OCD-ARTESIA COPY

11-862

Form 3160-3
(August 2007)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM 107384

6. If Indian, Allotee or Tribe Name:

7. If Unit or CA Agreement, Name and No.:

1a. Type of work: ☑ DRILL ☐ REENTER NOS RCVD 8/1/11

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

8. Lease Name and Well No.: Rock Ridge Federal #3H [38885]

2. Name of Operator: Murchison Oil & Gas, Inc. OGRID #015363 [15363]

9. API Well No.: 30-015-39543

3a. Address: 1500 Mira Vista Blvd.
Plano, TX 75093-4698

3b. Phone No. (include area code): 972-931-0700

10. Field and Pool, or Exploratory: ~~Willow Lake, Bone Spring~~ Pierce Crossing; B.S. South [96717]

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface: 1520' FNL & 350' FEL, Unit H
At proposed prod. zone: 1650' FNL & 330' FWL, Unit E Lot 2

11. Sec., T. R. M. or Blk. and Survey or Area: Sec 24 30 T-24S R-29E

14. Distance in miles and direction from nearest town or post office*: Approximately 5 miles southeast from Malaga, New Mexico

12. County or Parish: Eddy

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
330	398.24	160

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. on file
	7274' TVD; 11598' MD	NM2163

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
2915.4' GL	09/15/2011	30-45 days

RECEIVED
OCT 20 2011
NMOCD ARTESIA

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature	Name (Printed/Typed)	Date
	Darrick Stallings	8/3/11

Title: Vice President of Operations

Approved by (Signature)	Name (Printed/Typed)	Date
/s/ Don Peterson		OCT 19 2011

Title	Office
FIELD MANAGER	CARLSBAD FIELD OFFICE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

ATTACHMENT TO FORM 3160-3
Murchison Oil & Gas, Inc.
~~Pierce Crossing Federal #3H~~
SL: 1520' FNL & 350' FEL, UNIT H
BHL: 1650' FNL & 330' FWL, UNIT E
Sec 30, T24S, R29E
Eddy County, New Mexico

1. ESTIMATED FORMATION TOPS

	DEPTH (RKB)	SUBSURFACE
Rustler	613'	+2319'
1st Salt	1013'	+1919'
2nd Salt	1969'	+963'
Basal Anhydrite	2507'	+425'
Lamar	2717'	+215'
Bell Canyon	2747'	+185'
Cherry Canyon	3892'	-960'
Brushy Canyon	4980'	-2048'
Bone Spring	6542'	-3610'
1st Bone Spring	7320'	-4391'

PROPOSED BHL DEPTHS: TVD 7274' and MD 11,598'

2. ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL, OR GAS

Anticipated Formation Tops: RKB +/- 2929' Ground Elevation: 2912'

Fresh Water	100' – 500'	Surface Fresh Water Sands
Oil/Gas	2720'	Bell Canyon
Oil/Gas	3580'	Cherry Canyon
Oil/Gas	4790'	Brushy Canyon
Oil/Gas	6430'	Bone Spring

3. CASING AND CEMENTING PROGRAM

See COA

Casing Size	Hole Size	From To	Weight	Grade	Joint	Condition	Purpose
13-3/8"	17-1/2"	0' - ~~650'~~ 500'	48.0#	H-40	ST&C	New	Surface
8-5/8"	12-1/4"	0' – ~~2800'~~ 2700'	32.0#	J-55	ST&C	New	Intermediate
5-1/2"	7-7/8"	0' – 6500'	17.0#	P-110	LT&C	New	Production
5-1/2"	7-7/8"	6500' – 11598'	17.0#	P-110	BT&C	New	Production

Casing Size	Burst Rating, psi	Safety Factor	Collapse Rating, psi	Safety Factor	Tension Rating, 1000 lbs.	Safety Factor
13-3/8"	1730	3.10	770	3.20	322	12.20
8-5/8"	3930	1.50	2530	1.90	372	4.60
5-1/2"	10,640	1.25	7460	1.40	445	2.20
5-1/2"	10,640	1.25	7460	1.40	568	2.80

Equivalent or adequate grades and weights of casing may be substituted at time casing is run, depending on availability.

SURFACE CASING:

Tension Calculated using weight of casing times landing depth without utilizing buoyancy effects

Burst — In all cases a conservative fracture pressure will be used such that it represents the upper limit of potential fracture gradients up to a 1.0 psi/ft. gradient. The effects of tension on burst will not be utilized.

INTERMEDIATE CASING:

Tension — Calculated using weight of casing times landing depth without utilizing buoyancy effects

Collapse — Calculated with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run. The effects of axial load on collapse will be considered.

Burst — In all cases a conservative fracture pressure will be used such that it represents the upper limit of potential fracture gradients up to a 1.0 psi/ft. gradient. The effects of tension on burst will not be utilized

PRODUCTION CASING:

Tension — Calculated using weight of casing times landing depth without utilizing buoyancy effects.

Collapse — Calculated with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run. The effects of axial load on collapse will be considered.

Burst — Maximum surface treating pressure will be limited to 85% of the rated burst pressure.

4. PRESSURE CONTROL EQUIPMENT: Blowout Preventer (See Attached Diagrams)
A BOP equivalent to Exhibit G-1 will be nipped up on the surface and 8 5/8" intermediate casing strings. The BOP Stack, choke, kill lines, Kelly cock, inside BOP, etc., will be hydro tested ~~to 1000 psi with the rig pump and~~ 5000 psi on the intermediate casing. The annulus will be tested to 2500 psi. In addition to the rated working pressure tests, a low pressure (250 psi) test will be required. These tests will be performed:
See COA
   a) upon installation
   b) after any component changes
   c) 15 days after a previous test
   d) as required by well conditions.

A function test to insure that the preventors are operating correctly will be performed on each trip. See the attached Exhibits G-2 and G-3 for the minimum criteria for the 5000 psi choke manifold.

5. MUD PROGRAM

DEPTH	MUD TYPE	WEIGHT	FV	PV	YP	FL	Ph
0 – ~~550~~ 500	Fresh Water/Native	8.4 - 8.8	36-38	6-10	6-20		
~~550~~ 500' – ~~2550~~ 2700'	Brine	9.9 – 10.1	29-30	0 - 1	0 - 1		
~~2550~~ 2700' – 7200'	Fresh - Brine	8.4 – 10.0	28-29	0 -1	0 -1		
7200' – 11598'	Dynazan/Starch	8.4 – 10.0	34-36	4 - 8	4 - 8	12-15	

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run open-hole logs and casing, the viscosity and water loss may have to be adjusted to meet these needs.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run open-hole logs and casing, the viscosity and water loss may have to be adjusted to meet these needs.

Mud system monitoring equipment with derrick floor indicators and visual / audio alarms shall be installed and operative prior to drilling into the Bone Spring formation. This equipment will remain in use until the production casing is run and cemented. Monitoring equipment shall consist of the following:

A recording pit level indicator.
A pit volume totalizer.
A flowline sensor.

6. TECHNICAL STAGES OF OPERATION

A. Testing: None planned.

B. Logging: See COA

- Two man unit from 1400' to TD
- The vertical hole will be logged above kickoff GR/Dual Laterolog/Neutron Density/Caliper

C. Conventional Coring: None anticipated.

D. Cement:

13.375" Surface Casing - Cementing Program
Cement with **+/- 250** sacks lead slurry of Premium Plus "C" + additives with yield =2.00 cu.ft./sack and +/- 200 sacks tail slurry of Premium Plus "C" + additives with a yield of 1.34 cu. Ft/sack ; circulate cement to surface. If cement does not circulate, will run a temperature survey to find actual top of cement and run 1" tubing into annulus and pump cement as necessary to achieve circulation to surface. 70% excess – See Murchison notes

8.625" Intermediate Casing - Cementing Program
Cement lead with **550** sacks of Premium Plus Class C + additives with yield = 2.02 cu.ft./sack & tail with **250** sacks Premium Plus Class C + additives with yield = 1.34 cu.ft./sack; circulate cement to surface. If cement does not circulate, will run a temperature survey to find actual top of cement and run 1" tubing into annulus and pump cement as necessary to achieve circulation to surface. 33% excess

5.5" Production Casing - Cementing Program
Cement lead with 800 sacks of Premium Plus Class H + additives with yield = 2.44 cu.ft./sack, & tail 600 sacks 50:50 Poz Class C + additives with yield = 1.34 cu.ft./sack; circulate cement to an estimated ~~2300~~' or 200' inside the 8-5/8" intermediate casing. May perform a 2-stage job utilizing DV tool if determined to be necessary to raise cement to the above described height. 40% excess

E. Directional Drilling:

Murchison Oil & Gas, Inc., plans to drill out the 8-5/8" Intermediate casing with a 7-7/8" bit to a TVD of approximately 6800'. Open hole logs will be run and then the hole will be kicked off with a 7-7/8" bit hole at a TVD of +/- 6800'. The directional hole will be kicked off building angle at 12.5 deg/100' until the end of the curve at +/- 7274 TVD. A 4000' lateral will then be drilled in the Avalon shale extending across section 30 from east to west. At total measured depth 5-1/2", 17# P-110, casing will be installed to surface and cemented **with an attempt to get cement back to surface. If unsuccessful, we plan to set a DV tool about 3000' or approximately 400' below the intermediate casing shoe. This DV tool will only be used if we cannot get cement back to surface on the production string. At that time we would pump a second stage with the DV tool in order to tie cement into the intermediate string.** The 5-1/2" casing in the lateral will be equipped sleeves to be opened during the completion utilizing a ball drop system.

7. ANTICIPATED RESERVOIR CONDITIONS

No abnormal temperatures or pressures are anticipated. Low levels of H2S have been monitored in producing wells in the area, so H2S may be present while drilling the well. An H2S Plan is attached to the Drilling Program. Anticipated Bottom Hole Pressure is 3200 PSI (maximum), and anticipated static Bottom Hole Temperature is 115 degrees Fahrenheit.

8. OTHER PERTINENT INFORMATION

A. Auxiliary Equipment
- Upper and lower Kelly cocks. Full opening stab in valve on the rig floor.

B. Anticipated Starting Date
- Upon approval
- 25 days drilling operations with drilling rig
- 3 days completion operations with drilling rig
- 30 days after that to complete the well and construct production facilities.

Murchison Oil & Gas – Rock Ridge Federal #3H

BLM Reference # 3162.4 (P0220); NM107384; ATS-11-862

Below are responses to #2--9of the referenced letter from the BLM dated August 12, 2011:

2. The anticipated top of the 1st salt section is at a depth of 1,013'. The base of the salt is projected at a depth of 2,507'.
3. The 13 3/8" surface casing shall be set at a minimum of 25' into the Rustler Anhydrite and above the salt section. The Rustler top is expected at 613'. Therefore we anticipate setting our surface string around 600' to 650'. Please note that is about 100' deeper than originally anticipated. The 8 5/8" intermediate casing shall be set about 100' into the Basal Anhydrite at a depth of approximately 2,600'. It is anticipated that at 2500' +/- (base of salt/ top of Basal anhydrite) the salt section is gone. It is our intention to set this intermediate casing string below the salt zone. See COA
4. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil & Gas Order No. 2. The minimum working pressure of the blowout preventer and related equipment will be 5,000 psi and will be tested accordingly before drilling out the surface casing shoe. The appropriate BLM office will be notified a minimum of 4 hours in advance of any test. In addition the tests shall be done by an independent service company and all tests will be recorded on a calibrated test chart and submitted to the appropriate BLM office. The test shall also include a low pressure test at 250 psi for 10 minutes if a test is done with a test plug and 30 minutes if done without a test plug.
5. The BOP will be nipped up to the 13 3/8" casing and tested to API specifications. A13 5/8", 5M BOP will be used on the intermediate hole and either the same 13 5/8" BOP or an 11" 5M BOP will be used on the production hole. In addition a 5M rated choke manifold will be used in conjunction with the BOP. Diagrams for each are included.
6. We do not plan on using a 9 5/8" slip on head for the surface casing. A 13 5/8" flanged wellhead will be used.
7. The calculated excess cement percentages are as follows:
    a. Surface Casing: 70%
    b. Intermediate Casing: 33%
    c. Production Casing: 40%

    Note: The cement volumes will be revised pending fluid &hole caliper measurements.
8. The drilling plan includes that an attempt will be made to cement the production casing string back to surface or at least tie it into the intermediate casing string. However, if cement does not circulate the appropriate BLM office will be contacted for further guidance. The plan includes placing a FO cementer/staging tool below the intermediate casing shoe on the production string. If it is determined that cement didn't tie into the intermediate casing string then this staging tool can be used to help facilitate any remedial action concerning the production casing cement operation as deemed necessary by the BLM.
9. At this time,as it pertains to this APD there is no plan to downhole commingle Bone Spring/Delaware behind pipe. Any future recompletion opportunities in this wellbore will be handled with the appropriate notices for approval.

Thank you for the opportunity to clarify this drilling plan. If you have any further questions or concerns please feel free to give me a call at (432) 686-2063.

Sincerely,

Douglas Dietrich
Division Engineer Manager
Murchison Oil & Gas, Inc.

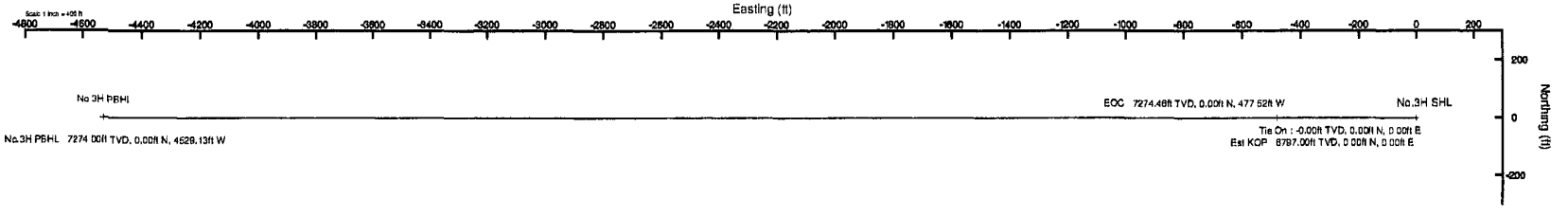
Murchison Oil & Gas Inc.

Location: Eddy County, NM
Field: (Pierce) Sec30, T24S, R29E
Facility: Pierce Crossing Fed No 3H

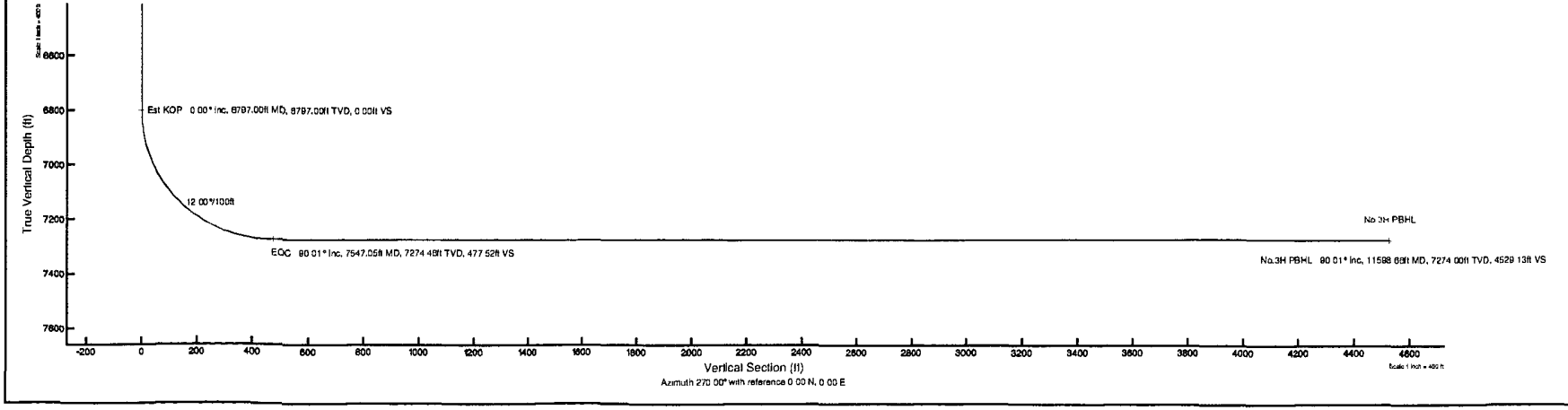
Slot: No 3H SHL
Well: No 3H
Wellbore: No 3H PWB

BAKER HUGHES

Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0 00	0.000	270 000	0.00	0.00	0 00	0.00	0 00
Est KOP	6797.00	0.000	270.000	6797.00	0 00	0 00	0 00	0 00
EOC	7547 05	90 007	270 000	7274 46	0 00	-477.52	12.00	477 52
No 3H PBHL	11598 66	90 007	270.000	7274.00	0 00	-4529.13	0 00	4529 13



Plot reference wellpath is Prelim_2	
True vertical depths are referenced to Rig on No.3H SHL (RT)	Grid System: NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No.3H SHL (RT)	North Reference: Grid north
Rig on No.3H SHL (RT) to Mean Sea Level: 0 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: No.3H SHL): 0 feet	Depths are in feet
Coordinates are in feet referenced to Facility Center	Created by: gentbry on 7/20/2011



Planned Wellpath Report

Prelim_2

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Murchison Oil & Gas Inc.**	Slot	**No.3H SHL**
Area	**Eddy County, NM**	Well	**No.3H**
Field	**(Pierce) Sec30, T24S, R29E**	Wellbore	**No.3H PWB**
Facility	**Pierce Crossing Fed No.3H**		

REPORT SETUP INFORMATION			
Projection System	**NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet**	Software System	**WellArchitect® 3.0.0**
North Reference	**Grid**	User	**Gentbry**
Scale	**1.0002**	Report Generated	**7/20/2011** at **4:19:43 PM**
Convergence at slot	**0.82° West**	Database/Source file	**WA Midland/No.3H_PWB.xml**

WELLPATH LOCATION	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	**East[ft]**	**Easting[US ft]**	**Northing[US ft]**	**Latitude**	**Longitude**
Slot Location	**0.00**	**0.00**	400.00	3630.00	31°00'00.485"N	105°55'40.141"W
Facility Reference Pt			**400.00**	**3630.00**	31°00'00.485"N	105°55'40.141"W
Field Reference Pt			**400.00**	**3630.00**	31°00'00.485"N	105°55'40.141"W

WELLPATH DATUM			
Calculation method	**Minimum curvature**	Rig on No.3H SHL (RT) to Facility Vertical Datum	**0.00ft**
Horizontal Reference Pt	**Facility Center**	Rig on No.3H SHL (RT) to Mean Sea Level	**0.00ft**
Vertical Reference Pt	**Rig on No.3H SHL (RT)**	Rig on No.3H SHL (RT) to Mud Line at Slot (No.3H SHL)	**0.00ft**
MD Reference Pt	**Rig on No.3H SHL (RT)**	Section Origin	**N 0.00, E 0.00 ft**
Field Vertical Reference	**Mean Sea Level**	Section Azimuth	**270.00°**

Planned Wellpath Report

Prelim_2

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Murchison Oil & Gas Inc.**	Slot	**No.3H SHL**
Area	**Eddy County, NM**	Well	**No.3H**
Field	**(Pierce) Sec30, T24S, R29E**	Wellbore	**No.3H PWB**
Facility	**Pierce Crossing Fed No.3H**		

WELLPATH DATA (119 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	270.000	0.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	Tie On
100.00†	0.000	270.000	100.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
200.00†	0.000	270.000	200.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
300.00†	0.000	270.000	300.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
400.00†	0.000	270.000	400.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
500.00†	0.000	270.000	500.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
600.00†	0.000	270.000	600.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
700.00†	0.000	270.000	700.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
800.00†	0.000	270.000	800.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
900.00†	0.000	270.000	900.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
1000.00†	0.000	270.000	1000.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
1100.00†	0.000	270.000	1100.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
1200.00†	0.000	270.000	1200.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
1300.00†	0.000	270.000	1300.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
1400.00†	0.000	270.000	1400.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
1500.00†	0.000	270.000	1500.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
1600.00†	0.000	270.000	1600.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
1700.00†	0.000	270.000	1700.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
1800.00†	0.000	270.000	1800.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
1900.00†	0.000	270.000	1900.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
2000.00†	0.000	270.000	2000.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
2100.00†	0.000	270.000	2100.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
2200.00†	0.000	270.000	2200.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
2300.00†	0.000	270.000	2300.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
2400.00†	0.000	270.000	2400.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
2500.00†	0.000	270.000	2500.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
2600.00†	0.000	270.000	2600.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
2700.00†	0.000	270.000	2700.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
2800.00†	0.000	270.000	2800.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
2900.00†	0.000	270.000	2900.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
3000.00†	0.000	270.000	3000.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
3100.00†	0.000	270.000	3100.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
3200.00†	0.000	270.000	3200.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
3300.00†	0.000	270.000	3300.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
3400.00†	0.000	270.000	3400.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
3500.00†	0.000	270.000	3500.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
3600.00†	0.000	270.000	3600.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
3700.00†	0.000	270.000	3700.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
3800.00†	0.000	270.000	3800.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
3900.00†	0.000	270.000	3900.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
4000.00†	0.000	270.000	4000.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
4100.00†	0.000	270.000	4100.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
4200.00†	0.000	270.000	4200.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
4300.00†	0.000	270.000	4300.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
4400.00†	0.000	270.000	4400.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	

Planned Wellpath Report

Prelim_2

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	Murchison Oil & Gas Inc.	Slot	No.3H SHL
Area	Eddy County, NM	Well	No.3H
Field	(Pierce) Sec30, T24S, R29E	Wellbore	No.3H PWB
Facility	Pierce Crossing Fed No.3H		

WELLPATH DATA (119 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4500.00†	0.000	270.000	4500.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
4600.00†	0.000	270.000	4600.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
4700.00†	0.000	270.000	4700.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
4800.00†	0.000	270.000	4800.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
4900.00†	0.000	270.000	4900.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
5000.00†	0.000	270.000	5000.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
5100.00†	0.000	270.000	5100.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
5200.00†	0.000	270.000	5200.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
5300.00†	0.000	270.000	5300.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
5400.00†	0.000	270.000	5400.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
5500.00†	0.000	270.000	5500.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
5600.00†	0.000	270.000	5600.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
5700.00†	0.000	270.000	5700.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
5800.00†	0.000	270.000	5800.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
5900.00†	0.000	270.000	5900.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
6000.00†	0.000	270.000	6000.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
6100.00†	0.000	270.000	6100.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
6200.00†	0.000	270.000	6200.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
6300.00†	0.000	270.000	6300.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
6400.00†	0.000	270.000	6400.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
6500.00†	0.000	270.000	6500.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
6600.00†	0.000	270.000	6600.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
6700.00†	0.000	270.000	6700.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	
6797.00	0.000	270.000	6797.00	0.00	0.00	0.00	400.00	3630.00	31°00'00.485"N	105°55'40.141"W	0.00	Est KOP
6800.00†	0.360	270.000	6800.00	0.01	0.00	-0.01	399.99	3630.00	31°00'00.485"N	105°55'40.141"W	12.00	
6900.00†	12.360	270.000	6899.20	11.07	0.00	-11.07	388.93	3630.00	31°00'00.484"N	105°55'40.268"W	12.00	
7000.00†	24.360	270.000	6993.94	42.51	0.00	-42.51	357.48	3630.00	31°00'00.479"N	105°55'40.629"W	12.00	
7100.00†	36.360	270.000	7080.07	92.96	0.00	-92.96	307.02	3630.00	31°00'00.472"N	105°55'41.209"W	12.00	
7200.00†	48.360	270.000	7153.83	160.21	0.00	-160.21	239.75	3630.00	31°00'00.463"N	105°55'41.982"W	12.00	
7300.00†	60.360	270.000	7211.99	241.34	0.00	-241.34	158.62	3630.00	31°00'00.451"N	105°55'42.914"W	12.00	
7400.00†	72.360	270.000	7252.01	332.78	0.00	-332.78	67.16	3630.00	31°00'00.438"N	105°55'43.964"W	12.00	
7500.00†	84.360	270.000	7272.15	430.54	0.00	-430.54	-30.62	3630.00	31°00'00.424"N	105°55'45.087"W	12.00	
7547.05	90.007	270.000	7274.46	477.52	0.00	-477.52	-77.61	3630.00	31°00'00.418"N	105°55'45.627"W	12.00	EOC
7600.00†	90.007	270.000	7274.46	530.46	0.00	-530.46	-130.57	3630.00	31°00'00.410"N	105°55'46.235"W	0.00	
7700.00†	90.007	270.000	7274.45	630.46	0.00	-630.46	-230.59	3630.00	31°00'00.396"N	105°55'47.384"W	0.00	
7800.00†	90.007	270.000	7274.44	730.46	0.00	-730.46	-330.61	3630.00	31°00'00.382"N	105°55'48.533"W	0.00	
7900.00†	90.007	270.000	7274.42	830.46	0.00	-830.46	-430.63	3630.00	31°00'00.367"N	105°55'49.681"W	0.00	
8000.00†	90.007	270.000	7274.41	930.46	0.00	-930.46	-530.64	3630.00	31°00'00.353"N	105°55'50.830"W	0.00	
8100.00†	90.007	270.000	7274.40	1030.46	0.00	-1030.46	-630.66	3630.00	31°00'00.339"N	105°55'51.979"W	0.00	
8200.00†	90.007	270.000	7274.39	1130.46	0.00	-1130.46	-730.68	3630.00	31°00'00.325"N	105°55'53.128"W	0.00	
8300.00†	90.007	270.000	7274.38	1230.46	0.00	-1230.46	-830.70	3630.00	31°00'00.311"N	105°55'54.277"W	0.00	
8400.00†	90.007	270.000	7274.37	1330.46	0.00	-1330.46	-930.72	3630.00	31°00'00.296"N	105°55'55.425"W	0.00	
8500.00†	90.007	270.000	7274.36	1430.46	0.00	-1430.46	-1030.74	3630.00	31°00'00.282"N	105°55'56.574"W	0.00	
8600.00†	90.007	270.000	7274.34	1530.46	0.00	-1530.46	-1130.76	3630.00	31°00'00.268"N	105°55'57.723"W	0.00	
8700.00†	90.007	270.000	7274.33	1630.46	0.00	-1630.46	-1230.78	3630.00	31°00'00.254"N	105°55'58.872"W	0.00	

Planned Wellpath Report

Prelim_2

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Murchison Oil & Gas Inc.**	Slot	**No.3H SHL**
Area	**Eddy County, NM**	Well	**No.3H**
Field	**(Pierce) Sec30, T24S, R29E**	Wellbore	**No.3H PWB**
Facility	**Pierce Crossing Fed No.3H**		

WELLPATH DATA (119 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8800.00†	90.007	270.000	7274.32	1730.46	0.00	-1730.46	-1330.80	3630.00	31°00'00.239"N	105°56'00.021"W	0.00	
8900.00†	90.007	270.000	7274.31	1830.46	0.00	-1830.46	-1430.82	3630.00	31°00'00.225"N	105°56'01.169"W	0.00	
9000.00†	90.007	270.000	7274.30	1930.46	0.00	-1930.46	-1530.84	3630.00	31°00'00.211"N	105°56'02.318"W	0.00	
9100.00†	90.007	270.000	7274.29	2030.46	0.00	-2030.46	-1630.86	3630.00	31°00'00.197"N	105°56'03.467"W	0.00	
9200.00†	90.007	270.000	7274.28	2130.46	0.00	-2130.46	-1730.88	3630.00	31°00'00.182"N	105°56'04.616"W	0.00	
9300.00†	90.007	270.000	7274.26	2230.46	0.00	-2230.46	-1830.90	3630.00	31°00'00.168"N	105°56'05.764"W	0.00	
9400.00†	90.007	270.000	7274.25	2330.46	0.00	-2330.46	-1930.91	3630.00	31°00'00.154"N	105°56'06.913"W	0.00	
9500.00†	90.007	270.000	7274.24	2430.46	0.00	-2430.46	-2030.93	3630.00	31°00'00.140"N	105°56'08.062"W	0.00	
9600.00†	90.007	270.000	7274.23	2530.46	0.00	-2530.46	-2130.95	3630.00	31°00'00.125"N	105°56'09.211"W	0.00	
9700.00†	90.007	270.000	7274.22	2630.46	0.00	-2630.46	-2230.97	3630.00	31°00'00.111"N	105°56'10.360"W	0.00	
9800.00†	90.007	270.000	7274.21	2730.46	0.00	-2730.46	-2330.99	3630.00	31°00'00.097"N	105°56'11.508"W	0.00	
9900.00†	90.007	270.000	7274.19	2830.46	0.00	-2830.46	-2431.01	3630.00	31°00'00.083"N	105°56'12.657"W	0.00	
10000.00†	90.007	270.000	7274.18	2930.46	0.00	-2930.46	-2531.03	3630.00	31°00'00.068"N	105°56'13.806"W	0.00	
10100.00†	90.007	270.000	7274.17	3030.46	0.00	-3030.46	-2631.05	3630.00	31°00'00.054"N	105°56'14.955"W	0.00	
10200.00†	90.007	270.000	7274.16	3130.46	0.00	-3130.46	-2731.07	3630.00	31°00'00.040"N	105°56'16.104"W	0.00	
10300.00†	90.007	270.000	7274.15	3230.46	0.00	-3230.46	-2831.09	3630.00	31°00'00.025"N	105°56'17.252"W	0.00	
10400.00†	90.007	270.000	7274.14	3330.46	0.00	-3330.46	-2931.11	3630.00	31°00'00.011"N	105°56'18.401"W	0.00	
10500.00†	90.007	270.000	7274.13	3430.46	0.00	-3430.46	-3031.13	3630.00	31°00'00.000"N	105°56'19.550"W	0.00	
10600.00†	90.007	270.000	7274.11	3530.46	0.00	-3530.46	-3131.15	3630.00	30°59'59.983"N	105°56'20.699"W	0.00	
10700.00†	90.007	270.000	7274.10	3630.46	0.00	-3630.46	-3231.17	3630.00	30°59'59.968"N	105°56'21.847"W	0.00	
10800.00†	90.007	270.000	7274.09	3730.46	0.00	-3730.46	-3331.18	3630.00	30°59'59.954"N	105°56'22.996"W	0.00	
10900.00†	90.007	270.000	7274.08	3830.46	0.00	-3830.46	-3431.20	3630.00	30°59'59.940"N	105°56'24.145"W	0.00	
11000.00†	90.007	270.000	7274.07	3930.46	0.00	-3930.46	-3531.22	3630.00	30°59'59.925"N	105°56'25.294"W	0.00	
11100.00†	90.007	270.000	7274.06	4030.46	0.00	-4030.46	-3631.24	3630.00	30°59'59.911"N	105°56'26.443"W	0.00	
11200.00†	90.007	270.000	7274.05	4130.46	0.00	-4130.46	-3731.26	3630.00	30°59'59.897"N	105°56'27.591"W	0.00	
11300.00†	90.007	270.000	7274.03	4230.46	0.00	-4230.46	-3831.28	3630.00	30°59'59.883"N	105°56'28.740"W	0.00	
11400.00†	90.007	270.000	7274.02	4330.46	0.00	-4330.46	-3931.30	3630.00	30°59'59.868"N	105°56'29.889"W	0.00	
11500.00†	90.007	270.000	7274.01	4430.46	0.00	-4430.46	-4031.32	3630.00	30°59'59.854"N	105°56'31.038"W	0.00	
11598.66	90.007	270.000	7274.00[1]	4529.13	0.00	-4529.13	-4130.00	3630.00	30°59'59.840"N	105°56'32.171"W	0.00	No.3H PBHL

Planned Wellpath Report

Prelim_2

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Murchison Oil & Gas Inc.**	Slot	**No.3H SHL**
Area	**Eddy County, NM**	Well	**No.3H**
Field	**(Pierce) Sec30, T24S, R29E**	Wellbore	**No.3H PWB**
Facility	**Pierce Crossing Fed No.3H**		

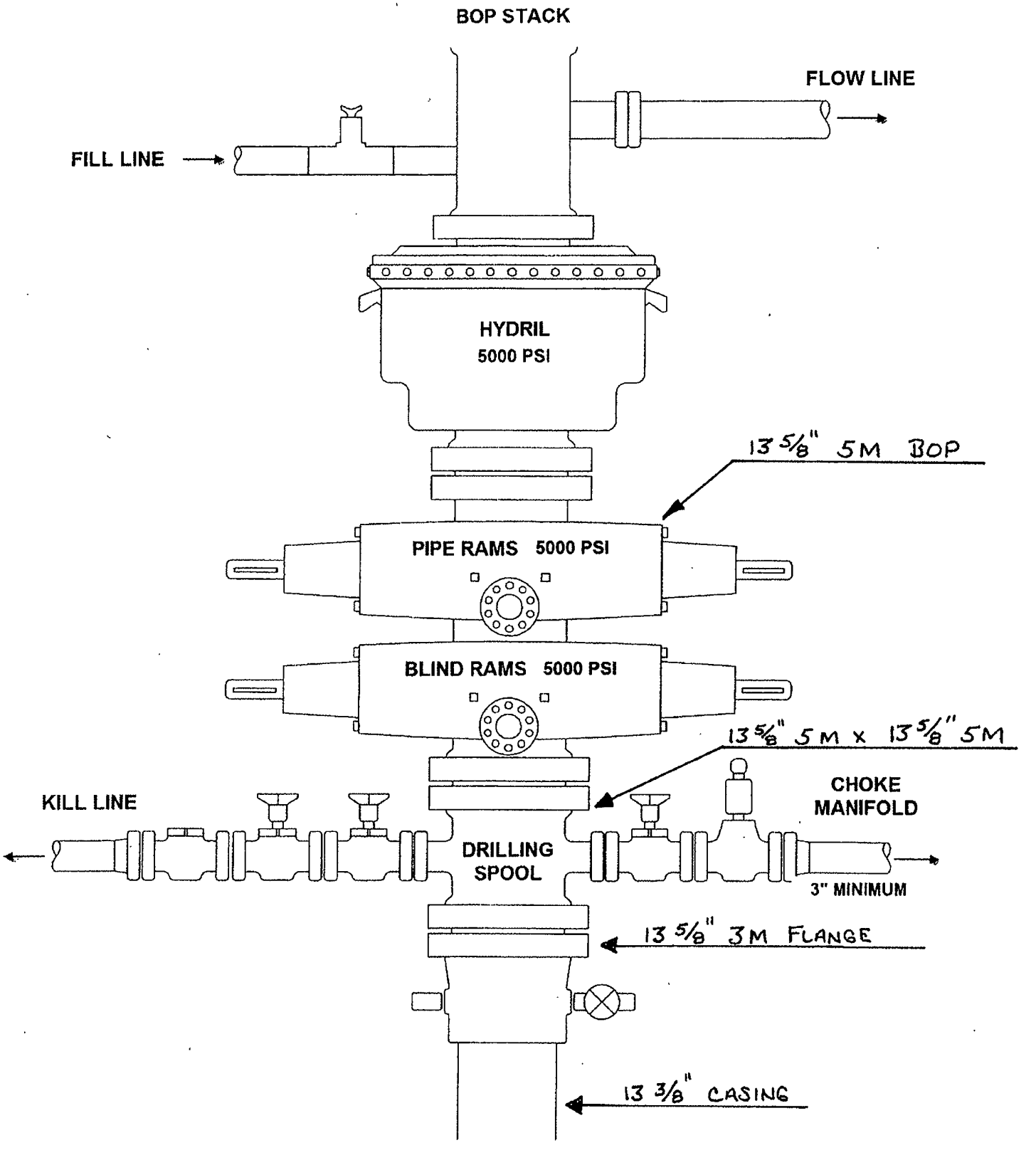
TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) No.3H PBHL	11598.66	7274.00	0.00	-4529.13	-4130.00	3630.00	30°59'59.840"N	105°56'32.171"W	point

SURVEY PROGRAM - Ref Wellbore: No.3H PWB Ref Wellpath: Prelim_2

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	11598.66	NaviTrak (Standard)		No.3H PWB

EXHIBIT G-1


BOP STACK
FLOW LINE
FILL LINE
HYDRIL
5000 PSI
13 5/8" 5M BOP
PIPE RAMS 5000 PSI
BLIND RAMS 5000 PSI
13 5/8" 5M x 13 5/8" 5M
KILL LINE
CHOKE
MANIFOLD
DRILLING
SPOOL
3" MINIMUM
13 5/8" 3M FLANGE
13 3/8" CASING

DISTRICT I --- CHECKLIST FOR INTENTS TO DRILL

38883

Operator Murchison Oil & Gas OGRID # 15363
Well Name & # Rock Ridge Fed 3H Surface Type (P) (S) (P)
Location: UL H, Sect 30, Twnship 24S s, RNG 29E, Sub-surface Type (P) (S) (P)

A. Date C101 rec'd 10/20/2011 C101 reviewed 10/27/2011
B. 1. Check mark, Information is OK on Forms:
OGRID ✓, BONDING ____, PROP CODE ____, WELL # 3H, SIGNATURE ____
2. Inactive Well list as of: 10/27/2011 # wells 95, # Inactive wells 1
a. District Grant APD but see number of inactive wells:
No letter required ✓; Sent Letter to Operator ____, to Santa Fe ____
3. Additional Bonding as of: 10/20/2011
a. District Denial because operator needs addition bonding:
No Letter required ✓; Sent Letter to Operator ____, To Santa Fe____
b. District Denial because of Inactive well list and Financial Assurance:
No Letter required ✓; Sent Letter to Operator ____, To Santa Fe ___

C. C102 YES ✓, NO ___, Signature ✓
1. Pool Pierce Crossing; B.S. South, Code 96671
a. Dedicated acreage 160, What Units H-G-F-E
b. SUR. Location Standard ✓: Non-Standard Location_____
c. Well shares acres: Yes ___, No ✓, # of wells ____ plus this well #____
2. 2nd. Operator in same acreage, Yes_____, No _____
Agreement Letter _____, Disagreement letter_____
3. Intent to Directional Drill Yes ✓, No ___
a. Dedicated acreage 160, What Units H-G-F-E
b. Bottomhole Location Standard ✓, Non-Standard Bottomhole _____
4. Downhole Commingle: Yes_____, No ✓
a. Pool #2_____,Code_____, Acres_____
Pool #3_____, Code _____, Acres _____
Pool #4_____, Code_____, Acres_____
5. POTASH Area Yes _____, No ✓,
D. Blowout Preventer Yes ✓, No _____,
E. H2S Yes ✓, No _____,
F. C144 Pit Registration Yes _____, No _____,
G. Does APD require Santa Fe Approval:
1. Non-Standard Location: Yes _____, No ✓, NSL #_____
2. Non-Standard Proration: Yes_____, No _____, NSP # _____
3. Simultaneous Dedication: Yes _____, No ____, SD # _____
Number of wells _____ Plus #_____
4. Injection order Yes _____, No ✓; PMX #_____ or WFX #_____
5. SWD order Yes _____, NO ✓; SWD # _____
6. DHC from SF_____; DHC-HOB_____; Holding_____

7. OCD Approval Date 10/27/2011 API #30-015-35543
8. Reviewers TES