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Form 3160-3
(March 2012)

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

1a. Type of work: ☑ DRILL ☐ REENTER	Lease Serial No. NMNM0033312A
	6. If Indian, Allotee or Tribe Name
	7. If Unit or CA Agreement, Name and No. (320457)
1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone	8. Lease Name and Well No. ONION KNIGHT FEDERAL COM 203H
2. Name of Operator APACHE CORPORATION (873)	9. API Well No. 30-025-44939
3a. Address 303 Veterans Airpark Lane #1000 Midland TX	3b. Phone No. (include area code) (432)818-1000
	10. Field and Pool, or Exploratory GRAMA RIDGE; BS (28430)
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface SWSE / 150 FSL / 1675 FEL / LAT 32.4138917 / LONG -103.4717609 At proposed prod. zone NWNE / 280 FNL / 1675 FEL / LAT 32.4273411 / LONG -103.4717278	11. Sec., T. R. M. or Blk. and Survey or Area SEC 4 / T22S / R34E / NMP
14. Distance in miles and direction from nearest town or post office* 18.7 miles	12. County or Parish LEA / 13. State NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 150 feet	16. No. of acres in lease 160	17. Spacing Unit dedicated to this well 161.26
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 850 feet	19. Proposed Depth 10396 feet / 15084 feet	20. BLM/BIA Bond No. on file FED: NMB000736
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3595 feet	22. Approximate date work will start* 11/15/2017	23. Estimated duration 28 days

24. Attachments

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

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

25. Signature (Electronic Submission)	Name (Printed/Typed) Sorina Flores / Ph: (432)818-1167	Date 06/09/2017
Title Supv of Drilling Services		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 06/06/2018
Title Supervisor Multiple Resources	Office CARLSBAD	

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

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

(Continued on page 2)
GCP 6-27-18
Fs

*(Instructions on page 2)

KZ 06/28/18

APPROVED WITH CONDITIONS

Approval Date: 06/06/2018

Double sided

INSTRUCTIONS

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

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

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

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160
PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.
ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.
EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM collects this information to allow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

(Continued on page 3)

Additional Operator Remarks

Location of Well

1. SHL: SWSE / 150 FSL / 1675 FEL / TWSP: 22S / RANGE: 34E / SECTION: 4 / LAT: 32.4138917 / LONG: -103.4717609 (TVD: 0 feet, MD: 0 feet)
   PPP: SWSE / 180 FSL / 1675 FEL / TWSP: 22S / RANGE: 34E / SECTION: 4 / LAT: 32.4139741 / LONG: -103.4717609 (TVD: 10081 feet, MD: 10084 feet)
   BHL: NWNE / 280 FNL / 1675 FEL / TWSP: 22S / RANGE: 34E / SECTION: 4 / LAT: 32.4273411 / LONG: -103.4717278 (TVD: 10396 feet, MD: 15084 feet)

BLM Point of Contact

Name: Katrina Ponder
Title: Geologist
Phone: 5752345969
Email: kponder@blm.gov

Review and Appeal Rights

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

AFMSS

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

Application Data Report

06/15/2018

APD ID: 10400015008 **Submission Date:** 06/09/2017

Operator Name: APACHE CORPORATION

Well Name: ONION KNIGHT FEDERAL COM **Well Number:** 203H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400015008 **Tie to previous NOS?** 10400010618 **Submission Date:** 06/09/2017

BLM Office: CARLSBAD **User:** Sorina Flores **Title:** Supv of Drilling Services

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMNM0033312A **Lease Acres:** 160

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO **APD Operator:** APACHE CORPORATION

Operator letter of designation:

Operator Info

Operator Organization Name: APACHE CORPORATION

Operator Address: 303 Veterans Airpark Lane #1000

Zip: 79705

Operator PO Box:

Operator City: Midland **State:** TX

Operator Phone: (432)818-1000

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO **Mater Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: ONION KNIGHT FEDERAL COM **Well Number:** 203H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** OJO CHISO **Pool Name:** OJO CHISO; BONESPRING,S

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

Operator Name: APACHE CORPORATION

[redacted] **Well Number:** 203H

Describe other minerals:

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** YES **New surface disturbance?** N

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** ONION KNIGHT **Number:** 203H

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

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: OTHER

Describe sub-type: DEVELOPMENT

Distance to town: 18.7 Miles **Distance to nearest well:** 850 FT **Distance to lease line:** 150 FT

Reservoir well spacing assigned acres Measurement: 161.26 Acres

Well plat: OnionKnightFed203H_REVPlat_signed_06-08-2017.pdf

Well work start Date: 11/15/2017 **Duration:** 28 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number:

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	150	FSL	1675	FEL	22S	34E	4	Aliquot SWSE	32.4138917	-103.4717609	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 003331 2A	3595	0	0
KOP Leg #1	330	FSL	1675	FEL	22S	34E	4	Aliquot SWSE	32.4143862	-103.4717598	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 003331 2A	-6697	10347	10292
PPP Leg #1	180	FSL	1675	FEL	22S	34E	4	Aliquot SWSE	32.4139741	-103.4717609	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 003331 2A	-6486	10084	10081

AFMSS

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

Drilling Plan Data Report

06/15/2018

APD ID: 10400015008 **Submission Date:** 06/09/2017

Highlighted data reflects the most recent changes

Operator Name: APACHE CORPORATION

Well Name: ONION KNIGHT FEDERAL COM **Well Number:** 203H

Show Final Text

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

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	QUATERNARY	3625	0	0		USEABLE WATER,POTASH	No
2	RUSTLER	1913	1712	1712		POTASH	No
3	SALADO	1468	2157	2157		POTASH	No
4	BASE OF SALT	-122	3747	3747		NATURAL GAS,OIL	No
5	CAPITAN REEF	-1020	4645	4645		USEABLE WATER	No
6	DELAWARE	-1712	5337	5337		NATURAL GAS,OIL	No
7	BONE SPRING	-4812	8437	8437		NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M **Rating Depth:** 10948

Equipment: Rotating head, mud gas separator, blow down pit, flare line

Requesting Variance? YES

Variance request: Apache requesting variance for choke flex line

Testing Procedure: BOP/BOPE will be tested by independent service company to 250psi low & high pressure indicated above per Onshore Order 2 requirements. System may be upgraded to higher pressure but sill tested to WP listed . If system is upgraded, all components installed will be functional and tested. Pipe rams will be operationally checked each 24 hr period. Blind rams will be operationally checked on each TOOH. These checks will be noted on daily tour ıeets. Other accessories to BOP equipment will include Kelly cock and floor safety valve (inside BOP), choke lines and choke manifold. (see attached schematic)

Choke Diagram Attachment:

OnionKnightFed_BOP_Manif_Schem_05-18-2017.pdf

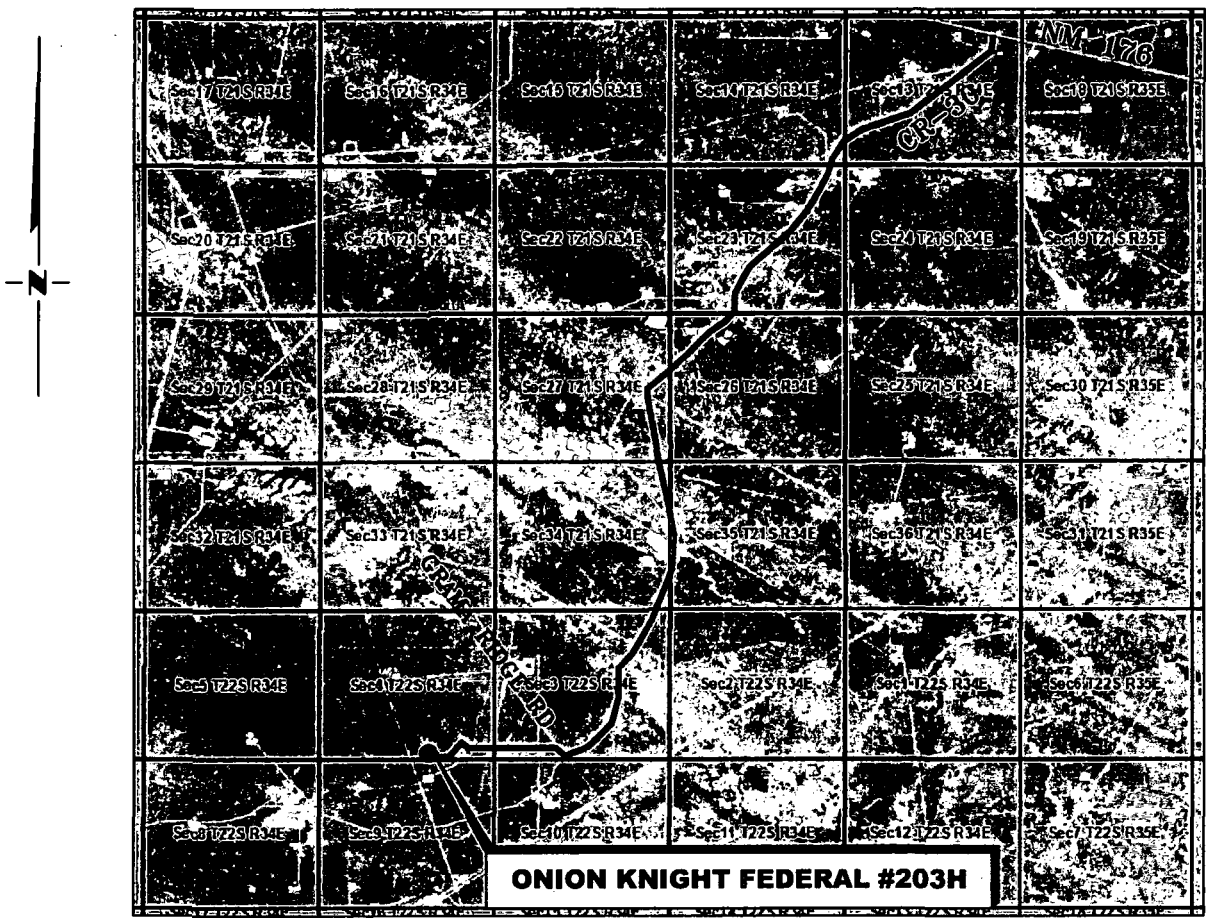
BOP Diagram Attachment:

OnionKnightFed_BOP_Manif_Schem_05-18-2017.pdf

OnionKnightFed_Flexline_05-18-2017.pdf

VICINITY MAP

NOT TO SCALE



DIRECTIONS

From the intersection of NM 176 and CR-30;

Go Southwest on CR-30 approx. 5.9 miles to Grama Ridge road on the right;

Turn right and go Northwest approx. 0.1 miles to a proposed road on the left;

Turn left on proposed road and go West approx. 0.7 miles to location on the right.

SECTION 4, TWP. 22 SOUTH, RGE. 34 EAST, N. M. P. M., LEA CO., NEW MEXICO

OPERATOR: Apache Corporation

LEASE: Onion Knight Federal

WELL NO.: 203H

LOCATION: 150' FSL & 1675' FEL

ELEVATION: 3595'

NO.	REVISION	DATE

JOB NO.: LS1701019

DWG. NO.: 1701019VM

RRC

308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: N. T. S.

DATE: 2-08-17

SURVEYED BY: JM/JF

DRAWN BY: LPS

APPROVED BY: RMH

SHEET: 1 OF 1

Operator Name: APACHE CORPORATION

Well Name: ONION KNIGHT FEDERAL COM **Well Number:** 203H

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	INTERMEDIATE	12.25	9.625	NEW	API	N	0	660	0	660	-6801	-7271	660	J-55	40	BUTT	7.3	1.96	BUOY	2.3	BUOY	2.01
2	SURFACE	17.5	13.375	NEW	API	N	0	1730	0	1730	-6801	-8551	1730	J-55	54.5	BUTT	2.12	1.82	BUOY	4.2	BUOY	3.77
3	INTERMEDIATE	12.25	9.625	NEW	API	N	660	5515	660	5515	-7271	-12121	4855	J-55	40	LTC	1.62	2.11	BUOY	1.8	BUOY	2.16
4	PRODUCTION	8.75	5.5	NEW	API	N	0	10668	0	10396	-6801	-17221	10668	P-110	17	BUTT	1.49	1.28	BUOY	2.2	BUOY	2.11
5	PRODUCTION	8.5	5.5	NEW	API	N	10668	15084	10396	10396	-17291	-17291	4416	P-110	17	BUTT	1.47	1.28	BUOY	2.2	BUOY	2.11

Casing Attachments

Casing ID: 1 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

OnionKnightFed203H_IntermCsgAssmpt_06-08-2017.pdf

Operator Name: APACHE CORPORATION

Well Name: ONION KNIGHT FEDERAL COM **Well Number:** 203H

Casing Attachments

Casing ID: 2 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

OnionKnightFed203H_SurfCsgAssmpt_06-08-2017.pdf

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

OnionKnightFed203H_IntermCsgAssmpt_06-08-2017.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

OnionKnightFed203H_ProdCsgAssmpt_06-08-2017.pdf

Operator Name: APACHE CORPORATION

Well Name: ONION KNIGHT FEDERAL COM **Well Number:** 203H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

OnionKnightFed203H_ProdCsgAssmpt_06-08-2017.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	1384	695	1.73	13.5	1202.35	25	Cl C	4% bentonite, 1% CaCl2
SURFACE	Tail		1384	1730	255	1.33	14.8	339.15	25	Cl C	1% CaCl2
INTERMEDIATE	Lead		0	4515	210	1.93	12.6	405.3	25	Cl C	5% NaCl, 4% bentonite, 0.2% retarder
INTERMEDIATE	Tail		4515	5515	300	1.33	14.8	399	25	Cl C	0.2% retarder
INTERMEDIATE	Lead		0	4515	897	1.93	12.6	1731.21	25	Cl C	5% NaCl, 4% bentonite, 0.2% retarder
INTERMEDIATE	Tail		4515	5515	300	1.33	14.8	399	25	Cl C	0.2% retarder
PRODUCTION	Lead		5015	9918	428	3.43	10.8	1468.04	20	TXI Lite	10% Bentonite, 10 lb/sk Compressive Strength Enhancer, 5 lb/sk Silica Fume, 0.5% Fluid Loss Additive, 0.5% Defoamer, 1% SMS, 0.7% Retarder, 0.2% Organic Retarder
PRODUCTION	Tail		9918	15084	1091	1.33	13.2	1451.03	20	TXI Lite	0.4% fluid loss, 0.3% retarder
PRODUCTION	Lead		5015	9918	428	3.43	10.8	1468.04	20	TXI Lite	10% Bentonite + 10 lb/sk Compressive Strength Enhancer + 5

Operator Name: APACHE CORPORATION

Well Name: ONION KNIGHT FEDERAL COM **Well Number:** 203H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
											lb/sk Silica Fume + 0.5% Fluid Loss Additive + 0.5% Defoamer + 1% SMS + 0.7% Retarder + 0.2% Organic Retarder
PRODUCTION	Tail		9918	15084	1091	1.33	13.2	1451.03	20	TXI Lite	0.4% fluid loss + 0.3% retarder

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: BOP, choke manifold, gas buster, blow down pit, flare line with igniter, pre-mix pit, rotating head

Describe the mud monitoring system utilized: PVT, Pason, Visual monitoring

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1730	SPUD MUD	8.3	9							
1730	5515	SALT SATURATED	9.8	10.5							
5515	10396	OTHER : Cut brine	8.6	9.5							

Operator Name: APACHE CORPORATION

Well Name: ONION KNIGHT FEDERAL COM **Well Number:** 203H

Section 6 - Test, Logging, Coring

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

Will run GR/CNL from TD to surf (horizontal well - vertical portion of hole). Stated logs run will be in the completion report & submitted to BLM.

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

CBL,CNL/FDC,DS,GR,MWD,MUDLOG,TL

Coring operation description for the well:

N/A

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4909 **Anticipated Surface Pressure:** 2621.88

Anticipated Bottom Hole Temperature(F): 150

Anticipated abnormal pressures, temperatures, or potential geologic hazards? YES

Describe:

Capitan reef poses lost circ potential

Contingency Plans geoharzards description:

For capital reef, Apache will be switching over to a fresh water system if lost circ is encountered. A 2-stage cmt job will be proposed to get cmt to surface.

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

OnionKnightFed_H2SOpsContPlan_05-18-2017.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

OnionKnightFed203H_DirPlan_06-08-2017.pdf

OnionKnightFed203H_DirPlanWallPlot_06-08-2017.pdf

Other proposed operations facets description:

[redacted]

Other proposed operations facets attachment:

OnionKnightFed203H_CmtDetailandContingency_06-08-2017.pdf

OnionKnightFed203H_CsgDetail_06-08-2017.pdf
OnionKnightFed_GasCapturePlan_07-19-2017.pdf

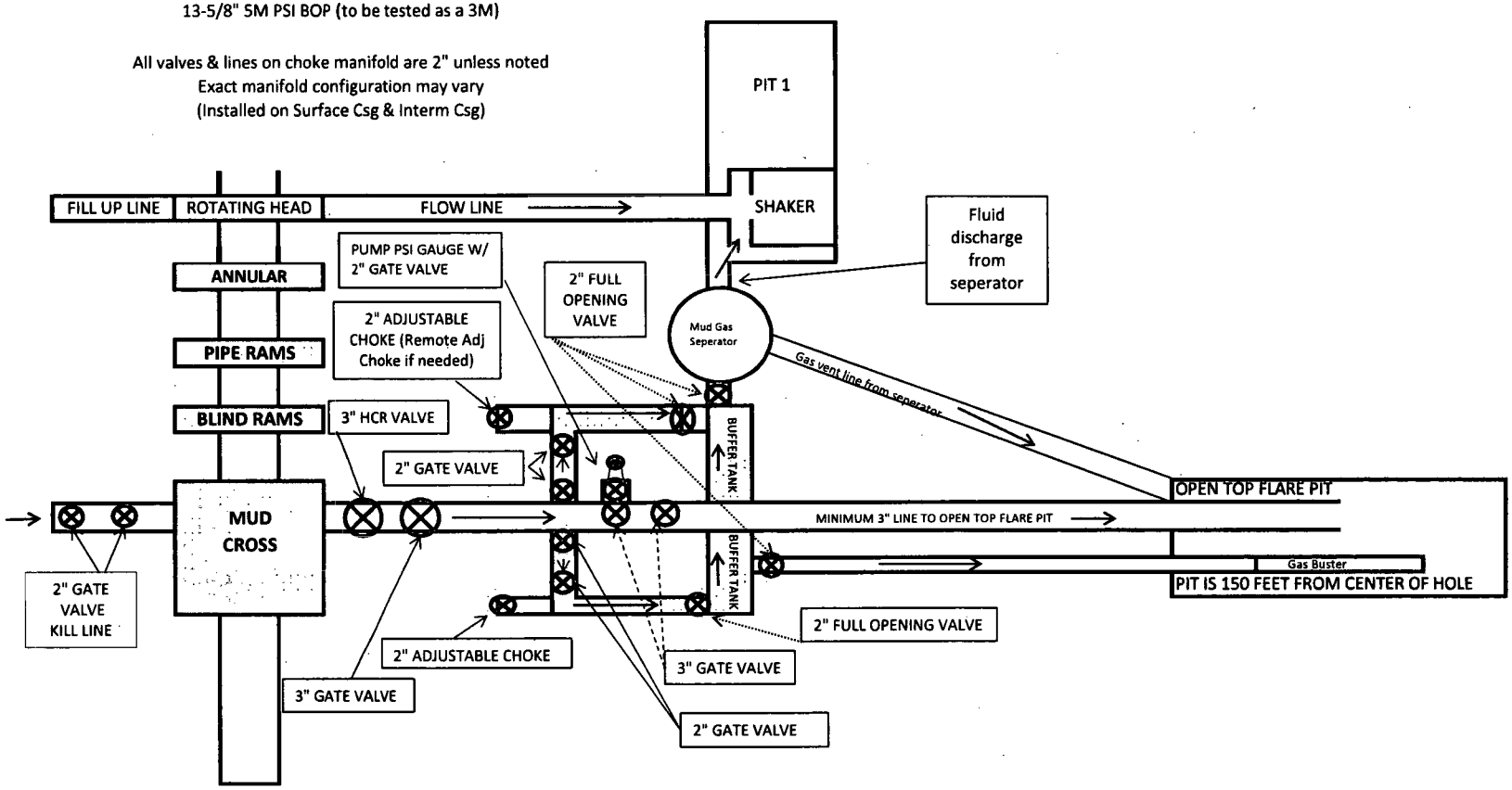
Other Variance attachment:

OnionKnightFed_Flexline_05-31-2017.pdf

APACHE BOP AND CHOKE MANIFOLD SCHEMATIC

13-5/8" 5M PSI BOP (to be tested as a 3M)

All valves & lines on choke manifold are 2" unless noted
Exact manifold configuration may vary
(Installed on Surface Csg & Interm Csg)

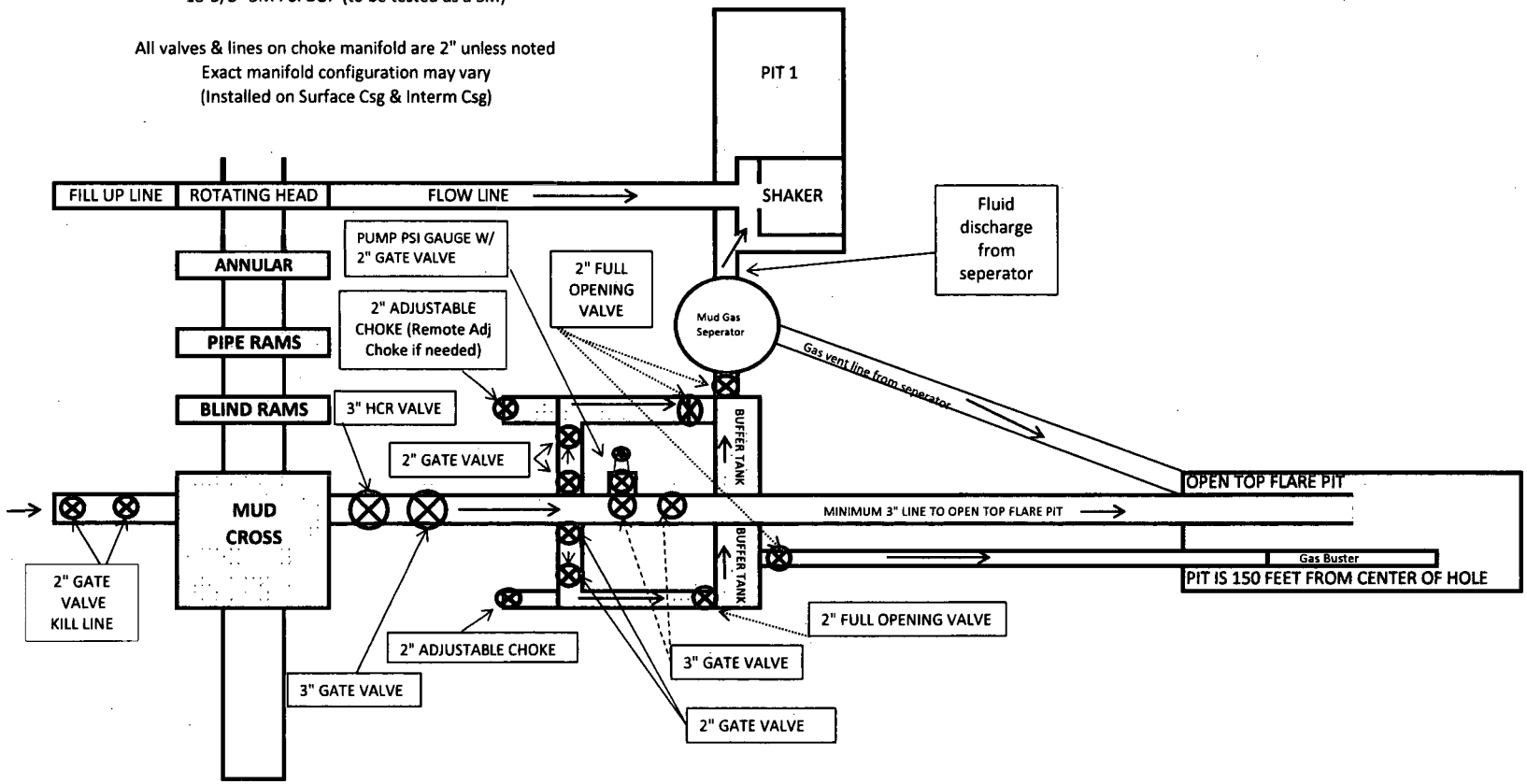


*** If H2S is encountered in quantities greater than 100ppm, Apache will shut in well & install a remote operated choke ***

APACHE BOP AND CHOKE MANIFOLD SCHEMATIC

13-5/8" 5M PSI BOP (to be tested as a 3M)

All valves & lines on choke manifold are 2" unless noted
Exact manifold configuration may vary
(Installed on Surface Csg & Interm Csg)



***** If H2S is encountered in quantities greater than 100ppm, Apache will shut in well & install a remote operated choke *****

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE					CERT. N°:	373	
PURCHASER:	ContiTech Oil & Marine Corp.				P.O. N°:	4500398355	
CONTITECH RUBBER order N°:	538079	HOSE TYPE:	3"	ID	Choke and Kill Hose		
HOSE SERIAL N°:	67090	NOMINAL / ACTUAL LENGTH:			10,67 m / 10,73 m		
W.P. 68,9 MPa	10000 psi	T.P. 103,4 MPa	15000 psi		Duration:	60	min.

Pressure test with water at ambient temperature

See attachment. (1 page)

↑ 10 mm = 10 Min.

→ 10 mm = 25 MPa

COUPLINGS Type	Serial N°	Quality	Heat N°
3" coupling with	1252 8901	AISI 4130	A0709N A1126U
4 1/16" 10K API b.w. Flange end		AISI 4130	035285

NOT DESIGNED FOR WELL TESTING **API Spec 16 C**

Temperature rate:"B"

All metal parts are flawless

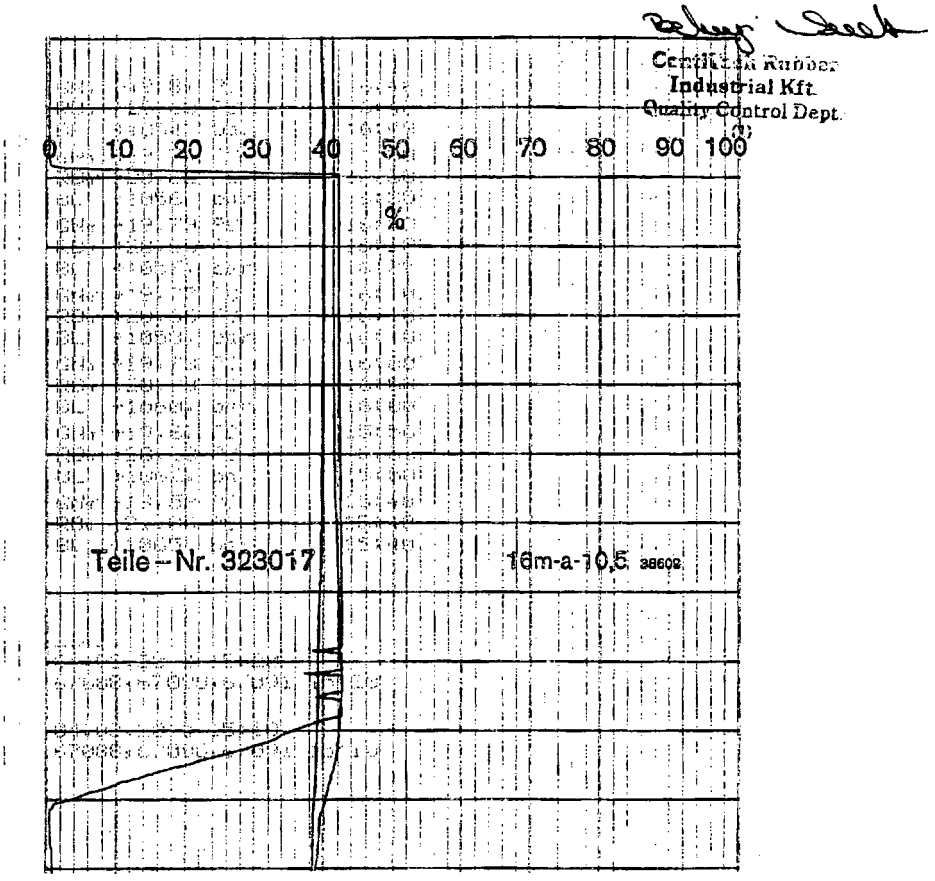
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.

COUNTRY OF ORIGIN HUNGARY/EU

Date:	Inspector	Quality Control
05. March 2014.		ContiTech Rubber Industrial Kft. Quality Control Dept.

ATTACHMENT OF Q... ITY CONTROL INSPECTION AND TEST C... IFICATE *No: 371, 373, 374*



Continental CONTITECH

Hose Data Sheet

CRI Order No.	538079
Customer	ContiTech Oil & Marine Corp.
Customer Order No	4500398355
Item No.	1
Hose Type	Flexible Hose
Standard	**API SPEC 16 C**
Inside dia in inches	3
Length	35 ft
Type of coupling one end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
Type of coupling other end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
H2S service NACE MR0175	Yes
Working Pressure	10 000 psi
Design Pressure	10 000 psi
Test Pressure	15 000 psi
Safety Factor	2,25
Marking	USUAL PHOENIX
Cover	NOT FIRE RESISTANT
Outside protection	St.steel outer wrap
Internal stripwound tube	No
Lining	OIL + GAS RESISTANT SOUR
Safety clamp	No
Lifting collar	No
Element C	No
Safety chain	No
Safety wire rope	No
Max.design temperature [°C]	100
Min.design temperature [°C]	-20
Min. Bend Radius operating [m]	0,90
Min. Bend Radius storage [m]	0,90
Electrical continuity	The Hose is electrically continuous
Type of packing	WOODEN CRATE ISPM-15

Casing Design Assumptions and Load Cases

Surface

All casing design assumptions were ran in StressCheck to determine safety factors which meet or exceed both Apache Corp and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the casing.

Surface Casing Burst Design		
Load Case	**External Pressure**	**Internal Pressure**
Pressure Test	Mud and Cement Mix Water	Test psi with Mud Weight of displacement fluid
Fracture @ shoe w/ Gas Gradient Above	Mud and Cement Mix Water	Fracture psi at shoe and 0.7 gas gravity above shoe
Green Cement Pressure Test	Mud and Cement Mix Water	Max pressure used to bump the plug during cement job
Lost Returns with Water	Mud and Cement Mix Water	Pressure to fracture shoe with water hydrostatic

Surface Casing Collapse Design		
Load Case	**External Pressure**	**Internal Pressure**
Full/Partial Evacuation	Mud weight string was set in	50% casing evacuation with surface mud inside casing
Lost Returns with Mud Drop	Mud weight string was set in	Lost returns at 3900' (Capitan Reef) with Brine
Cementing	Wet cement weight	Water (8.33 ppg)

Surface Casing Axial Design	
Load Case	**Assumptions**
Overpull	100 kips
Running in hole	2 ft/s
Green Cement Pressure Test	Max pressure when bumping plug
Service Loads	N/A

Casing Design Assumptions and Load Cases

Intermediate

All casing design assumptions were ran in StressCheck to determine safety factors which meet or exceed both Apache Corp and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the casing.

Surface Casing Burst Design		
Load Case	**External Pressure**	**Internal Pressure**
Pressure Test	Mud and Cement Mix Water	Test psi with Mud Weight of displacement fluid
Gas Kick	Mud and Cement Mix Water	Pressure seen while circulating out a 30 bbl 0.5 ppg kick intensity influx from well TD to surface while using current mud weight.
Green Cement Pressure Test	Mud and Cement Mix Water	Max pressure used to bump the plug during cement job
Lost Returns with Water	Mud and Cement Mix Water	Pressure to fracture shoe with water hydrostatic

Surface Casing Collapse Design		
Load Case	**External Pressure**	**Internal Pressure**
Full/Partial Evacuation	Mud weight string was set in	50% casing evacuation with intermediate mud inside casing
Lost Returns with Mud Drop	Mud weight string was set in	Lost returns at Brushy Canyon with Cut Brine (9.2 ppg)
Cementing	Wet cement weight	Water (8.33 ppg)

Surface Casing Axial Design	
Load Case	**Assumptions**
Overpull	100 kips
Running in hole	2 ft/s
Green Cement Pressure Test	Max pressure when bumping plug
Service Loads	N/A

Casing Design Assumptions and Load Cases

Intermediate

All casing design assumptions were ran in StressCheck to determine safety factors which meet or exceed both Apache Corp and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the casing.

Surface Casing Burst Design		
Load Case	**External Pressure**	**Internal Pressure**
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Green Cement Pressure Test	Mud and Cement Mix Water	Max pressure used to bump the plug during cement job
Lost Returns with Water	Mud and Cement Mix Water	Pressure to fracture shoe with water hydrostatic

Surface Casing Collapse Design		
Load Case	**External Pressure**	**Internal Pressure**
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Lost Returns with Mud Drop	Mud weight string was set in	Lost returns at Brushy Canyon with Cut Brine (9.2 ppg)
Cementing	Wet cement weight	Water (8.33 ppg)

Surface Casing Axial Design	
Load Case	**Assumptions**
Overpull	100 kips
Running in hole	2 ft/s
Green Cement Pressure Test	Max pressure when bumping plug
Service Loads	N/A

Casing Design Assumptions and Load Cases

Production

All casing design assumptions were ran in StressCheck to determine safety factors which meet or exceed both Apache Corp and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the casing.

Surface Casing Burst Design		
Load Case	**External Pressure**	**Internal Pressure**
Pressure Test	Mud base fluid density to TOC, cement mix-water gradient to outer shoe and pore pressure to TD	Fluid in hole (water or produced water) + test psi
Tubing Leak	Mud base fluid density to TOC, cement mix-water gradient to outer shoe and pore pressure to TD	Packer @ KOP, leak below surface 8.6 ppg packer fluid
Stimulation	Mud base fluid density to TOC, cement mix-water gradient to outer shoe and pore pressure to TD	Max frac pressure with heaviest frac fluid
Green Cement Pressure Test	Mud base fluid density to TOC, cement mix-water gradient to outer shoe and pore pressure to TD	Max pressure used to bump the plug during cement job

Surface Casing Collapse Design		
Load Case	**External Pressure**	**Internal Pressure**
Full Evacuation	Mud weight string was set in	None
Cementing	Wet cement weight	Water (8.33 ppg)

Surface Casing Axial Design	
Load Case	**Assumptions**
Overpull	100 kips
Running in hole	2 ft/s
Green Cement Pressure Test	Max pressure when bumping plug
Service Loads	N/A

Casing Design Assumptions and Load Cases

Production

All casing design assumptions were ran in StressCheck to determine safety factors which meet or exceed both Apache Corp and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the casing.

Surface Casing Burst Design		
Load Case	**External Pressure**	**Internal Pressure**
Pressure Test	Mud base fluid density to TOC, cement mix-water gradient to outer shoe and pore pressure to TD	Fluid in hole (water or produced water) + test psi
Tubing Leak	Mud base fluid density to TOC, cement mix-water gradient to outer shoe and pore pressure to TD	Packer @ KOP, leak below surface 8.6 ppg packer fluid
Stimulation	Mud base fluid density to TOC, cement mix-water gradient to outer shoe and pore pressure to TD	Max frac pressure with heaviest frac fluid
Green Cement Pressure Test	Mud base fluid density to TOC, cement mix-water gradient to outer shoe and pore pressure to TD	Max pressure used to bump the plug during cement job

Surface Casing Collapse Design		
Load Case	**External Pressure**	**Internal Pressure**
Full Evacuation	Mud weight string was set in	None
Cementing	Wet cement weight	Water (8.33 ppg)

Surface Casing Axial Design	
Load Case	**Assumptions**
Overpull	100 kips
Running in hole	2 ft/s
Green Cement Pressure Test	Max pressure when bumping plug
Service Loads	N/A

ONION KNIGHT FEDERAL 203H

CEMENT: SURFACE

Stage Tool Depth: N/A

Lead:

Top MD of Segment:	0	Btm MD of Segment:	1384
Cmt Type:	C	Cmt Additives:	4% Bentonite + 1% CaCl2
Quantity (sks):	695		
Yield (cu/ft/sk):	1.73	Volume (cu/ft):	1202.35
Density (lbs/gal):	13.5	Percent OH Excess:	25%

Tail:

Top MD of Segment:	1384	Btm MD of Segment:	1730
Cmt Type:	C	Cmt Additives:	1% CaCl2
Quantity (sks):	255		
Yield (cu/ft/sk):	1.33	Volume (cu/ft):	339.15
Density (lbs/gal):	14.8	Percent OH Excess:	25%

CEMENT: INTERMEDIATE

Single Stage

Lead:

Top MD of Segment:	0	Btm MD of Segment:	4515
Cmt Type:	C	Cmt Additives:	5% NaCl + 4% Bentonite + Retarder
Quantity (sks):	897		
Yield (cu/ft/sk):	1.93	Volume (cu/ft):	1731.21
Density (lbs/gal):	12.6	Percent OH Excess:	25%

Tail:

Top MD of Segment:	4515	Btm MD of Segment:	5515
Cmt Type:	C	Cmt Additives:	0.2% Retarder
Quantity (sks):	300		
Yield (cu/ft/sk):	1.33	Volume (cu/ft):	399
Density (lbs/gal):	14.8	Percent OH Excess:	25%

2 Stage Cement Job

* 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. Lab reports with the 500psi comp strength time for cmt will be onsite for review.

*If lost circulation is encountered, Apache may 2-stage Interm csg. A DVT may be used in the 9-5/8" csg & ECP may be placed below DVT.

1st Stage

Lead:

Top MD of Segment:	3800	Btm MD of Segment:	4515
Cmt Type:	C	Cmt Additives:	5% NaCl + 4% Bentonite + Retarder
Quantity (sks):	210		
Yield (cu/ft/sk):	1.93	Volume (cu/ft):	405.3
Density (lbs/gal):	12.6	Percent OH Excess:	25%

Tail:

Top MD of Segment:	4515	Btm MD of Segment:	5515
Cmt Type:	C	Cmt Additives:	0.2% Retarder
Quantity (sks):	300		
Yield (cu/ft/sk):	1.33	Volume (cu/ft):	399
Density (lbs/gal):	14.8	Percent OH Excess:	25%

Stage Tool / ECP Depth: ± 3800'

2nd Stage

Lead:

Top MD of Segment:	0	Btm MD of Segment:	3120.55
Cmt Type:	C	Cmt Additives:	5% NaCl + 4% Bentonite
Quantity (sks):	607		
Yield (cu/ft/sk):	1.93	Volume (cu/ft):	1171.51
Density (lbs/gal):	12.6	Percent OH Excess:	25%

Tail:

Top MD of Segment:	3120.55	Btm MD of Segment:	3800
Cmt Type:	C	Cmt Additives:	0.2% Retarder
Quantity (sks):	200		
Yield (cu/ft/sk):	1.33	Volume (cu/ft):	266
Density (lbs/gal):	14.8	Percent OH Excess:	25%

CEMENT: PRODUCTION

Single Stage

Lead:

Top MD of Segment:	5015	Btm MD of Segment:	9918.54
Cmt Type:	TXI Lite	Cmt Additives:	10% Bentonite + 10 lb/sk Compressive Strength Enhancer + 5 lb/sk Silica Fume + 0.5% Fluid Loss Additive + 0.5% Defoamer + 1% SMS + 0.7% Retarder + 0.2% Organic Retarder
Quantity (sks):	428		
Yield (cu/ft/sk):	3.43	Volume (cu/ft):	1468.04
Density (lbs/gal):	10.8	Percent OH Excess:	20%

Tail:

Top MD of Segment:	9918.54	Btm MD of Segment:	15084.16
Cmt Type:	TXI Lite	Cmt Additives:	0.4% Fluid Loss + 0.3% Retarder
Quantity (sks):	1091		
Yield (cu/ft/sk):	1.33	Volume (cu/ft):	1451.03
Density (lbs/gal):	13.2	Percent OH Excess:	20%

ONION KNIGHT FEDERAL 203H

String: **SURFACE**

Hole Size:	17.5						
Top Setting Depth (MD):	0	Top Setting Depth (TVD):	0	Btm setting depth (MD):	1730	Btm setting depth (TVD):	1730
Size:	13-3/8"	Grade:	J-55	Weight (lbs/ft):	54.5	Joint (Butt,FJ, LTC,STC, SLH, N/A, Other):	Buttress

Condition (New/Used): New Standard (API/Non-API): API

Tapered String (Y/N)?: N
If yes, need spec attachment

Safety Factors

Collapse Design Safety Factor: 2.12 Burst Design Safety Factor: 1.82

Body Tensile Design Safety Factor type?: Dry/Buoyant Buoyant
Body Tensile Design Safety Factor: 3.77

Joint Tensile Design Safety Factor type?: Dry/Buoyant Buoyant
Joint Tensile Design Safety Factor: 4.02

String: **INTERMEDIATE**

Hole Size:	12.25						
Top Setting Depth (MD):	0	Top Setting Depth (TVD):	0	Btm setting depth (MD):	660	Btm setting depth (TVD):	660
Size:	9-5/8"	Grade:	J-55	Weight (lbs/ft):	40	Joint (Butt,FJ, LTC,STC, SLH, N/A, Other):	Buttress

Condition (New/Used): New Standard (API/Non-API): API

Tapered String (Y/N)?: N
If yes, need spec attachment

Safety Factors

Collapse Design Safety Factor: 7.3 Burst Design Safety Factor: 1.96

Body Tensile Design Safety Factor type?: Dry/Buoyant Buoyant
Body Tensile Design Safety Factor: 2.01

Joint Tensile Design Safety Factor type?: Dry/Buoyant Buoyant
Joint Tensile Design Safety Factor: 2.3

Hole Size: 12.25

Top Setting Depth (MD):	660	Top Setting Depth (TVD):	660	Btm setting depth (MD):	5515	Btm setting depth (TVD):	5515
Size:	9-5/8"	Grade:	J-55	Weight (lbs/ft):	40	Joint (Butt,FJ, LTC,STC, SLH, N/A, Other):	LTC

Condition (New/Used): New Standard (API/Non-API): API

Tapered String (Y/N)?: N
If yes, need spec attachment

Safety Factors

Collapse Design Safety Factor: 1.62 Burst Design Safety Factor: 2.11

Body Tensile Design Safety Factor type?: Dry/Buoyant Buoyant
Body Tensile Design Safety Factor: 2.16

Joint Tensile Design Safety Factor type?: Dry/Buoyant Buoyant
Joint Tensile Design Safety Factor: 1.8

String: **PRODUCTION**

Hole Size: 8.75

Top Setting Depth (MD):	0	Top Setting Depth (TVD):	0	Btm setting depth (MD):	10668	Btm setting depth (TVD):	10396
Size:	5-1/2"	Grade:	P-110	Weight (lbs/ft):	17	Joint (Butt,FJ, LTC,STC, SLH, N/A, Other):	Buttress

Condition (New/Used): New Standard (API/Non-API): API

Safety Factors

Collapse Design Safety Factor: 1.49 Burst Design Safety Factor: 1.28

Body Tensile Design Safety Factor type?: Dry/Buoyant Buoyant
Body Tensile Design Safety Factor: 2.11

Joint Tensile Design Safety Factor type?: Dry/Buoyant Buoyant
Joint Tensile Design Safety Factor: 2.2

Tapered String (Y/N)?: N
If yes, need spec attachment

Hole Size: 8.5

Top Setting Depth (MD):	10668	Top Setting Depth (TVD):	10396	Btm setting depth (MD):	15084.2	Btm setting depth (TVD):	10396
Size:	5-1/2"	Grade:	P-110	Weight (lbs/ft):	17	Joint (Butt,FJ, LTC,STC, SLH, N/A, Other):	Buttress

Condition (New/Used): New Standard (API/Non-API): API

Safety Factors

Collapse Design Safety Factor:	1.49	Burst Design Safety Factor:	1.28
Body Tensile Design Safety Factor type?: Dry/Buoyant			Buoyant
Body Tensile Design Safety Factor:	2.11		
Joint Tensile Design Safety Factor type?: Dry/Buoyant			Buoyant
Joint Tensile Design Safety Factor:	2.2		
Tapered String (Y/N)?:	N		
If yes, need spec attachment			

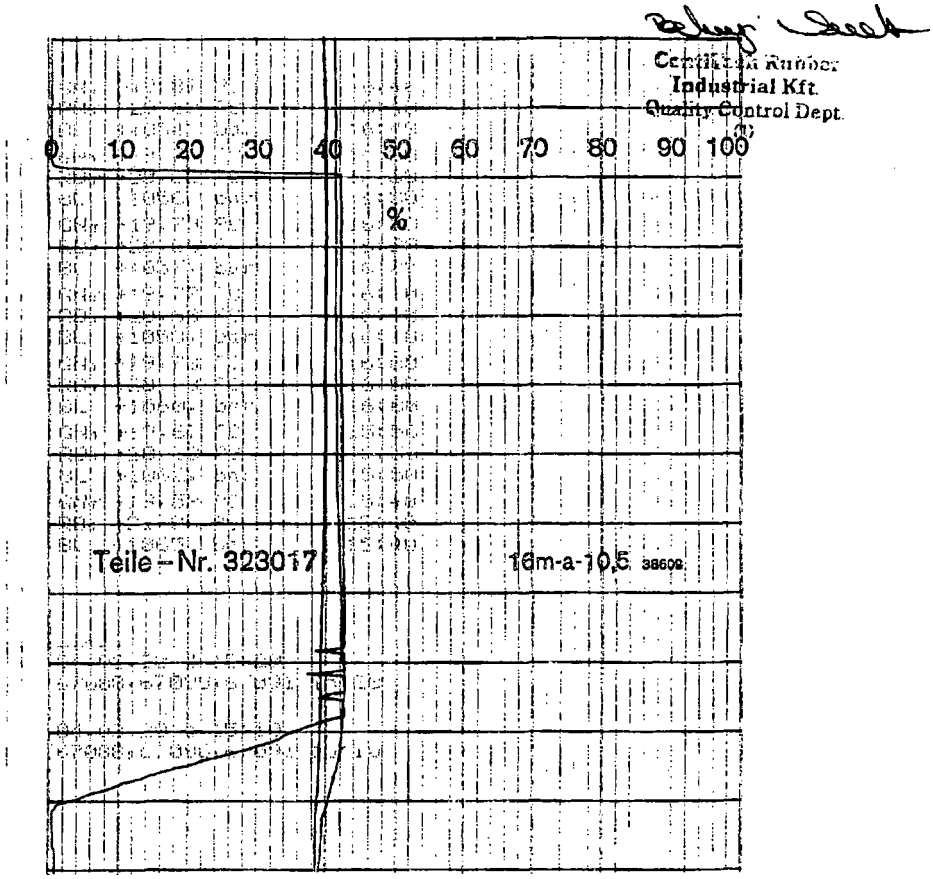
Continental CONTITECH

Hose Data Sheet

CRI Order No.	538079
Customer	ContiTech Oil & Marine Corp.
Customer Order No	4500398355
Item No.	1
Hose Type	Flexible Hose
Standard	**API SPEC 16 C**
Inside dia in inches	3
Length	35 ft
Type of coupling one end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
Type of coupling other end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
H2S service NACE MR0175	Yes
Working Pressure	10 000 psi
Design Pressure	10 000 psi
Test Pressure	15 000 psi
Safety Factor	2,25
Marking	USUAL PHOENIX
Cover	NOT FIRE RESISTANT
Outside protection	St.steel outer wrap
Internal stripwound tube	No
Lining	OIL + GAS RESISTANT SOUR
Safety clamp	No
Lifting collar	No
Element C	No
Safety chain	No
Safety wire rope	No
Max.design temperature [°C]	100
Min.design temperature [°C]	-20
Min. Bend Radius operating [m]	0,90
Min. Bend Radius storage [m]	0,90
Electrical continuity	The Hose is electrically continuous
Type of packing	WOODEN CRATE ISPM-15

ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE *No: 371, 373, 374*

Page: 1 / 1



APD ID: 10400015008 **Submission Date:** 06/09/2017

Operator Name: APACHE CORPORATION

Well Name: ONION KNIGHT FEDERAL COM **Well Number:** 203H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

OnionKnightFed203H_ExistRd_06-08-2017.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT **Row(s) Exist?** YES

ROW ID(s)

ID:

Do the existing roads need to be improved? YES

Existing Road Improvement Description: Improve road to accommodate drilling and completion operations.

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

OnionKnightFed203H_NewAccessRd_06-08-2017.pdf

New road type: LOCAL,RESOURCE

Length: 947.88 Feet **Width (ft.):** 25

Max slope (%): 2 **Max grade (%):** 2

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: Road will be crowned for water drainage and to control erosion.

New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

Access surfacing type: OTHER

Access topsoil source: OFFSITE

Access surfacing type description: Caliche

Access onsite topsoil source depth:

Offsite topsoil source description: Caliche pit located off lease

Onsite topsoil removal process:

Access other construction information:

Access miscellaneous information:

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

Drainage Control

New road drainage crossing: OTHER

Drainage Control comments: Road will be crowned for water drainage

Road Drainage Control Structures (DCS) description: N/A

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Additional Attachment(s):

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

OnionKnightFed203H_1miRadius_06-08-2017.pdf

Existing Wells description:

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: Battery will be on the NW corner of the Knight Federal 203H well pad. Pipeline will be on pad. Amount of tanks and vessels required will vary depending on future development. Battery plat layout attached.
Production Facilities map:

OnionKnightBattery_203H_06-08-2017.pdf
OnionKnightFed203H_ProposedTankBatteryLayout_06-09-2017.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: INTERMEDIATE/PRODUCTION CASING **Water source type:** OTHER

Describe type: BRINE

Source latitude: 32.48407 **Source longitude:** -103.15848

Source datum: NAD83

Water source permit type: PRIVATE CONTRACT

Source land ownership: FEDERAL

Water source transport method: TRUCKING

Source transportation land ownership: FEDERAL

Water source volume (barrels): 4000 **Source volume (acre-feet):** 0.51557237

Source volume (gal): 168000

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

Describe type:

Source latitude: 32.48407 **Source longitude:** -103.15848

Source datum: NAD83

Water source permit type: PRIVATE CONTRACT

Source land ownership: FEDERAL

Water source transport method: TRUCKING

Source transportation land ownership: FEDERAL

Water source volume (barrels): 3000 **Source volume (acre-feet):** 0.3866793

Source volume (gal): 126000

Water source use type: STIMULATION **Water source type:** GW WELL

Describe type:

Source latitude: 32.423138 **Source longitude:** -103.54925

Source datum: NAD83

Water source permit type: WATER WELL

Source land ownership: STATE

Water source transport method: PIPELINE

Source transportation land ownership: STATE

Water source volume (barrels): 25000 **Source volume (acre-feet):** 3.2223275

Source volume (gal): 1050000

Operator Name: APACHE CORPORATION

Well Name: ONION KNIGHT FEDERAL COM **Well Number:** 203H

Water source use type: STIMULATION **Water source type:** GW WELL

Describe type:

Source latitude: 32.423138 **Source longitude:** -103.54925

Source datum: NAD83

Water source permit type:

Source land ownership: STATE

Water source transport method: PIPELINE

Source transportation land ownership: STATE

Water source volume (barrels): 25000 **Source volume (acre-feet):** 3.2223275

Source volume (gal): 1050000

Water source and transportation map:

OnionKnightFed_FW_Alt_06-07-2017.pdf

OnionKnightFed_BrineWtr_06-07-2017.pdf

OnionKnightFed_FW_06-07-2017.pdf

Water source comments: Listed is preferred water source but may change due to availability. Water volume may be adjusted depending on conditions.

New water well? NO

New Water Well Info

Well latitude: **Well Longitude:** **Well datum:**

Well target aquifer:

Est. depth to top of aquifer(ft): **Est thickness of aquifer:**

Aquifer comments:

Aquifer documentation:

Well depth (ft): **Well casing type:**

Well casing outside diameter (in.): **Well casing inside diameter (in.):**

New water well casing? **Used casing source:**

Drilling method: **Drill material:**

Grout material: **Grout depth:**

Casing length (ft.): **Casing top depth (ft.):**

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description: Dirt fill and caliche will be used to construct well pad. Caliche from Sec 34 T 21S R34E

Construction Materials source location attachment:

OnionKnightFederal_CalicheLocation_06-09-2017.pdf

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Drilling fluids, produced oil and water while drilling and completion operations

Amount of waste: 2500 barrels

Waste disposal frequency : Weekly

Safe containment description: All drilling and completion waste will be stored in frac tanks and disposed of properly

Safe containmant attachment:

Waste disposal type: RECYCLE **Disposal location ownership:** OTHER

Disposal type description:

Disposal location description: Next well or trucked to an approved disposal facility.

Waste type: GARBAGE

Waste content description: Garbage and trash produced during drilling and completion operations

Amount of waste: 1500 pounds

Waste disposal frequency : Weekly

Safe containment description: Garbage and trash produced during drilling and completion ops will be collected in portable trash trailers and disposed of properly at a state approved disposal facility.

Safe containmant attachment:

Waste disposal type: OTHER **Disposal location ownership:** STATE

Disposal type description: Landfill

Disposal location description: Lea County Landfill

Waste type: SEWAGE

Waste content description: Human waste and grey water

Amount of waste: 2000 gallons

Waste disposal frequency : Weekly

Safe containment description: Wast will be properly contained and disposed of.

Safe containmant attachment:

Waste disposal type: OTHER **Disposal location ownership:** STATE

Disposal type description: State

Disposal location description: Hobbs Municipal Wast Facility

Waste type: COMPLETIONS/STIMULATION

Waste content description: Flowback water during completion operations

Amount of waste: 5000 barrels

Waste disposal frequency : Weekly

Safe containment description: Frac tanks

Safe containmant attachment:

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

Disposal location description: R360 or commercial SWD, pending type of water produced

Waste type: FLOWBACK

Waste content description: Flwoback water during flowback operations

Amount of waste: 5000 barrels

Waste disposal frequency : Daily

Safe containment description: Frac tanks

Safe containmant attachment:

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

Disposal location description: Commercial SWDs in area

Waste type: PRODUCED WATER

Waste content description: Produced water during production operations

Amount of waste: 5000 barrels

Waste disposal frequency : Daily

Safe containment description: Frac tanks

Safe containmant attachment:

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

Disposal location description: Commercial SWDs in area

Operator Name: APACHE CORPORATION

Well Name: ONION KNIGHT FEDERAL COM **Well Number:** 203H

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

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

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

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

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? YES

Description of cuttings location Cuttings will be stored in steel haul off bins and taken to an NMOCD approved disposal facility.

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

OnionKnightFed203H_WellsiteDiagram_06-08-2017.pdf

Comments: V-door may change based on rig availability.

Operator Name: APACHE CORPORATION

Well Name: ONION KNIGHT FEDERAL COM **Well Number:** 203H

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** ONION KNIGHT

Multiple Well Pad Number: 203H

Recontouring attachment:

Drainage/Erosion control construction: During construction, proper erosion control methods will be used to control erosion, runoff and siltation of surrounding area and will be maintained to control dust and minimize erosion to extent practical.

Drainage/Erosion control reclamation: Topsoil and subsoils shall be replaced to their original relative positions and contoured as to achieve erosion control, long-term stability and preservation of surface water flow patterns. Distrubed area shall be reseeded in the first favorable growing season. Please note: Reclamation can be delayed until such time as there are no pending permits or no activity is planned for 5 years. Interim reclamation may vary pending surface conditions at the time but amount of long term disturbance will be same as described on permit.

Wellpad long term disturbance (acres): 3.37

Wellpad short term disturbance (acres): 3.37

Access road long term disturbance (acres): 0.653

Access road short term disturbance (acres): 0.653

Pipeline long term disturbance (acres): 0

Pipeline short term disturbance (acres): 0.00028236915

Other long term disturbance (acres): 1.033

Other short term disturbance (acres): 5.449

Total long term disturbance: 5.056

Total short term disturbance: 9.472282

Disturbance Comments: **Other short term disturbance is for proposed electrical line, approx. 7912.61 feet in length and 30 foot wide for construction on North end of all pads. Elect line will run West to East and will be installed to provide electricity to all proposed federal and state wells on all proposed pads. **Other long term disturbance is for the proposed battery located on the NW corner of well pad.

Reconstruction method: The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with surrounding topography as much as possible. Where applicable, any fill material of well pad will be backfilled into the cut to bring area back to original contour.

Topsoil redistribution: Topsoils shall be replaced to their original relative positions and contoured to achieve erosion control, long term stability and preservation of surface water flow pattern. Topsoil will be revegitated over entire disturbed area not needed for all weather operations.

Soil treatment: After all disturbed areas have been properly prepared, areas will need to be seeded with recommended seed mixture, free of noxious weeds. Final seedbed prep will consist of contour cultivating to a depth of 4-6 inches within 24 hrs prior to seeding, dozer tracking or other imprinting in order to break soil crust to create seed germination micro-sites.

Existing Vegetation at the well pad:

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road:

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline:

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances:

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Proposed seeding season:

Seed Summary	
Seed Type	**Pounds/Acre**

Total pounds/Acre:

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name:

Last Name:

Phone:

Email:

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: Standard regular weed maintenance to maintain a clear location and road on as needed basis.
Weed treatment plan attachment:

Monitoring plan description: Identify area supporting weeds prior to construction, prevent introduction and spread of weeds from construction equipment during construction and contain weed seeds and propagules by preventing segregated topsoil from being spread to adjacent areas. No invasive species present. Standard regular maintenance to maintain a clear location and road.
Monitoring plan attachment:

Success standards: Maintain all disturbed areas as per Gold Book standards. Please note: Reclamation can be delayed until such time as there are no pending permits or no activity is planned for 5 years. Interim reclamation may vary pending surface conditions at the time but amount of long term disturbance will be same as described on permit.
Pit closure description: N/A

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Disturbance type: EXISTING ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Disturbance type: OTHER

Describe: ELECTRICAL LINE

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Disturbance type: OTHER

Describe: BATTERY

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Section 12 - Other Information

Right of Way needed? NO **Use APD as ROW?**

ROW Type(s):

ROW Applications

SUPO Additional Information: Arch survey has been completed by Boone Arch Services. Operator Rep: Larry VanGilder, Drlg Supt, 432-818-1965 or 432-557-1097; Operator Production Rep: Heath Dean, 575-631-0125. Apache plans to insall an overhead electrical line for the proposed well. Total length of line will be 7912.61 feet with approx. 30 feet of disturbance. Elect line will be constructed to provide protection from raptor electrocution. Proposed line does not cross lease boundaries. ROW grant will not need to be acquired from BLM.
Use a previously conducted onsite? YES

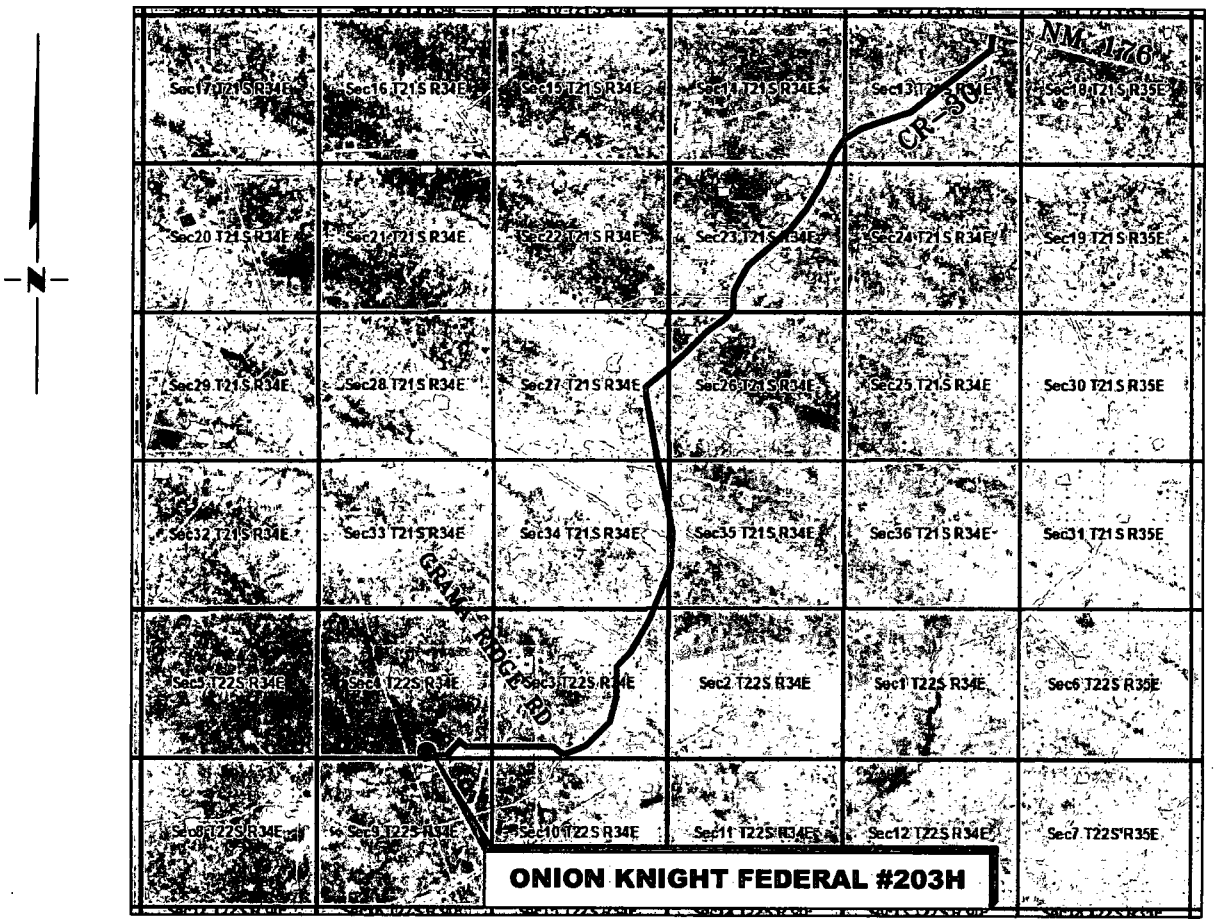
Previous Onsite information: Onsite completed by Jeffery Robertson on 1/31/17 for Onion Knight Federal 201H, 202H, 203H and 204H.

Other SUPO Attachment

OnionKnightFed201H_to_207H_ElectLine_05-23-2017.pdf
OnionKnightFed202H_NewAccessRd_06-07-2017.pdf
OnionKnightBattery_203H_06-08-2017.pdf

VICINITY MAP

NOT TO SCALE



DIRECTIONS

From the intersection of NM 176 and CR–30;

Go Southwest on CR–30 approx. 5.9 miles to Grama Ridge road on the right;

Turn right and go Northwest approx. 0.1 miles to a proposed road on the left;

Turn left on proposed road and go West approx. 0.7 miles to location on the right.

SECTION 4, TWP. 22 SOUTH, RGE. 34 EAST, N. M. P. M., LEA CO., NEW MEXICO

OPERATOR: Apache Corporation

LEASE: Onion Knight Federal

WELL NO.: 203H

LOCATION: 150' FSL & 1675' FEL

ELEVATION: 3595'

Firm No.: TX 10193838 NM 4655451

NO.	REVISION	DATE

JOB NO.: LS1701019

DWG. NO.: 1701019VM

RRC

308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964–8200

SCALE:	N. T. S.
DATE:	2–08–17
SURVEYED BY:	JM/JF
DRAWN BY:	LPS
APPROVED BY:	RMH
SHEET:	1 OF 1

AFMSS

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

Operator Certification Data Report

06/15/2018

Operator Certification

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

NAME: Sorina Flores **Signed on:** 06/08/2017

Title: Supv of Drilling Services

Street Address: 303 Veterans Airpark Ln #1000

City: Midland **State:** TX **Zip:** 79705

Phone: (432)818-1167

Email address: sorina.flores@apachecorp.com

Field Representative

Representative Name:

Street Address:

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

Phone:

Email address:

Section 1 - General

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

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

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

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

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

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

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

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

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

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

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

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

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

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

Bond Info Data Report

06/15/2018

Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB000736

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

Operator Name: APACHE CORPORATION

[redacted] **Well Number:** 203H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
EXIT Leg #1	280	FNL	1675	FEL	22S	34E	4	Aliquot NWNE	32.4273411	-103.4717278	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0058678	-6801	15084	10396
BHL Leg #1	280	FNL	1675	FEL	22S	34E	4	Aliquot NWNE	32.4273411	-103.4717278	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0058678	-6801	15084	10396

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°:	373	
PURCHASER:	ContiTech Oil & Marine Corp.			P.O. N°:	4500398355	
CONTITECH RUBBER order N°:	538079	HOSE TYPE:	3" ID	Choke and Kill Hose		
HOSE SERIAL N°:	67090	NOMINAL / ACTUAL LENGTH:		10,67 m / 10,73 m		
W.P. 68,9 MPa	10000 psi	T.P. 103,4 MPa	15000 psi	Duration:	60	min.

Pressure test with water at ambient temperature

See attachment. (1 page)

↑ 10 mm = 10 Min.
→ 10 mm = 25 MPa

COUPLINGS Type	Serial N°	Quality	Heat N°
3" coupling with	1252 8901	AISI 4130	A0709N A1126U
4 1/16" 10K API b.w. Flange end		AISI 4130	035285

NOT DESIGNED FOR WELL TESTING **API Spec 16 C**

Temperature rate:"B"

All metal parts are flawless

WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.

COUNTRY OF ORIGIN HUNGARY/EU

Date:	Inspector	Quality Control
05. March 2014.		ContiTech Rubber Industrial Kft. Quality Control Dept.