

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work DRILL	5. Lease Number NMSF-079937 Unit Reporting Number	
1b. Type of Well GAS	6. If Indian, All. or Tribe	
2. Operator BURLINGTON RESOURCES Oil & Gas Company, LP	7. Unit Agreement Name RCVD OCT 25 '10 OIL CONS. DIV. DIST. 3	
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499 (505) 326-9700	8. Farm or Lease Name Turner Hughes 9. Well Number #16M	
4. Location of Well Surf: Unit G (SWNE), 1545' FNL & 1440' FEL Unit B (NWNE), 710' FNL & 1930' FEL Surf: Latitude 36° 35.56243 N Longitude 107° 45.19219 W BH: Latitude 36° 35.69851 N Longitude 107° 45.29119 W	10. Field, Pool, Wildcat Blanco MV/Basin DK 11. Sec., Twn, Rge, Mer. (NMPM) Sec. 11, T27N, R9W API # 30-045-34462	
14. Distance in Miles from Nearest Town 15 mile/Blanco	12. County San Juan	13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 710'		
16. Acres in Lease 640	17. Acres Assigned to Well MV/DK 320 (N/2)	
18. Distance from Proposed Location to Nearest Well, Drig, Compl, or Applied for on this Lease 100' from Turner Hughes 13/MV		
19. Proposed Depth 6668' TVD/6867' TMD	20. Rotary or Cable Tools Rotary	
21. Elevations (DF, FT, GR, Etc.) 6022' GL	22. Approx. Date Work will Start	
23. Proposed Casing and Cementing Program See Operations Plan attached		
24. Authorized by: <u>Rhonda Rogers</u> Rhonda Rogers (Regulatory Technician)	10-10-07 Date	

PERMIT NO.

APPROVAL DATE

APPROVED BY D. Montez

TITLE APM

DATE 10/18/2000

Archaeological Report attached

Threatened and Endangered Species Report attached

NOTE: This format is issued in lieu of U.S. BLM Form 3160-3

Title 18 U.S.C. Section 1001, makes 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 presentations as to any matter within its jurisdiction.

Example Master Plan Type 3

Bond Numbers NMB-000015 and NMB-000089

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS".

DEC 02 2000
NMOCD

This action is subject to technical and
procedural review pursuant to 43 CFR 3165.3
and appeal pursuant to 43 CFR 3165.4

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised October 12, 2005

DISTRICT II
1301 W. Grand Avenue, Artesia, N.M. 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, NM 87505

Bureau of Land Management
Farmington Field Office

Submit to: Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

OCT 10 2007

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-34462	² Pool Code 72319/71599	³ Pool Name BASIN DAKOTA/BLANCO MESA VERDE
⁴ Property Code 7614	⁵ Property Name TURNER HUGHES	⁶ Well Number 16M
⁷ OGRID No. 14538	⁸ Operator Name BURLINGTON RESOURCES O&G CO LP	⁹ Elevation 6022'

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
G	11	27N	9W		1545'	NORTH	1440'	EAST	SAN JUAN

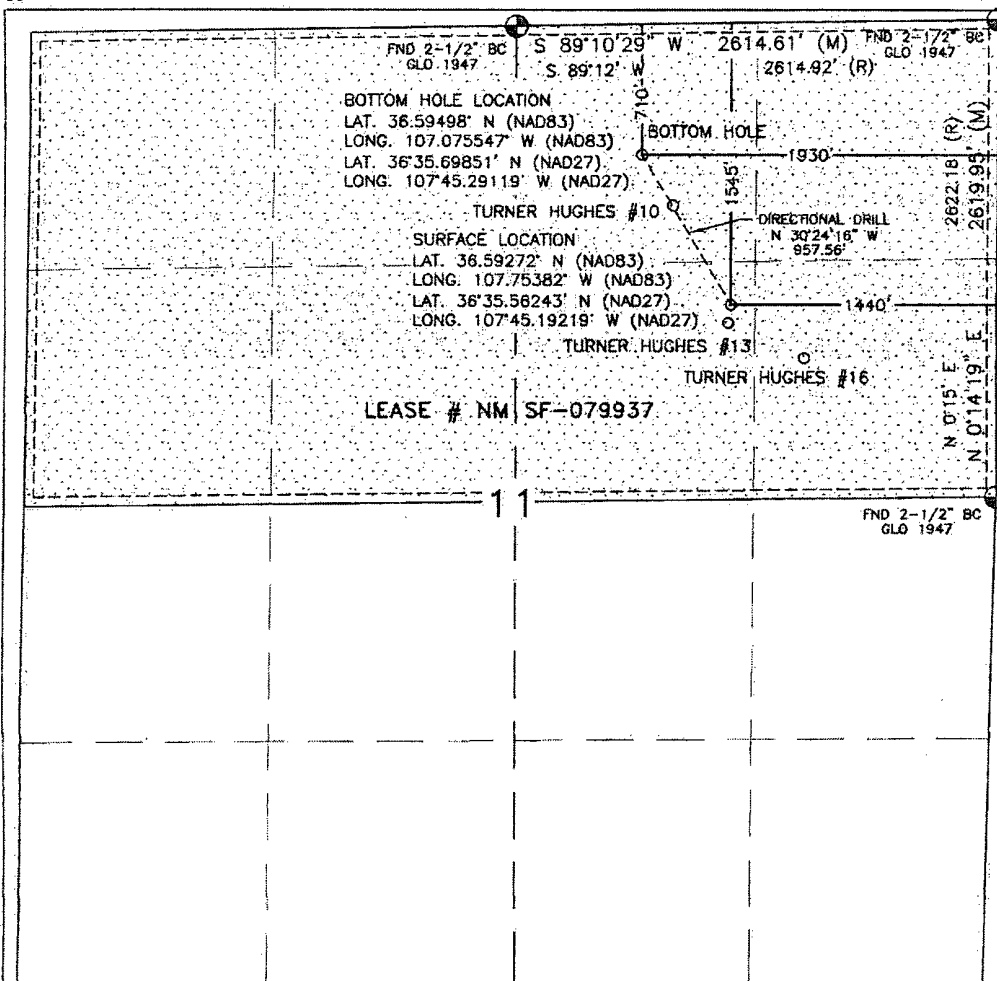
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	11	27N	9W		710'	NORTH	1930'	EAST	SAN JUAN

¹² Dedicated Acres 320 N/2	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

16



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 or a compulsory pooling order heretofore entered by the division.

Signature

Date

Rhonda Rogers

Printed Name

18 SURVEYOR CERTIFICATION

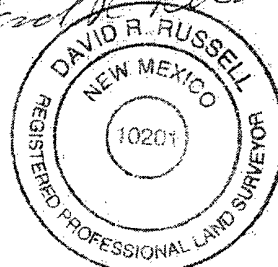
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

JUNE 8, 2007

Date of Survey

Signature and Seal of Professional Surveyor

David R. Russell



DAVID RUSSELL

Certificate Number

10201

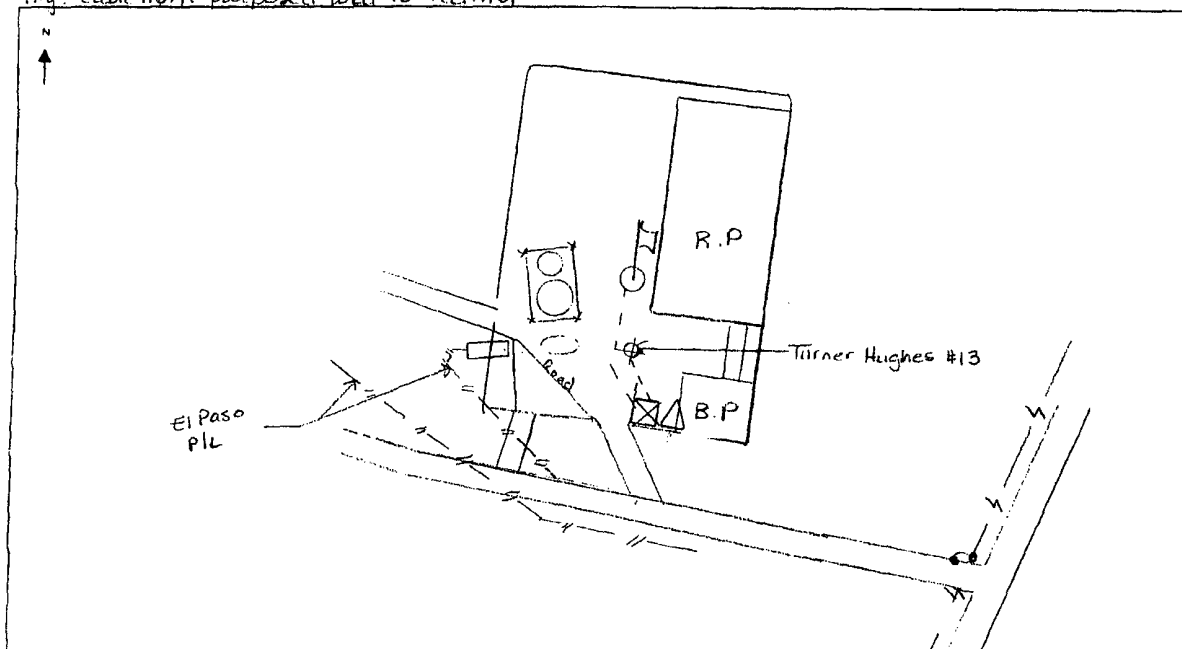


TECHNICAL SERVICES
A CORROSION COMPANY

CATHODIC PROTECTION PLAN FOR NEW WELLS

WELL NAME Turner Hughes #16M LEGALS G-11-27-9 COUNTY San Juan

PURPOSED C.P. SYSTYEM: Drill GB and set rectifier on southedge of location. Set M.P. off
existing SP running on side of Taas. and trench approx 800' of A/C to rectifier.
Trench approx 100' of #8 neg from existing Turner Hughes #13 to rectifier. Trench approx 200' of #8
neg. cable from purposed well to rectifier



COMMENTS: Solar on existing location just SE

NEAREST POWER SOURCE Overhead A/C DISTANCE: 800'
PIPELINES IN AREA: El Paso P/L

TECHNICIAN: Michael H. Hargrave DATE: 5/22/07

6 CR 5412 BLOOMFIELD, N.M. 87413
OFFICE: 505-634-0271 CELL: 505-793-6953

PROJECT PROPOSAL - New Drill / Sidetrack

San Juan Business Unit

TURNER HUGHES 16M

DEVELOPMENT

Lease:		AFE #: WAN.ZA2.0560/0561MV				AFE \$:	
Field Name: hBR_SAN JUAN		Rig: Aztec Rig 673		State: NM	County: SAN JUAN		API #:
Geologist:		Phone:		Geophysicist:		Phone:	
Geoscientist: Head, Chip F		Phone: 505-326-9772		Prod. Engineer:		Phone:	
Res. Engineer: McKee, Cory J		Phone: 505-326-9826		Proj. Field Lead:		Phone:	
Primary Objective (Zones):							
Zone	Zone Name						
R20002	MESAVERDE(R20002)						
R20076	DAKOTA(R20076)						
Location: Surface		Datum Code: NAD 27				Deviated	
Latitude: 36.592712	Longitude: -107.753206	X:	Y:	Section: 11		Range: 009W	
Footage X: 1440 FEL		Footage Y: 1545 FNL		Elevation: 6022 (FT)	Township: 027N		
Tolerance:							
Location: Bottom Hole		Datum Code: NAD 27				Deviated	
Latitude: 36.594969	Longitude: -107.754856	X:	Y:	Section: 11		Range: 009W	
Footage X: 1930 FEL		Footage Y: 710 FNL		Elevation: (FT)	Township: 027N		
Tolerance:							
Location Type: Year Round		Start Date (Est.): 1/1/2008		Completion Date:		Date In Operation:	
Formation Data: Assume KB = 6034 Units = FT							
Formation Call & Casing Points	Depth (TVD in Ft)	SS (Ft)	Depletion (Yes/No)	BHP (PSIG)	BHT	Remarks	
Surface Casing	200	5834	☐			12-1/4 hole. 200' 9 5/8" 32.3 ppf, H-40, STC casing. Cement with 203 cuft. Circulate cement to surface.	
OJO ALAMO	1184	4850	☐				
KIRTLAND	1254	4780	☐				
FRUITLAND	1874	4160	☐			Possible Gas	
PICTURED CLIFFS	2099	3935	☐				
LEWIS	2259	3775	☐				
HUERFANITO BENTONITE	2604	3430	☐				
CHACRA	3010	3024	☐				
Intermediate Casing	3160	2874	☐			8 3/4" Hole. 7", 20 ppf, J-55, STC Casing. Cement with 746 cuft. Circulate cement to surface.	
MASSIVE CLIFF HOUSE	3634	2400	☐	595		Gas	
MENELEE	3676	2358	☐				
MASSIVE POINT LOOKOUT	4364	1670	☐				
MANCOS	4714	1320	☐				
UPPER GALLUP	5562	472	☐				
GREENHORN	6327	-293	☐				
GRANEROS	6391	-357	☐				
TWO WELLS	6439	-405	☐	1925		Gas	
PAGUATE	6494	-460	☐				
CUBERO	6554	-520	☐				
ENCINAL	6634	-600	☐				
TOTAL DEPTH DK	6668	-634	☐			6-1/4" Hole. 4-1/2", 10.6/11.6 ppf, J-55 STC/LTC casing. Cement with 480 cuft. Circulate cement a minimum of 100' inside the previous casing string.	

PROJECT PROPOSAL - New Drill / Sidetrack

TURNER HUGHES 16M

DEVELOPMENT

Reference Wells:		
Reference Type	Well Name	Comments

Logging Program:	
Intermediate Logs:	☐ Log only if show ☐ GR/ILD ☐ Triple Combo

TD Logs:	☐ Triple Combo ☐ Dipmeter ☐ RFT ☐ Sonic ☐ VSP ☐ TDT ☒ Other
GR/CBL. Mudlog from ~100' above the Greenhorn to TD. TD should be ~194' below the top of the Paguate.	

Additional Information:					
Log Type	Stage	From (Ft)	To (Ft)	Tool Type/Name	Remarks

Comments: Location/Tops/Logging - DK 27N09211NE2 and MV 27N09W11NE2. Est bottom perf: -614' subsea.

Zones - DK 27N09211NE2 and MV 27N09W11NE2

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Sundry Notices and Reports on Wells

1. Type of Well
GAS

DEC 21 2007

Bureau of Land Management
Farmington Field Office

2. Name of Operator
BURLINGTON
RESOURCES OIL & GAS COMPANY LP

3. Address & Phone No. of Operator

PO Box 4289, Farmington, NM 87499 (505) 326-9700

4. Location of Well, Footage, Sec., T, R, M

Surf: UnitG (SWNE), 1545 FNL & 1440 FEL, Sec. 11, T27N, R9W NMPM
BH: UnitB (NWNE), 710 FNL & 1930 FEL, Sec. 11, T27N, R9W NMPM

5. Lease Number
NMSF-079937
6. If Indian, All. or
Tribe Name
7. Unit Agreement Name

8. Well Name & Number

Turner Hughes 16M
9. API Well No.

30-045-

10. Field and Pool

Basin DK / Blanco MV

San Juan, NM

12. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OTHER DATA

Type of Submission

Type of Action

☒ Notice of Intent ☐ Abandonment ☒ Change of Plans
☐ Subsequent Report ☐ Recompletion ☐ New Construction
☐ Final Abandonment ☐ Plugging ☐ Non-Routine Fracturing
☐ ☐ Casing Repair ☐ Water Shut off
☐ ☐ Altering Casing ☐ Conversion to Injection

☒ Other - Change interm. setting depth

RCVD OCT 23 10
OIL CONS. DIV.
DIST. 3

13. Describe Proposed or Completed Operations

Burlington would like to change the intermediate setting depth from APD depth of 3160' to 3826'.

Cmt will be adjusted accordingly.

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

Signed Rhonda Rogers Rhonda Rogers Title Regulatory Technician Date 12/21/07

(This space for Federal or State Office use)

APPROVED BY [Signature] Title AFMDate 10/19/18

CONDITION OF APPROVAL, if any:

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

NMOCD

Burlington Resources

Turner Hughes #16M

T - 27 N Objective: M/V/DK Directional
R - 9 W Footages: 15-45' FNL, 1440' FEL
Sec 11

Rlg: AWS #673
GL: 6022'
KB: 6037'

BLM Phone #
505-599-8907
OCD Phone #
505-334-6178

APD/BLM: 7/25/2007
AFE #
WAN CDR. 7169

Lease #
NMSF-079937
Like Kind
125 \$/FT
APD TMD: 6862'

(248) Cost
\$857,775

San Juan Division - Drilling Program

In case of Major Emergency Call 911
Give the following information to Operator:

Well Name: Turner Hughes #16M
Latitude: 36 degrees, 35.5624 minutes
Longitude: 107 degrees, 45.1922 minutes

County: San Juan
State: NM

From Blanco, NM, travel East on HWY 64 2.1 miles to a mian dirt road on the right. Turn right and travel 3.2 miles to a "Y" and bear right. Crossing Largo Canyon go 0.6 miles to the west side of the canyon. Traveling southeast go 3.0 miles to Blanco Canyon and turn right. Travel 5.1 miles to Jaquez Canyon and turn right. Travel 0.5 miles to a dirt road on the right. Turn right and travel 0.5 miles to the existing well location to the Turner Hughes #13.

TVD		TMD	Geology	Drig Fluids	Hydraulics	Cement	Materials
0'	San Jose	0'	San Jose	Spud Mud	12 1/4" Reip	Type III cement with 3% CaCl ₂ and 1/4 pps cellulose.	1 Canoeon wellhead 1 Well-head fuzz cap 1 28 cu ft/sk
200'	SCP	200'	SCP	Drill out from under surface w/ Olsen Face Vbs 33-35, W/ 8.5-9.0 Ppg W/ 6.8 cc/30 min) Sweep hole with gelifier as needed. Don't hesitate to mud hole up!	8-3/4" HCM6062 6-12S 8-15K WOB 500 GPM/ 65 RPM	170 sks 1.28 cu ft/sk 120 ppg 5.77 gal per sk 200 gal fuzz cap 1 28 cu ft/sk	1 9-5/8" sawtooth guide shoe 3 Bow Type Centralizers 1 Wooden Plug Displacement
1194'	Old Alamo	1213'	Old Alamo	Drill out from under surface w/ Olsen Face Vbs 33-35, W/ 8.5-9.0 Ppg W/ 6.8 cc/30 min) Sweep hole with gelifier as needed. Don't hesitate to mud hole up!	1-Stage Intermediate Cement Procedure Prelush: 10 bbls FW, 10 bbls MF, 10 bbls FW Scavenger Premium Line w/ 3% CaCl ₂ 0.25 pps Cello-Flake, 5 pps LCM-1, 0.4% FL-52, 8% bentonite and 0.4% SMS LCM-1: 0.4% FL-52, 8% bentonite and 0.4% SMS	170 sks 1.28 cu ft/sk 120 ppg 5.77 gal per sk 200 gal fuzz cap 1 28 cu ft/sk	1 7/8" Float Shoe (Gemco) 1 7/8" Float Collar (Gemco) 3890 feet 7" - 23.0# L-80 LTRC
1254'	Kirland	1291'	Kirland	Drill out from under surface with directional tools	Lead Premium Line w/ 3% CaCl ₂ 0.25 pps Cello-Flake, 5 pps LCM-1, 0.4% FL-52, 8% bentonite and 0.4% SMS 530 sks 12.1 ppg 11.29 gal per sk 1121.2 cu ft	170 sks 1.28 cu ft/sk 120 ppg 5.77 gal per sk 200 gal fuzz cap 1 28 cu ft/sk	1 7/8" Float Shoe (Gemco) 1 7/8" Float Collar (Gemco) 3890 feet 7" - 23.0# L-80 LTRC
1733'	Stage Tool (I needed)	1800'	Stage Tool (I needed)	Drill out from under surface with directional tools	Lead Premium Line w/ 3% CaCl ₂ 0.25 pps Cello-Flake, 5 pps LCM-1, 0.4% FL-52, 8% bentonite and 0.4% SMS 530 sks 12.1 ppg 11.29 gal per sk 1121.2 cu ft	170 sks 1.28 cu ft/sk 120 ppg 5.77 gal per sk 200 gal fuzz cap 1 28 cu ft/sk	1 7/8" Float Shoe (Gemco) 1 7/8" Float Collar (Gemco) 3890 feet 7" - 23.0# L-80 LTRC
1874'	Fuiliand	1984'	Fuiliand	Drill out from under surface with directional tools	Lead Premium Line w/ 3% CaCl ₂ 0.25 pps Cello-Flake, 5 pps LCM-1, 0.4% FL-52, 8% bentonite and 0.4% SMS 530 sks 12.1 ppg 11.29 gal per sk 1121.2 cu ft	170 sks 1.28 cu ft/sk 120 ppg 5.77 gal per sk 200 gal fuzz cap 1 28 cu ft/sk	1 7/8" Float Shoe (Gemco) 1 7/8" Float Collar (Gemco) 3890 feet 7" - 23.0# L-80 LTRC
2099'	Pictured Cliffs	2236'	Pictured Cliffs	Drill out from under surface with directional tools	Lead Premium Line w/ 3% CaCl ₂ 0.25 pps Cello-Flake, 5 pps LCM-1, 0.4% FL-52, 8% bentonite and 0.4% SMS 530 sks 12.1 ppg 11.29 gal per sk 1121.2 cu ft	170 sks 1.28 cu ft/sk 120 ppg 5.77 gal per sk 200 gal fuzz cap 1 28 cu ft/sk	1 7/8" Float Shoe (Gemco) 1 7/8" Float Collar (Gemco) 3890 feet 7" - 23.0# L-80 LTRC
2259'	Lewis	2415'	Lewis	Drill out from under surface with directional tools	Lead Premium Line w/ 3% CaCl ₂ 0.25 pps Cello-Flake, 5 pps LCM-1, 0.4% FL-52, 8% bentonite and 0.4% SMS 530 sks 12.1 ppg 11.29 gal per sk 1121.2 cu ft	170 sks 1.28 cu ft/sk 120 ppg 5.77 gal per sk 200 gal fuzz cap 1 28 cu ft/sk	1 7/8" Float Shoe (Gemco) 1 7/8" Float Collar (Gemco) 3890 feet 7" - 23.0# L-80 LTRC
2604'	Huerfano Bentonite	2769'	Huerfano Bentonite	Drill out from under surface with directional tools	Lead Premium Line w/ 3% CaCl ₂ 0.25 pps Cello-Flake, 5 pps LCM-1, 0.4% FL-52, 8% bentonite and 0.4% SMS 530 sks 12.1 ppg 11.29 gal per sk 1121.2 cu ft	170 sks 1.28 cu ft/sk 120 ppg 5.77 gal per sk 200 gal fuzz cap 1 28 cu ft/sk	1 7/8" Float Shoe (Gemco) 1 7/8" Float Collar (Gemco) 3890 feet 7" - 23.0# L-80 LTRC
3010'	Chacra	3203'	Chacra	Drill out from under surface with directional tools	Lead Premium Line w/ 3% CaCl ₂ 0.25 pps Cello-Flake, 5 pps LCM-1, 0.4% FL-52, 8% bentonite and 0.4% SMS 530 sks 12.1 ppg 11.29 gal per sk 1121.2 cu ft	170 sks 1.28 cu ft/sk 120 ppg 5.77 gal per sk 200 gal fuzz cap 1 28 cu ft/sk	1 7/8" Float Shoe (Gemco) 1 7/8" Float Collar (Gemco) 3890 feet 7" - 23.0# L-80 LTRC
3676'	Mescalito	3869'	Mescalito	Drill out from under surface with directional tools	Lead Premium Line w/ 3% CaCl ₂ 0.25 pps Cello-Flake, 5 pps LCM-1, 0.4% FL-52, 8% bentonite and 0.4% SMS 530 sks 12.1 ppg 11.29 gal per sk 1121.2 cu ft	170 sks 1.28 cu ft/sk 120 ppg 5.77 gal per sk 200 gal fuzz cap 1 28 cu ft/sk	1 7/8" Float Shoe (Gemco) 1 7/8" Float Collar (Gemco) 3890 feet 7" - 23.0# L-80 LTRC
3826'	ICP	4020'	ICP	Drill out from under surface with directional tools	Lead Premium Line w/ 3% CaCl ₂ 0.25 pps Cello-Flake, 5 pps LCM-1, 0.4% FL-52, 8% bentonite and 0.4% SMS 530 sks 12.1 ppg 11.29 gal per sk 1121.2 cu ft	170 sks 1.28 cu ft/sk 120 ppg 5.77 gal per sk 200 gal fuzz cap 1 28 cu ft/sk	1 7/8" Float Shoe (Gemco) 1 7/8" Float Collar (Gemco) 3890 feet 7" - 23.0# L-80 LTRC

USED Diamond Air 6-1/4" Bit Marquis CVM62 on Halo Hammer	Run 1-3 #ft lube drills 30-40 RPM	Oxygen conc MUST be 8% or less while drilling into the top of Greenhorn. Reduce WOB to 2,000 & RPM to 25.
6327'	Greenhorn	6327'
6391'	Graneros	6391'
6439'	Two Wells	6439'
6554'	Cubero	6554'
6634'	Enchal	6634'
6688'	Total Depth	6688'

Environmental, Health & Safety

Opportunities are usually disguised as hard work, so most people don't recognize them." Ann Landers "Not particularly hard if you divide it into small jobs." Henry Ford

Goal	TRIR	FAT	Restricted Duty	OSHA Rec	1st Aid
Actual (8/16/07)	2.8	1	0	4	7
TRIR - Total Recordable Incident Rate per 200,000 man-hours.					

Environmental Goals:

- Zero Spills on Location
- Remove Trash from Roads and Locations

Onset Summary

Turner Hughes 17M DOK, 2007, 1.0 mi SW: Air drilled straight hole M/V/DK. NO problems indicated. Cemented 9 5/8" csg w/ 231' w/ 200% excess and 17 bbls to surface. Drilled 8 3/4" hole no losses. Cemented 7" csg @ 3975' w/ 125% excess and bbls to surface. 4 1/2" csg set @ 6775' cemented w/ 40% excess. TOC @ 3030.

Marshall 2M (MVDK, 2007, 1 mi SW): Air drilled straight hole. Drilled 12-1/4" hole to 234', ran and cmt'd 9-5/8" csg w/ 10C excess & cmt'd 18 bbls to surf. Drilled 8-3/4" hole to 3971', ran and cmt'd 7" csg w/ 115% excess & cmt'd 69 bbls to surf (1 stage Drilled 6-1/4" hole to 6772', and ran OH logs. Ran 4-1/2" N-80 csg. Cemented w/ 34% excess cmt and TOC was @ 4100', resulting in no overlap in previous csg (129' gap)

Operational Notes					
Directional Info					
Measured Depth	Inclination	Azimuth	Vertical Depth	Build Rate	Casing Pain
(ft)	(d)	(d)	(ft)	(d/100ft)	
0	0	0	0	0	
250	0	0	350	0	
1239.9	26.7	329.6	1208	3	
2464.3	26.7	329.6	2302	0	
3354.2	0	0	3160	-3	
6862.2	0	0	6668	0	ICP PCP
Drill out surface cmt with directional tools, TOH, and PU directional assembly at KOP of 350'					
A 6 1/2" E-Field MWD tool will be used					
Run 6 1/2" 7-8, 28 rot/gal, 5.0 stage, extended drilling motor for directional work. (Pg. 5-70 in Scientific Book)					
Target Info - Surface Owner Tribal					
Bottom hole location is 710' FNL and 1390' FEL					
Target is 825.7' N and 464.4' W from surface stake.					
BHL is 957.3' in azimuth of 329.6° from surface location.					
Target size is a 50' radius around the desired BHL.					
Operational Info					
Run 20 is of a 1 1/2" HeavyWale pipe for intermediate hole (supplied by Weatherford).					
Run 6 DCs for air BHA. Use 20 DCs if mud drilling necessary.					
Caliper everything that goes through the table.					
Notify 1st Delivery to strip location at least five days in advance.					
Pump cement job no greater than 4 BPM.					
Install drilling head rotating rubber once BHA is buried.					
Reserve pits must be fired.					
Well should take an estimated 14 days to drill.					
Have Bioole line					
Use Best of Life 2000 Pipe Dope for all casing strings					
Twinned with the Turner Hughes #13.					
Surface Owner- Tribal					
Call both regulatory agencies 24 hours in advance of BOP testing, spud, running csg, or cementing. Leave message if aft hours.					

Prepared: 12/19/2007

Prepared: Ben Tolman - Drilling Engineer

Reviewed: Shon Robinson - Drilling Engineer Advisor

Shon Robinson - Drilling Engineer Advisor

Approved: Ed Jackson - Drilling Superintendent

Ed Jackson - Drilling Superintendent

ConocoPhillips

Survey Report

Company:	ConocoPhillips Lower 48	Local Co-ordinate Reference:	Well: Turner Hughes #16M
Project:	San Juan Basin	TVD Reference:	WELL @ 6037.0ft (Original Well Elev)
Site:	Monty's Site for directional MV/DK wells	MD Reference:	WELL @ 6037.0ft (Original Well Elev)
Well:	Turner Hughes #16M	North Reference:	True
Wellbore:	Turner Hughes #16M	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM Central Planning

Project:	San Juan Basin, Mid-Continent Area		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico West 3003		Using geodetic scale factor

Site:	Monty's Site for directional MV/DK wells		
Site Position:		Northing:	m
From:	None	Easting:	m
Position Uncertainty:	0.0 ft	Slot Radius:	in
		Latitude:	
		Longitude:	
		Grid Convergence:	0.00 d

Well:	Turner Hughes #16M		
Well Position	+N/-S	0.0 ft	Northing: 0.00 m
	+E/-W	0.0 ft	Easting: 0.00 m
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Ground Level:	6,022.0 ft

Wellbore:	Turner Hughes #16M		
Magnetics	Model Name	Sample Date	Declination (d)
	BGGM2007	7/25/2007	-6.43
			Dip Angle (d)
			-28.87
			Field Strength (nT)
			31,547

Design:	Plan #1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.0	0.0	0.0
			Direction (d)
			329.59

Survey Tool Program	Date 7/25/2007		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
0.0	6,867.2	Plan #1 (Turner Hughes #16M)	MWD
			Description
			MWD - Standard

Planned Survey									
Measured Depth (ft)	Inclination (d)	Azimuth (d)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (d/100ft)	Build Rate (d/100ft)	Turn Rate (d/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
350.0	0.00	0.00	350.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	1.50	329.59	400.0	0.6	-0.3	0.7	3.00	3.00	0.00
500.0	4.50	329.59	499.8	5.1	-3.0	5.9	3.00	3.00	0.00
600.0	7.50	329.59	599.3	14.1	-8.3	16.3	3.00	3.00	0.00
700.0	10.50	329.59	698.0	27.6	-16.2	32.0	3.00	3.00	0.00
800.0	13.50	329.59	795.8	45.5	-26.7	52.8	3.00	3.00	0.00
900.0	16.50	329.59	892.4	67.8	-39.8	78.6	3.00	3.00	0.00
1,000.0	19.50	329.59	987.5	94.5	-55.4	109.5	3.00	3.00	0.00
1,100.0	22.50	329.59	1,080.9	125.4	-73.6	145.4	3.00	3.00	0.00

ConocoPhillips

Survey Report

Company:	ConocoPhillips Lower 48	Local Co-ordinate Reference:	Well Turner Hughes #16M
Project:	San Juan Basin	TVD Reference:	WELL @ 6037.0ft (Original Well Elev)
Site:	Monty's Site for directional MV/DK wells	MD Reference:	WELL @ 6037.0ft (Original Well Elev)
Well:	Turner Hughes #16M	North Reference:	True
Wellbore:	Turner Hughes #16M	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM Central Planning

Planned Survey

Measured Depth (ft)	Inclination (d)	Azimuth (d)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (d/100ft)	Build Rate (d/100ft)	Turn Rate (d/100ft)
1,200.0	25.50	329.59	1,172.2	160.5	-94.2	186.0	3.00	3.00	0.00
1,213.1	25.89	329.59	1,184.0	165.4	-97.0	191.7	3.00	3.00	0.00
Ojo Alamo									
1,255.1	27.15	329.59	1,221.6	181.6	-106.5	210.5	3.00	3.00	0.00
1,291.5	27.15	329.59	1,254.0	195.9	-114.9	227.1	0.00	0.00	0.00
Kirtland									
1,300.0	27.15	329.59	1,261.6	199.2	-116.9	231.0	0.00	0.00	0.00
1,400.0	27.15	329.59	1,350.5	238.6	-140.0	276.6	0.00	0.00	0.00
1,500.0	27.15	329.59	1,439.5	277.9	-163.1	322.3	0.00	0.00	0.00
1,600.0	27.15	329.59	1,528.5	317.3	-186.2	367.9	0.00	0.00	0.00
1,700.0	27.15	329.59	1,617.5	356.7	-209.3	413.5	0.00	0.00	0.00
1,800.0	27.15	329.59	1,706.4	396.0	-232.4	459.2	0.00	0.00	0.00
1,900.0	27.15	329.59	1,795.4	435.4	-255.5	504.8	0.00	0.00	0.00
1,988.3	27.15	329.59	1,874.0	470.1	-275.9	545.1	0.00	0.00	0.00
Fruitland									
2,000.0	27.15	329.59	1,884.4	474.7	-278.6	550.4	0.00	0.00	0.00
2,100.0	27.15	329.59	1,973.4	514.1	-301.7	596.1	0.00	0.00	0.00
2,200.0	27.15	329.59	2,062.4	553.5	-324.8	641.7	0.00	0.00	0.00
2,241.2	27.15	329.59	2,099.0	569.7	-334.3	660.5	0.00	0.00	0.00
Pictured Cliffs									
2,300.0	27.15	329.59	2,151.3	592.8	-347.9	687.4	0.00	0.00	0.00
2,400.0	27.15	329.59	2,240.3	632.2	-371.0	733.0	0.00	0.00	0.00
2,421.0	27.15	329.59	2,259.0	640.5	-375.8	742.6	0.00	0.00	0.00
Lewis									
2,454.0	27.15	329.59	2,288.4	653.4	-383.5	757.7	0.00	0.00	0.00
2,500.0	25.77	329.59	2,329.5	671.1	-393.8	778.1	3.00	-3.00	0.00
2,600.0	22.77	329.59	2,420.7	706.6	-414.6	819.3	3.00	-3.00	0.00
2,700.0	19.77	329.59	2,513.9	737.9	-433.0	855.5	3.00	-3.00	0.00
2,795.0	16.93	329.59	2,604.0	763.7	-448.1	885.4	3.00	-3.00	0.00
Huerf. Bent									
2,800.0	16.77	329.59	2,608.8	764.9	-448.9	886.9	3.00	-3.00	0.00
2,900.0	13.77	329.59	2,705.3	787.6	-462.2	913.2	3.00	-3.00	0.00
3,000.0	10.77	329.59	2,803.0	806.0	-473.0	934.5	3.00	-3.00	0.00
3,100.0	7.77	329.59	2,901.6	819.9	-481.1	950.6	3.00	-3.00	0.00
3,200.0	4.77	329.59	3,001.0	829.3	-486.6	961.5	3.00	-3.00	0.00
3,209.0	4.50	329.59	3,010.0	829.9	-487.0	962.3	3.00	-3.00	0.00
Chacra									
3,300.0	1.77	329.59	3,100.9	834.2	-489.5	967.2	3.00	-3.00	0.00
3,359.2	0.00	0.00	3,160.0	835.0	-490.0	968.2	3.00	-3.00	0.00
Turner Hughes #16M - ICP									
3,400.0	0.00	0.00	3,200.8	835.0	-490.0	968.2	0.00	0.00	0.00
3,500.0	0.00	0.00	3,300.8	835.0	-490.0	968.2	0.00	0.00	0.00
3,600.0	0.00	0.00	3,400.8	835.0	-490.0	968.2	0.00	0.00	0.00
3,700.0	0.00	0.00	3,500.8	835.0	-490.0	968.2	0.00	0.00	0.00
3,800.0	0.00	0.00	3,600.8	835.0	-490.0	968.2	0.00	0.00	0.00
3,833.2	0.00	0.00	3,634.0	835.0	-490.0	968.2	0.00	0.00	0.00
Mass. Cliffhouse									
3,875.2	0.00	0.00	3,676.0	835.0	-490.0	968.2	0.00	0.00	0.00
Menefee									
3,900.0	0.00	0.00	3,700.8	835.0	-490.0	968.2	0.00	0.00	0.00
4,000.0	0.00	0.00	3,800.8	835.0	-490.0	968.2	0.00	0.00	0.00
4,100.0	0.00	0.00	3,900.8	835.0	-490.0	968.2	0.00	0.00	0.00
4,200.0	0.00	0.00	4,000.8	835.0	-490.0	968.2	0.00	0.00	0.00

ConocoPhillips

Survey Report

Company:	ConocoPhillips Lower 48	Local Co-ordinate Reference:	Well Turner Hughes #16M
Project:	San Juan Basin	TVD Reference:	WELL @ 6037.0ft (Original Well Elev)
Site:	Monty's Site for directional MV/DK wells	MD Reference:	WELL @ 6037.0ft (Original Well Elev)
Well:	Turner Hughes #16M	North Reference:	True
Wellbore:	Turner Hughes #16M	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM Central Planning

Planned Survey

Measured Depth (ft)	Inclination (d)	Azimuth (d)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (d/100ft)	Build Rate (d/100ft)	Turn Rate (d/100ft)
4,300.0	0.00	0.00	4,100.8	835.0	-490.0	968.2	0.00	0.00	0.00
4,400.0	0.00	0.00	4,200.8	835.0	-490.0	968.2	0.00	0.00	0.00
4,500.0	0.00	0.00	4,300.8	835.0	-490.0	968.2	0.00	0.00	0.00
4,563.2	0.00	0.00	4,364.0	835.0	-490.0	968.2	0.00	0.00	0.00
Mass. Pt. Lookout									
4,600.0	0.00	0.00	4,400.8	835.0	-490.0	968.2	0.00	0.00	0.00
4,700.0	0.00	0.00	4,500.8	835.0	-490.0	968.2	0.00	0.00	0.00
4,800.0	0.00	0.00	4,600.8	835.0	-490.0	968.2	0.00	0.00	0.00
4,900.0	0.00	0.00	4,700.8	835.0	-490.0	968.2	0.00	0.00	0.00
4,913.2	0.00	0.00	4,714.0	835.0	-490.0	968.2	0.00	0.00	0.00
Mancos									
5,000.0	0.00	0.00	4,800.8	835.0	-490.0	968.2	0.00	0.00	0.00
5,100.0	0.00	0.00	4,900.8	835.0	-490.0	968.2	0.00	0.00	0.00
5,200.0	0.00	0.00	5,000.8	835.0	-490.0	968.2	0.00	0.00	0.00
5,300.0	0.00	0.00	5,100.8	835.0	-490.0	968.2	0.00	0.00	0.00
5,400.0	0.00	0.00	5,200.8	835.0	-490.0	968.2	0.00	0.00	0.00
5,500.0	0.00	0.00	5,300.8	835.0	-490.0	968.2	0.00	0.00	0.00
5,600.0	0.00	0.00	5,400.8	835.0	-490.0	968.2	0.00	0.00	0.00
5,700.0	0.00	0.00	5,500.8	835.0	-490.0	968.2	0.00	0.00	0.00
5,761.2	0.00	0.00	5,562.0	835.0	-490.0	968.2	0.00	0.00	0.00
Upper Gallup									
5,800.0	0.00	0.00	5,600.8	835.0	-490.0	968.2	0.00	0.00	0.00
5,900.0	0.00	0.00	5,700.8	835.0	-490.0	968.2	0.00	0.00	0.00
6,000.0	0.00	0.00	5,800.8	835.0	-490.0	968.2	0.00	0.00	0.00
6,100.0	0.00	0.00	5,900.8	835.0	-490.0	968.2	0.00	0.00	0.00
6,200.0	0.00	0.00	6,000.8	835.0	-490.0	968.2	0.00	0.00	0.00
6,300.0	0.00	0.00	6,100.8	835.0	-490.0	968.2	0.00	0.00	0.00
6,400.0	0.00	0.00	6,200.8	835.0	-490.0	968.2	0.00	0.00	0.00
6,500.0	0.00	0.00	6,300.8	835.0	-490.0	968.2	0.00	0.00	0.00
6,526.2	0.00	0.00	6,327.0	835.0	-490.0	968.2	0.00	0.00	0.00
Greenhorn									
6,590.2	0.00	0.00	6,391.0	835.0	-490.0	968.2	0.00	0.00	0.00
Graneros									
6,600.0	0.00	0.00	6,400.8	835.0	-490.0	968.2	0.00	0.00	0.00
6,638.2	0.00	0.00	6,439.0	835.0	-490.0	968.2	0.00	0.00	0.00
Two Wells									
6,693.2	0.00	0.00	6,494.0	835.0	-490.0	968.2	0.00	0.00	0.00
Paguate									
6,700.0	0.00	0.00	6,500.8	835.0	-490.0	968.2	0.00	0.00	0.00
6,753.2	0.00	0.00	6,554.0	835.0	-490.0	968.2	0.00	0.00	0.00
Cubero									
6,800.0	0.00	0.00	6,600.8	835.0	-490.0	968.2	0.00	0.00	0.00
6,833.2	0.00	0.00	6,634.0	835.0	-490.0	968.2	0.00	0.00	0.00
Encinal									
6,867.2	0.00	0.00	6,668.0	835.0	-490.0	968.2	0.00	0.00	0.00
TD - Turner Hughes #16M - PCP									

ConocoPhillips

Survey Report

Company:	ConocoPhillips Lower 48	Local Co-ordinate Reference:	Well Turner Hughes #16M
Project:	San Juan Basin	TVD Reference:	WELL @ 6037.0ft (Original Well Elev)
Site:	Monty's Site for directional MV/DK wells	MD Reference:	WELL @ 6037.0ft (Original Well Elev)
Well:	Turner Hughes #16M	North Reference:	True
Wellbore:	Turner Hughes #16M	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM Central Planning

Targets

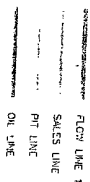
Target Name

hit/miss target	Dip Angle	Dip Dir	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(d)	(d)	(ft)	ft	ft	(m)	(m)		
Turner Hughes #16M - - plan hits target - Point	0.00	0.00	3,160.0	835.0	-490.0	256.68	-145.72	30° 59' 32.776" N	109° 25' 49.723" W
Turner Hughes #16M - - plan hits target - Point	0.00	0.00	6,668.0	835.0	-490.0	256.68	-145.72	30° 59' 32.776" N	109° 25' 49.723" W

Formations

Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(d)	(d)
1,213.1	1,184.0	Ojo Alamo		0.00	
1,291.5	1,254.0	Kirtland		0.00	
1,988.3	1,874.0	Fruitland		0.00	
2,241.2	2,099.0	Pictured Cliffs		0.00	
2,421.0	2,259.0	Lewis		0.00	
2,795.0	2,604.0	Huerf. Bent		0.00	
3,209.0	3,010.0	Chacra		0.00	
3,833.2	3,634.0	Mass. Cliffhouse		0.00	
3,875.2	3,676.0	Menefee		0.00	
4,563.2	4,364.0	Mass. Pt. Lookout		0.00	
4,913.2	4,714.0	Mancos		0.00	
5,761.2	5,562.0	Upper Gallup		0.00	
6,526.2	6,327.0	Greenhorn		0.00	
6,590.2	6,391.0	Graneros		0.00	
6,638.2	6,439.0	Two Wells		0.00	
6,693.2	6,494.0	Paguate		0.00	
6,753.2	6,554.0	Cubero		0.00	
6,833.2	6,634.0	Encinal		0.00	
6,867.2	6,668.0	TD		0.00	

Checked By: _____ Approved By: _____ Date: _____

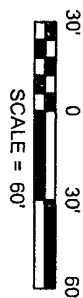


SLOPES TO BE CONSTRUCTED TO MATCH THE ORIGINAL CONTOURS AS CLOSE AS POSSIBLE.

TURNER HUGHES #16M

LOCATED IN THE SW/4 NE/4 OF SECTION 11,
T27N, R9W, N.M.P.M.,

SAN JUAN COUNTY, NEW MEXICO
GROUND ELEVATION: 6022', NAVD 88
FINISHED PAD ELEVATION: 6021.7', NAVD 88



330' x 400' = 3.03 ACRES OF DISTURBANCE
SCALE: 1" = 60'
JOB No.: COP051; REV1
DATE: 06/08/07

NOTE: RESERVE PIT DIKE: TO BE 6' ABOVE DEEP SIDE (OVERFLOW - 3' WIDE AND 1' ABOVE SHALLOW SIDE). RUSSELL SURVEYING, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD, IN CONSTRUCTION ZONE AND/OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

Russell Surveying
1409 W. Aztec Blvd. #5
Aztec, New Mexico 87410
(505) 334-8637

BURLINGTON RESOURCES O&G CO LP

TURNER HUGHES #16M
1545' FNL & 1440' FEL
LOCATED IN THE SW/4 NE/4 OF SECTION 11,
T27N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO
GROUND ELEVATION: 6022', NAVD 88

DIRECTIONS

- 1) FROM BLANCO, NM, TRAVEL EAST ON HIGHWAY 64 2.1 MILES TO A MAIN DIRT ROAD ON THE RIGHT.
- 2) TURN RIGHT AND TRAVEL 3.2 MILES TO A "Y" AND BEAR RIGHT.
- 3) CROSSING LARGO CANYON GO 0.6 MILES TO THE WEST SIDE OF THE CANYON.
- 4) TRAVELING SOUTHEAST GO 3.0 MILES TO BLANCO CANYON AND TURN RIGHT.
- 5) TRAVEL 5.1 MILES TO JAQUEZ CANYON AND TURN RIGHT.
- 6) TRAVEL 0.5 MILES TO A DIRT ROAD ON THE RIGHT.
- 7) TURN RIGHT AND TRAVEL 0.5 MILES TO THE EXISTING WELL LOCATION FOR THE TURNER HUGHES #13.

WELL FLAG LOCATED AT LAT. 36.59272° N, LONG. 107.75382° W.

