OCD Hobbs

ATS-14-750

HOBBS OCD

Form 3160-3
(March 2012)

DEC 03 2014

RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. NMNM112941

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. COBBER 21 FED 1H (313933)

2. Name of Operator Devon Energy Production Company, L.P. (6137)

9. API Well No. 30-025-42311

3a. Address 333 W. Sheridan, Oklahoma City, OK 73102

3b. Phone No. (include area code) 405.552.7848

10. Field and Pool, or Exploratory BRADLEY; BS (7280)

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

At surface 65 FSL & 660 FEL, Unit P PP: 65 FSL & 660 FEL

At proposed prod. zone 330 FNL & 660 FEL, Unit A (UNORTHODOX LOCATION)

11. Sec., T. R. M. or Blk. and Survey or Area Sec 21, T26S, R34E

14. Distance in miles and direction from nearest town or post office* Approximately 16 miles SW of Jal, NM

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) See attached map

16. No. of acres in lease 640 ac

17. Spacing Unit dedicated to this well 160 ac

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. See attached map

19. Proposed Depth TVD: 10,100'; MD: 14,775'

20. BLM/BIA Bond No. on file CO-1104; NBM-000801

21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3,286' GL

22. Approximate date work will start* 10/01/2014

23. Estimated duration 45 Days

24. Attachments

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

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

25. Signature

Name (Printed/Typed) David H. Cook

Date 04/23/2014

Title Regulatory Compliance Professional

Approved by (Signature) Steve Caffey

Name (Printed/Typed)

Date NOV 25 2014

Title FIELD MANAGER

Office CARLSBAD FIELD OFFICE

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.

APPROVAL FOR TWO YEARS

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)

*(Instructions on page 2)

K 12/04/14

Carlsbad Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

DEC 04 2014

Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road proposed herein; that I am familiar with the conditions that presently 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 Devon Energy Production Company, L.P. 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.

I hereby also certify that I, or Devon Energy Production Company, L.P. have made a good faith effort to provide the surface owner with a copy of the Surface Use Plan of Operations and any Conditions of Approval that are attached to the APD.

Executed this _23th__ day of __April, 2014.
Printed Name: David H. Cook
Signed Name: _____
Position Title: Regulatory Specialist
Address: 333 W. Sheridan, OKC OK 73102
Telephone: (405)-552-7848

DRILLING PROGRAM

Devon Energy Production Company, L.P.
Cobber 21 Fed 1H

1. **Geologic Name of Surface Formation:** Quaternary

2. **Estimated Tops of Geological Markers & Depths of Anticipated FW, Oil, or Gas:**

a.	Fresh Water	200'	
b.	Rustler	960'	Barren
c.	Salado	1100'	Barren
d.	Top of Salt	1175'	Barren
e.	Castile	3460'	Barren
f.	Base of Salt	5042'	Barren
g.	Delaware	5296'	Oil / Gas
h.	Bell Canyon	5332'	Oil
i.	Cherry Canyon	6340'	Oil
j.	Brushy Canyon	7945'	Oil
	Total Depth	10100' TVD	14775' MD

3. **Pressure Control Equipment:**

A 3M 13-5/8" BOP system (Double Ram and Annular preventer) will be installed and tested prior to drilling out the surface casing shoe. The BOP system used to drill the intermediate hole will be tested per BLM Onshore Oil and Gas Order 2.

A 3M 13-5/8" BOP system (Double Ram and Annular preventer) will be installed and tested prior to drilling out the intermediate casing shoe. The BOP system used to drill the production hole will be tested per BLM Onshore Oil and Gas Order 2.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 3,000 psi WP.

See COA

Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line). The line will be kept as straight as possible with minimal turns and will be secured with anchors and/or safety clamps as per the manufacturer's requirements. (See attached spec sheets).

Auxiliary Well Control and Monitoring Equipment:

a. A Kelly cock will be in the drill string at all times.
b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.

4. **Casing Program:**

See COA

Hole Size	Hole Interval	Casing OD	Casing Interval	Weight (lb/ft)	Collar	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17-1/2"	0 – 1,000'	13-3/8"	0 - 1,000'	48	STC	H-40	1.72	3.87	11.27
12-1/4"	1,000-5,300' (5340')	9-5/8"	0 - 5,300'	40	BTC	HCK-55	1.53	1.43	4.37
8-3/4"	5,300-14,775'	5-1/2"	0 - 14,775'	17	BTC	P-110	1.78	2.20	3.31

Casing Notes:

- All casing is new and API approved

Maximum Lateral TVD: 10,100'

5. **Proposed mud Circulations System:**

See COA

Depth	Mud Weight	Viscosity	Fluid Loss	Type System
0-1,000'	8.4-8.6	30-34	N/C	FW
1,000-5,300' (5340')	10.0	28-32	N/C	Brine
5,300-14,775'	8.6-9.2	28-32	N/C	FW

The necessary mud products for weight addition and fluid loss control will be on location at all times. Visual mud monitoring equipment will be in place to detect volume changes indicating loss or gain of circulating fluid volume. If abnormal pressures are encountered, electronic/mechanical mud monitoring equipment will be installed.

6. Cementing Table:

String	Number of sx	Weight lbs/gal	Water Volume g/sx	Yield cf/sx	Stage; Lead/Tail	Slurry Description
13-3/8" Surface Casing	410	13.5	9.08	1.72	Lead	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 4% bwoc Bentonite + 70.1% Fresh Water
	560	14.8	6.34	1.33	Tail	Class C Cement + 63.5% Fresh Water
9-5/8" Intermediate Casing	1190	12.9	9.82	1.85	Lead	(65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 70.9 % Fresh Water
	430	14.8	6.32	1.33	Tail	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water
5-1/2" Production Casing	570	11	14.94	2.66	Lead	Tuned Light® Cement + 0.125 lb/sk Pol-E-Flake + 76.5% Fresh Water
	1360	14.5	5.31	1.20	Tail	(50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.25% bwoc CFR-3 + 0.1% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water

TOC for all Strings:

13-3/8" Surface Csg	@	0'
9-5/8" Intermediate Csg	@	0'
5-1/2" Production Csg	@	~~4,800~~ 4840'

Notes:

- Cement volumes Surface 100%, Intermediate 50%, Production based on at least 25% excess
- Actual cement volumes will be adjusted based on fluid caliper and caliper log data

7. Logging, Coring, and Testing Program:

a. Drill stem tests will be based on geological sample shows.
b. If a drill stem test is anticipated, a procedure, equipment to be used, and safety measures will be provided via sundry notice to the BLM.
c. Resistivity and porosity logs are planned below the intermediate casing point. Stated logs run will be named in the Completion Report and submitted to the BLM.
d. No coring program is planned
e. Additional Testing will be initiated subsequent to setting the production casing. Specific intervals will be targeted based on log evaluation, geological sample shows, and drill stem tests.

8. Potential Hazards:

a. No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area, and none is anticipated to be encountered. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation being used to drill this well. Estimated BHP: 4545 psi, and estimated BHT: 161 degrees.
b. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13-3/8" casing shoe until the 5-1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13-3/8" shoe until total depth is reached.

9. Anticipated Starting Date and Duration of Operations:

a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 20 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

devon

Weatherford

Cobber 21 Fed 1H
Lea Co, NM

Plan Data for Cobber 21 Fed 1H

Plan Point Information:
DogLeg Severity Unit: °/100.00ft Position offsets from Slot centre

MD (USft)	Inc (°)	Az (°)	TVD (USft)	+N/-S (USft)	+E/-W (USft)	Northing (USft)	Easting (USft)	VSec (USft)	DLS (DLSU)
0.00	0.00	0.00	0.00	0.00	0.00	372767.99	809394.37	0.00	0.00
9622.54	0.00	0.00	9622.54	0.00	0.00	372767.99	809394.37	0.00	0.00
10372.54	90.00	359.50	10100.00	477.45	-4.14	373245.44	809390.23	477.45	12.00
14775.11	90.00	359.50	10100.00	4879.85	-42.32	377647.84	809352.05	4879.85	0.00

Plan Data for Cobber 21 Fed 1H

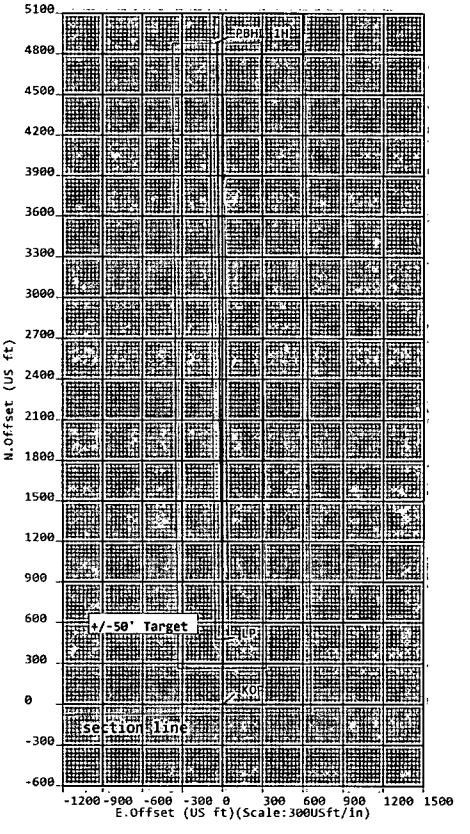
Slot: Cobber 21 Fed 1H
Position:
Offset is from Site centre
+N/-S: 0.00USft Northing: 372767.99USft Latitude: 32°1'18.7"
+E/-W: 0.00USft Easting: 809394.37USft Longitude: -103°28'6.3"
Elevation Above VRD: 3286.00USft

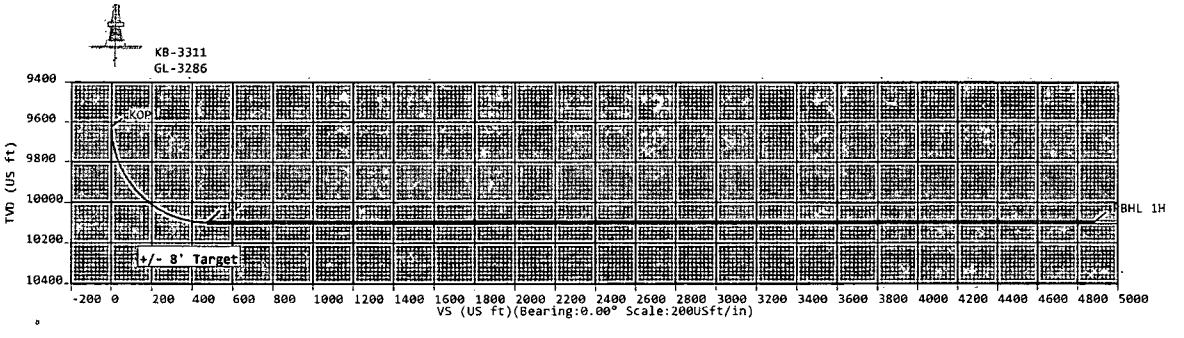
Plan Data for Cobber 21 Fed 1H

Target Set Information:
Name: Cobber 21 Fed 1H
Position offsets from Slot centre

Name	TVD (USft)	+N/-S (USft)	+E/-W (USft)	Northing (USft)	Easting (USft)	Shape	Comment
PBHL	10100.00	4879.85	-42.32	377647.84	809352.05	Cuboid	

Cobber 21 Fed 1H





Sign Off: Russell Joyner

5D Plan Report

Devon Energy

Field Name: *Lea Co, NM Nad 83 NMEZ*
Site Name: *Cobber 21 Fed 1H*
Well Name: *Cobber 21 Fed 1H*
Plan: *P1:V2*

21 April 2014

5D Plan Report

Cobber 21 Fed 1H

Field Name
Lea Co, NM Nad 83 NMEZ

Map Units : US ft **Company Name :** Devon Energy
Vertical Reference Datum (VRD) : Mean Sea Level
Projected Coordinate System : NAD83 / New Mexico East (ftUS)
Comment :

Site Name
Cobber 21 Fed 1H

Units : US ft **North Reference :** Grid **Convergence Angle :** 0.46
Position **Northing :** 372767.99 US ft **Latitude :** 32° 1' 18.73"
Easting : 809394.37 US ft **Longitude :** -103° 28' 6.27"
Elevation above Mean Sea Level: 3286.00 US ft
Comment :

Slot Name
Cobber 21 Fed 1H

Position (Offsets relative to Site Centre)
+N / -S : 0.00 US ft **Northing :** 372767.99 US ft **Latitude :** 32°1'18.73"
+E / -W : 0.00 US ft **Easting :** 809394.37 US ft **Longitude :** -103°28'6.27"
Slot TVD Reference : Ground Elevation
Elevation above Mean Sea Level : 3286.00 US ft
Comment :

Well Name
Cobber 21 Fed 1H

Type : Main well **UWI :** **Plan :** P1:V2
Rig Height *Drill Floor* : 25.00 US ft **Comment :**
Relative to Mean Sea Level: 3311.00 US ft
Closure Distance : 4880.03 US ft **Closure Azimuth :** 359.503°
Vertical Section (Position of Origin Relative to Slot)
+N / -S : 0.00 US ft **+E / -W :** 0.00 US ft **Az :** 359.50°
Magnetic Parameters
Model : BGGM **Field Strength :** 48215.7nT **Dec :** 7.27° **Dip :** 59.93° **Date :** 21/May/2014

Target Set

Name : Cobber 21 Fed 1H **Number of Targets :** 1

Comment :

Target Name:
PBHL

Position (Relative to Slot centre)
+N / -S : 4879.85US ft **Northing :** 377647.84 US ft **Latitude :** 32°2'7.02"
+E / -W : -42.32 US ft **Easting :** 809352.05US ft **Longitude :** -103°28'6.31"

Shape:
Cuboid

TVD (Drill Floor) : 10100.00 US ft

Orientation **Azimuth :** 359.50° **Inclination :** 0.00°
Dimensions **Length :** 8805.00 US ft **Breadth :** 100.00 US ft **Height :** 16.00 US ft

Casing Points (Relative to Slot centre, TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Name
1000.00	0.00	0.00	1000.00	0.00	0.00	372767.99	809394.37	13 3/8 in
5300.00	0.00	0.00	5300.00	0.00	0.00	372767.99	809394.37	9 5/8 in

5D Plan Report

Well path created using minimum curvature

Salient Points (Relative to Slot centre, TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	DLS (°/100 US ft)	VS (US ft)	B.Rate (°/100 US ft)	T.Rate (°/100 US ft)	T.Face (°)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13 3/8-in
5300.00	0.00	0.00	5300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9 5/8-in
9622.54	0.00	0.00	9622.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP
10372.54	90.00	359.50	10100.00	477.45	-4.14	12.00	477.47	12.00	0.00	359.50	LP
14775.11	90.00	359.50	10100.00	4879.85	-42.32	0.00	4880.03	0.00	0.00	0.00	PBHL 1H

Interpolated Points (Relative to Slot centre, TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Northing (US ft)	Easting (US ft)	Comment
9600.00	0.00	0.00	9600.00	0.00	0.00	0.00	0.00	372767.99	809394.37	
9622.54	0.00	0.00	9622.54	0.00	0.00	0.00	0.00	372767.99	809394.37	KOP
9700.00	9.30	359.50	9699.66	6.27	-0.05	6.27	12.00	372774.26	809394.32	
9800.00	21.30	359.50	9795.94	32.60	-0.28	32.60	12.00	372800.59	809394.09	
9900.00	33.30	359.50	9884.65	78.37	-0.68	78.37	12.00	372846.36	809393.69	
10000.00	45.30	359.50	9961.89	141.58	-1.23	141.59	12.00	372909.57	809393.14	
10100.00	57.30	359.50	10024.31	219.48	-1.90	219.49	12.00	372987.47	809392.47	
10200.00	69.30	359.50	10069.17	308.64	-2.68	308.66	12.00	373076.63	809391.69	
10300.00	81.30	359.50	10094.51	405.19	-3.51	405.20	12.00	373173.18	809390.86	
10372.54	90.00	359.50	10100.00	477.45	-4.14	477.47	12.00	373245.44	809390.23	LP
10400.00	90.00	359.50	10100.00	504.91	-4.38	504.92	0.00	373272.90	809389.99	
10500.00	90.00	359.50	10100.00	604.90	-5.25	604.92	0.00	373372.89	809389.12	
10600.00	90.00	359.50	10100.00	704.90	-6.11	704.92	0.00	373472.89	809388.26	
10700.00	90.00	359.50	10100.00	804.89	-6.98	804.92	0.00	373572.88	809387.39	
10800.00	90.00	359.50	10100.00	904.89	-7.85	904.92	0.00	373672.88	809386.52	
10900.00	90.00	359.50	10100.00	1004.89	-8.71	1004.92	0.00	373772.88	809385.66	
11000.00	90.00	359.50	10100.00	1104.88	-9.58	1104.92	0.00	373872.87	809384.79	
11100.00	90.00	359.50	10100.00	1204.88	-10.45	1204.92	0.00	373972.87	809383.92	
11200.00	90.00	359.50	10100.00	1304.88	-11.32	1304.92	0.00	374072.87	809383.05	
11300.00	90.00	359.50	10100.00	1404.87	-12.18	1404.92	0.00	374172.86	809382.19	
11400.00	90.00	359.50	10100.00	1504.87	-13.05	1504.92	0.00	374272.86	809381.32	
11500.00	90.00	359.50	10100.00	1604.86	-13.92	1604.92	0.00	374372.85	809380.45	
11600.00	90.00	359.50	10100.00	1704.86	-14.79	1704.92	0.00	374472.85	809379.58	
11700.00	90.00	359.50	10100.00	1804.86	-15.65	1804.92	0.00	374572.85	809378.72	
11800.00	90.00	359.50	10100.00	1904.85	-16.52	1904.92	0.00	374672.84	809377.85	
11900.00	90.00	359.50	10100.00	2004.85	-17.39	2004.92	0.00	374772.84	809376.98	
12000.00	90.00	359.50	10100.00	2104.85	-18.25	2104.92	0.00	374872.84	809376.12	
12100.00	90.00	359.50	10100.00	2204.84	-19.12	2204.92	0.00	374972.83	809375.25	
12200.00	90.00	359.50	10100.00	2304.84	-19.99	2304.92	0.00	375072.83	809374.38	
12300.00	90.00	359.50	10100.00	2404.83	-20.86	2404.92	0.00	375172.82	809373.51	
12400.00	90.00	359.50	10100.00	2504.83	-21.72	2504.92	0.00	375272.82	809372.65	
12500.00	90.00	359.50	10100.00	2604.83	-22.59	2604.92	0.00	375372.82	809371.78	
12600.00	90.00	359.50	10100.00	2704.82	-23.46	2704.92	0.00	375472.81	809370.91	
12700.00	90.00	359.50	10100.00	2804.82	-24.32	2804.92	0.00	375572.81	809370.05	
12800.00	90.00	359.50	10100.00	2904.82	-25.19	2904.92	0.00	375672.81	809369.18	
12900.00	90.00	359.50	10100.00	3004.81	-26.06	3004.92	0.00	375772.80	809368.31	
13000.00	90.00	359.50	10100.00	3104.81	-26.93	3104.92	0.00	375872.80	809367.44	
13100.00	90.00	359.50	10100.00	3204.80	-27.79	3204.92	0.00	375972.79	809366.58	
13200.00	90.00	359.50	10100.00	3304.80	-28.66	3304.92	0.00	376072.79	809365.71	
13300.00	90.00	359.50	10100.00	3404.80	-29.53	3404.92	0.00	376172.79	809364.84	
13400.00	90.00	359.50	10100.00	3504.79	-30.39	3504.92	0.00	376272.78	809363.98	
13500.00	90.00	359.50	10100.00	3604.79	-31.26	3604.92	0.00	376372.78	809363.11	
13600.00	90.00	359.50	10100.00	3704.79	-32.13	3704.92	0.00	376472.78	809362.24	
13700.00	90.00	359.50	10100.00	3804.78	-33.00	3804.92	0.00	376572.77	809361.37	
13800.00	90.00	359.50	10100.00	3904.78	-33.86	3904.92	0.00	376672.77	809360.51	
13900.00	90.00	359.50	10100.00	4004.77	-34.73	4004.92	0.00	376772.76	809359.64	
14000.00	90.00	359.50	10100.00	4104.77	-35.60	4104.92	0.00	376872.76	809358.77	

5D Plan Report

Interpolated Points (Relative to Slot centre, TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Northing (US ft)	Easting (US ft)	Comment
14100.00	90.00	359.50	10100.00	4204.77	-36.47	4204.92	0.00	376972.76	809357.90	
14200.00	90.00	359.50	10100.00	4304.76	-37.33	4304.92	0.00	377072.75	809357.04	
14300.00	90.00	359.50	10100.00	4404.76	-38.20	4404.92	0.00	377172.75	809356.17	
14400.00	90.00	359.50	10100.00	4504.76	-39.07	4504.92	0.00	377272.75	809355.30	
14500.00	90.00	359.50	10100.00	4604.75	-39.93	4604.92	0.00	377372.74	809354.44	
14600.00	90.00	359.50	10100.00	4704.75	-40.80	4704.92	0.00	377472.74	809353.57	
14700.00	90.00	359.50	10100.00	4804.74	-41.67	4804.92	0.00	377572.73	809352.70	
14775.11	90.00	359.50	10100.00	4879.85	-42.32	4880.03	0.00	377647.84	809352.05	PBHL 1H

Weatherford

Weatherford Drilling Services

GeoDec4 v2.0.0.3

Report Date:	April 21, 2014
Job Number:	
Customer:	Devon Energy
Well Name:	Cobber 21 Fed 1H
API Number:	
Rig Name:	
Location:	Lea Co, NM Nad83 NME
Block:	
Engineer:	RWJ

NAD83 / New Mexico East (ftUS)	NAD83 (1986)
Projected Coordinate System	Geodetic Coordinate System
Datum: North American Datum 1983 (1986)	Datum: North American Datum 1983 (1986)
Ellipsoid: GRS 1980	Ellipsoid: GRS 1980
EPSG: 2257	EPSG: 4269
North: 372767.99 US Survey Foot	Latitude: 32.02187 Degree
East: 809394.37 US Survey Foot	Longitude: -103.46841 Degree
Convergence: 0.46°	
Declination: 7.27°	
Total Correction: 6.81°	
Datum Transformation: none	

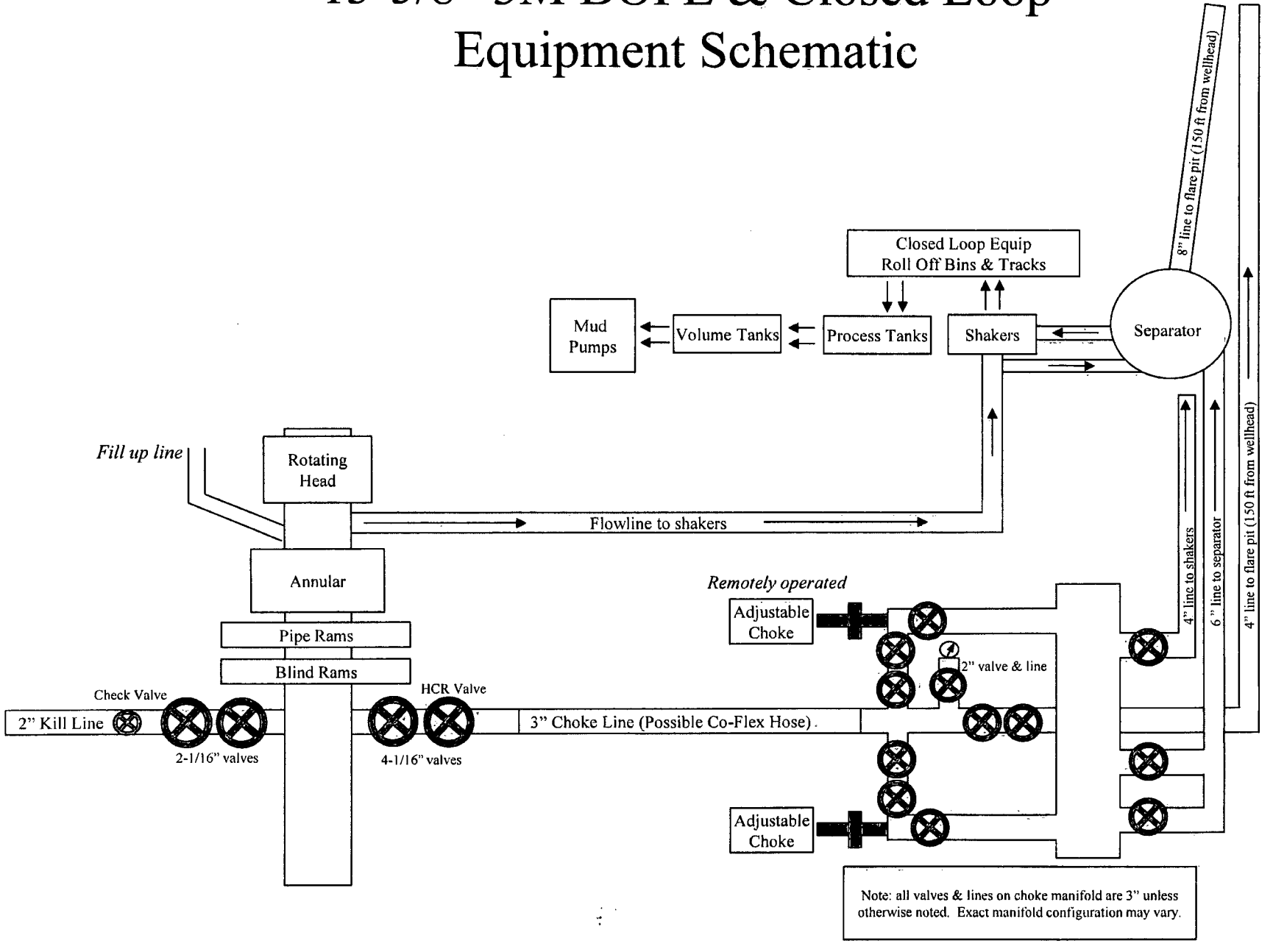
Geodetic Location WGS84

MSL Elevation	=	0 m
Latitude	=	32° 01' 18.73" N
Longitude	=	103° 28' 06.27" W

Magnetic Declination	=	7.27 deg	[True North Offset]		
Local Gravity	=	.9988 g	CheckSum	=	6756
Local Field Strength	=	48216 nT	Magnetic Vector X	=	23967 nT
Magnetic Dip	=	59.93 deg	Magnetic Vector Y	=	3059 nT
Magnetic Model	=	bggm2013.bgs	Magnetic Vector Z	=	41725 nT
Run Date	=	May 21, 2014	Magnetic Vector H	=	24161 nT

Signed:_____ Date:_____

13-5/8" 3M BOPE & Closed Loop Equipment Schematic



NOTES REGARDING BLOWOUT PREVENTERS

Devon Energy Production Company, L.P.
Cobber 21 Fed 1H

1. Drilling Nipple will be constructed so it can be removed mechanically without the aid of a welder. The minimum internal diameter will equal BOP bore.

2. Wear ring will be properly installed in head.

3. Blowout preventer and all associated filings will be in operable condition to withstand a minimum of 3000psi working pressure.

4. All fittings will be flanged.

5. A fill bore safety valve tested to a minimum of 3000psi WP with proper thread connections will be available on the rotary rig floor at all times.

6. All choke lines will be anchored to prevent movement.

7. All BOP equipment will be equal to or larger in bore than the internal diameter of the last casing string.

8. Will maintain a kelly cock attached to the kelly.

9. Hand wheels and wrenches will be properly installed and tested for safe operation.

10. Hydraulic floor control for blowout preventer will be located as near in proximity to driller's controls as possible.

11. All BOP equipment will meet API standards and include a minimum 40 gallon accumulator having two independent means of power to initiate closing operation.

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

ContiTech Beattie Corp,
11535 Brittmoore Park Drive,
Houston, TX 77041
Phone: +1 (832) 327-0141
Fax: +1 (832) 327-0148
www.contitechbeattie.com

Continental CONTITECH

Fluid Technology

Quality Document

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE					CERT. N°:	1713	
PURCHASER:	ContiTech Beattie Co.				P.O. N°:	002808	
CONTITECH ORDER N°:	426127	HOSE TYPE:	3"	ID	Choke and Kill Hose		
HOSE SERIAL N°:	53622	NOMINAL / ACTUAL LENGTH:			10,67 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	5503 2029	AISI 4130	N1590P
4 1/16" Flange end		AISI 4130	27566

INFOCHIP INSTALLED

API Spec 16 C
Temperature rate:"B"

All metal parts are flawless

Hose conform to NACE MR 01-75

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
25. August. 2008		ContiTech Rubber Industrial Kft. Quality Control Dept.

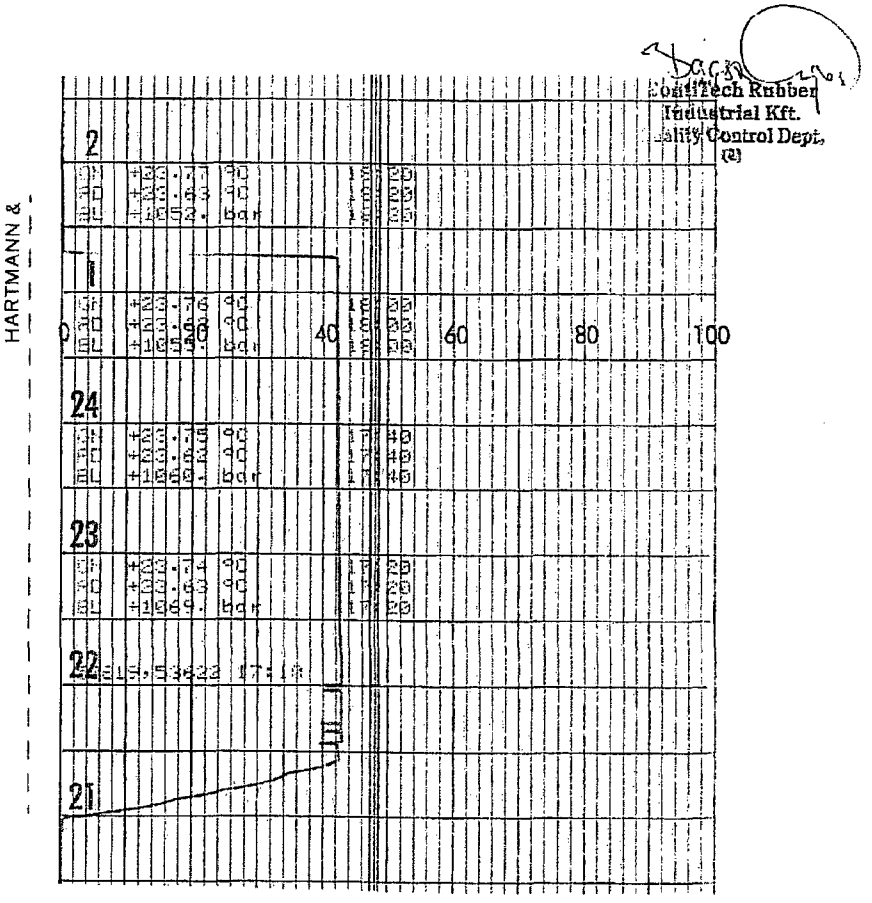
ContiTech Rubber Industrial Kft.
Budapesti út 10., Szeged H 6728
P.O.Box 152 Szeged H-6701
Hungary

Phone: +36 62 566 737
Fax: +36 62 566 738
e-mail: info@fluid.contitech.hu
Internet: www.contitech-rubber.hu

The Court of Csongrád County as Registry Court
Registry Court No: HU 06-09-002502
EU VAT No: HU11087209

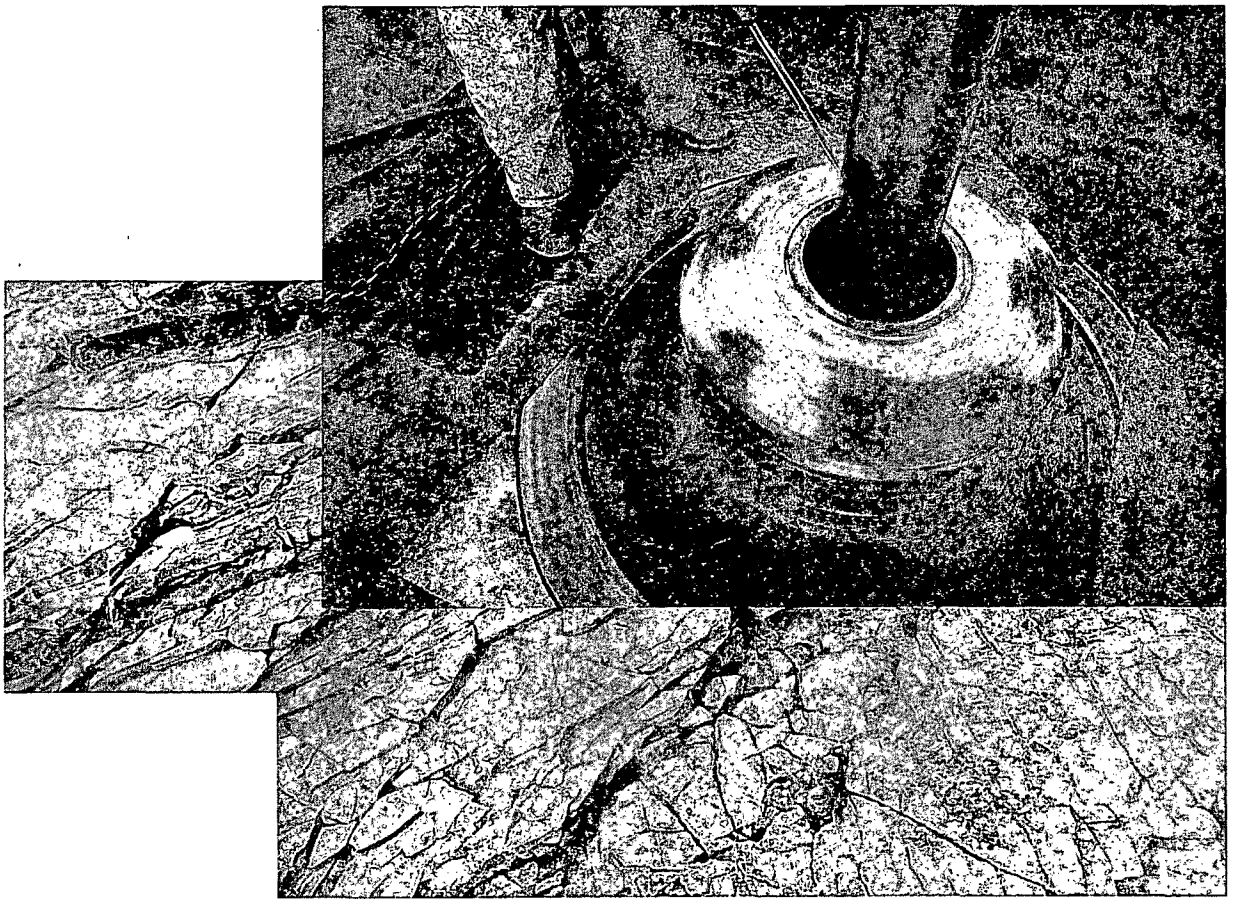
Bank data
Commerzbank Zrt.
Szeged
14220108-26830003-00000000

ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE No 1711,1713



devon

Commitment Runs Deep



Design Plan
Operation and Maintenance Plan
Closure Plan

SENM - Closed Loop Systems
February 2014

I. Design Plan

Devon uses MI SWACO closed loop system (CLS). The MI SWACO CLS is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This insures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

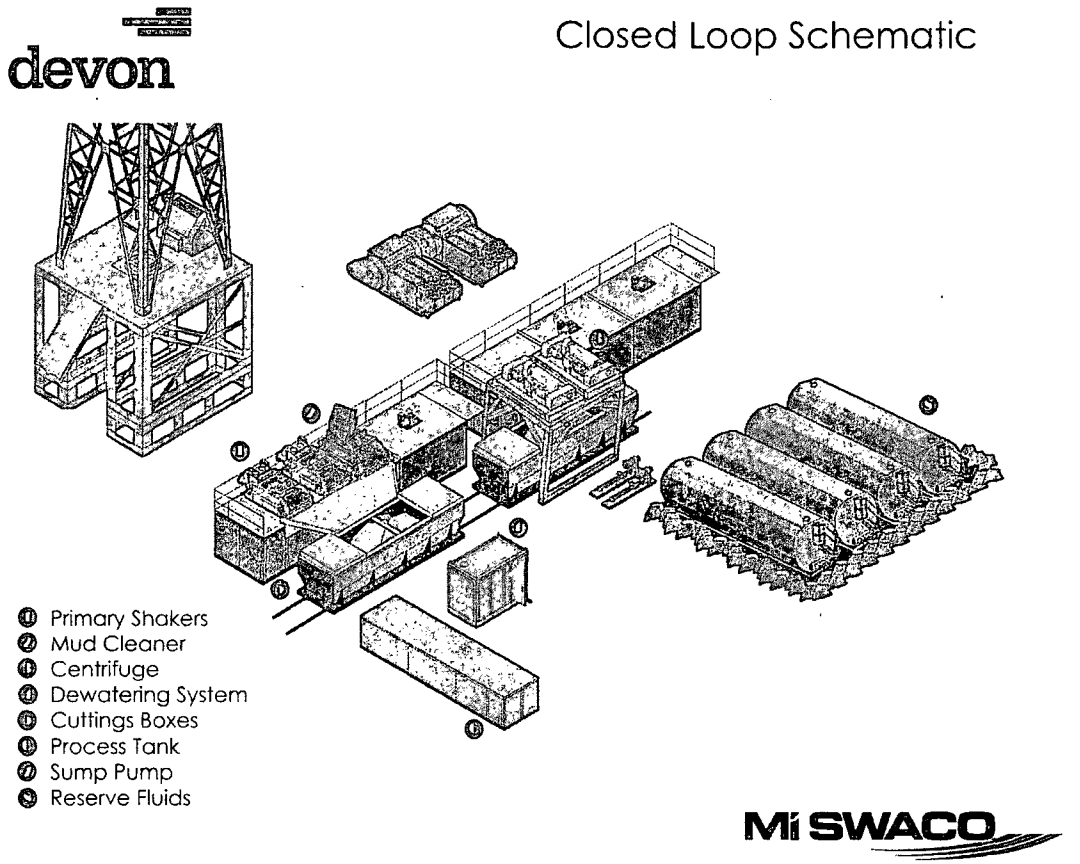
Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

Signs will be posted on the fence surrounding the closed-loop system unless the closed-loop system is located on a site where there is an existing well, that is operated by Devon.

II. Operations and Maintenance Plan

Primary Shakers: The primary shakers make the first removal of drill solids from the drilling mud as it leaves the well bore. The shakers are sized to handle maximum drilling rate at optimal screen size. The shakers normally remove solids down to 74 microns.

Mud Cleaner: The Mud Cleaner cleans the fluid after it leaves the shakers. A set of hydrocyclones are sized to handle 1.25 to 1.5 times the maximum circulating rate. This ensures all the fluid is being processed to an average cut point of 25 microns. The wet discharged is dewatered on a shaker equipped with ultra fine mesh screens and generally cut at 40 microns.



Centrifuges: The centrifuges can be one or two in number depending on the well geometry or depth of well. The centrifuges are sized to maintain low gravity solids at 5% or below. They may or may not need a dewatering system to enhance the removal rates. The centrifuges can make a cut point of 8-10 microns depending on bowl speed, feed rate, solids loading and other factors.

The centrifuge system is designed to work on the active system and be flexible to process incoming fluids from other locations. This set-up is also dependant on well factors.

Dewatering System: The dewatering system is a chemical mixing and dosing system designed to enhance the solids removal of the centrifuge. Not commonly used in shallow wells. It may contain pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing. Chemical flocculation binds ultra fine solids into a mass that is within the centrifuge operating design. The

dewatering system improves the centrifuge cut point to infinity or allows for the return of clear water or brine fluid. This ability allows for the ultimate control of low gravity solids.

Cuttings Boxes: Cuttings boxes are utilized to capture drill solids that are discarded from the solids control equipment. These boxes are set upon a rail system that allows for the removal and replacement of a full box of cuttings with an empty one. They are equipped with a cover that insures no product is spilled into the environment during the transportation phase.

Process Tank: (Optional) The process tank allows for the holding and process of fluids that are being transferred into the mud system. Additionally, during times of lost circulation the process tank may hold active fluids that are removed for additional treatment. It can further be used as a mixing tank during well control conditions.

Sump and Sump Pump: The sump is used to collect storm water and the pump is used to transfer this fluid to the active system or to the tank for to hold in reserve. It can also be used to collect fluids that may escape during spills. The location contains drainage ditches that allow the location fluids to drain to the sump.

Reserve Fluids (Tank Farm): A series of frac tanks are used to replace the reserve pit. These are steel tanks that are equipped with a manifold system and a transfer pump. These tanks can contain any number of fluids used during the drilling process. These can include fresh water, cut brine, and saturated salt fluid. The fluid can be from the active well or reclaimed fluid from other locations. A 20 ml liner and berm system is employed to ensure the fluids do not migrate to the environment during a spill.

If a leak develops, the appropriate division district office will be notified within 48 hours of the discovery and the leak will be addressed. Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and testing will be performed to determine if a release has occurred.

All trash is kept in a wire mesh enclosure and removed to an approved landfill when full. All spent motor oils are kept in separate containers and they are removed and sent to an approved recycling center. Any spilled lubricants, pipe

dope, or regulated chemicals are removed from soil and sent to landfills approved for these products.

These operations are monitored by Mi Swaco service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

A MI SWACO field supervisor manages from 3-5 wells. They are responsible for training personnel, supervising installations, and inspecting sites for compliance of MI SWACO safety and operational policy.

III. Closure Plan

A maximum 340' X 340' caliche pad is built per well. All of the trucks and steel tanks fit on this pad. All fluid cuttings go to the steel tanks to be hauled by various trucking companies to an agency approved disposal.

H&P Flex Rig Location Layout