

OCD-HOBBS

HOBBS OCD

DEC 12 2011

ATS-11-950

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM-114990	
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator Devon Energy Production Co., LP		7. If Unit or CA Agreement, Name and No.	
3a. Address 20 North Broadway OKC, OK 73102		8. Lease Name and Well No. Ichabod 7 Fed 2H <i>38479</i>	
3b. Phone No. (include area code) (405)-236-3511		9. API Well No. 30025-41239	
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface NWNE 380' FNL & 1336' FEL Unit B UNORTHODOX LOCATION At proposed prod. zone SWSE 330' FSL & 1386' FEL Unit O		10. Field and Pool, or Exploratory Wildcat; Bone Spring <i>978927</i>	
11. Sec., T. R. M. or Blk. and Survey or Area Sec 7 T26S R34E		12. County or Parish Lea	
13. State NM		14. Distance in miles and direction from nearest town or post office* Approximately 17 miles west of Jal, NM	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 330'		16. No. of acres in lease 1,241.6 ac	
17. Spacing Unit dedicated to this well 160 acres		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. See attached map	
19. Proposed Depth TVD 9,999' MD 14,277' P.H. 10460		20. BLM/BIA Bond No. on file CO-1104	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3353' GL		22. Approximate date work will start* 02/01/2012	
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 <i>Spence Laird</i>	Name (Printed/Typed) Spence Laird	Date 08/03/2011
Title Regulatory Analyst		
Approved by (Signature) <i>/s/ James Stovall</i>	Name (Printed/Typed)	Date DEC 6 2011
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.

*(Instructions on page 2)

Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

JUL 02 2013

dm

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DRILLING PROGRAM

DEC 12 2011

Devon Energy Production Company, LP

Ichabod 7 Federal 2H**RECEIVED**

Surface Location: 380' FNL & 1336' FEL, Unit B, Sec 7 T26S R34E, Lea, NM

Bottom hole Location: 330' FSL & 1386' FEL, Unit O, Sec 7 T26S R34E, Lea, NM

1. Geologic Name of Surface Formation

- a. Permian

2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas:

a. Quaternary	20'	Water
b. Rustler	903'	Water
c. Salado Salt	1250'	
d. Base of Salt	5060'	
e. Bell Canyon	5261'	Oil
f. Cherry Canyon	6312'	Oil
g. Brushy Canyon	8327'	Oil
h. Avalon Shale/top Bone Springs	9540'	Oil
i. Primary Target landing zone	9940'	Oil
j. Pilot Hole TD	10640'	Oil

Pool Name: Salado Draw NE

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13 3/8" casing at ~~975'~~ and circulating cement back to surface. The fresh water sands will be protected by setting 9 5/8" casing at ~~5300'~~ and circulating cement to surface. The Avalon Shale/Bone Spring intervals will be isolated by setting 5 1/2" casing to total depth and circulating cement above the base of the 9 5/8" casing. All casing is new and API approved.

3. Casing Program:

<u>Hole Size</u>	<u>Hole Interval</u>	<u>OD Csg</u>	<u>Casing Interval</u>	<u>Weight</u>	<u>Collar</u>	<u>Grade</u>
See COA 17 1/2"	0'-975' 910	13 3/8"	0'-975'	48#	STC	H-40
12 1/4"	975'-5300' 5200	9 5/8"	0'-5300'	40#	LTC	HCK-55
8 3/4"	5300' - 10640'	5 1/2" (PH)				
8 3/4"	10270' - 14277'	5 1/2"	0' - 9200'	17#	LTC	HCP-110
			9200' - 14277'	17#	BTC	HCP-110

Design Parameter Factors:

<u>Casing Size</u>	<u>Collapse Design Factor</u>	<u>Burst Design Factor</u>	<u>Tension Design Factor</u>
13 3/8"	1.6	3.6	6.7
9 5/8"	1.4	2.3	4.7
5 1/2"	1.3	1.7	2.3

4. Cement Program:

Cementing Program

All Cement Volumes exceed 25% excess

Plug Back Volume: Whipstock with cement plug from 10,640' -9,300' 630 sacks class H with a 1.18 cuft/sack yield

13 3/8" Surface	Lead: 565 sacks Premium Plus C Cement + 0.125 lbs/sack Cello Flake + 4% bwoc Bentonite + 5% bwow Sodium Chloride + 0.8% bwoc Sodium Metasilicate + 5% bwoc MPA-5 Yield: 1.75 cf/sack. TOC @ surface. Tail: 300 sacks Premium Plus C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake Yield: 1.35 cf/sack.
9 5/8" Intermediate	Lead: 1315 sacks (35:65) Poz (Fly Ash):Premium Plus C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite Yield: 2.04 cf/sack. TOC @ surface. Tail: 300 sacks (60:40) Poz (Fly Ash):Premium Plus C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.4% bwoc Sodium Metasilicate + 4% bwoc MPA-5 Yield: 1.37 cf/sack.
5 1/2" Production	1 St Stage Lead: 700 sacks (35:65) Poz + 0.2% bwoc Sodium Metasilicate + 1.4% bwoc FL-62 + 0.4% bwoc Yield: 2.01 cf/sack. Tail Lead: 1260 sacks (50:50) Poz (Fly Ash):Premium Plus C Cement + 1% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 0.4% bwoc FL-52A + 0.4% bwoc R-3 + Yield: 1.28 cf/sack. DV TOOL at ~6500' 2nd Stage Lead: 220 sacks (35:65) Poz (Fly Ash):Class H Cement + 0.125 lbs/sack Cello Flake + 3 6% bwoc Bentonite + 0.4% bwoc FL-52A Yield: 1.95 cf/sk Tail: 100 sacks (60:40) Poz (Fly Ash): Class H Cement + 1% bwow Sodium Chloride + 0.15% bwoc Yield: 1.34 cf/sk TOC 4800'

TOC for All Strings:

Surface:	0'
1 st Intermediate:	0'
Production:	4800' 4700'

The above cement volumes could be revised pending the caliper measurement from the open hole logs. Actual cement volumes will be adjusted based on fluid caliper and caliper log data.

5. Pressure Control Equipment:

The blow out prevention system will consist of a bag type (hydril) preventer, a double ram preventer stack, and a rotating head. Both the hydril and ram stack will be hydraulically operated. Both BOP systems will be rated at 5000psi. **The hydril will be tested to 1000psi (high) and 250psi (low).** The Hydril preventer on the 13 3/8" surface casing will be tested as a 2000 psi preventer. Prior to drilling out the 9 5/8" intermediate shoe, the ram stack will be nipped up with 4.5" pipe rams installed and will be used in the BOP. **Tests on the 5000psi BOP will be conducted per the BLM Drilling Operations Order #2.**

The ram system 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 hydril, other BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 5000 psi WP.

6. Proposed Mud Circulation System

<u>Depth</u>	<u>Mud Wt.</u>	<u>Visc</u>	<u>Fluid Loss</u>	<u>Type System</u>
0' - 975' 910	8.4-9.0	32-34	NC	Fresh Water/Gel
975' - 5300' 5200	10.0	28-32	NC	Brine
5300' - 14277'	8.8-9.3	28-40	NC	Fresh Water/Brine

The necessary mud products for weight addition and fluid loss control will be on location at all times.

7. Auxiliary Well Control and Monitoring Equipment:

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

8. Logging, Coring, and Testing Program: See COA

- Drill stem tests will be based on geological sample shows.
- 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.
- The open hole electrical logging program will be:
 - Total Depth to Intermediate Casing Dual Laterolog-Micro Laterolog with SP and Gamma Ray. Compensated Neutron - Z Density log with Gamma Ray and Caliper.
 - Total Depth to Surface Compensated Neutron with Gamma Ray
 - No coring program is planned
 - Additional testing will be initiated subsequent to setting the 5 1/2" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

9. Potential Hazards:

- No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area; therefore, no H2S 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 of equipment being used to drill this well. Estimated BHP 4600 psi and Estimated BHT 135°.

10. 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 32 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.



Project: Lea Co., New Mexico (Nad 83)
 Site: Ichabod 7 Fed #2H
 Well: Ichabod 7 Fed #2H
 Wellbore: Lateral #1
 Design: Design #1



SECTION DETAILS

Sec	MD	Inc	Az	TVD	+N-S	+E-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	9374.50	0.00	0.00	9374.50	0.00	0.00	0.00	0.00	0.00	
3	10267.00	69.25	180.13	9947.41	-565.46	-1.33	10.00	180.13	565.46	
4	14277.38	69.25	180.13	9999.90	-4575.49	-10.75	0.00	0.00	4575.50	PBHL - TD (17F#2H)

ANNOTATIONS

TVD	MD	Annotation
9374.50	9374.50	KOP - Build 10°/100'
9947.41	10267.00	EOC - Hold 1: 89.25° @ A: 180.13°

PROJECT DETAILS: Lea Co., New Mexico (Nad 83)

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone
 System Datum: Mean Sea Level

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

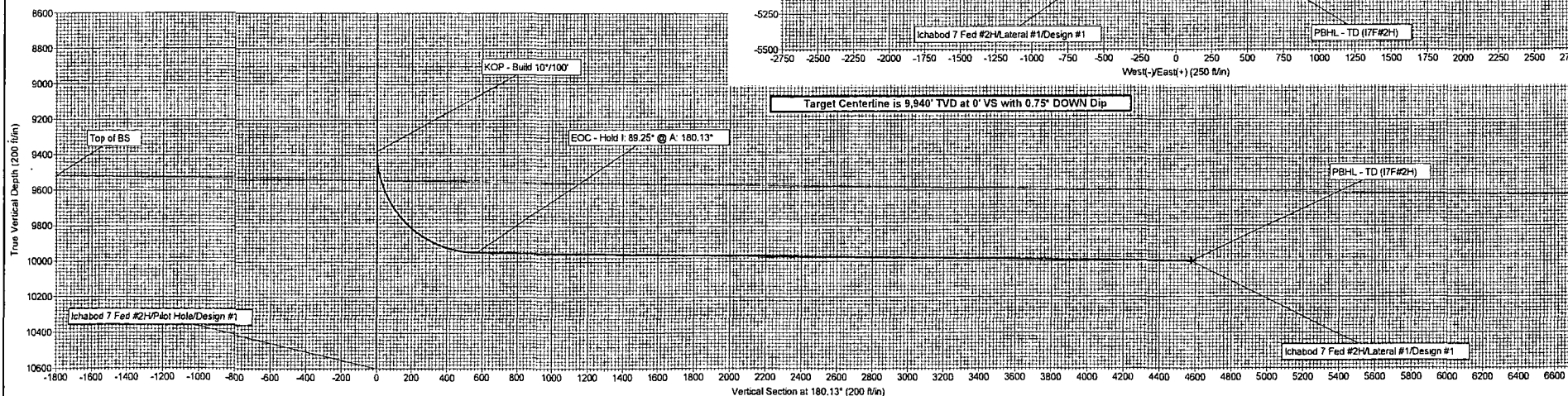
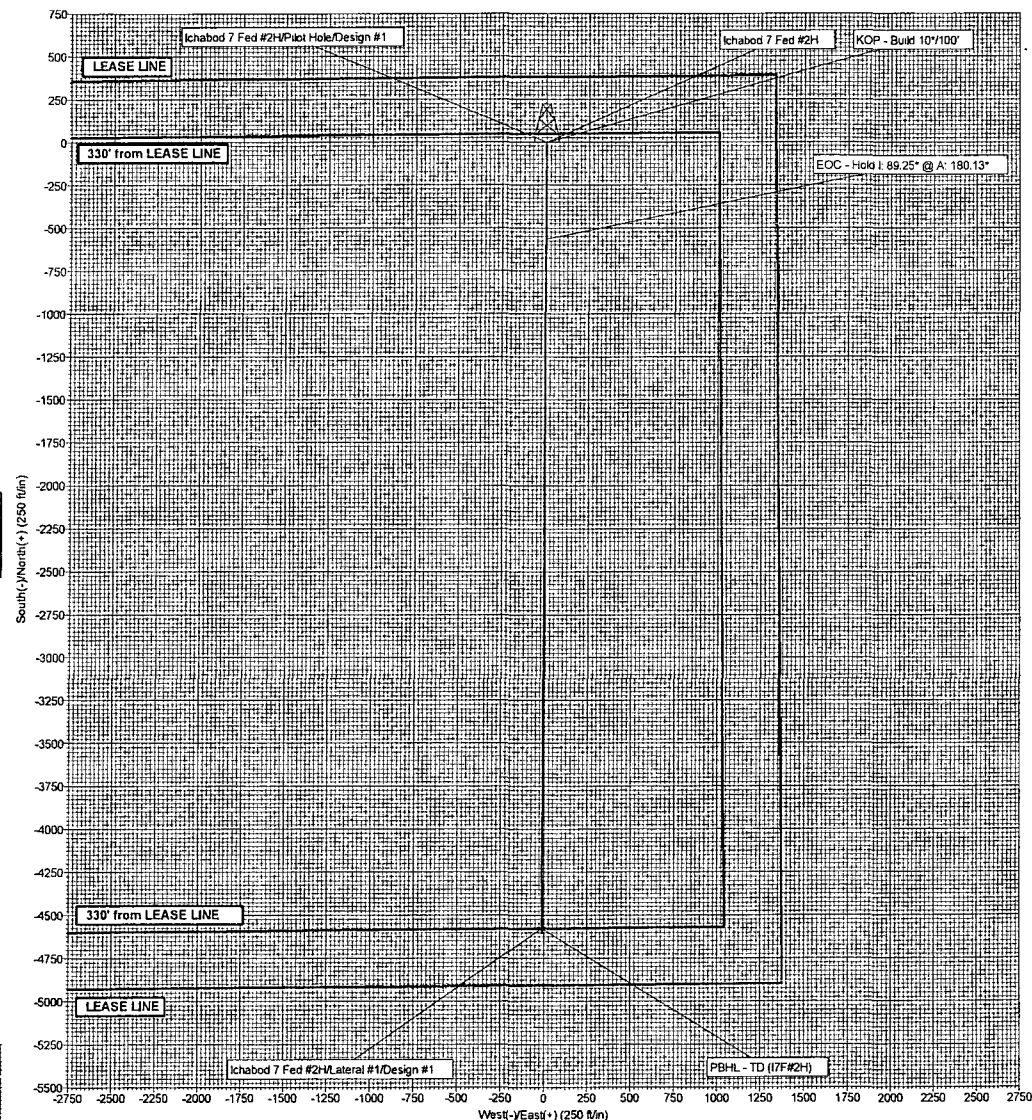
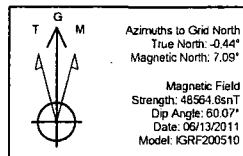
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape
PBHL - TD (17F#2H)	9999.90	-4575.49	-10.75	383427.15	798024.21	32° 3' 5.089 N	103° 30' 17.388 W	Point

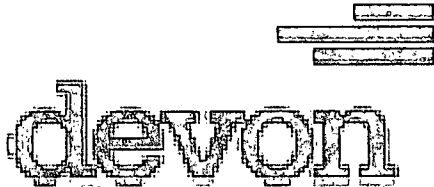
WELL DETAILS: Ichabod 7 Fed #2H

Ground Level						
3353.00						
WELL @ 3378.00ft (Original Well Elev)						
+N-S	+E-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	388002.63	798034.96	32° 3' 50.364 N	103° 30' 16.854 W	

Plan: Design #1 (Ichabod 7 Fed #2H/Lateral #1)

Created By: Mike Starkey Date: 10/27, June 13 2011
 Checked: _____ Date: _____
 Reviewed: _____ Date: _____
 Approved: _____ Date: _____





Devon Energy Production Co, LP

Lea Co., New Mexico (Nad 83)

Ichabod 7 Fed #2H

Ichabod 7 Fed #2H

Lateral #1

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DEC 12 2011

Plan: Design #1

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Standard Survey Report

13 June, 2011





Cudd Drilling & Measurement Services

Survey Report



Company:	Devon Energy Production Co. LP	Local Co-ordinate Reference:	Site Ichabod 7 Fed #2H
Project:	Lea Co. New Mexico (Nad 83)	TVD Reference:	WELL @ 3378.00ft (Original Well Elev)
Site:	Ichabod 7 Fed #2H	MD Reference:	WELL @ 3378.00ft (Original Well Elev)
Well:	Ichabod 7 Fed #2H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 2003.21 Single User.Db

Project:	Lea Co., New Mexico (Nad 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Ichabod 7 Fed #2H, Sec 7, T-26S, R-34E			
Site Position:		Northing:	388,002.63 ft	Latitude:	32° 3' 50.364 N
From:	Map	Easting:	798,034.96 ft	Longitude:	103° 30' 16.854 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	0.44 °

Well:	Ichabod 7 Fed #2H					
Well Position	+N/-S	0.00 ft	Northing:	388,002.63 ft	Latitude:	32° 3' 50.364 N
	+E/-W	0.00 ft	Easting:	798,034.96 ft	Longitude:	103° 30' 16.854 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	3,378.00 ft	Ground Level:	3,353.00 ft

Wellbore:		Lateral #1			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	06/13/11	7.53	60.07	48,565

Design	Design #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	180.13

Survey Tool Program		Date	06/13/11		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	9,200.00	Design #1 (Lateral #1)	NS-GYRO-MS	North sensing gyrocompassing m/s	
9,200.00	14,277.38	Design #1 (Lateral #1)	CUDD MWD	MWD - Standard CUDD MWD	

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
903.00	0.00	0.00	903.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler Dol									
1,250.00	0.00	0.00	1,250.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado Salt									
5,261.00	0.00	0.00	5,261.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon									
6,312.00	0.00	0.00	6,312.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon									
8,327.00	0.00	0.00	8,327.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon									



Cudd Drilling & Measurement Services

Survey Report



Company:	Devon Energy Production Co. LP	Local Co-ordinate Reference:	Site Ichabod 7 Fed #2H
Project:	Lea Co., New Mexico (Nad 83)	TVD Reference:	WELL @ 3378.00ft (Original Well Elev)
Site:	Ichabod 7 Fed #2H	MD Reference:	WELL @ 3378.00ft (Original Well Elev)
Well:	Ichabod 7 Fed #2H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 2003.21 Single User Db

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,374.50	0.00	0.00	9,374.50	0.00	0.00	0.00	0.00	0.00	0.00	
KOP - Build 10°/100'										
9,400.00	2.55	180.13	9,399.99	-0.57	0.00	0.57	10.00	10.00	0.00	
9,500.00	12.55	180.13	9,499.00	-13.69	-0.03	13.69	10.00	10.00	0.00	
9,542.73	16.82	180.13	9,540.32	-24.52	-0.06	24.52	10.00	10.00	0.00	
Top of BS										
9,600.00	22.55	180.13	9,594.22	-43.81	-0.10	43.81	10.00	10.00	0.00	
9,700.00	32.55	180.13	9,682.77	-90.00	-0.21	90.00	10.00	10.00	0.00	
9,800.00	42.55	180.13	9,761.95	-150.87	-0.35	150.87	10.00	10.00	0.00	
9,900.00	52.55	180.13	9,829.36	-224.56	-0.53	224.56	10.00	10.00	0.00	
10,000.00	62.55	180.13	9,882.95	-308.84	-0.73	308.84	10.00	10.00	0.00	
10,100.00	72.55	180.13	9,921.09	-401.15	-0.94	401.15	10.00	10.00	0.00	
10,200.00	82.55	180.13	9,942.62	-498.67	-1.17	498.67	10.00	10.00	0.00	
10,267.00	89.25	180.13	9,947.41	-565.46	-1.33	565.46	10.00	10.00	0.00	
EOC - Hold 1: 89.25° @ A: 180.13°										
10,300.00	89.25	180.13	9,947.84	-598.46	-1.41	598.46	0.00	0.00	0.00	
10,400.00	89.25	180.13	9,949.15	-698.45	-1.64	698.45	0.00	0.00	0.00	
10,500.00	89.25	180.13	9,950.46	-798.44	-1.88	798.44	0.00	0.00	0.00	
10,600.00	89.25	180.13	9,951.76	-898.43	-2.11	898.43	0.00	0.00	0.00	
10,700.00	89.25	180.13	9,953.07	-998.42	-2.35	998.42	0.00	0.00	0.00	
10,800.00	89.25	180.13	9,954.38	-1,098.41	-2.58	1,098.42	0.00	0.00	0.00	
10,900.00	89.25	180.13	9,955.69	-1,198.40	-2.82	1,198.41	0.00	0.00	0.00	
11,000.00	89.25	180.13	9,957.00	-1,298.40	-3.05	1,298.40	0.00	0.00	0.00	
11,100.00	89.25	180.13	9,958.31	-1,398.39	-3.29	1,398.39	0.00	0.00	0.00	
11,200.00	89.25	180.13	9,959.62	-1,498.38	-3.52	1,498.38	0.00	0.00	0.00	
11,300.00	89.25	180.13	9,960.93	-1,598.37	-3.76	1,598.37	0.00	0.00	0.00	
11,400.00	89.25	180.13	9,962.24	-1,698.36	-3.99	1,698.36	0.00	0.00	0.00	
11,500.00	89.25	180.13	9,963.55	-1,798.35	-4.23	1,798.36	0.00	0.00	0.00	
11,600.00	89.25	180.13	9,964.85	-1,898.34	-4.46	1,898.35	0.00	0.00	0.00	
11,700.00	89.25	180.13	9,966.16	-1,998.33	-4.70	1,998.34	0.00	0.00	0.00	
11,800.00	89.25	180.13	9,967.47	-2,098.32	-4.93	2,098.33	0.00	0.00	0.00	
11,900.00	89.25	180.13	9,968.78	-2,198.32	-5.16	2,198.32	0.00	0.00	0.00	
12,000.00	89.25	180.13	9,970.09	-2,298.31	-5.40	2,298.31	0.00	0.00	0.00	
12,100.00	89.25	180.13	9,971.40	-2,398.30	-5.63	2,398.30	0.00	0.00	0.00	
12,200.00	89.25	180.13	9,972.71	-2,498.29	-5.87	2,498.30	0.00	0.00	0.00	
12,300.00	89.25	180.13	9,974.02	-2,598.28	-6.10	2,598.29	0.00	0.00	0.00	
12,400.00	89.25	180.13	9,975.33	-2,698.27	-6.34	2,698.28	0.00	0.00	0.00	
12,500.00	89.25	180.13	9,976.63	-2,798.26	-6.57	2,798.27	0.00	0.00	0.00	
12,600.00	89.25	180.13	9,977.94	-2,898.25	-6.81	2,898.26	0.00	0.00	0.00	
12,700.00	89.25	180.13	9,979.25	-2,998.24	-7.04	2,998.25	0.00	0.00	0.00	
12,800.00	89.25	180.13	9,980.56	-3,098.24	-7.28	3,098.24	0.00	0.00	0.00	
12,900.00	89.25	180.13	9,981.87	-3,198.23	-7.51	3,198.24	0.00	0.00	0.00	
13,000.00	89.25	180.13	9,983.18	-3,298.22	-7.75	3,298.23	0.00	0.00	0.00	
13,100.00	89.25	180.13	9,984.49	-3,398.21	-7.98	3,398.22	0.00	0.00	0.00	
13,200.00	89.25	180.13	9,985.80	-3,498.20	-8.22	3,498.21	0.00	0.00	0.00	
13,300.00	89.25	180.13	9,987.11	-3,598.19	-8.45	3,598.20	0.00	0.00	0.00	
13,400.00	89.25	180.13	9,988.42	-3,698.18	-8.69	3,698.19	0.00	0.00	0.00	
13,500.00	89.25	180.13	9,989.72	-3,798.17	-8.92	3,798.18	0.00	0.00	0.00	
13,600.00	89.25	180.13	9,991.03	-3,898.17	-9.16	3,898.18	0.00	0.00	0.00	
13,700.00	89.25	180.13	9,992.34	-3,998.16	-9.39	3,998.17	0.00	0.00	0.00	
13,800.00	89.25	180.13	9,993.65	-4,098.15	-9.63	4,098.16	0.00	0.00	0.00	
13,900.00	89.25	180.13	9,994.96	-4,198.14	-9.86	4,198.15	0.00	0.00	0.00	
14,000.00	89.25	180.13	9,996.27	-4,298.13	-10.10	4,298.14	0.00	0.00	0.00	
14,100.00	89.25	180.13	9,997.58	-4,398.12	-10.33	4,398.13	0.00	0.00	0.00	



Cudd Drilling & Measurement Services

Survey Report



Company:	Devon Energy Production Co. LP	Local Co-ordinate Reference:	Site Ichabod 7 Fed #2H
Project:	Lea Co., New Mexico (Nad 83)	TVD Reference:	WELL @ 3378.00ft (Original Well Elev)
Site:	Ichabod 7 Fed #2H	MD Reference:	WELL @ 3378.00ft (Original Well Elev)
Well:	Ichabod 7 Fed #2H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 2003.21 Single User Db

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
14,200.00	89.25	180.13	9,998.89	-4,498.11	-10.57	4,498.12	0.00	0.00	0.00
14,277.38	89.25	180.13	9,999.90	-4,575.49	-10.75	4,575.50	0.00	0.00	0.00
PBHL - TD (17F#2H)									

Design Targets	Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target										
- Shape										
	PBHL - TD (17F#2H)	0.00	0.00	9,999.90	-4,575.49	-10.75	383,427.15	798,024.21	32° 3' 5.089 N	103° 30' 17.388 W
	- plan hits target center									
	- Point									

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
903.00	903.00	Rustler Dol		0.75	180.00
1,250.00	1,250.00	Salado Salt		0.75	180.00
5,261.00	5,261.00	Bell Canyon		0.75	180.00
6,312.00	6,312.00	Cherry Canyon		0.75	180.00
8,327.00	8,327.00	Brushy Canyon		0.75	180.00
9,542.73	9,540.00	Top of BS		0.75	180.00

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates	Comment
9,374.50	9,374.50	+N/-S (ft) 0.00 +E/-W (ft) 0.00	KOP - Build 10°/100'
10,267.00	9,947.41	+N/-S (ft) -565.46 +E/-W (ft) -1.33	EOC - Hold I: 89.25° @ A: 180.13°

Checked By: _____	Approved By: _____	Date: _____
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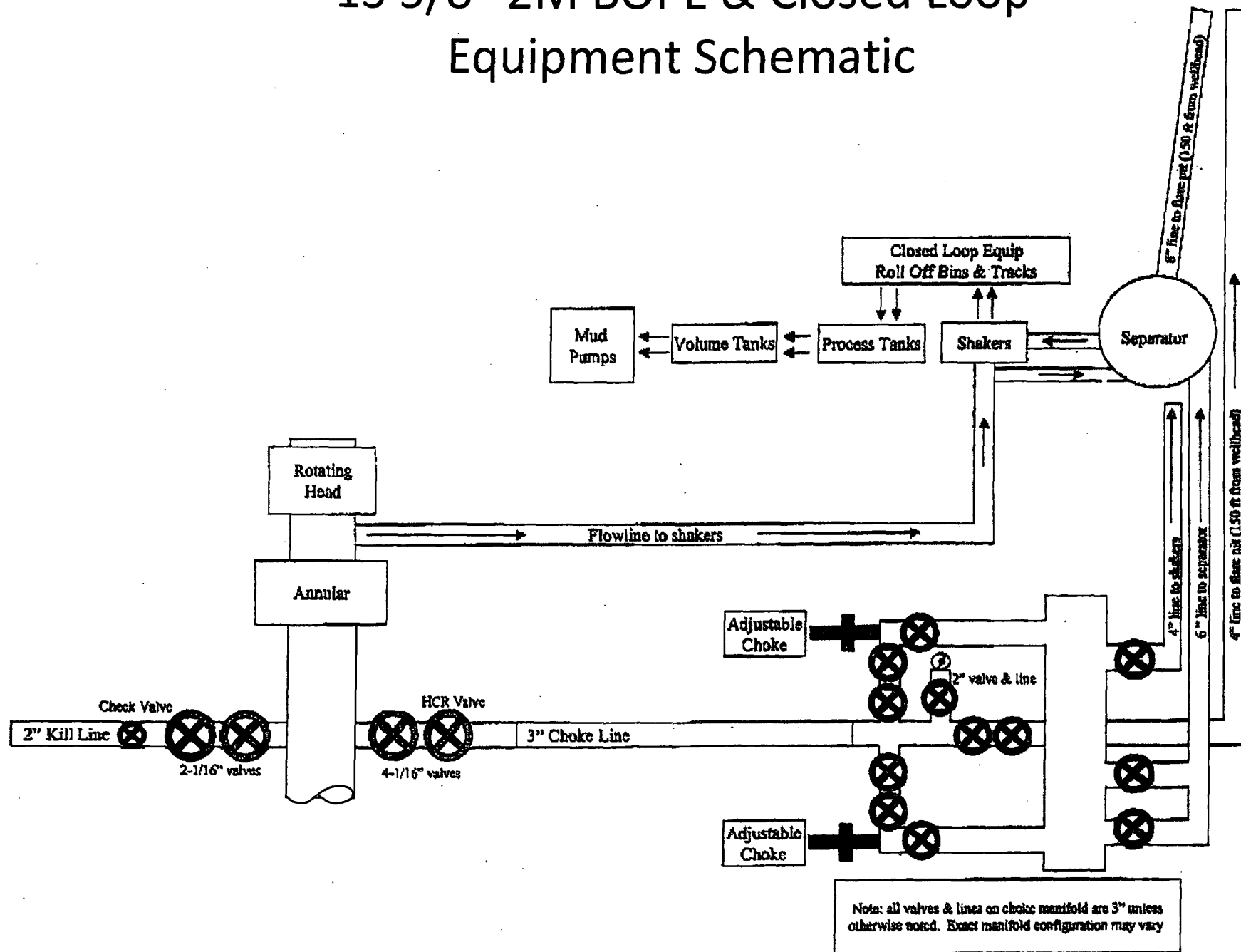
Attachment to Exhibit #1
NOTES REGARDING BLOWOUT PREVENTERS
Devon Energy Production Company, LP

Ichabod 7 Federal 2H

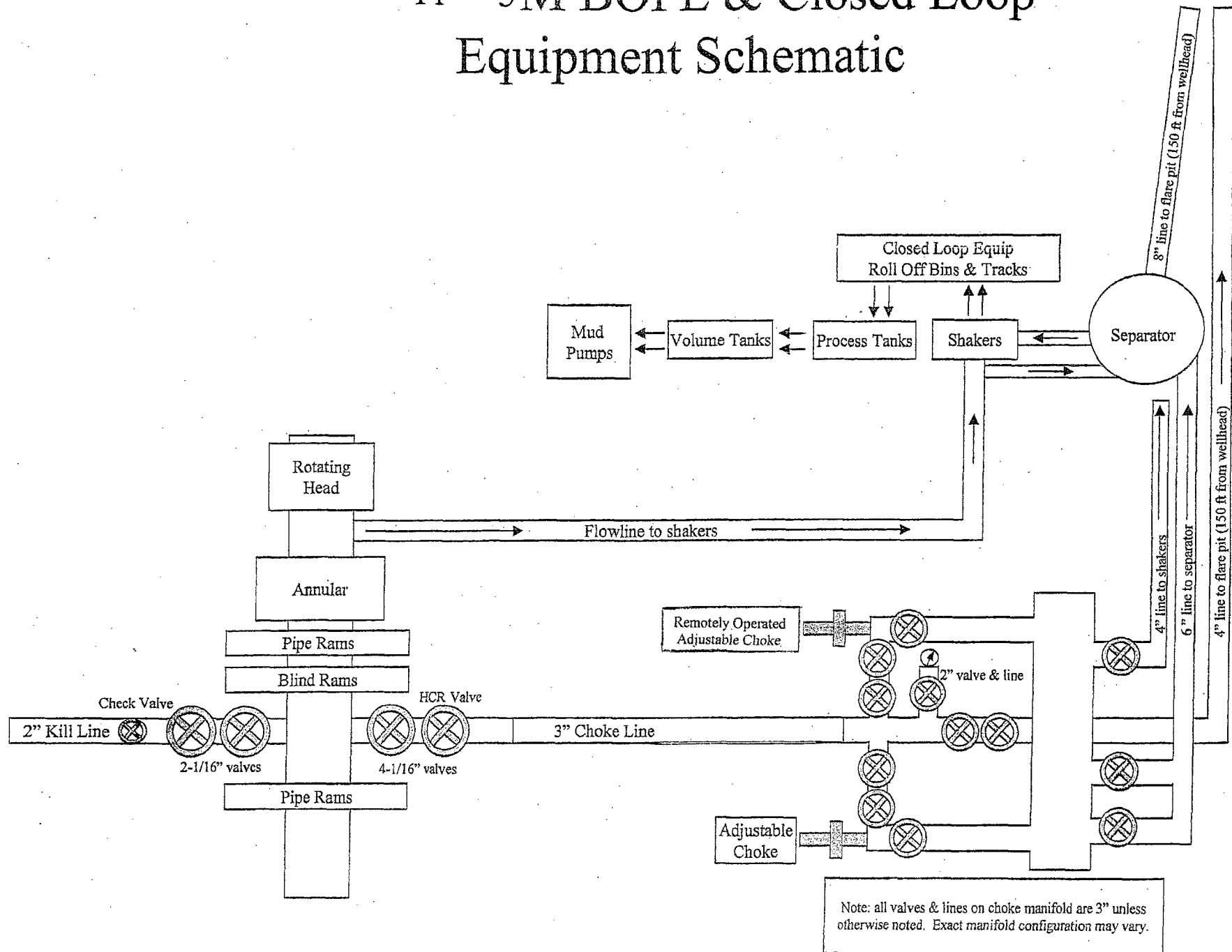
Surface Location: 380' FNL & 1336' FEL, Unit B, Sec 7 T26S R34E, Lea, NM
Bottom hole Location: 330' FSL & 1386' FEL, Unit O, Sec 7 T26S R34E, Lea, NM

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 fittings will be in operable condition to withstand a minimum 5000 psi working pressure.
4. All fittings will be flanged.
5. A full bore safety valve tested to a minimum 5000 psi 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.

13 5/8" 2M BOPE & Closed Loop Equipment Schematic



11" 5M BOPE & Closed Loop Equipment Schematic

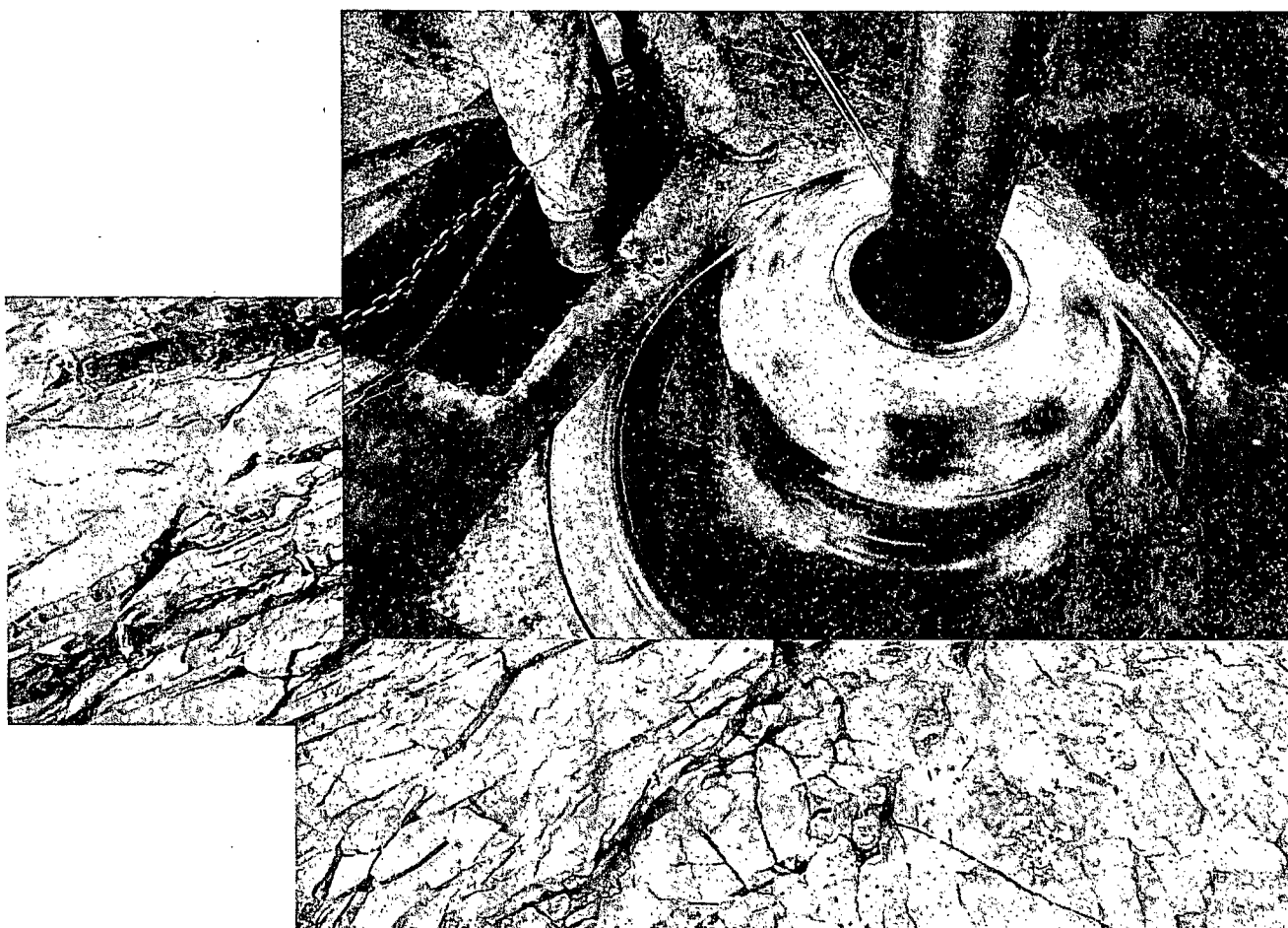




HOBBS OCD

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Commitment Runs Deep



Design Plan
Operation and Maintenance Plan
Closure Plan

SENM - Closed Loop Systems
June 2010

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.

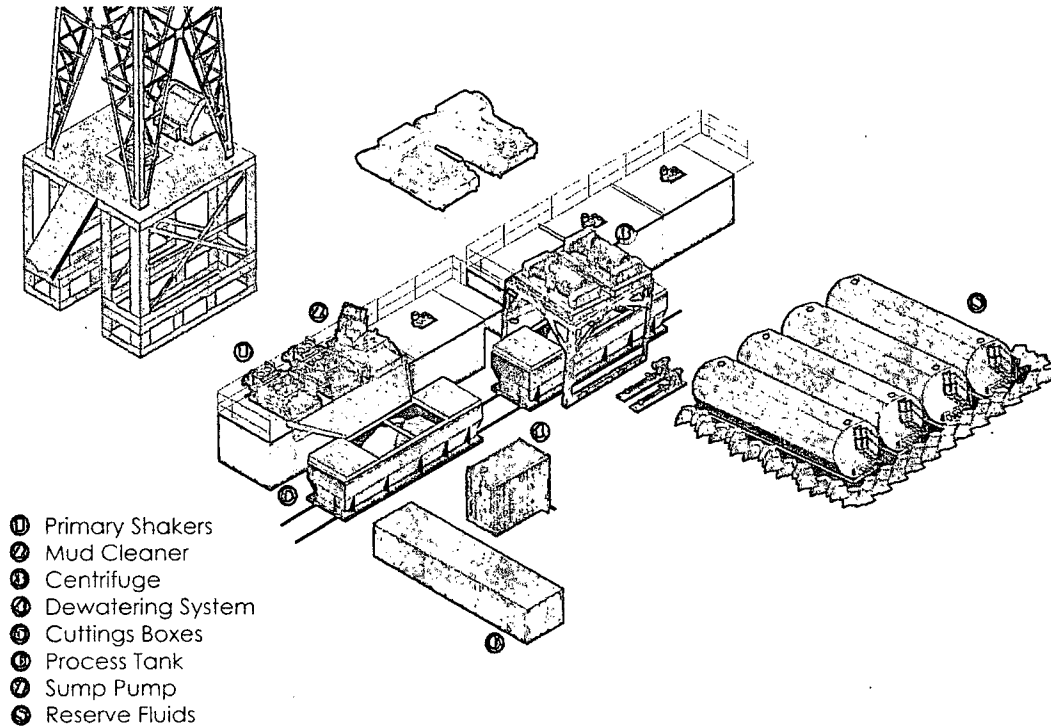
II. Operations and Maintenance Plan

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.



Closed Loop Schematic



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.

Conventional Rig Location Layout

