

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

FORM APPROVED
OMB No. 1004-0136
Expires July 31, 2010

EC

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMNM96855	
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☒ Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator CHEVRON USA INCORPORATED E-Mail: leakejd@chevron.com		7. If Unit or CA Agreement, Name and No	
3a. Address 15 SMITH ROAD MIDLAND, TX 79705		8. Lease Name and Well No CROSS BONES 2-29 14 39378	
3b. Phone No. (include area code) Ph: 432-687-7375		9. API Well No 30-025-40706	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWSW 560FSL 660FWL Unit m At proposed prod. zone SWSW 330FSL 330FEL		10. Field and Pool, or Exploratory LUSK/Bone Springs N 41450	
14. Distance in miles and direction from nearest town or post office* 24 MILES SOUTH OF MALJAMAR		11. Sec, T, R, M., or Blk. and Survey or Area Sec 29 T18S R32E Mer NMP SME: BLM	
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 330'		12. County or Parish LEA	
16. No. of Acres in Lease 560.00		13. State NM	
17. Spacing Unit dedicated to this well 160.00		18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 330' 160' away from North Lusk 29 T18S R32E Mer NMP	
19. Proposed Depth 13348 13350 MD 9350 TVD		20. BLM/BIA Bond No on file CA0329	
21. Elevations (Show whether DF, KB, RT, GL, etc.) 3693 GL along horizontal		22. Approximate date work will start	
23. Estimated duration		24. Attachments	

24. Attachments

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

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

25. Signature (Electronic Submission)	Name (Printed/Typed) DENISE PINKERTON Ph: 432-687-7375	Date 01/26/2012
Title REGULATORY SPECIALIST		
Approved by (Signature) /s/ W. W. Ingram	Name (Printed/Typed) /s/ W. W. Ingram	Date JUL 27 2012
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify 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

Electronic Submission #129299 verified by the BLM Well Information System
For CHEVRON USA INCORPORATED, sent to the Hobbs
Committed to AFMSS for processing by JAMES (JIM) HUGHES on 02/01/2012 (12JLH0127AE)

CAPITAN CONTROLLED WATER BASIN

SEE ATTACHED FOR
CONDITIONS OF APPROVALAPPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

Revisions to Operator-Submitted EC Data for APD #129299

	Operator Submitted	BLM Revised (AFMSS)
Lease Agreement.	NMNM96855	NMNM96855
Operator:	CHEVRON U.S.A. INC. 15 SMITH ROAD MIDLAND, TEXAS 79705 MIDLAND, TX 79705 Ph: 432-687-7375	CHEVRON USA INCORPORATED 15 SMITH ROAD MIDLAND, TX 79705 Ph. 432 687.7826 Fx. 432-687-7221
Admin Contact:	DENISE PINKERTON REGULATORY SPECIALIST 15 SMITH ROAD MIDLAND, TEXAS 79705 MIDLAND, TX 79705 Ph. 432-687-7375	DENISE PINKERTON REGULATORY SPECIALIST 15 SMITH ROAD MIDLAND, TX 79705 Ph. 432-687-7375
	E-Mail: leakejd@chevron.com	E-Mail: leakejd@chevron.com
Tech Contact:	DENISE PINKERTON REGULATORY SPECIALIST 15 SMITH ROAD MIDLAND, TEXAS 79705 MIDLAND, TX 79705	DENISE PINKERTON REGULATORY SPECIALIST 15 SMITH ROAD MIDLAND, TX 79705
Well Name: Number:	CROSS BONES 2-29 1H	CROSS BONES 2-29 1H
Location. State: County: S/T/R: Surf Loc:	NM LEA, NEW MEXICO Sec 29 T18S R32E Mer NMP 560FSL 660FWL	NM LEA Sec 29 T18S R32E Mer NMP SWSW 560FSL 660FWL
Field/Pool.	LUSK;BONE SPRING, NORTH	LUSK
Bond:	CA0329	CA0329

BLM 9 Point Drilling Plan

Chevron U.S.A.
Cross Bones 2 29-1H
Lea County, New Mexico
Section 29, Twp. 18S, Rge. 32E
560' FSL and 660' FWL

(1) Formation Tops

<u>Formation</u>	<u>Depth</u>
Rustler	1,080'
- Top of Salt	1,160'
- Base of Salt	2,500'
Tansill	2,500'
Yates	2,650'
Seven Rivers	3,100'
Queen	3,675'
Cherry Canyon	4,850'
Brushy Canyon	5,230'
T/Bone Spring	6,730'
T/1 st Bone Spring Sand	8,160'
T/2 nd Bone Spring Carb	8,480'
T/2 nd Bone Spring Sand	9,000'
T/3 rd Bone Spring Carb	9,650'
Kick Off Point	8,633'
Pilot Hole TD (MD/TVD)	9,600'
Lateral TD (MD)	13,350'
Lateral TD (TVD)	9,350'

13348 per
directional plot

(2) Zones Containing Oil, Gas, Water, and Other Minerals

<u>Formation</u>	<u>Depth</u>	<u>Properties</u>
Brushy Canyon	5,230'	Oil/Gas/Water
T/1 st Bone Spring Sand	8,160'	Oil/Gas/Water
T/2 nd Bone Spring Carb	8,480'	Oil/Gas/Water
T/2 nd Bone Spring Sand	9,000'	Oil/Gas/Water
T/3 rd Bone Spring Carb	9,650'	Oil/Gas/Water

- Fresh water depth is above the Rustler. These sands will be protected by bringing surface casing cement to surface.

(3) Blow-Out Prevention

The wellhead system is a multi-bowl design. The initial BOP test will occur prior to drilling out the 13-3/8" casing shoe. All tests will be done with a third party testing service. The test pressures are 250/5,000 psi for rams and 250/3,500 psi for annular (70% of working pressure) for 10 minutes. BOPE stack will be tested every 14 days. Pipe rams will be operationally checked every 24 hours and blind rams will be operationally checked on each trip out of the hole. Upper and lower kelly cocks will be available at all times. A full opening stabbing valve and inside BOP with the appropriate connections will be on the drill floor at all times.

Chevron requests a variance if H&P 227 is used to drill this Well to use a co-flex line between the BOP and choke manifold.

Manufacturer: Phoenix Rubber Industrial LTD

Serial Number: 35194

Length: 25'

Size: 3" ID

Ends – flanges

WP rating: 10,000 psi

Anchors required by manufacturer – No

Surface Casing: 1500 psi test pressure

Intermediate Casing: 1500 psi test pressure

Casing Head: 13 3/8" SOW x 13 5/8" 3M

Casing Spool: 13 5/8" 3M x 11" 5M

Tubing Head: 11" 5M x 7-1/16" 10 M

BOPE: 13 5/8" 10M

Annular: 13 5/8" 5M

13-5/8" 5M Rotating head

10M Choke Manifold

(4) Casing Design

The operator proposes to drill a horizontal well in the 2nd Bond Spring. We will drill a 17 1/2" hole to 1,105' and 13 3/8", 48#, H-40 casing will be run and cemented to surface. After sufficient W.O.C. time, a 12-1/4" hole will be drilled to 3000' and 9 5/8", 40#, HC K-55 casing will then be run and cemented to surface. After sufficient W.O.C. Time, an 8-3/4" pilot hole will be drilled to a total depth of 9,600' and OH logs will be run. An open-hole cemented whipstock with 900' of 2-7/8" tail pipe will be set and cemented in place for kick off. Kick off @ +/-8,633' with an 8-3/4" bit to drill the build and lateral sections to 13,348' (MD) and 9,350' (TVD). A 5-1/2", 17#, HCP-110 casing string will be installed and cemented in place. All casing is new.

See
COA

Hole Size	String	Csg Size	Wt	Grade	Conn	Depth	Burst	Collapse	Tension
17 1/2"	Surf	13-3/8"	48#	H-40	STC	1,105'	2.5	1.6	7.1
12-1/4"	Int	9-5/8"	40#	HC K-55	LTC	3,000'	2.1	3.2	6.7
8-3/4"	Prod	5-1/2"	17#	HC P-110	CDC	13,348'	3.2	2.0	2.8

1140'

(5) Cementing

The cement volumes are approximate and are calculated on the assumption that a gauge hole will be achieved.

The surface and intermediate casing strings will have centralizers on the bottom 3 joints of casing (a minimum of one centralizer per joint) and then every 3rd joint to surface. The production string will have centralizers on every joint in the lateral for the first 1,000' then every other joint through the horizontal to the base of the curve and every 3rd joint through the build section and every 4th joint into the intermediate casing shoe. The casing shoe will not be drilled out until a minimum of 500 psi compressive strength is achieved.



U. S. Steel Tubular Products
Product Information
5 1/2 17 lb (0.304) P110 HC
STAR SEAL - CDCTM

3/28/2012

MECHANICAL PROPERTIES		Yield Strength	
Pipe Body	Minimum	110	ksi
	Maximum	140	ksi
		Tensile Strength	
(Couplings are Std API)		Minimum	125 ksi
PIPE PROPERTIES			
Dimensions, Nominal	Pipe Outside Diameter	5.500	in.
	Wall	0.304	in.
	Pipe Inside Diameter	4.892	in.
	Pipe Drift - API	4.767	in.
		Nominal Linear Weight, T&C	
		17.00	lbs/ft
		Pipe Cross Sectional Area	
		4.962	sq. in.
Performance Properties	Minimum Pipe Body Yield Strength	546	1,000 lbs
	Minimum Collapse Pressure	8,730	psi
	Minimum Internal Yield Pressure	10,640	psi
CONNECTION PROPERTIES			
Dimensions, Nominal	Connection Outside Diameter	6.050	in.
	Connection Inside Diameter	4.892	in.
	Connection Drift - API	4.767	in.
	Makeup Loss	4.63	in.
	Critical Area	4.962	sq in.
	Joint Efficiency	100.0	%
Performance Properties	Joint Strength	568	1,000 lbs
	Compression Rating	341	1,000 lbs
	Minimum Collapse Pressure	8,730	psi
	Minimum Internal Yield Pressure	10,640	psi
	Maximum Uniaxial Bend Rating	57.2	deg/100 ft
	Connection Yield Torque	13,000	ft - lbs
Recommended Torque Values	Minimum Makeup Torque	8,500	ft - lbs
	Maximum Makeup Torque	10,500	ft - lbs

* Note: Verification of connection shoulder is required. Typical shoulder range 5,000 - 7,500 ft - lbs

* STAR SEAL - CDC (Casing Drilling Connection) is a Modified API Buttress threaded and coupled connection designed for field proven in drilling with casing applications. Star Seal is a registered trademark of U. S. Steel Corporation. All material contained in this publication is for general information only. This material should not therefore, be used or relied upon for any specific application without independent competent professional examination and verification of its accuracy, suitability and applicability. Anyone making use of this material does so at their own risk and assumes any and all liability resulting from such use. U. S. Steel disclaims any and all expressed or implied warranties of fitness for any general or particular application. USS Product Data Sheet 2012 rev9 (February 14)

U. S. Steel Tubular Products, Inc. - 600 Grant Street, Pittsburgh, PA 15219

www.uss.com

Casing	Slurry	Sacks	Density ppg	Yield ft ³ /sk	% Excess	TOC
13-3/8" Lead	ExtendaCem-C + 4% Gel + 2% CaCl	657	13.5	1.75	100%	Surface
13-3/8" Tail	HalCem-C + 2% CaCl	232	14.8	1.35	100%	850'
9-5/8" Lead	ExtendaCem-C + 4% Gel	746	13.5	1.72	50%	Surface
9-5/8" Tail	HalCem-C + 1% CaCl	210	14.8	1.34	50%	2,940'
5-1/2" Lead	EconoCem-HLH + 0.3% CFR-3 + 5% Salt + 5 lb/sk Kol + 0.5 lb/sk PhenoSeal	978	12.7	1.98	35%	3,000' 2,800'
5-1/2" Tail	VersaCem-H + 0.4% GasStop + 0.3% CFR-3 + 0.2% HR-601 + 1 lb/sk Salt	1,294	14.4	1.24	35%	8,678'
OH Plugs	Class "H" + 0.5% CFR-3 + 0.2% Halad-322 + 0.2% HR-601	621	17.2	0.97	35%	8,500'

(6) Circulating Medium

Visual monitoring will be used from surface to TD. Sufficient materials to maintain mud properties will be available on location while drilling. The cut brine will be mudded up near TD of the pilot hole for logging.

Interval	Mud Type	Density	Viscosity	Fluid Loss
0 - 1,100' / 1,140'	FW/Spud mud	8.6 - 8.9	32 - 36	NC
1,100 - 3,000'	Brine	10 - 10.1	28 - 30	NC
3,000 - 8,000'	Cut Brine	8.8 - 9.1	28 - 30	NC
Pilot Hole 8,000 - 9,600'	Cut Brine	8.8 - 9.1	34 - 38	20 - 30
Build/Lateral 8,633 - 13,350'	Cut Brine	8.8 - 9.1	34 - 38	20 - 30

(7) Testing, Logging, and Coring See COA

Logs: Triple Combo, Resistivity, Caliper from TD of pilot hole at 9,600' to intermediate casing shoe at 3,000'. GR and Neutron Density will be run from TD of pilot hole to surface.

DST's: None planned

Cores: None planned

(8) Anticipated Pressures, Abnormal/Hazardous Drilling Conditions

Normal pressures and temperatures are expected to TD. Maximum anticipated bottom hole pressure is approximately 4,533 psi. Maximum bottom hole temperature is anticipated to be 150 degrees.

The BLM has reports of H₂S from the Delaware within an 1/8 of a mile. H₂S detection and breathing equipment will be in operation after drilling out the surface shoe and until the 5-1/2" is cemented in place.

(9) Other Facets of the Proposal

Anticipated Start Date:	July 2012
Drilling Days:	40 days
Completion Days:	60 days

Operating & Maintenance Plan

- Cuttings will be discharged from shaker into cuttings bins/tanks
- Cuttings bins/tanks will be monitored so that it will not be overfilled
- The cuttings bins/tanks will be visually inspected for fluid integrity on a daily basis
- Documentation of fluid inspection will be captured on daily reports

Closure Plan

- Drilled cuttings will be removed from the cuttings bins/tanks using a backhoe and placed in a suitable transport container.
- Drilled cuttings will be disposed of at a suitable off-location waste facility



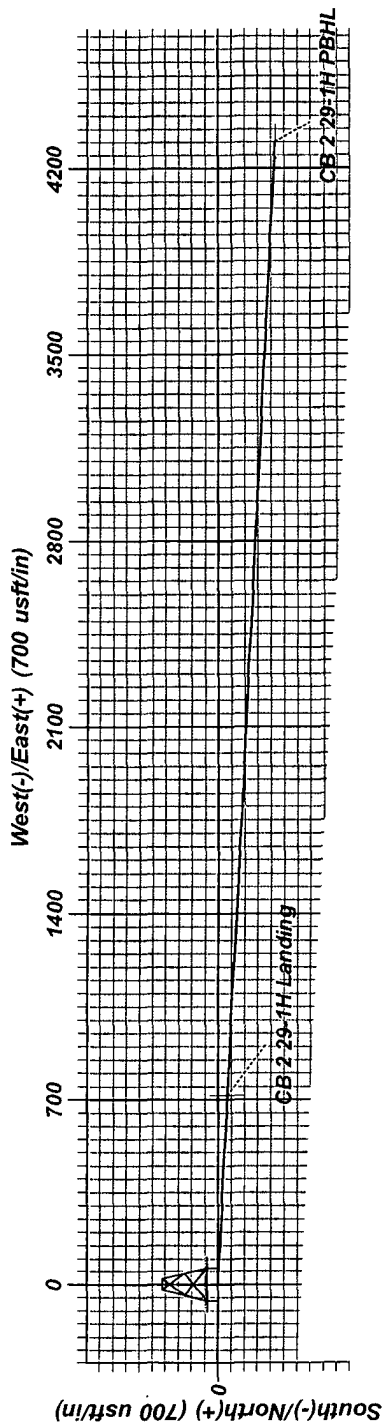
Lea County New Mexico (NAD27)
Cross Bones 2 (29-1H) 29-1H
Plan #1
Rig: Rig



WELL DETAILS: 29-1H

Ground Level: 3693.0	
+N/-S	+E/-W
0.0	0.0
North	East
623417.40	665752.10
Latitude	Longitude
32° 42' 45.768 N	103° 47' 39.960 W

True North
Magnetic North 7 38°
Magnetic Field
Strength 48842 55nT
Dip Angle 60 59°
Date: 11/15/2011
Model IGRF2010

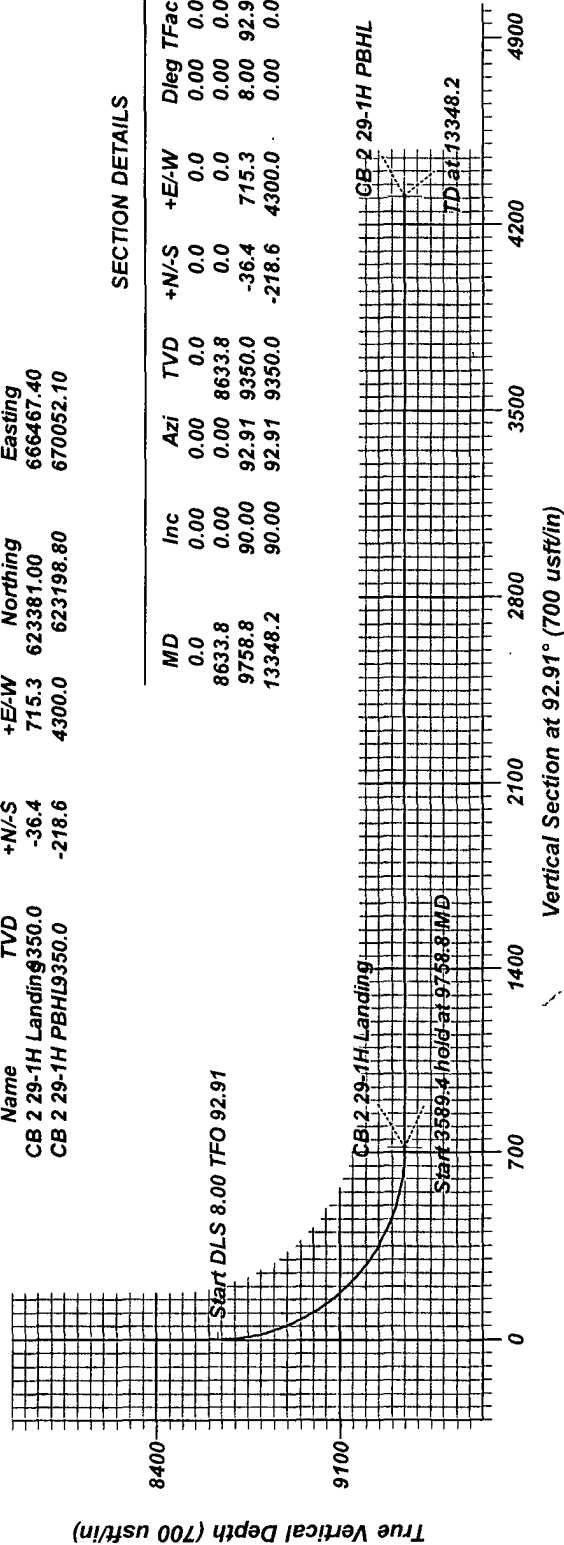


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	North	East
CB 2 29-1H Landing	9350.0	-36.4	715.3	623381.00	666467.40
CB 2 29-1H PBHL	9350.0	-218.6	4300.0	623198.80	670052.10

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg TFace	VSect	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0	
8633.8	0.00	0.00	8633.8	0.0	0.0	0.00	0.0	
9758.8	90.00	92.91	9350.0	-36.4	715.3	8.00	92.91	716.2
13348.2	90.00	92.91	9350.0	-218.6	4300.0	0.00	0.00	4305.6



Linda LaGrange
Well Planner
Scientific Drilling Houston District
Date: 13:44, November 15 2011



Scientific Drilling

Chevron

Lea County New Mexico (NAD27)

Cross Bones 2 (29-1H)

29-1H

Lateral

Plan: Plan #1

Standard Planning Report

15 November, 2011



Database:	EDM-Houston-District	Local Co-ordinate Reference:	Well: 29-1H
Company:	Chevron	TVD Reference:	RKB @ 3718.0usft (Rig)
Project:	Lea County New Mexico (NAD27)	MD Reference:	RKB @ 3718.0usft (Rig)
Site:	Cross Bones 2 (29-1H)	North Reference:	Grid
Well:	29-1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

Project	Lea County New Mexico (NAD27)		
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	Cross Bones 2 (29-1H)		
Site Position:		Northing:	623,417.40 usft
From:	Map	Easting:	665,752.10 usft
Position Uncertainty:	0.0 usft	Slot Radius:	0 "
		Grid Convergence:	0.29 "

Well	29-1H		
Well Position	+N/-S	0.0 usft	Northing: 623,417.40 usft
	+E/-W	0.0 usft	Easting: 665,752.10 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	Ground Level: 3,693.0 usft

Wellbore	Lateral		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	11/15/2011	7.67
			Dip Angle (°)
			60.59
			Field Strength (nT)
			48,842

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
			Direction (°)
			92.91

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
8,633.8	0.00	0.00	8,633.8	0.0	0.0	0.00	0.00	0.00	0.00	
9,758.8	90.00	92.91	9,350.0	-36.4	715.3	8.00	8.00	8.26	92.91	
13,348.2	90.00	92.91	9,350.0	-218.6	4,300.0	0.00	0.00	0.00	0.00	CB 2 29-1H PBHL

Database:	EDM-Houston-District	Local Co-ordinate Reference:	Well: 29-1H
Company:	Chevron	TVD Reference:	RKB @ 3718.0usft (Rig)
Project:	Lea County New Mexico (NAD27)	MD Reference:	RKB @ 3718.0usft (Rig)
Site:	Cross Bones 2 (29-1H)	North Reference:	Grid:
Well:	29-1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

Database:	EDM-Houston-District	Local Co-ordinate Reference:	Well: 29-1H
Company:	Chevron	TVD Reference:	RKB @ 3718.0usft (Rig)
Project:	Lea County New Mexico (NAD27)	MD Reference:	RKB @ 3718.0usft (Rig)
Site:	Cross Bones 2 (29-1H)	North Reference:	Grid
Well:	29-1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

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)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00
8,600.0	0.00	0.00	8,600.0	0.0	0.0	0.0	0.00	0.00	0.00
8,633.8	0.00	0.00	8,633.8	0.0	0.0	0.0	0.00	0.00	0.00
8,650.0	1.30	92.91	8,650.0	0.0	0.2	0.2	8.00	8.00	0.00
8,700.0	5.30	92.91	8,699.9	-0.2	3.1	3.1	8.00	8.00	0.00
8,750.0	9.30	92.91	8,749.5	-0.5	9.4	9.4	8.00	8.00	0.00
8,800.0	13.30	92.91	8,798.5	-1.0	19.2	19.2	8.00	8.00	0.00
8,850.0	17.30	92.91	8,846.7	-1.6	32.3	32.4	8.00	8.00	0.00
8,900.0	21.30	92.91	8,893.9	-2.5	48.8	48.9	8.00	8.00	0.00
8,950.0	25.30	92.91	8,939.8	-3.5	68.6	68.7	8.00	8.00	0.00
9,000.0	29.30	92.91	8,984.3	-4.7	91.5	91.6	8.00	8.00	0.00
9,050.0	33.30	92.91	9,027.0	-6.0	117.4	117.6	8.00	8.00	0.00
9,100.0	37.30	92.91	9,067.8	-7.4	146.3	146.5	8.00	8.00	0.00
9,150.0	41.30	92.91	9,106.5	-9.0	177.9	178.1	8.00	8.00	0.00
9,200.0	45.30	92.91	9,142.8	-10.8	212.1	212.4	8.00	8.00	0.00
9,250.0	49.30	92.91	9,176.7	-12.6	248.8	249.1	8.00	8.00	0.00
9,300.0	53.30	92.91	9,208.0	-14.6	287.8	288.1	8.00	8.00	0.00
9,350.0	57.30	92.91	9,236.5	-16.7	328.8	329.2	8.00	8.00	0.00
9,400.0	61.30	92.91	9,262.0	-18.9	371.7	372.2	8.00	8.00	0.00
9,450.0	65.30	92.91	9,284.5	-21.2	416.3	416.9	8.00	8.00	0.00
9,500.0	69.30	92.91	9,303.7	-23.5	462.4	463.0	8.00	8.00	0.00
9,550.0	73.30	92.91	9,319.8	-25.9	509.7	510.3	8.00	8.00	0.00
9,600.0	77.30	92.91	9,332.5	-28.4	558.0	558.7	8.00	8.00	0.00



SDI
Planning Report



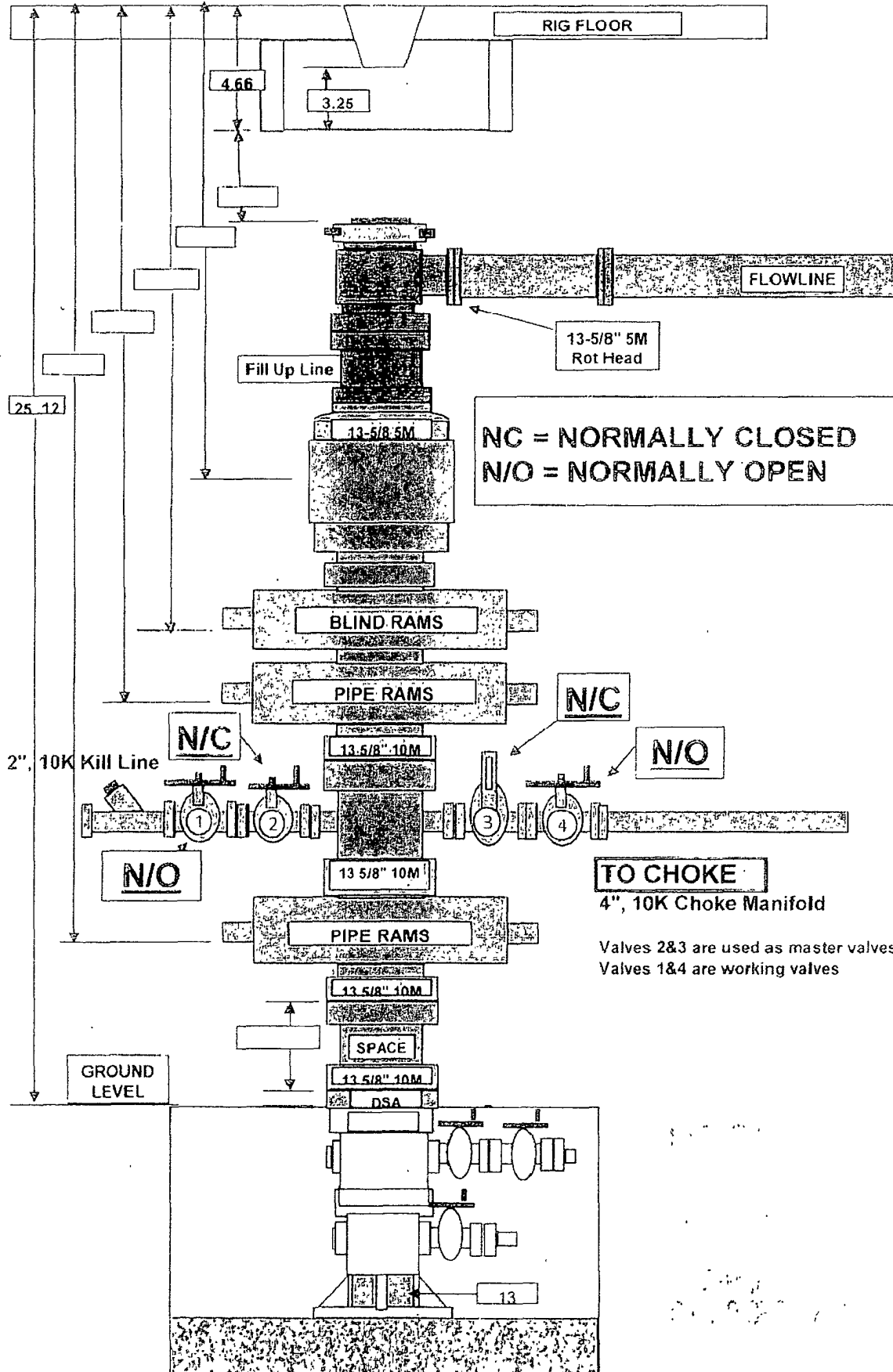
Database:	EDM-Houston-District	Local Co-ordinate Reference:	Well' 29-1H
Company:	Chevron	TVD Reference:	RKB @ 3718.0usft (Rig)
Project:	Lea County New Mexico (NAD27)	MD Reference:	RKB @ 3718.0usft (Rig)
Site:	Cross Bones 2 (29-1H)	North Reference:	Grid
Well:	29-1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

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)
9,650.0	81.30	92.91	9,341.7	-30.9	607.0	607.8	8.00	8.00	0.00
9,700.0	85.30	92.91	9,347.6	-33.4	656.6	657.5	8.00	8.00	0.00
9,750.0	89.30	92.91	9,349.9	-35.9	706.5	707.4	8.00	8.00	0.00
9,758.8	90.00	92.91	9,350.0	-36.4	715.3	716.2	7.97	7.97	0.00
CB 2 29-1H Landing									
9,800.0	90.00	92.91	9,350.0	-38.5	756.4	757.4	0.00	0.00	0.00
9,900.0	90.00	92.91	9,350.0	-43.5	856.3	857.4	0.00	0.00	0.00
10,000.0	90.00	92.91	9,350.0	-48.6	956.2	957.4	0.00	0.00	0.00
10,100.0	90.00	92.91	9,350.0	-53.7	1,056.0	1,057.4	0.00	0.00	0.00
10,200.0	90.00	92.91	9,350.0	-58.8	1,155.9	1,157.4	0.00	0.00	0.00
10,300.0	90.00	92.91	9,350.0	-63.8	1,255.8	1,257.4	0.00	0.00	0.00
10,400.0	90.00	92.91	9,350.0	-68.9	1,355.6	1,357.4	0.00	0.00	0.00
10,500.0	90.00	92.91	9,350.0	-74.0	1,455.5	1,457.4	0.00	0.00	0.00
10,600.0	90.00	92.91	9,350.0	-79.1	1,555.4	1,557.4	0.00	0.00	0.00
10,700.0	90.00	92.91	9,350.0	-84.1	1,655.3	1,657.4	0.00	0.00	0.00
10,800.0	90.00	92.91	9,350.0	-89.2	1,755.1	1,757.4	0.00	0.00	0.00
10,900.0	90.00	92.91	9,350.0	-94.3	1,855.0	1,857.4	0.00	0.00	0.00
11,000.0	90.00	92.91	9,350.0	-99.4	1,954.9	1,957.4	0.00	0.00	0.00
11,100.0	90.00	92.91	9,350.0	-104.5	2,054.7	2,057.4	0.00	0.00	0.00
11,200.0	90.00	92.91	9,350.0	-109.5	2,154.6	2,157.4	0.00	0.00	0.00
11,300.0	90.00	92.91	9,350.0	-114.6	2,254.5	2,257.4	0.00	0.00	0.00
11,400.0	90.00	92.91	9,350.0	-119.7	2,354.4	2,357.4	0.00	0.00	0.00
11,500.0	90.00	92.91	9,350.0	-124.8	2,454.2	2,457.4	0.00	0.00	0.00
11,600.0	90.00	92.91	9,350.0	-129.8	2,554.1	2,557.4	0.00	0.00	0.00
11,700.0	90.00	92.91	9,350.0	-134.9	2,654.0	2,657.4	0.00	0.00	0.00
11,800.0	90.00	92.91	9,350.0	-140.0	2,753.8	2,757.4	0.00	0.00	0.00
11,900.0	90.00	92.91	9,350.0	-145.1	2,853.7	2,857.4	0.00	0.00	0.00
12,000.0	90.00	92.91	9,350.0	-150.2	2,953.6	2,957.4	0.00	0.00	0.00
12,100.0	90.00	92.91	9,350.0	-155.2	3,053.5	3,057.4	0.00	0.00	0.00
12,200.0	90.00	92.91	9,350.0	-160.3	3,153.3	3,157.4	0.00	0.00	0.00
12,300.0	90.00	92.91	9,350.0	-165.4	3,253.2	3,257.4	0.00	0.00	0.00
12,400.0	90.00	92.91	9,350.0	-170.5	3,353.1	3,357.4	0.00	0.00	0.00
12,500.0	90.00	92.91	9,350.0	-175.5	3,452.9	3,457.4	0.00	0.00	0.00
12,600.0	90.00	92.91	9,350.0	-180.6	3,552.8	3,557.4	0.00	0.00	0.00
12,700.0	90.00	92.91	9,350.0	-185.7	3,652.7	3,657.4	0.00	0.00	0.00
12,800.0	90.00	92.91	9,350.0	-190.8	3,752.6	3,757.4	0.00	0.00	0.00
12,900.0	90.00	92.91	9,350.0	-195.8	3,852.4	3,857.4	0.00	0.00	0.00
13,000.0	90.00	92.91	9,350.0	-200.9	3,952.3	3,957.4	0.00	0.00	0.00
13,100.0	90.00	92.91	9,350.0	-206.0	4,052.2	4,057.4	0.00	0.00	0.00
13,200.0	90.00	92.91	9,350.0	-211.1	4,152.0	4,157.4	0.00	0.00	0.00
13,300.0	90.00	92.91	9,350.0	-216.2	4,251.9	4,257.4	0.00	0.00	0.00
13,348.2	90.00	92.91	9,350.0	-218.6	4,300.0	4,305.6	0.00	0.00	0.00
CB 2 29-1H PBHL									

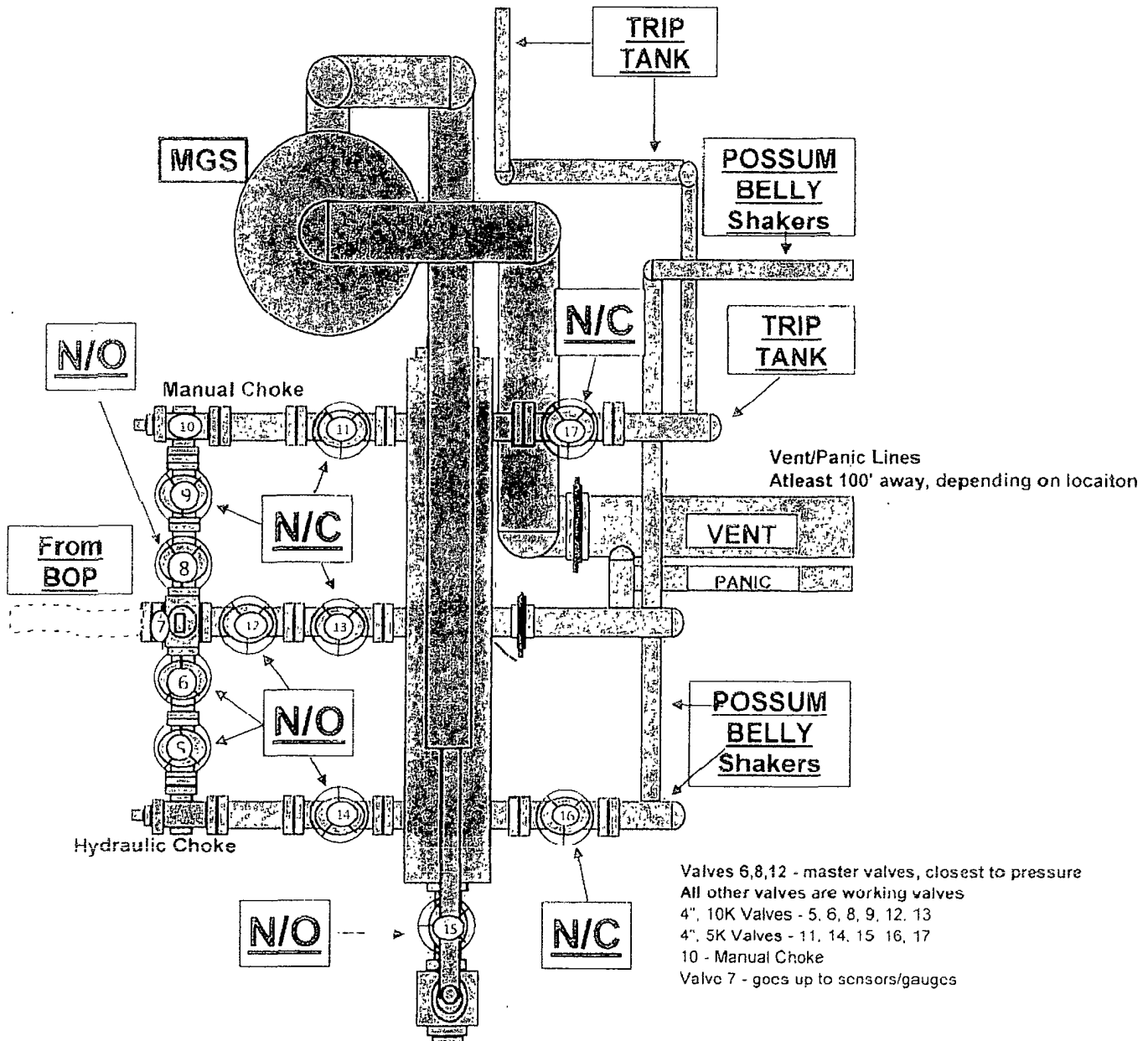
Database:	EDM-Houston-District	Local Co-ordinate Reference:	Well 29-1H
Company:	Chevron	TVD Reference:	RKB @ 3718.0usft (Rig)
Project:	Lea County New Mexico (NAD27)	MD Reference:	RKB @ 3718.0usft (Rig)
Site:	Cross Bones 2 (29-1H)	North Reference:	Grid
Well:	29-1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
CB 2 29-1H Landing	0.00	359.93	9,350.0	-36.4	715.3	623,381.00	666,467.40	32° 42' 45.372 N	103° 47' 31.590 W
- plan hits target center									
- Point									
CB 2 29-1H PBHL	0.00	359.93	9,350.0	-218.6	4,300.0	623,198.80	670,052.10	32° 42' 43.386 N	103° 46' 49.646 W
- plan hits target center									
- Point									

H&P 227 BOP Stack



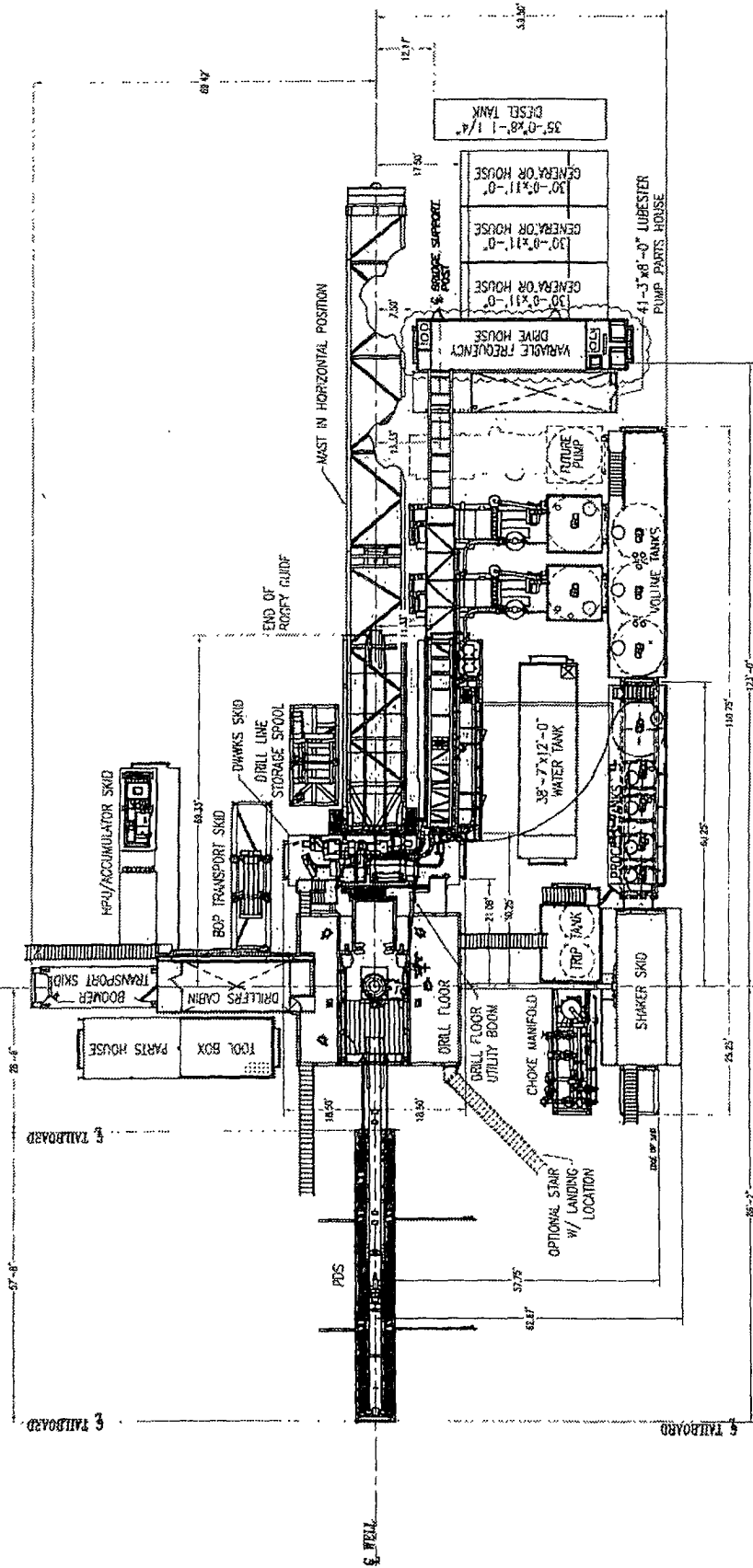
H&P #227 CHOKE MANIFOLD



N/C = NORMALLY CLOSED
N/O = NORMALLY OPEN

40'-0" x 10'-0"
MEETING/CHANGE HOUSE

40'-0" x 10'-0"
RIG OFFICE TRAILER



SEE SHIT 1 FOR COMPONENT LAYOUT
WITH CATWALK

HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.

FLEX 3
RIG COMPONENT LAYOUT W/PDS

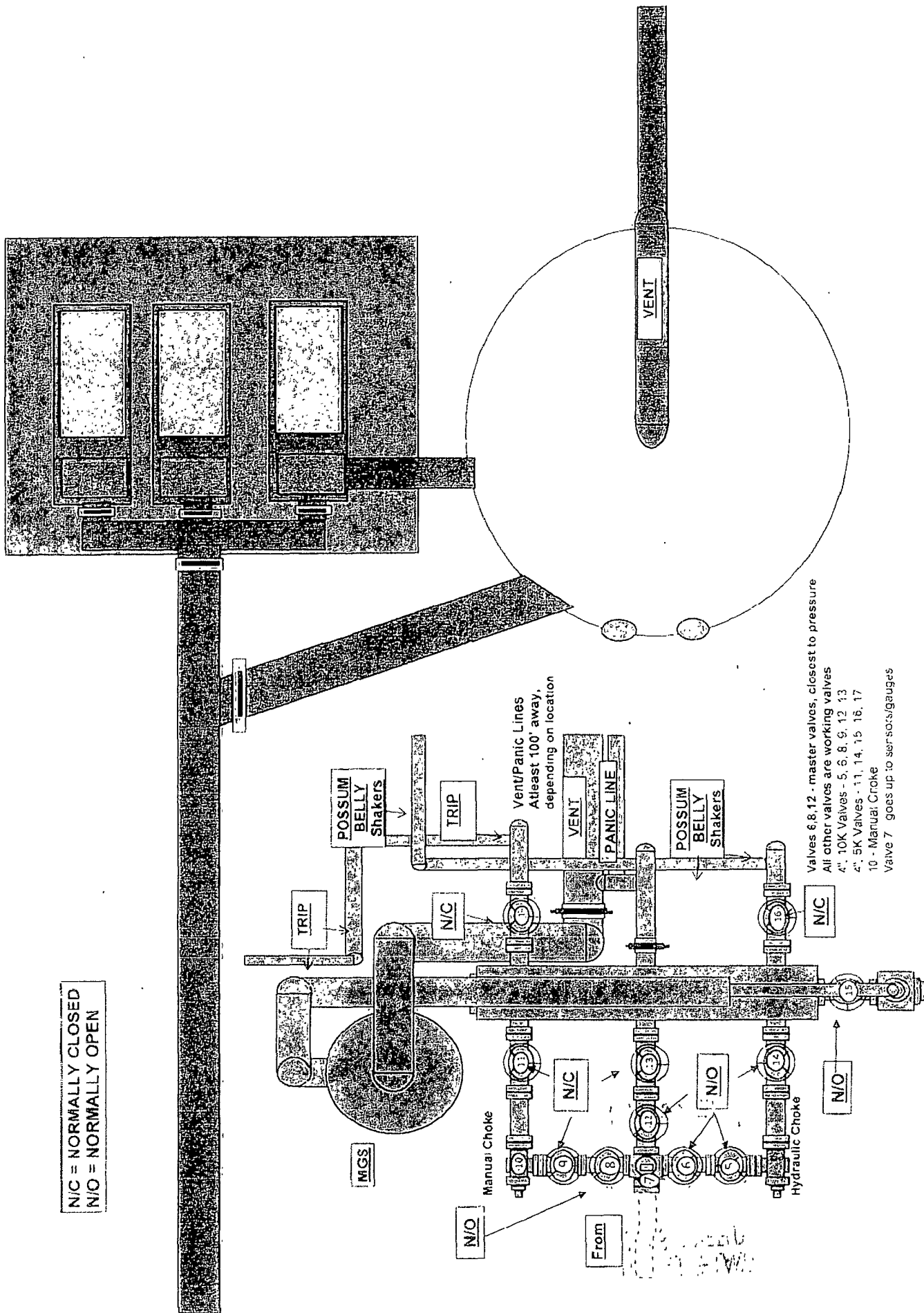
NO.	DATE	DESCRIPTION
1	12-5-11	ISSUED 170 HOUSE
2	8-22-11	ISSUED 170 HOUSE AND 170 HOUSE
3		
4		
5		
6		
7		
8		
9		
10		

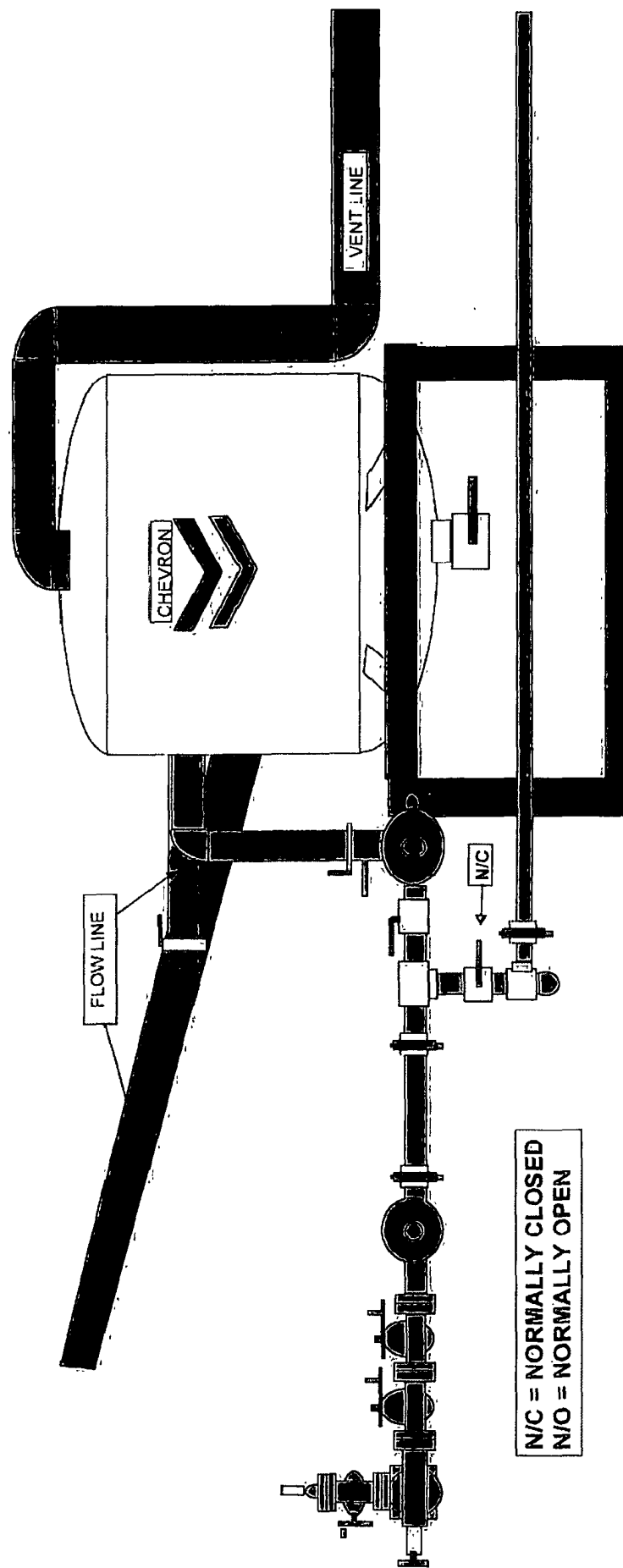
ISSUED FOR
FABRICATION
DATE: 08-06-2011
DRAFTSMAN
ENGINEER

PLAN VIEW

PROPRIETARY
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WITHOUT THE WRITTEN CONSENT OF A QUAL AUTHORIZED
OFFICER OF HELMERICH & PAYNE, INC.

PROJECT	FIELD 3
DATE	10/6/10
SCALE	3/32" = 1'
SHEET	2 OF 2
210-G0-01	B





N/C = NORMALLY CLOSED
N/O = NORMALLY OPEN



QUALITY DOCUMENT

PHOENIX RUBBER
INDUSTRIAL LTD.

H-6728 Szeged, Budapesti út 10. Hungary • H-6701 Szeged, P. O. Box 152
Phone: (3662) 556-737 • Fax: (3662) 556-738

SALES & MARKETING: H-1092 Budapest, Róday u. 42-44. Hungary • H-1440 Budapest, P. O. Box 26
Phone: (361) 456-4200 • Fax: (361) 217-2872, 456-4273 • www.laurusmerge.hu

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°: 2	
PURCHASER: Phoenix Beattie Co.				P.O. N°: 1521FA-873-0012	
PHOENIX RUBBER order N°: 172236		HOSE TYPE: 3" ID Choke and Kill Hose			
HOSE SERIAL N°: 35194		NOMINAL / ACTUAL LENGTH: 11,43 m			
W.P. 68,96 MPa 10000 psi		T.P. 103,4 MPa 15000 psi		Duration: 60 min.	
Pressure test with water at ambient temperature See attachment. (1 page)					
↑ 10 mm = 10 Min. → 10 mm = 16 MPa					
COUPLINGS					
Type	Serial N°		Quality	Heat N°	
3" coupling with 4 1/16" Flange end	2372	2370	AISI 4130	C8403	
			AISI 4130	78968	
API Spec 16 C Temperature rate: "B"					
All metal parts are flawless					
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.					
Date:	Inspector		Quality Control		
07.January. 2003.			PHOENIX RUBBER Industrial Ltd. Hose Inspection and Identification Dept. <i>Acwini</i>		

724
PHOENIX RUBBER
Industrial Ltd.
Hose Inspection and
Certification Dept.

Rig Layout Map

Cross Bones 2 29-1H Location

*Not to Scale

