

OCD - HOBBS
09/23/2020
RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMLC0068281B
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: ☐ Hydraulic Fracturing ☒ Single Zone ☐ Multiple Zone		7. If Unit or CA Agreement, Name and No. ZIA HILLS BS/WC / NMNM138329X
2. Name of Operator CONOCOPHILLIPS COMPANY [217817]		8. Lease Name and Well No. ZHU 2032 BS [328111] 14H
3a. Address PO Box 2197 Houston TX 77252	3b. Phone No. (include area code) (281)293-1748	9. API Well No. 30-025-47784
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SENE / 2575 FNL / 1291 FEL / LAT 32.028465 / LONG -103.692759 At proposed prod. zone LOT 2 / 50 FSL / 2157 FEL / LAT 32.000355 / LONG -103.695578		10. Field and Pool, or Exploratory [98009] WOLFCAMP / ZIA HILLS; WOLFCAMP
14. Distance in miles and direction from nearest town or post office* 43.95 miles		12. County or Parish LEA
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1291 feet		13. State NM
16. No of acres in lease 1841.48		17. Spacing Unit dedicated to this well 0
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 33 feet		20. BLM/BIA Bond No. in file FED: ES0085
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3144 feet	22. Approximate date work will start* 10/09/2020	23. Estimated duration 90 days
24. Attachments		

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- | | |
|--|---|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 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). | 6. Such other site specific information and/or plans as may be requested by the BLM. |

25. Signature (Electronic Submission)	Name (Printed/Typed) Jeremy Lee / Ph: (832)486-2510	Date 07/17/2019
Title Regulatory Coordinator		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 04/01/2020
Title Assistant Field Manager Lands & Minerals		
Office CARLSBAD		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

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

GCP Rec 09/23/2020

SL

(Continued on page 2)

APPROVED WITH CONDITIONS
Approval Date: 04/01/2020

*(Instructions on page 2)

PECOS DISTRICT

DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	CONOCOPHILLIPS COMPANY
LEASE NO.:	NMLC0068281B
WELL NAME & NO.:	ZHU 2032 BS 14H
SURFACE HOLE FOOTAGE:	2575'/N & 1291'/E
BOTTOM HOLE FOOTAGE:	50'/S & 2157'/E
LOCATION:	Section 20, T.26 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

COA

H2S	☒ Yes	☐ No	
Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☐ Low	☒ Medium	☐ High
Cave/Karst Potential	☐ Critical		
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	☐ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☒ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☐ COM	☐ Unit

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the Cherry and Brushy Canyon formations. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **1224 feet** (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after

- completing the cement job.
- b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
Excess cement calculates to -41%, additional cement might be required.

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
- ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- 2.

Option 1:

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **5000 (5M)** psi.

Option 2:

1. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 2500 psi.**
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. 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. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including

lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

OTA03292020



APD ID: 10400043632

Submission Date: 07/17/2019

Highlighted data
reflects the most
recent changes

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: ZHU 2032 BS

Well Number: 14H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - General

APD ID: 10400043632

Tie to previous NOS? N

Submission Date: 07/17/2019

BLM Office: CARLSBAD

User: Jeremy Lee

Title: Regulatory Coordinator

Federal/Indian APD: FED

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

Lease number: NMLC0068281B

Lease Acres: 1841.48

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? YES

Federal or Indian agreement: FEDERAL

Agreement number: NMNM138329X

Agreement name:

Keep application confidential? NO

Permitting Agent? NO

APD Operator: CONOCOPHILLIPS COMPANY

Operator letter of designation:

Operator Info

Operator Organization Name: CONOCOPHILLIPS COMPANY

Operator Address: PO Box 2197

Zip: 77252

Operator PO Box:

Operator City: Houston

State: TX

Operator Phone: (281)293-1748

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: ZHU 2032 BS

Well Number: 14H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: WOLFCAMP

Pool Name: ZIA HILLS;
WOLFCAMP

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

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: ZHU 2032 BS

Well Number: 14H

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

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: ZIA

Number: 4

HILLS 20 PAD

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: 43.95 Miles

Distance to nearest well: 33 FT

Distance to lease line: 1291 FT

Reservoir well spacing assigned acres Measurement: 0 Acres

Well plat: ZHU_2032_BS_14H_C_102_20190715125417.pdf

Well work start Date: 10/09/2020

Duration: 90 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number:

Reference Datum:

Wellbore	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	Will this well produce from this lease?
SHL Leg #1	2575	FNL	1291	FEL	26S	32E	20	Aliquot SENE	32.028465	-103.692759	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0068281B	3144	0	0	
KOP Leg #1	2359	FNL	2133	FEL	26S	32E	20	Aliquot SWNE	32.0290732	-103.695471	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0068281B	-6508	9713	9652	
PPP Leg #1-1	0	FNL	3154	FWL	26S	32E	32	Lot 2	32.0061552	-103.6955573	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-7224	18426	10368	

Operator Name: CONOCOPHILLIPS COMPANY**Well Name:** ZHU 2032 BS**Well Number:** 14H

Wellbore	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	Will this well produce from this lease?
PPP Leg #1-2	0	FNL	2135	FEL	26S	32E	29	Aliquot NWNE	32.0208501	-103.6954985	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 027508	-7224	13099	10368	
PPP Leg #1-3	2639	FSL	2132	FEL	26S	32E	20	Aliquot NWSE	32.0281	-103.695475	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0 068281 B	-5031	8225	8175	
EXIT Leg #1	100	FSL	2157	FEL	26S	32E	32	Lot 2	32.000493	-103.695578	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-7224	20513	10368	
BHL Leg #1	50	FSL	2157	FEL	26S	32E	32	Lot 2	32.000355	-103.695578	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-7224	20563	10368	



APD ID: 10400043632

Submission Date: 07/17/2019

Highlighted data
reflects the most
recent changes

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: ZHU 2032 BS

Well Number: 14H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
496594	QUATERNARY	3144	22	22		NONE	N
496595	RUSTLER	1970	1174	1174	ANHYDRITE, DOLOMITE	NONE	N
496596	SALADO	1800	1344	1344	SALT	NONE	N
496597	CASTILE	810	2334	2334	SALT	NONE	N
496598	DELAWARE	-1187	4331	4331	SANDSTONE	NATURAL GAS, OIL	N
496599	CHERRY CANYON	-2110	5254	5254	SANDSTONE	NATURAL GAS, OIL	N
496600	BRUSHY CANYON	-3641	6785	6785	SANDSTONE	NATURAL GAS, OIL	N
496601	BONE SPRING	-5031	8175	8175	SANDSTONE	NATURAL GAS, OIL	N
664664	BONE SPRING 1ST	-6188	9332	9332	SANDSTONE	NATURAL GAS, OIL	N
664665	BONE SPRING 2ND	-6913	10057	10057	SANDSTONE	NATURAL GAS, OIL	Y
664666	BONE SPRING 3RD	-7398	10542	10542	LIMESTONE	NATURAL GAS, OIL	N

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M

Rating Depth: 10368

Equipment: Rotating Head, Annular Preventer, Pipe/Blind Rams, Kill Lines, Choke Lines, Adapter Spool

Requesting Variance? YES

Variance request: A variance to use flexible choke line(s) from the BOP to Choke Manifold. Testing certificate is attached in "Flexhose Variance data" document. A variance to use a multibowl wellhead system. Please see attached in section 8 of drilling plan. A variance is requested to use a 5M annular and test the annular to 100% of its working pressure. The variance is requested in conjunction with the attached well control plan.

Testing Procedure: BOP/BOPE will be isolated from the casing and tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. BOPE controls will be installed prior to drilling under the surface casing and will be used until the completion of drilling operations. The intermediate interval and the

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: ZHU 2032 BS

Well Number: 14H

production interval will be tested per 10M working system requirements. See attached "Drill Plan" document.

Choke Diagram Attachment:

ZHU_2032_BS_14H_Choke_Manifold_20190715131036.pdf

BOP Diagram Attachment:

ZHU_2032_BS_14H_BOPE_20190715131044.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	1224	0	1224			1224	J-55	54.5	OTHER - BTC	3.08	4.99	DRY	13.63	DRY	13.63
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	10938	0	10368			10938	OTHER	40	OTHER - BTC	2.85	1.89	DRY	2.11	DRY	2.11
3	PRODUCTION	8.5	5.5	NEW	API	N	0	20561	0	10368			20561	OTHER	20	OTHER - TXP	7.04	4	DRY	3.52	DRY	3.52

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

13.375_54.5_lb_J55_20190710134019.pdf

ZHU_2032_BS_14H_Csg_Design_20190715131154.pdf

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: ZHU 2032 BS

Well Number: 14H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

9.625_40_lb_L_80_IC_20190710134042.pdf

ZHU_2032_BS_14H_Csg_Design_20190715131327.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

5.5_TXP_Spec_Sheet_20190710134130.pdf

ZHU_2032_BS_14H_Csg_Design_20190715131450.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	824	1000	1.73	12.8	1716	200	Control Set 'C'	1.0% CaCl ₂ , 1.0% SMS, 1.0% OGC-60, ¼ lb/sk Polyflake, ½ ppb FiberBlock
SURFACE	Tail		824	1224	660	1.33	14.8	868	200	0:1:0 'Type III'	0.5% CaCl ₂ , ¼ lb/sk Polyflake, ½ ppb FiberBlock

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: ZHU 2032 BS

Well Number: 14H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Lead		0	6785	3280	1.73	11	5668	200	Thermal 35	10% NaCl, 0.9% CFR, 0.7% CFL-4, 0.1% LTR, 0.2% SPC-II, 0.4% CDF-4P, ¼ lb/sk Polyflake, ½ ppb FiberBlock

INTERMEDIATE	Lead	6785	724	9213	480	2.7	11	1293	70	WBL	0.5% CFL-4, 0.6% LTR, 0.2% SPC-II, 0.4% CDF-4P, ¼ lb/sk Polyflake, ½ ppb FiberBlock
INTERMEDIATE	Tail		9213	10938	470	1.59	13.2	741	30	Thermal 35	10% NaCl, 0.9% CFR, 0.7% CFL-4, 0.1% LTR, 0.2% SPC-II, 0.4% CDF-4P, ¼ lb/sk Polyflake, ½ ppb FiberBlock
PRODUCTION	Lead		0	20561	0	0	0	0	0	No Lead	No Lead
PRODUCTION	Tail		8713	20561	2526	1.19	15.6	3005	10	1:1:0 'Poz:Lafarge G'	20% Silica Flour, 8% Silica Flume, 2% FWCA-H (FWC-2), 0.3% HTR, 0.5% CR-4 (MCR-4), 1% TAE-1 (SEA-1), 1% CFL-4, 0.2% CFR-5, 0.3% ASM-3 (AS-3)

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, Pason, Visual Observations. See attached "Drill Plan" for additional information.

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: ZHU 2032 BS

Well Number: 14H

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
1224	1036 8	OTHER : Brine	9.5	10.5							
0	1224	OTHER : Fresh Water	8.6	9.1							
1036 8	1036 8	OIL-BASED MUD	10.5	11.5							

Section 6 - Test, Logging, Coring

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

Production tests will be conducted multiple times per week, through a test separator, during first months following completion. Thereafter, tests will be less frequently. See attached "Drill Plan" for additional information.

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

GR

Coring operation description for the well:

No coring operation is planned at this time.

This well will be an Infill Horizontal well as defined in Part H of 19.15.16.7 NMAC. It will not have a unique horizontal spacing unit. It will share a horizontal spacing unit.

ConocoPhillips Company requests a variance to the requirement to run a neutron porosity log for any wells within one mile of an existing well with a neutron porosity log (vertical well, or vertical portion of a horizontal well). If there is an existing neutron log within one mile, ConocoPhillips requests to log gamma ray only. If there is not an existing neutron log within one mile, ConocoPhillips request to run a GR/N log on the vertical section of one well per pad.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5391

Anticipated Surface Pressure: 3110.04

Anticipated Bottom Hole Temperature(F): 165

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

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards attachment:

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: ZHU 2032 BS

Well Number: 14H

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

ZIA_HILLS_20_PAD_4_H2S_C_Plan_20190711125554.pdf

Zia_Hills_20_Pad_4_Rig_Layout_20190711125808.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

ZHU_2032_BS_14H_Directional_Plan_20190715133107.pdf

ZHU_2032_BS_14H_Drill_Plan_20190715133119.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Zia_Hills_20_Pad_4_Drill_Waste_Containment_20190711130956.pdf

ZHU_2032_BS_14H_Drilling_Plan_20190715133138.pdf

ZHU_2032_BS_14H_Cement_20190715133148.pdf

ZHU_2032_BS_14H_Kelly_Cock_20190715133158.pdf

ZHU_2032_BS_13H_16H_Gas_Capture_Plan_20190715133213.pdf

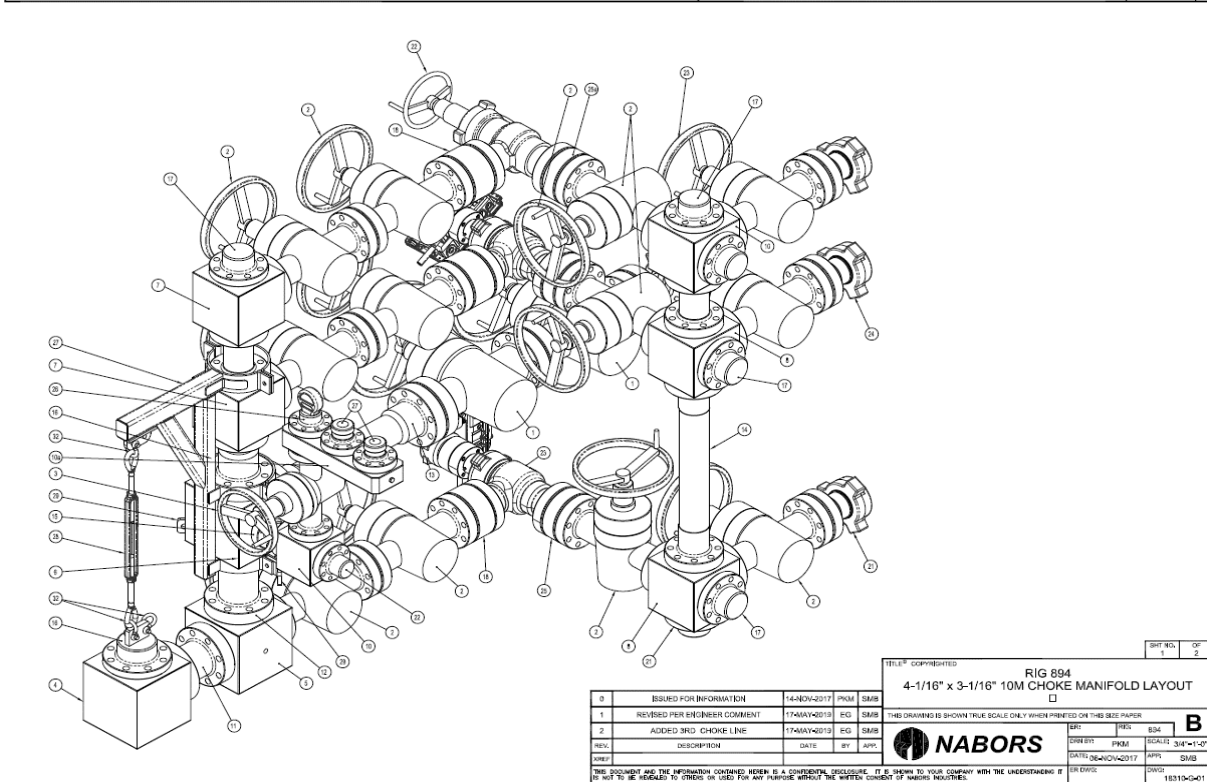
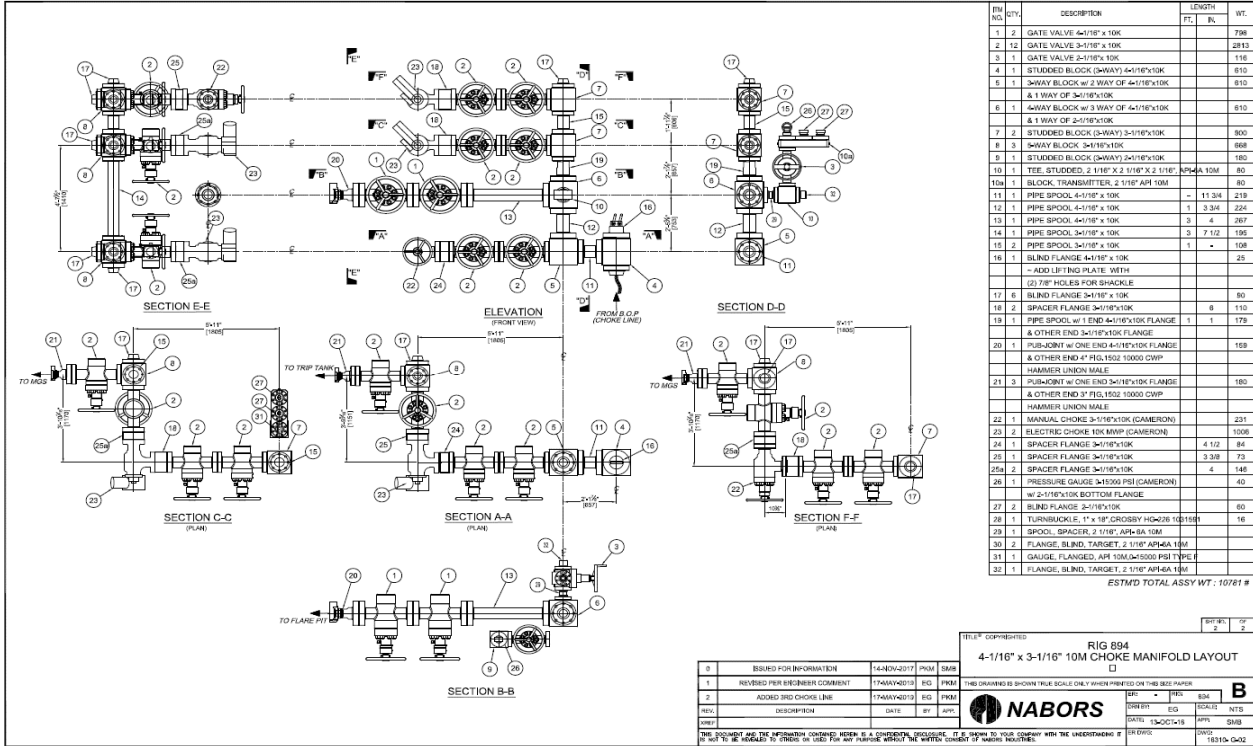
Other Variance attachment:

Zia_Hills_20_Pad_4_Flexhose_Variance_20190711131033.pdf

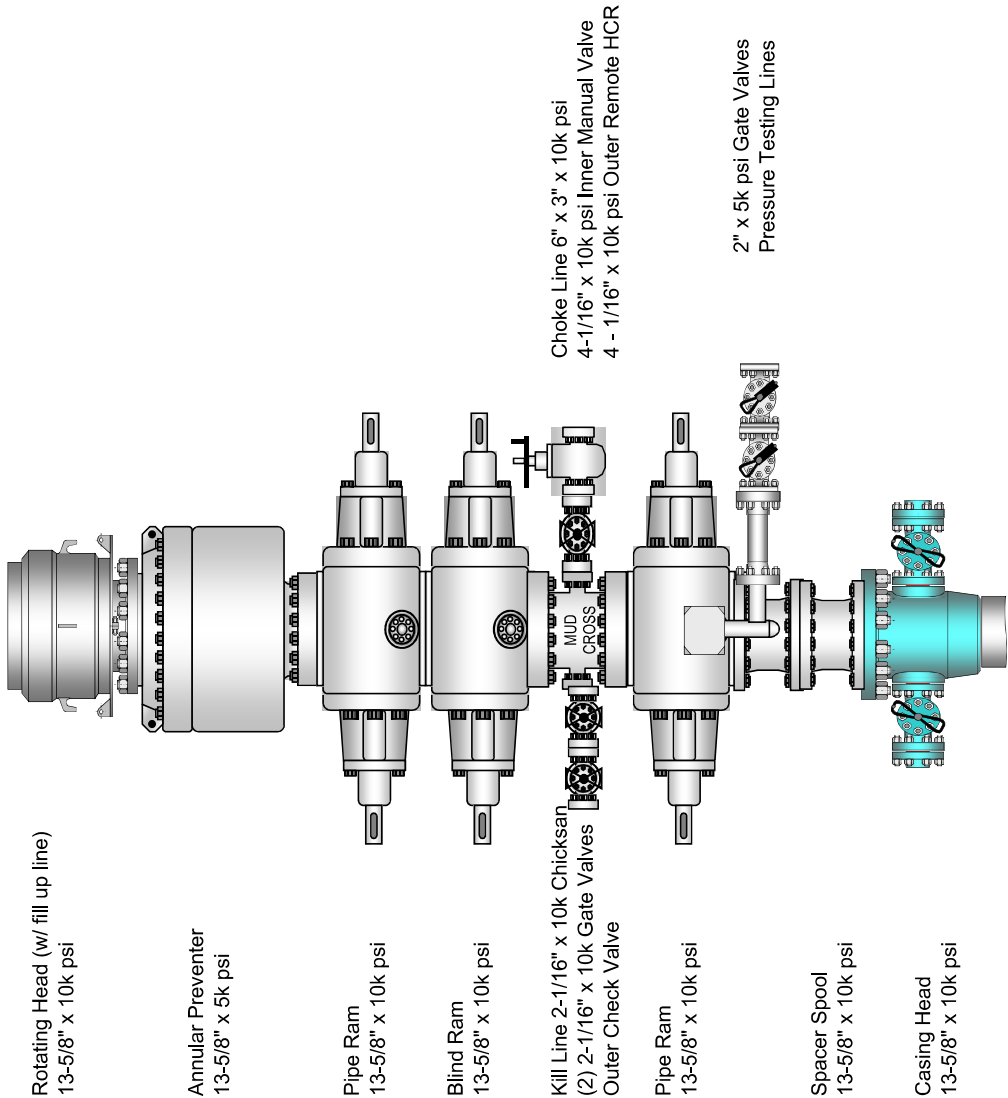
Wild_Well_Control_Plan_20190711131059.pdf

Wellhead_diagram_3_String_20200218064018.pdf

Choke Manifold 10M psi



BOPE Configuration & Specifications
13-5/8" x 10,000 psi System



For the latest performance data, always visit our website: www.tenaris.com

TXP® BTC

Printed on: 06/24/2019



Outside Diameter **5.500 in.**

Min. Wall Thickness **87.5%**

(*) Grade **P110**



Wall Thickness **0.415 in.**

Connection OD Option **REGULAR**

COUPLING

PIPE BODY

Grade **P110***

Drift **API Standard**

Body: **White**

1st Band: **White**

1st Band: **-**

2nd Band: **-**

2nd Band: **-**

3rd Band: **-**

3rd Band: **-**

4th Band: **-**

Type **Casing**

PIPE BODY DATA					
GEOMETRY					
Nominal OD	5,500 in.	Nominal Weight	23 lbs/ft	Drift	4,545 in.
Nominal ID	4,670 in.	Wall Thickness	0,415 in.	Plain End Weight	22,56 lbs/ft
OD Tolerance	API				
PERFORMANCE					
Body Yield Strength	729 x1000 lbs	Internal Yield	14530 psi	SMYS	110000 psi
Collapse	14540 psi				
CONNECTION DATA					
GEOMETRY					
Connection OD	6,200 in.	Coupling Length	9,450 in.	Connection ID	4,658 in.
Make-up Loss	4,204 in.	Threads per in	5	Connection OD Option	REGULAR
PERFORMANCE					
Tension Efficiency	100.0 %	Joint Yield Strength	729,000 x1000 lbs	Internal Pressure Capacity ^[1]	14530,000 psi
Compression Efficiency	100 %	Compression Strength	729,000 x1000 lbs	Max. Allowable Bending	92 °/100 ft
External Pressure Capacity	14540,000 psi				
MAKE-UP TORQUES					
Minimum	12980 ft-lbs	Optimum	14420 ft-lbs	Maximum	15860 ft-lbs
OPERATION LIMIT TORQUES					
Operating Torque	24200 ft-lbs	Yield Torque	26900 ft-lbs		

Notes

This connection is fully interchangeable with:

TXP® BTC - 5.5 in. - 15.5 / 17 / 20 / 26 lbs/ft

[1] Internal Pressure Capacity related to structural resistance only. Internal pressure leak resistance as per section 10.3 API 5C3 / ISO 10400 - 2007.

Datasheet is also valid for Special Bevel option when applicable - except for Coupling Face Load, which will be reduced. Please contact a local Tenaris technical sales representative.

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

Tenaris has issued this document for general information only, and the information in this document, including, without limitation, any pictures, drawings or designs ("Information") is not intended to constitute professional or any other type of advice or recommendation and is provided on an "as is" basis. No warranty is given. Tenaris has not independently verified any information –if any- provided by the user in connection with, or for the purpose of, the Information contained hereunder. The use of the Information is at user's own risk and Tenaris does not assume any responsibility or liability of any kind for any loss, damage or injury resulting from, or in connection with any Information contained hereunder or any use thereof. The Information in this document is subject to change or modification without notice. Tenaris's products and services are subject to Tenaris's standard terms and conditions or otherwise to the terms resulting from the respective contracts of sale or services, as the case may be, between petitioner and Tenaris. For more complete information please contact a Tenaris's representative or visit our website at www.tenaris.com . ©Tenaris 2019, All rights reserved.

SURFACE CASING DESIGN INFORMATION

Setting Depth: 1,224' MD 1,224' TVD

PIPE BODY DIMENSIONAL / PERFORMANCE DATA:

SIZE (Inches)	WEIGHT (LB/FT)	GRADE	CPLG TYPE	BORE ID (Inches)	DRIFT ID (Inches)	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
13.375	54.5	J-55	BTC	12.612	12.459	1,130 / 960	2,730 / 2,320	909 / 772

Surface Casing Test Pressure = 1,500 psi
Pressure Test Prior to Drill Out

Minimum Design / Safety Factors COP
Collapse 1.05
Tension (Body & Connection) 1.40

Burst 1.15
Actual Design / Safety Factors
Collapse 3.08
Tension (Body) 13.63
15.69
Dry
Bouyed

CONNECTION DIMENSIONAL / PERFORMANCE DATA:

OD (Inches)	ID (Inches)	DRIFT (Inches)	CPLG TYPE	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
14.375	12.612	12.459	BTC	1,130 / 960	2,730 / 2,320	909 / 772

INTERMEDIATE CASING DESIGN INFORMATION

Setting Depth: 10,938' MD 10,368' TVD

PIPE BODY DIMENSIONAL / PERFORMANCE DATA:

SIZE (Inches)	WEIGHT (LB/FT)	GRADE	CPLG TYPE	BORE ID (Inches)	DRIFT ID (Inches)	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
9.625	40.0	L80-IC	BTC	8.835	8.75	3,870 / 3,685	5,750 / 5000	916 / 654

Production Casing Test Pressure = TBD

Minimum Design / Safety Factors
Collapse 1.05
Tension (Body & Connection) 1.40

Burst 1.15
Actual Design / Safety Factors
Collapse 2.85
Tension (Body) 2.11
2.47
Dry
Bouyed

CONNECTION DIMENSIONAL / PERFORMANCE DATA:

OD (Inches)	ID (Inches)	DRIFT (Inches)	CPLG TYPE	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
10.625	8.835	8.75	BTC	3,870 / 3,685	5,750 / 5000	947 / 676

PRODUCTION CASING DESIGN INFORMATION

Setting Depth: 20,561' MD 10,368' TVD

PIPE BODY DIMENSIONAL / PERFORMANCE DATA:

SIZE (Inches)	WEIGHT (LB/FT)	GRADE	CPLG TYPE	BORE ID (Inches)	DRIFT ID (Inches)	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
5.5	20	P-110 ICY	TXP	4.778	4.653	12,100 / 11,524	14,360 / 12,487	729 / 521

Production Casing Test Pressure = TBD

Minimum Design / Safety Factors
Collapse 1.05
Tension (Body & Connection) 1.40

Burst 1.15
Actual Design / Safety Factors
Collapse 7.04
Tension (Body) 3.52
4.19
Dry
Bouyed

CONNECTION DIMENSIONAL / PERFORMANCE DATA:

OD (Inches)	ID (Inches)	DRIFT (Inches)	CPLG TYPE	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
6.1	4.766	4.653	TXP	12,100 / 11,524	14,360 / 12,487	729 / 521

TXP® BTC

Printed on: 22/04/2019

		Min. Wall Thickness	87.5%	(*)GradeJ55 (Casing)	
Outside Diameter	13.375 in.	Connection OD	REGULAR	Coupling	Pipe Body
Wall Thickness	0.380 in.	Drift	API Standard	Body: Bright Green	1st Band: Bright Green
Grade	J55 (Casing)*	Type	Casing	1st Band: White	2nd Band: -
				2nd Band: -	3rd Band: -
				3rd Band: -	4th Band: -

PIPE BODY DATA

Geometry

Nominal OD	13.375 in.	Nominal Weight	54.5 lbs/ft	Drift	12.459 in.
Nominal ID	12.615 in.	Wall Thickness	0.380 in.	Plain End Weight	52.79 lbs/ft
OD Tolerance	API				

Performance

Body Yield Strength	853 x1000 lbs	Internal Yield	2730 psi	SMYS	55000 psi
Collapse	1130 psi				

CONNECTION DATA

Geometry

Connection OD	14.375 in.	Coupling Length	10.825 in.	Connection ID	12.603 in.
Make-up Loss	4.891 in.	Threads per in	5	Connection OD Option	REGULAR

Performance

Tension Efficiency	100.0 %	Joint Yield Strength	853.000 x1000 lbs	Internal Pressure Capacity [1]	2730.000 psi
Compression Efficiency	100 %	Compression Strength	853.000 x1000 lbs	Max. Allowable Bending	19 °/100 ft
External Pressure Capacity	1130.000 psi				

Make-Up Torques

Minimum	21610 ft-lbs	Optimum	24010 ft-lbs	Maximum	26410 ft-lbs
---------	--------------	---------	--------------	---------	--------------

Operation Limit Torques

Operating Torque	54300 ft-lbs	Yield Torque	68700 ft-lbs		
------------------	--------------	--------------	--------------	--	--

Notes

This connection is fully interchangeable with:

TXP® BTC - 13.375 in. - 61 / 68 / 72 lbs/ft

[1] Internal Pressure Capacity related to structural resistance only. Internal pressure leak resistance as per section 10.3 API 5C3 / ISO 10400 - 2007.

Datasheet is also valid for Special Bevel option when applicable - except for Coupling Face Load, which will be reduced. Please contact a local Tenaris technical sales representative.

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

Tenaris has issued this document for general information only, and the information in this document, including, without limitation, any pictures, drawings or designs ("Information") is not intended to constitute professional or any other type of advice or recommendation and is provided on an "as is" basis. No warranty is given. Tenaris has not independently verified any information –if any- provided by the user in connection with, or for the purpose of, the Information contained hereunder. The use of the Information is at user's own risk and Tenaris does not assume any responsibility or liability of any kind for any loss, damage or injury resulting from, or in connection with any Information contained hereunder or any use thereof. The Information in this document is subject to change or modification without notice. Tenaris's products and services are subject to Tenaris's standard terms and conditions or otherwise to the terms resulting from the respective contracts of sale or services, as the case may be, between petitioner and Tenaris. For more complete information please contact a Tenaris's representative or visit our website at www.tenaris.com . ©Tenaris 2017. All rights reserved.

SURFACE CASING DESIGN INFORMATION

Setting Depth: 1,224' MD 1,224' TVD

PIPE BODY DIMENSIONAL / PERFORMANCE DATA:

SIZE (Inches)	WEIGHT (LB/FT)	GRADE	CPLG TYPE	BORE ID (Inches)	DRIFT ID (Inches)	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
13.375	54.5	J-55	BTC	12.612	12.459	1,130 / 960	2,730 / 2,320	909 / 772

Surface Casing Test Pressure = 1,500 psi
Pressure Test Prior to Drill Out

Minimum Design / Safety Factors COP
Collapse 1.05 Tension (Body &
Connection) 1.40

Burst 1.15
Actual Design / Safety Factors
Collapse 3.08 Tension (Body)
13.63
15.69 Dry
Bouyed

CONNECTION DIMENSIONAL / PERFORMANCE DATA:

OD (Inches)	ID (Inches)	DRIFT (Inches)	CPLG TYPE	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
14.375	12.612	12.459	BTC	1,130 / 960	2,730 / 2,320	909 / 772

INTERMEDIATE CASING DESIGN INFORMATION

Setting Depth: 10,938' MD 10,368' TVD

PIPE BODY DIMENSIONAL / PERFORMANCE DATA:

SIZE (Inches)	WEIGHT (LB/FT)	GRADE	CPLG TYPE	BORE ID (Inches)	DRIFT ID (Inches)	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
9.625	40.0	L80-IC	BTC	8.835	8.75	3,870 / 3,685	5,750 / 5000	916 / 654

Production Casing Test Pressure = TBD

Minimum Design / Safety Factors
Collapse 1.05 Tension (Body &
Connection) 1.40

Burst 1.15
Actual Design / Safety Factors
Collapse 2.85 Tension (Body)
2.11
2.47 Dry
Bouyed

CONNECTION DIMENSIONAL / PERFORMANCE DATA:

OD (Inches)	ID (Inches)	DRIFT (Inches)	CPLG TYPE	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
10.625	8.835	8.75	BTC	3,870 / 3,685	5,750 / 5000	947 / 676

PRODUCTION CASING DESIGN INFORMATION

Setting Depth: 20,561' MD 10,368' TVD

PIPE BODY DIMENSIONAL / PERFORMANCE DATA:

SIZE (Inches)	WEIGHT (LB/FT)	GRADE	CPLG TYPE	BORE ID (Inches)	DRIFT ID (Inches)	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
5.5	20	P-110 ICY	TXP	4.778	4.653	12,100 / 11,524	14,360 / 12,487	729 / 521

Production Casing Test Pressure = TBD

Minimum Design / Safety Factors
Collapse 1.05 Tension (Body &
Connection) 1.40

Burst 1.15
Actual Design / Safety Factors
Collapse 7.04 Tension (Body)
3.52
4.19 Dry
Bouyed

CONNECTION DIMENSIONAL / PERFORMANCE DATA:

OD (Inches)	ID (Inches)	DRIFT (Inches)	CPLG TYPE	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
6.1	4.766	4.653	TXP	12,100 / 11,524	14,360 / 12,487	729 / 521

TXP® BTC

Printed on: 22/04/2019

		Min. Wall Thickness	87.5%	(*)GradeL80-IC	
Outside Diameter	9.625 in.	Connection OD	REGULAR	Coupling	Pipe Body
Wall Thickness	0.395 in.	Drift	API Standard	Body: Red	1st Band: Red
Grade	L80-IC*	Type	Casing	1st Band: Brown	2nd Band: Brown
				2nd Band: -	3rd Band: Pale Green
				3rd Band: -	4th Band: -

PIPE BODY DATA

Geometry

Nominal OD	9.625 in.	Nominal Weight	40 lbs/ft	Drift	8.679 in.
Nominal ID	8.835 in.	Wall Thickness	0.395 in.	Plain End Weight	38.97 lbs/ft
OD Tolerance	API				

Performance

Body Yield Strength	916 x1000 lbs	Internal Yield	5750 psi	SMYS	80000 psi
Collapse	3870 psi				

CONNECTION DATA

Geometry

Connection OD	10.625 in.	Coupling Length	10.825 in.	Connection ID	8.823 in.
Make-up Loss	4.891 in.	Threads per in	5	Connection OD Option	REGULAR

Performance

Tension Efficiency	100.0 %	Joint Yield Strength	916.000 x1000 lbs	Internal Pressure Capacity [1]	5750.000 psi
Compression Efficiency	100 %	Compression Strength	916.000 x1000 lbs	Max. Allowable Bending	38 °/100 ft
External Pressure Capacity	3870.000 psi				

Make-Up Torques

Minimum	18860 ft-lbs	Optimum	20960 ft-lbs	Maximum	23060 ft-lbs
---------	--------------	---------	--------------	---------	--------------

Operation Limit Torques

Operating Torque	35600 ft-lbs	Yield Torque	43400 ft-lbs		
------------------	--------------	--------------	--------------	--	--

Notes

This connection is fully interchangeable with:

TXP® BTC - 9.625 in. - 36 / 43,5 / 47 / 53,5 / 58,4 lbs/ft

[1] Internal Pressure Capacity related to structural resistance only. Internal pressure leak resistance as per section 10.3 API 5C3 / ISO 10400 - 2007.

Datasheet is also valid for Special Bevel option when applicable - except for Coupling Face Load, which will be reduced. Please contact a local Tenaris technical sales representative.

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

Tenaris has issued this document for general information only, and the information in this document, including, without limitation, any pictures, drawings or designs ("Information") is not intended to constitute professional or any other type of advice or recommendation and is provided on an "as is" basis. No warranty is given. Tenaris has not independently verified any information -if any- provided by the user in connection with, or for the purpose of, the Information contained hereunder. The use of the Information is at user's own risk and Tenaris does not assume any responsibility or liability of any kind for any loss, damage or injury resulting from, or in connection with any Information contained hereunder or any use thereof. The Information in this document is subject to change or modification without notice. Tenaris's products and services are subject to Tenaris's standard terms and conditions or otherwise to the terms resulting from the respective contracts of sale or services, as the case may be, between petitioner and Tenaris. For more complete information please contact a Tenaris's representative or visit our website at www.tenaris.com . ©Tenaris 2017. All rights reserved.

SURFACE CASING DESIGN INFORMATION

Setting Depth: 1,224' MD 1,224' TVD

PIPE BODY DIMENSIONAL / PERFORMANCE DATA:

SIZE (Inches)	WEIGHT (LB/FT)	GRADE	CPLG TYPE	BORE ID (Inches)	DRIFT ID (Inches)	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
13.375	54.5	J-55	BTC	12.612	12.459	1,130 / 960	2,730 / 2,320	909 / 772

Surface Casing Test Pressure = 1,500 psi
Pressure Test Prior to Drill Out

Minimum Design / Safety Factors COP
Collapse 1.05 Tension (Body &
Connection) 1.40

Burst 1.15
Actual Design / Safety Factors
Collapse 3.08 Tension (Body)
13.63
15.69 Dry
Bouyed

CONNECTION DIMENSIONAL / PERFORMANCE DATA:

OD (Inches)	ID (Inches)	DRIFT (Inches)	CPLG TYPE	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
14.375	12.612	12.459	BTC	1,130 / 960	2,730 / 2,320	909 / 772

INTERMEDIATE CASING DESIGN INFORMATION

Setting Depth: 10,938' MD 10,368' TVD

PIPE BODY DIMENSIONAL / PERFORMANCE DATA:

SIZE (Inches)	WEIGHT (LB/FT)	GRADE	CPLG TYPE	BORE ID (Inches)	DRIFT ID (Inches)	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
9.625	40.0	L80-IC	BTC	8.835	8.75	3,870 / 3,685	5,750 / 5000	916 / 654

Production Casing Test Pressure = TBD

Minimum Design / Safety Factors
Collapse 1.05 Tension (Body &
Connection) 1.40

Burst 1.15
Actual Design / Safety Factors
Collapse 2.85 Tension (Body)
2.11
2.47 Dry
Bouyed

CONNECTION DIMENSIONAL / PERFORMANCE DATA:

OD (Inches)	ID (Inches)	DRIFT (Inches)	CPLG TYPE	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
10.625	8.835	8.75	BTC	3,870 / 3,685	5,750 / 5000	947 / 676

PRODUCTION CASING DESIGN INFORMATION

Setting Depth: 20,561' MD 10,368' TVD

PIPE BODY DIMENSIONAL / PERFORMANCE DATA:

SIZE (Inches)	WEIGHT (LB/FT)	GRADE	CPLG TYPE	BORE ID (Inches)	DRIFT ID (Inches)	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
5.5	20	P-110 ICY	TXP	4.778	4.653	12,100 / 11,524	14,360 / 12,487	729 / 521

Production Casing Test Pressure = TBD

Minimum Design / Safety Factors
Collapse 1.05 Tension (Body &
Connection) 1.40

Burst 1.15
Actual Design / Safety Factors
Collapse 7.04 Tension (Body)
3.52
4.19 Dry
Bouyed

CONNECTION DIMENSIONAL / PERFORMANCE DATA:

OD (Inches)	ID (Inches)	DRIFT (Inches)	CPLG TYPE	COLLAPSE (PSI) API / CoP	BURST (PSI) API / CoP	TENSION (1k LBS) API / CoP
6.1	4.766	4.653	TXP	12,100 / 11,524	14,360 / 12,487	729 / 521



H₂S Contingency Plan
November 2016

H₂S Contingency Plan Holders:

Attached is an H₂S Contingency Plan for COPC Permian Drilling working in the West Texas and Southeastern New Mexico areas operated by ConocoPhillips Company.

If you have any question regarding this plan, please call Matt Oster (830) 583-1297, or Ryan Vacarella (985) 217-7594.

Table of Contents

Section

I. Purpose

II. Scope

III. Procedures

IV. Emergency Equipment and Maintenance

Emergency Equipment Suppliers

General Information

H₂S Safety Equipment and Monitoring Systems

V. Emergency Call List

VI. Public/Media Relations

VII. Public Notification/Evacuation

VIII. Forms/Reports



HYDROGEN SULFIDE (H₂S) OPERATIONS

Contingency Plan
For
Permian Drilling Operations

ConocoPhillips Company

Mid-Continent Business Unit Permian Asset Area

I. PURPOSE

The purpose of this Contingency Plan is to provide an organized plan of action for alerting and protecting the public following the release of a potentially hazardous volume of hydrogen sulfide. This plan prescribes mandatory safety procedures to be followed in the event of a release of H₂S into the atmosphere from exploration and production operations included in the scope of this plan. The extent of action taken will be determined by the supervisor and will depend on the severity and extent of H₂S release. Release of H₂S must be reported to the Drilling Superintendent and documented on the IADC and in Wellview.

II. SCOPE

This Contingency plan shall cover the West Texas and Southeastern New Mexico areas, which contain H₂S gas and could result in a release where the R.O.E. is greater than 100 ppm at 50' and less than 3000' and does not include a public area and 500 ppm R.O.E. does not include a public road. Radius of exposure is defined as the maximum distance from the source of release that a specified calculated average concentration of H₂S could exist under specific weather conditions.

III. PROCEDURES

First Employee on Scene

_____ Assess the incident and ensure your own safety.

Note the following:

- _____ Location of the incident.
- _____ Nature of the incident.
- _____ Wind direction and weather conditions.
- _____ Other assistance that may be needed.

_____ Call local supervisory personnel (refer to Section V: Emergency Call List) until personal contact is made with a person on the list.

_____ Perform emergency assessment and response as needed. The response may include rescue and/or evacuation of personnel, shutting in a system and/or notification of nearby residents/public (refer to Section VII: Public Notification/Evacuation).

_____ Secure the site.

_____ Follow the direction of the On-scene Incident Commander (first ConocoPhillips supervisor arriving on-scene).

First Supervisor on Scene (ConocoPhillips On-scene Incident Commander)

_____ Becomes ConocoPhillips' On-scene Incident Commander upon arrival to location.

_____ Follow the principles of the **D.E.C.I.D.E.** process below to assess the incident. (Note wind direction and weather conditions and ensure everyone's safety).

DETECT the problem
ESTIMATE likely harm without intervention
CHOOSE response objectives
IDENTIFY action options
DO the best option
EVALUATE the progress

- _____ Complete the Preliminary Emergency Information Sheet
(refer to Section VIII: Forms/Reports).
- _____ Call your supervisor (refer to Section V: Emergency Call List).
- _____ Perform emergency response as necessary. (This may include notification & evacuation of all personnel and/or nearby residents/public (refer to Section VII: Public Notification/Evacuation), requesting assistance from ConocoPhillips personnel or outside agencies (refer to Section V: Emergency Call List) and obtaining any safety equipment that may be required (refer to Section IV: Emergency Equipment and Maintenance).
- _____ Notify appropriate local emergency response agencies of the incident as needed. Also notify the appropriate regulatory agencies. (refer to Section V: Emergency Call List).
- _____ Ensure site security.
- _____ Set barricades and /or warning signs at or beyond the calculated 100 ppm H₂S radius of exposure (ROE). All manned barricades must be equipped with an H₂S monitor and a 2-way radio.
- _____ Set roadblocks and staging area as determined.
- _____ Establish the Incident Command Structure by designating appropriate on-scene response personnel as follows:
- | | |
|----------------------------|-------|
| Recording Secretary | _____ |
| Public Information Officer | _____ |
| Safety/Medical Officer | _____ |
| Decontamination Officer | _____ |
- _____ Have the "Recording Secretary" begin documenting the incident on the "Incident Log" (refer to Section VIII: Forms/Reports).
- _____ If needed, request radio silence on all channels that use your radio tower stating that, until further notice, the channels should be used for emergency communications only.
- _____ Perform a Site Characterization and designate the following:
- | | | |
|-----------|----|------------------------------------|
| Hot Zone | -- | Hazardous Area |
| Warm Zone | -- | Preparation & Decontamination Area |
| Cold Zone | -- | Safe Area |

AND

On-Scene Incident Command Post	(Cold Zone)
Public Relations Briefing Area	(Cold Zone)
Staging Area	(Cold Zone)
Triage Area	(Cold Zone)
Decontamination Area	(Warm Zone)

_____ Refer all media personnel to ConocoPhillips' On-Scene Public Information Officer (refer to Section VI: Public Media Relations).

_____ Coordinate the attempt to stop the release of H₂S. You should consider closing upstream and downstream valves to shut-off gas supply sources, and/or plugging or clamping leaks. Igniting escaping gas to reduce the toxicity hazard should be used **ONLY AS A LAST RESORT**. (It must first be determined if the gas can be safely ignited, taking into consideration if there is a possibility of a widespread flammable atmosphere.)

_____ Once the emergency is over, return the situation to normal by:

Confirming the absence of H₂S and combustible gas throughout the area,

Discontinuing the radio silence on all channels, stating that the emergency incident is over,

Removing all barricades and warning signs,

Allowing evacuees to return to the area, and

Advising all parties previously notified that the emergency has ended.

_____ Ensure the proper regulatory authorities/agencies are notified of the incident (refer to Section V: Emergency Call List).

_____ Clean up the site. (Be sure all contractor crews have had appropriate HAZWOPER training.)

_____ Report completion of the cleanup to the Asset Environmentalist. (Environmentalist will report this to the proper State and/or Federal agencies.)

_____ Fill out all required incident reports and send originals to the Safety Department. (Keep a copy for your records.)

- Company employee receiving occupational injury or illnesses.
- Company employee involved in a vehicle accident while driving a company vehicle.
- Company property that is damaged or lost.
- Accident involving the public or a contractor; includes personal injuries, vehicle accidents, and property damage. Also includes any situation, which could result in a claim against the Company.
- Hazardous Material Spill/Release Report Form
- Emergency Drill Report

_____ Assist the Safety Department in the investigation of the incident. Review the factors that caused or allowed the incident to occur, and modify operating, maintenance, and/or surveillance procedures as needed. Make appropriate repairs and train or retrain employees in the use and operation of the system.

_____ If this incident was simulated for practice in emergency response, complete the Emergency Drill Report found in Section VIII: Forms/Reports and submit a copy to the Drilling Manager. (Keep one copy in area files to document exercising of the plan.)

Emergency Procedures **Responsibility**

In the event of a release of potentially hazardous amounts of H₂S, all personnel will immediately proceed upwind/ crosswind to the nearest designated briefing area. The COPC Drilling Rep. will immediately, upon assessing the situation, set this into action by taking the proper procedures to contain the gas and notify appropriate people and agencies.

1. In an emergency situation, the Drilling Rep. on duty will have complete responsibility and will take whatever action is deemed necessary in an emergency situation to insure the personnel's safety, to protect the well and to prevent property damage.
2. The Toolpusher will assume all responsibilities of the Drilling Rep. in an emergency situation in the event the Drilling Rep. becomes incapacitated.
3. Advise each contractor, service company, and all others entering the site that H₂S may be encountered and the potential hazards that may exist.
4. Authorize the evacuation of local residents if H₂S threatens their safety.
5. Keep the number of persons on location to a minimum during hazardous operations.
6. Direct corrective actions to control the flow of gas.
7. Has full responsibility for igniting escaping gas to reduce the toxicity hazard.

This should be used **ONLY AS A LAST RESORT.**

IV. EMERGENCY EQUIPMENT and MAINTENANCE

Emergency Equipment Suppliers

DXP/ Safety International – Odessa, Tx.

H ₂ S monitors	432.580.3770
Breathing air includes cascade systems	
First aid and medical supplies	
Safety equipment	
H ₂ S Specialist	

Total Safety US Odessa, Tx/ Hobbs, NM

H ₂ S monitors	432.561.5049 Odessa
Breathing air includes cascade systems	575.392.2973 Hobbs
First aid and medical supplies	
Safety equipment	

DXP/ Indian Fire & Safety – Hobbs, NM

H ₂ S monitors	575.393.3093
Breathing air including cascade systems trailer mounted	
30 minute air packs	
Safety Equipment	

TC Safety – Odessa, Tx.

H ₂ S monitors	432.413.8240
Cascade systems trailer mounted	
30 minute air packs	
Safety Equipment	
H ₂ S Specialist	

Secorp Industries – Odessa, Tx.

H ₂ S Monitor Systems	432.614.2565
Cascade Systems	
H ₂ S Specialist	
H ₂ S, CPR, First Aid Training	

Emergency Equipment and Maintenance (continued)

General Information

Materials used for repair should be suitable for use where H₂S concentrations exceed 100 ppm. In general, carbon steels having low-yield strengths and a hardness below RC-22 are suitable. The engineering staff should be consulted if any doubt exists on material specifications.

Appropriate signs should be maintained in good condition at location entrance and other locations as specified in Texas Rule 36 and NMOCD Rule 118.

All notification lists should be kept current with changes in names, telephone numbers, etc.

All shutdown devices, alarms, monitors, breathing air systems, etc., should be maintained in accordance with applicable regulations.

All personnel working in H₂S areas shall have received training on the hazards, characteristics, and properties of H₂S, and on procedures and safety equipment applicable for use in H₂S areas.

H2S Safety Equipment and Monitoring Systems

An H2S emergency response package will be maintained at locations requiring H2S monitoring. The package will contain at a minimum the following:

3 – Fixed H2S sensors located as follows:

- 1 – on the rig floor
- 1 – at the Bell Nipple
- 1 – at the Shale Shaker or Flowline

1 – Entrance Warning Sign located at the main entrance to the location, with warning signs and colored flags to determine the current status for entry into the location.

2 – Windsocks that are clearly visible.

1 – Audible warning system located on rig floor

2 – Visual warning systems (Beacon Lights)

- 1 – Located at the rig floor
- 1 – Located in the mud mixing room

Note: All alarms (audible and visual) should be set to alarm at 10 ppm.

2 - Briefing areas clearly marked

- 2 - SCBA's at each briefing area
- 1- SCBA located at the Drilling Reps office

Note:

- 1. All SCBA's must be positive pressure type only!!!**
- 2. All SCBA's must either be Scott or Drager brand.**
- 3. All SCBA's face pieces should be size large, unless otherwise specified by the Drilling Supervisor.**

5 – Emergency Escape Paks located at Top Doghouse.

Note: Ensure provisions are included for any personnel working above rig floor in derrick.

1 – Tri or Quad gas monitor located at the Drilling Reps office. This will be used to determine if the work area is safe to re-enter prior to returning to work following any alarm.

V. EMERGENCY CALL LIST:

The following is a priority list of personnel to contact in an emergency situation:

Supervisory Personnel	Office No.	Cellphone
Drilling Supt. (Unconventional) Scott Nicholson	432.688.9065	432.230.8010
Field Superintendents: Clint Case.	432.688.6878	940.231.2839
Safety Support: Matt Oster Ryan Vaccarella	830.583.1245 985.217.7594	601.540.6988 NA
Supt Operations-SEMN/Shale Mike Neuschafer	432.688.6834	713.419.9919
MCBU Safety Coordinator James Buzan	432.688.6860	832.630.4320
Manger GCBU/MCBU D & C Seth Crissman	832.486.6191	832.513.9308

EMERGENCY CALL LIST: State Officials

Regulatory Agencies

Texas Railroad Commission (District 8)
Midland, Texas

Office: 432.684.5581

New Mexico Oil Conservation Commission
P. O. Box 1980
Hobbs, New Mexico 88240-1980

Office: 575.393.6161

Bureau of Land Mngt.

Carlsbad Field Office
620 E. Greene St.
Carlsbad, NM 88220

Office: 575.234.5972
Fax: 575.885.9264

EMERGENCY CALL LIST: Local Officials

Refer to the Location Information Sheet

Note: The LIS should include any area residents (i.e. rancher's house, etc)

VI. Public Media Relations

The **Public Information Officer** becomes the ConocoPhillips on-scene contact (once designated by the Phillips On-Scene Incident Commander).

Confers with Houston Office's Human Relations Representative, who is responsible for assisting in the coordination of local public relations duties.

Answer media questions honestly and **only with facts**, do not speculate about the cause, amount of damage, or the potential impact of the incident of the community, company, employees, or environment. (This information will be formally determined in the incident investigation.)

If you are comfortable answering a question or if you are unsure of the answer, use terms such as the following:

- "I do not know. I will try to find out."
- I am not qualified to answer that question, but I will try to find someone who can."
- "It is under investigation."

Note:

Do Not Say "No Comment." (This implies a cover-up.)

Do Not Disclose Names of Injured or Dead! Confer with the Houston Office's Human Relations Representative, who is responsible for providing that information.

VII. Public Notification/Evacuation

Alert and/or Evacuate People within the Exposure Area

1. **Public Notification** – If the escape of gas could result in a hazard to area residents, the general public, or employees, the person **first** observing the leak should take **immediate** steps to cause notification of any nearby residents. The avoidance of injury or loss of life should be of prime consideration and given top priority in all cases. If the incident is of such magnitude, or at such location as to create a hazardous situation, local authorities will be requested to assist in the evacuation and roadblocks of the designated area until the situation can be returned to normal.

Note: Bilingual employees may be needed to assist in notification of residents.

2. **Evacuation Procedures** – Evacuation will proceed upwind from the source of the release of H₂S. Extreme caution should be exercised in order to avoid any depressions or low-lying areas in the terrain. The public area within the radius of exposure should be evacuated in a southwesterly and southeasterly direction so as to avoid the prevailing southern wind direction.

Roadblocks and the staging area should be established as necessary for current wind conditions.

Note: In all situations, consideration should be given to wind direction and weather conditions. H₂S is heavier than air and can settle in low spots. Shifts in wind direction can also change the location of possible hazardous areas.

VIII. FORMS & REPORTS

- I. Incident Log
- II. Preliminary Emergency Information Sheet
- III. Emergency Drill Report
- IV. Onshore Hazardous Material Spill/Release Report Form
- V. Immediate Report of Occupational Injury or Illness
 - Report of Accident-Public Contractor
 - Report of Loss or Damage to Company Property
 - Report of Automotive Incident

ConocoPhillips MCBU - Permian-Panhandle Gold Data

Planning - NM East State Zone - 3001

ZIA HILLS 2032 BS 14H

ZIA HILLS 2032 BS 14H

ZIA HILLS 2032 BS 14H

Plan: ZIA HILLS 2032 BS 14H_WP1

Standard Planning Report

03 July, 2019

ConocoPhillips

Planning Report

Database:	EDT 14 Central Planning	Local Co-ordinate Reference:	Site ZIA HILLS 2032 BS 14H
Company:	ConocoPhillips MCBU - Permian-Panhandle Gold Data	TVD Reference:	RKB @ 3171.25ft
Project:	Planning - NM East State Zone - 3001	MD Reference:	RKB @ 3171.25ft
Site:	ZIA HILLS 2032 BS 14H	North Reference:	Grid
Well:	ZIA HILLS 2032 BS 14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ZIA HILLS 2032 BS 14H		
Design:	ZIA HILLS 2032 BS 14H_WP1		

Project	Planning - NM East State Zone - 3001, Permian Basin - New Mexico - East/South East, Planning Project for Permian wells in NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		Using geodetic scale factor

Site	ZIA HILLS 2032 BS 14H		
Site Position:		Northing:	374,625.738 usft
From:	Map	Easting:	698,661.102 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	32° 1' 42.025 N
		Longitude:	103° 41' 32.239 W
		Grid Convergence:	0.34 °

Well	ZIA HILLS 2032 BS 14H					
Well Position	+N/-S	0.00 ft	Northing:	374,625.738 usft	Latitude:	32° 1' 42.025 N
	+E/-W	0.00 ft	Easting:	698,661.102 usft	Longitude:	103° 41' 32.239 W
Position Uncertainty		2.00 ft	Wellhead Elevation:		Ground Level:	3,145.25 ft

Wellbore	ZIA HILLS 2032 BS 14H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2018	2/26/2019	6.90	59.78	47,666.89585895

Design	ZIA HILLS 2032 BS 14H_WP1				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	184.55	

Plan Survey Tool Program	Date	7/3/2019			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,200.00	ZIA HILLS 2032 BS 14H_WP1 (ZNS-GYRO-MS	North sensing gyrocompass	
2	1,200.00	20,561.25	ZIA HILLS 2032 BS 14H_WP1 (ZMWD+IFR1+MS_CoP	Fixed:v2:Eagleford, crustal	

ConocoPhillips

Planning Report

Database:	EDT 14 Central Planning	Local Co-ordinate Reference:	Site ZIA HILLS 2032 BS 14H
Company:	ConocoPhillips MCBU - Permian-Panhandle Gold Data	TVD Reference:	RKB @ 3171.25ft
Project:	Planning - NM East State Zone - 3001	MD Reference:	RKB @ 3171.25ft
Site:	ZIA HILLS 2032 BS 14H	North Reference:	Grid
Well:	ZIA HILLS 2032 BS 14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ZIA HILLS 2032 BS 14H		
Design:	ZIA HILLS 2032 BS 14H_WP1		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,559.35	8.39	284.40	3,557.35	10.16	-39.60	1.50	1.50	0.00	284.40	
8,954.07	8.39	284.40	8,894.34	205.86	-802.06	0.00	0.00	0.00	0.00	
9,513.43	0.00	0.00	9,451.69	216.03	-841.65	1.50	-1.50	0.00	180.00	
9,713.43	0.00	0.00	9,651.69	216.03	-841.65	0.00	0.00	0.00	0.00	ZIA HILLS 20 FEDE
9,713.44	0.00	0.00	9,651.70	216.03	-841.65	0.00	0.00	0.00	0.00	
10,838.44	90.00	179.85	10,367.90	-500.17	-839.74	8.00	8.00	0.00	179.85	
20,561.25	90.00	179.85	10,367.90	-10,222.95	-813.74	0.00	0.00	0.00	0.00	ZIA HILLS 20 FEDE

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,559.35	8.39	284.40	3,557.35	10.16	-39.60	-6.99	1.50	1.50	0.00	
8,954.07	8.39	284.40	8,894.34	205.86	-802.06	-141.57	0.00	0.00	0.00	
9,513.43	0.00	0.00	9,451.69	216.03	-841.65	-148.56	1.50	-1.50	0.00	
9,713.43	0.00	0.00	9,651.69	216.03	-841.65	-148.56	0.00	0.00	0.00	
9,713.44	0.00	0.00	9,651.70	216.03	-841.65	-148.56	0.00	0.00	0.00	
10,838.44	90.00	179.85	10,367.90	-500.17	-839.74	565.22	8.00	8.00	0.00	
20,561.25	90.00	179.85	10,367.90	-10,222.95	-813.74	10,255.29	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
ZIA HILLS 20 FEDER - hit/miss target - Shape - Point	0.00	0.00	6,151.92	216.23	-882.13	374,841.954	697,779.017	32° 1' 44.216 N	103° 41' 42.471 W	
- plan misses target center by 479.54ft at 6252.70ft MD (6221.88 TVD, 107.87 N, -420.26 E)										
ZIA HILLS 20 FEDER - plan hits target center - Point	0.00	0.00	9,651.69	216.03	-841.65	374,841.754	697,819.488	32° 1' 44.212 N	103° 41' 42.001 W	
ZIA HILLS 20 FEDER - plan misses target center by 0.01ft at 20561.25ft MD (10367.90 TVD, -10222.95 N, -813.74 E) - Point	0.00	0.00	10,367.89	-10,222.95	-813.74	364,403.276	697,847.399	32° 0' 0.910 N	103° 41' 42.393 W	
ZIA HILLS 20 FEDER - plan misses target center by 46.46ft at 20561.25ft MD (10367.90 TVD, -10222.95 N, -813.74 E) - Point	0.00	0.00	10,367.89	-10,224.25	-860.19	364,401.973	697,800.957	32° 0' 0.900 N	103° 41' 42.932 W	

ConocoPhillips

Planning Report

Database:	EDT 14 Central Planning	Local Co-ordinate Reference:	Site ZIA HILLS 2032 BS 14H
Company:	ConocoPhillips MCBU - Permian-Panhandle Gold Data	TVD Reference:	RKB @ 3171.25ft
Project:	Planning - NM East State Zone - 3001	MD Reference:	RKB @ 3171.25ft
Site:	ZIA HILLS 2032 BS 14H	North Reference:	Grid
Well:	ZIA HILLS 2032 BS 14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ZIA HILLS 2032 BS 14H		
Design:	ZIA HILLS 2032 BS 14H_WP1		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
1,200.00	1,200.00	13 3/8"	13-3/8	17-1/2	
10,944.00	10,367.90	9 5/8"	9-5/8	12-1/4	
20,568.00		5 1/2"	5-1/2	8-1/2	



WELL PLAN SUMMARY

1280 Extended Reach Single Lateral

Date: Jul 08, 2019
Version: 1
Prepared by: M. Callahan

WELL: ZHU 2032 BS 14H

SURFACE LOC: Sec 20 T26S R32E 2575' FNL 1291' FEL
BH LOC: Sec 32 T26S R32E 50' FSL 2157' FEL

ELEVATIONS: GL 3,144.2'
KB +30.5'

COUNTY, STATE: Lea, Co, NM

API No.:

TRRC Permit:

BLM Permit:

WH Coord.: LAT 32° 1' 42.03" N
(NAD-27) LON 103° 41' 32.24" W

AFE: WAF.OND.

Drilling Network No.:

Invoice Handler ID: VENNECP

COST ESTIMATE

DRILLING

COMPLETION

FACILITIES

TOTAL

FORMATION TOP:

TVD

SUBSEA

Quaternary Fill	0	3,182	
Base of Fresh Water	300	2,879	Fresh Water
Rustler	1,174	2,012	Fresh Water
Top of Salt	1,344	1,842	Salt
Castille	2,334	852	Salt
Delaware Base of Salt	4,331	(1,145)	Gas / Oil
Cherry Canyon	5,254	(2,069)	
Brushy Canyon	6,785	(3,599)	Gas / Oil
Bone Springs	8,175	(4,990)	Gas / Oil
Avalon	8,672	(5,487)	Gas / Oil
Bone Springs 1st Sand	9,332	(6,147)	Gas / Oil
Bone Springs 2nd Sand	10,057	(6,872)	Gas / Oil
Bone Springs 3rd Carb	10,542	(7,357)	Gas / Oil
Wolfcamp	11,557	(8,372)	Gas / Oil
Wolfcamp A	11,778	(8,593)	Gas / Oil

Objective

This well is to be drilled with safety and protection of the environment as the primary objectives.

The objective is to drill a 1280 single lateral well in the Bone Springs formation and completed with 5-1/2" cemented casing.

Notes

- 1.) Refer to drilling procedure for additional detail and information.
- 2.) The primary regulatory agency is the BLM.
- 3.) Surface: 2" max., 1" / 100' DLS; svy every 500'
- 4.) Int: 90" max., 8" / 100'; svy every 90' (svy every 30' in build and drop, 30' in curve)
- 5.) Losses to be expected in Cherry and Brushy Canyon formations. Overpressure may be encountered throughout Delaware.

Goals

Have no lost time or recordable accidents.
Have no spills or adverse environmental impact.
Have no stuck pipe incidents.
Avoid lost circulation incidents.
Maintain well control and follow ConocoPhillips well control policy.
Obtain good mud log data.
Deliver usable wellbore to production department.

CONTACTS

	Office	Cell
Drilling Engineer: Mike Callahan	832-486-2480	907-231-2176
Geologist: Josh Day	281-206-5620	423-512-0347
Onsite Drilling Rep.: Greg Rivera	432-309-9007	
Manny Castillo		
Field Drilling Supt.: James Taylor	830-583-4828	956-229-1393
Patrick Wellman		432-215-7079
Drilling Supt.: Troy McGinn	832-486-2575	346-242-4551

9 5/8 in. shoe 10938.44'	TARGET	20,561	10,368	Gas / Oil
MD 3075.17'FNL	Formation Dip Rate: est 90.1° (up dip)			
	PBTD	20,561	10,368	Gas / Oil

Estimated BH Static Temperature (°F): 165
Max. Anticipated BH Pressure: 0.520 psi/ft 5,391 psi 10. ppg
Max Anticipated Surface Pressure: 1,655 psi

DRILLING FLUID:	Type	Interval (MD)	Density (ppg)	Vis (sec/qt)	PV (cP)	YP (#/100ft ²)	pH	FL (mL)	LGS (% by vol)	NaCl (ppb sol)	Remarks
Surface:	Fresh Water	Surface - 1,224'	8.6	28-50	1-5	2-6	7.5-8.5	NC	< 5.0	10,000	Rig Tanks
Intermediate 1:	Brine	1,224' - 10938'	9.5	28-50	1-5	2-6	7.5-8.5	NC	< 5.0	150,000	Rig Tanks
Production:	OBM	10938' - 20561'	10.5	50-70	18-25	8-14	9.5-10	< 8	< 8.0	400 - 00	Rig Tanks

Reference Drilling Fluids Program

CASING:	Hole	TOP (MD)	BTM (MD)	Length	Size	Wt	Grade	Connection	BOP:
Surface:	17-1/2"	31'	1,224'	1,193'	13 3/8	54.50	J-55	BTC	Minimum - COP Class 3 Well Control Requirements Rig - 13-5/8"x10M psi Rams / 4-1/16"x10M psi Manifold
Intermediate	12-1/4"	31'	10,938'	10,908'	9 5/8	40.00	L80-IC	BTC	Stackup - Rotating Head, Annular Preventer, Pipe Ram, Blind Ram, Mud Cross (Choke & Kill Valves), Pipe Ram
Production:	8-1/2"	31'	20,561'	20,531'	5 1/2	20.00	P-110 ICY	TXP	Waste Handling: Closed loop cuttings disposal system with haul off to approved facility. Mud Pit: Float Based Electronic PVT with Flow Sensor and Gravity Trip Tank, Alarms +/- 10 BBLs

CENTRALIZATION:

Surface Casing: 1 per 4 joints.
Intermediate Casing: Shoe joint, 1 per joint from FC to 7,800', 1 per 2 joints 7,800' to 2,300', 1 per 4 joints 2,300' to surface.
Production Liner: Rigid body 1 per 2 joints TD to Int Shoe, Bow Spring 1 per 2 joints Int shoe to 100' above KOP. 1 per 4 joints to surface

CEMENT:	Hole	MD	TVD	Spacer	Lead	Tail	COMMENTS
Surface:	17-1/2"x13-3/8"	1,224'	1,224'	20 bbl FW	1000 sx Control Set 'C' + adds 11.5ppg 2.66 ft ³ /sk	660 sx Type 'III' + adds 13ppg 1.34 ft ³ /sk	Cemented to surface w/ 200%XS Add FiberBlock
Intermediate:	12-1/4"x9-5/8"	10,938'	10,368'	40 bbl Invert Spacer + 100 bbl SW	480 sx WBL + adds 11.5ppg 1.77 ft ³ /sk	470 sx Thermal 35 + adds 15ppg 1.63 ft ³ /sk	TOC 500' into previous casing shoe w/ 70%L / 30%T XS calc'd on 12.25" Add FiberBlock
Production:	8-1/2"x5-1/2"	20,561'	10,368'	40 bbl Visweep	2526 sx 1:1:0 'Poz:Lafarge G' + 20% Silica Flour + 8% Silica Fume + adds 15.6 ppg 1.19ft ³ /sk		Cemented to TOL w/ 10% XS calc'd on 8.5" hole. Displ. = volume to float collar +/- half shoe track

Reference Cementing Recommendation

DIRECTIONAL PLAN:

Comments	MD (ft)	INC (deg)	AZI (deg)	TVD (ft)	NS (ft)	EW (ft)	DLS (°/100')	VS (ft)	SEC-T-R	Section Line Distance
Build @ 1.5°/100'	3,000'	0	0	3,000'	0	0	0	0	Sec 20 T26S R32E	2575' FNL 1291' FEL
End Build @ 8°	3,559'	8	284	3,557'	10	-40	1.5	-7	Sec 20 T26S R32E	2565' FNL 1331' FEL
Drop @ 1.5°/100'	8,954'	8	284	8,894'	206	-802	0.0	-142	Sec 20 T26S R32E	2369' FNL 2093' FEL
Complete Drop, Hold to KOP	9,513'	0	0	9,452'	216	-842	1.5	-149	Sec 20 T26S R32E	2359' FNL 2133' FEL
KOP Build @ 8°/100'	9,713'	0	0	9,652'	216	-842	0	-149	Sec 20 T26S R32E	2359' FNL 2133' FEL
Curve LP	10,838'	90	180	10,368'	-500	-840	8	565	Sec 20 T26S R32E	3075' FNL 2131' FEL
Toe Sleeve 2	20,461'	90	0	10,368'	-10123	-814	0	10,155	Sec 32 T26S R32E	150' FSL 2157' FEL
Toe Sleeve 1	20,511'	90	0	10,368'	-10173	-814	0	10,205	Sec 32 T26S R32E	100' FSL 2157' FEL
PBHL/TD	20,561'	90	180	10,368'	-10223	-814	0	10,255	Sec 32 T26S R32E	50' FSL 2157' FEL

Reference Directional Plan

MWD Surveys will be taken at 90' interval below surface casing, 30' while building curve, and every 90' while drilling lateral.

FORMATION EVALUATION:

Mud Logging - One-Man: First surface hole to TD. First intermediate hole to TD
Mud Logging - Two-Man: Intermediate Casing Point to TD
Open Hole - PEX None
Cased Hole - GR/CBL/USIT NA
MWD - GR 200' above KOP to TD

Correlation Well:

OUR WORK IS NEVER SO URGENT OR IMPORTANT THAT WE CANNOT TAKE THE TIME TO DO IT SAFELY!

ConocoPhillips, ZHU 2032 BS 14H

1. Target

TVD of target	10,368'	Pilot hole depth	N/A
MD at TD:	20,561'	Deepest expected fresh water:	300

2. Casing Program

ConocoPhillips Company respectfully requests to approve the following 3-string casing and cementing program with the 9-5/8" casing set in the Bone Spring. The intent for the casing and cementing program:

- Drill 17-1/2" surface hole to Rustler.
- Drill 12-1/4" hole from Rustler to Bone Spring with the same density mud (OBM or Saturated Brine).
- Case and cement the well with 13-3/8" surface, 9-5/8" intermediate and 5-1/2" production casing (3-strings).
- Isolate the Salt & Delaware utilizing Annulus Casing Packer and Stage Tool with 2-Stage Cement or Remediate with Bradenhead Squeeze if necessary.
- Bring cement for 13-3/8" casing and 9-5/8" casing to surface. Cement 5-1/2" casing to lap inside 9-5/8" casing shoe.
- 5-1/2" TXP buttress Casing Connection in 8-1/2" OH for minimum of 0.422 in clearance per Onshore Oil and Gas Order #2 III.B.

****COP Collapse Design:** 1/3 Partial Evacuation to the next casing depth (TVD).

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

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	Y
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	

ConocoPhillips, ZHU 2032 BS 14H

Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Cementing Program

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

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

Include Pilot Hole Cementing specs: NO PILOT HOLE.

Pilot hole depth N/A

Plug top	Plug Bottom	% Excess	No. Sacks	Wt. lb/gal	Yld ft3/sack	Water gal/sk	Slurry Description and Cement Type

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
---	--

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12-1/4"	11" or 13-5/8"	10M	Annular	x	100% of working pressure
			Blind Ram	x	75% of working pressure
			Pipe Ram	x	
			Double Ram	x	
			Other*		
8-1/2"	11" or 13-5/8"	10M	Annular	x	100% of working pressure
			Blind Ram	x	75% of working pressure
			Pipe Ram	x	

ConocoPhillips, ZHU 2032 BS 14H

			Double Ram	x	
			Other*		

*Specify if additional ram is utilized.

Note: A 11" or 13-5/8" BOPE will be utilize depending on availability and Rig Substructure Clearance.

BOP/BOPE will be isolated from the casing and tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. BOPE controls will be installed prior to drilling under the surface casing and will be used until the completion of drilling operations. The intermediate interval and the production interval will be tested per 10M working system requirements. A variance is requested to use a 5M annular and test the annular to 100% of its working pressure. This variance is requested in conjunction with the attached well control plan.

Pipe rams will be operationally checked each 24-hour period. Choke manifold will have one remotely operated valve and a manual adjustable valve in front of the choke manifold, as detailed in the Onshore Order 2. It currently contains one 10M hydraulic choke for a total of three choke branches (two manual and one hydraulic). 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.

A Spudder Rig may be used to drill the surface and/or intermediate hole for economical reason depending on availability.

The wellhead will be installed and tested as soon as the surface casing is cemented. Prior to drilling out the surface casing, ConocoPhillips shall nipple up a 10M BOPE & choke arrangement with 10M components and test to the rated working pressure of a 10M BOPE system as it is subjected to the maximum anticipated surface pressure 5647 psi. The pressure test to MASP and 100% for annular shall be performed with a test plug after installing the casing head and nipping up the 10M BOPE system prior to drilling out the surface casing.

However, ConocoPhillips shall nipple up a 10M BOPE with 5M Annular Preventer if drilling out surface casing with Primary Rig.

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.	
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart. • See attached data sheet & certification.	
N	Are anchors required by manufacturer?	

Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. • See attached schematic.
---	---

5. Mud Program

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/MDToto/Visual Monitoring
---	------------------------------

6. Logging and Testing Procedures

Logging, Coring and Testing.	
x	GR from 200' above KOP to TD (GR as part of the BHA while drilling).
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain
x	Dry samples taken 30' from intermediate 1 casing point to TD.

Additional logs planned	Interval
	Resistivity
	Density
	CBL
x	Mud log
	PEX
	Bottom hole Gauge

7. Drilling Conditions

Condition	Specify what type and where?
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogen Sulfide (H ₂ S) monitors will be installed prior to drilling out the surface shoe. If H ₂ S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H ₂ S is present
Y	H ₂ S Plan attached

8. Other facets of operation

Is this a walking operation? If yes, describe. Yes, please see below.
Will be pre-setting casing? If yes, describe. Yes, please see below.

Spudder Rig and Batch Drilling Operations:

A blind flange cap of the same pressure rating as the wellhead will be secured to seal the wellbore on all casing strings. Pressure will be monitored via flanged port tied to a needle valve and pressure gauge to monitor pressures on each wellhead section and a means for intervention will be maintained while the drilling rig is not over the well.

1338' Surface Casings:

Surface Casing Depth (Ft)	1,224'
Surface Casing O.D. (In.)	13.3/8
Surface Casing ID (In.)	12.612
Hole O.D. (In.)	17.1/2
Excess (%)	2.66%
D/V Tool Depth	2,660'
Volume Tail (Sx)	1,33
Yield Tail (Cu. Ft./Sx)	1.73
Shoe Joint (Ft)	40
Shoe Volume (Cu. Ft)	34.7
Tail feet of cement	400
Calc. Tail Volume (Cu. Ft.)	2,660
Calc. Lead Volume (Cu. Ft.)	868
Calc. Lead Volume (Sx)	1,716
Calc. Lead Volume (Sx)	10,000

Lead Volume (bbls)	305.7
Tail volume (bbls)	154.6
Displacement Volume (bbls)	182.9

Lead Cement Description:

Mix Weight 12.8 ppg
Control Set C'
1.0% CaCl₂
1.0% SPS
1.0% SPS-60
1/2 lb/sk Polyflake
1/2 ppb FiberBlock

Tail Cement Description:

Mix Weight 14.8 ppg
Control Set W'
0.5% CaCl₂
1/2 lb/sk Polyflake
1/2 ppb FiberBlock

Step 1
948' Intermediate Casing (Lead):

Production Casing Depth (Ft)	9,625'
Production Casing O.D. (In.)	8,635
Production Casing ID (In.)	12,25
Hole O.D. (In.)	70%
Excess (%)	6,789'
D/V Tool Depth	2,660'
Volume Tail (Sx)	2,660
Yield Tail (Cu. Ft./Sx)	2.7
Shoe Joint (Ft)	1,293
Shoe Volume (Cu. Ft)	2,459
Calc. Lead Volume (Sx)	2,459
Lead Volume (bbls)	230
Lead Volume (bbls)	230

Intermediate Lead Cement Description:

Mix Weight 11 ppg
WBL
0.5% CFL-4
0.5% SPS
0.2% SPC-II
0.4% CDF-4P
1/2 lb/sk Polyflake
1/2 ppb FiberBlock

Step 2
948' Intermediate Casing (Tail):

Surface Casing Depth (Ft)	10,938'
Surface Casing O.D. (In.)	9,625
D/V Tool Depth (Ft)	8,635
Production Casing ID (In.)	12,25
Production Casing O.D. (In.)	70%
Excess (%)	9,713'
Hole O.D. (In.)	12,25
Top Cement (Surface)	200%
Yield Tail (Cu. Ft./Sx)	31'
Shoe Joint (Ft)	1,173
Shoe Volume (Cu. Ft)	1,73
Calc. Tail Volume (Cu. Ft.)	5,666
Required Tail Volume (Sx)	3,260
Tail Volume (bbls)	1,010
Displacement Volume (bbls)	514

Intermediate Tail Cement Description:

Mix Weight ppg
Thermal 3S
10% NaCl
0.5% HTR
0.5% SPC-II
0.4% CDF-4P
0.1% LTR
0.2% SPC-II
0.4% CDF-4P
1/2 lb/sk Polyflake
1/2 ppb FiberBlock

5412' Production Liner (Tail):

Intermediate Casing Depth (Ft)	10,938'
Intermediate Casing O.D. (In.)	9,625
Intermediate Casing ID (In.)	8,635
Production Casing Top Depth (Ft)	8,713'
Production Casing ID (In.)	12,25
Production Casing O.D. (In.)	5,900
Production Casing ID (In.)	4,778
Hole O.D. (In.)	6,50
Excess (%)	10%
Yield Tail (Cu. Ft./Sx)	1,119
Shoe Joint (Ft)	12
Shoe Volume (Cu. Ft)	1.5
Calc. Tail Volume (Cu. Ft.)	3,005
Required Tail Volume (Sx)	2,959
Required Tail Volume (Sx)	535,272/942

Production Liner Tail Cement Description:

Mix Weight 15.6 ppg
1:1:0 Poz Lulage G'
20% Silica Flour
2% Silica Fume
2% Silica FHT (PVC-2)
0.3% HTR
0.5% CR-4 (MCR-4)
1% TAE-1 (SEA-1)
1% CFL-4
0.2% CFR-5
0.3% ASH-3 (AS-3)

Production Displacement

Volume to Latch down collar +/- 15 SBLs (Tail Shoe track)			
Component	Capacity	Length	Volume
Grill Pipe	0	0	0
Line (Liner top to Float Collar)	-217,638.61 ft	0	0
Total			0

ConocoPhillips Wild Well Control Plan

ZIA HILLS 20 PAD 4

1. DRILLING WELL CONTROL PLAN

1.1 WELL CONTROL - CERTIFICATIONS

Required IADC/IWCF Well Control Certifications Supervisor Level:

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

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

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

Well Control-Position/Roles

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

- **Supervisor Level**
 - Specifies and has oversight that the correct actions are carried out
 - Role is to supervise well control equipment, training, testing, and well control events
 - Directs the testing of BOP and other well control equipment
 - Regularly direct well control crew drills
 - Land based rigs – usually runs the choke during a well kill operation
 - Due to role on the rig, training and certification is targeted more toward management of well control and managing an influx out of the well
- **Driller Level**
 - Performs an action to prevent or respond to well control accident
 - Role is to monitor the well via electronic devices while drilling and detect unplanned influxes
 - Assist with the testing of BOP and other well control equipment
 - Regularly assist with well control crew drills
 - When influx is detected, responsible to close the BOP
 - Due to role on the rig, training and certification is targeted more toward monitoring and shutting the well in (closing the BOP) when an influx is detected

(Well Control-Positions/Roles Continued)

- **Derrick Hand, Assistant Driller Introductory Level**
 - Role is to assist Driller with kick detection by physically monitoring the well at the mixing pits/tanks
 - Regularly record mud weights/viscosity for analysis by the Supervisor level and mud engineer so pre-influx signs can be detected
 - Mix required kill fluids as directed by Supervisor or Driller
 - Due to role on the rig, training and certification is targeted more toward monitoring for influxes, either via mud samples or visual signs on the pits/tanks
- **Motorman, Floor Hand Introductory Level**
 - Role is to assist the Supervisor, Driller, or Derrick Hand with detecting influxes
 - Be certain all valves are aligned for proper well control as directed by Supervisor
 - Perform Supervisor or Driller assigned tasks during a well control event
 - Due to role on the rig, training and certification is targeted more toward monitoring for influxes

1.2 WELL CONTROL-COMPONENT AND PREVENTER COMPATIBILITY CHECKLIST

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

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

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

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

1.3 WELL CONTROL-BOP TESTING

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

1.4 WELL CONTROL - DRILLS

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

Type	Frequency	Objective	Comments
Shallow gas kick drill - drilling	Once per well with crew on tour	Response training to a shallow gas influx	To be done prior to drilling surface hole if shallow gas is noted
Kick drill - drilling	Once per week per crew	Response training to an influx while drilling (bit on bottom)	Only one kick drill per week per crew is required, alternating between drilling and tripping.
Kick drill - tripping	Once per week per crew	Response training to an influx while tripping (bit off bottom). Practice stabbing TIW valve	
Choke drill	Once per well with crew on tour	Practice in operating the remotely operated choke with pressure in the well	Before drilling out of the last casing set above a prospective reservoir Include the scenario of flowing well with gas on drill floor as a table top
H ₂ S drill	Prior to drilling into a potential H ₂ S zone/reservoir	Practice in use of respiratory equipment	

1.5 WELL CONTROL – MONITORING

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

Well Control-Monitoring (Continued)

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

1.6 WELL CONTROL – SHUT IN

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

2. SHUT-IN PROCEDURES:

2.1 PROCEDURE WHILE DRILLING

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

2.2 PROCEDURE WHILE TRIPPING

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

Procedure While Tripping (Continued)

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

2.3 PROCEDURE WHILE RUNNING CASING

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

2.4 PROCEDURE WITH NO PIPE IN HOLE (OPEN HOLE)

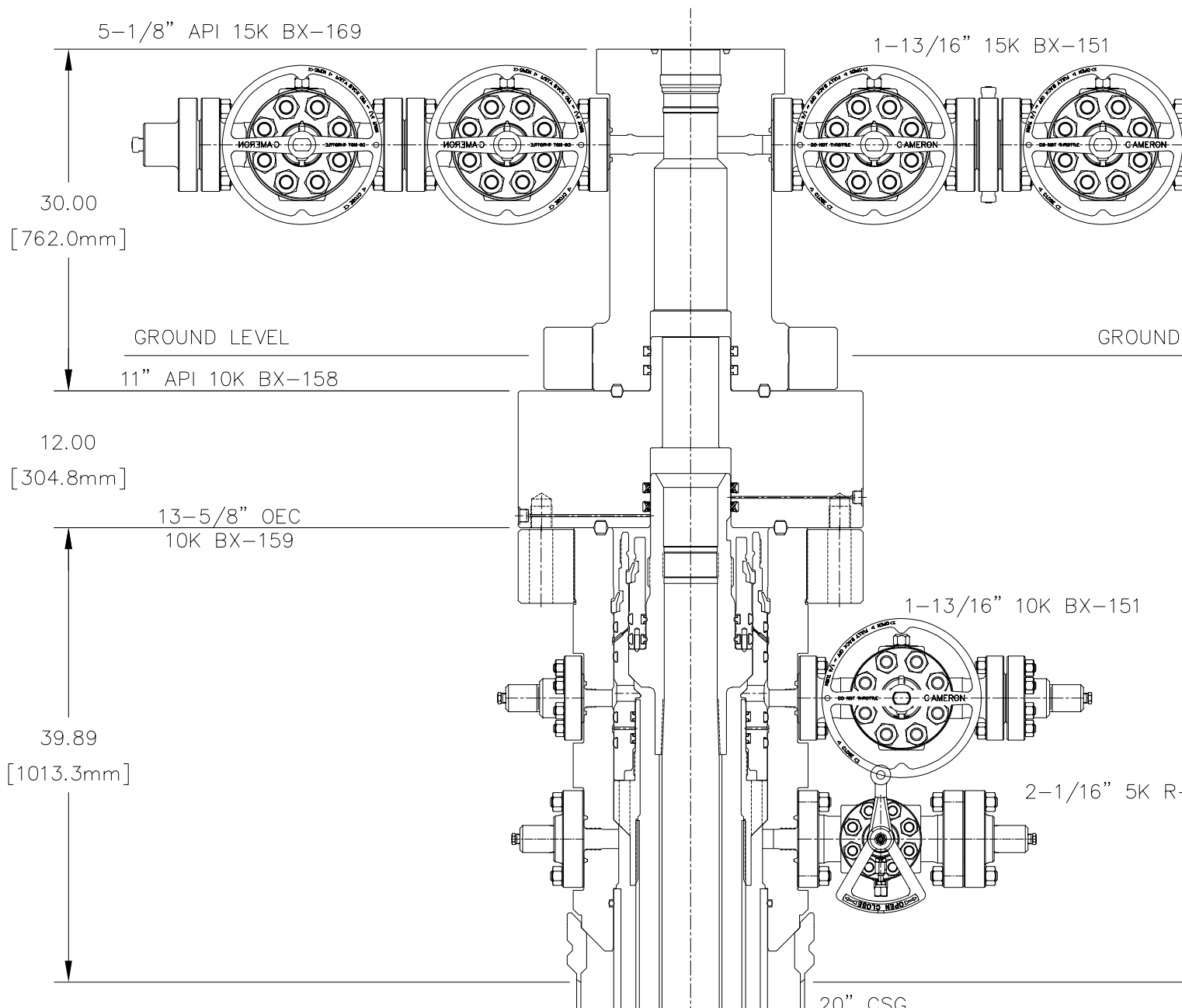
- Sound alarm (alert crew)
- Shut-in with blind rams or BSR. (HCR and choke will already be in the closed position.)
- Confirm shut-in
- Notify toolpusher/company representative
- Gather all relevant data required:
 - Shut-In Pressure
 - Hole Depth and Hole TVD
 - Pit gain
 - Time
 - Kick Volume
 - MW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

2.5 PROCEDURE WHILE PULLING BHA THRU STACK

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

Procedures While Pulling BHA thru Stack (Continued)

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





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

PWD Data Report

04/02/2020

APD ID: 10400043632

Submission Date: 07/17/2019

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: ZHU 2032 BS

Well Number: 14H

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - General

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

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: ZHU 2032 BS

Well Number: 14H

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 disturbance (acres): PWD surface owner:

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: ZHU 2032 BS

Well Number: 14H

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):

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: ZHU 2032 BS

Well Number: 14H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:



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

Bond Info Data Report

04/02/2020

APD ID: 10400043632

Submission Date: 07/17/2019

Highlighted data
reflects the most
recent changes

Operator Name: CONOCOPHILLIPS COMPANY

Well Name: ZHU 2032 BS

Well Number: 14H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

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:

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

OCD – HOBBS
09/23/2020
RECEIVED

AMENDED REPORT

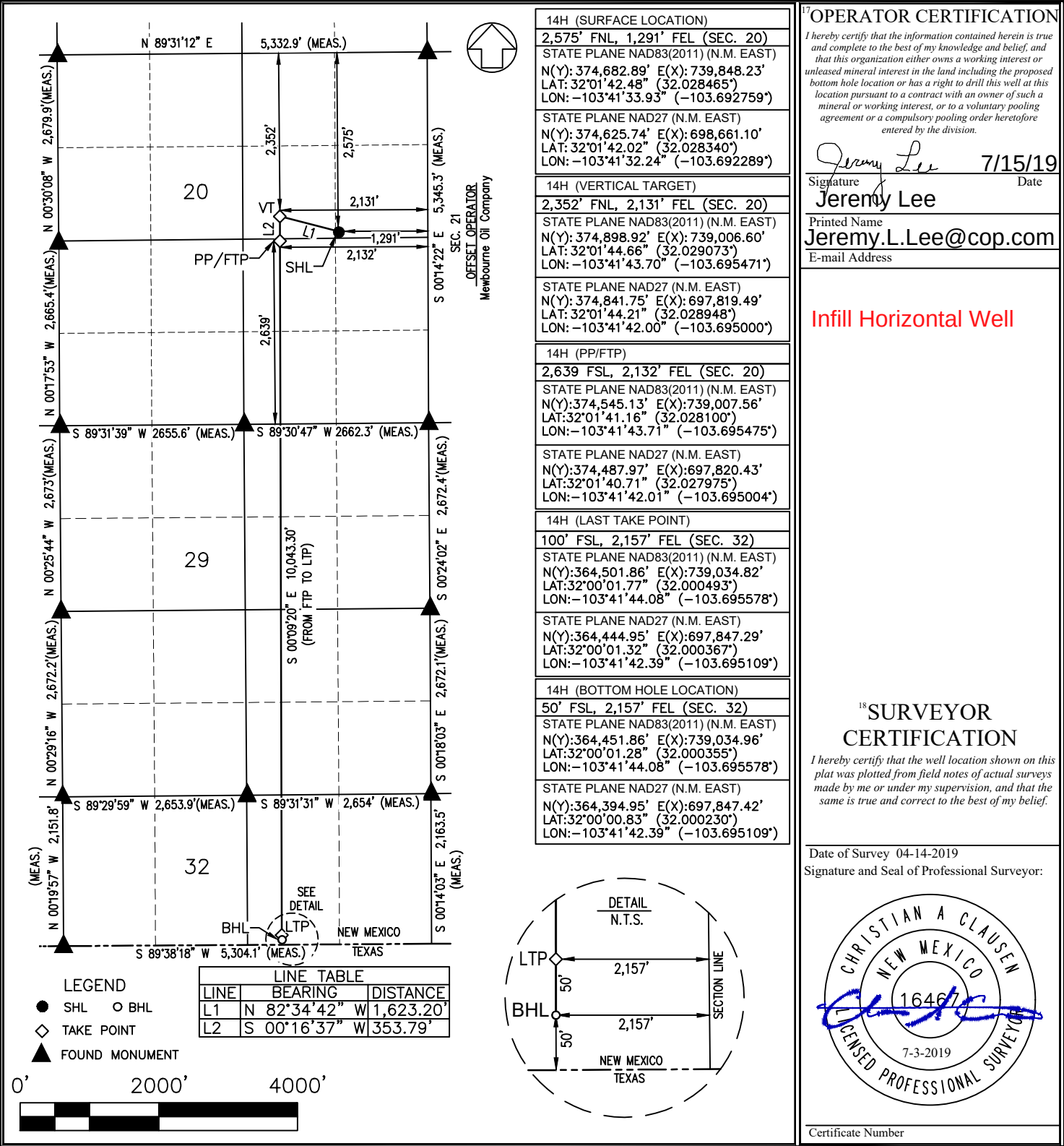
WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-47784	² Pool Code 98009	³ Pool Name ZIA HILLS; BONE SPRING
⁴ Property Code 328111	⁵ Property Name ZHU 2032 BS	⁶ Well Number 14H
⁷ OGRID No. 217817	⁸ Operator Name ConocoPhillips Company	⁹ Elevation 3,144.2' (NAVD88)

¹⁰ Surface Location									
UL or lot no. H	Section 20	Township 26 S	Range 32 E	Lot Idn	Feet from the 2,575'	North/South line NORTH	Feet from the 1,291'	East/West line EAST	County LEA COUNTY

¹¹ Bottom Hole Location If Different From Surface									
UL or lot no. 2	Section 32	Township 26 S	Range 32 E	Lot Idn 2	Feet from the 50'	North/South line SOUTH	Feet from the 2,157'	East/West line EAST	County LEA COUNTY
¹² Dedicated Acres 304.61	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit Original
to Appropriate
District Office

OCD - HOBBS
09/23/2020
RECEIVED

GAS CAPTURE PLAN

☒ Original

Operator & OGRID No.: ConocoPhillips Company/ 217817

☐ Amended

Date: 6/19/19

Reason for Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

Note: A C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule 19.15.18.12.A

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
ZHU 2032 BS 13H, 14H, 15H, 16H	Pending	Sec. 20, T26S, 32E	Various		Flared	Flaring is expected to be sporadic
014H	30-025-47784					

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Enterprise and will be connected to Enterprise low/high pressure gathering system located in Lea County, New Mexico. It will require 568' of pipeline to connect the facility to low/high pressure gathering system. Conocophillips provides (periodically) to Enterprise a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Enterprise and Conocophillips have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Enterprise Processing Plant located in Oral, Texas Reeves County, Texas. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Gas Transporter system at that time. Based on current information, it is Operator's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines