ATS-08-534

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Form 3160-3
(February 2005)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No.	NMNM 118720
6 If Indian, Allotee or Tribe Name	
7 If Unit or CA Agreement, Name and No	
8 Lease Name and Well No.	37497 Patterson B-52 Federal #4 See SN for Name Change
9 API Well No.	30-025-39289
10 Field and Pool, or Exploratory	Lusk; Bone Spring North
11 Sec, T R M or Blk and Survey or Area	Section 5, T19S - R32E
12 County or Parish	Lea County
13 State	NM

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

2. Name of Operator: **Marbob Energy Corporation** 14049

3a. Address: **P.O. Box 227, Artesia, NM 88211-0228**

3b. Phone No. *(include area code)*: **505-748-3303**

4. Location of Well *(Report location clearly and in accordance with any State requirements *)*
At surface: **2310' FSL & 660' FWL** Unit L
At proposed prod zone

14. Distance in miles and direction from nearest town or post office*: **About 14 miles from Maljamar, NM**

15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any) **330'**	16. No of acres in lease **360.00**	17. Spacing Unit dedicated to this well **40**
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	19. Proposed Depth **9600'**	20. BLM/BIA Bond No on file **NMB000412**
21. Elevations (Show whether DF, KDB, RT, GL, etc) **3654' GL**	22. Approximate date work will start* **05/04/2008**	23. Estimated duration **30 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
2. A Drilling Plan
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office)
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above)
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature: Nancy T. Agnew Title: **Land Department**	Name *(Printed/Typed)*: **Nancy T. Agnew**	Date: **04/04/2008**
Approved by *(Signature)*: **/s/ James A. Amos** Title: FIELD MANAGER	Name *(Printed/Typed)*: **/s/ James A. Amos** Office: CARLSBAD FIELD OFFICE	Date: **NOV 17 2008**

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

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE – *Other instructions on page 2.*

5. Lease Serial No.
NMNM 118720

6. If Indian, Allottee or Tribe Name

7. If Unit of CA/Agreement, Name and/or No.

1. Type of Well
☑ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
Patterson B-52 Federal #1, #2, #3, #4 & #5

2. Name of Operator
Marbob Energy Corporation

9. API Well No.

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 Area
Lusk; Bone Spring

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*
#1. 330' FNL & 1980' FWL; #3. 2310' FSL & 1650' FEL; #5. 2310' FSL & 660' FEL
#2. 330' FNL & 660' FEL; #4 2310' FSL & 660' FWL; ALL IN SECTION 5, T19S - R32E

11. Country or Parish, State
Lea County, New Mexico

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☑ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☑ Other Name Change
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

Marbob Energy Corporation respectfully requests the following name change on the above referenced:

From: B-52 Federal #1, #2, #3, #4 & #5
To: Patterson B-52 Federal #1, #2, #3, #4 & #5

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)*
Nancy T. Agnew

Title Land Department

Signature Nancy T. Agnew

Date 07/25/2008

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by /s/ James A. Amos

Title FIELD MANAGER

Date NOV 17 2008

Conditions of approval, if any, are attached. Approval of this notice 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.

Office CARLSBAD FIELD OFFICE

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)

Form 3160-5
(August 2007)

OCD-HOBBS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPROVED
No. 1004-0137
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE – *Other instructions on page 2.*

5. Lease Serial No.
NM118720

6. If Indian, Allottee or Tribe Name

7. If Unit of CA/Agreement, Name and/or No.

1. Type of Well
☑ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
B-52 #4, #3, #1

2. Name of Operator
Marbob Energy Corp

9. API Well No.

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 Area
Lusk: Bone Sring

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*
Sec. 5 T19S R32E

11. Country or Parish, State
Lea County

12 CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☑ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☑ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☑ Other Move Location and access road
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

#4 – access of the Highway.

#3 - moved 150 feet east. The new surface footages will be: 2310 FSL & 1500 FEL. This will be an unorthodox surface location.

#1 – moved 330 feet to the west. The new surface footages will be: 330 FNL & 1650 FWL.

Pad Dimensions on the # 3 will be 125 x 175 the short side will be the west side.

Pad Dimensions on the # 1 will be 125 x 175 the short side will be the south side. Access will be from the NW off of another location.

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)*

Title Landman

Signature

Date 10/22/08

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by **/s/ James A. Amos**

Title FIELD MANAGER

Date NOV 17 2008

Conditions of approval, if any, are attached. Approval of this notice 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.

Office CARLSBAD FIELD OFFICE

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(Instructions on page 2)

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

Date: April 4, 2008

Lease #: NMNM 118720
B-52 Federal #4

Legal Description: Sec. 5-T19S-R32E
Eddy County, New Mexico

Formation(s): Permian

Bond Coverage: Statewide

BLM Bond File #: NMB000412

Marbob Energy Corporation

Nancy Agnew

Nancy Agnew
Land Department

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

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

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
	~~41440~~ 41450	LUSK; BONE SPRING North

Property Code	Property Name	Well Number
37497	B-52 FEDERAL	4

OGRID No.	Operator Name	Elevation
14049	MARBOB ENERGY CORPORATION	3654'

Surface Location

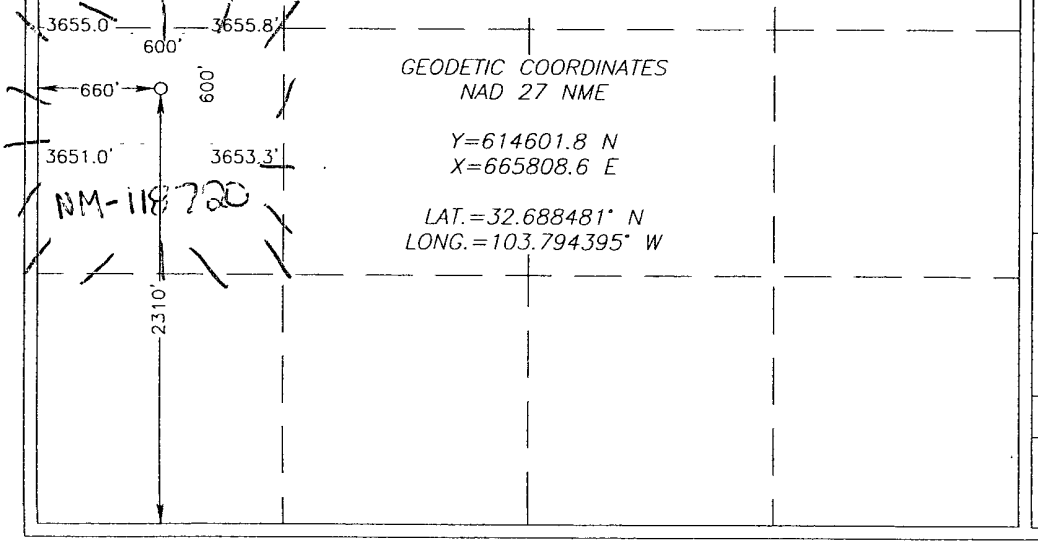
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	5	19-S	32-E		2310	SOUTH	660	WEST	LEA

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
40			

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



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.

Nancy Agnew — 4/1/08
Signature — Date

Nancy 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: MARCH 15, 2008

Signature & Seal of Professional Surveyor

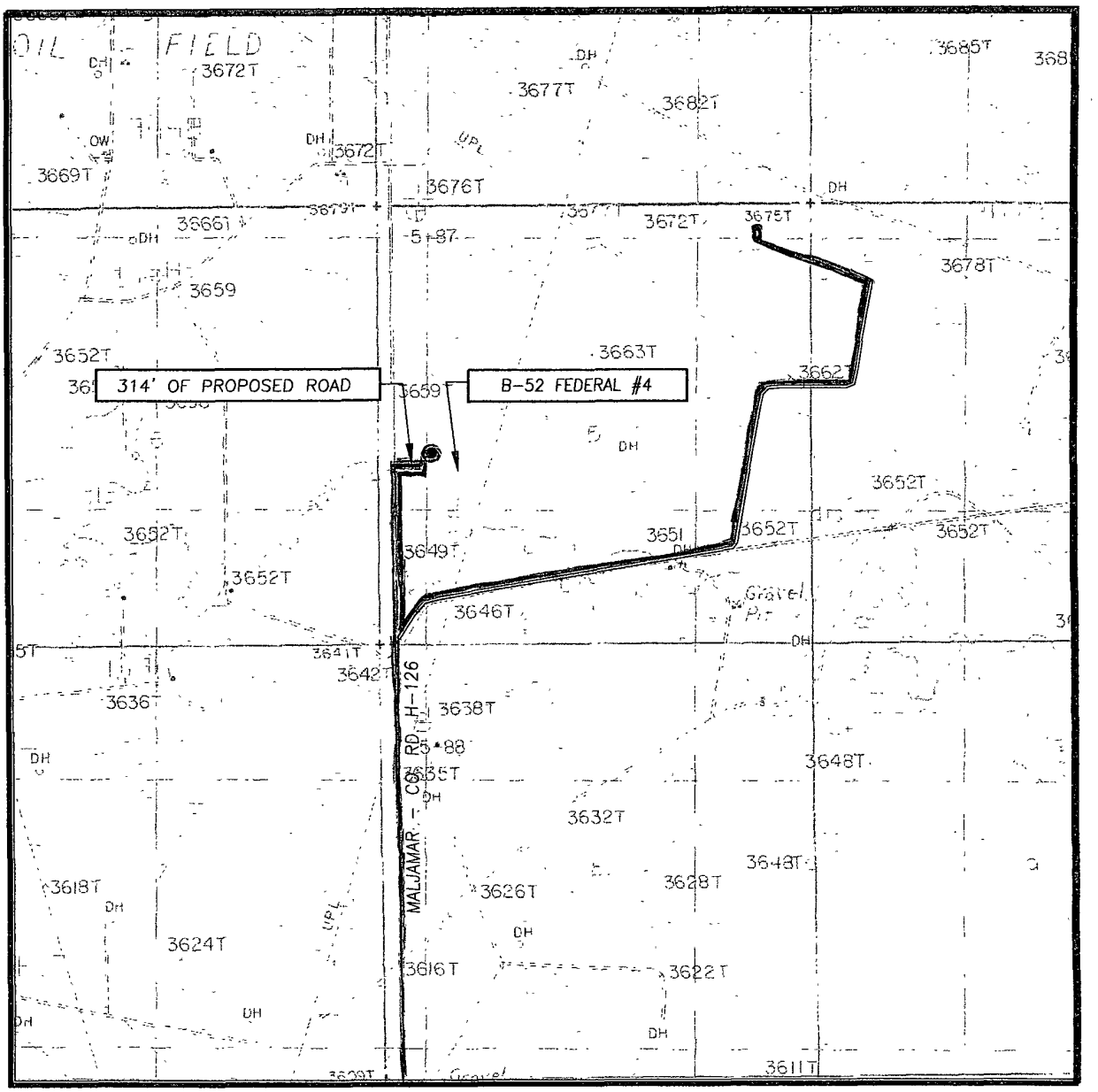
RONALD J. EIDSON NEW MEXICO 3239 REGISTERED PROFESSIONAL SURVEYOR

Ronald J. Eidson 3/25/08

08-11-0260

Certificate No. GARY G. EIDSON 12641
RONALD J. EIDSON 3239

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'
GREENWOOD LAKE, NM

SEC. 5 TWP. 19-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 2310' FSL & 660' FWL

ELEVATION 3654'

OPERATOR MARBOB ENERGY CORPORATION

LEASE B-52 FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
GREENWOOD LAKE, NM

Existing Roads
Proposed Flowline

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

EXHIBIT #2

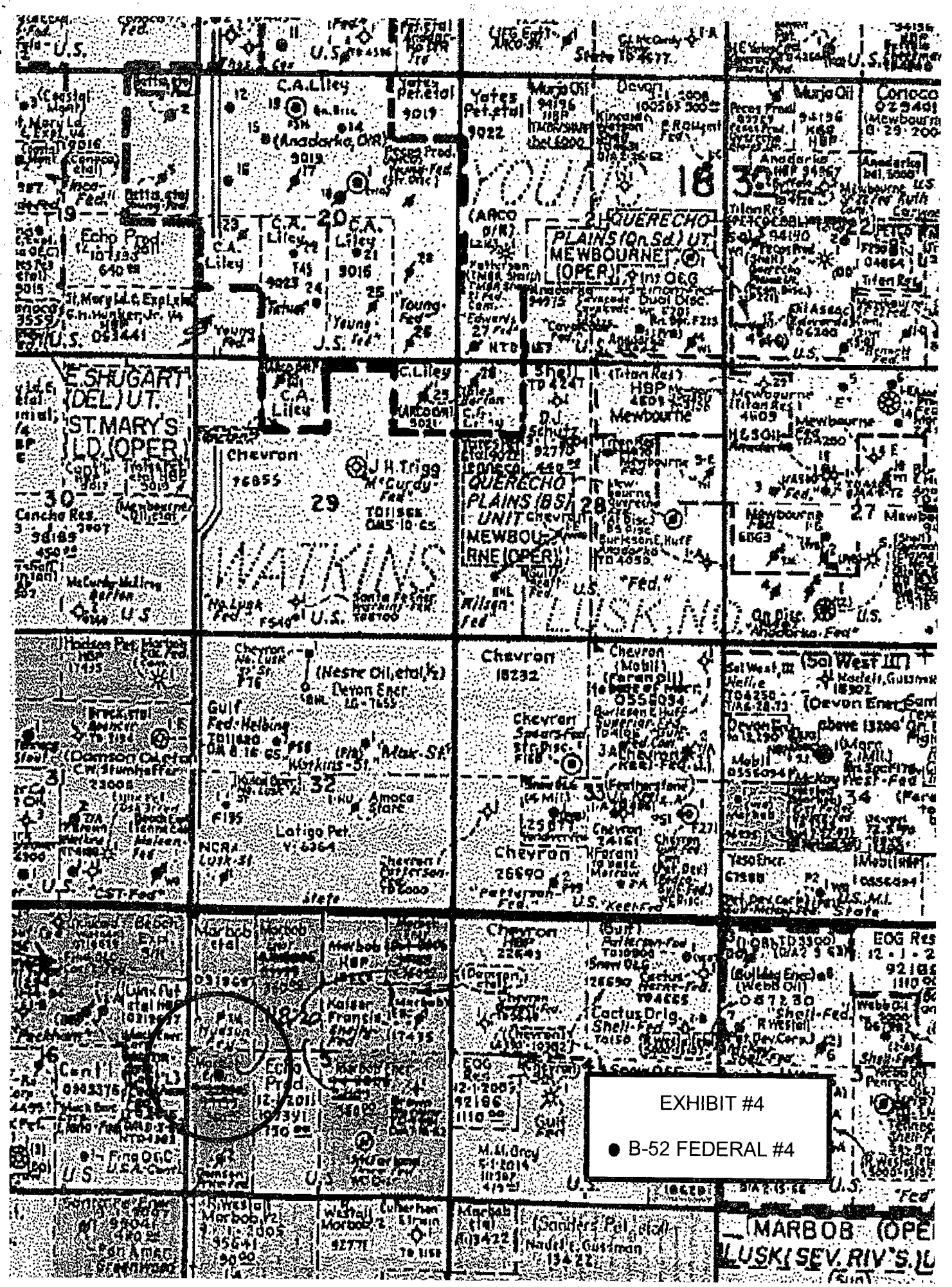


EXHIBIT #4
B-52 FEDERAL #4

MARBOB ENERGY CORPORATION
DRILLING AND OPERATIONS PROGRAM

B-52 Federal #4
2310' FSL & 660' FWL
Section 5, 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 are as follows:

Rustler	1070'	Queen	3706'
TOS	1200'	Delaware	4800'
BOS	2680'	Bone Spring Lime	6932'
Yates	2880'	1st Sand	8296'
7 Rivers	3230'	2nd Sand	9072'
		TD	9600'

3. The estimated depths at which anticipated water, oil or gas formations are expected to be encountered:

Yates	2880'	Oil
Delaware	4800'	Oil
1st Sand	8296'	Oil
2nd Sand	9072'	Oil

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 1100' and circulating cement back to surface. All intervals will be isolated by setting 5 ½" casing to total depth and circulating cement above the base of the ~~13 3/8~~ 9 5/8" casing. TOC = 3000' PER S. BAKER 5/20/08 CB

Marbob plans to drill this well to a total depth of 9600' then log the open hole. At this time it will be decided to run casing and cement the vertical wellbore or to horizontal 1 of 2 zones, either the 2nd Bone Springs Sand @ 9270' or the 1st Bone Springs Sand @ 8490'.

Option "A" Vertical
Option "B" Horizontal 2nd Bone Springs Sand
Option "C" Horizontal 1st Bone Springs Sand

1. **Proposed Casing Program:**

Option "A"

Hole Size	Interval	OD Casing	New or Used	Wt	Collar	Grade
17 ½"	0' – ~~1100'~~ 1150'	13 3/8"	New	54.5#	STC	J-55
12 1/4"	~~1100'~~ 1150' – 3300'	9 5/8"	New	36#	STC	J-55
7 7/8"	3300' – 9600'	5 ½"	New	17#	LTC	N-80

SEE COAS

Option "B"

7 7/8"	3300' – 11045'	5 ½"	New	17#	LTC	N-80

Option "C"

7 7/8"	3300' – 10215'	5 ½"	New	17#	LTC	N-80

Collapse Design Factor	Burst Design Factor	Tension Design Factor
1.125	1.125	1.6

1. **5. Proposed Cement Program:**

Option "A"

13 3/8" Surf — Cement to surface with 500 sk "C" Light wt 12.7 ppg yield 1.91 tail in with 200 sk "c" wt 14.8 ppg yield 1.34

9 5/8" Int — Cement to surface with 650 sk "c" Light wt 12.7 ppg yield 1.91 Tail in with 200 sk "c" yield 1.34 wt 14.8 ppg

5 1/2" Prod — Stage 1 350 sk "H" wt 13.0 ppg yield 1.67
Stage 2 450 sk "H" Lite yield 1.91 wt 12.7 Tail in with 200 sk "H" yield 1.67 wt 13.0 DV Tool @ 7000' TOC 3000'

Option "B"

5 ½" Prod — Cement 1st stage with 250 sk Acid Soluble "H" wt 15.0# yield 2.6. 2nd stage with 550 sk "H" light wt 12.7 ppg yield 1.91 Tail in with 100 sk "H" wt 13.0 yield 1.64 DV Tool 8800 TOC 3000

Option "C"

5 ½" Prod — Cement 1st stage with 250 sk Acid soluble "H" wt. 15.0# yield 2.6. 2nd stage with 500 sk "H" light Tail in with 100 sk "H" wt 13.0 ppg yield 1.64 DV Tool @ 7900' TOC 3000'

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 13 3/8" casing shoe. **All casing is new and API approved.**

6. **Minimum Specifications for Pressure Control:**

Nipple up on 13 3/8" casing with a 2M system test to 1000# with rig pumps. Nipple up on 9 5/8 with a 3M system tested to 3000# with 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:** 3993.6 psi

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

Depth	Type System	Mud Weight	Viscosity (sec)	Waterloss (cc)
0' – 1100'	Fresh Water	8.3 - 8.4	29	N.C.
1100' – 3300'	Brine	10.0	29	N.C.
3300' – 9600'	Cut Brine	9.0	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 ½" 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 ½" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

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: 3993.6 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 30 days.

Marbob

B-52 Federal #4
B-52 Federal #3
B-52 Federal #4
Original Hole

Plan: Plan #1

Pathfinder Survey Report

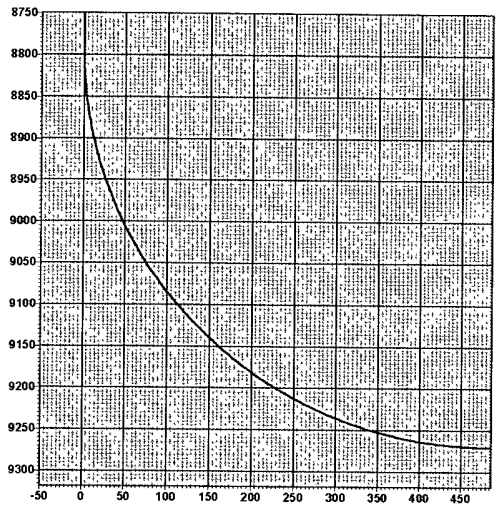
16 April, 2008

marbob
energy corporation
Artesia, N.M.

Azimuths to Grid North
True North: -0.29°
Magnetic North: 7.80°

Magnetic Field
Strength: 49210.4snT
Dip Angle: 60.67°
Date: 4/16/2008
Model: IGRF200510

PATHFINDER
ENERGY SERVICES



WELL DETAILS B-52 Federal #4

Ground Elevation:: 3654.00
RKB Elevation: EST RKB @ 3654 00ft
Rig Name:

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0 00	0 00	614601 800	665808.600	32° 41' 18.534 N	103° 47' 39 823 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0 00	0 00	0.00	0 00	0.00	0 00	0.00	0.00	0 00	
2	8792 50	0.00	0 00	8792 50	0.00	0 00	0.00	0 00	0 00	
3	9542.49	90 00	180 00	9269.96	-477 45	0 00	12 00	180.00	477 45	
4	11045.04	90 00	180.00	9270 00	-1980 00	0.00	0 00	0 00	1980 00	PBHL

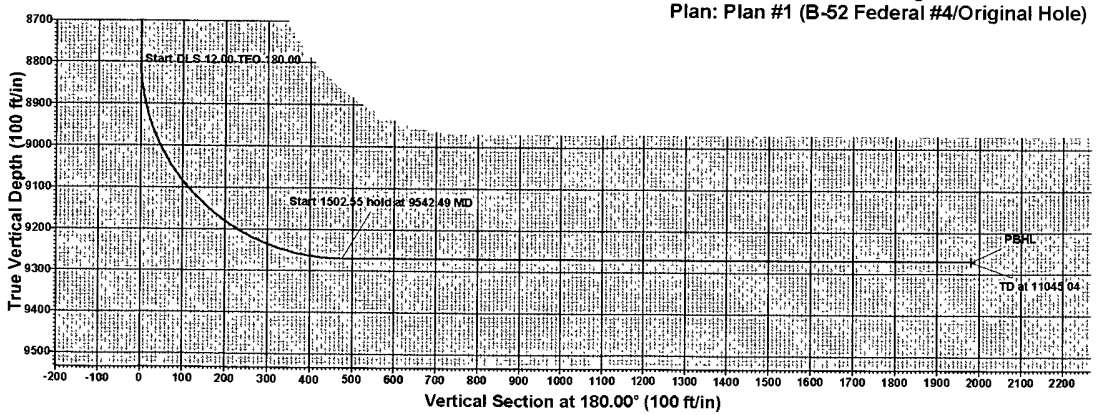
WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

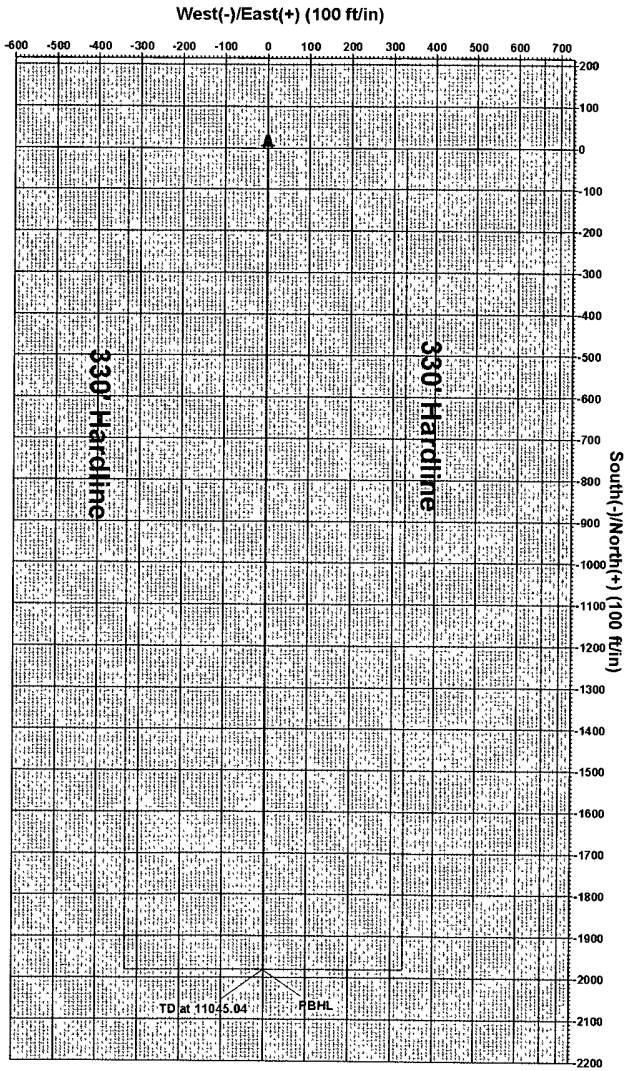
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	9270 00	-1980 00	0 00	612621.800	665808 600	Point

PROJECT DETAILS: B-52 Federal #4

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

Project: B-52 Federal #4
Site: B-52 Federal #3
Well: B-52 Federal #4
Wellbore: Original Hole
Plan: Plan #1 (B-52 Federal #4/Original Hole)





Plan Plan #1 (B-52 Federal #4/Original Hole)
Created By Mark Freeman Date 11 27, April 16 2008
Checked _____ Date _____

WHS

Pathfinder Survey Report

Company:	Marbob	**Local Co-ordinate Reference:**	Well B-52 Federal #4
Project:	B-52 Federal #4	**TVD Reference:**	EST RKB @ 3654 00ft
Site:	B-52 Federal #3	**MD Reference:**	EST RKB @ 3654.00ft
Well:	B-52 Federal #4	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 2003.16 Single User Db

Project B-52 Federal #4

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 B-52 Federal #3

Site Position:		**Northing:**	614,601 800 ft	**Latitude:**	32° 41' 18.534 N
From:	Map	**Easting:**	665,808 600 ft	**Longitude:**	103° 47' 39.823 W
Position Uncertainty:	0 00 ft	**Slot Radius:**	"	**Grid Convergence:**	0 29 °

Well B-52 Federal #4

Well Position	**+N/-S**	0.00 ft	**Northing:**	614,601.800 ft	**Latitude:**	32° 41' 18 534 N
	+E/-W	0.00 ft	**Easting:**	665,808 600 ft	**Longitude:**	103° 47' 39 823 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	3,654.00 ft

Wellbore Original Hole

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF200510	4/16/2008	8 09	60 67	49,210

Design Plan #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0 00

Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**
	0.00	0.00	0 00	180.00

Survey Tool Program **Date** 4/16/2008

From (ft)	**To (ft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
0 00	11,044.54	Plan #1 (Original Hole)	MWD	MWD - Standard

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)
0.00	0 00	0 00	0.00	0.00	0 00	0.00	0.00
100 00	0.00	0.00	100.00	0.00	0 00	0 00	0 00
200.00	0 00	0.00	200 00	0 00	0.00	0.00	0.00
300 00	0.00	0 00	300 00	0.00	0 00	0 00	0 00
400 00	0.00	0.00	400.00	0 00	0.00	0.00	0.00
500 00	0.00	0.00	500 00	0 00	0 00	0.00	0.00
600 00	0 00	0 00	600.00	0 00	0.00	0.00	0 00
700 00	0.00	0 00	700 00	0.00	0 00	0.00	0.00
800 00	0.00	0.00	800.00	0.00	0.00	0.00	0.00
900.00	0.00	0 00	900 00	0.00	0 00	0.00	0.00
1,000.00	0 00	0 00	1,000.00	0.00	0 00	0.00	0 00
1,100.00	0.00	0.00	1,100 00	0 00	0.00	0 00	0 00

WHS

Pathfinder Survey Report

Company:	Marbob	**Local Co-ordinate Reference:**	Well B-52 Federal #4
Project:	B-52 Federal #4	**TVD Reference:**	EST RKB @ 3654.00ft
Site:	B-52 Federal #3	**MD Reference:**	EST RKB @ 3654 00ft
Well:	B-52 Federal #4	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 2003 16 Single User Db

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)
1,200 00	0 00	0 00	1,200 00	0.00	0 00	0 00	0.00
1,300 00	0.00	0 00	1,300.00	0.00	0.00	0 00	0 00
1,400.00	0.00	0.00	1,400 00	0.00	0.00	0.00	0.00
1,500 00	0.00	0 00	1,500.00	0 00	0 00	0.00	0 00
1,600 00	0 00	0.00	1,600.00	0.00	0 00	0.00	0.00
1,700.00	0.00	0 00	1,700 00	0.00	0.00	0 00	0 00
1,800 00	0.00	0 00	1,800 00	0.00	0 00	0.00	0.00
1,900.00	0 00	0.00	1,900.00	0 00	0.00	0 00	0 00
2,000.00	0 00	0.00	2,000.00	0.00	0 00	0 00	0.00
2,100 00	0 00	0.00	2,100 00	0.00	0 00	0 00	0.00
2,200 00	0.00	0 00	2,200 00	0.00	0 00	0.00	0.00
2,300 00	0.00	0.00	2,300 00	0 00	0.00	0 00	0 00
2,400 00	0.00	0.00	2,400.00	0 00	0 00	0.00	0 00
2,500.00	0 00	0 00	2,500.00	0.00	0.00	0.00	0 00
2,600 00	0.00	0.00	2,600 00	0.00	0 00	0.00	0 00
2,700 00	0.00	0.00	2,700 00	0 00	0 00	0.00	0 00
2,800.00	0.00	0.00	2,800 00	0.00	0.00	0.00	0 00
2,900.00	0 00	0 00	2,900.00	0 00	0.00	0.00	0.00
3,000 00	0 00	0.00	3,000 00	0.00	0 00	0.00	0 00
3,100.00	0.00	0 00	3,100 00	0 00	0.00	0.00	0 00
3,200 00	0.00	0.00	3,200 00	0 00	0.00	0 00	0.00
3,300 00	0.00	0 00	3,300.00	0.00	0.00	0.00	0.00
3,400 00	0.00	0 00	3,400 00	0.00	0.00	0 00	0 00
3,500 00	0 00	0.00	3,500.00	0 00	0.00	0 00	0.00
3,600.00	0 00	0.00	3,600 00	0.00	0 00	0.00	0 00
3,700 00	0 00	0.00	3,700 00	0.00	0.00	0.00	0.00
3,800 00	0.00	0 00	3,800.00	0.00	0 00	0 00	0 00
3,900.00	0 00	0.00	3,900.00	0 00	0.00	0.00	0 00
4,000.00	0.00	0 00	4,000 00	0.00	0.00	0 00	0.00
4,100.00	0 00	0.00	4,100.00	0.00	0 00	0.00	0.00
4,200 00	0 00	0 00	4,200.00	0.00	0 00	0 00	0 00
4,300.00	0 00	0 00	4,300 00	0.00	0.00	0.00	0.00
4,400 00	0.00	0.00	4,400.00	0 00	0 00	0.00	0 00
4,500 00	0.00	0.00	4,500 00	0 00	0 00	0 00	0.00
4,600.00	0 00	0.00	4,600 00	0.00	0.00	0.00	0 00
4,700 00	0 00	0.00	4,700.00	0.00	0.00	0.00	0.00
4,800.00	0 00	0 00	4,800 00	0 00	0 00	0.00	0 00
4,900.00	0 00	0.00	4,900.00	0 00	0.00	0.00	0.00
5,000.00	0 00	0 00	5,000 00	0 00	0 00	0 00	0 00
5,100.00	0 00	0.00	5,100 00	0.00	0.00	0.00	0 00
5,200.00	0.00	0 00	5,200.00	0 00	0.00	0.00	0.00
5,300.00	0.00	0 00	5,300 00	0 00	0 00	0.00	0.00
5,400 00	0.00	0.00	5,400 00	0 00	0.00	0.00	0.00
5,500 00	0 00	0.00	5,500.00	0 00	0 00	0 00	0 00

Company:	Marbob	**Local Co-ordinate Reference:**	Well B-52 Federal #4
Project:	B-52 Federal #4	**TVD Reference:**	EST RKB @ 3654.00ft
Site:	B-52 Federal #3	**MD Reference:**	EST RKB @ 3654 00ft
Well:	B-52 Federal #4	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 2003 16 Single User Db

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)
5,600.00	0 00	0.00	5,600.00	0 00	0.00	0.00	0 00
5,700 00	0.00	0.00	5,700 00	0.00	0 00	0.00	0 00
5,800.00	0.00	0.00	5,800 00	0.00	0.00	0 00	0 00
5,900.00	0 00	0.00	5,900 00	0.00	0.00	0 00	0.00
6,000.00	0 00	0 00	6,000.00	0 00	0.00	0 00	0 00
6,100 00	0 00	0.00	6,100.00	0.00	0 00	0 00	0 00
6,200 00	0.00	0 00	6,200.00	0.00	0 00	0.00	0 00
6,300 00	0.00	0 00	6,300.00	0 00	0.00	0 00	0.00
6,400 00	0.00	0 00	6,400 00	0.00	0.00	0 00	0 00
6,500.00	0 00	0.00	6,500 00	0.00	0 00	0 00	0.00
6,600 00	0 00	0 00	6,600.00	0.00	0 00	0.00	0 00
6,700 00	0 00	0 00	6,700 00	0.00	0 00	0 00	0.00
6,800.00	0.00	0.00	6,800 00	0 00	0.00	0 00	0 00
6,900 00	0.00	0.00	6,900.00	0.00	0.00	0 00	0 00
7,000.00	0.00	0 00	7,000.00	0.00	0 00	0.00	0 00
7,100 00	0 00	0.00	7,100 00	0 00	0.00	0 00	0.00
7,200.00	0 00	0.00	7,200.00	0 00	0 00	0 00	0 00
7,300.00	0.00	0 00	7,300 00	0.00	0.00	0 00	0.00
7,400.00	0 00	0 00	7,400.00	0 00	0.00	0 00	0.00
7,500.00	0.00	0.00	7,500 00	0.00	0 00	0.00	0 00
7,600.00	0.00	0 00	7,600.00	0.00	0.00	0 00	0.00
7,700.00	0 00	0.00	7,700.00	0 00	0 00	0 00	0.00
7,800.00	0.00	0 00	7,800.00	0 00	0 00	0.00	0.00
7,900.00	0 00	0.00	7,900.00	0.00	0.00	0 00	0.00
8,000 00	0 00	0.00	8,000.00	0 00	0 00	0 00	0 00
8,100 00	0.00	0 00	8,100.00	0 00	0 00	0 00	0.00
8,200 00	0 00	0.00	8,200 00	0.00	0 00	0.00	0 00
8,300.00	0 00	0.00	8,300.00	0.00	0.00	0 00	0.00
8,400 00	0.00	0.00	8,400 00	0 00	0.00	0 00	0.00
8,500.00	0.00	0 00	8,500.00	0 00	0 00	0 00	0 00
8,600.00	0 00	0 00	8,600.00	0.00	0.00	0.00	0.00
8,700 00	0 00	0 00	8,700 00	0 00	0 00	0.00	0 00
8,792.50	0 00	0.00	8,792.50	0.00	0.00	0 00	0.00
8,800.00	0 90	180.00	8,800 00	-0 06	0.00	0 06	12 00
8,825.00	3.90	180 00	8,824.97	-1 11	0 00	1.11	12.00
8,850 00	6 90	180.00	8,849 86	-3.46	0.00	3.46	12.00
8,875.00	9.90	180.00	8,874.59	-7 11	0.00	7.11	12.00
8,900.00	12 90	180 00	8,899 09	-12 05	0.00	12.05	12.00
8,925.00	15.90	180 00	8,923 31	-18 27	0.00	18.27	12 00
8,950 00	18 90	180 00	8,947 16	-25.74	0 00	25 74	12 00
8,975.00	21.90	180 00	8,970.59	-34.46	0 00	34 46	12 00
9,000.00	24 90	180.00	8,993.53	-44 38	0.00	44 38	12 00
9,025 00	27.90	180 00	9,015.92	-55.50	0.00	55 50	12.00
9,050.00	30 90	180 00	9,037.70	-67.77	0 00	67 77	12.00

Company:	Marbob	**Local Co-ordinate Reference:**	Well B-52 Federal #4
Project:	B-52 Federal #4	**TVD Reference:**	EST RKB @ 3654 00ft
Site:	B-52 Federal #3	**MD Reference:**	EST RKB @ 3654.00ft
Well:	B-52 Federal #4	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 2003.16 Single User Db

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)
9,075.00	33.90	180.00	9,058.80	-81 16	0.00	81.16	12 00
9,100 00	36 90	180.00	9,079.18	-95.64	0 00	95 64	12.00
9,125.00	39.90	180 00	9,098 77	-111 17	0 00	111.17	12 00
9,150 00	42 90	180.00	9,117.52	-127 70	0.00	127 70	12.00
9,175.00	45 90	180.00	9,135 38	-145.19	0 00	145.19	12.00
9,200 00	48 90	180 00	9,152.30	-163 59	0 00	163 59	12.00
9,225 00	51.90	180 00	9,168 23	-182 85	0.00	182.85	12.00
9,250 00	54 90	180 00	9,183 14	-202 92	0.00	202 92	12 00
9,275.00	57.90	180.00	9,196 97	-223.74	0.00	223.74	12.00
9,300.00	60 90	180 00	9,209.70	-245 26	0 00	245 26	12.00
9,325.00	63 90	180.00	9,221 28	-267 41	0 00	267.41	12.00
9,350.00	66.90	180.00	9,231 68	-290.14	0 00	290 14	12 00
9,375.00	69.90	180.00	9,240 88	-313.38	0.00	313 38	12.00
9,400.00	72.90	180.00	9,248.86	-337 07	0 00	337.07	12.00
9,425 00	75 90	180 00	9,255.58	-361 15	0.00	361 15	12.00
9,450.00	78 90	180.00	9,261 03	-385.54	0 00	385.54	12.00
9,475.00	81 90	180.00	9,265 20	-410 19	0 00	410 19	12.00
9,500 00	84 90	180 00	9,268.07	-435.02	0.00	435 02	12.00
9,525.00	87.90	180 00	9,269 64	-459 97	0.00	459.97	12 00
9,542 49	90.00	180 00	9,269.96	-477 45	0 00	477.45	12.00
9,600 00	90.00	180.00	9,269 97	-534.96	0 00	534.96	0.00
9,700.00	90.00	180 00	9,269.97	-634 96	0.00	634.96	0 00
9,800 00	90 00	180.00	9,269 97	-734.96	0.00	734.96	0.00
9,900.00	90.00	180.00	9,269 97	-834 96	0 00	834.96	0.00
10,000 00	90.00	180.00	9,269.98	-934.96	0.00	934.96	0 00
10,100.00	90.00	180.00	9,269 98	-1,034.96	0.00	1,034.96	0 00
10,200.00	90 00	180.00	9,269 98	-1,134 96	0.00	1,134.96	0.00
10,300.00	90 00	180 00	9,269.98	-1,234.96	0 00	1,234 96	0.00
10,400 00	90.00	180 00	9,269 98	-1,334 96	0 00	1,334 96	0.00
10,500.00	90.00	180 00	9,269 99	-1,434.96	0.00	1,434 96	0 00
10,600 00	90.00	180 00	9,269 99	-1,534.96	0 00	1,534.96	0 00
10,700 00	90 00	180.00	9,269 99	-1,634.96	0 00	1,634 96	0.00
10,800.00	90 00	180 00	9,269.99	-1,734.96	0.00	1,734 96	0.00
10,900.00	90.00	180.00	9,270.00	-1,834 96	0 00	1,834.96	0 00
11,000 00	90 00	180 00	9,270 00	-1,934.96	0.00	1,934 96	0 00
11,045 04	90.00	180 00	9,270.00	-1,980 00	0 00	1,980.00	0.00

Company:	Marbob	**Local Co-ordinate Reference:**	Well B-52 Federal #4
Project:	B-52 Federal #4	**TVD Reference:**	EST RKB @ 3654.00ft
Site:	B-52 Federal #3	**MD Reference:**	EST RKB @ 3654.00ft
Well:	B-52 Federal #4	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 2003 16 Single User Db

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 - plan hits target - Point	0 00	0.00	9,270.00	-1,980.00	0.00	612,621.800	665,808.600	32° 40' 58 941 N	103° 47' 39.941 W

Checked By: _____ Approved By: _____ Date: _____

Marbob

B-52 Federal #4
B-52 Federal #3
B-52 Federal #4
Original Hole

Plan: Plan #2

Pathfinder Survey Report

16 April, 2008

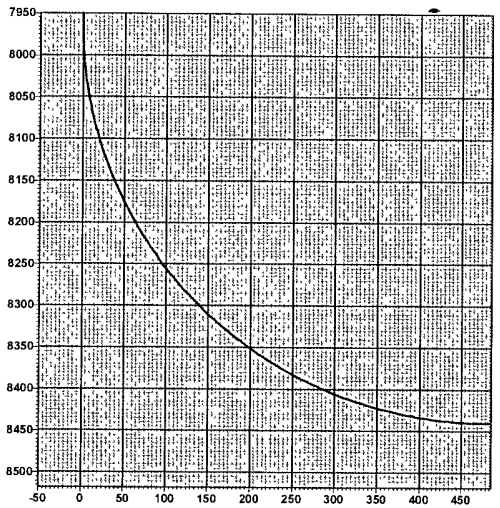
marbob
energy corporation
Artesia, N.M.

G
T M

Azimuths to Grid North
True North: -0.29°
Magnetic North: 7.80°

Magnetic Field
Strength: 49210.4snT
Dip Angle: 60.67°
Date: 4/16/2008
Model: IGRF200510

PATHFINDER
ENERGY SERVICES



WELL DETAILS B-52 Federal #4

Ground Elevation 3654 00
RKB Elevation EST RKB @ 3654 00ft
Rig Name

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0 00	0 00	614601 800	665808 600	32° 41' 18 534 N	103° 47' 39 823 W	

SECTION DETAILS

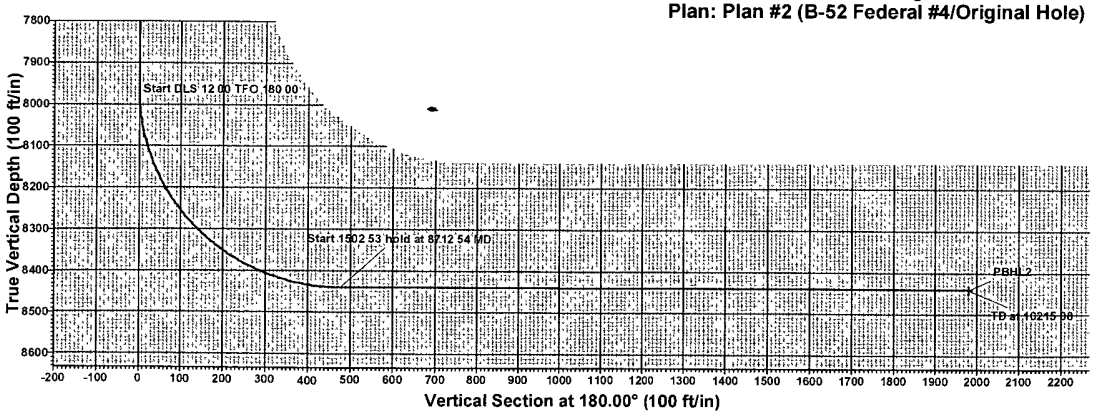
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
2	7962 54	0 00	0 00	7962 54	0 00	0 00	0 00	0 00	0 00	
3	8712 54	90 00	180 00	8440 00	-477 47	0 00	12 00	180 00	477 47	
4	10215 08	90 00	180 00	8440 00	-1980 00	0 00	0 00	0 00	1980 00	PBHL2

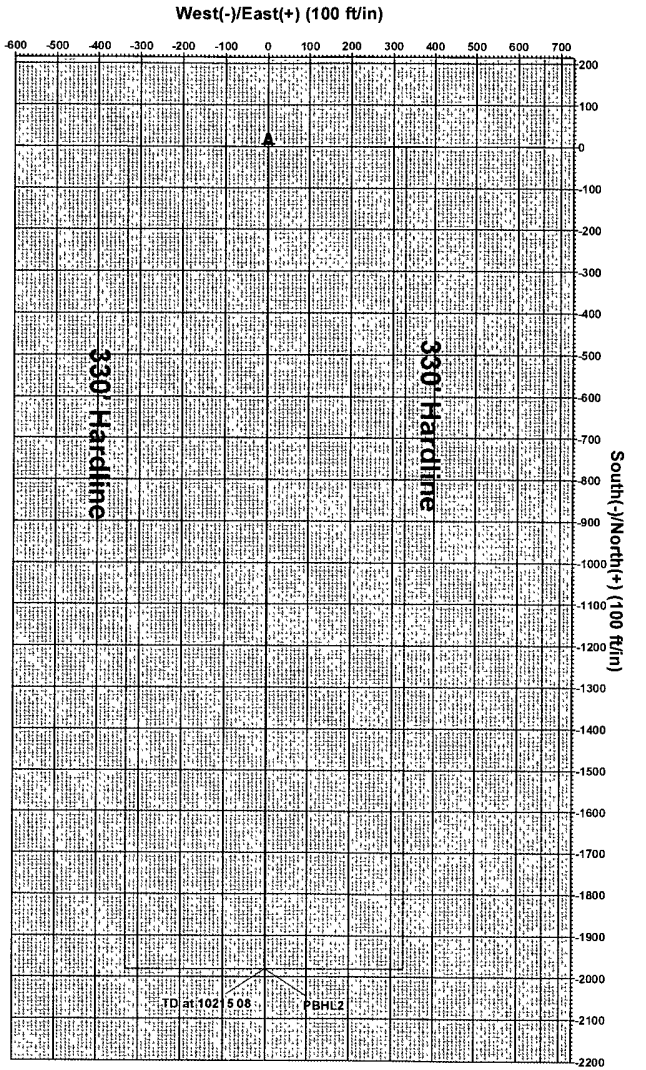
WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL2	8440 00	-1980 00	0 00	612621 800	665808 600	Point

PROJECT DETAILS: B-52 Federal #4
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

Project: B-52 Federal #4
Site: B-52 Federal #3
Well: B-52 Federal #4
Wellbore: Original Hole
Plan: Plan #2 (B-52 Federal #4/Original Hole)





Plan Plan #2 (B-52 Federal #4/Original Hole)
Created By Mark Freeman Date 11 35, April 16 2008
Checked _____ Date _____

WHS

Pathfinder Survey Report

Company:	Marbob	**Local Co-ordinate Reference:**	Well B-52 Federal #4
Project:	B-52 Federal #4	**TVD Reference:**	EST RKB @ 3654.00ft
Site:	B-52 Federal #3	**MD Reference:**	EST RKB @ 3654 00ft
Well:	B-52 Federal #4	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #2	**Database:**	EDM 2003.16 Single User Db

Project B-52 Federal #4

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 B-52 Federal #3

Site Position:		**Northing:**	614,601.800 ft	**Latitude:**	32° 41' 18 534 N
From:	Map	**Easting:**	665,808 600 ft	**Longitude:**	103° 47' 39 823 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	"	**Grid Convergence:**	0.29 °

Well B-52 Federal #4

Well Position	**+N/-S**	0 00 ft	**Northing:**	614,601 800 ft	**Latitude:**	32° 41' 18 534 N
	+E/-W	0.00 ft	**Easting:**	665,808.600 ft	**Longitude:**	103° 47' 39 823 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	3,654 00 ft

Wellbore Original Hole

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	4/16/2008	8 09	60.67	49,210

Design Plan #2

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0 00	0 00	0.00	180 00

Survey Tool Program **Date** 4/16/2008

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	10,215.04	Plan #2 (Original Hole)	MWD	MWD - Standard

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0 00
100 00	0 00	0.00	100 00	0.00	0.00	0.00	0.00
200 00	0.00	0.00	200.00	0.00	0 00	0 00	0.00
300.00	0 00	0.00	300 00	0 00	0.00	0 00	0.00
400.00	0 00	0.00	400 00	0.00	0 00	0.00	0.00
500.00	0 00	0 00	500.00	0 00	0 00	0 00	0.00
600 00	0.00	0.00	600 00	0.00	0 00	0 00	0 00
700 00	0 00	0 00	700 00	0.00	0.00	0.00	0.00
800 00	0.00	0.00	800.00	0 00	0.00	0 00	0 00
900 00	0.00	0 00	900 00	0.00	0 00	0.00	0 00
1,000.00	0 00	0.00	1,000.00	0 00	0.00	0.00	0 00
1,100 00	0.00	0 00	1,100.00	0 00	0 00	0.00	0 00

Company:	Marbob	**Local Co-ordinate Reference:**	Well B-52 Federal #4
Project:	B-52 Federal #4	**TVD Reference:**	EST RKB @ 3654 00ft
Site:	B-52 Federal #3	**MD Reference:**	EST RKB @ 3654.00ft
Well:	B-52 Federal #4	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #2	**Database:**	EDM 2003.16 Single User Db

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)
1,200.00	0.00	0 00	1,200 00	0.00	0.00	0.00	0 00
1,300.00	0 00	0.00	1,300.00	0.00	0 00	0 00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0 00	0.00	0.00
1,500.00	0.00	0 00	1,500 00	0.00	0.00	0.00	0 00
1,600 00	0 00	0.00	1,600.00	0.00	0 00	0.00	0 00
1,700 00	0.00	0.00	1,700.00	0 00	0.00	0 00	0 00
1,800.00	0.00	0 00	1,800 00	0.00	0.00	0 00	0 00
1,900.00	0.00	0 00	1,900 00	0.00	0 00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0 00	0.00	0 00
2,100.00	0 00	0 00	2,100 00	0 00	0.00	0.00	0 00
2,200 00	0 00	0 00	2,200 00	0.00	0.00	0 00	0 00
2,300.00	0.00	0.00	2,300.00	0 00	0.00	0 00	0 00
2,400 00	0 00	0.00	2,400 00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00
2,600 00	0 00	0.00	2,600.00	0.00	0 00	0.00	0.00
2,700.00	0 00	0.00	2,700.00	0 00	0.00	0 00	0 00
2,800.00	0 00	0 00	2,800.00	0.00	0.00	0.00	0.00
2,900 00	0.00	0.00	2,900.00	0.00	0 00	0 00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00
3,100.00	0 00	0.00	3,100.00	0.00	0.00	0.00	0 00
3,200.00	0.00	0.00	3,200.00	0 00	0.00	0.00	0.00
3,300.00	0 00	0.00	3,300.00	0.00	0.00	0.00	0 00
3,400.00	0.00	0.00	3,400.00	0 00	0.00	0.00	0.00
3,500.00	0 00	0.00	3,500.00	0 00	0 00	0 00	0 00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0 00	0.00
3,700 00	0 00	0 00	3,700 00	0 00	0.00	0.00	0 00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00
3,900 00	0.00	0.00	3,900.00	0.00	0.00	0.00	0 00
4,000.00	0.00	0.00	4,000 00	0.00	0 00	0.00	0.00
4,100 00	0.00	0.00	4,100 00	0.00	0 00	0.00	0 00
4,200.00	0.00	0.00	4,200 00	0 00	0.00	0.00	0 00
4,300 00	0.00	0 00	4,300.00	0 00	0 00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0 00	0 00
4,500 00	0 00	0.00	4,500.00	0.00	0 00	0.00	0.00
4,600.00	0.00	0.00	4,600 00	0.00	0 00	0.00	0.00
4,700 00	0 00	0 00	4,700.00	0 00	0 00	0 00	0.00
4,800 00	0.00	0.00	4,800 00	0.00	0.00	0.00	0.00
4,900.00	0 00	0.00	4,900.00	0.00	0.00	0 00	0.00
5,000.00	0.00	0.00	5,000 00	0.00	0.00	0.00	0 00
5,100 00	0 00	0 00	5,100.00	0.00	0.00	0 00	0.00
5,200 00	0 00	0 00	5,200.00	0.00	0 00	0.00	0.00
5,300 00	0 00	0.00	5,300.00	0 00	0.00	0.00	0 00
5,400.00	0 00	0.00	5,400 00	0.00	0 00	0.00	0 00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0 00	0.00

WHS

Pathfinder Survey Report

Company:	Marbob	**Local Co-ordinate Reference:**	Well B-52 Federal #4
Project:	B-52 Federal #4	**TVD Reference:**	EST RKB @ 3654.00ft
Site:	B-52 Federal #3	**MD Reference:**	EST RKB @ 3654.00ft
Well:	B-52 Federal #4	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #2	**Database:**	EDM 2003.16 Single User Db

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)
5,600 00	0.00	0 00	5,600.00	0.00	0 00	0.00	0 00
5,700.00	0 00	0.00	5,700.00	0 00	0 00	0 00	0.00
5,800.00	0 00	0.00	5,800.00	0.00	0.00	0 00	0 00
5,900 00	0.00	0 00	5,900 00	0.00	0 00	0.00	0 00
6,000.00	0.00	0 00	6,000.00	0 00	0.00	0.00	0.00
6,100 00	0.00	0.00	6,100.00	0.00	0 00	0 00	0 00
6,200.00	0 00	0.00	6,200 00	0.00	0.00	0.00	0.00
6,300.00	0.00	0 00	6,300 00	0 00	0.00	0 00	0.00
6,400 00	0.00	0 00	6,400.00	0 00	0.00	0.00	0 00
6,500 00	0.00	0.00	6,500 00	0.00	0 00	0.00	0 00
6,600.00	0.00	0.00	6,600 00	0.00	0 00	0.00	0.00
6,700.00	0 00	0 00	6,700.00	0.00	0.00	0.00	0 00
6,800.00	0.00	0 00	6,800.00	0 00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900 00	0 00	0.00	0.00	0.00
7,000.00	0 00	0.00	7,000.00	0.00	0.00	0 00	0.00
7,100.00	0 00	0.00	7,100.00	0 00	0.00	0.00	0.00
7,200 00	0.00	0 00	7,200.00	0.00	0.00	0.00	0.00
7,300 00	0.00	0.00	7,300.00	0.00	0.00	0 00	0.00
7,400.00	0 00	0 00	7,400 00	0.00	0 00	0 00	0.00
7,500 00	0 00	0 00	7,500.00	0 00	0.00	0.00	0.00
7,600 00	0 00	0.00	7,600.00	0 00	0 00	0.00	0.00
7,700 00	0.00	0.00	7,700 00	0.00	0 00	0.00	0.00
7,800 00	0 00	0 00	7,800.00	0.00	0.00	0.00	0 00
7,900 00	0.00	0.00	7,900 00	0 00	0.00	0 00	0.00
7,962.54	0.00	0.00	7,962.54	0.00	0.00	0 00	0 00
7,975 00	1 50	180.00	7,975.00	-0.16	0 00	0 16	12.00
8,000.00	4.50	180 00	7,999.96	-1 47	0.00	1 47	12.00
8,025 00	7 50	180.00	8,024 82	-4 08	0.00	4 08	12 00
8,050.00	10.50	180 00	8,049.51	-7.99	0 00	7.99	12 00
8,075.00	13 50	180.00	8,073 96	-13 18	0 00	13.18	12.00
8,100 00	16.50	180.00	8,098.11	-19 65	0.00	19.65	12.00
8,125 00	19.50	180 00	8,121.88	-27.37	0.00	27.37	12.00
8,150 00	22.50	180.00	8,145 22	-36 33	0.00	36.33	12 00
8,175.00	25.50	180 00	8,168.06	-46 49	0.00	46.49	12.00
8,200 00	28.50	180.00	8,190 33	-57.84	0.00	57.84	12.00
8,225.00	31.50	180.00	8,211.98	-70.34	0.00	70 34	12.00
8,250 00	34.50	180 00	8,232.95	-83.95	0 00	83 95	12 00
8,275 00	37.50	180.00	8,253 17	-98 64	0.00	98 64	12.00
8,300.00	40 50	180 00	8,272.60	-114.37	0.00	114 37	12.00
8,325.00	43.50	180.00	8,291 18	-131.10	0.00	131.10	12.00
8,350 00	46 50	180 00	8,308.85	-148.77	0 00	148.77	12 00
8,375.00	49 50	180 00	8,325.58	-167.35	0.00	167.35	12.00
8,400 00	52 50	180 00	8,341 31	-186.77	0 00	186.77	12 00
8,425.00	55.50	180.00	8,356.01	-206 99	0 00	206 99	12.00

Company:	Marbob	**Local Co-ordinate Reference:**	Well B-52 Federal #4
Project:	B-52 Federal #4	**TVD Reference:**	EST RKB @ 3654.00ft
Site:	B-52 Federal #3	**MD Reference:**	EST RKB @ 3654 00ft
Well:	B-52 Federal #4	**North Reference:**	Grid
Wellbore:	Original Hole	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #2	**Database:**	EDM 2003 16 Single User Db

Planned Survey

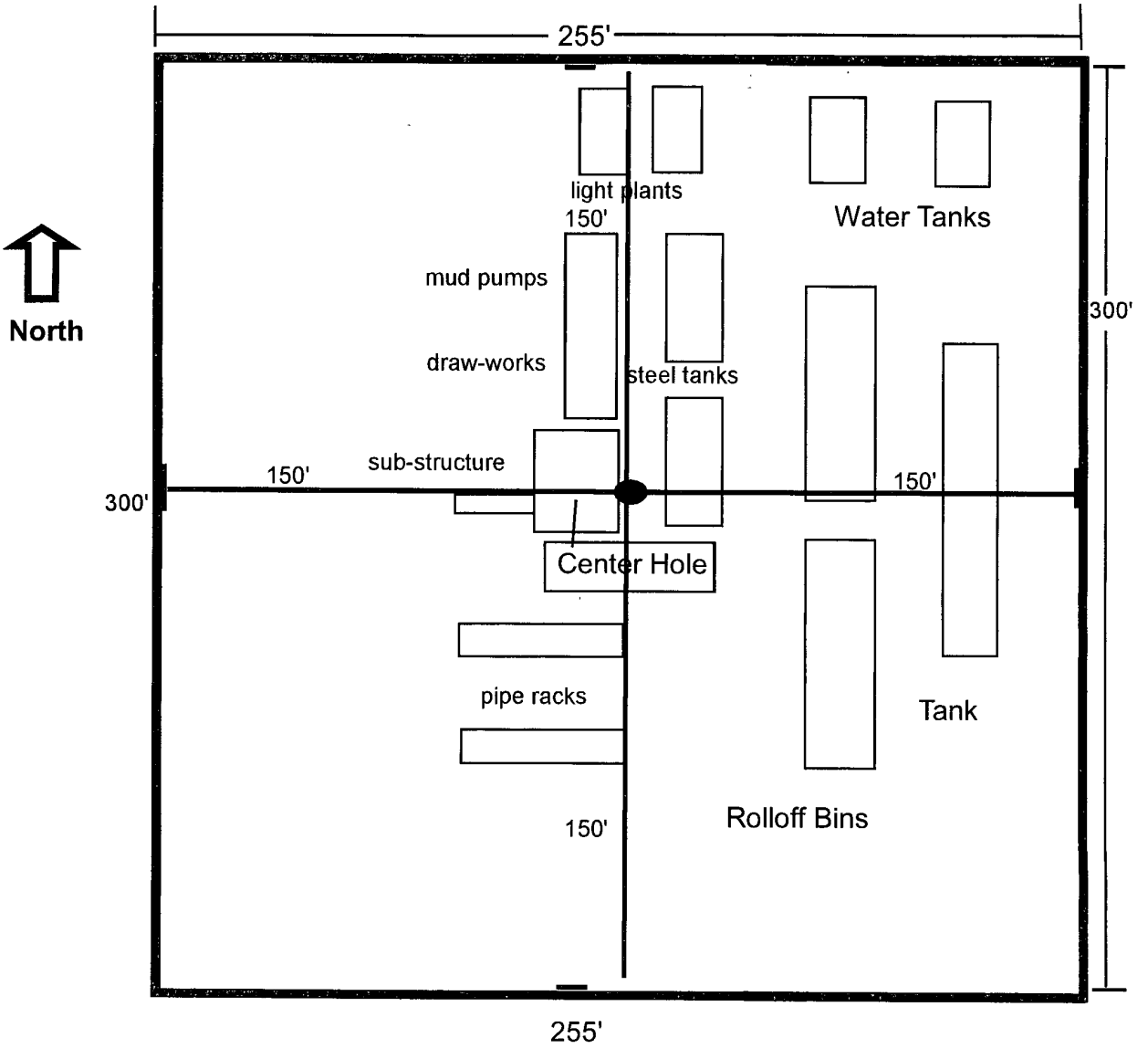
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)
8,450.00	58 50	180.00	8,369 62	-227 96	0 00	227.96	12 00
8,475.00	61.50	180.00	8,382.13	-249.60	0.00	249 60	12 00
8,500 00	64.50	180.00	8,393 48	-271.87	0 00	271 87	12.00
8,525.00	67.50	180 00	8,403.64	-294 71	0 00	294.71	12.00
8,550.00	70.50	180 00	8,412.60	-318.05	0.00	318 05	12 00
8,575 00	73.50	180.00	8,420 33	-341.82	0 00	341 82	12.00
8,600.00	76.50	180 00	8,426.80	-365 96	0.00	365 96	12.00
8,625 00	79 50	180 00	8,432 00	-390 41	0 00	390.41	12.00
8,650.00	82 50	180 00	8,435 91	-415 10	0.00	415.10	12.00
8,675.00	85.50	180.00	8,438 53	-439.96	0.00	439.96	12.00
8,700 00	88.50	180.00	8,439.84	-464 93	0 00	464 93	12 00
8,712.54	90 00	180 00	8,440.00	-477 47	0 00	477 47	12.00
8,800.00	90 00	180 00	8,440.00	-564 92	0.00	564 92	0 00
8,900.00	90 00	180 00	8,440.00	-664.92	0.00	664 92	0.00
9,000.00	90.00	180.00	8,440.00	-764.92	0.00	764 92	0.00
9,100 00	90.00	180.00	8,440.00	-864 92	0.00	864.92	0 00
9,200.00	90 00	180 00	8,440.00	-964 92	0 00	964.92	0.00
9,300 00	90 00	180.00	8,440 00	-1,064 92	0.00	1,064.92	0 00
9,400 00	90.00	180.00	8,440 00	-1,164.92	0 00	1,164.92	0.00
9,500.00	90.00	180.00	8,440.00	-1,264.92	0 00	1,264 92	0.00
9,600.00	90 00	180.00	8,440 00	-1,364 92	0 00	1,364 92	0.00
9,700.00	90.00	180 00	8,440.00	-1,464.92	0.00	1,464.92	0.00
9,800 00	90 00	180.00	8,440.00	-1,564.92	0.00	1,564.92	0 00
9,900.00	90.00	180 00	8,440 00	-1,664 92	0.00	1,664.92	0 00
10,000.00	90.00	180.00	8,440 00	-1,764 92	0 00	1,764 92	0.00
10,100 00	90.00	180.00	8,440.00	-1,864.92	0 00	1,864 92	0.00
10,200.00	90 00	180.00	8,440 00	-1,964 92	0 00	1,964.92	0.00
10,215 08	90.00	180.00	8,440 00	-1,980 00	0 00	1,980 00	0 00

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
PBHL2 - plan hits target - Point	0 00	0.00	8,440 00	-1,980 00	0 00	612,621 800	665,808 600	32° 40' 58 941 N	103° 47' 39 941 W

Checked By: _____ Approved By: _____ Date: _____

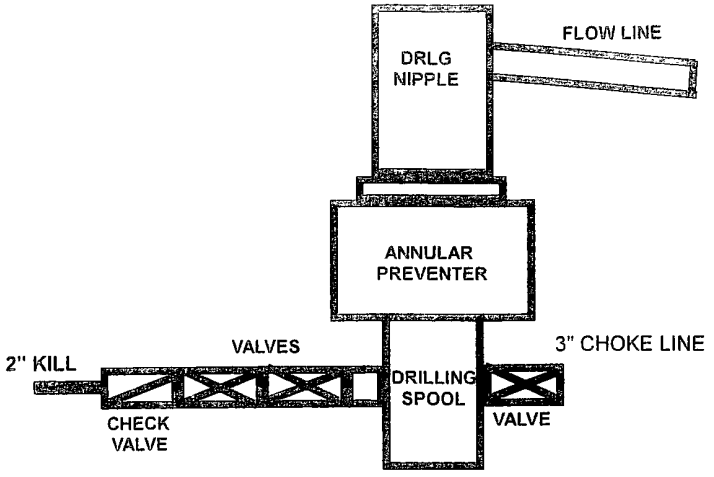
Well Site Lay-Out Plat

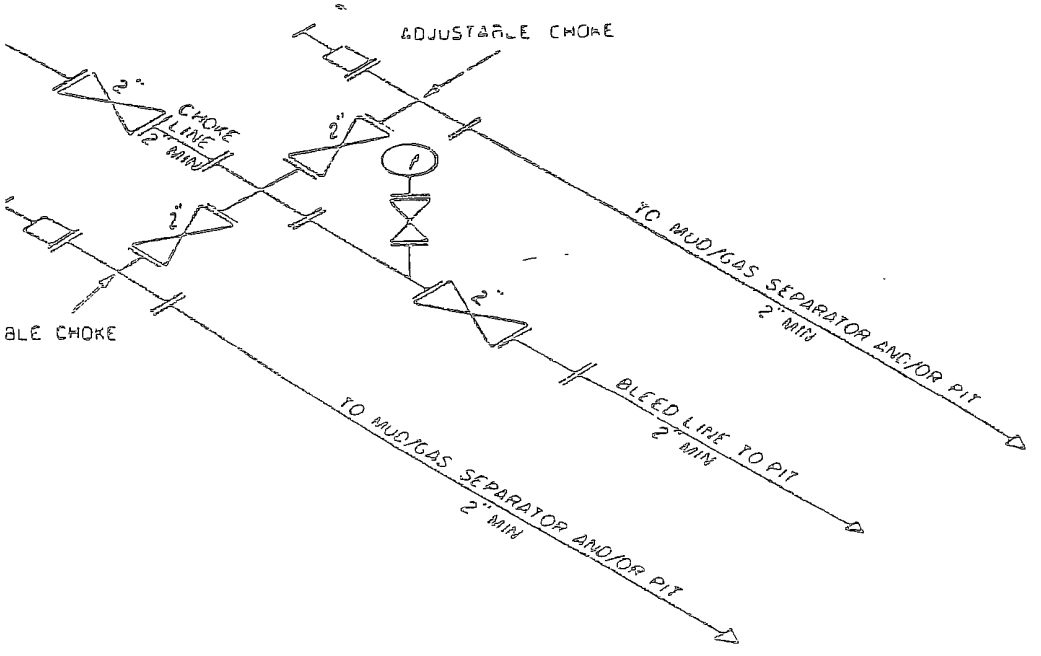


B-52 Federal #4
2310' FSL & 660' FWL
Section 5, T19S - R32E
Lea County, New Mexico

EXHIBIT THREE

2M SYSTEM

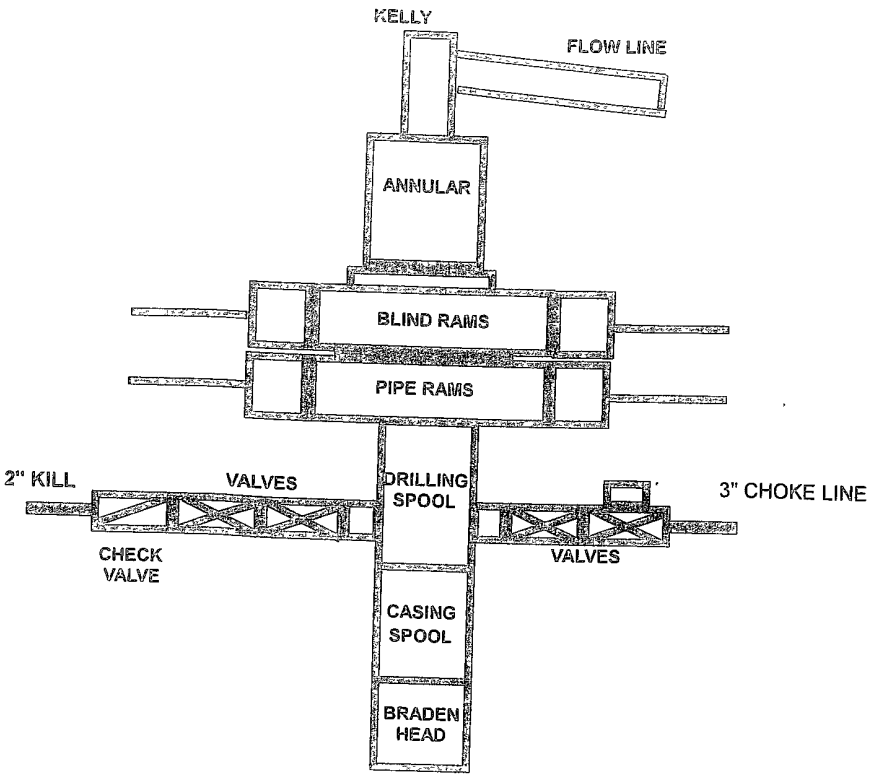


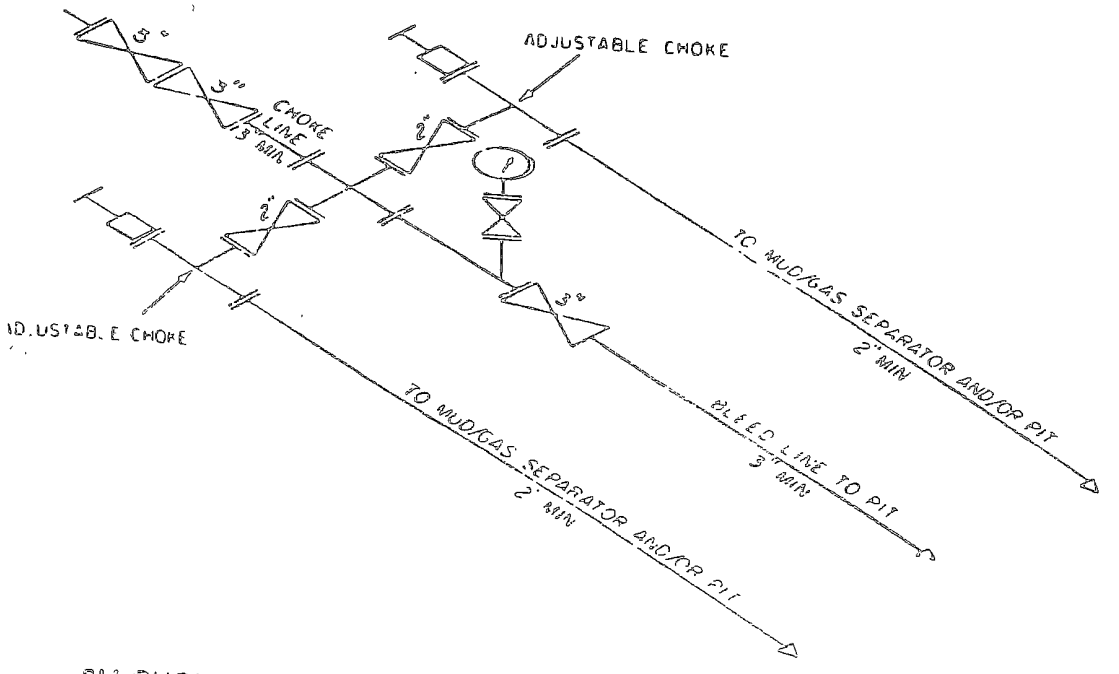


2M CHOKE MANIFOLD EQUIPMENT — CONFIGURATION OF CHOKES MAY VARY

Exhibit One

3M SYSTEM





3M CHOKE MANIFOLD EQUIPMENT — CONFIGURATION OF CHOKES

MAY '89

MARBOB ENERGY CORPORATION

HYDROGEN SULFIDE (H_2S) CONTINGENCY PLAN
FOR DRILLING/COMPLETING/WORKOVER/FACILITY
WITH THE EXPECTATION OF H_2S IN EXCESS OF 100 PPM

B-52 Federal #4
NEW WELL DRILL
2310' FSL & 660' FWL
SECTION 5-T19S-R32E
LEA COUNTY, NEW MEXICO

This well/facility is not expected to have H_2S, but due to the sensitive location, the following is submitted as requested.

TABLE OF CONTENTS

GENERAL H_2S EMERGENCY ACTIONS

In the event of an H_2S emergency, the following plan will be initiated:

1) All personnel will immediately evacuate to an up-wind and if possible up-hill "safe area".

2) If for any reason a person must enter the hazardous area, they must wear a SCBA (self contained breathing apparatus).

3) Always us the "buddy system".

4) Isolate the well/problem if possible.

5) Account for all personnel.

6) Display the proper colors warning all unsuspecting personnel of the danger at hand.

7) Contact the company representative as soon as possible if not at the location (use the enclosed call list as instructed).

At this point the company representative will evaluate the situation and coordinate the necessary duties to bring the situation under control, and if necessary, the notification of emergency response agencies and residents.

EMERGENCY PROCEDURES FOR AN UNCONTROLLABLE RELEASE OF H_2S

1) All personnel will don the self contained breathing apparatus.

2) Remove all personnel to the "safe area" (always use the "buddy system").

3) Contact company representative if not on location.

4) Set in motion the steps to protect and/or remove the general public to any upwind "safe area". Maintain strict security and safety procedures while dealing with the source.

5) No entry to any unauthorized personnel.

6) Notify the appropriate agencies:
   City Police – City streets
   State Police – State Roads
   County Sheriff – County Roads

7) Call the NMOCD.

If at this time the supervising person determines the release of H_2S cannot be contained to the site location and the general public is in harms way, he will immediately notify public safety personnel.

EMERGENCY CALL LIST

	Office	Mobile	Home
Marbob Energy Corp.	575-748-3303		
Sheryl Baker	575-748-3303	575-748-5489	575-748-2396
Johnny C. Gray	575-748-3303	575-748-5983	575-885-3879
Raye Miller	575-748-3303	575-513-0176	575-746-9577
Dean Chumbley	575-748-3303	575-748-5988	575-748-2426

EMERGENCY RESPONSE NUMBERS
Eddy County, New Mexico

State Police	575-748-9718
Eddy County Sheriff	575-746-2701
Emergency Medical Services (Ambulance)	911 or 575-746-2701
Eddy County Emergency Management (Harry Burgess)	575-887-9511
State Emergency Response Center (SERC)	575-476-9620
Carlsbad Police Department	575-885-2111
Carlsbad Fire Department	575-885-3125
New Mexico Oil Conservation Division	575-748-1283
Indian Fire & Safety	800-530-8693
Halliburton Services	800-844-8451

PROTECTION OF THE GENERAL PUBLIC/ROE

In the event greater than 100 ppg H_2S is present, the ROE (Radius of Exposure) calculations will be done to determine if the following is warranted:

- 100 ppm at any public area (any place not associated with this site)
- 500 ppm at any public road (any road which the general public may travel)
- 100 ppm radius of 3000' will be assumed if there is insufficient data to do the calculations, and there is a reasonable expectation that H_2S could be present in concentrations greater than 100 ppm in the gas mixture.

Calculation for the 100 ppm ROE:

$X = [(1.589)(concentration)(Q)]$ (0 6258)

Calculation for the 500 ppm ROE:

$X = [(0.4546)(concentration)(Q)]$ (.06258)

(H_2S concentrations in decimal form)
10,000 ppm + = .01
1,000 ppm + = .001
100 ppm + = .0001
10 ppm + = .00001

EXAMPLE: If a well/facility has been determined to have 150 ppm H_2S in the gas mixture and the well/facility is producing at a gas rate of 200 MCFD then:

ROE for 100 ppm X=[(1.589)(.00010)(200,000)] (0.6258)
X=8.8'

ROE for 500 ppm X=[(.4546)(.00050)(200,000)] (0.6258)
X=10.9'

These calculations will be forwarded to the appropriate NMOCD district office when applicable.

PUBLIC EVACUATION PLAN

When the supervisor has determined that the general public will be involved, the following plan will be implemented.

1) Notification of the emergency response agencies of the hazardous condition and implement evacuation procedures.

2) A trained person in H_2S safety shall monitor with detection equipment the H_2S concentration, wind and area of exposure. This person will determine the outer perimeter of the hazardous area. The extent of the evacuation area will be determined from the data being collected. Monitoring shall continue until the situation has been resolved. All monitoring equipment shall be UL approved for use in Class I Groups A, B, C & D, Division I hazardous locations. All monitors will have a minimum capability of measuring H_2S, oxygen, and flammable values.

3) Law enforcement shall be notified to set up necessary barriers and maintain such for the duration of the situation as well as aid in the evacuation procedure.

4) The company representative shall stay in communication with all agencies throughout the duration of the situation and inform such agencies when the situation has been contained and the effected area is safe to enter.

PROCEDURE FOR IGNITING AN UNCONTROLLABLE CONDITION

The decision to ignite a well should be a last resort and one, if not both, of the following pertain:

1) Human life and/or property are in danger.

2) There is no hope of bringing the situation under control with the prevailing conditions at the site.

INSTRUCTIONS FOR IGNITION

1) Two people are required. They must be equipped with positive pressure, self contained breathing apparatus and a "D"-ring style, full body, OSHA approved safety harness. Non-flammable rope will be attached.

2) One of the people will be a qualified safety person who will test the atmosphere for H_2S, oxygen and LFL. The other person will be the company representative.

3) Ignite up-wind from a distance no closer than necessary. Make sure that where you ignite from has the maximum escape avenue available. A 25 mm flare gun shall be used, with a +-500' range to ignite the gas.

4) Prior to ignition, make a final check for combustible gases.

5) Following ignition, continue with the emergency actions and procedures as before.

REQUIRED EMERGENCY EQUIPMENT

1) Breathing Apparatus

- Rescue Packs (SCBA) – 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
- Work/Escape Packs – 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity.
- Emergency Escape Packs – 4 packs shall be stored in the doghouse for emergency evacuation.

2) Signage and Flagging

- One Color Code Condition Sign will be placed at the entrance to the site reflecting the possible conditions at the site.
- A Colored Condition flag will be on display reflecting the condition at the site at that time.

3) Briefing Area

- Two perpendicular areas will be designated by signs and readily accessible.

4) Wind Socks

- Two windsocks will be placed in strategic locations, visible from all angles.

5) H_2S Detectors and Alarm

- The stationary detector with three (3) sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible alarm @ 15 ppm. Calibrate a minimum of every 30 days or as needed. The three sensors will be placed in the following places: (Gas sample tubes will be stored in the safety trailer)

    - Rig floor
    - Bell nipple
    - End of flow line or where well bore fluid is being discharged

6) Auxiliary Rescue Equipment

- Stretcher
- Two OSHA full body harnesses
- 100' of 5/8" OSHA approved rope
- One 20 lb. Class ABC fire extinguisher
- Communication via cell phones on location and vehicles on location

USING SELF-CONTAINED BREATHING AIR EQUIPMENT (SCBA)

1) SCBA should be worn when any of the following are performed:

- Working near the top or on top of a tank.
- Disconnecting any line where H_2S can reasonably be expected.
- Sampling air in the area to determine if toxic concentrations of H_2S exist.
- Working in areas where over 10 ppm of H_2S has been detected.
- At any time there is a doubt of the level of H_2S in the area.

2) All personnel shall be trained in the use of SCBA prior to working in a potentially hazardous location.

3) Facial hair and standard eyeglasses are not allowed with SCBA.

4) Contact lenses are never allowed with SCBA.

5) Air quality shall be continuously checked during the entire operation.

6) After each use, the SCBA unit shall be cleaned, disinfected, serviced and inspected.

7) All SCBA shall be inspected monthly.

RESCUE & FIRST AID FOR VICTIMS OF H_2S POISONING

- Do not panic.
- Remain calm & think.
- Get on the breathing apparatus.
- Remove the victim to the safe breathing area as quickly as possible, upwind and uphill from source or cross wind to achieve upwind.
- Notify emergency response personnel.
- Provide artificial respiration and/or CPR as necessary.
- Remove all contaminated clothing to avoid further exposure.
- A minimum of two (2) personnel on location shall be trained in CPR and First Aid.

H_2S TOXIC EFFECTS

H_2S is extremely toxic. The acceptable ceiling for eight hours of exposure is 10 ppm, which is .001% by volume. H_2S is approximately 20% heavier than air (Sp.Gr=1.19 / Air=1) and colorless. It forms an explosive mixture with air between 4.3% and 46.0%. By volume hydrogen sulfide (H_2S) is almost as toxic as hydrogen cyanide and is 5-6 times more toxic than carbon monoxide.

Various Gases

Common Name	Chemical Abbrev.	Sp. Gr.	Threshold Limits	Hazardous Limits	Lethal Concentration
Hydrogen Sulfide	H_2S	1.19	10 ppm 15 ppm	100 ppm/hr	600 ppm
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm/hr	300 ppm
Sulfur Dioxide	SO_2	2.21	2 ppm	N/A	1000 ppm
Chlorine	CL_2	2.45	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	CO	0.97	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	CO_2	1.52	5000 ppm	5%	10%
Methane	CH_4	0.55	90,000	Combustible @ 5%	N/A

1 Threshold limit – Concentrations at which it is believed that all workers may be repeatedly exposed, day after day, without adverse effects
2 Hazardous limit – Concentration that may cause death
3 Lethal concentration – Concentration that will cause death with short-term exposure
4 Threshold limit – 10 ppm – NIOSH guide to chemical hazards
5 Short-term threshold limit

PHYSICAL EFFECTS OF HYDROGEN SULFIDE (H_2S)

CONCENTRATIONS		PHYSICAL EFFECTS
.001%	10 ppm	Obvious and unpleasant odor. Safe for 8 hr. exposure
.005%	50 ppm	Can cause some flu-like symptoms and can cause pneumonia
.01%	100 ppm	Kills the sense of smell in 3-15 minutes. May irritate eyes and throat
.02%	200 ppm	Kills the sense of smell rapidly. Severely irritates eyes and throat. Severe flu-like symptoms after 4 or more hrs. May cause lung damage and/or death.
.06%	600 ppm	Loss of consciousness quickly, death will result if not rescued promptly.

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Marbob Energy
LEASE NO.:	NMNM118720
WELL NAME & NO.:	B 52 Federal No 4
SURFACE HOLE FOOTAGE:	2310' FSL & 660' FWL
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 5, T. 19 S., R 32 E., NMPM
COUNTY:	Lea County, New Mexico

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

LESSER PRAIRIE-CHICKENS

No surface use is allowed during the following time periods; unless otherwise specified, this stipulation does not apply to operation and maintenance of production facilities.

For the purpose of Protecting Lesser Prairie-Chickens:

Oil and gas activities, including 3-D geophysical exploration and drilling, will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th, annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (505) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall stockpile the topsoil of the well pad. The topsoil to be stripped is approximately 8 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

C. RESERVE PITS

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the
Carlsbad Field Office at (505) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

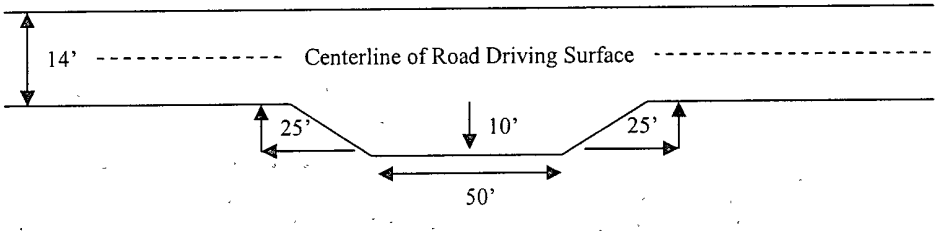
Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

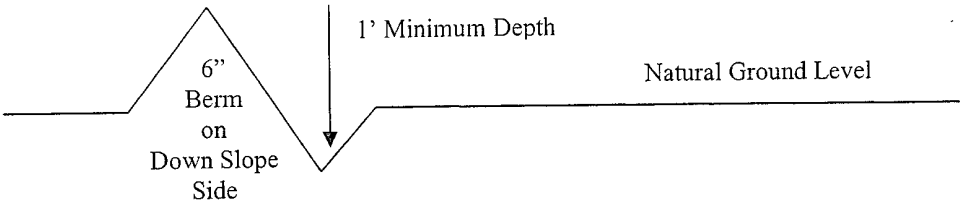
Standard Turnout – Plan View



Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$\text{400 foot road with 4\% road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Culvert Installations
Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards
An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

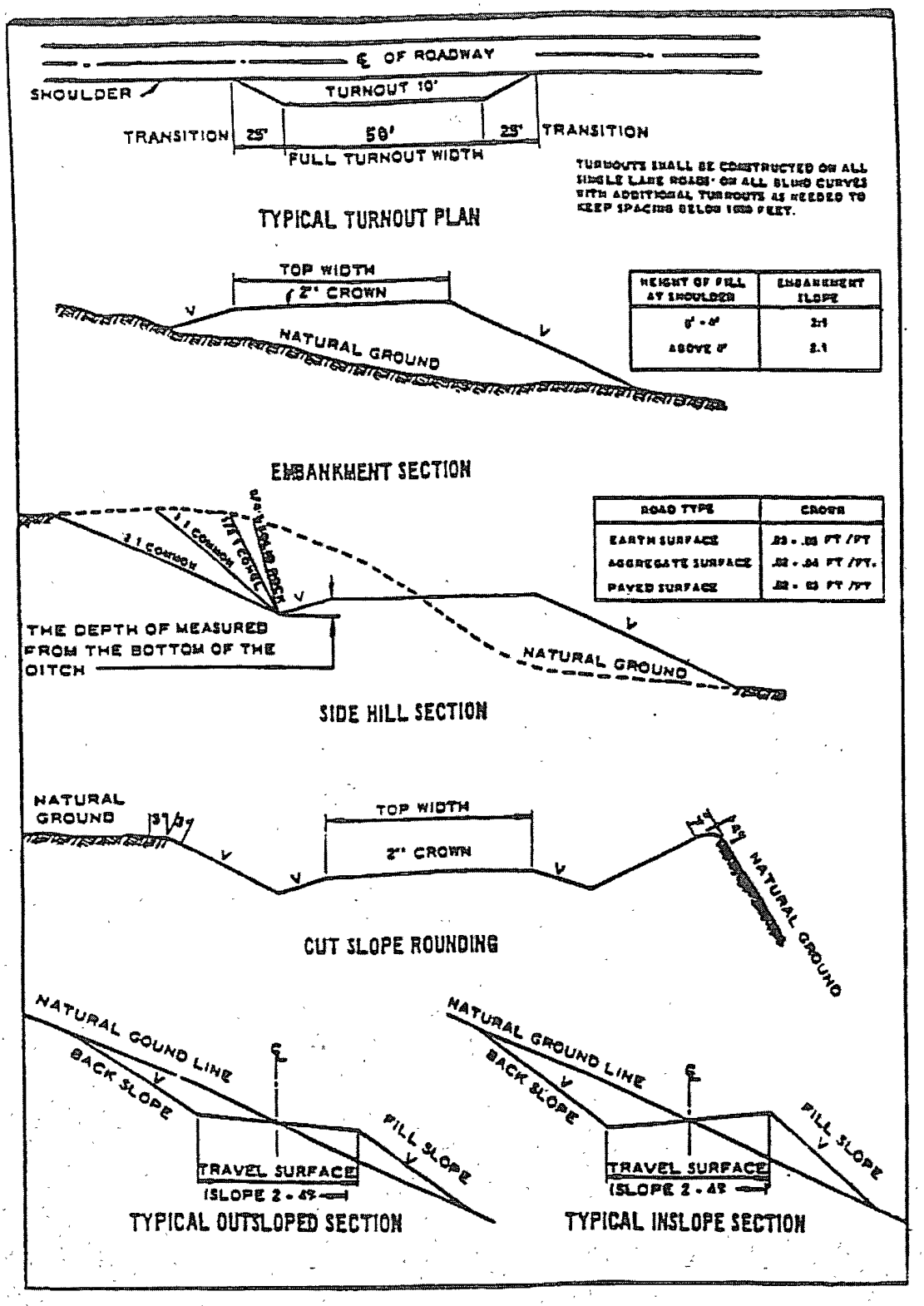
A gate shall be constructed and fastened securely to H-braces.

Fence Requirement
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of **4 hours** in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOP/BOPE tests

☒ **Lea County**
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 393-3612

1. **A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the Yates Formation. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work.

Centralizers required on surface casing as per Onshore Order 2.III.B.1.f

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possible lost circulation in Artesia Group
Possible H2O/brine flows in Artesia Group & Salado

1. The **13-3/8** inch surface casing shall be set at **approximately 1150 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.**

   a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement.

   b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement).

   c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

   d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

   ☒ Cement to surface. If cement does not circulate see B.1.a-d above.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   a. **First stage to DV tool, cement shall:**

   ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office, before proceeding with second stage cement job.

   b. **Second stage above DV tool, cement shall:**

   ☒ Cement should tie-back at least 200 feet into previous casing string. **Operator shall provide method of verification.**

   Marbob plans to drill this well to 9600' TD then log the open hole. At this time it will be decided to run and cement casing for a vertical wellbore completion or to horizontal 1 of 2 zones, either the 2nd Bone Spring Sand @ 9270' or the 1st Bone Spring Sand @ 8440'. Centralizers required on horizontal leg, must be type for horizontal service and minimum of one every other joint.

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. The appropriate BLM office shall be notified a minimum of **4 hours** in advance for a representative to witness the tests.

    a. The tests shall be done by an independent service company.

    b. The results of the test shall be reported to the appropriate BLM office.

    c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

    d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

    e. A variance to test the surface casing and BOP/BOPE (entire system) to the reduced pressure of **1000** psi with the rig pumps is approved.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

LB 5/23/08

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures
The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

B. PIPELINES

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the APD and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency

or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.

b. Activities of other parties including, but not limited to:

(1) Land clearing.
(2) Earth-disturbing and earth-moving work.
(3) Blasting.
(4) Vandalism and sabotage.

c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including,

where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of **25** feet.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the

holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his hehalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

The operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A
**Four-winged Saltbush	5lbs/A

* This can be used around well pads and other areas where caliche cannot be removed.

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

(Insert Seed Mixture Here)

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.