

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0135  
Expires: July 31, 2010

**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*

5. Lease Serial No.  
NMNM82886

6. If Indian, Allottee or Tribe Name

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

**SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

8. Well Name and No.  
HARROUN TRUST 31-30 FED COM 2H

9. API Well No.  
30-015-41963-00-X1

10. Field and Pool, or Exploratory  
HARROUN RANCH-DELAWARE

11. County or Parish, and State  
EDDY COUNTY, NM

1. Type of Well  
 Oil Well  Gas Well  Other

2. Name of Operator  
DEVON ENERGY PRODUCTION CO  
Contact: TRINA C COUCH  
Email: trina.couch@dvn.com

3a. Address  
333 WEST SHERIDAN AVE  
OKLAHOMA CITY, OK 73102

3b. Phone No. (include area code)  
Ph: 405-228-7203

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
Sec 31 T23S R29E Lot 4 330FSL 1305FWL

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Change to Original APD
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Devon Energy Production Company, L.P. respectfully requests permission to add the option of a Cement Stage Tool and External Casing Packer to the 9 5/8" Intermediate casing string planned to be set at 2700'. The Cement Stage Tool and External Casing Packer will be placed at 450' if lost circulation is encountered, which is 100' below 13-3/8" surface casing planned to be set at 350'. Devon Energy recommends adding an ECP to the Stage Tool on 5-1/2" production casing and moving up from 5500' to 3500'. In addition, a DWC connection will be used on the 5-1/2" production casing, which is a stronger connection than the LTC/BTC connection currently in the APD. Attached, please find the updated cement slurry descriptions and volumes and a specification sheet for the 5-1/2", 17 lb/ft, P-110RY, DWC/C production casing.

Accepted for record  
NMOCD TCS  
2-4-2014

**RECEIVED**  
FEB 03 2014  
NMOCD ARTESIA

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

Thank you

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #233302 verified by the BLM Well Information System  
For DEVON ENERGY PRODUCTION CO LP, sent to the Carlsbad  
Committed to AFMSS for processing by CHRISTOPHER WALLS on 01/29/2014 (14CRW0173SE)

Name (Printed/Typed) TRINA C COUCH Title REGULATORY ASSOCIATE

Signature (Electronic Submission) Date 01/27/2014

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By \_\_\_\_\_ Title \_\_\_\_\_

Conditions of approval, if any, are attached. Approval of this notice 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.

Office \_\_\_\_\_

**APPROVED**  
JAN 29 2014  
Date  
/s/ Chris Walls  
BUREAU OF LAND MANAGEMENT  
CARLSBAD FIELD OFFICE

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.

String	Number of sx	Weight lbs/gal	Water Volume g/sx	Yield cf/sx	Stage; Lead/Tail	Slurry Description
9-5/8" Intermediate 2 Stage Option	520	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
	180	13.7	8.66	1.67	Tail	Class C Cement + 0.4% BWOC LAP-1 + 0.2% BWOC HR-601 + 0.2 lb/sk D-Air 5000 + 4% BWOC Bentonite + 69.3% Fresh Water
	DV Tool @ 450ft					
	120	13.7	8.66	1.67	Tail	Class C Cement + 0.4% BWOC LAP-1 + 0.2% BWOC HR-601 + 0.2 lb/sk D-Air 5000 + 4% BWOC Bentonite + 69.3% Fresh Water
5-1/2" Production Casing 2-Stage Option	280	11.0	15.23	2.71	Lead	Tuned Light Blend + 0.125 lb/sk Pol-E-Flake + 76.3% Fresh Water
	1930	14.5	5.38	1.22	Tail	(50:50) Class H Cement: Poz (Fly Ash) + 1 lb/sk Sodium Chloride + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water
	DV Tool @ 3500ft					
	320	11.0	15.23	2.71	Lead	Tuned Light Blend + 0.125 lb/sk Pol-E-Flake + 76.3% Fresh Water
	80	14.8	6.32	1.33	Tail	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water

**TOC for all Strings:**

13-3/8" Surface	0ft
9-5/8" Intermediate	0ft
Pilot Hole Plug Back	6884ft
5-1/2" Production Single Stage Option	1625ft

5-1/2" Production Two-Stage Option

Stage #1 = 4500ft

Stage #2 = 1625ft

**Notes:**

- Cement volumes Surface 100%, Intermediate 75%, ~~Pilot Hole 10%~~ and Production based on at least 25% excess.
- Actual cement volumes will be adjusted based on fluid caliper and caliper log data.

**Technical Specifications**

Connection Type:	Size(O.D.):	Weight (Wall):	Grade:
DWC/C Casing standard	5-1/2 in	17.00 lb/ft (0.304 in)	P110RY

**Material**

P110RY	Grade
110,000	Minimum Yield Strength (psi)
125,000	Minimum Ultimate Strength (psi)



VAM-USA  
 4424 W. Sam Houston Pkwy. Suite 150  
 Houston, TX 77041  
 Phone: 713-479-3200  
 Fax: 713-479-3234  
 E-mail: [VAMUSAsales@na.vallourec.com](mailto:VAMUSAsales@na.vallourec.com)

**Pipe Dimensions**

5.500	Nominal Pipe Body O.D. (in)
4.892	Nominal Pipe Body I.D.(in)
0.304	Nominal Wall Thickness (in)
17.00	Nominal Weight (lbs/ft)
16.89	Plain End Weight (lbs/ft)
4.962	Nominal Pipe Body Area (sq in)

**Pipe Body Performance Properties**

546,000	Minimum Pipe Body Yield Strength (lbs)
7,480	Minimum Collapse Pressure (psi)
10,640	Minimum Internal Yield Pressure (psi)
9,700	Hydrostatic Test Pressure (psi)

**Connection Dimensions**

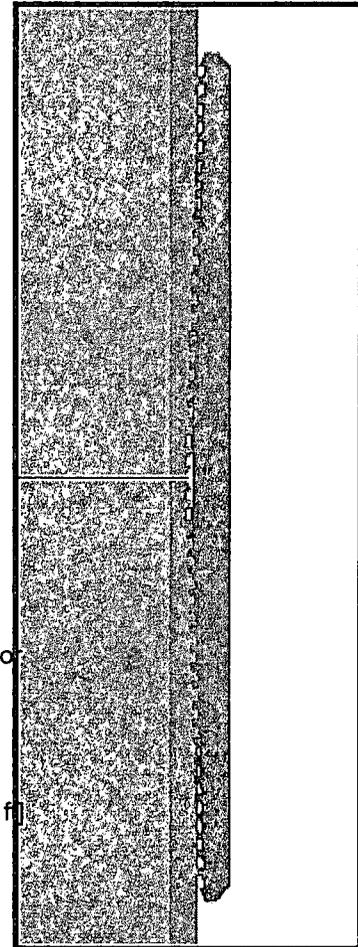
6.050	Connection O.D. (in)
4.892	Connection I.D. (in)
4.767	Connection Drift Diameter (in)
4.13	Make-up Loss (in)
4.962	Critical Area (sq in)
100.0	Joint Efficiency (%)

**Connection Performance Properties**

546,000	Joint Strength (lbs)
22,940	Reference String Length (ft) 1.4 Design Factor
568,000	API Joint Strength (lbs)
546,000	Compression Rating (lbs)
7,480	API Collapse Pressure Rating (psi)
10,640	API Internal Pressure Resistance (psi)
91.7	Maximum Uniaxial Bend Rating [degrees/100 ft]

**Appoximated Field End Torque Values**

12,000	Minimum Final Torque (ft-lbs)
13,800	Maximum Final Torque (ft-lbs)
15,500	Connection Yield Torque (ft-lbs)



For detailed information on performance properties, refer to DWC Connection Data Notes on following page(s).

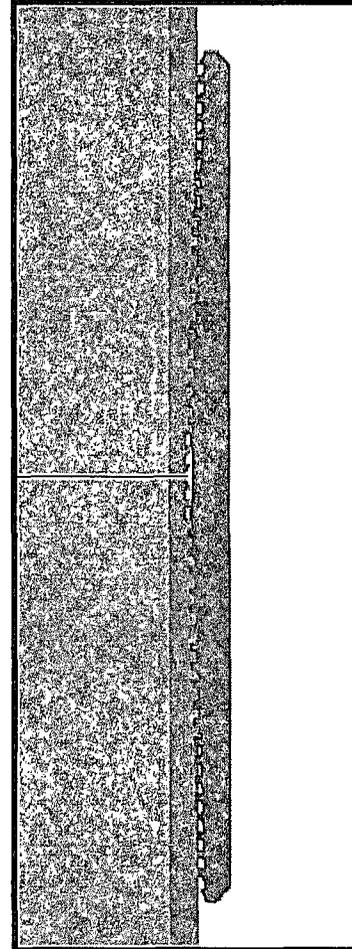
Connection specifications within the control of VAM-USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

5/10/2013 11:45:04 AM



**DWC Connection Data Notes:**

1. DWC connections are available with a seal ring (SR) option.
2. All standard DWC/C connections are interchangeable for a give pipe OD. DWC connections are interchangeable with DWC/C-SR connections of the same OD and wall.
3. Connection performance properties are based on nominal pipe body and connection dimensions.
4. DWC connection internal and external pressure resistance is calculated using the API rating for buttress connections. API Internal pressure resistance is calculated from formulas 31, 32, and 35 in the API Bulletin 5C3.
5. DWC joint strength is the minimum pipe body yield strength multiplied by the connection critical area.
6. API joint strength is for reference only. It is calculated from formulas 42 and 43 in the API Bulletin 5C3.
7. Bending efficiency is equal to the compression efficiency.
8. The torque values listed are recommended. The actual torque required may be affected by field conditions such as temperature, thread compound, speed of make-up, weather conditions, etc.
9. Connection yield torque is not to be exceeded.
10. Reference string length is calculated by dividing the joint strength by both the nominal weight in air and a design factor (DF) of 1.4. These values are offered for reference only and do not include load factors such as bending, buoyancy, temperature, load dynamics, etc.
11. DWC connections will accommodate API standard drift diameters.



Connection specifications within the control of VAM-USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

5/10/2013 11:45:04 AM

## CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy
LEASE NO.:	NM82886
WELL NAME & NO.:	Harroun Trust 31-30 Fed Com 2H
SURFACE HOLE FOOTAGE:	330'/FSL. & 1305'/FWL.
BOTTOM HOLE FOOTAGE:	2310'/FSL. & 660'/FWL. Sec 30
LOCATION:	Section 31, T.23 S., R.29 E., NMPM
COUNTY:	Eddy County, New Mexico

1. The **13-3/8** inch surface casing shall be set at approximately 350 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
  
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

**DV tool option: Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth.**

- a. First stage to DV tool:
  - Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

**Centralizers required on horizontal leg, must be type for horizontal service and minimum of one every other joint.**

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

**Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth.**

c. First stage to DV tool:

- Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage. **Additional cement may be required – excess calculates to 24%.**

d. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Additional cement may be required – excess calculates to 7%.**

**CRW 012914**