

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

David R. Catanach, Division Director
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-4 or 3160-5 form.

Operator Signature Date: 12/19/2014

Well information:

API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	Surf. Owner	UL	Sec	Twp	N/S	Rng	W/E
30-045-26335-00-00	GALLEGOS CANYON UNIT	247E	BP AMERICA PRODUCTION COMPANY	G	A	San Juan	F	P	5	27	N	12	W

Drilling/Casing Change

Conditions of Approval:

(See the below checked and additional conditions)

- ☒ Notify Aztec OCD 24hrs prior to casing & cement.
- ☒ Hold C-104 for directional survey & "As Drilled" Plat
- ☐ Hold C-104 for ☐ NSL, ☐ NSP, ☐ DHC
- ☐ Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- ☐ Ensure compliance with 19.15.17
- ☐ Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- ☒ Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84
- ☒ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
- ☒ Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.

Additional requirements

*File C104 and completion report for Basin Mancos before returning to production.

NMOCD Approved by Signature

1-30-15
Date

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

FORM APPROVED
OMB NO. 1004-0135
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.

JAN 07 2015

BLS Form Serial No.
NMSF0789026. If Indian, Allottee or Tribe Name
EASTERN NAVAJO7. Unit or CA/Agreement, Name and/or No.
892000844F

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

Farmington Field Office
Bureau of Land Management

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

BP AMERICA PRODUCTION CO

Contact: TOYA COLVIN

E-Mail: Toya.Colvin@bp.com

3a. Address

200 ENERGY COURT
FARMINGTON, NM 87401

3b. Phone No. (include area code)

Ph: 281-366-7148

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

Sec 5 T27N R12W SESE 1050FSL 1090FEL
36.599790 N Lat, 108.129120 W Lon

8. Well Name and No.

GALLEGOS CANYON UNIT 247E

9. API Well No.

30-045-26335-00-S1

10. Field and Pool, or Exploratory

BASIN DAKOTA

11. County or Parish, and State

SAN JUAN COUNTY, NM

12. CHECK 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 Drilling Operations
	☐ 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 recompleate 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 shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleation in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

BP America Production Company respectfully requests MIT & temporary abandon the subject well. Based on the MIT results, BP also requests to plug the Dakota formation and recompleate into the Basin Mancos by sidetracking the subject well. Drilling operations will remain on the existing well pad with no additional pad expansion. Upon completion of our drilling, the well will be shut in. BP will file the Surface Use Plan of Operations for the completion of the subject well.

OIL CONS. DIV DIST. 3

JAN 14 2015

The surface hole location for the GCU 247E sidetrack reads differently on the attached C-102 due to the increased accuracy of our surveying methods. The existing well location was surveyed by Marshall Lindeen at United Field Services on December 12th, 2014.

Please see the attached procedure, drilling plan, and C-102.

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #287276 verified by the BLM Well Information System
For BP AMERICA PRODUCTION CO, sent to the Farmington
Committed to AFMSS for processing by TROY SALYERS on 01/09/2015 (15TS0011SE)

Name (Printed/Typed) TOYA COLVIN

Title REGULATORY ANALYST

Signature (Electronic Submission)

Date 01/07/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By TROY SALYERS

Title PETROLEUM ENGINEER

Date 01/09/2014

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 Farmington

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.

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT BELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATION ON FEDERAL AND INDIAN LANDS

NMOCD

Revisions to Operator-Submitted EC Data for Sundry Notice #287276

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	DRG NOI	DRG NOI
Lease:	NMSF078902	NMSF078902
Agreement:		892000844F (NMNM78391C)
Operator:	BP AMERICA PRODUCTION COMPANY 501 WESTLAKE PARK BLVD. THREE ELDRIDGE PLACE, 12.18801 HOUSTON, TX 77079 Ph: 281-366-7148	BP AMERICA PRODUCTION CO 2015 WESTINGHOUSE BLVD FARMINGTON, NM 87401 Ph: 505.326.0653
Admin Contact:	TOYA COLVIN REGULATORY ANALYST E-Mail: Toya.Colvin@bp.com Ph: 281-366-7148	TOYA COLVIN REGULATORY ANALYST E-Mail: Toya.Colvin@bp.com Ph: 281-366-7148
Tech Contact:	TOYA COLVIN REGULATORY ANALYST E-Mail: Toya.Colvin@bp.com Ph: 281-366-7148	TOYA COLVIN REGULATORY ANALYST E-Mail: Toya.Colvin@bp.com Ph: 281-366-7148
Location:		
State:	NM	NM
County:	SAN JUAN	SAN JUAN
Field/Pool:	BASIN DAKOTA	BASIN DAKOTA
Well/Facility:	GALLEGOS CANYON UNIT 247E Sec 5 T29N R12W SESE 1040FSL 1094FEL 36.599870 N Lat, 108.129010 W Lon	GALLEGOS CANYON UNIT 247E Sec 5 T27N R12W SESE 1050FSL 1090FEL 36.599790 N Lat, 108.129120 W Lon

District I
1625 N French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 391-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

RECEIVED

JAN 29 2015

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

NMOC
DISTRICT III

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-26335	² Pool Code 97232	³ Pool Name Basin Mancos
⁴ Property Code 000570	⁵ Property Name Gallegos Canyon Unit	⁶ Well Number 247E
⁷ OGRID No. 000778	⁸ Operator Name BP America Production Company	⁹ Elevation 5702

¹⁰ Surface Location									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	05	27N	12W		1040	South	1094	East	San Juan

¹¹ 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
N	06	27N	12W		987	South	1704	West	San Juan

¹² Dedicated Acres 1280 12104.23	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.

	17 OPERATOR CERTIFICATION I hereby certify that the information contained 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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order, and hereby entered by the division. Signature: <i>Toya Colvin</i> Date: 12/19/14 Printed Name: <i>Toya Colvin</i> E-mail Address: <i>Toya.Colvin@bp.com</i>	
	18 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 of Survey: 12-12-14 Signature and Seal of Professional Surveyor: <i>Marshall W. Lindeen</i> Certificate Number: 17078	

	NMWS NAD'83	NAD'83	TIES
PROPOSED SURFACE HOLE LOCATION (SHL)	N (Y) = 2,037,787.54' E (X) = 2,635,085.65'	LAT. = 36.59984369°N LON. = 108.12974444°W	FSL = 1040' FEL = 1094'
PROPOSED ENTRY POINT (EP)	N (Y) = 2,037,786.56' E (X) = 2,635,705.65'	LAT. = 36.59983777°N LON. = 108.13103899°W	FSL = 1037' FEL = 1474'
PROPOSED BOTTOM HOLE LOCATION (BHL)	N (Y) = 2,037,767.96' E (X) = 2,628,450.80'	LAT. = 36.59972238°N LON. = 108.15575418°W	FSL = 987' FWL = 1704'

JAN 14 2015

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

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State of New Mexico
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WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-26335	² Pool Code 97232	³ Pool Name Basin Mancos
⁴ Property Code 000570	⁵ Property Name Gallegos Canyon Unit	⁶ Well Number 247E
⁷ OGRID No. 000778	⁸ Operator Name BP America Production Company	⁹ Elevation 5702

¹⁰ Surface Location

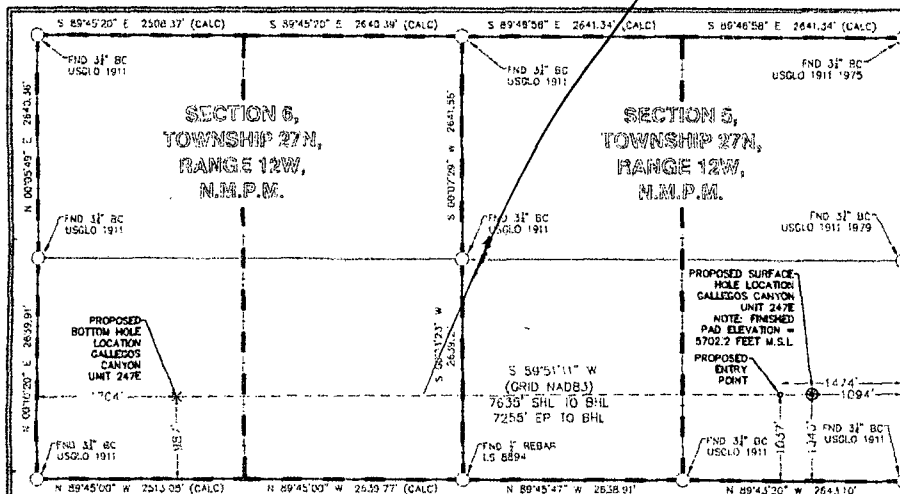
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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1280			

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.

**LEGEND**

FOUND MONUMENT ○

PROPOSED SURFACE HOLE LOCATION

PROPOSED BOTTOM HOLE LOCATION x

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided 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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling agreement heretofore entered by the division.

Signature: *Joey Colvin* Date: 12/19/14

Printed Name: *Joey Colvin*

E-mail Address: *Joey.Colvin@bp.com*

18 SURVEYOR CERTIFICATION

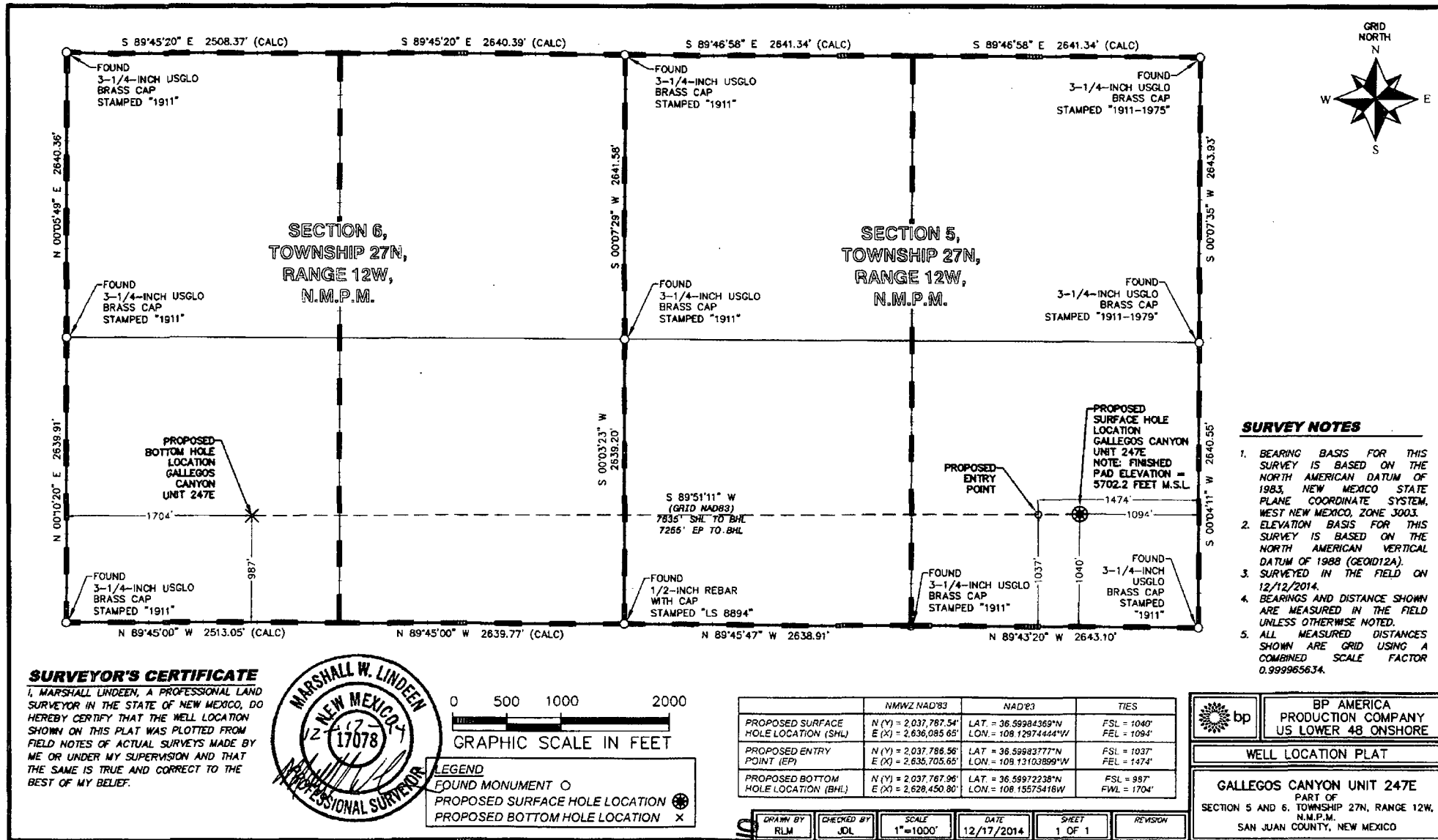
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

12-12-14
Date of Survey

Signature and Seal of Professional Surveyor

17078
Certificate Number

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JAN 14 2015
OIL, CONG. DIV. DIST.



Gallegos Canyon Unit 247E
Dakota
30-045-26335
T-27N, R-12-W, Sec. 5
San Juan County, New Mexico

Reason/Background for Job

The proposed work is to evaluate casing mechanical integrity in the perspective to recomplete or drill a horizontal sidetrack in the basin Mancos.

The plan forward will be based on the casing condition and another NOI will be submitted.

The bridge plug will remain set until decision is made, and approval is received to move forward with operations.

1. Pull tubing
2. Set bridge plug to isolate DK
3. MIT wellbore
4. Run CBL
5. RIH w/ tubing

Current WDB



Gallegos Canyon Unit 247E
Dakota
30-045-26335
T-27N, R-12-W, Sec. 5
San Juan County, New Mexico

History

05/1985 - Spud in
05/1985 - Complete DK
1990 - POH tubing; RIH w/ packer and isolate DK; press test
csg to 950 psi for 15 min - OK; POH packer; log (GR) 5496 - 5968'
swab & return to production
02/1995 - Tag fill @ 5940'; POH tbg - no obstruction;
RIH & re-land tbg @ 5908'; repair csg valve;
04/2010 - SL tag fluid @ 4000'; POH plunger; tag fill @ 5920'
broach tbg to 5861' (F- nipple); Set new stop @ 5851'
06/2010 - Swabbing - recover 155 bbls
no change in the fluid level; FL @ 4000'

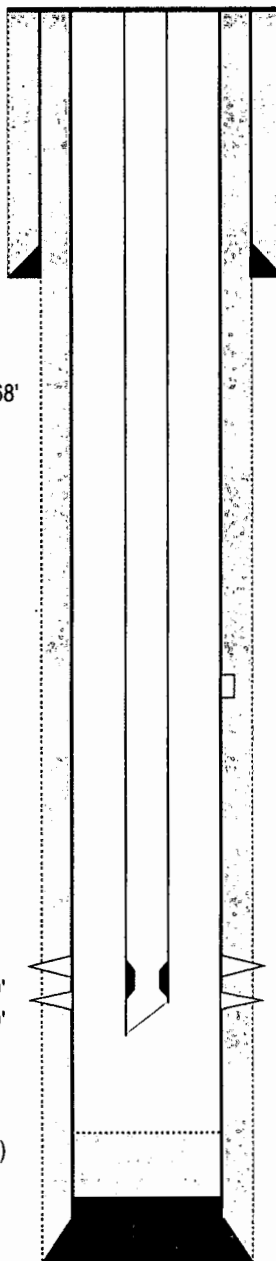
Formation Tops

Fruitland	1022
Pictured Cliffs	1306
Lewis Shale	1596
Cliffhouse	2843
Menefee	2900
Point Lookout	3737
Mancos	4050
Gallup	4890
Greenhorn	5728
Dakota	5840

F Nipple @ 5919'
EOT @ 5920'

Fill 5920' SLM (2010)

GL 5700'
KB 5712'



PBTD 6001'
TD 6047'

Surface Csg

12 1/4" hole
9 5/8", 36#, K55 @ 332'
325 cft B
TOC @ surf (circ)

Tubing string

	Length (ft)
MS collar 2 3/8"	1
F Nipple 2 3/8" / 1.78"	1
Tbg 2 3/8", 4.7#, J55, 190 jts	5907

DV Tool @ 3029'

DK Perfs

5844 - 5860'
5984 - 5926'
5942 - 5958'
frac w/ 85K gals 69 Q foam &
148K # 20/40

Prod Csg

8 3/4" hole
7", 23#, K55 @ 6047'
Stage 1 - 492 cft B lead; 484 cft B tail
Stage 2 - 920 cft B
TOC @ surf (circ both stages)

OIL CONS. DIV DIST. 3

JAN 14 2015

WBD post MIT



Gallegos Canyon Unit 247E
Dakota
30-045-26335
T-27N, R-12-W, Sec. 5
San Juan County, New Mexico

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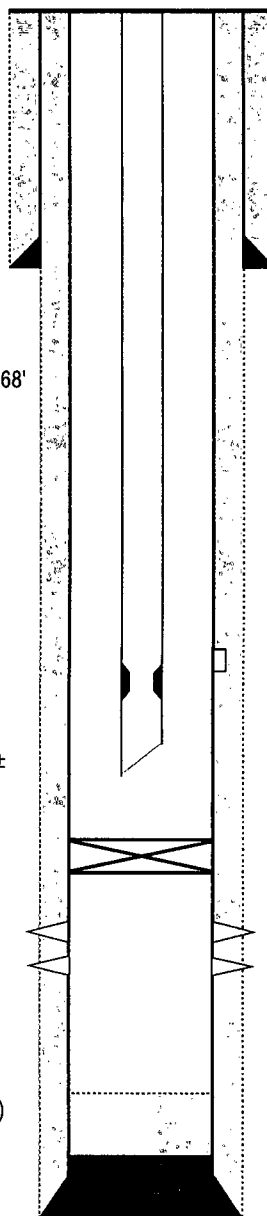
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Dakota	5840

Fill 5920' SLM (2010)

EOT @ 5740' ±

GL 5700'
KB 5712'



PBTD 6001'
TD 6047'

OIL CONS. DIV DIST. 3

JAN 14 2015

Surface Csg

12 1/4" hole
9 5/8", 36#, K55 @ 332'
325 cft B
TOC @ surf (circ)

DV Tool @ 3029'

CIBP @ 5800' ±

DK Perfs

5844 - 5860'
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5942 - 5958'
frac w/ 85K gals 69 Q foam &
148K # 20/40

Prod Csg

8 3/4" hole
7", 23#, K55 @ 6047'
Stage 1 - 492 cft B lead; 484 cft B tail
Stage 2 - 920 cft B
TOC @ surf (circ both stages)

Version: 1.2.2.2

BP AMERICA PRODUCTION COMPANY
DRILLING PROGRAM

Last Revised 7-Jan-2015

Well: 247E
County: San Juan
State: New MexicoNo: ST 1
Surface Lat: 36.59984369° N Surface Long: 108.12974444° W
BHL Lat: 36.59972238° N BHL Long: 108.15575418 W

OBJECTIVE Gallup Formation			
APPROXIMATE DEPTHS OF GEOLOGICAL MARKER			
GL: 5,701' RTB: 5,718'			
Marker	TVD	MD	Fluid Type
Ojo Alamo Sd	46'		Fresh Water
Kirtland Sh	131'		Wet
Farmington Sd	345'		Wet
Fruitland	1,022'		Gas/Water
Fruitland Sd	1,030'		Gas/Water
Fruitland Coal Cahn	1,280'		Gas/Water
Picture Cliffs Sd	1,306'		Gas/Water
Lewis Sh	1,596'		Wet
Chacra Sd	2,184'		Wet
MV Cliffhouse Sd	2,843'		Wet/Injection
MV Menefee	2,900'		Wet/Injection
MV Pointlookout Sd	3,737'		Wet/Injection
Mancos Sh	4,050'		Gas
Upper Gallop	4,890'	4,900	Gas/Oil
Middle Gallop	5,146'	5,250	Gas/Oil
ChaCha SW Sd	5,255'	5,555	Oil
TOTAL DEPTH:			
	5,125'	12,612'	
CASING PROGRAM (case & frac)			
Casing String	Estimated Depth	Casing Size	Hole Size
Surface	332'	9.625" 36 ppf K-55 LT&C	12 1/4"
Intermediate	4,450'	7" 23 ppf K-55 LT&C	8 3/4"
Production	12,612'	4" 11.6 ppf P-110 LT&C	6 1/8"
Tubing	5,555'	2.375" 4.7 ppf J-55 8RD	

CEMENTING PROGRAM

Prod: (Single stage job with overlap of TOL into 7" casing) Below is a liner foamed cement design modelled on the known parameters. Actual volumes will be calculated and determined based on conditions on site. Cement slurry will meet or exceed minimum BLM and New Mexico Oil Conservation Division requirements. Slurry used will be the slurry listed below or equivalent slurry depending on service provider selected. Cement yield may change depending on slurry selected. Waiting on cement shall be minimum of 8 hours or as recommended by service provider selected.

Volumes and Pump Schedule:

10 bbl water spacer

40 bbl 10.5 ppg Toned Spacer III

Cement

9.5 bbl 13.0 ppg cap cement – 36.7 sacks

1.46 ft³/sack Yield, 6.92 gal/sack Water Requirement

ELASTICEM V

Versaset (PB) 0.20% BWOC

HALAD 766 0.25% BWOC

HALAD 344 0.20% BWOC

122.2 bbl 13.0 ppg lead cement foamed to 10.00lb (159.0 bbls) – Use 470 sacks calculated/simulated

1.46 ft³/sack Yield, 1.90 ft³/sack Foamed Yield, 6.92 gal/sack Water Requirement

ELASTICEM V

Versaset (PB) 0.20% BWOC

HALAD 766 0.25% BWOC

HALAD 344 0.20% BWOC

Foamer 760 2.5% BVOW

23.2 bbl 13.5 ppg tail cement – 100 sacks

1.3 ft³/sack Yield, 5.81 gal/sack Water Requirement

ELASTICEM G

Versaset (PB) 0.20% BWOC

HALAD 766 0.15% BWOC

SA-1015 0.05% BWOC

Drop Plug

40 bbl MMCR water for RSI tool

134.8 bbl water to displace plug

LOGGING PROGRAM

Mudlogs: KOP to TD

DRILLING

This well will be sidetracked inside 7" casing to drill a horizontal well. The well will be drilled with water based mud and the anticipated fluid weight will be 8.8 - 10 ppg. The production liner will be cemented and perforated. Anticipated reservoir pressure can be as high as 1500 psi.

WELLHEAD

11" 3000 x 9-5/8" weld/slip on casing head. 9-5/8" x 7" x 2-3/8" 3000 psi flanged wellhead

BOP SPECIFICATIONS

A 3,000 psi minimum double ram or annulus BOP stack will be used to nipple up. A 2" nominal 2,000 psi minimum choke manifold will be used. An IBOP and TIW should be available to fit each drill string and be available on the rig floor during drilling operations. At a minimum pressure test BOP to 250 psi low for 15 minutes and 1600 psi high for 15 minutes.

OTHER INFORMATION

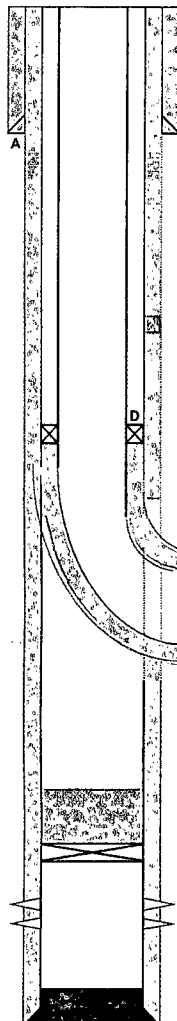
1. The Dakota formation will be P&A with a CIBP set at $\pm$ 5800' with a 150' cement plug ($\pm$ 6 bbls, cls B, 15.6 ppg) on top of it
2. Window location may change due to results of MIT.
3. No abnormal temperatures or pressures are anticipated.
4. Drilling Operation will utilize a closed-loop system. All cuttings will be hauled to a commercial disposal facility or land farm.

GCU 247E - SIDE TRACK

Well: Co, STATE: San Juan, New Mexico PROPOSED
 Date: API No.: 30-045-26335

TUBULAR DETAILS						
#	STRING	Size	Wt	Grade	Thread	Depth (T) Depth (B)
A	SURFACE	9 5/8	36.0	K55		Surface 332
B	PRODUCTION	7	23.0	K55		Surface 6047
C	PROD LINER	4.5	11.6	P-110	8R EUE	4540 ±
D	FRAC STRING	4.5	11.6	P-110	8R EUE	Surface

MIGH BE RUN TO SURFACE



GL 5700'
 KB 5712'

Surface Csg

12 1/4" hole
 9 5/8", 36#, K55 @ 332'
 325 cft B
 TOC @ surf (circ)

DV Tool @ 3029'

KOP @
 4640' ±

Cement plug - TOC @ ± 5650'
 (6 bbls, cls B cement, 15.6 ppg)

CIBP @ 5800' ±

DK Perfs

5844 - 5860'
 5984 - 5926'
 5942 - 5958'
 frac w/ 85K gals 69 Q foam &
 148K # 20/40

Prod Csg (B)

8 1/2" hole
 7", 23#, K55 @ 6047'
 Stage 1 - 492 cft B lead; 484 cft B tail
 Stage 2 - 920 cft B
 TOC @ surf (circ both stages)

PBTD 6001'
 TD 6047'

MDTD 12612' ±
 TVD 5125' ±

OIL CONS. DIV DIST. 3

JAN 14 2015

B.P.

San Juan County, NM NAD83

Gallegos Canyon Unit

GCU 247E

Lateral OH

Plan: Plan #1

Standard Planning Report

22 December, 2014



Scientific Drilling

www.scientificdrilling.com

Company: B.P.
 Project: San Juan County, NM NAD83
 Site: Gallegos Canyon Unit
 Well: GCU 247E
 Wellbore: Lateral OH
 Design: Plan #1

PROJECT DETAILS: San Juan County, NM NAD83

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Western Zone
 System Datum: Mean Sea Level
 Local North: Grid



WELL DETAILS: GCU 247E

GL 5702.2' & RKB 17' @ 5719.20ft
 +N/-S +E/-W Northing Easting Latitude Longitude
 0.00 0.00 2037787.54 2636085.65 36.5998437 -108.1297444

Plan: Plan #1 (GCU 247E/Lateral OH)

Created By: Janie Collins Date: 16:11, December 22 2014

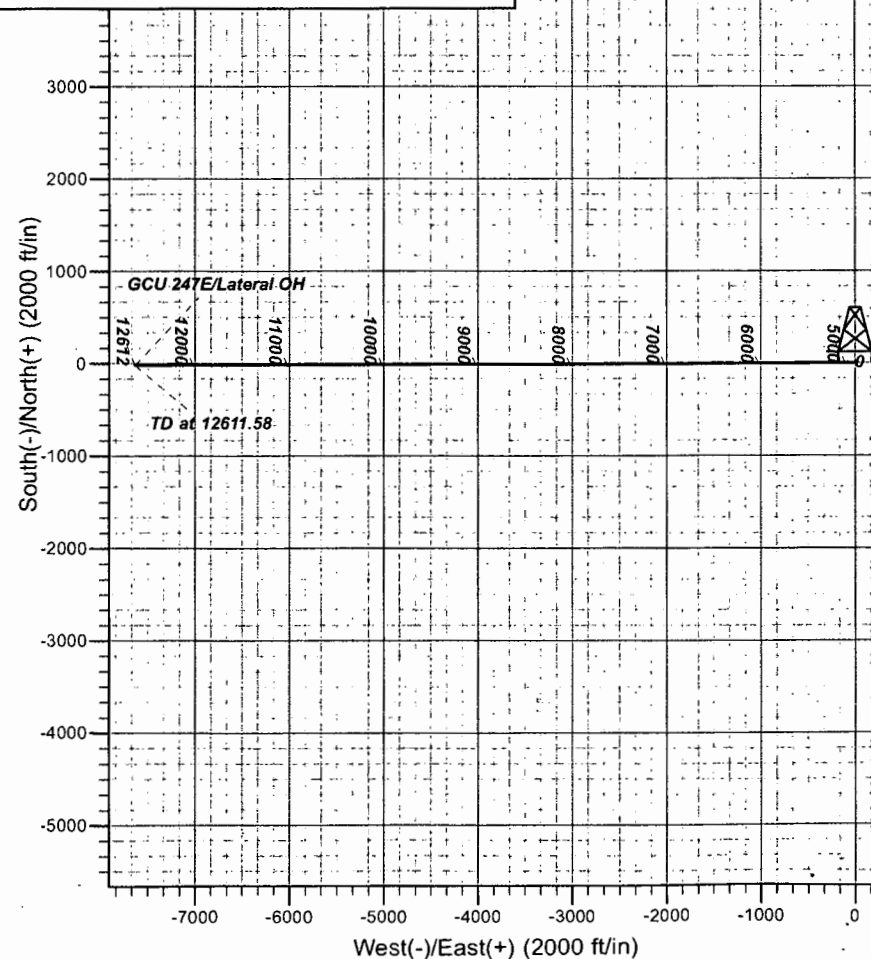
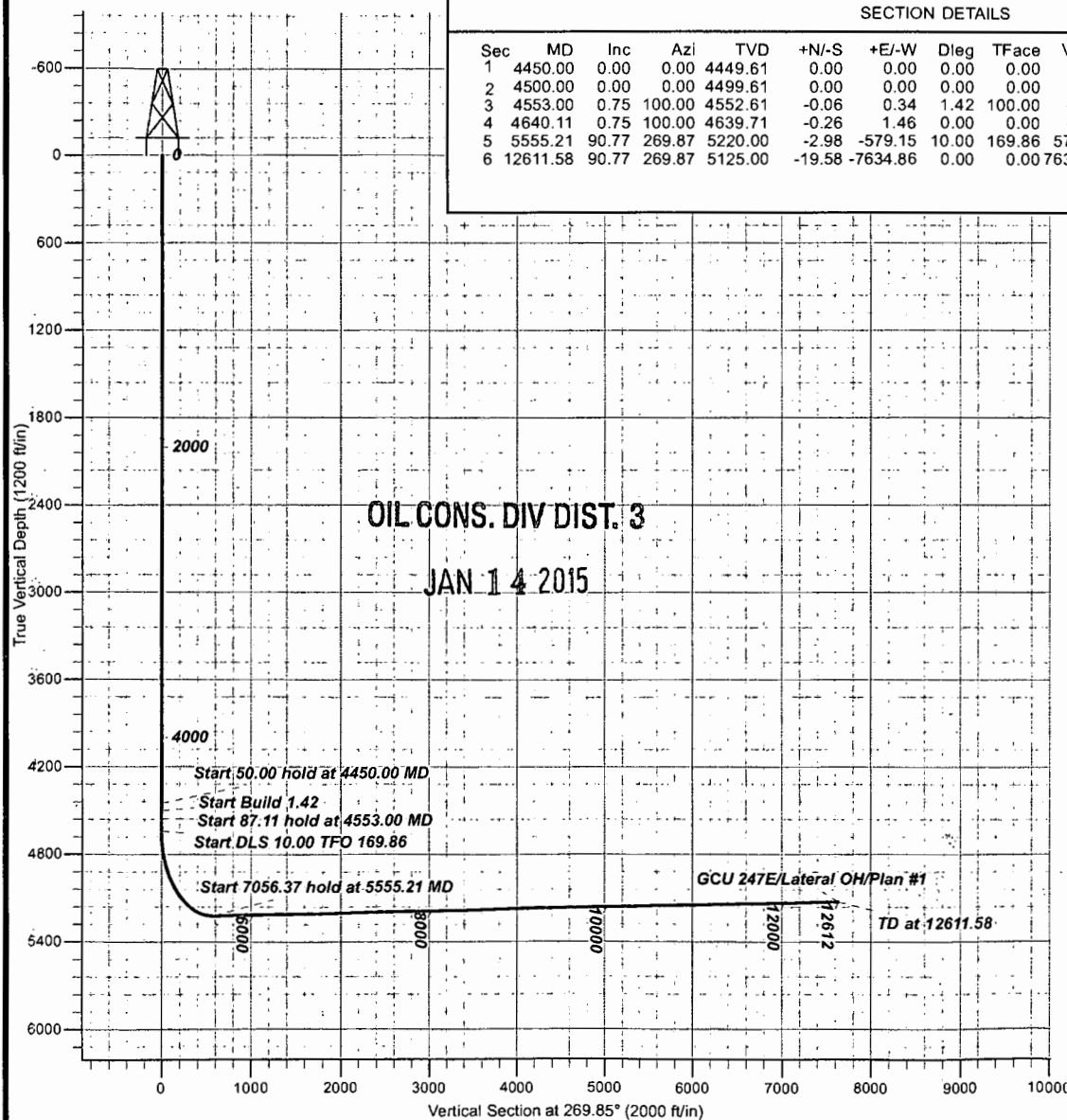


Azimuths to Grid North
 True North: 0.18°
 Magnetic North: 9.87°

Magnetic Field
 Strength: 50169.2snT
 Dip Angle: 63.21°
 Date: 12/19/2014
 Model: BGGM2014

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target	Annotation
1	4450.00	0.00	0.00	4449.61	0.00	0.00	0.00	0.00	0.00		
2	4500.00	0.00	0.00	4499.61	0.00	0.00	0.00	0.00	0.00		
3	4553.00	0.75	100.00	4552.61	-0.06	0.34	1.42	100.00	-0.34		
4	4640.11	0.75	100.00	4639.71	-0.26	1.46	0.00	0.00	-1.46		
5	5555.21	90.77	269.87	5220.00	-2.98	-579.15	10.00	169.86	579.16		
6	12611.58	90.77	269.87	5125.00	-19.58	-7634.86	0.00	0.00	7634.89	GCU 247E PBHL	



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GCU 247E
Company:	B.P.	TVD Reference:	GL 5702.2' & RKB 17' @ 5719.20ft
Project:	San Juan County, NM NAD83	MD Reference:	GL 5702.2' & RKB 17' @ 5719.20ft
Site:	Gallegos Canyon Unit	North Reference:	Grid
Well:	GCU 247E	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral OH		
Design:	Plan #1		

Project:	San Juan County, NM NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site:	Gallegos Canyon Unit		
Site Position:		Northing:	2,037,787.54 usft
From:	Lat/Long	Easting:	2,636,085.65 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Grid Convergence:	-0.18 °

Well:	GCU 247E		
Well Position	+N/-S	0.00 ft	Northing: 2,037,787.54 usft
	+E/-W	0.00 ft	Easting: 2,636,085.65 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft
		Ground Level:	5,702.20 ft

Wellbore:	Lateral OH		
Magnetics	Model Name	Sample Date	Declination
	BGGM2014	12/19/2014	9.69
			63.21
			50,169

Design:	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 4,450.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			269.85

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
4,450.00	0.00	0.00	4,449.61	0.00	0.00	0.00	0.00	0.00	0.00	
4,500.00	0.00	0.00	4,499.61	0.00	0.00	0.00	0.00	0.00	0.00	
4,553.00	0.75	100.00	4,552.61	-0.06	0.34	1.42	1.42	0.00	100.00	
4,640.11	0.75	100.00	4,639.71	-0.26	1.46	0.00	0.00	0.00	0.00	
5,555.21	90.77	269.87	5,220.00	-2.98	-579.15	10.00	9.84	18.56	169.86	
12,611.58	90.77	269.87	5,125.00	-19.58	-7,634.86	0.00	0.00	0.00	0.00	GCU 247E PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GCU 247E
Company:	B.P.	TVD Reference:	GL 5702.2' & RKB 17' @ 5719.20ft
Project:	San Juan County, NM NAD83	MD Reference:	GL 5702.2' & RKB 17' @ 5719.20ft
Site:	Gallegos Canyon Unit	North Reference:	Grid
Well:	GCU 247E	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral OH		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,450.00	0.00	0.00	4,449.61	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,499.61	0.00	0.00	0.00	0.00	0.00	0.00
4,553.00	0.75	100.00	4,552.61	-0.06	0.34	-0.34	1.42	1.42	0.00
4,600.00	0.75	100.00	4,599.61	-0.17	0.95	-0.95	0.00	0.00	0.00
4,640.11	0.75	100.00	4,639.71	-0.26	1.46	-1.46	0.00	0.00	0.00
4,700.00	5.25	268.43	4,699.53	-0.40	-0.89	0.89	10.00	7.52	281.23
4,800.00	15.25	269.38	4,797.81	-0.67	-18.66	18.67	10.00	10.00	0.95
4,900.00	25.25	269.58	4,891.51	-0.97	-53.23	53.23	10.00	10.00	0.20
5,000.00	35.25	269.68	4,977.78	-1.29	-103.55	103.55	10.00	10.00	0.09
5,100.00	45.25	269.73	5,054.01	-1.62	-168.08	168.08	10.00	10.00	0.06
5,200.00	55.25	269.77	5,117.87	-1.95	-244.86	244.87	10.00	10.00	0.04
5,300.00	65.25	269.80	5,167.43	-2.27	-331.57	331.58	10.00	10.00	0.03
5,400.00	75.25	269.83	5,201.17	-2.57	-425.57	425.58	10.00	10.00	0.03
5,500.00	85.25	269.85	5,218.09	-2.84	-524.00	524.01	10.00	10.00	0.02
5,555.21	90.77	269.87	5,220.00	-2.98	-579.15	579.16	10.00	10.00	0.02
5,600.00	90.77	269.87	5,219.40	-3.08	-623.94	623.95	0.00	0.00	0.00
5,700.00	90.77	269.87	5,218.05	-3.32	-723.93	723.94	0.00	0.00	0.00
5,800.00	90.77	269.87	5,216.71	-3.56	-823.92	823.93	0.00	0.00	0.00
5,900.00	90.77	269.87	5,215.36	-3.79	-923.92	923.92	0.00	0.00	0.00
6,000.00	90.77	269.87	5,214.01	-4.03	-1,023.91	1,023.91	0.00	0.00	0.00
6,100.00	90.77	269.87	5,212.67	-4.26	-1,123.90	1,123.90	0.00	0.00	0.00
6,200.00	90.77	269.87	5,211.32	-4.50	-1,223.89	1,223.90	0.00	0.00	0.00
6,300.00	90.77	269.87	5,209.97	-4.73	-1,323.88	1,323.89	0.00	0.00	0.00
6,400.00	90.77	269.87	5,208.63	-4.97	-1,423.87	1,423.88	0.00	0.00	0.00
6,500.00	90.77	269.87	5,207.28	-5.20	-1,523.86	1,523.87	0.00	0.00	0.00
6,600.00	90.77	269.87	5,205.93	-5.44	-1,623.85	1,623.86	0.00	0.00	0.00
6,700.00	90.77	269.87	5,204.59	-5.67	-1,723.84	1,723.85	0.00	0.00	0.00
6,800.00	90.77	269.87	5,203.24	-5.91	-1,823.83	1,823.84	0.00	0.00	0.00
6,900.00	90.77	269.87	5,201.90	-6.14	-1,923.82	1,923.83	0.00	0.00	0.00
7,000.00	90.77	269.87	5,200.55	-6.38	-2,023.81	2,023.82	0.00	0.00	0.00
7,100.00	90.77	269.87	5,199.20	-6.61	-2,123.80	2,123.81	0.00	0.00	0.00
7,200.00	90.77	269.87	5,197.86	-6.85	-2,223.79	2,223.80	0.00	0.00	0.00
7,300.00	90.77	269.87	5,196.51	-7.08	-2,323.78	2,323.80	0.00	0.00	0.00
7,400.00	90.77	269.87	5,195.16	-7.32	-2,423.78	2,423.79	0.00	0.00	0.00
7,500.00	90.77	269.87	5,193.82	-7.55	-2,523.77	2,523.78	0.00	0.00	0.00
7,600.00	90.77	269.87	5,192.47	-7.79	-2,623.76	2,623.77	0.00	0.00	0.00
7,700.00	90.77	269.87	5,191.13	-8.03	-2,723.75	2,723.76	0.00	0.00	0.00
7,800.00	90.77	269.87	5,189.78	-8.26	-2,823.74	2,823.75	0.00	0.00	0.00
7,900.00	90.77	269.87	5,188.43	-8.50	-2,923.73	2,923.74	0.00	0.00	0.00
8,000.00	90.77	269.87	5,187.09	-8.73	-3,023.72	3,023.73	0.00	0.00	0.00
8,100.00	90.77	269.87	5,185.74	-8.97	-3,123.71	3,123.72	0.00	0.00	0.00
8,200.00	90.77	269.87	5,184.39	-9.20	-3,223.70	3,223.71	0.00	0.00	0.00
8,300.00	90.77	269.87	5,183.05	-9.44	-3,323.69	3,323.70	0.00	0.00	0.00
8,400.00	90.77	269.87	5,181.70	-9.67	-3,423.68	3,423.70	0.00	0.00	0.00
8,500.00	90.77	269.87	5,180.35	-9.91	-3,523.67	3,523.69	0.00	0.00	0.00
8,600.00	90.77	269.87	5,179.01	-10.14	-3,623.66	3,623.68	0.00	0.00	0.00
8,700.00	90.77	269.87	5,177.66	-10.38	-3,723.65	3,723.67	0.00	0.00	0.00
8,800.00	90.77	269.87	5,176.32	-10.61	-3,823.64	3,823.66	0.00	0.00	0.00
8,900.00	90.77	269.87	5,174.97	-10.85	-3,923.64	3,923.65	0.00	0.00	0.00
9,000.00	90.77	269.87	5,173.62	-11.08	-4,023.63	4,023.64	0.00	0.00	0.00
9,100.00	90.77	269.87	5,172.28	-11.32	-4,123.62	4,123.63	0.00	0.00	0.00
9,200.00	90.77	269.87	5,170.93	-11.55	-4,223.61	4,223.62	0.00	0.00	0.00
9,300.00	90.77	269.87	5,169.58	-11.79	-4,323.60	4,323.61	0.00	0.00	0.00
9,400.00	90.77	269.87	5,168.24	-12.02	-4,423.59	4,423.60	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GCU 247E
Company:	B.P.	TVD Reference:	GL 5702.2' & RKB 17' @ 5719.20ft
Project:	San Juan County, NM NAD83	MD Reference:	GL 5702.2' & RKB 17' @ 5719.20ft
Site:	Gallegos Canyon Unit	North Reference:	Grid
Well:	GCU 247E	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,500.00	90.77	269.87	5,166.89	-12.26	-4,523.58	4,523.60	0.00	0.00	0.00
9,600.00	90.77	269.87	5,165.55	-12.50	-4,623.57	4,623.59	0.00	0.00	0.00
9,700.00	90.77	269.87	5,164.20	-12.73	-4,723.56	4,723.58	0.00	0.00	0.00
9,800.00	90.77	269.87	5,162.85	-12.97	-4,823.55	4,823.57	0.00	0.00	0.00
9,900.00	90.77	269.87	5,161.51	-13.20	-4,923.54	4,923.56	0.00	0.00	0.00
10,000.00	90.77	269.87	5,160.16	-13.44	-5,023.53	5,023.55	0.00	0.00	0.00
10,100.00	90.77	269.87	5,158.81	-13.67	-5,123.52	5,123.54	0.00	0.00	0.00
10,200.00	90.77	269.87	5,157.47	-13.91	-5,223.51	5,223.53	0.00	0.00	0.00
10,300.00	90.77	269.87	5,156.12	-14.14	-5,323.50	5,323.52	0.00	0.00	0.00
10,400.00	90.77	269.87	5,154.77	-14.38	-5,423.50	5,423.51	0.00	0.00	0.00
10,500.00	90.77	269.87	5,153.43	-14.61	-5,523.49	5,523.51	0.00	0.00	0.00
10,600.00	90.77	269.87	5,152.08	-14.85	-5,623.48	5,623.50	0.00	0.00	0.00
10,700.00	90.77	269.87	5,150.74	-15.08	-5,723.47	5,723.49	0.00	0.00	0.00
10,800.00	90.77	269.87	5,149.39	-15.32	-5,823.46	5,823.48	0.00	0.00	0.00
10,900.00	90.77	269.87	5,148.04	-15.55	-5,923.45	5,923.47	0.00	0.00	0.00
11,000.00	90.77	269.87	5,146.70	-15.79	-6,023.44	6,023.46	0.00	0.00	0.00
11,100.00	90.77	269.87	5,145.35	-16.02	-6,123.43	6,123.45	0.00	0.00	0.00
11,200.00	90.77	269.87	5,144.00	-16.26	-6,223.42	6,223.44	0.00	0.00	0.00
11,300.00	90.77	269.87	5,142.66	-16.49	-6,323.41	6,323.43	0.00	0.00	0.00
11,400.00	90.77	269.87	5,141.31	-16.73	-6,423.40	6,423.42	0.00	0.00	0.00
11,500.00	90.77	269.87	5,139.97	-16.97	-6,523.39	6,523.41	0.00	0.00	0.00
11,600.00	90.77	269.87	5,138.62	-17.20	-6,623.38	6,623.41	0.00	0.00	0.00
11,700.00	90.77	269.87	5,137.27	-17.44	-6,723.37	6,723.40	0.00	0.00	0.00
11,800.00	90.77	269.87	5,135.93	-17.67	-6,823.36	6,823.39	0.00	0.00	0.00
11,900.00	90.77	269.87	5,134.58	-17.91	-6,923.36	6,923.38	0.00	0.00	0.00
12,000.00	90.77	269.87	5,133.23	-18.14	-7,023.35	7,023.37	0.00	0.00	0.00
12,100.00	90.77	269.87	5,131.89	-18.38	-7,123.34	7,123.36	0.00	0.00	0.00
12,200.00	90.77	269.87	5,130.54	-18.61	-7,223.33	7,223.35	0.00	0.00	0.00
12,300.00	90.77	269.87	5,129.19	-18.85	-7,323.32	7,323.34	0.00	0.00	0.00
12,400.00	90.77	269.87	5,127.85	-19.08	-7,423.31	7,423.33	0.00	0.00	0.00
12,500.00	90.77	269.87	5,126.50	-19.32	-7,523.30	7,523.32	0.00	0.00	0.00
12,600.00	90.77	269.87	5,125.16	-19.55	-7,623.29	7,623.31	0.00	0.00	0.00
12,611.58	90.77	269.87	5,125.00	-19.58	-7,634.86	7,634.89	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
GCU 247E PBHL	0.00	360.00	5,125.00	-19.58	-7,634.86	2,037,767.96	2,628,450.80	36.5997224	-108.1557542
- plan hits target center									
- Point									
GCU 247E LP	0.00	0.00	5,220.00	-22.44	-655.21	2,037,765.10	2,635,430.44	36.5997764	-108.1319764
- plan misses target center by 19.31ft at 5631.30ft MD (5218.98 TVD, -3.16 N, -655.24 E)									
- Point									

BLM CONDITIONS OF APPROVAL

CASING REPAIR, WORKOVER AND RECOMPLETION OPERATIONS:

1. If casing repair operations are needed, obtain prior approval from this office before commencing repairs. If a CBL or other logs are run, provide this office with a copy.
2. After any casing repair operations, test cement squeeze to a minimum of 500# for 30 minutes with no more than 10 % pressure fall off in the 30 minute test period. Provide test chart with your subsequent report of operations
3. A properly functioning BOP and related equipment must be installed prior to commencing workover, casing repair, and/or recompletion operations.
4. Contact this office at (505) 564-7750 prior to conducting any cementing operations: Please contact Troy Salyers @ (505) 608-1989 if casing leaks are identified and a plan of repair is established.

SPECIAL STIPULATIONS:

1. **Pits will be fenced during work-over operation.**
2. **All disturbance will be kept on existing pad.**
3. **All pits will be pulled and closed immediately upon completion of the recompletion and work-over activities.**
4. **Pits will be lined with an impervious material at least 12 mils thick.**