

ATS-14-845

Form 3160-3
(March 2012)

HOBBS OCD

DEC 03 2014

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER RECEIVED

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMLC061863-A
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 Company, L.P. (6137)		7. If Unit or CA Agreement, Name and No.
3a. Address 333 W. Sheridan Oklahoma City, OK 73102-5010	3b. Phone No. (include area code) 405-228-7203	8. Lease Name and Well No. (38354) Trionyx 6 Fed 11H
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 215 FSL & 505 FWL, 7 PP: 330 FSL & 660 FWL At proposed prod. zone 330 FNL & 660 FWL, 4		9. API Well No. 30-025-42912
14. Distance in miles and direction from nearest town or post office* Approximately 21 miles SE of Malaga, NM		10. Field and Pool, or Exploratory Paduca; Delaware NORTH (49490)
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 NMLC061863-A 1882.6ac	11. Sec., T. R. M. or Blk. and Survey or Area Sec. 6 T25S R32E
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. See attached map	19. Proposed Depth 8285' TVD 12,792' MD	12. County or Parish Lea County
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3438.8 GL	22. Approximate date work will start* 10/01/2014	13. State NM
17. Spacing Unit dedicated to this well 159.73 ac		
20. BLM/BIA Bond No. on file CO-1104; NBM-000801		
23. Estimated duration 45 Days		

NORTHODOX
LOCATION

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

25. Signature	Name (Printed/Typed) Trina C. Couch	Date 04/30/2014
Title Regulatory Analyst		

Approved by (Signature)	Name (Printed/Typed) Steve Caffey	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)

K₂
12/04/14

Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

DEC 04 2014

DEC 03 2014

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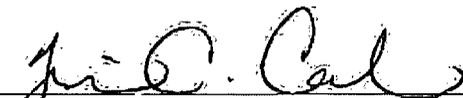
B. The amount of funds contributed was derived from the rate schedule established within Appendix B of the MOA. The amount of the funding contribution acknowledged on this form reflects those rates.

C. The BLM will utilize the funding to carry out a program of mitigation at high-priority sites whose study is needed to answer key questions identified within the Regional Research Design.

D. Donating to the fund is voluntary. Industry acknowledges that it is aware it has the right to pay for Class III survey rather than contributing to the mitigation fund, and that it must avoid or fund data recovery at those sites already recorded that are eligible for nomination to the National Register or whose eligibility is unknown and that any such payments are independent of the mitigation funds established by this MOA.

E. Previously recorded archeological sites determined eligible for nomination to the National Register or whose eligibility remains undetermined must be avoided or mitigated.

F. If any skeletal remains that might be human or funerary objects are discovered by any activities, the land-use applicant will cease activities in the area of discovery, protect the remains, and notify the BLM within 24 hours. The BLM will determine the appropriate treatment of the remains in consultation with culturally affiliated Indian Tribe(s) and lineal descendents. Applicants will be required to pay for treatment of the cultural items independent and outside of the mitigation fund.



Company-Authorized Officer

05/14/2014
Date

BLM-Authorized Officer

Date

HOBBS OCD

DEC 03 2014

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DRILLING PROGRAM

Devon Energy Production Company, L.P.
Trionyx 6 Fed 11H

1. Geologic Name of Surface Formation: Quaternary

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

a. Fresh Water	400'	
b. Rustler	705'	Barren
c. Top of Salt	1073'	Barren
d. Base of Salt	4155'	Barren
e. Delaware	4385'	Oil / Gas
f. Bell Canyon	4411'	Oil / Gas
g. Cherry Canyon	5382'	Oil / Gas
h. Brushy Canyon	6765'	Oil / Gas
i. Bone Spring	8359'	Oil / Gas
Total Depths	8285' TVD	12792' 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); **if an H&P rig drills this well. Otherwise no flex line is needed.** The line will be kept as straight as possible with minimal turns.

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 - 750'	13-3/8"	0 - 750'	48	STC	H-40	2.30	5.16	15.03
12-1/4"	750-4490'	9-5/8"	0-4490'	40	BTC	HCK-55	1.81	1.69	5.16
8-3/4"	4490-12792'	5-1/2"	0-12792'	17	BTC	P-110	1.88	2.68	4.03

Casing Notes:

- All casing is new and API approved

Maximum Lateral TVD: 8285'

5. Proposed mud Circulations System:

Depth	Mud Weight	Viscosity	Fluid Loss	Type System
0-750'	8.4-8.6	30-34	N/C	FW
750-4490'	10.0	28-32	N/C	Brine
4490-12792'	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 e g/sx	Yield cf/sx	Stage; Lead/Tail	Slurry Description
13-3/8" Surface	820	14.8	6.32	1.33	Tail	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water
9-5/8" Intermediate Casing	950	12.9	9.81	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 2-Stage Option <i>See COA</i>	370	12.5	10.86	1.96	Lead	(65:35) Class H Cement: Poz (Fly Ash) + 6% BWOC Bentonite + 0.25% BWOC HR-601 + 0.125 lbs/sack Poly-E-Flake + 74.1 % Fresh Water
	1330	14.5	5.31	1.21	Tail	(50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.25% bwoc CFR-3 + 0.2% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water
	DV Tool @ 5,500ft					
	110	11	14.94	2.66	Lead	Tuned Light® Cement + 0.125 lb/sk Pol-E-Flake + 76.5% Fresh Water
	120	14.8	6.32	1.33	Tail	Class C Cement + 0.2% HR-800 + 63.5% Fresh Water
5-1/2" Production Casing Single Stage <i>See COA</i>	440	11	14.94	2.66	Lead	Tuned Light® Cement + 0.125 lb/sk Pol-E-Flake + 76.5% Fresh Water
	1330	14.5	5.31	1.21	Tail	(50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.25% bwoc CFR-3 + 0.2% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water

TOC for all Strings:

Surface @ 0'
 Intermediate @ 0'
 Production @ 3990' *See COA*

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/or caliper log data.
- If severe loss circulation is encountered while drilling the production wellbore, a DV tool will be installed a minimum of 50' below the previous casing shoe and of 200' above the current shoe. If the DV tool has to be moved, the cement volumes will be adjusted proportionately.

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 (if applicable), 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: 3728 psi, and estimated BHT: 141 degrees.
- b. Hydrogen Sulfide detection equipment will be in operation after drilling out the surface casing shoe until the production string is cemented. Breathing equipment will be on location upon drilling the surface casing 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.



Trionyx 6 Fed 11H
Lea Co, NM



Plan Data for Trionyx 6 Fed 11H

Plan Point Information:
Dogleg Severity Unit: */100.00ft Position offsets from Slot centre

MD	Inc	Az	TVD	+N/-S	+E/-W	Northing	Easting	VSec	DLS
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(USft)	(USft)	(DLSU)
0.00	0.00	0.00	0.00	0.00	0.00	419815.69	730733.22	0.00	0.00
7764.13	0.00	0.00	7764.13	0.00	0.00	419815.69	730733.22	0.00	0.00
8582.31	90.00	1.64	8285.00	520.66	14.87	420336.35	730748.09	520.87	11.00
12792.54	90.00	1.64	8285.00	4729.17	135.09	424544.86	730868.31	4731.10	0.00

Plan Data for Trionyx 6 Fed 11H

Slot: Trionyx 6 Fed 11H
Position:
Offset is from Site centre

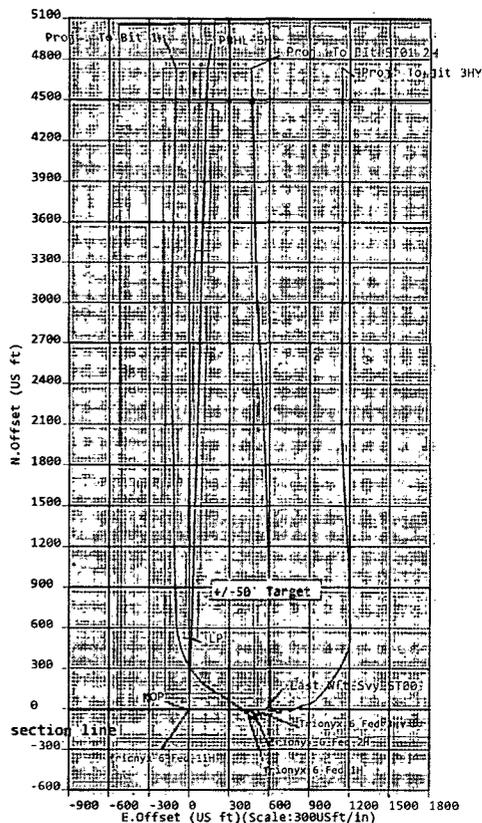
+N/-S: 0.00USft Northing: 419815.69USft Latitude: 32°9'9.6"
+E/-W: 0.00USft Easting: 730733.22USft Longitude: -103°43'16.8"
Elevation Above VRD: 3439.00USft

Plan Data for Trionyx 6 Fed 11H

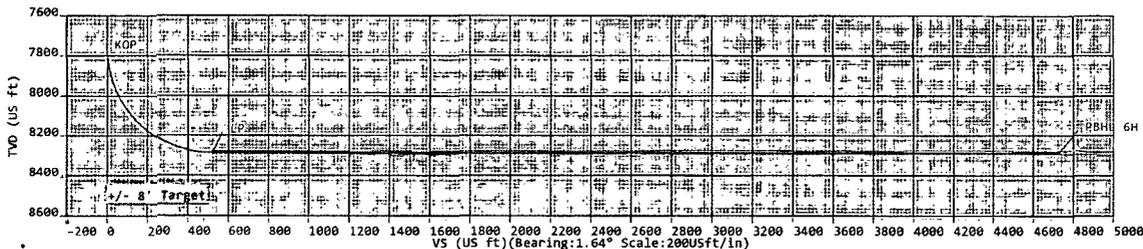
Target Set Information:
Name: Trionyx 6 Fed 11H
Position offsets from Slot centre

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape	Comment
(USft)	(USft)	(USft)	(USft)	(USft)	(USft)		
PBH 11H	8285.00	4729.17	135.09	424544.86	730868.31	Cuboid	

Trionyx 6 Fed 11H	_____
Trionyx 6 Fed 1H	_____
Trionyx 6 Fed 2H ST00	_____
Trionyx 6 Fed 2H ST01	_____
Trionyx 6 Fed 3H	_____



KB-3464
GL-3439



Sign Off: Russell Joyner

5D Plan Report**Devon Energy**

Field Name: *Lea Co, NM Nad 83 NMEZ*
Site Name: *Trionyx 6 Fed 11H*
Well Name: *Trionyx 6 Fed 11H*
Plan: *P1:V1*

08 May 2014



5D Plan Report

Trionyx 6 Fed 11H

Field Name	Map Units : US ft	Company Name : Devon Energy		
Lea Co, NM Nad 83 NMEZ	Vertical Reference Datum (VRD) : Mean Sea Level			
	Projected Coordinate System : NAD83 / New Mexico East (ftUS)			
Comment :				
Site Name	Units : US ft	North Reference : Grid	Convergence Angle : 0.33	
	Position	Northing : 419815.69 US ft	Latitude : 32° 9' 9.62"	
		Easting : 730733.22 US ft	Longitude : -103° 43' 16.84"	
Trionyx 6 Fed 11H	Elevation above Mean Sea Level: 3439.00 US ft			
Comment :				
Slot Name	Position (Offsets relative to Site Centre)			
	+N / -S : 0.00 US ft	Northing : 419815.69 US ft	Latitude : 32° 9' 9.62"	
	+E / -W : 0.00 US ft	Easting : 730733.22 US ft	Longitude : -103° 43' 16.84"	
Trionyx 6 Fed 11H	Elevation above Mean Sea Level : 3439.00 US ft			
Comment :				
Well Name	Type : Main well	UWI :	Plan : P1:V1	
	Rig Height	Drill Floor : 25.00 US ft	Comment :	
	Relative to Mean Sea Level: 3464.00 US ft			
	Closure Distance : 4731.1 US ft	Closure Azimuth : 1.63622°		
	Vertical Section (Position of Origin Relative to Slot)			
		+N / -S : 0.00 US ft	+E / -W : 0.00 US ft	Az : 1.64°
Magnetic Parameters				
Model : BGGM	Field Strength :	Dec : 7.39°	Dip : 60.00°	
	48247.1nT		Date : 15/Jul/2014	

Target Set

Name : Trionyx 6 Fed 11H **Number of Targets :** 1

Comment :

Target Name:	Position (Relative to Slot centre)		
PBHL 11H	+N / -S : 4729.17 US ft	Northing : 424544.86 US ft	Latitude : 32° 9' 56.41"
	+E / -W : 135.09 US ft	Easting : 730868.31 US ft	Longitude : -103° 43' 14.96"
Shape:	TVD (Drill Floor) : 8285.00 US ft		
Cuboid	Orientation Azimuth : 0.00°	Inclination : 0.00°	
	Dimensions Length : 20.00 US ft	Breadth : 20.00 US ft	Height : 20.00 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
750.00	0.00	0.00	750.00	0.00	0.00	419815.69	730733.22	13 3/8 in
4490.00	0.00	0.00	4490.00	0.00	0.00	419815.69	730733.22	9 5/8 in

Well path created using minimum curvature

5D Plan Report

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	
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13 3/8 in
4490.00	0.00	0.00	4490.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9 5/8 in
7764.13	0.00	0.00	7764.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP
8582.31	90.00	1.64	8285.00	520.66	14.87	11.00	520.87	11.00	0.00	1.64	LP
12792.5	90.00	1.64	8285.00	4729.17	135.09	0.00	4731.10	0.00	0.00	0.00	PBHL 6H

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
7700.00	0.00	0.00	7700.00	0.00	0.00	0.00	0.00	419815.69	730733.22		
7764.13	0.00	0.00	7764.13	0.00	0.00	0.00	0.00	419815.69	730733.22		KOP
7800.00	3.95	1.64	7799.97	1.23	0.04	1.23	11.00	419816.92	730733.26		
7900.00	14.95	1.64	7898.46	17.61	0.50	17.62	11.00	419833.30	730733.72		
8000.00	25.95	1.64	7992.02	52.48	1.50	52.50	11.00	419868.17	730734.42		
8100.00	36.95	1.64	8077.20	104.55	2.99	104.59	11.00	419920.24	730736.21		
8200.00	47.95	1.64	8150.88	171.90	4.91	171.97	11.00	419987.59	730738.13		
8300.00	58.95	1.64	8210.35	252.08	7.20	252.18	11.00	420067.77	730740.42		
8400.00	69.95	1.64	8253.42	342.12	9.77	342.26	11.00	420157.81	730742.99		
8500.00	80.95	1.64	8278.51	438.72	12.53	438.90	11.00	420254.41	730745.75		
8582.31	90.00	1.64	8285.00	520.66	14.87	520.87	11.00	420336.35	730748.09		LP
8600.00	90.00	1.64	8285.00	538.34	15.38	538.56	0.00	420354.03	730748.60		
8700.00	90.00	1.64	8285.00	638.30	18.23	638.56	0.00	420453.99	730751.45		
8800.00	90.00	1.64	8285.00	738.26	21.09	738.56	0.00	420553.95	730754.31		
8900.00	90.00	1.64	8285.00	838.22	23.94	838.56	0.00	420653.91	730757.16		
9000.00	90.00	1.64	8285.00	938.18	26.80	938.56	0.00	420753.87	730760.02		
9100.00	90.00	1.64	8285.00	1038.14	29.65	1038.56	0.00	420853.83	730762.87		
9200.00	90.00	1.64	8285.00	1138.10	32.51	1138.56	0.00	420953.79	730765.73		
9300.00	90.00	1.64	8285.00	1238.05	35.37	1238.56	0.00	421053.74	730768.59		
9400.00	90.00	1.64	8285.00	1338.01	38.22	1338.56	0.00	421153.70	730771.44		
9500.00	90.00	1.64	8285.00	1437.97	41.08	1438.56	0.00	421253.66	730774.30		
9600.00	90.00	1.64	8285.00	1537.93	43.93	1538.56	0.00	421353.62	730777.15		
9700.00	90.00	1.64	8285.00	1637.89	46.79	1638.56	0.00	421453.58	730780.01		
9800.00	90.00	1.64	8285.00	1737.85	49.64	1738.56	0.00	421553.54	730782.86		
9900.00	90.00	1.64	8285.00	1837.81	52.50	1838.56	0.00	421653.50	730785.72		
10000.00	90.00	1.64	8285.00	1937.77	55.35	1938.56	0.00	421753.46	730788.57		
10100.00	90.00	1.64	8285.00	2037.73	58.21	2038.56	0.00	421853.42	730791.43		
10200.00	90.00	1.64	8285.00	2137.69	61.06	2138.56	0.00	421953.38	730794.28		
10300.00	90.00	1.64	8285.00	2237.65	63.92	2238.56	0.00	422053.34	730797.14		
10400.00	90.00	1.64	8285.00	2337.61	66.77	2338.56	0.00	422153.30	730799.99		
10500.00	90.00	1.64	8285.00	2437.57	69.63	2438.56	0.00	422253.26	730802.85		
10600.00	90.00	1.64	8285.00	2537.52	72.49	2538.56	0.00	422353.21	730805.71		
10700.00	90.00	1.64	8285.00	2637.48	75.34	2638.56	0.00	422453.17	730808.56		
10800.00	90.00	1.64	8285.00	2737.44	78.20	2738.56	0.00	422553.13	730811.42		
10900.00	90.00	1.64	8285.00	2837.40	81.05	2838.56	0.00	422653.09	730814.27		
11000.00	90.00	1.64	8285.00	2937.36	83.91	2938.56	0.00	422753.05	730817.13		
11100.00	90.00	1.64	8285.00	3037.32	86.76	3038.56	0.00	422853.01	730819.98		
11200.00	90.00	1.64	8285.00	3137.28	89.62	3138.56	0.00	422952.97	730822.84		
11300.00	90.00	1.64	8285.00	3237.24	92.47	3238.56	0.00	423052.93	730825.69		
11400.00	90.00	1.64	8285.00	3337.20	95.33	3338.56	0.00	423152.89	730828.55		
11500.00	90.00	1.64	8285.00	3437.16	98.18	3438.56	0.00	423252.85	730831.40		
11600.00	90.00	1.64	8285.00	3537.12	101.04	3538.56	0.00	423352.81	730834.26		
11700.00	90.00	1.64	8285.00	3637.08	103.89	3638.56	0.00	423452.77	730837.11		
11800.00	90.00	1.64	8285.00	3737.04	106.75	3738.56	0.00	423552.73	730839.97		
11900.00	90.00	1.64	8285.00	3836.99	109.60	3838.56	0.00	423652.68	730842.82		
12000.00	90.00	1.64	8285.00	3936.95	112.46	3938.56	0.00	423752.64	730845.68		
12100.00	90.00	1.64	8285.00	4036.91	115.32	4038.56	0.00	423852.60	730848.54		
12200.00	90.00	1.64	8285.00	4136.87	118.17	4138.56	0.00	423952.56	730851.39		

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
12300.00	90.00	1.64	8285.00	4236.83	121.03	4238.56	0.00	424052.52	730854.25	
12400.00	90.00	1.64	8285.00	4336.79	123.88	4338.56	0.00	424152.48	730857.10	
12500.00	90.00	1.64	8285.00	4436.75	126.74	4438.56	0.00	424252.44	730859.96	
12600.00	90.00	1.64	8285.00	4536.71	129.59	4538.56	0.00	424352.40	730862.81	
12700.00	90.00	1.64	8285.00	4636.67	132.45	4638.56	0.00	424452.36	730865.67	
12792.54	90.00	1.64	8285.00	4729.17	135.09	4731.10	0.00	424544.86	730868.31	PBHL 6H

5D Anti-Collision Report

Devon Energy

Field Name: *Lea Co, NM Nad 83 NMEZ*

Site Name: *Trionyx 6 Fed 11H*

Well Name: *Trionyx 6 Fed 11H*

08 May 2014





Trionyx 6 Fed 11H

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
Trionyx 6 Fed 11H

Units: US ft **North Reference :** Grid **Convergence Angle :** 0:33

Position	Northing : 419815.69 US ft	Latitude : 32° 9' 9.62"
	Easting : 730733.22 US ft	Longitude : -103° 43' 16.84"

Elevation above Mean Sea Level: 3439.00 US ft

Comment :

Slot Name
Trionyx 6 Fed 11H

Position (Offsets relative to Site Centre)

+N / -S : 0.00 US ft	Northing : 419815.69 US ft	Latitude : 32° 9' 9.62"
+E / -W : 0.00 US ft	Easting : 730733.22 US ft	Longitude : -103° 43' 16.84"

Elevation above Mean Sea Level: 3439.00 US ft

Comment :

Well Name
Trionyx 6 Fed 11H

Type : Main well **UWI :** **Plan :** Working Plan

Rig Height Drill Floor : 25.00 US ft **Comment :**

Relative to Mean Sea Level: 3464.00 US ft

Closure Distance : 4731.1 US ft **Closure Azimuth :** 1.63622°

Vertical Section (Position of Origin Relative to Slot)

+N / -S : 0.00 US ft	+E / -W : 0.00 US ft	Az : 1.64°
-----------------------------	-----------------------------	-------------------

Magnetic Parameters

Model : BGGM **Field Strength :** 48247.1nT **Dec :** 7.39° **Dip :** 60.00° **Date :** 15/Jul/2014

Collision / Uncertainty Analysis				
Primary Well	Start MD (US ft)	End MD (US ft)	Collision Risk Interval	No. of Std Deviations in Error Computation
Trionyx 6 Fed 11H (p)	0.00	12792.54	100.00	2

Secondary Well Names
Trionyx 6 Fed 1H (s)

Anti Collision Report Terminology

- S.Minor, S.Major :** Radii of the ellipse of uncertainty at the current location as seen in the along hole direction.
- PHI :** Angle between high-side vector and semi-minor axis
- TVD Spread :** Total TVD range of the ellipsoid of uncertainty at the current location
- ES :** Distance between the extremities of the primary and secondary uncertainty ellipsoids in the direction Cr-Cr
- T.Face to Sec :** Angle between the Hi-Side vector of the primary well at the current location and line of closest approach between the two wells

Separation factors calculated using Pedal Curve (Independent Uncertainty). Well path created using minimum curvature.

SD Anti-Collision Report

Anti Collision Proximity Summary (TVD relative to)

SF	Secondary Well Name	Pri MD (US ft)	Sec MD (US ft)	TVD (US ft)	CC (US ft)	ES (US ft)	SF	Risk
	Trionyx 6 Fed 1H (s)	12792.54	13860.00	8285:00	895.79	810.88	10.55	

Secondary Well : Trionyx 6 Fed 1H (s) (TVD Relative to Drill Floor (Primary) ; All Azimuth Relative to GRID NORTH)									
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	CC (US ft)	ES (US ft)	SF	Risk
0.00	2.00	0.00	91.70	0.00	0.00	435.44	434.51	470.22	
100.00	100.50	98.51	91.64	0.13	0.13	435.37	434.20	371.83	
200.00	196.83	194.84	91.53	0.37	0.37	435.67	434.04	266.90	
300.00	300.95	298.97	91.40	0.62	0.62	435.98	433.86	206.40	
400.00	400.71	398.72	91.31	0.88	0.88	435.78	433.19	168.44	
500.00	498.14	496.16	91.25	1.11	1.11	435.91	432.86	143.07	
600.00	597.35	595.36	91.17	1.35	1.35	436.43	432.93	124.45	
700.00	697.00	695.02	91.12	1.57	1.57	437.08	433.13	110.56	
800.00	796.73	794.75	91.11	1.76	1.76	437.80	433.58	103.81	
900.00	896.10	894.13	91.08	1.99	1.99	438.62	433.96	94.16	
1000.00	994.89	992.92	91.03	2.22	2.22	439.64	434.51	85.74	
1100.00	1092.91	1090.96	90.99	2.46	2.46	441.02	435.44	79.04	
1200.00	1194.33	1192.38	90.93	2.71	2.71	442.50	436.44	73.05	
1300.00	1294.59	1292.65	90.89	2.95	2.95	443.74	437.22	68.04	
1400.00	1395.28	1393.35	90.85	3.21	3.20	444.88	437.88	63.51	
1500.00	1495.66	1493.73	90.79	3.46	3.46	445.90	438.41	59.53	
1600.00	1595.93	1594.01	90.77	3.71	3.71	446.84	438.87	56.10	
1700.00	1697.00	1695.08	90.77	3.96	3.96	447.63	439.20	53.07	
1800.00	1798.48	1796.57	90.76	4.22	4.21	448.14	439.23	50.28	
1900.00	1899.63	1897.71	90.76	4.45	4.45	448.35	438.98	47.86	
2000.00	2000.55	1998.63	90.75	4.60	4.60	448.33	438.58	45.99	
2100.00	2100.11	2098.20	90.74	4.66	4.66	448.26	438.22	44.68	
2200.00	2199.40	2197.49	90.75	4.75	4.75	448.31	437.96	43.34	
2300.00	2297.92	2296.01	90.78	4.93	4.93	448.61	437.86	41.76	
2400.00	2397.36	2395.45	90.81	5.15	5.15	449.14	437.95	40.14	
2500.00	2494.97	2493.06	90.83	5.39	5.39	449.98	438.32	38.60	
2600.00	2595.70	2593.80	90.88	5.63	5.62	451.04	438.92	37.20	
2700.00	2693.38	2691.49	90.92	5.86	5.86	452.23	439.65	35.96	
2800.00	2792.43	2790.55	90.95	6.11	6.10	453.81	440.78	34.83	
2900.00	2895.03	2893.16	90.99	6.36	6.36	455.22	441.70	33.66	
3000.00	2998.38	2996.52	91.03	6.60	6.59	455.95	441.96	32.59	
3100.00	3098.46	3096.59	91.03	6.83	6.83	456.28	441.83	31.58	
3200.00	3198.25	3196.39	90.99	7.07	7.07	456.64	441.73	30.62	
3300.00	3296.59	3294.73	90.89	7.30	7.30	457.20	441.85	29.78	
3400.00	3398.21	3396.37	90.72	7.51	7.51	457.79	441.99	28.98	
3500.00	3499.67	3497.84	90.53	7.71	7.71	458.02	441.79	28.22	
3600.00	3600.59	3598.76	90.35	7.88	7.88	457.99	441.37	27.56	
3700.00	3698.53	3696.72	90.20	8.08	8.07	458.08	441.05	26.90	
3800.00	3794.81	3793.00	90.10	8.31	8.30	458.80	441.31	26.23	
3900.00	3894.10	3892.29	90.06	8.56	8.56	460.03	442.07	25.61	
4000.00	3990.81	3989.02	90.12	8.78	8.78	461.65	443.23	25.07	
4100.00	4088.07	4086.33	90.37	8.98	8.97	463.94	445.10	24.63	
4200.00	4189.54	4187.88	90.73	9.16	9.16	466.41	447.15	24.23	
4300.00	4291.44	4289.84	91.11	9.34	9.33	468.44	448.79	23.85	
4400.00	4394.17	4392.61	91.42	9.51	9.51	469.98	449.93	23.44	
4500.00	4494.29	4492.76	91.64	9.70	9.69	471.19	450.79	23.10	
4600.00	4595.08	4593.57	91.84	9.88	9.88	472.32	451.49	22.68	
4700.00	4694.79	4693.29	92.03	10.07	10.07	473.38	452.14	22.28	
4800.00	4794.85	4793.37	92.22	10.26	10.26	474.48	452.83	21.92	
4900.00	4894.47	4893.02	92.41	10.46	10.45	475.60	453.56	21.58	
5000.00	4993.66	4992.22	92.60	10.66	10.65	476.84	454.37	21.21	
5100.00	5093.95	5092.53	92.77	10.87	10.87	478.15	455.22	20.86	

5D Anti-Collision Report

Secondary Well : Trionyx 6 Fed 1H (s) (TVD Relative to Drill Floor (Primary) ; All Azimuth Relative to GRID NORTH)									
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	CC (US ft)	ES (US ft)	SF	Risk
5200.00	5194.16	5192.76	92.93	11.09	11.08	479.39	456.02	20.51	
5300.00	5294.56	5293.17	93.07	11.31	11.30	480.57	456.75	20.18	
5400.00	5396.12	5394.74	93.18	11.54	11.53	481.54	457.27	19.84	
5500.00	5496.41	5495.04	93.28	11.76	11.75	482.31	457.60	19.51	
5600.00	5595.20	5593.83	93.35	12.00	11.99	483.17	458.00	19.20	
5700.00	5695.61	5694.25	93.39	12.25	12.24	484.14	458.49	18.88	
5800.00	5795.69	5794.33	93.42	12.50	12.50	485.03	458.90	18.56	
5900.00	5896.77	5895.42	93.47	12.75	12.74	485.81	459.22	18.26	
6000.00	5995.22	5993.87	93.55	12.98	12.97	486.63	459.57	17.99	
6100.00	6097.07	6095.73	93.65	13.22	13.21	487.44	459.94	17.72	
6200.00	6197.95	6196.62	93.73	13.44	13.43	487.94	460.00	17.46	
6300.00	6299.23	6297.90	93.81	13.63	13.62	488.23	459.88	17.22	
6400.00	6399.13	6397.79	93.89	13.82	13.81	488.40	459.64	16.98	
6500.00	6499.13	6497.80	93.96	14.01	14.00	488.58	459.42	16.75	
6600.00	6599.31	6597.99	94.04	14.19	14.18	488.74	459.18	16.53	
6700.00	6699.40	6698.08	94.16	14.37	14.36	488.87	458.91	16.32	
6800.00	6798.27	6796.96	94.33	14.55	14.54	489.10	458.73	16.10	
6900.00	6897.78	6896.48	94.50	14.73	14.74	489.51	458.70	15.89	
7000.00	6997.95	6996.67	94.70	14.95	14.94	489.95	458.71	15.69	
7100.00	7095.95	7094.69	94.94	15.14	15.13	490.56	458.91	15.50	
7200.00	7195.82	7194.58	95.18	15.36	15.35	491.41	459.32	15.31	
7300.00	7294.50	7293.29	95.41	15.57	15.56	492.39	459.86	15.14	
7400.00	7394.05	7392.87	95.67	15.80	15.79	493.56	460.59	14.97	
7500.00	7492.68	7491.54	95.91	16.03	16.01	494.89	461.48	14.81	
7600.00	7594.77	7593.64	96.12	16.27	16.25	496.19	462.32	14.65	
7700.00	7694.70	7693.59	96.32	16.50	16.48	497.23	462.91	14.49	
7800.00	7793.96	7792.89	95.01	16.72	16.71	498.47	463.67	14.32	
7900.00	7890.48	7889.44	96.73	16.95	16.93	501.60	466.42	14.26	
8000.00	7985.27	7984.26	99.90	17.17	17.15	508.62	472.94	14.25	
8100.00	8069.64	8068.66	103.36	17.36	17.34	522.62	486.49	14.46	
8200.00	8142.82	8141.86	106.02	17.52	17.50	547.48	510.93	14.98	
8300.00	8201.77	8200.83	106.68	17.65	17.63	585.72	548.73	15.83	
8400.00	8242.99	8242.06	104.13	17.74	17.72	637.96	600.58	17.07	
8500.00	8266.26	8265.33	97.45	17.79	17.77	702.46	664.73	18.62	
8600.00	8270.77	8269.85	88.37	17.80	17.78	775.76	737.88	20.48	
8700.00	8268.69	8267.77	88.13	17.79	17.77	854.59	816.46	22.41	
8800.00	9152.87	9871.57	187.89	25.06	14.47	876.17	848.37	31.53	
8900.00	9152.98	9952.31	188.17	25.96	14.71	877.07	848.54	30.74	
9000.00	9154.69	10043.95	188.48	27.03	15.05	879.69	850.34	29.98	
9100.00	9156.10	10165.13	188.87	28.51	15.60	881.65	851.37	29.12	
9200.00	9155.84	10267.23	189.17	29.75	16.05	882.11	850.88	28.24	
9300.00	9155.52	10367.73	189.44	31.06	16.51	882.47	850.22	27.37	
9400.00	9155.08	10466.37	189.73	32.44	16.98	882.78	849.48	26.51	
9500.00	9155.05	10564.78	190.02	33.84	17.47	883.56	849.15	25.68	
9600.00	9154.33	10672.36	190.37	35.41	17.97	883.77	848.19	24.84	
9700.00	9153.65	10758.78	190.63	36.61	18.47	883.90	847.09	24.01	
9800.00	9155.48	10837.75	190.80	37.70	18.88	886.81	848.85	23.36	
9900.00	9158.28	10935.51	191.04	39.16	19.38	890.47	851.25	22.71	
10000.00	9161.91	11030.49	191.29	40.71	19.93	895.16	854.65	22.09	
10100.00	9163.74	11177.58	191.80	43.11	20.76	897.74	855.59	21.30	
10200.00	9159.62	11297.69	192.33	44.95	21.47	895.64	851.90	20.48	
10300.00	9156.13	11391.06	192.65	46.21	22.02	893.00	847.76	19.74	
10400.00	9154.73	11470.59	192.84	47.36	22.48	892.04	845.43	19.14	
10500.00	9154.61	11562.87	193.03	48.78	23.04	892.66	844.62	18.58	
10600.00	9155.32	11654.97	193.22	50.17	23.60	894.16	844.56	18.03	
10700.00	9157.04	11746.29	193.34	51.46	24.15	896.59	845.48	17.54	
10800.00	9158.76	11861.02	193.48	53.34	24.90	898.59	845.93	17.07	
10900.00	9159.82	11960.91	193.59	54.82	25.54	900.10	845.91	16.61	

5D Anti-Collision Report

Secondary Well : Trionyx 6 Fed 1H (S) (TVD Relative to Drill Floor (Primary) ; All Azimuth Relative to GRID NORTH)									
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	CC (US ft)	ES (US ft)	SF	Risk
11000.00	9159.75	12071.15	193.69	56.59	26.25	900.33	844.60	16.15	
11100.00	9159.93	12169.40	193.79	58.27	26.89	900.90	843.61	15.73	
11200.00	9158.38	12290.27	193.99	60.27	27.67	900.25	841.33	15.28	
11300.00	9154.98	12399.03	194.15	61.94	28.38	897.61	837.06	14.82	
11400.00	9152.85	12482.71	194.25	63.34	28.93	895.46	833.29	14.40	
11500.00	9152.26	12570.34	194.33	64.71	29.50	895.11	831.35	14.04	
11600.00	9152.50	12672.10	194.36	66.28	30.17	895.47	830.14	13.71	
11700.00	9152.92	12758.93	194.38	67.86	30.74	896.08	829.21	13.40	
11800.00	9154.36	12865.88	194.41	69.44	31.46	897.64	829.18	13.11	
11900.00	9154.90	12967.86	194.42	71.27	32.15	898.19	828.18	12.83	
12000.00	9155.03	13071.66	194.45	72.93	32.85	898.47	826.86	12.55	
12100.00	9155.40	13161.84	194.51	74.61	33.46	899.15	825.93	12.28	
12200.00	9155.96	13266.63	194.61	76.33	34.18	900.10	825.19	12.02	
12300.00	9156.38	13360.46	194.68	77.81	34.81	900.89	824.33	11.77	
12400.00	9157.50	13468.15	194.71	79.61	35.55	902.09	823.91	11.54	
12500.00	9156.07	13586.21	194.85	81.69	36.36	901.27	821.35	11.28	
12600.00	9153.92	13687.11	194.98	83.37	37.05	899.60	817.94	11.02	
12700.00	9151.51	13796.10	195.08	85.06	37.80	897.73	814.36	10.77	
12792.54	9149.75	13860.00	195.12	86.14	38.24	895.79	810.88	10.55	



Weatherford

Weatherford Drilling Services

GeoDec4 v2.0.0.3

Report Date: May 08, 2014
 Job Number: _____
 Customer: Devon Energy
 Well Name: Trionyx 6 Fed 11H
 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: 419815.69 US Survey Foot	Latitude: 32.152672 Degree
East: 730733.22 US Survey Foot	Longitude: -103.721345 Degree
Convergence: 0.33°	
Declination: 7.39°	
Total Correction: 7.06°	
Datum Transformation: none	

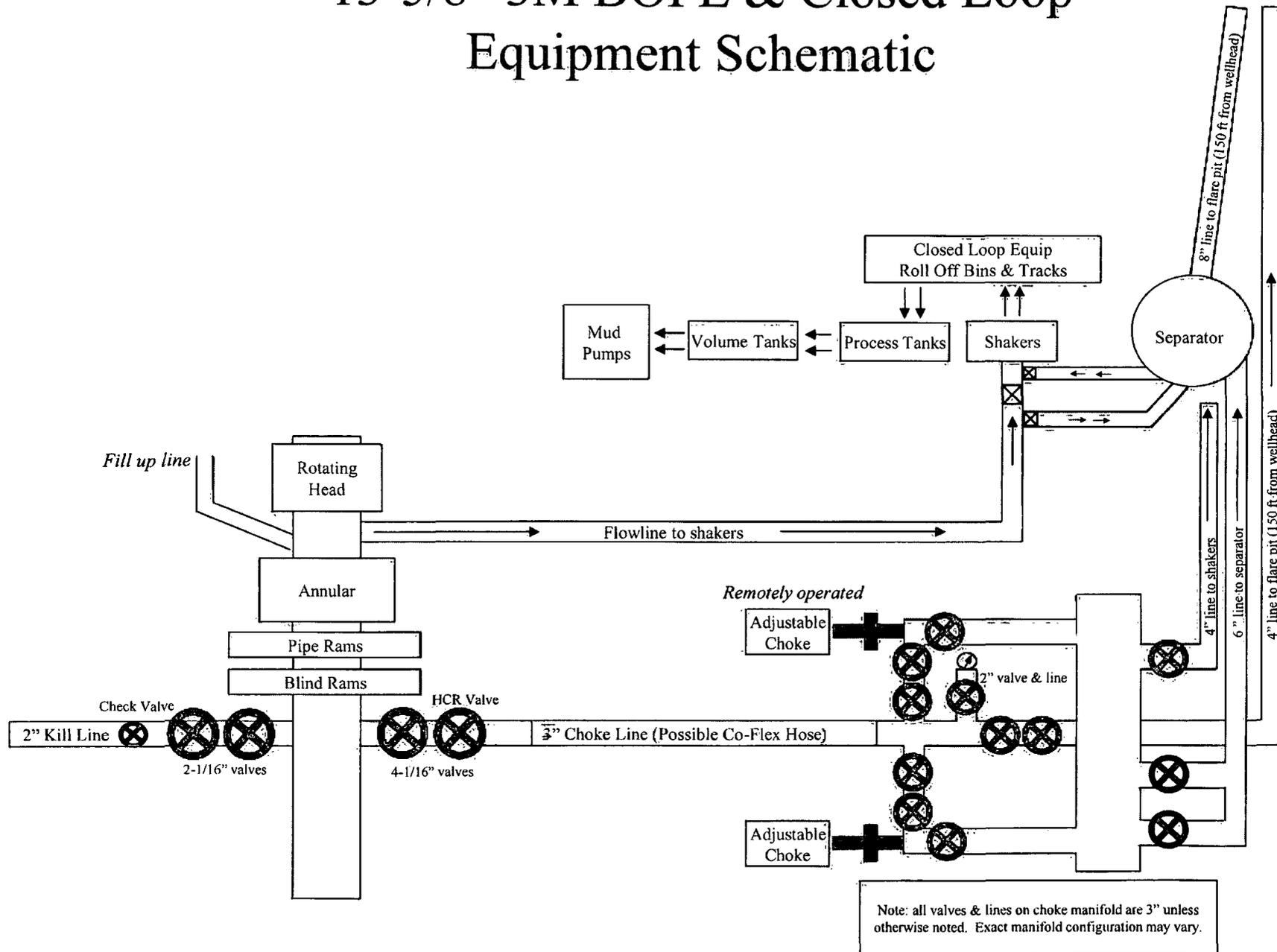
Geodetic Location WGS84

MSL Elevation = 0 m
 Latitude = 32° 09' 09.62" N
 Longitude = 103° 43' 16.84" W

Magnetic Declination = 7.39 deg	[True North Offset]
Local Gravity = .9988 g	Checksum = 6470
Local Field Strength = 48247 nT	Magnetic Vector X = 23923 nT
Magnetic Dip = 60.00 deg	Magnetic Vector Y = 3103 nT
Magnetic Model = bggm2013.bgs	Magnetic Vector Z = 41784 nT
Run Date = July 15, 2014	Magnetic Vector H = 24123 nT

Signed: _____ Date: _____

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



NOTES REGARDING BLOWOUT PREVENTERS

Devon Energy Production Company, L.P.
Trionyx 6 Fed 11H

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.

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.	
<p>Pressure test with water at ambient temperature</p> <p style="text-align: center;">See attachment. (1 page)</p> <p>↑ 10 mm = 10 Min. → 10 mm = 25 MPa</p>					
COUPLINGS Type	Serial N°		Quality	Heat N°	
3" coupling with 4 1/16" Flange end	5503 2029		AISI 4130	N1590P	
			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: 25. August. 2008	Inspector		Quality Control ContiTech Rubber Industrial Kft. Quality Control Dept. <i>[Signature]</i>		

HARTMANN &

No.	Tensile strength		Elongation		Tensile strength	Elongation	
	min	max	min	max		min	max
21	15	20	100	150	15	20	100
22	15	20	100	150	15	20	100
23	15	20	100	150	15	20	100
24	15	20	100	150	15	20	100
25	15	20	100	150	15	20	100
26	15	20	100	150	15	20	100
27	15	20	100	150	15	20	100
28	15	20	100	150	15	20	100
29	15	20	100	150	15	20	100
30	15	20	100	150	15	20	100
31	15	20	100	150	15	20	100
32	15	20	100	150	15	20	100
33	15	20	100	150	15	20	100
34	15	20	100	150	15	20	100
35	15	20	100	150	15	20	100
36	15	20	100	150	15	20	100
37	15	20	100	150	15	20	100
38	15	20	100	150	15	20	100
39	15	20	100	150	15	20	100
40	15	20	100	150	15	20	100
41	15	20	100	150	15	20	100
42	15	20	100	150	15	20	100
43	15	20	100	150	15	20	100
44	15	20	100	150	15	20	100
45	15	20	100	150	15	20	100
46	15	20	100	150	15	20	100
47	15	20	100	150	15	20	100
48	15	20	100	150	15	20	100
49	15	20	100	150	15	20	100
50	15	20	100	150	15	20	100

Jacobs
 ConifTech Rubber
 Industrial Kft.
 Quality Control Dept.
 (3)



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.

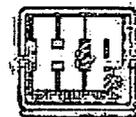
Should you have any questions or require any additional information/clarifications then please do not hesitate to contact us.

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

Best regards,

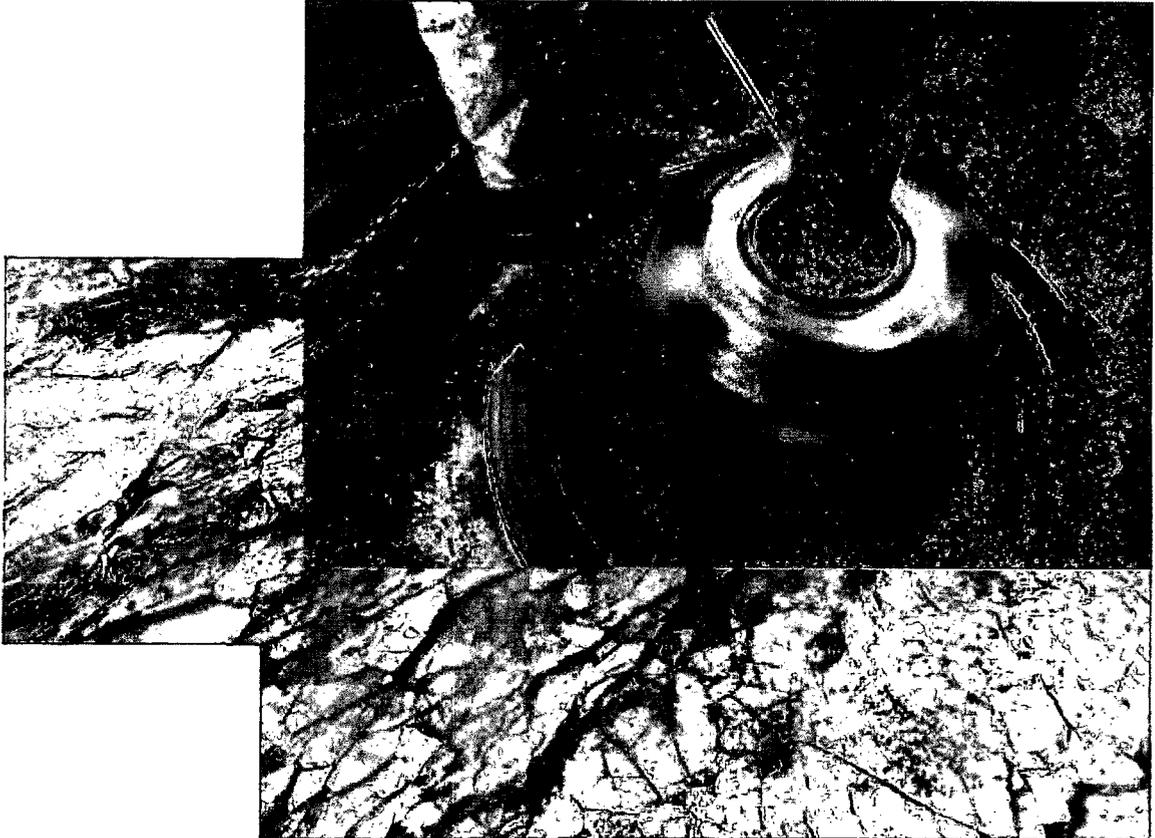
Robin Hodgson
Sales Manager
ContiTech Beattie Corp

ContiTech Beattie Corp,
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Houston, TX 77041
Phone: +1 (832) 327-0141
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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.

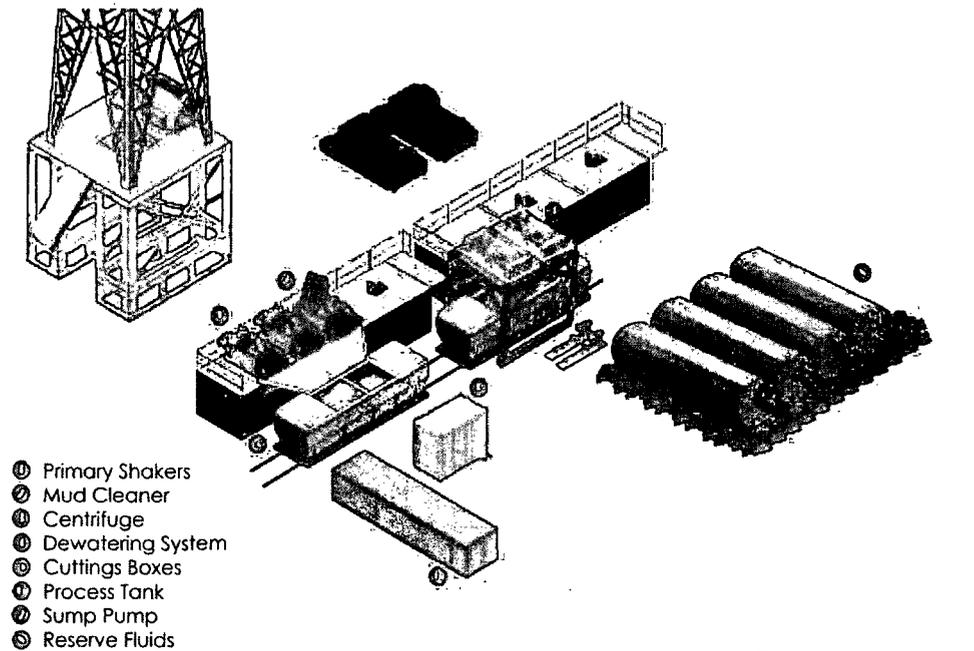
II. Operations and Maintenance Plan

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.

devon

Closed Loop Schematic



Mi SWACO

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

