

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

OCD Artesia
FEB 4 2013

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

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form 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.

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

Mack Energy Corporation

3a. Address

P.O. Box 960 Artesia, NM 88210-0960

3b. Phone No. (include area code)

(575) 748-1288

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

SL 1800 FNL & 600 FEL Sec. 30 T17S R32E BHL 2310 FNL & 990 FEL Sec. 30 T17S R32E

5. Lease Serial No.

NMILC-06019918

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.
Brook Federal #6

9. API Well No.
30-025-40387

10. Field and Pool or Exploratory Area

Baish Wolfcamp

11. Country or Parish, State

Lea, NM

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
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change TD Depth/Casing
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ 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 recompleat 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 recompleat 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.)

Mack Energy proposes to change TD depth to 10,500'. Proposed change to casing, cement program.

Proposed Casing See COA

Hole	Depth	Mud Weight	Casing	WT	Collar	Grade	Collapse	Burst	Tension
17 1/2	0-760'	8.5#	13 3/8	48#	ST&C	H-40	1.950	3.353	3.46
12 1/4	0-2100'	10#	8 5/8	24#	ST&C	J-55	1.218	6.313	5.90
7 7/8	0-10500'	9.0-9.2#	5 1/2	17#	LT&C	L-80	1.212	2.364	2.580

Proposed Cement

13 3/8-100% excess Lead 475sx Class C, 4%PF20, 2%PF1, .125#/sxPF29, .2%PF46(13.5 wt, 1.75 yld). Tail 200sx Class C, 1%PF1(14.8 wt, 1.33 yld).

8 5/8-100% excess Lead 675sx Class C, 4%PF20, 2%PF1, .125#/sxPF29, .2%PF46(12.9 wt, 1.98 yld). Tail 200sx Class C, 1%PF1(14.8 wt, 1.34 yld).

5 1/2-35% excess Lead 525sx 35/65/POZ H + 5%PF44 + 6%PF20 + .25#/sxPF46 + 3#/sxPF42 + .6%PF13 + .125#/sxPF29(12.6 wt, 2.05 yld). Tail 850sx PVL + 1.3%PF44 + PF174 + .5%PF606 + .1% PF153 + .6% PF13(13.0 wt, 1.47 yld).

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

SUBJECT TO LIKE
APPROVAL BY STATE

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

Jerry W. Sherrell

Title Production Clerk

Signature

Jerry W. Sherrell

Date 1/11/13

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

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.

Title

Office

MAR 01 2013

KZ

APPROVED

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for my 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)

MAR 04 2013

HOBBS OCD

FEB 25 2013

RECEIVED

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 DepartmentOIL 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
For Lease - 1 Copy

WELL LOCATION AND ACREAGE DEDICATION PLAT

AMENDED REPORT

API Number 30-025-40387	Pool Code 4480	Pool Name Baish, Wolfcamp
Property Code 38762	Property Name BROOK FEDERAL	Well Number 6
OGR ID No. 013837	Operator Name MACK ENERGY CORPORATION	Elevation 3922

Surface Location

UTL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	30	7-S	32-E		1800	NORTH	600	EAST	LEA

Bottom Hole Location If Different From Surface

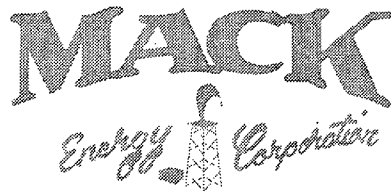
UTL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	30	7-S	32-E		2310	NORTH	990	EAST	LEA

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

COORDINATE COORDINATES NAD 2011 NME SURFACE LOCATION Y=5580.711 N X=55428.7 E LAT=32°40'33.5" N LONG=103°58'39" W BOTTOM HOLE LOCATION Y=557505.8 N X=663896.6 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 information was obtained from a working interest or otherwise acquired 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 interest or a working interest, or to a royalty pooling agreement or a compulsory pooling order heretofore entered by the Division. <i>Jerry W. Sherrell</i> 5/27/11 Signature Date Jerry W. Sherrell Printed Name SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was placed 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. NOVEMBER 19 2011 Date Surveyed Signature & Seal of Professional Surveyor <i>Ronald J. Eidsen</i> 11/30/2010 Certificate No. 3239 RONALD J. EIDSEN 42841 3239
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SCANNED



Mack Energy Corp

Lea County

Brook Federal #6

Federal #6

#6

Plan: Plan #1

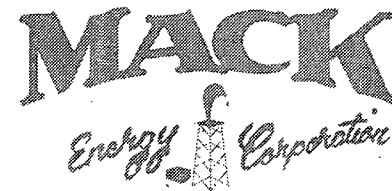
HOBBS OCD

FEB 25 2013

RECEIVED

MEC Survey Report

30 January, 2013





MEC
MEC Survey Report



Company:	Mack Energy Corp	Local Co-ordinate Reference:	Site Brook Federal #6
Project:	Lea County	TVD Reference:	WELL @ 3941.0usft (Original Well Elev)
Site:	Brook Federal #6	MD Reference:	WELL @ 3941.0usft (Original Well Elev)
Well:	Federal #6	North Reference:	Grid
Wellbore:	#6	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

Project	Lea County		
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		Brook Federal #6				
Site Position:		Northing:	658,017.10	usft	Latitude:	32° 48' 28.209 N
From:	Map	Easting:	664,283.70	usft	Longitude:	103° 47' 55.101 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16	"	Grid Convergence:	0.29 °

Well		Federal #6				
Well Position	+N/-S	0.0 usft	Northing:	658,017.10 usft	Latitude:	32° 48' 28.209 N
	+E/-W	0.0 usft	Easting:	664,283.70 usft	Longitude:	103° 47' 55.101 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,922.0 usft	

Wellbore	#6				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	1/30/2013	7.53	60.67	48,818

Design		Plan #1		
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	216.67

Survey Tool Program		Date 1/30/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	10,545.3	Plan #1 (#6)		



MEC
MEC Survey Report



Company: Mack Energy Corp
Project: Lea County
Site: Brook Federal #6
Well: Federal #6
Wellbore: #6
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:
Site Brook Federal #6
WELL @ 3941.0usft (Original Well Elev)
WELL @ 3941.0usft (Original Well Elev)
Grid
Minimum Curvature
EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
2,175.0	0.00	0.00	2,175.0	0.0	0.0	0.0	0.00	658,017.10	664,283.70
2,200.0	0.50	216.67	2,200.0	-0.1	-0.1	0.1	2.00	658,017.01	664,283.63
2,300.0	2.50	216.67	2,300.0	-2.2	-1.6	2.7	2.00	658,014.91	664,282.07
2,400.0	4.50	216.67	2,399.8	-7.1	-5.3	8.8	2.00	658,010.02	664,278.43
2,500.0	6.50	216.67	2,499.3	-14.8	-11.0	18.4	2.00	658,002.33	664,272.70



MEC
MEC Survey Report



Company: Mack Energy Corp
Project: Lea County
Site: Brook Federal #6
Well: Federal #6
Wellbore: #6
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:
Site Brook Federal #6
WELL @ 3941.0usft (Original Well Elev)
WELL @ 3941.0usft (Original Well Elev)
Grid
Minimum Curvature
EDM:5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
2,600.0	8.50	216.67	2,598.4	-25.2	-18.8	31.5	2.00	657,991.86	664,264.91
2,619.1	8.88	216.67	2,617.3	-27.5	-20.5	34.3	2.00	657,989.55	664,263.19
2,700.0	8.88	216.67	2,697.3	-37.6	-28.0	46.8	0.00	657,979.53	664,255.72
2,800.0	8.88	216.67	2,796.1	-50.0	-37.2	62.3	0.00	657,967.15	664,246.50
2,900.0	8.88	216.67	2,894.9	-62.3	-46.4	77.7	0.00	657,954.76	664,237.28
3,000.0	8.88	216.67	2,993.7	-74.7	-55.6	93.2	0.00	657,942.38	664,228.06
3,100.0	8.88	216.67	3,092.5	-87.1	-64.9	108.6	0.00	657,930.00	664,218.84
3,200.0	8.88	216.67	3,191.3	-99.5	-74.1	124.0	0.00	657,917.61	664,209.62
3,300.0	8.88	216.67	3,290.1	-111.9	-83.3	139.5	0.00	657,905.23	664,200.40
3,400.0	8.88	216.67	3,388.9	-124.3	-92.5	154.9	0.00	657,892.85	664,191.18
3,500.0	8.88	216.67	3,487.7	-136.6	-101.7	170.4	0.00	657,880.46	664,181.96
3,600.0	8.88	216.67	3,586.5	-149.0	-111.0	185.8	0.00	657,868.08	664,172.74
3,700.0	8.88	216.67	3,685.3	-161.4	-120.2	201.2	0.00	657,855.70	664,163.52
3,800.0	8.88	216.67	3,784.1	-173.8	-129.4	216.7	0.00	657,843.31	664,154.30
3,900.0	8.88	216.67	3,882.9	-186.2	-138.6	232.1	0.00	657,830.93	664,145.08
4,000.0	8.88	216.67	3,981.7	-198.6	-147.8	247.5	0.00	657,818.55	664,135.86
4,100.0	8.88	216.67	4,080.5	-210.9	-157.1	263.0	0.00	657,806.16	664,126.64
4,200.0	8.88	216.67	4,179.3	-223.3	-166.3	278.4	0.00	657,793.78	664,117.42
4,300.0	8.88	216.67	4,278.1	-235.7	-175.5	293.9	0.00	657,781.40	664,108.20
4,400.0	8.88	216.67	4,376.9	-248.1	-184.7	309.3	0.00	657,769.02	664,098.98
4,500.0	8.88	216.67	4,475.7	-260.5	-193.9	324.7	0.00	657,756.63	664,089.76
4,600.0	8.88	216.67	4,574.5	-272.9	-203.2	340.2	0.00	657,744.25	664,080.53
4,700.0	8.88	216.67	4,673.3	-285.2	-212.4	355.6	0.00	657,731.87	664,071.31
4,800.0	8.88	216.67	4,772.1	-297.6	-221.6	371.1	0.00	657,719.48	664,062.09
4,900.0	8.88	216.67	4,870.9	-310.0	-230.8	386.5	0.00	657,707.10	664,052.87
5,000.0	8.88	216.67	4,969.7	-322.4	-240.0	401.9	0.00	657,694.72	664,043.65
5,100.0	8.88	216.67	5,068.5	-334.8	-249.3	417.4	0.00	657,682.33	664,034.43



MEC
MEC Survey Report



Company:	Mack Energy Corp	Local Co-ordinate Reference:	Site Brook Federal #6
Project:	Lea County	TVD Reference:	WELL @ 3941.0usft (Original Well Elev)
Site:	Brook Federal #6	MD Reference:	WELL @ 3941.0usft (Original Well Elev)
Well:	Federal #6	North Reference:	Grid
Wellbore:	#6	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
5,200.0	8.88	216.67	5,167.3	-347.1	-258.5	432.8	0.00	657,669.95	664,025.21
5,300.0	8.88	216.67	5,266.1	-359.5	-267.7	448.3	0.00	657,657.57	664,015.99
5,400.0	8.88	216.67	5,364.9	-371.9	-276.9	463.7	0.00	657,645.18	664,006.77
5,500.0	8.88	216.67	5,463.7	-384.3	-286.1	479.1	0.00	657,632.80	663,997.55
5,600.0	8.88	216.67	5,562.5	-396.7	-295.4	494.6	0.00	657,620.42	663,988.33
5,700.0	8.88	216.67	5,661.3	-409.1	-304.6	510.0	0.00	657,608.04	663,979.11
5,800.0	8.88	216.67	5,760.1	-421.4	-313.8	525.4	0.00	657,595.65	663,969.89
5,900.0	8.88	216.67	5,858.9	-433.8	-323.0	540.9	0.00	657,583.27	663,960.67
6,000.0	8.88	216.67	5,957.7	-446.2	-332.3	556.3	0.00	657,570.89	663,951.45
6,101.2	8.88	216.67	6,057.7	-458.8	-341.6	572.0	0.00	657,558.35	663,942.11
6,200.0	6.91	216.67	6,155.5	-469.6	-349.7	585.5	2.00	657,547.47	663,934.01
6,300.0	4.91	216.67	6,255.0	-477.9	-355.8	595.8	2.00	657,539.22	663,927.87
6,400.0	2.91	216.67	6,354.8	-483.3	-359.9	602.6	2.00	657,533.75	663,923.80
6,500.0	0.91	216.67	6,454.7	-486.0	-361.9	605.9	2.00	657,531.09	663,921.81
6,545.3	0.00	0.00	6,500.0	-486.3	-362.1	606.3	2.00	657,530.80	663,921.60
6,600.0	0.00	0.00	6,554.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
6,700.0	0.00	0.00	6,654.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
6,800.0	0.00	0.00	6,754.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
6,900.0	0.00	0.00	6,854.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
7,000.0	0.00	0.00	6,954.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
7,100.0	0.00	0.00	7,054.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
7,200.0	0.00	0.00	7,154.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
7,300.0	0.00	0.00	7,254.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
7,400.0	0.00	0.00	7,354.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
7,500.0	0.00	0.00	7,454.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
7,600.0	0.00	0.00	7,554.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
7,700.0	0.00	0.00	7,654.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60



MEC
MEC Survey Report



Company: Mack Energy Corp
Project: Lea County
Site: Brook Federal #6
Well: Federal #6
Wellbore: #6
Design: Plan #1

Local Co-ordinate Reference: Site Brook Federal #6
TVL Reference: WELL @ 3941.0usft (Original Well Elev)
MD Reference: WELL @ 3941.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
7,800.0	0.00	0.00	7,754.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
7,900.0	0.00	0.00	7,854.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
8,000.0	0.00	0.00	7,954.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
8,100.0	0.00	0.00	8,054.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
8,200.0	0.00	0.00	8,154.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
8,300.0	0.00	0.00	8,254.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
8,400.0	0.00	0.00	8,354.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
8,500.0	0.00	0.00	8,454.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
8,600.0	0.00	0.00	8,554.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
8,700.0	0.00	0.00	8,654.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
8,800.0	0.00	0.00	8,754.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
8,900.0	0.00	0.00	8,854.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
9,000.0	0.00	0.00	8,954.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
9,100.0	0.00	0.00	9,054.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
9,200.0	0.00	0.00	9,154.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
9,300.0	0.00	0.00	9,254.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
9,400.0	0.00	0.00	9,354.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
9,500.0	0.00	0.00	9,454.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
9,600.0	0.00	0.00	9,554.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
9,700.0	0.00	0.00	9,654.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
9,800.0	0.00	0.00	9,754.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
9,900.0	0.00	0.00	9,854.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
10,000.0	0.00	0.00	9,954.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
10,100.0	0.00	0.00	10,054.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
10,200.0	0.00	0.00	10,154.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
10,300.0	0.00	0.00	10,254.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
10,400.0	0.00	0.00	10,354.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60



MEC
MEC Survey Report



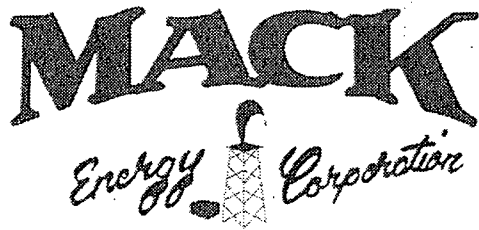
Company: Mack Energy Corp
Project: Lea County
Site: Brook Federal #6
Well: Federal #6
Wellbore: #6
Design: Plan #1

Local Co-ordinate Reference: Site Brook Federal #6
TVD Reference: WELL @ 3941.0usft (Original Well Elev)
MD Reference: WELL @ 3941.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
10,500.0	0.00	0.00	10,454.7	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60
10,545.3	0.00	0.00	10,500.0	-486.3	-362.1	606.3	0.00	657,530.80	663,921.60

Checked By: _____ Approved By: _____ Date: _____



SITE DETAILS: Brook Federal #6

Site Centre Northing: 658017.10
Easting: 664283.70

Positional Uncertainty: 0.0
Convergence: 0.29
Local North: Grid



Azimuths to Grid North
True North: -0.29°
Magnetic North: 7.24°

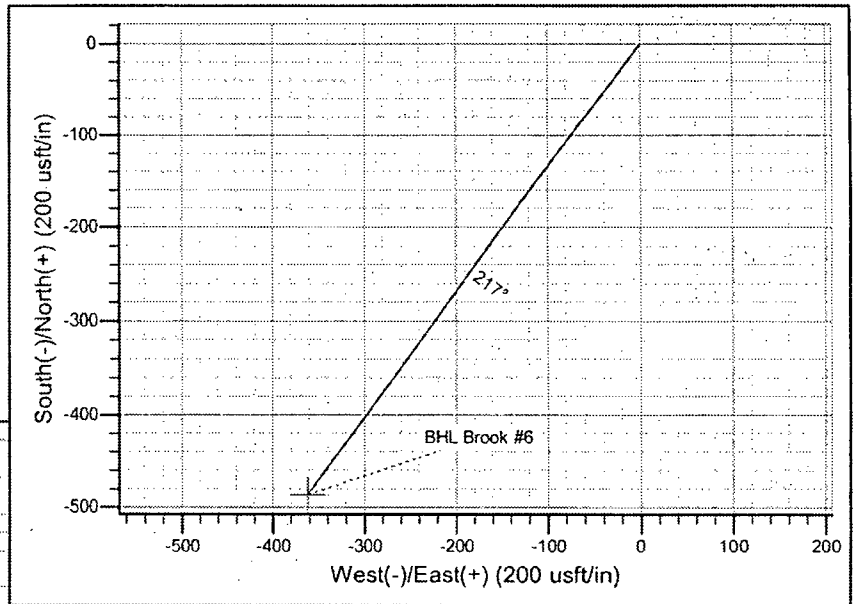
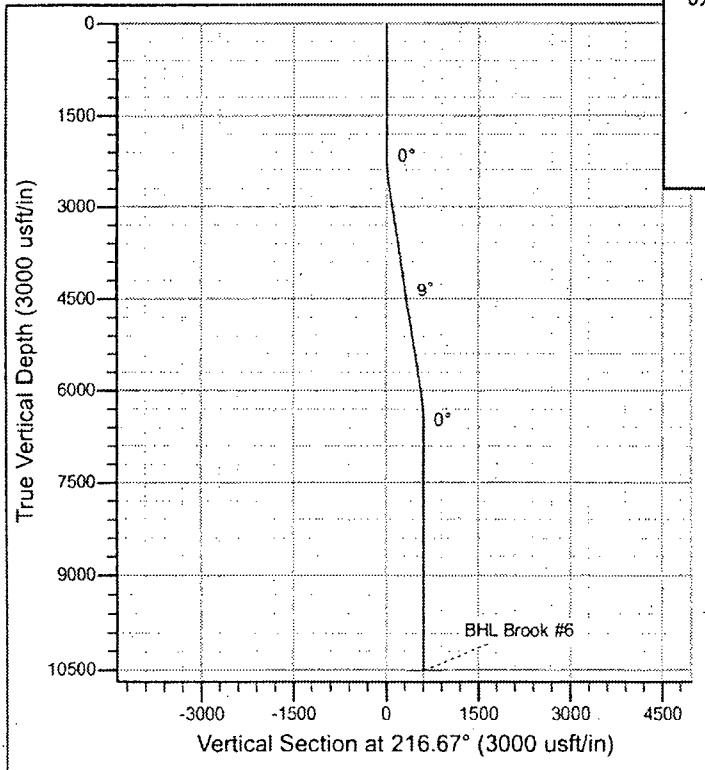
Magnetic Field
Strength: 48817.6snT
Dip Angle: 60.67°
Date: 1/30/2013
Model: IGRF200510

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2175.0	0.00	0.00	2175.0	0.0	0.0	0.00	0.00	0.0	
3	2619.1	8.88	216.67	2617.3	-27.5	-20.5	2.00	216.67	34.3	
4	6101.2	8.88	216.67	6057.7	-458.8	-341.6	0.00	0.00	572.0	
5	6545.3	0.00	0.00	6500.0	-486.3	-362.1	2.00	180.00	606.3	
6	10545.3	0.00	0.00	10500.0	-486.3	-362.1	0.00	0.00	606.3	BHL Brook #6

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BHL Brook #6	10500.0	-486.3	-362.1	657530.80	663921.62	48° 23.41' N	100° 47' 59.372 W	Point
- plan hits target center								



2310 FNL and 990 FEL are hard lines. The well can be north, east, or north east of these hardlines, but not south, west, or southwest. From BHL the well is 25' North of the North hardline and 25' east of the east hardline.

CONDITIONS OF APPROVAL

Sundry dated January 11, 2013

OPERATOR'S NAME:	Mack Energy Corporation
LEASE NO.:	LC-060199B
WELL NAME & NO.:	Brook Federal #6
SURFACE HOLE FOOTAGE:	1800' FNL & 0600' FEL
BOTTOM HOLE FOOTAGE	2310' FNL & 0990' FEL
LOCATION:	Section 30, T. 17 S., R. 32 E., NMPM
COUNTY:	Lea County, New Mexico

Original COA still applies with the following changes

A. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

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

Wait on cement (WOC) time prior to drilling out 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 for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements

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

Possible water and brine flows in the Salado and Artesia groups.

Possible high pressure gas pockets in Wolfcamp Formation.

1. The 13-3/8 inch surface casing shall be set at **approximately 765 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. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

- b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
 - 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 **8-5/8** inch intermediate casing is:
- ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
- ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.
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.

B. 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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi. **Operator installing a 3M system, but testing as a 2M.**
 - a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **8-5/8 inch** intermediate casing shoe shall be **3000 (3M)** psi.

4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
- a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - a. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.
 - 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. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

Proposed mud weight may not be adequate for drilling through Wolfcamp.

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