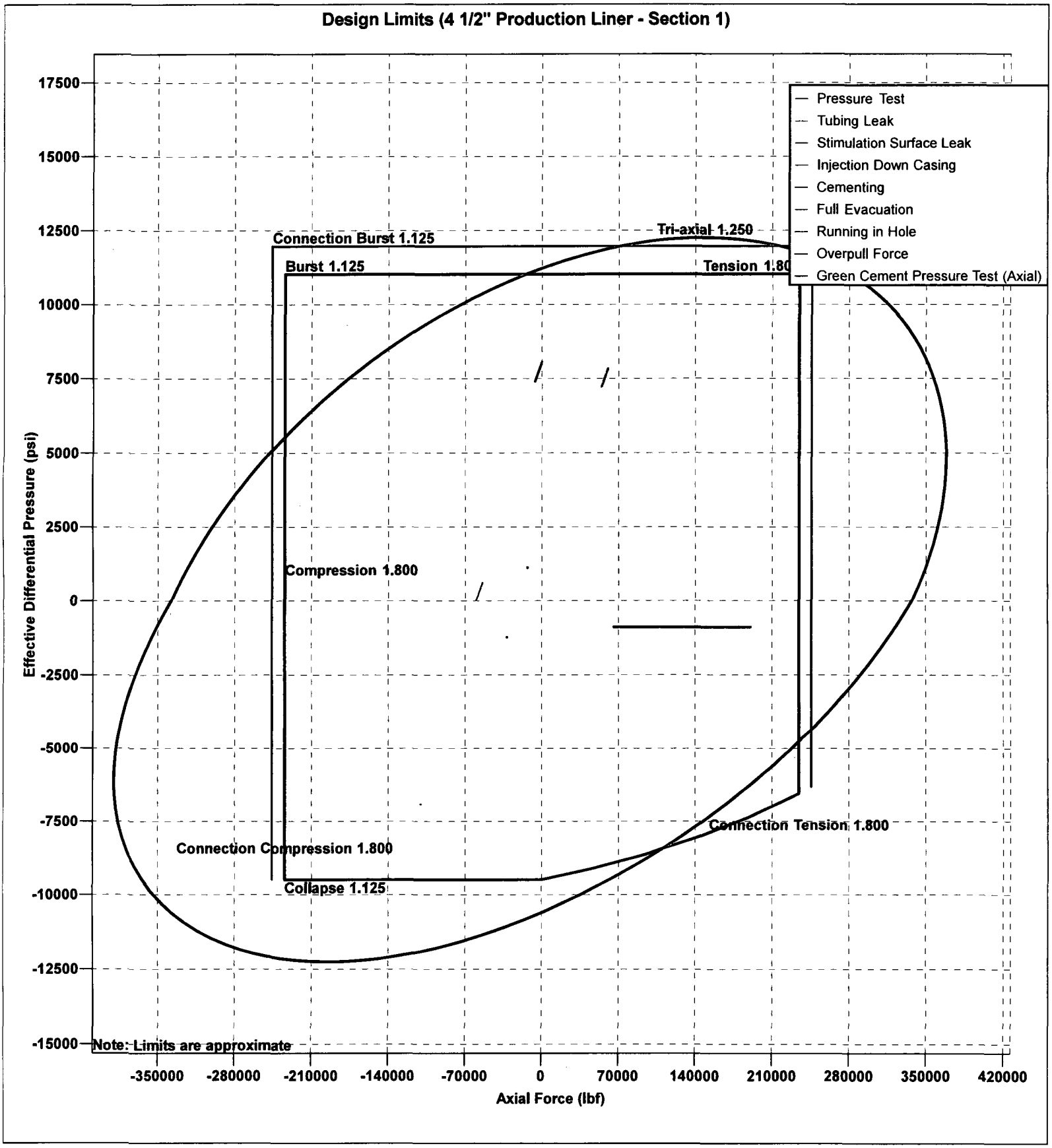
- **With BHA in the stack and <u>NO</u> compatible ram preventer and pipe combo immediately available.**
  - Sound alarm (alert crew)
  - If possible to pick up high enough, pull string clear of the stack and follow "Open Hole" scenario.
  - If impossible to pick up high enough to pull the string clear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


Design Limits (13 3/8" Surface Casing - Section 1)
Pressure Test
Fracture @ Shoe w/ Gas Gradient Above
Lost Returns with Mud Drop
Cementing
Running in Hole
Overpull Force
Green Cement Pressure Test (Axial)
Connection Burst 1.125
Tri-axial 1.250
Burst 1.125
Tension 1.800
Compression 1.300
Connection Tension 1.800
Connection Compression 1.300
Collapse 1.125
Note: Limits are approximate
Effective Differential Pressure (psi)
5600
4900
4200
3500
2800
2100
1400
700
0
-700
-1400
-2100
-2800
-3500
-750000
-600000
-450000
-300000
-150000
0
150000
300000
450000
600000
750000
Axial Force (lbf)


Design Limits (7" Production Casing - Section 1)
Displacement to Gas
Pressure Test
Stimulation Surface Leak
Injection Down Casing
Fracture @ Shoe w/ Gas Gradient Above
Green Cement Pressure Test (Burst)
Full/Partial Evacuation
Lost Returns with Mud Drop
Cementing
Running in Hole
Overpull Force
Green Cement Pressure Test (Axial)
Tri-axial 1.250
Connection Burst 1.125
Burst 1.125
Tension
Compression 1.800
Connection Tension 1.800
Connection Compression 1.800
Collapse 1.125
Note: Limits are approximate
Effective Differential Pressure (psi)
15000
12500
10000
7500
5000
2500
0
-2500
-5000
-7500
-10000
-12500
-900000
-750000
-600000
-450000
-300000
-150000
0
150000
300000
450000
600000
750000
900000
Axial Force (lbf)

Design Limits (9 5/8" Intermediate Casing - Section 1)

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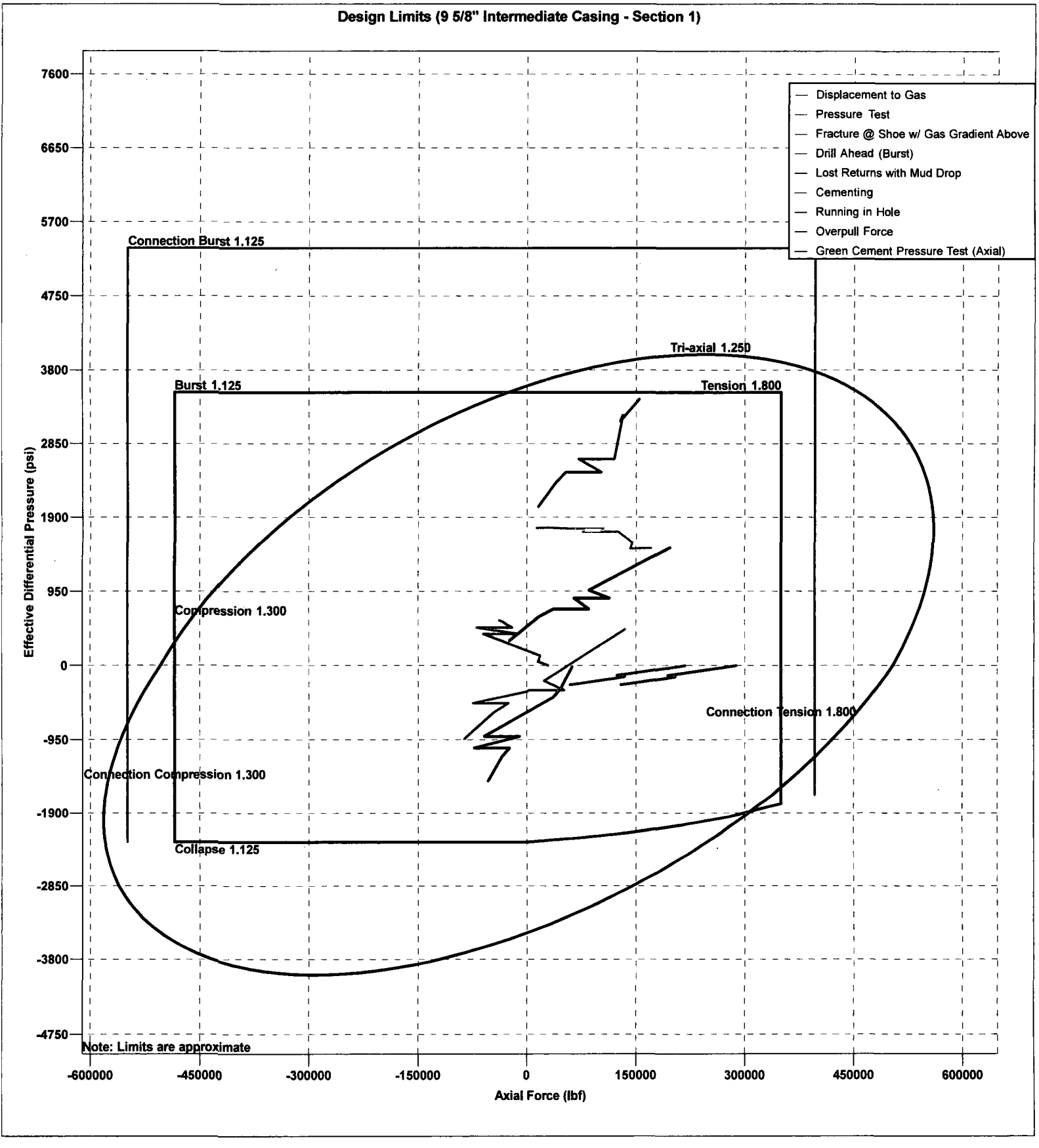
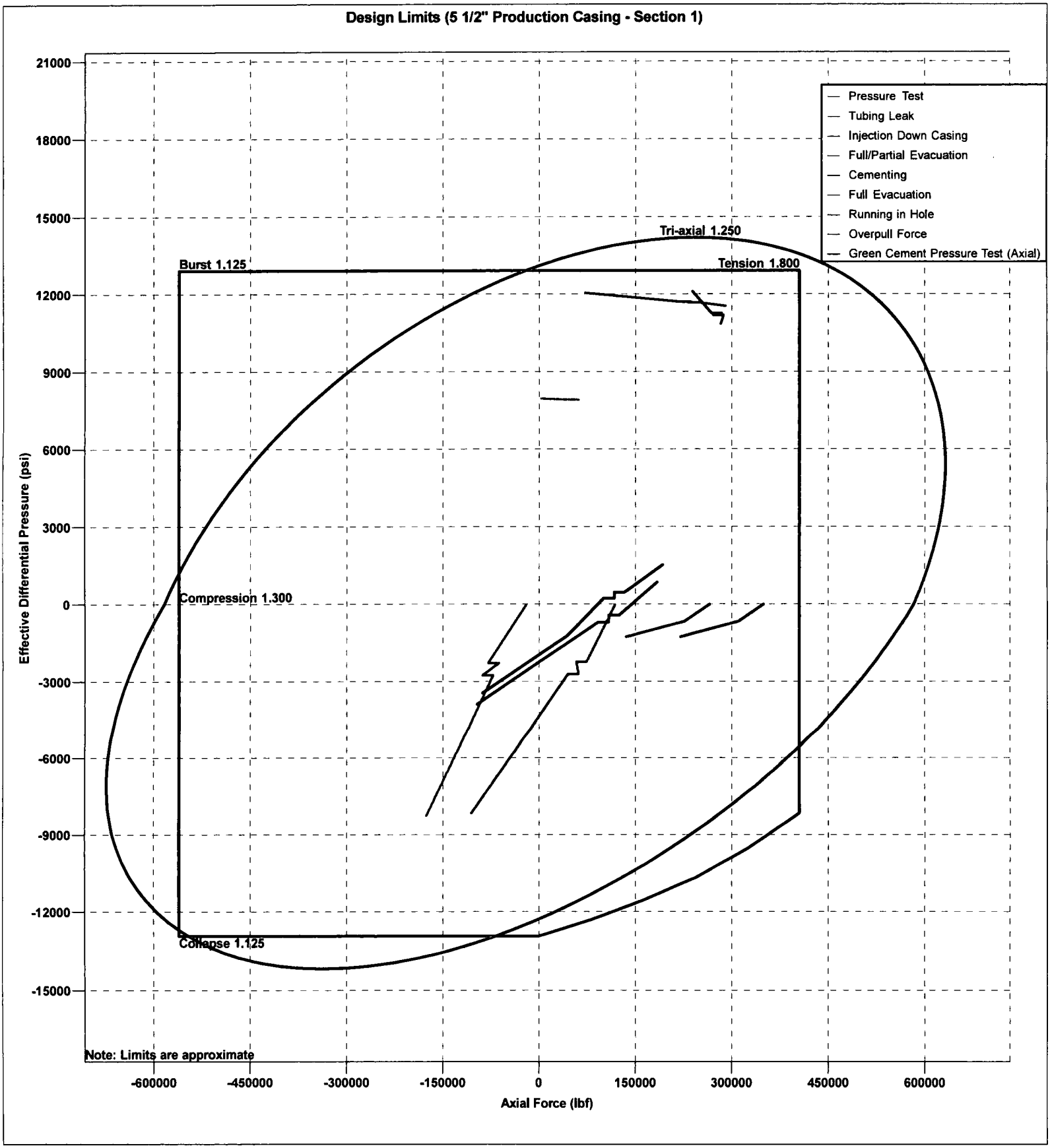
Pressure Test
Tubing Leak
Stimulation Surface Leak
Injection Down Casing
Cementing
Full Evacuation
Running in Hole
Overpull Force
Green Cement Pressure Test (Axial)
Connection Burst 1.125
Burst 1.125
Tri-axial 1.250
Tension 1.80
Compression 1.800
Connection Tension 1.800
Connection Compression 1.800
Collapse 1.125
Note: Limits are approximate
Effective Differential Pressure (psi)
17500
15000
12500
10000
7500
5000
2500
0
-2500
-5000
-7500
-10000
-12500
-15000
-350000
-280000
-210000
-140000
-70000
0
70000
140000
210000
280000
350000
420000
Axial Force (lbf)


Design Limits (9 5/8" Intermediate Casing - Section 1)
Displacement to Gas
Pressure Test
Fracture @ Shoe w/ Gas Gradient Above
Drill Ahead (Burst)
Lost Returns with Mud Drop
Cementing
Running in Hole
Overpull Force
Green Cement Pressure Test (Axial)
Connection Burst 1.125
Tri-axial 1.250
Burst 1.125
Tension 1.800
Compression 1.300
Connection Tension 1.800
Connection Compression 1.300
Collapse 1.125
Note: Limits are approximate
Effective Differential Pressure (psi)
7600
6650
5700
4750
3800
2850
1900
950
0
-950
-1900
-2850
-3800
-4750
-600000
-450000
-300000
-150000
0
150000
300000
450000
600000
Axial Force (lbf)


Design Limits (5 1/2" Production Casing - Section 1)
Pressure Test
Tubing Leak
Injection Down Casing
Full/Partial Evacuation
Cementing
Full Evacuation
Running in Hole
Overpull Force
Green Cement Pressure Test (Axial)
Tri-axial 1.250
Burst 1.125
Tension 1.800
Compression 1.300
Collapse 1.125
Note: Limits are approximate
Effective Differential Pressure (psi)
21000
18000
15000
12000
9000
6000
3000
0
-3000
-6000
-9000
-12000
-15000
-600000
-450000
-300000
-150000
0
150000
300000
450000
600000
Axial Force (lbf)

Wedge 625®

Printed on: 01/03/2018

		Min. Wall Thickness	87.5%	(*)GradeP110	
Outside Diameter	5.500 in.	Connection OD Option	REGULAR	Coupling	Pipe Body
Wall Thickness	0.415 in.	Drift	API Standard	Body: White	1st Band: White
Grade	P110*	Type	Casing	1st Band: -	2nd Band: -
				2nd Band: -	3rd Band: -
				3rd Band: -	4th Band: -

PIPE BODY DATA

Geometry

Nominal OD	5.500 in.	Nominal Weight	23.00 lbs/ft	Drift	4.545 in.
Nominal ID	4.670 in.	Wall Thickness	0.415 in.	Plain End Weight	22.56 lbs/ft
OD Tolerance	API				

Performance

Body Yield Strength	729 x1000 lbs	Internal Yield	14530 psi	SMYS	110000 psi
Collapse	14540 psi				

CONNECTION DATA

Geometry

Connection OD	5.766 in.	Connection ID	4.601 in.	Make-up Loss	5.600 in.
Threads per in	3.12	Connection OD Option	REGULAR		

Performance

Tension Efficiency	91.3 %	Joint Yield Strength	665.577 x1000 lbs	Internal Pressure Capacity	14530.000 psi
Compression Efficiency	94.5 %	Compression Strength	688.905 x1000 lbs	Max. Allowable Bending	84 °/100 ft
External Pressure Capacity	14540.000 psi				

Make-Up Torques

Minimum	12000 ft-lbs	Optimum	14400 ft-lbs	Maximum	21000 ft-lbs

Operation Limit Torques

Operating Torque	31000 ft-lbs	Yield Torque	36000 ft-lbs

Notes

For further information on concepts indicated in this datasheet, download the Datasheet Manual from www.tenaris.com

Wedge 523®

Printed on: 01/03/2018

		Min. Wall Thickness	87.5%	(*)GradeP110	
Outside Diameter	7.625 in.	Connection OD Option	REGULAR	Coupling	Pipe Body
Wall Thickness	0.430 in.	Drift	API Standard	Body: White	1st Band: White
Grade	P110*	Type	Casing	1st Band: -	2nd Band: -
				2nd Band: -	3rd Band: -
				3rd Band: -	4th Band: -

PIPE BODY DATA

Geometry

Nominal OD	7.625 in.	Nominal Weight	33.70 lbs/ft	Drift	6.64 in.
Nominal ID	6.765 in.	Wall Thickness	0.430 in.	Plain End Weight	33.07 lbs/ft
OD Tolerance	API				

Performance

Body Yield Strength	1069 x1000 lbs	Internal Yield	10860 psi	SMYS	110000 psi
Collapse	7870 psi				

CONNECTION DATA

Geometry

Connection OD	7.775 in.	Connection ID	6.675 in.	Make-up Loss	4.060 in.
Threads per in	3.06	Connection OD Option	REGULAR		

Performance

Tension Efficiency	72.6 %	Joint Yield Strength	776.094 x1000 lbs	Internal Pressure Capacity	10860.000 psi
Compression Efficiency	82.4 %	Compression Strength	880.856 x1000 lbs	Max. Allowable Bending	47.9 °/100 ft
External Pressure Capacity	7870.000 psi				

Make-Up Torques

Minimum	9900 ft-lbs	Optimum	11900 ft-lbs	Maximum	17300 ft-lbs

Operation Limit Torques

Operating Torque	42000 ft-lbs	Yield Torque	63000 ft-lbs

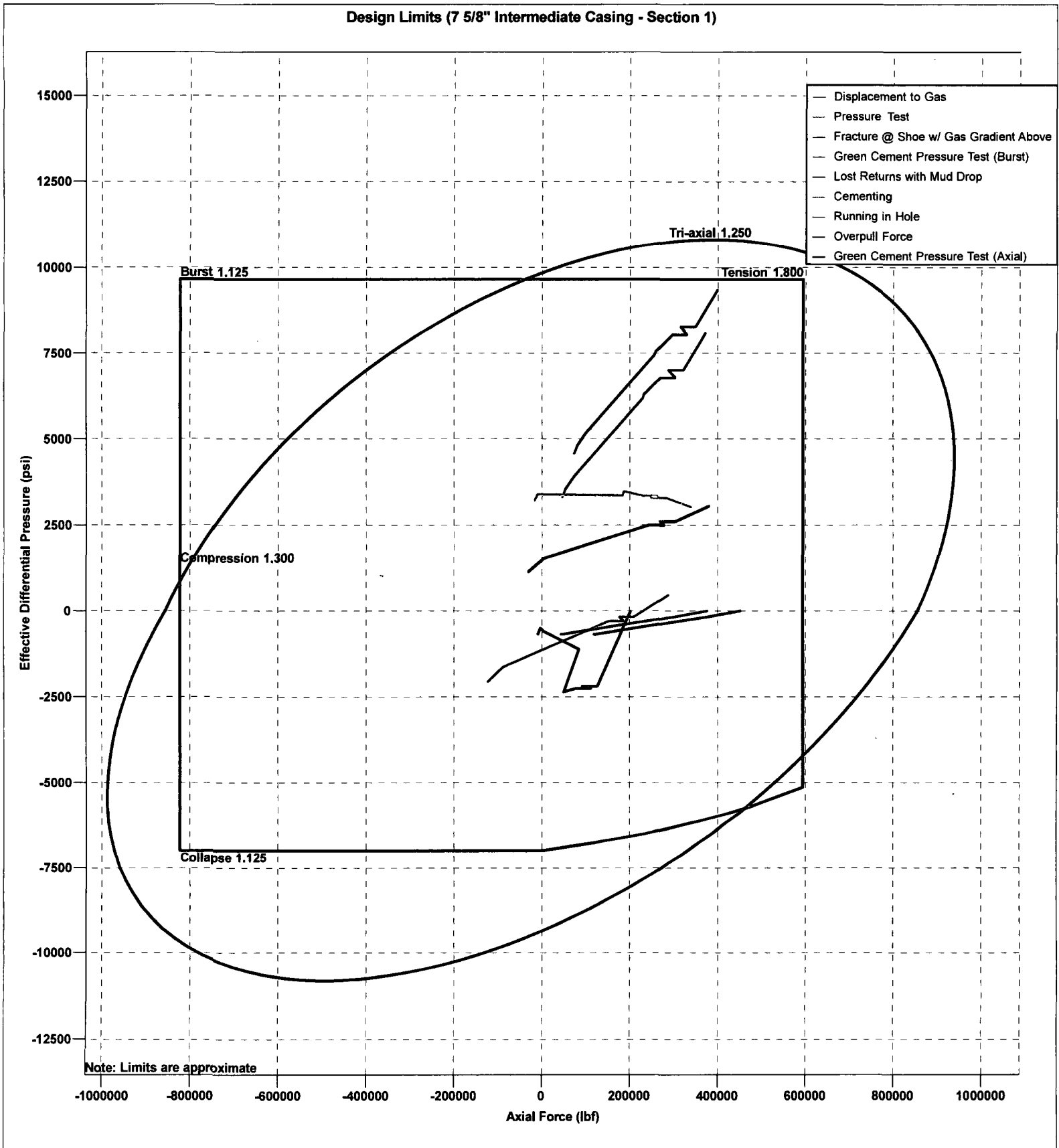
Notes

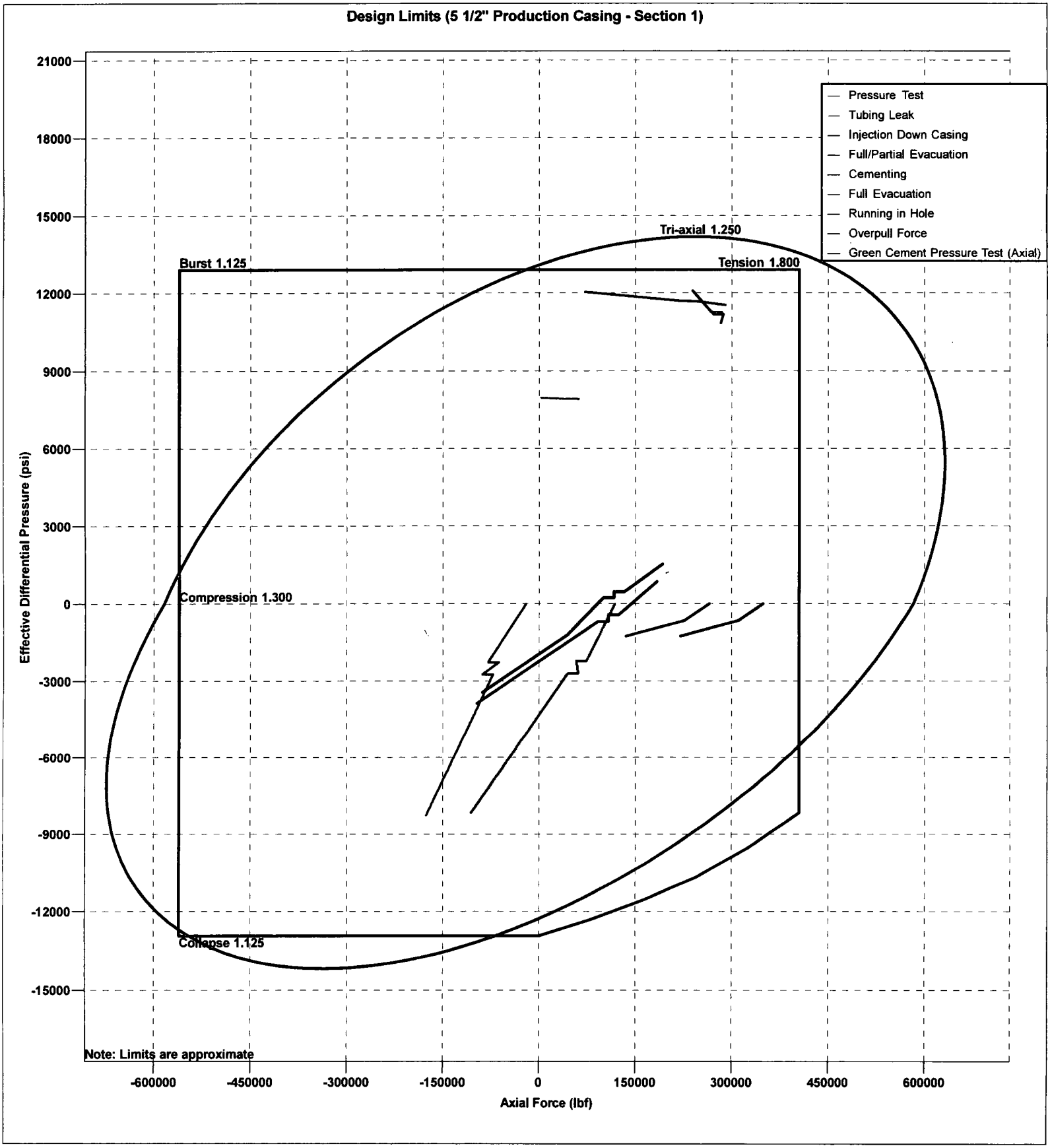
This connection is fully interchangeable with:

Wedge 513® - 7.625 in. - 33.7 lbs/ft

Connections with Dopeless® Technology are fully compatible with the same connection in its Standard version

For further information on concepts indicated in this datasheet, download the Datasheet Manual from www.tenaris.com


Design Limits (7 5/8" Intermediate Casing - Section 1)
Displacement to Gas
Pressure Test
Fracture @ Shoe w/ Gas Gradient Above
Green Cement Pressure Test (Burst)
Lost Returns with Mud Drop
Cementing
Running in Hole
Overpull Force
Green Cement Pressure Test (Axial)
Tri-axial 1.250
Burst 1.125
Tension 1.800
Compression 1.300
Collapse 1.125
Note: Limits are approximate
Effective Differential Pressure (psi)
15000
12500
10000
7500
5000
2500
0
-2500
-5000
-7500
-10000
-12500
-1000000
-800000
-600000
-400000
-200000
0
200000
400000
600000
800000
1000000
Axial Force (lbf)


Design Limits (5 1/2" Production Casing - Section 1)
Pressure Test
Tubing Leak
Injection Down Casing
Full/Partial Evacuation
Cementing
Full Evacuation
Running in Hole
Overpull Force
Green Cement Pressure Test (Axial)
Tri-axial 1.250
Burst 1.125
Tension 1.800
Compression 1.300
Collapse 1.125
Note: Limits are approximate
Effective Differential Pressure (psi)
21000
18000
15000
12000
9000
6000
3000
0
-3000
-6000
-9000
-12000
-15000
-600000
-450000
-300000
-150000
0
150000
300000
450000
600000
Axial Force (lbf)

SAFETY EQUIPMENT

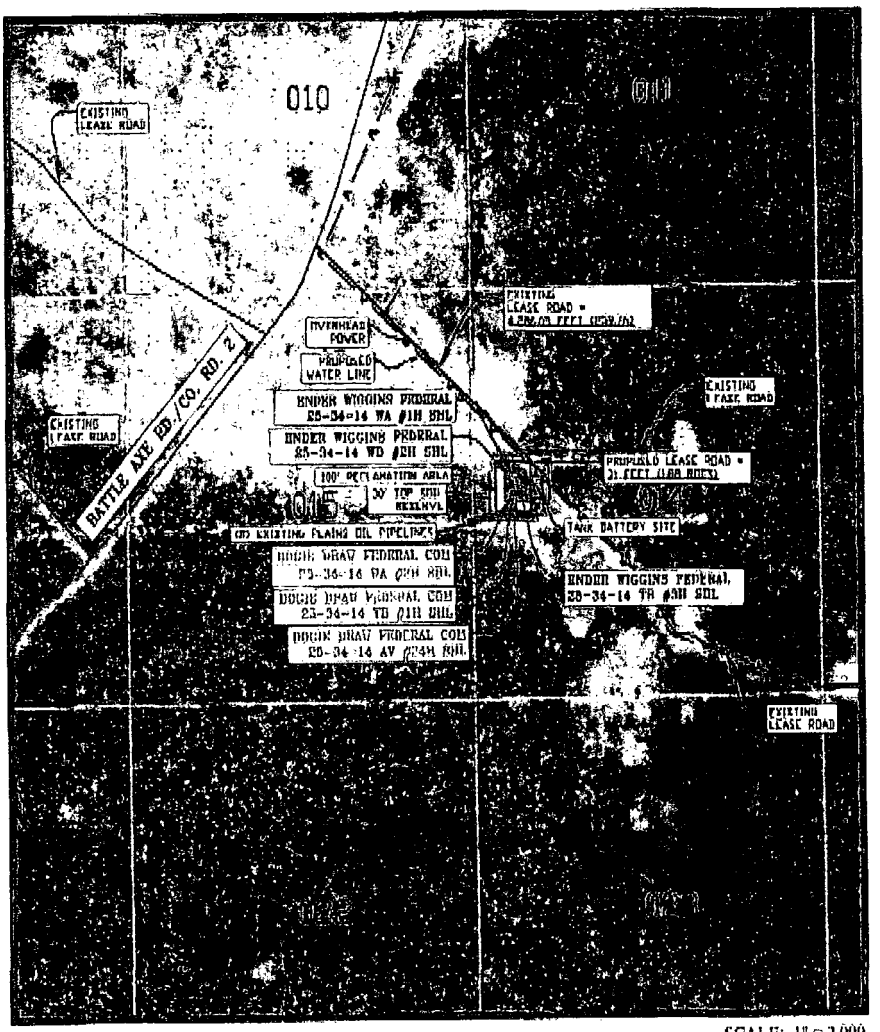
All H2S related Safety Equipment must be installed, tested and Operational at a depth of 500 fee above, or 3 days prior to penetrating the first zone expected to contain H2S.

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

EXHIBIT "E"

ENDER WIGGINS FEDERAL 25-34-14
TWP. 25-S RGE. 34-E
SURVEY: N.M.P.M.
COUNTY: LEA
OPERATOR: MARATHON OIL PERMIAN LLC
U.S.G.S. TOPOGRAPHIC MAP: WOODLEY FLAT, N.M.



SCALE: 1" = 2,000

LEGEND

PROPOSED WELL PAD
ARCH SURVEY LIMITS
EXISTING LEASE ROAD
PROPOSED LEASE ROAD
SECTION LINE
PI/BEND O
WELLS •

PREPARED BY:
S-SQUARED GLOBAL, LLC
1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-388-0900 OFFICE
JOB No. 25618

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.

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.

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.

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

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

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.

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:

*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.

*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

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

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

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

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.

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.

APPENDICES

EMERGENCY & MEDICAL FACILITIES:

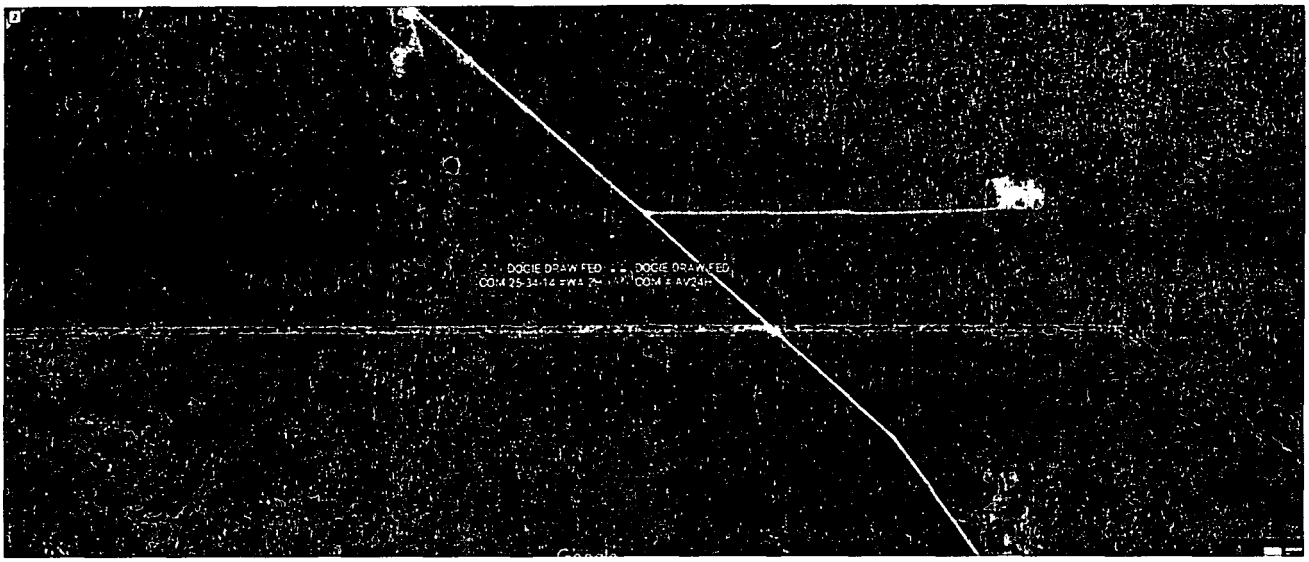
Marathon Oil Corporation Emergency Numbers			
Brent Evans	Drilling Manager	blevans@marathonoil.com	832 967-8474
Mark Bly	Drilling Superintendent	permiansuper@marathonoil.com	281-840-0467
Chad Butler	Drilling Superintendent	permiansuper@marathonoil.com	281-840-0467
Jacob Beaty	Drilling Engineer	jabeaty@marathonoil.com	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.

RESIDENTS AND LANDOWNERS

AERIAL SATELLITE MAP



RESIDENCE

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

Batch Drilling Plan

- Marathon Oil Permian LLC. respectfully requests the option to "batch" drill sections of a well with intentions of returning to the well for later completion.
- When it is determined that the use of a "batch" drilling process to increase overall efficiency and reduce rig time on location, the following steps will be utilized to ensure compliant well control before releasing drilling rig during the batch process.
- Succeeding a successful cement job, fluid levels will be monitored in both the annulus and casing string to be verified static.
- A mandrel hanger packoff will be ran and installed in the multi-bowl wellhead isolating and creating a barrier on the annulus. This packoff will be tested to 5,000 PSI validating the seals.
- At this point the well is secure and the drilling adapter will be removed from the wellhead.
- A 13-5/8" 5M temporary abandonment cap will be installed on the wellhead by stud and nut flange. The seals of the TA cap will then be pressure tested to 5,000 PSI.
- The drilling rig will skid to the next well on the pad to continue the batch drilling process.
- When returning to the well with the TA cap, the TA cap will be removed and the BOP will be nippled up on the wellhead.
- A BOP test will then be conducted according to Onshore Order #2 and drilling operations will resume on the subject well.

Request for Surface Rig

- Marathon Oil Permian LLC. Requests the option to contract a surface rig to drill, set surface casing and cement on the subject well. If the timing between rigs is such that Marathon Oil Permian LLC. would not be able to preset the surface section, the primary drilling rig will drill the well in its entirety per the APD.

MARATHON OIL PERMIAN LLC

DRILLING AND OPERATIONS PLAN

WELL NAME / NUMBER: ENDER WIGGINS F C 25 34 14 WD 2H
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	2449	FNL	582	FWL	25S	34E	14	SWNW	32.02240349 N	103.41024360 W	Lea	NM	NMP			3331	0	0
KOP	2679	FNL	330	FWL	25S	34E	14	SWNW	32.130652222 N	103.447633056 W	Lea	NM	NMP			-10013	13366	13344
PPP	2310	FNL	330	FWL	25S	34E	14	SWNW	32.131286968 N	103.447758548 W	Lea	NM	NMP			-10473	13900	13804
EXIT	0	FNL	330	FWL	25S	34E	14	NWNW	32.137636667 N	103.447765556 W	Lea	NM	NMP			-10586	16236	13917
PPP	0	FSL	330	FWL	25S	34E	11	SWSW	32.137636667 N	103.447765556 W	Lea	NM	NMP	F	NMNM113419	-10586	16236	13917
EXIT	2639	FSL	330	FWL	25S	34E	11	NWSE	32.144891389 N	103.447769722 W	Lea	NM	NMP	F	NMNM113419	-10586	18875	13917
PPP	2639	FSL	330	FWL	25S	34E	11	SWNW	32.144891389 N	103.447769722 W	Lea	NM	NMP	F	NMNM108476	-10586	18875	13917
EXIT	330	FNL	330	FWL	25S	34E	11	NWNW	32.15123633 N	103.44777519 W	Lea	NM	NMP	F	NMNM108476	-10586	21183	13917
BHL	330	FNL	330	FWL	25S	34E	11	NWNW	32.15123633 N	103.44777519 W	Lea	NM	NMP	F	NMNM108476	-10586	21183	13917

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	908	908	Anhydrite/Dolomite	BRINE	N
Salado	1,411	1,411	Salt/Anhydrite	BRINE	N
Castile	3,610	3,610	Base Salt	BRINE	N
Base of Salt	5,134	5,153	Limy Sands	BRINE	N
Lamar	5,419	5,440	Sand/Shales	OIL	Y
Bell Canyon	5,450	5,471	Sands/Shale	OIL	Y
Cherry Canyon	6,759	6,781	Sands/Carbonates	OIL	Y
Brushy Canyon	8,059	8,081	Sands/Carbonates	OIL	Y
Bone Spring	9,368	9,390	Sands/Carbonates	OIL	Y
1st Bone Spring Sand	10,395	10,417	Sands/Carbonates	OIL	Y
2nd Bone Spring Sand	10,973	10,995	Sands/Carbonates	OIL	Y
3rd Bone Spring Sand	12,017	12,039	Sands/Carbonates	OIL	Y
Wolfcamp	12,470	12492	Carbonates/Shales/Sands	OIL	Y

DEEPEST EXPECTED FRESH WATER: 475' TVD

ANTICIPATED BOTTOM HOLE PRESSURE: 11,133 psi

ANTICIPATED BOTTOM HOLE TEMPERATURE: 209 °F

ANTICIPATED ABNORMAL PRESSURE: N

ANTICIPATED ABNORMAL TEMPERATURE: N

3. CASING PROGRAM

String Type	Hole Size	Csg Size	Top Set MD	Bottom Set MD	Top Set TVD	TVDBottom Set	Weight (lbs/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
Surface	17 1/2	13 3/8	0	950	0	950	54.5	J55	STC	1.53	2.92	2.76
Intermediate I	12 1/4	9 5/8	0	5450	0	5450	40	J55	LTC	1.21	1.26	1.83
Production	8 3/4	7 5/8	0	12000	0	12000	33.7	P110	W523	2.18	1.18	2.03
Liner	6 1/8	5 1/2	0	12000	0	12000	23	P110	W625	1.35	1.5	2.26
Liner	6 1/8	4 1/2	12000	21183	12000	13917	15.1	P110	BTC	1.40	1.26	2.62

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	760	604	1.747	13.5	1056	100	Class C	3 lbm/sk granular LCM + 0.1250 lbm/sk Poly-E-Flake
Surface	Tail	--	760	950	194	1.364	14.8	264	100	Class C	0.25 % Accelerator
Intermediate I	Lead	--	0	4360	1381	1.73	12.8	2390	75	Class C	0.02 Gal/Sx Defoamer + 0.5% Extender + 1% Accelerator
Intermediate I	Tail	--	4360	5450	385	1.33	14.8	512	50	Class C	0.07 % Retarder
Production	Lead	--	5150	11000	370	2.70	11	999	70	Class C	0.8% retarder + 10% extender + 0.02 gal/sk + 2.0% Extender + 015% Viscosifier
Production	Tail	--	11000	12000	120	1.09	15.6	131	30	Class H	3% extender + 0.1% Dispersant + 0.2% retarder
Liner	Lead	--	11700	13300	166	1.18	14.5	196	70	Class C	0.35% fluid loss + 0.3% dispersant + 0.1% extender + 0.20% retarder + 0.02% antifoam
Liner	Tail	--	13300	21183	818	1.18	15.6	965	30	Class H	0.3% fluid loss + 0.02% antifoam + 0.15% dispersant + 0.4% retarder + 0.02% viscosifier

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	10000	Annular	X	50% of working pressure
			Blind Ram	X	10000
			Pipe Ram		
			Double Ram	X	
			Other*		
8 ¾"	13 5/8	10000	Annular	X	50% testing pressure
			Blind Ram	X	10000
			Pipe Ram		
			Double Ram	X	
			Other *		
6 1/8"	13 5/8	10000	Annular	X	50% testing pressure
			Blind Ram	X	10000
			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	950	Water Based Mud	8.4	8.8	
950	5450	Brine	9.9	10.2	
5450	12000	Cut Brine	9.0	9.4	
12000	21183	Oil Based mud	12.0	13.5	

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: 10400028057 **Submission Date:** 03/12/2018

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: ENDER WIGGINS F C 25 34 14 WD **Well Number:** 2H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

DOGIE_DRAW_FED_COM_AND_ENDER_WIGGINS_FC_25_34_14__6_WELL__REV9_CERT_EXISTING_ACCESS_20180712090527.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT **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:

9_ROAD_PLAT_ENDER_WIGGINS_F_C_25_34_14_NM_LE_0001.00060_REV1_CERT..._20180626125005.pdf

New road type: LOCAL

Length: 30.73 Feet **Width (ft.):** 25

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

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: The access road will have a small low water crossing at the point of leaving the existing lease road to allow for continued drainage along existing lease road.

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: The topsoil will be stripped during construction activities and spread out on edge of road to be seeded during the interim reclamation of the well pad.
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 and ditching (both sides) shall be constructed on the access road driving surface. The road crown shall have a grade of approximately 2%. The road shall conform to cross section and plans for typical road construction found in the BLM Gold Book.
Road Drainage Control Structures (DCS) description: Road will be crowned to allow proper water drainage and ditching will be constructed on both sides of the 30.73' access road. No other DCS's will be needed.
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:

3_ENDER_WIGGINS_F_C_25_34_14_1_MILE_RADIUS_MAP_20180621092011.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: Proposed Central Tank Battery (CTB) will be shared with the Dogie Draw Fed Com 25 34 14 wells on same well pad. - There are 10 - 750 bbl steel tanks for oil storage and 24 – 750 bbl steel tanks for water

storage planned for the CTB. - A CA will be applied for as needed - A pool commingle will be applied for as needed -No permanent open top storage tanks will be used. - Open vent exhaust stacks will be modified to prevent birds or bats from entering, discourage perching, roosting, and nesting. - All chemical and fuel secondary containments will be covered for birds, wildlife, and livestock protection. The fluids will be disposed of as needed to prevent possible overflow. - The proposed CTB will have a secondary containment 1.5 times the holding capacity of largest storage tank plus freeboard to account for precipitation. - All above ground structures not subject to safety requirements will be painted a flat non-reflective shale green for blending with the surrounding environment. - At this time, the proposed CTB will have oil and water truck hauled from the facility. Pipelines/Flowlines: All flowlines transporting production from wells to the facility will remain on the pad; therefore, no further disturbance or ROW will be required. Powerlines: No power-lines will be needed. The power to the equipment will be provided via a natural gas generator.

Production Facilities map:

SUPO_4__9____Dogie_Draw_Fed_Com_25_34_14___Facility_Layout_Plat_20180712090840.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: DUST CONTROL, INTERMEDIATE/PRODUCTION CASING, STIMULATION, SURFACE CASING
Water source type: GW WELL
Describe type:
Source longitude: -103.4449
Source latitude: 32.1673
Source datum: NAD83
Water source permit type: PRIVATE CONTRACT
Source land ownership: FEDERAL
Water source transport method: PIPELINE
Source transportation land ownership: FEDERAL
Water source volume (barrels): 147500
Source volume (acre-feet): 19.011732
Source volume (gal): 6195000

Water source use type: DUST CONTROL, INTERMEDIATE/PRODUCTION CASING, STIMULATION, SURFACE CASING
Water source type: GW WELL
Describe type:
Source longitude: -103.4461
Source latitude: 32.1673
Source datum: NAD83
Water source permit type: PRIVATE CONTRACT
Source land ownership: PRIVATE
Water source transport method: PIPELINE
Source transportation land ownership: PRIVATE
Water source volume (barrels): 147500
Source volume (acre-feet): 19.011732
Source volume (gal): 6195000

Water source and transportation map:

Water_map_20180306051334.jpg

Water source comments: • All Fresh water will be obtained from a private water source. • 1st proposed (pond in Section 35,T24S,R34E) 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. 2.1 Miles. • 2nd proposed (pond in Section 35,T24S-R34E will be utilized for fresh water. • A temporary 10" expanding pipe transfer line will run South from pond along access rd. then turn East along proposed access road approx. 2.38 miles. • 3rd proposed pond(Madera in Section 30,T24S-R35E will be utilized for fresh water. • A temporary 10" expanding pipe transfer line will run south from pond along access rd. then west along proposed access road approx. 4.19 Miles. • Fresh water line will run parallel to existing disturbance and will stay within 10' of access road. Proposed water suppliers Madera Brad Beckem 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 a federal permitted pit. The proposed source of construction material will be located: - Source 1: Madera Private mineral pit located in section 6, T25S, R35E - Source 2: Madera Private mineral pit located in section 26, T24S, R34E Payment shall be made by construction contractor. Notification shall be given to BLM at (575) 234-5909 at least 3 working days prior to commencing construction of well pad or related infrastructure.
Construction Materials source location attachment:

11_Water_and_Minerals_Map_20180305112734.jpg

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Drilling fluids and produced oil and water from the well during drilling operations.

Amount of waste: 1000 barrels

Waste disposal frequency : Daily

Safe containment description: Lined steel tanks

Safe containmant attachment:

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

Disposal location description: Waste will be stored safely and disposed of properly in an NMOCD approved disposal facility.

Waste type: GARBAGE

Waste content description: Garbage and trash (solid waste)

Amount of waste: 1200 pounds

Waste disposal frequency : Weekly

Safe containment description: All garbage will be stored in closed containers

Safe containmant attachment:

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

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

Waste type: SEWAGE

Waste content description: Human waste and grey water.

Amount of waste: 600 barrels

Waste disposal frequency : Weekly

Safe containment description: Portable toilets and sewage tanks.

Safe containmant attachment:

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

Disposal location description: All sewage waste will be managed by a third party and disposed of properly at a State approved disposal facility.

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: ENDER WIGGINS F C 25 34 14 WD **Well Number:** 2H

Waste type: COMPLETIONS/STIMULATION

Waste content description: Oil and water from drilling operations

Amount of waste: 1000 barrels

Waste disposal frequency : Daily

Safe containment description: Steel tanks

Safe containmant attachment:

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

Disposal type description:

Disposal location description: Waste will be stored safely and disposed of properly in an NMOCD 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 lined steel tanks and taken to an NMOCD 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:

DOGIE_DRAW_FED_COM_AND_ENDER_WIGGINS_FC_25_34_14__6_WELL__REV9_CERT_WELL_PAD__AND_LOCATION_20180712091000.pdf

Comments: Exterior well pad dimensions are 629' by 525' (9.16 ac). Note this pad will have 6 total wells, see Well Pad Surface Plat. Interior well pad dimensions from first point of entry (well head) are: From west-220', north-180', east-306', south-450'. These wells will be utilizing the same proposed road, well pad, and facility for the Dogie Draw Fed Com 25 34 14 1H, 2H, 24H. Topsoil will be placed on the west side of the pad to accommodate interim reclamation activities. Cut and fill will be minimal

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: ENDER WIGGINS FED COM 25 34 11

Multiple Well Pad Number: 289-8

Recontouring attachment:

DOGIE_DRAW_FED_COM_AND_ENDER_WIGGINS_FC_25_34_14__6_WELL__REV9_CERT_IR_20180712091103.pdf

Drainage/Erosion control construction: During construction, BMP's 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. All areas reclaimed will be ripped across the slope to prevent water erosion.

Well pad proposed disturbance (acres): 9.16	**Well pad interim reclamation (acres):** 2.42	**Well pad long term disturbance (acres):** 6.74
Road proposed disturbance (acres): 0.0141	**Road interim reclamation (acres):** 0	**Road long term disturbance (acres):** 0
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: 9.1741	**Total interim reclamation:** 2.42	**Total long term disturbance:** 6.74

Disturbance Comments: Well pad only

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 6.74 acres from the proposed size of 9.16 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. • 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. 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.

Topsoil redistribution: 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.

Soil treatment: Stockpile and seeded until used for interim or final reclamation. Topsoil and subsoil will be piled separately.

Existing Vegetation at the well pad: Mesquite, shinnery oak, sand dropseed, and sage.

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: NA

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: NA

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: NA

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: OTHER

Seed source: COMMERCIAL

Seed name: BLM Sand LPC

Source name:

Source address:

Source phone:

Seed cultivar: Broadcast

Seed use location: WELL PAD

PLS pounds per acre: 38

Proposed seeding season: AUTUMN

Seed Summary

Total pounds/Acre: 38

Seed Type	Pounds/Acre
OTHER	38

Seed reclamation attachment:

Seed_Mixture_LPC_HEA_20180123085729.pdf

Operator Contact/Responsible Official Contact Info

First Name:

Last Name:

Phone:

Email:

Seedbed prep: Rip native topsoil stockpiled during construction activities across the slope

Seed BMP:

Seed method: Broadcast seed with spreader

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

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

Weed treatment plan attachment:

Monitoring plan description: Marathon will monitor all disturbed areas and lease roads leading to well pad monthly for weeds through routine inspections.
Monitoring plan attachment:

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

Pit closure description: N/A

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

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:**

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: ENDER WIGGINS F C 25 34 14 WD **Well Number:** 2H

Fee Owner: mark and Annett McCloy Trustees **Fee Owner Address:** PO Box 795, Tatum, NM 88267

Phone: (432)914-4459 **Email:**

Surface use plan certification: YES

Surface use plan certification document:

Dogie_Draw_Federal_Com_25_34_14_PAD___SUP_Certification_Letter_20180305130905.pdf

Surface access agreement or bond: Agreement

Surface Access Agreement Need description: Private surface owner has been mailed a copy of the SUPO.

Surface Access Bond BLM or Forest Service: BLM

BLM Surface Access Bond number:

USFS Surface access bond number:

Disturbance type: EXISTING ACCESS ROAD

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 11/28/2017. Marathon Oil Attendees: Brian Hall and Nancy Pohl BLM Attendee: Colleen Cepero-Rios

Other SUPO Attachment

Dogie_Draw_Federal_Com_25_34_14_Pad___No_Arch_Survey_Letter_20180305130622.pdf
Dogie_Draw__Onsite_Inspection_20180305130544.xlsx
ENDER_WIGGINS_F_C_25_34_14_LR2000___NMNM113419_20180626130352.pdf
ENDER_WIGGINS_F_C_25_34_14_LR2000___NMNM108476_20180626130414.pdf
Dogie_Draw_Ender_Wiggins_Federal_Com_25_34_14_PAD___SUP_Document_20180626130454.docx

EXISTING ACCESS ROADS

DOGIE DRAW FED COM 25-34-14 / ENDER WIGGINS F C 25-34-14

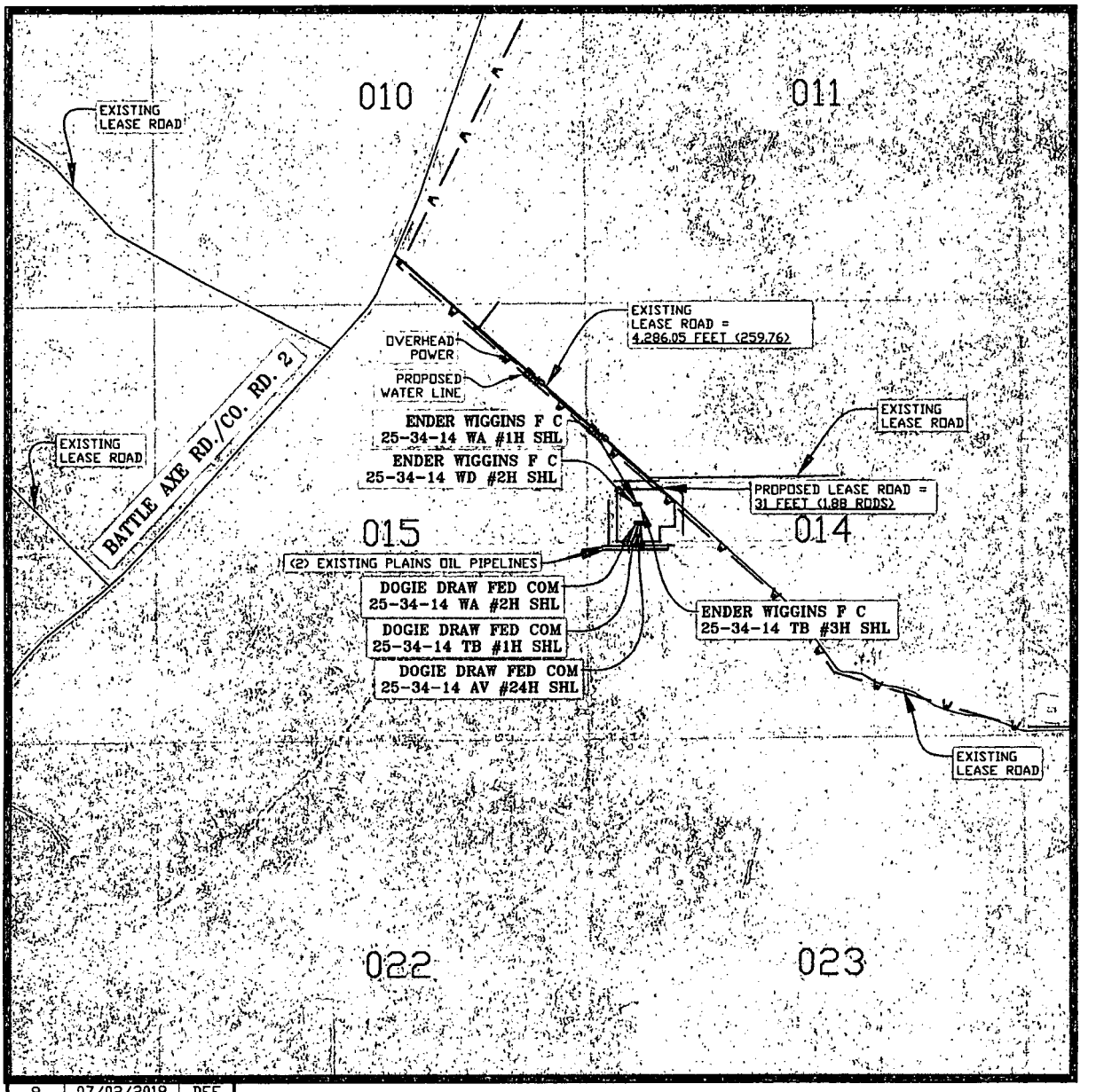
SEC. 14 TWP. 25-S RGE. 34-E

SURVEY: N.M.P.M.

COUNTY: LEA

OPERATOR: MARATHON OIL PERMIAN LLC

U.S.G.S. TOPOGRAPHIC MAP: WOODLEY FLAT, N.M.



9	07/02/2018	DEF

SCALE: 1" = 2,000

LEGEND

PROPOSED WELL PAD ——————

ARCH SURVEY LIMITS —— — —

EXISTING LEASE ROAD ——————

PROPOSED LEASE ROAD ——————

SECTION LINE - - - - - - - -

PI/BEND O

WELLS •

SHEET 1 OF 6

PREPARED BY:
R-SQUARED GLOBAL, LLC
1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-6900 OFFICE
JOB No. R3755

ONSITE Review Checklist

Onsite Inspection - Environmental							
Oil & Gas Operator:	Marathon Oil Permian LLC			Field:	Red Hills		
Case # / Lease #	NMNM136221		Well Name/ Number	Dogie Draw 23 Federal Com 25 34 14		API #	
Twn:	25S	Rng:	34E	County:	Lea	Total Depth:	
Sec:	14	Qtr:	L	State:	NM		
N/S Foot		E/W Foot:		Lat/Long		Formation(s):	
REPRESENTATIVES PRESENT							
Company:	Brian and Nancy			Contractor:	R-Squared		
BLM:	Colleen Cepero-Rios			Other:			
Surface Owner:	Mark and Annette McCloy, Trustees	☐ PRESEN TCheck Box 4	☒ NOT PRESENT	ocation greement	☒ YES	☐ NO	
Name:				Phone:	432-940-4459		
Address:	P. O. Box 795, Tatum, NM 88267						
Other Surface Owners Involved in Acce	☐ YES	☒ NO		Name:			
ACCESS ROAD							
Existing Access:	Yes	Miles:	4286'	New Construction:	Yes	Miles:	31 feet
☐ RETAIN FOR LAND OWNER		☒ ABANDON		Width (FT.)	30'	Grade (%Max)	0
Culverts:	Number:	0	Size:		Location:		
Cuts and Fills:	Max Cut:		Max Fill:				
Surfacing:	Type: Caliche		Depth: 8"		Source:	Madera -Source 1: 24S-35E-6; Source 2: 25S-R34E -5	
Low Water Crossing-Number/Location--	0			☐ FOR LAND	☐ ABANDON		
Water Bars-Number/Location--	0			☐ FOR LAND	☐ ABANDON		
Gates-Number/Location--	0			☐ FOR LAND	☐ ABANDON		
Cattleguards-Number/Location--	0			☐ FOR LAND	☐ ABANDON		
WELL SITE							
Cuts--	Depth:		Slope:		Top Soil Removal:		
	Max:	5'			Inches:	12"	
Topsoil Stockpile Location	West side of pad						
Pad Size							
Water Bars Needed ☐ YES ☐ NO				Fence Crossing Location	☐ YES	☒ NO	
Location/Spacing	30'						
Available Area for Frac. Equipment ☒ YES ☐ NO			Reserve Pit Lined				
Closed Loop	☐ YES	☐ NO					

ONSITE Review Checklist

Production Facilities ☒ YES ☐ NO	Flowlines-- ☐ YES ☒ NO	Length:		Power Lines ☒ YES ☐ NO	Length:
		Depth:			Poles:
Special Requirements/TOPO Features:					

RESOURCES

T&E Clearance Needed? ☐ YES ☒ NO	Archeological Inventory Needed ☒ YES ☐ NO	Mitigation-- LPC habitat	Present Use: ☒ Grazing ☐ Cropl and ☒ Oil Field Development ☐ Other
Floodplains/Wetlands-- ☐ E ☒ NO	ıter Source--		
Streams/Ponds-- ☐ YES ☒ NO	Authorization--		
	Water Source-- ☐ E ☐ NO		:ation:
Nearest Residence:	Greater than 2 miles	Nearest Drainage:	None
		Ephemeral ☐ YES ☒ NO	ennial ☒ Y E S ☐ NO
Soil Type/Ecological Site -	Wink fine sand		
Erosion Concerns -	No berm needed for pad, just around facility		
Native Vegetation Present	shinnery oaks, mesquite, yucca, grasses		
Invasive Species Present	Need plan to prevent invasive species being tracked in.		
Wildlife Present -	Cotton tails, jack rabbits, cows, deers, migratory birds		

ALTERNATIVES CONSIDERED

MITIGATION/BMP(s)

Need to notify allottee.

RECLAMATION

Seed Mix - per McCloy SUA		IR--Pad Size	
Species	Broadcast Rate (lbs/acre)	Interim Reclamation Requirements--	
BLM #LPC			
Reclamation Plan Discussed	☒ YES ☐ NO	Other/Special Conditions	

☐ ABANDON

☐ ABANDON

☐ ABANDON

☐ ABANDON

☒ NO

01 12-22-1987;101STAT1330;30USC181 ET SEQ
Case Type 312021: O&G LSE COMP PD -1987
Commodity 459: OIL & GAS
Case Disposition: AUTHORIZED

Total Acres: 1,240.000

Serial Number NMNM 113419

Serial Number: NMNM-- 113419

Name & Address					Int Rel	% Interest
EOG Y RESOURCES INC	105 S 4TH ST	ARTESIA	NM	882102177	OPERATING RIGHTS	0.000000000
MARATHON OIL PERMIAN LLC	5555 SAN FELIPE ST	HOUSTON	TX	770562701	OPERATING RIGHTS	0.000000000
REGENERATION ENERGY CORP	PO BOX 210	ARTESIA	NM	882110210	OPERATING RIGHTS	0.000000000
CHEVRON MIDCONTINENT LP	6301 DEAUVILLE	MIDLAND	TX	797062964	OPERATING RIGHTS	0.000000000
THE ALLAR CO	PO BOX 1567	GRAHAM	TX	76450	LESSEE	100.000000000

Serial Number: NMNM-- 113419

Mer	Twp	Rng	Sec	SType	Nr	Suff	Subdivision	District/ Field Office	County	Mgmt Agency
23	0250S	0340E	011	ALIQ			S2;	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT
23	0250S	0340E	012	ALL			ENTIRE SECTION	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT
23	0250S	0340E	013	ALIQ			NE,N2NW,SENW;	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT

Relinquished/Withdrawn Lands

Serial Number: NMNM-- 113419

Serial Number: NMNM-- 113419

Act Date	Act Code	Action Txt	Action Remarks	Pending Off
01/18/2005	299	PROTEST FILED		
01/18/2005	387	CASE ESTABLISHED	200501043;	
01/19/2005	191	SALE HELD		
01/19/2005	267	BID RECEIVED	$198400.00;	
02/28/2005	237	LEASE ISSUED		
02/28/2005	298	PROTEST DISMISSED		
02/28/2005	974	AUTOMATED RECORD VERIF	LR	
03/01/2005	496	FUND CODE	05;145003	
03/01/2005	530	RLTY RATE - 12 1/2%		
03/01/2005	868	EFFECTIVE DATE		
06/20/2005	963	CASE MICROFILMED/SCANNED		
03/20/2006	932	TRF OPER RGTS FILED	ALLAR/PURE RESOURCE;1	
03/31/2006	940	NAME CHANGE RECOGNIZED	PURE RES/CHEVRONMIDCO	
05/16/2006	933	TRF OPER RGTS APPROVED	EFF 04/01/06;	

Serial Number: NMNM-- 113419

Act Date	Act Code	Action Txt	Action Remarks	Pending Off
05/16/2006	974	AUTOMATED RECORD VERIF	JLV	
08/09/2006	899	TRF OF ORR FILED	1	
02/11/2013	650	HELD BY PROD - ACTUAL	/1/	
02/11/2013	658	MEMO OF 1ST PROD-ACTUAL	/1/NMNM132924;#2H	
03/29/2013	932	TRF OPER RGTS FILED	ALLAR/YATES PETROLE;1	
04/04/2013	246	LEASE COMMITTED TO CA	NMNM132924;	
07/23/2013	933	TRF OPER RGTS APPROVED	EFF 04/01/13;	
07/23/2013	974	AUTOMATED RECORD VERIF	DME	
08/12/2013	899	TRF OF ORR FILED	1	
08/15/2013	899	TRF OF ORR FILED	1	
08/15/2013	932	TRF OPER RGTS FILED	ALLAR/REGENERATION;1	
02/28/2014	933	TRF OPER RGTS APPROVED	EFF 09/01/13;	
02/28/2014	974	AUTOMATED RECORD VERIF	BTM	
03/24/2014	932	TRF OPER RGTS FILED	CHEVRON M/YATES PET;1	
06/05/2014	933	TRF OPER RGTS APPROVED	EFF 04/01/14;	
06/05/2014	974	AUTOMATED RECORD VERIF	DME	
07/17/2014	643	PRODUCTION DETERMINATION	/1/	
12/15/2014	899	TRF OF ORR FILED	2	
12/15/2014	899	TRF OF ORR FILED	1	
12/15/2014	932	TRF OPER RGTS FILED	ALLAR/CHEVRON MIDCO;1	
12/15/2014	932	TRF OPER RGTS FILED	CHEVRON MIDCO/ALLAR;1	
01/28/2015	379	REFUND AUTHORIZED	$160.00;	
02/04/2015	933	TRF OPER RGTS APPROVED	EFF 01/01/15;1	
02/04/2015	933	TRF OPER RGTS APPROVED	EFF 01/01/15;2	
02/04/2015	933	TRF OPER RGTS APPROVED	EFF 01/01/15;3	
02/04/2015	974	AUTOMATED RECORD VERIF	JS	
12/01/2016	817	MERGER RECOGNIZED	YATES PETRO/EOG Y RES	
03/14/2017	932	TRF OPER RGTS FILED	REFENERAT/CROWN OIL;1	
03/14/2017	932	TRF OPER RGTS FILED	ALLAR COM/CROWN OIL;1	
04/24/2017	933	TRF OPER RGTS APPROVED	EFF 04/01/17;1	
04/24/2017	933	TRF OPER RGTS APPROVED	EFF 04/01/17;2	
04/24/2017	974	AUTOMATED RECORD VERIF	RCC	
07/06/2017	932	TRF OPER RGTS FILED	CROWN OIL/MARATHON;1	
09/15/2017	933	TRF OPER RGTS APPROVED	EFF 08/01/17;	
09/19/2017	974	AUTOMATED RECORD VERIF	JA	

Line Number **Remark Text**

Serial Number: NMNM-- 113419

0002 STIPULATIONS ATTACHED TO LEASE:

Serial Number: NMNM-- 113419

Line Number	Remark Text
0003	NM-11-LN SPECIAL CULTURAL RESOURCE LEASE NOTICE:
0004	ONE ARCHAEOLOGICAL SITE HAS BEEN FOUND IN THE
0005	SE OF SEC 12.
0006	SENM-S-22 PRAIRIE CHICKENS
0007	07/23/2013 RENT PAID 03/01/2013 PER ONRR
0008	06/05/2014 RENT PAID 03/01/2014 PER ONRR
0009	02/04/2015 - CHEVRON MIDCONTINENT LP - NM2881 NW
0010	04/01/2017 - CROWN V NMB001240 SW
0011	02/04/2015 - OPERATING RIGHTS ADJUDICATED. SEE
0012	WORKSHEET
0013	04/24/2017 - OPERATING RIGHTS ADJUDICATED SEE WS;
0014	09/15/2017 - MARATHON OIL PERMIAN WYB002107 N/W
0015	09/15/2017 - OPERATING RIGHTS ADJUDICATED;

01 12-22-1987;101STAT1330;30USC181 ET SEQ
Case Type 312021: O&G LSE COMP PD -1987
Commodity 459: OIL & GAS
Case Disposition: AUTHORIZED

Total Acres: 1,080.150

Serial Number NMNM 108476

Serial Number: NMNM-- 108476

Name & Address					Int Rel	% Interest
EOG M RESOURCES INC	105 S 4TH ST	ARTESIA	NM	882102177	LESSEE	33.333333000
EOG A RESOURCES INC	105 S 4TH ST	ARTESIA	NM	882102177	LESSEE	33.333333000
CHEVRON USA INC	1400 SMITH ST	HOUSTON	TX	770027327	OPERATING RIGHTS	0.000000000
EOG Y RESOURCES INC	105 S 4TH ST	ARTESIA	NM	882102177	OPERATING RIGHTS	0.000000000
MARATHON OIL PERMIAN LLC	5555 SAN FELIPE ST	HOUSTON	TX	770562701	OPERATING RIGHTS	0.000000000
OXY Y-1 COMPANY	PO BOX 27570	HOUSTON	TX	772277570	OPERATING RIGHTS	0.000000000
OXY Y-1 COMPANY	PO BOX 27570	HOUSTON	TX	772277570	LESSEE	33.333334000
THE ALLAR CO	PO BOX 1567	GRAHAM	TX	76450	OPERATING RIGHTS	0.000000000

Serial Number: NMNM-- 108476

Mer	Twp	Rng	Sec	SType	Nr	Suff	Subdivision	District/ Field Office	County	Mgmt Agency
23	0250S	0340E	001	ALIQ			W2SW,W2SE,SESE;	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT
23	0250S	0340E	001	LOTS			2,3,4;	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT
23	0250S	0340E	011	ALIQ			N2;	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT
23	0250S	0340E	013	ALIQ			SWNW,S2;	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT
23	0250S	0340E	024	ALIQ			W2NW;	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT

Relinquished/Withdrawn Lands

Serial Number: NMNM-- 108476

Serial Number: NMNM-- 108476

Act Date	Act Code	Action Txt	Action Remarks	Pending Off
04/16/2002	387	CASE ESTABLISHED	200204043	
04/17/2002	191	SALE HELD		
04/17/2002	267	BID RECEIVED	$49726.00;	
04/17/2002	392	MONIES RECEIVED	$49726.00;	
05/30/2002	237	LEASE ISSUED		
05/30/2002	974	AUTOMATED RECORD VERIF	BTM	
06/01/2002	496	FUND CODE	05;145003	
06/01/2002	530	RLTY RATE - 12 1/2%		

Serial Number: NMNM-- 108476

Act Date	Act Code	Action Txt	Action Remarks	Pending Off
06/01/2002	868	EFFECTIVE DATE		
07/16/2002	963	CASE MICROFILMED/SCANNED		
05/12/2011	940	NAME CHANGE RECOGNIZED	YATES DRL CO/OXY Y-1	
05/01/2012	677	SUS OPS OR PROD/PMT REQD	/1/	
05/10/2012	673	SUS OPS/PROD APLN FILED		
05/25/2012	974	AUTOMATED RECORD VERIF	BCO	
07/19/2012	932	TRF OPER RGTS FILED	ABO PETRO/YATES PET;1	
08/24/2012	933	TRF OPER RGTS APPROVED	EFF 08/01/2012;	
08/24/2012	974	AUTOMATED RECORD VERIF	JS	
09/10/2012	932	TRF OPER RGTS FILED	MYCO INDU/YATES PET;1	
12/18/2012	933	TRF OPER RGTS APPROVED	EFF 10/01/12;	
12/18/2012	974	AUTOMATED RECORD VERIF	EMR	
02/11/2013	658	MEMO OF 1ST PROD-ACTUAL	/2/NMNM132924;	
02/12/2013	650	HELD BY PROD - ACTUAL	/1/	
02/12/2013	658	MEMO OF 1ST PROD-ACTUAL	/1/#2H RIDER BRQ FED;	
04/04/2013	246	LEASE COMMITTED TO CA	NMNM132924;	
04/05/2013	643	PRODUCTION DETERMINATION	/1/	
07/17/2014	643	PRODUCTION DETERMINATION	/2/	
05/04/2015	932	TRF OPER RGTS FILED	YATES PET/ALLAR COM;1	
06/10/2015	933	TRF OPER RGTS APPROVED	EFF 06/01/15;	
06/10/2015	974	AUTOMATED RECORD VERIF	MJD	
09/23/2016	932	TRF OPER RGTS FILED	YATES PET/CHEVRON U;1	
12/01/2016	817	MERGER RECOGNIZED	YATES PETRO/EOG Y RES	
12/01/2016	940	NAME CHANGE RECOGNIZED	ABO PETRO/EOG A RESOU	
12/01/2016	940	NAME CHANGE RECOGNIZED	MYCO INDUST/EOG M RES	
01/12/2017	933	TRF OPER RGTS APPROVED	EFF 10/01/17;	
01/12/2017	974	AUTOMATED RECORD VERIF	JS	
03/14/2017	932	TRF OPER RGTS FILED	ALLAR COM/CROWN OIL;1	
04/24/2017	933	TRF OPER RGTS APPROVED	EFF 04/01/17;	
04/24/2017	974	AUTOMATED RECORD VERIF	RCC	
07/06/2017	932	TRF OPER RGTS FILED	CROWN OIL/MARATHON;1	
09/15/2017	933	TRF OPER RGTS APPROVED	EFF 08/01/17;	
09/19/2017	974	AUTOMATED RECORD VERIF	JA	

Serial Number: NMNM-- 108476

Line Number	Remark Text
0002	/1/SUSPENSION GRANTED DUE TO THE INABILITY TO
0003	TIMELY OBTAIN A RIG.
0004	08/24/2012 - RENTAL PD THRU 06/01/12 PER ONRR

Line Number	Remark Text
0005	RENTAL PAID TO ONRR FROM 06/01/2012 THRU 05/31/2013
0006	06/10/2015 - YATES PETRO NMB000434 N/W
0007	01/12/2017 - CHEVRON USA INC - NM2867 NW
0008	OPERATING RIGHTS HAVE BEEN ADJUDICATED
0009	04/24/2017 - CROWN V NMB001240 SW
0010	09/15/2017 - OPERATING RIGHTS HAVE BEEN ADJUDICATED;
0011	09/15/2017 - MARATHON OIL PERMIAN WYB002107 N/W

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

08/24/2018

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: ENDER WIGGINS F C 25 34 14 WD **Well Number:** 2H

	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	2310	FNL	330	FWL	25S	34E	14	Aliquot NWNW	32.131287	-103.4477585	LEA	NEW MEXICO	NEW MEXICO	F	FEE	-10473	13900	13804
PPP Leg #1	0	FSL	330	FWL	25S	34E	11	Aliquot SWSW	32.1376367	-103.4477656	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 113419	-10586	16236	13917
PPP Leg #1	2639	FSL	330	FWL	25S	34E	11	Aliquot SWNW	32.1448914	-103.4477697	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 108476	-10586	18875	13917
EXIT Leg #1	330	FNL	330	FWL	25S	34E	11	Aliquot NWNW	32.1512363	-103.4477752	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 108476	-10586	21183	13917
BHL Leg #1	330	FNL	330	FWL	25S	34E	11	Aliquot NWNW	32.1512363	-103.4477752	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 108476	-10586	21183	13917