

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
11540 S. ST. FRANCIS DR., SANTA FE, NM 871540

State of New Mexico
Energy, Minerals and Natural Resources Department

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JUN 02 2009

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

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JUN 10 2009

HOBBSOCD

OIL CONSERVATION DIVISION

11540 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 871540

WELL LOCATION AND ACREAGE DEDICATION PLAT

☒ AMENDED REPORT

API Number 30-025-39608	Pool Code 43329	Pool Name Maljamar; Grayburg-San Andres
Property Code 306387	Property Name GRACE MITCHELL B FEDERAL	Well Number 13
OGRID No. 013837	Operator Name MACK ENERGY CORPORATION	Elevation 4131'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	5	17-S	32-E		1540	NORTH	490	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	5	17-S	32-E		1650	NORTH	330	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

	OPERATOR CERTIFICATION I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Jerry W. Sherrell</i> 6/9/09 Signature Date Jerry W. Sherrell Printed Name
GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=679415.6 N X=669541.9 E LAT.=32.866578° N LONG.=103.781162° W BOTTOM HOLE LOCATION Y=679306.1 N X=669702.4 E	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: FEBRUARY 10, 2009 Signature & Seal of Professional Surveyor: <i>Ronald J. Eidson</i> Certificate No. GARY G. EIDSON 12641 RONALD J. EIDSON 3239

Amended Plat



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JUN 10 2009
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Mack Energy

Lea County
Grace Mitchell B Federal
#13
OH

Plan: Plan #1

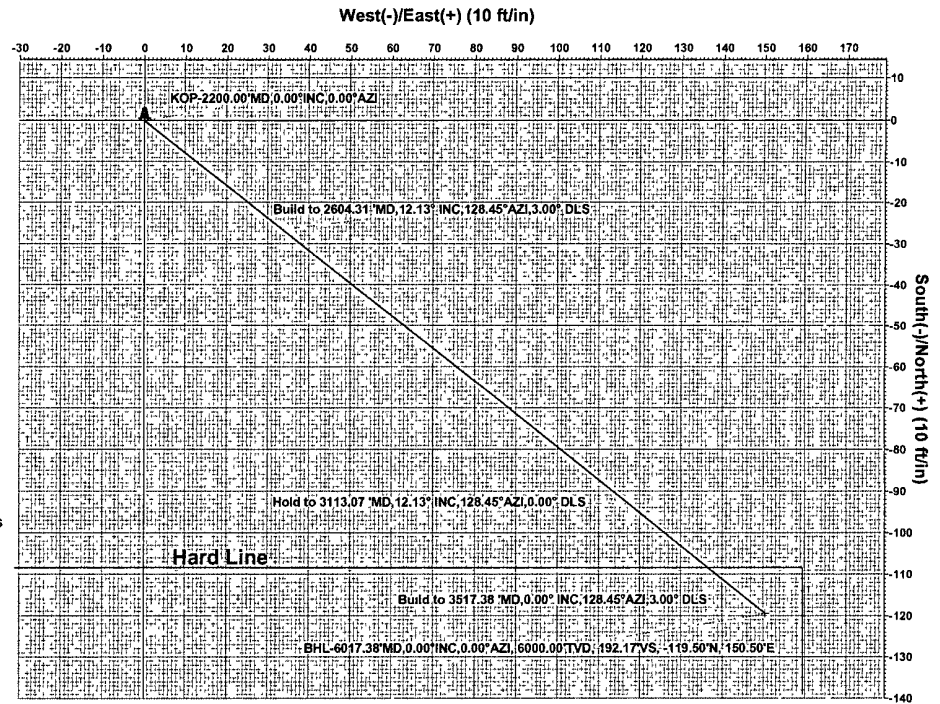
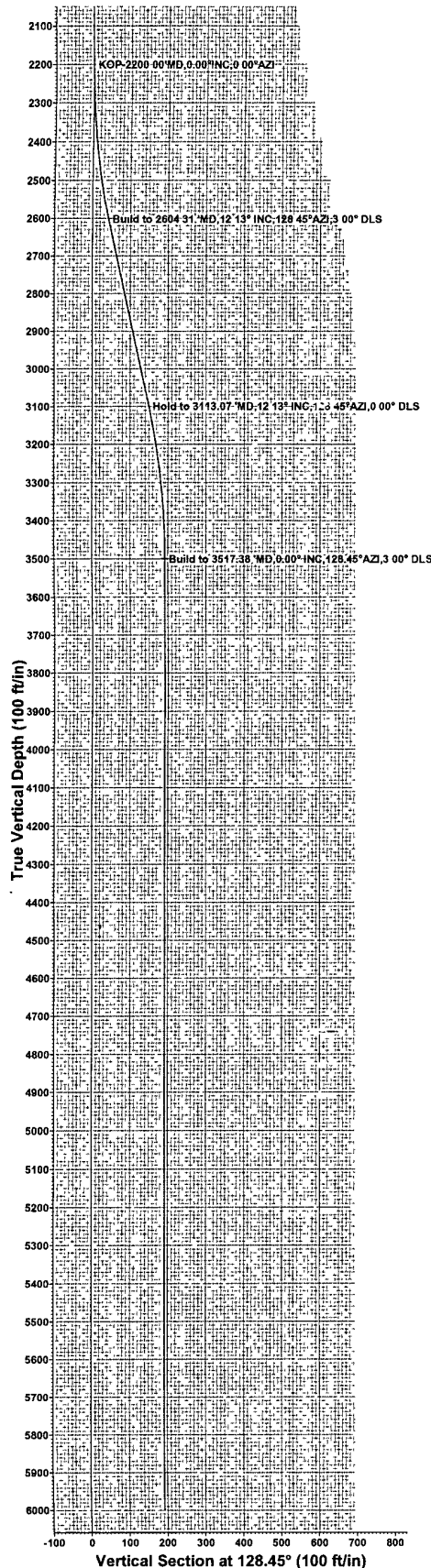
Pathfinder X & Y Survey Report

09 June, 2009

PATHFINDER



Azimuths to Grid North
 True North: -0.30°
 Magnetic North: 7.66°
 Magnetic Field
 Strength: 49204.5snT
 Dip Angle: 60.81°
 Date: 06/09/2009
 Model: IGRF200510



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLog	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00	
3	2604.31	12.13	128.45	2601.30	-26.51	33.39	3.00	128.45	42.64	
4	3113.07	12.13	128.45	3098.70	-92.99	117.11	0.00	0.00	149.54	
5	3517.38	0.00	0.00	3500.00	-119.50	150.50	3.00	180.00	192.17	BHL(#13)
6	6017.38	0.00	0.00	6000.00	-119.50	150.50	0.00	0.00	192.17	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
BHL(#13)	3500.00	-119.50	150.50	679298.100	669692.400	Point

WELL DETAILS #13							
Ground Elevation: 4131.00							
RKB Elevation WELL @ 4149.00ft (Original Well Elev)							
Rig Name Original Well Elev							
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot	
0.00	0.00	679415.600	669541.900	32° 51' 59.879 N	103° 46' 52.183 W		

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

Project: Lea County
 Site: Grace Mitchell B Federal
 Well: #13
 Wellbore: OH
 Plan: Plan #1 (#13/OH)

Plan Plan #1 (#13/OH)			
Created By	Nate Bingham	Date	8/50, June 09 2009
Checked,		Date	



Pathfinder Energy Services

Pathfinder X & Y Survey Report



Company: Mack Energy
Project: Lea County
Site: Grace Mitchell B Federal
Well: #13
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #13
TVD Reference: WELL @ 4149.00ft (Original Well Elev)
MD Reference: WELL @ 4149.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Project: Lea County

Map System: US State Plane 1927 (Exact solution)
Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: New Mexico East 3001

System Datum: Mean Sea Level

Site: Grace Mitchell B Federal

Site Position: **From:** Map
Position Uncertainty: 0.00 ft
Northing: 676,579.100 ft
Easting: 668,541.400 ft
Slot Radius: "
Latitude: 32° 51' 31.664 N
Longitude: 103° 47' 4.086 W
Grid Convergence: 0.30 °

Well: #13

Well Position **+N/-S** 0.00 ft **Northing:** 679,415.600 ft **Latitude:** 32° 51' 59.679 N
+E/-W 0.00 ft **Easting:** 669,541.900 ft **Longitude:** 103° 46' 52.183 W
Position Uncertainty 0.00 ft **Wellhead Elevation:** ft **Ground Level:** 4,131.00 ft

Wellbore: OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	06/09/2009	7.96	60.81	49,205

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	128.45

Survey Tool Program **Date** 06/09/2009

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	6,017.38	Plan #1 (OH)	MWD	MWD - Standard



Pathfinder Energy Services

Pathfinder X & Y Survey Report



Company: Mack Energy
Project: Lea County
Site: Grace Mitchell B Federal
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Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #13
TVD Reference: WELL @ 4149.00ft (Original Well Elev)
MD Reference: WELL @ 4149.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
0.00	0.00	0.00	0.00	-4,149.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
100.00	0.00	0.00	100.00	-4,049.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
200.00	0.00	0.00	200.00	-3,949.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
300.00	0.00	0.00	300.00	-3,849.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
400.00	0.00	0.00	400.00	-3,749.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
500.00	0.00	0.00	500.00	-3,649.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
600.00	0.00	0.00	600.00	-3,549.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
700.00	0.00	0.00	700.00	-3,449.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
800.00	0.00	0.00	800.00	-3,349.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
900.00	0.00	0.00	900.00	-3,249.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
1,000.00	0.00	0.00	1,000.00	-3,149.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
1,100.00	0.00	0.00	1,100.00	-3,049.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
1,200.00	0.00	0.00	1,200.00	-2,949.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
1,300.00	0.00	0.00	1,300.00	-2,849.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
1,400.00	0.00	0.00	1,400.00	-2,749.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
1,500.00	0.00	0.00	1,500.00	-2,649.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
1,600.00	0.00	0.00	1,600.00	-2,549.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
1,700.00	0.00	0.00	1,700.00	-2,449.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
1,800.00	0.00	0.00	1,800.00	-2,349.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
1,900.00	0.00	0.00	1,900.00	-2,249.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
2,000.00	0.00	0.00	2,000.00	-2,149.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
2,100.00	0.00	0.00	2,100.00	-2,049.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
2,200.00	0.00	0.00	2,200.00	-1,949.00	0.00	0.00	0.00	0.00	679,415.60	669,541.90
KOP-2200.00'MD,0.00°INC,0.00°AZI										
2,300.00	3.00	128.45	2,299.95	-1,849.05	-1.63	2.05	2.62	3.00	679,413.97	669,543.95
2,400.00	6.00	128.45	2,399.63	-1,749.37	-6.51	8.19	10.46	3.00	679,409.09	669,550.09
2,500.00	9.00	128.45	2,498.77	-1,650.23	-14.62	18.41	23.51	3.00	679,400.98	669,560.31



Pathfinder Energy Services

Pathfinder X & Y Survey Report



Company:	Mack Energy	Local Co-ordinate Reference:	Well #13
Project:	Lea County	TVD Reference:	WELL @ 4149.00ft (Original Well Elev)
Site:	Grace Mitchell B Federal	MD Reference:	WELL @ 4149.00ft (Original Well Elev)
Well:	#13	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	Midland Database

Planned Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	EW (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
2,604.31	12.13	128.45	2,601.30	-1,547.70	-26.51	33.39	42.64	3.00	679,389.09	669,575.29	
Build to 2604.31 'MD,12.13° INC,128.45° AZI,3.00° DLS											
2,700.00	12.13	128.45	2,694.85	-1,454.15	-39.02	49.14	62.74	0.00	679,376.58	669,591.04	
2,800.00	12.13	128.45	2,792.62	-1,356.38	-52.08	65.59	83.75	0.00	679,363.52	669,607.49	
2,900.00	12.13	128.45	2,890.39	-1,258.61	-65.15	82.05	104.77	0.00	679,350.45	669,623.95	
3,000.00	12.13	128.45	2,988.15	-1,160.85	-78.21	98.50	125.78	0.00	679,337.39	669,640.40	
3,100.00	12.13	128.45	3,085.92	-1,063.08	-91.28	114.96	146.79	0.00	679,324.32	669,656.86	
3,113.07	12.13	128.45	3,098.70	-1,050.30	-92.99	117.11	149.54	0.00	679,322.61	669,659.01	
Hold to 3113.07 'MD,12.13° INC,128.45° AZI,0.00° DLS											
3,200.00	9.52	128.45	3,184.07	-964.93	-103.14	129.89	165.86	3.00	679,312.46	669,671.79	
3,300.00	6.52	128.45	3,283.09	-865.91	-111.82	140.82	179.81	3.00	679,303.78	669,682.72	
3,400.00	3.52	128.45	3,382.69	-766.31	-117.26	147.68	188.57	3.00	679,298.34	669,689.58	
3,500.00	0.52	128.45	3,482.62	-666.38	-119.45	150.44	192.09	3.00	679,296.15	669,692.34	
3,517.38	0.00	128.45	3,500.00	-649.00	-119.50	150.50	192.17	3.00	679,296.10	669,692.40	
Build to 3517.38 'MD,0.00° INC,128.45° AZI,3.00° DLS - BHL(#13)											
3,600.00	0.00	0.00	3,582.62	-566.38	-119.50	150.50	192.17	0.00	679,296.10	669,692.40	
3,700.00	0.00	0.00	3,682.62	-466.38	-119.50	150.50	192.17	0.00	679,296.10	669,692.40	
3,800.00	0.00	0.00	3,782.62	-366.38	-119.50	150.50	192.17	0.00	679,296.10	669,692.40	
3,900.00	0.00	0.00	3,882.62	-266.38	-119.50	150.50	192.17	0.00	679,296.10	669,692.40	
4,000.00	0.00	0.00	3,982.62	-166.38	-119.50	150.50	192.17	0.00	679,296.10	669,692.40	
4,100.00	0.00	0.00	4,082.62	-66.38	-119.50	150.50	192.17	0.00	679,296.10	669,692.40	
4,200.00	0.00	0.00	4,182.62	33.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40	
4,300.00	0.00	0.00	4,282.62	133.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40	
4,400.00	0.00	0.00	4,382.62	233.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40	
4,500.00	0.00	0.00	4,482.62	333.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40	
4,600.00	0.00	0.00	4,582.62	433.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40	
4,700.00	0.00	0.00	4,682.62	533.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40	



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: Mack Energy
Project: Lea County
Site: Grace Mitchell B Federal
Well: #13
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #13
TVD Reference: WELL @ 4149.00ft (Original Well Elev)
MD Reference: WELL @ 4149.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	EW (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
4,800.00	0.00	0.00	4,782.62	633.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40
4,900.00	0.00	0.00	4,882.62	733.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40
5,000.00	0.00	0.00	4,982.62	833.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40
5,100.00	0.00	0.00	5,082.62	933.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40
5,200.00	0.00	0.00	5,182.62	1,033.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40
5,300.00	0.00	0.00	5,282.62	1,133.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40
5,400.00	0.00	0.00	5,382.62	1,233.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40
5,500.00	0.00	0.00	5,482.62	1,333.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40
5,600.00	0.00	0.00	5,582.62	1,433.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40
5,700.00	0.00	0.00	5,682.62	1,533.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40
5,800.00	0.00	0.00	5,782.62	1,633.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40
5,900.00	0.00	0.00	5,882.62	1,733.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40
6,000.00	0.00	0.00	5,982.62	1,833.62	-119.50	150.50	192.17	0.00	679,296.10	669,692.40
6,017.38	0.00	0.00	6,000.00	1,851.00	-119.50	150.50	192.17	0.00	679,296.10	669,692.40

BHL-6017.38°MD,0.00°INC,0.00°AZI, 6000.00°TVD, 192.17°VS, -119.50°N, 150.50°E



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company:	Mack Energy	Local Co-ordinate Reference:	Well #13
Project:	Lea County	TVD Reference:	WELL @ 4149.00ft (Original Well Elev)
Site:	Grace Mitchell B Federal	MD Reference:	WELL @ 4149.00ft (Original Well Elev)
Well:	#13	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1.	Database:	Midland Database

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
BHL(#13)	0.00	0.00	3,500.00	-119.50	150.50	679,296.100	669,692.400	32° 51' 58.489 N	103° 46' 50.426 W
- plan hits target									
- Point									

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
2,200.00	2,200.00	0.00	0.00	KOP-2200.00°MD,0.00°INC,0.00°AZI
2,604.31	2,601.30	-26.51	33.39	Build to 2604.31 °MD,12.13° INC,128.45°AZI,3.00° DLS
3,113.07	3,098.70	-92.99	117.11	Hold to 3113.07 °MD,12.13° INC,128.45°AZI,0.00° DLS
3,517.38	3,500.00	-119.50	150.50	Build to 3517.38 °MD,0.00° INC,128.45°AZI,3.00° DLS
6,017.38	6,000.00	-119.50	150.50	BHL-6017.38°MD,0.00°INC,0.00°AZI, 6000.00°TVD, 192.17°VS, -119.50

Checked By: _____	Approved By: _____	Date: _____
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