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NOV 22 2010

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBSOCD

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER		7. If Unit or CA Agreement, Name and No.
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		8. Lease Name and Well No. Citation X Federal Com #1H 38396
2. Name of Operator CDB Operating LLC Marbob Energy Corporation		9. API Well No. 312-025-39961
3a. Address P.O. Box 227, Artesia, NM 88211-0227	3b. Phone No. (include area code) 575-748-3303	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 990' FSL & 1980' FEL, Sec 8 Unit 0 At proposed prod. zone BHL: 1650' FSL & 1980' FEL, Sec 17 Unit J		11. Sec., T. R. M. or Blk. and Survey or Area SL: SEC 8, T19S-R32E BHL: SEC 17, T19S-R32E
14. Distance in miles and direction from nearest town or post office* Approx. 15 miles from Maljamar, NM		12. County or Parish Lea County
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'		13. State NM
16. No. of acres in lease SL: 680.00 BHL: 280.00	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.	19. Proposed Depth TVD: 9,350' TMD: 13,765' PH: 16600	20. BLM/BIA Bond No. on file NMB000412
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3622' GL	22. Approximate date work will start* 10/20/2010	23. Estimated duration 35 Days

24. Attachments

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

- | | |
|--|---|
| 1. Well plat certified by a registered surveyor. | 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 must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM. |

25. Signature Nancy T. Agnew	Name (Printed/Typed) Nancy T. Agnew	Date 09/20/2010
Title Land-Department		
Approved by (Signature) J Martinez	Name (Printed/Typed)	Date
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

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

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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

*(Instructions on page 2)

Capitan Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

KZ 11/24/10

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SEP 03 2010

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 87401

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 87003

WELL LOCATION AND ACREAGE DEDICATION PLAT
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1625 S. ST. FRANCIS DR., SANTA FE, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 3D-025-3996D	Pool Code 41450	Pool Name LUSK; BONE SPRING NORTH
Property Code 38396	Property Name CITATION X FEDERAL COM	Well Number 1H
OGRID No. 44049	Operator COG Operating LLC MARBOB ENERGY CORPORATION	Elevation 3622'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	8	19-S	32-E		990	SOUTH	1980	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	17	19-S	32-E		1650	SOUTH	1980	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

SECTION 8 SECTION 17 N:608338.3 E:667831.8 N:607018.2 E:667842.5 N:608342.9 E:669152.8 N:607022.7 E:669164.5 N:601740.3 E:667876.4 N:601742.4 E:669199.9 S.L. DETAIL B.H. 990' 1650' 1980' 600' 600' GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=608010.2 N X=668499.9 E LAT.=32.670326° N LONG.=103.785758° W BOTTOM HOLE LOCATION Y=603390.9 N X=668532.3 E	OPERATOR CERTIFICATION I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Nancy T. Agnew</i> 9/20/10 Signature Date NANCY T. AGNEW Printed Name SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. DATE SURVEYED: AUGUST 19, 2010 DATE PLATTED: SEP 1, 2010 Signature & Seal of Professional Surveyor <i>Ronald J. Eidson</i> 9/1/2010 Certificate No. GARY EIDSON 12641 RONALD J. EIDSON 3239
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MARBOB ENERGY CORPORATION
DRILLING AND OPERATIONS PROGRAM

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NOV 22 2010
HOBBSOCD

Citation X Federal Com #1H
Surf: 990' FSL & 1980' FEL, Sec 8
BHL: 1650' FSL & 1980' FEL, Sec 17
T19S-R32E
Lea County, New Mexico

In conjunction with Form 3160-3, Application for Permit to Drill subject well, Marbob Energy Corporation submits the following ten items of pertinent information in accordance with BLM requirements.

1. Geological surface formation: Permian
2. The estimated tops of geologic markers & estimated depths at which anticipated water, oil or gas formations are expected to be encountered are as follows:

Rustler	950'	
Top of Salt	1030'	
Base of Salt	2660'	
Yates	2870'	Oil
7 Rivers	3170'	
Queen	3770'	
Delaware	5520'	Oil
Bone Spring	7090'	Oil
1 st Sand	8405'	Oil
2 nd Sand	9140'	Oil
3 rd Sand	9935'	
TD	10600'	Pilot Hole
TVD	9350'	
TMD	13765'	

No other formations are expected to give up oil, gas, or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 13 3/8" casing at 975' and circulating cement back to surface. All intervals will be isolated by setting 5 1/2" casing to total depth and circulating cement above the base of the 9 5/8" casing.

3. Proposed Casing Program:

Hole Size	Interval	OD Casing	New or Used	Wt	Collar	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17 1/2"	0' - 975' ^{1045'}	13 3/8"	New	54.5#	STC	J-55	1.125	1.125	1.6
12 1/4"	975' - 3000' ^{2750'}	9 5/8"	New	36#	BUTT	J-55	1.125	1.125	1.6
7 7/8"	3000' - 13765'	5 1/2"	New	17#	LTC	N-80	1.125	1.125	1.6

* Plan to drill 7 7/8" hole to 10,600', run electric logs then plug back by setting plugs from T.D. to 10,400', then a kickoff plug from 9,300'-8,800', then drilling horizontal to new bhl.

See
COA

5. Proposed Cement Program:

- a. 13 3/8" Surf Cement to surface with 400 sk "C" wt 13.5 yield 1.69, Tail in with 300 sk "c" wt 14.8 yield 1.34
- b. 9 5/8" Int Cement to surface with 500 sk "c" light wt 12.7 yield 1.91 Tail in with 200 sk "c" wt 14.8 yield 1.34
- c. 5 1/2" Prod 1st stage with 450 "H" acid soluble cement wt 15.0 yield 2.6, second stage with 600 sk "H" light wt 12.7 yield 1.91 Tail in with 200 sk "H" wt 13.0 yield 1.64. DV @ 8800' TOC 2500' OK

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of cement is designed to reach approximately 200' above the 9 5/8" casing shoe. **All casing is new and API approved.** OK

6. Minimum Specifications for Pressure Control:

Nipple up on 13 3/8 with 2M system tested to 2000#, Nipple up on 9 5/8 with 3m system tested to 3000# by independent tester

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A 2" kill line and a 3" choke line will be included in the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold with 3000 psi WP rating.

7. Estimated BHP: 3889.6 psi

8. Mud Program: The applicable depths and properties of this system are as follows:

See COA

Depth	Type System	Mud Weight	Viscosity (sec)	Waterloss (cc)
0' - 975'	Fresh Water	8.4	29	N.C.
975' - 3000'	Brine	9.9 - 10.0	29	N.C.
3000' - 13765'	Cut Brine	8.9	29	N.C.

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

9. Auxiliary Well Control and Monitoring Equipment:

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

10. Testing, Logging and Coring Program:

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

See
COA

11. Potential Hazards:

- a. No abnormal pressures or temperatures are expected. There is no known presence of H₂S in this area. If H₂S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP: 3889.6 psi. No H₂S is anticipated to be encountered.

12. Anticipated starting date and Duration of Operations:

- a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as possible after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 35 days.



Marbob

Lea County

Citation X Federal Com

#1H

OH

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Plan: Plan #1

Pathfinder X & Y Planning Report

17 September, 2010

PATHFINDER®

A Schlumberger Company



Pathfinder

Pathfinder X & Y Planning Report

PATHFINDER
A Schlumberger Company

Company:	Marbobi	Local Co-ordinate Reference:	Well #1H
Project:	Lea County	TVD Reference:	WELL @ 3641.00ft (Original Well Elev)
Site:	Citation X Federal Com	MD Reference:	WELL @ 3641.00ft (Original Well Elev)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	Midland Database

Project	Lea County, New Mexico		
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:	Citation X Federal Com				
Site Position:		Northing:	608,010.200 ft	Latitude:	32° 40' 13.172 N
From:	Map	Easting:	668,499.900 ft	Longitude:	103° 47' 8.730 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	0.30 °

Well	#1H					
Well Position	+N/-S	0.00 ft	Northing:	608,010.200 ft	Latitude:	32° 40' 13.172 N
	+E/-W	0.00 ft	Easting:	668,499.900 ft	Longitude:	103° 47' 8.730 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,622.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	09/17/10	7.80	60.60	48,967

Design:	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD):	+N/-S:	+E/-W:	Direction:
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	179.60

Survey Tool Program		Date 09/17/10		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	13,764.47	Plan #1 (OH)	MWD	MWD - Standard



Pathfinder Pathfinder X & Y Planning Report



A Schlumberger Company

Company: Marbob
Project: Lea County
Site: Citation X Federal Com
Well: #1H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #1H
TVD Reference: WELL @ 3641.00ft (Original Well Elev)
MD Reference: WELL @ 3641.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
0.00	0.00	0.00	0.00	-3,641.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
100.00	0.00	0.00	100.00	-3,541.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
200.00	0.00	0.00	200.00	-3,441.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
300.00	0.00	0.00	300.00	-3,341.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
400.00	0.00	0.00	400.00	-3,241.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
500.00	0.00	0.00	500.00	-3,141.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
600.00	0.00	0.00	600.00	-3,041.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
700.00	0.00	0.00	700.00	-2,941.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
800.00	0.00	0.00	800.00	-2,841.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
900.00	0.00	0.00	900.00	-2,741.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
1,000.00	0.00	0.00	1,000.00	-2,641.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
1,100.00	0.00	0.00	1,100.00	-2,541.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
1,200.00	0.00	0.00	1,200.00	-2,441.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
1,300.00	0.00	0.00	1,300.00	-2,341.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
1,400.00	0.00	0.00	1,400.00	-2,241.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
1,500.00	0.00	0.00	1,500.00	-2,141.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
1,600.00	0.00	0.00	1,600.00	-2,041.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
1,700.00	0.00	0.00	1,700.00	-1,941.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
1,800.00	0.00	0.00	1,800.00	-1,841.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
1,900.00	0.00	0.00	1,900.00	-1,741.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
2,000.00	0.00	0.00	2,000.00	-1,641.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
2,100.00	0.00	0.00	2,100.00	-1,541.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
2,200.00	0.00	0.00	2,200.00	-1,441.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
2,300.00	0.00	0.00	2,300.00	-1,341.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
2,400.00	0.00	0.00	2,400.00	-1,241.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
2,500.00	0.00	0.00	2,500.00	-1,141.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90
2,600.00	0.00	0.00	2,600.00	-1,041.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90



Pathfinder

Pathfinder X & Y Planning Report

PATHFINDER
A Schlumberger Company

Company:	Marbob	Local Co-ordinate Reference:	Well #1H
Project:	Lea County	TVD Reference:	WELL @ 3641.00ft (Original Well Elev)
Site:	Citation X Federal Com	MD Reference:	WELL @ 3641.00ft (Original Well Elev)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	Midland Database

Planned Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
2,700.00	0.00	0.00	2,700.00	-941.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
2,800.00	0.00	0.00	2,800.00	-841.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
2,900.00	0.00	0.00	2,900.00	-741.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
3,000.00	0.00	0.00	3,000.00	-641.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
3,100.00	0.00	0.00	3,100.00	-541.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
3,200.00	0.00	0.00	3,200.00	-441.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
3,300.00	0.00	0.00	3,300.00	-341.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
3,400.00	0.00	0.00	3,400.00	-241.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
3,500.00	0.00	0.00	3,500.00	-141.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
3,600.00	0.00	0.00	3,600.00	-41.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
3,700.00	0.00	0.00	3,700.00	59.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
3,800.00	0.00	0.00	3,800.00	159.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
3,900.00	0.00	0.00	3,900.00	259.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
4,000.00	0.00	0.00	4,000.00	359.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
4,100.00	0.00	0.00	4,100.00	459.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
4,200.00	0.00	0.00	4,200.00	559.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
4,300.00	0.00	0.00	4,300.00	659.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
4,400.00	0.00	0.00	4,400.00	759.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
4,500.00	0.00	0.00	4,500.00	859.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
4,600.00	0.00	0.00	4,600.00	959.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
4,700.00	0.00	0.00	4,700.00	1,059.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
4,800.00	0.00	0.00	4,800.00	1,159.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
4,900.00	0.00	0.00	4,900.00	1,259.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
5,000.00	0.00	0.00	5,000.00	1,359.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
5,100.00	0.00	0.00	5,100.00	1,459.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
5,200.00	0.00	0.00	5,200.00	1,559.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
5,300.00	0.00	0.00	5,300.00	1,659.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	



Pathfinder

Pathfinder X & Y Planning Report

PATHFINDER
A Schlumberger Company

Company:	Marbobi	Local Co-ordinate Reference:	Well #1H
Project:	Lea County	TVD Reference:	WELL @ 3641.00ft (Original Well Elev)
Site:	Citation X Federal Com	MD Reference:	WELL @ 3641.00ft (Original Well Elev)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	Midland Database

Planned Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
5,400.00	0.00	0.00	5,400.00	1,759.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
5,500.00	0.00	0.00	5,500.00	1,859.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
5,600.00	0.00	0.00	5,600.00	1,959.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
5,700.00	0.00	0.00	5,700.00	2,059.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
5,800.00	0.00	0.00	5,800.00	2,159.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
5,900.00	0.00	0.00	5,900.00	2,259.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
6,000.00	0.00	0.00	6,000.00	2,359.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
6,100.00	0.00	0.00	6,100.00	2,459.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
6,200.00	0.00	0.00	6,200.00	2,559.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
6,300.00	0.00	0.00	6,300.00	2,659.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
6,400.00	0.00	0.00	6,400.00	2,759.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
6,500.00	0.00	0.00	6,500.00	2,859.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
6,600.00	0.00	0.00	6,600.00	2,959.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
6,700.00	0.00	0.00	6,700.00	3,059.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
6,800.00	0.00	0.00	6,800.00	3,159.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
6,900.00	0.00	0.00	6,900.00	3,259.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
7,000.00	0.00	0.00	7,000.00	3,359.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
7,100.00	0.00	0.00	7,100.00	3,459.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
7,200.00	0.00	0.00	7,200.00	3,559.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
7,300.00	0.00	0.00	7,300.00	3,659.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
7,400.00	0.00	0.00	7,400.00	3,759.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
7,500.00	0.00	0.00	7,500.00	3,859.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
7,600.00	0.00	0.00	7,600.00	3,959.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
7,700.00	0.00	0.00	7,700.00	4,059.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
7,800.00	0.00	0.00	7,800.00	4,159.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
7,900.00	0.00	0.00	7,900.00	4,259.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
8,000.00	0.00	0.00	8,000.00	4,359.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	



Pathfinder

Pathfinder X & Y Planning Report



A Schlumberger Company

Company: Marbob
 Project: Lea County
 Site: Citation X Federal Com
 Well: #1H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well #1H
 TVD Reference: WELL @ 3641.00ft (Original Well Elev)
 MD Reference: WELL @ 3641.00ft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: Midland Database

Planned Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
8,100.00	0.00	0.00	8,100.00	4,459.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
8,200.00	0.00	0.00	8,200.00	4,559.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
8,300.00	0.00	0.00	8,300.00	4,659.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
8,400.00	0.00	0.00	8,400.00	4,759.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
8,500.00	0.00	0.00	8,500.00	4,859.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
8,600.00	0.00	0.00	8,600.00	4,959.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
8,700.00	0.00	0.00	8,700.00	5,059.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
8,800.00	0.00	0.00	8,800.00	5,159.00	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
8,872.50	0.00	0.00	8,872.50	5,231.50	0.00	0.00	0.00	0.00	608,010.20	668,499.90	
8,875.00	0.30	179.60	8,875.00	5,234.00	-0.01	0.00	0.01	12.00	608,010.19	668,499.90	
8,900.00	3.30	179.60	8,899.98	5,258.98	-0.79	0.01	0.79	12.00	608,009.41	668,499.91	
8,925.00	6.30	179.60	8,924.89	5,283.89	-2.88	0.02	2.88	12.00	608,007.32	668,499.92	
8,950.00	9.30	179.60	8,949.66	5,308.66	-6.28	0.04	6.28	12.00	608,003.92	668,499.94	
8,975.00	12.30	179.60	8,974.21	5,333.21	-10.96	0.08	10.96	12.00	607,999.24	668,499.98	
9,000.00	15.30	179.60	8,998.49	5,357.49	-16.92	0.12	16.92	12.00	607,993.28	668,500.02	
9,025.00	18.30	179.60	9,022.42	5,381.42	-24.15	0.17	24.15	12.00	607,986.05	668,500.07	
9,050.00	21.30	179.60	9,045.94	5,404.94	-32.61	0.23	32.61	12.00	607,977.59	668,500.13	
9,075.00	24.30	179.60	9,068.98	5,427.98	-42.30	0.30	42.30	12.00	607,967.90	668,500.20	
9,100.00	27.30	179.60	9,091.49	5,450.49	-53.18	0.37	53.18	12.00	607,957.02	668,500.27	
9,125.00	30.30	179.60	9,113.40	5,472.40	-65.22	0.46	65.22	12.00	607,944.98	668,500.36	
9,150.00	33.30	179.60	9,134.64	5,493.64	-78.39	0.55	78.39	12.00	607,931.81	668,500.45	
9,175.00	36.30	179.60	9,155.17	5,514.17	-92.65	0.65	92.66	12.00	607,917.55	668,500.55	
9,200.00	39.30	179.60	9,174.92	5,533.92	-107.97	0.75	107.98	12.00	607,902.23	668,500.65	
9,225.00	42.30	179.60	9,193.84	5,552.84	-124.31	0.87	124.31	12.00	607,885.89	668,500.77	
9,250.00	45.30	179.60	9,211.89	5,570.89	-141.61	0.99	141.61	12.00	607,868.59	668,500.89	
9,275.00	48.30	179.60	9,229.00	5,588.00	-159.83	1.12	159.83	12.00	607,850.37	668,501.02	
9,300.00	51.30	179.60	9,245.14	5,604.14	-178.92	1.25	178.92	12.00	607,831.28	668,501.15	



Pathfinder

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Local Co-ordinate Reference: Well #1H
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Database: Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
9,325.00	54.30	179.60	9,260.25	5,619.25	-198.83	1.39	198.83	12.00	607,811.37	668,501.29
9,350.00	57.30	179.60	9,274.30	5,633.30	-219.50	1.53	219.51	12.00	607,790.70	668,501.43
9,375.00	60.30	179.60	9,287.25	5,646.25	-240.88	1.68	240.89	12.00	607,769.32	668,501.58
9,400.00	63.30	179.60	9,299.07	5,658.07	-262.91	1.84	262.92	12.00	607,747.29	668,501.74
9,425.00	66.30	179.60	9,309.71	5,668.71	-285.53	1.99	285.53	12.00	607,724.67	668,501.89
9,450.00	69.29	179.60	9,319.16	5,678.16	-308.67	2.15	308.68	12.00	607,701.53	668,502.05
9,475.00	72.29	179.60	9,327.38	5,686.38	-332.27	2.32	332.28	12.00	607,677.93	668,502.22
9,500.00	75.29	179.60	9,334.36	5,693.36	-356.28	2.49	356.29	12.00	607,653.92	668,502.39
9,525.00	78.29	179.60	9,340.07	5,699.07	-380.61	2.66	380.62	12.00	607,629.59	668,502.56
9,550.00	81.29	179.60	9,344.50	5,703.50	-405.21	2.83	405.22	12.00	607,604.99	668,502.73
9,575.00	84.29	179.60	9,347.63	5,706.63	-430.01	3.00	430.02	12.00	607,580.19	668,502.90
9,600.00	87.29	179.60	9,349.47	5,708.47	-454.94	3.18	454.95	12.00	607,555.26	668,503.08
9,622.56	90.00	179.60	9,350.00	5,709.00	-477.49	3.33	477.50	12.00	607,532.71	668,503.23
9,700.00	90.00	179.60	9,350.00	5,709.00	-554.93	3.87	554.94	0.00	607,455.27	668,503.77
9,800.00	90.00	179.60	9,350.00	5,709.00	-654.93	4.57	654.94	0.00	607,355.27	668,504.47
9,900.00	90.00	179.60	9,350.00	5,709.00	-754.93	5.27	754.94	0.00	607,255.27	668,505.17
10,000.00	90.00	179.60	9,350.00	5,709.00	-854.92	5.97	854.94	0.00	607,155.28	668,505.87
10,100.00	90.00	179.60	9,350.00	5,709.00	-954.92	6.67	954.94	0.00	607,055.28	668,506.57
10,200.00	90.00	179.60	9,350.00	5,709.00	-1,054.92	7.36	1,054.94	0.00	606,955.28	668,507.26
10,300.00	90.00	179.60	9,350.00	5,709.00	-1,154.92	8.06	1,154.94	0.00	606,855.28	668,507.96
10,400.00	90.00	179.60	9,350.00	5,709.00	-1,254.91	8.76	1,254.94	0.00	606,755.29	668,508.66
10,500.00	90.00	179.60	9,350.00	5,709.00	-1,354.91	9.46	1,354.94	0.00	606,655.29	668,509.36
10,600.00	90.00	179.60	9,350.00	5,709.00	-1,454.91	10.16	1,454.94	0.00	606,555.29	668,510.06
10,700.00	90.00	179.60	9,350.00	5,709.00	-1,554.91	10.86	1,554.94	0.00	606,455.29	668,510.76
10,800.00	90.00	179.60	9,350.00	5,709.00	-1,654.90	11.55	1,654.94	0.00	606,355.30	668,511.45
10,900.00	90.00	179.60	9,350.00	5,709.00	-1,754.90	12.25	1,754.94	0.00	606,255.30	668,512.15
11,000.00	90.00	179.60	9,350.00	5,709.00	-1,854.90	12.95	1,854.94	0.00	606,155.30	668,512.85



Pathfinder

Pathfinder X & Y Planning Report

PATHFINDER
A Schlumberger Company

Company: Marbob
Project: Lea County
Site: Citation X Federal Com
Well: #1H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #1H
TVD Reference: WELL @ 3641.00ft (Original Well Elev)
MD Reference: WELL @ 3641.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLog (°/100ft)	Northing (ft)	Easting (ft)
11,100.00	90.00	179.60	9,350.00	5,709.00	-1,954.90	13.65	1,954.94	0.00	606,055.30	668,513.55
11,200.00	90.00	179.60	9,350.00	5,709.00	-2,054.89	14.35	2,054.94	0.00	605,955.31	668,514.25
11,300.00	90.00	179.60	9,350.00	5,709.00	-2,154.89	15.04	2,154.94	0.00	605,855.31	668,514.94
11,400.00	90.00	179.60	9,350.00	5,709.00	-2,254.89	15.74	2,254.94	0.00	605,755.31	668,515.64
11,500.00	90.00	179.60	9,350.00	5,709.00	-2,354.89	16.44	2,354.94	0.00	605,655.31	668,516.34
11,600.00	90.00	179.60	9,350.00	5,709.00	-2,454.88	17.14	2,454.94	0.00	605,555.32	668,517.04
11,700.00	90.00	179.60	9,350.00	5,709.00	-2,554.88	17.84	2,554.94	0.00	605,455.32	668,517.74
11,800.00	90.00	179.60	9,350.00	5,709.00	-2,654.88	18.53	2,654.94	0.00	605,355.32	668,518.43
11,900.00	90.00	179.60	9,350.00	5,709.00	-2,754.88	19.23	2,754.94	0.00	605,255.32	668,519.13
12,000.00	90.00	179.60	9,350.00	5,709.00	-2,854.88	19.93	2,854.94	0.00	605,155.32	668,519.83
12,100.00	90.00	179.60	9,350.00	5,709.00	-2,954.87	20.63	2,954.94	0.00	605,055.33	668,520.53
12,200.00	90.00	179.60	9,350.00	5,709.00	-3,054.87	21.33	3,054.94	0.00	604,955.33	668,521.23
12,300.00	90.00	179.60	9,350.00	5,709.00	-3,154.87	22.03	3,154.94	0.00	604,855.33	668,521.93
12,400.00	90.00	179.60	9,350.00	5,709.00	-3,254.87	22.72	3,254.94	0.00	604,755.33	668,522.62
12,500.00	90.00	179.60	9,350.00	5,709.00	-3,354.86	23.42	3,354.94	0.00	604,655.34	668,523.32
12,600.00	90.00	179.60	9,350.00	5,709.00	-3,454.86	24.12	3,454.94	0.00	604,555.34	668,524.02
12,700.00	90.00	179.60	9,350.00	5,709.00	-3,554.86	24.82	3,554.94	0.00	604,455.34	668,524.72
12,800.00	90.00	179.60	9,350.00	5,709.00	-3,654.86	25.52	3,654.94	0.00	604,355.34	668,525.42
12,900.00	90.00	179.60	9,350.00	5,709.00	-3,754.85	26.21	3,754.94	0.00	604,255.35	668,526.11
13,000.00	90.00	179.60	9,350.00	5,709.00	-3,854.85	26.91	3,854.94	0.00	604,155.35	668,526.81
13,100.00	90.00	179.60	9,350.00	5,709.00	-3,954.85	27.61	3,954.94	0.00	604,055.35	668,527.51
13,200.00	90.00	179.60	9,350.00	5,709.00	-4,054.85	28.31	4,054.94	0.00	603,955.35	668,528.21
13,300.00	90.00	179.60	9,350.00	5,709.00	-4,154.84	29.01	4,154.94	0.00	603,855.36	668,528.91
13,400.00	90.00	179.60	9,350.00	5,709.00	-4,254.84	29.70	4,254.94	0.00	603,755.36	668,529.60
13,500.00	90.00	179.60	9,350.00	5,709.00	-4,354.84	30.40	4,354.94	0.00	603,655.36	668,530.30
13,600.00	90.00	179.60	9,350.00	5,709.00	-4,454.84	31.10	4,454.94	0.00	603,555.36	668,531.00
13,700.00	90.00	179.60	9,350.00	5,709.00	-4,554.83	31.80	4,554.94	0.00	603,455.37	668,531.70



Pathfinder

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PATHFINDER

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North Reference: Grid
Survey Calculation Method: Minimum Curvature
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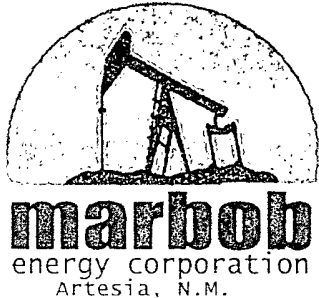
Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
13,764.47	90.00	179.60	9,350.00	5,709.00	-4,619.30	32.25	4,619.41	0.00	603,390.90	668,532.15
PBHL(cx#1)										

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL(cx#1) - plan hits target center - Point	0.00	0.00	9,350.00	-4,619.30	32.40	603,390.900	668,532.300	32° 39' 27.461 N	103° 47' 8.630 W

Checked By: _____ Approved By: _____ Date: _____



Project: Lea County
 Site: Citation X Federal C
 Well: #1H
 Wellbore: OH
 Plan: Plan #1 (#1H/OH)



Azimuths to Grid North
 True North: -0.30°
 Magnetic North: 7.50°

Magnetic Field
 Strength: 48966.7snT
 Dip Angle: 60.60°
 Date: 09/17/2010
 Model: IGRF200510

PATHFINDER

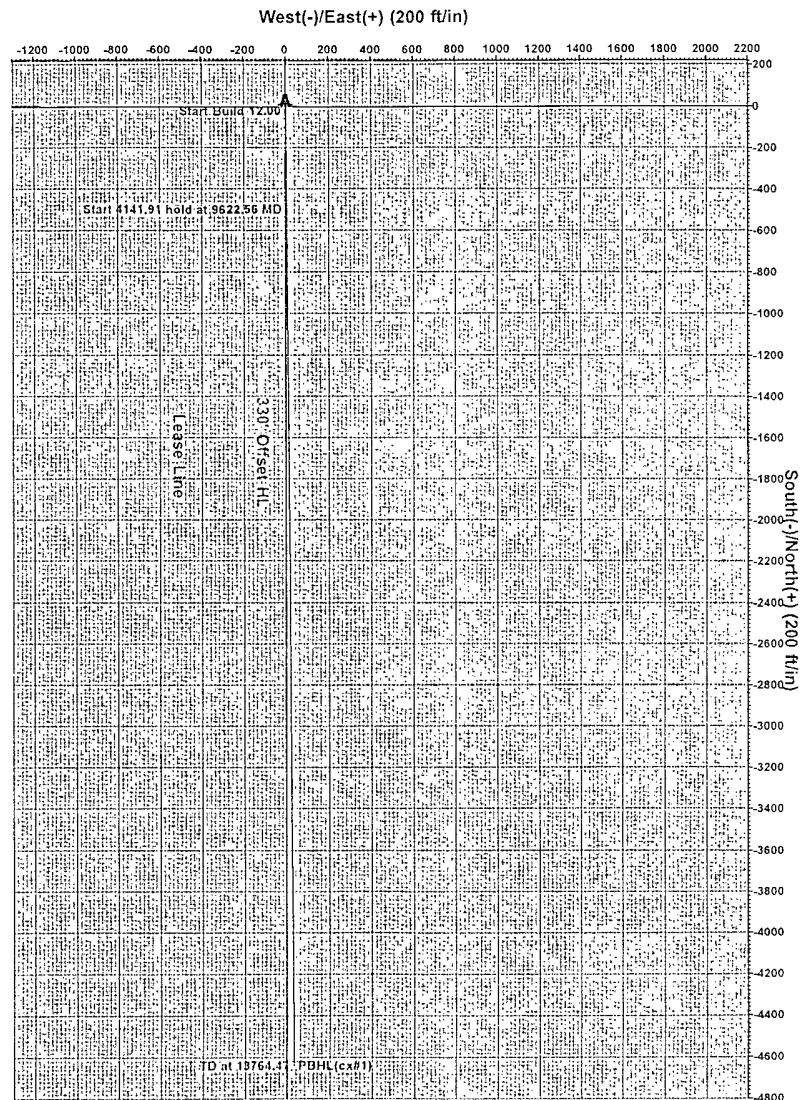
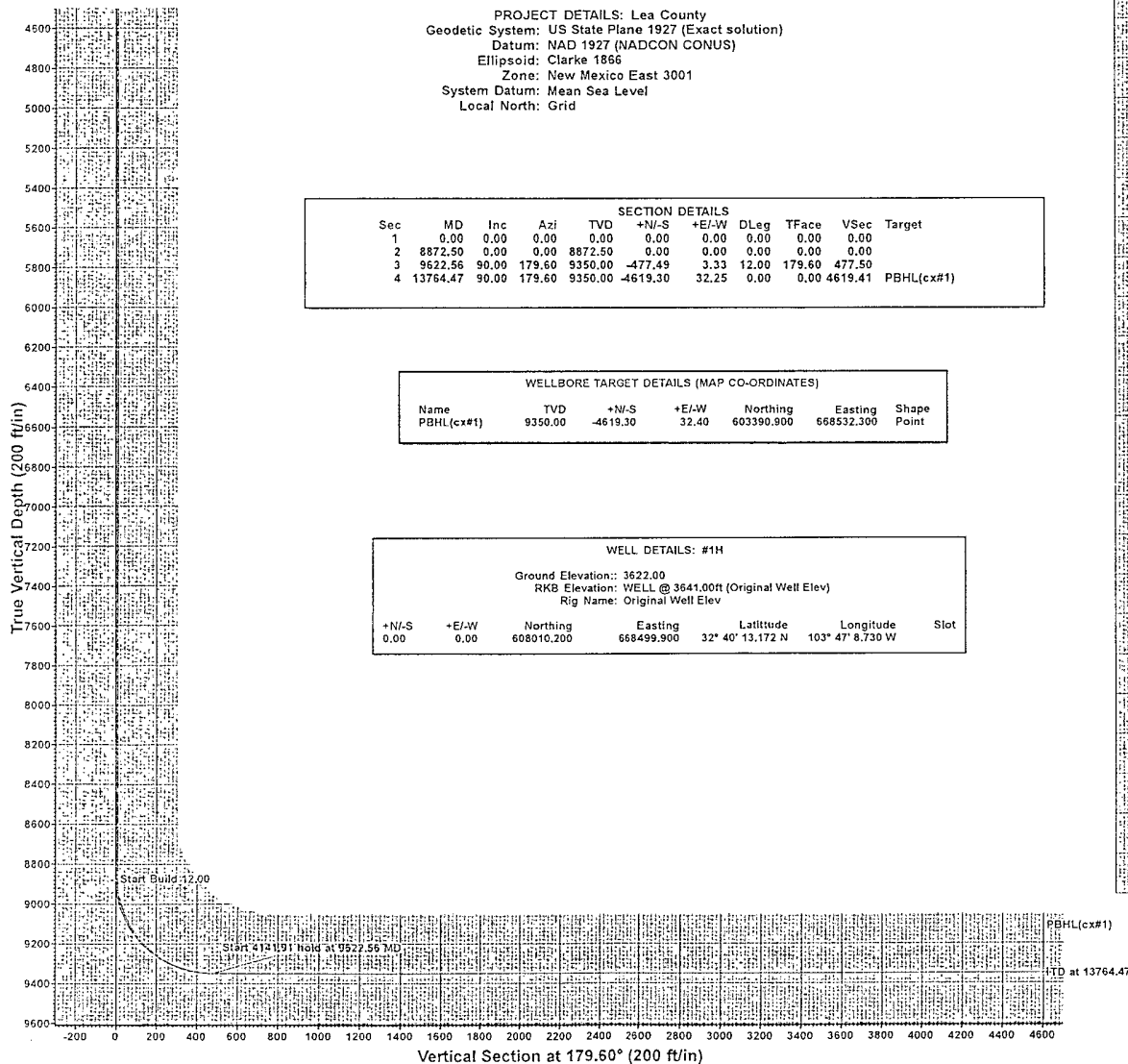
A Schlumberger Company

PROJECT DETAILS: Lea County
 Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: New Mexico East 3001
 System Datum: Mean Sea Level
 Local North: Grid

SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	8872.50	0.00	0.00	8872.50	0.00	0.00	0.00	0.00	0.00
3	9622.56	90.00	179.60	9350.00	-477.49	3.33	12.00	179.60	477.50
4	13764.47	90.00	179.60	9350.00	-4619.30	32.25	0.00	0.00	4619.41
PBHL(cx#1)									

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL(cx#1)	9350.00	-4619.30	32.40	603390.900	668532.300	Point

WELL DETAILS: #1H						
Ground Elevation: 3622.00						
RKB Elevation: WELL @ 3641.00ft (Original Well Elev)						
Rig Name: Original Well Elev						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	608010.200	668499.900	32° 40' 13.172 N	103° 47' 8.730 W	

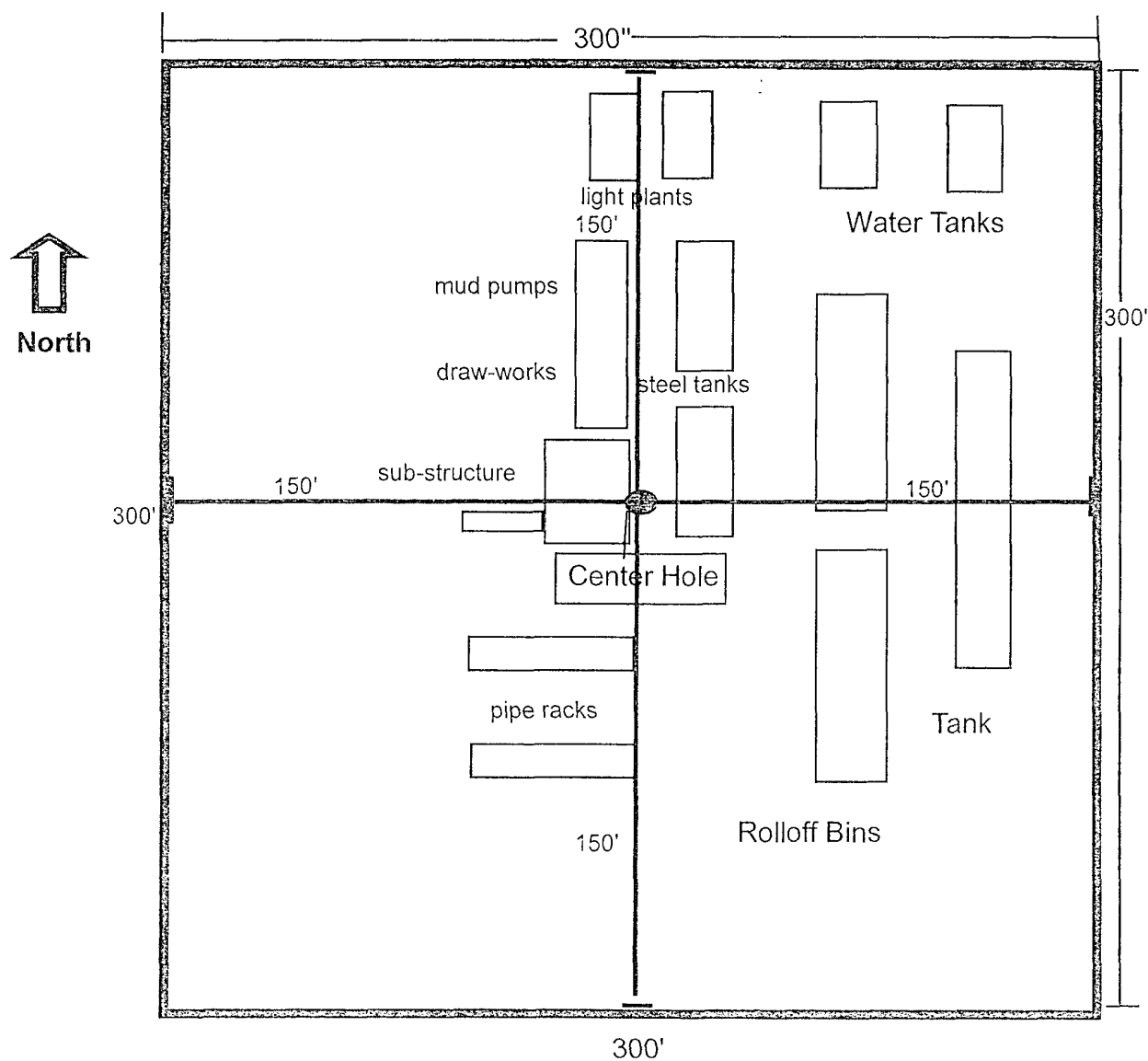


Plan: Plan #1 (#1H/OH)

Created By: Nate Bingham Date: 16:36, September 17 2010

Checked: _____ Date: _____

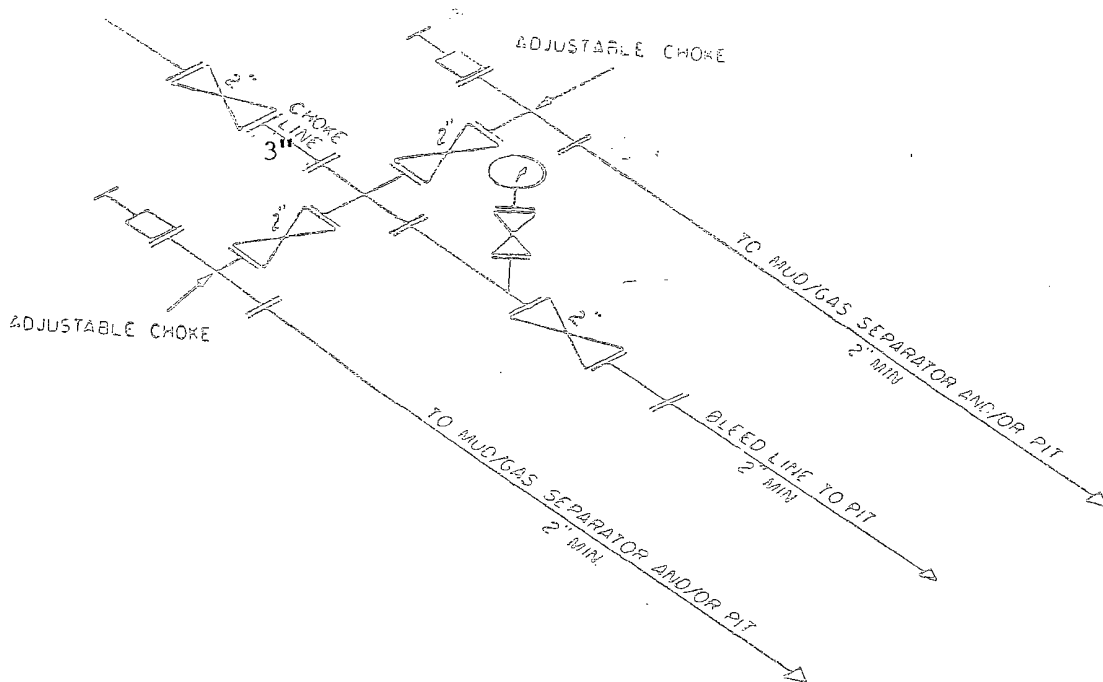
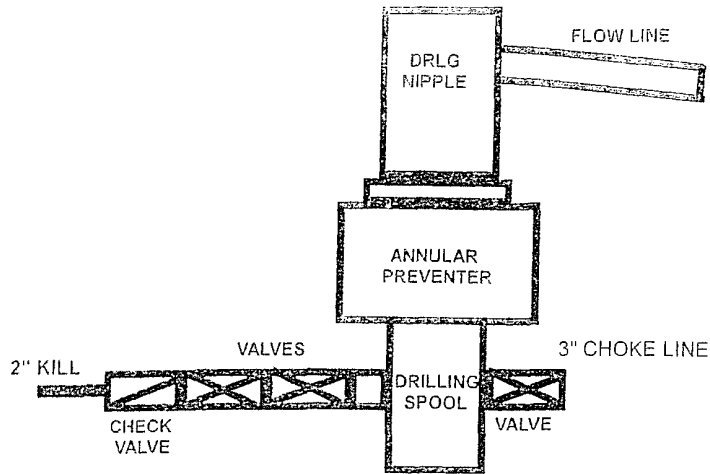
Well Site Lay-Out Plat



Citation X Federal Com #1H
Surf: 990' FSL & 1980' FEL, Sec 8
BHL: 1650' FSL & 1980' FEL, Sec 17
T19S-R32E
Lea County, New Mexico

EXHIBIT THREE

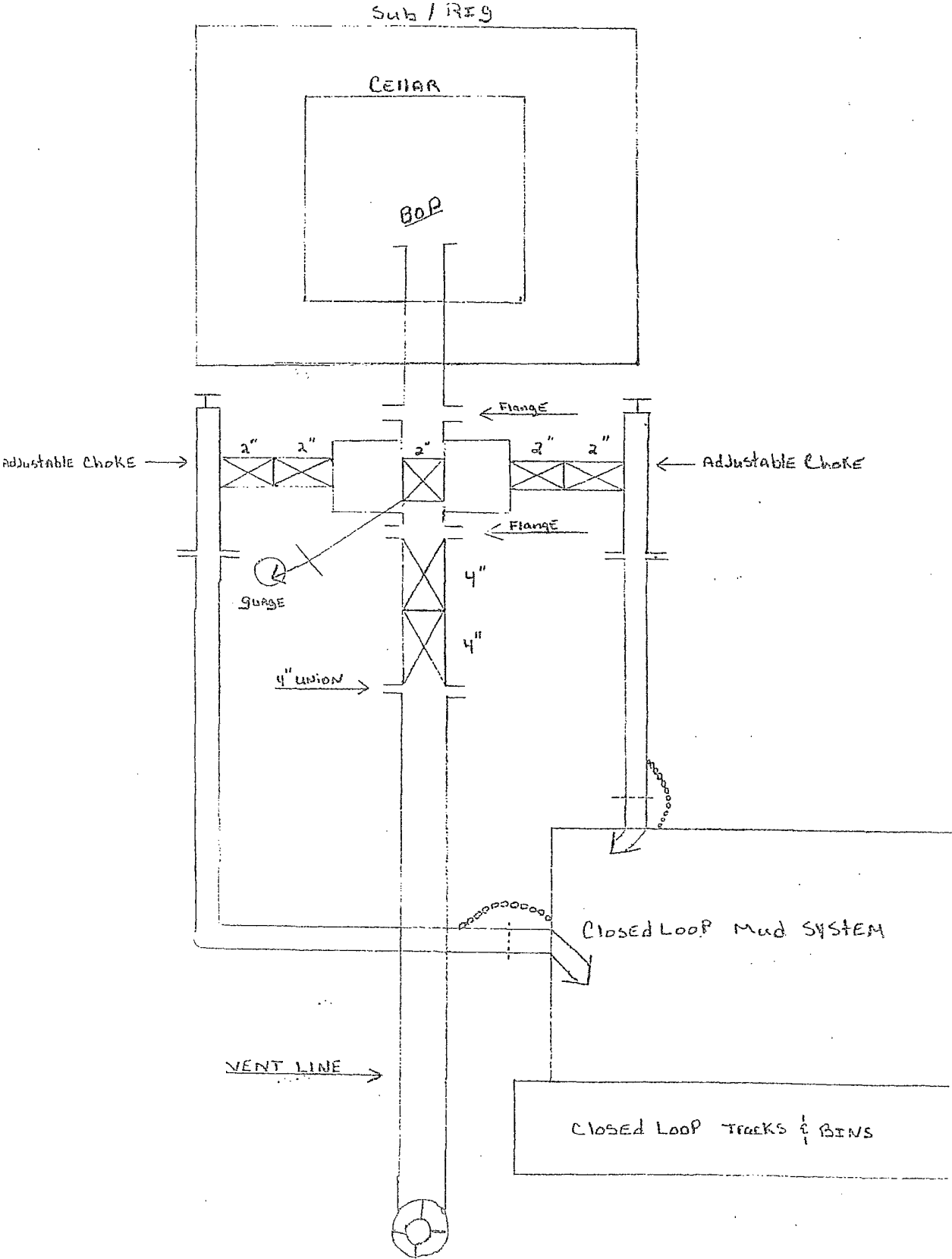
2M SYSTEM



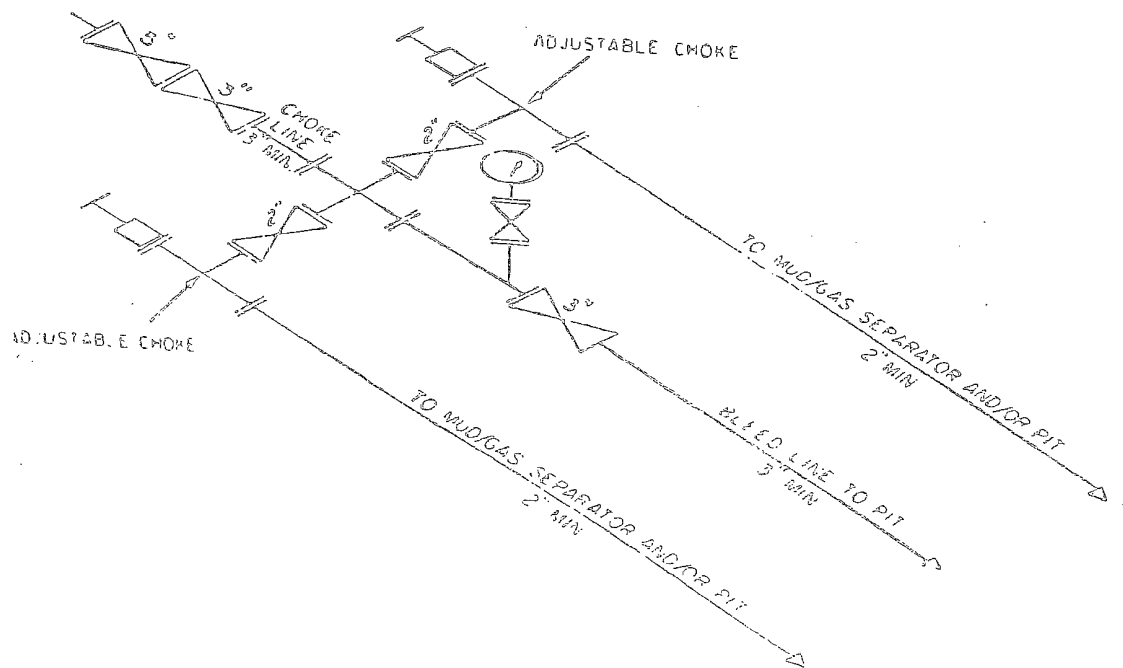
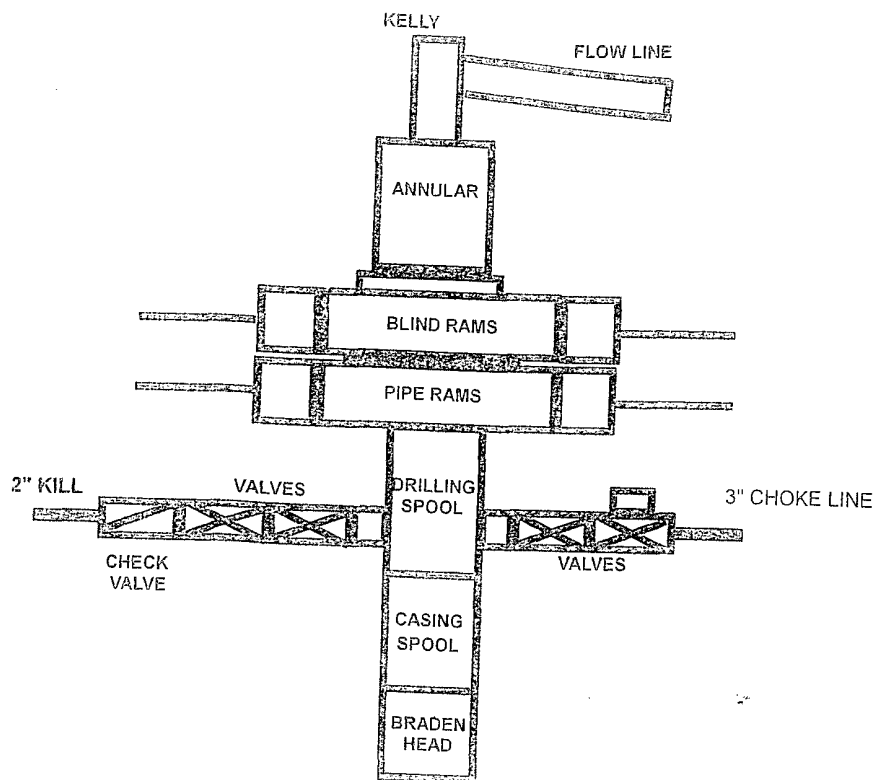
2M CHOKER MANIFOLD EQUIPMENT — CONFIGURATION OF CHOKES

MAY VARY

2M Choke Manifold Equipment



3M SYSTEM



3M CHOKE MANIFOLD EQUIPMENT — CONFIGURATION OF CHOKES
MAY VARY

3M Choke Manifold Equipment

