13-490

TQS 8/22/2013

Form 3160-3
(August 2007)

SECRETARY'S POTASH

RECEIVED
OCD Artesia
AUG 12 2013
NMOCD ARTESIA

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM 99040

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

8. Lease Name and Well No.
Sirius 17 Federal 5H <38356>

2. Name of Operator Devon Energy Production Company, L. P. <6137>

9. API Well No.
30-015- 41625

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

3b. Phone No. *(include area code)*
405-235-3611

10. Field and Pool, or Exploratory
Bone Spring; Hackberry, N. NW <97020>

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 845 FNL & 200 FEL A
At proposed prod. zone 400 FNL & 340 FEL A SEC 17 PP: 500 FNL 573 FWL

11. Sec., T. R. M. or Blk. and Survey or Area
Sec 18 T19S R31E

14. Distance in miles and direction from nearest town or post office*
Located 15 miles SW of Maljimar

12. County or Parish
Eddy

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
See attached map

16. No. of acres in lease
~~640 ac~~ 480

17. Spacing Unit dedicated to this well
160 ac

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

19. Proposed Depth
13058' TVD 8050' MD

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3437.4' GL

22. Approximate date work will start*

23. Estimated duration
45 days

24. Attachments (To be pad drilled w/ the Arcturus 18 Fed 5H.)

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

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

25. Signature
Judy A. Barnett

Name *(Printed/Typed)*
Judy A. Barnett

Date
02/28/2013

Title
Regulatory Specialist

Approved by *(Signature)*
/s/ Jesse J. Juen

Name *(Printed/Typed)*
/s/ Jesse J. Juen

Date
AUG - 2 2013

Title
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.

(Continued on page 2)

*(Instructions on page 2)

Capitan Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

RECEIVED
AUG 12 2013
NMOCD ARTESIA

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-41625	97020	Hackberry North (NW)

[4] Property Code	[5] Property Name	[6] Well Number
38356	SIRIUS "17" FEDERAL	5H

[7] OGRID No.	[8] Operator Name	[9] Elevation
6137	DEVON ENERGY PRODUCTION COMPANY, L.P.	3437.4

[10] Surface Location

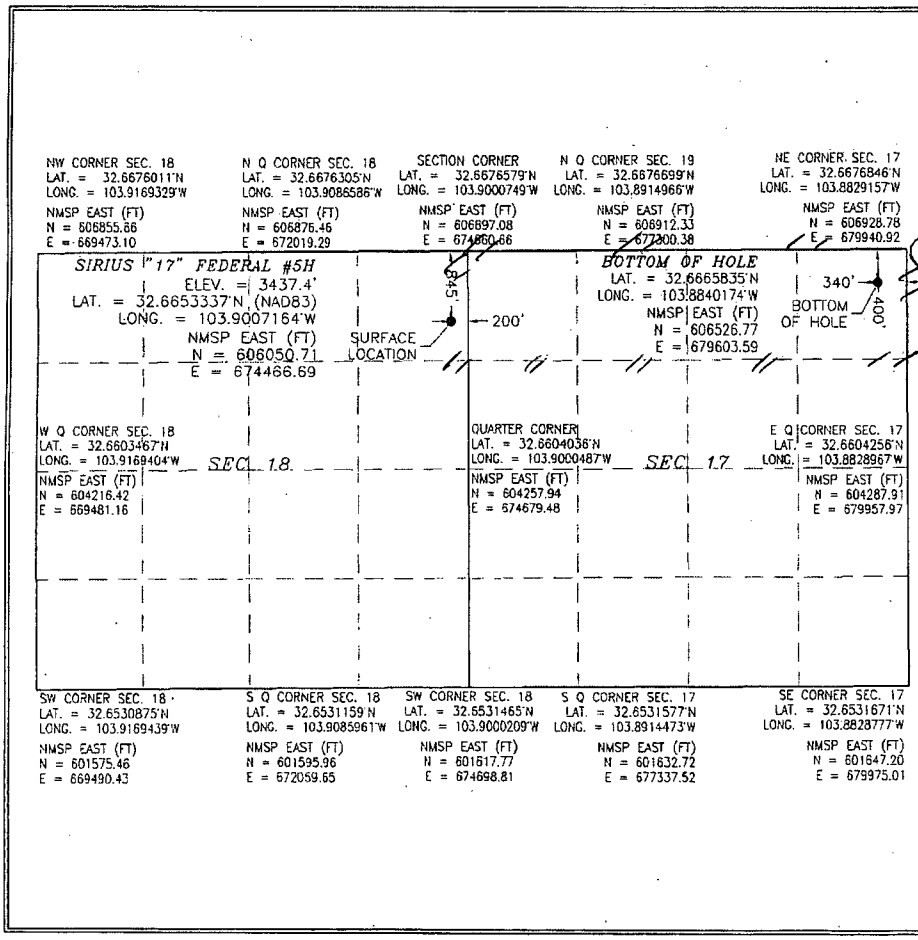
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	18	19 S	31 E		845	NORTH	200	EAST	EDDY

[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
A	17	19 S	31 E		400	NORTH	340	EAST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
160			

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.



[17] OPERATOR CERTIFICATION

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.

Signature Date

Judith A. Barnett, Regulatory Specialist 2-20-13

Printed Name

Judith.Barnett@dvn.com

E-mail Address

[18] SURVEYOR CERTIFICATION

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.

FEBRUARY 14, 2013

Date of Survey

Signature and Seal of Professional Surveyor

Certificate Number FILIMON F. JARAMILLO, PLS 12797

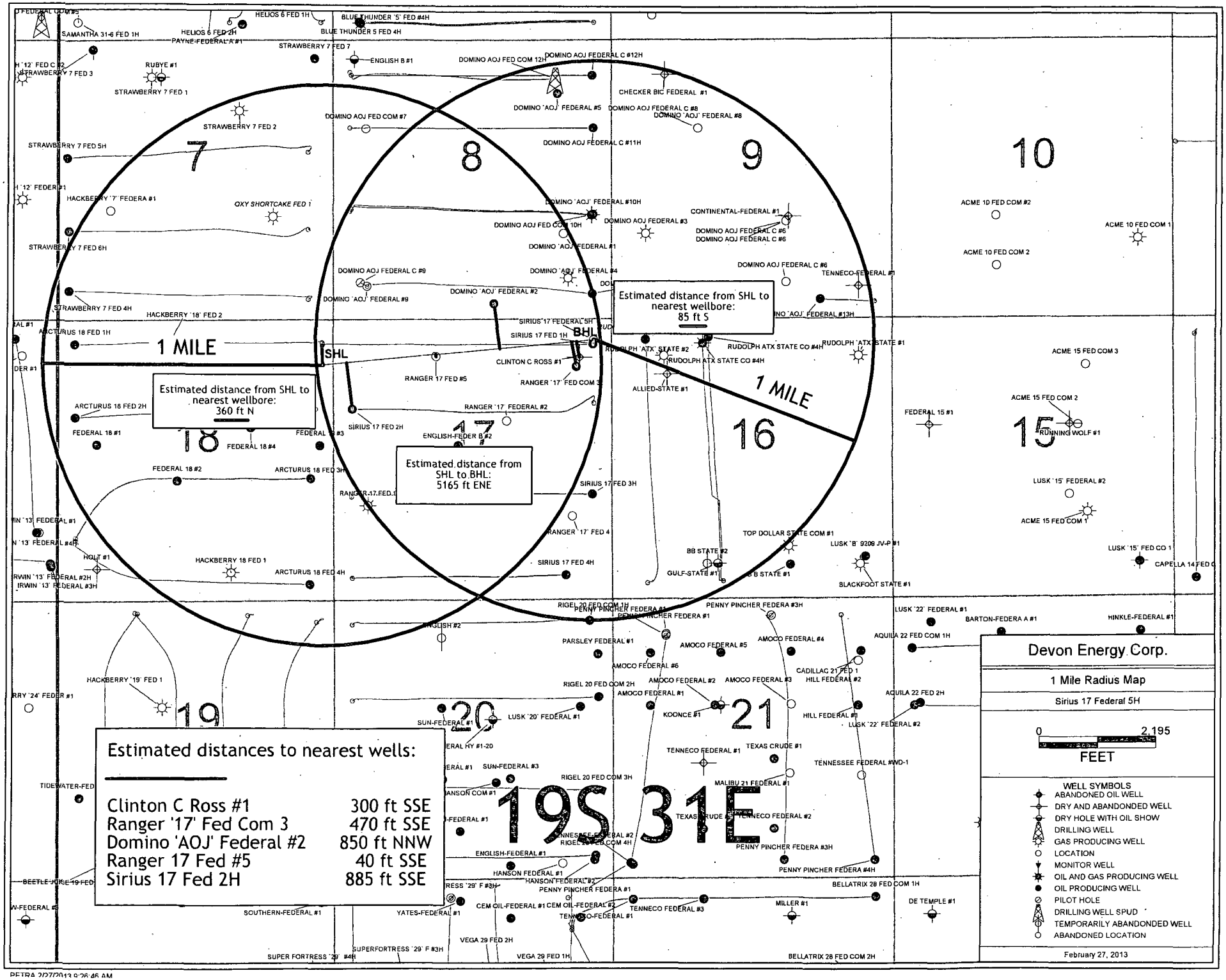
SURVEY NO. 1593

Certification

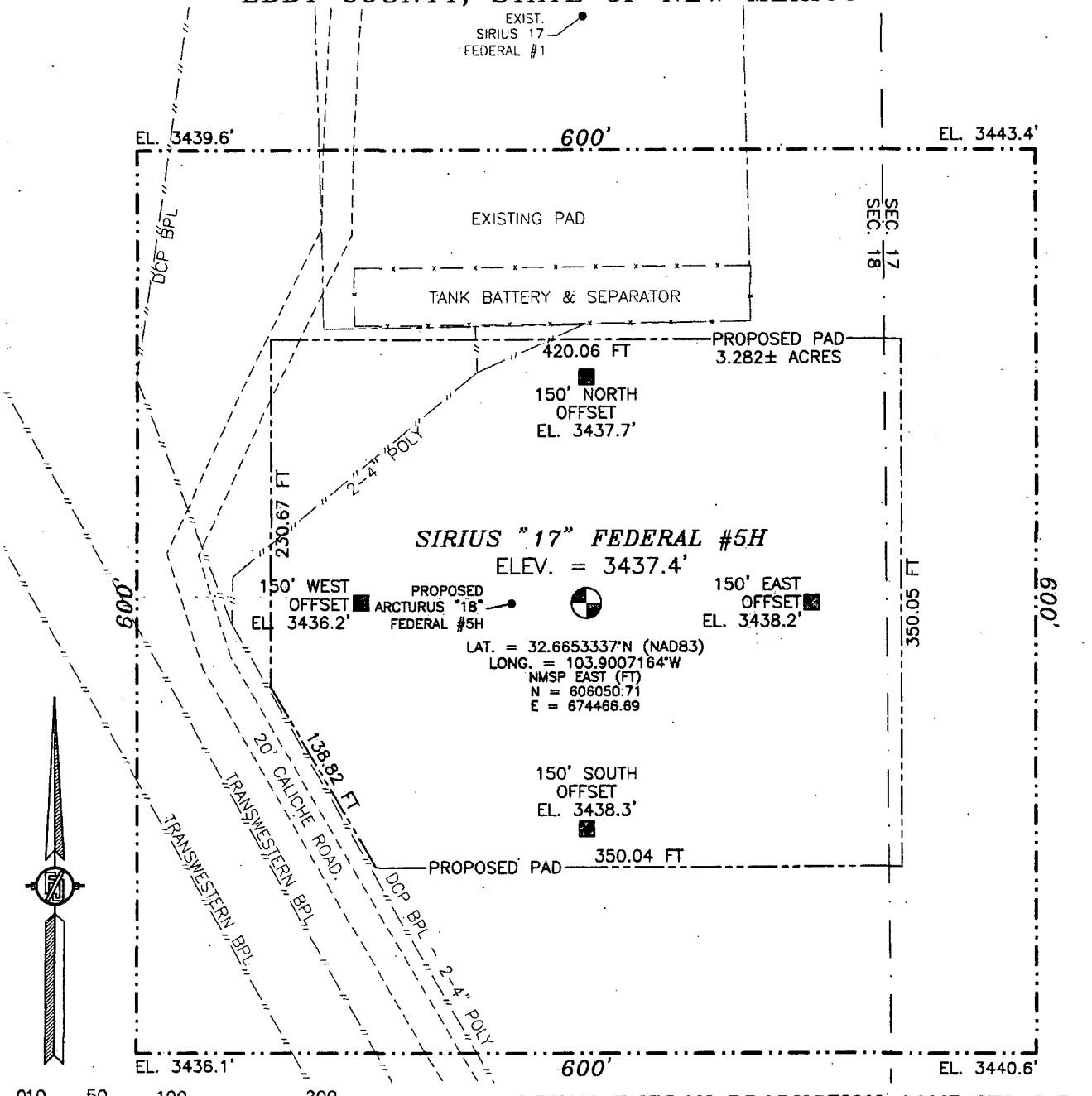
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements 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 _28 th__ day of __February 2013.
Printed Name: Judy A. Barnett
Signed Name:
Position Title: Regulatory Specialist
Address: 333 W. Sheridan, OKC OK 73102
Telephone: (405)-228-8699
Field Representative (if not above signatory):
Address (if different from above):
Telephone (if different from above):


1 MILE
SHL
BHL
Estimated distance from SHL to nearest wellbore: 360 ft N
Estimated distance from SHL to nearest wellbore: 85 ft S
Estimated distance from SHL to BHL: 5165 ft ENE
1 MILE
7
8
9
10
18
17
16
15
19
20
21
19S 31E
Estimated distances to nearest wells:
Clinton C Ross #1 300 ft SSE
Ranger '17' Fed Com 3 470 ft SSE
Domino 'AOJ' Federal #2 850 ft NNW
Ranger 17 Fed #5 40 ft SSE
Sirius 17 Fed 2H 885 ft SSE
Devon Energy Corp.
1 Mile Radius Map
Sirius 17 Federal 5H
0
2,195
FEET
WELL SYMBOLS
ABANDONED OIL WELL
DRY AND ABANDONDED WELL
DRY HOLE WITH OIL SHOW
DRILLING WELL
GAS PRODUCING WELL
LOCATION
MONITOR WELL
OIL AND GAS PRODUCING WELL
OIL PRODUCING WELL
PILOT HOLE
DRILLING WELL SPUD
TEMPORARILY ABANDONDED WELL
ABANDONED LOCATION
February 27, 2013

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



010 50 100 200

SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM CR. 222 AND CR. 248 GO SOUTH-SOUTHWEST ON CR. 222 4.7 MILES TURN RIGHT AND GO NORTH ON CALICHE ROAD 2.0 MILES, TURN LEFT AND GO NORTHWEST 660' TURN RIGHT AND GO NORTH 0.3 MILES BEND RIGHT AND GO NORTHEAST 0.2 MILES, BEND LEFT AND GO NORTHWEST 0.55 MILES AND LOCATION IS ON THE RIGHT (EAST) 220'.

DEVON ENERGY PRODUCTION COMPANY, L.P.

SIRIUS "17" FEDERAL #5H

LOCATED 845 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

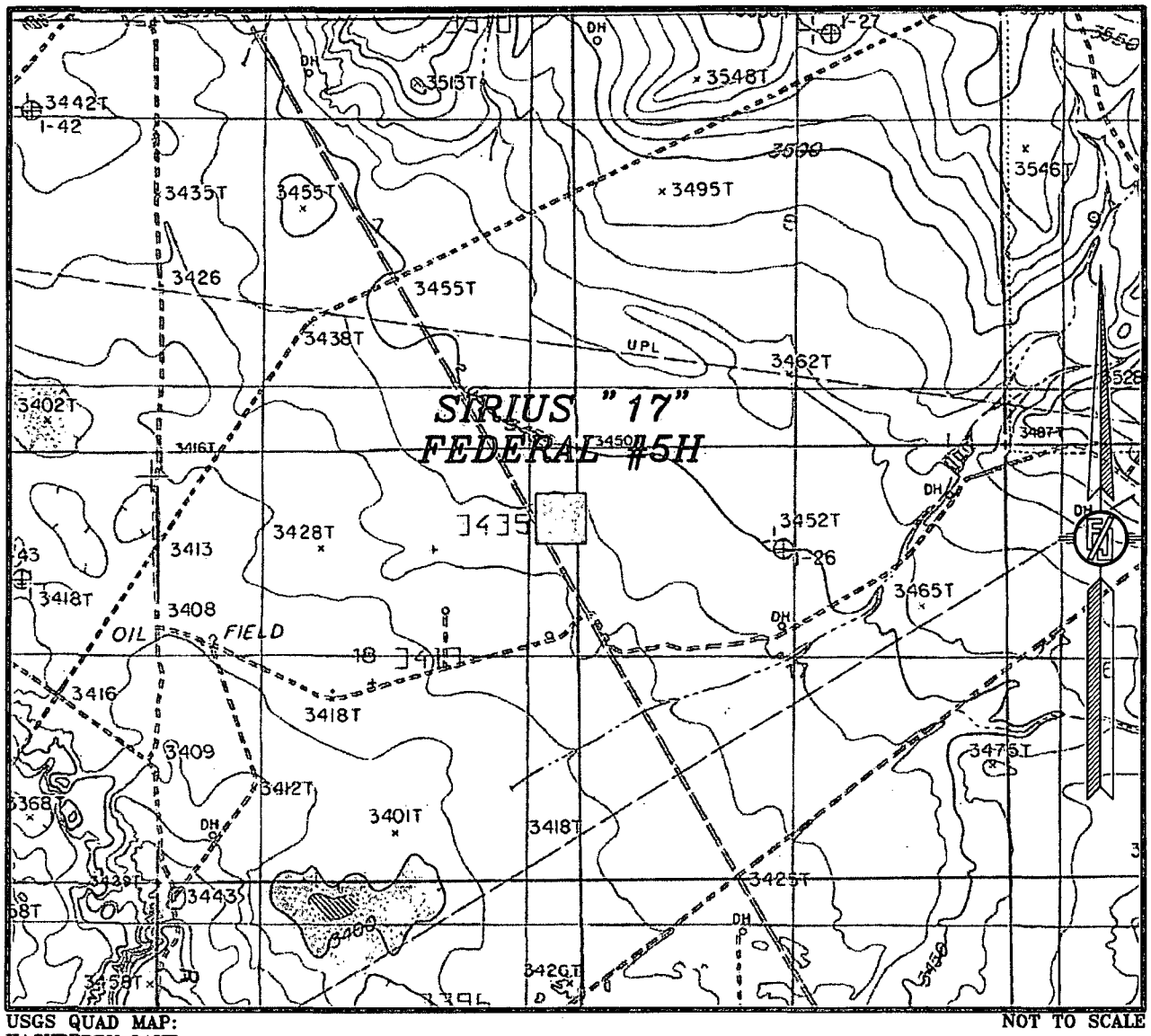
FEBRUARY 14, 2013

SURVEY NO. 1593

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 *CARLSBAD, NEW MEXICO*

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

LOCATION VERIFICATION MAP



USGS QUAD MAP:
HACKBERRY LAKE

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

SIRIUS "17" FEDERAL #5H

LOCATED 845 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

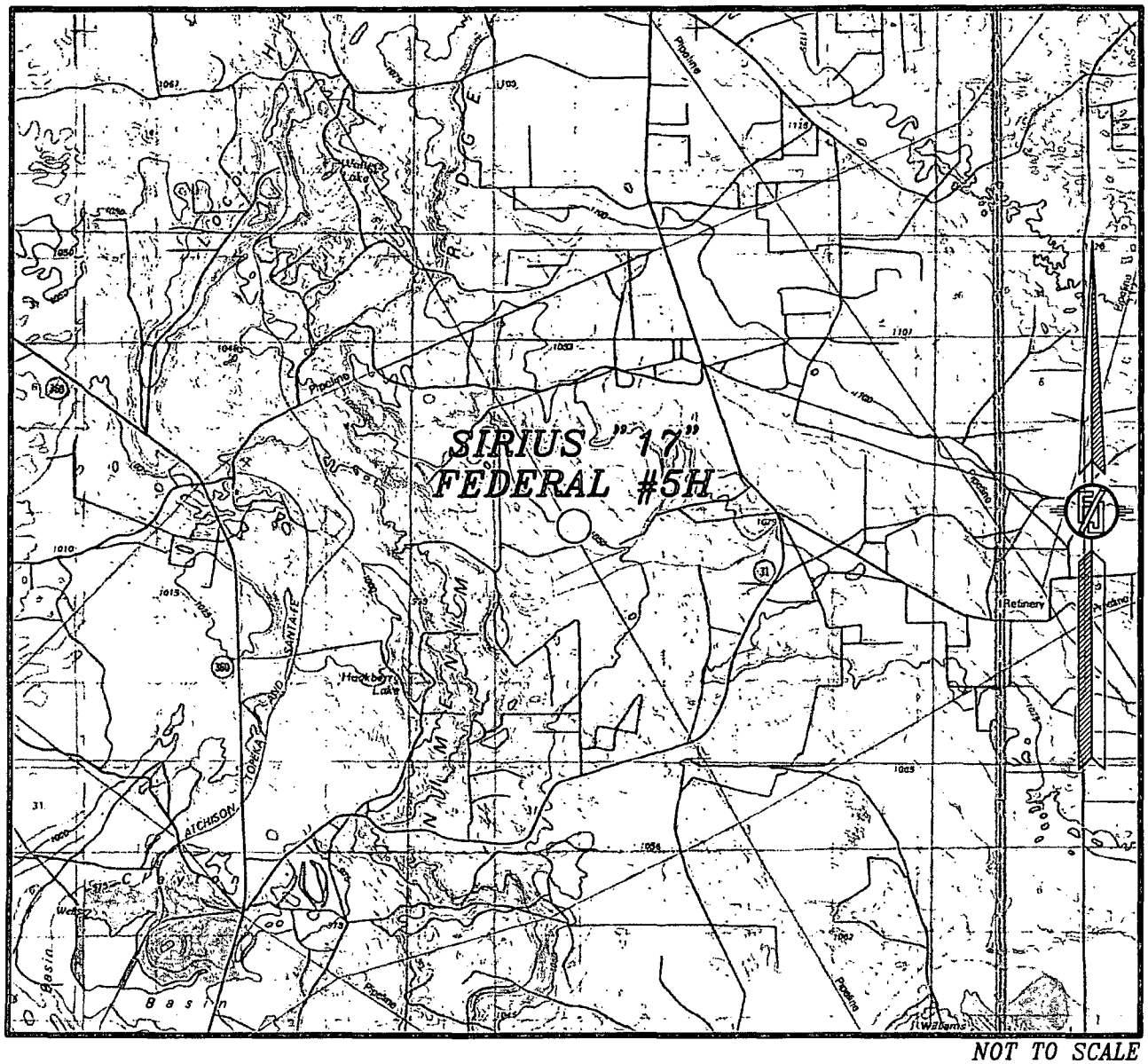
FEBRUARY 14, 2013

SURVEY NO. 1593

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

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

VICINITY MAP



NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

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LOCATED 845 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

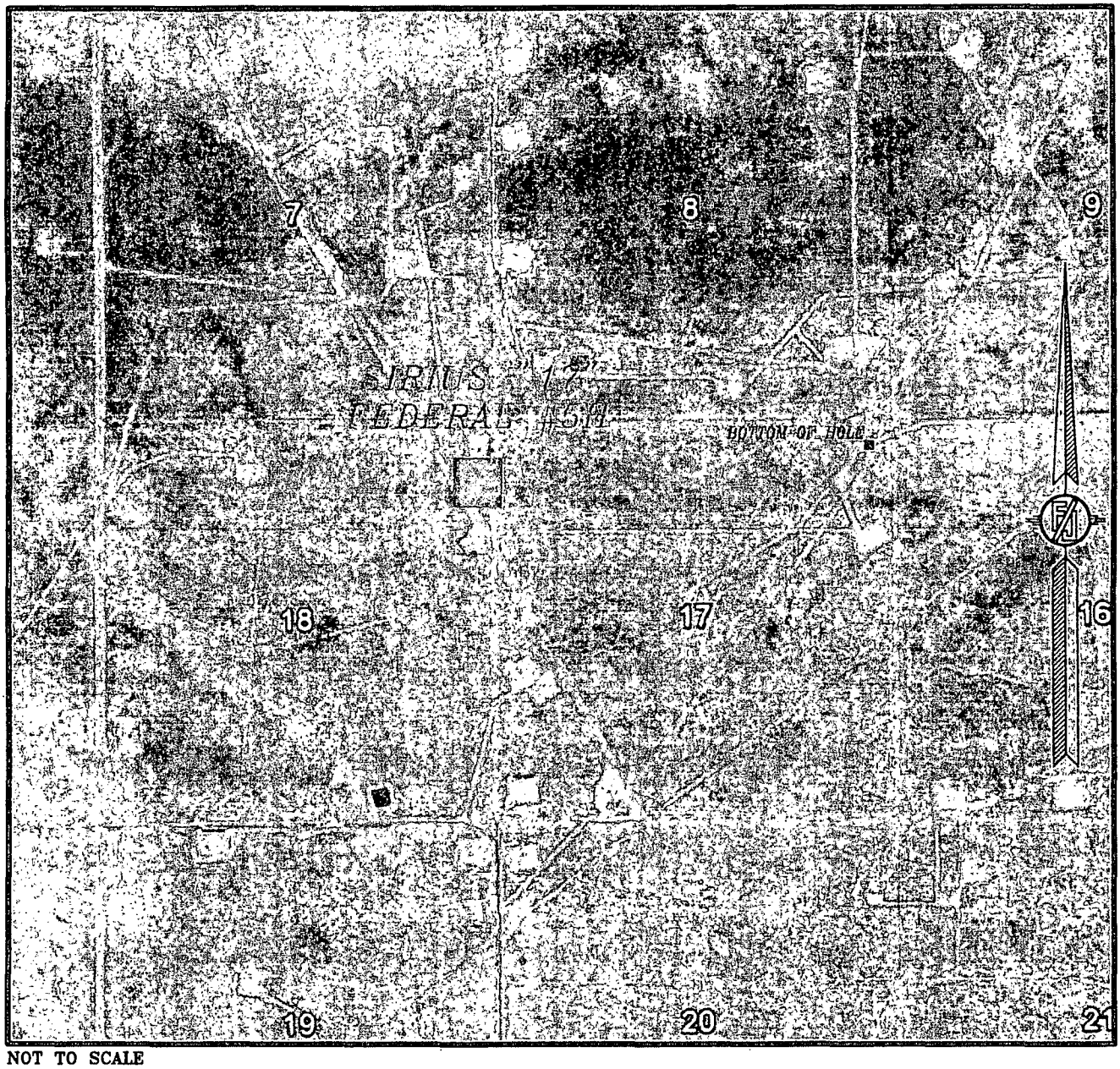
FEBRUARY 14, 2013

SURVEY NO. 1593

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 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
MARCH 2012

DEVON ENERGY PRODUCTION COMPANY, L.P.

SIRIUS "17" FEDERAL #5H

LOCATED 845 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

FEBRUARY 14, 2013

SURVEY NO. 1593

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

DRILLING PROGRAM
Devon Energy Production Company, LP
Sirius 17 Federal 5H

Surface Location: 845' FNL & 200' FEL, Unit A, Sec 18 T19S R31E, Eddy, NM
Bottom Hole Location: 400' FNL & 340' FEL, Unit A, Sec 17 T19S R31E, Eddy, NM

1. Geologic Name of Surface Formation

a. Quaternary

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

a. Fresh Water	95'	
b. Rustler	490'	Barren
c. Salado	650'	Barren
d. Tansil Dolomite	2040'	Barren
e. Yates	2135'	Barren
f. Seven Rivers	2440'	Barren
g. Capitan	2520'	Barren
h. Queen	3260'	Barren
i. San Andres	3920'	Barren
j. Delaware	4765'	Oil
k. Bone Spring	6500'	Oil
l. 1st Bone Spring Ss	7860'	Oil
Total Depth	13,058'	

Casing Program:

Hole Size	Hole Interval	OD Csg	Casing Interval	Weight	Collar	Grade
26"	0 – 520'	20"	0 -520'	94#	BT&C	J/K-55
17 1/2"	0' –2450'	13 3/8"	0-2450'	61#	BT&C	J-55
12 ¼"	2450-~~4750~~'	9 5/8"	0-~~4750~~ 4000'	40#	LT&C	J-55
8 3/4"	~~4750~~'-7430'	5 ½"	0-7430'	17#	LT&C	P110
8 ¾"	7430-13058	5 ½"	7430'-13058'	17#	BT&C	P110

See COA

All casing is new and API approved.

Design Parameter Factors:

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
20"	2.14	8.67	30.28
13 3/8"	1.21	1.36	3.62
9 5/8"	1.16	1.78	3.32
5 ½" LTC	2.47	3.06	2.00
5 ½" BTC	2.29	2.84	4.65

Cement Program: **Cementing Program (cement volumes based on at least 100% excess Surface, 50% on Intermediate and 25% excess on the Production)**

3.

a. 26" Surface — Lead w/ 605 sx Cl C + 0.125#/sx CF + 1% bwoc Calcium Chloride + 4% bwoc Bentonite + 81.1% FW, 13.5 ppg, Yld 1.73 cf/sx. Tail w/ 300 sx Cl C + 2% bwoc Calcium Chloride + 0.125#/sx CF + 56.3% FW, 14.8 ppg, Yld 1.35 cf/sx. TOC @ surface.

b. 13 3/8" Intermediate 1 — **Lead** w/1385 sx 60:40 POZ Fly Ash Cl C + 5% bwow Sodium Chloride + 0.125#/sx CF + 3#/sx LCM-1 + 0.25% bwoc FL-52 + 1.5% Sodium Metasilicate + 83.7% FW, 12.8 ppg, Yld. 1.66 cf/sx. **TOC** @ surface. Tail w/ 450 sx 60:40 POZ Fly Ash Cl C + 5% bwow Sodium Chloride + 0.125#/sx CF + 0.5% bwoc Sodium Metasilicate + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 65.3% FW, 13.8 ppg, Yld 1.38 cf/sx.

c. 9 5/8" Intermediate 2 — **Stage 1: Lead** w/ 710 sx 60:40 POZ (Fly Ash) Cl C +5% bwow Sodium Chloride + .2% bwoc R-3 + 0.125#/sx CF + 3#/sx LCM-1 + 0.25% bwoc FL-52 + 1% bwoc Sodium Metasilicate, 12.6 ppg, Yld 1.73 cf/sx. **TOC** @ surface. **Tail** w/ 300 sx 60:40 POZ Fly Ash Cl C +5% bwow Sodium Chloride + 0.125#/sx CF + 0.1% bwoc Sodium Metasilicate + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 65.2% FW. 13.8 ppg. **Yld** 1.38 cf/sx. DV Tool @ 2500'
Stage 2: Lead w/ 415 sx 60:40 POZ Fly Ash Cl C + 5% bwow Sodium Chloride + 0.125#/sx CF + 3#/sx LCM-1 + 0.25% bwoc FL-52 + 1.5% bwoc Sodium Metasilicate + 3.7% FW, 12.8 ppg, Yld 1.66 cf/sx. Tail w/ 150 sx 60:40 POZ Fly Ash Cl C + 5% bwow Sodium Chloride + 0.125#/sx CF + 0.5% bwoc Sodium Metasilicate + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 65.3% FW, 13.8 ppg, Yld 1.38 cf/s.

See COA

d. 5 1/2" Production

1st Stage
Lead w/ 595 sx 35:65 POZ Fly Ash Cl H + 3% bwow Sodium Chloride + 0.125#/sx CF + 0.7% bwoc FL-52 + 0.3% bwoc ASA-301 + 6% bwoc Bentonite + 105.6% FW, 12.5 ppg. **Yld 2.01** cf/sx. **Tail** w/ 1325 sx 50:50 POZ (Fly Ash) Cl H + 5% bwow Sodium Chloride +0.3% bwoc CD-32 + 0.5% bwoc FL-25 + 3% bwoc +14.2 ppg. **Yld** 1.28 cf/sx. **DV Tool @ 4800'**

2nd Stage
Lead w/ 200 sx Cl C + 1% bwoc R-3 + 0.125#/sx CF + 0.3% bwoc FL-52 + 3% 11.4 ppg, Yld 2.88 cf/sx. TOC @ 2600'
Tail w/ 150 sx 60:40 POZ Fly Ash Cl C + 5% bwow Sodium Chloride + 0.125#/sx CF + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 65.1% FW, 13.8 ppg, Yld 1.73 cf/sx.

Pressure Control Equipment

The BOP system used to drill the **17 ½"** hole will consist of a **20" 2M Annular preventer**. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2, as a **2M system** will be installed and tested prior to drilling out the surface casing shoe.

The BOP system used to drill the **12 ¼" and 8 ¾"** hole will consist of a **13-5/8" 3M 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** will be installed prior to drilling out the casing shoe.

The pipe rams will be operated and checked as per Onshore Oil and Gas Order No 2. 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.**

Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line). The line will be kept as straight as possible with minimal turns.

Proposed Mud Circulation System

Depth	Mud Wt.	Visc	Fluid Loss	Type System
0 – 520'	8.4-9.0	30-34	NC	FW
0 – 2450'	9.8-10.0	28-32	NC	Brine
2450– ~~4750~~ 4000'	8.4-9.0	28-30	NC	FW
~~4750~~–13058'	8.6–9.0	28-32	NC	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.

4. **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.
   c. 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.

5. **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. The open hole electrical logging program will be:
      i. Total Depth to Intermediate Casing Dual Laterolog-Micro Laterolog with SP and Gamma Ray. Compensated Neutron – Z Density log with Gamma Ray and Caliper.
      ii. Total Depth to Surface Compensated Neutron with Gamma Ray
      iii. 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.

6. **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 3400 psi and Estimated BHT 130°. No H2S is anticipated to be encountered.

7. **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

Proposal

---

devon

SIRIUS 17 FEDERAL 5H

EDDY COUNTY, NM

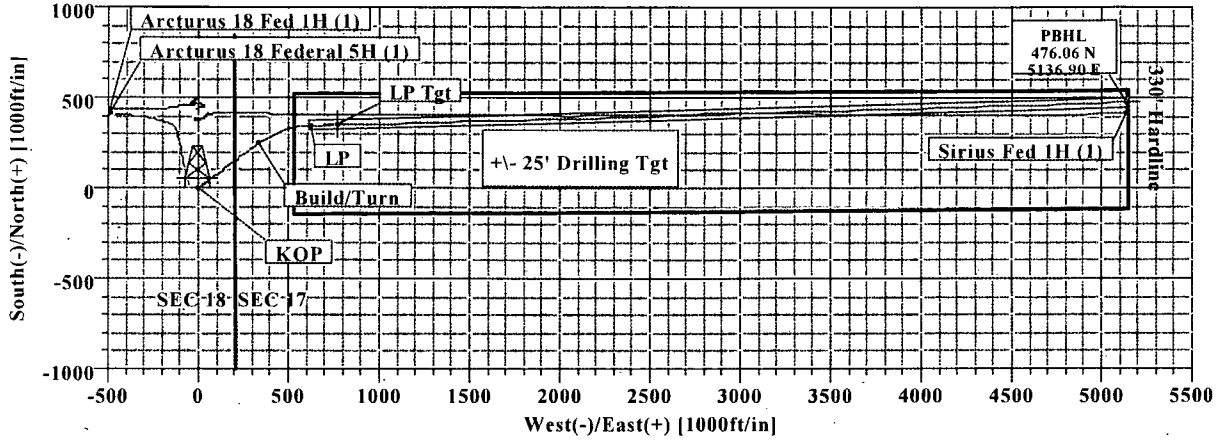
WELL FILE: **PLAN 1**

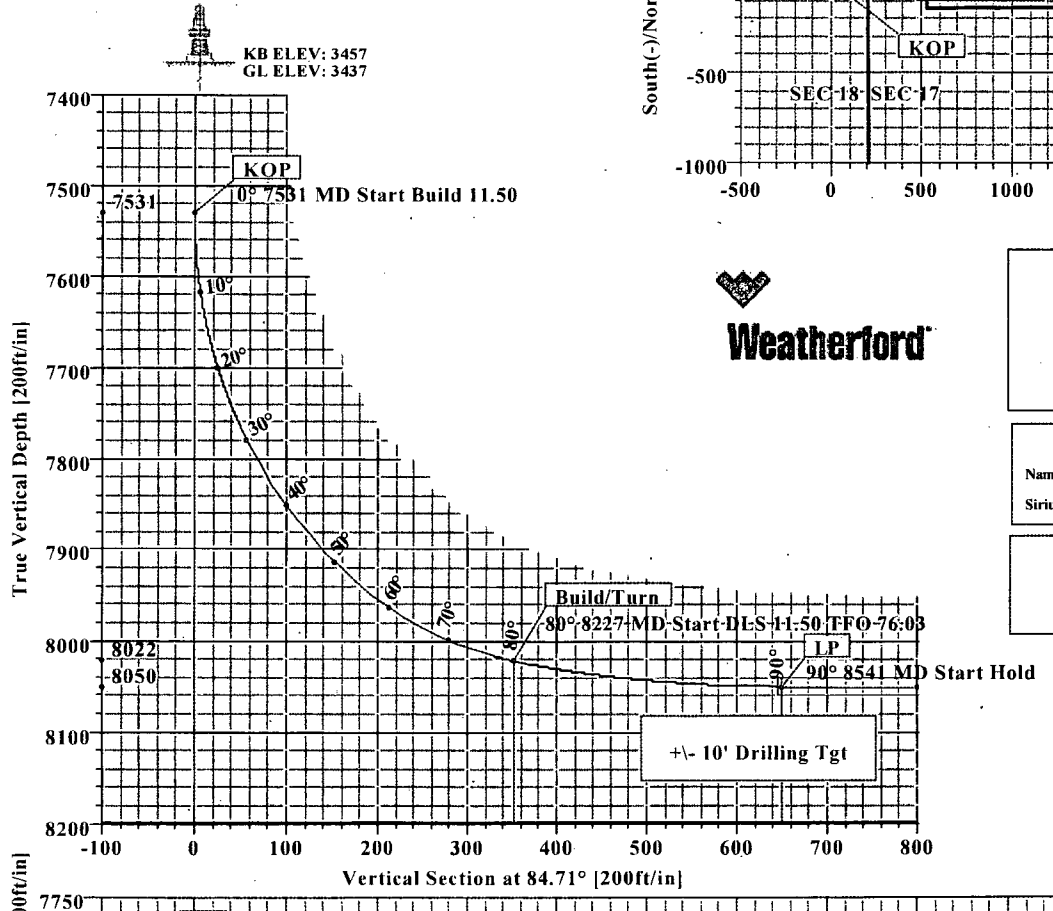
FEBRUARY 25, 2013

Weatherford International, Ltd.
P.O. Box 61028
Midland, TX 79711 USA
+1.432.561.8892 Main
+1.432.561.8895 Fax
www.weatherford.com

devon

Sirius 17 Federal 5H
Eddy Co, NM





Weatherford

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	7531.11	0.00	0.00	7531.11	0.00	0.00	0.00	0.00	0.00	
3	8226.76	80.00	53.42	8021.77	245.37	330.60	11.50	53.42	351.82	
4	8541.14	90.00	88.34	8050.00	345.51	621.76	11.50	76.03	650.97	
5	13058.17	90.00	88.34	8050.00	476.06	5136.90	0.00	0.00	5158.91	PBHL

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Sirius 17 Federal 5H	0.00	0.00	606050.71	674466.69	32°39'55.189N	103°54'02.595W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	8050.00	476.06	5136.90	606526.77	679603.59	Rectangle (4520x50)
LP Tgt	8050.00	349.87	770.57	606400.53	675237.26	Point

LEGEND

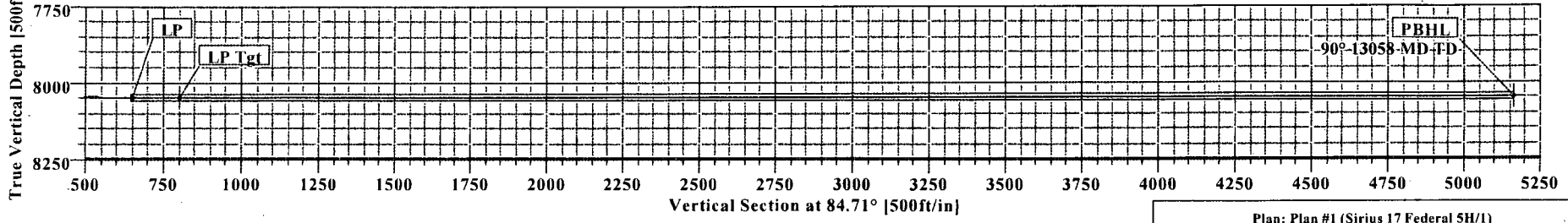
- Arcturus 18 Fed 1H (1)
- Arcturus 18 Federal 5H (1)
- Sirius Fed 1H (1)
- 1
- Plan #1

SITE DETAILS

Sirius 17 Federal 5H

Site Centre Northing: 606050.71
Easting: 674466.69

Ground Level: 3437.00
Positional Uncertainty: 0.00
Convergence: 0.23



Plan: Plan #1 (Sirius 17 Federal 5H/1)

Created By: Russell W. Joyner Date: 2/25/2013

Weatherford
Wft Plan Report X Y's.

Company:	Devon Energy	**Date:** 2/25/2013 **Time:** 08:34:20 **Page:**	1
Field:	Eddy Co., NM (NAD 83)	**Co-ordinate(NE) Reference:**	Well Sirius 17 Federal 5H, Grid North
Site:	Sirius 17 Federal 5H	**Vertical (TVD) Reference:**	SITE 3457.0
Well:	Sirius 17 Federal 5H	**Section (VS) Reference:**	Well (0.00N,0.00E,84.71Azi)
Wellpath:	1	**Survey Calculation Method:**	Minimum Curvature **Db:** Sybase

Plan:	Plan #1	**Date Composed:**	2/25/2013
		Version:	1
Principal:	Yes	**Tied-to:**	From Surface

Site: Sirius 17 Federal 5H

Site Position:		**Northing:**	606050.71 ft	**Latitude:**	32 39 55.189	N
From:	Map	**Easting:**	674466.69 ft	**Longitude:**	103 54 2.595	W
Position Uncertainty:	0.00 ft			**North Reference:**	Grid	
Ground Level:	3437.00 ft			**Grid Convergence:**	0.23	deg

Well: Sirius 17 Federal 5H **Slot Name:**

Well Position:	+N/-S	0.00 ft	**Northing:**	606050.71 ft	**Latitude:**	32 39 55.189	N
	+E/-W	0.00 ft	**Easting:**	674466.69 ft	**Longitude:**	103 54 2.595	W
Position Uncertainty:		0.00 ft					

Wellpath:	1	**Drilled From:**	Surface
		Tie-on Depth:	0.00 ft
Current Datum:	SITE	**Height** 3457.00 ft	**Above System Datum:** Mean Sea Level
Magnetic Data:	9/15/2013		**Declination:** 7.50 deg
Field Strength:	48646 nT		**Mag Dip Angle:** 60.48 deg

Vertical Section: Depth From (TVD) ft	**+N/-S** ft	**+E/-W** ft	**Direction** deg
0.00	0.00	0.00	84.71

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7531.11	0.00	0.00	7531.11	0.00	0.00	0.00	0.00	0.00	0.00	
8226.76	80.00	53.42	8021.77	245.37	330.60	11.50	11.50	0.00	53.42	
8541.14	90.00	88.34	8050.00	345.51	621.76	11.50	3.18	11.11	76.03	
13058.17	90.00	88.34	8050.00	476.06	5136.90	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
7500.00	0.00	0.00	7500.00	0.00	0.00	0.00	0.00	606050.71	674466.69	
7531.11	0.00	0.00	7531.11	0.00	0.00	0.00	0.00	606050.71	674466.69	KOP
7550.00	2.17	53.42	7550.00	0.21	0.29	0.31	11.50	606050.92	674466.98	
7575.00	5.05	53.42	7574.94	1.15	1.55	1.65	11.50	606051.86	674468.24	
7600.00	7.92	53.42	7599.78	2.83	3.82	4.06	11.50	606053.54	674470.51	
7625.00	10.80	53.42	7624.45	5.26	7.08	7.54	11.50	606055.97	674473.77	
7650.00	13.67	53.42	7648.87	8.41	11.34	12.06	11.50	606059.12	674478.03	
7675.00	16.55	53.42	7673.01	12.30	16.57	17.63	11.50	606063.01	674483.26	
7700.00	19.42	53.42	7696.78	16.90	22.77	24.23	11.50	606067.61	674489.46	
7725.00	22.30	53.42	7720.14	22.20	29.91	31.83	11.50	606072.91	674496.60	
7750.00	25.17	53.42	7743.03	28.20	37.99	40.43	11.50	606078.91	674504.68	
7775.00	28.05	53.42	7765.38	34.87	46.99	50.00	11.50	606085.58	674513.68	
7800.00	30.92	53.42	7787.14	42.20	56.87	60.51	11.50	606092.91	674523.56	
7825.00	33.80	53.42	7808.25	50.18	67.61	71.95	11.50	606100.89	674534.30	
7850.00	36.67	53.42	7828.67	58.77	79.19	84.27	11.50	606109.48	674545.88	
7875.00	39.55	53.42	7848.34	67.97	91.58	97.45	11.50	606118.68	674558.27	
7900.00	42.42	53.42	7867.21	77.74	104.74	111.46	11.50	606128.45	674571.43	
7925.00	45.30	53.42	7885.23	88.06	118.65	126.27	11.50	606138.77	674585.34	
7950.00	48.17	53.42	7902.36	98.91	133.27	141.82	11.50	606149.62	674599.96	
7975.00	51.05	53.42	7918.56	110.26	148.56	158.09	11.50	606160.97	674615.25	
8000.00	53.92	53.42	7933.78	122.07	164.48	175.03	11.50	606172.78	674631.17	
8025.00	56.80	53.42	7947.99	134.33	180.99	192.61	11.50	606185.04	674647.68	

Weatherford
Wft Plan Report X Y's.

Company:	Devon Energy	Date: 2/25/2013 Time: 08:34:20	Page: 2
Field:	Eddy Co., NM (NAD 83)	Co-ordinate(NE) Reference:	Well: Sirius 17 Federal 5H, Grid North
Site:	Sirius 17 Federal 5H	Vertical (TVD) Reference:	SITE 3457.0
Well:	Sirius 17 Federal 5H	Section (VS) Reference:	Well (0.00N,0.00E,84.71Azi)
Wellpath:	1	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
8050.00	59.67	53.42	7961.15	147.00	198.06	210.77	11.50	606197.71	674664.75	
8075.00	62.55	53.42	7973.23	160.04	215.63	229.47	11.50	606210.75	674682.32	
8100.00	65.42	53.42	7984.19	173.43	233.67	248.67	11.50	606224.14	674700.36	
8125.00	68.30	53.42	7994.02	187.13	252.13	268.31	11.50	606237.84	674718.82	
8150.00	71.17	53.42	8002.68	201.10	270.96	288.35	11.50	606251.81	674737.65	
8175.00	74.05	53.42	8010.15	215.32	290.12	308.73	11.50	606266.03	674756.81	
8200.00	76.92	53.42	8016.41	229.74	309.55	329.41	11.50	606280.45	674776.24	
8226.76	80.00	53.42	8021.77	245.37	330.60	351.82	11.50	606296.08	674797.29	Build/Turn
8250.00	80.66	56.05	8025.67	258.59	349.31	371.66	11.50	606309.30	674816.00	
8275.00	81.38	58.86	8029.57	271.87	370.12	393.61	11.50	606322.58	674836.81	
8300.00	82.13	61.67	8033.16	284.14	391.60	416.13	11.50	606334.85	674858.29	
8325.00	82.89	64.46	8036.42	295.37	413.70	439.17	11.50	606346.08	674880.39	
8350.00	83.67	67.25	8039.34	305.52	436.35	462.66	11.50	606356.23	674903.04	
8375.00	84.47	70.03	8041.93	314.58	459.51	486.55	11.50	606365.29	674926.20	
8400.00	85.28	72.80	8044.16	322.52	483.11	510.78	11.50	606373.23	674949.80	
8425.00	86.10	75.56	8046.04	329.31	507.09	535.29	11.50	606380.02	674973.78	
8450.00	86.93	78.32	8047.56	334.95	531.39	560.01	11.50	606385.66	674998.08	
8475.00	87.77	81.07	8048.71	339.42	555.96	584.89	11.50	606390.13	675022.65	
8500.00	88.61	83.82	8049.50	342.70	580.73	609.85	11.50	606393.41	675047.42	
8525.00	89.45	86.57	8049.93	344.80	605.63	634.84	11.50	606395.51	675072.32	
8541.14	90.00	88.34	8050.00	345.51	621.76	650.97	11.50	606396.22	675088.45	LP
8600.00	90.00	88.34	8050.00	347.21	680.59	709.71	0.00	606397.92	675147.28	
8700.00	90.00	88.34	8050.00	350.10	780.55	809.51	0.00	606400.81	675247.24	
8800.00	90.00	88.34	8050.00	352.99	880.51	909.30	0.00	606403.70	675347.20	
8900.00	90.00	88.34	8050.00	355.88	980.47	1009.10	0.00	606406.59	675447.16	
9000.00	90.00	88.34	8050.00	358.77	1080.43	1108.90	0.00	606409.48	675547.12	
9100.00	90.00	88.34	8050.00	361.66	1180.38	1208.70	0.00	606412.37	675647.07	
9200.00	90.00	88.34	8050.00	364.55	1280.34	1308.50	0.00	606415.26	675747.03	
9300.00	90.00	88.34	8050.00	367.44	1380.30	1408.30	0.00	606418.15	675846.99	
9400.00	90.00	88.34	8050.00	370.33	1480.26	1508.10	0.00	606421.04	675946.95	
9500.00	90.00	88.34	8050.00	373.22	1580.22	1607.90	0.00	606423.93	676046.91	
9600.00	90.00	88.34	8050.00	376.11	1680.18	1707.70	0.00	606426.82	676146.87	
9700.00	90.00	88.34	8050.00	379.01	1780.13	1807.50	0.00	606429.72	676246.82	
9800.00	90.00	88.34	8050.00	381.90	1880.09	1907.29	0.00	606432.61	676346.78	
9900.00	90.00	88.34	8050.00	384.79	1980.05	2007.09	0.00	606435.50	676446.74	
10000.00	90.00	88.34	8050.00	387.68	2080.01	2106.89	0.00	606438.39	676546.70	
10100.00	90.00	88.34	8050.00	390.57	2179.97	2206.69	0.00	606441.28	676646.66	
10200.00	90.00	88.34	8050.00	393.46	2279.93	2306.49	0.00	606444.17	676746.62	
10300.00	90.00	88.34	8050.00	396.35	2379.88	2406.29	0.00	606447.06	676846.57	
10400.00	90.00	88.34	8050.00	399.24	2479.84	2506.09	0.00	606449.95	676946.53	
10500.00	90.00	88.34	8050.00	402.13	2579.80	2605.89	0.00	606452.84	677046.49	
10600.00	90.00	88.34	8050.00	405.02	2679.76	2705.69	0.00	606455.73	677146.45	
10700.00	90.00	88.34	8050.00	407.91	2779.72	2805.48	0.00	606458.62	677246.41	
10800.00	90.00	88.34	8050.00	410.80	2879.67	2905.28	0.00	606461.51	677346.36	
10900.00	90.00	88.34	8050.00	413.69	2979.63	3005.08	0.00	606464.40	677446.32	
11000.00	90.00	88.34	8050.00	416.58	3079.59	3104.88	0.00	606467.29	677546.28	
11100.00	90.00	88.34	8050.00	419.47	3179.55	3204.68	0.00	606470.18	677646.24	
11200.00	90.00	88.34	8050.00	422.36	3279.51	3304.48	0.00	606473.07	677746.20	
11300.00	90.00	88.34	8050.00	425.25	3379.47	3404.28	0.00	606475.96	677846.16	
11400.00	90.00	88.34	8050.00	428.14	3479.42	3504.08	0.00	606478.85	677946.11	
11500.00	90.00	88.34	8050.00	431.03	3579.38	3603.88	0.00	606481.74	678046.07	
11600.00	90.00	88.34	8050.00	433.92	3679.34	3703.68	0.00	606484.63	678146.03	
11700.00	90.00	88.34	8050.00	436.81	3779.30	3803.47	0.00	606487.52	678245.99	

Weatherford
Wft Plan Report X Y's.

Company:	Devon Energy	Date:	2/25/2013	Time:	08:34:20	Page:	3
Field:	Eddy Co., NM (NAD 83)	Co-ordinate(NE) Reference:	Well: Sirius 17 Federal 5H, Grid North				
Site:	Sirius 17 Federal 5H	Vertical (TVD) Reference:	SITE 3457.0				
Well:	Sirius 17 Federal 5H	Section (VS) Reference:	Well (0.00N,0.00E,84.71Azi)				
Wellpath:	1	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
11800.00	90.00	88.34	8050.00	439.70	3879.26	3903.27	0.00	606490.41	678345.95	
11900.00	90.00	88.34	8050.00	442.59	3979.21	4003.07	0.00	606493.30	678445.90	
12000.00	90.00	88.34	8050.00	445.48	4079.17	4102.87	0.00	606496.19	678545.86	
12100.00	90.00	88.34	8050.00	448.37	4179.13	4202.67	0.00	606499.08	678645.82	
12200.00	90.00	88.34	8050.00	451.26	4279.09	4302.47	0.00	606501.97	678745.78	
12300.00	90.00	88.34	8050.00	454.15	4379.05	4402.27	0.00	606504.86	678845.74	
12400.00	90.00	88.34	8050.00	457.04	4479.01	4502.07	0.00	606507.75	678945.70	
12500.00	90.00	88.34	8050.00	459.93	4578.96	4601.87	0.00	606510.64	679045.65	
12600.00	90.00	88.34	8050.00	462.82	4678.92	4701.66	0.00	606513.53	679145.61	
12700.00	90.00	88.34	8050.00	465.71	4778.88	4801.46	0.00	606516.42	679245.57	
12800.00	90.00	88.34	8050.00	468.60	4878.84	4901.26	0.00	606519.31	679345.53	
12900.00	90.00	88.34	8050.00	471.49	4978.80	5001.06	0.00	606522.20	679445.49	
13000.00	90.00	88.34	8050.00	474.38	5078.76	5100.86	0.00	606525.09	679545.45	
13058.17	90.00	88.34	8050.00	476.06	5136.90	5158.91	0.00	606526.77	679603.59	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			8050.00	476.06	5136.90	606526.77	679603.59	32	39	59.689 N	103	53	2.479 W
LP Tgt			8050.00	349.82	770.57	606400.53	675237.26	32	39	58.620 N	103	53	53.564 W

Casing Points

MD	TVD	Diameter	Hole Size	Name

Annotation

MD ft	TVD ft	
7531.11	7531.11	KOP
8226.76	8021.76	Build/Turn
8541.14	8050.00	LP
13058.17	0.00	PBHL

Weatherford
Anticollision Report

Company:	Devon Energy	**Date:** 2/25/2013	**Time:** 09:33:12 **Page:** 1
Field:	Eddy Co., NM (NAD 83)		
Reference Site:	Sirius 17 Federal 5H	**Co-ordinate(NE) Reference:**	Well: Sirius 17 Federal 5H, Grid North
Reference Well:	Sirius 17 Federal 5H	**Vertical (TVD) Reference:**	SITE 3457.0
Reference Wellpath:			**Db:** Sybase

NO GLOBAL SCAN: Using user defined selection & scan criteria		**Reference:**	Plan: Plan #1
Interpolation Method:	MD + Stations **Interval:** 100.00 ft	**Error Model:**	ISCWSA Ellipse
Depth Range:	0.00 to 13058.17 ft	**Scan Method:**	Closest Approach 3D
Maximum Radius:	10000.00 ft	**Error Surface:**	Ellipse

Plan:	Plan #1	**Date Composed:**	2/25/2013
		Version:	1
Principal:	Yes	**Tied-to:**	From Surface

Summary

<Offset Wellpath> Site	Well	Wellpath	Reference MD ft	Offset MD ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
Arcturus 18 Federal	Arcturus 18 Federal	1 V0 Plan: Plan #1 V1	5700.00	5699.21	50.89	25.54	2.01	
Sirius 17 Fed 1H	Sirius Fed 1H	1 V1	13058.17	13588.00	810.28	728.13	9.86	

Site: Arcturus 18 Federal 5H
Well: Arcturus 18 Federal 5H
Wellpath: 1 V0 Plan: Plan #1 V1 **Inter-Site Error:** 0.00 ft

Reference MD ft	Reference TVD ft	Offset MD ft	Offset TVD ft	Semi-Major Axis Ref ft	Semi-Major Axis Offset ft	TFO-HS deg	Offset Location North ft	Offset Location East ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	269.58	-0.37	-49.99	49.99			No Data
100.00	100.00	100.00	100.00	0.09	0.09	269.58	-0.37	-49.99	49.99	49.81	278.02	
200.00	200.00	200.00	200.00	0.31	0.31	269.58	-0.37	-49.99	49.99	49.36	79.43	
300.00	300.00	300.00	300.00	0.54	0.54	269.58	-0.37	-49.99	49.99	48.91	46.34	
400.00	400.00	400.00	400.00	0.76	0.76	269.58	-0.37	-49.99	49.99	48.46	32.71	
500.00	500.00	500.00	500.00	0.99	0.99	269.58	-0.37	-49.99	49.99	48.01	25.27	
600.00	600.00	600.00	600.00	1.21	1.21	269.58	-0.37	-49.99	49.99	47.56	20.59	
700.00	700.00	700.00	700.00	1.44	1.44	269.58	-0.37	-49.99	49.99	47.11	17.38	
800.00	800.00	800.00	800.00	1.66	1.66	269.58	-0.37	-49.99	49.99	46.66	15.03	
900.00	900.00	900.00	900.00	1.89	1.89	269.58	-0.37	-49.99	49.99	46.22	13.24	
1000.00	1000.00	1000.00	1000.00	2.11	2.11	269.58	-0.37	-49.99	49.99	45.77	11.83	
1100.00	1100.00	1100.00	1100.00	2.34	2.34	269.58	-0.37	-49.99	49.99	45.32	10.69	
1200.00	1200.00	1200.00	1200.00	2.56	2.56	269.58	-0.37	-49.99	49.99	44.87	9.76	
1300.00	1300.00	1300.00	1300.00	2.79	2.79	269.58	-0.37	-49.99	49.99	44.42	8.97	
1400.00	1400.00	1400.00	1400.00	3.01	3.01	269.58	-0.37	-49.99	49.99	43.97	8.30	
1500.00	1500.00	1500.00	1500.00	3.24	3.24	269.58	-0.37	-49.99	49.99	43.52	7.72	
1600.00	1600.00	1600.00	1600.00	3.46	3.46	269.58	-0.37	-49.99	49.99	43.07	7.22	
1700.00	1700.00	1700.00	1700.00	3.69	3.69	269.58	-0.37	-49.99	49.99	42.62	6.78	
1800.00	1800.00	1800.00	1800.00	3.91	3.91	269.58	-0.37	-49.99	49.99	42.17	6.39	
1900.00	1900.00	1900.00	1900.00	4.14	4.14	269.58	-0.37	-49.99	49.99	41.72	6.04	
2000.00	2000.00	2000.00	2000.00	4.36	4.36	269.58	-0.37	-49.99	49.99	41.27	5.73	
2100.00	2100.00	2100.00	2100.00	4.59	4.59	269.58	-0.37	-49.99	49.99	40.82	5.45	
2200.00	2200.00	2200.00	2200.00	4.81	4.81	269.58	-0.37	-49.99	49.99	40.37	5.20	
2300.00	2300.00	2300.00	2300.00	5.03	5.03	269.58	-0.37	-49.99	49.99	39.92	4.96	
2400.00	2400.00	2400.00	2400.00	5.26	5.26	269.58	-0.37	-49.99	49.99	39.47	4.75	
2500.00	2500.00	2500.00	2500.00	5.48	5.48	269.58	-0.37	-49.99	49.99	39.02	4.56	
2600.00	2600.00	2600.00	2600.00	5.71	5.71	269.58	-0.37	-49.99	49.99	38.57	4.38	
2700.00	2700.00	2700.00	2700.00	5.93	5.93	269.58	-0.37	-49.99	49.99	38.12	4.21	
2800.00	2800.00	2800.00	2800.00	6.16	6.16	269.58	-0.37	-49.99	49.99	37.67	4.06	
2900.00	2900.00	2900.00	2900.00	6.38	6.38	269.58	-0.37	-49.99	49.99	37.22	3.92	
3000.00	3000.00	3000.00	3000.00	6.61	6.61	269.58	-0.37	-49.99	49.99	36.78	3.78	
3100.00	3100.00	3100.00	3100.00	6.83	6.83	269.58	-0.37	-49.99	49.99	36.33	3.66	
3200.00	3200.00	3200.00	3200.00	7.06	7.06	269.58	-0.37	-49.99	49.99	35.88	3.54	
3300.00	3300.00	3300.00	3300.00	7.28	7.28	269.58	-0.37	-49.99	49.99	35.43	3.43	
3400.00	3400.00	3400.00	3400.00	7.51	7.51	269.58	-0.37	-49.99	49.99	34.98	3.33	
3500.00	3500.00	3500.00	3500.00	7.73	7.73	269.58	-0.37	-49.99	49.99	34.53	3.23	

Weatherford
Anticollision Report

Company:	Devon Energy	**Date:** 2/25/2013	**Time:** 09:33:12	**Page:**	2
Field:	Eddy Co., NM (NAD 83)				
Reference Site:	Sirius 17 Federal 5H	**Co-ordinate(NE) Reference:**	Well: Sirius 17 Federal 5H, Grid North		
Reference Well:	Sirius 17 Federal 5H	**Vertical (TVD) Reference:**	SITE 3457.0		
Reference Wellpath:				**Db:**	Sybase

Site: Arcturus 18 Federal 5H
Well: Arcturus 18 Federal 5H
Wellpath: 1 V0 Plan: Plan #1 V1 **Inter-Site Error:** 0.00 ft

Reference MD ft	Reference TVD ft	Offset MD ft	Offset TVD ft	Semi-Major Axis Ref ft	Semi-Major Axis Offset ft	Offset Location TFO-HS deg	Offset Location North ft	Offset Location East ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
3600.00	3600.00	3600.00	3600.00	7.96	7.96	269.58	-0.37	-49.99	49.99	34.08	3.14	
3700.00	3700.00	3700.00	3700.00	8.18	8.18	269.58	-0.37	-49.99	49.99	33.63	3.06	
3800.00	3800.00	3800.00	3800.00	8.41	8.41	269.58	-0.37	-49.99	49.99	33.18	2.97	
3900.00	3900.00	3900.00	3900.00	8.63	8.63	269.58	-0.37	-49.99	49.99	32.73	2.90	
4000.00	4000.00	4000.00	4000.00	8.86	8.86	269.58	-0.37	-49.99	49.99	32.28	2.82	
4100.00	4100.00	4100.00	4100.00	9.08	9.08	269.58	-0.37	-49.99	49.99	31.83	2.75	
4200.00	4200.00	4200.00	4200.00	9.31	9.31	269.58	-0.37	-49.99	49.99	31.38	2.69	
4300.00	4300.00	4300.00	4300.00	9.53	9.53	269.58	-0.37	-49.99	49.99	30.93	2.62	
4400.00	4400.00	4400.00	4400.00	9.75	9.75	269.58	-0.37	-49.99	49.99	30.48	2.56	
4500.00	4500.00	4500.00	4500.00	9.98	9.98	269.58	-0.37	-49.99	49.99	30.03	2.50	
4600.00	4600.00	4600.00	4600.00	10.20	10.20	269.58	-0.37	-49.99	49.99	29.58	2.45	
4700.00	4700.00	4700.00	4700.00	10.43	10.43	269.58	-0.37	-49.99	49.99	29.13	2.40	
4800.00	4800.00	4800.00	4800.00	10.65	10.65	269.58	-0.37	-49.99	49.99	28.68	2.35	
4900.00	4900.00	4900.00	4900.00	10.88	10.88	269.58	-0.37	-49.99	49.99	28.23	2.30	
5000.00	5000.00	5000.00	5000.00	11.10	11.10	269.58	-0.37	-49.99	49.99	27.78	2.25	
5100.00	5100.00	5100.00	5100.00	11.33	11.33	269.58	-0.37	-49.99	49.99	27.33	2.21	
5200.00	5200.00	5200.00	5200.00	11.55	11.55	269.58	-0.37	-49.99	49.99	26.89	2.16	
5300.00	5300.00	5300.00	5300.00	11.78	11.78	269.58	-0.37	-49.99	49.99	26.44	2.12	
5400.00	5400.00	5400.00	5400.00	12.00	12.00	269.58	-0.37	-49.99	49.99	25.99	2.08	
5500.00	5500.00	5500.00	5500.00	12.23	12.23	269.58	-0.37	-49.99	49.99	25.54	2.04	
5600.00	5600.00	5599.89	5599.89	12.45	12.45	269.69	-0.27	-50.01	50.01	25.11	2.01	
5700.00	5700.00	5699.21	5699.13	12.68	12.67	273.68	3.27	-50.77	50.89	25.54	2.01	
5800.00	5800.00	5797.89	5797.41	12.90	12.89	282.61	11.77	-52.60	53.97	28.19	2.09	
5900.00	5900.00	5895.41	5893.98	13.13	13.11	294.29	25.03	-55.46	61.15	34.97	2.34	
6000.00	6000.00	5992.88	5989.83	13.35	13.33	305.55	42.29	-59.18	73.45	46.87	2.76	
6100.00	6100.00	6091.14	6086.39	13.58	13.56	313.65	60.13	-63.02	88.16	61.17	3.27	
6200.00	6200.00	6189.40	6182.94	13.80	13.80	319.38	77.96	-66.86	104.11	76.69	3.80	
6300.00	6300.00	6287.67	6279.49	14.03	14.05	323.57	95.79	-70.70	120.81	92.95	4.34	
6400.00	6400.00	6385.93	6376.05	14.25	14.30	326.73	113.63	-74.55	137.99	109.68	4.87	
6500.00	6500.00	6484.19	6472.60	14.47	14.56	329.19	131.46	-78.39	155.49	126.74	5.41	
6600.00	6600.00	6582.45	6569.16	14.70	14.82	331.15	149.29	-82.23	173.21	144.01	5.93	
6700.00	6700.00	6680.71	6665.71	14.92	15.09	332.75	167.12	-86.07	191.09	161.44	6.45	
6800.00	6800.00	6778.97	6762.26	15.15	15.37	334.08	184.96	-89.91	209.09	178.99	6.95	
6900.00	6900.00	6877.24	6858.82	15.37	15.64	335.19	202.79	-93.75	227.18	196.63	7.44	
7000.00	7000.00	6975.50	6955.37	15.60	15.93	336.14	220.62	-97.59	245.34	214.33	7.91	
7100.00	7100.00	7073.76	7051.92	15.82	16.22	336.96	238.46	-101.43	263.56	232.10	8.38	
7200.00	7200.00	7172.02	7148.48	16.05	16.51	337.67	256.29	-105.28	281.82	249.90	8.83	
7300.00	7300.00	7270.28	7245.03	16.27	16.81	338.29	274.12	-109.12	300.12	267.75	9.27	
7400.00	7400.00	7368.54	7341.58	16.50	17.11	338.85	291.95	-112.96	318.45	285.62	9.70	
7500.00	7500.00	7466.81	7438.14	16.72	17.41	339.34	309.79	-116.80	336.80	303.52	10.12	
7531.11	7531.11	7497.38	7468.18	16.79	17.51	339.48	315.34	-117.99	342.52	309.09	10.25	
7550.00	7550.00	7515.96	7486.44	16.83	17.57	286.47	318.71	-118.72	345.89	312.38	10.32	
7575.00	7574.94	7540.59	7510.64	16.89	17.65	286.80	323.18	-119.68	350.05	316.43	10.41	
7600.00	7599.78	7565.12	7534.74	16.94	17.72	286.89	327.63	-120.64	353.85	320.13	10.49	
7625.00	7624.45	7584.60	7553.86	16.99	17.77	286.82	331.16	-121.80	357.50	323.71	10.58	
7650.00	7648.87	7603.60	7572.45	17.05	17.81	286.53	334.60	-123.66	361.19	327.35	10.67	
7675.00	7673.01	7621.93	7590.32	17.10	17.83	286.05	337.90	-126.14	364.99	331.09	10.77	
7700.00	7696.78	7639.46	7607.30	17.16	17.85	285.44	341.04	-129.13	368.98	335.04	10.87	
7725.00	7720.14	7656.07	7623.29	17.21	17.86	284.75	343.99	-132.52	373.25	339.27	10.98	
7750.00	7743.03	7671.66	7638.18	17.27	17.86	284.02	346.75	-136.20	377.90	343.88	11.11	
7775.00	7765.38	7686.17	7651.94	17.33	17.86	283.32	349.29	-140.04	383.02	348.97	11.25	

Company:	Devon Energy	**Date:**	2/25/2013	**Time:**	09:33:12	**Page:**	3
Field:	Eddy Co. NM (NAD 83)						
Reference Site:	Sirius 17 Federal 5H	**Co-ordinate (NE) Reference:**	Well Sirius 17 Federal 5H, Grid North				
Reference Well:	Sirius 17 Federal 5H	**Vertical (TVD) Reference:**	SITE 3457.0				
Reference Wellpath:						**Db:**	Sybase

Site: Arcturus 18 Federal 5H
Well: Arcturus 18 Federal 5H
Wellpath: 1 V0 Plan: Plan #1 V1 **Inter-Site Error:** 0.00 ft

Reference MD ft	Reference TVD ft	Offset MD ft	Offset TVD ft	Semi-Major Axis Ref ft	Semi-Major Axis Offset ft	TFO-HS deg	Offset Location North ft	Offset Location East ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
7800.00	7787.14	7699.57	7664.54	17.40	17.87	282.68	351.62	-143.96	388.71	354.63	11.40	
7825.00	7808.25	7711.83	7675.98	17.46	17.87	282.15	353.74	-147.84	395.05	360.94	11.58	
7850.00	7828.67	7722.96	7686.28	17.54	17.87	281.77	355.64	-151.61	402.09	367.95	11.78	
7875.00	7848.34	7732.98	7695.47	17.61	17.88	281.55	357.34	-155.20	409.88	375.73	12.00	
7900.00	7867.21	7741.92	7703.62	17.70	17.89	281.51	358.85	-158.56	418.47	384.28	12.24	
7925.00	7885.23	7749.82	7710.76	17.79	17.89	281.69	360.17	-161.66	427.85	393.63	12.50	
7950.00	7902.36	7756.71	7716.96	17.90	17.90	282.07	361.32	-164.45	438.03	403.78	12.79	
7975.00	7918.56	7762.66	7722.27	18.01	17.91	282.68	362.30	-166.93	448.99	414.70	13.09	
8000.00	7933.78	7767.70	7726.75	18.13	17.92	283.50	363.13	-169.09	460.69	426.35	13.42	
8025.00	7947.99	7771.89	7730.46	18.27	17.92	284.54	363.82	-170.91	473.10	438.71	13.75	
8050.00	7961.15	7775.27	7733.44	18.42	17.93	285.78	364.37	-172.41	486.16	451.71	14.11	
8075.00	7973.23	7777.90	7735.75	18.58	17.93	287.23	364.80	-173.59	499.82	465.31	14.49	
8100.00	7984.19	7779.82	7737.44	18.76	17.93	288.85	365.11	-174.45	514.00	479.45	14.88	
8125.00	7994.02	7781.07	7738.53	18.95	17.94	290.64	365.31	-175.02	528.66	494.07	15.28	
8150.00	8002.68	7781.69	7739.08	19.16	17.94	292.58	365.42	-175.31	543.73	509.10	15.70	
8175.00	8010.15	7781.74	7739.12	19.38	17.94	294.63	365.42	-175.33	559.13	524.49	16.14	
8200.00	8016.41	7781.23	7738.67	19.62	17.94	296.78	365.34	-175.09	574.81	540.18	16.60	
8226.76	8021.77	7780.11	7737.69	19.89	17.94	299.16	365.16	-174.59	591.83	557.22	17.10	
8250.00	8025.67	7778.77	7736.52	20.14	17.93	300.54	364.94	-173.98	607.24	572.56	17.51	
8275.00	8029.57	7775.00	7733.21	20.42	17.93	302.67	364.33	-172.29	624.97	590.28	18.02	
8300.00	8033.16	7775.00	7733.21	20.71	17.93	304.72	364.33	-172.29	643.72	609.08	18.58	
8325.00	8036.42	7775.00	7733.21	20.99	17.93	307.22	364.33	-172.29	663.38	628.88	19.23	
8350.00	8039.34	7770.39	7729.14	21.27	17.92	310.85	363.58	-170.26	683.79	649.63	20.02	
8375.00	8041.93	7767.75	7726.80	21.56	17.92	314.78	363.14	-169.11	704.86	671.16	20.92	
8400.00	8044.16	7764.92	7724.29	21.83	17.91	319.31	362.68	-167.90	726.45	693.41	21.99	
8425.00	8046.04	7761.93	7721.63	22.11	17.91	324.47	362.18	-166.63	748.48	716.27	23.24	
8450.00	8047.56	7758.80	7718.83	22.37	17.90	330.20	361.67	-165.32	770.83	739.63	24.71	
8475.00	8048.71	7755.53	7715.90	22.62	17.90	336.41	361.12	-163.97	793.43	763.34	26.36	
8500.00	8049.50	7750.00	7710.93	22.86	17.89	343.12	360.20	-161.73	816.20	787.19	28.14	
8525.00	8049.93	7750.00	7710.93	23.08	17.89	349.53	360.20	-161.73	839.05	810.90	29.81	
8541.14	8050.00	7750.00	7710.93	23.22	17.89	353.72	360.20	-161.73	853.84	826.08	30.75	
8600.00	8050.00	7738.27	7700.30	24.25	17.88	354.25	358.24	-157.17	907.89	879.86	32.39	
8700.00	8050.00	7725.00	7688.15	26.14	17.87	354.81	355.99	-152.32	1000.61	972.13	35.13	
8800.00	8050.00	7714.91	7678.83	28.16	17.87	355.22	354.26	-148.86	1094.24	1065.30	37.80	
8900.00	8050.00	7700.00	7664.95	30.31	17.87	355.79	351.70	-144.09	1188.66	1159.22	40.37	
9000.00	8050.00	7700.00	7664.95	32.54	17.87	355.79	351.70	-144.09	1283.65	1253.72	42.88	
9100.00	8050.00	7688.69	7654.32	34.85	17.86	356.20	349.73	-140.75	1379.17	1348.72	45.29	
9200.00	8050.00	7675.00	7641.36	37.22	17.86	356.67	347.33	-137.05	1475.22	1444.23	47.59	
9300.00	8050.00	7675.00	7641.36	39.63	17.86	356.67	347.33	-137.05	1571.54	1540.00	49.82	
9400.00	8050.00	7675.00	7641.36	42.09	17.86	356.67	347.33	-137.05	1668.29	1636.18	51.95	
9500.00	8050.00	7664.13	7631.00	44.59	17.86	357.03	345.42	-134.36	1765.25	1732.57	54.02	
9600.00	8050.00	7659.25	7626.33	47.11	17.86	357.18	344.56	-133.23	1862.51	1829.24	55.98	
9700.00	8050.00	7650.00	7617.46	49.65	17.85	357.46	342.91	-131.22	1960.02	1926.15	57.87	
9800.00	8050.00	7650.00	7617.46	52.22	17.85	357.46	342.91	-131.22	2057.66	2023.18	59.68	
9900.00	8050.00	7650.00	7617.46	54.80	17.85	357.46	342.91	-131.22	2155.53	2120.42	61.40	
10000.00	8050.00	7650.00	7617.46	57.40	17.85	357.46	342.91	-131.22	2253.58	2217.84	63.06	
10100.00	8050.00	7639.87	7607.70	60.01	17.85	357.76	341.11	-129.20	2351.67	2315.32	64.70	
10200.00	8050.00	7636.77	7604.70	62.64	17.85	357.85	340.56	-128.63	2449.94	2412.96	66.24	
10300.00	8050.00	7633.87	7601.89	65.27	17.84	357.93	340.04	-128.11	2548.33	2510.70	67.72	
10400.00	8050.00	7625.00	7593.30	67.92	17.84	358.17	338.45	-126.62	2646.87	2608.59	69.16	
10500.00	8050.00	7625.00	7593.30	70.57	17.84	358.17	338.45	-126.62	2745.42	2706.49	70.52	

Company:	Devon Energy	**Date:**	2/25/2013	**Time:**	09:33:12	**Page:**	4
Field:	Eddy Co. NM (NAD 83)						
Reference Site:	Sirius 17 Federal 5H	**Co-ordinate (NE) Reference:**	Well: Sirius 17 Federal 5H, Grid North				
Reference Well:	Sirius 17 Federal 5H	**Vertical (TVD) Reference:**	SITE 3457.0				
Reference Wellpath:						**Db:**	Sybase

Site: Arcturus 18 Federal 5H
Well: Arcturus 18 Federal 5H
Wellpath: 1 V0 Plan: Plan #1 V1 **Inter-Site Error:** 0.00 ft

Reference MD ft	Reference TVD ft	Offset MD ft	Offset TVD ft	Semi-Major Axis Ref ft	Semi-Major Axis Offset ft	TFO-HS deg	Offset Location North ft	Offset Location East ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
10600.00	8050.00	7625.00	7593.30	73.23	17.84	358.17	338.45	-126.62	2844.07	2804.47	71.82	
10700.00	8050.00	7625.00	7593.30	75.90	17.84	358.17	338.45	-126.62	2942.82	2902.55	73.08	
10800.00	8050.00	7625.00	7593.30	78.57	17.84	358.17	338.45	-126.62	3041.64	3000.70	74.29	
10900.00	8050.00	7625.00	7593.30	81.24	17.84	358.17	338.45	-126.62	3140.54	3098.92	75.46	
11000.00	8050.00	7625.00	7593.30	83.93	17.84	358.17	338.45	-126.62	3239.51	3197.21	76.58	
11100.00	8050.00	7625.00	7593.30	86.61	17.84	358.17	338.45	-126.62	3338.54	3295.56	77.66	
11200.00	8050.00	7614.30	7582.89	89.30	17.82	358.45	336.53	-125.02	3437.50	3393.87	78.79	
11300.00	8050.00	7612.66	7581.29	91.99	17.82	358.50	336.23	-124.80	3536.59	3492.28	79.81	
11400.00	8050.00	7611.10	7579.77	94.69	17.82	358.54	335.95	-124.59	3635.73	3590.73	80.80	
11500.00	8050.00	7600.00	7568.94	97.39	17.81	358.81	333.95	-123.25	3735.02	3689.36	81.81	
11600.00	8050.00	7600.00	7568.94	100.09	17.81	358.81	333.95	-123.25	3834.20	3787.85	82.72	
11700.00	8050.00	7600.00	7568.94	102.80	17.81	358.81	333.95	-123.25	3933.43	3886.39	83.61	
11800.00	8050.00	7600.00	7568.94	105.50	17.81	358.81	333.95	-123.25	4032.70	3984.96	84.46	
11900.00	8050.00	7600.00	7568.94	108.21	17.81	358.81	333.95	-123.25	4132.00	4083.56	85.29	
12000.00	8050.00	7600.00	7568.94	110.93	17.81	358.81	333.95	-123.25	4231.34	4182.19	86.09	
12100.00	8050.00	7600.00	7568.94	113.64	17.81	358.81	333.95	-123.25	4330.71	4280.86	86.87	
12200.00	8050.00	7600.00	7568.94	116.35	17.81	358.81	333.95	-123.25	4430.10	4379.55	87.63	
12300.00	8050.00	7600.00	7568.94	119.07	17.81	358.81	333.95	-123.25	4529.52	4478.26	88.36	
12400.00	8050.00	7600.00	7568.94	121.79	17.81	358.81	333.95	-123.25	4628.97	4577.00	89.07	
12500.00	8050.00	7600.00	7568.94	124.51	17.81	358.81	333.95	-123.25	4728.44	4675.76	89.76	
12600.00	8050.00	7600.00	7568.94	127.23	17.81	358.81	333.95	-123.25	4827.93	4774.54	90.43	
12700.00	8050.00	7600.00	7568.94	129.95	17.81	358.81	333.95	-123.25	4927.44	4873.34	91.08	
12800.00	8050.00	7600.00	7568.94	132.67	17.81	358.81	333.95	-123.25	5026.97	4972.16	91.72	
12900.00	8050.00	7600.00	7568.94	135.40	17.81	358.81	333.95	-123.25	5126.52	5071.00	92.33	
13000.00	8050.00	7600.00	7568.94	138.12	17.81	358.81	333.95	-123.25	5226.09	5169.86	92.93	
13058.17	8050.00	7600.00	7568.94	139.71	17.81	358.81	333.95	-123.25	5284.01	5227.36	93.27	

Site: Sirius 17 Fed 1H
Well: Sirius Fed 1H
Wellpath: 1 V1 **Inter-Site Error:** 0.00 ft

Reference MD ft	Reference TVD ft	Offset MD ft	Offset TVD ft	Semi-Major Axis Ref ft	Semi-Major Axis Offset ft	TFO-HS deg	Offset Location North ft	Offset Location East ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
0.00	0.00	8.51	8.51	0.00	0.00	358.99	385.53	-6.81	385.59			No Data
100.00	100.00	107.60	107.59	0.09	0.02	358.91	385.68	-7.34	385.75	385.64	3535.79	
200.00	200.00	208.06	208.06	0.31	0.10	358.80	385.86	-8.06	385.94	385.60	1104.42	
300.00	300.00	308.31	308.30	0.54	0.17	358.71	385.96	-8.71	386.06	385.47	654.66	
400.00	400.00	409.32	409.31	0.76	0.24	358.56	385.89	-9.67	386.01	385.20	474.49	
500.00	500.00	510.68	510.66	0.99	0.30	358.37	385.49	-11.00	385.66	384.64	379.54	
600.00	600.00	612.06	612.03	1.21	0.37	358.14	384.71	-12.48	384.93	383.70	313.11	
700.00	700.00	712.39	712.34	1.44	0.43	357.92	383.73	-13.94	384.00	382.49	255.02	
800.00	800.00	812.88	812.82	1.66	0.48	357.74	382.62	-15.13	382.95	381.16	213.90	
900.00	900.00	912.64	912.56	1.89	0.54	357.59	381.54	-16.03	381.90	379.82	183.82	
1000.00	1000.00	1013.38	1013.30	2.11	0.58	357.52	380.35	-16.47	380.73	378.36	160.60	
1100.00	1100.00	1112.54	1112.46	2.34	0.61	357.49	379.24	-16.61	379.62	376.96	142.69	
1200.00	1200.00	1212.40	1212.31	2.56	0.62	357.50	378.23	-16.54	378.61	375.67	128.79	
1300.00	1300.00	1311.58	1311.48	2.79	0.62	357.57	377.38	-16.04	377.73	374.53	118.05	
1400.00	1400.00	1410.02	1409.91	3.01	0.58	357.71	376.88	-15.06	377.18	373.75	110.05	
1500.00	1500.00	1508.90	1508.79	3.24	0.52	357.92	376.74	-13.66	376.99	373.35	103.81	
1600.00	1600.00	1608.31	1608.17	3.46	0.46	358.22	376.84	-11.70	377.02	373.19	98.58	
1700.00	1700.00	1707.77	1707.61	3.69	0.39	358.57	377.09	-9.41	377.21	373.20	94.04	
1800.00	1800.00	1807.40	1807.21	3.91	0.32	358.95	377.45	-6.94	377.52	373.33	90.10	

Weatherford
Anticollision Report

Company:	Devon Energy	Date:	2/25/2013	Time:	09:33:12	Page:	5
Field:	Eddy Co. NM (NAD 83)						
Reference Site:	Sirius 17 Federal 5H	Co-ordinate (NE) Reference:	Well: Sirius 17 Federal 5H, Grid North				
Reference Well:	Sirius 17 Federal 5H	Vertical (TVD) Reference:	SITE 3457.0			Db:	Sybase
Reference Wellpath:							

Site: Sirius 17 Fed 1H
Well: Sirius Fed 1H
Wellpath: 1 V1

Inter-Site Error: 0.00 ft

Reference MD ft	Reference TVD ft	Offset MD ft	Offset TVD ft	Semi-Major Axis Ref ft	Semi-Major Axis Offset ft	TFO-HS deg	Offset Location North ft	Offset Location East ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
1900.00	1900.00	1906.49	1906.26	4.14	0.26	359.36	377.99	-4.20	378.02	373.66	86.70	
2000.00	2000.00	2006.86	2006.59	4.36	0.18	-0.18	378.59	-1.21	378.60	374.09	84.01	
2100.00	2100.00	2107.07	2106.74	4.59	0.12	0.28	379.09	1.86	379.10	374.48	82.02	
2200.00	2200.00	2206.55	2206.18	4.81	0.20	0.74	379.63	4.92	379.67	374.70	76.39	
2300.00	2300.00	2306.49	2306.07	5.03	0.27	1.16	380.24	7.71	380.32	375.07	72.34	
2400.00	2400.00	2406.83	2406.39	5.26	0.33	1.53	380.81	10.15	380.95	375.43	69.00	
2500.00	2500.00	2507.10	2506.63	5.48	0.39	1.86	381.28	12.41	381.49	375.71	66.09	
2600.00	2600.00	2606.38	2605.88	5.71	0.44	2.20	381.82	14.67	382.11	376.10	63.57	
2700.00	2700.00	2706.61	2706.08	5.93	0.50	2.55	382.41	17.01	382.79	376.55	61.33	
2800.00	2800.00	2806.41	2805.85	6.16	0.55	2.87	382.99	19.21	383.48	377.01	59.31	
2900.00	2900.00	2906.07	2905.49	6.38	0.60	3.14	383.66	21.05	384.25	377.57	57.54	
3000.00	3000.00	3006.44	3005.85	6.61	0.66	3.37	384.34	22.65	385.01	378.13	55.95	
3100.00	3100.00	3107.40	3106.80	6.83	0.71	3.56	384.85	23.94	385.60	378.51	54.44	
3200.00	3200.00	3207.39	3206.78	7.06	0.77	3.72	385.25	25.03	386.07	378.79	53.04	
3300.00	3300.00	3307.74	3307.13	7.28	0.83	3.88	385.60	26.16	386.48	379.01	51.69	
3400.00	3400.00	3407.04	3406.42	7.51	0.89	4.04	386.00	27.23	386.96	379.29	50.47	
3500.00	3500.00	3506.88	3506.25	7.73	0.95	4.17	386.51	28.19	387.55	379.70	49.39	
3600.00	3600.00	3606.81	3606.17	7.96	1.00	4.28	387.08	28.96	388.17	380.15	48.42	
3700.00	3700.00	3707.34	3706.71	8.18	1.05	4.36	387.59	29.54	388.72	380.48	47.19	
3800.00	3800.00	3807.07	3806.44	8.41	1.10	4.43	388.07	30.10	389.24	380.73	45.71	
3900.00	3900.00	3907.50	3906.86	8.63	1.16	4.51	388.53	30.68	389.74	380.95	44.32	
4000.00	4000.00	4007.80	4007.16	8.86	1.22	4.59	388.89	31.22	390.14	381.06	42.97	
4100.00	4100.00	4106.97	4106.33	9.08	1.27	4.65	389.32	31.67	390.61	381.25	41.70	
4200.00	4200.00	4205.76	4205.12	9.31	1.32	4.71	390.01	32.11	391.35	381.68	40.48	
4300.00	4300.00	4304.06	4303.41	9.53	1.35	4.75	391.08	32.48	392.46	382.50	39.40	
4400.00	4400.00	4404.31	4403.65	9.75	1.38	4.78	392.35	32.80	393.75	383.48	38.33	
4500.00	4500.00	4504.32	4503.65	9.98	1.41	4.79	393.60	32.96	395.01	384.43	37.36	
4600.00	4600.00	4604.55	4603.88	10.20	1.43	4.80	394.82	33.14	396.23	385.35	36.42	
4700.00	4700.00	4705.37	4704.69	10.43	1.48	4.85	395.87	33.62	397.32	386.14	35.56	
4800.00	4800.00	4805.73	4805.04	10.65	1.54	4.95	396.77	34.37	398.27	386.81	34.75	
4900.00	4900.00	4907.42	4906.72	10.88	1.60	5.10	397.35	35.47	398.93	387.20	34.00	
5000.00	5000.00	5007.04	5006.33	11.10	1.67	5.28	397.76	36.75	399.46	387.46	33.31	
5100.00	5100.00	5107.30	5106.58	11.33	1.74	5.47	398.17	38.11	399.99	387.75	32.66	
5200.00	5200.00	5207.76	5207.03	11.55	1.81	5.69	398.46	39.69	400.43	387.93	32.02	
5300.00	5300.00	5307.26	5306.51	11.78	1.88	5.93	398.73	41.42	400.88	388.13	31.43	
5400.00	5400.00	5406.22	5405.46	12.00	1.95	6.14	399.22	42.96	401.54	388.52	30.84	
5500.00	5500.00	5505.67	5504.90	12.23	2.01	6.33	399.93	44.33	402.39	389.11	30.28	
5600.00	5600.00	5605.67	5604.89	12.45	2.08	6.49	400.71	45.57	403.31	389.75	29.74	
5700.00	5700.00	5705.33	5704.54	12.68	2.14	6.63	401.54	46.68	404.27	390.43	29.21	
5800.00	5800.00	5804.53	5803.73	12.90	2.20	6.73	402.55	47.51	405.38	391.25	28.70	
5900.00	5900.00	5904.68	5903.87	13.13	2.25	6.80	403.68	48.12	406.57	392.15	28.20	
6000.00	6000.00	6006.40	6005.58	13.35	2.30	6.87	404.59	48.72	407.52	392.83	27.74	
6100.00	6100.00	6108.06	6107.24	13.58	2.36	6.91	405.08	49.08	408.04	393.07	27.25	
6200.00	6200.00	6208.37	6207.55	13.80	2.40	6.92	405.37	49.17	408.35	393.09	26.77	
6300.00	6300.00	6309.32	6308.50	14.03	2.38	6.89	405.52	48.97	408.47	392.94	26.31	
6400.00	6400.00	6408.83	6408.01	14.25	2.33	6.84	405.65	48.68	408.56	392.83	25.97	
6500.00	6500.00	6508.84	6508.02	14.47	2.29	6.80	405.81	48.42	408.69	392.70	25.55	
6600.00	6600.00	6607.72	6606.90	14.70	2.29	6.79	406.09	48.37	408.96	392.68	25.12	
6700.00	6700.00	6705.80	6704.98	14.92	2.32	6.78	406.74	48.37	409.63	393.11	24.81	
6800.00	6800.00	6805.86	6805.03	15.15	2.33	6.75	407.65	48.22	410.50	393.73	24.47	
6900.00	6900.00	6906.22	6905.39	15.37	2.34	6.70	408.53	47.98	411.35	394.38	24.24	

devon

Weatherford
Anticollision Report

Weatherford

Company:	Devon Energy	Date:	2/25/2013	Time:	09:33:12	Page:	6
Field:	Eddy Co., NM (NAD 83)						
Reference Site:	Sirius 17 Federal 5H	Co-ordinate(NE) Reference:	Well Sirius 17 Federal 5H, Grid North				
Reference Well:	Sirius 17 Federal 5H	Vertical (TVD) Reference:	SITE 3457.0				
Reference Wellpath:						Db:	Sybase

Site: Sirius 17 Fed 1H
Well: Sirius Fed 1H
Wellpath: 1 V1 **Inter-Site Error:** 0.00 ft

Reference MD ft	Reference TVD ft	Offset MD ft	Offset TVD ft	Semi-Major Axis Ref ft	Semi-Major Axis Offset ft	Offset Location TFO-HS deg	Offset Location North ft	Offset Location East ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
7000.00	7000.00	7009.17	7008.34	15.60	2.32	6.65	408.93	47.65	411.70	394.82	24.39	
7100.00	7100.00	7105.70	7104.86	15.82	2.31	6.63	409.44	47.56	412.21	394.72	23.57	
7200.00	7200.00	7205.83	7204.99	16.05	2.36	6.67	410.29	48.01	413.10	395.35	23.26	
7300.00	7300.00	7307.13	7306.28	16.27	2.43	6.82	410.87	49.13	413.80	395.77	22.95	
7400.00	7400.00	7406.81	7405.96	16.50	2.50	6.99	411.33	50.45	414.42	396.12	22.65	
7500.00	7500.00	7508.34	7507.48	16.72	2.57	7.11	411.68	51.35	414.87	396.36	22.42	
7531.11	7531.11	7539.81	7538.95	16.79	2.59	7.14	411.72	51.59	414.94	396.44	22.42	
7550.00	7550.00	7558.91	7558.05	16.83	2.60	313.70	411.73	51.78	414.72	396.16	22.34	
7575.00	7574.94	7584.16	7583.29	16.89	2.62	313.49	411.71	52.08	413.66	394.99	22.16	
7600.00	7599.78	7609.23	7608.36	16.94	2.64	313.09	411.68	52.43	411.72	392.98	21.97	
7625.00	7624.45	7634.01	7633.14	16.99	2.65	312.49	411.63	52.84	408.94	390.20	21.82	
7650.00	7648.87	7658.59	7657.71	17.05	2.67	311.70	411.57	53.31	405.33	386.60	21.64	
7675.00	7673.01	7682.91	7682.03	17.10	2.68	310.70	411.50	53.84	400.93	382.22	21.42	
7700.00	7696.78	7706.93	7706.05	17.16	2.70	309.49	411.41	54.42	395.78	377.10	21.18	
7725.00	7720.14	7730.64	7729.75	17.21	2.71	308.05	411.32	55.03	389.93	371.27	20.90	
7750.00	7743.03	7753.91	7753.00	17.27	2.72	306.38	411.21	55.67	383.42	364.79	20.58	
7775.00	7765.38	7776.68	7775.76	17.33	2.74	304.48	411.09	56.34	376.34	357.73	20.22	
7800.00	7787.14	7798.90	7797.97	17.40	2.75	302.35	410.96	57.02	368.77	350.16	19.81	
7825.00	7808.25	7820.39	7819.45	17.46	2.76	299.99	410.83	57.69	360.80	342.17	19.37	
7850.00	7828.67	7841.18	7840.23	17.54	2.77	297.41	410.70	58.32	352.55	333.88	18.88	
7875.00	7848.34	7861.22	7860.26	17.61	2.78	294.64	410.56	58.92	344.16	325.43	18.37	
7900.00	7867.21	7880.46	7879.49	17.70	2.79	291.70	410.42	59.48	335.77	316.95	17.84	
7925.00	7885.23	7898.84	7897.87	17.79	2.80	288.64	410.29	60.01	327.55	308.62	17.31	
7950.00	7902.36	7916.13	7915.15	17.90	2.80	285.55	410.17	60.49	319.68	300.63	16.78	
7975.00	7918.56	7932.48	7931.49	18.01	2.81	282.46	410.05	60.92	312.37	293.19	16.28	
8000.00	7933.78	7947.85	7946.86	18.13	2.81	279.44	409.95	61.32	305.84	286.50	15.82	
8025.00	7947.99	7962.22	7961.22	18.27	2.82	276.55	409.86	61.68	300.29	280.80	15.41	
8050.00	7961.15	7975.54	7974.54	18.42	2.82	273.87	409.78	62.00	295.96	276.29	15.05	
8075.00	7973.23	7987.79	7986.78	18.58	2.82	271.46	409.71	62.29	293.04	273.18	14.75	
8100.00	7984.19	7998.93	7997.92	18.76	2.82	269.36	409.65	62.55	291.74	271.66	14.53	
8125.00	7994.02	8009.02	8008.01	18.95	2.83	267.60	409.59	62.77	292.20	271.87	14.38	
8150.00	8002.68	8017.94	8016.93	19.16	2.83	266.24	409.54	62.96	294.52	273.93	14.30	
8175.00	8010.15	8025.65	8024.64	19.38	2.83	265.30	409.49	63.12	298.77	277.87	14.30	
8200.00	8016.41	8032.14	8031.13	19.62	2.83	264.80	409.45	63.25	304.95	283.72	14.36	
8226.76	8021.77	8037.73	8036.71	19.89	2.83	264.79	409.41	63.36	313.64	292.01	14.50	
8250.00	8025.67	8041.84	8040.82	20.14	2.83	263.73	409.38	63.44	323.26	301.31	14.72	
8275.00	8029.57	8046.35	8045.33	20.42	2.84	262.62	409.35	63.52	336.08	313.82	15.10	
8300.00	8033.16	8051.90	8050.88	20.71	2.87	261.35	409.31	63.65	351.14	328.68	15.63	
8325.00	8036.42	8057.40	8056.38	20.99	2.90	260.10	409.28	63.81	368.14	345.43	16.21	
8350.00	8039.34	8062.83	8061.80	21.27	2.93	258.86	409.26	63.99	386.79	363.81	16.83	
8375.00	8041.93	8068.16	8067.13	21.56	2.95	257.61	409.25	64.20	406.83	383.59	17.51	
8400.00	8044.16	8073.40	8072.36	21.83	2.98	256.31	409.24	64.43	428.01	404.53	18.22	
8425.00	8046.04	8078.50	8077.46	22.11	3.01	254.93	409.24	64.68	450.15	426.44	18.98	
8450.00	8047.56	8083.45	8082.40	22.37	3.04	253.40	409.24	64.94	473.06	449.16	19.80	
8475.00	8048.71	8088.20	8087.14	22.62	3.06	251.60	409.25	65.22	496.58	472.56	20.67	
8500.00	8049.50	8092.72	8091.65	22.86	3.09	249.36	409.26	65.51	520.58	496.54	21.65	
8525.00	8049.93	8096.96	8095.88	23.08	3.11	246.29	409.28	65.80	544.96	521.05	22.79	
8541.14	8050.00	8099.51	8098.43	23.22	3.12	243.48	409.29	65.98	560.85	537.19	23.71	
8600.00	8050.00	8109.81	8108.70	24.25	3.18	237.90	409.36	66.77	618.99	595.22	26.04	
8700.00	8050.00	8135.95	8134.72	26.14	3.32	226.45	409.63	69.25	717.84	694.69	31.01	

Weatherford
Anticollision Report

Company:	Devon Energy	**Date:**	2/25/2013	**Time:**	09:33:12	**Page:**	7
Field:	Eddy Co. NM (NAD 83)						
Reference Site:	Sirius 17 Federal 5H	**Co-ordinate(NE) Reference:**	Well: Sirius 17 Federal 5H, Grid North				
Reference Well:	Sirius 17 Federal 5H	**Vertical (TVD) Reference:**	SITE 3457.0				
Reference Wellpath:						**Db:**	Sybase

Site: Sirius 17 Fed 1H
Well: Sirius Fed 1H
Wellpath: 1 V1 **Inter-Site Error:** 0.00 ft

Reference MD ft	Reference TVD ft	Offset MD ft	Offset TVD ft	Semi-Major Axis Ref ft	Semi-Major Axis Offset ft	TFO-HS deg	Offset Location North ft	Offset Location East ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
8800.00	8050.00	9318.31	8843.36	28.16	20.07	183.59	401.86	868.00	786.38	755.02	25.08	
8900.00	8050.00	9438.90	8843.19	30.31	23.08	183.38	402.42	988.58	786.01	754.00	24.55	
9000.00	8050.00	9541.98	8841.60	32.54	25.87	183.34	404.79	1091.62	784.43	751.71	23.98	
9100.00	8050.00	9629.12	8840.83	34.85	28.24	183.29	406.61	1178.74	783.52	750.10	23.44	
9200.00	8050.00	9709.65	8841.83	37.22	30.43	183.24	408.25	1259.24	784.73	750.59	22.99	
9300.00	8050.00	9793.16	8845.03	39.63	32.71	183.14	409.55	1342.67	788.45	753.55	22.60	
9400.00	8050.00	9887.85	8850.03	42.09	35.29	183.02	410.93	1437.22	793.63	757.91	22.22	
9500.00	8050.00	10000.04	8855.49	44.59	38.36	182.81	411.39	1549.28	798.40	761.74	21.78	
9600.00	8050.00	10104.08	8859.02	47.11	41.21	182.52	410.56	1653.25	801.61	764.03	21.33	
9700.00	8050.00	10202.08	8862.49	49.65	43.90	182.20	409.05	1751.18	804.97	766.48	20.91	
9800.00	8050.00	10321.39	8865.69	52.22	47.15	181.69	405.49	1870.39	807.49	767.98	20.43	
9900.00	8050.00	10431.68	8866.37	54.80	50.19	181.17	401.34	1980.60	807.94	767.41	19.93	
10000.00	8050.00	10539.09	8865.84	57.40	53.13	180.96	401.44	2087.99	807.39	765.81	19.42	
10100.00	8050.00	10638.23	8864.53	60.01	55.84	180.93	403.81	2187.10	806.07	763.43	18.90	
10200.00	8050.00	10725.66	8864.44	62.64	58.25	180.84	405.16	2274.52	805.94	762.28	18.46	
10300.00	8050.00	10817.71	8865.64	65.27	60.77	180.73	406.26	2366.55	807.21	762.49	18.05	
10400.00	8050.00	10919.17	8867.27	67.92	63.56	180.56	406.77	2467.99	808.79	762.95	17.64	
10500.00	8050.00	11020.24	8868.56	70.57	66.32	180.46	408.31	2569.04	810.05	763.08	17.24	
10600.00	8050.00	11125.01	8869.89	73.23	69.20	180.36	409.97	2673.80	811.33	763.18	16.85	
10700.00	8050.00	11231.66	8870.06	75.90	72.13	180.26	411.62	2780.43	811.46	762.11	16.44	
10800.00	8050.00	11331.58	8869.92	78.57	74.87	180.16	413.12	2880.33	811.33	760.79	16.06	
10900.00	8050.00	11441.19	8869.35	81.24	77.89	180.00	413.99	2989.94	810.81	759.04	15.66	
11000.00	8050.00	11539.40	8868.13	83.93	80.59	179.81	414.07	3088.15	809.57	756.59	15.28	
11100.00	8050.00	11641.10	8866.96	86.61	83.38	179.61	414.21	3189.83	808.44	754.21	14.91	
11200.00	8050.00	11739.01	8865.84	89.30	86.07	179.38	413.82	3287.74	807.32	751.85	14.55	
11300.00	8050.00	11838.97	8864.81	91.99	88.82	179.09	412.62	3387.69	806.35	749.58	14.21	
11400.00	8050.00	11940.08	8863.69	94.69	91.60	178.77	411.11	3488.78	805.32	747.23	13.86	
11500.00	8050.00	12039.09	8862.42	97.39	94.33	178.47	409.73	3587.77	804.14	744.71	13.53	
11600.00	8050.00	12129.64	8862.06	100.09	96.82	178.25	409.37	3678.32	803.84	743.10	13.23	
11700.00	8050.00	12225.84	8862.37	102.80	99.47	178.02	408.81	3774.52	804.27	742.17	12.95	
11800.00	8050.00	12321.48	8863.19	105.50	102.08	177.72	407.40	3870.15	805.29	741.78	12.68	
11900.00	8050.00	12421.23	8864.23	108.21	104.80	177.30	404.36	3969.83	806.59	741.55	12.40	
12000.00	8050.00	12522.09	8865.19	110.93	107.62	176.94	402.04	4070.67	807.81	741.21	12.13	
12100.00	8050.00	12625.00	8866.25	113.64	110.45	176.73	402.09	4173.56	808.99	740.91	11.88	
12200.00	8050.00	12722.63	8866.76	116.35	113.12	176.63	403.41	4271.18	809.62	740.12	11.65	
12300.00	8050.00	12817.42	8868.33	119.07	115.74	176.43	403.16	4365.96	811.44	740.45	11.43	
12400.00	8050.00	12919.46	8869.69	121.79	118.54	176.28	403.91	4467.99	812.90	740.41	11.21	
12500.00	8050.00	13033.37	8870.84	124.51	121.66	176.13	405.01	4581.88	814.10	740.03	10.99	
12600.00	8050.00	13135.83	8870.13	127.23	124.46	176.05	406.88	4684.33	813.47	737.93	10.77	
12700.00	8050.00	13235.96	8869.65	129.95	127.21	175.99	409.04	4784.44	813.04	736.05	10.56	
12800.00	8050.00	13334.21	8869.21	132.67	129.91	175.95	411.22	4882.66	812.65	734.22	10.36	
12900.00	8050.00	13439.27	8868.59	135.40	132.78	175.90	413.63	4987.68	812.11	732.21	10.16	
13000.00	8050.00	13542.87	8867.35	138.12	135.64	175.84	415.90	5091.26	810.95	729.57	9.96	
13058.17	8050.00	13588.00	8866.72	139.71	136.88	175.81	416.83	5136.37	810.28	728.13	9.86	

Weatherford Drilling Services

GeoDec v5.03

Report Date:	February 25, 2013
Job Number:	
Customer:	Devon
Well Name:	Sirius 17 Federal 5H
API Number:	
Rig Name:	
Location:	Eddy Co., NM
Block:	
Engineer:	RWJ

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: NAD 1927 (NADCON CONUS)
Ellipsoid: GRS 1980	Ellipsoid: Clarke 1866
North/South 606050.710 USFT	Latitude 32.6652143 DEG
East/West 674466.690 USFT	Longitude -103.9002132 DEG
Grid Convergence: .23°	
Total Correction: +7.38°	

Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude =	32.66521° N	32° 39 min 54.771 sec
Longitude =	103.90021° W	103° 54 min .768 sec

Magnetic Declination =	7.61°	[True North Offset]	
Local Gravity =	.9988 g	CheckSum =	6642
Local Field Strength =	48608 nT	Magnetic Vector X =	23769 nT
Magnetic Dip =	60.44°	Magnetic Vector Y =	3175 nT
Magnetic Model =	bggm2012	Magnetic Vector Z =	42281 nT
Spud Date =	Sep 15, 2013	Magnetic Vector H =	23980 nT

Signed:_____ Date:_____

NOTES REGARDING BLOWOUT PREVENTERS
Devon Energy Production Company, LP
Sirius 17 Federal 5H

Surface Location: 845' FNL & 200' FEL, Unit A, Sec 18 T19S R31E, Eddy, NM
Bottom Hole Location: 400' FNL & 340' FEL, Unit A, Sec 17 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 3000 psi working pressure.

4. All fittings will be flanged.

5. A full bore safety valve tested to a minimum 3000 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.

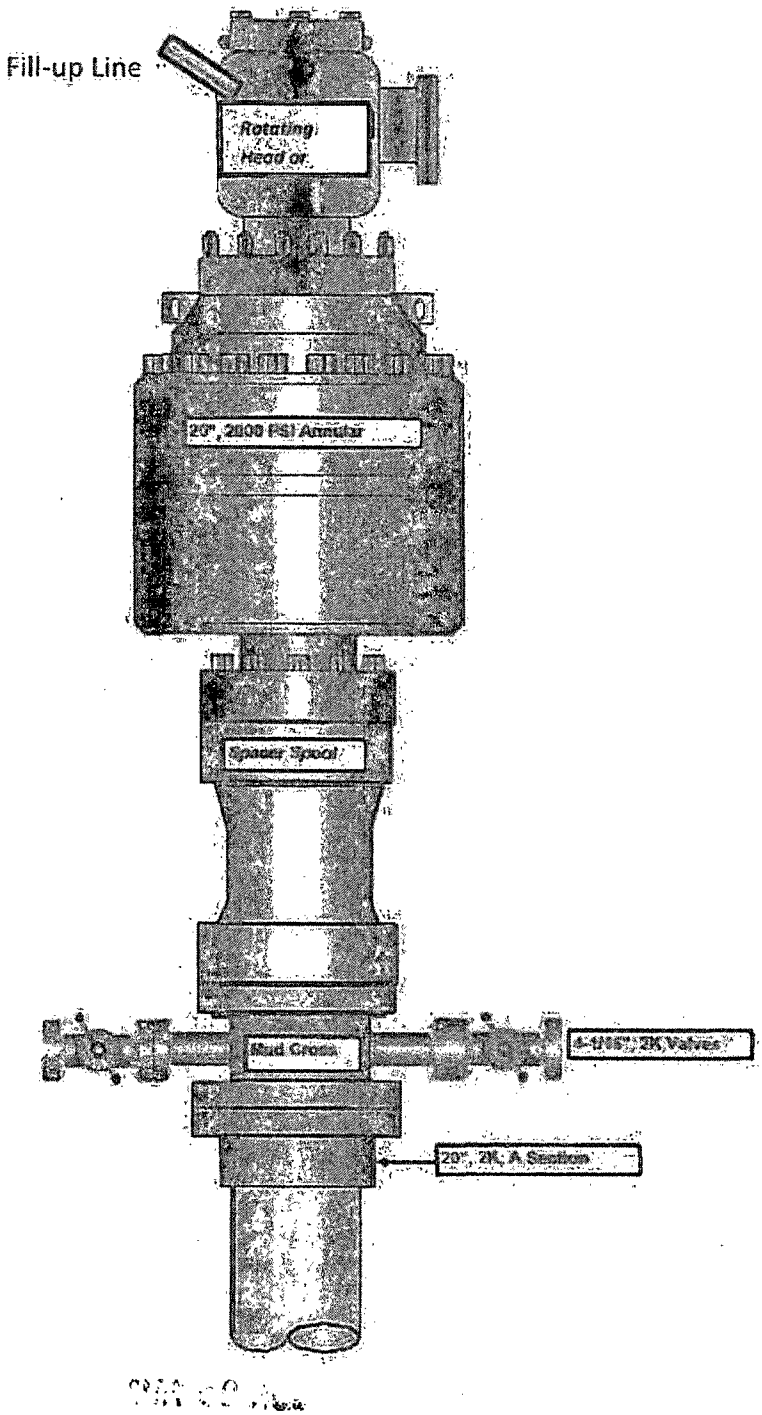
8. Will maintain a kelly cock attached to the kelly.

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.

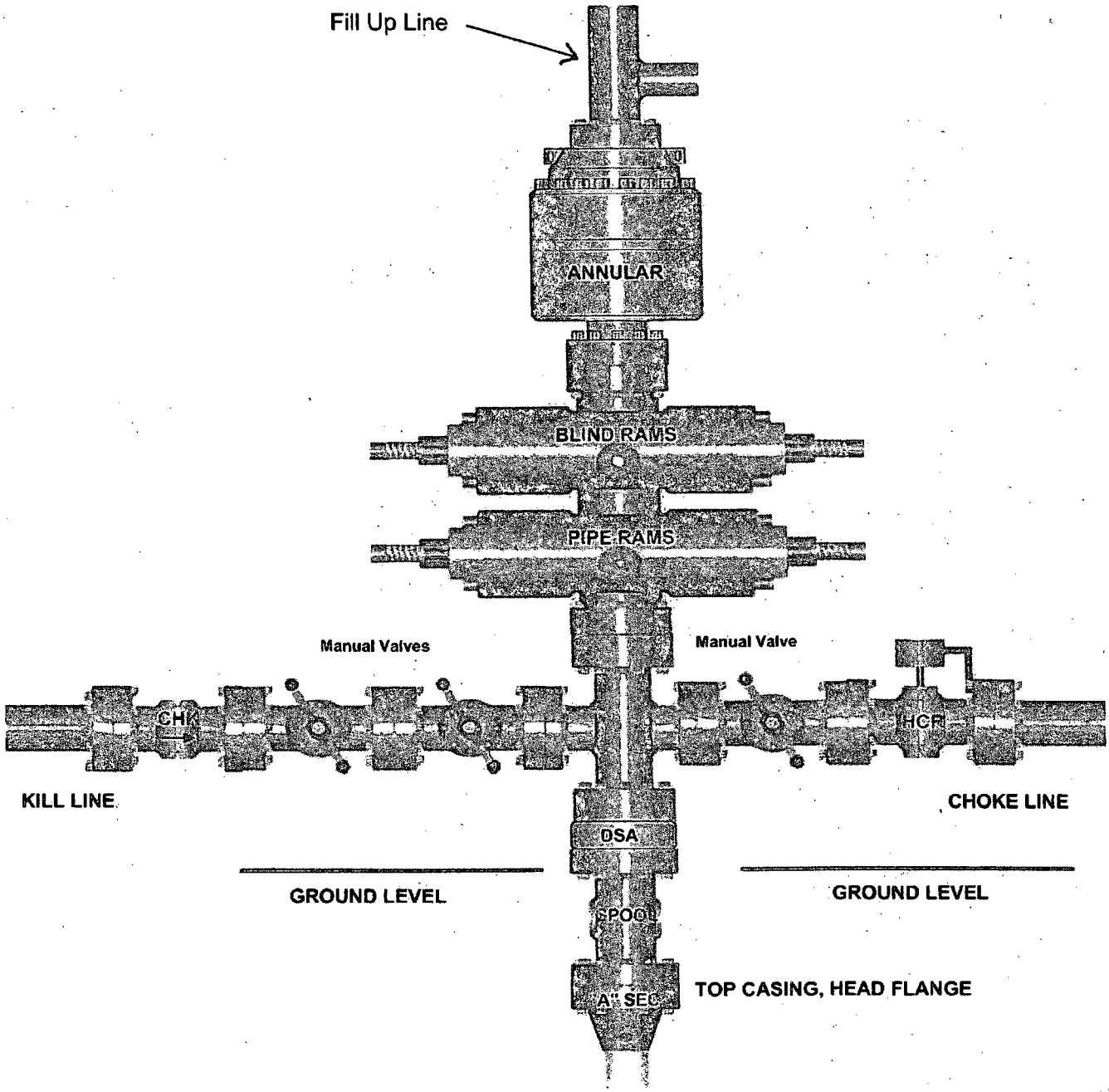
11. All BOP equipment will meet API standards and include a minimum 40 gallon accumulator having two independent means of power to initiate closing operation.

20" 2K Annular

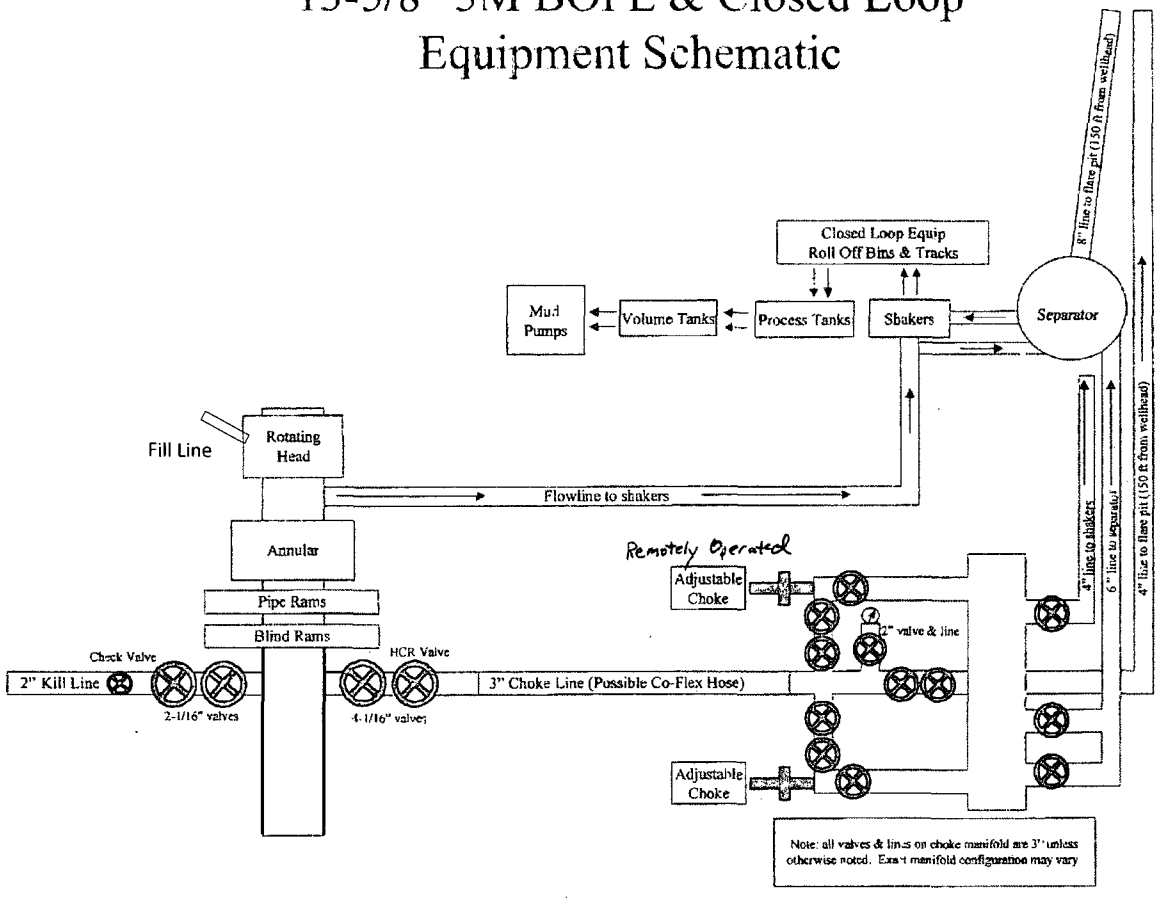


THE SAME CHOKE MANIFOLD WILL BE USED ON THE 2K ANNULAR AS ON THE 13 5/8" 3M BOPE & CLOSED LOOP EQUIPMENT SCHEMATIC.

13-5/8" x 3,000 psi BOP Stack



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



Continental
CONTITECH

Fluid Technology

ContiTech Beattie Corp.
Webs" 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 ided and suitable for the application regardless of whether the hose is secured or unsecured configuration. As a manufacturer of High Pressure Hose Assemblies for use in Drilling & Pr on, 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 f but in no way does the lifting and safety equipment affect the performance of the hoses prov 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.co m

Continental CONTITECH

Fluid Technology

Quality Document

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°:	1713	
PURCHASER:	ContiTech Beattie Co.			P.O. N°:	002808	
CONTITECH ORDER N°:	426127	HOSE TYPE:	3" ID	Choke and Kill Hose		
HOSE SERIAL N°:	53622	NOMINAL / ACTUAL LENGTH:		10,67 m		
W.P. 68,96 MPa	10000 psi	T.P. 103,4 MPa	15000 psi	Duration:	60	min.

Pressure test with water at ambient temperature

See attachment. (1 page)

↑ 10 mm = 10 Min.

→ 10 mm = 25 MPa

COUPLINGS Type	Serial N°	Quality	Heat N°
3" coupling with	5503 2029	AISI 4130	N1590P
4 1/16" Flange end		AISI 4130	27566

INFOCHIP INSTALLED

API Spec 16 C
Temperature rate:"B"

All metal parts are flawless

Hose conform to NACE MR 01-75

WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.

COUNTRY OF ORIGIN HUNGARY/EU

Date:	Inspector	Quality Control
25. August. 2008		ContiTech Rubber Industrial Kft. Quality Control Dept.

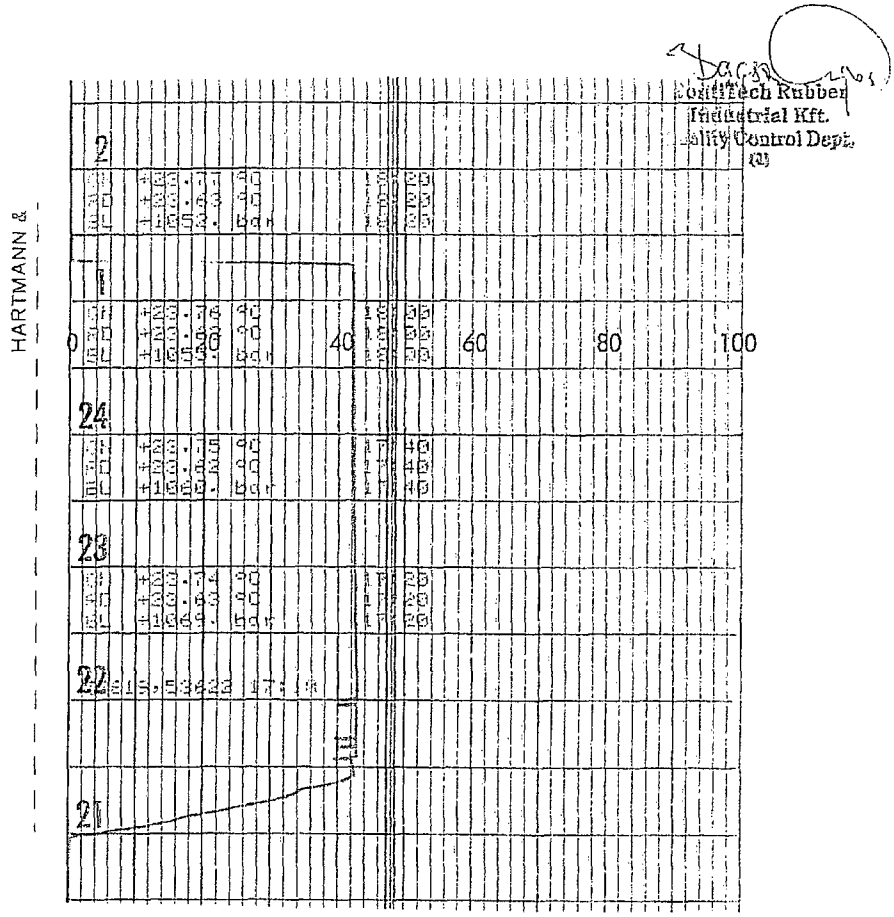
ContiTech Rubber Industrial Kft.
Budapesti út 10., Szeged H 6728
P.O.Box 152 Szeged H-6701
Hungary

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

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

Bank data
Commerzbank Zrt.
Szeged
14220108-26830003-00000000

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



Contitech Rubber
Industrial Kft.
Quality Control Dept.

RIG 212

PHOENIX

QUALITY DOCUMENT

PHOENIX RUBBER INDUSTRIAL LTD.
6728 Szeged, Budapesti út 10. Hungary • H–6701 Szeged, P. O. Box 152
Phone: (3662) 566-737 • Fax: (3662) 568-738
SALES & MARKETING: H–1092 Budapest, Ráday u. 42-44. Hungary • H–1440 Budapest, P. O. Box 26
Phone: (361) 456-4200 • Fax: (361) 217-2972, 456-4273 • www.taurusemerge.hu

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°: 552
PURCHASER: Phoenix Beattie Co.				P.O. N°: 1519FA-871
PHOENIX RUBBER order N°: 170466		HOSE TYPE: 3" ID		Choke and Kill Hose
HOSE SERIAL N°: 34128		NOMINAL / ACTUAL LENGTH:		11,43 m
W.P. 68,96 MPa	10000 psi	T.P. 103,4 MPa	15000 psi	Duration: 60 min.

Pressure test with water at ambient temperature

See attachment. (1 page)

↑ 10 mm = 10 Min.

→ 10 mm = 25 MPa

COUPLINGS

Type	Serial N°	Quality	Heat N°
3" coupling with 4 1/16" Flange end	720 719	AISI 4130 AISI 4130	C7626 47357

API Spec 16 C
Temperature rate:"B"

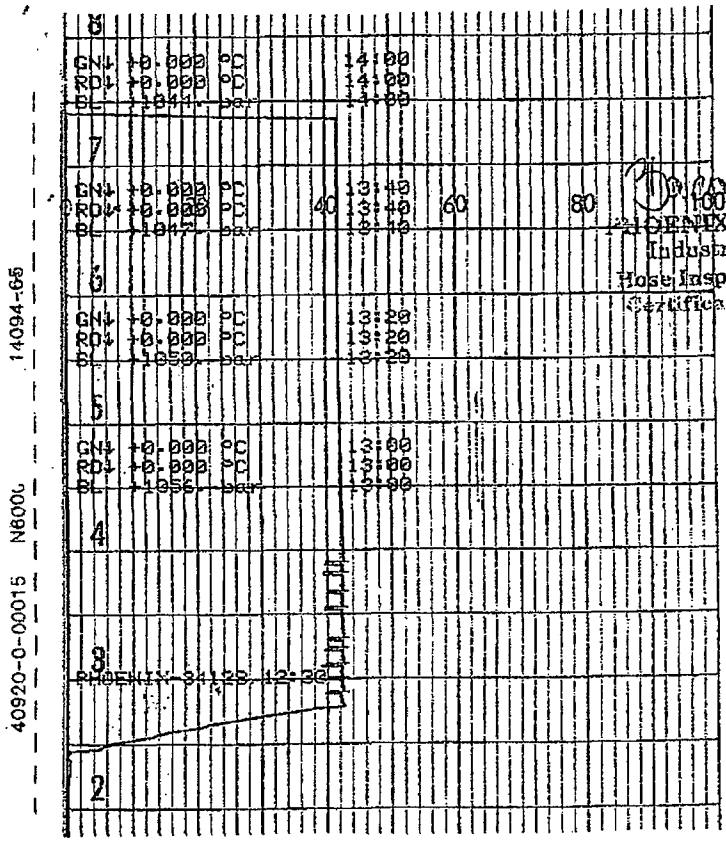
All metal parts are flawless

WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

Date:	Inspector	Quality Control
29. April. 2002.		PHOENIX RUBBER Industrial Ltd. Hose Inspection and Certification Dept.

CERTIFIED TRUE COPY
PHOENIX RUBBER Q.C.

H&P 212

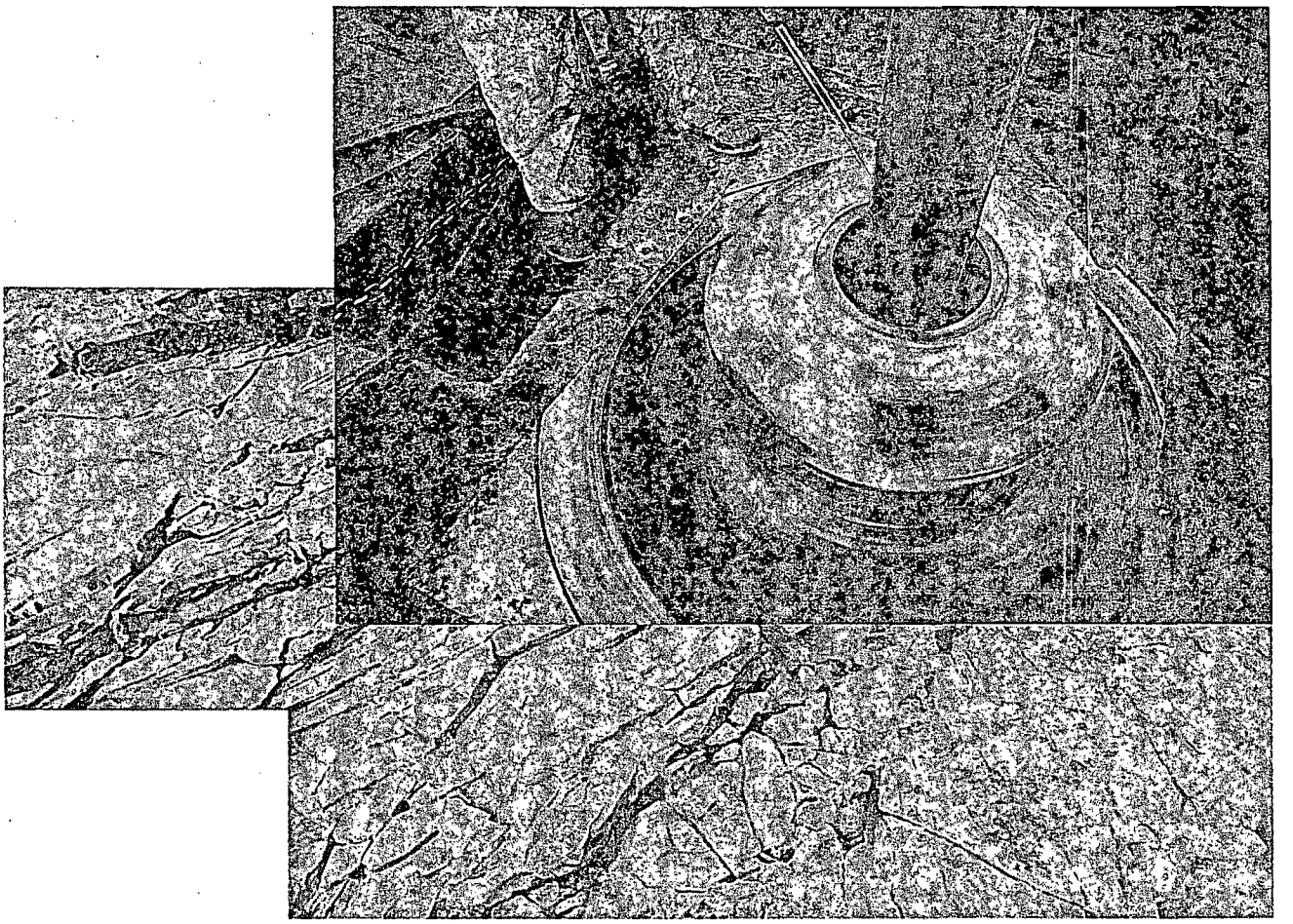


PHOENIX RUBBER
Industrial Ltd.
Hose Inspection and
Certification Dept.

VERIFIED TRUE CO.
PHOENIX RUBBER G.C.

devon

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.

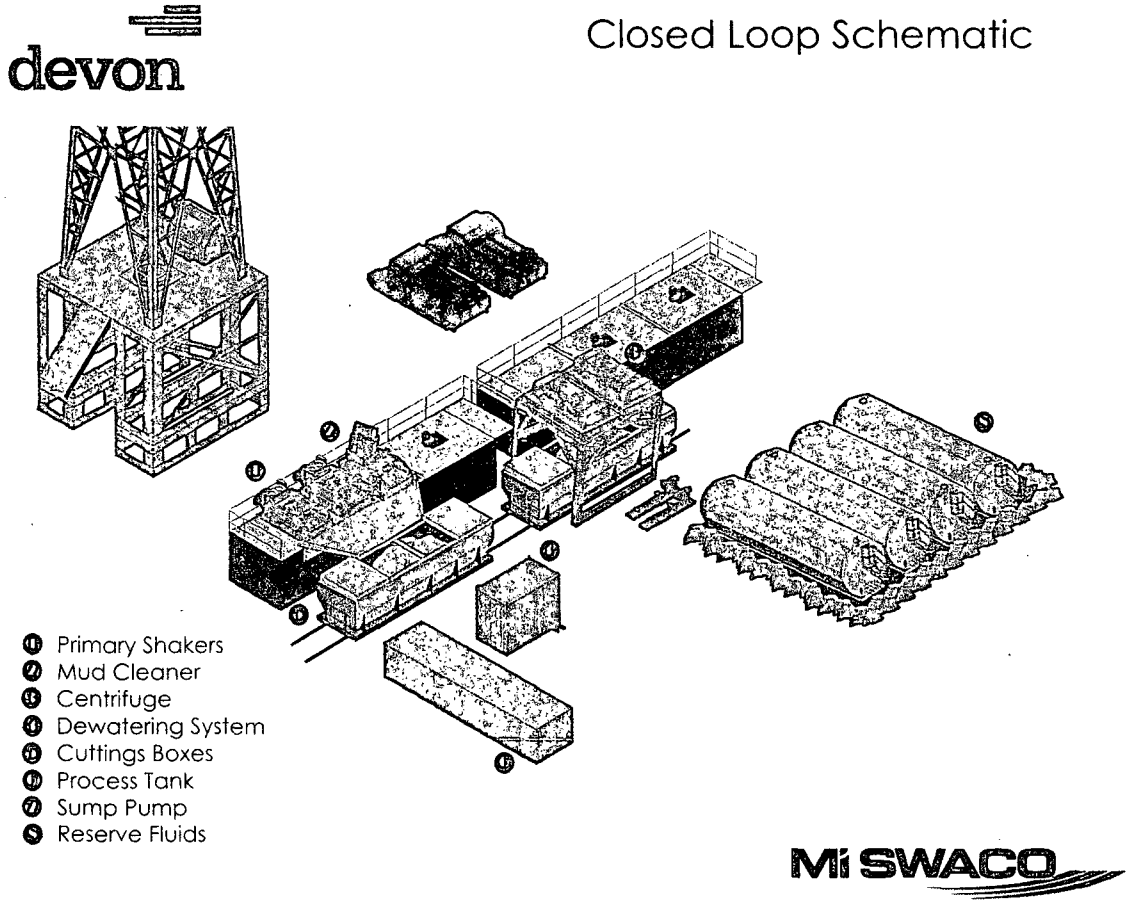
Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

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.



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

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

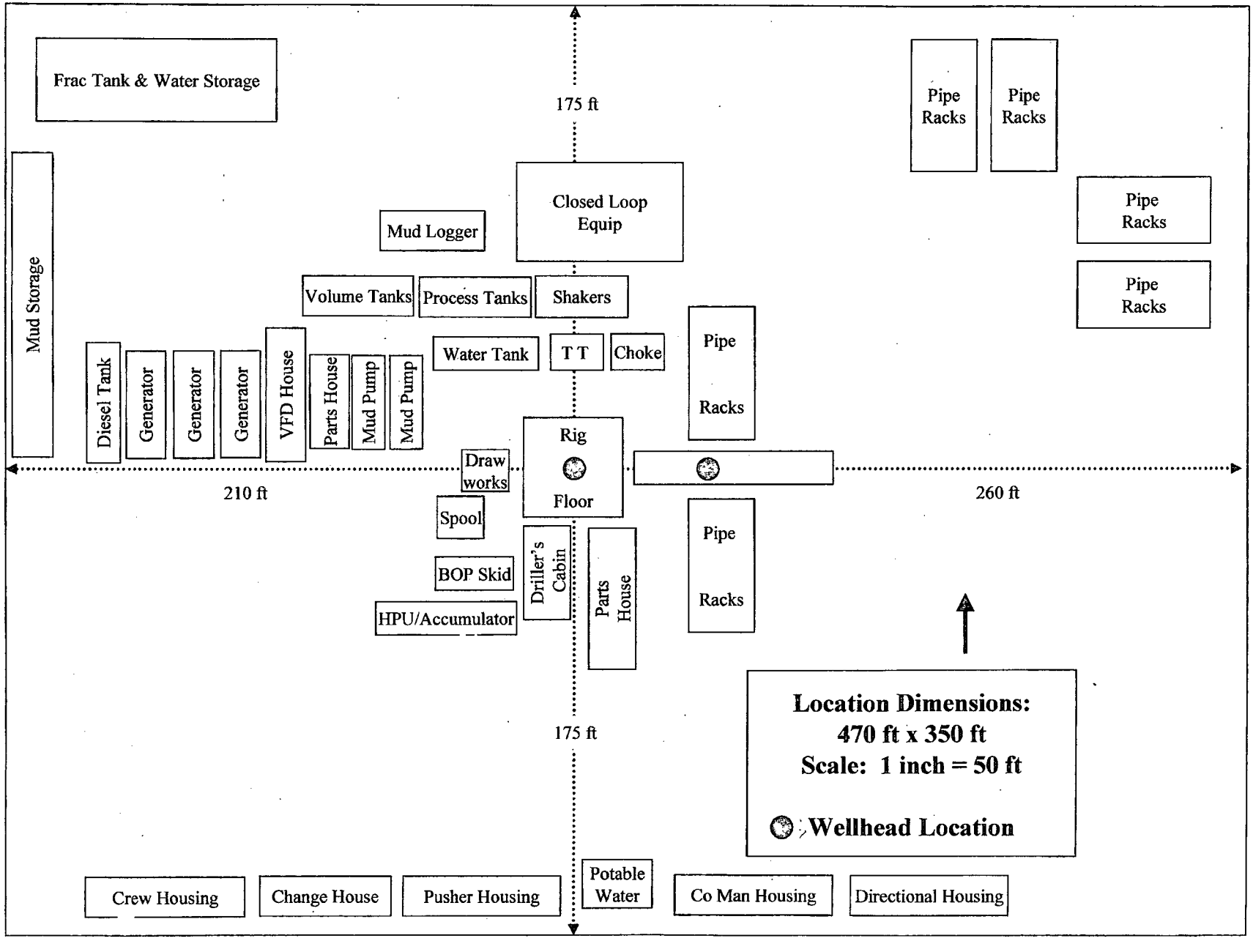
These operations are monitored by Mi Swaco service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the 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.

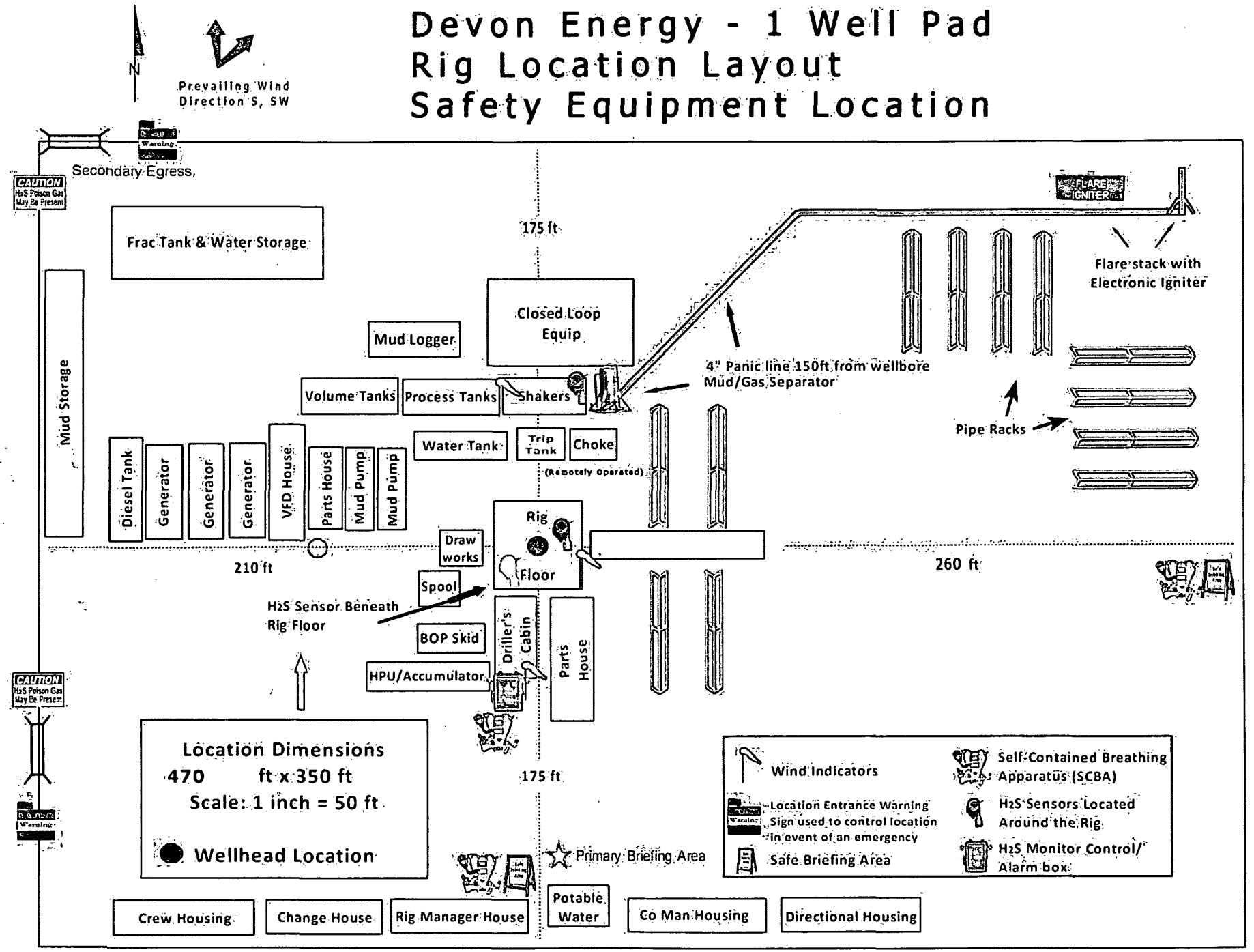
III. Closure Plan

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
2 Well Pad



Devon Energy - 1 Well Pad
Rig Location Layout
Safety Equipment Location



devon

Devon Energy Center
333 West Sheridan Avenue
Oklahoma City, Oklahoma 73102-5015

Hydrogen Sulfide (H_2S) Contingency Plan

For

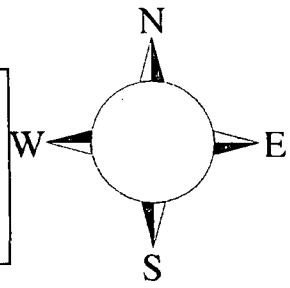
Sirius "17" Federal 5H

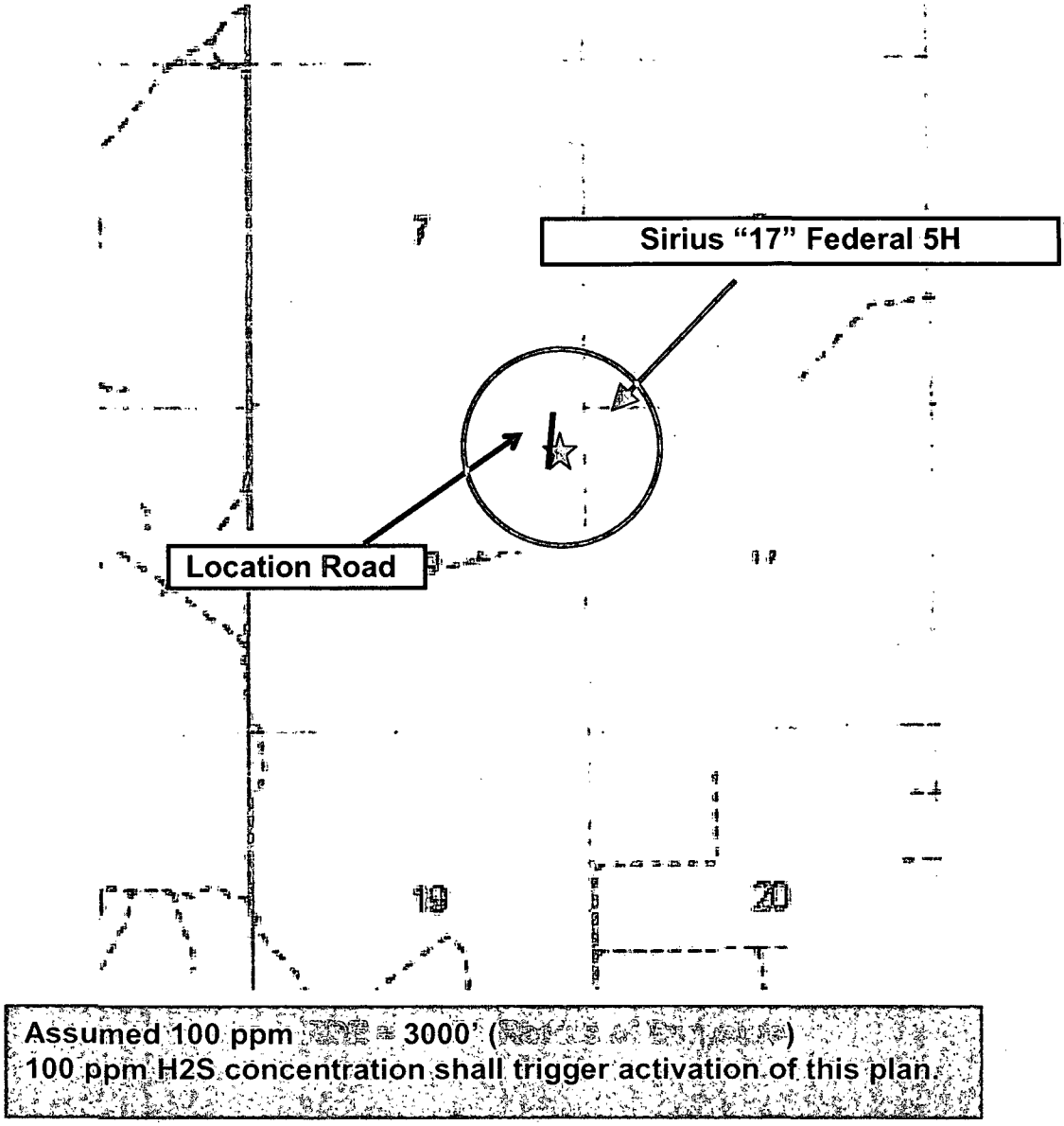
Sec-18, T-19S R-31E
845' FNL & 200' FEL,
LAT. = 32.6653337'N (NAD83)
LONG = 103.9007164'W

Eddy County NM

Sirius "17" Federal 5H

This is an open drilling site. H_2S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H_2S, including warning signs, wind indicators and H_2S monitor.





Assumed 100 ppm ROE = 3000' (Radius of Exposure)
100 ppm H2S concentration shall trigger activation of this plan.

Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated from the location entrance road, West then Northwest on lease road. Crews should then block entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE. There are no homes or buildings in or near the ROE.

Assumed 100 ppm ROE = 3000'

100 ppm H_2S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H_2S, the first responder(s) must

- **Isolate the area and prevent entry by other persons into the 100 ppm ROE.**
- **Evacuate any public places encompassed by the 100 ppm ROE.**
- **Be equipped with H_2S monitors and air packs in order to control the release.**
- **Use the "buddy system" to ensure no injuries occur during the response**
- **Take precautions to avoid personal injury during this operation.**
- **Contact operator and/or local officials to aid in operation. See list of phone numbers attached.**
- **Have received training in the**
  - **Detection of H_2S, and**
  - **Measures for protection against the gas,**
  - **Equipment used for protection and emergency response.**

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Characteristics of H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air = 1	2 ppm	N/A	1000 ppm

Contacting Authorities

Devon Energy Corp. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. Devon Energy Corp. Company response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE (H_2S) TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H_2S)

2. The proper use and maintenance of personal protective equipment and life support systems.

3. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.

4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H_2S metal components. If high tensile tubular are to be used, personnel will be trained in their special maintenance requirements.

2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.

3. The contents and requirements of the H_2S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H_2S zone (within 3 days or 500 feet) and weekly H_2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H_2S Drilling Operations Plan and the Public Protection Plan.

II. HYDROGEN SULFIDE TRAINING

Note: All H_2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonable expected to contain H_2S.

1. **Well Control Equipment**

   A. Flare line

   B. Choke manifold

   C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit

   D. Auxiliary equipment may include if applicable: annular preventer and rotating head.

2. **Protective equipment for essential personnel:**

   A. 30-minute SCBA units located in the doghouse and at briefing areas, as indicated on well site diagram. As it may be difficult to communicate audibly while wearing these units, hand signals shall be utilized.

3. **H_2S detection and monitoring equipment:**

   A. Portable H_2S monitors positioned on location for best coverage and response. These unites have warning lights and audible sirens when H_2S levels of 20 PPM are reached. These units are usually capable of detecting SO_2, which is a byproduct of burning H_2S.

4. **Visual warning systems:**

   A. Wind direction indicators as shown on well site diagram

B. Caution/ Danger signs shall be posted on roads providing direct access to locations. Signs will be painted a high visibility yellow with black lettering of sufficient size to be reasonable distance from the immediate location. Bilingual signs will be used when appropriate.

5. Mud program:

A. The mud program has been designed to minimize the volume of H_2S circulated to surface. Proper mud weight, safe drilling practices and the use of H_2S scavengers will minimize hazards when penetrating H_2S bearing zones.

6. Metallurgy:

A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold lines, and valves shall be H_2S trim.

B. All elastomers used for packing and seals shall be H_2S trim.

7. Communication:

A. Radio communications in company vehicles including cellular telephones and 2-way radio

B. Land line (telephone) communications at Office

8. Well testing:

A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safety and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H_2S environment will use the closed chamber method of testing.

B. There will be no drill stem testing.

Devon Energy Corp. Company Call List

Artesia (575)	Cellular	Office	Home
Foreman – Robert Bell	748-7448	748-0178	746-2991
Asst. Foreman –Tommy Polly	748-5290	748-0165	748-2846
Don Mayberry	748-5235	748-0164	746-4945
Montral Walker	390-5182	748-0193	(936) 414-6246
Engineer – Marcos Ortiz	(405) 317-0666	(405) 552-8152	(405) 381-4350

Agency Call List

Lea County (575)

Hobbs

Lea County Communication Authority	393-3981
State Police	392-5588
City Police	397-9265
Sheriff's Office	393-2515
Ambulance	911
Fire Department	397-9308
LEPC (Local Emergency Planning Committee)..	393-2870
NMOCD	393-6161
US Bureau of Land Management	393-3612

Eddy County (575)

Carlsbad

State Police	885-3137
City Police	885-2111
Sheriff's Office	887-7551
Ambulance	911
Fire Department	885-2111
LEPC (Local Emergency Planning Committee)	887-3798
US Bureau of Land Management	887-6544
NM Emergency Response Commission (Santa Fe)	(505) 476-9600
24 HR	(505) 827-9126
National Emergency Response Center (Washington, DC)	(800) 424-8802

Emergency Services

Boots & Coots IWC	(800)-256-9688 or (281) 931-8884
Cudd Pressure Control	(915) 699-0139 or (915) 563-3356
Halliburton	(575) 746-2757
B. J. Services	(575) 746-3569

Give GPS position:

Native Air – Emergency Helicopter – Hobbs	(575) 392-6429
Flight For Life - Lubbock, TX	(806) 743-9911
Aerocare - Lubbock, TX	(806) 747-8923
Med Flight Air Amb - Albuquerque, NM	(575) 842-4433
Lifeguard Air Med Svc. Albuquerque, NM	(575) 272-3115

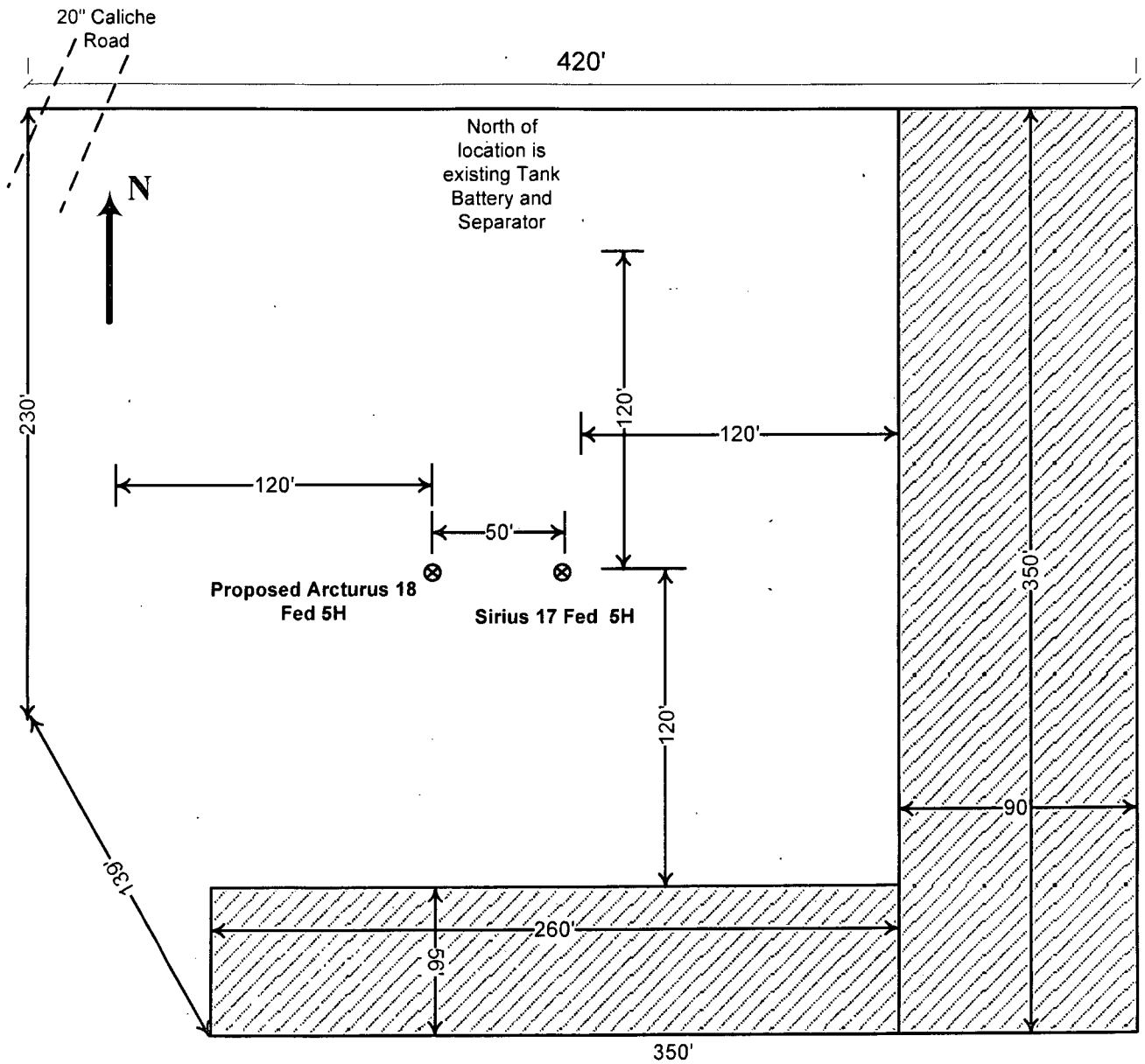
Prepared in conjunction with
Dave Small

SHARP COMMUNICATIONS & CONSULTING, LLC

devon

Proposed Interim Site Reclamation

Devon Energy Production Co.
Sirius 17 Federal 5H
845' FNL & 200' FEL
Sec. 18-T19S-R31E
Eddy County, NM



Proposed Reclamation Area

Scale: 1in = 60ft.

SURFACE USE PLAN
Devon Energy Production Company, LP
Sirius 17 Federal 5H

Surface Location: 845' FNL & 200' FEL, Unit A, Sec 18 T19S R31E, Eddy, NM
Bottom Hole Location: 400' FNL & 340' FEL, Unit A, Sec 17 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 Madron Surveyors.
b. All roads into the location are depicted on Exhibit 3. Existing roads will be maintained and kept the same or better condition than before operations began.
c. Directions to Location: From CR 222 & CR 248 go south/southwest on CR 222, 4.7 miles, turn right & go north on caliche road 2.0 miles, turn left & go northwest 660' go right & go north 0.3 miles bend right and go northeast 0.2 miles turn left & go northwest 0.55 miles, location is right, east 220'.

2. New or Reconstructed Access Roads:

a. The well site layout, Form C-102 shows the existing County road. Approximately 150' 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" 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 1%.
d. No cattle guards, grates or fence cuts will be required. No turnouts are planned.

3. Location of Existing Wells:

One 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 Sirius 17 Federal 1H 1 tank battery Sec 17 T19S R31E will be utilized and the necessary production equipment will be installed at the well site.

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. If said power poles are needed, a plat and a sundry notice will be filed with your office.

b. All flow lines will adhere to API standards.
c. If the well is productive, rehabilitation plans are as follows:
    i. 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.

5. **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.

6. **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.

7. **Methods of Handling Waste Material:**
   a. Drill cuttings will be disposed.
   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

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

9. Well Site Layout

a. Exhibit D shows the proposed well site layout with dimensions of the pad layout.
b. This exhibit indicated proposed location of sump pits and living facilities.
c. Mud pits in the active circulating system will be steel pits.
d. A closed loop system will be utilized.
e. If a pit or closed loop system is utilized, Devon will comply with the NMOCD requirements 19.15.17 and submit form C-144 to the appropriate NMOCD District Office. A copy to be provided to the BLM.

10. Plans for Surface Reclamation

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 transported to the original caliche pit or used for other drilling locations. 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.
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.

11. 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.

12. 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, sage bush, 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 the Permian Basin Cultural Resource Fund in lieu of being required to conduct a Class III Survey for cultural resources associated with their project within the BLM office in Carlsbad, New Mexico.

13. **Bond Coverage:**
Bond Coverage is Nationwide; Bond # is CO-1104

Operators Representative:

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

Justin Lazzari - Operations Engineer Advisor
Devon Energy Production Company, L.P.
333 W. Sheridan
Oklahoma City, OK 73102-8260
(405) 228-8466 (office)
(405) 464-9261 (Cellular)

Jerry Mathews - Superintendent
Devon Energy Production Company, L.P.
Post Office Box 250
Artesia, NM 88211-0250
(575) 748-0161 (office)
(575) 748-5234 (home)

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	DEVON ENERGY
LEASE NO.:	NM99040
WELL NAME & NO.:	5H-SIRIUS 17 FEDERAL
SURFACE HOLE FOOTAGE:	845' FNL & 200' FEL
BOTTOM HOLE FOOTAGE	400' FNL & 340' FEL (Sec. 17)
LOCATION:	Section 18, T. 19 S., R 31 E., NMPM
COUNTY:	Eddy 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.

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)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

Hackberry Lake Off-Highway Vehicle Special Recreation Management Area

Pipelines shall be buried a minimum of 24 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. Power poles and associated ground structures (poles, guy wires) will not be placed within 20 feet of recreation trails. Guy wires must be equipped with a sleeve, tape or other industry approved apparatus that is highly visible during the day and reflective at night. Appropriate safety signage will be in place during all phases of the project. Upon completion of construction, the road shall be returned to pre-construction condition with no bumps or dips. All vehicle and equipment operators will observe speed limits and practice responsible defensive driving habits.

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) 234-5909 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. 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.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. 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.

E. 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.

F. 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 twenty-five (25) 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.

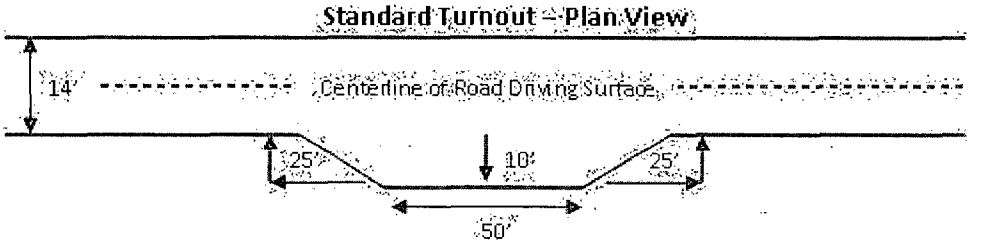
Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

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 both sides of the road.

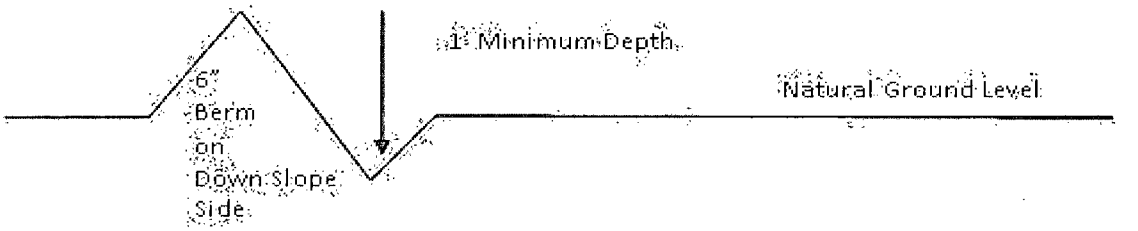
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



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 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ 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

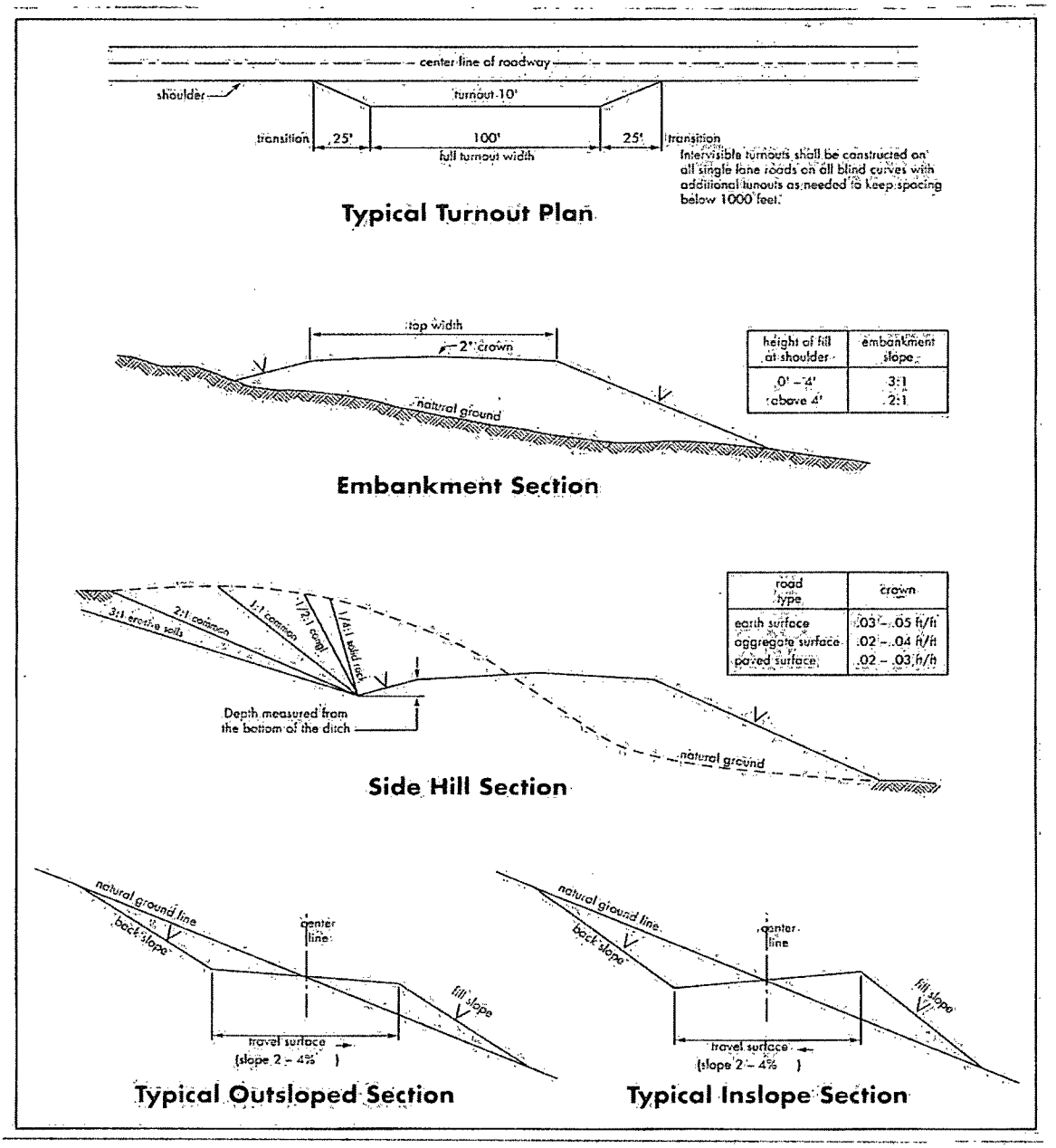
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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 in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

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

1. **Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values 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 is 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) shall 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 program need prior approval if the items substituted are of lesser grade or different casing size. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

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. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. 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
Capitan Reef
Possibility of water and brine flows in the Artesia and Salado Groups.
Possibility of lost circulation in the Artesia Group and Capitan Reef.

1. The **20** inch surface casing shall be set at approximately **520** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**

    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 **13-3/8** inch 1st 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 Capitan Reef.**

3. The minimum required fill of cement behind the **9-5/8** inch 2nd intermediate casing, which shall be set at approximately **4000** feet, is:

Operator has proposed DV tool at depth of 2500'. 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. **Excess calculates to 3% - Additional cement may be required. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef.**

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

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

Operator has proposed DV tool at depth of 4800'. 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 should tie-back at least 50' above the Capitan Reef. 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 from BOP to choke manifold. Check condition of 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 and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** intermediate casing shoe shall be **3000 (3M)** psi.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, 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. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.

    c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock.

    d. The results of the test shall be reported to the appropriate BLM office.

    e. 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.**

    f. 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. This test shall be performed prior to the test at full stack pressure.

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.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

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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 from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
b. Activities of other parties including, but not limited to:
    (1) Land clearing.
    (2) Earth-disturbing and earth-moving work.
    (3) Blasting.
    (4) Vandalism and sabotage.
c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of **20** feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline must be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline must be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity will be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder 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 will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will

be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

16. 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, powerline 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.

17. Surface pipelines must be less than or equal to 4 inches and a working pressure below 125 psi.

18. Special Stipulations:

a. **Lesser Prairie-Chicken:** Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted.

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).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture 2, for Sandy 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:

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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