

Form 3160-3
(February 2005)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No 1004-0137
Expires March 31, 20075 Lease Serial No. **3**
SL: NM055729 BHL: NM28428
~~551729~~

6 If Indian, Allottee or Tribe Name

1a. Type of work: ☒ DRILL ☐ REENTER1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone2. Name of Operator
Devon Energy Production Co., LP3a Address 20 North Broadway
OKC, OK 731023b. Phone No. (include area code)
(405)-552-7802

7 If Unit or CA Agreement, Name and No

8. Lease Name and Well No.
Rigel 20 Federal Com 1H9 APL Well No.
30-015-3939310 Field and Pool, or Exploratory
Hackberry; Bone Spring, NW

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

At surface NWNW 425' FNL & 330' FWL Lot D

At proposed prod. zone NENE 400' FNL & 330' FEL Lot A

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

Sec 20-T19S-R31E

14 Distance in miles and direction from nearest town or post office*
Approximately 10 miles southeast of Loco Hills, NM.12 County or Parish
Eddy13 State
NM15 Distance from proposed*
location to nearest
property or lease line, ft
(Also to nearest drig unit line, if any) 330'16 No of acres in lease
SL: 320 ac BHL: 40 ac17 Spacing Unit dedicated to this well
16018 Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft SL: 670' BHL: 640'19 Proposed Depth
8123
TVD 8900' MD 13302'20 BLM/BIA Bond No. on file
PH: 9220' CO-110421 Elevations (Show whether DF, KDB, RT, GL, etc.)
3418' GL22 Approximate date work will start*
02/11/201123. Estimated duration
45 days

24. Attachments

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

- Well plat certified by a registered surveyor
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office)

- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the BLM.

25 Signature
Sr. Staff Engineering TechnicianName (Printed/Typed)
Stephanie A. YsasagaDate
01/15/2011Approved by (Signature)
Is/ Don Peterson
Title
FIELD MANAGERName (Printed/Typed)
Office
CARLSBAD FIELD OFFICEDate
AUG 26 2011

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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

*(Instructions on page 2)

Capitan Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached

DRILLING PROGRAM

Devon Energy Production Company, LP

Rigel 20 Federal Com 1H

Surface Location: 425' FNL & 330' FWL, Unit D, Sec 20 T19S R31E, Eddy, NM

Bottom hole Location: 400' FNL & 330' FEL, Unit A, Sec 20 T19S R31E, Eddy, NM

1. Geologic Name of Surface Formation

- a. Permian

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

a. Quaternary Alluvium	95'	Fresh Water
b. Rustler	335'	Barren
c. Salado	600'	Barren
d. Tansil Dolomite	1975'	Barren
e. Yates	2115'	Oil
f. Seven Rivers	2465'	Oil
g. Capitan	2745'	Barren
h. Queen	3235'	Barren
i. Delaware	4370'	Oil
j. Lower Brushy Canyon	6190'	Oil
k. Bone Springs Lm	6490'	Oil
l. 1 st Bone Spring Ss	7815'	Oil
m. 2 nd Bone Spring Lime	8140'	Oil
n. 2 nd Bone Spring Ss	8680'	Oil
o. 2 nd Bone Spring Middle Ss	8830'	Oil
p. 2 nd Bone Spring Middle Ss Base	8920'	Oil
q. 3 rd Bone Spring Lm	9095'	Oil
r. Pilot Hole	9220'	
s. Total Depth	TVD 8900' MD 13302'	

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13 3/8" casing at ~~400'~~ and circulating cement back to surface. The fresh water sands will be protected by setting 9 5/8" casing at ~~3200'~~ and circulating cement to surface. The Delaware intervals will be isolated by setting 5 1/2" casing to total depth and circulating cement above the base of the 9 5/8" casing. All casing is new and API approved.

NOTE: THIS WELL WILL BE DRILLED WITH A PILOT HOLE (PH)

3. Casing Program:

	<u>Hole Size</u>	<u>Hole Interval</u>	<u>OD Csg</u>	<u>Casing Interval</u>	<u>Weight</u>	<u>Collar</u>	<u>Grade</u>
See	17 1/2"	0' - 400' 470'	13 3/8"	0' - 400'	48#	STC	H-40
COA	12 1/4"	400' - 3200' 3975'	9 5/8"	0' - 3200'	36#	LTC	J-55

8 3/4"	3200' -8100	5 1/2"	0'-8100'	17#	LTC	HCP-110
8 3/4"	8100'-13302'	5 1/2"	8100-13302'	17#	BTC	HCP-110

An 8-3/4" pilot hole will be drilled to 9,220 ft and plugged back to KOP with a cement plug and openhole whipstock. The pilot hole will be cemented from the pilot hole TD to the KOP. The whipstock will be set at approx 8,410 ft (KOP).

Design Parameter Factors:

<u>Casing Size</u>	<u>Collapse Design Factor</u>	<u>Burst Design Factor</u>	<u>Tension Design Factor</u>
13 3/8"	2.99	6.72	12.20
9 5/8" 40# J-55	1.23	2.15	2.74
5 1/2" 17# LTC HCP-110	1.64	2.02	1.55
5 1/2" 17# BTC HCP-110	1.84	2.27	5.22

4. Cement Program: (Note: All cement volumes are calculated with 25% excesses.)

- a. 13 3/8" Conductor **Lead:** 250 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 4% bwoc Bentonite + 81.4% Fresh Water, 13.5 ppg. **Yield:** 1.75 cf/sk
- Tail:** 250 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3% Fresh Water, 14.8 ppg. **Yield:** 1.35 cf/sk.. **TOC @ surface.**
- b. 9 5/8" Intermediate **Lead:** 750 sacks (35:65) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 107.8% Fresh Water, 12.5 ppg. **Yield:** 1.96 cf/sk
- Tail:** 300 sacks Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.4% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 52.7% Water, 14.8 ppg. **Yield:** 1.34 cf/sk. **TOC @ surface.**
- c. 5 1/2" Production **1st Stage**
Lead: 900 sacks (35:65) Poz (Fly Ash):Class H Cement + 5% bwow Sodium Chloride + 0.3% bwoc CD-32 + 0.5% bwoc FL-25 + 2% bwoc Bentonite + 0.6% bwoc Sodium Metasilicate + 0.5% bwoc FL-52A + 102.5% Fresh Water, 12.5 ppg. **Yield:** 2.00 cf/sk
- Tail:** 1,400 sacks (50:50) Poz (Fly Ash):Class H Cement + 1% bwow Sodium Chloride + 0.2% bwoc R-3 + 0.125 lbs/sack Cello Flake + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 58.3% Fresh Water, 14.2 ppg. **Yield:** 1.28 cf/sk

DV TOOL at ~4,500 ft

2nd Stage

Lead: 250 sacks Class C Cement + 1% bwow Calcium Chloride + 0.125 lbs/sack Cello Flake + 157.8% Fresh Water, 11.4 ppg. **Yield:** 2.89 cf/sk

Tail: 150 sacks (60:40) Poz (Fly Ash):Class C Cement + 1% bwow Sodium Chloride + 0.2% bwoc R-3 + 0.125 lbs/sack Cello Flake + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 63.2% Fresh Water, 13.8 ppg. **Yield:** 1.37cf/sk. **TOC @ 2,700'**

8-3/4" Pilot Hole Plug

700 sacks Class H, 18.0 ppg, 0.9 cf/sk
Top of Plug 8,410 ft (KOP)
Bottom of Plug 9,220 ft (pilot hole TD)

TOC for All Strings:

Surface: 0'
Intermediate: 0'
Production: 2,700'

The above cement volumes could be revised pending the caliper measurement from the open hole logs. Actual cement volumes will be adjusted bases on fluid caliper and caliper log data.

5. **Pressure Control Equipment:**

BOP DESIGN: 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 each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 3,000 psi WP.

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.

6. **Proposed Mud Circulation System**

<u>Depth</u>	<u>Mud Wt.</u>	<u>Visc</u>	<u>Fluid Loss</u>	<u>Type System</u>
0' - 400' 470	8.4-9.0	30-34	NC	Fresh Water
400' - 3200' 3975	9.8-10.0	28-32	NC	Brine
3200' - 13302'	8.6-9.0	28-32	NC-12	Fresh Water

The necessary mud products for weight addition and fluid loss control will be on location at all times.

7. Auxiliary Well Control and Monitoring Equipment:

- a. A Kelly cock will be in the drill string at all times.
- b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
- c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 5 1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13 3/8" shoe until total depth is reached.

8. Logging, Coring, and Testing Program: *See COA*

- a. Drill stem tests will be based on geological sample shows.
- b. If a drill stem test is anticipated; a procedure, equipment to be used and safety measures will be provided via sundry notice to the BLM.
- c. The open hole electrical logging program will be:
 - i. Total Depth to Intermediate Casing Dual Laterolog-Micro Laterolog with SP and Gamma Ray. Compensated Neutron – Z Density log with Gamma Ray and Caliper.
 - ii. Total Depth to Surface Compensated Neutron with Gamma Ray
 - iii. No coring program is planned
 - iv. Additional testing will be initiated subsequent to setting the 5 1/2" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

9. Potential Hazards:

- a. No abnormal pressures or temperatures are expected. There is no known presence of H₂S in this area. If H₂S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6 No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 3800 psi and Estimated BHT 140°. No H₂S is anticipated to be encountered.

10. Anticipated Starting Date and Duration of Operations:

- a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 32 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

11. Depending on rig availability, Devon may set the surface casing using an Ashton Oilfield Services rig.

- a. The rig plat is attached (if applicable). This rig will be used only to set the surface casing and will leave the location once the surface casing has been run and cemented. Another rig will drill the remainder of the wellbore. The reasons for using the smaller rig to set surface are: rig availability and economics.

- b. The BLM will be contacted 24 hours prior to commencing drilling operations. The surface casing will be run and cemented back to surface as per the approved APD. The well will be secured with a cap welded onto the surface casing. Another rig will be on location to drill the remainder of the wellbore within 60 days after the Ashton rig has left the location.

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED

DATE

BY
[Signature]



Weatherford[®]

Drilling Services

Proposal



devon

RIGEL 20 FED COM #1H

EDDY COUNTY, NM

WELL FILE: **PLAN 1**

DECEMBER 30, 2010

Weatherford International, Ltd.

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Rigel 20 Fed Com #1H
Eddy Co, NM

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	89.37	0.00	0.00	0.00	0.00	0.00	0.00	
2	8410.62	0.00	89.37	8410.62	0.00	0.00	0.00	0.00	0.00	
3	9151.55	88.91	89.37	8888.00	5.14	468.36	12.00	89.37	468.39	
4	10993.49	88.91	89.37	8923.00	25.34	2309.86	0.00	0.00	2310.00	2310 Vsec
5	11049.49	90.59	89.37	8923.24	25.95	2365.86	3.00	0.00	2366.00	
6	13301.89	90.59	89.37	8900.00	50.66	4618.00	0.00	0.00	4618.28	Pbhl

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Rigel 20 Fed Com #1H	0.00	0.00	601184.15	675027.79	32°39'07.012N	103°53'56.264W	N/A

TARGET DETAILS

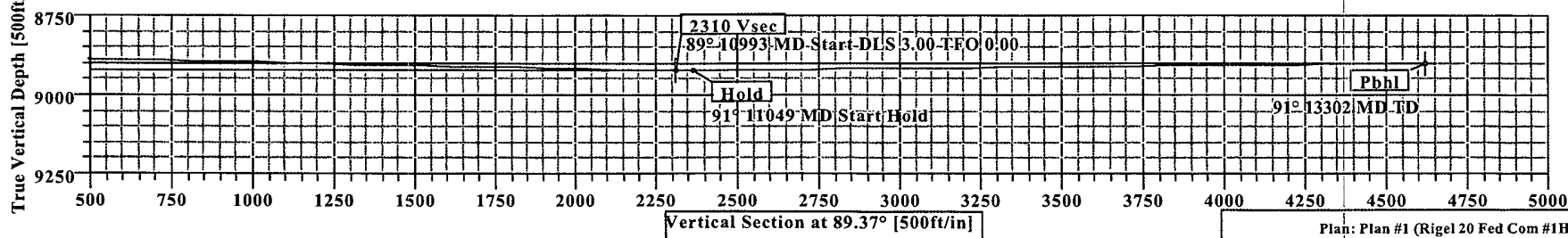
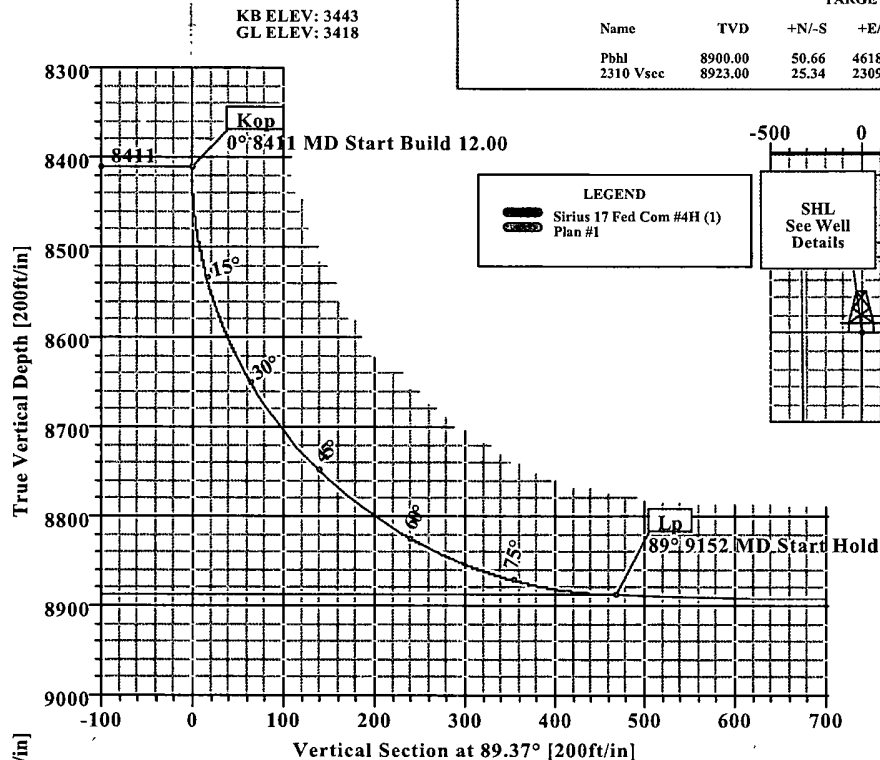
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Pbhl	8900.00	50.66	4618.00	601234.81	679645.79	Point
2310 Vsec	8923.00	25.34	2309.86	601209.49	677337.65	Point

FIELD DETAILS

Eddy Co., NM (NAD 83)
Geodetic System: US State Plane Coordinate System 1983
Ellipsoid: GRS 1980
Zone: New Mexico, Eastern Zone
Magnetic Model: IGRF2010
System Datum: Mean Sea Level
Local North: Grid North

SITE DETAILS

Rigel 20 Fed Com #1H
Site Centre Northing: 601184.15
Easting: 675027.79
Ground Level: 3418.00
Positional Uncertainty: 0.00
Convergence: 0.23





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WFT Plan Report - X & Y's

**Weatherford®**

Company: Devon Energy	Date: 12/30/2010	Time: 07:42:58	Page: 1
Field: Eddy Co., NM (NAD 83)	Co-ordinate(NE) Reference: Well: Rigel 20 Fed Com #1H, Grid North		
Site: Rigel 20 Fed Com #1H	Vertical (TVD) Reference: SITE 3443.0		
Well: Rigel 20 Fed Com #1H	Section (VS) Reference: Well (0.00N,0.00E,89.37Azi)		
Wellpath: 1	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Plan: Plan #1	Date Composed: 12/29/2010
Principal: Yes	Version: 1
	Tied-to: From Surface

Field: Eddy Co., NM (NAD 83)

Map System: US State Plane Coordinate System 1983	Map Zone: New Mexico, Eastern Zone
Geo Datum: GRS 1980	Coordinate System: Well Centre
Sys Datum: Mean Sea Level	Geomagnetic Model: IGRF2010

Site: Rigel 20 Fed Com #1H

Site Position:	Northing: 601184.15 ft	Latitude: 32 39 7.012 N
From: Map	Easting: 675027.79 ft	Longitude: 103 53 56.264 W
Position Uncertainty: 0.00 ft		North Reference: Grid
Ground Level: 3418.00 ft		Grid Convergence: 0.23 deg

Well: Rigel 20 Fed Com #1H	Slot Name:
Well Position: +N/-S 0.00 ft	Northing: 601184.15 ft
+E/-W 0.00 ft	Easting: 675027.79 ft
Position Uncertainty: 0.00 ft	Latitude: 32 39 7.012 N
	Longitude: 103 53 56.264 W

Wellpath: 1	Drilled From: Surface
Current Datum: SITE	Tie-on Depth: 0.00 ft
Magnetic Data: 5/15/2011	Above System Datum: Mean Sea Level
Field Strength: 48872 nT	Declination: 7.78 deg
Vertical Section: Depth From (TVD)	Mag Dip Angle: 60.53 deg
	+N/-S
	+E/-W
	Direction
	deg
0.00	0.00
0.00	89.37

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	89.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8410.62	0.00	89.37	8410.62	0.00	0.00	0.00	0.00	0.00	0.00	
9151.55	88.91	89.37	8888.00	5.14	468.36	12.00	12.00	0.00	89.37	
10993.49	88.91	89.37	8923.00	25.34	2309.86	0.00	0.00	0.00	0.00	2310 Vsec
11049.49	90.59	89.37	8923.24	25.95	2365.86	3.00	3.00	0.00	0.00	
13301.89	90.59	89.37	8900.00	50.66	4618.00	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
8400.00	0.00	89.37	8400.00	0.00	0.00	0.00	0.00	601184.15	675027.79	
8410.62	0.00	89.37	8410.62	0.00	0.00	0.00	0.00	601184.15	675027.79	Kop
8500.00	10.73	89.37	8499.48	0.09	8.34	8.34	12.00	601184.24	675036.13	
8600.00	22.73	89.37	8595.07	0.41	37.07	37.07	12.00	601184.56	675064.86	
8700.00	34.73	89.37	8682.61	0.93	85.04	85.04	12.00	601185.08	675112.83	
8800.00	46.73	89.37	8758.25	1.65	150.16	150.17	12.00	601185.80	675177.95	
8900.00	58.73	89.37	8818.70	2.52	229.58	229.60	12.00	601186.67	675257.37	
9000.00	70.73	89.37	8861.32	3.51	319.84	319.86	12.00	601187.66	675347.63	
9100.00	82.73	89.37	8884.24	4.57	416.98	417.01	12.00	601188.72	675444.77	
9151.55	88.91	89.37	8888.00	5.14	468.36	468.39	12.00	601189.29	675496.15	Lp
9200.00	88.91	89.37	8888.92	5.67	516.81	516.84	0.00	601189.82	675544.60	
9300.00	88.91	89.37	8890.82	6.77	616.78	616.82	0.00	601190.92	675644.57	
9400.00	88.91	89.37	8892.72	7.86	716.76	716.80	0.00	601192.01	675744.55	
9500.00	88.91	89.37	8894.62	8.96	816.73	816.78	0.00	601193.11	675844.52	
9600.00	88.91	89.37	8896.52	10.06	916.71	916.76	0.00	601194.21	675944.50	



Weatherford International Ltd.

WFT Plan Report - X & Y's



Company: Devon Energy
Field: Eddy Co., NM (NAD 83)
Site: Rigel 20 Fed Com #1H
Well: Rigel 20 Fed Com #1H
Wellpath: 1

Date: 12/30/2010 Time: 07:42:58 Page: 2
Co-ordinate(NE) Reference: Well: Rigel 20 Fed Com #1H, Grid North
Vertical (TVD) Reference: SITE 3443.0
Section (VS) Reference: Well (0.00N,0.00E,89.37Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
9700.00	88.91	89.37	8898.42	11.15	1016.69	1016.75	0.00	601195.30	676044.48	
9800.00	88.91	89.37	8900.32	12.25	1416.66	1416.73	0.00	601196.40	676144.45	
9900.00	88.91	89.37	8902.22	13.35	1216.64	1216.71	0.00	601197.50	676244.43	
10000.00	88.91	89.37	8904.12	14.44	1316.61	1316.69	0.00	601198.59	676344.40	
10100.00	88.91	89.37	8906.02	15.54	1416.59	1416.67	0.00	601199.69	676444.38	
10200.00	88.91	89.37	8907.92	16.64	1516.56	1516.66	0.00	601200.79	676544.35	
10300.00	88.91	89.37	8909.82	17.73	1616.54	1616.64	0.00	601201.88	676644.33	
10400.00	88.91	89.37	8911.72	18.83	1716.52	1716.62	0.00	601202.98	676744.31	
10500.00	88.91	89.37	8913.62	19.93	1816.49	1816.60	0.00	601204.08	676844.28	
10600.00	88.91	89.37	8915.52	21.02	1916.47	1916.58	0.00	601205.17	676944.26	
10700.00	88.91	89.37	8917.42	22.12	2016.44	2016.57	0.00	601206.27	677044.23	
10800.00	88.91	89.37	8919.32	23.22	2116.42	2116.55	0.00	601207.37	677144.21	
10900.00	88.91	89.37	8921.22	24.31	2216.40	2216.53	0.00	601208.46	677244.19	
10993.49	88.91	89.37	8923.00	25.34	2309.86	2310.00	0.00	601209.49	677337.65	2310 Vsec
11000.00	89.11	89.37	8923.11	25.41	2316.37	2316.51	3.00	601209.56	677344.16	
11049.49	90.59	89.37	8923.24	25.95	2365.86	2366.00	3.00	601210.10	677393.65	Hold
11100.00	90.59	89.37	8922.72	26.51	2416.36	2416.51	0.00	601210.66	677444.15	
11200.00	90.59	89.37	8921.69	27.60	2516.35	2516.50	0.00	601211.75	677544.14	
11300.00	90.59	89.37	8920.66	28.70	2616.34	2616.50	0.00	601212.85	677644.13	
11400.00	90.59	89.37	8919.63	29.80	2716.33	2716.49	0.00	601213.95	677744.12	
11500.00	90.59	89.37	8918.59	30.90	2816.32	2816.49	0.00	601215.05	677844.11	
11600.00	90.59	89.37	8917.56	31.99	2916.31	2916.48	0.00	601216.14	677944.10	
11700.00	90.59	89.37	8916.53	33.09	3016.29	3016.48	0.00	601217.24	678044.08	
11800.00	90.59	89.37	8915.50	34.19	3116.28	3116.47	0.00	601218.34	678144.07	
11900.00	90.59	89.37	8914.47	35.28	3216.27	3216.46	0.00	601219.43	678244.06	
12000.00	90.59	89.37	8913.43	36.38	3316.26	3316.46	0.00	601220.53	678344.05	
12100.00	90.59	89.37	8912.40	37.48	3416.25	3416.45	0.00	601221.63	678444.04	
12200.00	90.59	89.37	8911.37	38.57	3516.24	3516.45	0.00	601222.72	678544.03	
12300.00	90.59	89.37	8910.34	39.67	3616.23	3616.44	0.00	601223.82	678644.02	
12400.00	90.59	89.37	8909.31	40.77	3716.21	3716.44	0.00	601224.92	678744.00	
12500.00	90.59	89.37	8908.27	41.86	3816.20	3816.43	0.00	601226.01	678843.99	
12600.00	90.59	89.37	8907.24	42.96	3916.19	3916.43	0.00	601227.11	678943.98	
12700.00	90.59	89.37	8906.21	44.06	4016.18	4016.42	0.00	601228.21	679043.97	
12800.00	90.59	89.37	8905.18	45.15	4116.17	4116.42	0.00	601229.30	679143.96	
12900.00	90.59	89.37	8904.15	46.25	4216.16	4216.41	0.00	601230.40	679243.95	
13000.00	90.59	89.37	8903.12	47.35	4316.15	4316.41	0.00	601231.50	679343.94	
13100.00	90.59	89.37	8902.08	48.45	4416.14	4416.40	0.00	601232.60	679443.93	
13200.00	90.59	89.37	8901.05	49.54	4516.12	4516.40	0.00	601233.69	679543.91	
13300.00	90.59	89.37	8900.02	50.64	4616.11	4616.39	0.00	601234.79	679643.90	
13301.89	90.59	89.37	8900.00	50.66	4618.00	4618.28	0.00	601234.81	679645.79	Pbhl

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude ---> Deg Min Sec	<--- Longitude ---> Deg Min Sec
Pbhl			8900.00	50.66	4618.00	601234.81	679645.79	32 39 7.323 N	103 53 2.247 W
2310 Vsec			8923.00	25.34	2309.86	601209.49	677337.65	32 39 7.168 N	103 53 29.245 W



Weatherford International Ltd.
WFT Plan Report - X & Y's



Company: Devon Energy
Field: Eddy Co., NM (NAD 83)
Site: Rigel 20 Fed Com #1H
Well: Rigel 20 Fed Com #1H
Wellpath: 1

Date: 12/30/2010 Time: 07:42:58 Page: 3
Co-ordinate(NE) Reference: Well: Rigel 20 Fed Com #1H, Grid North
Vertical (TVD) Reference: SITE 3443.0
Section (VS) Reference: Well (0.00N,0.00E,89.37Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Casing Points

MD	TVD	Diameter	Hole Size	Name

Annotation

MD ft	TVD ft	
8410.62	8410.62	Kop
9151.55	8888.00	Lp
10993.49	8923.00	Tgt Build
11049.49	8923.24	Hold
13301.88	8900.00	Pbhl

Formations

MD	TVD	Formations	Lithology	Dip Angle	Dip Direction

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

GeoDec v5.03

Report Date: December 30, 2010
Job Number: _____
Customer: Devon Energy
Well Name: Rigel_20_Fed_Com_#1H
API Number: _____
Rig Name: _____
Location: Eddy Co., NM (NAD 83)
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 601184.150 USFT	Latitude 32.6519510 DEG
East/West 675027.790 USFT	Longitude -103.8989578 DEG
Grid Convergence: .23°	
Total Correction: +7.55°	

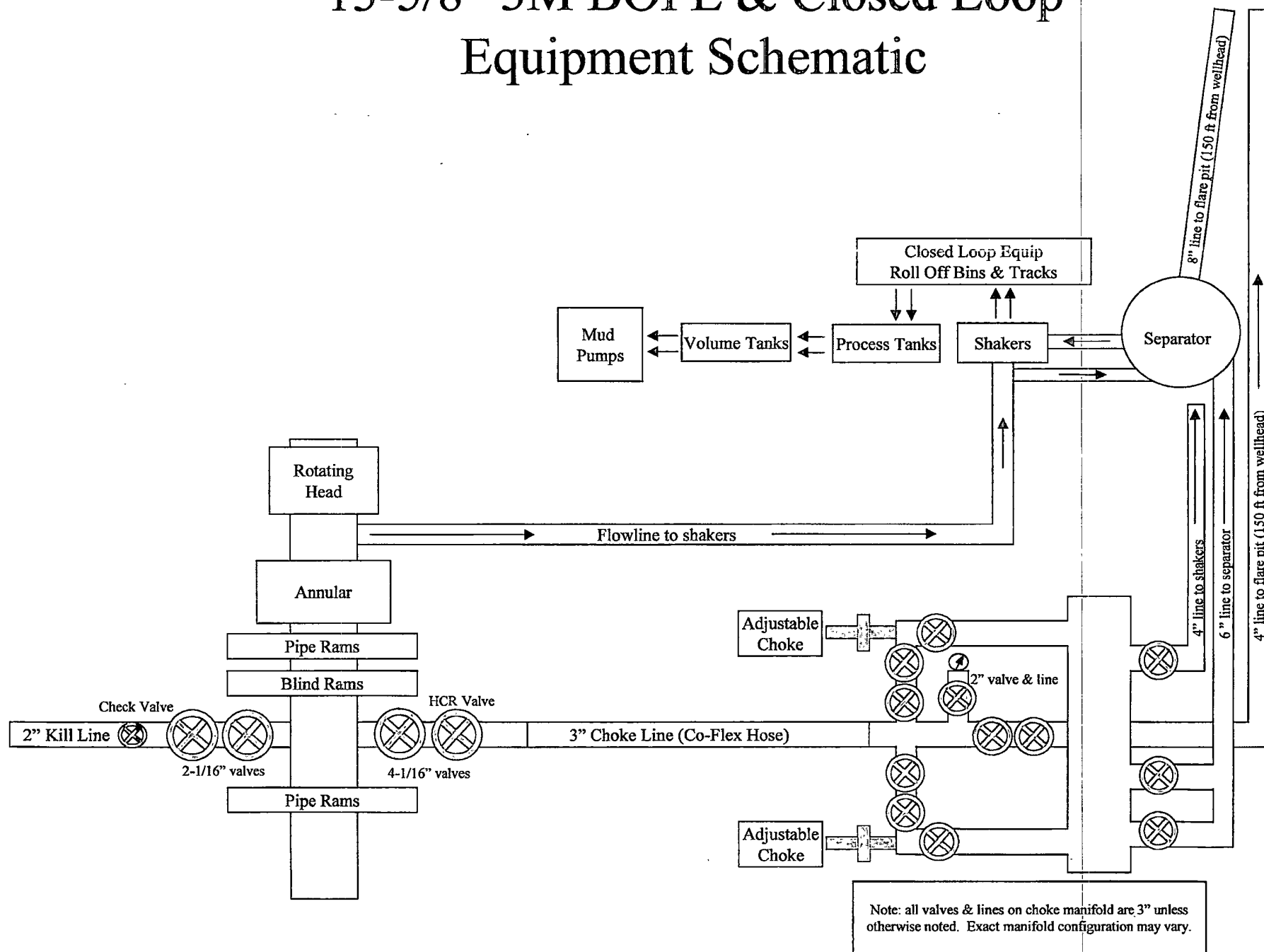
Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude =	32.65195° N	32° 39 min 7.024 sec
Longitude =	103.89896° W	103° 53 min 56.248 sec

Magnetic Declination =	7.78°	[True North Offset]
Local Gravity =	.9988 g	Checksum = 6659
Local Field Strength =	48868 nT	Magnetic Vector X = 23821 nT
Magnetic Dip =	60.53°	Magnetic Vector Y = 3255 nT
Magnetic Model =	IGRF-2010g11	Magnetic Vector Z = 42545 nT
Spud Date =	May 15, 2011	Magnetic Vector H = 24043 nT

Signed: _____

Date: _____

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



Attachment to Exhibit #1
NOTES REGARDING BLOWOUT PREVENTERS
Devon Energy Production Company, LP

Rigel 20 Federal Com 1H

Surface Location: 425' FNL & 330' FWL, Unit D, Sec 20 T19S R31E, Eddy, NM
Bottom hole Location: 400' FNL & 330' FEL, Unit A, Sec 20 T19S R31E, Eddy, NM

1. Drilling nipple will be constructed so it can be removed mechanically without the aid of a welder. The minimum internal diameter will equal BOP bore.
2. Wear ring will be properly installed in head.
3. Blowout preventer and all associated fittings will be in operable condition to withstand a minimum 3000 psi working pressure.
4. All fittings will be flanged.
5. A full bore safety valve tested to a minimum 3000 psi WP with proper thread connections will be available on the rotary rig floor at all times.
6. All choke lines will be anchored to prevent movement.
7. All BOP equipment will be equal to or larger in bore than the internal diameter of the last casing string.
8. Will maintain a kelly cock attached to the kelly.
9. Hand wheels and wrenches will be properly installed and tested for safe operation.
10. Hydraulic floor control for blowout preventer will be located as near in proximity to driller's controls as possible.
11. All BOP equipment will meet API standards and include a minimum 40 gallon accumulator having two independent means of power to initiate closing operation.

Hydrostatic Test Certificate

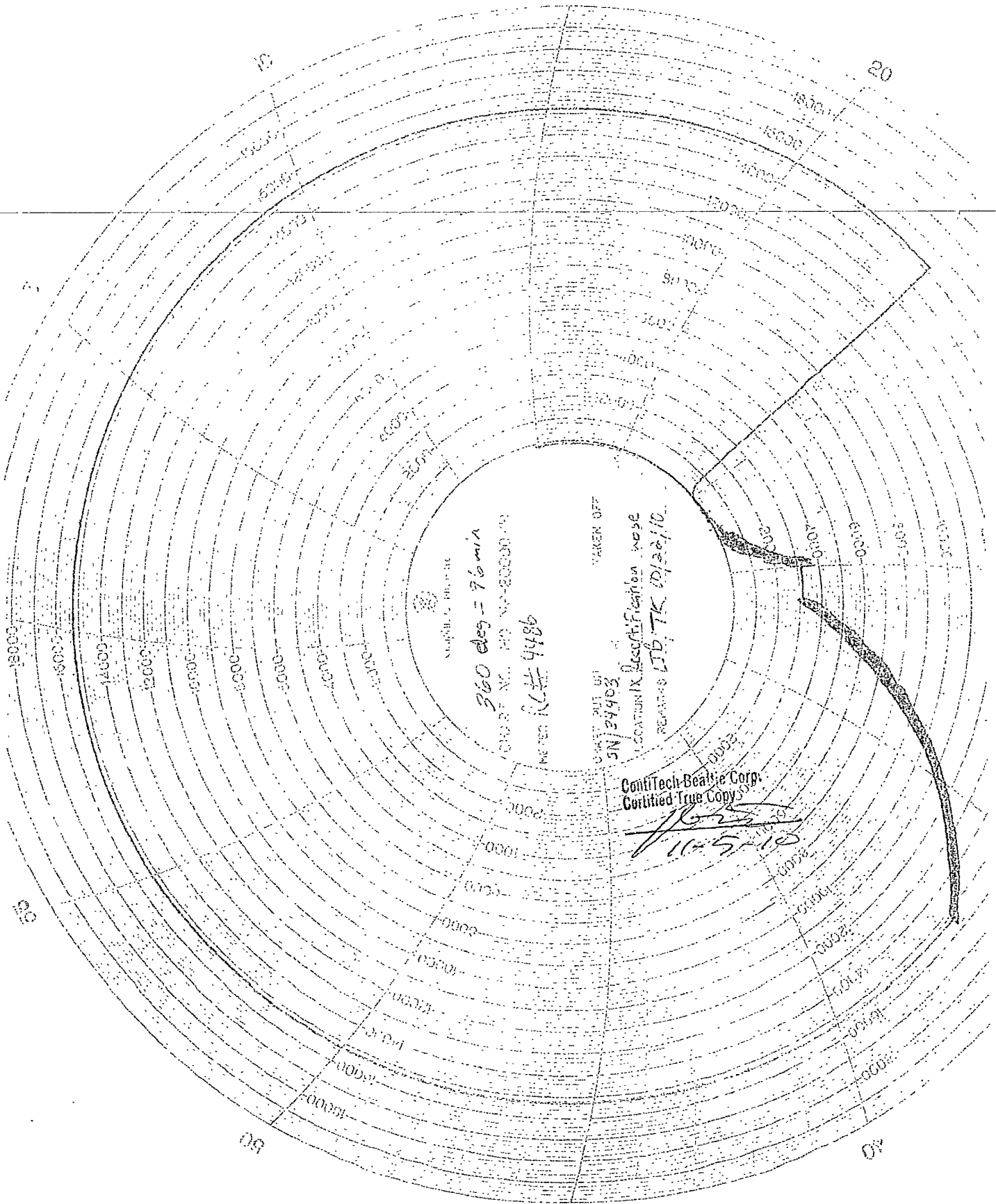


Certificate Number: 4520	PBC No: 10321	Customer Name & Address
Customer Purchase Order No: RIG 300	HELMERICH & PAYNE INT'L DRILLING CO 1437 SOUTH BOULDER TULSA, OK 74119	
Project:		
Test Centre Address	Accepted by ContiTech Beattie Inspection	Accepted by Client Inspection
ContiTech Beattie Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Josh Sims Date: 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	Qty	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





Fluid Technology

ContiTech Beattie Corp.
Website: www.contitechbeattie.com

Monday, June 14, 2010

RE: Drilling & Production Hoses
Lifting & Safety Equipment

To Helmerich & Payne,

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

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

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

Best regards,

Robin Hodgson
Sales Manager
ContiTech Beattie Corp

ContiTech Beattie Corp,
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Houston, TX 77041
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Fax: +1 (832) 327-0148
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