

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

2007 AUG - 3

Lease Serial No.
NMNM-5735

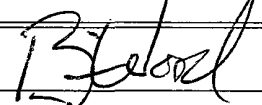
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RCVD DEC 11 '07

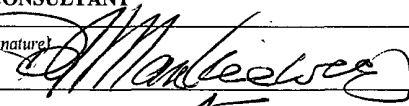
1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		6. If Indian, Allottee or Tribe Name N/A	
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		8. Lease Name and Well No. ESCAVADA 22 DIST. 3	
2. Name of Operator H-PETRO-R INC.		9. API Well No. 30-045- 34379	
3a. Address 5530 N. WESTERN AVE. OKLAHOMA CITY, OK 73118		10. Field and Pool, or Exploratory WILDCAT PENN. & MISSISSIPPIAN	
3b. Phone No. (include area code) (405) 242-4400		11. Sec., T. R. M. or Blk. and Survey or Area I 22-22N-8W NMPM	
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface 1000' FSL & 1000' FEL At proposed prod. zone 1600' SAME 1275'		12. County or Parish SAN JUAN	
14. Distance in miles and direction from nearest town or post office* 11 AIR MILES SOUTH-SOUTHEAST OF NAGEEZI, NM		13. State NM	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1,000'		16. No. of acres in lease 2,280	
17. Spacing Unit dedicated to this well SECTION 22		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 223'	
19. Proposed Depth 11,160'		20. BLM/BIA Bond No. on file BLM LEASE WIDE NMB000477	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) GL 6623		22. Approximate date work will start* 08/13/2007	
23. Estimated duration 3 MONTHS		24. Attachments	

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

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

25. Signature 	Name (Printed/Typed) BRIAN WOOD	Date 07/30/2007
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Title CONSULTANT	PHONE: (505) 466-8120	FAX: (505) 466-9682
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Approved by (Signature) 	Name (Printed/Typed) AFM	Date 12/10/07
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Title AFM	Office FE
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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.

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.

*(Instructions on page 2)

HOLD C104 FOR NSL

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

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

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

DEC 13 2007 NMOC

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

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

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, N.M. 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, N.M. 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-34379	² Pool Code 97657	³ Pool Name W 22 N 8 W 22; Mississippian Gas
⁴ Property Code 36874	⁵ Property Name ESCAVADA WASH 22	⁶ Well Number 1
⁷ OGRID No. 248768	⁸ Operator Name H PETRO R INC.	⁹ Elevation 6623

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
1	22	22 N	8 W		1600	SOUTH	1275	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

¹² Dedicated Acres 640	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 S 89°57'57" E			5278.49'	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 heretofore entered by the Division. Signature: <u>Brian Wood</u> Date: <u>10-8-07</u> Printed Name: <u>BRIAN WOOD</u>
2646.17'			2656.09'	
N 0°28'57" W			S 0°22'06" W	
2654.42'			2657.94'	
	SECTION 22 NAD 83 LAT: 36.122227° N LONG: 107.664902° W NAD 27 LAT: 36° 07.3327' N LONG: 107° 39.8575' W			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. 8/17/07 Date of Survey Signature and Seal of Professional Surveyor: <u>[Signature]</u> Certificate Number: <u>5846</u>
			1275'	
			1600'	
			S 0°20'47" W	
N 0°25'03" E			2621.21'	
N 89°49'05" W	2621.21'	N 89°49'05" W	2621.21'	

Submit 3 Copies To Appropriate District
Office
District I
1625 N French Dr , Hobbs, NM 88240
District II
1301 W Grand Ave , Artesia, NM 88210
District III
1000 Rio Brazos Rd , Aztec, NM 87410
District IV
1220 S St. Francis Dr , Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
May 27, 2004

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30-045- <u>34379</u>
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. NMNM-057445
7. Lease Name or Unit Agreement Name ESCAVADA 22
8. Well Number 1
9. OGRID Number 248768
10. Pool name or Wildcat WILDCAT

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
6,623' GL

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type: DRILLING Depth to Groundwater: >100' Distance from nearest fresh water well: >1,000' Distance from nearest surface water: >75'

Pit Liner Thickness: 12 mil Below-Grade Tank: Volume _____ bbl Construction Material: SYNTHETIC

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A
DIFFERENT RESERVOIR USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH
PROPOSALS)

1. Type of Well: Oil Well ☐ Gas Well ☒ Other

2. Name of Operator

H-PETRO-R INC.

3. Address of Operator

5530 N. WESTERN AVE., OKLAHOMA CITY, OK 73118

4. Well Location

Unit Letter: I

1600' FSL & 1275' FEL

Section 22

Township 22 North

Range 8 West

NMPM

SAN JUAN

County

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type: DRILLING Depth to Groundwater: >100' Distance from nearest fresh water well: >1,000' Distance from nearest surface water: >75'

Pit Liner Thickness: 12 mil Below-Grade Tank: Volume _____ bbl Construction Material: SYNTHETIC

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐ CHANGE PLANS ☐

PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

OTHER: DRILLING PIT ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐ P AND A ☐

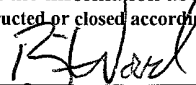
CASING/CEMENT JOB ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE



TITLE: CONSULTANT

DATE: OCTOBER 8, 2007

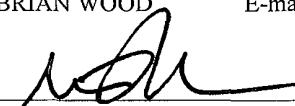
Type or print name: BRIAN WOOD

E-mail address: brian@permitswest.com

Telephone No.: (505) 466-8120

For State Use Only

APPROVED BY:



TITLE

Deputy Oil & Gas Inspector,

District #3

DATE

DEC 13 2007

Conditions of Approval (if any):

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007

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.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well
☐ Oil Well ☐ ☒ Gas Well ☐ Other

2. Name of Operator
H-PETRO-R INC.

3a. Address
5530 N. WESTERN AV., OKLAHOMA CITY, OK 73118

3b. Phone No. (include area code)
405 242-4400

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
1600' FSL & 1275' FEL 22-22N-8W NMPM

5. Lease Serial No.

NMNM-57445

6. If Indian, Allottee or Tribe Name

N/A RCVD DEC 11 '07

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

OIL CONS. DIV.

8. Well Name and No.

ESCADA 22 #1

9. API Well No.

30-045- 34379

10. Field and Pool, or Exploratory Area

WILDCAT PENN. & MISSISSIPPIAN

11. County or Parish, 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			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other MOVE WELL
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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 recomplete 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 recompletion 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.)

**As requested by BLM & Dugan, well has been moved 505' from Dugan's Zappa 93S well and 660' from where originally staked.
Well is now 1,040' from closest lease line.**

RECEIVED

OCT 9 2007

**Bureau of Land Management
Farmington Field Office**

cc: BLM, Hanks

**NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT**

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

BRIAN WOOD

(PHONE 505 466-8120)

Title **CONSULTANT**

(FAX 505 466-9682)

Signature

Brian Wood

Date

10/08/2007

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

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

Title

APM

Date

12/10/07

Office

FFO

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

(Instructions on page 2)

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

NMOCD

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

H-Petro-R Inc.
Escavada 22 #1
1600' FSL & 1275' FEL
Sec. 22, T. 22 N., R. 8 W.
San Juan County, New Mexico

PAGE 1

Drilling Program

1. ESTIMATED FORMATION TOPS

<u>Formation</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Elevation</u>
Nacimiento	0'	20'	+6,623'
Ojo Alamo Sandstone	83'	103'	+6,540'
Kirtland Shale	183'	203'	+6,440'
Fruitland Coal	673'	693'	+5,950'
Pictured Cliffs Sandstone	703'	723'	+5,920'
Cliff House Sandstone	1,398'	1,418'	+5,225'
Gallup Sandstone	4,988'	5,008'	+1,635'
Dakota Sandstone	5,088'	5,108'	+1,535'
Morrison Formation	5,378'	5,398'	+1,245'
Entrada Sandstone	6,163'	6,183'	+460'
Glorieta Sandstone	7,488'	7,508'	-865'
Pennsylvanian Carbonates	9,489'	9,509'	-2,866'
Paradox Formation	10,139'	10,159'	-3,516'
Barker Creek Formation	10,499'	10,519'	-3,876'
Pinkerton Trail Formation	10,669'	10,689'	-4,046'
Mississippian Formation	10,974'	10,994'	-4,351'
Devonian	11,054'	11,074'	-4,431'
Total Depth (Precambrian)	11,160'	11,180'	-4,537'

2. NOTABLE ZONES

Oil &/or Gas Zones

Fruitland
Pictured Cliffs
Gallup
Entrada
Pennsylvanian

Water Zones

Nacimiento
Fruitland
Entrada

Coal Zone

Fruitland

H-Petro-R Inc.
Escavada 22 #1
1600' FSL & 1275' FEL
Sec. 22, T. 22 N., R. 8 W.
San Juan County, New Mexico

PAGE 2

Oil &/or Gas Zones

Barker Creek
Mississippian

Water zones will be protected with casing, cement, and weighted mud. Fresh water encountered during drilling will be recorded by depth, cased, and cemented. Oil and gas shows will be tested for commercial potential based on the well site geologist's recommendations.

3. PRESSURE CONTROL

The drilling contract has not yet been awarded. Thus, the exact BOP model to be used is not yet known. A typical 5,000 psi model is on PAGE 3. All BOP equipment will meet or exceed the requirements for a 5,000 psi system as described in Onshore Order 2. This includes the buffer tank header, buffer tank, and associated valves.

Ram preventers will be tested to the approved BOP stack working pressure when a test plug is used. If a test plug is not used, then the stack will be tested to the rated working pressure of the stack or $\approx 70\%$ of the minimum yield of the casing, whichever is less. Annular type preventers will be pressure tested to $\approx 50\%$ of their working pressure.

Surface casing flanged head, well head Christmas tree, controls, choke manifold with remote control, full operating floor valve with drill pipe thread, and long string BOP equipment will have a working pressure of 5,000 psi. Will nipple up BOP equipment and test to ≈ 250 psi low and $\approx 5,000$ psi high before drilling out the surface casing plug. Surface casing will be tested to $\approx 80\%$ of its rated burst pressure before drilling out. The annular preventer will be tested to ≈ 250 psi low and $\approx 2,500$ psi high. The floor safety valve, choke manifold equipment, and upper and lower kelly cocks will be tested to $\approx 5,000$ psi. BOP equipment will be hydraulically operated. A remote accumulator will be used.

H-Petro-R Inc.
Escavada 22 #1
1600' FSL & 1275' FEL
Sec. 22, T. 22 N., R. 8 W.
San Juan County, New Mexico

PAGE 4

Subsequent pressure tests will be performed whenever pressure seals are broken or equipment is repaired. BOP and manifold mechanical operating conditions will be checked daily. All rams and the annular preventer will be activated on each trip. Weekly BOP drills will be conducted with each crew. BOP will be tested at least once every 30 days. Will drill $\approx 5'$ to $\approx 20'$ out from under the casing shoe and pressure test to a maximum expected mud weight equivalent of $\approx 12\frac{1}{2}$ pounds per gallon, or leak off, whichever is less. All tests, maintenance, and BOP drills will be recorded on the rig tower sheets.

4. CASING & CEMENT

<u>Hole Size</u>	<u>O. D.</u>	<u>Pounds/Foot</u>	<u>Grade</u>	<u>Type</u>	<u>Age</u>	<u>Depth Set</u>
17-1/2"	13-3/8"	48	H-40	S T & C	New	1,000'
12-1/4"	9-5/8"	40	N-80	L T & C	New	5,440'
7-5/8"	5-1/2"	17	J-55	L T & C	New	9,000'
7-5/8"	5-1/2"	17	P-110	L T & C	New	11,160'

Surface casing will be cemented to the surface with $\approx 100\%$ excess. Lead with ≈ 870 sacks ($\approx 1,853$ cubic feet) premium light FM + 8% bentonite + 3% calcium chloride + 0.4% sodium metasilicate + 0.4% FL-52 + 5 pounds per sack LCM-1 mixed to yield 2.13 cubic feet per sack and a weight of 12.1 pounds per gallon. Tail with ≈ 150 sacks (≈ 208 cubic feet) Type III + 2% calcium chloride + 1/4 pound per sack cello flake mixed to yield 1.39 cubic feet per sack and a weight of 14.6 pounds per gallon. Fifteen centralizers will be installed.

Intermediate casing will be cemented to the surface with $\approx 100\%$ excess. Lead with $\approx 1,475$ sacks ($\approx 3,142$ cubic feet) premium light FM + 8% bentonite + 3% calcium chloride + 5 pounds per sack LCM-1 + 0.4% sodium metasilicate + 0.4% FL-52 mixed to yield 2.13 cubic feet per sack and a weight of 12.1 pounds per gallon. Tail with ≈ 200 sacks (≈ 276 cubic feet) Type III + 1% calcium chloride + 1/4 pound per sack cello flake + 0.2% FL-52 mixed to yield 1.38 cubic feet per sack and a weight of 14.6 pounds per gallon. Ten centralizers will be installed.

H-Petro-R Inc.
Escavada 22 #1
1600' FSL & 1275' FEL
Sec. 22, T. 22 N., R. 8 W.
San Juan County, New Mexico

PAGE 5

Production casing will be cemented to $\approx 4,960'$ with $\approx 20\%$ excess. Lead with ≈ 301 sacks (≈ 758 cubic feet) premium light FM + 2% calcium chloride + 0.4% sodium metasilicate + 0.45 FL-52 + 8% bentonite + 5 pounds per sack LCM 1 mixed to yield 2.52 cubic feet per sack and a weight of 11.5 pounds per gallon. Tail with ≈ 200 sacks (≈ 562 cubic feet) premium light II high strength + 0.05% static free + 0.6% R-3 retarder + 3% potassium chloride + 0.7 FL-25 + 35% silica flour + 0.2% BA-59 bonding agent mixed to yield 2.81 cubic feet per sack and a weight of 12.5 pounds per gallon. One centralizer will be installed every three joints.

5. MUD PROGRAM

<u>Depth</u>	<u>Type</u>	<u>ppg</u>	<u>Viscosity</u>	<u>Fluid Loss</u>	<u>Drill Solids</u>
0' - 1,000'	Fresh water spud mud	8.4 - 8.6	60 - 75	NC	1 - 3%
1,000' - 5,440'	Clean Faze	8.6 - 9.0	33 - 38	6 - 10	<4%
5,440' - TD	Clean Faze	9.0 - 10.5	40 - 55	4 - 6	<6%

Enough material to maintain mud properties, control lost circulation, and prevent a blowout will be at the well while drilling. Mud will be checked hourly by rig personnel. Material to soak up possible oil or fuel spills will be on site.

6. CORES, TESTS, & LOGS

No cores or drill stem tests are planned. High resolution induction depth, SDL (spectral density survey), DSN (dual spaced neutron), and gamma ray logs will be run from TD to at least the base of the intermediate casing.

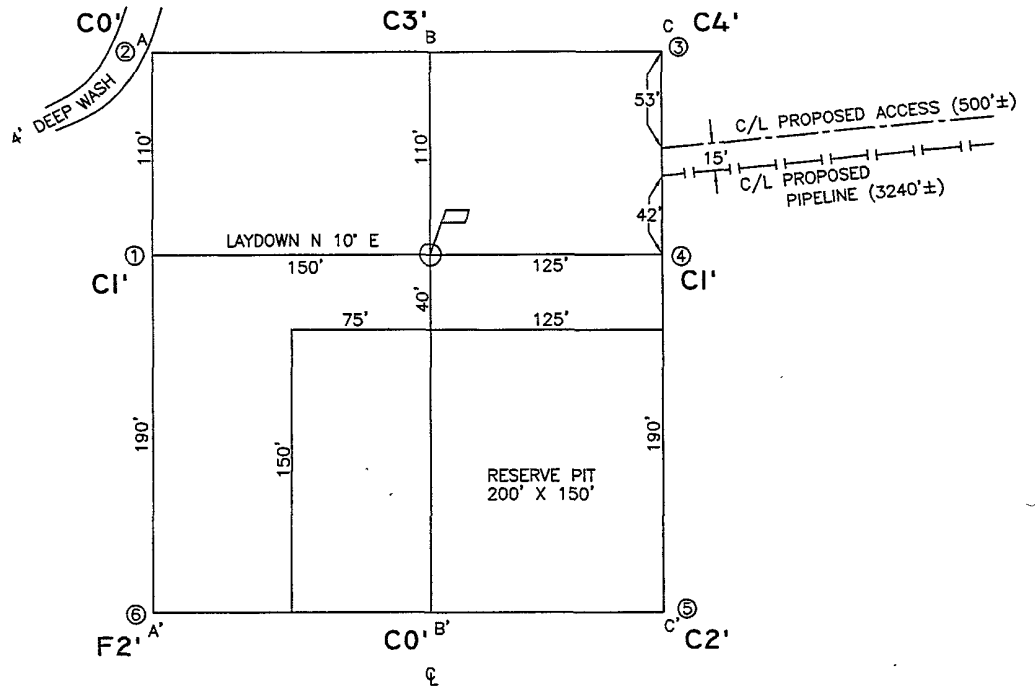
7. DOWN HOLE CONDITIONS

No abnormal pressures, temperatures, or hydrogen sulfide are expected. Maximum expected bottom hole pressure will be $\leq 4,832$ psi.

BEFORE DIGGING
CALL FOR UTILITY
LINE LOCATION!



0 50 100
SCALE: 1"=100'



A-A'

6640				
6630				
6620				
6610				
6600				

B-B'

6640				
6630				
6620				
6610				
6600				

C-C'

6640				
6630				
6620				
6610				
6600				

CROSS SECTIONS
HORIZONTAL: 1"=100'
VERTICAL: 1"=50'

EXHIBIT 1A

LEASE: ESCAVADA WASH 22 #1

FOOTAGE: 1600' FSL, 1275' FEL

SEC. 22 TWN. 22 N RNG. 8 W N.M.P.M.

LAT: N 36.122227° LONG: W 107.664902° (NAD 83)

ELEVATION: 6623

H PETRO R INC.
OKLAHOMA CITY, OKLAHOMA

SURVEYED: 8/17/07

REV. DATE:

APP. BY R.L.P.

DRAWN BY: H.S.

DATE DRAWN: 8/21/07

FILE NAME: 7669C02



P.O. BOX 3651
FARMINGTON, NM 87499
OFFICE: (505) 334-0408

Checklist for Drilling, Workover, and Maintenance in H₂S Environment

1. Two safety briefing areas at least 100 yards from well head and arranged so that one area will briefing area will always be upwind at all times. These sites should be located uphill whenever possible. (see site plan Appendix 3.4)
2. Identify direction of prevailing winds (see site plan Appendix 3.4)
3. At least two wind socks installed at all times
4. Primary and secondary emergency escape routes (flagged trail minimum)
5. Number, types, and storage location of H₂S emergency respirators for personnel, and number of personnel to be present onsite at any one time.
6. H₂S detector locations (3 minimum to include cellar or bell nipple and mud tanks at shale shaker). Type and location of visual and audible alarms to be used.
7. H₂S evacuation and emergency training procedures and schedule (i.e. Contingency Plan)
8. List of area residents with a two-mile radius, evacuation plan, and contact list (including agencies and individuals)
9. Types and quantities of mud additives and scavengers to be available at location for H₂S operations
10. Design features and operational procedures to be used to provide safe working environment (including a certification by the operator on the APD that all equipment meets standards for H₂S service
11. Appropriate warning signs and flags on all access roads
12. Provisions for blocking and monitoring access to location during critical incident
13. Ventilation fan under rig floor
14. In event of uncontrolled blowout, designation of local official has authority to ignite flow
15. Swabbing or drillstream fluids containing H₂S should be put through a separator to permit flaring of gas. Flare should have a continuous pilot light to ensure ignition of all such gas.

2.0 Hydrogen Sulfide H₂S Contingency Plan

2.1 Introduction

This plan provides required procedures to be followed to adequately provide for a safe H₂S working environment. These required procedures include safety procedures, precautionary measures, and training for emergency and standard procedures. This document sets forth the responsibilities of the operator and all individuals and entities under employment or contract with the operator working in a sour gas (H₂S) area.

To make this contingency plan effective and in order to provide a safe working environment, cooperation from all individuals in a necessity, to this end each person onsite must understand normal and emergency operating procedures for this site. Each individual onsite must have adequate information, training, and practice with the specific procedures described in this Contingency Plan. It is the responsibility of both the operator to provide adequate equipment, training, and procedures as well as the individual “worker’s” responsibility to participate fully in all H₂S procedures, to familiarize themselves with the location of all safety equipment and features, and to keep equipment and procedures in working order and up to date.

In order for H-Petro-R Inc. to provide a safe working environment for all “workers” and individuals in the vicinity of the well the safeguards are put in place. **Initiative rests with each and every individual for the safety of all. To this end the drilling foreman is required to and will enforce all safety procedures, for the benefit of all involved.**

2.2 Purpose

It is H-Petro-R Inc.’s intention to provide a safe working environment for all employees, contractors, and others involved with the drilling of Escavada 22 #1. There exists the possibility of encountering toxic H₂S gas during the construction, completion, and maintenance of this well. To such end, this H₂S contingency plan will be put into effect after surface casing is drilled or when it is deemed necessary by the BLM in consultation with H-Petro-R Inc.’s geologist and management.

Safety procedures are established for each person’s safety connected with the operation and for the safety of the residents of the local area.

These procedures will be strictly enforced by H-Petro-R Inc.'s foreman. Non compliance may result in loss of pay or dismissal from the site, job, or employment.

2.3 Operating Procedures

Before this H₂S contingency plan is operational, all personnel that is to be involved with operation shall be thoroughly trained* in the proper use of breathing apparatus (i.e. SCBAs and Escape Units), emergency procedures, and H₂S first aid and rescue methods. An approved list of trained personnel will be supplied by the safety company and stored with the drilling foreman.**

*Required training for operation personnel will include, but not be limited to, H₂S safety course from an approved training company, safety briefing on drill site of all safety equipment use and locations before the start of work for each and every person onsite, safety related training in-place, on-site 1,000 feet before the first H₂S formation.

**Throughout this contingency plan breathing apparatus shall be understood as

- a) A Self-Contained Breathing Apparatus (SCBA) manufactured such as Scott Industrial c100 or similar.
- b) Or an emergency Escape Unit such as the Scott SCRAM or Elsa (or similar) often referred to as hip packs, hoods, or pony bottles.

The two types of breathing apparatus will be differentiated as a SCBA or an Escape Unit as required.

2.3.1 Safety Equipment

Personal H₂S monitors- Every person onsite will be required to where a personal H₂S monitor at all times, while onsite. Monitors will not be worn on hard hats, but should be worn on the waste belt or preferably near the chest in-front.

Breathing Apparatus- all personnel on the drill site will be assigned an individual breathing apparatus unit. This may be either a escape unit or a SCBA unit. A minimum of two SCBA type units will be onsite. These units will be used by the team whose duty it is to serve as the onsite rescue team.

Monitoring and Recording Devices-An experienced safety company (such as DXP Safety Alliance, Farmington, NM) will responsible for the installation

and monitoring of H₂S detectors placed on site. These units will be tested and recalibrated as the safety company requires. If H₂S is detected, the monitors will be tested and recalibrated at least every 12 hours. This monitoring system may or may not be integral to the required two stage alarm system on site. This two stage system (visual and audio) will have a minimum of three H₂S detector locations. Monitors will be located one, in the cellar or on the bell nipple, two, at the mud tanks' shale shaker, and three, to be determined by the safety company. Visual (light) and audio (siren) will activate when H₂S concentrations reach 10 ppm.

First-Aid and rescue equipment-Stored on-site, but ideally up-hill and up-wind from H₂S sources a minimum of one "rescue pack" will contain at least:

- 1 backboard, straps, headblocks
- a set of cervical collars (s-xl)
- 1 bag valve mask
- 1 bottle of oxygen
- gauze and other standard first-aid items

suggested 1 AED (automatic external defibrillator).

Gas Monitor-An appropriate monitor should be on-site that can measure for LEL, VOC, and other explosive or hazardous gasses.

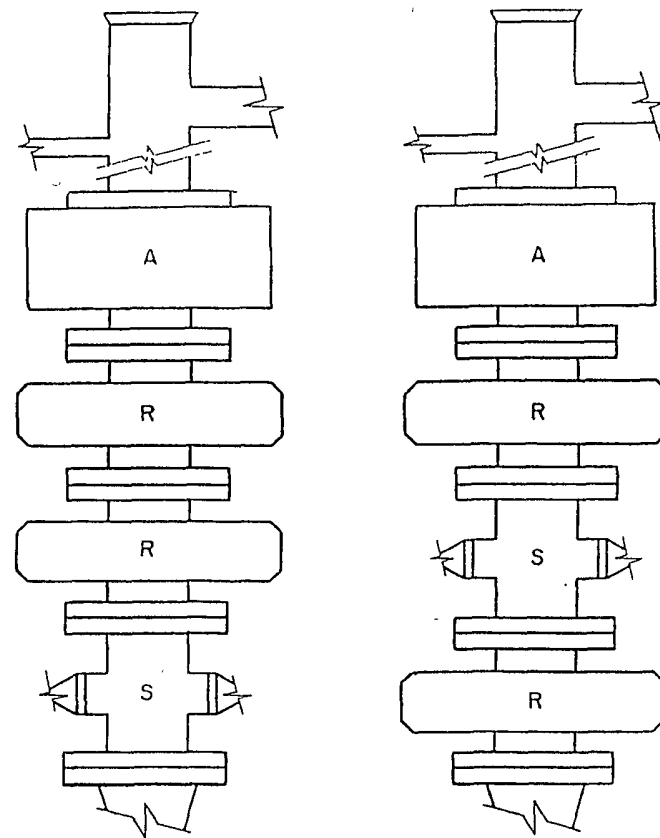
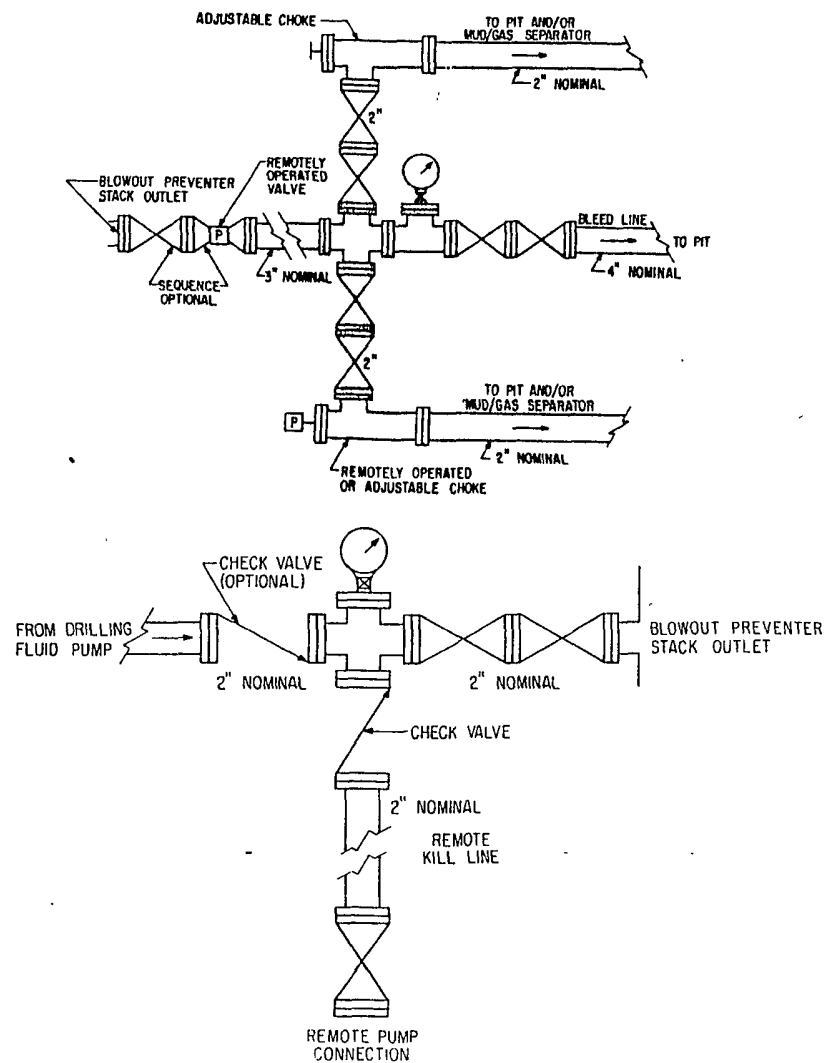
2.3.2 Safety Procedures

Cascade System- Every person required to perform duties within "safety zones" (see list below) will be provided with breathing equipment attached to a cascade air system. These areas are as follows

- rig floor
- mud pit
- derrick
- shale shaker
- mud hopper and bulk hopper
- all hazardous locations will be accessible by hose and work pack (SCBA)

Escape Routes- Two escape routes will be at a minimum flagged and kept clear at all times.

Safety Briefing Areas-Two safety briefing areas will be located at the end of escape routes (see above). The briefing areas will be clearly marked, up-hill,



TYPICAL 5,000 psi WORKING PRESSURE BOP STACKS

A = Annular type blowout preventer
 R = Ram
 S = Drilling spool with side outlet connections for choke & kill lines