Form 3160-3
(March 2012)

HOBBS OCD
FEB 28 2018
RECEIVED

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMLC058775

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.: PERIDOT 8 FEDERAL 5H (320830)

2. Name of Operator: CONOCOPHILLIPS COMPANY (217817)

9. API Well No.: 30-025-44529

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: MALJAMAR / YESO WEST (44500)

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

At surface: SENW / 2634 FNL / 1907 FWL / LAT 32.849192 / LONG -103.791006

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

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): 733 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, applied for, on this lease, ft.: 1050 feet

19. Proposed Depth: 5490 feet / 12261 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 4041 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	04/01/2017

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)

GCP 02/28/18

*(Instructions on page 2)

KG 03/01/18

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.

(Continued on page 3)

Additional Operator Remarks

Location of Well

1. SHL: SENW / 2634 FNL / 1907 FWL / TWSP: 17S / RANGE: 32E / SECTION: 8 / LAT: 32.849192 / LONG: -103.791006 (TVD: 0 feet, MD: 0 feet)
   PPP: SWNE / 2325 FNL / 2640 FWL / TWSP: 17S / RANGE: 32E / SECTION: 7 / LAT: 32.8501023 / LONG: -103.8058056 (TVD: 5531 feet, MD: 9917 feet)
   PPP: SENW / 2311 FNL / 1696 FWL / TWSP: 17S / RANGE: 32E / SECTION: 8 / LAT: 32.8500837 / LONG: -103.16864 (TVD: 5471 feet, MD: 5550 feet)
   BHL: LOT 2 / 2310 FNL / 330 FWL / TWSP: 17S / RANGE: 32E / SECTION: 7 / LAT: 32.850111 / LONG: -103.813439 (TVD: 5490 feet, MD: 12261 feet)

BLM Point of Contact

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

Application Data Report

02/26/2018

APD ID: 10400008916 **Submission Date:** 04/01/2017

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 5H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400008916 **Tie to previous NOS?** **Submission Date:** 04/01/2017

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_03-28-2017.pdf
Peridot_8_Fed_5H_SerialRegister_20180116140915.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:** 5H **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:** 5H

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 5 **Number:** 5H

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:** 1050 FT **Distance to lease line:** 733 FT

Reservoir well spacing assigned acres Measurement: 240.95 Acres

Well plat: Peridot 8 Fed 5H_C-102_01-16-2017.pdf

Peridot_8_Fed_5H_Leases_w_wellsMap_20180116141220.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	2634	FNL	1907	FWL	17S	32E	8	Aliquot SENW	32.849192	-103.791006	LEA	NEW MEXICO	NEW MEXICO	F	NMLC058775	4041	0	0
KOP Leg #1	2310	FNL	1907	FWL	17S	32E	8	Aliquot SWNE	32.850028	-103.790998	LEA	NEW MEXICO	NEW MEXICO	F	NMLC058775	-994	5050	5035
PPP Leg #1	2311	FNL	1696	FWL	17S	32E	8	Aliquot SENW	32.850037	-103.16864	LEA	NEW MEXICO	NEW MEXICO	F	NMLC058775	-1430	5550	5471

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 5H

	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	2325	FNL	2640	FWL	17S	32E	7	Aliquot SWNE	32.8501023	-103.8058056	LEA	NEW MEXICO	NEW MEXICO	F	NMLC029406B	-1490	9917	5531
EXIT Leg #1	2325	FNL	2640	FWL	17S	32E	8	Aliquot SWNE	32.8501023	-103.8058056	LEA	NEW MEXICO	NEW MEXICO	F	NMLC058775	-1490	9917	5531
BHL Leg #1	2310	FNL	330	FWL	17S	32E	7	Lot 2	32.850111	-103.813439	LEA	NEW MEXICO	NEW MEXICO	F	NMLC029406B	-1449	12261	5490

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.

Sincerely,

Susan B Maunder

Susan B. Maunder
Senior Coordinator, Regulatory
ConocoPhillips Company

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	Serial Number
1,606.800	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 B		
06/08/1934	868	EFFECTIVE DATE		
09/14/1945	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	(2)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	CNUM 100,429 GIC	
11/03/1987	974	AUTOMATED RECORD VERIF	JAM/OCE	
07/26/1988	140	ASGN FILED	PTNRSHP PROP/EMP OPER	
06/16/1988	139	ASGN APPROVED	EFF 08/01/88;	

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: 04:03 PM
Page 1 of ?

Run Date: 07/24/2017

01 02-25-1920;041STAT0437;30USC226
Case Type 310781: O&G RENEWAL LEASE - PD
Commodity 459: OIL & GAS
Case Disposition: AUTHORIZED

Total Acres 480.000
Serial Number NMLC-- 0 058775

Serial Number: NMLC-- 0 058775

Name & Address			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 Suff	Subdivision	District/Field Office	County	Mgmt Agency
23 0170S	0320E	005	ALIQ		N2SW;	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT
23 0170S	0320E	006	ALIQ		N2SE,SWSE;	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT
23 0170S	0320E	007	ALIQ		NWNE,S2NE;	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT
23 0170S	0320E	008	ALIQ		NW;	CARLSBAD FIELD OFFICE	LEA	BUREAU OF LAND MGMT

Serial Number: NMLC-- 0 058775

Act Date	Code	Action	Action Remar	Pending Offic
06/05/1929	387	CASE ESTABLISHED		
08/05/1929	496	FUND CODE	05;145003	
08/05/1929	868	EFFECTIVE DATE		
02/19/1941	553	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 MALJAMAR 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 07/31/69;	
04/14/1969	314	RENEWAL APLN FILED		
07/16/1969	646	MEMO OF LAST PROD-ACTUAL		
08/01/1969	242	LEASE RENEWED	THRU 07/31/79;	
12/18/1970	058	NOTICE SENT-NONPROD STAT		
03/19/1979	314	RENEWAL APLN FILED		
08/01/1979	242	LEASE RENEWED	THRU 07 31/89;	
10/24/1979	940	NAME CHANGE RECOGNIZED	CONTL OIL/CONOCO INC	
07/06/1984	111	RENTAL RECEIVED	$480.00;1YR/84-85	
07/08/1985	111	RENTAL RECEIVED	$480.00;1YR/85-86	
07/07/1986	111	RENTAL RECEIVED	$480.00;1YR/86-87	
03/13/1987	963	CASE MICROFILMED SCANNED	CNUM 103,661 BX	
07/06/1987	111	RENTAL RECEIVED	$480.00;1YR/87-88	
12/08/1987	974	AUTOMATED RECORD VERIF	HKG/VL	
07/08/1988	111	RENTAL RECEIVED	$480.00;1YR/88-89	
07/27/1989	314	RENEWAL APLN FILED		
08/01/1989	111	RENTAL RECEIVED	$480.00;1YR/89-90	
08/12/1989	974	AUTOMATED RECORD VERIF	MCS/MT	
08/01/1989	242	LEASE RENEWED	THRU 07/31/99;	
08/01/1989	868	EFFECTIVE DATE		
07/05/1990	111	RENTAL RECEIVED	$480.00;AB/1103645	

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

Drilling Plan Data Report
02/26/2018

APD ID: 10400008916
Submission Date: 04/01/2017
Operator Name: CONOCOPHILLIPS COMPANY
Well Name: PERIDOT 8 FEDERAL
Well Number: 5H
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	3220	835	835	DOLOMITE,ANHYDRITE	USEABLE WATER	No
2	SALADO	3072	970	970	SALT,ANHYDRITE	NONE	No
3	TANSILL	1170	2050	2050	DOLOMITE,ANHYDRITE	NONE	No
4	YATES	1030	2190	2190	DOLOMITE,ANHYDRITE	NONE	No
5	SEVEN RIVERS	1542	2500	2500	SANDSTONE,DOLOMITE,ANHYDRITE	NATURAL GAS,OIL	No
6	QUEEN	927	3115	3115	SANDSTONE,ANHYDRITE	NATURAL GAS,OIL	No
7	GRAYBURG	497	3545	3545	SANDSTONE,DOLOMITE	NATURAL GAS,OIL	No
8	SAN ANDRES	187	3855	3855	SANDSTONE,DOLOMITE	NATURAL GAS,OIL	No
9	GLORIETA	-2143	5363	5401	SANDSTONE,DOLOMITE	NATURAL GAS,OIL	No
10	PADDOCK	-2232	5452	5520	SANDSTONE,DOLOMITE	NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M **Rating Depth:** 12261

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 Onshore Order 2. Testing frequency weekly per federal regulation. See attached "Drill Plan" document.

Choke Diagram Attachment:

Peridot 8 Fed 5H_3M Choke Manifold_01-16-2017.pdf

Peridot_8_Fed_5H_FlexhoseVarianceData_04-01-2017.pdf

BOP Diagram Attachment:

Peridot 8 Fed 5H_BOP Diagrams_01-16-2017.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	-1562	-2447	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	-1562	-3562	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	-1562	-6762	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	12261	5200	5490	-6762	-7165	7061	L-80	20	LTC	3.37	3.51	DRY	3.71	DRY	3.3

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Peridot_8_Fed_5H_Csg_WorksheetV2_20180122144317.pdf

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 5H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Peridot_8_Fed_5H_Csg_WorksheetV2_20180122144333.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Peridot_8_Fed_5H_Csg_WorksheetV2_20180122144410.pdf

Casing Design Assumptions and Worksheet(s):

Peridot_8_Fed_5H_Csg_WorksheetV2_20180122145158.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Peridot_8_Fed_5H_Csg_WorksheetV2_20180122145215.pdf

Casing Design Assumptions and Worksheet(s):

Peridot_8_Fed_5H_Csg_WorksheetV2_20180122145236.pdf

Section 4 - Cement

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 5H

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% CaCl2 +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	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	12261	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:** 5H

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							
885	2000	SALT SATURATED	10	10							
2250	12261	OTHER : Cut Brine	8.6	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,DS,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:** 5H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 2815 **Anticipated Surface Pressure:** 1598.18

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_5H_H2S_C_Plan_04-01-2017.pdf

Peridot_8_Fed_5H_Typical_Rig_Layout_20180118112218.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Peridot_8_Fed_5H_DrillWasteContainment_04-01-2017.pdf

Peridot_8_Fed_5H_DirectionalPlan_20180118112853.pdf

Peridot_8_Fed_5H_Drill_PlanV4_20180118114906.pdf

Peridot_8_Fed_5H_Wellbore_SchematicV2_20180118121030.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_5H_Generic_WH_5M_04-01-2017.pdf

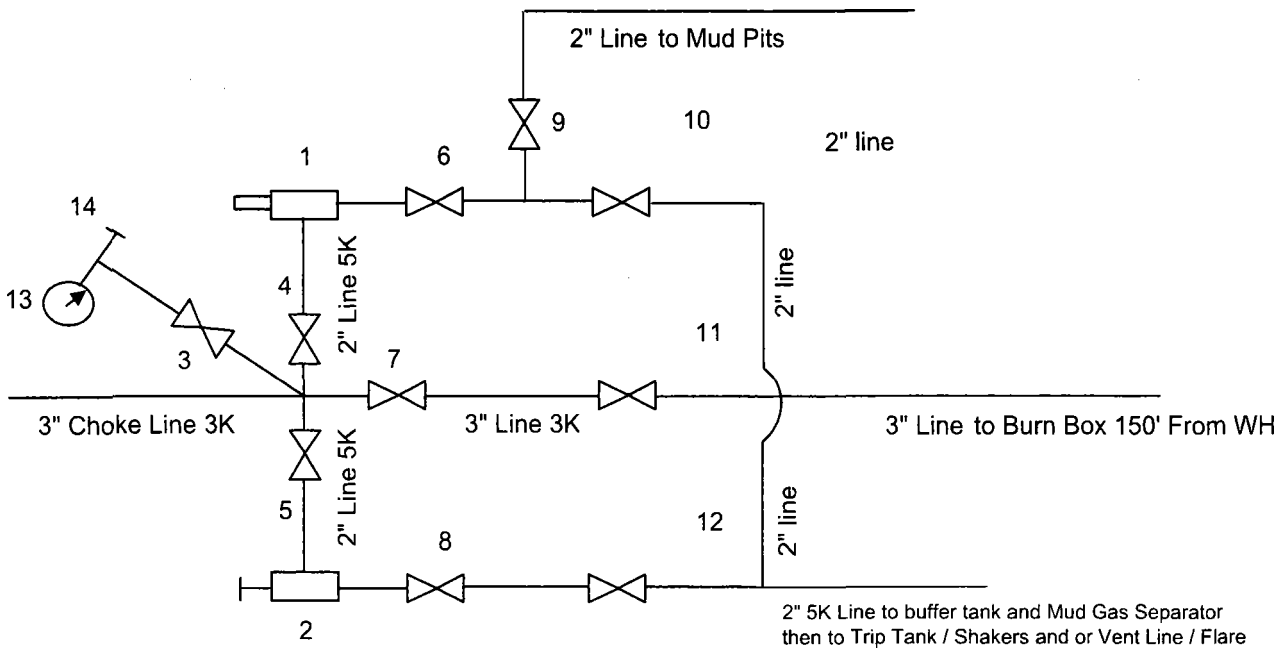
Peridot_8_Fed_GasCapturePlan_20180117152448.pdf

Peridot_8_Fed_5H_OH_Sleeve_Option_20180118114937.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

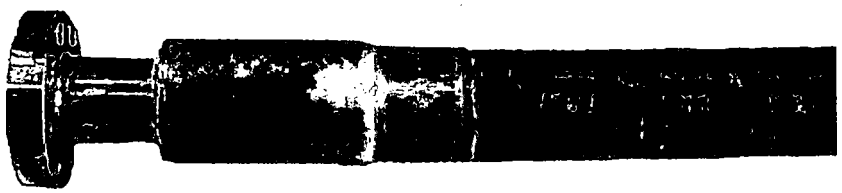
The 3M Choke Manifold & Valves will be tested to rated working pressure.

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 fq705 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 5H

RELIANCE Industrial Products USA, Ltd.

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

WORK ORDER

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	SHLD	BOX	BAG	COIL	PC	TOTAL	TAX ID #20-0174221	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		HBD RFG500056 3 1/2"FIREGUARD CHOKE HOSE				EA	
	1		RSK 7K-FRJ5X5KRCD56 FLOATING FLANGE COUPLING	M 1E			EA	
	1		RSK 7K-RJ5X5KRCD56 GRADE C/D RJ5 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/ RJ5 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: [signature]

Print Name: Edgar Ward

Date: 11-22-16

PICKED BY	ASSEM'D 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
	IB	IB				TAX	0.00
INSPEC BY	INSPEC BY	INSPEC BY		INITIAL	11:25	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

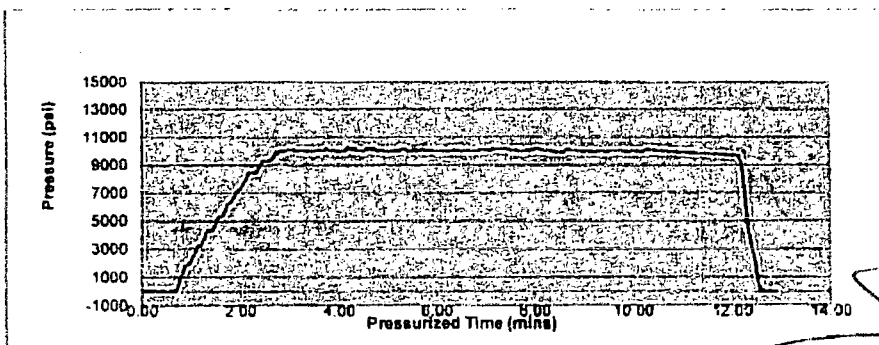
Coupling #2:	R35 FLOATING FLAN
MTR# - Stem	
MTR# - Shell	
NACE#	

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)

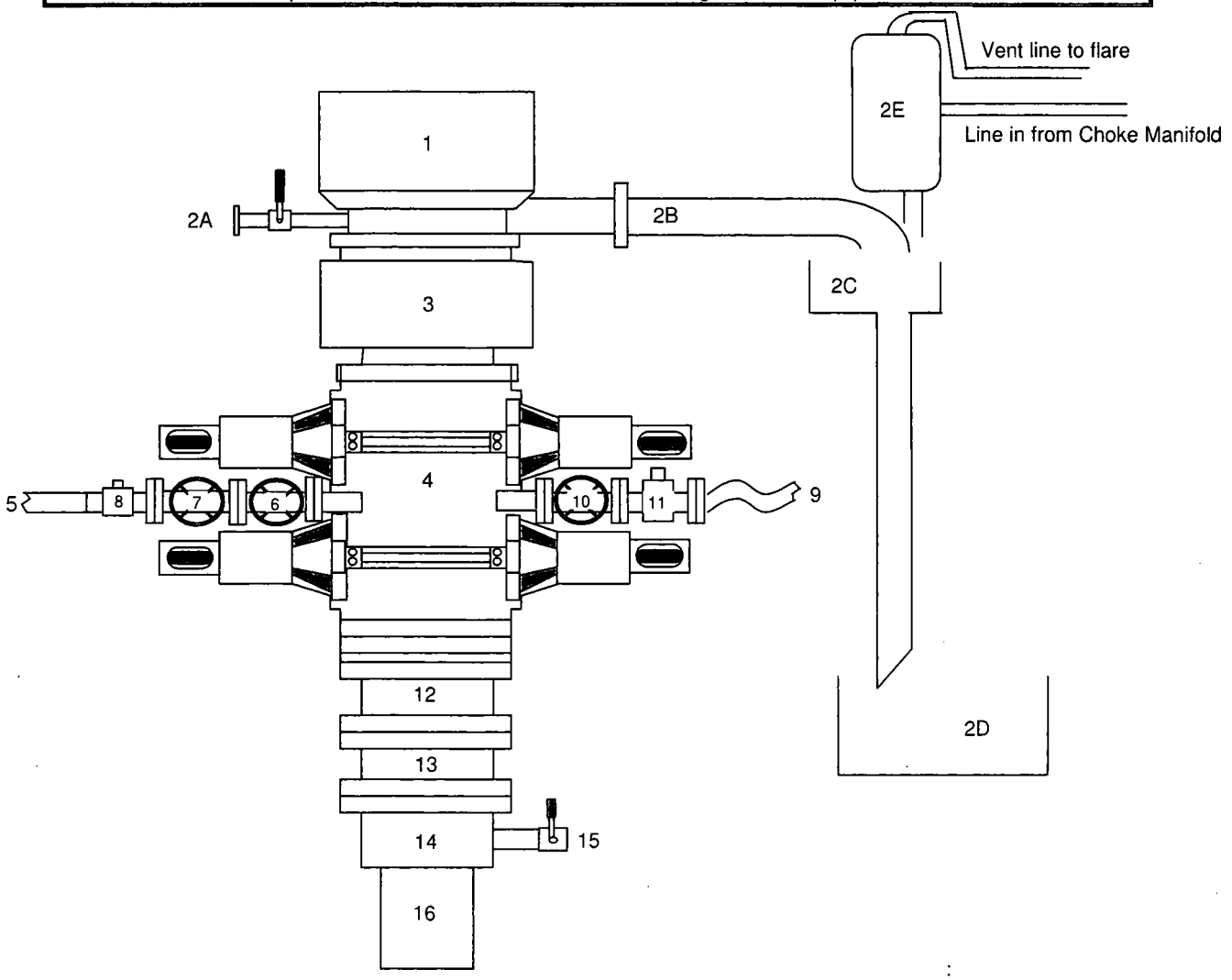
Test Technician Signature

Supervisor Signature

RIP-HAFM 006
VER II

BLOWOUT PREVENTER ARRANGEMENT - 11" 3M BOPE

per Onshore Oil and Gas Order No. 2 utilizing 3M Rated Equipment

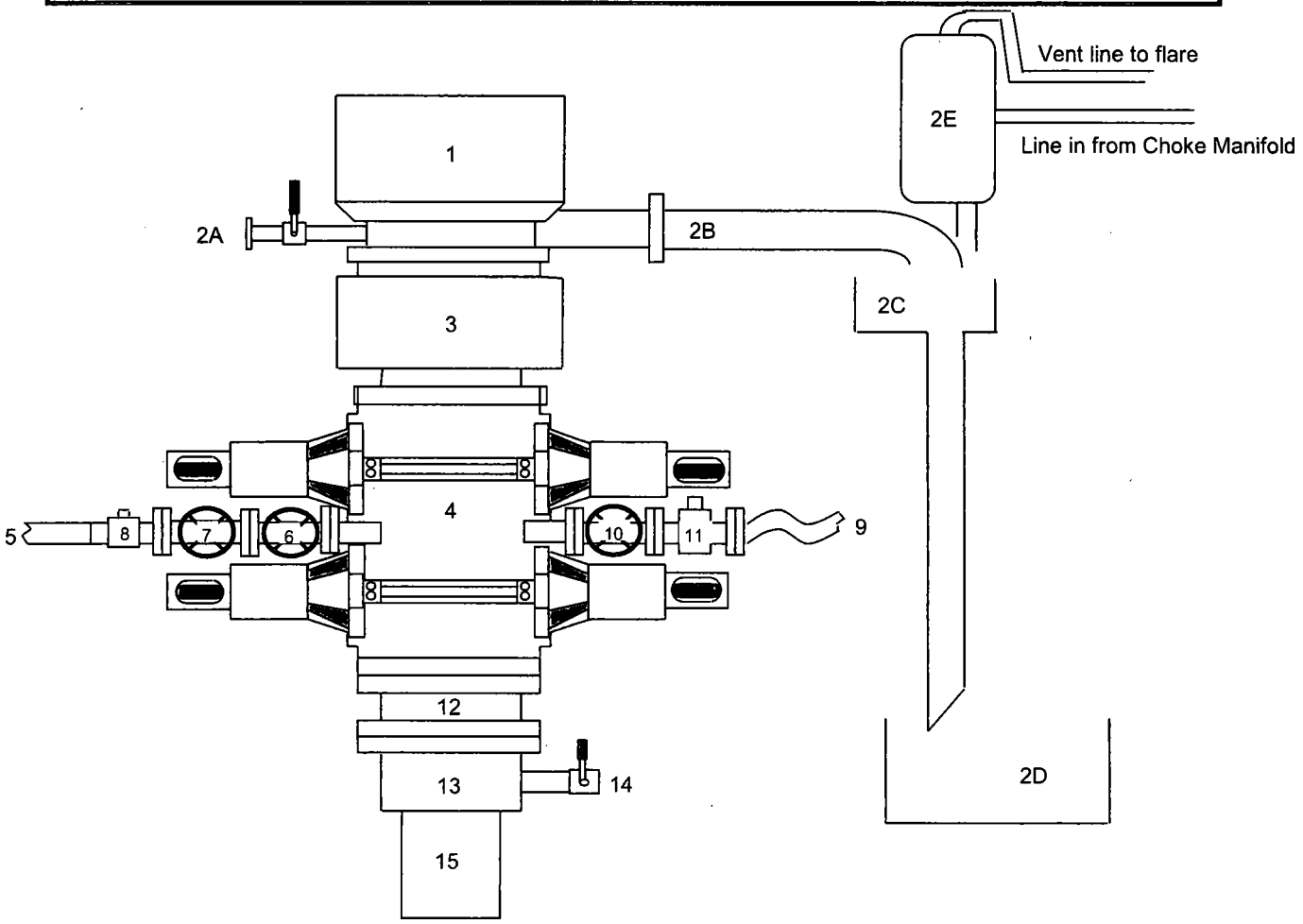


Item	Description
1	Rotating Head, 11"
2A	Fill up Line and Valve
2B	Flow Line (10")
2C	Shale Shakers and Solids Settling Tank
2D	Cuttings Bins for Zero Discharge
2E	Rental Mud Gas Separator with vent line to flare and return line to mud system
3	Annular BOP (11", 3M)
4	Double Ram (11", 3M, Blind Ram top 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

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	12261	5600	7061	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 / 2621 = **2.40**

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 / 2621 = **2.95**

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 / 120037 = **3.31**
SFi Bouyant = 397000 / (120037 x 0.863) = **3.83**

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 / 120037 = **2.82**
SFi Bouyant = 338000 / (120037 x 0.863) = **3.26**

ConocoPhillips

WELLBORE CASING & CEMENTING SCHEMATIC

Wellbore Section	Mud Properties Type	PPG	Hole Size	Casing Profile	Wellbore Design Casing / Cement / Directional Plan Details
COND					**20" Conductor** Set @ 85' MD / TVD
SURFACE	Native	8.6 PPG	17-1/2"		**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
INTERM	Brine	10.0 PPG	12-1/4"		**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
PRODUCTION	Cut Brine	8.6 PPG - 9.0 PPG	8-3/4"		**7" Production Casing** 7" 29# L-80 LTC Set @ 5,200' MD / TVD **~ KOP @** 5027 ft MD/TVD **XO** 7" x 5-1/2" @ 5,200' MD
					5-1/2" Production Casing 5-1/2" 17# L-80 LTC Set @ 12261 ft MD 5600 ft TVD **Production Cement** 11.0 ppg Lead 14.0 ppg Tail

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	12261	5600	7061	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 / 2621 = **2.40**

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 / 2621 = **2.95**

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 / 120037 = **3.31**
SFi Bouyant = 397000 / (120037 x 0.863) = **3.83**

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**

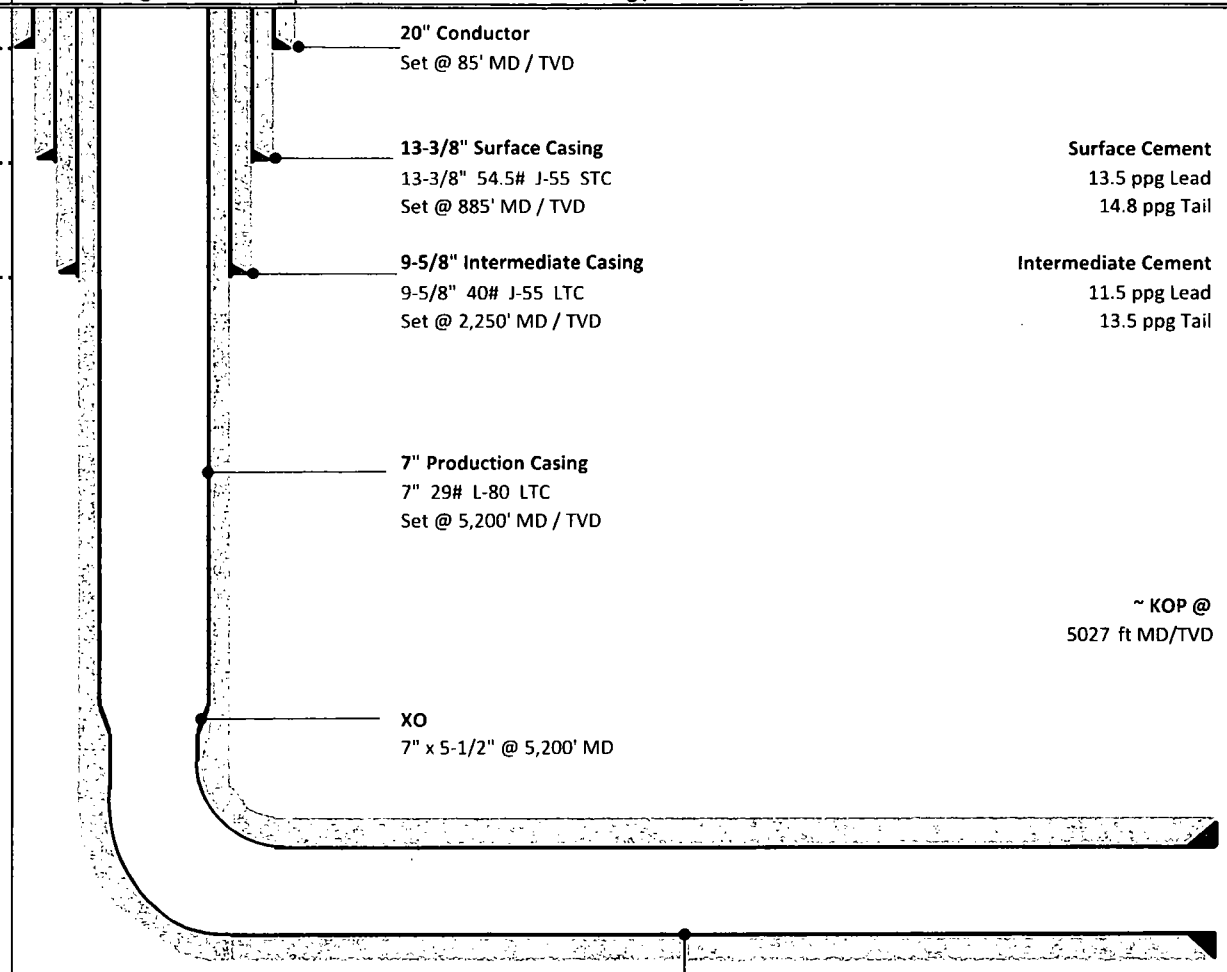
Production 1 Casing
SFi Dry = 587000 / 150800 = **3.89**
SFi Bouyant = 587000 / (150800 x 0.863) = **4.51**

Production 2 Casing
SFi Dry = 338000 / 120037 = **2.82**
SFi Bouyant = 338000 / (120037 x 0.863) = **3.26**

ConocoPhillips

WELLBORE CASING & CEMENTING SCHEMATIC

Wellbore Section	Mud Properties		Wellbore Design		
	Type	PPG	Hole Size	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 @
5027 ft MD/TVD

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

5-1/2" Production Casing
5-1/2" 17# L-80 LTC
Set @ 12261 ft MD
5600 ft TVD

Production Cement
11.0 ppg Lead
14.0 ppg Tail

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	12261	5600	7061	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 / 2621 = **2.40**

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 / 2621 = **2.95**

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 / 120037 = **3.31**
SFi Bouyant = 397000 / (120037 x 0.863) = **3.83**

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**

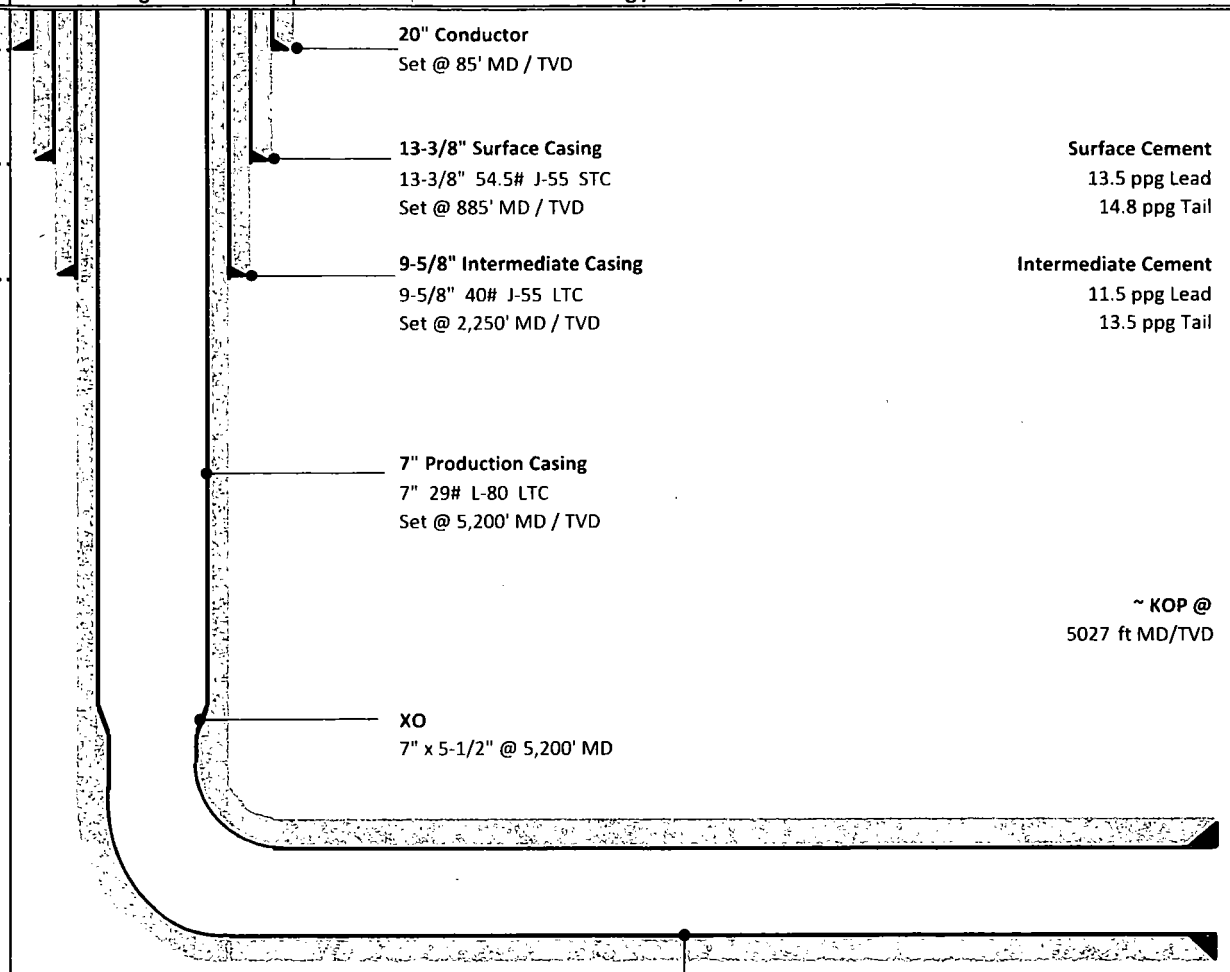
Production 1 Casing
SFi Dry = 587000 / 150800 = **3.89**
SFi Bouyant = 587000 / (150800 x 0.863) = **4.51**

Production 2 Casing
SFi Dry = 338000 / 120037 = **2.82**
SFi Bouyant = 338000 / (120037 x 0.863) = **3.26**

ConocoPhillips

WELLBORE CASING & CEMENTING SCHEMATIC

Wellbore Section	Mud Properties: Type	Mud Properties: PPG	Hole Size
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"



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	12261	5600	7061	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 / 2621 = **2.40**

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 / 2621 = **2.95**

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 / 120037 = **3.31**
SFi Bouyant = 397000 / (120037 x 0.863) = **3.83**

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**

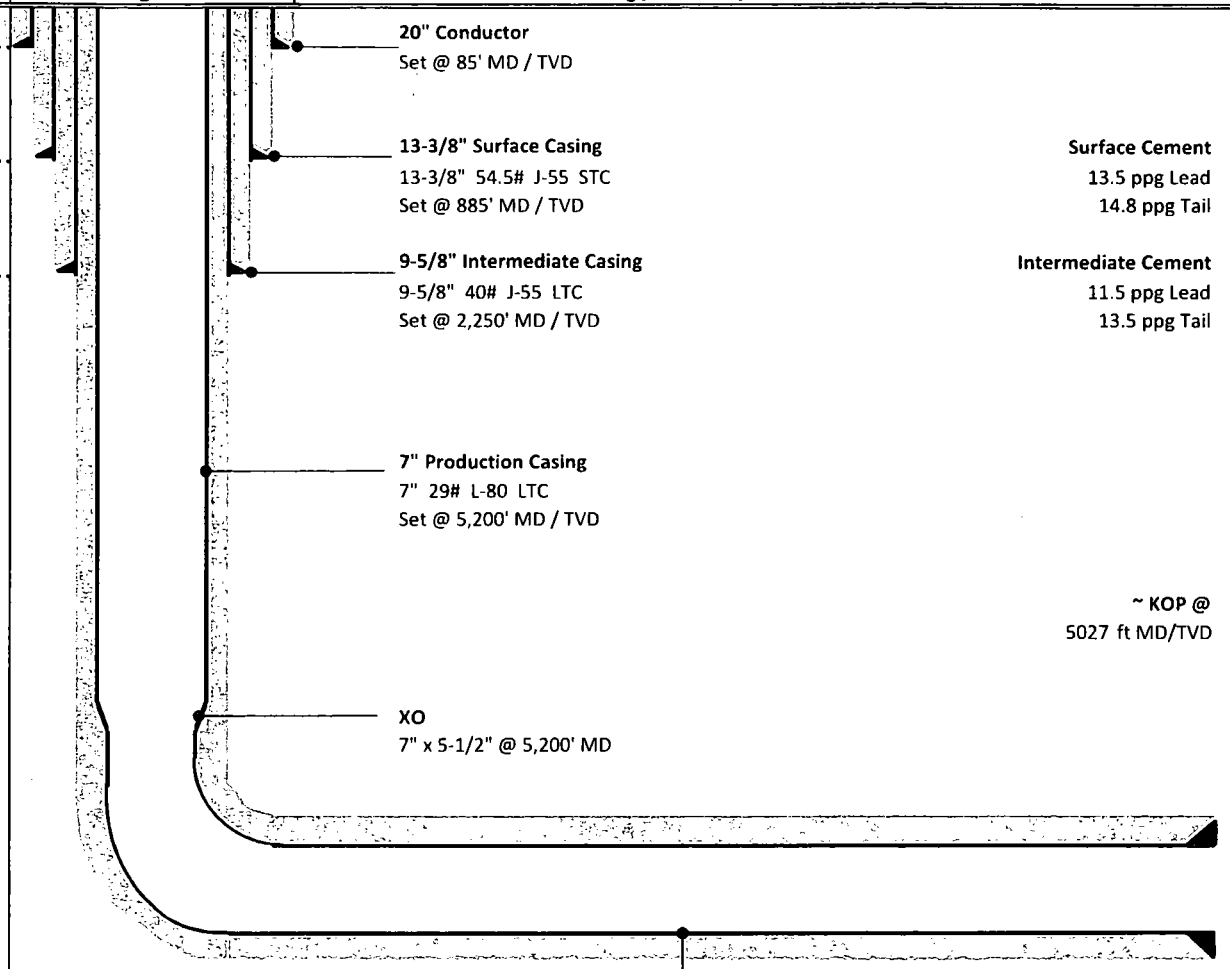
Production 1 Casing
SFi Dry = 587000 / 150800 = **3.89**
SFi Bouyant = 587000 / (150800 x 0.863) = **4.51**

Production 2 Casing
SFi Dry = 338000 / 120037 = **2.82**
SFi Bouyant = 338000 / (120037 x 0.863) = **3.26**

ConocoPhillips

WELLBORE CASING & CEMENTING SCHEMATIC

Wellbore Section	Mud Properties		Wellbore Design	
	Type	PPG	Hole Size	Casing Profile
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 @
5027 ft MD/TVD

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

5-1/2" Production Casing
5-1/2" 17# L-80 LTC
Set @ 12261 ft MD
5600 ft TVD

Production Cement
11.0 ppg Lead
14.0 ppg Tail

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	12261	5600	7061	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 / 2621 = **2.40**

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 / 2621 = **2.95**

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 / 120037 = **3.31**
SFi Bouyant = 397000 / (120037 x 0.863) = **3.83**

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**

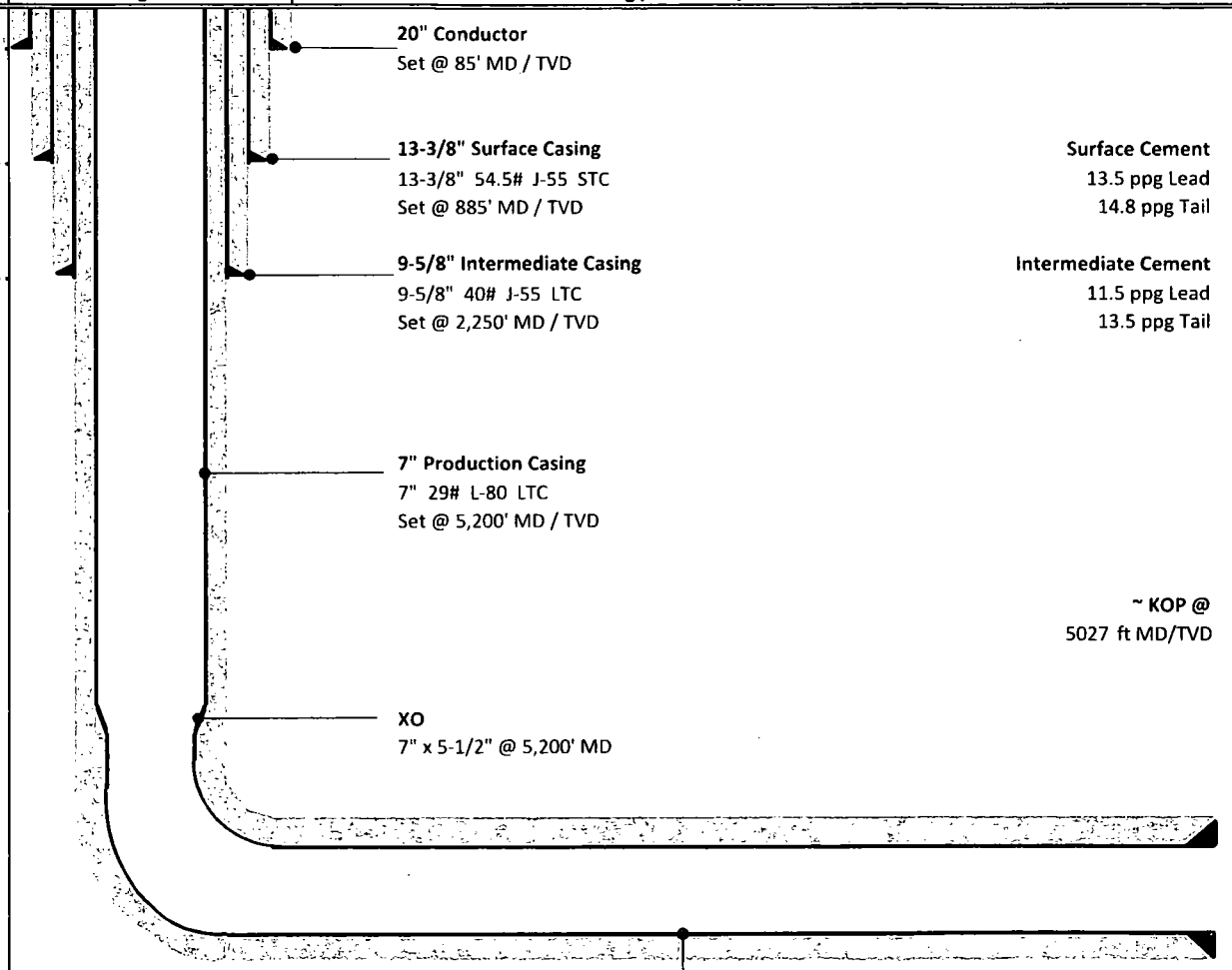
Production 1 Casing
SFi Dry = 587000 / 150800 = **3.89**
SFi Bouyant = 587000 / (150800 x 0.863) = **4.51**

Production 2 Casing
SFi Dry = 338000 / 120037 = **2.82**
SFi Bouyant = 338000 / (120037 x 0.863) = **3.26**

ConocoPhillips

WELLBORE CASING & CEMENTING SCHEMATIC

Wellbore Section	Mud Properties		Wellbore Design		
	Type	PPG	Hole Size	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 @
5027 ft MD/TVD

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

5-1/2" Production Casing
5-1/2" 17# L-80 LTC
Set @ 12261 ft MD
5600 ft TVD

Production Cement
11.0 ppg Lead
14.0 ppg Tail

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	12261	5600	7061	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 / 2621 = **2.40**

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 / 2621 = **2.95**

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 / 120037 = **3.31**
SFi Bouyant = 397000 / (120037 x 0.863) = **3.83**

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**

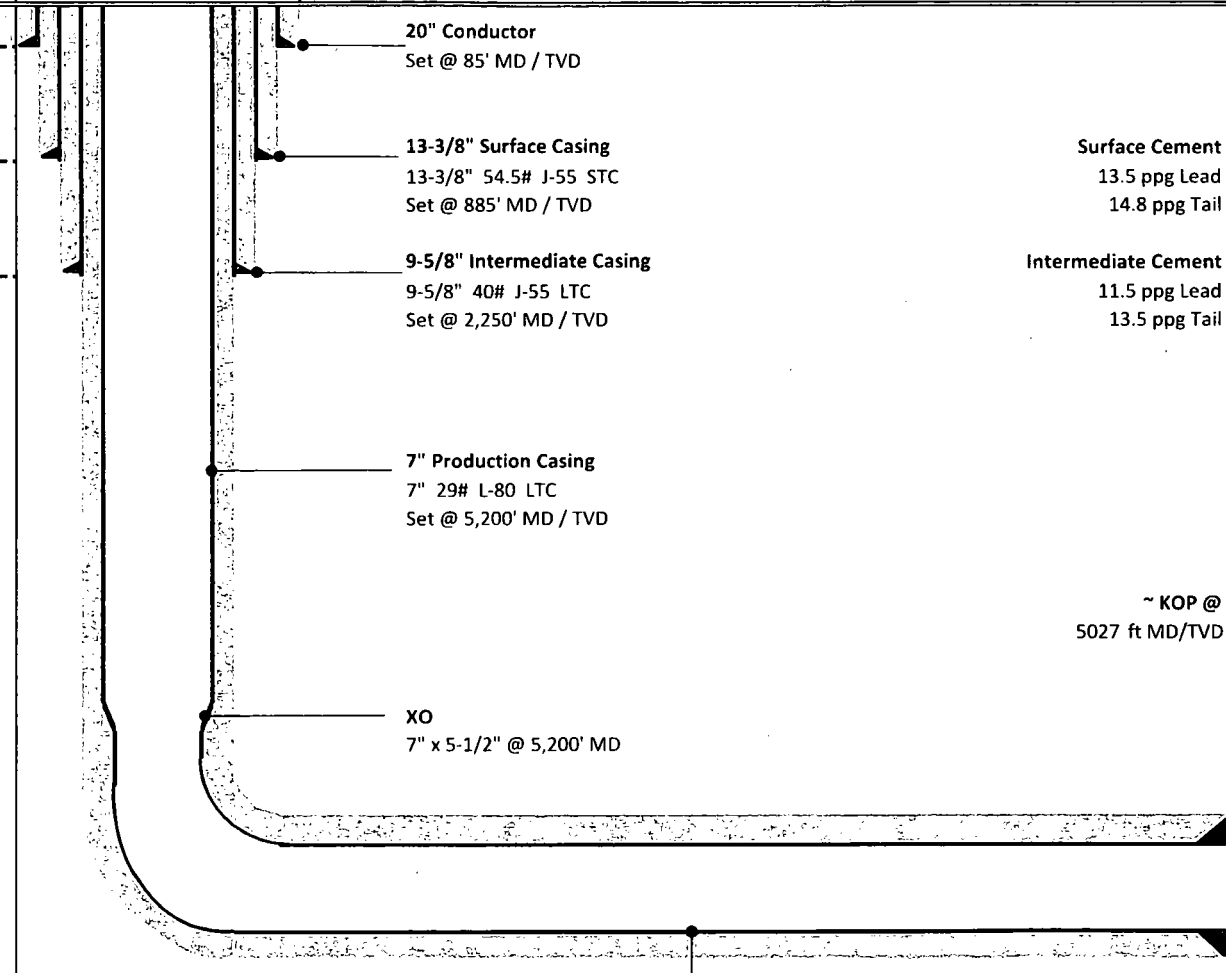
Production 1 Casing
SFi Dry = 587000 / 150800 = **3.89**
SFi Bouyant = 587000 / (150800 x 0.863) = **4.51**

Production 2 Casing
SFi Dry = 338000 / 120037 = **2.82**
SFi Bouyant = 338000 / (120037 x 0.863) = **3.26**

ConocoPhillips

WELLBORE CASING & CEMENTING SCHEMATIC

Wellbore Section	Mud Properties		Wellbore Design	
	Type	PPG	Hole Size	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

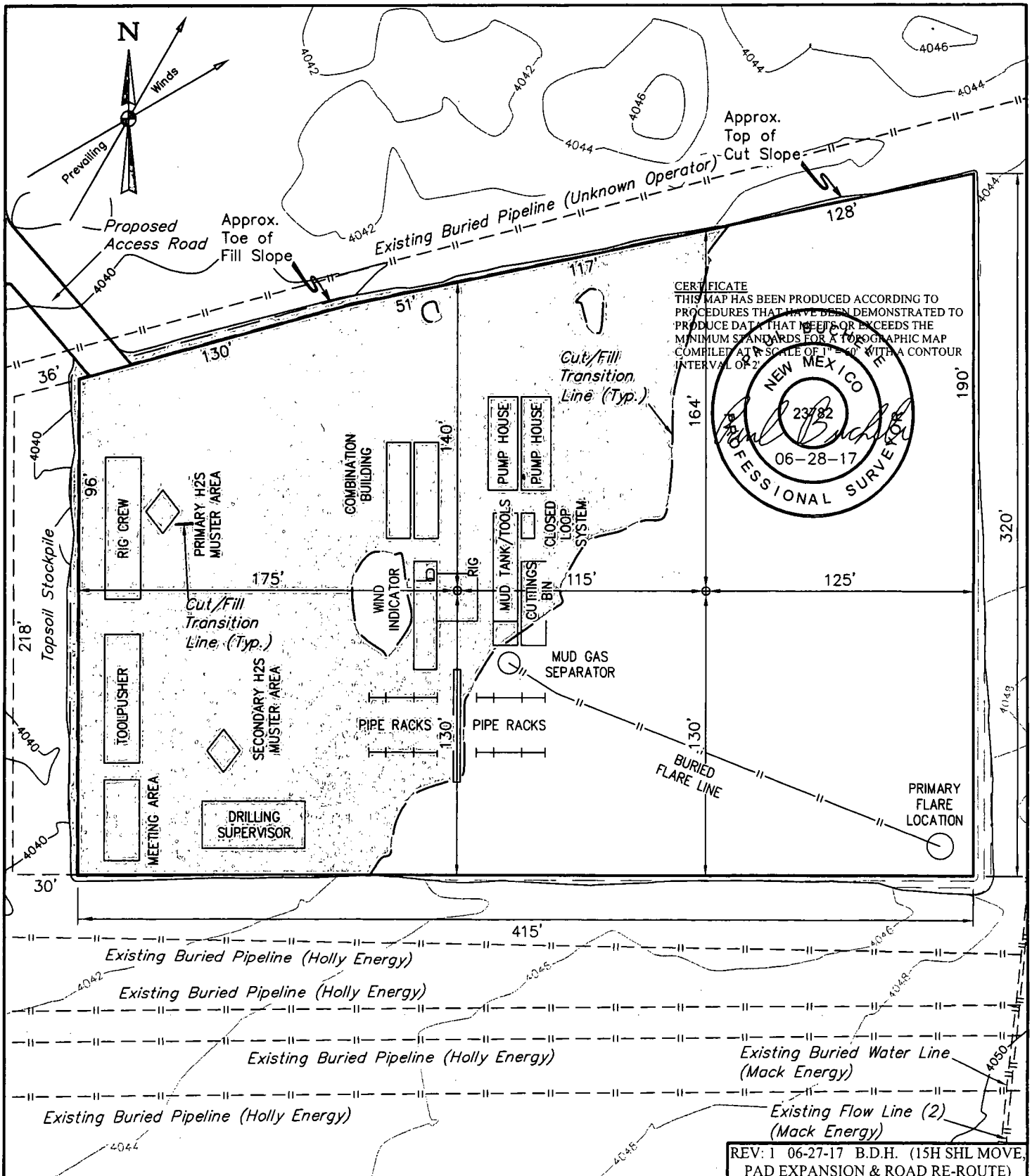
7" Production Casing
7" 29# L-80 LTC
Set @ 5,200' MD / TVD

~ KOP @
5027 ft MD/TVD

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

5-1/2" Production Casing
5-1/2" 17# L-80 LTC
Set @ 12261 ft MD
5600 ft TVD

Production Cement
11.0 ppg Lead
14.0 ppg Tail



CERTIFICATE
THIS MAP HAS BEEN PRODUCED ACCORDING TO PROCEDURES THAT HAVE BEEN DEMONSTRATED TO PRODUCE DATA THAT MEETS OR EXCEEDS THE MINIMUM STANDARDS FOR A TOPOGRAPHIC MAP COMPILED AT A SCALE OF 1" = 50' WITH A CONTOUR INTERVAL OF 2'.

STATE OF NEW MEXICO 23782 PROFESSIONAL SURVEYOR 06-28-17

REV: 1 06-27-17 B.D.H. (15H SHL MOVE, PAD EXPANSION & ROAD RE-ROUTE)

NOTES:

- Contours shown at 2' intervals.
- May have different number of pump houses and combination buildings.
- Flare may not be needed depending on rig used.

ConocoPhillips Company

PERIDOT 8 FEDERAL 5H & 15H
SE 1/4 NW 1/4, SECTION 8, T17S, R32E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.R.	10-27-16	SCALE
DRAWN BY	S.F.	10-31-16	1" = 60'
TYPICAL RIG LAYOUT			FIGURE #3

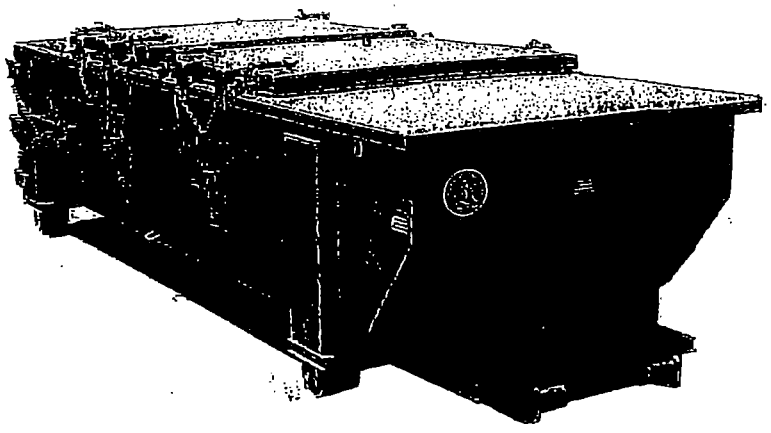
UINTAH ENGINEERING & LAND SURVEYING

UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

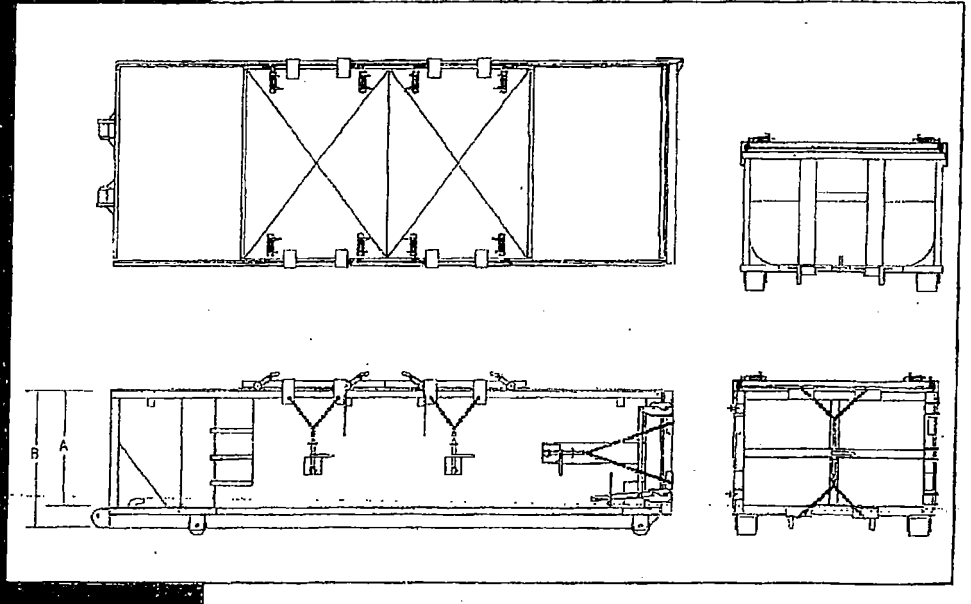
SPECIFICATIONS

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



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.	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?	

2. 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
Prod – Cased Hole Option	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

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'	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.

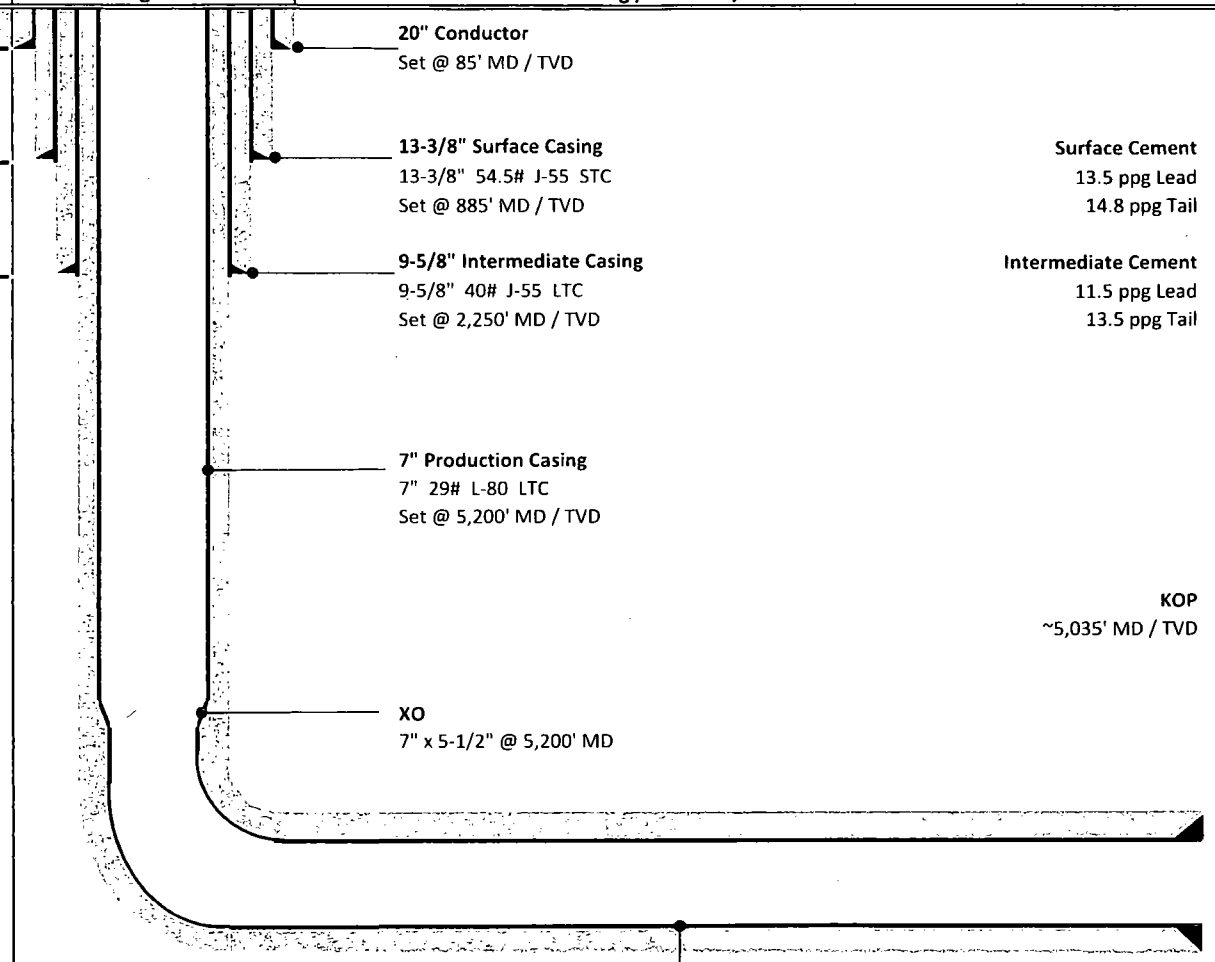
Attachments:

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

ConocoPhillips

WELLBORE CASING & CEMENTING SCHEMATIC

Wellbore Section	Mud Properties: Type	Mud Properties: PPG	Hole Size
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

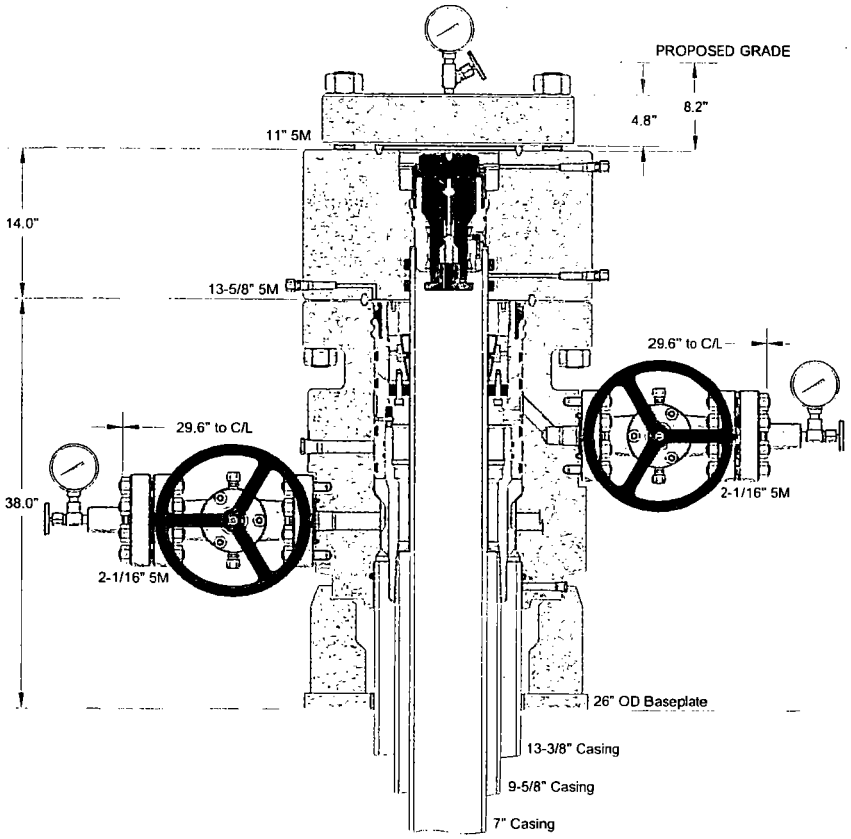
KOP
~5,035' MD / TVD

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

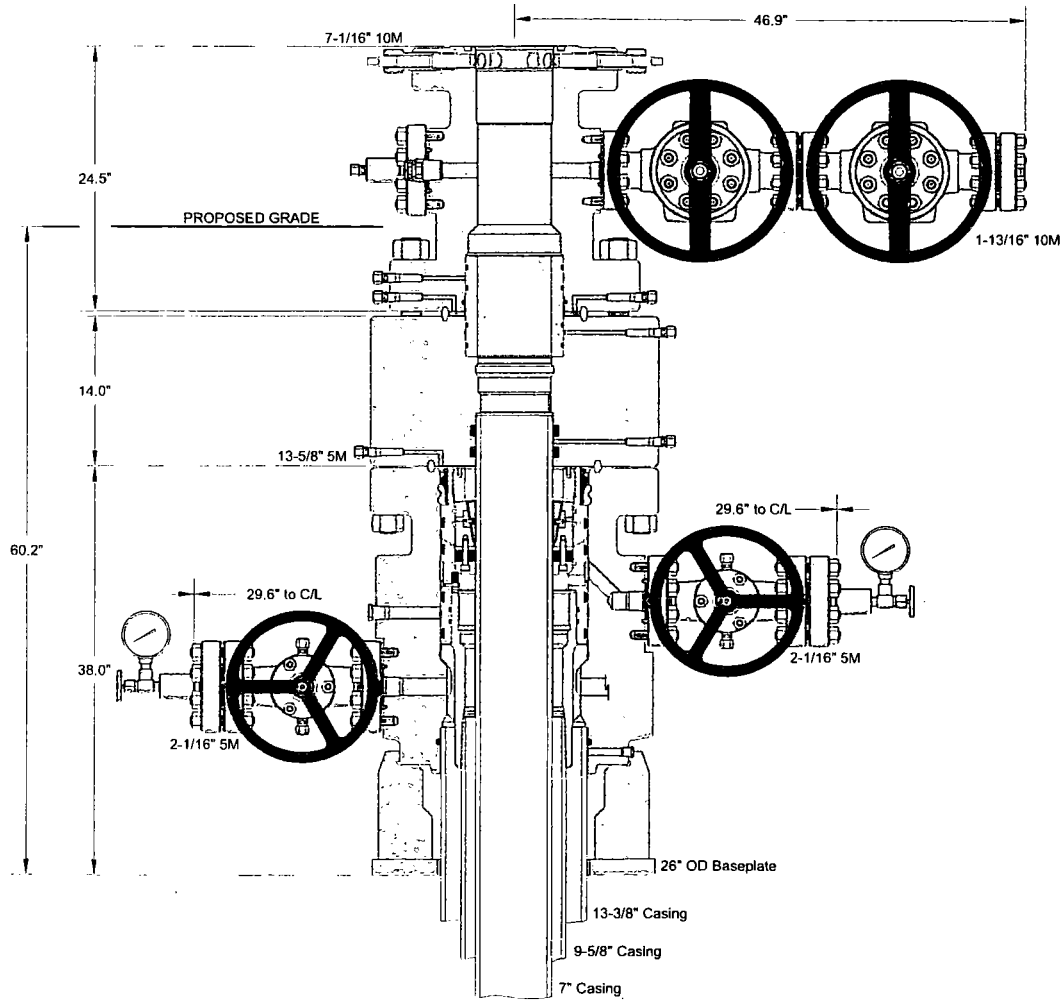
5-1/2" Production Casing
5-1/2" 20# L-80 LTC
Set @ ~12,261' MD / ~5,600' TVD

Production Cement
11.5 ppg Lead
14.0 ppg Tail

PERIDOT 8 FEDERAL 5H



DRILL AND SKID CONFIGURATION



PRODUCTION CONFIGURATION

CACTUS WELLHEAD LLC

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

Permian Basin

DRAWN	THH	26JUL15
APPRV		
DRAWING NO.	ODE0000716	

ConocoPhillips, Peridot 8 Federal 5H

2. Casing Program – Openhole Sliding Sleeves Completion Option

3 strings casing design										
Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Pipe Tensile	SF Joint Tensile
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	12261	5.5"	20	L80	LTC/BTC	3.37	3.51	3.30	3.71
				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 5H

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	12261	5600	7061	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 / 2621 = **3.37**

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 / 2621 = **3.51**

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 / 141220 = **3.30**
SFi Bouyant = 466000 / (141220 x 0.863) = **3.83**

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**

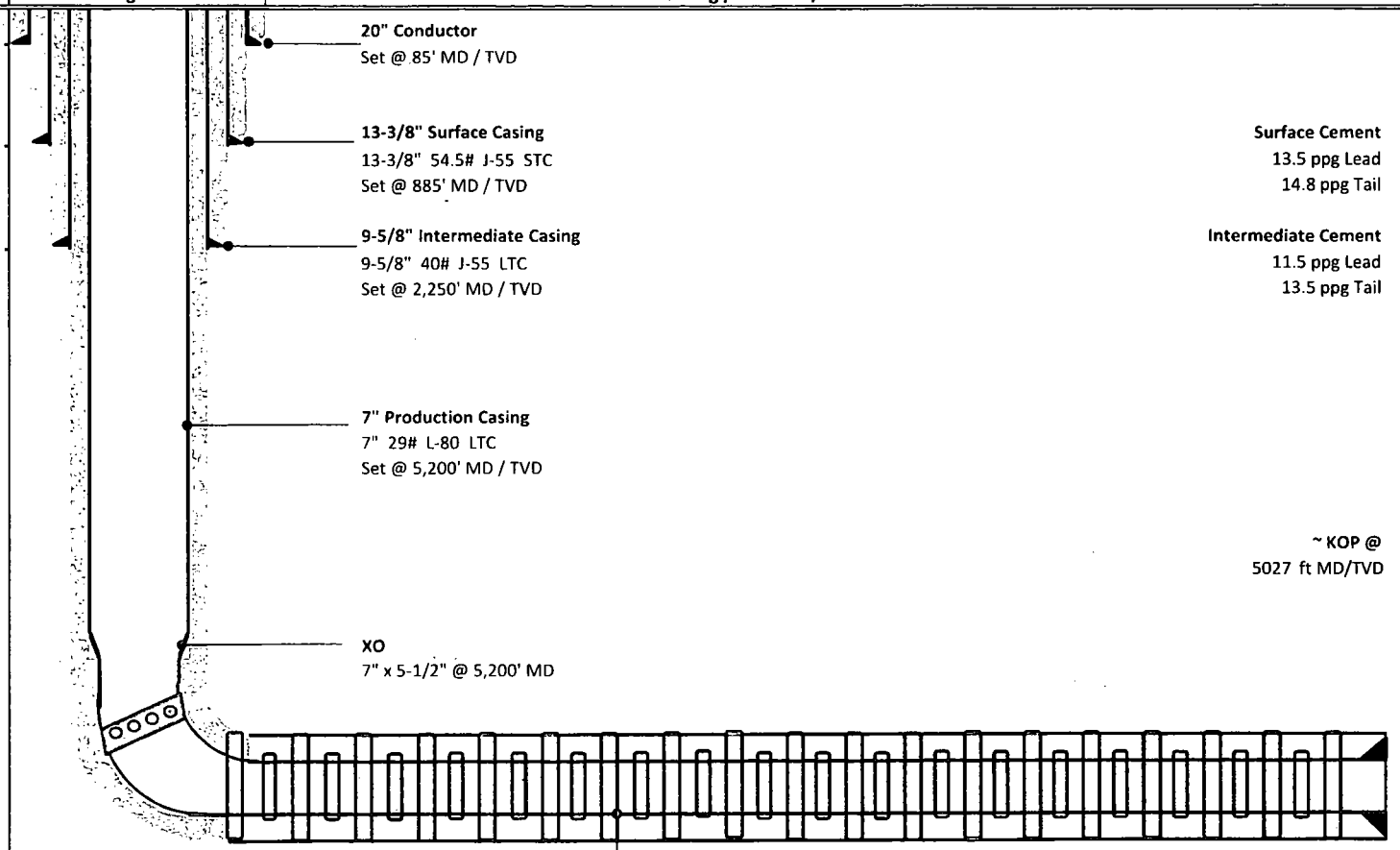
Production 1 Casing
SFi Dry = 587000 / 150800 = **3.89**
SFi Bouyant = 587000 / (150800 x 0.863) = **4.51**

Production 2 Casing
SFi Dry = 524000 / 141220 = **3.71**
SFi Bouyant = 524000 / (141220 x 0.863) = **4.30**

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 @
5027 ft MD/TVD

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

5-1/2" Production Casing
5-1/2" 17# L-80 LTC
Set @ 12261 ft MD
5600 ft TVD

Production Cement
11.0 ppg Lead
14.0 ppg Tail

APD ID: 10400008916 **Submission Date:** 04/01/2017

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 5H

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_5H_AccessRoadMapTOPO_B_04-01-2017.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_5H_AccessRoadTopoA_20180118121112.pdf
Peridot_8_Fed_5H_AccessRoadv2_20180118121124.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:** 5H

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. 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, T17S, 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.

Onsite topsoil removal process:

Access other construction information:

Access miscellaneous information: Majority of access road to be shared with other Peridot wells. 15' road for facility access and 382' road for freshwater frac pond access is included in access road length. 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 fairly 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_5H_OneMileRadiusMap_20180118122515.pdf

Existing Wells description:

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 5H

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 are planned 400'x 250' to allow for expansion as wells are drilled. 15' access road is depicted on plat. Preliminary Plot Plan is attached.
Production Facilities map:

Peridot_8_Fed_CF1_Tank_Battery_04-01-2017.pdf

Peridot_8_Fed_5H_PreliminaryPlotPlan_04-01-2017.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: 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_5H_WaterSourceMap_20180118122849.pdf

Peridot_8_Fed_5H_AccessRoadTopoA_20180118122927.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:

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, T17S, 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 meets 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:** 5H

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

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

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

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? YES

Description of cuttings location 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_20180118123425.pdf

Comments: ConocoPhillips Company proposes to build a 600' x 600' frac pond to support our horizontal well completions in the area. It is to be located in the NENW of Section 8, T17S, R32E. Frac pond will contain fresh water. A 382' road will provide access. Plats are attached. Area will be reclaimed upon completion of unit development.

Section 9 - Well Site Layout

Well Site Layout Diagram:

Peridot_8_Fed_5H_SiteLayoutArchBound_20180118123625.pdf

Peridot_8_Fed_5H_SiteLayoutCutFill_20180118123640.pdf

Comments:

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 5H

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** PERIDOT 8 FEDERAL 5

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): 1.57

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: 41.675713

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

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 4041'. 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_5H_LocationPhotos_04-01-2017.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:** 5H

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:** 5H

Disturbance type: OTHER

Describe: New access road, well pad, pipeline, gas sales line, and 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:**

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,FLPMA (Powerline)

ROW Applications

SUPO Additional Information: Archaeological survey requirements have been met by block survey 2151, well pad survey 2262, 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.
Use a previously conducted onsite? YES

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

Other SUPO Attachment

Peridot_8_Fed_GAS_PIPELINE_ROW_04-01-2017.pdf

Peridot_8_Fed_5H_TurnoutDiagram_04-01-2017.pdf

PERIDOT_8_FED_5H_FlowLineROW_04-01-2017.pdf

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: PERIDOT 8 FEDERAL **Well Number:** 5H

PERIDOT_8_FED_5H_FlowLineMapTOPO_D_04-01-2017.pdf
Peridot_8_Fed_5H_Power_Line_Plat_20180118124823.pdf
Peridot_8_Fed_5H_ReclamationDiagram_20180118124907.pdf
Peridot_8_Fed_5H_SWD_FlowLineToElvis_20180118124954.pdf
Peridot_8_Fed_SWD_BuriedPipeline_20180118125010.pdf
Peridot_8_Fed_5H_SUPOviaAccess_20180118125046.pdf
Peridot_8_Fed_5H_BuriedGasLinetoDCP_20180118125140.pdf
Peridot_8_Fed_5H_Surf_SummaryComments_20180118125159.pdf
Peridot_8_Fed_DevelopmentImage_20180118130800.pdf

Surface Disturbance Summary and Comments

Summary Table of Surface Disturbance

Disturbance Description	Disturbance (Feet)	Permanent Disturbance (Acres)	Temporary Disturbance (Acres)	Total Acres
Well Site Disturbance	NA	1.57	1.30 acres	2.87
30' wide new access road ROW*	5236'	3.61	none	3.61
10' wide flow line ROW	2290'	0.53	none	0.53
Power Line ROW*	5766'	1.32	none	1.32
Peridot 8 CF1 Tank Battery	400'x250'	2.52	none	2.52
Gas Sales Line ROW to Frontier*	1397'	0.96	0.32	1.28
Gas Sales Line ROW to DCP*	6138'	4.23	1.4	5.63
Saltwater Disposal Lines (surface)*	16695'	7.67	none	7.67
Saltwater Disposal Line (buried)*	15,676'	10.75	none	10.75
Freshwater Frac Pond*	600'x600'	8.52	none	8.52

*Note: majority of new access road, power line, tank battery, gas sales line, and salt water disposal line are shared with other Peridot wells. Total amount of road to be built is about 5236' and includes 15' road for facility access and 382' road to frac pond for access.

Disturbance Comments:

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 Summary of Surface Use and Surface Use Plan of Operations.

ConocoPhillips anticipates needing a freshwater frac pond to aid in completion operations. We plan on reclaiming the frac pond surface upon completion of the full Peridot Unit development. Reclamation activities will be conducted in accordance to BLM standards at the time of reclamation.

Additional wording; Mitigation:

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 re 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.


Federal
ment
Legend
Maljamar
PERIDOT 8 FEDERAL 11H 1H LOCATIONS
PERIDOT 8 FEDERAL 6H 16H TEMPORARY RO
PERIDOT 8 FEDERAL ACCESS ROAD
PERIDOT 8 FEDERAL CF1 TANK BATTERY
PERIDOT 8 FEDERAL POWER LINE
PERIDOT 8 FEDERAL PRODUCTION FLOW LI
PERIDOT 8 FEDERAL PROPOSED WELL BOR
PERIDOT 8 FEDERAL WELL BOTTOM HOLE L
PERIDOT 8 FEDERAL WELL BOTTOM HOLE L
PERIDOT 8 FEDERAL WELL PAD
PERIDOT 8 FEDERAL WELL PAD
PERIDOT 8 FEDERAL WELL PAD
PERIDOT 8 FEDERAL WELL SURFACE LOCATI
PERIDOT CTB TO ELVIS BATTERY SWD FLOW
PERIDOT CTB-ELVIS BATTERY SWD BURIED F
PERIDOT FRAC POND
PERIDOT GAS PIPELINE
3000

AFMSS

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

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:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

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

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

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

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

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

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

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

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

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

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

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

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

Bond Info Data Report

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:

Peridot Section 7 and 8 Lease Map