

Operator Copy

Form 3160-3
(February 2005)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

SECRETARY'S POTASH

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

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER			5. Lease Serial No. NMNM LC- 069464-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 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. Arcturus 18 Federal 1H	
3b. Phone No. (include area code) (405)-552-7802			9. API Well No. 30-015-58237	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface NENE 400' FNL & 200' FEL Lot A At proposed prod. zone NWNW 400 FNL & 340' FWL Lot D			10. Field and Pool, or Exploratory Hackberry; Bone Spring, NW	
14. Distance in miles and direction from nearest town or post office* Approximately 12 miles southeast of Loco Hills, NM.			11. Sec., T. R. M. or Blk. and Survey or Area Sec 18 T19S-R31E	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 200'			12. County or Parish Eddy	
16. No. of acres in lease 760			13. State NM	
17. Spacing Unit dedicated to this well 160				
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 50'			19. Proposed Depth TVD 8800' MD 13230'	
20. BLM/BIA Bond No. on file CO-1104				
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3441' GL			22. Approximate date work will start* 09/01/2010	
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:

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

25. Signature 	Name (Printed/Typed) Stephanie A. Ysasaga	Date 07/27/2010
Title Sr. Staff Engineering Technician		
Approved by (Signature) 	Name (Printed/Typed) William Merhej	Date 10/12/10
Title Acting STATE DIRECTOR		
Office NM STATE 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) well becomes orthodox @ landing point MD 9155'

Capitan Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

KE 10/20/10

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico

Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr

Santa Fe, NM 87505

Form C-102

Revised October 15, 2009

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-38237	² Pool Code 97020	³ Pool Name HACKBERRY, BONE SPRING, NW (O)
⁴ Property Code 38355	⁵ Property Name ARCTURUS 18 FEDERAL	
⁷ OGRD No. 6137	⁸ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	⁶ Well Number 1H
		⁹ Elevation 3441.0

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	18	19 S	31 E		400	NORTH	200	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	18	19 S	31 E		400	NORTH	340	WEST	EDDY

¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

<p>BOTTOM OF HOLE</p> <p>340'</p> <p>400'</p> <p>ARCTURUS "18" FED. #1H</p> <p>ELEV. = 3441.0'</p> <p>LAT. = 32°39'59.660"N (NAD83)</p> <p>LONG. = 103°54'02.607"W</p> <p>NMSP EAST (FT)</p> <p>N = 606486.22</p> <p>E = 674459.48</p> <p>NW CORNER SEC. 18</p> <p>LAT. = 32°40'03.42"N</p> <p>LONG. = 103°55'00.97"W</p> <p>NMSP EAST (FT)</p> <p>N = 606846.48</p> <p>E = 669467.90</p> <p>SW CORNER SEC. 18</p> <p>LAT. = 32°39'11.17"N</p> <p>LONG. = 103°55'01.01"W</p> <p>NMSP EAST (FT)</p> <p>N = 601564.84</p> <p>E = 669485.12</p>	<p>SURFACE LOCATION</p> <p>200'</p> <p>400'</p> <p>PP</p> <p>NE CORNER SEC. 18</p> <p>LAT. = 32°40'03.62"N</p> <p>LONG. = 103°54'00.28"W</p> <p>NMSP EAST (FT)</p> <p>N = 606887.82</p> <p>E = 674656.73</p> <p>SE CORNER SEC. 18</p> <p>LAT. = 32°39'11.38"N</p> <p>LONG. = 103°54'00.09"W</p> <p>NMSP EAST (FT)</p> <p>N = 601607.32</p> <p>E = 674694.79</p>	<p>¹⁷ OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p>Signature: <i>[Signature]</i> Date: 07/27/2010</p> <p>Printed Name: STEPHANIE A. YSASAGA</p> <p>¹⁸ SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>JULY 13, 2010</p> <p>Date of Survey: <i>[Signature]</i></p> <p>Signature and Seal of Professional Surveyor: <i>[Signature]</i></p> <p>Certificate Number: FUMON CARRANILLO, PLS 12797</p> <p>SURVEY NO. 150</p>
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PP

PENETRATION POINT: 440' FNL & 340' FEL



PRODUCING AREA



PROJECT AREA

OPERATOR'S COPY

Form 3160-5
(February 2005)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

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

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.
NMNM LC-069464-A

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2.

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

8. Well Name and No.
Arcturus 18 Federal 1H

9. API Well No.

10. Field and Pool or Exploratory Area
Hackberry; Bone Springs, North

11. Country or Parish, State
Eddy County, NM

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
Devon Energy Production Co., LP

3a. Address
20 North Broadway
OKC, OK 73102

3b. Phone No. (include area code)
(405)-552-7802

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
NENE: 440' FNL & 340' FEL
Sec 18-T19S-R31E

12. CHECK THE 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 Use of co-flex hose between the BOPE & the choke manifold
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<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 recomple 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 must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recomple in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must 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 Co., LP respectfully requests a variance to Onshore Order No. 2. If H&P rig is used to drill this well, co-flex hose may be used between the BOPE and the choke manifold. The hose will be kept as straight as possible with minimal turns.

Co-Flex Hose:

- Manufacturer: Copper State Rubber, Inc.
- Approximately ~ 37' 6" of co-flex line
- 3" coupling with 4 1/16" flanges on each end - 10,000 psi
- Quality Control Inspection & Test Certificate attached
- See configuration schematic
- Safety clamps are not required since the ends are flanged
- Line to be kept as straight as possible.

Devon also respectfully submits the requested documentation, per BLM request, for Federal permits regarding lifting and safety equipment.

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

Name (Printed/Typed)
Stephanie A. Ysasaga

Title Sr. Staff Engineering Technician

Signature

Date 08/30/2010

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Acting
STATE DIRECTOR

Title

Date 10/18/10

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

NM STATE 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.

(Instructions on page 2)

COPPER STATE RUBBER
VISUAL INSPECTION / HYDROSTATIC TEST REPORT
CHOKE & KILL / CEMENTING HOSE
10,000 P.S.I. W/P X 15,000 P.S.I. T/P
SPEC: 090-1915 HS
H2S SUITABLE

SHOP ORDER NO.: 22162 SIZE: 3" I.D.
SERIAL NO.: 26547 LENGTH 37 FT. 6 IN.

CONNECTIONS: 4-1/16" 10,000 PSI API FLANGES

08C1 - 08D2 - HT-A080635

VISUAL INSPECTION

(A) END CAPS / SLEEVE RECESS: OK
(B) EXTERIOR / COVER / BRANDING: OK
(C) INTERIOR TUBE: OK

HYDROSTATIC TEST

5 MIN. @ 10,000 PSI

2 MIN. @ 0 PSI 37' - 11" OAL

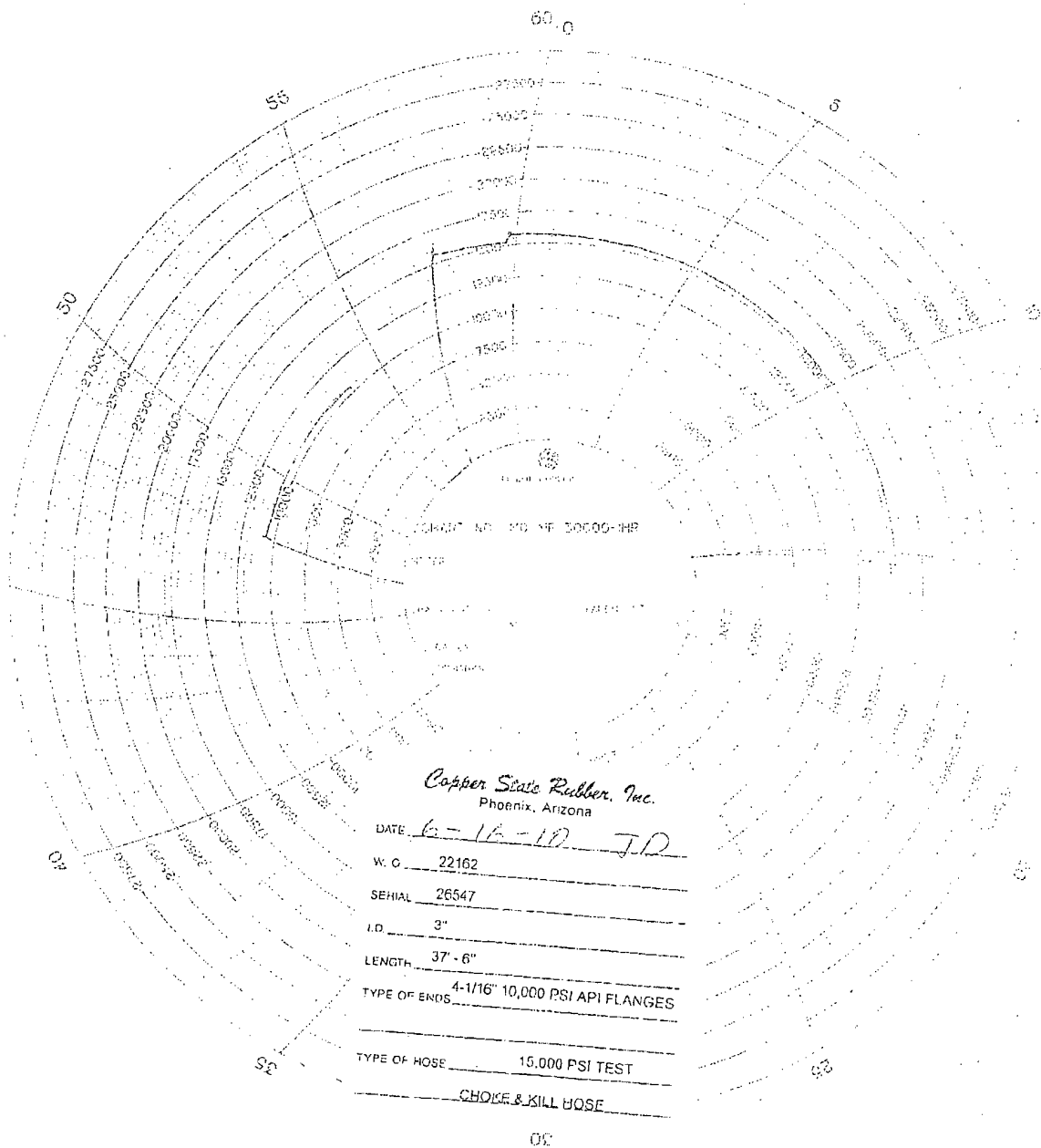
15 MIN. @ 15,000 PSI

WITNESSED BY:

Phil Snider

DATE

June 16, 2010





Fluid Technology

ContiTech Beattie Corp.
Website: www.contitechbeattie.com

Monday, June 14, 2010

RE: Drilling & Production Hoses
Lifting & Safety Equipment

To Helmerich & Payne,

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

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

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

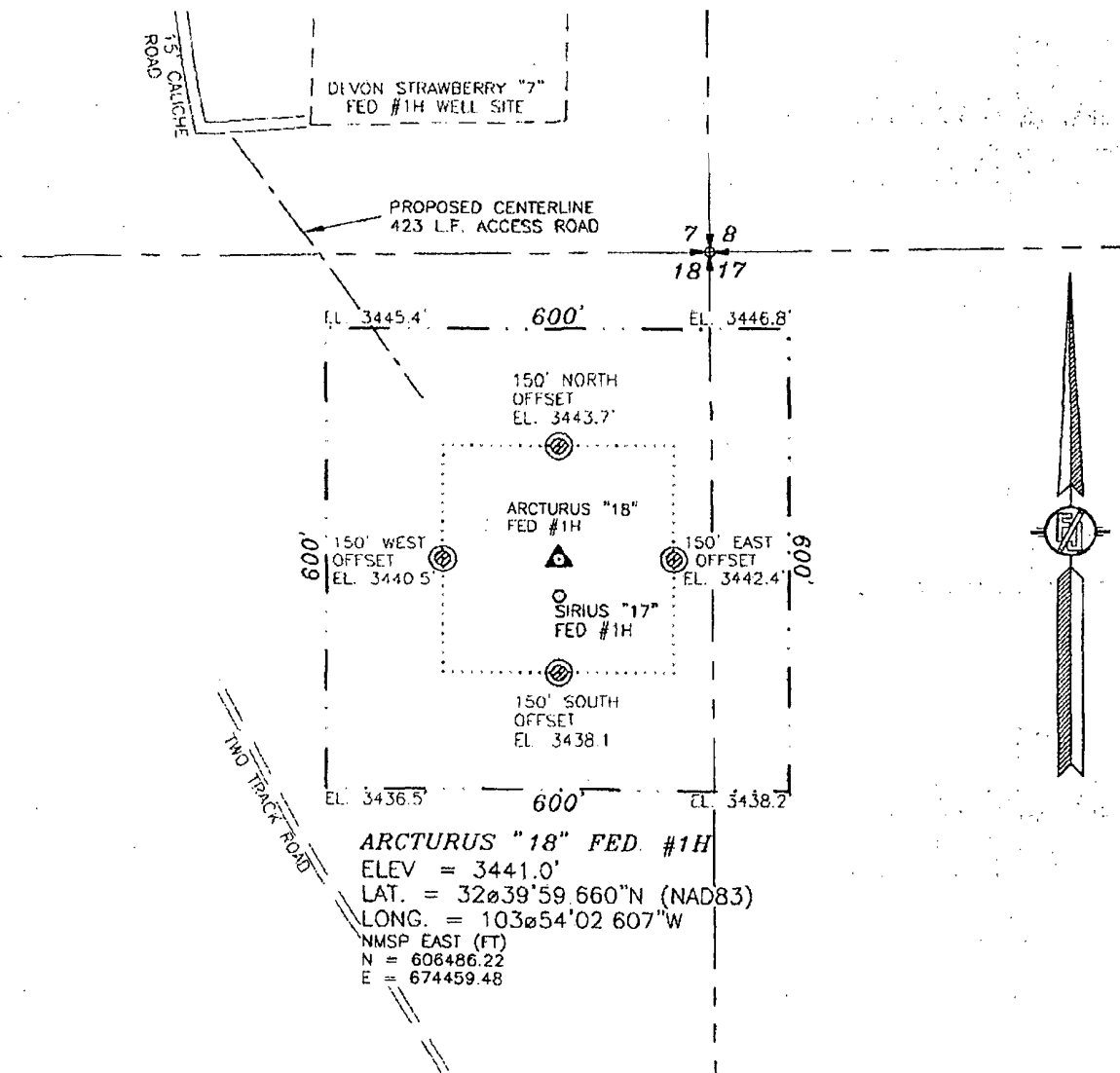
Best regards,

Robin Hodgson
Sales Manager
ContiTech Beattie Corp

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



SECTION 18, TOWNSHIP 19 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO



020 100 200 400

SCALE 1" = 200'

DIRECTIONS TO LOCATION

FROM STATE HWY. 82 (SHUGART ROAD) AND CR# 222 GO SOUTH ON 222 8.5 MILES, TURN RIGHT ON CALICHE ROAD AND GO WEST-SOUTHWEST 2.6 MILES, BEND LEFT AND GO 0.1 MILES, TURN LEFT ON CALICHE ROAD AND FOLLOW WINDING ROAD SOUTHWEST APPROX. 1.4 MILES TO A PROPOSED ROAD SURVEY AND FOLLOW FLAGS SOUTHEAST 423' TO THE NW CORNER OF PROPOSED PAD FOR THIS LOCATION.

DEVON ENERGY PRODUCTION COMPANY, L.P.

ARCTURUS "18" FED #1H

LOCATED 400 FT FROM THE NORTH LINE

AND 200 FT FROM THE EAST LINE OF

SECTION 18, TOWNSHIP 19 SOUTH,

RANGE 31 EAST, N.M.P.M.

EDDY COUNTY, STATE OF NEW MEXICO

JULY 13, 2010

SURVEY NO. 150

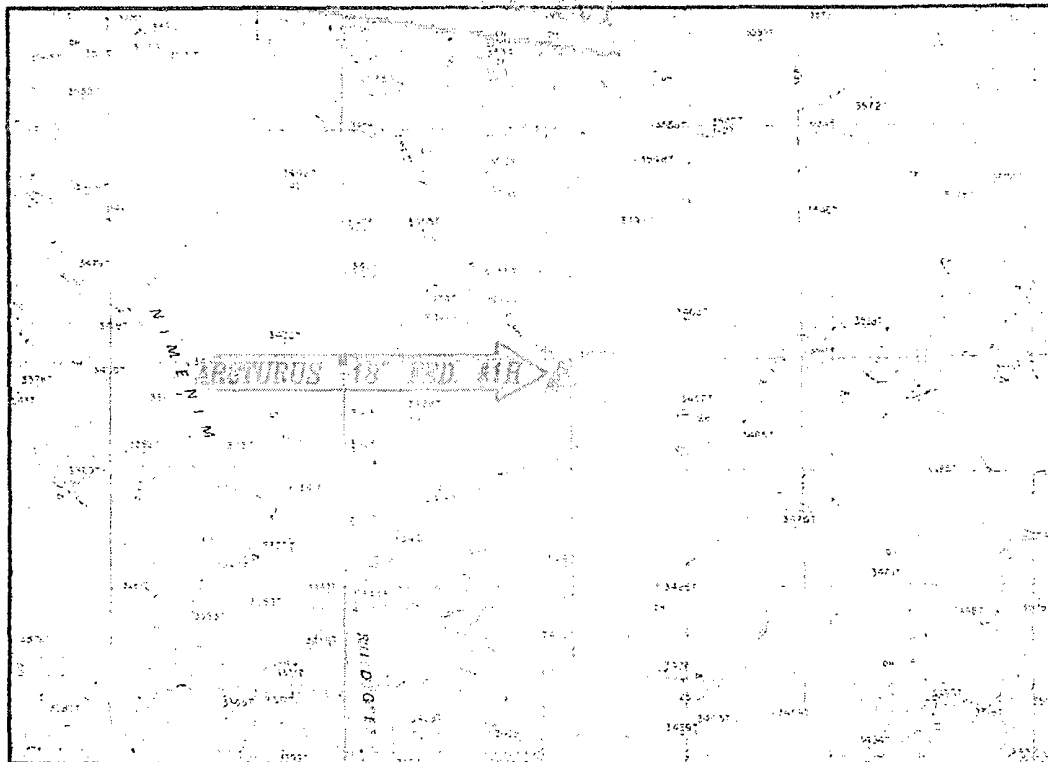
MADRON SURVEYING, INC

301 SOUTH CAVAL
(515) 887-5830

CARLSBAD, NEW MEXICO

SECTION 18, TOWNSHIP 19 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

LOCATION VERIFICATION MAP



CONTOUR INTERVAL:
HACKBERRY LAKE

NOT TO SCALE

DIRECTIONS TO LOCATION

FROM STATE HWY 82 (SHUGART ROAD) AND
CR# 222 GO SOUTH ON 222 8.5 MILES, TURN
RIGHT ON CALICHE ROAD AND GO
WEST-SOUTHWEST 2.6 MILES, BEND LEFT AND
GO 0.1 MILES, TURN LEFT ON CALICHE ROAD
AND FOLLOW WINDING ROAD SOUTHWEST APROX.
1.4 MILES TO A PROPOSED ROAD SURVEY AND
FOLLOW FLAG SOUTH-EAST 423 TO THE NW
CORNER OF PROPOSED PAD FOR THIS LOCATION.

SEC 18 TWP 19-S RGE 31-E
SURVEY N.M.P.M.
COUNTY EDDY STATE NEW MEXICO
DESCRIPTION 400' FNL & 200' FLI
ELEVATION 3441.0
OPERATOR DEVON ENERGY PRODUCTION COMPANY, L.P.
LEASE ARCTURUS

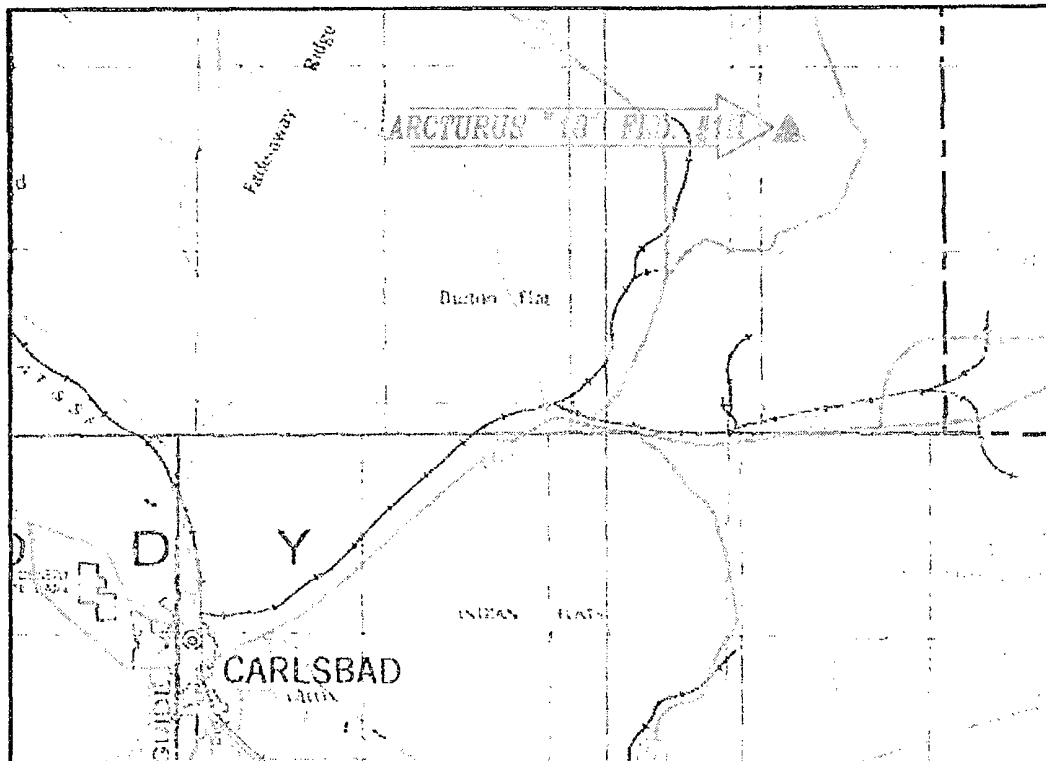
DEVON ENERGY PRODUCTION COMPANY, L.P.
ARCTURUS "18" FED #1H
LOCATED 400 FT FROM THE NORTH LINE
AND 200 FT FROM THE EAST LINE OF
SECTION 18, TOWNSHIP 19 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JULY 13, 2010

SURVEY NO 150

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

SECTION 18, TOWNSHIP 19 SOUTH, RANGE 31 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 VICINITY MAP



DIRECTIONS TO LOCATION
 FROM STATE HWY. 82 (SHUGART ROAD) AND
 CR# 222 GO SOUTH ON 222 8.5 MILES, TURN
 RIGHT ON CALICHE ROAD AND GO
 WEST-SOUTHWEST 2.6 MILES, BEND LEFT AND
 GO 0.1 MILES, TURN LEFT ON CALICHE ROAD
 AND FOLLOW WINDING ROAD SOUTHWEST APROX.
 1.4 MILES TO A PROPOSED ROAD SURVEY AND
 FOLLOW FLAGS SOUTHEAST 423' TO THE NW
 CORNER OF PROPOSED PAD FOR THIS LOCATION.

NOT TO SCALE

SEC. 18 TWP. 19-S RCE. 31-E
 SURVEY N.M.P.M.
 COUNTY EDDY STATE NEW MEXICO
 DESCRIPTION 400' FNL & 200' FEL
 ELEVATION 3441.0'
 OPERATOR DEVON ENERGY PRODUCTION COMPANY, LP
 LEASE ARCTURUS

DEVON ENERGY PRODUCTION COMPANY, L.P
 ARCTURUS "18" FED #1H
 LOCATED 400 FT FROM THE NORTH LINE
 AND 200 FT FROM THE EAST LINE OF
 SECTION 18, TOWNSHIP 19 SOUTH,
 RANGE 31 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

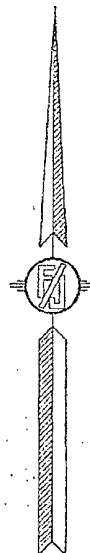
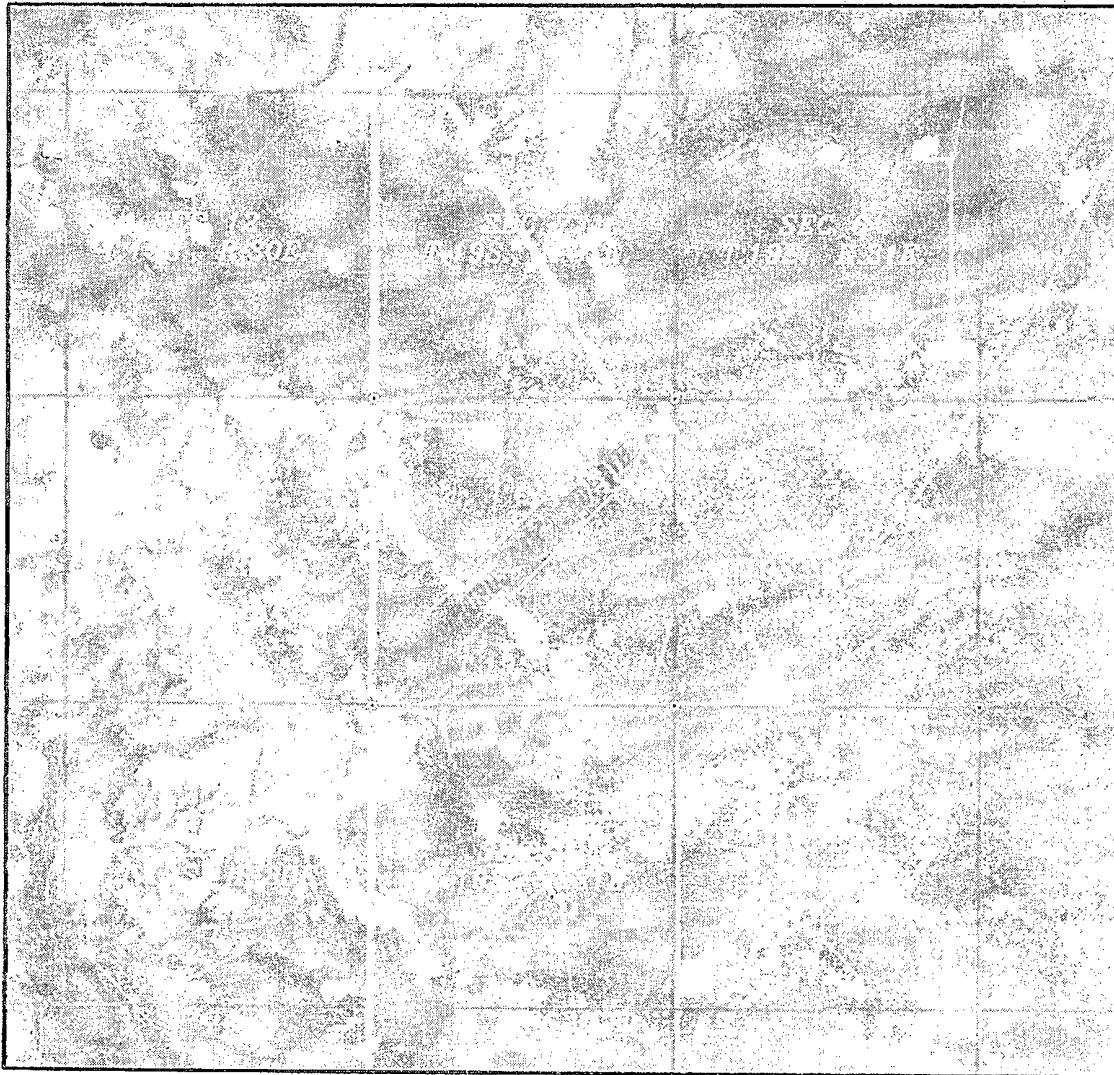
JULY 13, 2010

SURVEY NO 150

MADRON SURVEYING, INC. 351 SOUTH CANAL (575) 887-5830 CARLSBAD, NEW MEXICO

SECTION 18, TOWNSHIP 19 SOUTH, RANGE 31 EAST, N M P M
EDDY COUNTY, STATE OF NEW MEXICO

AERIAL PHOTO



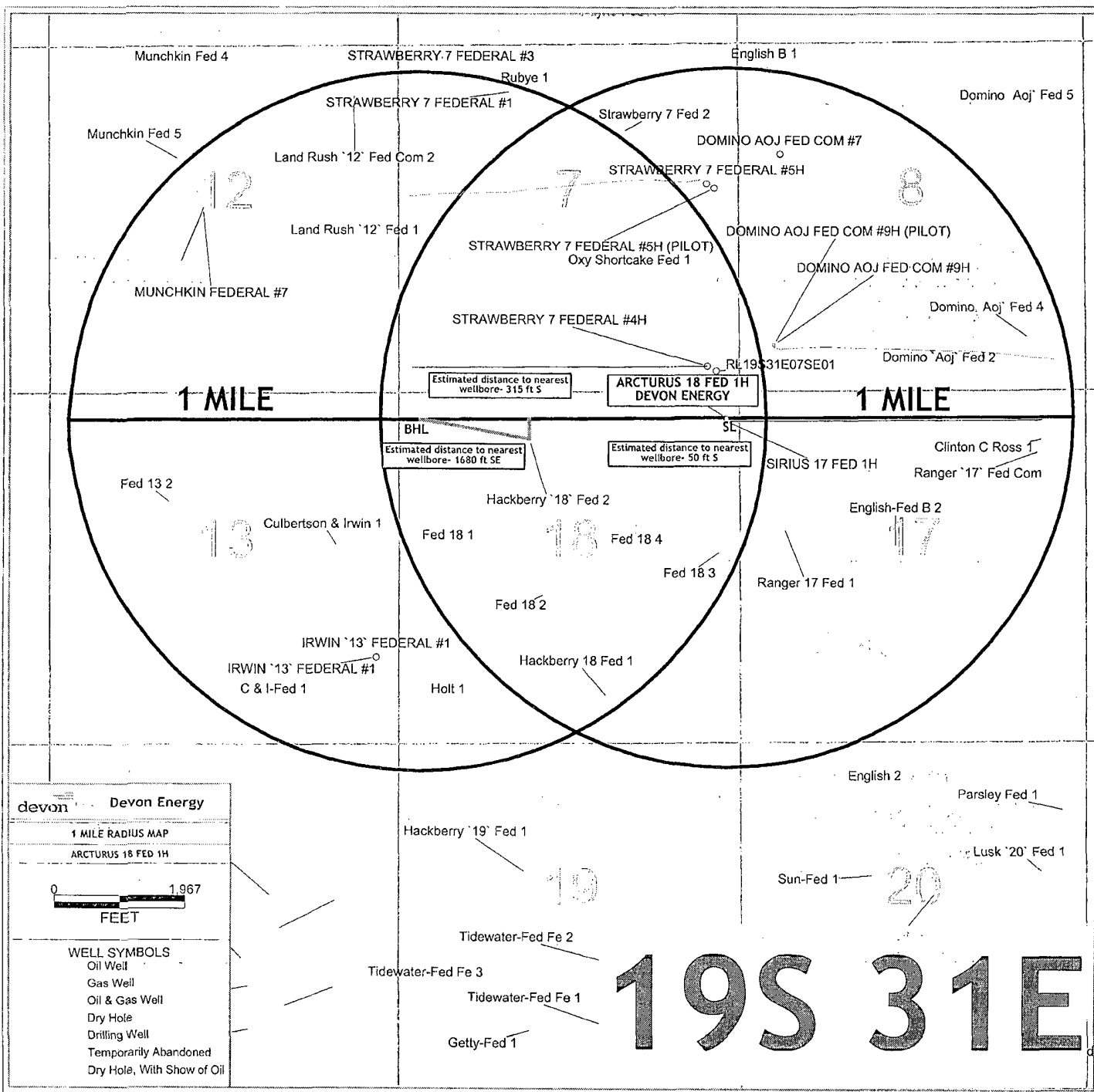
NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
USDA - AUG. 2009

DEVON ENERGY PRODUCTION COMPANY, L.P.
ARCTURUS "18" FED #1H
LOCATED 400 FT FROM THE NORTH LINE
AND 200 FT FROM THE EAST LINE OF
SECTION 18, TOWNSHIP 19 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JULY 13, 2010

SURVEY NO 150

MADRON SURVEYING, INC 301 SOUTH CANAL CARLSBAD, NEW MEXICO
(575) 687-5830



DRILLING PROGRAM

Devon Energy Production Company, LP

Arcturus 18 Federal 1H

Surface Location: 400' FNL & 200' FEL, Unit A, Sec 18 T19S R31E, Eddy, NM

Bottom hole Location: 400' FNL & 340' FWL, Unit A, Sec 18 T19S R31E, Eddy, NM

1. **Geologic Name of Surface Formation**

a. Permian

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

a. Rustler	485'	Barren
b. Salado	585'	Barren
c. Tansil Dolomite	2095'	Barren
d. Yates	2205'	Oil
e. Seven Rivers	2515'	Oil
f. Queen	3245'	Oil
g. Penrose	3840'	Barren
h. San Andres	3835'	Oil
i. Delaware	4720'	Oil
j. Bone Springs	6475'	Oil
k. 1 st Bone Spring Ss	7870'	Oil
l. 2 nd Bone Spring Lime	8110'	Oil
m. 2 nd Bone Spring Ss	8660'	Oil
n. 2 nd Bone Spring Middle Ss	8795'	Oil
o. 2 nd Bone Spring Middle Ss Base	8875'	Oil
p. PTD (no pilot hole)	8825'	
q. Total Depth	TVD 8800' MD 13230'	

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 550' and circulating cement back to surface. The fresh water sands will be protected by setting 9 5/8" casing at 3150' and circulating cement to surface. The Delaware 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.

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>
17 1/2"	0'-550'	13 3/8"	0'-550'	48#	STC	H-40
12 1/4"	550'-3150'	9 5/8"	0'-3150'	36#	LTC	J-55
8 3/4"	3150'-8200'	5 1/2"	0'-8200'	17#	LTC	P-110HC
8 3/4"	8200'-13230'	5 1/2"	8200'-13230'	17#	BTC	P-110HC

Design Parameter Factors:

<u>Casing Size</u>	<u>Collapse Design</u>	<u>Burst Design</u>	<u>Tension Design</u>
	<u>Factor</u>	<u>Factor</u>	<u>Factor</u>
13 3/8"	2.99	6.72	12.20
9 5/8"	1.23	2.15	2.74
5 1/2" LTC	1.64	2.02	1.55
5 1/2" BTC	1.84	2.27	5.22

4. Cement Program:

See con

a. 13 3/8" Surface

Lead: 250 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 4% bwoc Bentonite + 81.4% Fresh Water, 13.5 ppg. Yield: 1.75 cf/sk

Tail: 250 Tail: 250 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3% Fresh Water, 14.8 ppg. Yield: 1.35 cf/sk. **TOC @ surface.**

b. 9 5/8" Intermediate

Lead: 750 sacks (35:65) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 107.8% Fresh Water, 12.5 ppg. Yield: 1.96 cf/sk.

Tail: 300 sacks Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.4% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 52.7% Water, 14.8 ppg. Yield: 1.34 cf/sk. **TOC @ surface.**

c. 5 1/2" Production

1st Stage

Lead: 900 sacks (35:65) Poz (Fly Ash):Class H Cement + 5% bwow Sodium Chloride + 0.3% bwoc CD-32 + 0.5% bwoc FL-25 + 2% bwoc Bentonite + 0.6% bwoc Sodium Metasilicate + 0.5% bwoc FL-52A + 102.5% Fresh Water, 12.5 ppg. Yield: 2.00 cf/sk

Tail: 1,300 sacks (50:50) Poz (Fly Ash):Class H Cement + 1% bwow Sodium Chloride + 0.2% bwoc R-3 + 0.125 lbs/sack Cello Flake + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 58.3% Fresh Water, 14.2 ppg. Yield: 1.28 cf/sk

DV TOOL at ~4,500 ft

2nd Stage

Lead: 215 sacks Class C Cement + 1% bwow Calcium Chloride + 0.125 lbs/sack Cello Flake + 157.8% Fresh Water, 11.4 ppg. Yield: 2.89 cf/sk

Tail: 150 sacks (60:40) Poz (Fly Ash):Class C Cement + 1% bwow Sodium Chloride + 0.2% bwoc R-3 + 0.125 lbs/sack Cello Flake + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 63.2% Fresh Water, 13.8

ppg. Yield: 1.37cf/sk. TOC @ 2,650'.

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of the cement is designed to reach approximately 500' above the 9 5/8" casing shoe. All casing is new and API approved.

5. Pressure Control Equipment:

BOP DESIGN: The BOP system used to drill the intermediate hole will consist of a 13-5/8" 5M Double Ram and Annular preventer. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2 as a 3M system prior to drilling out the surface casing shoe.

The BOP system used to drill the production hole will consist of a 13-5/8" 5M Double Ram and Annular preventer. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2 as a 5M system prior to drilling out the intermediate casing shoe.

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 5,000 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' - 550'	8.4-9.0	30-34	NC	Fresh Water
<i>See COR</i> 550' - 3150'	9.8-10.0	28-32	NC	Brine
3150' - 13230'	8.6-9.0	28-32	NC-12	Fresh Water

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 COR*

- 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

- iv. Additional testing will be initiated subsequent to setting the 5 ½" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

9. Potential Hazards:

- a. No abnormal pressures or temperatures are expected. There is no known presence of H₂S in this area. 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 3600 psi and Estimated BHT 145°. No H₂S is anticipated to be encountered.

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.



Weatherford

Drilling Services Services

Proposal

devon

ARCTURUS 18 FED 1H

ARCTURUS 18 FED 1H

EBBY COUNTY, NM

EBBY COUNTY, NM

WELL FILE: PLAN 1

WELL FILE: PLAN 1

JULY 26, 2010

JULY 26, 2010

Weatherford International, Ltd.

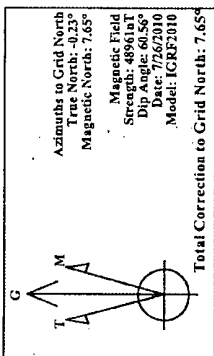
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Midland, TX 79701 USA

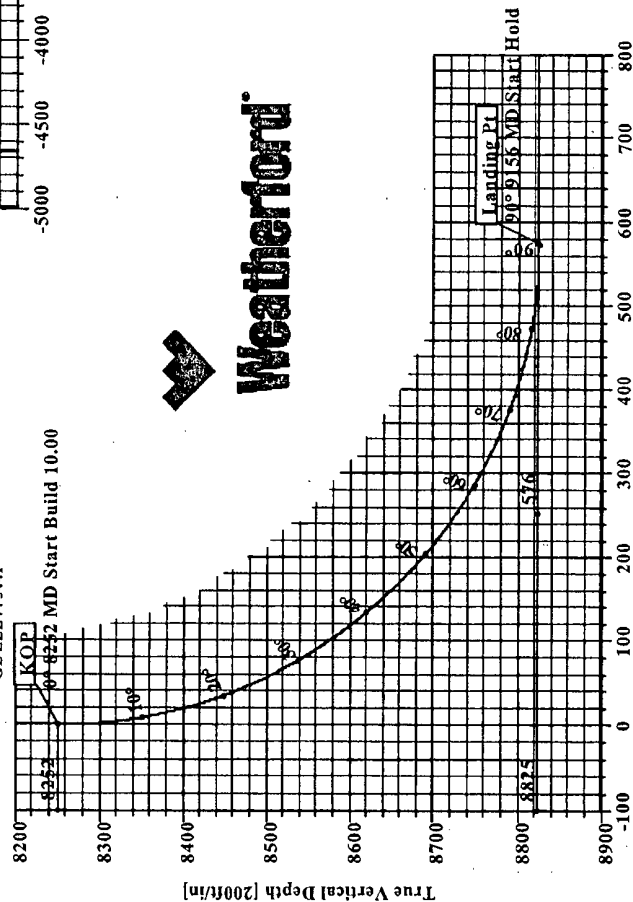
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+1 432 881 8892 Fax

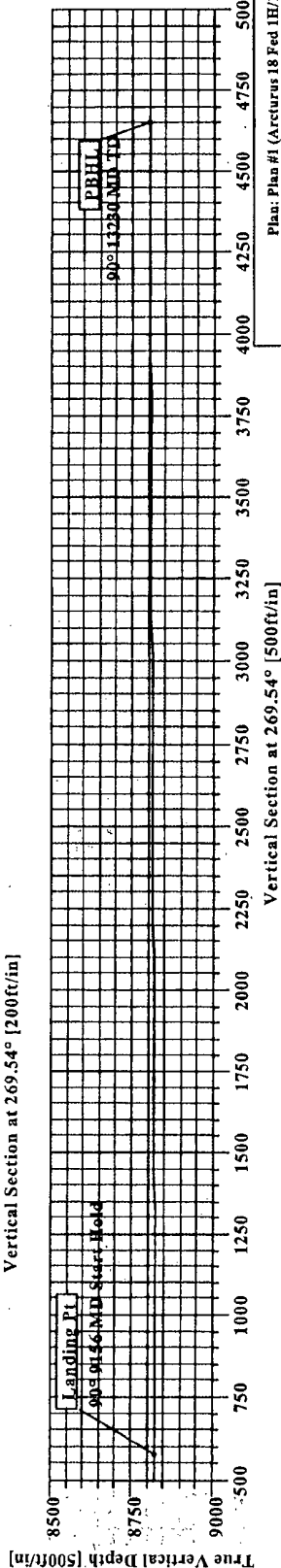
www.weatherford.com



Total Correction to Grid North: 7.65'

KB ELEV: 3466
GL ELEV: 3441

Vertical Section at 269.54° [200ft/in]



Vertical Section at 269.54° [500ft/in]

Plan: Plan #1 (Arcturus 18 Fed 1H/1)

Created By: L. Winchell

Date: 7/26/2010

Geodetic System: US State Plane Coordinate System 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico, Eastern Zone
 Magnetic Model: IGRF2010

Eddy Co., NM (NAD 83)

Site Centre Northlng: 606486.22
Eastlng: 674459.48

Ground Level: 3441.00
Positional Uncertainty: 0.00
Convergence: 0.23

System Datum: Mean Sea Level
Local North: Grid North

Local North: Grid North

SECTION DETAILS										
Sec	MD	Inc	Azi	TYD	+N+S	+E+W	DLeg	TFace	VSec	Target
1	4.00	0.00	269.54	0.00	0.00	0.00	0.00	0.00	0.00	
2	8352.05	0.00	269.54	8352.05	0.00	0.00	0.00	0.00	0.00	
3	9155.57	90.35	269.54	8825.00	-4.58	-576.45	10.00	269.54	576.47	
4	13279.69	90.35	269.54	8800.00	-36.98	-4650.37	0.00	0.00	4650.52	PBHL

Name	WELL DETAILS				Longitude	Slot
	+N/-S	+E/-W	Northing	Easting		
Arcturus 18 Fed 1H	0.00	0.00	6064486.22	67459.48	32°39'59.499N	103°54'02.658W

TARGET DETAILS				
Name	TV/D	+N/-S	+E/-W	North/South East/West Shape Point
PHIL	8800.00	-36.98	-4550.37	606449.24 669909.11

FIELD DETAILS	SITE DETAILS
Eddy Co., NM (NAD 83)	Arcturus 18 Feb 11H
Geodetic System: US State Plane Coordinate System 1983	Site Centre Northing: 606486.22
Ellipsoid: GRS 1980	Easting: 674459.48
Datum: North American, Eastern Zone	Ground Level: 3441.00
Magnetic Model: IGRF2010	Positional Uncertainty: 0.00
System Datum: Mean Sea Level	Convergence: 0.23
Local North: Grid North	



Weatherford International, Inc.

Directional Plan Report



Company: Devon Energy
Field: Eddy Co., NM (NAD 83)
Site: Arclurus 18 Fed 1H
Well: Arclurus 18 Fed 1H
Wellpath: 1

Date: 7/26/2010
Co-ordinate(NE) Reference: Well: Arclurus 18 Fed 1H, Grid North
Vertical (TVD) Reference: SITE 3466.0
Section (VS) Reference: Well (0.00N,0.00E,269.54Azi)
Survey Calculation Method: Minimum Curvature
Page: 1
Db: Sybase

Field: Eddy Co., NM (NAD 83)

Map System: US State Plane Coordinate System 1983
Geo Datum: GRS 1980
Sys Datum: Mean Sea Level

Map Zone: New Mexico, Eastern Zone
Coordinate System: Well Centre
Geomagnetic Model: IGRF2010

Site: Arclurus 18 Fed 1H

Site Position: Northing: 606486.22 ft Latitude: 32 39 59.499 N
From: Map Easting: 674459.48 ft Longitude: 103 54 2.658 W
Position Uncertainty: 0.00 ft North Reference: Grid
Ground Level: 3441.00 ft Grid Convergence: 0.23 deg

Well: Arclurus 18 Fed 1H

Slot Name:

Well Position: +N-S 0.00 ft Northing: 606486.22 ft Latitude: 32 39 59.499 N
+E/-W 0.00 ft Easting: 674459.48 ft Longitude: 103 54 2.658 W
Position Uncertainty: 0.00 ft

Wellpath: 1

Current Datum: SITE Height 3466.00 ft
Magnetic Data: 7/26/2010
Field Strength: 48961 nT
Vertical Section: Depth From (TVD) +N-S
ft ft
0.00 0.00 0.00 269.54

Drilled From: Surface
Tie-on Depth: 0.00 ft
Above System Datum: Mean Sea Level
Declination: 7.88 deg
Mag Dip Angle: 60.56 deg
+E/-W Direction
ft deg

Plan: Plan #1

Date Composed: 7/26/2010
Version: 1
Tied-to: From Surface

Principal: Yes

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	269.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8252.05	0.00	269.54	8252.05	0.00	0.00	0.00	0.00	0.00	0.00	
9155.57	90.35	269.54	8825.00	-4.58	-576.45	10.00	10.00	0.00	269.54	
13229.69	90.35	269.54	8800.00	-36.98	-4650.37	0.00	0.00	0.00	0.00	PBHL

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
8200.00	0.00	269.54	8200.00	0.00	0.00	0.00	0.00	606486.22	674459.48	
8252.05	0.00	269.54	8252.05	0.00	0.00	0.00	0.00	606486.22	674459.48	KOP
8300.00	4.80	269.54	8299.94	-0.02	-2.01	2.01	10.00	606486.20	674457.47	
8400.00	14.80	269.54	8398.36	-0.15	-19.00	19.00	10.00	606486.07	674440.48	
8500.00	24.80	269.54	8492.33	-0.42	-52.82	52.82	10.00	606485.80	674406.66	
8600.00	34.80	269.54	8579.00	-0.81	-102.44	102.45	10.00	606485.41	674357.04	
8700.00	44.80	269.54	8655.74	-1.32	-166.36	166.37	10.00	606484.90	674293.12	
8800.00	54.80	269.54	8720.21	-1.93	-242.64	242.65	10.00	606484.29	674216.84	
8900.00	64.80	269.54	8770.46	-2.62	-328.95	328.96	10.00	606483.60	674130.53	
9000.00	74.80	269.54	8804.95	-3.36	-422.67	422.69	10.00	606482.86	674036.81	
9100.00	84.80	269.54	8822.65	-4.14	-520.96	520.98	10.00	606482.08	673938.52	
9155.57	90.35	269.54	8825.00	-4.58	-576.45	576.47	10.00	606481.64	673883.03	Landing Pt
9200.00	90.35	269.54	8824.72	-4.94	-620.89	620.91	0.00	606481.28	673838.59	
9300.00	90.35	269.54	8824.11	-5.73	-720.88	720.91	0.00	606480.49	673738.60	
9400.00	90.35	269.54	8823.50	-6.53	-820.88	820.90	0.00	606479.69	673638.60	
9500.00	90.35	269.54	8822.88	-7.32	-920.87	920.90	0.00	606478.90	673538.61	
9600.00	90.35	269.54	8822.27	-8.12	-1020.87	1020.90	0.00	606478.10	673438.61	



Weatherford International, Inc.

Directional Plan Report



Company: Devon Energy
Field: Eddy Co., NM (NAD 83)
Site: Arclurus 18 Fed 1H
Well: Arclurus 18 Fed 1H
Wellpath: 1

Date: 7/26/2010 Time: 13:05:12 Page: 2
Co-ordinate(NE) Reference: Well: Arclurus 18 Fed 1H, Grid North
Vertical (TVD) Reference: SITE 3466.0
Section (VS) Reference: Well (0.00N,0.00E,269.54Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
9700.00	90.35	269.54	8821.66	-8.91	-1120.86	1120.90	0.00	606477.31	673338.62	
9800.00	90.35	269.54	8821.04	-9.71	-1220.86	1220.90	0.00	606476.51	673238.62	
9900.00	90.35	269.54	8820.43	-10.50	-1320.85	1320.89	0.00	606475.72	673138.63	
10000.00	90.35	269.54	8819.82	-11.30	-1420.85	1420.89	0.00	606474.92	673038.63	
10100.00	90.35	269.54	8819.20	-12.09	-1520.84	1520.89	0.00	606474.13	672938.64	
10200.00	90.35	269.54	8818.59	-12.89	-1620.84	1620.89	0.00	606473.33	672838.64	
10300.00	90.35	269.54	8817.98	-13.68	-1720.83	1720.89	0.00	606472.54	672738.65	
10400.00	90.35	269.54	8817.36	-14.48	-1820.83	1820.88	0.00	606471.74	672638.65	
10500.00	90.35	269.54	8816.75	-15.27	-1920.82	1920.88	0.00	606470.95	672538.66	
10600.00	90.35	269.54	8816.13	-16.07	-2020.82	2020.88	0.00	606470.15	672438.66	
10700.00	90.35	269.54	8815.52	-16.86	-2120.81	2120.88	0.00	606469.36	672338.67	
10800.00	90.35	269.54	8814.91	-17.66	-2220.81	2220.88	0.00	606468.56	672238.67	
10900.00	90.35	269.54	8814.29	-18.46	-2320.80	2320.87	0.00	606467.76	672138.68	
11000.00	90.35	269.54	8813.68	-19.25	-2420.80	2420.87	0.00	606466.97	672038.68	
11100.00	90.35	269.54	8813.07	-20.05	-2520.79	2520.87	0.00	606466.17	671938.69	
11200.00	90.35	269.54	8812.45	-20.84	-2620.79	2620.87	0.00	606465.38	671838.69	
11300.00	90.35	269.54	8811.84	-21.64	-2720.78	2720.87	0.00	606464.58	671738.70	
11400.00	90.35	269.54	8811.23	-22.43	-2820.78	2820.87	0.00	606463.79	671638.70	
11500.00	90.35	269.54	8810.61	-23.23	-2920.77	2920.86	0.00	606462.99	671538.71	
11600.00	90.35	269.54	8810.00	-24.02	-3020.77	3020.86	0.00	606462.20	671438.71	
11700.00	90.35	269.54	8809.39	-24.82	-3120.76	3120.86	0.00	606461.40	671338.72	
11800.00	90.35	269.54	8808.77	-25.61	-3220.76	3220.86	0.00	606460.61	671238.72	
11900.00	90.35	269.54	8808.16	-26.41	-3320.75	3320.86	0.00	606459.81	671138.73	
12000.00	90.35	269.54	8807.54	-27.20	-3420.75	3420.85	0.00	606459.02	671038.73	
12100.00	90.35	269.54	8806.93	-28.00	-3520.74	3520.85	0.00	606458.22	670938.74	
12200.00	90.35	269.54	8806.32	-28.79	-3620.74	3620.85	0.00	606457.43	670838.74	
12300.00	90.35	269.54	8805.70	-29.59	-3720.73	3720.85	0.00	606456.63	670738.75	
12400.00	90.35	269.54	8805.09	-30.38	-3820.73	3820.85	0.00	606455.84	670638.75	
12500.00	90.35	269.54	8804.48	-31.18	-3920.72	3920.84	0.00	606455.04	670538.76	
12600.00	90.35	269.54	8803.86	-31.97	-4020.72	4020.84	0.00	606454.25	670438.76	
12700.00	90.35	269.54	8803.25	-32.77	-4120.71	4120.84	0.00	606453.45	670338.77	
12800.00	90.35	269.54	8802.64	-33.56	-4220.71	4220.84	0.00	606452.66	670238.77	
12900.00	90.35	269.54	8802.02	-34.36	-4320.70	4320.84	0.00	606451.86	670138.78	
13000.00	90.35	269.54	8801.41	-35.15	-4420.70	4420.84	0.00	606451.07	670038.78	
13100.00	90.35	269.54	8800.80	-35.95	-4520.69	4520.83	0.00	606450.27	669938.79	
13200.00	90.35	269.54	8800.18	-36.74	-4620.69	4620.83	0.00	606449.48	669838.79	
13229.69	90.35	269.54	8800.00	-36.98	-4650.37	4650.52	0.00	606449.24	669809.11	PBHL

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude ---> Deg Min Sec	<--- Longitude ---> Deg Min Sec
PBHL			8800.00	-36.98	-4650.37	606449.24	669809.11	32 39 59.317 N	103 54 57.062 W

Casing Points

MD	TVD	Diameter	Hole Size	Name



Weatherford International, Inc.

Directional Plan Report



Company: Devon Energy	Date: 7/26/2010	Time: 13:05:12	Page: 3
Field: Eddy Co., NM (NAD 83)	Co-ordinate(NE) Reference:	Well: Arcturus 18 Fed 1H, Grid North	
Site: Arcturus 18 Fed 1H	Vertical (TVD) Reference:	SITE 3466.0	
Well: Arcturus 18 Fed 1H	Section (VS) Reference:	Well (0.00N,0.00E,269.54Azi)	
Wellpath: 1	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Annotation

MD ft	TVD ft	
8252.05	8252.05	KOP
9155.57	8825.00	Landing Pt
13229.68	8800.00	PBHL

Formations

MD	TVD	Formations	Lithology	Dip Angle	Dip Direction

**Weatherford****Weatherford Drilling Services**

GeoDec v5.03

Report Date: July 26, 2010
Job Number: _____
Customer: DEVON
Well Name: ARCTURUS 18 FED 1H
API Number: _____
Rig Name: _____
Location: EDDY COUNTY, NM
Block: _____
Engineer: LW

US State Plane 1983	Geodetic Latitude / Longitude
System: New Mexico Eastern Zone	System: Latitude / Longitude
Projection: Transverse Mercator/Gauss Kruger	Projection: Geodetic Latitude and Longitude
Datum: North American Datum 1983	Datum: North American Datum 1983
Ellipsoid: GRS 1980	Ellipsoid: GRS 1980
North/South 606486.220 USFT	Latitude 32 39 59.5109836 DMS
East/West 674459.480 USFT	Longitude -103 54 2.6426351 DMS
Grid Convergence: .23°	
Total Correction: +7.65°	

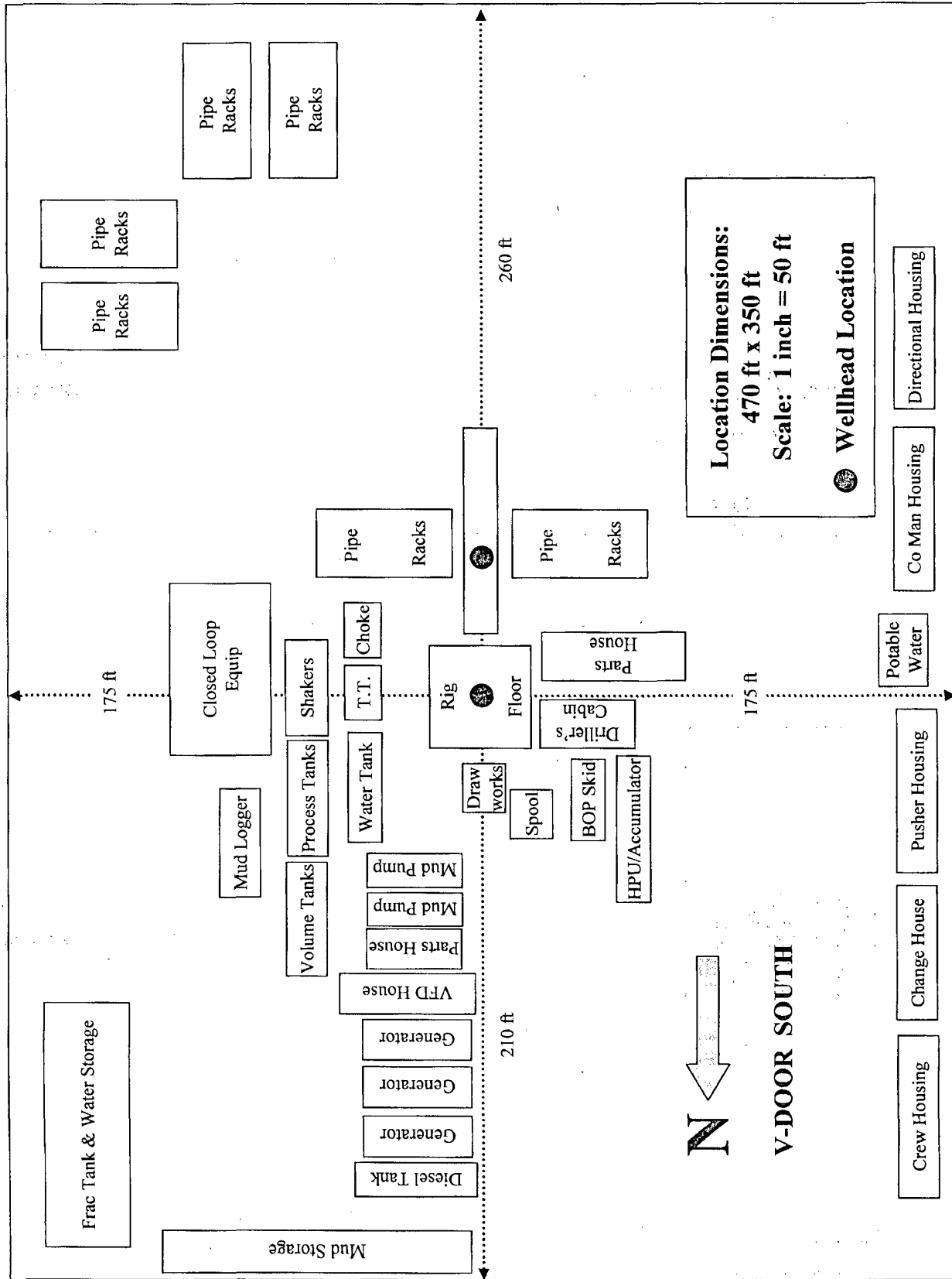
Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude =	32.66653° N	32° 39 min 59.511 sec
Longitude =	103.90073° W	103° 54 min 2.643 sec

Magnetic Declination =	7.88°	[True North Offset]
Local Gravity =	.9988 g	Checksum = 6715
Local Field Strength =	48958 nT	Magnetic Vector X = 23835 nT
Magnetic Dip =	60.56°	Magnetic Vector Y = 3300 nT
Magnetic Model =	I GRF-2010g11	Magnetic Vector Z = 42636 nT
Spud Date =	Jul 26, 2010	Magnetic Vector H = 24062 nT

Signed: _____ Date: _____

H&P Flex Rig Location Layout

2 Well Pad

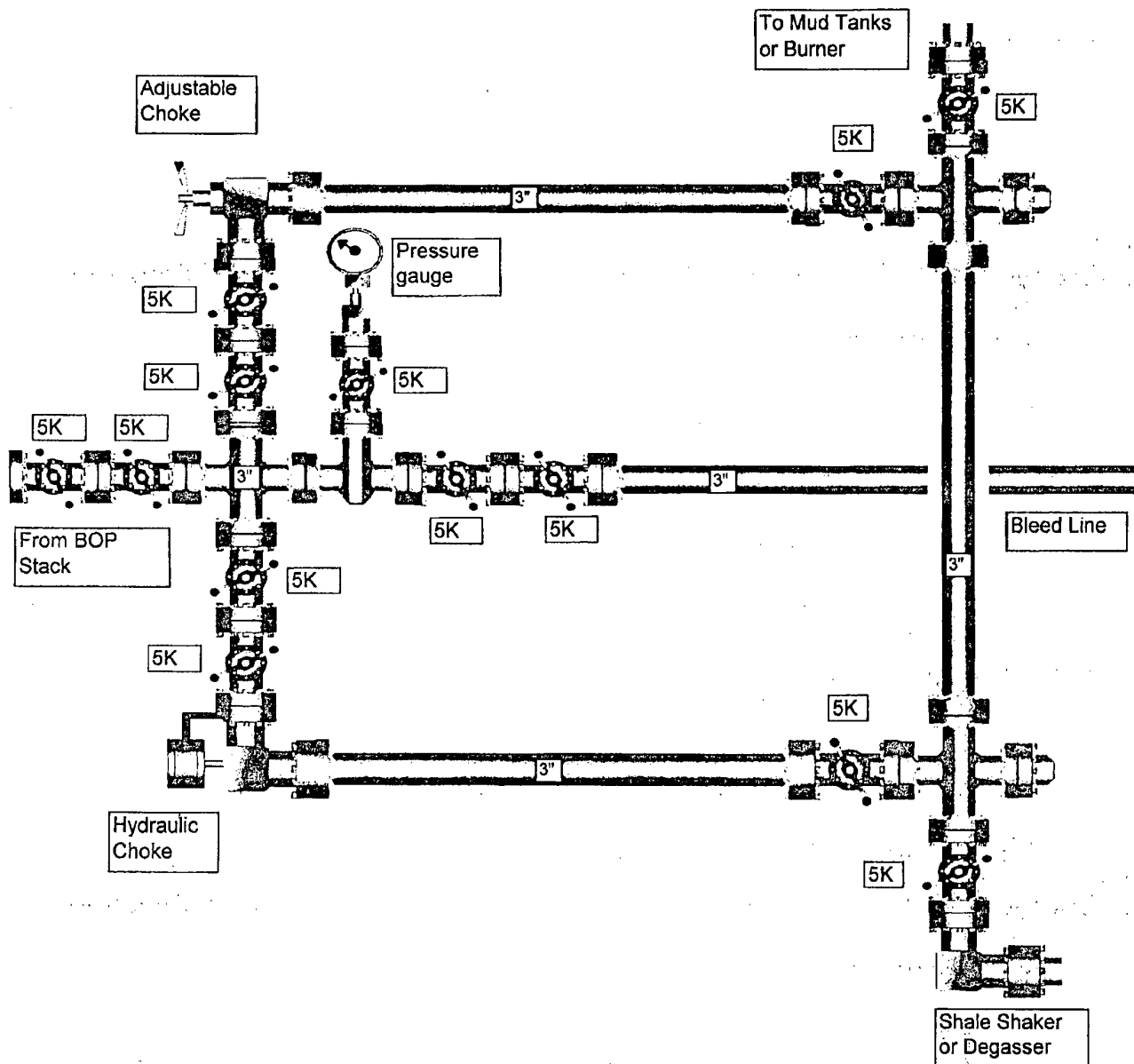


Attachment to Exhibit #1
NOTES REGARDING BLOWOUT PREVENTERS
Devon Energy Production Company, LP
Arcturus 18 Federal 1H

Surface Location: 400' FNL & 200' FEL, Unit A, Sec 18 T19S R31E, Eddy, NM
Bottom hole Location: 400' FNL & 340' FWL, Unit A, Sec 18 T19S R31E, Eddy, NM

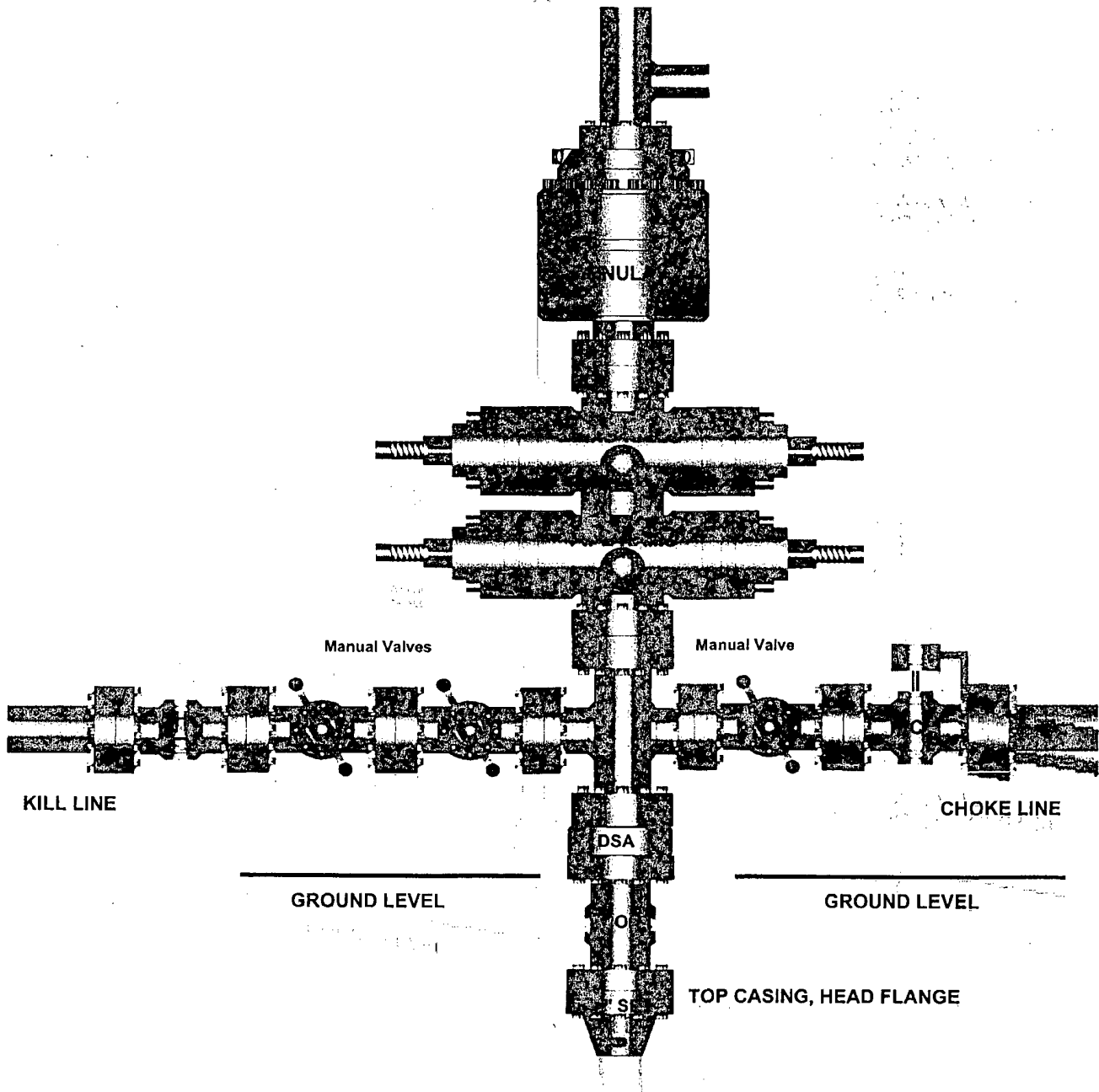
1. Drilling nipple will be constructed so it can be removed mechanically without the aid of a welder. The minimum internal diameter will equal BOP bore.
 2. Wear ring will be properly installed in head.
 3. Blowout preventer and all associated fittings will be in operable condition to withstand a minimum 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.
-

5,000 PSI CHOKE MANIFOLD



13-5/8" x 5,000 psi BOP Stack

13-5/8" x 5,000



SURFACE USE PLAN

Devon Energy Production Company, LP

Arcturus 18 Federal 1H

Surface Location: 400' FNL & 200' FEL, Unit A, Sec 18 T19S R31E, Eddy, NM

Bottom hole Location: 400' FNL & 340' FWL, Unit A, Sec 18 T19S R31E, Eddy, NM

1. Existing Roads:

- a. The well site and elevation plat for the proposed well are reflected on the well site layout; Form C-102. The well was staked by Basin Surveys.
- b. All roads into the location are depicted on the surveyor plats.
- c. Directions to Location: From State Hwy. 82 (Shugart Road) and CR# 222 go south on 222 8.5 miles, turn right on caliche road and go west-southwest 2.6 miles, bend left and go 0.1 miles, turn left on caliche road and follow winding road southeast approx 1.4 miles to proposed road survey and follow flags southeast 423' to the northwest corner of proposed pad for this location.
- d. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.
- e. If existing road is shared with other operators, Devon will share in its cost to maintain the road as required by the BLM.

2. New or Reconstructed Access Roads:

- a. The well site layout, Form C-102 shows approximately 423' of new access road will be constructed as follows:
- b. The maximum width of the road will be 14'. It will be crowned and made of 6" of rolled and compacted caliche. Water will be deflected, as necessary, to avoid accumulation and prevent surface erosion.
- c. Surface material will be native caliche. This material will be obtained from a BLM approved pit nearest in proximity to the location. The average grade will be approximately 2%.
- d. No cattle guards, grates or fence cuts will be required. No turnouts are planned.

3. Location of Existing Wells:

1 Mile Radius Plat shows all existing and proposed wells within a one-mile radius of the proposed location. See attached plat.

4. Location of Existing and/or Proposed Production Facilities:

- a. In the event the well is found productive, the Arcturus 18 Federal 1H tank battery would be utilized and the necessary production equipment will be installed at the well site.
- b. If necessary, the well will be operated by means of an electric prime mover. Electric power poles will be set along side of the access road.
- c. If the well is productive, rehabilitation plans are as follows:
 - i. A closed loop system will be utilized.
 - ii. The original topsoil from the well site will be returned to the location. The drill site will then be contoured as close as possible to the original state.

4. Location and Types of Water Supply:

This location will be drilled using a combination of water mud systems (outlined in the Drilling Program). The water will be obtained from commercial water stations in the area and hauled to location by transport truck using the existing and proposed roads shown in the C-102. On occasion, water will be obtained from a pre-existing water well, running a pump directly to the drill rig. In these cases where a poly pipeline is used to transport water for drilling purposes, proper authorizations will be secured. If a poly pipeline is used, the size, distance, and map showing route will be provided to the BLM via sundry notice.

5. Construction Materials:

The caliche utilized for the drilling pad and proposed access road will be from minerals that are located onsite or will be used onsite. If minerals are not available onsite, then an established mineral pit will be used to build the location and stem road.

6. Methods of Handling Waste Material:

- a. Drill cuttings will be disposed of in a closed loop system.
- b. All trash, junk and other waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed all contents will be removed and disposed of in an approved sanitary landfill.
- c. The supplier, including broken sacks, will pick up salts remaining after completion of well.
- d. A Porto-john will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
- e. Remaining drilling fluids will be sent to a closed loop system. Water produced during completion will be put into a closed loop system. Oil and condensate produced will be put into a storage tank and sold.
- f. Disposal of fluids to be transported by the following companies:
 - i. American Production Service Inc, Odessa TX
 - ii. Gandy Corporation, Lovington NM
 - iii. I & W Inc, Loco Hill NM
 - iv. Jims Water Service of Co Inc, Denver CO

7. Ancillary Facilities: No campsite or other facilities will be constructed as a result of this well.

8. Well Site Layout

- a. The rig layout diagram shows the proposed well site layout with dimensions of the pad layout.
- b. This exhibit indicated proposed location of reserve and sump pits and living facilities.
- c. A closed loop system will be utilized.
- d. If a pit or closed loop system will be utilized, Devon will comply with the NMOCD requirements 19.15.17 and submit form C-144 CLEZ to the appropriate NMOCD District Office. An unapproved copy is provided within the APD.
- e. Topsoil Stockpiling:
 - i. Standard practice is topsoil will be pushed to the high side of location to prevent water from running across location to control erosion. If a cut out is done and there are two or three high sides, we will use those there.

9. Plans for Surface Reclamation Include Both Final & Interim:

- a. After concluding the drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and used for other drilling locations, repair existing roads, repair existing locations, etc. The road will be reclaimed as directed by the BLM. The original top soil will again be returned to the pad and contoured, as close as possible, to the original topography. We will use a closed loop system.
- b. The location and road will be rehabilitated as recommended by the BLM.
- c. If the well is deemed commercially productive, caliche from areas of the pad site not required for operations will be reclaimed. The original top soil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography.
- d. All disturbed areas not needed for active support of production operations will undergo interim reclamation. The portions of the cleared well site not needed for operational and safety purposes will be recontoured to a final or intermediate contour that blends with the surrounding topography as much as possible. Topsoil will be respread over areas not needed for all-weather operations.

10. Surface Ownership

- a. The surface is owned by the US Government and is administered by the Bureau of Land Management. The surface is multiple use with the primary uses of the region for the grazing of livestock and the production of oil and gas.
- b. The proposed road routes and the surface location will be restored as directed by the BLM.

11. Other Information:

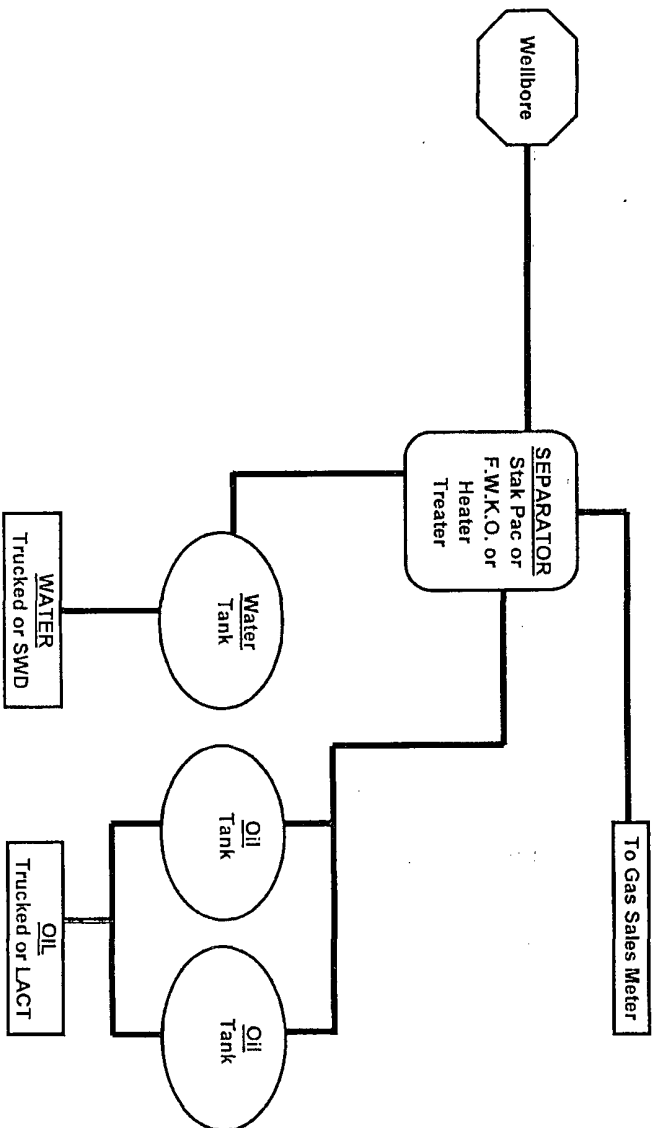
- a. The area surrounding the well site is grassland. The topsoil is very sandy in nature. The vegetation is moderately sparse with native prairie grass, sagebush, yucca and miscellaneous weeds. No wildlife was observed but it is likely that deer, rabbits, coyotes, and rodents traverse the area.
- b. There is no permanent or live water in the general proximity of the location.
- c. There are no dwellings within 2 miles of location.
- d. A Cultural Resources Examination will be completed by Southern New Mexico Archaeological Services, Inc. and forwarded to the BLM office in Carlsbad, New Mexico.

13. Bond Coverage:

Bond Coverage is Nationwide; Bond # is CO-1104

DEVON ENERGY PRODUCTION COMPANY LP

General Production Facilities Diagram



Operators Representative:

The Devon Energy Production Company, L.P. representatives responsible for ensuring compliance of the surface use plan are listed below.

Steven Jones
Operations Engineer Advisor

Don Mayberry
Superintendent

Devon Energy Production Company, L.P.
20 North Broadway, Suite 1500
Oklahoma City, OK 73102-8260

Devon Energy Production Company, L.P.
Post Office Box 250
Artesia, NM 88211-0250

(405) 552-7994 (office)
(405) 596-8041 (cell)

(505) 748-0164 (office)
(505) 748-5235 (cell)

Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or Devon Energy Production Company, L.P. am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

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

Executed this 27th day of July, 2010.

Printed Name: Stephanie A. Ysasaga

Signed Name: [Signature]

Position Title: Sr. Staff Engineering Technician

Address: 20 North Broadway OKC OK 73102

Telephone: (405)-552-7802

Field Representative (if not above signatory): Don Mayberry (see above)

Address (if different from above):

Telephone (if different from above):

E-mail (optional):

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Co. LP
LEASE NO.:	LC-069464A
WELL NAME & NO.:	Arcturus 18 Federal 1H
SURFACE HOLE FOOTAGE:	400' FNL & 200' FEL
BOTTOM HOLE FOOTAGE:	440' FNL & 340' FWL
LOCATION:	Section 18, T. 19 S., R. 31 E., NMPM
COUNTY:	Lincoln County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
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- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☒ **Interim Reclamation**
- ☒ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. V-DOOR DIRECTION: not stipulated

C. TOPSOIL

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be used for interim and final reclamation.

D. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

E. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

F. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

G. ON LEASE ACCESS ROADS

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning

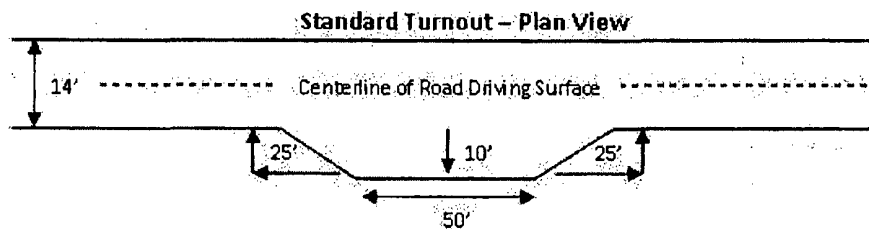
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on the uphill side of the road.

Turnouts

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

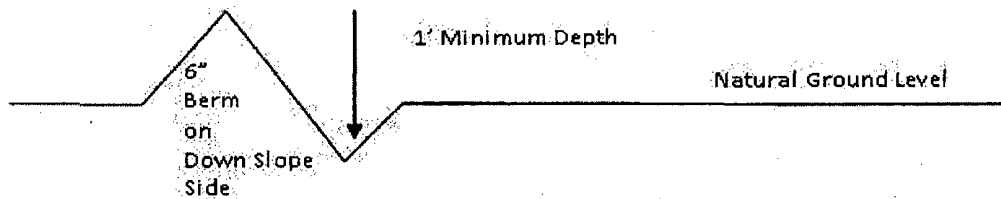


Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Culvert Installations

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

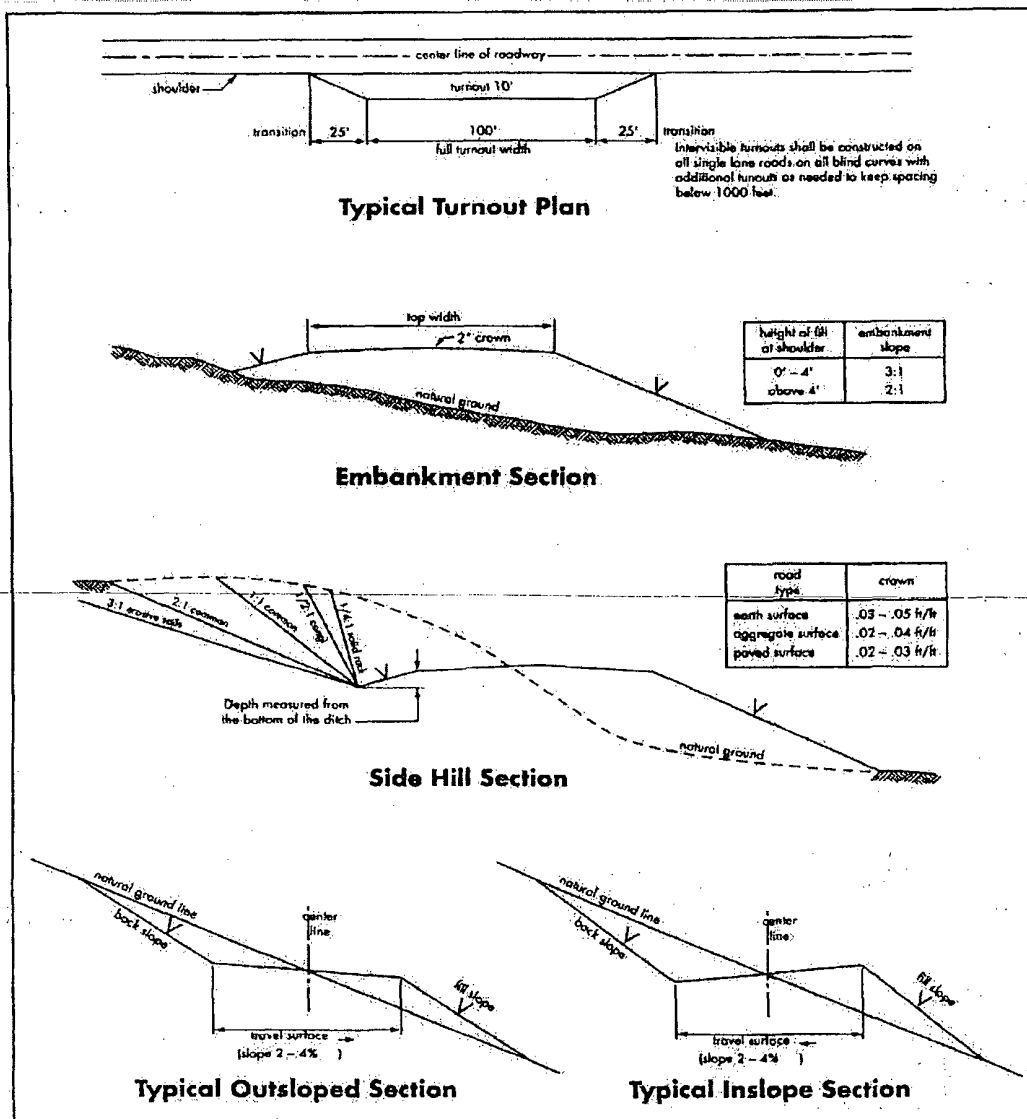
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

1. **Due to recent H₂S encounters in the salt formation, it is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide prior to drilling out the surface shoe. If Hydrogen Sulfide is encountered, please report measurements and formations to the BLM.**
2. **Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Secretary's Potash

Possible lost circulation in the Artesia Group.

Possible water and brine flows in the Artesia and Salado Groups.

1. The 13-3/8 inch surface casing shall be set at approximately **480** 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 potash.**

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

Special Capitan Reef requirements:

If any lost circulation occurs below the Base of the intermediate shoe, the operator is to switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the production casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.

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:
 - a. First stage to DV tool, cement shall:
 - ☒ 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 shall:
 - ☒ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification.
4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Variance approved to use flex line (Serial # 26547) from BOP to choke manifold. Check condition of 4 11/16" flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M) psi. Operator installing a 5M and testing as a 3M.**
 - a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.
4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M) psi. 5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) prior to initiating the test.
 - c. The results of the test shall be reported to the appropriate BLM office.
 - d. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
 - e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

EGF 092910

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

B. PIPELINES (Not applied for in APD)

C. ELECTRIC LINES (Not applied for in APD)

IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

**Four-winged Saltbush 5lbs/A

* This can be used around well pads and other areas where caliche cannot be removed.

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed