

EC

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTOCD Hobbs
HOBBS OCD

AUG 02 2012

APPLICATION FOR PERMIT TO DRILL OR REENTER

RECEIVED

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 U.S.A. INC.		7. If Unit or CA Agreement, Name and No
Contact: DENISE PINKERTON E-Mail: LEAKEJD@CHEVRON.COM		8. Lease Name and Well No CROSS BONES 1-29 1H <39383>
3a. Address 15 SMITH ROAD MIDLAND, TX 79705		9. API Well No 30-025-40710
3b. Phone No. (include area code) Ph: 432-687-7375		10. Field and Pool, or Exploratory LUSK; BONE SPRING, NORTH <41450>
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface 660FSL 660FWL Unit m At proposed prod. zone 330FSL 330FEL		11. Sec., T., R., M., or Blk. and Survey or Area Sec 29 T18S R32E Mer NMP
14. Distance in miles and direction from nearest town or post office* 24 MILES SOUTH FROM MALJAMAR		12. County or Parish LEA
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 330'		13. State NM
16. No. of Acres in Lease 560.00		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 100'		19. Proposed Depth 12360 MD 8500 TVD
20. BLM/BIA Bond No. on file CA0329		21. Elevations (Show whether DF, KB, RT, GL, etc.) 3696 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, 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 06/20/2012
Title REGULATORY SPECIALIST		
Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date JUL 26 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 #141091 verified by the BLM Well Information System
For CHEVRON U.S.A. INC., sent to the Hobbs Capitan Controlled Water Basin

KZ 05/07/12

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

Approval Subject to General Requirements
& Special Stipulations Attached

AUG 06 2012

BLM 9 Point Drilling Plan

Chevron U.S.A.
Cross Bones 1 29-1H
Lea County, New Mexico
Section 29, Twp. 18S, Rge. 32E
660' FSL and 660' FWL (SHL)
330' FSL and 330' FEL (BHL)

(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 Sand	9,090'
Kick Off Point	7,635'
Lateral TD (MD)	12,359'
Lateral Landing TVD	8,350'
Lateral TD (TVD)	8,500'

(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

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 14-21 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.

Surface Casing: 1,500 psi test pressure
Intermediate Casing: 1,500 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" 10M
 BOPE: 13-5/8" 10M
 Annular: 13-5/8" 5M
 13-5/8" 5M Rotating head
 10M Choke Manifold

Chevron (operator) requests a variance if H&P 227 (rig name) is used to drill this well to use a co-flex line between the BOP and choke manifold.

Manufacturer: Continental ContiTech Beattie Co.

Serial Number: 62639

Length: 35'

Size: 3" ID

Ends - 3" coupling with 4-1/16" 10K API flange end

WP rating: 10,000 psi

Anchors required by manufacturer - No

(4) Casing Design

The operator proposes to drill a horizontal well in the 2nd Bone 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 3,000' and 9-5/8", 40#, K-55 casing will then be run and cemented to surface. After sufficient W.O.C. time, an 8-3/4" vertical hole will be drilled to KOP at 7,635' and OH logs will be run. Kick off @ +/- 7,635' with an 8-3/4" bit to drill the build and 8-1/2" lateral section to 12,359' (MD) and 8,500' (TVD). A 5-1/2", 17#, HCP-110, CDC casing string will be installed and cemented in place. All casing is new.

SSA

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'	2.6	1.7	7.0
12-1/4"	Int	9-5/8"	40#	K-55	LTC	3,000'	1.7	2.0	2.3
8-3/4"/8-1/2"	Prod	5-1/2"	17#	HC P-110	CDC	12,359'	3.7	2.3	2.5

(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.

see
COA

Casing	Slurry	Sacks	Density ppg	Yield ft ³ /sk	% Excess	TOC
13-3/8" Lead	ExtendaCem-C + 4% Gel + 2% CaCl	619	13.5	1.75	100%	Surface
13-3/8" Tail	HalCem-C + 2% CaCl	329	14.8	1.35	100%	800'
9-5/8" Lead	ExtendaCem-C + 4% Gel	587	13.5	1.72	50%	Surface
9-5/8" Tail	HalCem-C + 1% CaCl	223	14.8	1.34	50%	2,400'
5-1/2" Lead	EconoCem-HLH + 0.3% CFR-3 + 5% Salt + 5 lb/sk Kol + 0.5 lb/sk PhenoSeal	764	12.7	1.98	35%	2,500'
5-1/2" Tail	VersaCem-H + 0.4% GasStop + 0.3% CFR-3 + 0.2% HR-601 + 1 lb/sk Salt	1,393	14.4	1.24	35%	7,000'

(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 for logging.

Interval	Mud Type	Density	Viscosity	Fluid Loss
0 – 1,105' / 1,140'	FW/Spud mud	8.6 – 8.9	32 – 36	NC
1,105 – 3,000'	Brine	10 – 10.1	28 – 30	NC
3,000 – 7,635'	Cut Brine	8.8 – 9.1	28 – 30	NC
Build/Lateral 7,635 – 12,359'	Cut Brine	8.8 – 9.1	28 – 30	NC

(7) Testing, Logging, and Coring *See COR*

Logs: Quad Combo from KOP 7,635' to intermediate casing shoe at 3,000'. GR and Neutron Density will be run from KOP 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 4,000 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:	March 2013
Drilling Days:	40 days
Completion Days:	60 days



U. S. Steel Tubular Products
Product Information
5 1/2 17 lb (0.304) P110 HC
STAR SEAL - CDC¹

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.
Performance Properties	Nominal Linear Weight, T&C	17.00	lbs/ft
	Pipe Cross Sectional Area	4.062	sq. in.
	Minimum Pipe Body Yield Strength	546	1,000 lbs
	Minimum Collapse Pressure	3,730	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	3,730	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

¹ STAR SEAL - CDC (Casing Drilling Connection) is a Modified API Fullress 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

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 if required. Boxes may be hauled off and replaced as needed.
- Drilled cuttings will be disposed of at a suitable off-location waste facility

Chevron Cross Bones 1-29 1H Rev0 GDS 23-May-2012 Proposal Report



(Def Plan)

Report Date: May 23, 2012 - 09:36 AM
 Client: Chevron
 Field: NM Lea County (NAD 27)
 Structure / Slot: Chevron Cross Bones 1-29 / Cross Bones 1-29
 Well: Cross Bones 1-29
 Borehole: Original Borehole
 UWI / API#: Unknown / Unknown
 Survey Name: Chevron Cross Bones 1-29 1H Rev0 GDS 23-May-2012
 Survey Date: May 23, 2012
 Tort / AHD / DDI / ERD Ratio: 87 635' / 4312.750 ft / 5 740' / 0 507'
 Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 42' 49.75758", W 103° 47' 39.86202"
 Location Grid N/E Y/X: N 623517 400 NUS E 665751 400 NUS
 CRS Grid Convergence Angle: 0.29124417°
 Grid Scale Factor: 0.99994055

Survey / DLS Computation
 Vertical Section Azimuth: 84.237° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB
 TVD Reference Elevation: 3721.000 ft above
 Seabed / Ground Elevation: 3098.000 ft above
 Magnetic Declination: 7.888°
 Total Field Strength: 48781.473 nT
 Magnetic Dip Angle: 60.542°
 Declination Date: May 23, 2012
 Magnetic Declination Model: IGGW 2011
 North Reference: Grid North
 Grid Convergence Used: 0.291°
 Total Corr Mag North->Grid North: 7.407°
 Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (NUS)	Easting (EUS)	Latitude (N/E ° ° °)	Longitude (W/E ° ° °)
Tie-In	0.00	0.00	84.24	0.00	-3721.00	0.00	0.00	0.00	N/A	623517.40	665751.40	N 32 42 48.76	W 103 47 39.95
Marker Mudline	25.00	0.00	84.24	25.00	-3696.00	0.00	0.00	0.00	0.00	623517.40	665751.40	N 32 42 48.76	W 103 47 39.95
KOP, Build 87/100%	7634.42	0.00	84.24	7634.42	3813.42	0.00	0.00	0.00	0.00	623517.40	665751.40	N 32 42 48.76	W 103 47 39.95
LP, Hold 87.63" to TD	8729.60	87.63	84.24	8050.00	4029.00	686.58	-50.70	884.71	6.60	623486.70	666436.06	N 32 42 48.22	W 103 47 31.95
Cross Bones 1-29 PSHL	12359.07	87.63	84.24	8500.64	4778.00	4312.75	-318.62	4300.86	0.00	623198.80	670052.19	N 32 42 43.39	W 103 48 48.65

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D FS 0004% Confidence 2.7955 sigma

Survey Program:

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Survey Tool Type	Borehole / Survey
	0.000	25.000	1/100.000	SLB_UNKNOWN-Depth Only	Original Borehole / Chevron Cross Bones 1-29 1H Rev0 GDS 23-May-2012
	25.000	12359.065	1/100.000	SLB_UNKNOWN	Original Borehole / Chevron Cross Bones 1-29 1H Rev0 GDS 23-May-2012

Duplicate

Schlumberger

Chevron Cross Bones 1-29 1H Rev0 GDS 23-May-2012 Proposal Report



(Def Plan)

Report Date: May 23, 2012 - 09:38 AM
 Client: Chevron
 Field: NM Lea County (NAD 21)
 Structure / Slot: Chevron Cross Bones 1-29 / Cross Bones 1-29
 Well: Cross Bones 1-29
 Borehole: Original Borehole
 VWT / APJ#: Unknown / Unknown
 Survey Name: Chevron Cross Bones 1-29 1H Rev0 GDS 23-May-2012
 Survey Date: May 23, 2012
 Tort / AHD / DD1: ERD Ratio: 87 035° / 4312 750 ft / 5 740 / 0 507
 Coordinate Reference System: NAD21 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 42' 48.75188", W 103° 47' 33.96202"
 Location Grid N/E Y/X: N 623517.400 RUS, E 665751.400 RUS
 CRS Grid Convergence Angle: 0.29124412°
 Grid Scale Factor: 0.99994055

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 84.237° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB
 TVD Reference Elevation: 3721.000 ft above
 Seabed / Ground Elevation: 3696.000 ft above
 Magnetic Declination: 7.668°
 Total Field Strength: -48791.473 nT
 Magnetic Dip Angle: 60.542°
 Declination Date: May 23, 2012
 Magnetic Declination Model: BGGM 2011
 North Reference: Grid North
 Grid Convergence Used: 0.291°
 Total Corr Mag North→Grid North: 7.407°
 Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/1000ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ° °)	Longitude (E/W ° ° °)
Run-In	0.00	0.00	84.24	0.00	-3721.00	0.00	0.00	0.00	0.00	623517.40	665751.40	N 32 42 48.76	W 103 47 33.96
Marker MudLine	25.00	0.00	84.24	25.00	-3696.00	0.00	0.00	0.00	0.00	623517.40	665751.40	N 32 42 48.76	W 103 47 33.96
KOP: Build 8"/100ft	7634.42	0.00	84.24	7634.42	-3913.42	0.00	0.00	0.00	0.00	623517.40	665751.40	N 32 42 48.76	W 103 47 33.96
LP Hold 87.63° to TD	8729.86	87.63	84.24	8350.00	-4629.00	686.58	-50.70	684.71	8.00	623466.70	666456.06	N 32 42 46.22	W 103 47 31.95
Cross Bones 1-29 PBHL	12359.07	87.63	84.24	8500.00	-4779.00	4312.75	-318.62	4303.96	0.00	623108.60	670052.10	N 32 42 43.38	W 103 46 49.65

Survey Type: Def Plan

Survey Error Model: ISCW/SA Rev 0 *** 3-D 95.000% Confidence 2.7655 sigma
 Survey Program

Description	MD From (ft)	MD To (ft)	EQU Freq (ft)	Survey Tool Type	Borehole / Survey
	0.000	25.000	1/100.000	SLB_UNKNOWN-Depth Only	Original Borehole / Chevron Cross Bones 1-29 1H Rev0 GDS 23-May-2012
	25.000	12359.065	1/100.000	SLB_UNKNOWN	Original Borehole / Chevron Cross Bones 1-29 1H Rev0 GDS 23-May-2012

Rev 0

Chevron

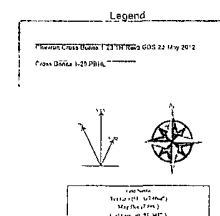
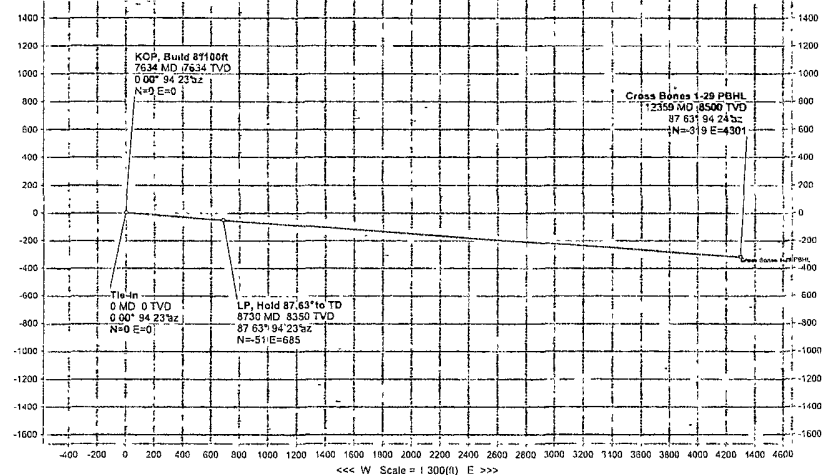
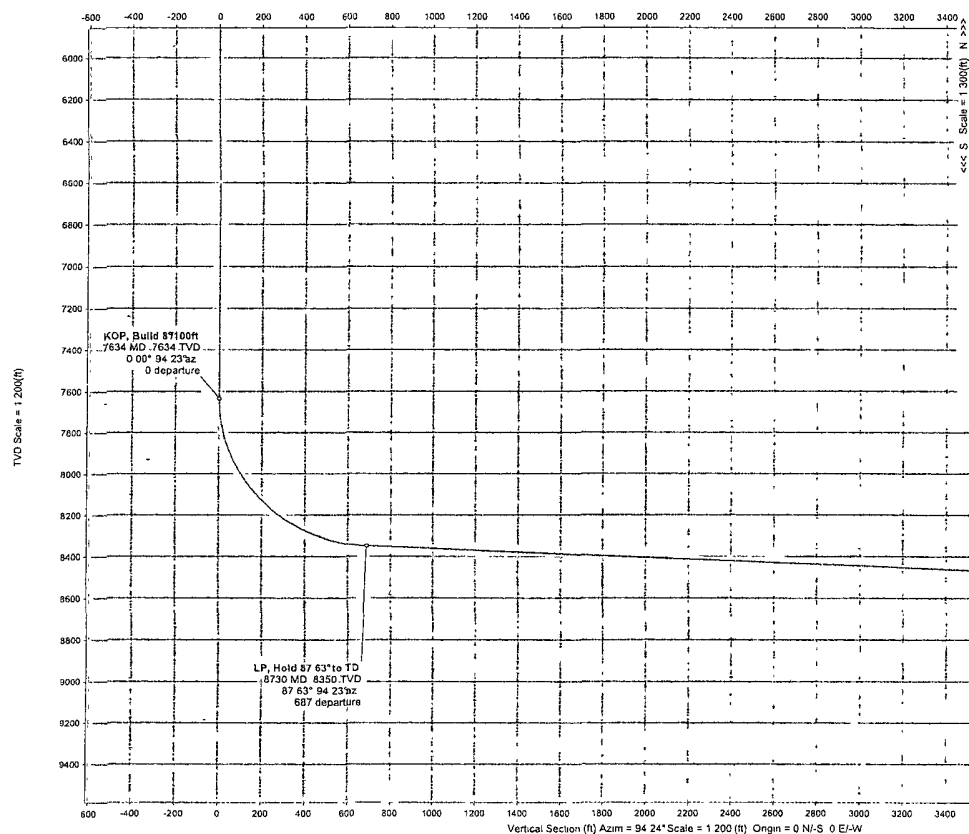
H&P 227

PATHFINDER

A Schlumberger Company

WELL	Cross Bones 1-29		FIELD	NM Lea County (NAD 27)		STRI CTURE	Chevron Cross Bones 1-29	
Magnetic Parameters	Model		Dip	40.34°	Date	May 2, 2012	Surface Location	NAD27 N. Magnetic North Point, Eastern Zone, 1°N Fact
	Model		Dip	40.34°	Date	May 2, 2012	Surface Location	NAD27 N. Magnetic North Point, Eastern Zone, 1°N Fact
	Model		Dip	40.34°	Date	May 2, 2012	Surface Location	NAD27 N. Magnetic North Point, Eastern Zone, 1°N Fact

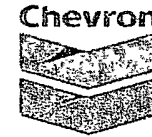
Comments	Survey	Inclination(deg)	Azimuth(deg)	TVD(ft)	Surf Sec	VS(ft)	NS(ft)	EW(ft)	Longitude(deg)	Latitude(deg)	Easting(ft)	Northing(ft)	Closure(ft)	Closure	CLS(ft)	Tool
File In	0.00	0.00	94.24	0.00	3721.00	0.00	0.00	0.00	N 32 42 45.73 E	W 103 47 39.96 E	665751.40	623517.40	0.00	0.00	0.00	94.24
Marker M/Line	25.00	0.00	94.24	25.00	369.00	0.00	0.00	0.00	N 32 42 45.73 E	W 103 47 39.96 E	665751.40	623517.40	0.00	0.00	0.00	94.24
KOP, Build 87100ft	7634.42	0.00	94.24	7634.42	3813.42	0.00	0.00	0.00	N 32 42 45.73 E	W 103 47 39.96 E	665751.40	623517.40	0.00	0.00	0.00	94.24
LP, Hold 87.63° to TD	8725.80	87.63	94.24	8350.00	4629.00	666.58	50.70	684.71	N 32 42 45.73 E	W 103 47 39.96 E	665751.40	623517.40	686.58	94.24	0.00	87.98
Cross Bones 1-29 PBHL	12359.07	87.63	94.24	8500.00	4779.00	4312.75	318.62	7430.96	N 32 42 43.38 E	W 103 45 49.64 E	670052.10	623198.80	4312.75	94.24	0.00	87.98



Down By
Date Created
Checked By
Approved By
Current User
May 22, 2012 10:30:21 AM



Chevron Cross Bones 1-29 1H Rev0 GDS 23-May-2012 Proposal Report



(Def Plan)

Report Date: May 23, 2012 - 09 37 AM
Client: Chevron
Field: NM Lea County (NAD 27)
Structure / Slot: Chevron Cross Bones 1-29 / Cross Bones 1-29
Well: Cross Bones 1-29
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Chevron Cross Bones 1-29 1H Rev0 GDS 23-May-2012
Survey Date: May 23, 2012
Tort / AHD / DDI / ERD Ratio: 87 635 ° / 4312 750 ft / 5 740 / 0 507
Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 42' 46 75798", W 103° 47' 39 96202"
Location Grid N/E Y/X: N 623517 400 RUS, E 665751 400 RIJS
CRS Grid Convergence Angle: 0 29124417 °
Grid Scale Factor: 0 99994055

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 94 237 ° (Grid North)
Vertical Section Origin: 0 000 ft, 0 000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3721 000 ft above
Seabed / Ground Elevation: 3696 000 ft above
Magnetic Declination: 7 698 °
Total Field Strength: 48791 473 nT
Magnetic Dip Angle: 60 542 °
Declination Date: May 23, 2012
Magnetic Declination Model: BGGM 2011
North Reference: Grid North
Grid Convergence Used: 0 291 °
Total Corr Mag North->Grid North: 7 407 °

Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Tie-In	0 00	0 00	94 24	0 00	-3721 00	0 00	0 00	0 00	N/A	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
Marker MudLine	25 00	0 00	94 24	25 00	-3696 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	100 00	0 00	94 24	100 00	-3621 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	200 00	0 00	94 24	200 00	-3521 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	300 00	0 00	94 24	300 00	-3421 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	400 00	0 00	94 24	400 00	-3321 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	500 00	0 00	94 24	500 00	-3221 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	600 00	0 00	94 24	600 00	-3121 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	700 00	0 00	94 24	700 00	-3021 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	800 00	0 00	94 24	800 00	-2921 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	900 00	0 00	94 24	900 00	-2821 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	1000 00	0 00	94 24	1000 00	-2721 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	1100 00	0 00	94 24	1100 00	-2621 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	1200 00	0 00	94 24	1200 00	-2521 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	1300 00	0 00	94 24	1300 00	-2421 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	1400 00	0 00	94 24	1400 00	-2321 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	1500 00	0 00	94 24	1500 00	-2221 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	1600 00	0 00	94 24	1600 00	-2121 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	1700 00	0 00	94 24	1700 00	-2021 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	1800 00	0 00	94 24	1800 00	-1921 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
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	2000 00	0 00	94 24	2000 00	-1721 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	2100 00	0 00	94 24	2100 00	-1621 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	2200 00	0 00	94 24	2200 00	-1521 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	2300 00	0 00	94 24	2300 00	-1421 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	2400 00	0 00	94 24	2400 00	-1321 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	2500 00	0 00	94 24	2500 00	-1221 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	2600 00	0 00	94 24	2600 00	-1121 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	2700 00	0 00	94 24	2700 00	-1021 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	2800 00	0 00	94 24	2800 00	-921 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96

Comments	MD (ft)	Incl (°)	Azim Grd (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	2900 00	0 00	94 24	2900 00	-821 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	3000 00	0 00	94 24	3000 00	-721 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	3100 00	0 00	94 24	3100 00	-621 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	3200 00	0 00	94 24	3200 00	-521 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	3300 00	0 00	94 24	3300 00	-421 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	3400 00	0 00	94 24	3400 00	-321 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	3500 00	0 00	94 24	3500 00	-221 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	3600 00	0 00	94 24	3600 00	-121 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	3700 00	0 00	94 24	3700 00	-21 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	3800 00	0 00	94 24	3800 00	79 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	3900 00	0 00	94 24	3900 00	179 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	4000 00	0 00	94 24	4000 00	279 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	4100 00	0 00	94 24	4100 00	379 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	4200 00	0 00	94 24	4200 00	479 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	4300 00	0 00	94 24	4300 00	579 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	4400 00	0 00	94 24	4400 00	679 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	4500 00	0 00	94 24	4500 00	779 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	4600 00	0 00	94 24	4600 00	879 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	4700 00	0 00	94 24	4700 00	979 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	4800 00	0 00	94 24	4800 00	1079 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	4900 00	0 00	94 24	4900 00	1179 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	5000 00	0 00	94 24	5000 00	1279 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	5100 00	0 00	94 24	5100 00	1379 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	5200 00	0 00	94 24	5200 00	1479 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	5300 00	0 00	94 24	5300 00	1579 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	5400 00	0 00	94 24	5400 00	1679 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	5500 00	0 00	94 24	5500 00	1779 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	5600 00	0 00	94 24	5600 00	1879 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	5700 00	0 00	94 24	5700 00	1979 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	5800 00	0 00	94 24	5800 00	2079 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	5900 00	0 00	94 24	5900 00	2179 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	6000 00	0 00	94 24	6000 00	2279 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	6100 00	0 00	94 24	6100 00	2379 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	6200 00	0 00	94 24	6200 00	2479 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	6300 00	0 00	94 24	6300 00	2579 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	6400 00	0 00	94 24	6400 00	2679 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	6500 00	0 00	94 24	6500 00	2779 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	6600 00	0 00	94 24	6600 00	2879 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	6700 00	0 00	94 24	6700 00	2979 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	6800 00	0 00	94 24	6800 00	3079 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	6900 00	0 00	94 24	6900 00	3179 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	7000 00	0 00	94 24	7000 00	3279 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	7100 00	0 00	94 24	7100 00	3379 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	7200 00	0 00	94 24	7200 00	3479 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	7300 00	0 00	94 24	7300 00	3579 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	7400 00	0 00	94 24	7400 00	3679 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	7500 00	0 00	94 24	7500 00	3779 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	7600 00	0 00	94 24	7600 00	3879 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
KOP, Build 8"/100ft	7634 42	0 00	94 24	7634 42	3913 42	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
	7700 00	5 25	94 24	7699 91	3978 91	3 00	-0 22	2 99	8 00	623517 18	665754 39	N 32 42 46 76	W 103 47 39 93
	7800 00	13 25	94 24	7798 53	4077 53	19 06	-1 41	19 00	8 00	623515 99	665770 40	N 32 42 46 74	W 103 47 39 74
	7900 00	21 25	94 24	7893 96	4172 96	48 68	-3 59	48 55	8 00	623513 81	665799 94	N 32 42 46 72	W 103 47 39 39
	8000 00	29 25	94 24	7984 33	4263 33	91 30	-6 74	91 05	8 00	623510 66	665842 44	N 32 42 46 69	W 103 47 38 90
	8100 00	37 25	94 24	8067 89	4346 89	146 08	-10 79	145 68	8 00	623506 61	665897 07	N 32 42 46 64	W 103 47 38 26
	8200 00	45 25	94 24	8143 02	4422 02	211 95	-15 65	211 37	8 00	623501 75	665962 76	N 32 42 46 59	W 103 47 37 49

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	8300 00	53 25	94 24	8208 25	4487 25	287 64	-21 24	286 86	8 00	623496 16	666038 24	N 32 42 46 53	W 103 47 36 61
	8400 00	61 25	94 24	8262 31	4541 31	371 67	-27 45	370 66	8 00	623489 95	666122 04	N 32 42 46 47	W 103 47 35 63
	8500 00	69 25	94 24	8304 15	4583 15	462 41	-34 15	461 15	8 00	623483 25	666212 52	N 32 42 46 40	W 103 47 34 57
	8600 00	77 25	94 24	8332 95	4611 95	558 09	-41 21	556 57	8 00	623476 19	666307 93	N 32 42 46 32	W 103 47 33 45
	8700 00	85 25	94 24	8348 15	4627 15	656 85	-48 51	655 05	8 00	623468 90	666406 41	N 32 42 46 25	W 103 47 32 30
LP, Hold 87 63° to TD	8729 80	87 63	94 24	8350 00	4629 00	686 58	-50 70	684 71	8 00	623466 70	666436 06	N 32 42 46 22	W 103 47 31 95
	8800 00	87 63	94 24	8352 91	4631 91	756 73	-55 88	754 66	0 00	623461 52	666506 01	N 32 42 46 17	W 103 47 31 13
	8900 00	87 63	94 24	8357 04	4636 04	856 64	-63 26	854 30	0 00	623454 14	666605 65	N 32 42 46 09	W 103 47 29 97
	9000 00	87 63	94 24	8361 18	4640 18	956 55	-70 64	953 94	0 00	623446 76	666705 28	N 32 42 46 01	W 103 47 28 80
	9100 00	87 63	94 24	8365 31	4644 31	1056 47	-78 02	1053 58	0 00	623439 39	666804 92	N 32 42 45 53	W 103 47 27 64
	9200 00	87 63	94 24	8369 45	4648 45	1156 38	-85 40	1153 23	0 00	623432 01	666904 56	N 32 42 45 85	W 103 47 26 47
	9300 00	87 63	94 24	8373 58	4652 58	1256 30	-92 78	1252 87	0 00	623424 63	667004 19	N 32 42 45 78	W 103 47 25 30
	9400 00	87 63	94 24	8377 72	4656 72	1356 21	-100 16	1352 51	0 00	623417 25	667103 83	N 32 42 45 70	W 103 47 24 14
	9500 00	87 63	94 24	8381 85	4660 85	1456 13	-107 54	1452 15	0 00	623409 87	667203 46	N 32 42 45 62	W 103 47 22 97
	9600 00	87 63	94 24	8385 98	4664 98	1556 04	-114 92	1551 79	0 00	623402 49	667303 10	N 32 42 45 54	W 103 47 21 81
	9700 00	87 63	94 24	8390 12	4669 12	1655 96	-122 30	1651 43	0 00	623395 11	667402 73	N 32 42 45 46	W 103 47 20 64
	9800 00	87 63	94 24	8394 25	4673 25	1755 87	-129 68	1751 08	0 00	623387 73	667502 37	N 32 42 45 39	W 103 47 19 48
	9900 00	87 63	94 24	8398 39	4677 39	1855 79	-137 06	1850 72	0 00	623380 35	667602 00	N 32 42 45 31	W 103 47 18 31
	10000 00	87 63	94 24	8402 52	4681 52	1955 70	-144 44	1950 36	0 00	623372 97	667701 64	N 32 42 45 23	W 103 47 17 15
	10100 00	87 63	94 24	8406 65	4685 65	2055 61	-151 82	2050 00	0 00	623365 59	667801 27	N 32 42 45 15	W 103 47 15 98
	10200 00	87 63	94 24	8410 79	4689 79	2155 53	-159 20	2149 64	0 00	623358 21	667900 91	N 32 42 45 07	W 103 47 14 81
	10300 00	87 63	94 24	8414 92	4693 92	2255 44	-166 58	2249 28	0 00	623350 83	668000 54	N 32 42 45 00	W 103 47 13 65
	10400 00	87 63	94 24	8419 05	4698 05	2355 36	-173 97	2348 92	0 00	623343 45	668100 18	N 32 42 44 92	W 103 47 12 48
	10500 00	87 63	94 24	8423 19	4702 19	2455 27	-181 35	2448 57	0 00	623336 06	668199 82	N 32 42 44 84	W 103 47 11 32
	10600 00	87 63	94 24	8427 32	4706 32	2555 19	-188 73	2548 21	0 00	623328 68	668299 45	N 32 42 44 76	W 103 47 10 15
	10700 00	87 63	94 24	8431 45	4710 45	2655 10	-196 11	2647 85	0 00	623321 30	668399 09	N 32 42 44 68	W 103 47 9 99
	10800 00	87 63	94 24	8435 59	4714 59	2755 02	-203 49	2747 49	0 00	623313 92	668498 72	N 32 42 44 61	W 103 47 7 82
	10900 00	87 63	94 24	8439 72	4718 72	2854 93	-210 88	2847 13	0 00	623306 54	668598 36	N 32 42 44 53	W 103 47 6 65
	11000 00	87 63	94 24	8443 85	4722 85	2954 85	-218 26	2946 77	0 00	623299 15	668697 99	N 32 42 44 45	W 103 47 5 49
	11100 00	87 63	94 24	8447 98	4726 98	3054 76	-225 64	3046 41	0 00	623291 77	668797 63	N 32 42 44 37	W 103 47 4 32
	11200 00	87 63	94 24	8452 11	4731 11	3154 67	-233 03	3146 06	0 00	623284 39	668897 26	N 32 42 44 29	W 103 47 3 16
	11300 00	87 63	94 24	8456 25	4735 25	3254 59	-240 41	3245 70	0 00	623277 00	668996 90	N 32 42 44 21	W 103 47 1 99
	11400 00	87 63	94 24	8460 38	4739 38	3354 50	-247 79	3345 34	0 00	623269 62	669096 53	N 32 42 44 14	W 103 47 0 83
	11500 00	87 63	94 24	8464 51	4743 51	3454 42	-255 18	3444 98	0 00	623262 24	669196 17	N 32 42 44 06	W 103 46 59 66
	11600 00	87 63	94 24	8468 64	4747 64	3554 33	-262 56	3544 62	0 00	623254 85	669295 80	N 32 42 43 98	W 103 46 58 49
	11700 00	87 63	94 24	8472 77	4751 77	3654 25	-269 95	3644 26	0 00	623247 47	669395 44	N 32 42 43 90	W 103 46 57 33
	11800 00	87 63	94 24	8476 91	4755 91	3754 16	-277 33	3743 90	0 00	623240 09	669495 07	N 32 42 43 82	W 103 46 56 16
	11900 00	87 63	94 24	8481 04	4760 04	3854 08	-284 72	3843 55	0 00	623232 70	669594 71	N 32 42 43 75	W 103 46 55 00
	12000 00	87 63	94 24	8485 17	4764 17	3953 99	-292 10	3943 19	0 00	623225 32	669694 34	N 32 42 43 67	W 103 46 53 83
	12100 00	87 63	94 24	8489 30	4768 30	4053 91	-299 49	4042 83	0 00	623217 93	669793 98	N 32 42 43 59	W 103 46 52 67
	12200 00	87 63	94 24	8493 43	4772 43	4153 82	-306 87	4142 47	0 00	623210 55	669893 62	N 32 42 43 51	W 103 46 51 50
	12300 00	87 63	94 24	8497 56	4776 56	4253 74	-314 26	4242 11	0 00	623203 16	669993 25	N 32 42 43 43	W 103 46 50 33
Cross Bones 1-29 PBHL	12359 07	87 63	94 24	8500 00	4779 00	4312 75	-318 62	4300 96	0 00	623198 80	670052 10	N 32 42 43 39	W 103 46 49 65

Survey Type

Def Plan

Survey Error Model:

ISCSA Rev 0 *** 3-D 95 000% Confidence 2 7955 sigma

Survey Program:

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Survey Tool Type	Borehole / Survey
	0 000	25 000	1/100 000	SLB_UNKNOWN-Depth Only	Original Borehole / Chevron Cross Bones 1-29 1H Rev0 GDS 23-May-2012

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
		25 000	12359 065	1/100 000	SLB_UNKNOWN					Original Borehole / Chevron Cross Bones 1-29 1H Rev0 GDS 23-May-2012			

Chevron Cross Bones 1-29 1H Rev0 GDS 23-May-2012 Proposal Report



(Def Plan)

Report Date	May 23, 2012 - 09:36 AM	Survey / DLS Computation	Minimum Curvature / Lubinski
Client	Chevron	Vertical Section Azimuth	94 237 ° (Grid North)
Field	NM Lea County (NAD 27)	Vertical Section Origin	0 000 ft, 0 000 ft
Structure / Slot	Chevron Cross Bones 1-29 / Cross Bones 1-29	TVD Reference Datum	RKB
Well	Cross Bones 1-29	TVD Reference Elevation	3721 000 ft above
Borehole	Original Borehole	Seabed / Ground Elevation	3696 000 ft above
UWI / API#	Unknown / Unknown	Magnetic Declination	7 698 °
Survey Name	Chevron Cross Bones 1-29 1H Rev0 GDS 23-May-2012	Total Field Strength	48791 473 nT
Survey Date	May 23, 2012	Magnetic Dip Angle	60 542 °
Tort / AHD / DDI / ERD Ratio	87 635 ° / 4312 750 ft / 5 740 / 0 507	Declination Date	May 23, 2012
Coordinate Reference System	NAD27 New Mexico State Plane Eastern Zone, US Feet	Magnetic Declination Model	BGGM 2011
Location Lat / Long	N 32° 42' 46.75798" W 103° 47' 39.96202"	North Reference	Grid North
Location Grid N/E Y/X	N 623517 400 ftUS E 665751 400 ftUS	Grid Convergence Used	0 291 °
CRS Grid Convergence Angle	0 29124417 °	Total Corr Mag North->Grid North	7 407 °
Grid Scale Factor	0 99994055	Local Coord Referenced To	Structure Reference Point

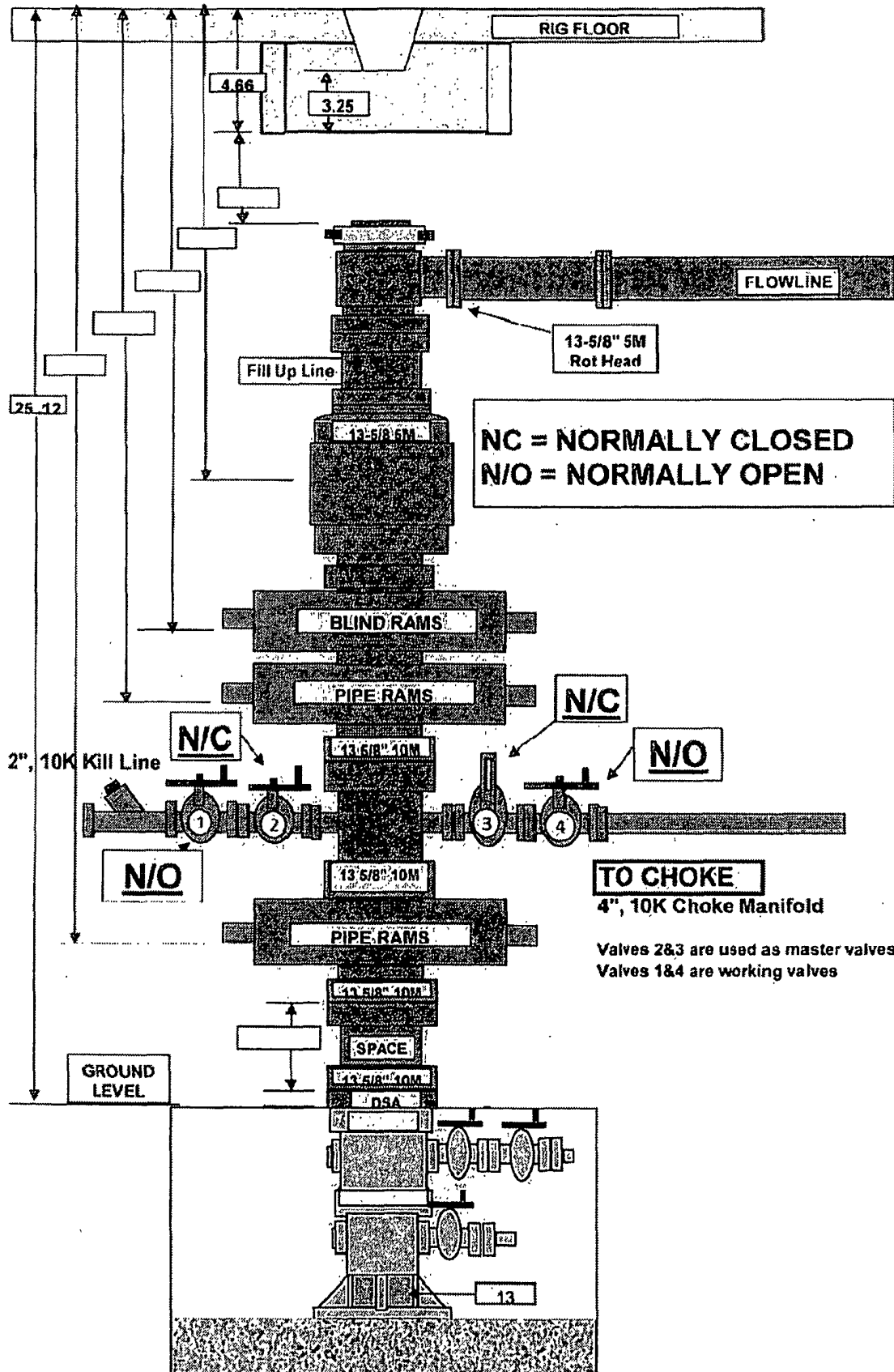
Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
Tie-In	0 00	0 00	94 24	0 00	-3721 00	0 00	0 00	0 00	N/A	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
Marker MudLine	25 00	0 00	94 24	25 00	-3696 00	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
KOP Build 8"/100ft	7634 42	0 00	94 24	7634 42	3913 42	0 00	0 00	0 00	0 00	623517 40	665751 40	N 32 42 46 76	W 103 47 39 96
LP Hold 87 63° to TD	8729 80	87 63	94 24	8350 00	4629 00	666 58	-50 70	684 71	8 00	623466 70	666436 06	N 32 42 46 22	W 103 47 31 95
Cross Bones 1-29 PBHL	12359 07	87 63	94 24	8500 00	4779 00	4312 75	-318 62	4300 96	0 00	623198 80	670052 10	N 32 42 43 39	W 103 46 49 65

Survey Type Def Plan

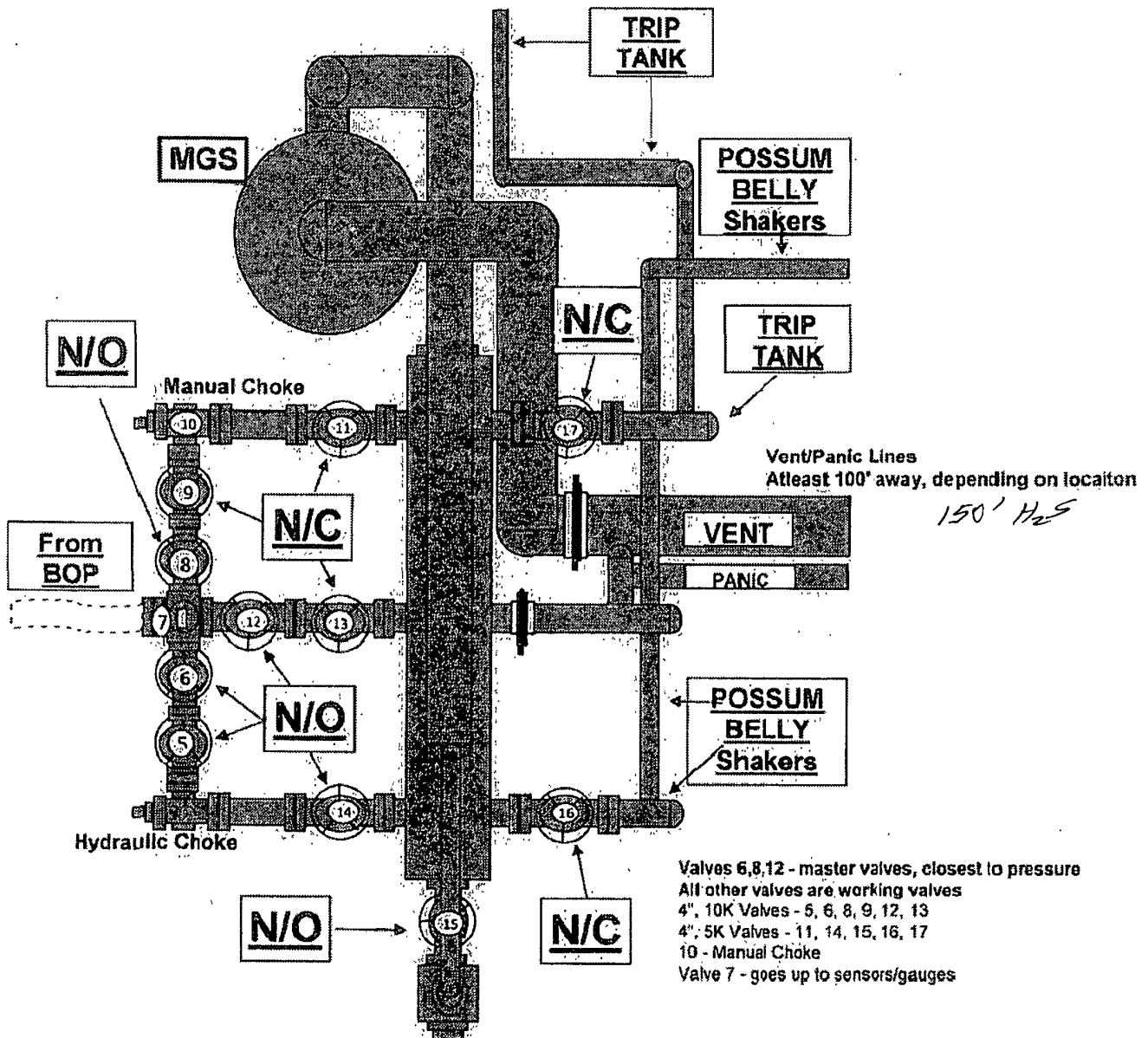
Survey Error Model ISCWSA Rev 0 *** 3-D 95 000% Confidence 2 7955 sigma
Survey Program.

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Survey Tool Type	Borehole / Survey
	0 000	25 000	1/100 000	SLB_UNKNOWN-Depth Only	Original Borehole / Chevron Cross Bones 1-29 1H Rev0 GDS 23-May-2012
	25 000	12359 065	1/100 000	SLB_UNKNOWN	Original Borehole / Chevron Cross Bones 1-29 1H Rev0 GDS 23-May-2012

H&P 227 BOP Stack



H&P #227 CHOKE MANIFOLD



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

Delivery Address:

HELMERICH & PAYNE INT'L DRILLING

FOR RIG 227 - PANOLA COUNTY, TX

**From the loop in Carthage TX take Highway 79
for 5.3 miles to FM 1970. Take left on FM 1970 and
travel 3.6 miles to leas road on left.**

PLEASE FIND DELIVERY NOTE AND CERTIFICATES INSIDE THIS PACKET

Your Ref No:

RIG 227

Our Ref No:

Pbc13134

Box No:

1 OF 1

Dimensions:

129" x25" x 126"

Weight:

2429 LBS



**ContiTech Beattie Corp.
11535 Brittmoore Park Drive
Houston, TX 77041
USA**

**Tel: +1 (832) 327-0141
Fax: +1 (832) 327-0148
Email: mail@contitechbeattie.com
Web: www.contitechbeattie.com**



Delivery Note

ContiTech Beattie Corp

11535 Britton Park Drive
Houston, TX 77041
Tel: (832) 327-0141
Fax: (832) 327-0148
E-mail: mail@fluid.contitech.us
www.contitechbeattie.com

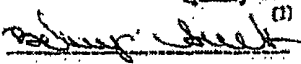
Customer Order Number	RIG 227 - DERRICK JOHNSO	Delivery Note Number	006772	Page	1
Customer / Invoice Address HELMERICH & PAYNE INT'L DRILLING CO 1437 SOUTH BOULDER TULSA, OK 74119		Delivery / Address HELMERICH & PAYNE INT'L DRILLING CO RIG 227 - PANOLA COUNTY, TX PLEASE CALL: 210-861-2217			

Customer Acc No	ContiTech Beattie Contract Manager	ContiTech Beattie Reference	Date
HD1	JM	013134	04/30/2012

Item No	Beattie Part Number / Description	Qty Ordered	Qty Sent	Qty To Follow
1	HP10CK3A-35-4F1 3" 10K 16C C&K HOSE x 35ft OAL CW 4.1/16" API SPEC FLANGE E/ End 1: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange End 2: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange c/w BX155 Standard ring groove at each end Suitable for H2S Service Working pressure: 10,000psi Test pressure: 15,000psi Standard API 16C Full specification External fire cover: Not Included External armor guard: Included Temperature rating: -20 Deg C to +100 Deg C	1	1	0
2	00CERF-HOSEDATA HP HOSE TECHNICAL DATA BOOK	1	1	0
3	00FREIGHT PRLPAID AND ADDED TO FINAL INVOICE BUYER: DERRICK JOHNSON E-MAIL: derrick.johnson@hpdc.com TEL: 903.894.1500	1	1	0

Continued...

All goods remain the property of ContiTech Beattie until paid for in full. Any damage or shortage on this delivery must be advised within 5 days. Returns may be subject to a handling charge.

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°: 310	
PURCHASER: ContiTech Beattie Co.				P.O. N°: 005878	
CONTITECH ORDER N°: 529641		HOSE TYPE: 3" ID Choke and Kill Hose			
HOSE SERIAL N°: 62639		NOMINAL / ACTUAL LENGTH: 10,67 m / 10,74 m			
W.P. 68,9 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 = 20 MPa					
COUPLINGS Type		Serial N°		Quality	
3" coupling with 4 1/16" 10K API Flange end		1095 1090		AISI 4130 AISI 4130	
				Heat N° B3785A 33051	
NOT DESIGNED FOR WELL TESTING				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 INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.					
STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.					
COUNTRY OF ORIGIN HUNGARY/EU					
Date:		Inspector		Quality Control	
29. February 2012.				ContiTech Rubber Industrial Kft. Quality Control Dept.  	

ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE

No: 310, 311, 312,
371

Page: 1 / 1

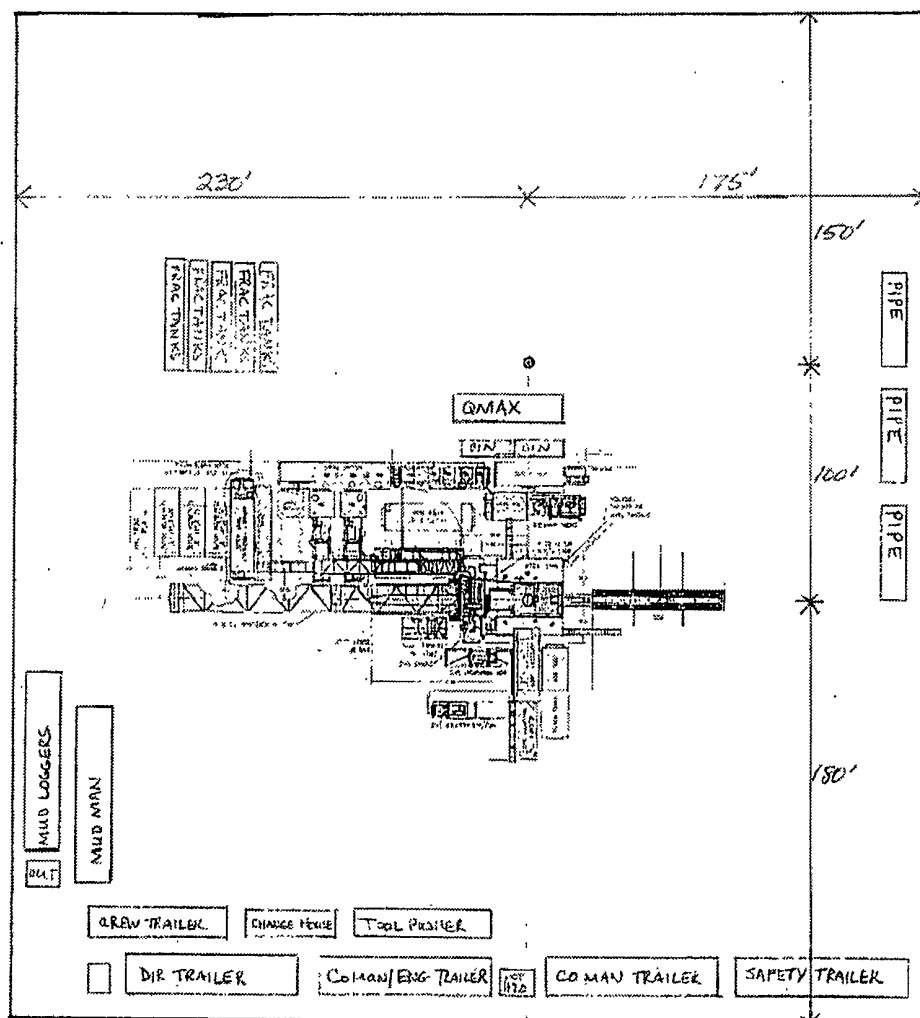
ContiTech Rubber
Industrial Kft.
Quality Control Dept.
(1)

[illegible]



Hose Data Sheet

CRI Order No.	529841
Customer	ContiTech Beattie Co.
Customer Order No	PO5878 STOCK
Item No.	2
Hose Type	Flexible Hose
Standard	API SPEC 16 C
Inside dia in inches	3
Length	35 ft
Type of coupling one end	FLANGE 4 1/16" API SPEC 6A TYPE 6BX FOR 10000 PSIBX155 RING GROOVE
Type of coupling other end	FLANGE 4 1/16" API SPEC 6A TYPE 6BX FOR 10000 PSI BX155 RING GROOVE
H2S service NACE MR0175	Yes
Working Pressure	10 000 psi
Design Pressure	10 000 psi
Test Pressure	15 000 psi
Safety Factor	2,25
Marking	USUAL PHOENIX
Cover	NOT FIRE RESISTANT
Outside protection	St steel outer wrap
Internal stripwound tube	No
Lining	OIL RESISTANT
Safety clamp	No
Lifting collar	No
Element C	No
Safety chain	No
Safety wire rope	No
Max.design temperature [°C]	100
Min.design temperature [°C]	-20
MBR operating [m]	1,60
MBR storage [m]	1,40
Type of packing	WOODEN CRATE ISPM-15



Cross Bore 2 29-1H
 Cross Bore 1 29-1H (100' north)

50'

Cross Bones 2 29-1H Location

*Not to Scale

