Form 3160-3
(March 2012)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Operator Copy

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☑ DRILL ☐ REENTER	5. Lease Serial No. USA NMNM113417
	6. If Indian, Allotee or Tribe Name
	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. (313954) ANTELOPE RIDGE 11 24 34 FED #3H
2. Name of Operator CHEVRON U.S.A. INC. (4323)	9. API Well No. 30-025-42318
3a. Address 15 SMITH ROAD MIDLAND, TEXAS 79705	3b. Phone No. (include area code) 432-687-7375
	10. Field and Pool, or Exploratory (96434) RED HILLS;BONE SPRING, NORTH
4. Location of Well (Report location clearly and in accordance with any State requirements.*) HOBBS OCD At surface 330' FSL, & 980' FWL At proposed prod. zone 330' FNL, & 980' FWL DEC 08 2014	11. Sec., T. R. M. or Blk. and Survey or Area SEC 11, T24S, R34E, UL:M
14. Distance in miles and direction from nearest town or post office* 16 MILES FROM JAL, NEW MEXICO	12. County or Parish LEA / 13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any) 330' FSL	16. No. of acres in lease RECEIVED 440.020 / 17. Spacing Unit dedicated to this well 160
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1,100' FROM PENROC MADERA COM #1	19. Proposed Depth TVD:15,361 MD: 10,~~950~~ 946 / 20. BLM/BIA Bond No. on file CA0329
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3507' GL	22. Approximate date work will start* / 23. Estimated duration

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 Denise Pinkerton	Name (Printed/Typed) DENISE PINKERTON	Date 04/04/2014
Title REGULATORY SPECIALIST		
Approved by (Signature) Stephen J Caffey	Name (Printed/Typed)	Date 12/8/14
Title FOR 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)

KZ 12/08/14

Carlsbad Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

DEC 10 2014

1. FORMATION TOPS

The estimated tops of important geologic markers are as follows:

FORMATION	SUB-SEA	KBTVD	MD
Rustler	2432	1100	
Magenta Dolomite	2386	1146	
Salado	1850	1682	
Castile	324	3208	
Lamar	-1897	5429	
Bell Canyon	-1934	5466	
Cherry Canyon	-2669	6201	
Brushy Canyon	-4826	8358	
Bone Spring Limestone	-5530	9062	
1st Bone Spring	-6681	10213	
2nd Bone Spring	-7218	10750	
Lateral TD (2nd Bone Spring)	(7,418)	10,950	15361

2. ESTIMATED DEPTH OF WATER, OIL, GAS & OTHER MINERAL BEARING FORMATIONS

The estimated depths at which the top and bottom of the anticipated water, oil, gas, or other mineral bearing formations are expected to be encountered are as follows:

Substance	Formation	Depth
Deepest Expected Base of Fresh Water		1,146
Water	Rustler	1100
Water	Bell Canyon	5466
Water	Cherry Canyon	8358
Oil/Gas	Brushy Canyon	8358
Oil/Gas	Bone Spring Limestone	9062
Oil/Gas	1st Bone Spring	10213
Oil/Gas	2nd Bone Spring	10750

All shows of fresh water and minerals will be reported and protected.

3. BOP EQUIPMENT

Will have a minimum of a 5000 psi rig stack (see proposed schematic) for drill out below surface casing. Stack will be tested as specified in the attached testing requirements. Chevron requests a variance to use A coflex hose with a metal protective covering that will be utilized between the BOP and Choke manifold. Please see the attached testing and certification information.

Chevron requests a variance to use a GE/Vetco SH-2 Multibowl wellhead, which will be run through the rig foor on surface casing. BOPE will be nippled up and test after cementing surface casing. Subsequent tests will be performed as needed, not to exceed 30 days. The field report from GE/Vetco and BOP test information will be provided in a subsequent report at the end of the well. Please see the attached wellhead schematic. An installation manual has been placed on file with the BLM office and remains unchanged from previous submittal.

4. **CASING PROGRAM**

a. The proposed casing program will be as follows:

Purpose	From	To	Hole Size	Csg Size	Weight	Grade	Thread	Condition
Surface	0'	1,200'	17-1/2"	13-3/8"	48 #	H-40	STC	New
Intermediate	0'	5,200'	12-1/4"	9-5/8"	40 #	HCK-55	LTC	New
Production	0'	15,361'	8-3/4"	5-1/2"	17.0 #	HCP-110	CDC	New

b. Casing design subject to revision based on geologic conditions encountered.

c. ***A "Worst Case" casing design for wells in a particular area is used below to calculate the Casing Safety Factors. If for any reason the casing design for a particular well requires setting casing deeper than the following "worst case" design, then the Casing Safety Factors will be recalcuated & sent to the BLM prior to drilling.**

d. **Chevron will fill casing at a minimum of every 20 jts (840') while running for intermediate and production casing in order to maintain collapse SF.**

SF Calculations based on the following "Worst Case" casing design.

Surface Casing: 1500'
Intermediate Casing: 5300'
Production Casing: 16,500' MD/11,500' TVD (5000' VS @ 90 deg inc)

Casing String	Min SF Burst	Min SF Collapse	Min SF Tension
Surface	1.28	1.14	1.6
Shallow Intermediate	1.28	1.25	1.6
Production	1.34	1.65	1.6

Min SF is the smallest of a group of safety factors that include the following considerations:

	Surf	Int	Prod
Burst Design			
Pressure Test- Surface, Int, Prod Csg P external: Water P internal: Test psi + next section heaviest mud in csg	X	X	X
Displace to Gas- Surf Csg P external: Water P internal: Dry Gas from Next Csg Point	X		
Frac at Shoe, Gas to Surf- Int Csg P external: Water P internal: Dry Gas, 15 ppg Frac Gradient		X	
Stimulation (Frac) Pressures- Prod Csg P external: Water P internal: Max inj pressure w/ heaviest injected fluid			X
Tubing leak- Prod Csg (packer at KOP) P external: Water P internal: Leak just below surf, 8.7 ppg packer fluid			X
Collapse Design			
Full Evacuation P external: Water gradient in cement, mud above TOC P internal: none	X	X	X
Cementing- Surf, Int, Prod Csg P external: Wet cement P internal: water	X	X	X
Tension Design			
100k lb overpull	X	X	X

5. **CEMENTING PROGRAM**

Slurry	Type	Top	Bottom	Weight	Yield	%Excess	Sacks	Water
Surface				(ppg)	(sx/cu ft)	Open Hole		gal/sk
Lead	C + 4% Gel+2%CaCl	0'	900'	13.5	1.75	150	846	9.18
Tail	Class C+2%CaCl	900'	1,200'	14.8	1.36	150	441	6.39
Intermediate								
Lead	65C/35Poz +6%Gel +5%Salt	0'	4,600'	12.9	1.87	100	1381	9.72
Tail	Class C	4,600'	5,200'	14.8	1.33	100	311	6.24
Production								
1st Lead	50% Class H+ 50% Silicalite +2% Gel	4,700'	9,968'	11.3	2.54	75	881	15.07
2nd Lead	Versacem (Halliburton)	9,968'	11,222'	13.2	1.61	75	348	8.10
Tail	Acid Soluble Cement	11,222'	15,361'	15	2.6	35	543	11.2

1. Final cement volumes will be determined by caliper.
2. Surface casing shall have at least one centralizer installed on each of the bottom three joints starting with the shoe joint.
3. Production casing will have one horizontal type centralizer on every joint for the first 1000' from TD, then every other joint to EOB, and then every third joint to KOP. Bowspring type centralizers will be run from KOP to intermediate casing.

6. MUD PROGRAM

From	To	Type	Weight	F. Vis	Filtrate
0'	1,200'	Spud Mud	8.3 - 8.7	32 - 34	NC - NC
1,200'	5,200'	Brine	9.5 - 10.1	28 - 29	NC - NC
5,200'	10,468'	FW/Cut Brine	8.3 - 9.5	28 - 29	NC - NC
10,468'	11,222'	Cut Brine	8.3 - 9.5	28 - 30	15 - 25
11,222'	15,361'	FW/Cut Brine	8.3 - 9.5	28 - 29	15 - 25

A closed system will by utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited in an approved sanitary landfill. Sanitary wastes will be contained in a chemical porta-toilet and then hauled to an approved sanitary landfill.

All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conservation Division rules and regulations.

A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

Visual mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume. When abnormal pressures are anticipated -- a pit volume totalizer (PVT), stroke counter, and flow sensor will be used to detect volume changes indicating loss or gain of circulating fluid volume.

A weighting agent and lost circulating material (LCM) will be onsite to mitigate pressure or lost circulation as hole conditions dictate.

7. TESTING, LOGGING, AND CORING

The anticipated type and amount of testing, logging, and coring are as follows:

a. Drill stem tests are not planned.
b. The logging program will be as follows: See COA

TYPE	Logs	Interval	Timing	Vendor
Mudlogs	2 man mudlog	Int Csg to TD	Drillout of Int Csg	TBD
LWD	MWD Gamma	Curve and Lateral	While Drilling	TBD
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

c. Conventional whole core samples are not planned.
d. A Directional Survey will be run.

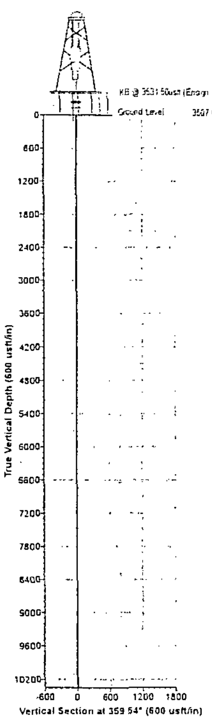
8. ABNORMAL PRESSURES AND HYDROGEN SULFIDE

a. No abnormal pressures or temperatures are expected. Estimated BHP is: 4822 psi
b. Hydrogen sulfide gas is not anticipated. An H2S Contingency plan is attached with this APD in the event that H2S is encountered

Project: Lea County NM (NAD27 NME)
Site: Antelope Ridge 11-24-34 Federal
Well: #3H
Wellbore: WB1
Design: Plan #2 03-27-14
Rig: Ensign 153

Azimuths to Grid North
True North: -0.47°
Magnetic North: 6.71°

Magnetic Field
Strength: 48351.7snT
Dip Angle: 60.14°
Date: 03/27/2014
Model: IGRF2010_14



WELL DETAILS

Ground Level 3507.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	446908.00	774505.00	32° 13' 31.97943 N	103° 26' 44.35348 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	10463.38	0.00	0.00	10463.38	0.00	0.00	0.00	0.00	0.00		KOP, 12°/100' Build
3	11222.55	90.50	359.54	10945.53	481.62	-3.86	12.00	359.54	481.63		LP, Hold 90.5° Inc, 359.54° Azm
4	15362.22	90.50	359.54	10909.70	4621.00	-37.00	0.00	0.00	4621.15	PBHL AR 11-24-34 #3H	TD at 15361.22

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL AR 11-24-34 #3H	10902.70	4621.00	-37.00	451529.00	774468.03	32° 14' 17.70803 N	103° 26' 44.33966 W	Point

- plan hits target center

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001

Local Origin: Well #3H, Grid North

Latitude: 32° 13' 31.97943 N
Longitude: 103° 26' 44.35348 W

Grid East: 774505.00
Grid North: 446908.00
Scale Factor: 1.000

Geomagnetic Model: IGRF2010_14
Sample Date: 27-Mar-14
Magnetic Declination: 7.18°
Dip Angle from Horizontal: 60.14°
Magnetic Field Strength: 48352

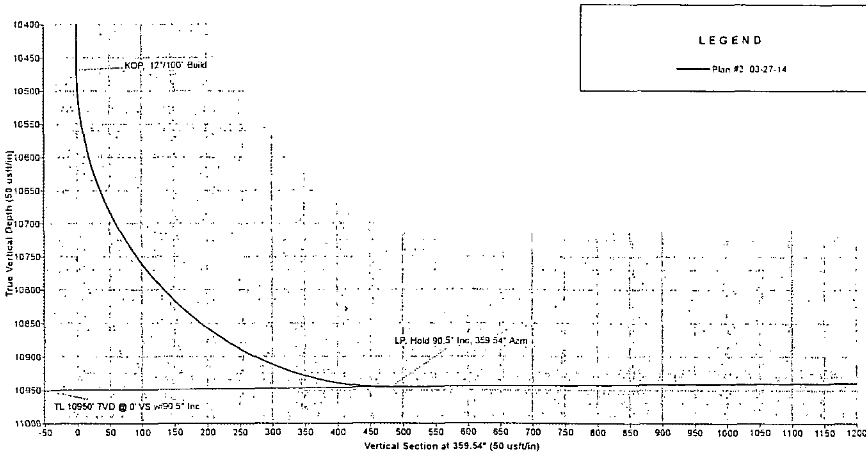
To convert a Magnetic Direction to a Grid Direction, Add 6.71°
To convert a Magnetic Direction to a True Direction, Add 7.18° East
To convert a True Direction to a Grid Direction, Subtract 0.47°

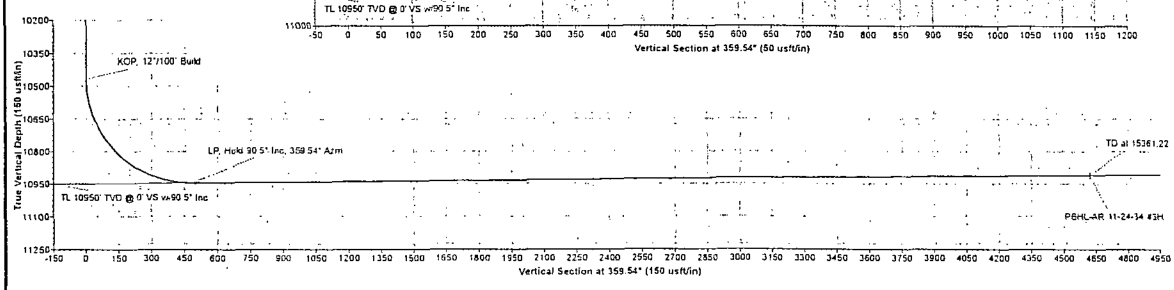
FORMATION TOP DETAILS

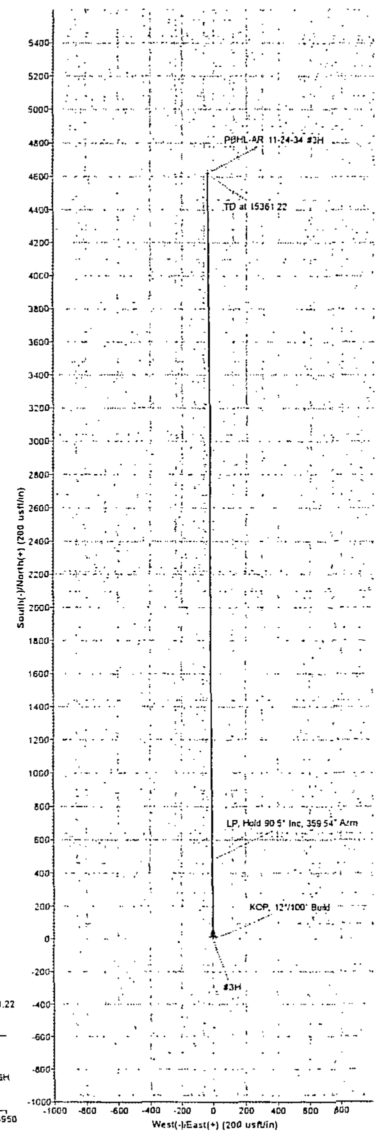
TVDPath	MDPath	Formation	DipAngle	DipDir
10945.84	11217.35	TL 10950' TVD @ 0' VS w/90.5° Inc	-0.50	359.54

LEGEND

—— Plan #2 03-27-14







Created By: Julio Pina Date: 18:21 March 27 2014

Chevron

Lea County NM (NAD27 NME)
Antelope Ridge 11-24-34 Federal
#3H

WB1

Plan: Plan #2 03-27-14

Standard Planning Report

27 March, 2014

Database:	GCR DB	Local Co-ordinate Reference:	Well #3H
Company:	Chevron	TVD Reference:	KB @ 3531.50usft (Ensign 153)
Project:	Lea County NM (NAD27 NME)	MD Reference:	KB @ 3531.50usft (Ensign 153)
Site:	Antelope Ridge 11-24-34 Federal	North Reference:	Grid
Well:	#3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1		
Design:	Plan #2 03-27-14		

Project Lea County NM (NAD27 NME)

Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Antelope Ridge 11-24-34 Federal

Site Position:		Northing:	446,909.00 usft	Latitude:	32° 13' 31.98769 N
From:	Map	Easting:	774,525.00 usft	Longitude:	103° 26' 44.12057 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.47 °

Well #3H

Well Position	+N/-S	-1.00 usft	Northing:	446,908.00 usft	Latitude:	32° 13' 31.97943 N
	+E/-W	-20.00 usft	Easting:	774,505.00 usft	Longitude:	103° 26' 44.35348 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,507.00 usft

Wellbore WB1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	03/27/14	7.18	60.14	48,352

Design Plan #2 03-27-14

Audit Notes:

Version:		Phase:	PLAN	Tie On Depth:	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	359.54

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10,468.38	0.00	0.00	10,468.38	0.00	0.00	0.00	0.00	0.00	0.00	
11,222.55	90.50	359.54	10,945.83	481.62	-3.86	12.00	12.00	0.00	359.54	
15,362.22	90.50	359.54	10,909.70	4,621.00	-37.00	0.00	0.00	0.00	0.00	PBHL-AR 11-24-34 #:

Database:	GCR DB	Local Coordinate Reference:	Well #3H
Company:	Chevron	TVD Reference:	KB @ 3531.50usft (Ensign 153)
Project:	Lea County NM (NAD27 NME)	MD Reference:	KB @ 3531.50usft (Ensign 153)
Site:	Antelope Ridge 11-24-34 Federal	North Reference:	Grid
Well:	#3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1		
Design:	Plan #2 03-27-14		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10,468.38	0.00	0.00	10,468.38	0.00	0.00	0.00	0.00	0.00	0.00
KOP, 12°/100' Build									
10,500.00	3.79	359.54	10,499.98	1.05	-0.01	1.05	12.00	12.00	0.00
10,600.00	15.79	359.54	10,598.34	18.03	-0.14	18.03	12.00	12.00	0.00
10,700.00	27.79	359.54	10,691.02	55.09	-0.44	55.09	12.00	12.00	0.00
10,800.00	39.79	359.54	10,773.97	110.60	-0.89	110.61	12.00	12.00	0.00
10,900.00	51.79	359.54	10,843.57	182.16	-1.46	182.16	12.00	12.00	0.00
11,000.00	63.79	359.54	10,896.77	266.61	-2.13	266.62	12.00	12.00	0.00
11,100.00	75.79	359.54	10,931.24	360.28	-2.88	360.30	12.00	12.00	0.00
11,200.00	87.79	359.54	10,945.49	459.08	-3.68	459.09	12.00	12.00	0.00
11,217.36	89.88	359.54	10,945.84	476.43	-3.81	476.45	12.00	12.00	0.00
TL 10950' TVD @ 0' VS w/90.5° Inc									
11,222.55	90.50	359.54	10,945.83	481.62	-3.86	481.64	11.99	11.99	0.00
LP, Hold 90.5° Inc, 359.54° Azm									
11,300.00	90.50	359.54	10,945.15	559.07	-4.48	559.08	0.00	0.00	0.00
11,400.00	90.50	359.54	10,944.28	659.06	-5.28	659.08	0.00	0.00	0.00
11,500.00	90.50	359.54	10,943.40	759.05	-6.08	759.08	0.00	0.00	0.00
11,600.00	90.50	359.54	10,942.53	859.04	-6.88	859.07	0.00	0.00	0.00
11,700.00	90.50	359.54	10,941.66	959.04	-7.68	959.07	0.00	0.00	0.00
11,800.00	90.50	359.54	10,940.79	1,059.03	-8.48	1,059.06	0.00	0.00	0.00
11,900.00	90.50	359.54	10,939.91	1,159.02	-9.28	1,159.06	0.00	0.00	0.00
12,000.00	90.50	359.54	10,939.04	1,259.02	-10.08	1,259.06	0.00	0.00	0.00
12,100.00	90.50	359.54	10,938.17	1,359.01	-10.88	1,359.05	0.00	0.00	0.00
12,200.00	90.50	359.54	10,937.30	1,459.00	-11.68	1,459.05	0.00	0.00	0.00
12,300.00	90.50	359.54	10,936.42	1,559.00	-12.48	1,559.05	0.00	0.00	0.00
12,400.00	90.50	359.54	10,935.55	1,658.99	-13.28	1,659.04	0.00	0.00	0.00
12,500.00	90.50	359.54	10,934.68	1,758.98	-14.08	1,759.04	0.00	0.00	0.00
12,600.00	90.50	359.54	10,933.80	1,858.97	-14.88	1,859.03	0.00	0.00	0.00
12,700.00	90.50	359.54	10,932.93	1,958.97	-15.69	1,959.03	0.00	0.00	0.00
12,800.00	90.50	359.54	10,932.06	2,058.96	-16.49	2,059.03	0.00	0.00	0.00
12,900.00	90.50	359.54	10,931.19	2,158.95	-17.29	2,159.02	0.00	0.00	0.00
13,000.00	90.50	359.54	10,930.31	2,258.95	-18.09	2,259.02	0.00	0.00	0.00
13,100.00	90.50	359.54	10,929.44	2,358.94	-18.89	2,359.01	0.00	0.00	0.00
13,200.00	90.50	359.54	10,928.57	2,458.93	-19.69	2,459.01	0.00	0.00	0.00
13,300.00	90.50	359.54	10,927.70	2,558.93	-20.49	2,559.01	0.00	0.00	0.00
13,400.00	90.50	359.54	10,926.82	2,658.92	-21.29	2,659.00	0.00	0.00	0.00
13,500.00	90.50	359.54	10,925.95	2,758.91	-22.09	2,759.00	0.00	0.00	0.00
13,600.00	90.50	359.54	10,925.08	2,858.90	-22.89	2,859.00	0.00	0.00	0.00
13,700.00	90.50	359.54	10,924.21	2,958.90	-23.69	2,958.99	0.00	0.00	0.00
13,800.00	90.50	359.54	10,923.33	3,058.89	-24.49	3,058.99	0.00	0.00	0.00
13,900.00	90.50	359.54	10,922.46	3,158.88	-25.29	3,158.98	0.00	0.00	0.00
14,000.00	90.50	359.54	10,921.59	3,258.88	-26.09	3,258.98	0.00	0.00	0.00
14,100.00	90.50	359.54	10,920.72	3,358.87	-26.89	3,358.98	0.00	0.00	0.00
14,200.00	90.50	359.54	10,919.84	3,458.86	-27.69	3,458.97	0.00	0.00	0.00
14,300.00	90.50	359.54	10,918.97	3,558.86	-28.50	3,558.97	0.00	0.00	0.00
14,400.00	90.50	359.54	10,918.10	3,658.85	-29.30	3,658.97	0.00	0.00	0.00
14,500.00	90.50	359.54	10,917.22	3,758.84	-30.10	3,758.96	0.00	0.00	0.00
14,600.00	90.50	359.54	10,916.35	3,858.83	-30.90	3,858.96	0.00	0.00	0.00
14,700.00	90.50	359.54	10,915.48	3,958.83	-31.70	3,958.95	0.00	0.00	0.00
14,800.00	90.50	359.54	10,914.61	4,058.82	-32.50	4,058.95	0.00	0.00	0.00
14,900.00	90.50	359.54	10,913.73	4,158.81	-33.30	4,158.95	0.00	0.00	0.00
15,000.00	90.50	359.54	10,912.86	4,258.81	-34.10	4,258.94	0.00	0.00	0.00

Database:	GCR DB	Local Co-ordinate Reference:	Well #3H
Company:	Chevron	TVD Reference:	KB @ 3531.50usft (Ensign 153)
Project:	Lea County NM (NAD27 NME)	MD Reference:	KB @ 3531.50usft (Ensign 153)
Site:	Antelope Ridge 11-24-34 Federal	North Reference:	Grid
Well:	#3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1		
Design:	Plan #2 03-27-14		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,100.00	90.50	359.54	10,911.99	4,358.80	-34.90	4,358.94	0.00	0.00	0.00
15,200.00	90.50	359.54	10,911.12	4,458.79	-35.70	4,458.94	0.00	0.00	0.00
15,300.00	90.50	359.54	10,910.24	4,558.79	-36.50	4,558.93	0.00	0.00	0.00
15,362.22	90.50	359.54	10,909.70	4,621.00	-37.00	4,621.15	0.00	0.00	0.00
TD at 15362.22 - PBHL-AR 11-24-34 #3H									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL-AR 11-24-34 #3H - plan hits target center - Point	-90.00	89.57	10,909.70	4,621.00	-37.00	451,529.00	774,468.00	32° 14' 17.70808 N	103° 26' 44.33966 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
11,217.36	10,945.84	TL 10950' TVD @ 0' VS w/90.5° Inc		-0.50	359.54

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
10,468.38	10,468.38	0.00	0.00	KOP, 12°/100' Build
11,222.55	10,945.83	481.62	-3.86	LP, Hold 90.5° Inc, 359.54° Azm
15,362.22	10,909.70	4,621.00	-37.00	TD at 15362.22

BLOWOUT PREVENTOR SCHEMATIC

Minimum Requirements

OPERATION : Intermediate and Production Hole Sections

Minimum System Pressure Rating : **5,000 psi**

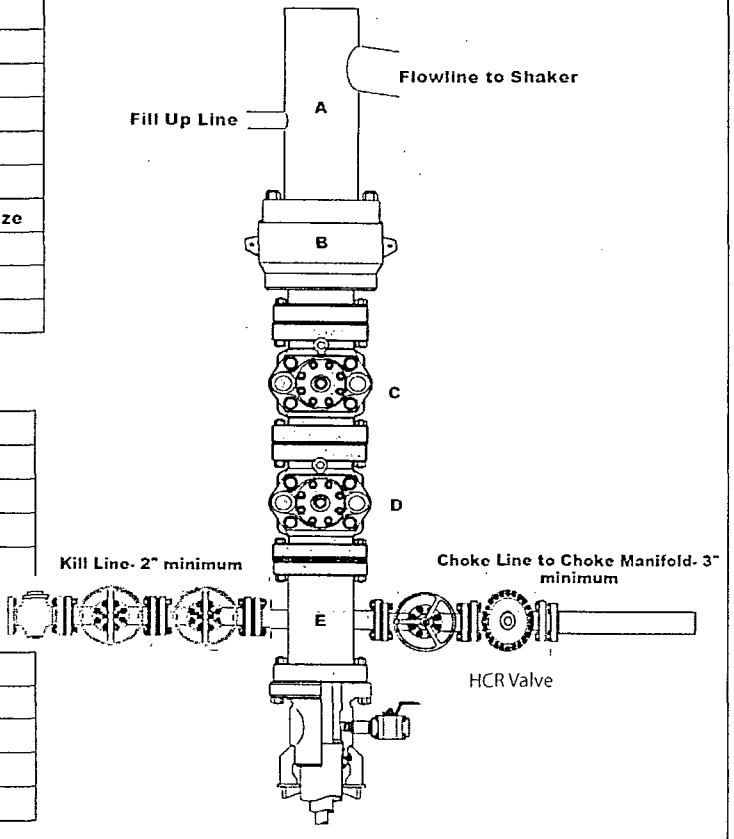
	SIZE	PRESSURE	DESCRIPTION
A		N/A	Bell Nipple
B	13 5/8"	5,000 psi	Annular
C	13 5/8"	5,000 psi	Pipe Ram
D	13 5/8"	5,000 psi	Blind Ram
E	13 5/8"	5,000 psi	Mud Cross
F			
DSA		As required for each hole size	
C-Sec			
B-Sec		13-5/8" 5K x 11" 5K	
A-Sec		13-3/8" SOW x 13-5/8" 5K	

Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	5,000 psi	Gate Valve
2"	5,000 psi	Gate Valve
2"	5,000 psi	Check Valve

Choke Line

SIZE	PRESSURE	DESCRIPTION
3"	5,000 psi	Gate Valve
3"	5,000 psi	HCR Valve



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ **The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.**
- ☐ **All valves on the kill line and choke line will be full opening and will allow straight though flow.**
- ☐ **The kill line and choke line will be straight unless turns use tee blocks or are targeted with running tess, and will be anchored to prevent whip and reduce vibration.**
- ☐ **Manual (hand wheels) or automatic locking devices will be installed on all ram preventers. Hand wheels will also be installed on all manual valves on the choke line and kill line.**
- ☐ **A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will remain open unless accumulator is inoperative.**
- ☐ **Upper kelly cock valve with handle will be available on rig floor along with safety valve and subs to fit all drill string connections in use.**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

Representative: _____

Date: _____

CHOKE MANIFOLD SCHEMATIC

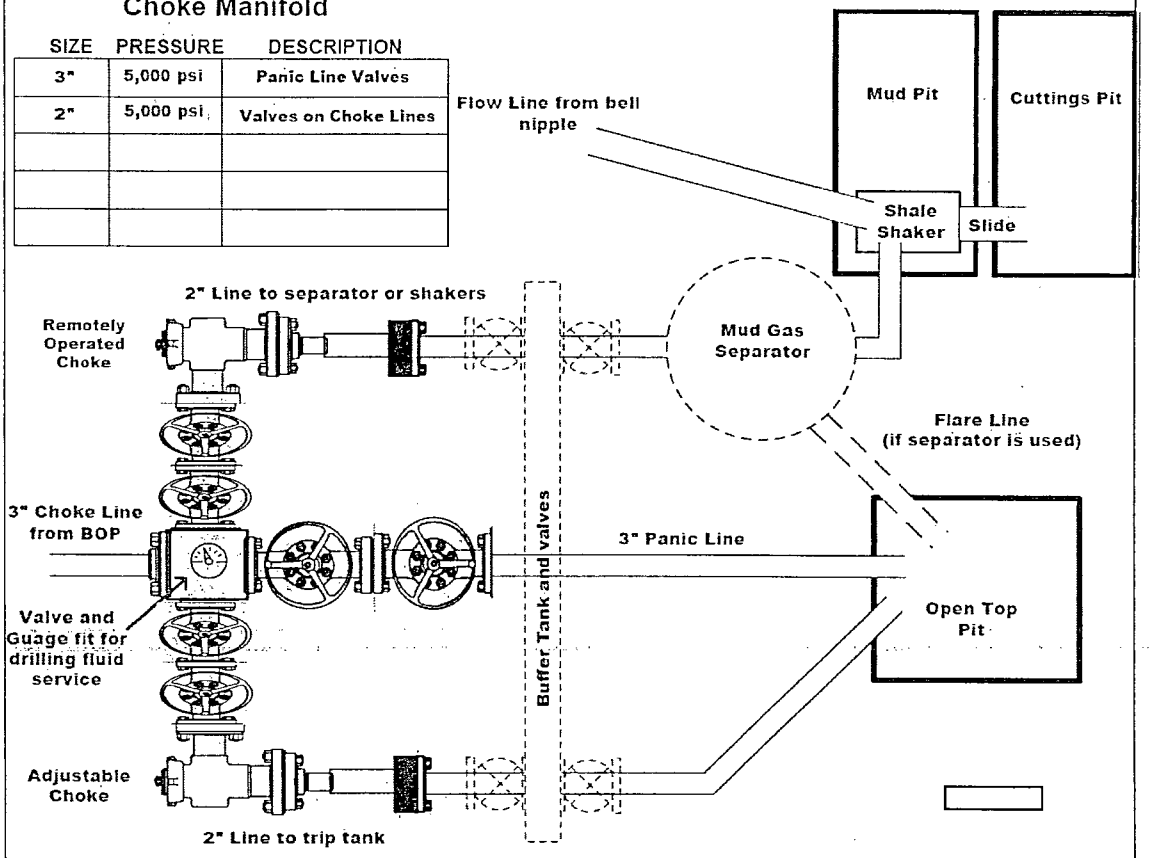
Minimum Requirements

OPERATION : Intermediate and Production Hole Sections

Minimum System Pressure Rating : **5,000 psi**

Choke Manifold

SIZE	PRESSURE	DESCRIPTION
3"	5,000 psi	Panic Line Valves
2"	5,000 psi	Valves on Choke Lines



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ **The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.**
- ☐ **Adjustable Chokes may be Remotely Operated but will have backup hand pump for hydraulic actuation in case of loss of rig air pressure or power.**
- ☐ **Flare and Panic lines will terminate a minimum of 150' from the wellhead. These lines will terminate at a location as per approved APD.**
- ☐ **The choke line, kill line, and choke manifold lines will be straight unless turns use tee blocks or are targeted with running tess, and will be anchored to prevent whip and reduce vibration. This excludes the line between mud gas separator and shale shaker.**
- ☐ **All valves (except chokes) on choke line, kill line, and choke manifold will be full opening and will allow straight through flow. This excludes any valves between mud gas separator and shale shakers.**
- ☐ **All manual valves will have hand wheels installed.**
- ☐ **If used, flare system will have effective method for ignition**
- ☐ **All connections will be flanged, welded, or clamped (no threaded connections like hammer unions)**
- ☐ **If buffer tank is used, a valve will be used on all lines at any entry or exit point to or from the buffer tank.**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

Representative: _____

Date: _____

BOPE Testing

Minimum Requirements

Closing Unit and Accumulator Checklist

The following item must be performed, verified, and checked off at least once per well prior to low/high pressure testing of BOP equipment. This must be repeated after 6 months on the same well.

☐ Precharge pressure for each accumulator bottle must fall within the range below. Bottles may be further charged with nitrogen gas only. Tested precharge pressures must be recorded for each individual bottle and kept on location through the end of the well. Test will be conducted prior to connecting unit to BOP stack.

Check one that applies	Accumulator working pressure rating	Minimum acceptable operating pressure	Desired precharge pressure	Maximum acceptable precharge pressure	Minimum acceptable precharge pressure
☐	1500 psi	1500 psi	750 psi	800 psi	700 psi
☐	2000 psi	2000 psi	1000 psi	1100 psi	900 psi
☐	3000 psi	3000 psi	1000 psi	1100 psi	900 psi

☐ Accumulator will have sufficient capacity to open the hydraulically-controlled choke line valve (if used), close all rams, close the annular preventer, and retain a minimum of 200 psi above the maximum acceptable precharge pressure (see table above) on the closing manifold without the use of the closing pumps. This test will be performed with test pressure recorded and kept on location through the end of the well

☐ Accumulator fluid reservoir will be double the usable fluid volume of the accumulator system capacity. Fluid level will be maintained at manufacturer's recommendations. Usable fluid volume will be recorded. Reservior capacity will be recorded. Reservoir fluid level will be recorded along with manufacturer's recommendation. All will be kept on location through the end of the well.

☐ Closing unit system will have two independent power sources (not counting accumulator bottles) to close the preventers.

☐ Power for the closing unit pumps will be available to the unit at all times so that the pumps will automatically start when the closing valve manifold pressure decreases to the pre-set level. It is recommended to check that air line to accumulator pump is "ON" during each tour change.

☐ With accumulator bottles isolated, closing unit will be capable of opening the hydraulically-operated choke line valve (if used) plus close the annular preventer on the smallest size drill pipe within 2 minutes and obtain a minimum of 200 psi above maximum acceptable precharge pressure (see table above) on the closing manifold. Test pressure and closing time will be recorded and kept on location through the end of the well.

☐ Master controls for the BOPE system will be located at the accumulator and will be capable of opening and closing all preventer and the choke line valve (if used)

☐ Remote controls for the BOPE system will be readily accessible (clear path) to the driller and located on the rig floor (not in the dog house). Remote controls will be capable of closing all preventers.

☐ Record accumulator tests in drilling reports and IADC sheet

BOPE Test Checklist

The following item must be ckecked off prior to beginning test

☐ BLM will be given at least 4 hour notice prior to beginning BOPE testing

☐ Valve on casing head below test plug will be open

☐ Test will be performed using clear water.

The following item must be performed during the BOPE testing and then checked off

☐ BOPE will be pressure tested when initially installed, whenever any seal subject to test pressure is broken, following related repairs, and at a minimum of 30 days intervals. Test pressure and times will be recorded by a 3rd party on a test chart and kept on location through the end of the well.

☐ Test plug will be used

☐ Ram type preventer and all related well control equipment will be tested to 250 psi (low) and 5,000 psi (high).

☐ Annular type preventer will be tested to 250 psi (low) and 3,500 psi (high).

☐ Valves will be tested from the working pressure side with all down stream valves open. The check valve will be held open to test the kill line valve(s)

☐ Each pressure test will be held for 10 minutes with no allowable leak off.

☐ Master controls and remote controls to the closing unit (accumulator) must be function tested as part of the BOP testing

☐ Record BOP tests and pressures in drilling reports and IADC sheet

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer along with any/all BOP and accumulator test charts and reports from 3rd parties.

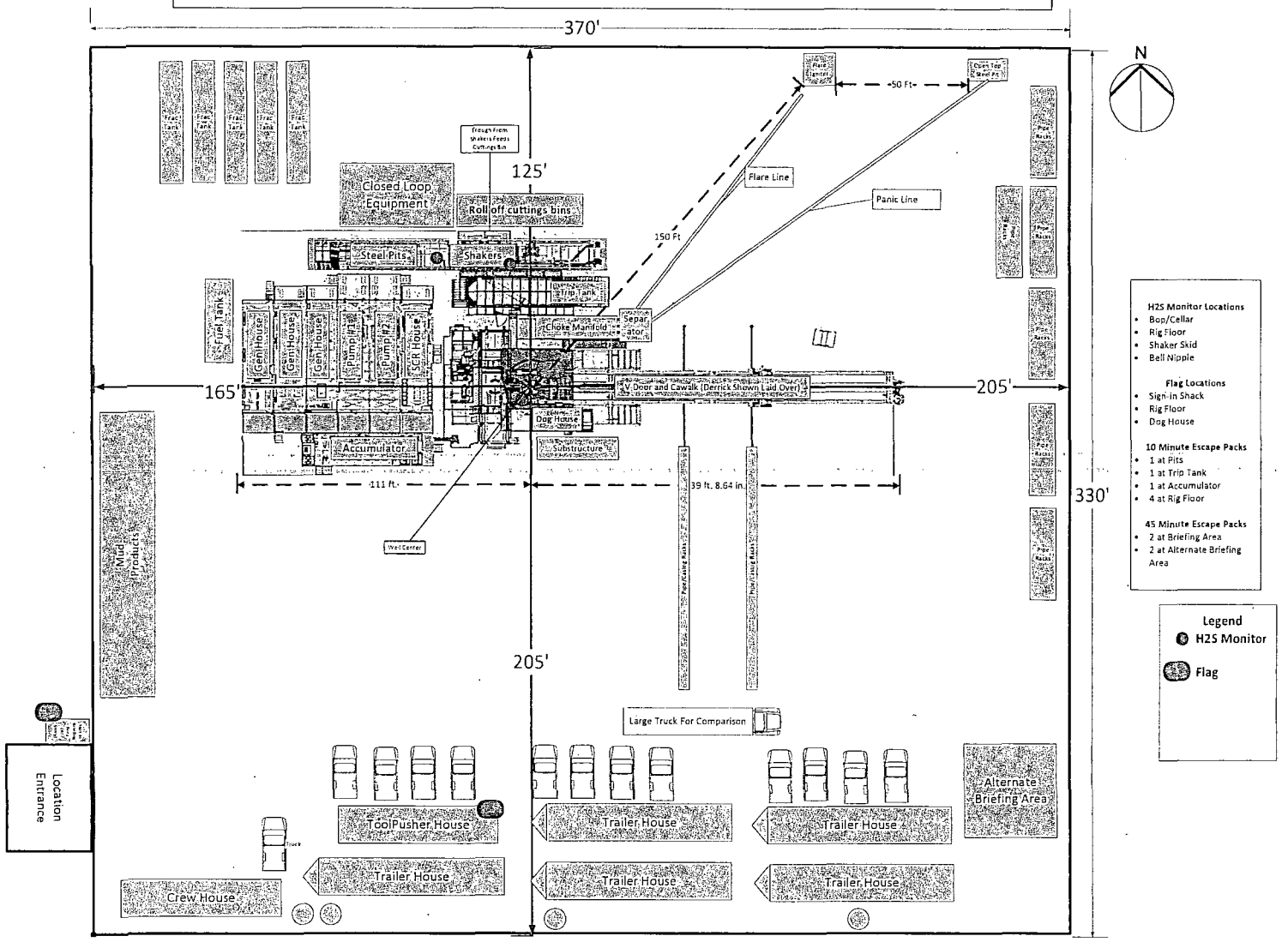
Wellname: _____

Representative: _____

Date: _____

Exhibit D

Ensign 153: Antelope Ridge 11-24-34 Fed 3H Pad Layout (330' x 370')



A Tomkins Company

Robsco, Inc.
OILFIELD RUBBER PRODUCTS
4749 Eastpark Drive
Houston, TX 77028
United States of America

Gates Corporation Authorized Rotary and Vibrator Hose Subcontracted Fabricator

Hydrostatic Test Certification

Robsco, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the hydrostatic test per API Spec 7K, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 15,000 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.25 times the working pressure per Table 9.

Assembly Part Number	Serial Number / Date Code
36332R3-1/16HUB10K-LL-L	L32461102512R112712-5

		Chart Recorder Information	
Hose Size	**Testers**	**Serial Number**	**Calibration Date**
3.5IN X 32FT	OC CS	Recorder 22349	Oct. 19th 2012

Lloyd's Register Type Approved for Fire Test OD/1000/499 Rev 1

Hydrostatic Test: Passed
Visual Inspection: Passed

QA Representative Signature

11/28/2012 RS
Date & Initial

Shipper:

GHX - Robsco, Inc.
4749 Eastpark Drive

Houston, TX 77028
Rufus Dominguez 713-672-1777

Label 1 of 1

Saia, Inc.
853-1923-A
11/29/2012

Shipment Reference: 9415989
Consignee Reference: 491394-156JR
Total Weight: 1687
Total Shipment Pieces: 1

Special Instruction

DO NOT STAND CRATES ON END!!!!

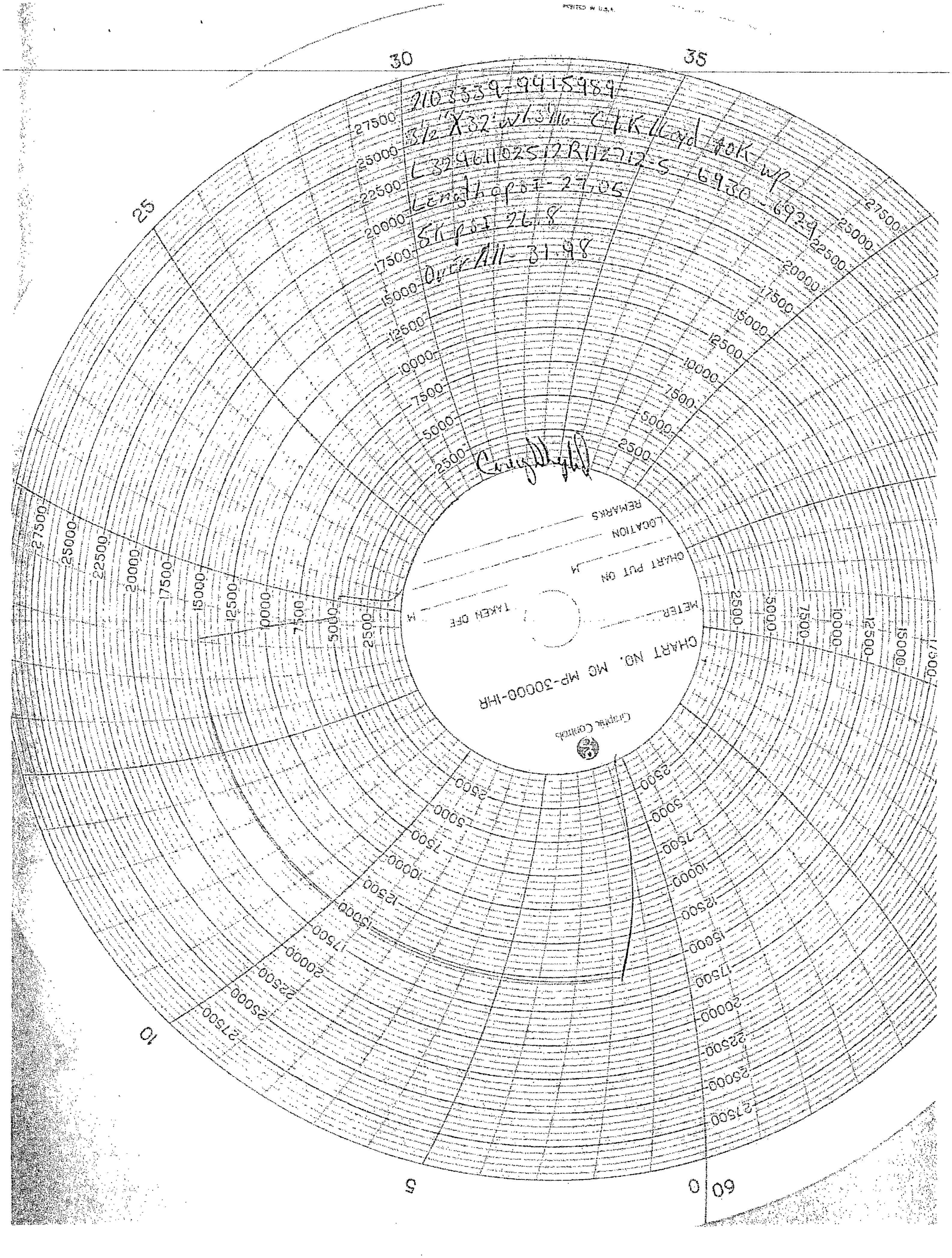
DIM Weight: 1105
qty: 1 (88 x 84 x 29)

00608423360 2

TOTAL SERVICE SUPPLY LP
1620 VICEROY

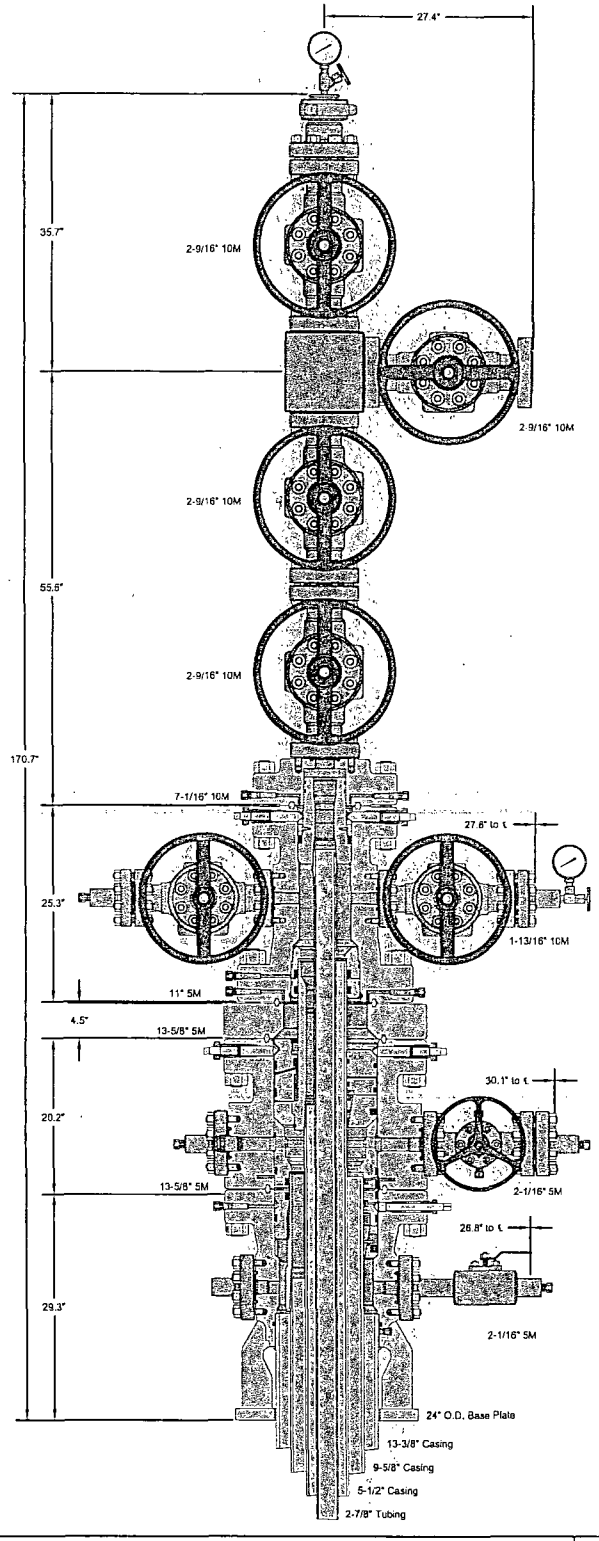
ODESSA, TX 79763
ATTN: BRUCE

(Fold Sheet Here)



2103339-9915989
3½" X 32' w/3⁹⁄₁₆ CTK Lead 40K wp
L3296110251 2R112712-S 6930-6929
Length of psi 27.05
SK psi 26.8
Over All 31.98
CHART NO. MC MP-30000-1HR
Graphic Controls
METER
TAKEN OFF
CHART PUT ON
LOCATION
REMARKS

GE Oil & Gas



CHEVRON USA, INC.
DELAWARE BASIN

13-3/8" x 9-5/8" x 5-1/2" x 2-7/8" 10M SH2/Conventional Wellhead Assembly, With DSA, T-EBS-F Tubing Head, T-EN Tubing Hanger and A5PEN Adapter Flange

DRAWN	VJK	19MAR13
APPRV	KN	19MAR13

FOR REFERENCE ONLY
DRAWING NO. AE23705

CERTIFICATION

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently 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 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 the company I represent, 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 a false statement.

Executed this 03 day of April, 2014

Name: _____
Frederick Verner - Project Manager

Address: 1400 Smith Street, 40039
Houston, TX 77027

Office 713-372-6149

E-mail: fredverner@chevron.com