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Form 3160-3
(March 2012)

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.
NMLC029406B

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. (320830)
PERIDOT 8 FEDERAL 14H

2. Name of Operator CONOCOPHILLIPS COMPANY (217817)

9. API Well No.
30-025-44598

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

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

10. Field and Pool, or Exploratory (44500)
MALJAMAR / YESO WEST

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface NESW / 2237 FSL / 2580 FWL / LAT 32.848067 / LONG -103.788817
At proposed prod. zone LOT 3 / 2310 FSL / 330 FWL / LAT 32.848294 / LONG -103.813436

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

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

12. County or Parish
LEA

13. State
NM

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

16. No. of acres in lease
1606.8

17. Spacing Unit dedicated to this well
241

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

19. Proposed Depth
5993 feet / 13433 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
4048 feet

22. Approximate date work will start*
07/01/2018

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	Name *(Printed/Typed)*	Date
(Electronic Submission)	Susan Maunder / Ph: (281)206-5281	10/16/2017

Title
Senior Coordinator, Regulatory MCBU

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	02/23/2018

Title	Office
Supervisor Multiple Resources	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) OCA 03/09/18

*(Instructions on page 2)

APPROVED WITH CONDITIONS

KZ
03/12/18

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.

(Continued on page 3)

Approval Date: 02/23/2018

Additional Operator Remarks

Location of Well

1. SHL: NESW / 2237 FSL / 2580 FWL / TWSP: 17S / RANGE: 32E / SECTION: 8 / LAT: 32.848067 / LONG: -103.788817 (TVD: 0 feet, MD: 0 feet)
   PPP: NESW / 2308 FSL / 2580 FWL / TWSP: 17S / RANGE: 32E / SECTION: 8 / LAT: 32.848238 / LONG: -103.788817 (TVD: 5470 feet, MD: 5470 feet)
   BHL: LOT 3 / 2310 FSL / 330 FWL / TWSP: 17S / RANGE: 32E / SECTION: 7 / LAT: 32.848294 / LONG: -103.813436 (TVD: 5993 feet, MD: 13433 feet)

BLM Point of Contact

Name: Judith Yeager

Title: Legal Instruments Examiner

Phone: 5752345936

Email: jyeager@blm.gov

Approval Date: 02/23/2018

Review and Appeal Rights

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

AFMSS

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

Operator Certification Data Report

02/27/2018

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Susan Maunder **Signed on:** 10/16/2017

Title: Senior Coordinator, Regulatory MCBU

Street Address: 600 N. Dairy Ashford Rd

City: Houston **State:** TX **Zip:** 77079

Phone: (281)206-5281

Email address: Susan.B.Maunder@conocophillips.com

Field Representative

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

AFMSS

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

Application Data Report

02/27/2018

APD ID: 10400022350 **Submission Date:** 10/16/2017

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 14H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400022350 **Tie to previous NOS?** **Submission Date:** 10/16/2017

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: NMLC029406B **Lease Acres:** 1606.8

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_14H_JOA_Certif_Ltr_20171010123652.pdf
Peridot_8_Fed_14H_Leases_w_wellsMap_20171010123703.pdf
Peridot_8_Fed_14H_SerialRegisterPgs_20171010123835.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 **Mater 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:** 14H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** MALJAMAR **Pool Name:** YESO WEST

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 14H

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

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:** PERIDOT 8 FEDERAL **Number:** 4H

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

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 1.4 Miles **Distance to nearest well:** 140 FT **Distance to lease line:** 60 FT

Reservoir well spacing assigned acres Measurement: 241 Acres

Well plat: Peridot_8_Fed_14H_C102signed_20171010124834.pdf

Well work start Date: 07/01/2018 **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	2237	FSL	2580	FWL	17S	32E	8	Aliquot NESW	32.848067	-103.788817	LEA	NEW MEXICO	NEW MEXICO	F	NMLC029406B	4048	0	0
KOP Leg #1	2308	FSL	2580	FWL	17S	32E	8	Aliquot NESW	32.848238	-103.788817	LEA	NEW MEXICO	NEW MEXICO	F	NMLC029406B	-1502	5550	5550
PPP Leg #1	2308	FSL	2580	FWL	17S	32E	8	Aliquot NESW	32.848238	-103.788817	LEA	NEW MEXICO	NEW MEXICO	F	NMLC029406B	-1422	5470	5470

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 14H

	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
EXIT Leg #1	2310	FSL	330	FWL	17S	32E	7	Lot 3	32.848294	-103.813436	LEA	NEW MEXICO	NEW MEXICO	F	NMLC029406B	-1945	13433	5993
BHL Leg #1	2310	FSL	330	FWL	17S	32E	7	Lot 3	32.848294	-103.813436	LEA	NEW MEXICO	NEW MEXICO	F	NMLC029406B	-1945	13433	5993

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

October 3, 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 4H,14H
Section 8, T17S, R32E
Lease Numbers – NMLC 064149, NMLC 029406B

Dear Sir or Madam,

ConocoPhillips Company has negotiated a Joint Operating Agreement ("JOA") with COG Operating LLC, evidenced by a previously enclosed Memorandum of Operating Agreement, which covers approximately 480 acres in Township 17 South, Range 32 East. The JOA, along with an associated settlement letter, 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 certification our two companies agree on operating rights within the Peridot 8 Federal area. In regards to Peridot development, COP respectfully requests the BLM to process the referenced APD to afford maintenance of the lease in a timely manner.

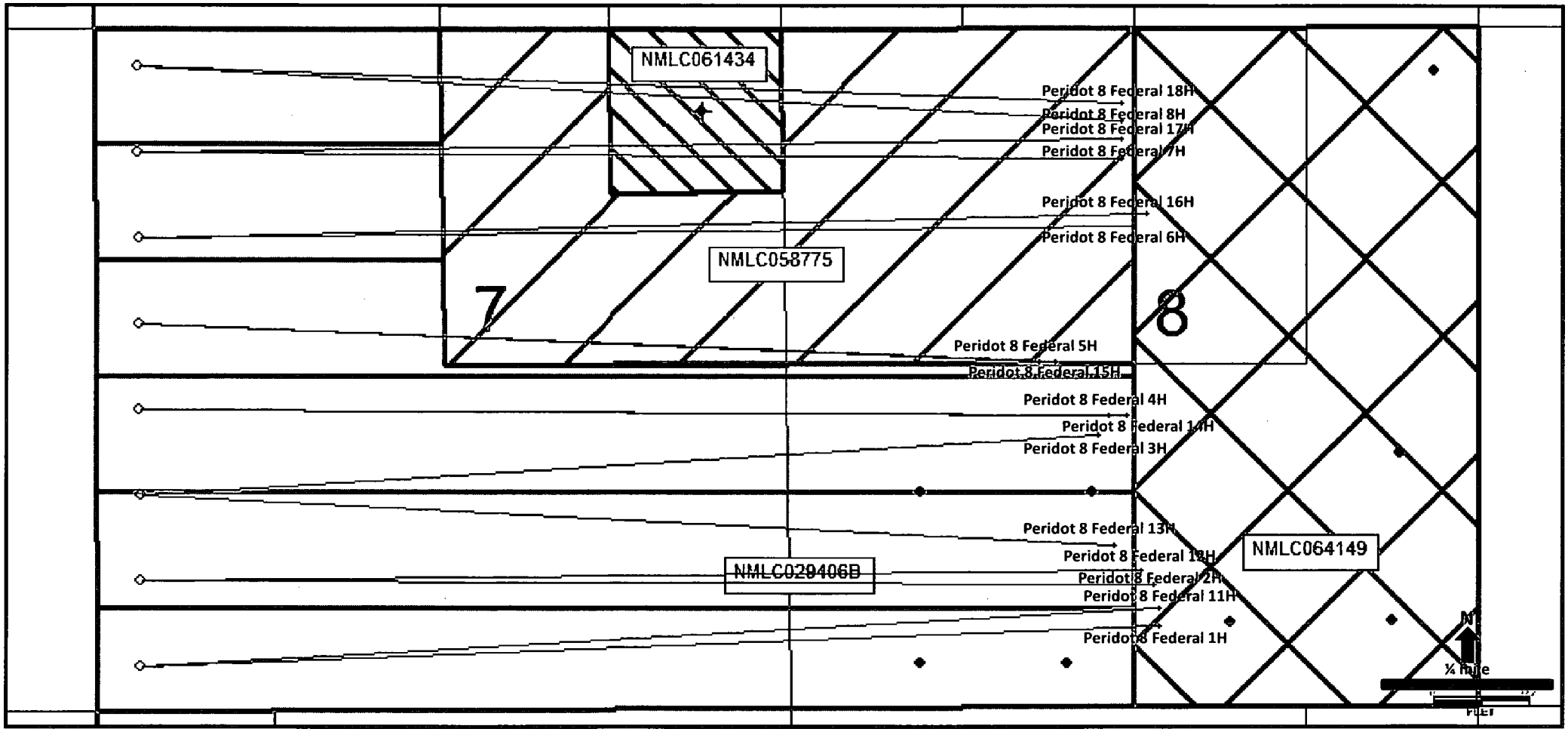
If you have questions regarding this certification, I can be reached at 281-206-5281 or via email at Susan.B.Maunder@conocophillips.com.

Sincerely,

Susan B Maunder

Susan B. Maunder
Senior Coordinator, Regulatory
ConocoPhillips Company

Peridot Section 7 and 8 Lease Map



APD ID: 10400022350 **Submission Date:** 10/16/2017

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 14H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	RUSTLER	3213	835	835	DOLOMITE,ANHYDRITE	USEABLE WATER	No
2	SALADO	2233	980	980	SALT,ANHYDRITE	NONE	No
3	TANSILL	1158	2055	2055	DOLOMITE,SALT,ANHYDRITE	NONE	No
4	YATES	1018	2195	2195	SANDSTONE,DOLOMITE,ANHYDRITE	NONE	No
5	SEVEN RIVERS	713	2500	2500	SANDSTONE,DOLOMITE,ANHYDRITE	NATURAL GAS,OIL	No
6	QUEEN	93	3120	3120	SANDSTONE,ANHYDRITE	NATURAL GAS,OIL	No
7	GRAYBURG	-332	3545	3545	SANDSTONE,DOLOMITE,ANHYDRITE	NATURAL GAS,OIL	No
8	SAN ANDRES	-647	3860	3860	SANDSTONE,DOLOMITE,ANHYDRITE	NATURAL GAS,OIL	No
9	GLORIETA	-2157	5370	5370	SANDSTONE,DOLOMITE,SILTSTONE	NATURAL GAS,OIL	No
10	PADDOCK	-2257	5470	5470	DOLOMITE,ANHYDRITE,SILTSTONE	NATURAL GAS,OIL	No
11	BLINEBRY	-2577	5790	5798	DOLOMITE,ANHYDRITE	NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M **Rating Depth:** 13433

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.
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. Testing frequency from daily to weekly. See attached "Drill Plan" document.

Choke Diagram Attachment:

Peridot_8_Fed_14H_3M_Choke_Manifold_20171012114121.pdf

Peridot_8_Fed_14H_FlexhoseVarianceData_20171012114142.pdf

BOP Diagram Attachment:

Peridot_8_Fed_14H_13in_5M_BOPE_Diagram_20171012114152.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	4048		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	4048		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			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	13433	5200	5993			8233	L-80	17	LTC	2.2	2.7	DRY	2.41	DRY	2.84

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Peridot_8_Fed_14H_Csg_Worksheet_20171012115153.pdf

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 14H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Peridot_8_Fed_14H_Csg_Worksheet_20171012115207.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Peridot_8_Fed_14H_Csg_Worksheet_20171016144807.pdf

Casing Design Assumptions and Worksheet(s):

Peridot_8_Fed_14H_Csg_Worksheet_20171012115500.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Peridot_8_Fed_14H_Csg_Worksheet_20171012120247.pdf

Casing Design Assumptions and Worksheet(s):

Peridot_8_Fed_14H_Csg_Worksheet_20171012120112.pdf

Section 4 - Cement

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 14H

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	100	Class C	4.0% Bentonite + 0.2% Anti-Foam + 2.0% CaCl2 +0.125lb/sk LCM + 0.1% Dispersant
SURFACE	Tail		585	885	400	1.35	14.8	540	100	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	100	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	100	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	30	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	13433	1900	1.37	14	2603	30	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:** 14H

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 discussion.

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 discussion.

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	WATER-BASED MUD	8.5	9							
2250	6115	WATER-BASED MUD	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:

Production tests will be conducted multiple times per week, through a test separator, during first months following completion. Thereafter, tests will be less frequently.

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

CNL,GR,MUDLOG

Coring operation description for the well:

No coring is planned.

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 14H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 2815 **Anticipated Surface Pressure:** 1496.54

Anticipated Bottom Hole Temperature(F): 100

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:

Peridot_8_Fed_14H_H2S_CPlan_20171012123724.pdf

Peridot_8_Fed_14H_TypicalRigLayout_20171012123817.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Peridot_8_Fed_14H_DirectionalPlan_20171012124019.pdf

Peridot_8_Fed_14H_WellboreSchematic_20171012124038.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. This is dependent upon equipment availability. Cement volumes will be adjusted based on hole conditions in given section. We request approval of the option to run open hole sliding sleeve in lateral section (option attachment is included). We request variance to use multi-bowl wellhead.

Other proposed operations facets attachment:

Peridot_8_Fed_14H_Drill_Planv5_20171012124203.pdf

Peridot_8_Fed_14H_Drill_Waste_Containment_20171012124214.pdf

Peridot_8_Fed_Gas_Capture_Plan_20171012124303.pdf

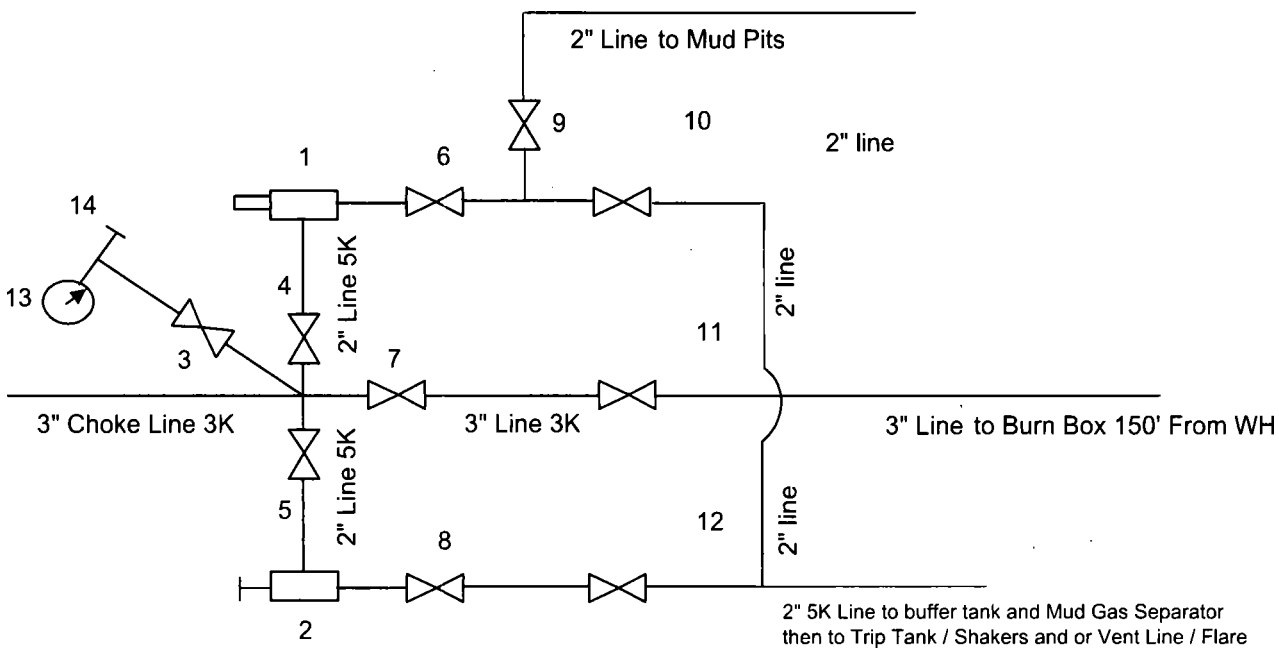
Peridot_8_Fed_14H_OH_Sleeve_Option_20180122140948.pdf

Other Variance attachment:

Peridot_8_Fed_14H_Generic_Wellhead_5M_20171012124246.pdf

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.

RELIANCE Industrial Products USA, Ltd.

Wellhead / Fire Guarded System

Choke & Kill

RELIANCE

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 fq706 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	Flanges	Hammer Unions	Other
RC4X5055	R35 - 3-1/8 5000# API Type 6B	All Union Configurations	LP Threaded (
RC3X5055	R31 - 3-1/8 3000# API Type 6B		Graylock
RC4X5575			Custom Ends

MICK

Peridot 8 Federal 14H

RELIANCE Industrial Products USA, Ltd.

WORK ORDER

Please remit payment to:
606 - 19 Avenue, Nisku, AB
Canada T9E 7W1

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 79706
Ph: 432-689-0102
Fax: 432-699-4898
2904 SCR 1250

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

BILL TO	CUSTOMER NO.	SALESMAN NO.	SHIP TO	CUSTOMER NO.	SALESMAN NO.
	003054	HSE		003054	HSE

TRINIDAD DRILLING LP
15015 VICKERY DR
HOUSTON, TX 77032

TRINIDAD DRILLING
RIGH 435
(713)439-1670

PG 1 OF 1

003054013482

ORDER STATUS
OPEN ORDER

BRANCH	BND	BOX	BAG	COIL	PC	TOTAL	TAX ID #26-0174221	REFERENCE NUMBER
Reliance - Midland								105-013482

MO. DAY YR.	WRITTEN BY	YOUR ORDER NO	TERMS	SHIP VIA	C	PP
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	NET PRICE	UNIT	NET AMOUNT
			**********SHIPPING DETAIL**********					
			11/4/16 .....ORDER TO BE COMPLETED BY					
			DELIVER TO YARD .....SHIPPING INSTRUCTIONS					
			. .....SPECIAL INSTRUCTIONS					
			ATTN: IAN RIGH 435 .....CUSTOMER CONTACT					
			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 RKSWAGE 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			KBD RFG500056 3 1/2"FIREGUARD CHOKE HOSE				EA	
1			RSK 7K-FR35X5KRCD56 FLOATING FLANGE COUPLING	M 1E			EA	
1			RSK 7K-R35X5KRCD56 GRADE C/D R35 FLANGE COUPL	M 1E			EA	
2			API OVERFERRULE96 6" SS OVERFERRULE	M 2F			EA	
15			HDW 3X116 3" X 1/16" FIBERGLASS TAPE	Q 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					

Sign: _____

Print Name: Edwin Wood

Date: 11-22-16

PICKED BY	ASSEMB BY	TESTED BY
	IS	IS
INSPEC BY	INSPEC. BY	INSPEC. 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)

INITIAL 11:25

SUB-TOTAL	4806.98
TAX	0.00
TOTAL	4806.98

RELIANCE
Industrial Products Ltd.

2904 SCR 1250
MIDLAND, TX
79706

TEST CERTIFICATE

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#	

Material Tracking - Coupling #2

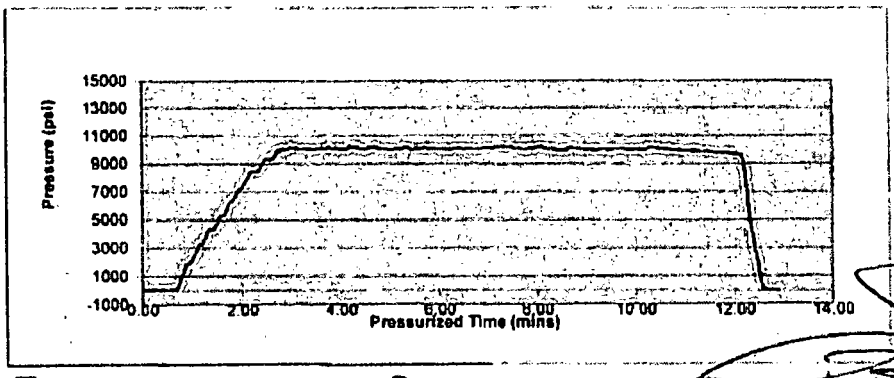
Coupling #2:	R35 FLOATING FLAN
MTR# - Stem	
MTR# - Shell	
NACE#	

Traceability

☑ NEW
☐ RECERT 13482 H-01
Previous Reference #

Comments

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



☑ Acceptable
☐ Not Acceptable

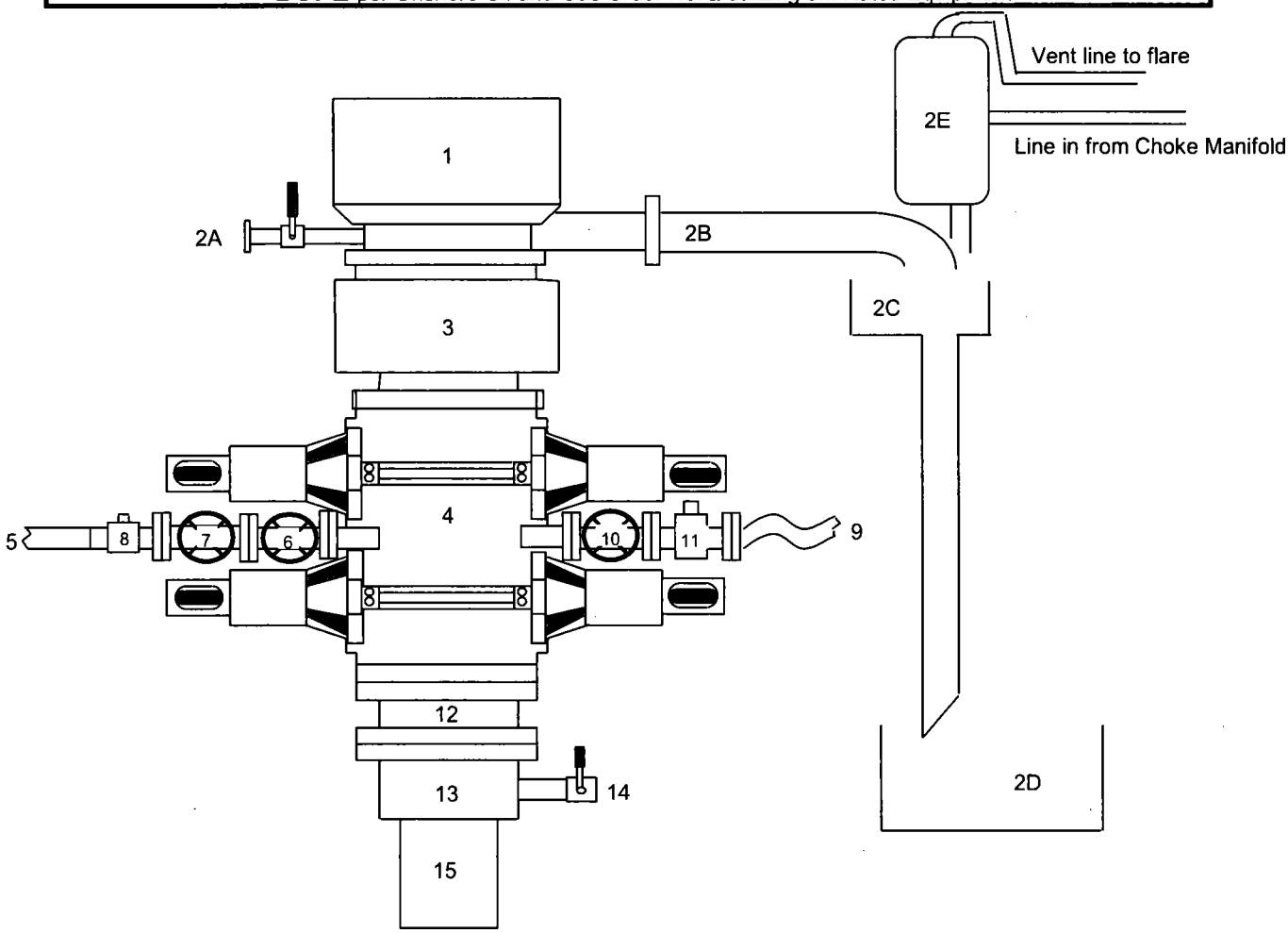
ISIDRO SANCHEZ
Test Technician (Print Name)

Test Technician Signature

Supervisor Signature

RIP-HAFM 006
VER II

BLOWOUT PREVENTER ARRANGEMENT - 13-5/8" 5M
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 Connection
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", 5M 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	Casing Head Valve 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.

Peridot 8 Fed 14H

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	13433	6115	8233	17	7740	6290	397000	338000	9

Collapse Design (Safety) Factors – BLM Criteria

Collapse Design (Safety) Factor: SFc

SFc = Pc / (MW x .052 x 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 = 6290 / 2862 = **2.20**

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
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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**

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Where

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SFi Dry = 853000 / 48232.5 = **17.7**
SFi Bouyant = 853000 / (48232.5 x 0.870) = **20.3**

Intermediate 1 Casing
SFi Dry = 630000 / 90000 = **7.00**
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Production 1 Casing
SFi Dry = 676000 / 150800 = **4.48**
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Surface Casing
SFi Dry = 853000 / 48232.5 = **17.7**
SFi Bouyant = 853000 / (48232.5 x 0.870) = **20.3**

Intermediate 1 Casing
SFi Dry = 630000 / 90000 = **7.00**
SFi Bouyant = 630000 / (90000 x 0.847) = **8.26**

Production 1 Casing
SFi Dry = 676000 / 150800 = **4.48**
SFi Bouyant = 676000 / (150800 x 0.863) = **5.20**

Production 2 Casing
SFi Dry = 397000 / 139961 = **2.84**
SFi Bouyant = 397000 / (139961 x 0.863) = **3.29**

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
SFi Dry = 514000 / 48232.5 = **10.7**
SFi Bouyant = 514000 / (48232.5 x 0.870) = **12.2**

Intermediate 1 Casing
SFi Dry = 520000 / 90000 = **5.78**
SFi Bouyant = 520000 / (90000 x 0.847) = **6.82**

Production 1 Casing
SFi Dry = 587000 / 150800 = **3.89**
SFi Bouyant = 587000 / (150800 x 0.863) = **4.51**

Production 2 Casing
SFi Dry = 338000 / 139961 = **2.41**
SFi Bouyant = 338000 / (139961 x 0.863) = **2.80**

ConocoPhillips, Peridot 8 Federal 14H

1. Geologic Formations

KB TVD of target	5993'	Pilot hole depth	NA
KB MD at TD:	13433'	Deepest expected fresh water:	835'

Basin

Formation	KB TVD (ft)	Elevation KB (ft)	Water/Mineral Bearing/Target Zone	Hazards*
Rustler	835	3230	Fresh Water	
Salado	980	3085	Brackish Water	
Tansill	2055	2010	Salt	
Yates	2195	1870	Salt Water	
Seven Rivers	2500	1565	Oil/Gas	
Queen	3120	945	Oil/Gas	
Grayburg	3545	520	Oil/Gas	
San Andres	3860	205	Oil/Gas	
Glorieta	5370	-1305	Oil/Gas	
Paddock	5470	-1405	Oil/Gas	
Blinebry	5790	-1725	Target	
Land Pt / TD	6115	-2050		

2. Casing Program

3 strings casing design										
Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Pipe Tensile	SF Joint Tensile
	From	To								
17.5"	0	885	13.375"	54.5	J55	STC/BTC	2.89	6.98	17.7	10.7
12.25"	0	2250	9.625"	40	J55	LTC/BTC	2.20	3.38	7.00	5.78
8.75"	0	5200	7"	29	L80	LTC/BTC	2.88	3.35	4.48	3.89
8.75"	5200	13433	5.5"	17	L80	LTC/BTC	2.20	2.70	2.84	2.41
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

- Bring cement from 5-1-2" casing shoe to lap inside 9-5/8" casing shoe.
- XO from 7" to 5-1/2" in 8-3/4" OH for minimum of 0.422in clearance per Onshore Oil and Gas Order #2 III.B.
- Notify BLM if an Annulus Casing Packer and Stage Tool with 2-Stage Cement or Remediate with Bradenhead Squeeze will be necessary.

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

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	YES
Does casing meet API specifications? If no, attach casing specification sheet.	YES
Is premium or uncommon casing planned? If yes attach casing specification sheet.	YES
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	YES
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	N/A
Is well located within Capitan Reef?	NO
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?	NO
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?	NO
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?	NO
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?	NO
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/sk	Vol ft3	500# Comp. Strength (hours)	Slurry Description
Surf.	500	13.5	1.68	8.94	840	7	Lead: Class C + 4.0% Bentonite + 0.2% Anti-Foam + 2.0% CaCl2 +0.125lb/sk LCM + 0.1% Dispersant
	400	14.8	1.35	6.38	540	7	Tail: Class C + 0.2% Anti-Foam + 0.1% Lost Circ Control + 2 lbs/bbl CemNET (losses Control)
Inter.	450	11.5	2.29	10.72	1031	17	Lead: Class C + 10.0% Bentonite + 0.2% Anti-Foam + 2.0% Expanding + 0.15% Viscosifier + 1.3% Retarder.
	300	13.5	1.29	4.81	387	7	Tail: 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
Prod.	650	11.0	3.2	19.25	2080	17	Lead: 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
	1900	14.0	1.37	6.48	2603	7	Tail: Class C + 3lb/sk LCM + 1.5% Fluid Loss + 0.1% + 1% Sodium Metasilicate (dry) + 1.5% Fluid Loss Control

DV tool depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

Lab reports with recipe and the 500 psi compressive strength time for the cement will be onsite for review.

3 strings casing cement design			
Casing String	TOC Lead	TOC Tail	% Excess
Surface	0'	585'	>100%
Intermediate	0'	1750'	>100%
Production	<1700'	5200'	>30%

Cement excess will be adjusted based on actual hole condition like losses or fluid caliper data if have.

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
8-3/4"	13-5/8"	3M/5M	Annular	x	50% of working pressure
			Blind Ram		3,000 psi
			Pipe Ram		
			Double Ram	x	
			Other*		

*Specify if additional ram is utilized.
Note: A 13-5/8" BOPE will be utilize in the 8-3/4" hole section depending on availability and Rig Substructure Clearance.

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 and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

X	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.	
X	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. If yes, specs and hydrostatic test certification will be available in the company man's trailer and on the rig floor.	
	N	Are anchors required by manufacturer?
X	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.

5. Mud Program

3 strings casing mud program						
Depth		**Type**	**Weight (ppg)**	**Viscosity**	**Water Loss**	**PH**
From	**To**					
0	Surf. shoe	FW Gel	8.5-9.0	28-40	N/C	N.C.
Surf. Shoe	Inter. shoe	Saturated Brine	10.0	28-32	N/C	9-10.5
Inter. shoe	TD	Cut-Brine	8.6-10.0	28-40	N/C	9-10.5

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
X	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.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		**Interval**
	Resistivity	
	Density, GR, BHC	
	CBL	
X	Mud log	
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	2815 psi
Abnormal Temperature	No – 100°

- Mitigation measure for abnormal conditions - Loss of circulation is a possibility in the horizons below the Top of Grayburg. We expect that normal Loss of Circulation Material will be successful in healing any such loss of circulation events.

Gas detection equipment and pit level flow monitoring equipment will be on location. A flow paddle will be installed in the flow line to monitor relative amount of mud flowing in the non-pressurized return line. Mud probes will be installed in the individual tanks to monitor pit volumes of the drilling fluid with a pit volume totalizer. Gas detecting equipment and H2S monitor alarm will be installed in the mud return system and will be monitored. A mud gas separator will be installed and operable before drilling out from the Surface Casing. The gases shall be piped into the flare system. Drilling mud containing H2S shall be degassed in accordance with API RP-49, item 5.14. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
X	H2S is present
X	H2S Plan attached

8. Other facets of operation

Is this a walking operation? If yes, describe. NO.
Will be pre-setting casing? If yes, describe. NO.

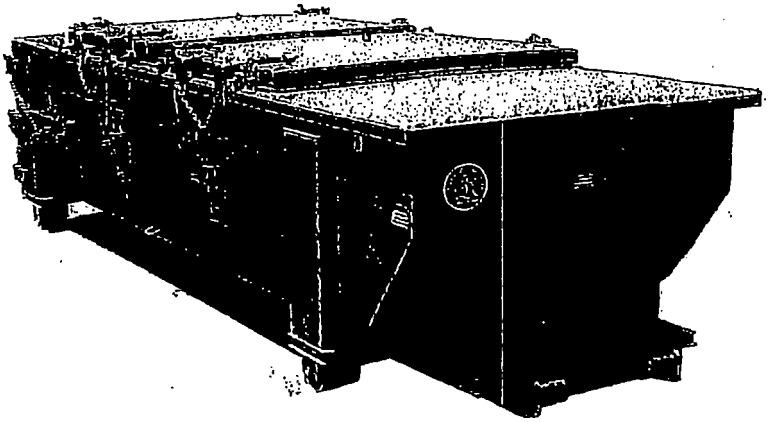
Attachments:

Attachment#1: Directional Plan
Attachment#2: Wellbore Casing & Cementing Schematic
Attachment#3: Wellhead Schematic
Attachment #4: BOP Schematics
Attachment #5: Choke Schematic
Attachment #6: Rig Layout
Attachment #7: H2S Contingency Plan

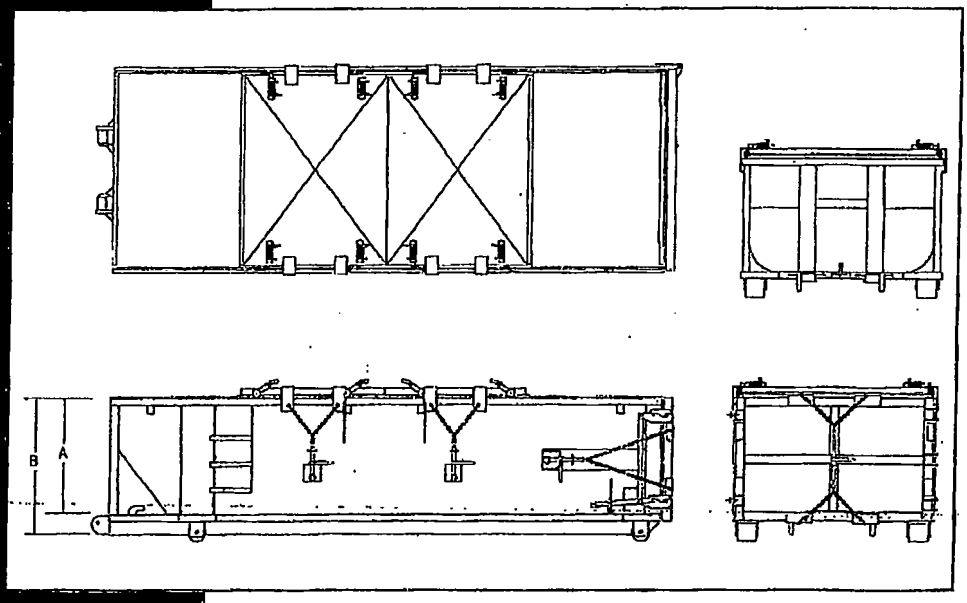
SPECIFICATIONS

FLOOR: 3/16" PL one piece
CROSS MEMBER: 3 x 4.1 channel 16" on center
WALLS: 3/16" PL solid welded with tubing top, inside liner hooks
DOOR: 3/16" PL with tubing frame
FRONT: 3/16" PL slant formed
PICK UP: Standard cable with 2" x 6" x 1/4" rails, gusset at each crossmember
WHEELS: 10 DIA x 9 long with rease fittings
DOOR LATCH: 3 Independent ratchet binders with chains, vertical second latch
GASKETS: Extruded rubber seal with metal retainers
WELDS: All welds continuous except sub-structure crossmembers
FINISH: Coated inside and out with direct to metal, rust inhibiting acrylic enamel color coat
HYDROTESTING: Full capacity static test
DIMENSIONS: 22'-11" long (21'-8" inside), 99" wide (88" inside), see drawing for height
OPTIONS: Steel grit blast and special paint, Ampliroll, Heil and Dino pickup
ROOF: 3/16" PL roof panels with tubing and channel support frame
LIDS: (2) 68" x 90" metal rolling lids spring loaded, self raising
ROLLERS: 4" V-groove rollers with delrin bearings and grease fittings
OPENING: (2) 60" x 82" openings with 8" divider centered on container
LATCH: (2) independent ratchet binders with chains per lid
GASKETS: Extruded rubber seal with metal retainers

Heavy Duty Split Metal Rolling Lid



CONT.	A	B
20 YD	41	53
25 YD	53	65
30 YD	65	77



ConocoPhillips, Peridot 8 Federal 14H

2. Casing Program – Openhole Sliding Sleeves Completion Option

3 strings casing design										
Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Pipe Tensile	SF Joint Tensile
	From	To								
17.5"	0	885	13.375"	54.5	J55	STC/BTC	2.89	6.98	17.7	10.7
12.25"	0	2250	9.625"	40	J55	LTC/BTC	2.20	3.38	7.00	5.78
8.75"	0	5200	7"	29	L80	LTC/BTC	2.88	3.35	4.48	3.89
8.75"-8.5"	5200	13433	5.5"	20	L80	LTC/BTC	3.15	3.28	2.83	3.18
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

- Cement 7" production string thru a stage tool below the XO joint and leave 5-1/2" casing string below the Glorieta formation uncemented with packers & sleeves from landing point to TD.
- Notify BLM if additional unplanned stages of Cement or Remediate with Bradenhead Squeeze becomes necessary.

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	YES
Does casing meet API specifications? If no, attach casing specification sheet.	YES
Is premium or uncommon casing planned? If yes attach casing specification sheet.	NO
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	YES
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	N/A
Is well located within Capitan Reef?	NO
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?	NO
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?	NO
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?	NO
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?	NO
If yes, are there three strings cemented to surface?	

3. Cementing Program – Openhole Sliding Sleeves Completion Option

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/sk	Vol ft3	500# Comp. Strength (hours)	Slurry Description
Surf.	500	13.5	1.68	8.94	840	7	Lead: Class C + 4.0% Bentonite + 0.2% Anti-Foam + 2.0% CaCl2 +0.125lb/sk LCM + 0.1% Dispersant
	400	14.8	1.35	6.38	540	7	Tail: Class C + 0.2% Anti-Foam + 0.1% Lost Circ Control + 2 lbs/bbl CemNET (losses Control)
Inter.	450	11.5	2.29	10.72	1031	17	Lead: Class C + 10.0% Bentonite + 0.2% Anti-Foam + 2.0% Expanding + 0.15% Viscosifier + 1.3% Retarder.
	300	13.5	1.29	4.81	387	7	Tail: 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
Prod.	650	11.0	3.2	19.25	2080	17	Lead: 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

If additional unplanned stages of cementing are necessary, the contingency stage tool will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. Stage tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

Lab reports with recipe and the 500 psi compressive strength time for the cement will be onsite for review.

3 strings casing cement design			
Casing String	TOC Lead	TOC Tail	% Excess
Surface	0'	585'	>100%
Intermediate	0'	1750'	>100%
Production	<1700'	N/A	>30%

Cement excess will be adjusted based on actual hole condition like losses or fluid caliper data if have.

Attachments:

Attachment#1: Wellbore Casing & Cementing Schematic

Peridot 8 Fed 14H

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	13433	5993	8233	20	9190	8830	466000	524000	9

Collapse Design (Safety) Factors – BLM Criteria

Collapse Design (Safety) Factor: SFc

SFc = Pc / (MW x .052 x 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 / 2805 = **3.15**

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 / 2805 = **3.28**

Pipe Strength Design (Safety) Factors – BLM Criteria

Pipe Strength Design (Safety) Factor: SFtp

SFtp = 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
SFi Dry = 853000 / 48232.5 = **17.7**
SFi Bouyant = 853000 / (48232.5 x 0.870) = **20.3**

Intermediate 1 Casing
SFi Dry = 630000 / 90000 = **7.00**
SFi Bouyant = 630000 / (90000 x 0.847) = **8.26**

Production 1 Casing
SFi Dry = 676000 / 150800 = **4.48**
SFi Bouyant = 676000 / (150800 x 0.863) = **5.20**

Production 2 Casing
SFi Dry = 466000 / 164660 = **2.83**
SFi Bouyant = 466000 / (164660 x 0.863) = **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
SFi Dry = 514000 / 48232.5 = **10.7**
SFi Bouyant = 514000 / (48232.5 x 0.870) = **12.2**

Intermediate 1 Casing
SFi Dry = 520000 / 90000 = **5.78**
SFi Bouyant = 520000 / (90000 x 0.847) = **6.82**

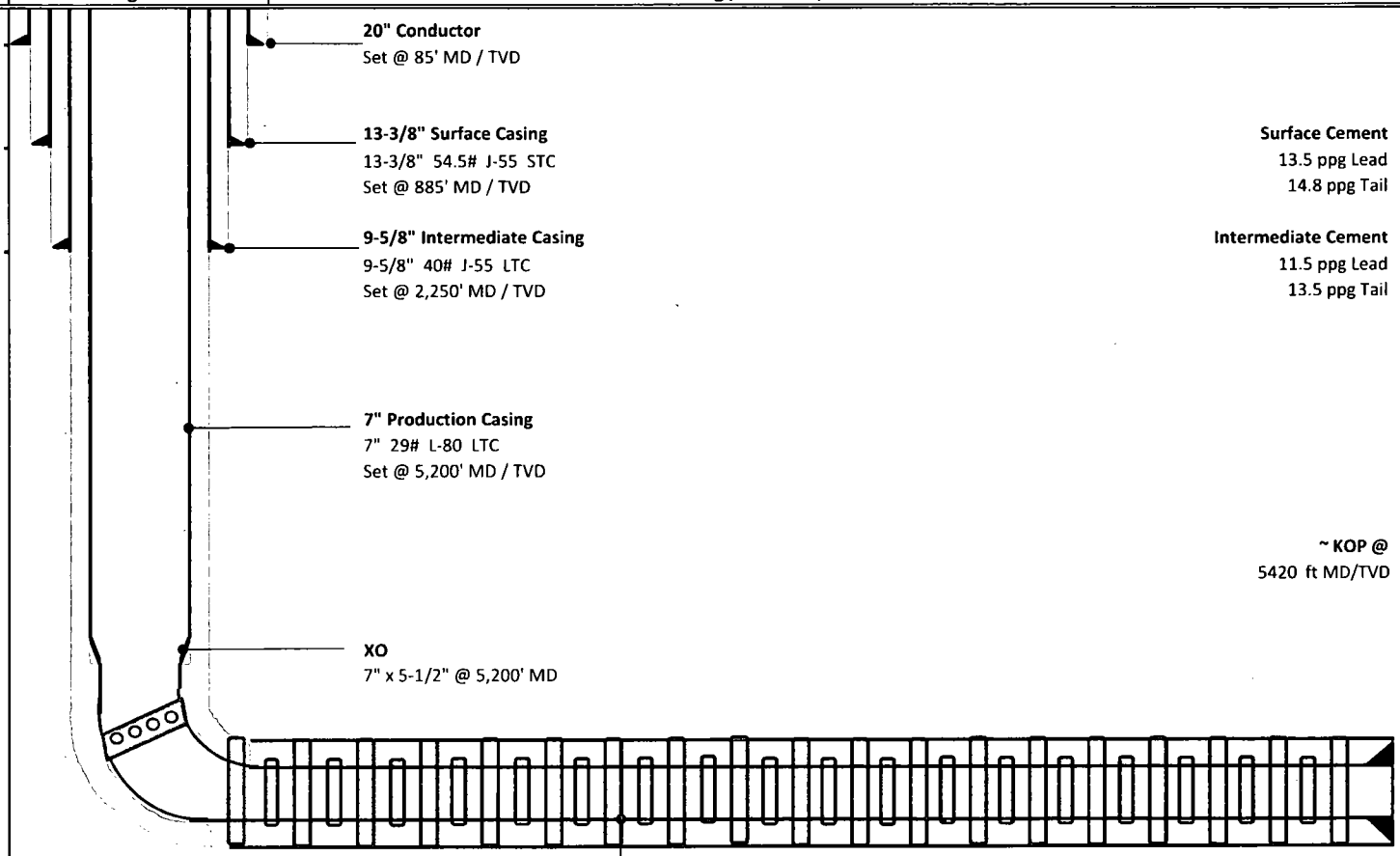
Production 1 Casing
SFi Dry = 587000 / 150800 = **3.89**
SFi Bouyant = 587000 / (150800 x 0.863) = **4.51**

Production 2 Casing
SFi Dry = 524000 / 164660 = **3.18**
SFi Bouyant = 524000 / (164660 x 0.863) = **3.69**

ConocoPhillips

OPEN HOLE SLIDING SLEEVE - WELLBORE CASING & CEMENTING SCHEMATIC

Wellbore Section	Mud Properties		Hole Size	Wellbore Design
	Type	PPG		Casing Profile / Casing / Cement / Directional Plan Details
COND				
SURFACE	Native	8.6 PPG	17-1/2"	
INTERM	Brine	10.0 PPG	12-1/4"	
PRODUCTION	Cut Brine	8.6 PPG - 9.0 PPG	8-3/4"	



20" Conductor
Set @ 85' MD / TVD

13-3/8" Surface Casing
13-3/8" 54.5# J-55 STC
Set @ 885' MD / TVD

Surface Cement
13.5 ppg Lead
14.8 ppg Tail

9-5/8" Intermediate Casing
9-5/8" 40# J-55 LTC
Set @ 2,250' MD / TVD

Intermediate Cement
11.5 ppg Lead
13.5 ppg Tail

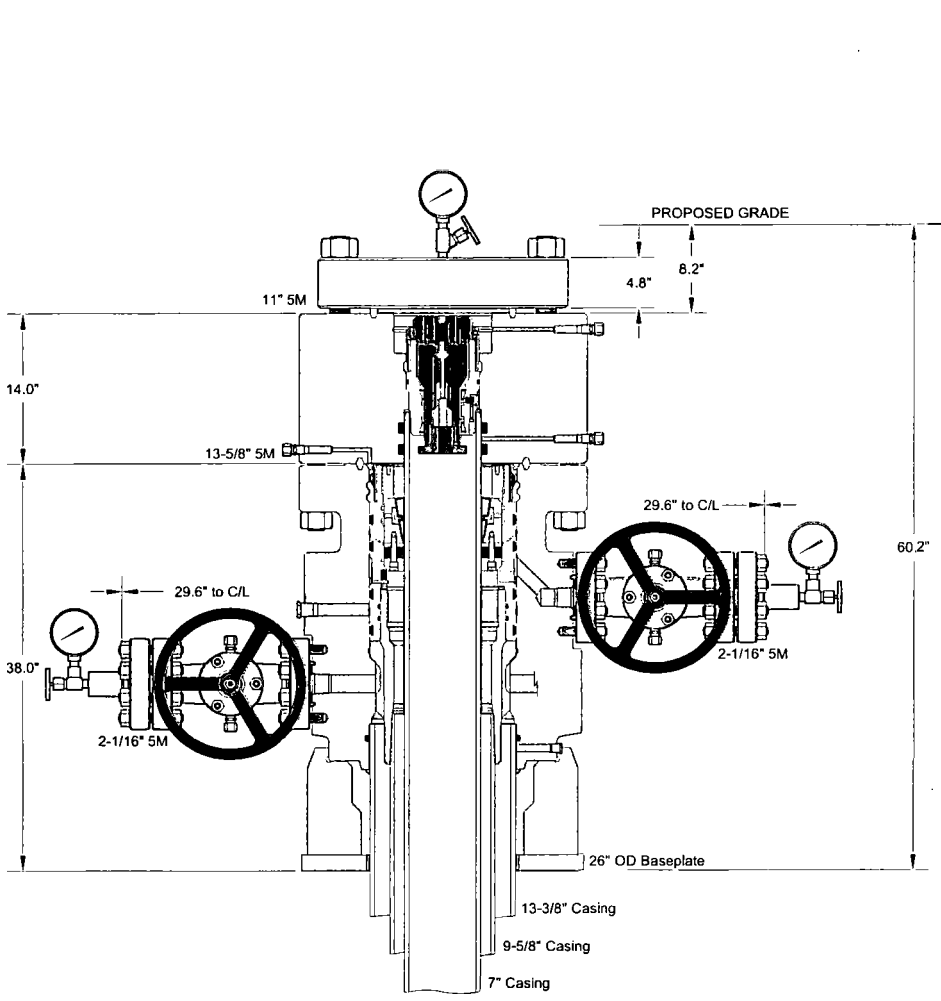
7" Production Casing
7" 29# L-80 LTC
Set @ 5,200' MD / TVD

~ KOP @
5420 ft MD/TVD

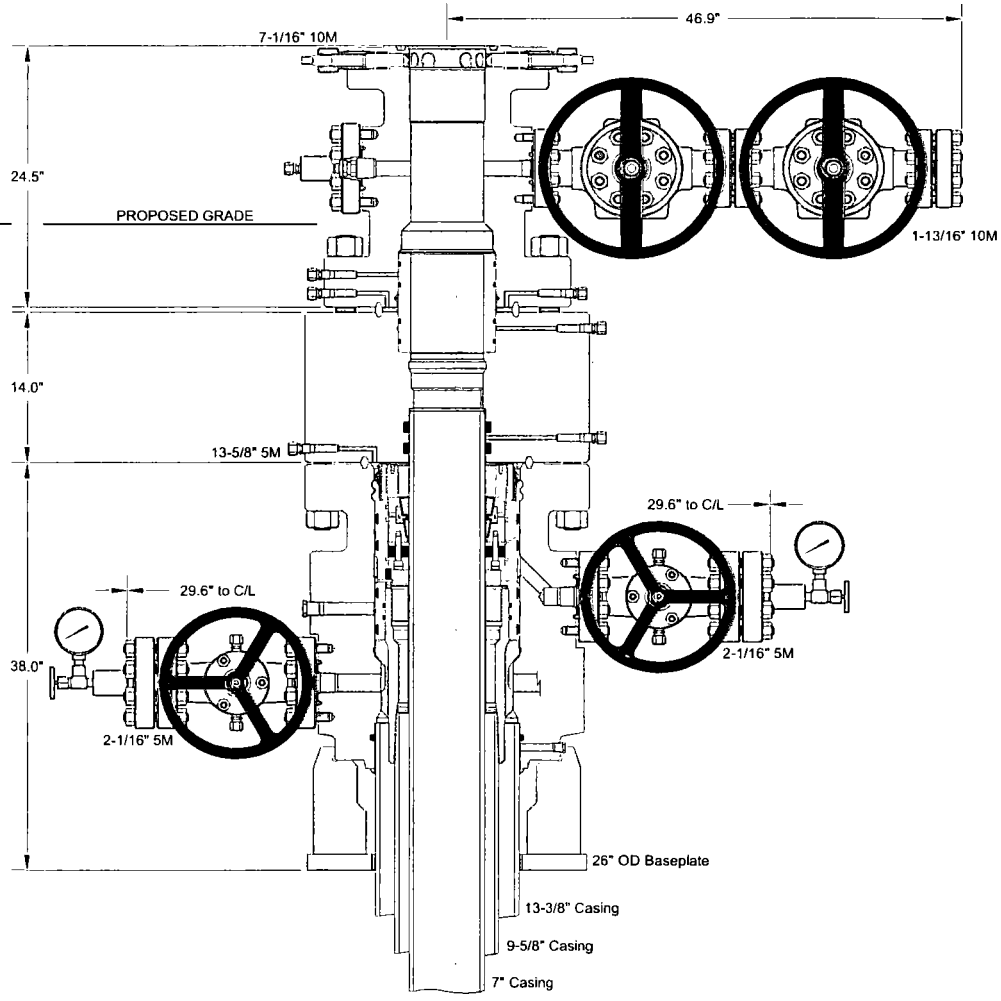
XO
7" x 5-1/2" @ 5,200' MD

5-1/2" Production Casing
5-1/2" 20# L-80 LTC
Set @ 13433 ft MD
5993 ft TVD

Production Cement
11.0 ppg Lead
14.0 ppg Tail



DRILL AND SKID CONFIGURATION



PRODUCTION CONFIGURATION

Peridot 8 Federal 14H

CACTUS WELLHEAD LLC

Permian Basin

13-3/8" x 9-5/8" x 7" 5M MBU-2LR Wellhead Assembly With 13-5/8" 5M x 11" 5M DBLHPS DSPA With 6-3/4" Type LR BPV Profile and11" 5M x 7-1/16" 10M CTH-HPS-F Tubing Head

DRAWN	THH	26JUL15
APPRV		
DRAWING NO.	ODE0000716	

APD ID: 10400022350 **Submission Date:** 10/16/2017

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 14H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Peridot_8_Fed_14H_AccessRoadTopoA_20171012124755.pdf

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

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

Peridot_8_Fed_14H_AccessRoadTopoB_20171012130526.pdf
Peridot_8_Fed_14H_AccessRoadv2_20180122125528.pdf

New road type: RESOURCE

Length: 5236 Feet **Width (ft.):** 30

Max slope (%): 2 **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:** 14H

Access road engineering design? NO

Access road engineering design attachment:

Access surfacing type: OTHER

Access topsoil source: OFFSITE

Access surfacing type description: clean caliche

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. Current plans include sources: 1) Maljamar, NM, Sec. 9, T17S, R32E; 2) Hwy 529, NM, Sec. 25, T17S, R31E; and 3) Olan Caswell Ranch, Sec. 3, T17S, R32E. These are current options. However, additional sources within area may be used depending on availability at time of construction. We intend to use different source(s) if necessary.

Onsite topsoil removal process:

Access other construction information: 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 resource road access to include future Peridot wells.

Access miscellaneous information: The majority of access road to be shared by other Peridot wells and new facility. Access to this well location is via adjacent well pad and road, currently Peridot 8 Fed 3H, 4H. No new access road specific to this well is needed. The shorter side roads leading to well locations will not be constructed until the well location is built.

Number of access turnouts: 1 **Access turnout map:**

Drainage Control

New road drainage crossing: CULVERT,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 route 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_14H_OneMileRadiusMap_20171012130605.pdf

Existing Wells description:

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 14H

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 of 400'x 250' are planned to allow for expansion as wells are drilled. 15' road will provide facility access and is included in access road calculation. Preliminary plot plan is attached.

Production Facilities map:

Peridot_8_Fed_CF1_Tank_Battery_20171012130630.pdf

Peridot_8_Fed_Preliminary_Plot_Plan_20171012130645.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

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

Describe type:

Source latitude: **Source longitude:**

Source datum:

Water source permit type: PRIVATE CONTRACT,WATER WELL

Source land ownership: FEDERAL

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_14H_WaterSourceMap_20171012133518.pdf

Water source comments: Current water sources include: 1) Rockhouse Ranch (two sources); 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:** 14H

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. Material to meet BLM requirements and standards. Current plans include sources: 1) Maljamar, NM, Sec. 9, T17S, R32E; 2) Hwy 529, NM, Sec. 25, T17S, R31E; and 3) Olan Caswell Ranch, Sec. 3, T17S, R32E. These are current options. However, additional sources within area may be used depending on availability at time of construction. We intend to use different source(s) if necessary. Trucking of source material will utilize authorized roads as per Access Road Topo B attached.
Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Drilling fluid, drill 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:** PRIVATE
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?

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

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 14H

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 Cuttings will be held in a closed-loop system and trucked to an 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?: YES

Ancillary Facilities attachment:

Peridot_8_Fed_FracPondPlat_20171012135228.pdf

Comments: ConocoPhillips Company 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 will be via 382' road which is included in the access road calculation. The disturbance is included in overall disturbance calculations. We plan on reclaiming the frac pond surface upon completion of the full Peridot Unit development. Reclamation activities will be conducted in accordance with BLM standards at the time of reclamation.

Section 9 - Well Site Layout

Well Site Layout Diagram:

Peridot_8_Fed_14H_LocationLayout_20171012135320.pdf

Peridot_8_Fed_14H_SitePlanArchBound_20171012135336.pdf

Comments:

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 14H

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** PERIDOT 8 FEDERAL

Multiple Well Pad Number: 4H

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

Wellpad long term disturbance (acres): 1.54

Wellpad short term disturbance (acres): 1.89

Access road long term disturbance (acres): 3.61

Access road short term disturbance (acres): 0

Pipeline long term disturbance (acres): 0.76469237

Pipeline short term disturbance (acres): 0

Other long term disturbance (acres): 35.97

Other short term disturbance (acres): 1.72

Total long term disturbance: 41.884693

Total short term disturbance: 3.61

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 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.

Topsoil redistribution: Areas planned for interim reclamation will be re-contoured to the extent feasible. Topsoil will be evenly re-spread and re-vegetated 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 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 known 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_14H_LocationPhotos_20171012135945.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:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Proposed seeding season:

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 14H

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 starthistle 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 guidelines 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

Disturbance type: NEW 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:

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 14H

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: PIPELINE

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 14H

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:**

Disturbance type: OTHER

Describe: power 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:**

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 14H

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,288101 ROW – O&G Facility Sites,288103 ROW – Salt Water Disposal Pipeline/Facility,289001 ROW- O&G Well Pad,FLPMA (Powerline)

ROW Applications

SUPO Additional Information: For multi-well pad we request deferral of interim reclamation requirements until all wells noted on location have been drilled. Please review this APD with other Peridot 8 Federal wells; 1H, 2H, 3H, 4H, 5H, 7H, 11H, 12H, 13H, 14H, 15H, and 17H. 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. 5766' of electric line to be installed adjacent to access road and utilize 1.32 acres. 1397' of buried gas sales line to be installed to Frontier connection will utilize 0.321 temporary acres and 0.962 permanent acres. If a gas sales line connection to DCP is installed, it will be about 6138', utilize 4.23 permanent acres and 1.4 temporary acres. Gas Sales Line ROW may be used by third-party gas processor, depending on agreements reached. Up to four side by side produced water surface lines will be installed from Peridot 8 Federal CF1 Tank Battery to Elvis SWD well (16695'). These lines will be installed in 2 side by side ROWs requiring 7.67 (3.833 acres each). These lines will remain in place until a buried 8" pipeline is approved and installed. The buried SWD line will be 15676' and utilize about 10.8 permanent acres. Please see attached Surface Use Plan of Operations. Three key mitigation strategies are to be used for Peridot development; horizontal wells, interim reclamation and participation in conservation agreement. Development of these minerals could have been via vertical wells; approximately 12 wells. After re-evaluation of options, two key actions are planned horizontal wells and multi-well pads where possible. This minimizes surface use, while improving project economics and results in significant surface use reduction. Interim reclamation is a component of our surface use mitigation. COPC intends to maximize interim reclamation to the greatest extent feasible for each location drilled. Current interim reclamation plans are included in survey plat packages for individual wells. COPC is a participant in the Candidate Conservation Agreement. Among mitigation measures are observing timing stipulations for Lesser-Prairie Chickens, as indicated by BLM, at the beginning of each breeding season. Also, well locations have been moved, in consultation with BLM biologists to avoid habitat of interest.

Use a previously conducted onsite? YES

Previous Onsite information: Onsite for this well pad was completed 06/20/17. Surface Use Plan of Operation was finalized during onsites with the following attendees: Ms. Cepero-Rios, Ms. Brooks, Mr. Kauser, Mr. Mathis, Mr. Wasson, and Ms. Maunder, along with survey crew. Archaeological survey requirements have been met by block survey 2151, well pad survey 2262, and gas line and SWD line survey 2276. Well pad location is partially off-lease. Please review this application with Peridot 8 Federal 11H, 3H, 13H, 5H, 15H, 7H and 17H well applications.

Other SUPO Attachment

Peridot_8_Fed_14H_FlowLineMapROW_20171012143952.pdf

Peridot_8_Fed_14H_ReclamationDiagram_20171012144006.pdf

Peridot_8_Fed_SWD_BuriedPipelineV2_20171012144053.pdf

Peridot_8_Fed_Gas_Sales_Line_20171012144113.pdf

Peridot_8_Fed_Power_Line_Plat_20171012145733.pdf

Peridot_8_Fed_14H_DevelopmentImage_20171012145754.pdf

Peridot_8_Fed_14H_SWD_FlowLineToElvis_20180122135554.pdf

Peridot_8_Fed_14H_BuriedGasLinetoDCP_20180122135629.pdf

Peridot_8_Fed_14H_SUPOviaAccessV2_20180122135756.pdf

Peridot_8_Fed_14H_Surf_SummaryComments_20180122135821.pdf

AFMSS

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

PWD Data Report
02/27/2018

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:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

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 ?

Run Date: 07/24/2017

01 02-25-1920;041STAT0437;30USC226
Case Type 310771: O&G EXCHANGE LEASE - PD
Commodity 459: OIL & GAS
Case Disposition: AUTHORIZED

Total Acres 1,606.800
Serial Number NMLC– 0 029406B

Serial Number: NMLC– 0 029406B

Name & Address			Int Rel	% Intere
CHASE FERGUSON GERENE D	PO BOX 693	ARTESIA NM 88211	OPERATING RIGHTS	0.000000000
CHASE OIL CORP	PO BOX 1767	ARTESIA NM 882111767	OPERATING RIGHTS	0.000000000
CHASE OIL CORP	PO BOX 1767	ARTESIA NM 882111767	LESSEE	0.000000000
CHASE RICHARD L	PO BOX 359	ARTESIA NM 882110359	OPERATING RIGHTS	0.000000000
CHASE ROBERT C	PO BOX 297	ARTESIA NM 882111297	OPERATING RIGHTS	0.000000000
COG OPERATING LLC	600 W ILLINOIS AVE	MIDLAND TX 797014882	OPERATING RIGHTS	0.000000000
CONOCOPHILLIPS CO	PO BOX 7500	BARTLESVILLE OK 740057500	OPERATING RIGHTS	0.000000000
CONOCOPHILLIPS CO	PO BOX 7500	BARTLESVILLE OK 740057500	LESSEE	0.000000000

Serial Number: NMLC– 0 029406B

Mer Twp Rng Sec	STyp	SNr Suff	Subdivision	District/Field Office	County	Mgmt Agency
23 0170S 0320E 005	ALIQ		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	ALIQ		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	ALIQ		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	ALIQ		SW;	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT

Relinquished/Withdrawn Lands **Serial Number: NMLC– 0 029406B**

23 0170S 0320E 708	FF	E2,ASGN;	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT

Serial Number: NMLC– 0 029406B

Act Date	Code	Action	Action Remar	Pending Offic
11/25/1933	124	APLN RECD		
06/08/1934	237	LEASE ISSUED		
06/08/1934	496	FUND CODE	05;145003	
06/08/1934	534	RLTY RATE-SLIDING-SCH I		
06/08/1934	868	EFFECTIVE DATE		
09/04/1945	570	CASE SEGREGATED BY ASGN	INTO NMNM064149;	
01/06/1953	650	HELD BY PROD - ACTUAL		
01/06/1953	658	MEMO OF 1ST PROD-ACTUAL		
10/24/1979	940	NAME CHANGE RECOGNIZED	CONTL OIL/CONOCO INC	
01/11/1983	140	ASGN FILED	(1)CONOCO/PETRO LEWIS	
01/11/1983	140	ASGN FILED	(1)CONOCO/PTNRSHP PRO	
01/11/1983	140	ASGN FILED	(2)CONOCO/PETRO LEWIS	
01/11/1983	140	ASGN FILED	(2)CONOCO/PTNRSHP PRO	
02/11/1983	140	ASGN FILED	PETRO/PTNRSHP PROP	
01/25/1985	139	ASGN APPROVED	(1)EFF 02/01/83;	
01/25/1985	139	ASGN APPROVED	(2)EFF 02/01/83;	
01/25/1985	139	ASGN APPROVED	(3)EFF 02/01/83;	
01/25/1985	139	ASGN APPROVED	(4)EFF 02/01/83;	
01/25/1985	139	ASGN APPROVED	EFF 03/01/83;	
02/05/1985	963	CASE MICROFILMED/SCANNED	CHEM 106,429 GLC	
11/02/1987	974	AUTOMATED RECORD VERIF	JAM/DCE	
07/26/1988	140	ASGN FILED	PTNRSHP PROP/FMP OPER	
06/16/1989	139	ASGN APPROVED	EFF 08/01/86;	

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

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	13433	6115	8233	17	7740	6290	397000	338000	9

Collapse Design (Safety) Factors – BLM Criteria

Collapse Design (Safety) Factor: SFc

SFc = Pc / (MW x .052 x 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 = 6290 / 2862 = **2.20**

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 = 7740 / 2862 = **2.70**

Pipe Strength Design (Safety) Factors – BLM Criteria

Pipe Strength Design (Safety) Factor: SFtp

SFtp = 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
SFi Dry = 853000 / 48232.5 = **17.7**
SFi Bouyant = 853000 / (48232.5 x 0.870) = **20.3**

Intermediate 1 Casing
SFi Dry = 630000 / 90000 = **7.00**
SFi Bouyant = 630000 / (90000 x 0.847) = **8.26**

Production 1 Casing
SFi Dry = 676000 / 150800 = **4.48**
SFi Bouyant = 676000 / (150800 x 0.863) = **5.20**

Production 2 Casing
SFi Dry = 397000 / 139961 = **2.84**
SFi Bouyant = 397000 / (139961 x 0.863) = **3.29**

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
SFi Dry = 514000 / 48232.5 = **10.7**
SFi Bouyant = 514000 / (48232.5 x 0.870) = **12.2**

Intermediate 1 Casing
SFi Dry = 520000 / 90000 = **5.78**
SFi Bouyant = 520000 / (90000 x 0.847) = **6.82**

Production 1 Casing
SFi Dry = 587000 / 150800 = **3.89**
SFi Bouyant = 587000 / (150800 x 0.863) = **4.51**

Production 2 Casing
SFi Dry = 338000 / 139961 = **2.41**
SFi Bouyant = 338000 / (139961 x 0.863) = **2.80**

AFMSS

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

Bond Info Data Report
02/27/2018

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: