ATS-12-1181

Form 3160-3
(March 2012)

OCD Artesia

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

JCS 1-15-2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NM-82886

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.
Harroun Trust 31-30 Fed Com 2H <40337>

2. Name of Operator DEVON ENERGY PRODUCTION COMPANY, L. P. <6137>

9. API Well No.
30-015-41963

3a. Address
333 W. SHERIDAN
OKLAHOMA CITY, OK. 73102

3b. Phone No. *(include area code)*
(405) 552-4524

10. Field and Pool, or Exploratory
Harroun Ranch; Delaware < 30212>

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface 330 FSL & 1305 FWL, SECTION 31, T. 23 S., R. 29 E.

At proposed prod. zone 2310 FSL & 660 FWL, SECTION 30, T. 23 S., R. 29 E.

11. Sec., T. R. M. or Blk. and Survey or Area
SHL: Section 31, T. 23 S., R. 29 E.
BHL: Section 30, T. 23 S., R. 29 E.

14. Distance in miles and direction from nearest town or post office*
4.7 MILES EAST OF LOVING, NM

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)
15'

16. No. of acres in lease
40

17. Spacing Unit dedicated to this well
~~235.47~~
235.01

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
BHL - 1945'
SHL - 1730'

19. Proposed Depth
MD: 13,459'
TVD: 6360'

20. BLM/BIA Bond No. on file
NMB-000801 C0-1104

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
2956.9' GL

22. Approximate date work will start*

23. Estimated duration
30 Days

24. Attachments

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

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

25. Signature Barry W. Hunt
Name *(Printed/Typed)* BARRY W. HUNT
Date 8/30/12

Title
PERMIT AGENT FOR DEVON ENERGY PRODUCTION COMPANY, L. P.

Approved by *(Signature)* /S/ STEPHEN J. CAFFEY
Name *(Printed/Typed)*
Date JAN 13 2014

Title FIELD MANAGER
Office CARLSBAD FIELD OFFICE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

SEE ATTACHED FOR CONDITIONS OF APPROVAL

RECEIVED
JAN 15 2014
NMOCD ARTESIA

Approval Subject to General Requirements & Special Stipulations Attached

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, 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. Executed this 24th day of August 2012.

Signed: Barry W. Hunt

Printed Name: Barry Hunt
Position: Agent for Devon Energy Production, LLC.
Address: 1403 Springs Farm Place, Carlsbad, NM 88220
Telephone: (575) 361-4078
E-mail: specialtpermitting@gmail.com
Field Representative: Don Mayberry
Address: P. O. Box 250, Artesia, NM 88211-0250
Telephone: Office: (575) 748-0164, Cell: (575) 748-5235

devon

Devon Energy Corporation
20 North Broadway
Oklahoma City, OK 73102-8260

405 235 3611 Phone
www.devonenergy.com

June 5, 2012

To Whom It May Concern:

Mr. Barry Hunt is contracted by Devon Energy, L.P. to sign as their agent for APDs and Right of Ways in the state of New Mexico.

If you have any questions, please contact me at my office at (405) 228-8379.

Sincerely,

Victoria Sanchez

Supervisor, Regulatory Compliance
Mid-Continent Division
Devon Energy, L.P.

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 Rd., 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, New Mexico 87505

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-41963	30212	HARROUN RANCH; DELAWARE

Property Code	Property Name	Well Number
40337	HARROUN TRUST 31-30 FED COM	2H

OGRID No.	Operator Name	Elevation
6137	DEVON ENERGY PRODUCTION COMPANY, L.P.	2956.9'

Surface Location

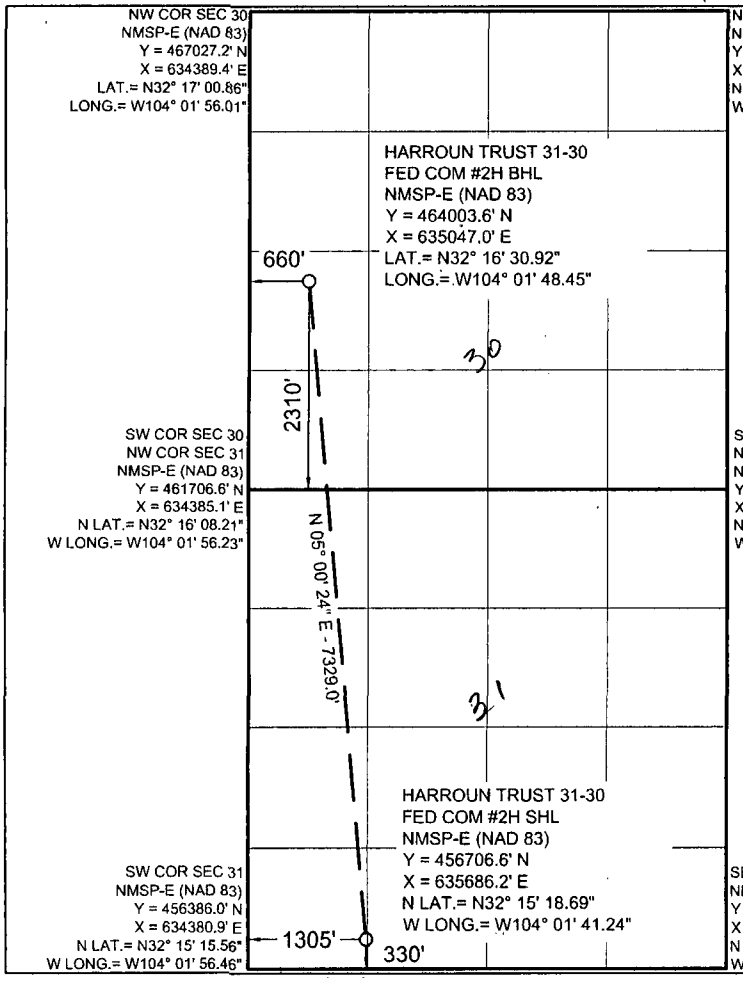
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
4/1	31	23 S	29 E		330	SOUTH	1305	WEST	EDDY

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
3/	30	23 S	29 E		2310	SOUTH	660	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidated Code	Order No.
235.47			1-13 13459

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.



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 voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Barry W. Hunt 8/24/12
Signature Date

Barry W. Hunt
Print Name

E-mail Address

SURVEYORS 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.

JUNE 24, 2012
Date of Survey

Signature and Seal of Professional Surveyor:

JAMES E. TOMPKINS
NEW MEXICO
14729
REGISTERED PROFESSIONAL LAND SURVEYOR

James

Job No.: WTC48539
JAMES E. TOMPKINS 14729
Certificate Number

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 Rd., 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, New Mexico 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
	30212	HARROUN RANCH; DELAWARE

Property Code	Property Name	Well Number
	HARROUN TRUST 31-30 FED COM	2H

OGRID No.	Operator Name	Elevation
6137	DEVON ENERGY PRODUCTION COMPANY, L.P.	2956.9'

Surface Location

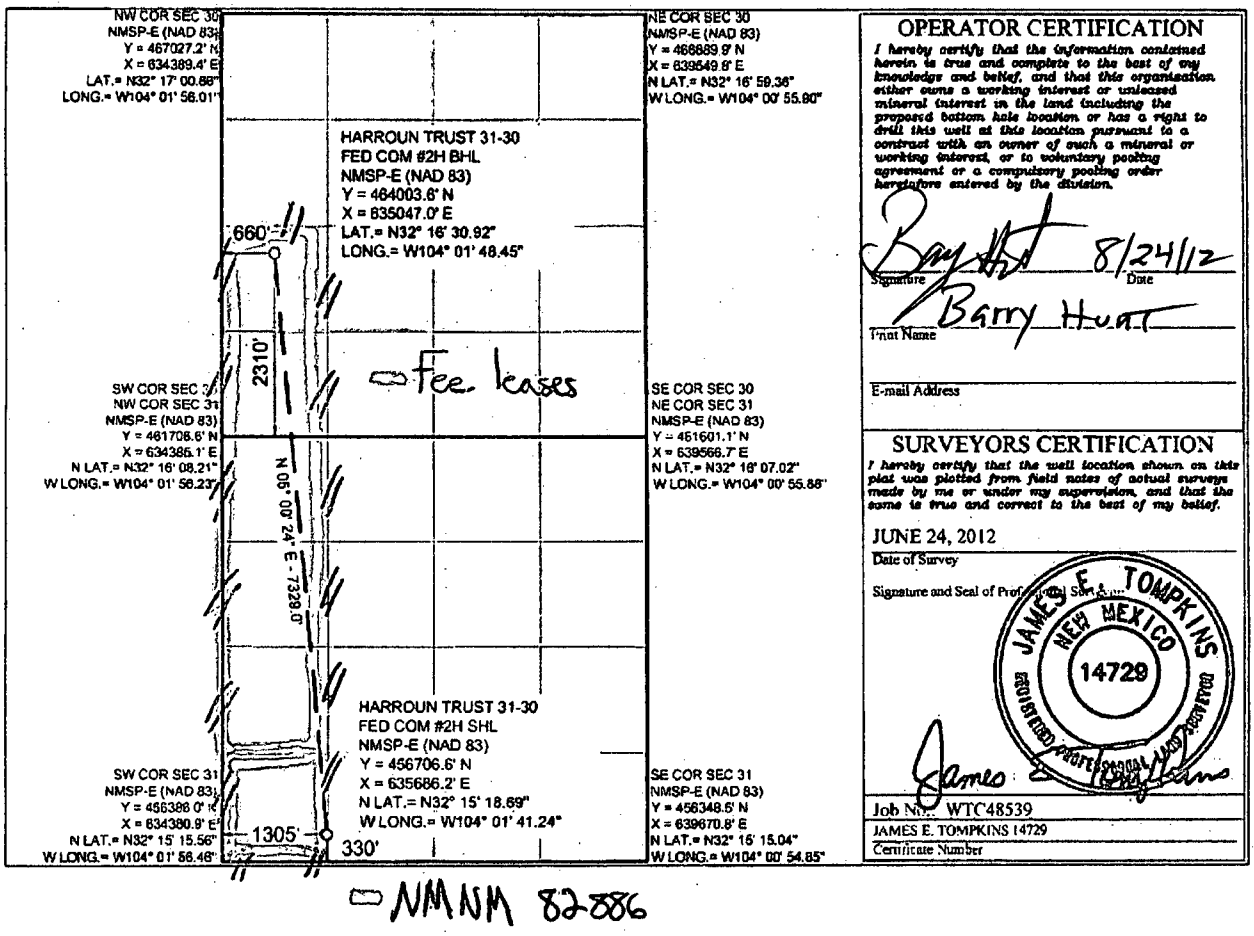
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
4	31	23 S	29 E		330	SOUTH	1305	WEST	EDDY

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
3	30	23 S	29 E		2310	SOUTH	660	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidated Code	Order No.
235.47 ~~240~~			

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.



NMNM 82886

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 voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature — Date: 8/24/12

Printed Name: Barry Hunt

E-mail Address

SURVEYORS 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.

JUNE 24, 2012
Date of Survey

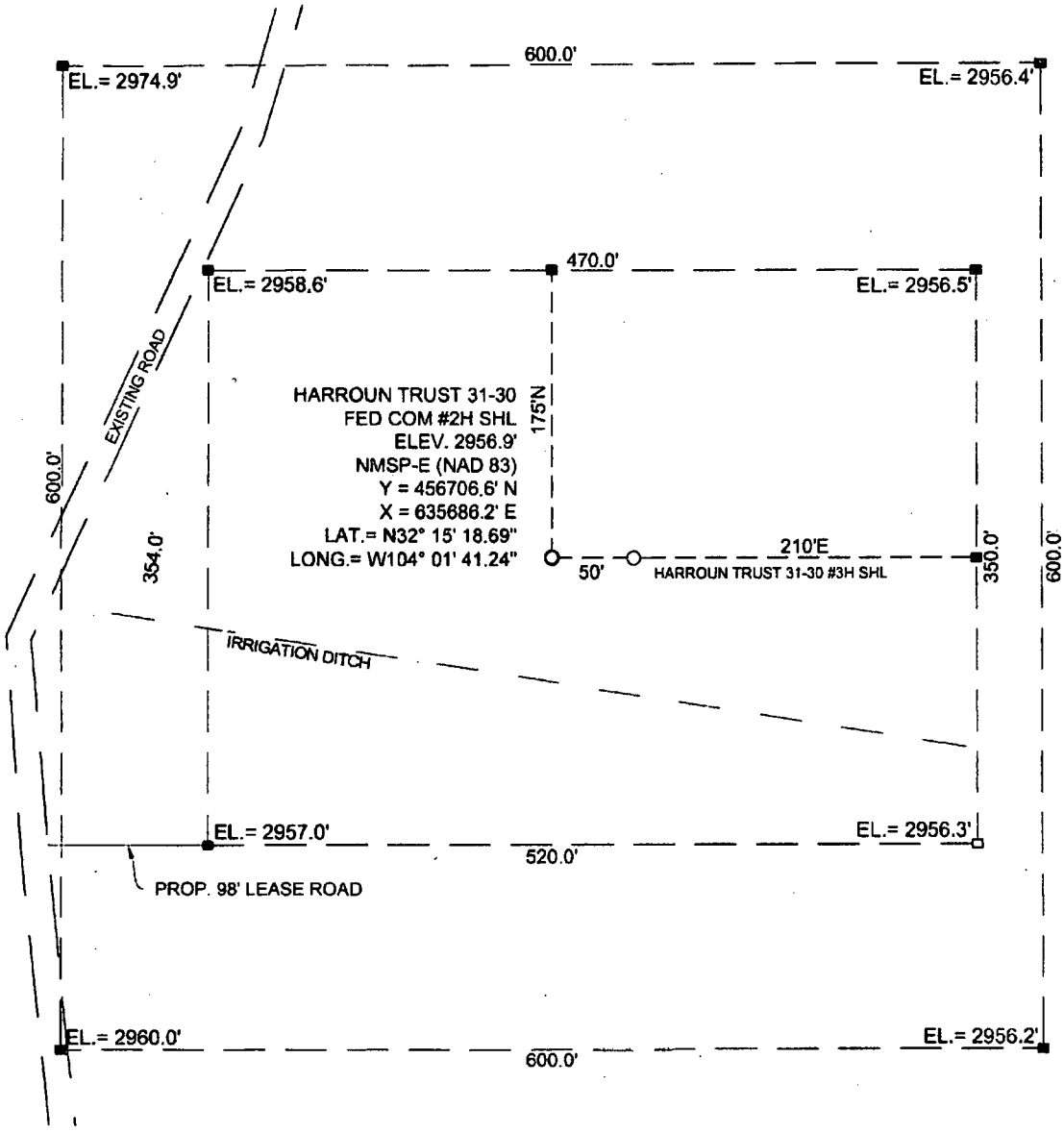
Signature and Seal of Professional Surveyor

JAMES E. TOMPKINS
NEW MEXICO
14729
REGISTERED PROFESSIONAL LAND SURVEYOR

Job No. WTC48539

JAMES E. TOMPKINS 14729
Certificate Number

SITE LOCATION



SCALE: 1" = 100'

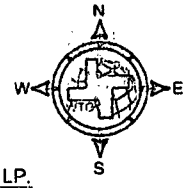
SECTION 31, T 23 S, R 29 E, N.M.P.M.

COUNTY: EDDY STATE: NM

DESCRIPTION: 330' FSL & 1305' FWL

OPERATOR: DEVON ENERGY PRODUCTION COMPANY, LP.

WELL NAME: HARROUN TRUST 31-30 FED COM #2H



DRIVING DIRECTIONS:

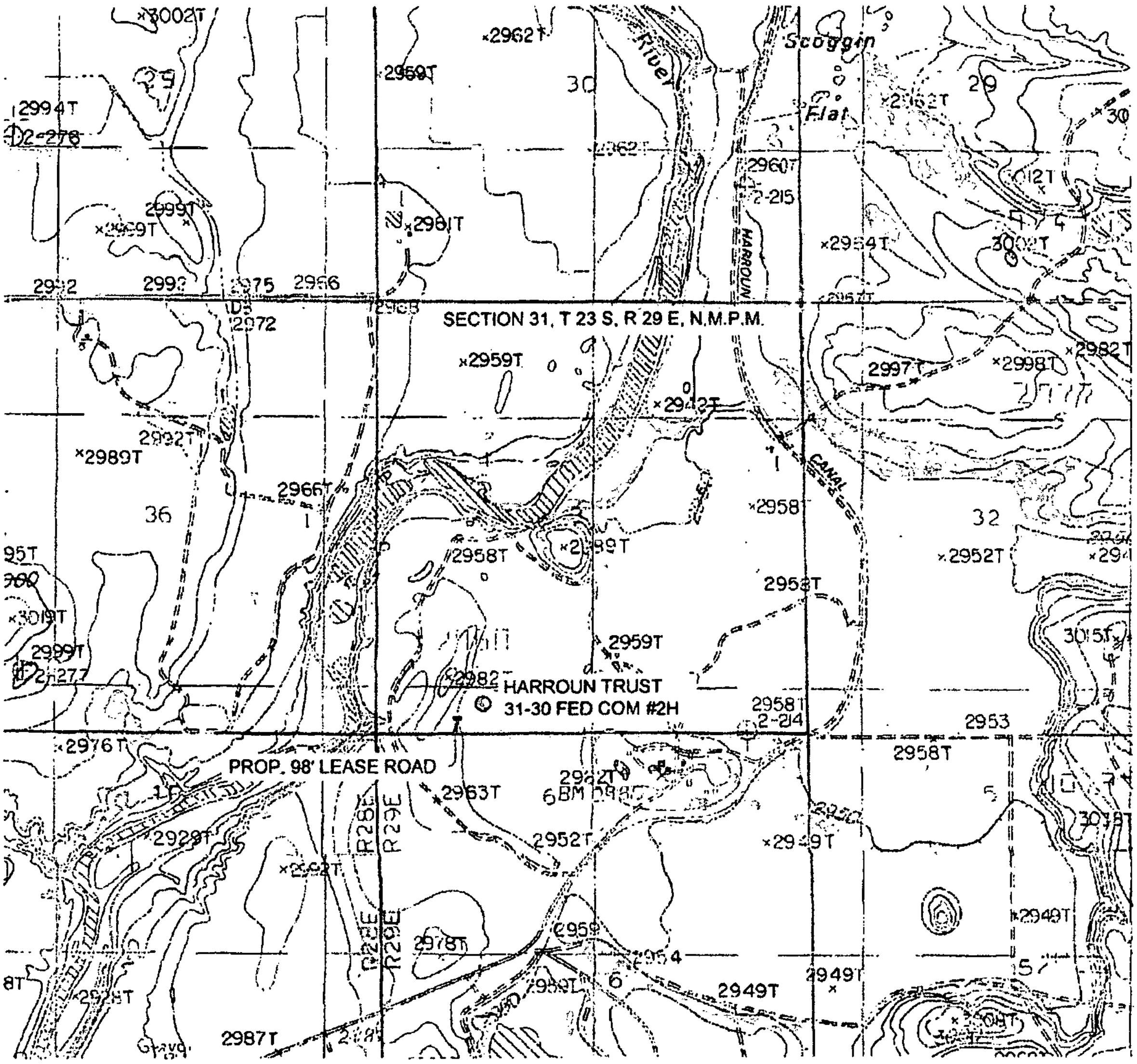
BEGINNING AT THE JUNCTION OF US 285 AND COUNTY ROAD 720. GO EAST ON COUNTY ROAD 720 0.8 MILES TO HARROUN ROAD ON THE LEFT. GO NORTH/NORTHEAST ON HARROUN ROAD FOR 3.1 MILES TO A FORK IN THE ROAD. CONTINUE NORTH,LEFT, ON SAID HARROUN RD 230 FEET TO A LEASE ROAD TO THE LEFT. GO NORTH 0.5 MILES AND LOCATION IS ±330 FEET TO THE EAST.

WEST TEXAS CONSULTANTS, INC.
ENGINEERS PLANNERS SURVEYORS
405 S.W. 1st. STREET
ANDREWS, TEXAS 79714
(432) 523-2181

devon

JOB No.: WTC48539

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

SECTION 31, T 23 S, R 29 E, N.M.P.M.

COUNTY: EDDY STATE: NM

DESCRIPTION: 330' FSL & 1305' FWL

OPERATOR: DEVON ENERGY PRODUCTION COMPANY, LP.

WELL NAME: HARROUN TRUST 31-30 FED COM #2H

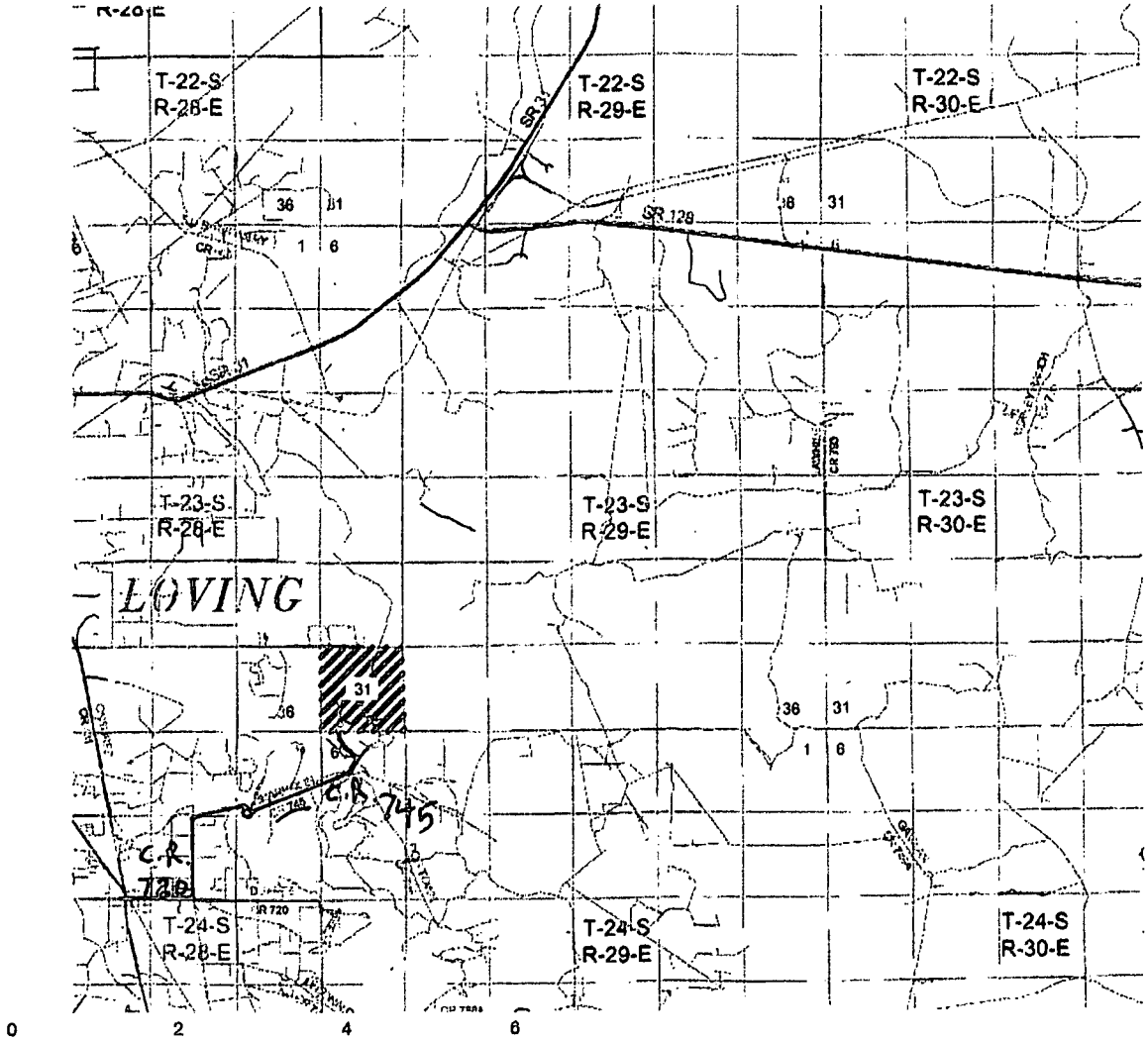
DRIVING DIRECTIONS:

BEGINNING AT THE JUNCTION OF US 285 AND COUNTY ROAD 720. GO EAST ON COUNTY ROAD 720 0.8 MILES TO HARROUN ROAD ON THE LEFT. GO NORTH/NORTHEAST ON HARROUN ROAD FOR 3.1 MILES TO A FORK IN THE ROAD. CONTINUE NORTH, LEFT, ON SAID HARROUN RD 230 FEET TO A LEASE ROAD TO THE LEFT. GO NORTH 0.5 MILES AND LOCATION IS ±330 FEET TO THE EAST.

WEST TEXAS CONSULTANTS, INC.

Exhibit A Access

VICINITY MAP



GRAPHIC SCALE OF MILES 1" = 2 MILE

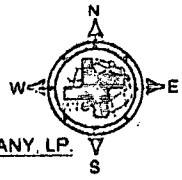
SECTION 31, T 23 S, R 29 E, N.M.P.M.

COUNTY: EDDY STATE: NM

DESCRIPTION: 330' FSL & 1305' FWL

OPERATOR: DEVON ENERGY PRODUCTION COMPANY, LP.

WELL NAME: HARROUN TRUST 31-30 FED COM #2H



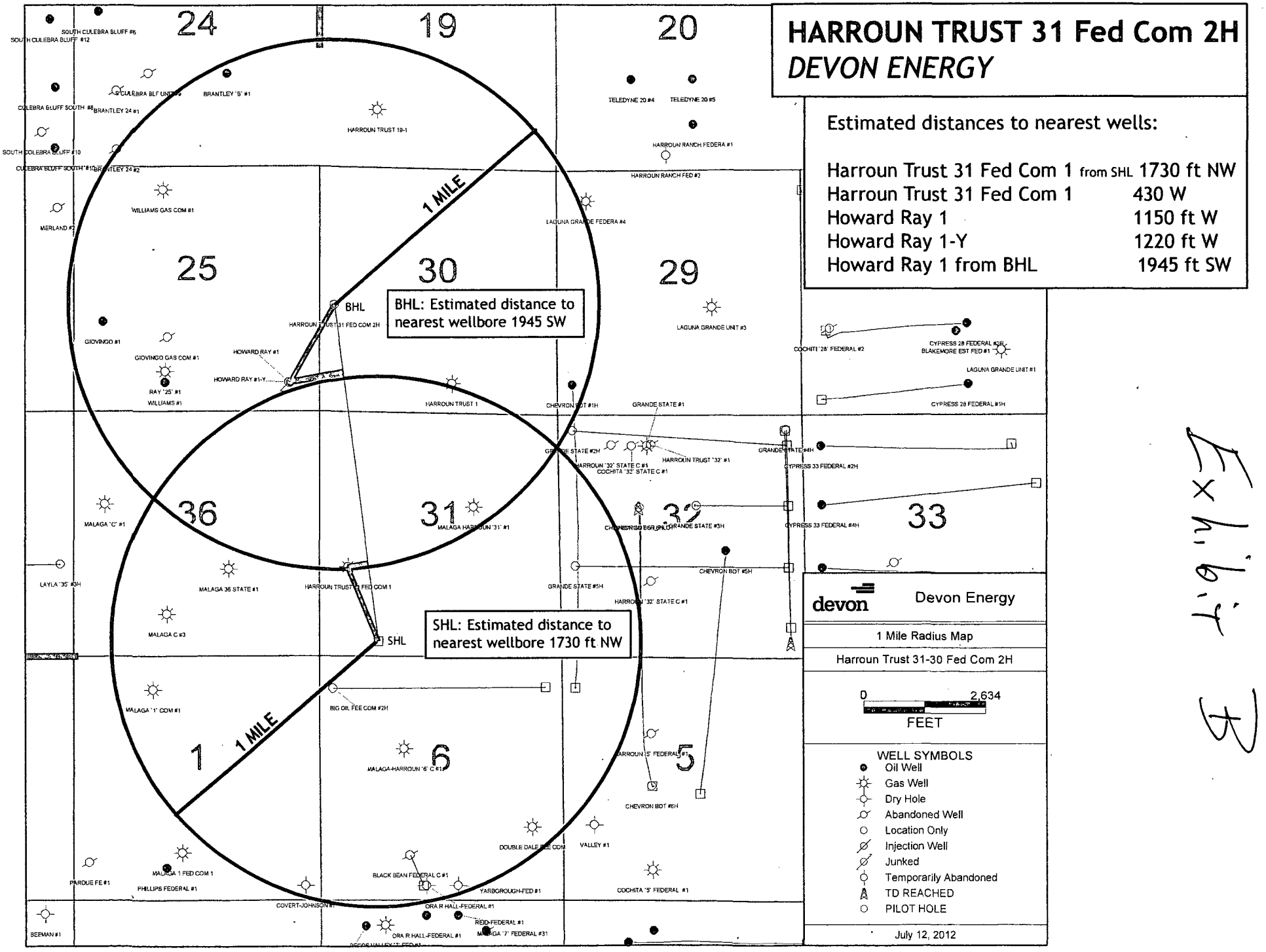
DRIVING DIRECTIONS

BEGINNING AT THE JUNCTION OF US 285 AND COUNTY ROAD 720. GO EAST ON COUNTY ROAD 720 0.8 MILES TO HARROUN ROAD ON THE LEFT. GO NORTH/NORTHEAST ON HARROUN ROAD FOR 3.1 MILES TO A FORK IN THE ROAD. CONTINUE NORTH,LEFT, ON SAID HARROUN RD 230 FEET TO A LEASE ROAD TO THE LEFT. GO NORTH 0.6 MILES AND LOCATION IS ±330 FEET TO THE EAST.

WEST TEXAS CONSULTANTS, INC.
ENGINEERS PLANNERS SURVEYORS
405 S.W. 1st. STREET
ANDREWS, TEXAS 79714
(432) 523-2181

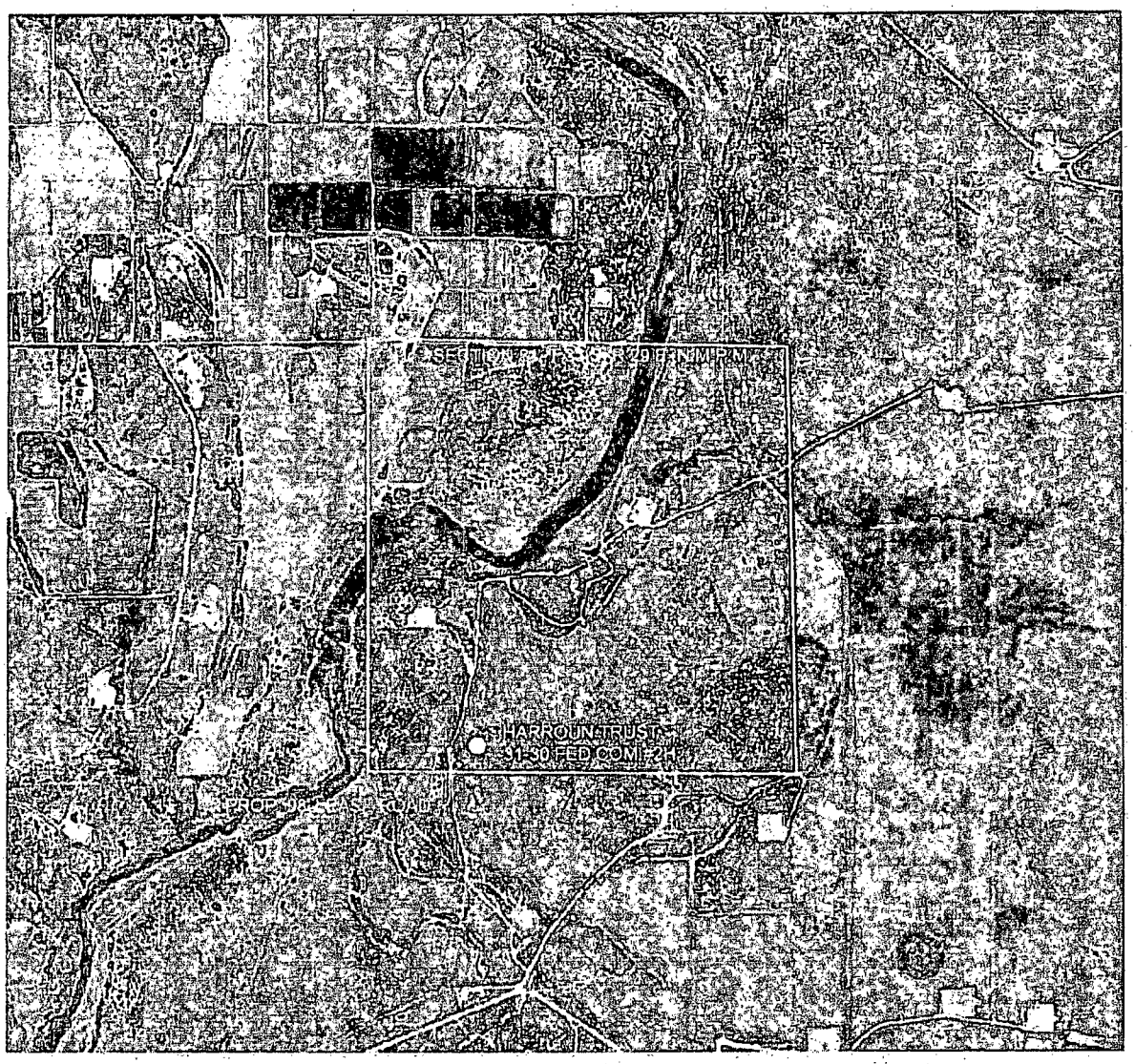
devon

JOB No.: WTC48539


HARROUN TRUST 31 Fed Com 2H
DEVON ENERGY
Estimated distances to nearest wells:
Harroun Trust 31 Fed Com 1 from SHL 1730 ft NW
Harroun Trust 31 Fed Com 1 430 W
Howard Ray 1 1150 ft W
Howard Ray 1-Y 1220 ft W
Howard Ray 1 from BHL 1945 ft SW
1 MILE
1 MILE
BHL
BHL: Estimated distance to nearest wellbore 1945 SW
SHL
SHL: Estimated distance to nearest wellbore 1730 ft NW
24
19
20
25
30
29
36
31
32
33
1
6
5
HARROUN TRUST 31 FED COM 2H
HARROUN TRUST 31 FED COM 1
HARROUN TRUST 19-1
HARROUN RANCH FEDERA #1
HARROUN RANCH FED #2
LAGUNA GRANDE FEDERA #4
LAGUNA GRANDE UNIT #3
LAGUNA GRANDE UNIT #1
HARROUN TRUST 1
HARROUN TRUST '32' #1
HARROUN '32' STATE C #1
COCHITA '32' STATE C #1
HARROUN '5' FEDERAL #1
MALAGA-HARROUN '6' C #1
MALAGA HARROUN '31' #1
CHEVRON BOT #1H
GRANDE STATE #1
GRANDE STATE #2H
GRANDE STATE #3H
GRANDE STATE #4H
GRANDE STATE #5H
CHEVRON BOT #5H
CHEVRON BOT #6H
CYPRESS 33 FEDERAL #2H
CYPRESS 33 FEDERAL #4H
COCHITI '28' FEDERAL #2
CYPRESS 28 FEDERAL #3H
BLAKEMORE EST FED #1
CYPRESS 28 FEDERAL #1H
HOWARD RAY #1
HOWARD RAY #1-Y
WILLIAMS GAS COM #1
GIOVINGO #1
GIOVINGO GAS COM #1
RAY '25' #1
WILLIAMS #1
MERLAND #2
SOUTH CULEBRA BLUFF #6
SOUTH CULEBRA BLUFF #12
CULEBRA BLUFF SOUTH #8
SOUTH CULEBRA BLUFF #10
CULEBRA BLUFF SOUTH #10
BRANTLEY 'B' #1
BRANTLEY 24 #1
BRANTLEY 24 #2
TELEDYNE 20 #4
TELEDYNE 20 #5
MALAGA 'C' #1
LAYLA '35' #3H
MALAGA 36 STATE #1
MALAGA C #3
MALAGA '1' COM #1
PARDUE FE #1
MALAGA 1 FED COM 1
PHILLIPS FEDERAL #1
BEEMAN #1
BIG OIL FEE COM #2H
DOUBLE DALE FEE COM
VALLEY #1
BLACK BEAN FEDERAL C #1
YARBOROUGH-FED #1
COVERT-JOHNSON #1
ORA R HALL-FEDERAL #1
REID-FEDERAL #1
MALAGA '7' FEDERAL #31
COCHITA '5' FEDERAL #1
devon
Devon Energy
1 Mile Radius Map
Harroun Trust 31-30 Fed Com 2H
0
2,634
FEET
WELL SYMBOLS
Oil Well
Gas Well
Dry Hole
Abandoned Well
Location Only
Injection Well
Junked
Temporarily Abandoned
TD REACHED
PILOT HOLE
July 12, 2012
PETRA 7/12/2012 11:18:39 AM

11x17

AERIAL MAP



SCALE: 1" = 2000'

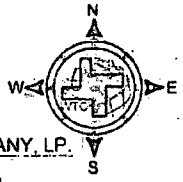
SECTION 31, T-23 S, R 29 E, N.M.P.M.

COUNTY: EDDY STATE: NM

DESCRIPTION: 330' FSL & 1305' FWL

OPERATOR: DEVON ENERGY PRODUCTION COMPANY, LP.

WELL NAME: HARROUN TRUST 31-30 FED COM #2H



DRIVING DIRECTIONS:

BEGINNING AT THE JUNCTION OF US 285 AND COUNTY ROAD 720. GO EAST ON COUNTY ROAD 720 0.8 MILES TO HARROUN ROAD ON THE LEFT. GO NORTH/NORTHEAST ON HARROUN ROAD FOR 3.1 MILES TO A FORK IN THE ROAD. CONTINUE NORTH,LEFT, ON SAID HARROUN RD 230 FEET TO A LEASE ROAD TO THE LEFT. GO NORTH 0.5 MILES AND LOCATION IS ±330 FEET TO THE EAST.

WEST TEXAS CONSULTANTS, INC.
ENGINEERS PLANNERS SURVEYORS
405 S.W. 1st. STREET
ANDREWS, TEXAS 79714
(432) 523-2181

devon

JOB No.: WTC48539

DEVON ENERGY PRODUCTION, L. P.
DRILLING PLAN

Harroun Trust 31-30 Fed Com 2H
SHL: 330 FSL & 1305 FWL
Section 31, T. 23 S., R. 29 E.
BHL: 2310 FSL & 660 FWL
Section 30, T. 23 S., R. 29 E.
Eddy County, NM

The elevation of the unprepared ground is 2956.9' feet above sea level.

The geologic name of the surface formation is Quaternary - Alluvium.

A rotary rig will be utilized to drill the well.

Proposed total depth is: MD: 13,459'. TVD: 6360'.

Estimated tops of important geologic markers:

Quaternary – Alluvium	Surface*
Rustler	329'
Salado	612'
Top of Salt	723'
Castile	1080'
Base Salt	2523'
Delaware	2739'
Bell Canyon Sand	2775'
Cherry Canyon Sand	3652'
Brushy Canyon Sand	4863'
TVD	6360' (175 degree F)

*Water anticipated at 150 feet.

Estimated depths at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered:

Delaware	Oil (1178 psi)
Bell Canyon	Oil (1193 psi)
Cherry Canyon	Oil (1570 psi)
Brushy Canyon	Oil (2091 psi)
TVD	Oil BHP (2735 psi)

HARROUN TRUST 31-30 FED COM 2H– APD DRILLING PLAN
SKS 7.10.12

Casing Program ALL NEW CASING

See COA

Hole Size	Hole Interval	OD Csg	Casing Interval	Weight	Collar	Grade
17-1/2"	0 – ~~600~~ 350	13-3/8"	0 - 600	48#	STC	H-40
12-1/4"	~~600~~ - 2700	9-5/8"	0 – 2700	40#	LTC	J-55
8-3/4"	2700 - 5707	5-1/2"	0 - 5707	17#	LTC	P-110
8-3/4"	5707 - 13755	5-1/2"	5707 - 13755	17#	BTC	P-110

Design Factors

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
13-3/8"48# H-40 LTC	2.7	6.2	18.8
9-5/8" 40# J-55 LTC	1.8	2.8	5.8
5-1/2" 17# P-110 LTC	3.2	4.0	1.9
5-1/2" 17# P-110 BTC	2.9	3.6	3.4

NOTE REGARDING COLLAPSE DESIGN FACTOR FOR INTERMEDIATE CASING: The maximum possible collapse load that the intermediate casing will experience will result from evacuated casing with the pore pressure exerting a collapse load at TD. The pore pressure is estimated to be 9.0 ppg for this calculation. This results in a collapse design factor of 1.2 for the 9-5/8" 40# J-55 LTC casing at a depth of 2,700 ft. While running the intermediate casing, the casing string will never be completely evacuated. There is no potential for the intermediate casing to be used as a production string.

Mud Program

Depth	Mud Wt.	Visc.	Fluid Loss	Type System
0 – ~~600~~ 350	8.4 – 9.0	30 – 34	N/C	FW
~~600~~ - 2700	9.8 – 10.0	28 – 32	N/C	Brine
2700 - 13755	8.6 – 9.0	28 – 32	N/C	FW

Pressure Control Equipment

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

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

The pipe rams will be operated and checked as per Onshore 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.

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

13-3/8" Surface 600 ft

Tail: 645 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Poly-E-Flake + 63.1% Fresh Water, 14.8 ppg

Yield: 1.35 cf/sk

TOC @ surface

9-5/8" Intermediate 1700 ft

Lead: 430 sacks (65:35) Class C Cement:Poz (Fly Ash): + 5% bwow Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 6% bwoc Bentonite + 70.9% Fresh Water, 12.9 ppg

Yield: 1.85 cf/sk

TOC @ surface

1000 ft Tail: 360 sacks Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Water, 14.8 ppg

Yield: 1.33 cf/sk

5-1/2" Production 2500 ft

1st Stage

Lead: 410 sacks (65:35) Class H Cement:Poz (Fly Ash) + 6% bwoc Bentonite + 0.2% bwoc HR-601 + 74.1% Fresh Water, 12.5 ppg

Yield: 1.95 cf/sk

8000 ft Tail: 2070 sacks (50:50) Class H Cement:Poz (Fly Ash) + 1 lb/sk Sodium Chloride + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.1% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water, 14.5 ppg

Yield: 1.22 cf/sk

DV TOOL at 5500 ft

2nd Stage

3400. Ft Lead: 400 sacks Class C Cement + 3% bwoc Econolite + 0.125 lbs/sack Poly-E-Flake + 82.4% Fresh Water, 11.4 ppg

See COA

Yield: 2.87 cf/sk

1000 ft Tail: 240 sacks Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water, 14.8 ppg

Yield: 1.33cf/sk

TOC @ Surface

TOC for All Strings:

Surface:	0
Intermediate:	0
Production:	0 ft

ACTUAL CEMENT VOLUMES WILL BE ADJUSTED BASED ON FLUID CALIPER AND CALIPER LOG DATA.

Potential Hazards:

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. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP of 2,735 psi and estimated BHT 175°. No H2S is anticipated to be encountered.

Anticipated Starting Date and Duration of Operations:

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon as a rig becomes available following BLM approval. 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 the well and construct surface facilities and/or lay flow lines in order to place well on production.

Weatherford®

Drilling Services

Proposal

---

devon

HARROUN TRUST 31-30 FED COM #2H

EDDY COUNTY, NM

WELL FILE: **PLAN 2**

FEBRUARY 19, 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

Harroun Trust 31-30 Fed Com #2H
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	5837.97	0.00	0.00	5837.97	0.00	0.00	0.00	0.00	0.00	
3	6538.83	80.60	296.77	6329.50	187.73	-372.18	11.50	296.77	219.52	
4	7092.70	90.16	0.05	6379.16	634.73	-644.54	11.50	85.12	688.59	Tgt
5	13755.00	90.16	0.05	6360.00	7297.00	-639.20	0.00	0.00	7324.94	PBHL

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
HT 31-30 Fed Com #2H	0.00	0.00	456706.60	635686.20	32°15'18.686N	104°01'41.258W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	6360.00	7297.00	-639.20	464003.60	635047.00	Rectangle (6662x50)
Tgt	6379.16	634.73	-644.54	457341.33	635041.66	Point

LEGEND

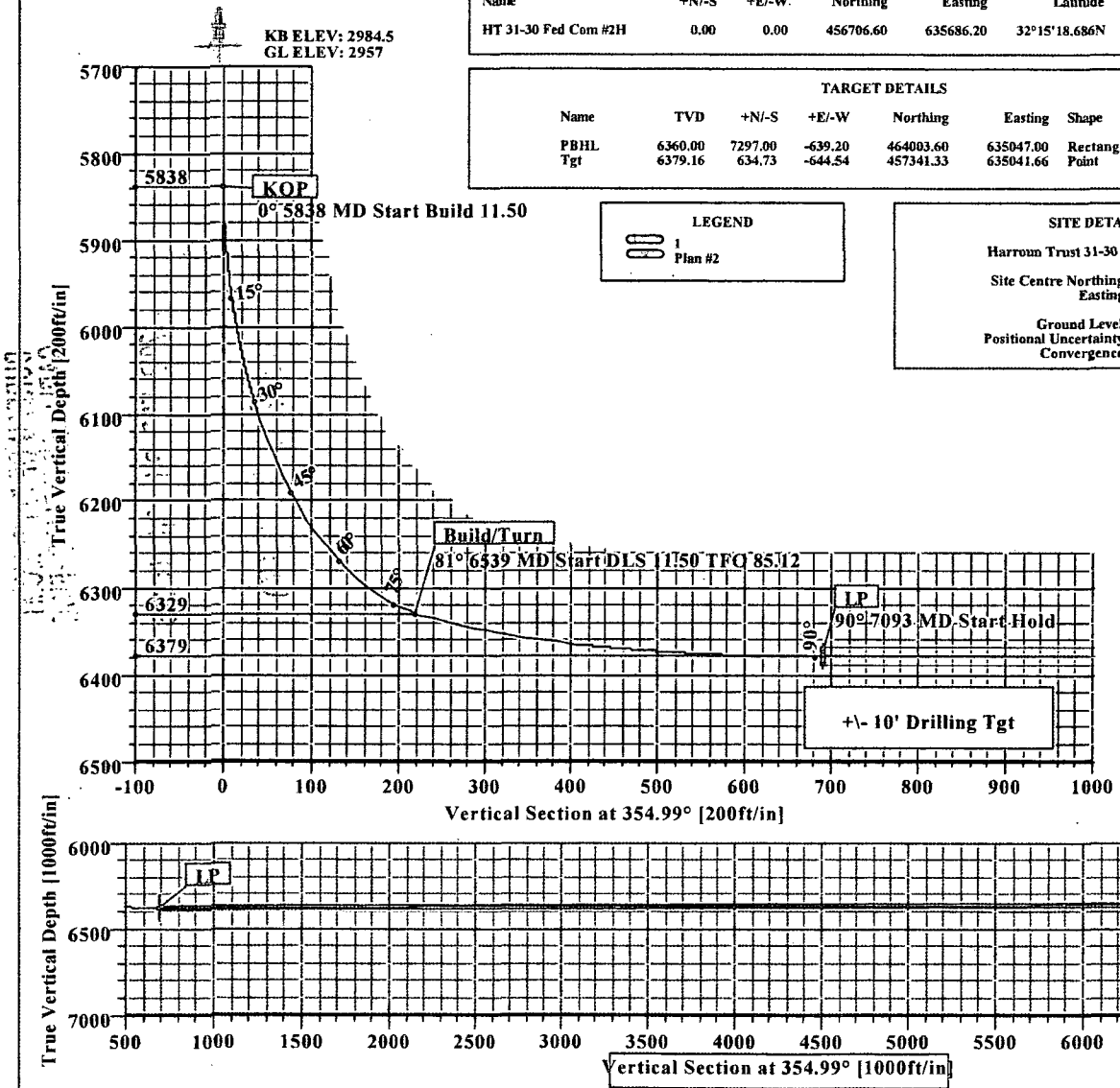
1
Plan #2

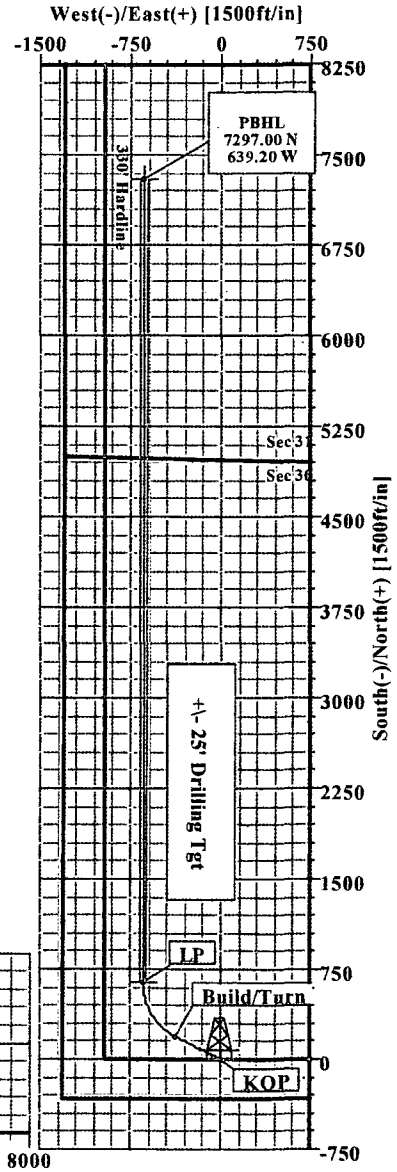
SITE DETAILS

Harroun Trust 31-30 Fed Com #2H

Site Centre Northing: 456706.60
Easting: 635686.20

Ground Level: 2957.00
Positional Uncertainty: 0.00
Convergence: 0.16





Plan: Plan #2 (HT 31-30 Fed Com #2H/1)

Created By: Russell W. Joyner Date: 2/19/2013

Weatherford
Wft Plan Report X Y's.

Company:	Devon Energy	**Date:** 2/19/2013 **Time:** 09:28:43	**Page:** 1
Field:	Eddy Co., NM (NAD 83)	**Co-ordinate(NE) Reference:**	Well: HT 31-30 Fed Com #2H, Grid North
Site:	Harroun Trust 31-30 Fed Com #2H	**Vertical (TVD) Reference:**	SITE 2984.5
Well:	HT 31-30 Fed Com #2H	**Section (VS) Reference:**	Well (0.00N,0.00E,354.99Azi)
Wellpath:	1	**Survey Calculation Method:**	Minimum Curvature **Db:** Sybase

Plan:	Plan #2	**Date Composed:**	2/19/2013
		Version:	1
Principal:	Yes	**Tied-to:**	From Surface

Site: Harroun Trust 31-30 Fed Com #2H

Site Position:		**Northing:**	456706.60 ft	**Latitude:**	32 15 18.686	N
From:	Map	**Easting:**	635686.20 ft	**Longitude:**	104 1 41.258	W
Position Uncertainty:	0.00 ft			**North Reference:**	Grid	
Ground Level:	2957.00 ft			**Grid Convergence:**	0.16 deg	

Well: HT 31-30 Fed Com #2H **Slot Name:**

Well Position:	+N/-S 0.00 ft	**Northing:**	456706.60 ft	**Latitude:**	32 15 18.686	N
	+E/-W 0.00 ft	**Easting :**	635686.20 ft	**Longitude:**	104 1 41.258	W
Position Uncertainty:	0.00 ft					

Wellpath: 1

Drilled From:	Surface				
Tie-on Depth:	0.00 ft				
Current Datum:	SITE	**Height**	2984.50 ft	**Above System Datum:**	Mean Sea Level
Magnetic Data:	3/15/2013			**Declination:**	7.58 deg
Field Strength:	48435 nT			**Mag Dip Angle:**	60.09 deg

Vertical Section: Depth From (TVD) ft	+N/-S ft	+E/-W ft	Direction deg
0.00	0.00	0.00	354.99

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	
5837.97	0.00	0.00	5837.97	0.00	0.00	0.00	0.00	0.00	0.00	
6538.83	80.60	296.77	6329.50	187.73	-372.18	11.50	11.50	0.00	296.77	
7092.70	90.16	0.05	6379.16	634.73	-644.54	11.50	1.73	11.42	85.12	Tgt
13755.00	90.16	0.05	6360.00	7297.00	-639.20	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
5800.00	0.00	0.00	5800.00	0.00	0.00	0.00	0.00	456706.60	635686.20	
5837.97	0.00	0.00	5837.97	0.00	0.00	0.00	0.00	456706.60	635686.20	KOP
5850.00	1.38	296.77	5850.00	0.07	-0.13	0.08	11.50	456706.67	635686.07	
5875.00	4.26	296.77	5874.97	0.62	-1.23	0.72	11.50	456707.22	635684.97	
5900.00	7.13	296.77	5899.84	1.74	-3.44	2.03	11.50	456708.34	635682.76	
5925.00	10.01	296.77	5924.56	3.42	-6.77	3.99	11.50	456710.02	635679.43	
5950.00	12.88	296.77	5949.06	5.65	-11.20	6.61	11.50	456712.25	635675.00	
5975.00	15.76	296.77	5973.28	8.43	-16.72	9.86	11.50	456715.03	635669.48	
6000.00	18.63	296.77	5997.16	11.76	-23.32	13.75	11.50	456718.36	635662.88	
6025.00	21.51	296.77	6020.64	15.63	-30.98	18.27	11.50	456722.23	635655.22	
6050.00	24.38	296.77	6043.66	20.02	-39.68	23.40	11.50	456726.62	635646.52	
6075.00	27.26	296.77	6066.16	24.92	-49.40	29.14	11.50	456731.52	635636.80	
6100.00	30.13	296.77	6088.09	30.32	-60.12	35.46	11.50	456736.92	635626.08	
6125.00	33.01	296.77	6109.38	36.22	-71.80	42.35	11.50	456742.82	635614.40	
6150.00	35.88	296.77	6130.00	42.59	-84.43	49.80	11.50	456749.19	635601.77	
6175.00	38.76	296.77	6149.88	49.41	-97.96	57.78	11.50	456756.01	635588.24	
6200.00	41.63	296.77	6168.97	56.68	-112.36	66.27	11.50	456763.28	635573.84	
6225.00	44.51	296.77	6187.23	64.37	-127.61	75.26	11.50	456770.97	635558.59	
6250.00	47.38	296.77	6204.61	72.46	-143.65	84.73	11.50	456779.06	635542.55	
6275.00	50.26	296.77	6221.07	80.93	-160.44	94.63	11.50	456787.53	635525.76	
6300.00	53.13	296.77	6236.56	89.77	-177.96	104.96	11.50	456796.37	635508.24	
6325.00	56.01	296.77	6251.06	98.94	-196.14	115.69	11.50	456805.54	635490.06	

Weatherford
Wft Plan Report X Y's.

Company: Devon Energy		**Date:** 2/19/2013	**Time:** 09:28:43 **Page:** 2
Field: Eddy Co., NM (NAD 83)		**Co-ordinate(NE) Reference:** Well: HT 31-30 Fed Com #2H, Grid North	
Site: Harroun Trust 31-30 Fed Com #2H		**Vertical (TVD) Reference:** SITE 2984.5	
Well: HT 31-30 Fed Com #2H		**Section (VS) Reference:** Well (0.00N,0.00E,354.99Azi)	
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
6350.00	58.88	296.77	6264.51	108.43	-214.96	126.79	11.50	456815.03	635471.24	
6375.00	61.76	296.77	6276.88	118.21	-234.35	138.22	11.50	456824.81	635451.85	
6400.00	64.63	296.77	6288.16	128.26	-254.27	149.97	11.50	456834.86	635431.93	
6425.00	67.51	296.77	6298.29	138.55	-274.67	162.01	11.50	456845.15	635411.53	
6450.00	70.38	296.77	6307.27	149.06	-295.50	174.29	11.50	456855.66	635390.70	
6475.00	73.26	296.77	6315.07	159.75	-316.70	186.80	11.50	456866.35	635369.50	
6500.00	76.13	296.77	6321.67	170.61	-338.23	199.50	11.50	456877.21	635347.97	
6525.00	79.01	296.77	6327.05	181.60	-360.03	212.35	11.50	456888.20	635326.17	
6538.83	80.60	296.77	6329.50	187.73	-372.18	219.52	11.50	456894.33	635314.02	Build/Turn
6550.00	80.71	298.06	6331.31	192.81	-381.96	225.43	11.50	456899.41	635304.24	
6575.00	80.98	300.96	6335.29	204.97	-403.44	239.42	11.50	456911.57	635282.76	
6600.00	81.27	303.86	6339.15	218.21	-424.29	254.42	11.50	456924.81	635261.91	
6625.00	81.58	306.75	6342.88	232.49	-444.46	270.42	11.50	456939.09	635241.74	
6650.00	81.91	309.64	6346.47	247.79	-463.90	287.35	11.50	456954.39	635222.30	
6675.00	82.26	312.52	6349.91	264.05	-482.57	305.19	11.50	456970.65	635203.63	
6700.00	82.64	315.39	6353.20	281.25	-500.41	323.88	11.50	456987.85	635185.79	
6725.00	83.03	318.26	6356.32	299.34	-517.38	343.38	11.50	457005.94	635168.82	
6750.00	83.43	321.13	6359.27	318.27	-533.43	363.64	11.50	457024.87	635152.77	
6775.00	83.86	323.99	6362.03	338.00	-548.54	384.61	11.50	457044.60	635137.66	
6800.00	84.30	326.85	6364.61	358.47	-562.65	406.24	11.50	457065.07	635123.55	
6825.00	84.75	329.70	6367.00	379.63	-575.73	428.46	11.50	457086.23	635110.47	
6850.00	85.22	332.55	6369.19	401.44	-587.76	451.23	11.50	457108.04	635098.44	
6875.00	85.69	335.39	6371.17	423.83	-598.69	474.49	11.50	457130.43	635087.51	
6900.00	86.18	338.23	6372.94	446.75	-608.51	498.18	11.50	457153.35	635077.69	
6925.00	86.68	341.07	6374.50	470.14	-617.19	522.24	11.50	457176.74	635069.01	
6950.00	87.18	343.90	6375.84	493.95	-624.70	546.61	11.50	457200.55	635061.50	
6975.00	87.70	346.73	6376.95	518.10	-631.03	571.23	11.50	457224.70	635055.17	
7000.00	88.22	349.56	6377.85	542.55	-636.16	596.04	11.50	457249.15	635050.04	
7025.00	88.74	352.39	6378.51	567.23	-640.08	620.96	11.50	457273.83	635046.12	
7050.00	89.26	355.22	6378.95	592.08	-642.78	645.95	11.50	457298.68	635043.42	
7075.00	89.79	358.05	6379.15	617.03	-644.25	670.94	11.50	457323.63	635041.95	
7092.70	90.16	0.05	6379.16	634.73	-644.54	688.59	11.50	457341.33	635041.66	Tgt
7100.00	90.16	0.05	6379.14	642.03	-644.53	695.86	0.00	457348.63	635041.67	
7200.00	90.16	0.05	6378.85	742.03	-644.45	795.47	0.00	457448.63	635041.75	
7300.00	90.16	0.05	6378.56	842.03	-644.37	895.08	0.00	457548.63	635041.83	
7400.00	90.16	0.05	6378.28	942.03	-644.29	994.69	0.00	457648.63	635041.91	
7500.00	90.16	0.05	6377.99	1042.03	-644.21	1094.31	0.00	457748.63	635041.99	
7600.00	90.16	0.05	6377.70	1142.03	-644.13	1193.92	0.00	457848.63	635042.07	
7700.00	90.16	0.05	6377.42	1242.03	-644.05	1293.53	0.00	457948.63	635042.15	
7800.00	90.16	0.05	6377.13	1342.03	-643.97	1393.14	0.00	458048.63	635042.23	
7900.00	90.16	0.05	6376.84	1442.03	-643.89	1492.75	0.00	458148.63	635042.31	
8000.00	90.16	0.05	6376.55	1542.03	-643.81	1592.36	0.00	458248.63	635042.39	
8100.00	90.16	0.05	6376.27	1642.02	-643.73	1691.97	0.00	458348.62	635042.47	
8200.00	90.16	0.05	6375.98	1742.02	-643.65	1791.58	0.00	458448.62	635042.55	
8300.00	90.16	0.05	6375.69	1842.02	-643.57	1891.19	0.00	458548.62	635042.63	
8400.00	90.16	0.05	6375.40	1942.02	-643.49	1990.80	0.00	458648.62	635042.71	
8500.00	90.16	0.05	6375.12	2042.02	-643.41	2090.41	0.00	458748.62	635042.79	
8600.00	90.16	0.05	6374.83	2142.02	-643.33	2190.02	0.00	458848.62	635042.87	
8700.00	90.16	0.05	6374.54	2242.02	-643.25	2289.63	0.00	458948.62	635042.95	
8800.00	90.16	0.05	6374.26	2342.02	-643.17	2389.24	0.00	459048.62	635043.03	
8900.00	90.16	0.05	6373.97	2442.02	-643.09	2488.85	0.00	459148.62	635043.11	
9000.00	90.16	0.05	6373.68	2542.02	-643.01	2588.46	0.00	459248.62	635043.19	
9100.00	90.16	0.05	6373.39	2642.02	-642.93	2688.07	0.00	459348.62	635043.27	

Weatherford
Wft Plan Report X Y's.

Company:	Devon Energy	**Date:** 2/19/2013 **Time:** 09:28:43	**Page:** 3
Field:	Eddy Co., NM (NAD 83)	**Co-ordinate(NE) Reference:**	Well: HT 31-30 Fed Com #2H, Grid North
Site:	Harroun Trust 31-30 Fed Com #2H	**Vertical (TVD) Reference:**	SITE 2984.5
Well:	HT 31-30 Fed Com #2H	**Section (VS) Reference:**	Well (0.00N,0.00E,354.99Azi)
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
9200.00	90.16	0.05	6373.11	2742.02	-642.85	2787.68	0.00	459448.62	635043.35	
9300.00	90.16	0.05	6372.82	2842.02	-642.77	2887.29	0.00	459548.62	635043.43	
9400.00	90.16	0.05	6372.53	2942.02	-642.69	2986.90	0.00	459648.62	635043.51	
9500.00	90.16	0.05	6372.24	3042.02	-642.61	3086.52	0.00	459748.62	635043.59	
9600.00	90.16	0.05	6371.96	3142.02	-642.53	3186.13	0.00	459848.62	635043.67	
9700.00	90.16	0.05	6371.67	3242.02	-642.45	3285.74	0.00	459948.62	635043.75	
9800.00	90.16	0.05	6371.38	3342.02	-642.37	3385.35	0.00	460048.62	635043.83	
9900.00	90.16	0.05	6371.10	3442.02	-642.29	3484.96	0.00	460148.62	635043.91	
10000.00	90.16	0.05	6370.81	3542.02	-642.21	3584.57	0.00	460248.62	635043.99	
10100.00	90.16	0.05	6370.52	3642.02	-642.13	3684.18	0.00	460348.62	635044.07	
10200.00	90.16	0.05	6370.23	3742.02	-642.05	3783.79	0.00	460448.62	635044.15	
10300.00	90.16	0.05	6369.95	3842.02	-641.97	3883.40	0.00	460548.62	635044.23	
10400.00	90.16	0.05	6369.66	3942.01	-641.89	3983.01	0.00	460648.61	635044.31	
10500.00	90.16	0.05	6369.37	4042.01	-641.81	4082.62	0.00	460748.61	635044.39	
10600.00	90.16	0.05	6369.08	4142.01	-641.73	4182.23	0.00	460848.61	635044.47	
10700.00	90.16	0.05	6368.80	4242.01	-641.65	4281.84	0.00	460948.61	635044.55	
10800.00	90.16	0.05	6368.51	4342.01	-641.57	4381.45	0.00	461048.61	635044.63	
10900.00	90.16	0.05	6368.22	4442.01	-641.49	4481.06	0.00	461148.61	635044.71	
11000.00	90.16	0.05	6367.94	4542.01	-641.41	4580.67	0.00	461248.61	635044.79	
11100.00	90.16	0.05	6367.65	4642.01	-641.33	4680.28	0.00	461348.61	635044.87	
11200.00	90.16	0.05	6367.36	4742.01	-641.24	4779.89	0.00	461448.61	635044.96	
11300.00	90.16	0.05	6367.07	4842.01	-641.16	4879.50	0.00	461548.61	635045.04	
11400.00	90.16	0.05	6366.79	4942.01	-641.08	4979.11	0.00	461648.61	635045.12	
11500.00	90.16	0.05	6366.50	5042.01	-641.00	5078.73	0.00	461748.61	635045.20	
11600.00	90.16	0.05	6366.21	5142.01	-640.92	5178.34	0.00	461848.61	635045.28	
11700.00	90.16	0.05	6365.92	5242.01	-640.84	5277.95	0.00	461948.61	635045.36	
11800.00	90.16	0.05	6365.64	5342.01	-640.76	5377.56	0.00	462048.61	635045.44	
11900.00	90.16	0.05	6365.35	5442.01	-640.68	5477.17	0.00	462148.61	635045.52	
12000.00	90.16	0.05	6365.06	5542.01	-640.60	5576.78	0.00	462248.61	635045.60	
12100.00	90.16	0.05	6364.78	5642.01	-640.52	5676.39	0.00	462348.61	635045.68	
12200.00	90.16	0.05	6364.49	5742.01	-640.44	5776.00	0.00	462448.61	635045.76	
12300.00	90.16	0.05	6364.20	5842.01	-640.36	5875.61	0.00	462548.61	635045.84	
12400.00	90.16	0.05	6363.91	5942.01	-640.28	5975.22	0.00	462648.61	635045.92	
12500.00	90.16	0.05	6363.63	6042.01	-640.20	6074.83	0.00	462748.61	635046.00	
12600.00	90.16	0.05	6363.34	6142.00	-640.12	6174.44	0.00	462848.60	635046.08	
12700.00	90.16	0.05	6363.05	6242.00	-640.04	6274.05	0.00	462948.60	635046.16	
12800.00	90.16	0.05	6362.76	6342.00	-639.96	6373.66	0.00	463048.60	635046.24	
12900.00	90.16	0.05	6362.48	6442.00	-639.88	6473.27	0.00	463148.60	635046.32	
13000.00	90.16	0.05	6362.19	6542.00	-639.80	6572.88	0.00	463248.60	635046.40	
13100.00	90.16	0.05	6361.90	6642.00	-639.72	6672.49	0.00	463348.60	635046.48	
13200.00	90.16	0.05	6361.62	6742.00	-639.64	6772.10	0.00	463448.60	635046.56	
13300.00	90.16	0.05	6361.33	6842.00	-639.56	6871.71	0.00	463548.60	635046.64	
13400.00	90.16	0.05	6361.04	6942.00	-639.48	6971.32	0.00	463648.60	635046.72	
13500.00	90.16	0.05	6360.75	7042.00	-639.40	7070.94	0.00	463748.60	635046.80	
13600.00	90.16	0.05	6360.47	7142.00	-639.32	7170.55	0.00	463848.60	635046.88	
13700.00	90.16	0.05	6360.18	7242.00	-639.24	7270.16	0.00	463948.60	635046.96	
13755.00	90.16	0.05	6360.00	7297.00	-639.20	7324.94	0.00	464003.60	635047.00	PBHL

Weatherford
Wft Plan Report X Y's.

Company:	Devon Energy	**Date:** 2/19/2013 **Time:** 09:28:43	**Page:** 4
Field:	Eddy Co. NM (NAD 83)	**Co-ordinate(NE) Reference:**	Well: HT 31-30 Fed Com #2H, Grid North
Site:	Harroun Trust 31-30 Fed Com #2H	**Vertical (TVD) Reference:**	SITE 2984.5
Well:	HT 31-30 Fed Com #2H	**Section (VS) Reference:**	Well (0.00N,0.00E,354.99Azi)
Wellpath:	1	**Survey Calculation Method:**	Minimum Curvature **Db:** Sybase

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 -Rectangle (6662x50)			6360.00	7297.00	-639.20	464003.60	635047.00	32	16	30.914 N	104	1	48.462 W
Tgt			6379.16	634.73	-644.54	457341.33	635041.66	32	15	24.985 N	104	1	48.744 W

Casing Points

MD	TVD	Diameter	Hole Size	Name

Annotation

MD ft	TVD ft	
5837.97	5837.97	KOP
6538.83	6329.50	Build/Turn
7092.70	6379.16	LP
13755.00	6360.02	PBHL

Weatherford Drilling Services

GeoDec v5.03

Report Date:	February 19, 2013
Job Number:	
Customer:	Devon Energy
Well Name:	Harroun Trust 31-30 Fed Com #2H
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: North American Datum 1983
Ellipsoid: GRS 1980	Ellipsoid: GRS 1980
North/South 456706.600 USFT	Latitude 32.2551930 DEG
East/West 635686.200 USFT	Longitude -104.0281232 DEG
Grid Convergence: .16°	
Total Correction: +7.53°	

Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude =	32.25519° N	32° 15 min 18.695 sec
Longitude =	104.02812° W	104° 1 min 41.244 sec

Magnetic Declination =	7.69°	[True North Offset]	
Local Gravity =	.9988 g	CheckSum =	6565
Local Field Strength =	48409 nT	Magnetic Vector X =	23951 nT
Magnetic Dip =	60.05°	Magnetic Vector Y =	3235 nT
Magnetic Model =	bggm2012	Magnetic Vector Z =	41944 nT
Spud Date =	Mar 15, 2013	Magnetic Vector H =	24169 nT

Signed:_____ Date:_____

DVN HARROUN TRUST 31-30 FED COM 2H P2 SVY

Weatherford
Wft Plan Report X Y's.

Company: Devon Energy — Date: 2/19/2013
Time: 09:29:21 Page: 1
Field: Eddy Co., NM (NAD 83) — Co-ordinate(NE)
Reference: Well: HT 31-30 Fed Com #2H, Grid North
Site: Harroun Trust 31-30 Fed Com #2H — Vertical (TVD)
Reference: SITE 2984.5
Well: HT 31-30 Fed Com #2H — Section (VS)
Reference: Well (0.00N,0.00E,354.99Azi)
Wellpath: 1 — Survey Calculation
Method: Minimum Curvature Db: Sybase

Plan: Plan #2 — Date Composed:
2/19/2013
Version:
1
Principal: Yes — Tied-to:
From Surface

Site: Harroun Trust 31-30 Fed Com #2H

Site Position: Northing: 456706.60 ft — Latitude:
32 15 18.686 N
From: Map Easting: 635686.20 ft — Longitude:
104 1 41.258 W
Position Uncertainty: 0.00 ft — North Reference:
Grid
Ground Level: 2957.00 ft — Grid Convergence:
0.16 deg

Well: HT 31-30 Fed Com #2H — Slot Name:

Well Position: +N/-S 0.00 ft Northing: 456706.60 ft — Latitude:
32 15 18.686 N
+E/-W 0.00 ft Easting : 635686.20 ft — Longitude:
104 1 41.258 W
Position Uncertainty: 0.00 ft

Wellpath: 1 — Drilled From:
Surface
Tie-on Depth:
0.00 ft
Current Datum: SITE Height 2984.50 ft — Above System
Datum: Mean Sea Level
Magnetic Data: 3/15/2013 — Declination:
7.58 deg
Field Strength: 48435 nT — Mag Dip Angle:
60.09 deg

Vertical Section: Depth From (TVD)	+N/-S	+E/-W	Direction
ft	ft	ft	deg
0.00	0.00	0.00	354.99

DVN HARROUN TRUST 31-30 FED COM 2H P2 SVY

Plan Section Information

MD	Incl	Azim	TVD	+N/-S	+E/-W	DLS	Build	Turn	TFO	Target
ft	deg	deg	ft	ft	ft	deg/100ft	deg/100ft	deg/100ft	deg	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5837.97	0.00	0.00	5837.97	0.00	0.00	0.00	0.00	0.00	0.00	
6538.83	80.60	296.77	6329.50	187.73	-372.18	11.50	11.50	0.00	296.77	
7092.70	90.16	0.05	6379.16	634.73	-644.54	11.50	1.73	11.42	85.12	Tgt
13755.00	90.16	0.05	6360.00	7297.00	-639.20	0.00	0.00	0.00	0.00	PBHL

Survey

MD	Incl	Azim	TVD	N/S	E/W	VS	DLS	MapN	MapE	Comment
ft	deg	deg	ft	ft	ft	ft	deg/100ft	ft	ft	
5800.00	0.00	0.00	5800.00	0.00	0.00	0.00	0.00	456706.60	635686.20	
5837.97	0.00	0.00	5837.97	0.00	0.00	0.00	0.00	456706.60	635686.20	KOP
5850.00	1.38	296.77	5850.00	0.07	-0.13	0.08	11.50	456706.67	635686.07	
5875.00	4.26	296.77	5874.97	0.62	-1.23	0.72	11.50	456707.22	635684.97	
5900.00	7.13	296.77	5899.84	1.74	-3.44	2.03	11.50	456708.34	635682.76	
5925.00	10.01	296.77	5924.56	3.42	-6.77	3.99	11.50	456710.02	635679.43	
5950.00	12.88	296.77	5949.06	5.65	-11.20	6.61	11.50	456712.25	635675.00	
5975.00	15.76	296.77	5973.28	8.43	-16.72	9.86	11.50	456715.03	635669.48	
6000.00	18.63	296.77	5997.16	11.76	-23.32	13.75	11.50	456718.36	635662.88	
6025.00	21.51	296.77	6020.64	15.63	-30.98	18.27	11.50	456722.23	635655.22	
6050.00	24.38	296.77	6043.66	20.02	-39.68	23.40	11.50	456726.62	635646.52	
6075.00	27.26	296.77	6066.16	24.92	-49.40	29.14	11.50	456731.52	635636.80	
6100.00	30.13	296.77	6088.09	30.32	-60.12	35.46	11.50	456736.92	635626.08	
6125.00	33.01	296.77	6109.38	36.22	-71.80	42.35	11.50	456742.82	635614.40	
6150.00	35.88	296.77	6130.00	42.59	-84.43	49.80	11.50	456749.19	635601.77	
6175.00	38.76	296.77	6149.88	49.41	-97.96	57.78	11.50	456756.01	635588.24	
6200.00	41.63	296.77	6168.97	56.68	-112.36	66.27	11.50	456763.28	635573.84	
6225.00	44.51	296.77	6187.23	64.37	-127.61	75.26	11.50	456770.97	635558.59	
6250.00	47.38	296.77	6204.61	72.46	-143.65	84.73	11.50			

DVN HARROUN TRUST 31-30 FED COM 2H P2 SVY

456779.06		635542.55					
6275.00	50.26	296.77	6221.07	80.93	-160.44	94.63	11.50
456787.53		635525.76					
6300.00	53.13	296.77	6236.56	89.77	-177.96	104.96	11.50
456796.37		635508.24					
6325.00	56.01	296.77	6251.06	98.94	-196.14	115.69	11.50
456805.54		635490.06					
6350.00	58.88	296.77	6264.51	108.43	-214.96	126.79	11.50
456815.03		635471.24					
6375.00	61.76	296.77	6276.88	118.21	-234.35	138.22	11.50
456824.81		635451.85					
6400.00	64.63	296.77	6288.16	128.26	-254.27	149.97	11.50
456834.86		635431.93					
6425.00	67.51	296.77	6298.29	138.55	-274.67	162.01	11.50
456845.15		635411.53					
6450.00	70.38	296.77	6307.27	149.06	-295.50	174.29	11.50
456855.66		635390.70					
6475.00	73.26	296.77	6315.07	159.75	-316.70	186.80	11.50
456866.35		635369.50					
6500.00	76.13	296.77	6321.67	170.61	-338.23	199.50	11.50
456877.21		635347.97					
6525.00	79.01	296.77	6327.05	181.60	-360.03	212.35	11.50
456888.20		635326.17					
6538.83	80.60	296.77	6329.50	187.73	-372.18	219.52	11.50
456894.33		635314.02	Build/Turn				
6550.00	80.71	298.06	6331.31	192.81	-381.96	225.43	11.50
456899.41		635304.24					
6575.00	80.98	300.96	6335.29	204.97	-403.44	239.42	11.50
456911.57		635282.76					
6600.00	81.27	303.86	6339.15	218.21	-424.29	254.42	11.50
456924.81		635261.91					
6625.00	81.58	306.75	6342.88	232.49	-444.46	270.42	11.50
456939.09		635241.74					
6650.00	81.91	309.64	6346.47	247.79	-463.90	287.35	11.50
456954.39		635222.30					
6675.00	82.26	312.52	6349.91	264.05	-482.57	305.19	11.50
456970.65		635203.63					
6700.00	82.64	315.39	6353.20	281.25	-500.41	323.88	11.50
456987.85		635185.79					
6725.00	83.03	318.26	6356.32	299.34	-517.38	343.38	11.50
457005.94		635168.82					
6750.00	83.43	321.13	6359.27	318.27	-533.43	363.64	11.50
457024.87		635152.77					
6775.00	83.86	323.99	6362.03	338.00	-548.54	384.61	11.50
457044.60		635137.66					
6800.00	84.30	326.85	6364.61	358.47	-562.65	406.24	11.50
457065.07		635123.55					
6825.00	84.75	329.70	6367.00	379.63	-575.73	428.46	11.50
457086.23		635110.47					
6850.00	85.22	332.55	6369.19	401.44	-587.76	451.23	11.50
457108.04		635098.44					
6875.00	85.69	335.39	6371.17	423.83	-598.69	474.49	11.50
457130.43		635087.51					
6900.00	86.18	338.23	6372.94	446.75	-608.51	498.18	11.50
457153.35		635077.69					
6925.00	86.68	341.07	6374.50	470.14	-617.19	522.24	11.50
457176.74		635069.01					

6950.00	87.18	343.90	6375.84	493.95	-624.70	546.61	11.50
457200.55		635061.50					
6975.00	87.70	346.73	6376.95	518.10	-631.03	571.23	11.50
457224.70		635055.17					
7000.00	88.22	349.56	6377.85	542.55	-636.16	596.04	11.50
457249.15		635050.04					
7025.00	88.74	352.39	6378.51	567.23	-640.08	620.96	11.50
457273.83		635046.12					
7050.00	89.26	355.22	6378.95	592.08	-642.78	645.95	11.50
457298.68		635043.42					
7075.00	89.79	358.05	6379.15	617.03	-644.25	670.94	11.50
457323.63		635041.95					
7092.70	90.16	0.05	6379.16	634.73	-644.54	688.59	11.50
457341.33		635041.66	Tgt				
7100.00	90.16	0.05	6379.14	642.03	-644.53	695.86	0.00
457348.63		635041.67					
7200.00	90.16	0.05	6378.85	742.03	-644.45	795.47	0.00
457448.63		635041.75					
7300.00	90.16	0.05	6378.56	842.03	-644.37	895.08	0.00
457548.63		635041.83					
7400.00	90.16	0.05	6378.28	942.03	-644.29	994.69	0.00
457648.63		635041.91					
7500.00	90.16	0.05	6377.99	1042.03	-644.21	1094.31	0.00
457748.63		635041.99					
7600.00	90.16	0.05	6377.70	1142.03	-644.13	1193.92	0.00
457848.63		635042.07					
7700.00	90.16	0.05	6377.42	1242.03	-644.05	1293.53	0.00
457948.63		635042.15					
7800.00	90.16	0.05	6377.13	1342.03	-643.97	1393.14	0.00
458048.63		635042.23					
7900.00	90.16	0.05	6376.84	1442.03	-643.89	1492.75	0.00
458148.63		635042.31					
8000.00	90.16	0.05	6376.55	1542.03	-643.81	1592.36	0.00
458248.63		635042.39					
8100.00	90.16	0.05	6376.27	1642.02	-643.73	1691.97	0.00
458348.62		635042.47					
8200.00	90.16	0.05	6375.98	1742.02	-643.65	1791.58	0.00
458448.62		635042.55					
8300.00	90.16	0.05	6375.69	1842.02	-643.57	1891.19	0.00
458548.62		635042.63					
8400.00	90.16	0.05	6375.40	1942.02	-643.49	1990.80	0.00
458648.62		635042.71					
8500.00	90.16	0.05	6375.12	2042.02	-643.41	2090.41	0.00
458748.62		635042.79					
8600.00	90.16	0.05	6374.83	2142.02	-643.33	2190.02	0.00
458848.62		635042.87					
8700.00	90.16	0.05	6374.54	2242.02	-643.25	2289.63	0.00
458948.62		635042.95					
8800.00	90.16	0.05	6374.26	2342.02	-643.17	2389.24	0.00
459048.62		635043.03					
8900.00	90.16	0.05	6373.97	2442.02	-643.09	2488.85	0.00
459148.62		635043.11					
9000.00	90.16	0.05	6373.68	2542.02	-643.01	2588.46	0.00
459248.62		635043.19					
9100.00	90.16	0.05	6373.39	2642.02	-642.93	2688.07	0.00
459348.62		635043.27					

DVN HARROUN TRUST 31-30 FED COM 2H P2 SVY

9200.00	90.16	0.05	6373.11	2742.02	-642.85	2787.68	0.00
459448.62		635043.35					
9300.00	90.16	0.05	6372.82	2842.02	-642.77	2887.29	0.00
459548.62		635043.43					
9400.00	90.16	0.05	6372.53	2942.02	-642.69	2986.90	0.00
459648.62		635043.51					
9500.00	90.16	0.05	6372.24	3042.02	-642.61	3086.52	0.00
459748.62		635043.59					
9600.00	90.16	0.05	6371.96	3142.02	-642.53	3186.13	0.00
459848.62		635043.67					
9700.00	90.16	0.05	6371.67	3242.02	-642.45	3285.74	0.00
459948.62		635043.75					
9800.00	90.16	0.05	6371.38	3342.02	-642.37	3385.35	0.00
460048.62		635043.83					
9900.00	90.16	0.05	6371.10	3442.02	-642.29	3484.96	0.00
460148.62		635043.91					
10000.00	90.16	0.05	6370.81	3542.02	-642.21	3584.57	0.00
460248.62		635043.99					
10100.00	90.16	0.05	6370.52	3642.02	-642.13	3684.18	0.00
460348.62		635044.07					
10200.00	90.16	0.05	6370.23	3742.02	-642.05	3783.79	0.00
460448.62		635044.15					
10300.00	90.16	0.05	6369.95	3842.02	-641.97	3883.40	0.00
460548.62		635044.23					
10400.00	90.16	0.05	6369.66	3942.01	-641.89	3983.01	0.00
460648.61		635044.31					
10500.00	90.16	0.05	6369.37	4042.01	-641.81	4082.62	0.00
460748.61		635044.39					
10600.00	90.16	0.05	6369.08	4142.01	-641.73	4182.23	0.00
460848.61		635044.47					
10700.00	90.16	0.05	6368.80	4242.01	-641.65	4281.84	0.00
460948.61		635044.55					
10800.00	90.16	0.05	6368.51	4342.01	-641.57	4381.45	0.00
461048.61		635044.63					
10900.00	90.16	0.05	6368.22	4442.01	-641.49	4481.06	0.00
461148.61		635044.71					
11000.00	90.16	0.05	6367.94	4542.01	-641.41	4580.67	0.00
461248.61		635044.79					
11100.00	90.16	0.05	6367.65	4642.01	-641.33	4680.28	0.00
461348.61		635044.87					
11200.00	90.16	0.05	6367.36	4742.01	-641.24	4779.89	0.00
461448.61		635044.96					
11300.00	90.16	0.05	6367.07	4842.01	-641.16	4879.50	0.00
461548.61		635045.04					
11400.00	90.16	0.05	6366.79	4942.01	-641.08	4979.11	0.00
461648.61		635045.12					
11500.00	90.16	0.05	6366.50	5042.01	-641.00	5078.73	0.00
461748.61		635045.20					
11600.00	90.16	0.05	6366.21	5142.01	-640.92	5178.34	0.00
461848.61		635045.28					
11700.00	90.16	0.05	6365.92	5242.01	-640.84	5277.95	0.00
461948.61		635045.36					
11800.00	90.16	0.05	6365.64	5342.01	-640.76	5377.56	0.00
462048.61		635045.44					
11900.00	90.16	0.05	6365.35	5442.01	-640.68	5477.17	0.00
462148.61		635045.52					
12000.00	90.16	0.05	6365.06	5542.01	-640.60	5576.78	0.00
462248.61		635045.60					

DVN HARROUN TRUST 31-30 FED COM 2H P2 SVY

12100.00	90.16	0.05	6364.78	5642.01	-640.52	5676.39	0.00
462348.61		635045.68					
12200.00	90.16	0.05	6364.49	5742.01	-640.44	5776.00	0.00
462448.61		635045.76					
12300.00	90.16	0.05	6364.20	5842.01	-640.36	5875.61	0.00
462548.61		635045.84					
12400.00	90.16	0.05	6363.91	5942.01	-640.28	5975.22	0.00
462648.61		635045.92					
12500.00	90.16	0.05	6363.63	6042.01	-640.20	6074.83	0.00
462748.61		635046.00					
12600.00	90.16	0.05	6363.34	6142.00	-640.12	6174.44	0.00
462848.60		635046.08					
12700.00	90.16	0.05	6363.05	6242.00	-640.04	6274.05	0.00
462948.60		635046.16					
12800.00	90.16	0.05	6362.76	6342.00	-639.96	6373.66	0.00
463048.60		635046.24					
12900.00	90.16	0.05	6362.48	6442.00	-639.88	6473.27	0.00
463148.60		635046.32					
13000.00	90.16	0.05	6362.19	6542.00	-639.80	6572.88	0.00
463248.60		635046.40					
13100.00	90.16	0.05	6361.90	6642.00	-639.72	6672.49	0.00
463348.60		635046.48					
13200.00	90.16	0.05	6361.62	6742.00	-639.64	6772.10	0.00
463448.60		635046.56					
13300.00	90.16	0.05	6361.33	6842.00	-639.56	6871.71	0.00
463548.60		635046.64					
13400.00	90.16	0.05	6361.04	6942.00	-639.48	6971.32	0.00
463648.60		635046.72					
13500.00	90.16	0.05	6360.75	7042.00	-639.40	7070.94	0.00
463748.60		635046.80					
13600.00	90.16	0.05	6360.47	7142.00	-639.32	7170.55	0.00
463848.60		635046.88					
13700.00	90.16	0.05	6360.18	7242.00	-639.24	7270.16	0.00
463948.60		635046.96					
13755.00	90.16	0.05	6360.00	7297.00	-639.20	7324.94	0.00
464003.60		635047.00	PBHL				

Weatherford
Wft Plan Report X Y's.

Company: Devon Energy — Date: 2/19/2013
Time: 09:29:21 — Page: 4
Field: Eddy Co., NM (NAD 83) — Co-ordinate(NE)
Reference: Well: HT 31-30 Fed Com #2H, Grid North
Site: Harroun Trust 31-30 Fed Com #2H — Vertical (TVD)
Reference: SITE 2984.5
Well: HT 31-30 Fed Com #2H — Section (VS)
Reference: Well (0.00N,0.00E,354.99Azi)
Wellpath: 1 — Survey Calculation
Method: Minimum Curvature — Db: Sybase

Targets

Map Name	Description	TVD	+N/-S	+E/-W	Map Northing	Map Easting	<---- Latitude Deg	Min	Sec	<--- Longitude --- Deg	Min	Sec

DVN HARROUN TRUST 31-30 FED COM 2H P2 SVY

	Dip.	Dir.	ft	ft	ft	ft
ft						
PBHL			6360.00	7297.00	-639.20	464003.60
635047.00	32 16 30.914 N	104 1 48.462 W				
-Rectangle (6662x50)						
Tgt			6379.16	634.73	-644.54	457341.33
635041.66	32 15 24.985 N	104 1 48.744 W				

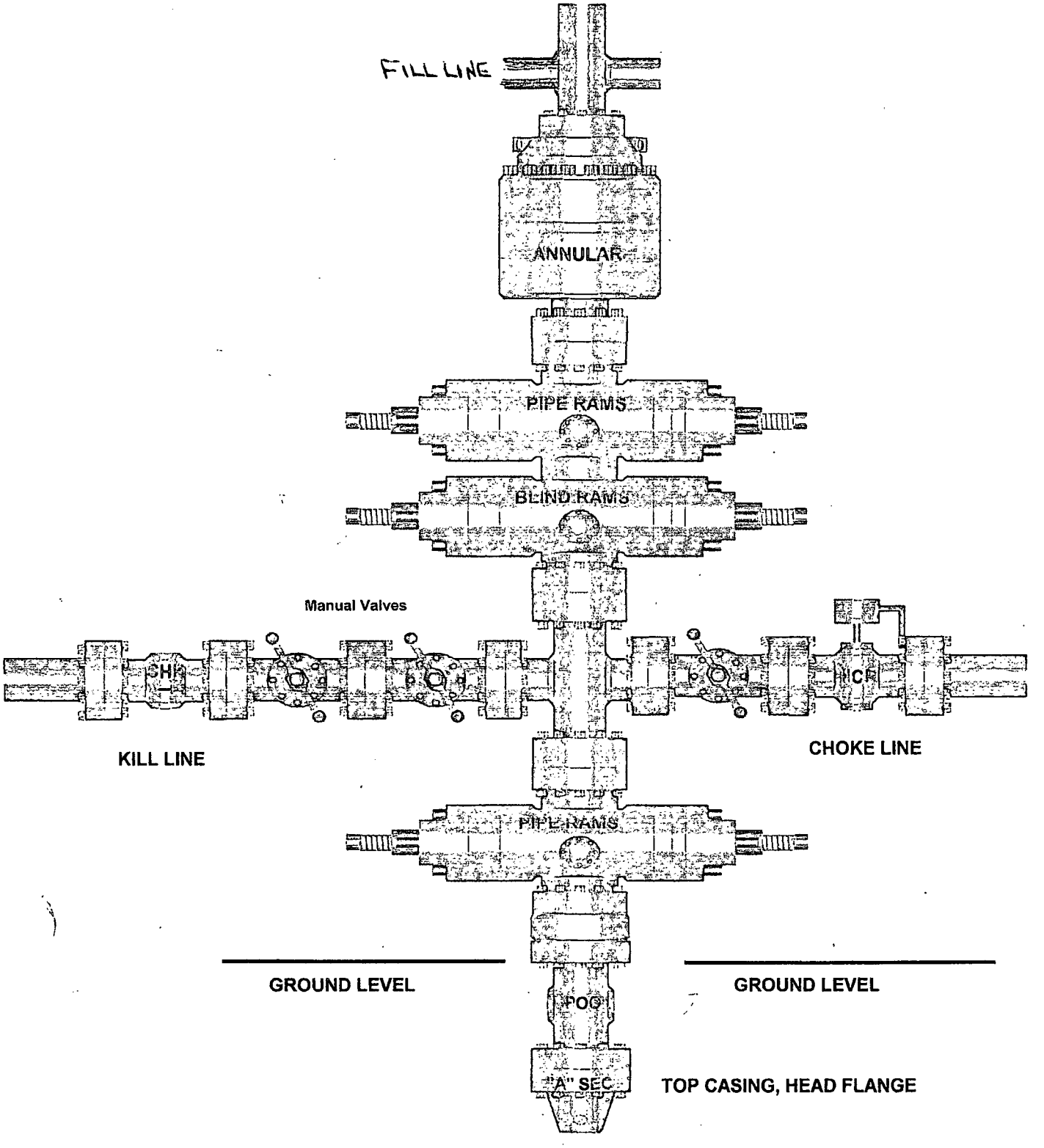
Casing Points

MD	TVD	Diameter	Hole Size	Name

Annotation

MD ft	TVD ft	
5837.97	5837.97	KOP
6538.83	6329.50	Build/Turn
7092.70	6379.16	LP
13755.00	6360.02	PBHL

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



L:\Western\Drilling\Wes Handley\Drawings\BOPS\BOPs.xls

Attachment to Exhibit #1
NOTES REGARDING BLOWOUT PREVENTERS
Devon Energy Production Company, LP
Harroun Trust 31-30 Fed Com 2H
Surface Location: 330' FSL & 1305' FWL, Lot 4, Sec 31 T23S R29E, Eddy, NM
Bottom Hole Location: 2310' FSL & 660' FWL, Lot 3, Sec 30 T23S R29E, Eddy, NM

1. Drilling nipple will be constructed so it can be removed mechanically without the aid of a welder. The minimum internal diameter will equal BOP bore.

2. Wear ring will be properly installed in head.

3. Blowout preventer and all associated fittings will be in operable condition to withstand a minimum 5000 psi working pressure.

4. All fittings will be flanged.

5. A full bore safety valve tested to a minimum 5000 psi WP with proper thread connections will be available on the rotary rig floor at all times.

6. All choke lines will be anchored to prevent movement.

7. All BOP equipment will be equal to or larger in bore than the internal diameter of the last casing string.

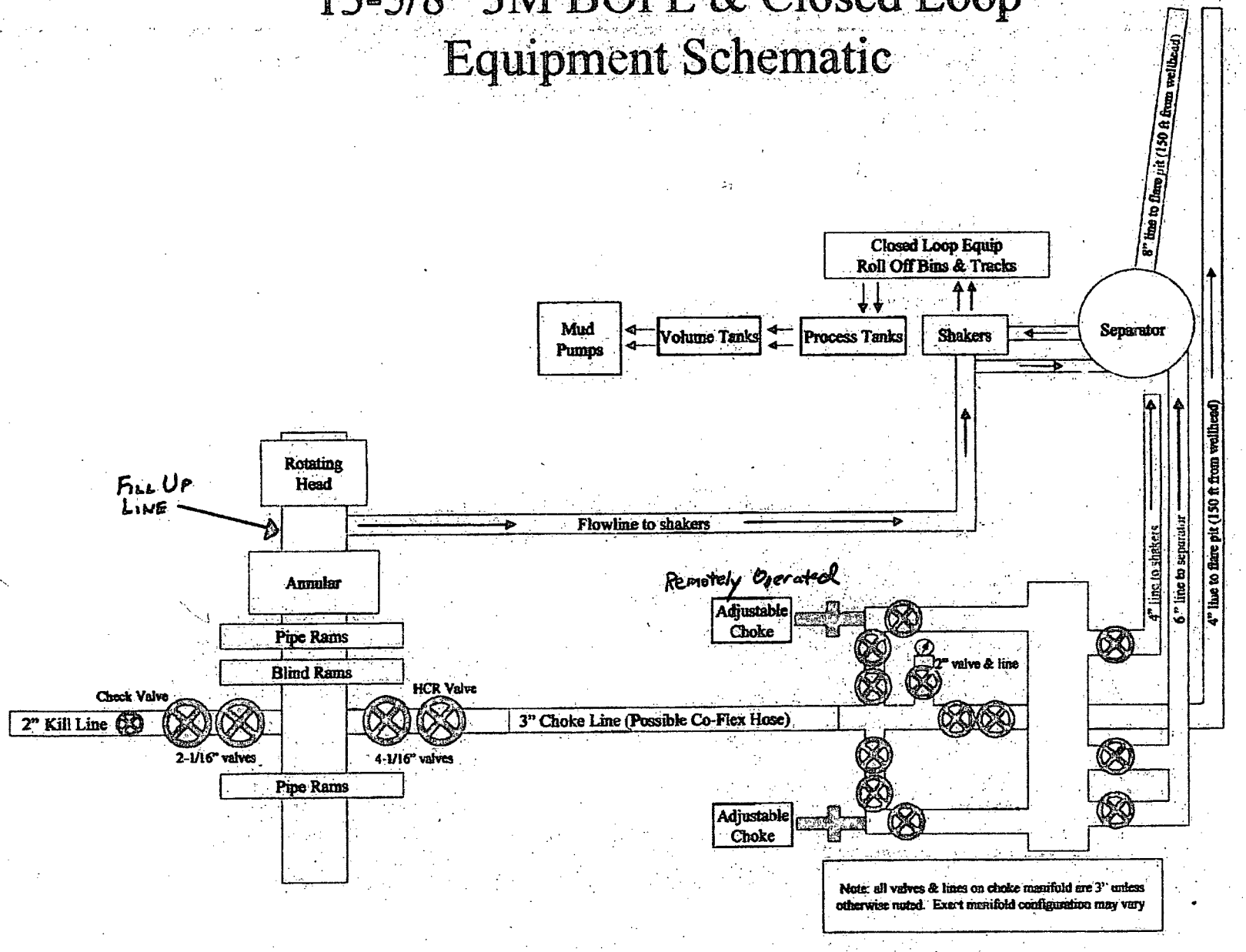
8. Will maintain a kelly cock attached to the kelly.

9. Hand wheels and wrenches will be properly installed and tested for safe operation.

10. Hydraulic floor control for blowout preventer will be located as near in proximity to driller's controls as possible.

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

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



Hydrostatic Test Certificate

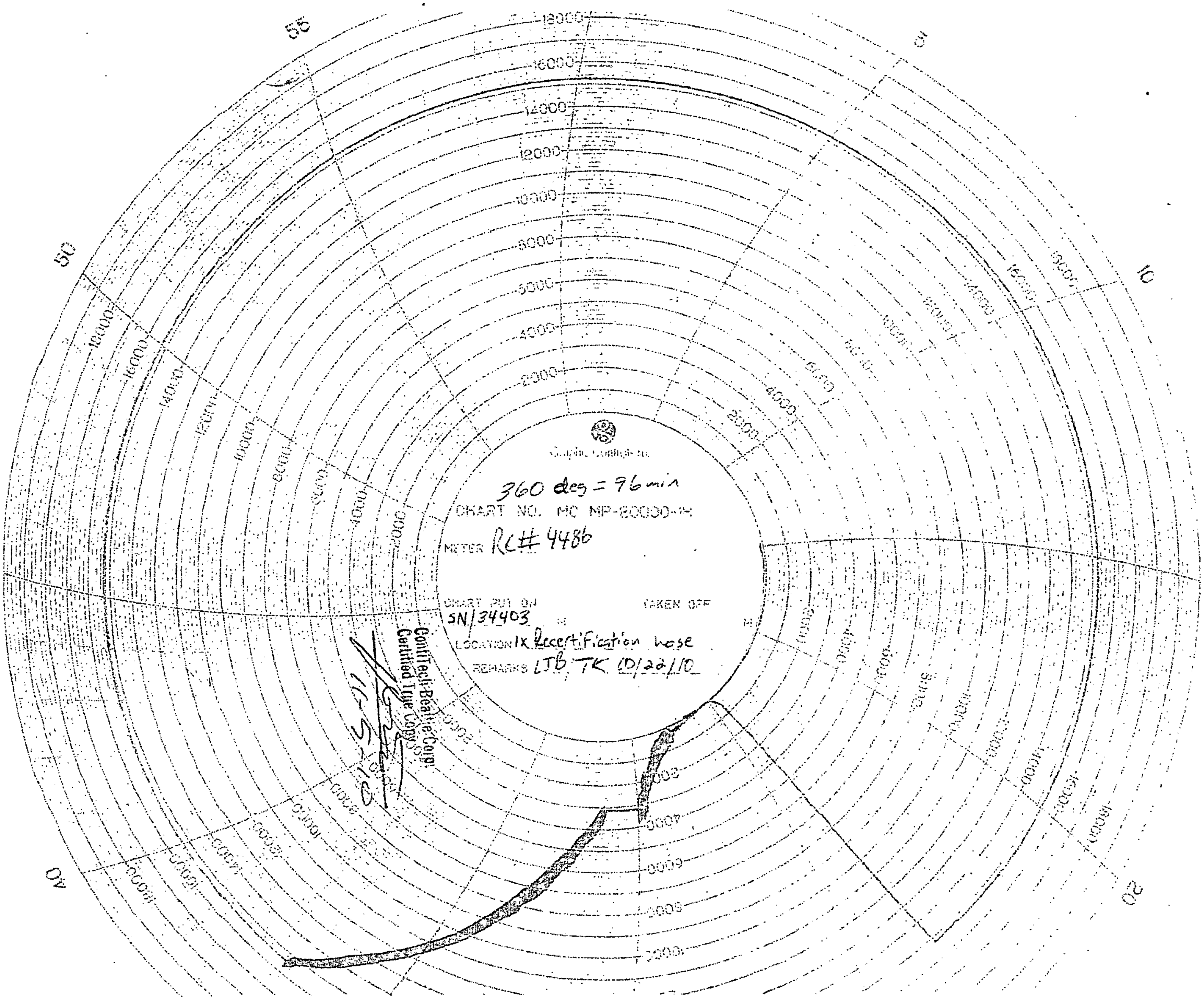
Certificate Number: 4520	**PBC No:** 10321	**Customer Name & Address**
Customer Purchase Order No:	RIG 300	HELMERICH & PAYNE INT'L DRILLING CO 1437 SOUTH BOULDER TULSA, OK 74119
Project:		

Test Centre Address	Accepted by ContiTech Beattie Inspection		Accepted by Client Inspection
ContiTech Beattie Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Date:	Josh Sims 10/27/10	

We certify that the goods detailed hereon have been inspected by our Quality Management System, and to the best of our knowledge are found to conform to relevant industrial standards within the requirements of the purchase order as issued to ContiTech Beattie Corporation.

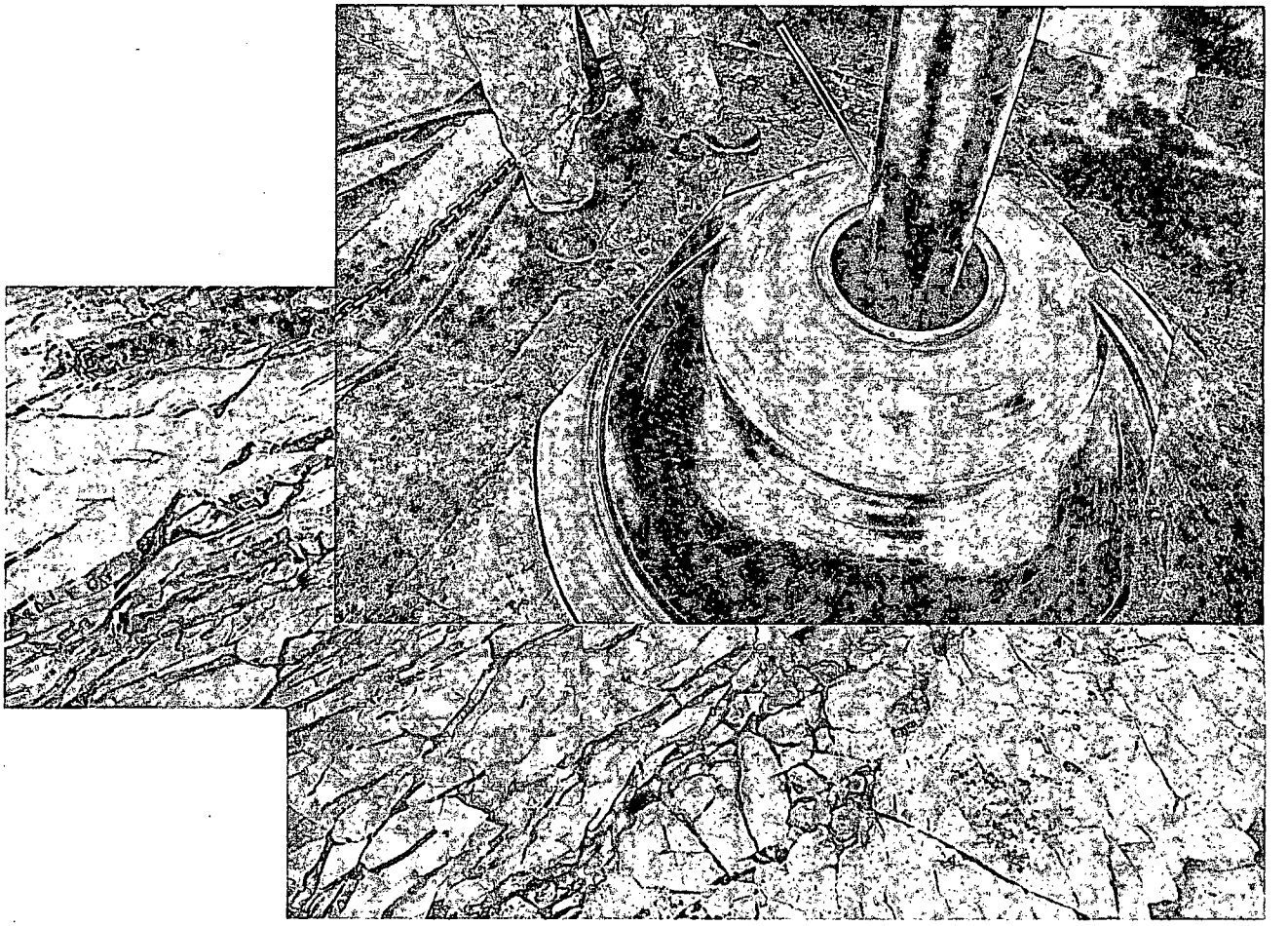
These goods were made in the United States of America.

Item	Part No.	Description	Qnty	Serial Number	As-Built Length (m)	Work. Press.	Test Press.	Test Time (minutes)
1		3" ID 10K Choke & Kill Hose x 35ft OAL End A: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange End B: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange Working Pressure: 10,000psi Test Pressure: 15,000psi Serial#: 49106	1	49106		10 kpsi	15 kpsi	60


360 deg = 96 min
CHART NO. MC MP-20000-1H
METER RC# 4486
CHART PUT ON
TAKEN OFF
SN/34403
LOCATION IX Recertification hose
REMARKS LJB TK 10/22/10
ContiTech Beattie Corp.
Certified True Copy
11-5-10
45
50
55
5
10
15
20
40

devon

Commitment Runs Deep



Design Plan
Operation and Maintenance Plan
Closure Plan

SENM - Closed Loop Systems
June 2012

I. Design Plan

Devon uses various high efficient closed loop systems (CLS). The CLS shown 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.

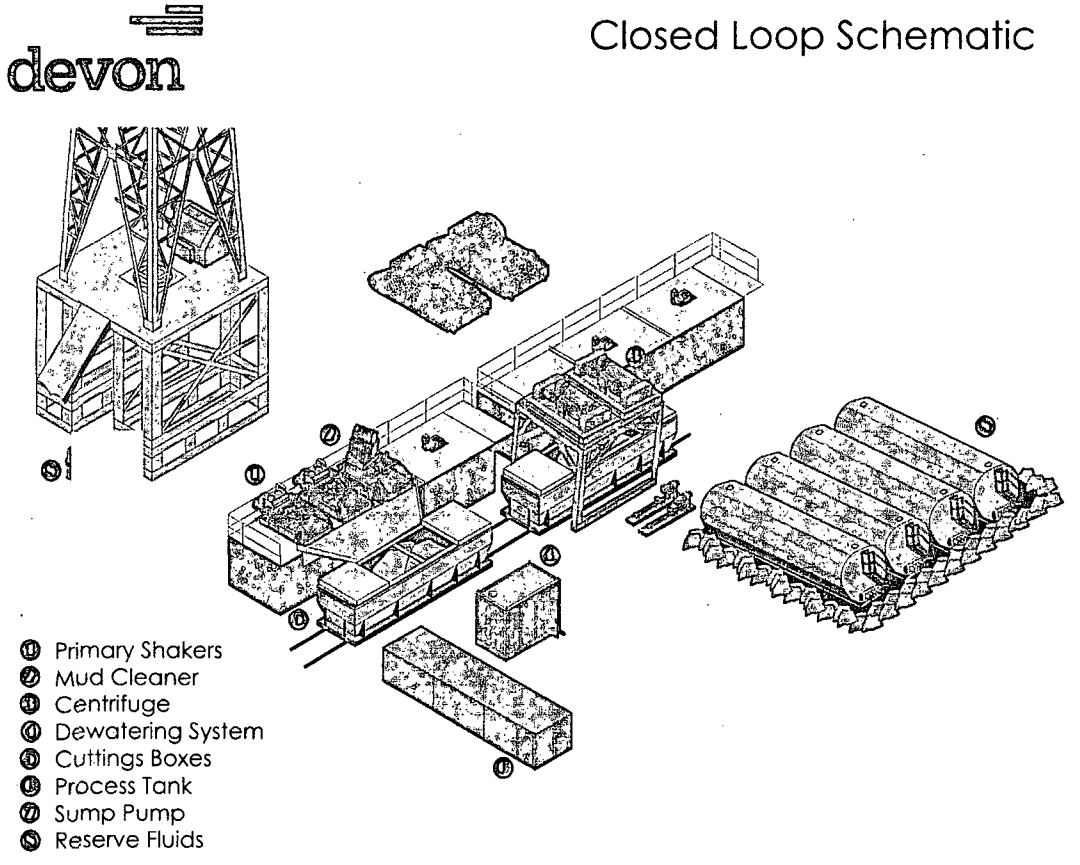
Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

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 utilized depending on the well's anticipated solids volume. One or two centrifuges can be used depending on the well geometry or depth of well. The centrifuges are sized to maintain low gravity solids at 5% or below. They may or may not need a dewatering system to enhance the removal rates. The centrifuges can make a cut point of 8-10 microns depending on bowl speed, feed rate, solids loading and other factors.

The centrifuge system is designed to work on the active system and be flexible to process incoming fluids from other locations. This set-up is also dependant on well factors.

Dewatering System: The dewatering system is a chemical mixing and dosing system designed to enhance the solids removal of the centrifuge. Not commonly used in shallow wells. It may contain pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing. Chemical flocculation binds

ultra fine solids into a mass that is within the centrifuge operating design. The dewatering system improves the centrifuge cut point to infinity or allows for the return of clear water or brine fluid. This ability allows for the ultimate control of low gravity solids.

Cuttings Boxes: Cuttings boxes are utilized to capture drill solids that are discarded from the solids control equipment. These boxes are set upon a rail system that allows for the removal and replacement of a full box of cuttings with an empty one. They are equipped with a cover that insures no product is spilled into the environment during the transportation phase.

Process Tank: (Optional) The process tank allows for the holding and process of fluids that are being transferred into the mud system. Additionally, during times of lost circulation the process tank may hold active fluids that are removed for additional treatment. It can further be used as a mixing tank during well control conditions.

Sump and Sump Pump: The sump is used to collect storm water and the pump is used to transfer this fluid to the active system or to the tank for to hold in reserve. It can also be used to collect fluids that may escape during spills. The location contains drainage ditches that allow the location fluids to drain to the sump.

Reserve Fluids (Tank Farm): A series of frac tanks are used to replace the reserve pit. These are steel tanks that are equipped with a manifold system and a transfer pump. These tanks can contain any number of fluids used during the drilling process. These can include fresh water, cut brine, and saturated salt fluid. The fluid can be from the active well or reclaimed fluid from other locations. A 20 ml liner and berm system is employed to ensure the fluids do not migrate to the environment during a spill.

If a leak develops, the appropriate division district office will be notified within 48 hours of the discovery and the leak will be addressed. Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and testing will be performed to determine if a release has occurred.

All trash is kept in a wire mesh enclosure and removed to an approved landfill when full. All spent motor oils are kept in separate containers and they are removed and sent to an approved recycling center. Any spilled lubricants, pipe

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

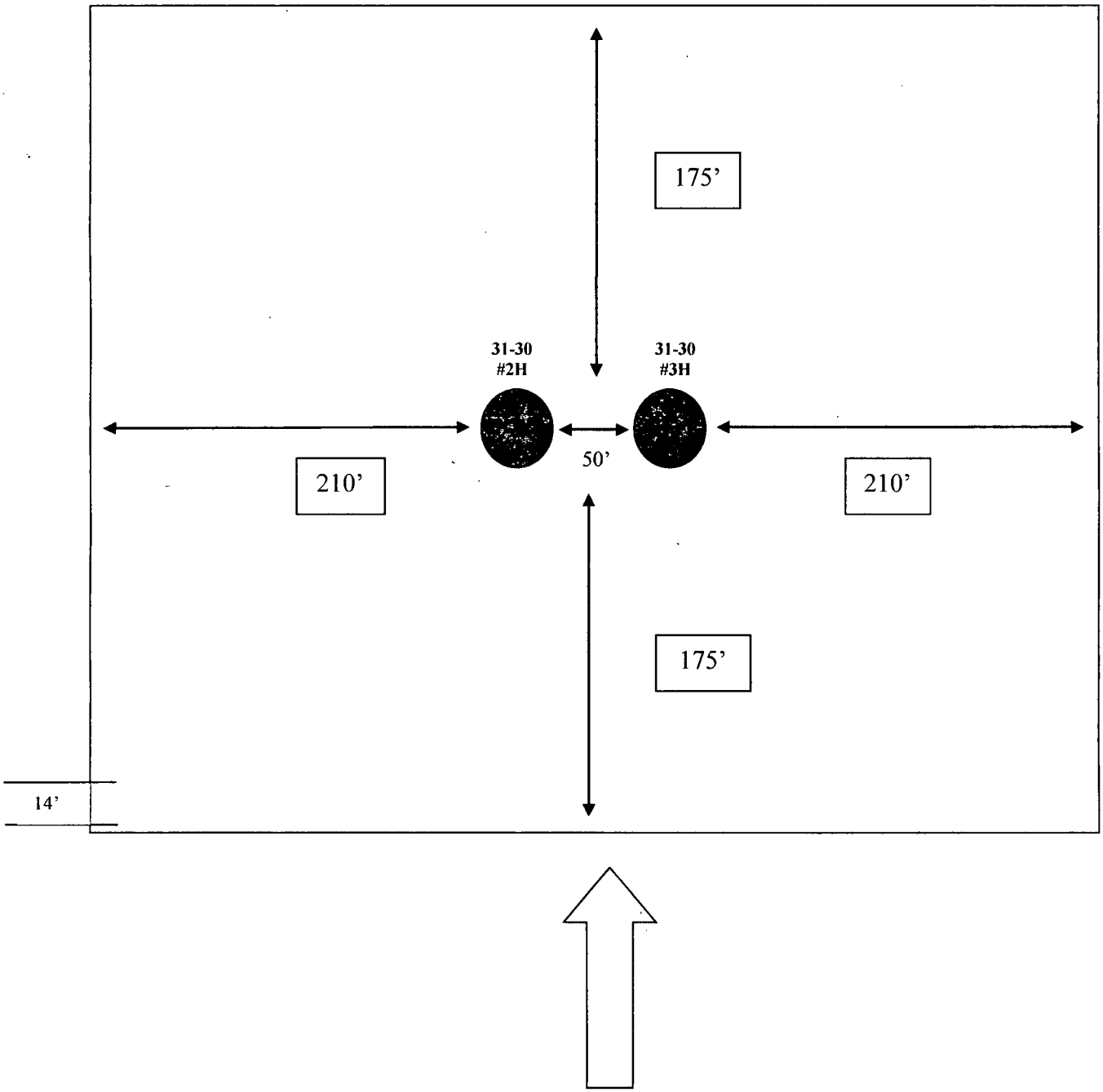
These operations are monitored by Solids Control service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for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

III. Closure Plan

A maximum 170' X 170' 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.

EXHIBIT 'D'

PAD SIZE ONLY
HARROUN TRUST 31-30 FED COM #2H
V-DOOR EAST



NORTH

H&P Flex Rig Location Layout
2 Well Pad

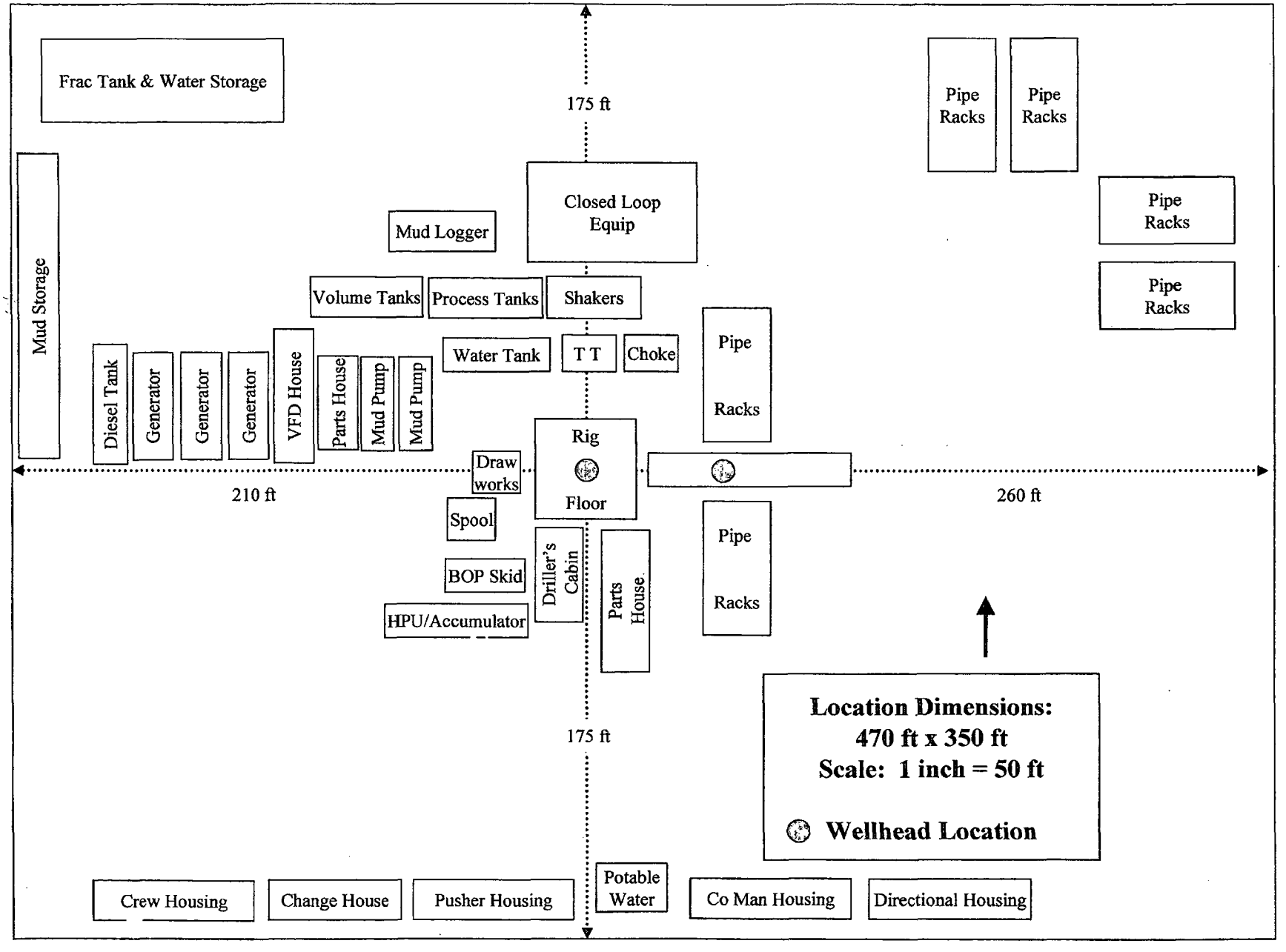
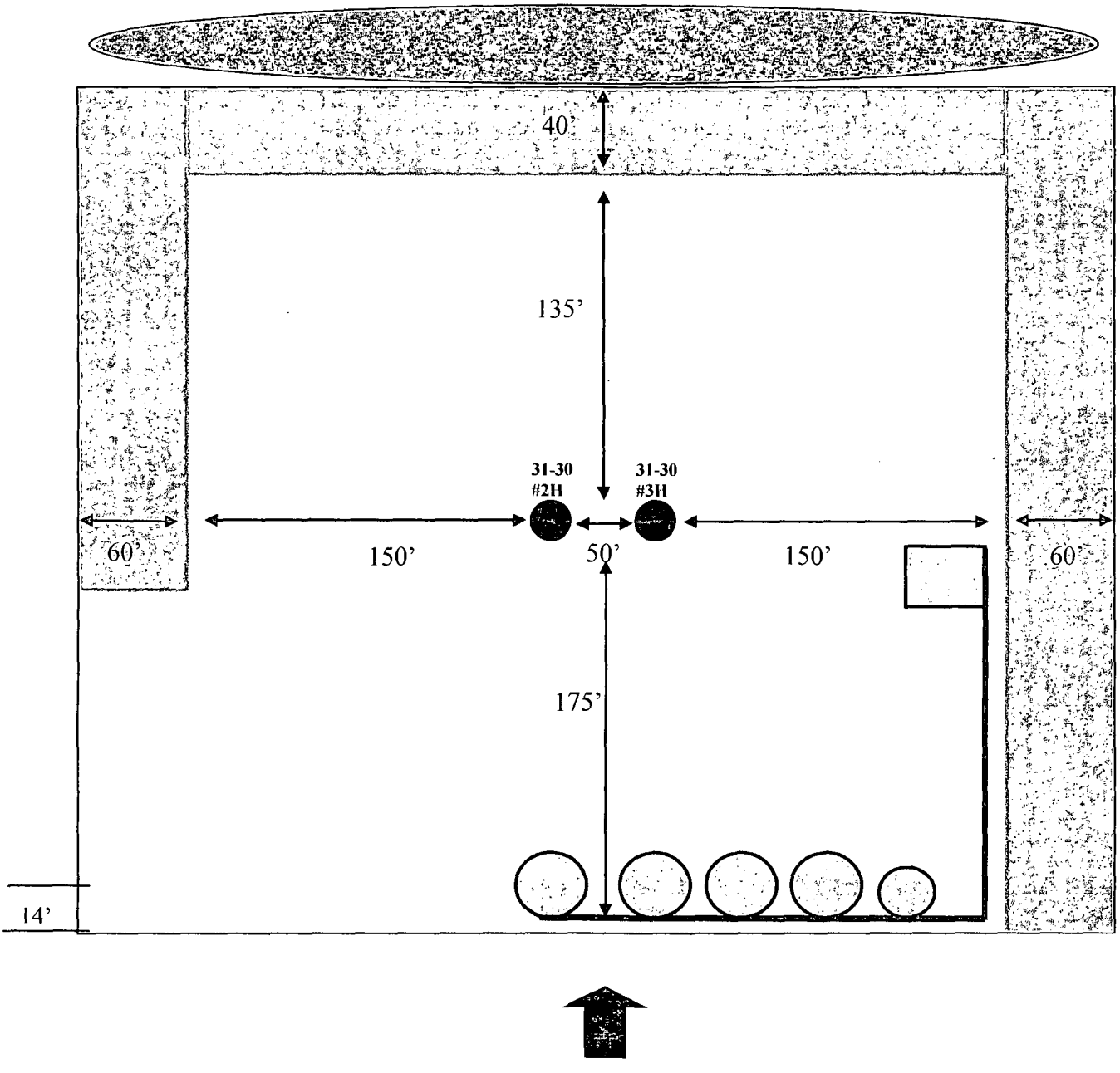


EXHIBIT C

Interim Reclamation & Production Facilities
HARROUN TRUST 31-30 FED COM #2H
V-DOOR EAST



LEGEND

Well Bore

Topsoil

Interim Reclamation

Berm

Production Facilities

NORTH

SURFACE USE PLAN

Devon Energy Production Company, L. P.
Harroun Trust 31-30 Fed Com 2H
Surface Hole: 330 FSL & 1305 FWL
Section 31, T. 23 S., R. 29 E
Bottom Hole: 2310 FSL & 660 FWL
Section 30, T. 23 S., R. 29 E
Eddy County, New Mexico

This plan is submitted with form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effect associated with the operations.

1. EXISTING ROADS:

A. DIRECTIONS: In Malaga, NM at the intersection of Highway 285 (Pecos Highway) and County Road 720 go east for 0.8 miles. Turn north on County Road 745 (Harroun Road) for 3.1 miles. Turn on lease road, to the north, for 0.5 miles to the beginning point of access road. All existing roads are either paved or a caliche lease road.

B. See attached plats and maps provided by WTC Surveys.

C. The access routes from Highway 285 to the well location is depicted on **Exhibit A.** The route highlighted in red is all on private surface or a County Road and does not require a ROW permit.

D. Existing roads on the access route will be improved and maintained to the standard set forth in Section 2 of this Surface Use Plan of Operations.

2. NEW OR RECONSTRUCTED ACCESS ROADS:

A. The new access road will begin at the southwest corner of the proposed well location and run west for 98 ft. to the existing lease road.

B. The maximum width of the driving surface will be 14 feet. The road will be crowned and ditched with a 2% slope from the tip of the crown to the edge of the driving surface. The ditches will be 1 foot deep with 3:1 slopes. The driving surface will be made of 6" rolled and compacted caliche.

Level Ground Section

C. Surface material will be native caliche. The average grade of the entire road will be approximately 3%.
D. Fence Cuts: Yes
E. Cattle guards: Yes (One)
F. Turnouts: No
G. Culverts: No
H. Cuts and Fills: Not significant

prior to any further construction activity. The topsoil that was stripped will be spread along the edge of the road and within the ditch. The topsoil will be seeded with the proper seed mix designated by the BLM.

J. The access road will be constructed and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along the access road route.

K. The access road and associated drainage structures will be constructed and maintained in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, The Gold Book, Fourth Edition and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction.

3. LOCATION OF EXISTING WELLS:

See attached map **(Exhibit B)** showing all wells within a one-mile radius.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

A. In the event the well is productive a battery or production facility will be installed on the south portion of this two well pad location.

B. All permanent (on site six months or longer) aboveground structures constructed or installed on location and not subject to safety requirements will be painted to BLM specifications.

C. Containment berms will be constructed completely around production facilities designed to hold fluids. The containment berns will be constructed or compacted subsoil, be sufficiently impervious, hold 1 ½ times the capacity of the largest tank and away from cut or fill areas.

5. LOCATION AND TYPE OF WATER SUPPLY:

The well will be drilled using a combination of water mud systems as outlined in the Drilling Program. The water will be obtained from commercial water stations in the area and hauled to the location by transport truck using the existing and proposed roads shown in the attached survey plats. If a commercial water well is nearby, a temporary, surface poly line, will be laid along existing roads or other ROW easements and the water pumped to the well. No water well will be drilled on the location.

6. SOURCE OF CONSTRUCTION MATERIALS:

Any construction material that may be required for surfacing of the drill pad and access road will be from a contractor having a permitted source of materials within the general area. No construction materials will be removed from Federal lands without prior approval from the appropriate surface management agency. All roads will be constructed of 6" rolled and compacted caliche.

7. METHODS OF HANDLING WASTE DISPOSAL:

A. The well will be drilled utilizing a closed loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to an NMOCD approved disposal site.

B. Drilling fluids will be contained in steel mud pits.

C. Water produced from the well during completion will be held temporarily in steel tanks and then taken to an NMOCD approved commercial disposal facility.

D. Oil produced during operations will be stored in tanks until sold.

E. Portable, self-contained chemical toilets will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents thereof disposed of in an approved sewage disposal facility. All state and local laws and regulations pertaining to disposal of human and solid waste will be complied with. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
F. All trash, junk, and other waste materials will be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Immediately after drilling all debris and other waste materials on and around the well location, not contained in the trash cage will be cleaned up and removed from the location. No potentially adverse materials or substances will be left on the location.

8. ANCILLARY FACILITIES:

No campsite, airstrip, or other facilities will be built as a result of the operation of this well. No staging areas are needed.

9. WELL SITE LAYOUT:

A. Exhibit A shows the dimensions of the proposed well pad.
B. The proposed well pad size will be 350' x 470' **(See Exhibit D). This will be a two well pad layout with the Harroun Trust 31-30 Fed Com well to the west and the Harroun Trust 31-30 Fee 3H 50 ft. east.** There will be no reserve pit due to the well being drilled utilizing a closed loop mud system. The closed loop system will meet the NMOCD requirements 19.15.17 .
C. The WTC Surveyor's plat, Form C-102 and **Exhibit D**, shows how the well will be turned to a V-Door East.
D. A 600' x 600' area has been staked and flagged.
E. All equipment and vehicles will be confined to the approved disturbed areas of this APD (i.e., access road, well pad, and topsoil storage areas)

10. PLANS FOR SURFACE RECLAMATION:

A. After concluding the drilling and/or completion operations, if the well is found non-commercial, all the equipment will be removed, the surface material, caliche, will be removed from the well pad and road and transported to the original caliche pit or used for other roads. The original stock piled top soil will be returned to the pad and contoured, as close as possible, to the original topography. The access road will have the caliche removed and the road ripped, barricaded and seeded as directed by the BLM.
B. If the well is a producer, the portions of the location not essential to production facilities or space required for workover operations, will be reclaimed and seeded as per BLM requirements. **(SEE EXHIBIT C FOR INTERIM RECLAMATION PLAT FOR THIS WELL)**
C. Reclamation Performance Standards
The following reclamation performance standards will be met:

Interim Reclamation – Includes disturbed areas that may be redisturbed during operations and will be redisturbed at final reclamation to achieve restoration of the original landform and a natural vegetative community.

- Disturbed areas not needed for active, long-term production operations or vehicle travel will be recontoured, protected from erosion, and revegetated with a self-sustaining, vigorous, diverse, native (or as otherwise approved) plant community sufficient to minimize visual

impacts, provide forage, stabilize soils, and impede the invasion of noxious, invasive, and non-native weeds.

Final Reclamation – Includes disturbed areas where the original landform and a natural vegetative community will be restored and it is anticipated the site will not be redisturbed for future development.

- The original landform will be restored for all disturbed areas including well pads, production facilities, roads, pipelines, and utility corridors.
- A self-sustaining, vigorous, diverse, native (or otherwise approved) plant community will be established on the site, with a density sufficient to control erosion and invasion by non-native plants and to re-establish wildlife habitat or forage production. At a minimum, the established plant community will consist of species included in the seed mix and/or desirable species occurring in the surrounding natural vegetation.
- Erosion features are equal to or less than surrounding area and erosion control is sufficient so that water naturally infiltrates into the soil and gullying, headcutting, slumping, and deep or excessive rills (greater than 3 inches) are not observed.
- The site will be free of State- or county-listed noxious weeds, oil field debris and equipment, and contaminated soil. Invasive and non-native weeds are controlled.

D. Reclamation Actions

Earthwork for interim and final reclamation will be completed within 6 months of well completion or plugging unless a delay is approved in writing by the BLM authorized officer.

The following minimum reclamation actions will be taken to ensure that the reclamation objectives and standards are met. It may be necessary to take additional reclamation actions beyond the minimum in order to achieve the Reclamation Standards.

<u>Reclamation – General</u>

Notification:
- The BLM will be notified at least 3 days prior to commencement of any reclamation operations.

Housekeeping:
- Within 30 days of well completion, the well location and surrounding areas(s) will be cleared of, and maintained free of, all debris, materials, trash, and equipment not required for production.
- No hazardous substances, trash, or litter will be buried or placed in pits.

Topsoil Management:
- Operations will disturb the minimum amount of surface area necessary to conduct safe and efficient operations.
- Topsoil depth is defined as the top layer of soil that contains 80% of the roots. In areas to be heavily disturbed, the topsoil will be stripped and stockpiled around the perimeter of the well location and along the perimeter of the access road to control run-on and run-off, to keep topsoil viable, and to make redistribution of topsoil more efficient during interim reclamation. Stockpiled

- No major depressions will be left that would trap water and cause ponding unless the intended purpose is to trap runoff and sediment.

Seeding:

- Seedbed Preparation. Initial seedbed preparation will consist of recontouring to the appropriate interim or final reclamation standard. All compacted areas to be seeded will be ripped to a minimum depth of 18 inches with a minimum furrow spacing of 2 feet, followed by recontouring the surface and then evenly spreading the stockpiled topsoil. Prior to seeding, the seedbed will be scarified to a depth of no less than 4 – 6 inches. If the site is to be broadcast seeded, the surface will be left rough enough to trap seed and snow, control erosion, and increase water infiltration.
- If broadcast seeding is to be used and is delayed, final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.
- Seed Application. Seeding will be conducted no more than two weeks following completion of final seedbed preparation. A certified weed-free seed mix designed by the BLM to meet reclamation standards will be used.
- If the site is harrowed or dragged, seed will be covered by no more than 0.25 inch of soil.

11. SURFACE OWNERSHIP:

A. The surface is owned by John Draper Brantley & Henry McDonald at 706 W. Riverside Dr., Carlsbad, NM 88220. The surface is multiple use with the primary uses of the region for the grazing of livestock and the production of oil and gas.

12. OTHER INFORMATION:

A. The area surrounding the well site is in a fairly flat, sandy loam type, within a rolling sand hills type area. The vegetation consists of Shinnery Oak, Mesquite, Sand Sage with three-awns and some dropseed species.
B. There is no permanent or live water in the immediate area.
C. There are no dwellings within 2 miles of this location.
D. The location falls within the MOA area and all known sites were avoided. A check for $1463 was submitted with this application.

13. BOND COVERAGE:

Bond Coverage is Nationwide; Bond Number NMB-000801 and CO-1104.

OPERATORS REPRESENTATIVE:

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

Surface:
Barry W. Hunt – Permitting Agent
1403 Springs Farm Place
Carlsbad, NM 88220
(575) 885-1417 (Home)
(575) 361-4078 (Cell)

Drilling & Production:
James Cromer – Operations Engineer, Devon Energy Production, L.P.
333 W. Sheridan
Oklahoma City, Ok.73102
(405) 228-4464 (Office)
(405) 694-7718 (Cell)

ON-SITE PERFORMED ON 6/22/12 RESULTED IN PROPOSED LOCATION BEING LEFT WHERE STAKED. IT WAS AGREED TO TURN THE LOCATION TO A V-DOOR EAST. IT WAS FURTHER AGREED TO PLACE THE TOPSOIL TO THE NORTH, BATTERY TO THE SOUTH AND INTERIM RECLAMATION WOULD BE THE NORTH, EAST, AND WEST PORTION OF THE PAD.

PRESENT AT ON-SITE:
BARRY HUNT – PERMIT AGENT FOR DEVON ENERGY PRODUCTION COMPANY
JUSTIN FRYE – BLM
WTC SURVEYORS

PECOS DISTRICT
CONDITIONS OF APPROVAL

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

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)

Visual Resource Management

To minimize the visual impacts the following COA(s) will apply:

Above-ground structures including meter housing that are not subject to safety requirements are painted a flat non-reflective paint color Shale Green, Munsell Soil Color No. 5Y 4/2"

Low-profile tanks not greater than eight feet high shall be used to minimize visual impacts to the natural features of the landscape.

The proposed construction will be limited to the approved pad size.

Any existing tanks will be replaced with a low profile tank and painted the same color as the proposed tanks.

Upon completion of the well and installation of the production facilities (if the well is a producer) the pad will be reclaimed back to a size necessary for production operations only. The edges will be recontoured and the extra caliche and pad material will be hauled off-site. The BLM may require additional reclamation depending upon vegetation recovery.

The reclaimed area will be recontoured and reseeded according to vegetation and soil type.

Communitization Agreement

A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales. In addition, the well sign shall include the surface and bottom hole lease numbers. If the Communitization Agreement number is known, it shall also be on the sign. If not, it shall be placed on the sign when the sign is replaced.

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 4 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 (20) 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.

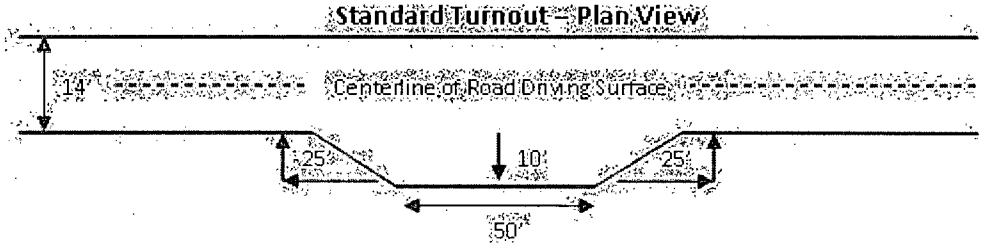
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

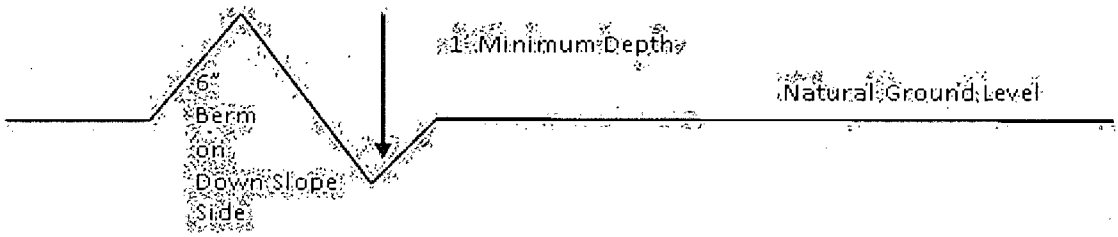
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



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:

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

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

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

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

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

Fence Requirement

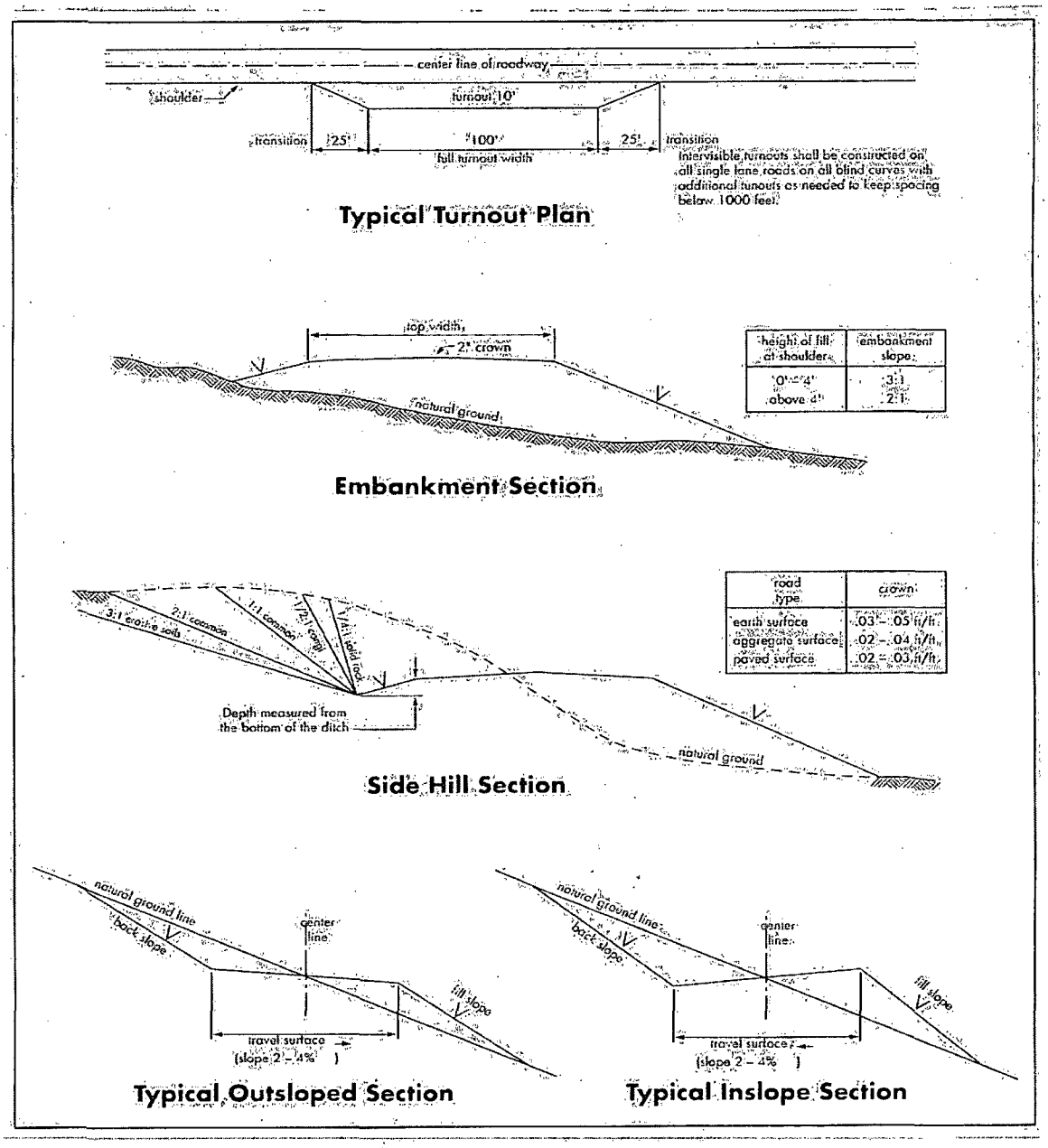
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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

Public Access

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

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified 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. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, report measured amounts 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. 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.

Medium Cave/Karst
Possible Lost circulation in the Delaware and Bone Spring.

1. The **13-3/8** inch surface casing shall be set at approximately 350 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

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

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

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

   a. First stage to DV tool:

   ☒ Cement 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, contact the appropriate BLM office. **Additional cement may be required – excess calculates to 4%.**

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 **3000 (3M)** psi.

   a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

4. 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**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

   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.

CRW 050113

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

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

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

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

VRM Facility Requirement
Low-profile tanks not greater than eight-feet-high shall be used.

B. PIPELINES (not applied for in APD)

C. ELECTRIC LINES (not applied for in APD)

IX. INTERIM RECLAMATION

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

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

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

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

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

X. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

Seed Mixture 1, for Loamy 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 regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/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
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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