

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

5. Lease Serial No.  
NMLC058775

6. If Indian, Allottee or Tribe Name

1a. Type of work: ☒ DRILL ☐ REENTER

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

2. Name of Operator  
CONOCOPHILLIPS COMPANY

3a. Address  
600 N. Dairy Ashford Rd Houston TX 77079

3b. Phone No. (include area code)  
(281)293-1748

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

At surface SENW / 2634 FNL / 2047 FWL / LAT 32.849192 / LONG -103.79055

At proposed prod. zone LOT 2 / 2310 FNL / 330 FWL / LAT 32.850111 / LONG -103.813439

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

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

8. Lease Name and Well No.  
PERIDOT 8 FEDERAL 15H

9. API Well No.  
30-024-44532

10. Field and Pool, or Exploratory  
MALJAMAR / YESO WEST

11. Sec., T. R. M. or Blk. and Survey or Area  
SEC 8 / T17S / R32E / NMP

12. County or Parish  
LEA

13. State  
NM

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

16. No. of acres in lease  
480

17. Spacing Unit dedicated to this well  
240.95

18. Distance from proposed location\*  
to nearest well, drilling, completed, 115 feet  
applied for, on this lease, ft.

19. Proposed Depth  
5988 feet / 12874 feet

20. BLM/BIA Bond No. on file  
FED: ES0085

21. Elevations (Show whether DF, KDB, RT, GL, etc.)  
4045 feet

22. Approximate date work will start\*  
04/15/2019

23. Estimated duration  
21 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)  
Susan Maunder / Ph: (281)206-5281

Date  
04/05/2017

Title  
Senior Coordinator, Regulatory MCBU

Approved by (Signature)  
(Electronic Submission)

Name (Printed/Typed)  
Cody Layton / Ph: (575)234-5959

Date  
02/23/2018

Title  
Supervisor Multiple Resources

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)

APPROVED WITH CONDITIONS

Approval Date: 02/23/2018

Double  
sided

## INSTRUCTIONS

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

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

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

**ITEM 14:** Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, 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 directionally 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.

## 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 well 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 will 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 collects this information to allow 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 Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

## **Additional Operator Remarks**

### **Location of Well**

1. SHL: SENW / 2634 FNL / 2047 FWL / TWSP: 17S / RANGE: 32E / SECTION: 8 / LAT: 32.849192 / LONG: -103.79055 ( TVD: 0 feet, MD: 0 feet )  
PPP: SENW / 2326 FNL / 2640 FWL / TWSP: 17S / RANGE: 32E / SECTION: 7 / LAT: 32.850102 / LONG: -103.805806 ( TVD: 6029 feet, MD: 10530 feet )  
PPP: SENW / 2310 FNL / 2022 FWL / TWSP: 17S / RANGE: 32E / SECTION: 8 / LAT: 32.850082 / LONG: -103.790625 ( TVD: 5487 feet, MD: 5500 feet )  
BHL: LOT 2 / 2310 FNL / 330 FWL / TWSP: 17S / RANGE: 32E / SECTION: 7 / LAT: 32.850111 / LONG: -103.813439 ( TVD: 5988 feet, MD: 12874 feet )

## **BLM Point of Contact**

Name: Priscilla Perez

Title: Legal Instruments Examiner

Phone: 5752345934

Email: pperez@blm.gov

1

### **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.

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**Approval Date: 02/23/2018**

(Form 3160-3, page 4)



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

## Application Data Report

02/26/2018

APD ID: 10400006350

Submission Date: 04/05/2017

Highlighted data  
reflects the most  
recent changes

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL

Well Number: 15H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

### Section 1 - General

APD ID: 10400006350

Tie to previous NOS?

Submission Date: 04/05/2017

BLM Office: CARLSBAD

User: Susan Maunder

Title: Senior Coordinator, Regulatory  
MCBU

Federal/Indian APD: FED

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

Lease number: NMLC058775

Lease Acres: 480

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? NO

Permitting Agent? NO

APD Operator: CONOCOPHILLIPS COMPANY

Operator letter of designation:

Peridot\_8\_Fed\_COP\_COG\_JOA\_Cert\_Ltr\_04-03-2017.pdf

### Operator Info

Operator Organization Name: CONOCOPHILLIPS COMPANY

Operator Address: 600 N. Dairy Ashford Rd

Zip: 77079

Operator PO Box:

Operator City: Houston

State: TX

Operator Phone: (281)293-1748

Operator Internet Address:

### Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: PERIDOT 8 FEDERAL

Well Number: 15H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: MALJAMAR

Pool Name: YESO WEST

Is the proposed well in an area containing other mineral resources? NONE

**Operator Name:** CONOCOPHILLIPS COMPANY

**Well Name:** PERIDOT 8 FEDERAL

**Well Number:** 15H

**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:**

**Number:** 5H

**Well Class:** HORIZONTAL

PERIDOT 8 FEDERAL

**Number of Legs:** 1

**Well Work Type:** Drill

**Well Type:** OIL WELL

**Describe Well Type:**

**Well sub-Type:** INFILL

**Describe sub-type:**

**Distance to town:** 1.4 Miles

**Distance to nearest well:** 115 FT

**Distance to lease line:** 6 FT

**Reservoir well spacing assigned acres Measurement:** 240.95 Acres

**Well plat:** Peridot\_8\_Fed\_15H\_C102\_04-03-2017.pdf

Peridot\_8\_Fed\_15H\_Leases\_w\_wellsMap\_20180123124303.pdf

Peridot\_8\_Fed\_15H\_SerialRegister\_20180123124317.pdf

**Well work start Date:** 04/15/2019

**Duration:** 21 DAYS

### Section 3 - Well Location Table

**Survey Type:** RECTANGULAR

**Describe Survey Type:**

**Datum:** NAD83

**Vertical Datum:** NAVD88

**Survey number:**

	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	263 4	FNL	204 7	FWL	17S	32E	8	Aliquot SE1/4	32.84919 2	- 103.7905 5	LEA	NEW MEXI CO	NEW MEXI CO	F	NMLC0 58775	404 5	0	0
KOP Leg #1	231 0	FNL	202 2	FWL	17S	32E	8	Aliquot SE1/4	32.85008 2	- 103.7906 26	LEA	NEW MEXI CO	NEW MEXI CO	F	NMLC0 58775	- 149 2	555 0	553 7

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL

Well Number: 15H

	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	231 0	FNL	202 2	FWL	17S	32E	8	Aliquot SENW 2	32.85008 2	- 103.7906 25	LEA	NEW MEXI CO	NEW MEXI CO	F	NMLC0 58775	- 144 2	550 0	548 7
PPP Leg #1	232 6	FNL	264 0	FWL	17S	32E	7	Aliquot SENW 2	32.85010 2	- 103.8058 06	LEA	NEW MEXI CO	NEW MEXI CO	F	NMLC0 29406B	- 198 4	105 30	602 9
EXIT Leg #1	232 6	FNL	264 0	FWL	17S	32E	7	Aliquot SWNE 2	32.85010 2	- 103.8058 06	LEA	NEW MEXI CO	NEW MEXI CO	F	NMLC0 58775	- 198 4	105 30	602 9
BHL Leg #1	231 0	FNL	330	FWL	17S	32E	7	Lot 2	32.85011 1	- 103.8134 39	LEA	NEW MEXI CO	NEW MEXI CO	F	NMLC0 29406B	- 194 3	128 74	598 8



Susan B. Maunder  
Sr. Coordinator, Regulatory  
Phone: (281) 206-5281

ConocoPhillips Company  
600 N. Dairy Ashford Road, Off EC3-10-W285  
Houston, TX 77079-1175

March 28, 2017

Bureau of Land Management  
Carlsbad Field Office  
620 East Greene Street  
Carlsbad, New Mexico 88220-6292

RE: Joint Operating Agreement  
Pending APD – Peridot 8 Federal 5H, 15H  
Section 8, T17S, R32E  
Lease Number – NMLC058775

Dear Sir or Madam,

ConocoPhillips Company has negotiated a Joint Operating Agreement with COG Operating LLC which covers approximately 480 acres in Township 17 South, Range 32 East. The agreement, along with other terms, provides access to surface operated by the other party. This mutual access will allow more oil and gas resource recovery by maximizing horizontal wellbore, formation contact.

Please accept this letter as our certification our two companies are, in agreement of operating rights within the Peridot 8 Federal area. In regards to Peridot development, COP respectfully requests BLM to process the referenced APD to afford the maintenance of the lease in a timely manner.

If you have questions regarding this certification, I can be reached at 281-206-5281 or via email at [Susan.B.Maunder@conocophillips.com](mailto:Susan.B.Maunder@conocophillips.com).

Sincerely,

A handwritten signature in cursive script that reads "Susan B. Maunder".

Susan B. Maunder  
Senior Coordinator, Regulatory  
ConocoPhillips Company

Serial Register Page

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DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
CASE RECORDATION  
(MASS) Serial Register Page

Run Time: 04:03 PM

Page 1 of 7

Run Date: 07/24/2017

01 02-25-1920;041STAT0437;30USC226

Total Acres

Serial Number

Case Type 310781: O&amp;G RENEWAL LEASE - PD

480.000

NMLC- 0 058775

Commodity 459: OIL &amp; GAS

Case Disposition: AUTHORIZED

## Name &amp; Address

Serial Number: NMLC-- 0 058775

Int Rel

% Intere

CONOCOPHILLIPS CO

PO BOX 7500

BARTLESVILLE OK 740057500

LESSEE

100.000000000

Serial Number: NMLC-- 0 058775

Mer Twp Rng Sec STyp SNr Suffix Subdivision

District/Field Office

County

Mgmt Agency

23 01705 0320E 005 ALIQ N2SW;

CARLSBAD FIELD OFFICE

LEA

BUREAU OF LAND MGMT

23 01705 0320E 006 ALIQ N2SE,SWSE;

CARLSBAD FIELD OFFICE

LEA

BUREAU OF LAND MGMT

23 01705 0320E 007 ALIQ NWNE,S2NE;

CARLSBAD FIELD OFFICE

LEA

BUREAU OF LAND MGMT

23 01705 0320E 008 ALIQ NW;

CARLSBAD FIELD OFFICE

LEA

BUREAU OF LAND MGMT

Serial Number: NMLC-- 0 058775

Act Date Code Action

Action Remark

Pending Offic

08/05/1925 387 CASE ESTABLISHED

08/05/1925 496 FUND CODE

05:145003

08/05/1925 668 EFFECTIVE DATE

02/19/1941 512 CASE CREATED BY ASGN

OUT OF NMLC029406-A;

07/09/1943 570 CASE SEGREGATED BY ASGN

INTO NMLC061434;

03/22/1945 500 GEOGRAPHIC NAME

N MALJAKAR FLD;

03/22/1945 510 KMA CLASSIFIED

02/14/1949 314 RENEWAL APLN FILED

05/06/1949 650 HELD BY PROD - ACTUAL

05/06/1949 658 MEMO OF 1ST PROD-ACTUAL

06/01/1949 242 LEASE RENEWED

THRU 07/31/59;

04/17/1959 314 RENEWAL APLN FILED

06/01/1959 242 LEASE RENEWED

THRU 07/31/59;

04/14/1969 314 RENEWAL APLN FILED

07/16/1969 646 MEMO OF LAST PROD-ACTUAL

06/01/1969 242 LEASE RENEWED

THRU 07/31/79;

12/18/1970 058 NOTICE SENT-NONPROD STAT

05/19/1979 314 RENEWAL APLN FILED

06/01/1979 242 LEASE RENEWED

THRU 07/31/89;

10/24/1979 940 NAME CHANGE RECOGNIZED

CONTY 011/CONOCO INC

07/06/1984 111 RENTAL RECEIVED

5480.00:1YR/84-P5

07/08/1985 111 RENTAL RECEIVED

5480.00:1YR/85-P6

07/07/1986 111 RENTAL RECEIVED

5480.00:1YR/86-P7

03/12/1987 965 CASE MICROFILMED SCANNED

UNUM 153,661 PW

07/06/1987 111 RENTAL RECEIVED

5480.00:1YR/87-P8

12/08/1987 974 AUTOMATED RECORD VERIF

HKG/VL

07/06/1988 111 RENTAL RECEIVED

5480.00:1YR/88-P9

02/27/1989 314 RENEWAL APLN FILED

06/05/1989 111 RENTAL RECEIVED

5480.00:1YR/89-P9

06/12/1989 974 AUTOMATED RECORD VERIF

MCS/MT

06/01/1989 242 LEASE RENEWED

THRU 07/31/99;

06/01/1989 668 EFFECTIVE DATE

07/05/1990 111 RENTAL RECEIVED

5480.00:43/103663

NO WARRANTY IS MADE BY BLM FOR USE OF THE DATA FOR PURPOSES NOT INTENDED BY BLM

Serial Register Page

Go



Click here to see on map

**DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
CASE RECORDATION  
(MASS) Serial Register Page**

Run Time: 04:01 PM

Page 1 of 7

Run Date: 07/24/2017

01 02-25-1920;041STAT0437;30USC226

Total Acres

Serial Number

Case Type 310771: O&amp;G EXCHANGE LEASE - PD

1,606.800

NMLC-- 0 029406B

Commodity 459: OIL &amp; GAS

Case Disposition: AUTHORIZED

Serial Number: NMLC-- 0 029406B

Name & Address	Int Rel	% Intere
CHASE FERGUSON GERENE D CHASE OIL CORP CHASE OIL CORP CHASE RICHARD L CHASE ROBERT C COG OPERATING LLC CONOCOPHILLIPS CO CONOCOPHILLIPS CO	PO BOX 693 PO BOX 1767 PO BOX 1767 PO BOX 359 PO BOX 297 600 W ILLINOIS AVE PO BOX 7500 PO BOX 7500	ARTESIA NM 88211 ARTESIA NM 88211767 ARTESIA NM 88211767 ARTESIA NM 882110359 ARTESIA NM 882111297 MIDLAND TX 797014882 BARTLESVILLE OK 740057500 BARTLESVILLE OK 740057500

Serial Number: NMLC-- 0 029406B

Mer Twp Rng Sec	S Typ	SNr SUFF	Subdivision	District/Field Office	County	Mgmt Agency
23 0170S 0320E 005	ALIO		S2N2,SE:	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT
23 0170S 0320E 005	LOTS		1-4:	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT
23 0170S 0320E 006	ALIO		S2NE,SENW,E2SW,	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT
23 0170S 0320E 006	LOTS		1-7:	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT
23 0170S 0320E 007	ALIO		E2W2,SE:	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT
23 0170S 0320E 007	LOTS		1-4:	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT
23 0170S 0320E 008	ALIO		SW:	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT

Relinquished/Withdrawn Lands

Serial Number: NMLC-- 0 029406B

23 0170S 0320E 70E	FF	E2ASGN:	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT
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Serial Number: NMLC-- 0 029406B

Act Date	Code	Action	Action Remark	Pending Office
11/25/1933	124	APLN RECD		
06/08/1934	237	LEASE ISSUED		
06/08/1934	496	FUND CODE	05:145003	
05/08/1934	534	RILTY RATE-SLIDING-SCH D		
06/08/1934	666	EFFECTIVE DATE		
05/24/1965	570	CASE SEGREGATED BY ASGN	INTO INM064149:	
01/06/1953	650	HELD BY PROD - ACTUAL		
01/06/1953	656	MEMO OF 1ST PROD-ACTUAL		
10/24/1979	960	NAME CHANGD RECOGNIZED	CONTR 012/CONOCO INC	
01/11/1983	140	ASGN FILED	(1)CONOCO/PETRO LEWIS	
01/11/1983	140	ASGN FILED	(1)CONOCO/PETRO LEWIS	
01/11/1983	140	ASGN FILED	(2)CONOCO/PETRO LEWIS	
01/11/1983	140	ASGN FILED	(2)CONOCO/PETRO LEWIS	
01/11/1983	140	ASGN FILED	(3)CONOCO/PETRO LEWIS	
01/25/1985	139	ASGN APPROVED	(1)EFF 07/01/83:	
01/25/1985	139	ASGN APPROVED	(2)EFF 02/01/83:	
01/25/1985	139	ASGN APPROVED	(3)EFF 07/01/83:	
01/25/1985	139	ASGN APPROVED	(4)EFF 02/01/83:	
01/25/1985	139	ASGN APPROVED	EFF 03/01/83:	
07/05/1985	963	CASE MICROFILMED/SCANNED	CONOCO 100,429 GUC	
11/02/1987	974	AUTOMATED RECORD VERIFY	JAM DCE	
07/26/1988	140	ASGN FILED	PETRO/PTURSH PROP	
06/16/1988	139	ASGN APPROVED	EFF 08/01/86:	

NO WARRANTY IS MADE BY BLM FOR USE OF THE DATA FOR PURPOSES NOT INTENDED BY BLM



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

## Drilling Plan Data Report

02/26/2018

APD ID: 10400006350

Submission Date: 04/05/2017

Highlighted data  
reflects the most  
recent changes

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL

Well Number: 15H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

### Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	RUSTLER	3224	835	835	DOLOMITE, ANHYDRITE	USEABLE WATER	No
2	SALADO	2249	975	975	SALT, ANHYDRITE	NONE	No
3	TANSILL	1169	2055	2058	DOLOMITE, ANHYDRITE	NONE	No
4	YATES	1029	2195	2198	DOLOMITE, ANHYDRITE	NONE	No
5	SEVEN RIVERS	724	2500	2504	SANDSTONE, DOLOMITE, ANHYDRITE	NATURAL GAS, OIL	No
6	QUEEN	104	3120	3126	SANDSTONE, DOLOMITE, ANHYDRITE	NATURAL GAS, OIL	No
7	GRAYBURG	-326	3550	3558	SANDSTONE, DOLOMITE	NATURAL GAS, OIL	No
8	SAN ANDRES	-636	3860	3869	SANDSTONE, DOLOMITE	NATURAL GAS, OIL	No
9	GLORIETA	-2146	5370	5383	SANDSTONE, DOLOMITE, SILTSTONE	NATURAL GAS, OIL	No
10	PADDOCK	-2241	5465	5478	DOLOMITE, ANHYDRITE, SILTSTONE	NATURAL GAS, OIL	No
11	BLINEBRY	-2555	5779	5801	DOLOMITE, ANHYDRITE, SILTSTONE	NATURAL GAS, OIL	Yes

### Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M

Rating Depth: 6110

**Equipment:** Rotating Head, Annular Preventer, Pipe/Blind Rams, Kill Lines, Choke Lines, Adapter Spool. All required equipment per federal regulations to be in place prior to drilling out the surface casing

**Requesting Variance?** YES

**Variance request:** We request variance to use flexible choke line(s) from the BOP to Choke Manifold. Testing certificate is attached in "Flexhose Variance data" document. We also request approval to have the option of using a 13" BOP as represented on attached BOP diagram.

**Testing Procedure:** BOP/BOPE tested by independent company to 250 psi low and the high of 50% working psi, as required by federal and state regulations. See attached "Drill Plan" document.

**Choke Diagram Attachment:**

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL

Well Number: 15H

Peridot\_8\_Fed\_15H\_3M\_Choke\_Manifold\_04-03-2017.pdf

Peridot\_8\_Fed\_15H\_FlexhoseVarianceData\_04-03-2017.pdf

BOP Diagram Attachment:

Peridot\_8\_Fed\_15H\_BOP\_Diagrams\_04-03-2017.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	885	0	885	-2065	-2950	885	J-55	54.5	STC	2.89	6.98	DRY	10.7	DRY	17.7
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	2250	0	2250	-2065	-4065	2250	J-55	40	LTC	2.2	3.38	DRY	5.78	DRY	7
3	PRODUCTION	8.75	7.0	NEW	API	Y	0	5200	0	5200	-2065	-7265	5200	L-80	29	LTC	2.88	3.35	DRY	3.89	DRY	4.48
4	PRODUCTION	8.75	5.5	NEW	API	Y	5200	12874	5200	5988	-7265	-8175	7674	L-80	20	LTC	3.15	3.28	DRY	3.41	DRY	3.04

#### Casing Attachments

Casing ID: 1 String Type: SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Peridot\_8\_Fed\_15H\_Csg\_Worksheet\_20180123094530.pdf

**Operator Name:** CONOCOPHILLIPS COMPANY

**Well Name:** PERIDOT 8 FEDERAL

**Well Number:** 15H

#### Casing Attachments

---

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Peridot\_8\_Fed\_15H\_Csg\_Worksheet\_20180123094911.pdf

---

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

Peridot\_8\_Fed\_15H\_Csg\_Worksheet\_20180123094924.pdf

**Casing Design Assumptions and Worksheet(s):**

Peridot\_8\_Fed\_15H\_Csg\_Worksheet\_20180123094941.pdf

---

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

Peridot\_8\_Fed\_15H\_Csg\_Worksheet\_20180123094957.pdf

**Casing Design Assumptions and Worksheet(s):**

Peridot\_8\_Fed\_15H\_Csg\_Worksheet\_20180123095012.pdf

---

#### Section 4 - Cement

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL

Well Number: 15H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	585	500	1.68	13.5	840	50	Class C	4.0% Bentonite + 0.2% Anti-Foam + 2.0% CaCl <sub>2</sub> + 0.125lb/sk LCM + 0.1% Dispersant
SURFACE	Tail		585	885	400	1.35	14.8	540	50	Class C	0.2% Anti-Foam + 0.1% Lost Circ Control + 2 lbs/bbl CemNET (losses Control)
INTERMEDIATE	Lead		0	1750	450	2.29	11.5	1031	50	Class C	10.0% Bentonite + 0.2% Anti-Foam + 2.0% Expanding + 0.15% Viscosifier + 1.3% Retarder
INTERMEDIATE	Tail		1750	2250	300	1.29	13.5	387	50	Class C	1% Extender + 3 lb/sk Extender + 0.2% Anti-Foam + 0.1% Dispersant + 13 lb/sk LCM + 0.5% Fluid Loss + 0.7% Retarder
PRODUCTION	Lead		1700	5200	650	3.2	11	2080	15	Class C	6% Extender + 10% Gas Migration Control + 2% Sodium Metasilicate (dry) + 1% Cement Bonding Agent + 3% Aluminum Silicate + 0.125 lb/sx Cello Flake + 3 lb/sx LCM-1
PRODUCTION	Lead		5200	12874	1900	1.37	14	2603	15	Tail: Class C	3lb/sk LCM + 1.5% Fluid Loss + 0.1% + 1% Sodium Metasilicate (dry) + 1.5% Fluid Loss Control

**Operator Name:** CONOCOPHILLIPS COMPANY

**Well Name:** PERIDOT 8 FEDERAL

**Well Number:** 15H

### 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:** Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. See attached "Drill Plan" for additional information.

**Describe the mud monitoring system utilized:** Closed-loop mud system using steel mud containers will be on location. Mud monitoring of any changes in levels (gains or losses) will use Pressure Volume Temperature instrumentation, Pason, Visual Observations. See attached "Drill Plan" for additional information.

### 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
0	885	OTHER : Freshwater Gel	8.5	9							
2250	1287 4	OTHER : Cut Brine	8.6	10							
885	2250	SALT SATURATED	10	10							

### Section 6 - Test, Logging, Coring

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

Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM. Production tests will be conducted multiple times per week, through a test separator, during first months following completion. Thereafter, tests will be less frequent. See attached "Drill Plan" for additional information.

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

CNL,GR

**Coring operation description for the well:**

No coring operation is planned, at this time.

**Operator Name:** CONOCOPHILLIPS COMPANY

**Well Name:** PERIDOT 8 FEDERAL

**Well Number:** 15H

### Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 2815

**Anticipated Surface Pressure:** 1488.62

**Anticipated Bottom Hole Temperature(F):** 110

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

**Describe:**

**Contingency Plans geohazards description:**

**Contingency Plans geohazards attachment:**

**Hydrogen Sulfide drilling operations plan required?** YES

**Hydrogen sulfide drilling operations plan:**

Peridot\_8\_Fed\_15H\_H2S\_CPlan\_04-03-2017.pdf

Peridot\_8\_Fed\_15H\_Typical\_Rig\_Layout\_20180123100411.pdf

### Section 8 - Other Information

**Proposed horizontal/directional/multi-lateral plan submission:**

Peridot\_8\_Fed\_15H\_DrillWasteContainment\_04-03-2017.pdf

Peridot\_8\_Fed\_15H\_DirectionalPlanV2\_20180123100749.pdf

Peridot\_8\_Fed\_15H\_Drill\_PlanV3\_20180123100819.pdf

Peridot\_8\_Fed\_15H\_Wellbore\_SchematicV2\_20180123100849.pdf

**Other proposed operations facets description:**

Option to upgrade casing connection to BTC is requested, in addition to the ability to upgrade our BOP equipment depending on availability. Cement volumes will be adjusted based on hole conditions. We request approval of option to run open hole sliding sleeve in lateral section (option attachment included). We request variance to use multi-bowl wellhead. See attached "Drill Plan" for additional information.

**Other proposed operations facets attachment:**

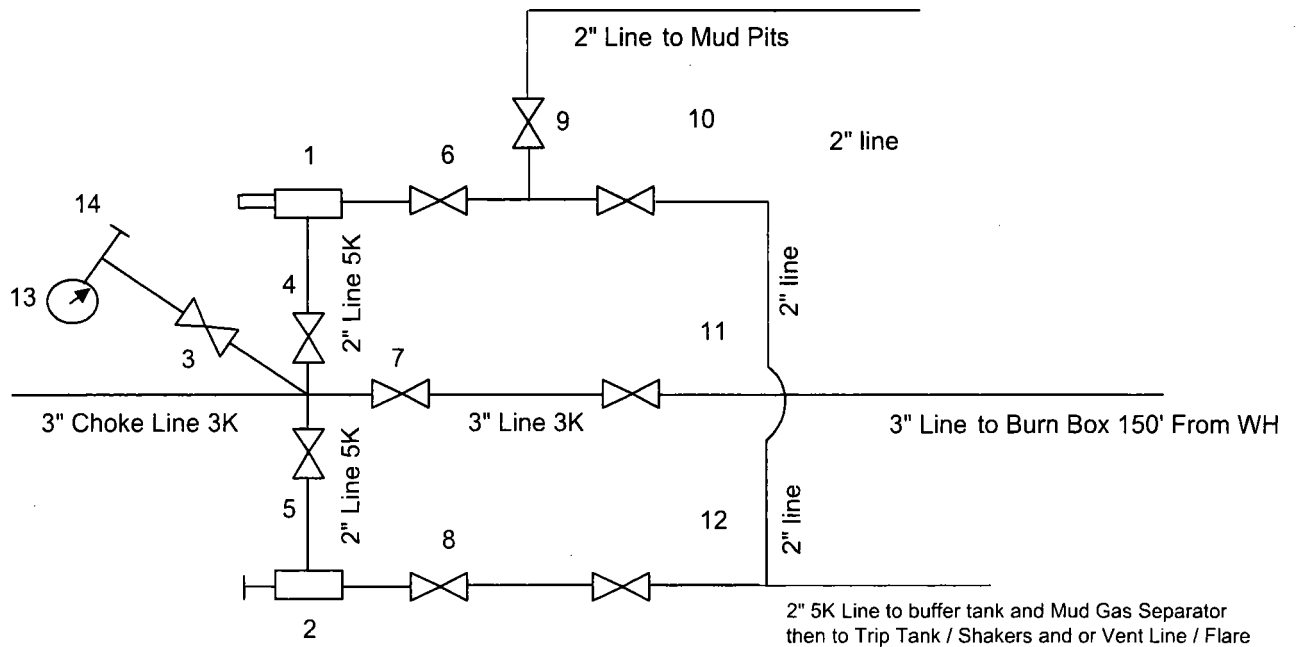
Peridot\_8\_Fed\_15H\_Generic\_WH\_5M\_04-03-2017.pdf

Peridot\_8\_Fed\_15H\_OH\_Sleeve\_Option\_20180123101435.pdf

Peridot\_8\_Fed\_GasCapturePlan\_20180123101506.pdf

**Other Variance attachment:**

**CHOKE MANIFOLD ARRANGEMENT - 3M Choke**  
per Onshore Oil and Gas Order No. 2 utilizing 3M/5M Equipment



All Tees must be Targeted

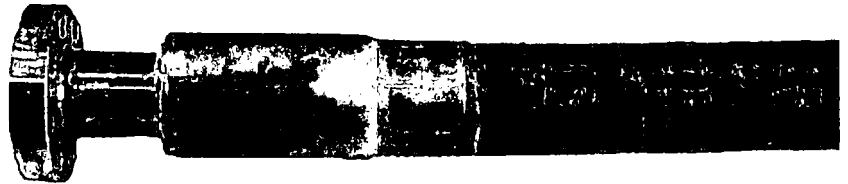
Item	Description
1	Remote Controlled Hydraulically Operated Adjustable Choke, 2-1/16", 3M
2	Manual Adjustable Choke, 2-1/16", 3M
3	Gate Valve, 2-1/16" 5M
4	Gate Valve, 2-1/16" 5M
5	Gate Valve, 2-1/16" 5M
6	Gate Valve, 2-1/16" 5M
7	Gate Valve, 3-1/8" 3M
8	Gate Valve, 2-1/16" 5M
9	Gate Valve, 2-1/16" 5M
10	Gate Valve, 2-1/16" 5M
11	Gate Valve, 3-1/8" 3M
12	Gate Valve, 2-1/16" 5M
13	Pressure Gauge
14	2" hammer union tie-in point for BOP Tester

The 3M Choke Manifold & Valves will be tested to rated working pressure.



# Wellhead / Fire Guarded System

## Choke & Kill



### Reliance Eliminator Choke & Kill

This hose can be used as a choke hose which connects the BOP stack to the b manifold or a kill hose which connects the mud stand pipe to the BOP kill valve.

The Reliance Eliminator Choke & Kill hose contains a specially bonded compounded cover that replaces rubber covered Asbestos, Fibreglass and other fire retardant materials which are prone to damage. This high cut and gouge resistant cover overcomes costly repairs and downtime associated with older designs.

The Reliance Eliminator Choke & Kill hose has been verified by an independent engineer to meet and exceed EUB Directive °G6 fq700 minutes)

Nom. ID		Nom OD		Weight		Min Bend Radius		Max WP	
in.	mm.	in.	mm	lb/ft	kg/m	in.	mm.	psi	Mpa
3	76.2	5.11	129.79	14.5	21.46	48	1219.2	5000	34.47
3-1/2	88.9	5.79	147.06	20.14	29.80	54	1371.6	5000	34.47

## End Connections

### Fittings

RC4X5055  
RC3X5055  
RC4X5575

### Flanges

R35 - 3-1/8 5000# API Type 6B  
R31 - 3-1/8 3000# API Type 6B

### Hammer Unions

All Union Configurations

### Other

LP Threaded ( )  
Graylock  
Custom Ends



Industrial Products USA, Ltd.

Greeley, CO 80631  
Ph: 970-346-3751  
Fax: 970-353-3168  
2030E 8th Street, Suite B

Bossier City, LA 71111  
Ph: 318-687-5486  
Fax: 318-687-5491  
1001 M&O Drive

San Antonio, TX 78217  
Ph: 210-650-3636  
Fax: 210-650-3133  
4327 Centergate Street

Williston, ND 58801  
Ph: 701-572-7035  
Fax: 701-572-7030  
4970 Hwy 85

Midland, TX 78706  
Ph: 432-689-0102  
Fax: 432-639-4898  
2904 SCR 1250

Houston, TX 77388  
Ph: 281-288-9720  
4115 Kiehnop Rd Suite B

Please remit payment to:  
606 - 18 Avenue, Nisku, AB  
Canada T9E 7W1

Peridot 8 Federal 15H

# WORK ORDER

BILL TO		CUSTOMER NO.		SALESMAN NO.		SHIP TO		CUSTOMER NO.		SALESMAN NO.		PG 1 OF 1	
		003054		HSE				003054		HSE			
TRINIDAD DRILLING LP		15015 VICKERY DR		HOUSTON, TX 77032		TRINIDAD DRILLING		RIGH 435				003054013482	
												(713) 439-1670	
BRANCH		Reliance - Midland		EAD		BOX		BAG		COIL		PC	
TAX ID #28-0174221		REFERENCE NUMBER		105-013482		OPEN ORDER							
MO. DAY YR.		WRITTEN BY		YOUR ORDER NO.		TERMS		SHIP VIA		C		IMP	
11/04/16		RWB		11/04/16 5709 PO22132		NET 30 DAYS		DELIVERY		RWB			
QTY ORDERED		QTY SHIPPED		BACK ORDERED		PART NUMBER AND DESCRIPTION		CODE		LIST PRICE		UNIT	
						*****SHIPPING DETAIL*****							
						11/4/16 ORDER TO BE COMPLETED BY							
						DELIVER TO YARD SHIPPING INSTRUCTIONS							
						ATTN: IAN RIGH 435 SPECIAL INSTRUCTIONS							
						PARTS: API HOSE   HYD HOSE   IND HOSE   ORDER COMPONENTS							
1		1				KIT MATERIALS MATERIALS T				4806.980 EA		4806.98	
						***** Components for above item are listed below *****							
2.00						LAB RKS WAGE GRADE C & D SWAGE						EA	
1.00						LAB T-100 TESTING CHARGES						EA	
1						PTC P930012 ID TAG 2.5X1.5 SS		J 2C				EA	
2						PTC P930022 CABLE TIE SS 20.50L		J 2C				EA	
9						HBD RFG500056 3 1/2" FIREGUARD CHOKE HOSE						EA	
1						RSK 7K-FR35X5KRCDS6 FLOATING FLANGE COUPLING		M 1E				EA	
1						RSK 7K-R35X5KRCDS6 GRADE C/D R35 FLANGE COUPL		M 1E				EA	
2						API OVERFERRULE96 6" SS OVERFERRULE		M 2F				EA	
15						HGW 3X116 3" X 1/16" FIBERGLASS TAPE		O 1C				FT	
						1" - 3.5" X 8'6" 5K F/G CHOKE HOSE W/ R35 FIXED X FLOATING FLANGE							
						TESTED TO 10000 PSI FOR 10 MINUTES							
						HYDRO-TEST AND NACE CERTIFICATIONS PROVIDED							
						IF ORDERED TODAY BUY 2PM WE CAN HAVE THIS BUILT TOMORROW							
						IF ORDERED LATER THAN 2PM IT WILL BE MONDAY DELIVERY							
SIGNED BY		TESTED BY		TERMS: NET 30 DAYS FROM DATE OF INVOICE. Interest of 2% PER MONTH (24% PER ANNUM) charged on overdue accounts. The terms of the contract between Reliance Industrial Products Ltd. ("Reliance") and the customer are on the reverse of this document.		GOODS RECEIVED BY (PLEASE PRINT)		SUB-TOTAL		4806.98			
INSPEC BY		INSPEC BY				INITIAL		TAX		0.00			
						11:25		TOTAL		4806.98			

Sign: [Signature]

Print Name: Ethan Wood

Date: 11-22-16



2904 SCR 1250  
MIDLAND, TX  
79706

## T E S T   C E R T I F I C A T E

### Customer Information

Customer:	TRINIDAD DRILLING
P.O. #:	PO22132
Rig #	RIG# 435
Cust Tracking #	

### Material Information

Hose Type	3.1/2" FIREGUARD H
Hose ID	3.1/2"
Assembly Length	8' 6"
Fireguard Yes/No	YES

### Test Information

Cert No.:	105-013482/001	H-01
Date: (YYYY-MM-DD)	#2016-11-11#	
Working Pressure:	5000 PSI	
Test Pressure:	10000 PSI	
Duration (mins):	20	

### Material Tracking - Coupling #1

Coupling #1:	R35 FIXD FLANGE
MTR# - Stem	
MTR# - Shell	
NACE#	

### Traceability

☒ NEW

☐ RECERT

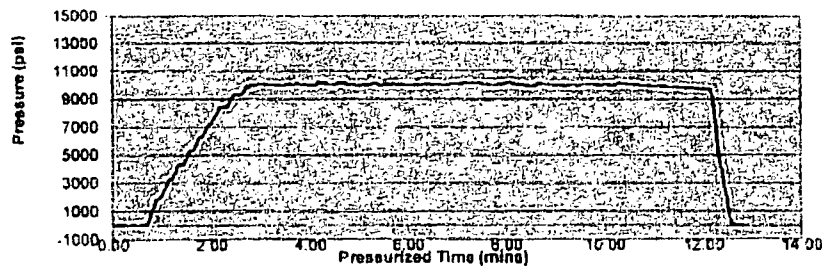
13482      H-01  
Previous Reference #

### Material Tracking - Coupling #2

Coupling #2:	R35 FLOATING FLAN
MTR# - Stem	
MTR# - Shell	
NACE#	

### Comments

TESTED AND CERTIFIED @ 10000 PSI FOR 10 MINUTES CERT TAG SN# 13482-H01



- ☒ Acceptable  
☐ Not Acceptable

RIP-HAFM 006  
VER II

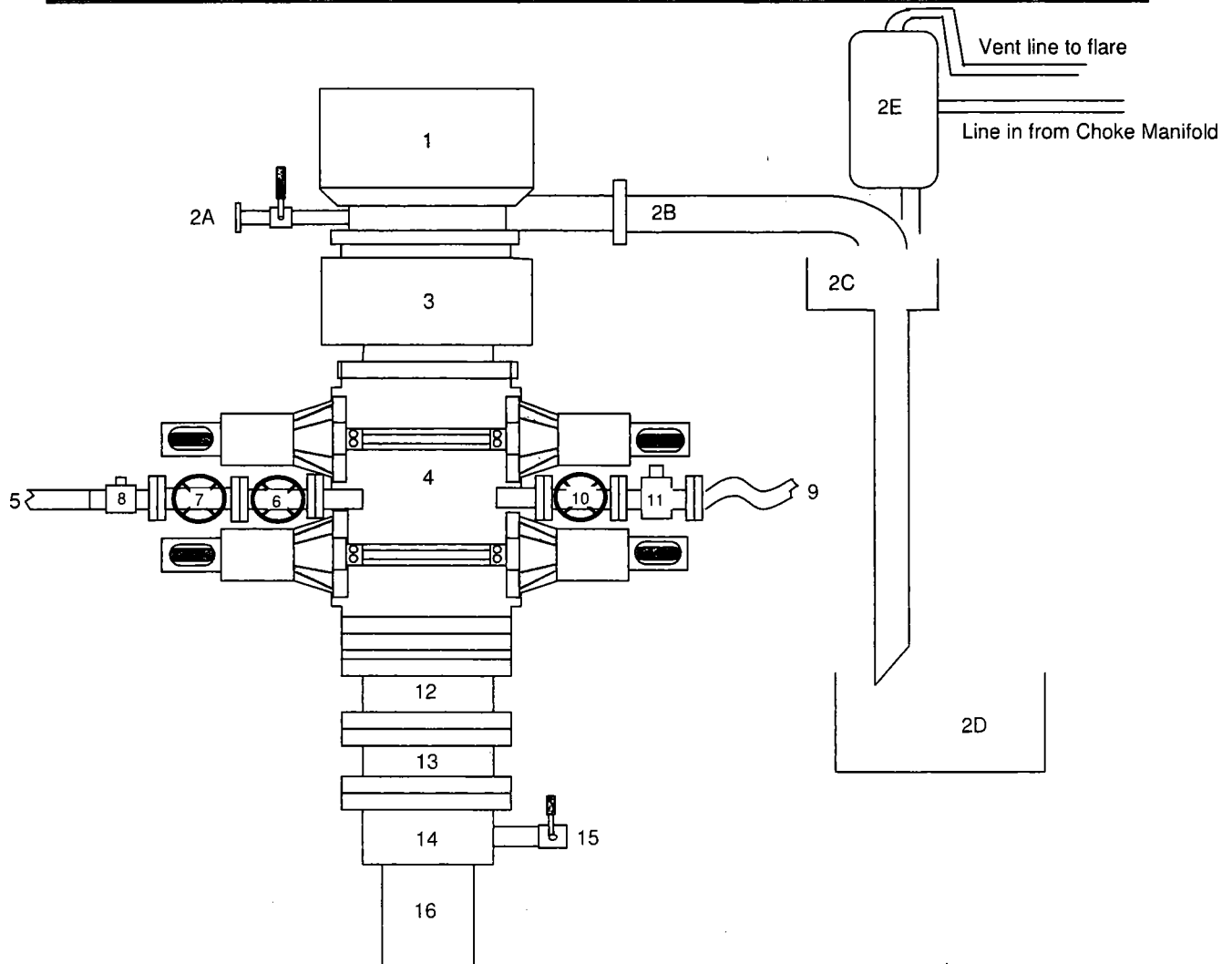
ISIDRO SANCHEZ

Test Technician (Print Name)

Supervisor Signature

Test Technician Signature

**BLOWOUT PREVENTER ARRANGEMENT - 11" 3M BOPE**  
per Onshore Oil and Gas Order No. 2 utilizing 3M Rated Equipment



Item	Description
1	Rotating Head, 11"
2A	Fill up Line and Valve
2B	Flow Line (10")
2C	Shale Shakers and Solids Settling Tank
2D	Cuttings Bins for Zero Discharge
2E	Rental Mud Gas Separator with vent line to flare and return line to mud system
3	Annular BOP (11", 3M)
4	Double Ram (11", 3M, Blind Ram top x Pipe Ram bottom)
5	Kill Line (2" flexible hose, 3M)
6	Kill Line Valve, Inner (2-1/16", 3M)
7	Kill Line Valve, Outer (2-1/16", 3M)
8	Kill Line Check Valve (2-1/16", 3M)
9	Choke Line (3-1/8" 3M Coflex Line)
10	Choke Line Valve, Inner (3-1/8", 3M)
11	Choke Line Valve, Outer, (3-1/8", Hydraulically operated, 3M)
12	Adapter Flange (11" 5M to 11" 3M)
13	Spacer Spool (11", 5M)
14	Casing Head (11" 5M)
15	Ball Valve and Threaded Nipple on Casing Head Outlet, 2" 5M
16	Surface Casing

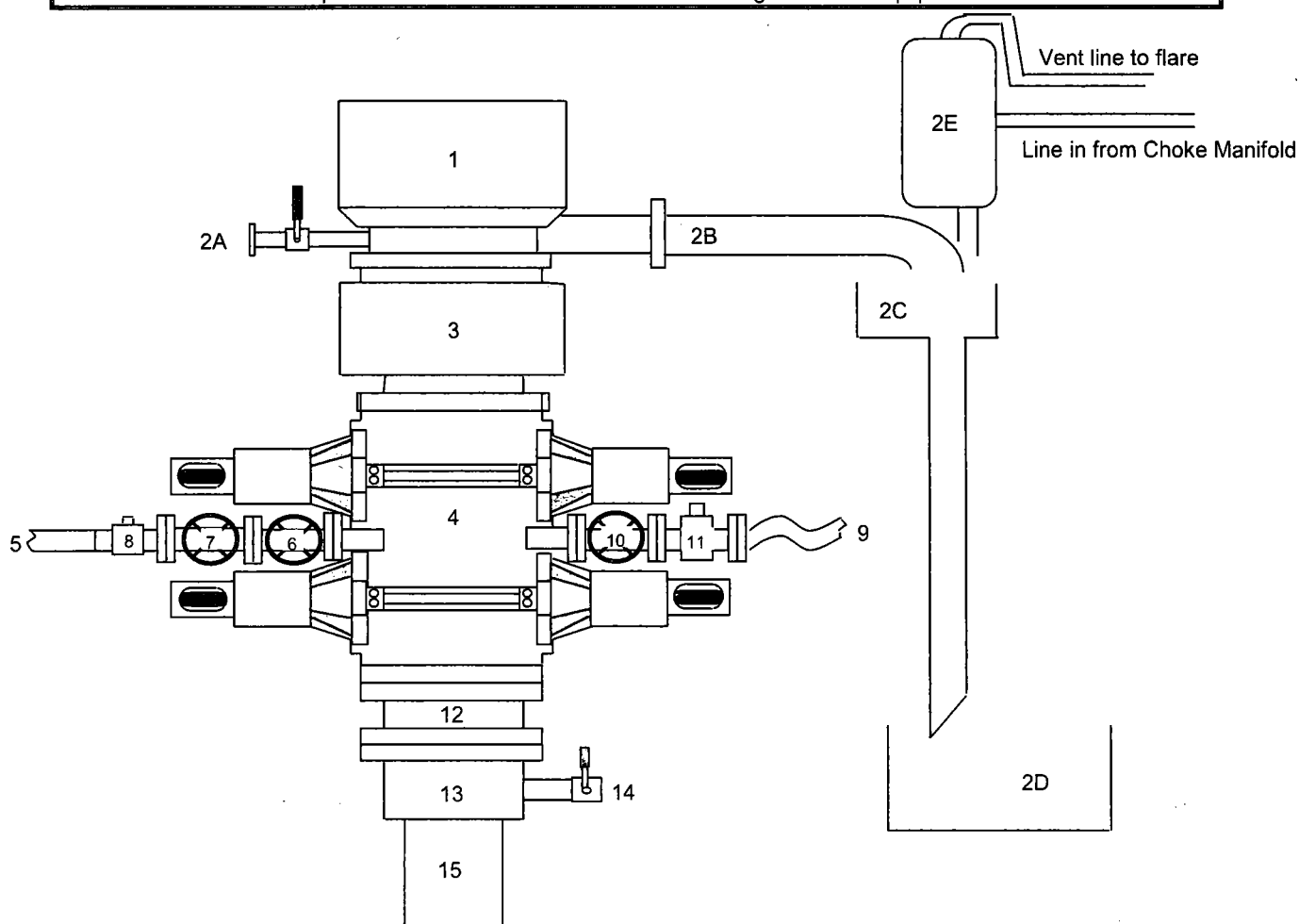
A variance is requested to permit the use of flexible hose. The testing certificate for the specific hose will be available on the rig prior to commencing drilling operations.

# Attachment #4.1

PERIDOT 8 FEDERAL 15H

## BLOWOUT PREVENTER ARRANGEMENT - 13-5/8" 3M BOPE

per Onshore Oil and Gas Order No. 2 utilizing 5M Rated Equipment



Item	Description
1	Rotating Head, 13-5/8"
2A	Fill up Line and Valve
2B	Flow Line (10")
2C	Shale Shakers and Solids Settling Tank
2D	Cuttings Bins for Zero Discharge
2E	Rental Mud Gas Separator with vent line to flare and return line to mud system
3	Annular BOP (13-5/8", 5M)
4	Double Ram (13-5/8", 5M, Blind Ram top x Pipe Ram bottom)
5	Kill Line (2" flexible hose, 3M)
6	Kill Line Valve, Inner (2-1/16", 5M)
7	Kill Line Valve, Outer (2-1/16", 5M)
8	Kill Line Check Valve (2-1/16", 5M)
9	Choke Line (3-1/8", 3M Coflex Line)
10	Choke Line Valve, Inner (3-1/8", 5M)
11	Choke Line Valve, Outer (3-1/8", Hydraulically operated, 5M)
12	Spacer Spool (13-5/8", 5M)
13	Casing Head (13-5/8" 5M)
14	Ball Valve and Threaded Nipple on Casing Head Outlet, 2" 5M
15	Surface Casing

A variance is requested to permit the use of flexible hose. The testing certificate for the specific hose will be available on the rig prior to commencing drilling operations.

String Section	Depth MD	Depth TVD	Csg length ft	Wt	MIY	Col	Pipe Str	Jt Str	Drill Fluid
Surface Casing	885	885	885	54.5	2730	1130	853000	514000	8.5
Intermediate 1 Casing	2250	2250	2250	40	3950	2570	630000	520000	10
Production 1 Casing	5200	5200	5200	29	8160	7020	676000	587000	9
Production 2 Casing	12874	5988	7674	20	9190	8830	466000	524000	9

#### Collapse Design (Safety) Factors – BLM Criteria

Collapse Design (Safety) Factor: SFc

$$SFc = Pc / (MW \times .052 \times Ls)$$

Where

- Pc is the rated pipe Collapse Pressure in pounds per square inch (psi)
- MW is mud weight in pounds per gallon (ppg)
- Ls is the length of the string in feet (ft)

The Minimum Acceptable Collapse Design (Safety) Factor SFc = 1.125

#### Surface Casing

$$SFc = 1130 / 391 = 2.89$$

#### Intermediate 1 Casing

$$SFc = 2570 / 1170 = 2.20$$

#### Production 1 Casing

$$SFc = 7020 / 2434 = 2.88$$

#### Production 2 Casing

$$SFc = 8830 / 2802 = 3.15$$

#### Pipe Strength Design (Safety) Factors – BLM Criteria

Pipe Strength Design (Safety) Factor: SFfp

$$SFfp = Fp / Wt$$

Where

- Fp is the rated pipe Body Strength in pounds (lbs)
- Wt is the weight of the casing string in pounds (lbs)

The Minimum Acceptable Pipe Strength Design (Safety) Factor SFTp = 1.6 dry or 1.8 buoyant

#### Surface Casing

$$\begin{aligned} SFi \text{ Dry} &= 853000 / 48232.5 = 17.7 \\ SFi \text{ Buoyant} &= 853000 / (48232.5 \times 0.870) = 20.3 \end{aligned}$$

#### Intermediate 1 Casing

$$\begin{aligned} SFi \text{ Dry} &= 630000 / 90000 = 7.00 \\ SFi \text{ Buoyant} &= 630000 / (90000 \times 0.847) = 8.26 \end{aligned}$$

#### Production 1 Casing

$$\begin{aligned} SFi \text{ Dry} &= 676000 / 150800 = 4.48 \\ SFi \text{ Buoyant} &= 676000 / (150800 \times 0.863) = 5.20 \end{aligned}$$

#### Production 2 Casing

$$\begin{aligned} SFi \text{ Dry} &= 466000 / 153480 = 3.04 \\ SFi \text{ Buoyant} &= 466000 / (153480 \times 0.863) = 3.52 \end{aligned}$$

#### Burst Design (Safety) Factors – BLM Criteria

Burst Design (Safety) Factor: SFb

$$SFb = Pi / BHP$$

Where

- Pi is the rated pipe Burst (Minimum Internal Yield) Pressure in pounds per square inch (ps)
- BHP is bottom hole pressure in pounds per square inch (psi)

The Minimum Acceptable Burst Design (Safety) Factor SFb = 1.0

#### Surface Casing

$$SFb = 2730 / 391 = 6.98$$

#### Intermediate 1 Casing

$$SFb = 3950 / 1170 = 3.38$$

#### Production 1 Casing

$$SFb = 8160 / 2434 = 3.35$$

#### Production 2 Casing

$$SFb = 9190 / 2802 = 3.28$$

#### Joint Strength Design (Safety) Factors – BLM Criteria

Joint Strength Design (Safety) Factor: SFtj

$$SFtj = Fj / Wt$$

Where

- Fj is the rated pipe Joint Strength in pounds (lbs)
- Wt is the weight of the casing string in pounds (lbs)

The Minimum Acceptable Joint Strength Design (Safety) Factor SFTj = 1.6 dry or 1.8 buoyant

#### Surface Casing

$$\begin{aligned} SFi \text{ Dry} &= 514000 / 48232.5 = 10.7 \\ SFi \text{ Buoyant} &= 514000 / (48232.5 \times 0.870) = 12.2 \end{aligned}$$

#### Intermediate 1 Casing

$$\begin{aligned} SFi \text{ Dry} &= 520000 / 90000 = 5.78 \\ SFi \text{ Buoyant} &= 520000 / (90000 \times 0.847) = 6.82 \end{aligned}$$

#### Production 1 Casing

$$\begin{aligned} SFi \text{ Dry} &= 587000 / 150800 = 3.89 \\ SFi \text{ Buoyant} &= 587000 / (150800 \times 0.863) = 4.51 \end{aligned}$$

#### Production 2 Casing

$$\begin{aligned} SFi \text{ Dry} &= 524000 / 153480 = 3.41 \\ SFi \text{ Buoyant} &= 524000 / (153480 \times 0.863) = 3.96 \end{aligned}$$

String Section	Depth MD	Depth TVD	Csg length ft	Wt	MIY	Col	Pipe Str	Jt Str	Drill Fluid
Surface Casing	885	885	885	54.5	2730	1130	853000	514000	8.5
Intermediate 1 Casing	2250	2250	2250	40	3950	2570	630000	520000	10
Production 1 Casing	5200	5200	5200	29	8160	7020	676000	587000	9
Production 2 Casing	12874	5988	7674	20	9190	8830	466000	524000	9

#### Collapse Design (Safety) Factors – BLM Criteria

Collapse Design (Safety) Factor: SF<sub>C</sub>

$$SF_C = P_c / (MW \times .052 \times L_s)$$

Where

- P<sub>c</sub> is the rated pipe Collapse Pressure in pounds per square inch (psi)
- MW is mud weight in pounds per gallon (ppg)
- L<sub>s</sub> is the length of the string in feet (ft)

The Minimum Acceptable Collapse Design (Safety) Factor SF<sub>C</sub> = 1.125

#### Surface Casing

$$SF_C = 1130 / 391 = 2.89$$

#### Intermediate 1 Casing

$$SF_C = 2570 / 1170 = 2.20$$

#### Production 1 Casing

$$SF_C = 7020 / 2434 = 2.88$$

#### Production 2 Casing

$$SF_C = 8830 / 2802 = 3.15$$

#### Burst Design (Safety) Factors – BLM Criteria

Burst Design (Safety) Factor: SF<sub>B</sub>

$$SF_B = P_i / BHP$$

Where

- P<sub>i</sub> is the rated pipe Burst (Minimum Internal Yield) Pressure in pounds per square inch (psi)
- BHP is bottom hole pressure in pounds per square inch (psi)

The Minimum Acceptable Burst Design (Safety) Factor SF<sub>B</sub> = 1.0

#### Surface Casing

$$SF_B = 2730 / 391 = 6.98$$

#### Intermediate 1 Casing

$$SF_B = 3950 / 1170 = 3.38$$

#### Production 1 Casing

$$SF_B = 8160 / 2434 = 3.35$$

#### Production 2 Casing

$$SF_B = 9190 / 2802 = 3.28$$

#### Pipe Strength Design (Safety) Factors – BLM Criteria

Pipe Strength Design (Safety) Factor: SF<sub>P</sub>

$$SF_P = F_p / W_t$$

Where

- F<sub>p</sub> is the rated pipe Body Strength in pounds (lbs)
- W<sub>t</sub> is the weight of the casing string in pounds (lbs)

The Minimum Acceptable Pipe Strength Design (Safety) Factor SF<sub>P</sub> = 1.6 dry or 1.8 buoyant

#### Surface Casing

$$\begin{aligned} SF_{P \text{ Dry}} &= 853000 / 48232.5 = 17.7 \\ SF_{P \text{ Bouyant}} &= 853000 / (48232.5 \times 0.870) = 20.3 \end{aligned}$$

#### Intermediate 1 Casing

$$\begin{aligned} SF_{P \text{ Dry}} &= 630000 / 90000 = 7.00 \\ SF_{P \text{ Bouyant}} &= 630000 / (90000 \times 0.847) = 8.26 \end{aligned}$$

#### Production 1 Casing

$$\begin{aligned} SF_{P \text{ Dry}} &= 676000 / 150800 = 4.48 \\ SF_{P \text{ Bouyant}} &= 676000 / (150800 \times 0.863) = 5.20 \end{aligned}$$

#### Production 2 Casing

$$\begin{aligned} SF_{P \text{ Dry}} &= 466000 / 153480 = 3.04 \\ SF_{P \text{ Bouyant}} &= 466000 / (153480 \times 0.863) = 3.52 \end{aligned}$$

#### Joint Strength Design (Safety) Factors – BLM Criteria

Joint Strength Design (Safety) Factor: SF<sub>J</sub>

$$SF_J = F_j / W_t$$

Where

- F<sub>j</sub> is the rated pipe Joint Strength in pounds (lbs)
- W<sub>t</sub> is the weight of the casing string in pounds (lbs)

The Minimum Acceptable Joint Strength Design (Safety) Factor SF<sub>J</sub> = 1.6 dry or 1.8 buoyant

#### Surface Casing

$$\begin{aligned} SF_{J \text{ Dry}} &= 514000 / 48232.5 = 10.7 \\ SF_{J \text{ Bouyant}} &= 514000 / (48232.5 \times 0.870) = 12.2 \end{aligned}$$

#### Intermediate 1 Casing

$$\begin{aligned} SF_{J \text{ Dry}} &= 520000 / 90000 = 5.78 \\ SF_{J \text{ Bouyant}} &= 520000 / (90000 \times 0.847) = 6.82 \end{aligned}$$

#### Production 1 Casing

$$\begin{aligned} SF_{J \text{ Dry}} &= 587000 / 150800 = 3.89 \\ SF_{J \text{ Bouyant}} &= 587000 / (150800 \times 0.863) = 4.51 \end{aligned}$$

#### Production 2 Casing

$$\begin{aligned} SF_{J \text{ Dry}} &= 524000 / 153480 = 3.41 \\ SF_{J \text{ Bouyant}} &= 524000 / (153480 \times 0.863) = 3.96 \end{aligned}$$

String Section	Depth MD	Depth TVD	Csg length ft	Wt	MIY	Col	Pipe Str	Jt Str	Drill Fluid
Surface Casing	885	885	885	54.5	2730	1130	853000	514000	8.5
Intermediate 1 Casing	2250	2250	2250	40	3950	2570	630000	520000	10
Production 1 Casing	5200	5200	5200	29	8160	7020	676000	587000	9
Production 2 Casing	12874	5988	7674	20	9190	8830	466000	524000	9

#### Collapse Design (Safety) Factors – BLM Criteria

Collapse Design (Safety) Factor: SF<sub>c</sub>

$$SF_c = P_c / (MW \times .052 \times L_s)$$

Where

- P<sub>c</sub> is the rated pipe Collapse Pressure in pounds per square inch (psi)
- MW is mud weight in pounds per gallon (ppg)
- L<sub>s</sub> is the length of the string in feet (ft)

The Minimum Acceptable Collapse Design (Safety) Factor SF<sub>c</sub> = 1.125

#### Surface Casing

$$SF_c = 1130 / 391 = 2.89$$

#### Intermediate 1 Casing

$$SF_c = 2570 / 1170 = 2.20$$

#### Production 1 Casing

$$SF_c = 7020 / 2434 = 2.88$$

#### Production 2 Casing

$$SF_c = 8830 / 2802 = 3.15$$

#### Pipe Strength Design (Safety) Factors – BLM Criteria

Pipe Strength Design (Safety) Factor: SF<sub>p</sub>

$$SF_p = F_p / W_t$$

Where

- F<sub>p</sub> is the rated pipe Body Strength in pounds (lbs)
- W<sub>t</sub> is the weight of the casing string in pounds (lbs)

The Minimum Acceptable Pipe Strength Design (Safety) Factor SF<sub>p</sub> = 1.6 dry or 1.8 buoyant

#### Surface Casing

$$\begin{aligned} \text{SFI Dry} &= 853000 / 48232.5 = 17.7 \\ \text{SFI Bouyant} &= 853000 / (48232.5 \times 0.870) = 20.3 \end{aligned}$$

#### Intermediate 1 Casing

$$\begin{aligned} \text{SFI Dry} &= 630000 / 90000 = 7.00 \\ \text{SFI Bouyant} &= 630000 / (90000 \times 0.847) = 8.26 \end{aligned}$$

#### Production 1 Casing

$$\begin{aligned} \text{SFI Dry} &= 676000 / 150800 = 4.48 \\ \text{SFI Bouyant} &= 676000 / (150800 \times 0.863) = 5.20 \end{aligned}$$

#### Production 2 Casing

$$\begin{aligned} \text{SFI Dry} &= 466000 / 153480 = 3.04 \\ \text{SFI Bouyant} &= 466000 / (153480 \times 0.863) = 3.52 \end{aligned}$$

#### Burst Design (Safety) Factors – BLM Criteria

Burst Design (Safety) Factor: SF<sub>b</sub>

$$SF_b = P_i / BHP$$

Where

- P<sub>i</sub> is the rated pipe Burst (Minimum Internal Yield) Pressure in pounds per square inch (ps
- BHP is bottom hole pressure in pounds per square inch (psi)

The Minimum Acceptable Burst Design (Safety) Factor SF<sub>b</sub> = 1.0

#### Surface Casing

$$SF_b = 2730 / 391 = 6.98$$

#### Intermediate 1 Casing

$$SF_b = 3950 / 1170 = 3.38$$

#### Production 1 Casing

$$SF_b = 8160 / 2434 = 3.35$$

#### Production 2 Casing

$$SF_b = 9190 / 2802 = 3.28$$

#### Joint Strength Design (Safety) Factors – BLM Criteria

Joint Strength Design (Safety) Factor: SF<sub>j</sub>

$$SF_j = F_j / W_t$$

Where

- F<sub>j</sub> is the rated pipe Joint Strength in pounds (lbs)
- W<sub>t</sub> is the weight of the casing string in pounds (lbs)

The Minimum Acceptable Joint Strength Design (Safety) Factor SF<sub>j</sub> = 1.6 dry or 1.8 buoyant

#### Surface Casing

$$\begin{aligned} \text{SFI Dry} &= 514000 / 48232.5 = 10.7 \\ \text{SFI Bouyant} &= 514000 / (48232.5 \times 0.870) = 12.2 \end{aligned}$$

#### Intermediate 1 Casing

$$\begin{aligned} \text{SFI Dry} &= 520000 / 90000 = 5.78 \\ \text{SFI Bouyant} &= 520000 / (90000 \times 0.847) = 6.82 \end{aligned}$$

#### Production 1 Casing

$$\begin{aligned} \text{SFI Dry} &= 587000 / 150800 = 3.89 \\ \text{SFI Bouyant} &= 587000 / (150800 \times 0.863) = 4.51 \end{aligned}$$

#### Production 2 Casing

$$\begin{aligned} \text{SFI Dry} &= 524000 / 153480 = 3.41 \\ \text{SFI Bouyant} &= 524000 / (153480 \times 0.863) = 3.96 \end{aligned}$$

String Section	Depth MD	Depth TVD	Csg length ft	Wt	MIY	Col	Pipe Str	Jt Str	Drill Fluid
Surface Casing	885	885	885	54.5	2730	1130	853000	514000	8.5
Intermediate 1 Casing	2250	2250	2250	40	3950	2570	630000	520000	10
Production 1 Casing	5200	5200	5200	29	8160	7020	676000	587000	9
Production 2 Casing	12874	5988	7674	20	9190	8830	466000	524000	9

#### Collapse Design (Safety) Factors – BLM Criteria

Collapse Design (Safety) Factor: SFc

$$SFc = Pc / (MW \times .052 \times Ls)$$

Where

- Pc is the rated pipe Collapse Pressure in pounds per square inch (psi)
- MW is mud weight in pounds per gallon (ppg)
- Ls is the length of the string in feet (ft)

The Minimum Acceptable Collapse Design (Safety) Factor SFc = 1.125

#### Surface Casing

$$SFc = 1130 / 391 = 2.89$$

#### Intermediate 1 Casing

$$SFc = 2570 / 1170 = 2.20$$

#### Production 1 Casing

$$SFc = 7020 / 2434 = 2.88$$

#### Production 2 Casing

$$SFc = 8830 / 2802 = 3.15$$

#### Pipe Strength Design (Safety) Factors – BLM Criteria

Pipe Strength Design (Safety) Factor: SFfp

$$SFfp = Fp / Wt;$$

Where

- Fp is the rated pipe Body Strength in pounds (lbs)
- Wt is the weight of the casing string in pounds (lbs)

The Minimum Acceptable Pipe Strength Design (Safety) Factor SFTp = 1.6 dry or 1.8 buoyant

#### Surface Casing

$$\begin{aligned} SFi \text{ Dry} &= 853000 / 48232.5 = 17.7 \\ SFi \text{ Bouyant} &= 853000 / (48232.5 \times 0.870) = 20.3 \end{aligned}$$

#### Intermediate 1 Casing

$$\begin{aligned} SFi \text{ Dry} &= 630000 / 90000 = 7.00 \\ SFi \text{ Bouyant} &= 630000 / (90000 \times 0.847) = 8.26 \end{aligned}$$

#### Production 1 Casing

$$\begin{aligned} SFi \text{ Dry} &= 676000 / 150800 = 4.48 \\ SFi \text{ Bouyant} &= 676000 / (150800 \times 0.863) = 5.20 \end{aligned}$$

#### Production 2 Casing

$$\begin{aligned} SFi \text{ Dry} &= 466000 / 153480 = 3.04 \\ SFi \text{ Bouyant} &= 466000 / (153480 \times 0.863) = 3.52 \end{aligned}$$

#### Burst Design (Safety) Factors – BLM Criteria

Burst Design (Safety) Factor: SFb

$$SFb = Pi / BHP$$

Where

- Pi is the rated pipe Burst (Minimum Internal Yield) Pressure in pounds per square inch (ps)
- BHP is bottom hole pressure in pounds per square inch (psi)

The Minimum Acceptable Burst Design (Safety) Factor SFb = 1.0

#### Surface Casing

$$SFb = 2730 / 391 = 6.98$$

#### Intermediate 1 Casing

$$SFb = 3950 / 1170 = 3.38$$

#### Production 1 Casing

$$SFb = 8160 / 2434 = 3.35$$

#### Production 2 Casing

$$SFb = 9190 / 2802 = 3.28$$

#### Joint Strength Design (Safety) Factors – BLM Criteria

Joint Strength Design (Safety) Factor: SFj

$$SFj = Fj / Wj;$$

Where

- Fj is the rated pipe Joint Strength in pounds (lbs)
- Wj is the weight of the casing string in pounds (lbs)

The Minimum Acceptable Joint Strength Design (Safety) Factor SFTj = 1.6 dry or 1.8 buoyant

#### Surface Casing

$$\begin{aligned} SFi \text{ Dry} &= 514000 / 48232.5 = 10.7 \\ SFi \text{ Bouyant} &= 514000 / (48232.5 \times 0.870) = 12.2 \end{aligned}$$

#### Intermediate 1 Casing

$$\begin{aligned} SFi \text{ Dry} &= 520000 / 90000 = 5.78 \\ SFi \text{ Bouyant} &= 520000 / (90000 \times 0.847) = 6.82 \end{aligned}$$

#### Production 1 Casing

$$\begin{aligned} SFi \text{ Dry} &= 587000 / 150800 = 3.89 \\ SFi \text{ Bouyant} &= 587000 / (150800 \times 0.863) = 4.51 \end{aligned}$$

#### Production 2 Casing

$$\begin{aligned} SFi \text{ Dry} &= 524000 / 153480 = 3.41 \\ SFi \text{ Bouyant} &= 524000 / (153480 \times 0.863) = 3.96 \end{aligned}$$

String Section	Depth MD	Depth TVD	Csg length ft	Wt	MIY	Col	Pipe Str	Jt Str	Drill Fluid
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Intermediate 1 Casing	2250	2250	2250	40	3950	2570	630000	520000	10
Production 1 Casing	5200	5200	5200	29	8160	7020	676000	587000	9
Production 2 Casing	12874	5988	7674	20	9190	8830	466000	524000	9

#### Collapse Design (Safety) Factors – BLM Criteria

Collapse Design (Safety) Factor:  $SF_c$

$$SF_c = P_c / (MW \times .052 \times L_s)$$

Where

- $P_c$  is the rated pipe Collapse Pressure in pounds per square inch (psi)
- $MW$  is mud weight in pounds per gallon (ppg)
- $L_s$  is the length of the string in feet (ft)

The Minimum Acceptable Collapse Design (Safety) Factor  $SF_c = 1.125$

#### Surface Casing

$$SF_c = 1130 / 391 = 2.89$$

#### Intermediate 1 Casing

$$SF_c = 2570 / 1170 = 2.20$$

#### Production 1 Casing

$$SF_c = 7020 / 2434 = 2.88$$

#### Production 2 Casing

$$SF_c = 8830 / 2802 = 3.15$$

#### Pipe Strength Design (Safety) Factors – BLM Criteria

Pipe Strength Design (Safety) Factor:  $SF_{tp}$

$$SF_{tp} = F_p / W_t$$

Where

- $F_p$  is the rated pipe Body Strength in pounds (lbs)
- $W_t$  is the weight of the casing string in pounds (lbs)

The Minimum Acceptable Pipe Strength Design (Safety) Factor  $SF_{tp} = 1.6$  dry or 1.8 buoyant

#### Surface Casing

$$\begin{aligned} SF_{i \text{ Dry}} &= 853000 / 48232.5 = 17.7 \\ SF_{i \text{ Buoyant}} &= 853000 / (48232.5 \times 0.870) = 20.3 \end{aligned}$$

#### Intermediate 1 Casing

$$\begin{aligned} SF_{i \text{ Dry}} &= 630000 / 90000 = 7.00 \\ SF_{i \text{ Buoyant}} &= 630000 / (90000 \times 0.847) = 8.26 \end{aligned}$$

#### Production 1 Casing

$$\begin{aligned} SF_{i \text{ Dry}} &= 676000 / 150800 = 4.48 \\ SF_{i \text{ Buoyant}} &= 676000 / (150800 \times 0.863) = 5.20 \end{aligned}$$

#### Production 2 Casing

$$\begin{aligned} SF_{i \text{ Dry}} &= 466000 / 153480 = 3.04 \\ SF_{i \text{ Buoyant}} &= 466000 / (153480 \times 0.863) = 3.52 \end{aligned}$$

#### Burst Design (Safety) Factors – BLM Criteria

Burst Design (Safety) Factor:  $SF_b$

$$SF_b = P_i / BHP$$

Where

- $P_i$  is the rated pipe Burst (Minimum Internal Yield) Pressure in pounds per square inch (psi)
- $BHP$  is bottom hole pressure in pounds per square inch (psi)

The Minimum Acceptable Burst Design (Safety) Factor  $SF_b = 1.0$

#### Surface Casing

$$SF_b = 2730 / 391 = 6.98$$

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$$SF_b = 3950 / 1170 = 3.38$$

#### Production 1 Casing

$$SF_b = 8160 / 2434 = 3.35$$

#### Production 2 Casing

$$SF_b = 9190 / 2802 = 3.28$$

#### Joint Strength Design (Safety) Factors – BLM Criteria

Joint Strength Design (Safety) Factor:  $SF_{ij}$

$$SF_{ij} = F_j / W_t$$

Where

- $F_j$  is the rated pipe Joint Strength in pounds (lbs)
- $W_t$  is the weight of the casing string in pounds (lbs)

The Minimum Acceptable Joint Strength Design (Safety) Factor  $SF_{ij} = 1.6$  dry or 1.8 buoyant

#### Surface Casing

$$\begin{aligned} SF_{i \text{ Dry}} &= 514000 / 48232.5 = 10.7 \\ SF_{i \text{ Buoyant}} &= 514000 / (48232.5 \times 0.870) = 12.2 \end{aligned}$$

#### Intermediate 1 Casing

$$\begin{aligned} SF_{i \text{ Dry}} &= 520000 / 90000 = 5.78 \\ SF_{i \text{ Buoyant}} &= 520000 / (90000 \times 0.847) = 6.82 \end{aligned}$$

#### Production 1 Casing

$$\begin{aligned} SF_{i \text{ Dry}} &= 587000 / 150800 = 3.89 \\ SF_{i \text{ Buoyant}} &= 587000 / (150800 \times 0.863) = 4.51 \end{aligned}$$

#### Production 2 Casing

$$\begin{aligned} SF_{i \text{ Dry}} &= 524000 / 153480 = 3.41 \\ SF_{i \text{ Buoyant}} &= 524000 / (153480 \times 0.863) = 3.96 \end{aligned}$$

String Section	Depth MD	Depth TVD	Csg length ft	Wt	MIY	Col	Pipe Str	Jt Str	Drill Fluid
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Collapse Design (Safety) Factor:  $SF_c$

$$SF_c = P_c / (MW \times .052 \times L_s)$$

Where

- $P_c$  is the rated pipe Collapse Pressure in pounds per square inch (psi)
- $MW$  is mud weight in pounds per gallon (ppg)
- $L_s$  is the length of the string in feet (ft)

The Minimum Acceptable Collapse Design (Safety) Factor  $SF_c = 1.125$

#### Surface Casing

$$SF_c = 1130 / 391 = 2.89$$

#### Intermediate 1 Casing

$$SF_c = 2570 / 1170 = 2.20$$

#### Production 1 Casing

$$SF_c = 7020 / 2434 = 2.88$$

#### Production 2 Casing

$$SF_c = 8830 / 2802 = 3.15$$

#### Pipe Strength Design (Safety) Factors – BLM Criteria

Pipe Strength Design (Safety) Factor:  $SF_{tp}$

$$SF_{tp} = F_p / W_t$$

Where

- $F_p$  is the rated pipe Body Strength in pounds (lbs)
- $W_t$  is the weight of the casing string in pounds (lbs)

The Minimum Acceptable Pipe Strength Design (Safety) Factor  $SF_{tp} = 1.6$  dry or 1.8 buoyant

#### Surface Casing

$$\begin{aligned} SF_{i \text{ Dry}} &= 853000 / 48232.5 = 17.7 \\ SF_{i \text{ Bouyant}} &= 853000 / (48232.5 \times 0.870) = 20.3 \end{aligned}$$

#### Intermediate 1 Casing

$$\begin{aligned} SF_{i \text{ Dry}} &= 630000 / 90000 = 7.00 \\ SF_{i \text{ Bouyant}} &= 630000 / (90000 \times 0.847) = 8.26 \end{aligned}$$

#### Production 1 Casing

$$\begin{aligned} SF_{i \text{ Dry}} &= 676000 / 150800 = 4.48 \\ SF_{i \text{ Bouyant}} &= 676000 / (150800 \times 0.863) = 5.20 \end{aligned}$$

#### Production 2 Casing

$$\begin{aligned} SF_{i \text{ Dry}} &= 466000 / 153480 = 3.04 \\ SF_{i \text{ Bouyant}} &= 466000 / (153480 \times 0.863) = 3.52 \end{aligned}$$

#### Burst Design (Safety) Factors – BLM Criteria

Burst Design (Safety) Factor:  $SF_b$

$$SF_b = P_i / BHP$$

Where

- $P_i$  is the rated pipe Burst (Minimum Internal Yield) Pressure in pounds per square inch (psi)
- $BHP$  is bottom hole pressure in pounds per square inch (psi)

The Minimum Acceptable Burst Design (Safety) Factor  $SF_b = 1.0$

#### Surface Casing

$$SF_b = 2730 / 391 = 6.98$$

#### Intermediate 1 Casing

$$SF_b = 3950 / 1170 = 3.38$$

#### Production 1 Casing

$$SF_b = 8160 / 2434 = 3.35$$

#### Production 2 Casing

$$SF_b = 9190 / 2802 = 3.28$$

#### Joint Strength Design (Safety) Factors – BLM Criteria

Joint Strength Design (Safety) Factor:  $SF_{ij}$

$$SF_{ij} = F_j / W_t$$

Where

- $F_j$  is the rated pipe Joint Strength in pounds (lbs)
- $W_t$  is the weight of the casing string in pounds (lbs)

The Minimum Acceptable Joint Strength Design (Safety) Factor  $SF_{ij} = 1.6$  dry or 1.8 buoyant

#### Surface Casing

$$\begin{aligned} SF_{i \text{ Dry}} &= 514000 / 48232.5 = 10.7 \\ SF_{i \text{ Bouyant}} &= 514000 / (48232.5 \times 0.870) = 12.2 \end{aligned}$$

#### Intermediate 1 Casing

$$\begin{aligned} SF_{i \text{ Dry}} &= 520000 / 90000 = 5.78 \\ SF_{i \text{ Bouyant}} &= 520000 / (90000 \times 0.847) = 6.82 \end{aligned}$$

#### Production 1 Casing

$$\begin{aligned} SF_{i \text{ Dry}} &= 587000 / 150800 = 3.89 \\ SF_{i \text{ Bouyant}} &= 587000 / (150800 \times 0.863) = 4.51 \end{aligned}$$

#### Production 2 Casing

$$\begin{aligned} SF_{i \text{ Dry}} &= 524000 / 153480 = 3.41 \\ SF_{i \text{ Bouyant}} &= 524000 / (153480 \times 0.863) = 3.96 \end{aligned}$$



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

## SUPO Data Report

02/26/2018

APD ID: 10400006350

Submission Date: 04/05/2017

Highlighted data  
reflects the most  
recent changes

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL

Well Number: 15H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

### Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

PERIDOT\_8\_FED\_15H\_AccessRoadMapTOPO\_B\_04-03-2017.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:

Peridot\_8\_Fed\_15H\_AccessRoadv2\_20180123102048.pdf

Peridot\_8\_Fed\_15H\_AccessRoadTopoA\_20180123124530.pdf

New road type: RESOURCE

Length: 5236

Feet

Width (ft.): 30

Max slope (%): 0

Max grade (%): 4

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 17

**New road access erosion control:** The inside slope of the side ditches shall be 3:1. Any topsoil removed from the access road will be conserved as appropriate and with low profile. This access road is on fairly level ground. No additional erosion control is planned.

New road access plan or profile prepared? NO

New road access plan attachment:

**Operator Name:** CONOCOPHILLIPS COMPANY

**Well Name:** PERIDOT 8 FEDERAL

**Well Number:** 15H

**Access road engineering design?** NO

**Access road engineering design attachment:**

**Access surfacing type:** OTHER

**Access topsoil source:** OFFSITE

**Access surfacing type description:** Clean caliche will be used.

**Access onsite topsoil source depth:**

**Offsite topsoil source description:** Caliche will be from a BLM approved source or third-party commercial location. Material meets BLM requirements and standards.

**Onsite topsoil removal process:**

**Access other construction information:**

**Access miscellaneous information:** Majority of access road to be shared with other Peridot wells. Access road length includes 15' for facility access and 382' for frac pond access. Wider travel surface is needed to accommodate larger rig wheelbase. Road is needed to reach facility near NM Highway 82. Cattle guard to be installed between facility access road and NM Highway 82. Turnouts will be installed using dimensions recommended by BLM, standard for this area. Right of ways will be obtained for highway access and lease road access to include future Peridot wells.

**Number of access turnouts:** 1

**Access turnout map:**

### Drainage Control

**New road drainage crossing:** OTHER

**Drainage Control comments:** The proposed road to the location is surveyed and staked with stations set along the centerline at specific intervals. The road will be centerline crowned with a 2% crown for appropriate drainage. The inside slope of the side ditches shall be 3:1. Any topsoil removed from the access road will be conserved as appropriate. This access road is on fairly level ground.

**Road Drainage Control Structures (DCS) description:** No additional road drainage is needed other than standard BLM requirements for this area and those discussed in the BLM "Gold Book". This access road is on level ground.

**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:**

Peridot\_8\_Fed\_15H\_OneMileRadiusMap\_20180123103035.pdf

**Existing Wells description:**

**Operator Name:** CONOCOPHILLIPS COMPANY

**Well Name:** PERIDOT 8 FEDERAL

**Well Number:** 15H

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

**Submit or defer a Proposed Production Facilities plan?** SUBMIT

**Production Facilities description:** Peridot 8 Federal CF1 Tank Battery location NWNE, Section 8, T17S, R32E was sited during 6/26/16 onsite. Location is south of NM Highway 82. Dimensions planned are 400'x 250' to allow for expansion as wells are drilled. 15' access road is depicted in plats. Preliminary Plot Plan is attached.

**Production Facilities map:**

Peridot\_8\_Fed\_CF1\_Tank\_Battery\_04-03-2017.pdf

Peridot\_8\_Fed\_15H\_PreliminaryPlotPlan\_04-03-2017.pdf

#### Section 5 - Location and Types of Water Supply

##### Water Source Table

**Water source use type:** CAMP USE, INTERMEDIATE/PRODUCTION **Water source type:** GW WELL  
CASING, STIMULATION, SURFACE CASING

**Describe type:**

**Source latitude:**

**Source longitude:**

**Source datum:**

**Water source permit type:** PRIVATE CONTRACT, WATER WELL

**Source land ownership:** OTHER

**Describe land ownership:**

**Water source transport method:** PIPELINE, TRUCKING

**Source transportation land ownership:** FEDERAL

**Water source volume (barrels):** 165000

**Source volume (acre-feet):** 21.26736

**Source volume (gal):** 6930000

**Water source and transportation map:**

PERIDOT\_8\_FED\_15H\_AccessRoadMapTOPO\_A\_04-03-2017.pdf

Peridot\_8\_Fed\_15H\_WaterSourceMap\_20180123103439.pdf

**Water source comments:** Current water sources include: 1) Rockhouse Ranch; Section 13, T17S, R33E; and 2) Morewest Corporation, New Mexico; Section 16 & 26, T16S, R32E. Water sources specified within this application are current options for purchase. However, additional source(s) in the vicinity may be used depending on availability at the time water is needed. We intend to use different source(s) if necessary.

**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:**

**Operator Name:** CONOCOPHILLIPS COMPANY

**Well Name:** PERIDOT 8 FEDERAL

**Well Number:** 15H

**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:** Clean caliche will be used to construct well pad, road, and facility pad. Caliche will be from a BLM approved source or third-party commercial location. Current plans include: 1) Maljamar, New Mexico; Section 9, T17S, R32E; off Maljamar Road; 2) Hwy 529, New Mexico; Section 25, T17S, R31E; 3) Olane Caswell Ranch; Section 3, 17S, R32E. Caliche sources specified within this application are current options for mineral purchase. However, additional source(s) in the vicinity may be used depending on availability at the time of location construction. We intend to use different source(s) if necessary. Material to meet BLM requirements and standards. Trucking of source material will utilize authorized roads as per Access Road Topo A attached.

**Construction Materials source location attachment:**

## **Section 7 - Methods for Handling Waste**

**Waste type:** DRILLING

**Waste content description:** Drilling fluid, drilling cuttings, and rig water

**Amount of waste:** 8000 barrels

**Waste disposal frequency :** Daily

**Safe containment description:** Drilling fluid and cuttings will be held in a closed-loop system and trucked to an approved disposal facility.

**Safe containmant attachment:**

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

**Disposal type description:**

**Disposal location description:** Permitted disposal facility off Hwy 62.

## **Reserve Pit**

**Reserve Pit being used?** NO

**Temporary disposal of produced water into reserve pit?**

**Operator Name:** CONOCOPHILLIPS COMPANY

**Well Name:** PERIDOT 8 FEDERAL

**Well Number:** 15H

**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?** NO

**Description of cuttings location**

**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?:** YES

**Ancillary Facilities attachment:**

Peridot\_8\_Fed\_FracPondPlat\_20180123104621.pdf

**Comments:** ConocoPhillips anticipates needing a 600' x 600' freshwater frac pond to aid in completion operations. It is to be located in the NENW of Sec.8, 17S, 32E. Access to be via a 382' road. The disturbance is included in overall disturbance "other" calculations. We plan on reclaiming the frac pond surface upon completion of the full Peridot development. Reclamation activities will be conducted in accordance to BLM standards at the time of reclamation.

### **Section 9 - Well Site Layout**

**Well Site Layout Diagram:**

Peridot\_8\_Fed\_15H\_SiteLayoutArchBound\_20180123105044.pdf

Peridot\_8\_Fed\_15H\_SiteLayoutCutFill\_20180123105056.pdf

**Comments:**

**Operator Name:** CONOCOPHILLIPS COMPANY

**Well Name:** PERIDOT 8 FEDERAL

**Well Number:** 15H

## Section 10 - Plans for Surface Reclamation

**Type of disturbance:** New Surface Disturbance

**Multiple Well Pad Name:** PERIDOT 8 FEDERAL

**Multiple Well Pad Number:** 5H

### Recontouring attachment:

**Drainage/Erosion control construction:** Topsoil will be stripped and set along designated side of the wellsite. The next layer of dirt (stockpile) is done with the cut and fill method whereby the highest portion of the wellsite is pushed to lower portion(s) to balance the pad. The access road is done in a similar manner. To the greatest extent practicable, the location is placed so that the least amount of dirt is to be cut and disturbed, and so a good balance can be maintained during project. Topsoil stockpile will have lowest practicable profile to reduce wind erosion. For more detail please see attached Surface Use Plan of Operations.

**Drainage/Erosion control reclamation:** Upon project completion, if this well is a producer, excess caliche is removed from the interim reclamation portion of pad. Topsoil stockpile is balanced back onto the unused portion of the well pad and re-contoured as appropriate. Any drainage ditches will not be blocked with topsoil and/or organic material. Lowering the profile of the topsoil stockpile will reduce wind erosion. Erosion controls will be maintained per BLM guidelines and conditions. For more detail please see attached Surface Use Plan of Operations. Reclamation activities are planned to be accomplished within six months of project completion, contingent upon weather. A site specific "Reclamation Diagram" interim plan is attached. At such time as well is permanently abandoned, ConocoPhillips Company will contact the BLM for development of final rehabilitation plan. Upon abandonment, a dry hole marker will be installed as directed by Authorized BLM Officer at the time, in accordance with 43 CFR 3162.6. An above ground dry hole marker sealing the casing will have a weep hole which will allow pressure to dissipate and make detection of any fluid seepage easier. If below ground "well marker" is directed, ConocoPhillips Company will follow BLM requirements and standards for that method of abandonment. During final reclamation erosion is to be minimized through lower profile of any soil piles. Please see attached Surface Use Plan of Operations for more information.

**Wellpad long term disturbance (acres):** 1.572

**Wellpad short term disturbance (acres):** 1.3

**Access road long term disturbance (acres):** 3.61

**Access road short term disturbance (acres):** 0

**Pipeline long term disturbance (acres):** 0.52571166

**Pipeline short term disturbance (acres):** 0

**Other long term disturbance (acres):** 35.97

**Other short term disturbance (acres):** 1.72

**Total long term disturbance:** 41.67771

**Total short term disturbance:** 3.02

**Reconstruction method:** If this well is a producer site rehabilitation will be completed within six months, weather permitting. Excess caliche will be removed, as appropriate and either disposed of in a permitted facility or, if clean, stored for future use. Topsoil from the stockpile will be spread along areas to be interim reclaimed. Any drainage ditches will not be blocked with topsoil. Under normal weather conditions, the timetable for rehabilitation will allow two to three months to complete any re-contouring and top-soiling necessary. At such time as well is permanently abandoned, ConocoPhillips Company will contact BLM for development of final rehabilitation plan. Upon abandonment, a dry hole marker will be installed as directed by Authorized BLM Officer at the time, in accordance with 43 CFR 3162.6. An above ground dry hole marker sealing the casing will have a weep hole which will allow pressure to dissipate and make detection of any fluid seepage easier. If below ground "well marker" is directed, ConocoPhillips Company will follow BLM requirements and standards for that method of abandonment. Excess caliche will be removed, as appropriate and either disposed of in a permitted facility. Location soil may be "flipped" with BLM concurrence, clean topsoil spread and re-contoured to blend with surrounding area. This method will be accomplished in accordance to BLM standards set forth by the Authorized Officer.

**Topsoil redistribution:** Areas planned for interim reclamation will be recontoured to the extent feasible. Topsoil will be evenly re-spread and revegetated over the disturbed area not needed for continuing production operations. At such time as well is abandoned, disturbed areas will be re-contoured to a contour that blends with surrounding landscape. Topsoil will be redistributed evenly over the entire disturbed site to depth of 4-6 inches.

**Soil treatment:** The topsoil will be stripped and set along the designated perimeter of the wellsite. The next layer of dirt is moved with the cut and fill method whereby the highest point of the wellsite is cut into and then pushed to a lower side in

**Operator Name:** CONOCOPHILLIPS COMPANY

**Well Name:** PERIDOT 8 FEDERAL

**Well Number:** 15H

order to balance the well pad. Upon well completion, the soil will be balanced back onto portions of the pad not needed for long-term operations. Erosion will be minimized by maintaining a lower stockpile profile. For additional information, please see attached Surface Use Plan of Operation.

**Existing Vegetation at the well pad:** The project area is located in a region of southeast New Mexico know as the Mescalero Plain. No named tributaries, streams or wetlands are in the near vicinity. Elevation is around 4045'. It is a broad, low relief area characterized by Mescalero sand (eolian) soil. Maljamar and Palomas fine sands occur throughout the area. Soil is well drained and has low water storage potential. This determines vegetation present on location. Vegetation in the project area can be classified as transitional between the Plains-Mesa Sand Scrub and Chihuahuan Desert Scrub plant communities. The area surrounding the location is grazing grassland, which supports grasses and forbs. Frequently observed species include: honey mesquite, shinnery oak, perennial three-awn, sand bluestem, sand dropseed, giant dropseed, prince's plume, threadleaf groundsel, spectacle pod, sunflower, and plains flax. See attached Location Photos for visual example of vegetation existing onsite.

**Existing Vegetation at the well pad attachment:**

PERIDOT\_8\_FED\_15H\_LocationPhotos\_04-03-2017.pdf

**Existing Vegetation Community at the road:**

**Existing Vegetation Community at the road attachment:**

**Existing Vegetation Community at the pipeline:**

**Existing Vegetation Community at the pipeline attachment:**

**Existing Vegetation Community at other disturbances:**

**Existing Vegetation Community at other disturbances attachment:**

**Non native seed used?** NO

**Non native seed description:**

**Seedling transplant description:**

**Will seedlings be transplanted for this project?** NO

**Seedling transplant description attachment:**

**Will seed be harvested for use in site reclamation?** NO

**Seed harvest description:**

**Seed harvest description attachment:**

## Seed Management

### Seed Table

**Seed type:**

**Seed source:**

**Seed name:**

**Source name:**

**Source address:**

**Operator Name:** CONOCOPHILLIPS COMPANY

**Well Name:** PERIDOT 8 FEDERAL

**Well Number:** 15H

**Source phone:**

**Seed cultivar:**

**Seed use location:**

**PLS pounds per acre:**

**Proposed seeding season:**

Seed Summary	
Seed Type	Pounds/Acre

**Total pounds/Acre:**

**Seed reclamation attachment:**

**Operator Contact/Responsible Official Contact Info**

**First Name:**

**Last Name:**

**Phone:**

**Email:**

**Seedbed prep:**

**Seed BMP:**

**Seed method:**

**Existing invasive species?** NO

**Existing invasive species treatment description:**

**Existing invasive species treatment attachment:**

**Weed treatment plan description:** Two Class B noxious weed species, African rue and Malta star-thistle are of concern. ConocoPhillips Company will consult with BLM for acceptable weed control methods, if the need arises. Any weed control would follow USEPA and BLM requirements and standards.

**Weed treatment plan attachment:**

**Monitoring plan description:** Weeds will be controlled on disturbed areas within the exterior limits of the well pad. Monitoring will be in accordance with Best Management Practices and regulations established by BLM.

**Monitoring plan attachment:**

**Success standards:** Success standards will utilize BLM approved methods, such as those described in the BLM "Gold Book" and those established by the Authorized Officer.

**Pit closure description:** No pits will be used, a closed-loop system will be in place.

**Pit closure attachment:**

**Section 11 - Surface Ownership**

**Operator Name:** CONOCOPHILLIPS COMPANY

**Well Name:** PERIDOT 8 FEDERAL

**Well Number:** 15H

**Disturbance type:** OTHER

**Describe:** Well pad, access roads, flow lines, power line, and gas line

**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?** YES

**Use APD as ROW?** YES

**ROW Type(s):** 281001 ROW - ROADS, 288100 ROW - O&G Pipeline, 288103 ROW - Salt Water Disposal Pipeline/Facility, FLPMA (Powerline)

### ROW Applications

**SUPO Additional Information:** Archaeological survey requirements have been met by block survey 2151, well pad survey 2262, and gas line and SWD line survey 2276 and survey 2435. For multi-well pad we request deferral of interim reclamation requirements until wells have been drilled. The following disturbance will be shared by all Peridot 8 Federal wells. Peridot 8 Federal CF1 Tank Battery will be constructed concurrent with the first well(s) drilled for this development. Long term disturbance for the facility pad will use 2.52 acres. Power line to be installed will be 5766'. The Right of Way will be submitted separately. A gas sales line will be installed from the facility to an existing gas sales line. Amount of line to be installed is about 1397' (0.321 temporary and 0.962 permanent disturbance). Up to four produced water surface lines will be installed from Peridot 8 Federal CF1 Tank Battery to either Elvis SWD well (16,695' = 3.833 acres). Please see attached Surface Use Plan of Operations for additional information.

**Use a previously conducted onsite?** YES

**Previous Onsite information:** Surface Use Plan of Operation was finalized during onsite with the following attendees: Mr. Ballard, Mr. Wolf, Ms. Brooks, Mr. Wasson, and Ms. Maunder, along with survey crew.

**Operator Name:** CONOCOPHILLIPS COMPANY

**Well Name:** PERIDOT 8 FEDERAL

**Well Number:** 15H

**Other SUPO Attachment**

PERIDOT\_8\_FED\_15H\_FlowLineROW\_04-05-2017.pdf  
PERIDOT\_8\_FED\_15H\_FlowLineMapTOPO\_D\_04-05-2017.pdf  
Peridot\_8\_Fed\_GAS\_PIPELINE\_ROW\_04-05-2017.pdf  
Peridot\_8\_Fed\_15H\_BuriedGasLinetoDCP\_20180123123657.pdf  
Peridot\_8\_Fed\_15H\_SWD\_FlowLineToElvis\_20180123123723.pdf  
Peridot\_8\_Fed\_SWD\_BuriedPipeline\_20180123123741.pdf  
Peridot\_8\_Fed\_15H\_Power\_Line\_Plat\_20180123124018.pdf  
Peridot\_8\_Fed\_15H\_ReclamationDiagram\_20180123124040.pdf  
Peridot\_8\_Fed\_15H\_SUPO\_via\_AccessV2\_20180123124106.pdf  
Peridot\_8\_Fed\_15H\_Surf\_SummaryComments\_20180123124126.pdf



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## PWD Data Report

02/26/2018

### Section 1 - General

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

### Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

### **Section 3 - Unlined Pits**

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Describe 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:



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

## Bond Info Data Report

02/26/2018

### Bond Information

Federal/Indian APD: FED

BLM Bond number: ES0085

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:

42

# Peridot Section 7 and 8 Lease Map

