APD ID: 10400011217 **Submission Date:** 03/20/2017

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: FIGHTING OKRA 18-19 FED **Well Number:** 85H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	UNKNOWN	3368	0	0	OTHER : Surface	NONE	No
2	RUSTLER	2641	727	727	ANHYDRITE	NONE	No
3	TOP OF SALT	2276	1092	1092	SALT	NONE	No
4	BASE OF SALT	-1674	5042	5042	SALT	NONE	No
5	DELAWARE	-1924	5292	5292	SANDSTONE	NATURAL GAS,OIL	No
6	BRUSHY CANYON LOWER	-6019	9387	9387	SANDSTONE	NATURAL GAS,OIL	No
7	BONE SPRING LIME	-6199	9567	9567	LIMESTONE	NATURAL GAS,OIL	No
8	BONE SPRING 1ST	-7129	10497	10497	SANDSTONE	NATURAL GAS,OIL	No
9	BONE SPRING LIME	-7349	10717	10717	LIMESTONE	NATURAL GAS,OIL	No
10	BONE SPRING 2ND	-7699	11067	11067	SANDSTONE	NATURAL GAS,OIL	No
11	BONE SPRING 3RD	-8164	11532	11532	LIMESTONE	NATURAL GAS,OIL	No
12	BONE SPRING 3RD	-8764	12132	12132	SANDSTONE	NATURAL GAS,OIL	No
13	WOLFCAMP	-9204	12572	12572	SHALE	NATURAL GAS,OIL	Yes
14	WOLFCAMP	-9409	12777	12777	SHALE	NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: FIGHTING OKRA 18-19 FED **Well Number:** 85H

Pressure Rating (PSI): 10M **Rating Depth:** 12914

Equipment: BOP/BOPE will be installed per Onshore Oil & Gas Order #2 requirements prior to drilling below 10-3/4" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 10M will be installed on the wellhead system. BOP/BOPE will be tested by an independent service company per Onshore Oil & Gas Order #2 requirements and MASP (Maximum Anticipated Surface Pressure) calculations. If the system is upgraded, all the components installed will be functional and tested.

Requesting Variance? YES

Variance request: 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.

Testing Procedure: A multibowl wellhead may be 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.

Choke Diagram Attachment:

Fighting_Okra_18_19_Fed_85H_10M_BOPE_CHK_20171002151210.pdf

BOP Diagram Attachment:

Fighting_Okra_18_19_Fed_85H_10M_BOPE_CHK_20171002151239.pdf

Pressure Rating (PSI): 5M **Rating Depth:** 12822

Equipment: 5M rotating head, mud-gas separator, panic line,and flare will be rigged up prior to drilling out surface casing.

Requesting Variance? YES

Variance request: 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.

Testing Procedure: A multibowl wellhead may be 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.

Choke Diagram Attachment:

Fighting Okra 18-19 Fed 85H_5M BOPE CHK_02-15-2017.pdf

BOP Diagram Attachment:

Fighting Okra 18-19 Fed 85H_5M BOPE CHK_02-15-2017.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	14.75	10.75	NEW	API	N	0	875	0	875	-9419	-10194	875	J-55	40.5	STC	1.125	1.25	BUOY	1.6	BUOY	1.6

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: FIGHTING OKRA 18-19 FED **Well Number:** 85H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Tail		11600	13100	163	1.2	14.5	196	30	H	Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
PRODUCTION	Lead		13100	22867	798	1.33	14.8	1061	25	C	0.125 lbs/sack Poly-E-Flake

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.

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	875	SPUD MUD	8.33	9.1				2			
875	13100	SALT SATURATED	8.6	10				2			
875	13100	SALT SATURATED	8.6	10				2			
13100	22867	OIL-BASED MUD	11	13				12			

Section 6 - Test, Logging, Coring

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

Will run GRMWD from TD to from KOP. Cement bond logs will be run in vertical to determine top of cement.Stated logs run will be in the Completion Report and submitted to the BLM.

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

CALIPER,CBL,DS,GR,MUDLOG

Coring operation description for the well:

N/A

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7320 **Anticipated Surface Pressure:** 4478.92

Anticipated Bottom Hole Temperature(F): 165

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Fighting_Okra_18_19_Fed_85H_H2S_Plan_20171003145017.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Fighting_Okra_18_19_Fed_85H_Dir_Plan_20171002152353.pdf

Other proposed operations facets description:

MULTI-BOWL VERBIAGE
MULTI-BOWL WELLHEAD
CLOSED-LOOP PLAN
SPUDDER RIG
AC PLAN - IN DIRECTIONAL PLAN ATTACHMENT
GCP FORM
DRILLING CONTINGENCY

Other proposed operations facets attachment:

Fighting Okra 18-19 Fed 85H_Clsd Loop_02-16-2017.pdf
Fighting Okra 18-19 Fed 85H_MB Verb_02-16-2017.pdf
Fighting Okra 18-19 Fed 85H_MB Wellhd_02-16-2017.pdf
Fighting_Okra_18_9_Fed_85H_Drlg_Contingency_20171002152513.pdf
Fighting_Okra_18_19_Fed_85H_GCP_Form_20171002152514.pdf
Fighting_Okra_18_19_Fed_85H_Spudder_Rig_Info_20171002152514.pdf

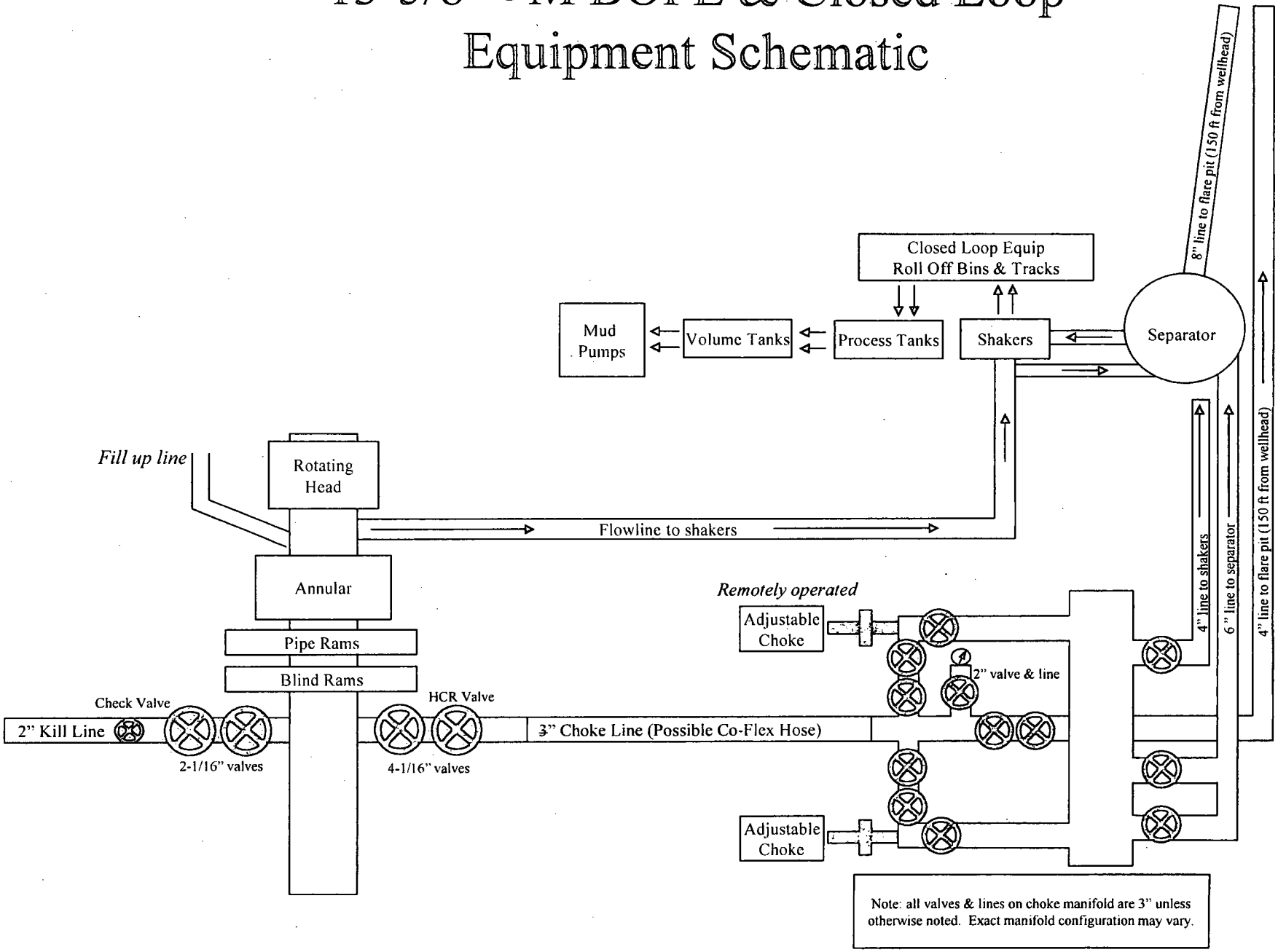
Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: FIGHTING OKRA 18-19 FED **Well Number:** 85H

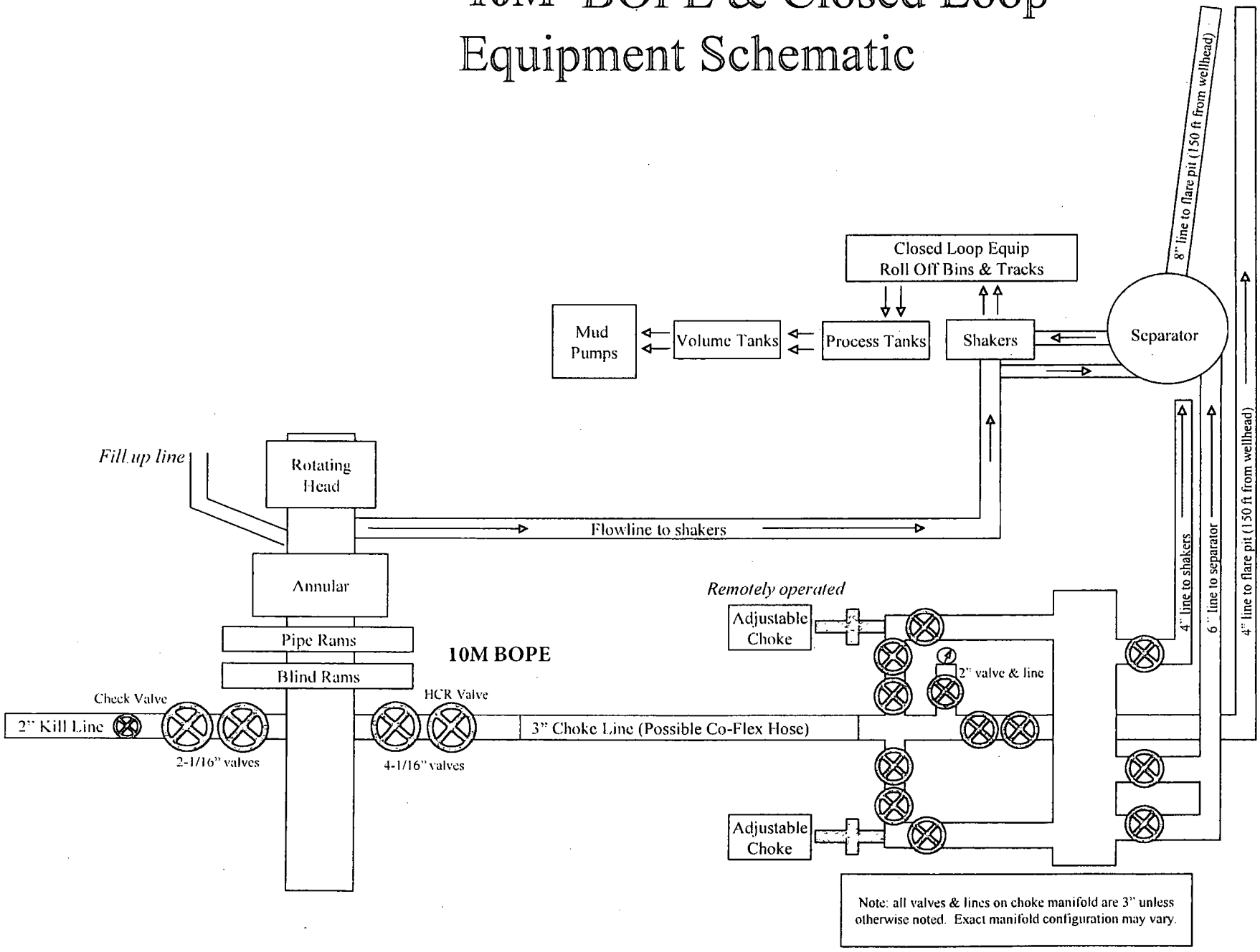
Other Variance attachment:

Fighting Okra 18-19 Fed 85H_Co-flex_02-16-2017.pdf

13-5/8" 5M BOPE & Closed Loop Equipment Schematic



10M BOPE & Closed Loop Equipment Schematic



Fighting Okra 18-19 Fed 85H

Casing Assumptions and Load Cases

Surface

All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both Devon Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

Surface Casing Burst Design		
Load Case	**External Pressure**	**Internal Pressure**
Pressure Test	Formation Pore Pressure	Max mud weight of next hole-section plus Test psi
Drill Ahead	Formation Pore Pressure	Max mud weight of next hole section
Displace to Gas	Formation Pore Pressure	Dry gas from next casing point

Surface Casing Collapse Design		
Load Case	**External Pressure**	**Internal Pressure**
Full Evacuation	Water gradient in cement, mud above TOC	None
Cementing	Wet cement weight	Water (8.33ppg)

Surface Casing Tension Design	
Load Case	**Assumptions**
Overpull	100kips
Runing in hole	3 ft/s
Service Loads	N/A

Fighting Okra 18-19 Fed 85H

Casing Assumptions and Load Cases

Intermediate

All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both Devon Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

Intermediate Casing Burst Design		
Load Case	**External Pressure**	**Internal Pressure**
Pressure Test	Formation Pore Pressure	Max mud weight of next hole-section plus Test psi
Drill Ahead	Formation Pore Pressure	Max mud weight of next hole section
Fracture @ Shoe	Formation Pore Pressure	Dry gas

Intermediate Casing Collapse Design		
Load Case	**External Pressure**	**Internal Pressure**
Full Evacuation	Water gradient in cement, mud above TOC	None
Cementing	Wet cement weight	Water (8.33ppg)

Intermediate Casing Tension Design	
Load Case	**Assumptions**
Overpull	100kips
Runing in hole	2 ft/s
Service Loads	N/A

R16 212

PHOENIX

QUALITY DOCUMENT

PHOENIX RUBBER INDUSTRIAL LTD.

6728 Szeged, Budapesti út 10. Hungary • H-6701 Szeged, P. O. Box 152
Phone: (3662) 566-737 • Fax: (3662) 566-738

SALES & MARKETING: H-1092 Budapest, Ráday u. 42-44. Hungary • H-1440 Budapest, P. O. Box 26
Phone: (361) 456-4200 · Fax: (361) 217-2872, 456-4273 · www.taurusemerge.hu

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE					CERT. N°: 552
PURCHASER: Phoenix Beattie Co.					P.O. N°: 1519FA-871
PHOENIX RUBBER order N°: 170466		HOSE TYPE: 3" ID		Choke and Kill Hose	
HOSE SERIAL N°: 34128		NOMINAL / ACTUAL LENGTH:		11,43 m	
W.P. 68,96 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	720 719	AISI 4130	C7626
4 1/16" Flange end		AISI 4130	47357

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 AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

Date:	Inspector	Quality Control
29. April. 2002.		PHOENIX RUBBER Industrial Ltd. Hose Inspection and Verification Dept.

CERTIFIED TRUE COPY
PHOENIX RUBBER Q.C.

Contingency Intermediate Cement

Additional Info for String	3	Additional String Description	Intermediate squeeze cement
Stage Tool Depth			

Lead

Top MD of Segment	0	Btm MD of Segment	7000	Cement Type	Class C
Additives	0.125 lbs/sack Poly-E-Flake	Quanity (sks)	1155	Yield (cu.ft./sk)	1.3
Density (lbs/gal)	14.5	Volume (cu.ft.)	1502	Percent Excess	0

Tail

Top MD of Segment		Top MD of Segment		Cement Type	
Additives		Quanity (sks)		Yield (cu.ft./sk)	
Density (lbs/gal)		Volume (cu.ft.)		Percent Excess	

Contingency Production Cement

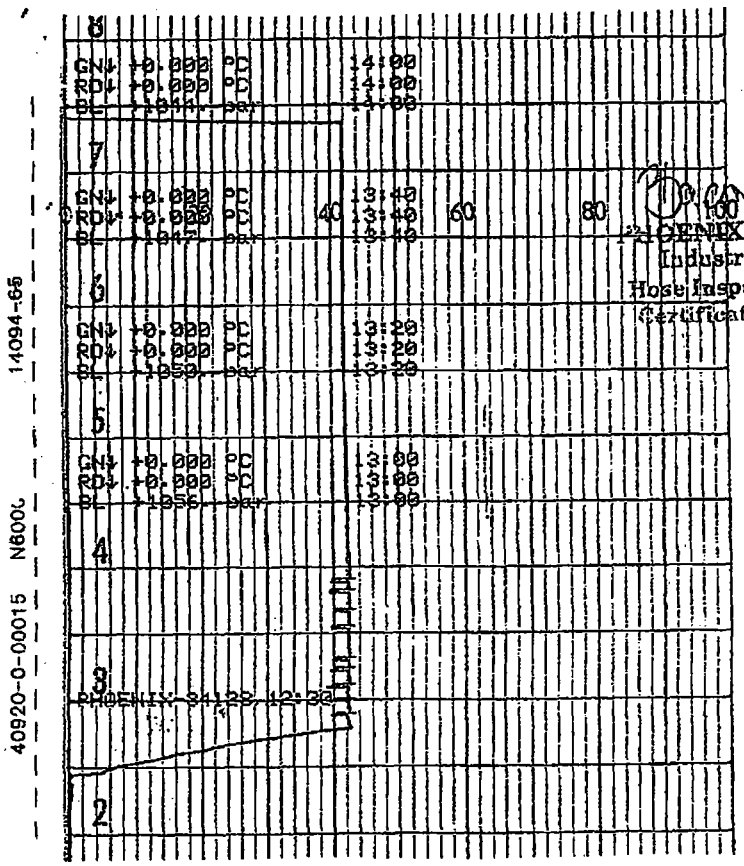
Additional Info for String		Additional String Description	
Stage Tool Depth			

Lead

Top MD of Segment		Btm MD of Segment		Cement Type	
Additives		Quanity (sks)		Yield (cu.ft./sk)	
Density (lbs/gal)		Volume (cu.ft.)		Percent Excess	

Tail

Top MD of Segment		Top MD of Segment		Cement Type	
Additives		Quanity (sks)		Yield (cu.ft./sk)	
Density (lbs/gal)		Volume (cu.ft.)		Percent Excess	



PHOENIX RUBBER
Industrial Ltd.
Hose Inspection and
Certification Dept.

VERIFIED TRUE CO:
PHOENIX RUBBER C.C.

Fighting Okra 18-19 Fed 85H

Casing Assumptions and Load Cases

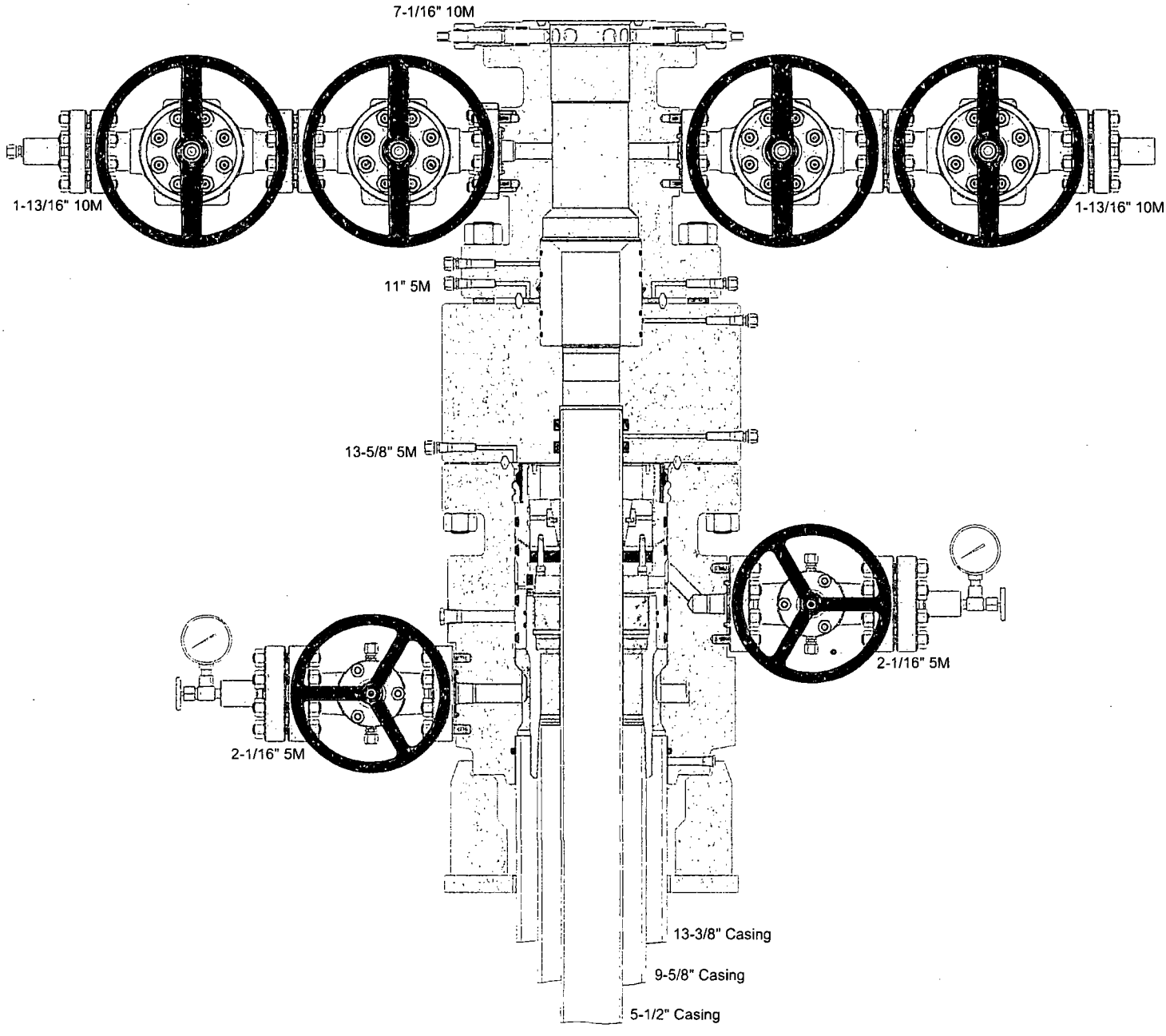
Production

All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both Devon Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

Production Casing Burst Design		
Load Case	**External Pressure**	**Internal Pressure**
Pressure Test	Formation Pore Pressure	Fluid in hole (water or produced water) + test psi
Tubing Leak	Formation Pore Pressure	Packer @ KOP, leak below surface 8.6 ppg packer fluid
Stimulation	Formation Pore Pressure	Max frac pressure with heaviest frac fluid

Production Casing Collapse Design		
Load Case	**External Pressure**	**Internal Pressure**
Full Evacuation	Water gradient in cement, mud above TOC.	None
Cementing	Wet cement weight	Water (8.33ppg)

Production Casing Tension Design	
Load Case	**Assumptions**
Overpull	100kips
Runing in hole	2 ft/s
Service Loads	N/A


7-1/16" 10M
1-13/16" 10M
1-13/16" 10M
11" 5M
13-5/8" 5M
2-1/16" 5M
2-1/16" 5M
13-3/8" Casing
9-5/8" Casing
5-1/2" Casing

Devon Energy
APD VARIANCE DATA

OPERATOR NAME: Devon Energy

1. SUMMARY OF Variance:

Devon Energy respectfully requests approval for the following additions to the drilling plan:

1. Potential utilization of a spudder rig to pre-set surface casing.

2. Description of Operations

1. A spudder rig contractor may move in their rig to drill the surface hole section and pre-set surface casing on this well.
    a. After drilling the surface hole section, the rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
    b. Rig will utilize fresh water based mud to drill surface hole to TD.
2. The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
3. A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wingvalves.
    a. A means for intervention will be maintained while the drilling rig is not over the well.
4. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
5. Drilling operation will be performed with the big rig. At that time an approved BOP stack will be nippled up and tested on the wellhead before drilling operations commences on each well.
    a. The BLM will be contacted / notified 24 hours before the big rig moves back on to the pad with the pre-set surface casing.
6. Devon Energy will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
7. Once the rig is removed, Devon Energy will secure the wellhead area by placing a guard rail around the cellar area.

Continental CONTITECH

Fluid Technology

ContiTech Beattie Corp.
Website: www.contitechbeattie.com

Monday, June 14, 2010

RE: Drilling & Production Hoses
Lifting & Safety Equipment

To Helmerich & Payne,

A Continental ContiTech hose assembly can perform as intended and suitable for the application regardless of whether the hose is secured or unsecured in its configuration. As a manufacturer of High Pressure Hose Assemblies for use in Drilling & Production, we do offer the corresponding lifting and safety equipment, this has the added benefit of easing the lifting and handling of each hose assembly whilst affording hose longevity by ensuring correct handling methods and procedures as well as securing the hose in the unlikely event of a failure; but in no way does the lifting and safety equipment affect the performance of the hoses providing the hoses have been handled and installed correctly. It is good practice to use lifting & safety equipment but not mandatory.

Should you have any questions or require any additional information/clarifications then please do not hesitate to contact us.

ContiTech Beattie is part of the Continental AG Corporation and can offer the full support resources associated with a global organization.

Best regards,

Robin Hodgson
Sales Manager
ContiTech Beattie Corp

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