District I
1625 N French Dr , Hobbs, NM 88240
District II
1301 W Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S St Francis Dr , Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

RECEIVED
APR 29 2008
HOBBS OCD

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-101
May 27, 2004

Submit to appropriate District Office

☒ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

[1] Operator Name and Address	[2] OGRID Number
Enervest Operating LLC 1001 Fannin St. Suite 800, Houston, TX. 77002	143199
	[3] API Number 30-025-38884

[4] Property Code	[5] Property Name	[6] Well No
303918	Quapaw Com	3

[9] Proposed Pool 1	[10] Proposed Pool 2
Eumont (Yates-7 Rivers-Queen) Gas	

[7] Surface Location

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	19	20S	37E		810	South	1980	East	LEA

[8] Proposed 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

Additional Well Information

[11] Work Type Code	[12] Well Type Code	[13] Cable/Rotary	[14] Lease Type Code	[15] Ground Level Elevation
N	G	R	S	3523'
[16] Multiple	[17] Proposed Depth	[18] Formation	[19] Contractor	[20] Spud Date
No	3800'	T-Y-7R	NA	NA

Depth to Groundwater 80' | Distance from nearest fresh water well >1000' | Distance from nearest surface water >1000'

Pit Liner Synthetic ☐ _12__mils thick Clay ☐ Pit Volume: | Drilling Method

Closed-Loop System ☒ | Fresh Water ☐ Brine ☒ Diesel/Oil-based ☐ Gas/Air ☐

[21] Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12-1/4"	8-5/8"	24#	1,250'	610	Surface
7-7/8"	4-1/2"	11.6#	3,800'	650	Surface

22 Describe the proposed program If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone Describe the blowout prevention program, if any Use additional sheets if necessary

1. **Prepare surface location. Move in and rig up drilling rig, spud well and drill and set conductor. Install and test BOP's.**
2. **Drill 12-1/4" surface hole to a minimum depth of 1250'. Set 8 5/8"casing and cement.**
3. **Drill 7-7/8" production hole 3,800' TD and evaluate running mud logs as well as DLL/LDT/CAL/GR to TD.**
4. **Set 4 ½" to TD and cement to surface. Perforate porosity and stimulate as necessary (specific procedure to be determined).**
5. **Place well on test.**
6. **H2S can be present in this area and an H2S contingency plan attached.**

Permit Expires 2 Years from Approval Date Unless Drilling Underway

[23] I hereby certify that the information given above is true and complete to the best of my knowledge and belief **I further certify that the drilling pit will be constructed according to NMOCD guidelines ☐, a general permit ☒, or an (attached) alternative OCD-approved plan ☐.**

Printed name Ronnie Young

Title Regulatory Supervisor

E-mail Address ryoung@enervest.net

Date 4-25-08 | Phone 713-495-6530

OIL CONSERVATION DIVISION

Approved by: Chris Williams

Title OC DISTRICT SUPERVISOR/GENERAL MANAGER

Approval Date MAY 05 2008 | Expiration Date

CONDITIONS OF APPROVAL BY THE OCD
-- Approval for drilling only, CANNOT produce unitl OCD Santa Fe approve Simultaneous Ddication of Acreage and Pool/Formation.

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
30-025-38884	76480	EUMONT (Y-7R-Q) Gas

Property Code	Property Name	Well Number
303918	QUAPAW	3

OGRID No.	Operator Name	Elevation
143199	ENERVEST OPERATING	3523'

Surface Location

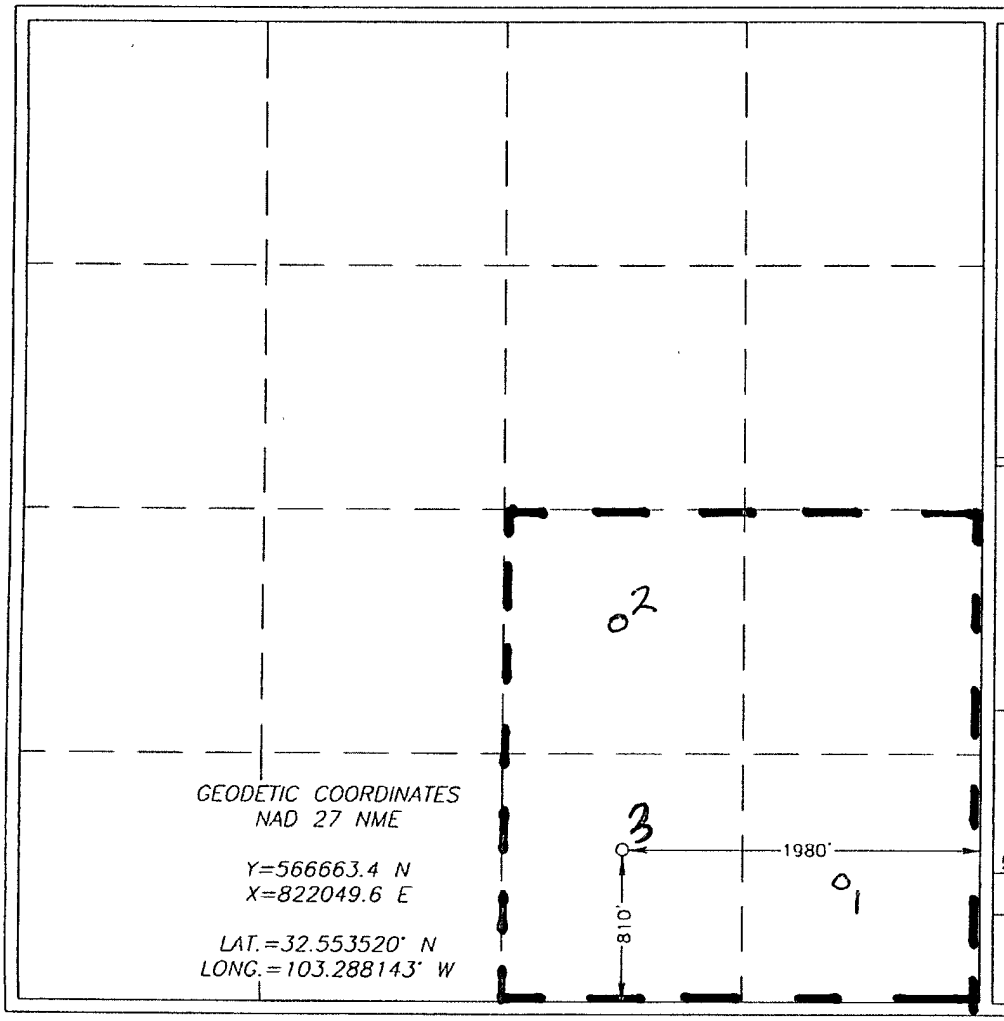
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	19	20-S	37-E		810	SOUTH	1980	EAST	LEA

Bottom Hole Location If Different From Surface

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160	Y		

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION

I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 4-25-08 Date

Gary Miller
Printed Name

Agent

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.

RONALD J. EIDSON
MARCH 29, 2008
NEW MEXICO
3239
REGISTERED PROFESSIONAL SURVEYOR

Date Surveyed LA

Signature & Seal of Professional Surveyor

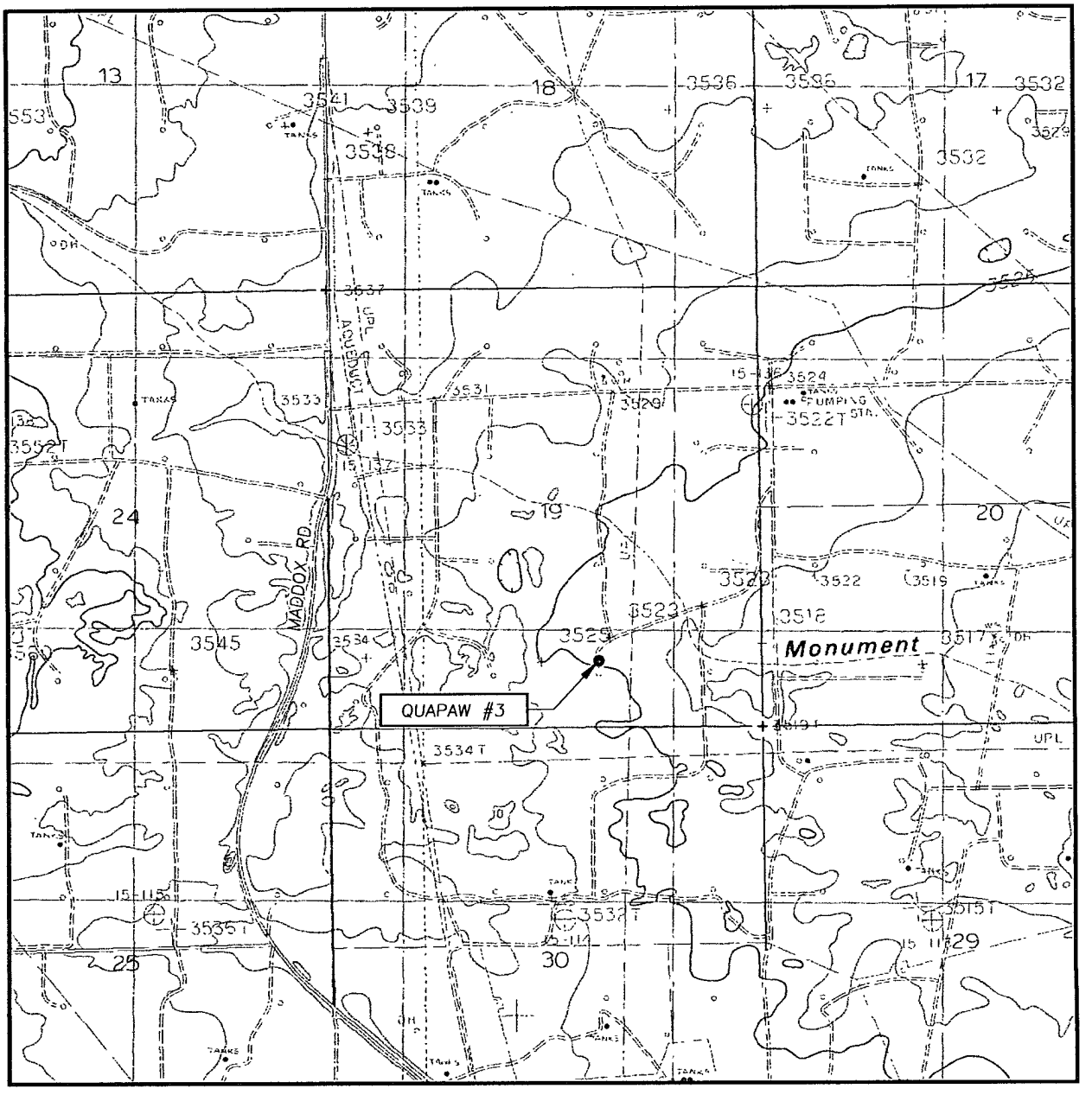
Certificate No. GARY EIDSON 12641
RONALD J. EIDSON 3239

WELL	Quapaw #3		ENERVEST		
TYPE	VERTICAL	RIG	TBD	DATE	4/25/2008
FIELD	JALMAT	COUNTY	LEA COUNTY, NEW MEXICO	ELEVATION	3,523'
GAS/OIL	GAS	MUD	NOVA	CEMENT	RISING STAR
LOCATION	810' FSL & 1,980' FEL	SEC 19 T20S R37E		SBHT	99° F
COMMENTS	OBJECTIVE FORMATION: TANSILL, YATES, SEVEN RIVERS & QUEEN				
NOTE					

MUD-LOGGER	SURVEYS	WOB/GPM BIT	FORMATION DEPTHS	VERTICAL DEPTH	MUD WEIGHT	OPEN HOLE LOGS	CEMENT	WELLHEAD	REMARKS
			14" CONDUCTOR	**40'**					
	INCLINATIONS 400' & 1,250'	5K/300 10K/350 15K/450	12-1/4" HOLE		8.5 - 8.8 PPG NATIVE				
NO MUD LOGGER		TYPE 2 INSERT 60' PEND 2 - 8" DCs	RED BEDS				LEAD: 415 Sks 35:65:6 POZ:C:GEL (1.90 Yld, 12.8 PPG) TAIL: 195 Sks Class "C" 2% CaCl2 (1.35Yld, 14.8 PPG) (100 % Excess) FLOAT COLLAR & TEXAS PATTERN SHOE TOP OUT: IF NEEDED		
			8-5/8" 24# J55 STC	**1,250'**					
	INCLINATIONS EVERY 500' OR AS NEEDED	10K/350 SEC FMH3655ZM 15K/350 PACKED	7-7/8" HOLE		9.8 - 10.1 PPG BRINE				
NO MUD LOGGER									
		20K/350		2,000'					
		22K/350		2,400'	< ADD STARCH FOR 15 - 20 CC WL				
			PRIMARY OBJECTIVES						
POS LR - DEPLETION			**TANSILL (DOLO / ANHYD) >**	**2,420' EST.**	< POS LOST RETURNS 2,700' - 3,600'				
		25K/350	**YATES (SS / DOLO) >**	**2,610' EST.**	OPEN HOLE LOGS: HALLIBURTON TD TO SC: GR / LITHO DENSITY / DUAL LATEROLOG TD TO SURFACE: GR / NEUTRON				
			SEVEN RIVERS (SS / DOLO) >	**2,870'**	< POSSIBLE LOST RETURNS				
			QUEEN (ANHYD / SS / DOLO) >	**3,324'**					
			PENROSE (LOWER QUEEN) >	**3,386'**					
			4-1/2 11.60# J55 LTC	**3,800'**	LEAD: 350 SKS 50:50 POZ:C (11.8 PPG 2.56 CF/SK) TAIL: 300 SKS CLASS "C" (14.8 PPG 1.33 CF/SK) (20% EXCESS OVER CALIPER) CEMENT TO SURFACE FLOAT SHOE, 1 JT, FLOAT COLLAR				

				OFFICE	HOME
AFE #	C0-0804-185	REGULATORY	RONNIE YOUNG	(713) 495-6530	
EV #	45118.001	SAFETY, HEALTH & ENVIRONMENTAL	ELROY ARDOIN	(713) 495-6534	(337)654-1992
API #	30-025-	GEOLOGIST	ROGER TREJO	(713) 495-5317	(281) 265-5973

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 5 FEET
MONUMENT SOUTH, N.M.

SEC. 19 TWP. 20-S RGE. 37-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 810' FSL & 1980' FEL

ELEVATION 3523'

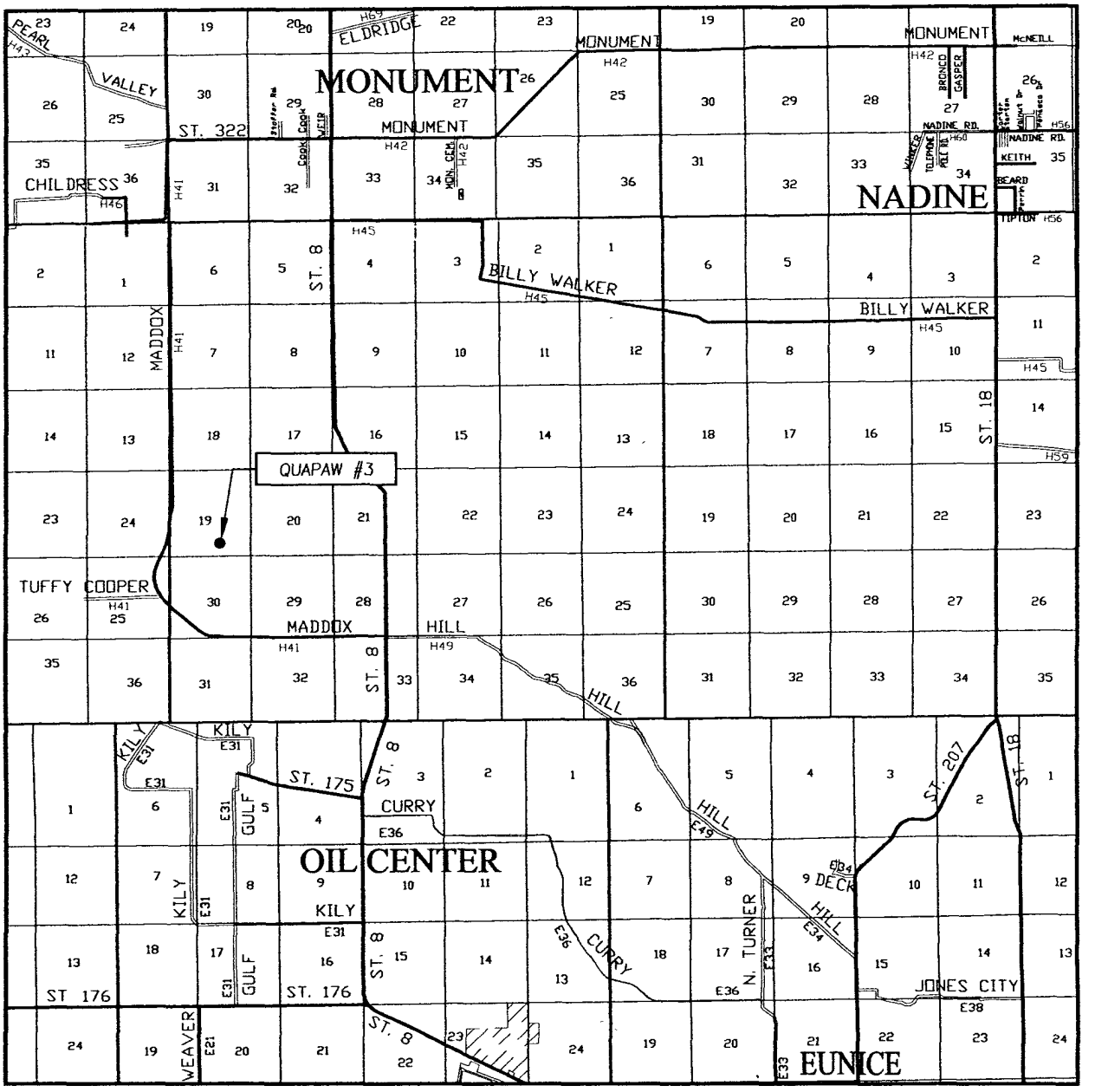
OPERATOR ENERVEST OPERATING

LEASE QUAPAW

U.S.G.S. TOPOGRAPHIC MAP
MONUMENT SOUTH, N.M.

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 19 TWP. 20-S RGE. 37-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 810' FSL & 1980' FEL

ELEVATION 3523

OPERATOR ENERVEST OPERATING

LEASE QUAPAW

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

EnerVest Operating, Ltd.
Drilling Plan — Rig Telephone #:
Jalmat Area — Rig FAX #:
810' FSL & 1,980' FEL SEC 19 T20S R37E
Lea County, NM GL = 3,523'

QUAPAW #3 - DRILLING PROGRAM

1 Geologic Name of Surface Formation & Directions to Well

Quaternary

Directions to well:

2 Estimated Tops of Important Geologic Markers

MD	SS	Formation	Objective	Rock Type
2,420	1,103	Tansill	Primary	(Dolomite & Anhydrite)
2,610	913	Yates	Primary	(Sandstone & Dolomite)
2,870	653	Seven Rivers	Primary	(Sandstone & Dolomite)
3,324	199	Queen	Primary	(Anhydrite, SS & Dolomite)
3,386	137	Penrose	Primary	(Lower Queen)
		Grayburg		(Dolomitic SS)

3 Estimated Depths of Anticipated Fresh Water, Oil and Gas

MD	SS	Formation	Objective	Fluid Type
2,420	1,103	Tansill	Primary	(Oil/Gas)
2,610	913	Yates	Primary	(Oil/Gas)
2,870	653	Seven Rivers	Primary	(Oil/Gas)
3,324	199	Queen	Primary	(Oil/Gas)
3,386	137	Penrose	Primary	(Oil/Gas)
		Grayburg		(Oil/Gas)

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 8-5/8" casing to 1,250' and circulating cement back to the surface will protect the surface fresh water sand. All zones containing commercial quantities of oil or gas will have cement circulated across them by cementing the 4-1/2" production casing back to at least the 8-5/8" casing shoe. Cement volumes will be pumped to provide cement back to surface.

4 Casing Program

Hole Size	Interval	OD Casing	Weight	Grade	Conn./New?	Bur/Col/Tens
12-1/4"	0-1,250'	8-5/8"	24#	J-55	STC/New	2.00 / 2.40 / 1.94
7-7/8"	0-3,800'	4-1/2"	11.60#	J-55	LTC/New	1.16 / 2.50 / 1.86

5 Cement Program

8-5/8" Surface Casing
100% XS

LEAD 415 SX, 35/65/6, C/Poz/Gel, 1.90 cf/sk, 12.8 PPG
TAIL 195 SX, Class "C", 1.35 cf/sk, 14.8 PPG

4-1/2" Production Csg

LEAD 350 SKS 50:50 POZ:C (11.8 PPG 2.56 CF/SK)
TAIL 300 SKS CLASS "C" (14.8 PPG 1.33 CF/SK)

6 Minimum Specifications for Pressure Control & Wellhead Equipment

The blowout preventer equipment (BOPE) shown in Exhibit #9 will consist of a double ram-type (2,000 psi WP) preventer. This unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on bottom and 4-1/2" drill pipe rams on top. The BOPE will be nippled up on the 8-5/8" surface casing and tested to 2,000 psi by a third party. Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment (Exhibit #10) will include a kelly cock and floor safety valve, choke lines and a choke manifold (Exhibit #11) and will have a 2,000 psi WP rating.

A 2,000 psi WP Larkin Type Wellhead will be used.

7 Types and Characteristics of the Proposed Mud System

The surface hole will be drilled with a fresh water mud.
The production hole will be drilled with saturated brine water.

DEPTH	TYPE	WEIGHT	VISCOSITY	WATER LOSS
0-1,250'	FW Mud	8.7	28	N.C.
1,250'-TD	Brine	10	30	12 cc

Sufficient mud materials will be kept at the well site to maintain mud properties and meet minimum lost circulation and weight increase requirements at all times.

8 Auxillary Well Control and Monitoring Equipment

A. Kelly cock will be kept in the drill string at all times.

B. A full opening drill pipe-stabbing valve with proper drill pipe connections will be on the rig floor at all times.

9 Logging, Testing and Coring Program

A. The electric logging program will consist of a GR-Dual Laterolog Litho Density log run from TD to the surface casing shoe.

B. A GR-Neutron will be run to surface.

C. No mud logger will be used.

D. No conventional coring is anticipated.
Further testing procedures will be determined after the 4-1/2" production casing has been cemented at TD, based on drill shows and log evaluation.

10 Abnormal conditions, Pressure, Temperatures and Potential Hazards

No abnormal pressures or temperatures are anticipated. The estimated bottom hole temp. at TD is 97°F and the estimated maximum bottom hole pressure is 1,700 p Lost returns have been experienced in offset wells. Losses have occurred below 2,700'.

11 Anticipated Starting Date and Duration of Operations

Road and location work will not begin until approval has been received.
Anticipated Start Date is **July 1, 2008.**
Once commenced, drilling operations should be finished in approximately 12 days.
If the well is productive, an additional 30 days will be required for completion and testing before a decision is made to install permanent facilities.

12 Safety

Conduct Tour Safety Meetings with all crews and record topics of these meetings on the IADC and morning reports. Document all personnel in attendence and topics of these Safety Meetings. Keep these documents on file in company representative's office for inspection.

13 Notes

Stamp, Code and Sign all Invoices

H_2S Area? If yes, attach contingency plan.

Inclinations: Survey every 500' or bit trip
Drop Totco every trip out to check the angle. Max inclination = 3^o
Call Houston if survey is >= 3^o

Mud Disposal: Closed Loop system will be used. Haul off all cuttings and fluids.

BHA #1 **Surface** BIT-(2-8"DC)-STAB-DCs as needed (60' Pendulum)

BHA #2 **Production** BIT-NB-PC-ST-DC-ST-DC-STAB-DCs as needed (Packed)

BIT PROGRAM

			RPM	WOB
Surface	**12-1/4"**	Smith F29	90	35k
Production	**7-7/8"**	FMH3655ZM	100-110	15-25k