

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

Form C-101
May 27, 2004

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

RECEIVED

Submit to appropriate District Office
☒ AMENDED REPORT

APR 29 2008

APPLICATION FOR PERMIT TO **DRILL**, RE-ENTER, DEEPEN, PLUG BACK OR ADD A ZONE

¹ Operator Name and Address Enervest Operating LLC 1001 Fannin St. Suite 800, Houston, TX. 77002		² O.R.B. Number 143199 ✓
³ Property Code 303904 ✓	⁴ Property Name JW Sherrell	⁵ API Number 30-025-38882
⁹ Proposed Pool 1 Jalmat (Tansil-Yates-7 Rivers) Gas		¹⁰ Proposed Pool 2 Langley Mattix (Lower 7 Rivers-Queen-Grayburg)

⁷ Surface Location

UL or lot no O	Section 31	Township 24S	Range 37E	Lot Idn	Feet from the 660	North/South line South	Feet from the 1815	East/West line East	County LEA
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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
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Additional Well Information

¹¹ Work Type Code N	¹² Well Type Code G	¹³ Cable/Rotary R	¹⁴ Lease Type Code S P	¹⁵ Ground Level Elevation 3227'
¹⁶ Multiple No	¹⁷ Proposed Depth 3800'	¹⁸ Formation T-Y-7R	¹⁹ Contractor NA	²⁰ Spud Date NA
Depth to Groundwater 100'		Distance from nearest fresh water well >1000'		Distance from nearest surface water >1000'
Pit Liner Synthetic <input type="checkbox"/> 12 mils thick Clay <input type="checkbox"/> Pit Volume		Drilling Method		
Closed-Loop System <input checked="" type="checkbox"/>		Fresh Water <input type="checkbox"/> Brine <input checked="" type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>		

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

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

²² Describe the proposed program. If this application is to DEEPEN or PLUG productive zone. Describe the blowout prevention program, if any Use ad

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 1/2" 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 NMOC 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/CENTRAL MANAGER

Approval Date: MAY 01 2008

Expiration Date

Oil Conservation Division

Conditions of approval: Approval for drilling/workover ONLY--- CANNOT produce Downhole Commingled until DHC is approved in Santa Fe.

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

OIL CONSERVATION DIVISION

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

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

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-025- 38882	Pool Code 79240	Pool Name Jalmat (T-Y-7R) Gas
Property Code 303904	Property Name JW SHERRELL	Well Number 12
OGRID No. 143199	Operator Name ENERVEST OPERATING	Elevation 3227'

Surface Location									
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	31	24-S	37-E		660	SOUTH	1815	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 160	Joint or Infill Y	Consolidation Code		Order No.					

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

LOT 1		OPERATOR CERTIFICATION
38.09 AC. LOT 2	<p><i>GEODETIC COORDINATES NAD 27 NME</i></p> <p><i>Y=426801.0 N X=851068.3 E</i></p> <p><i>LAT.=32.168305° N LONG = 103.198790° W</i></p>	<p>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.</p>
38.10 AC LOT 3		<p><i>[Signature]</i> 4-8-03</p> <hr/> <p>Signature Date</p> <p><i>Gary Eidson</i></p> <hr/> <p>Printed Name <i>Agrit</i></p>
38.12 AC. LOT 4		SURVEYOR CERTIFICATION
38.13 AC.		<p>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.</p>
		<div style="text-align: center;"> </div>
		<p>Date Surveyed: <i>MARCH 27, 2007</i> LA</p> <p>Signature & Seal of Professional Surveyor</p> <p><i>Ronald J. Eidson</i> <i>3/27/07</i></p>
		<p>Certificate No. GARY EIDSON 12641</p> <p>RONALD J. EIDSON 3239</p>

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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 30-025-38882	Pool Code 37240	Pool Name Langlie Mattix (LNR-Q-B) 0.1
Property Code 303904	Property Name JW SHERRELL	Well Number 12
OGRID No. 143199	Operator Name ENERVEST OPERATING	Elevation 3227'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	31	24-S	37-E		660	SOUTH	1815	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 40	Joint or Infill Y	Consolidation Code	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

LOT 1				
38.09 AC. LOT 2		GEODETIC COORDINATES NAD 27 NME Y=426801.0 N X=851068.3 E LAT.=32.168305° N LONG.=103.198790° W		
38.10 AC. LOT 3				
38.12 AC. LOT 4				
38.13 AC.				

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.

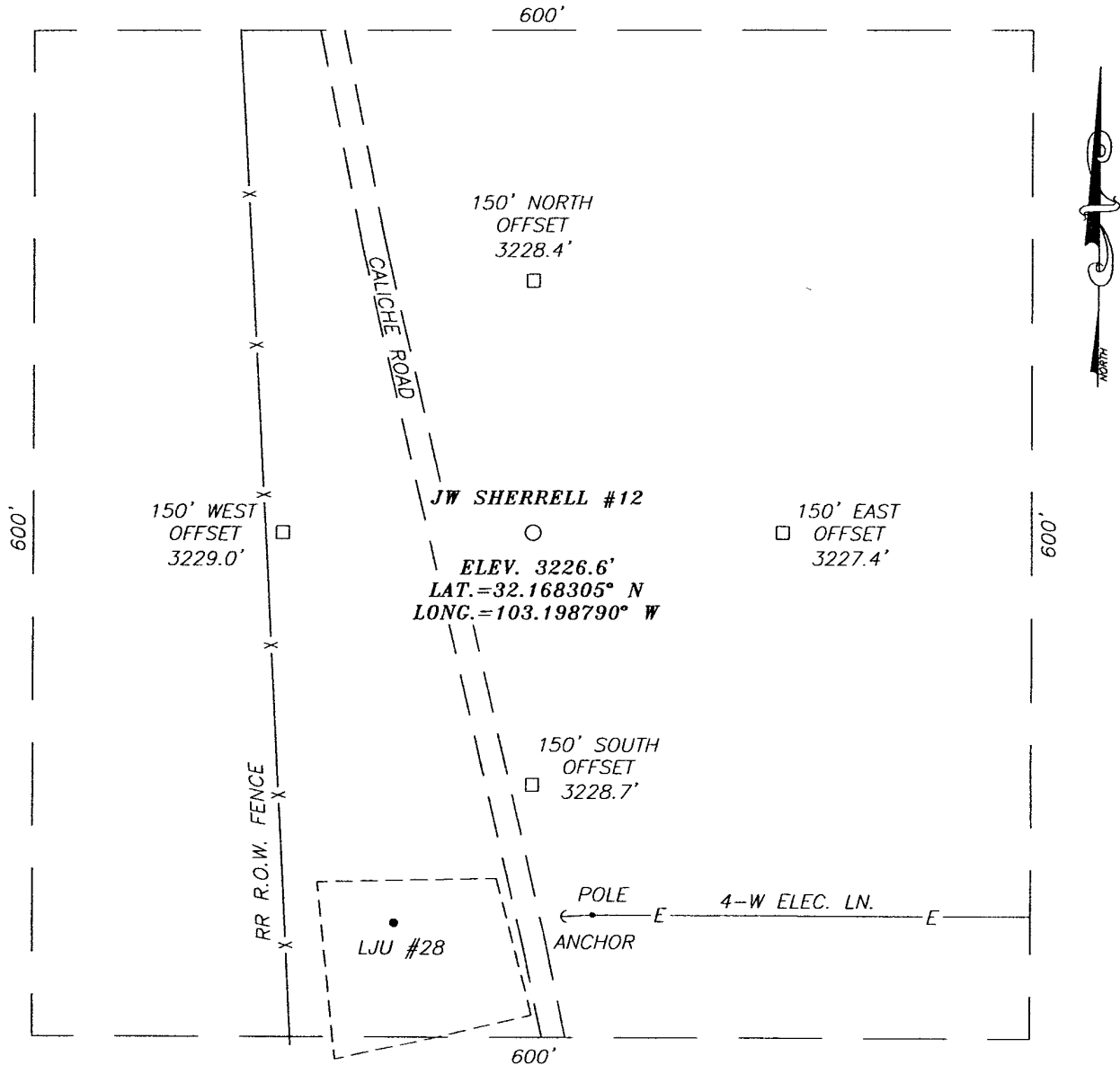
[Signature] **4-8-08**
Signature Date
GARY E. EIDSON
Printed Name

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.

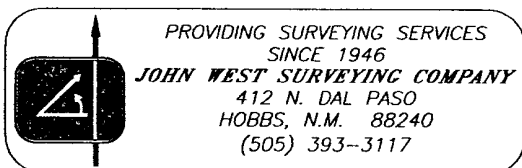
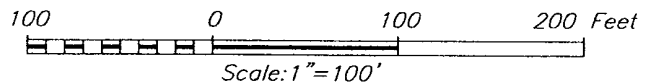
RONALD J. EIDSON
MARCH 27, 2008
NEW MEXICO
Date Surveyed
Signature & Seal of Professional Surveyor
[Signature]
Certificate No. **GARY EIDSON 12641**
RONALD J. EIDSON 3239

SECTION 31, TOWNSHIP 24 SOUTH, RANGE 37 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF ST. HWY. 18
AND CO. RD. J13 (EL PASO RD) GO NORTH ON
ST. HWY. #18 APPROX. 0.4 MILES. TURN LEFT
AND GO WEST APPROX. 0.4 MILES. VEER LEFT
AND GO SOUTH APPROX. 0.2 MILES. THIS
LOCATION IS APPROX. 50 FEET EAST.

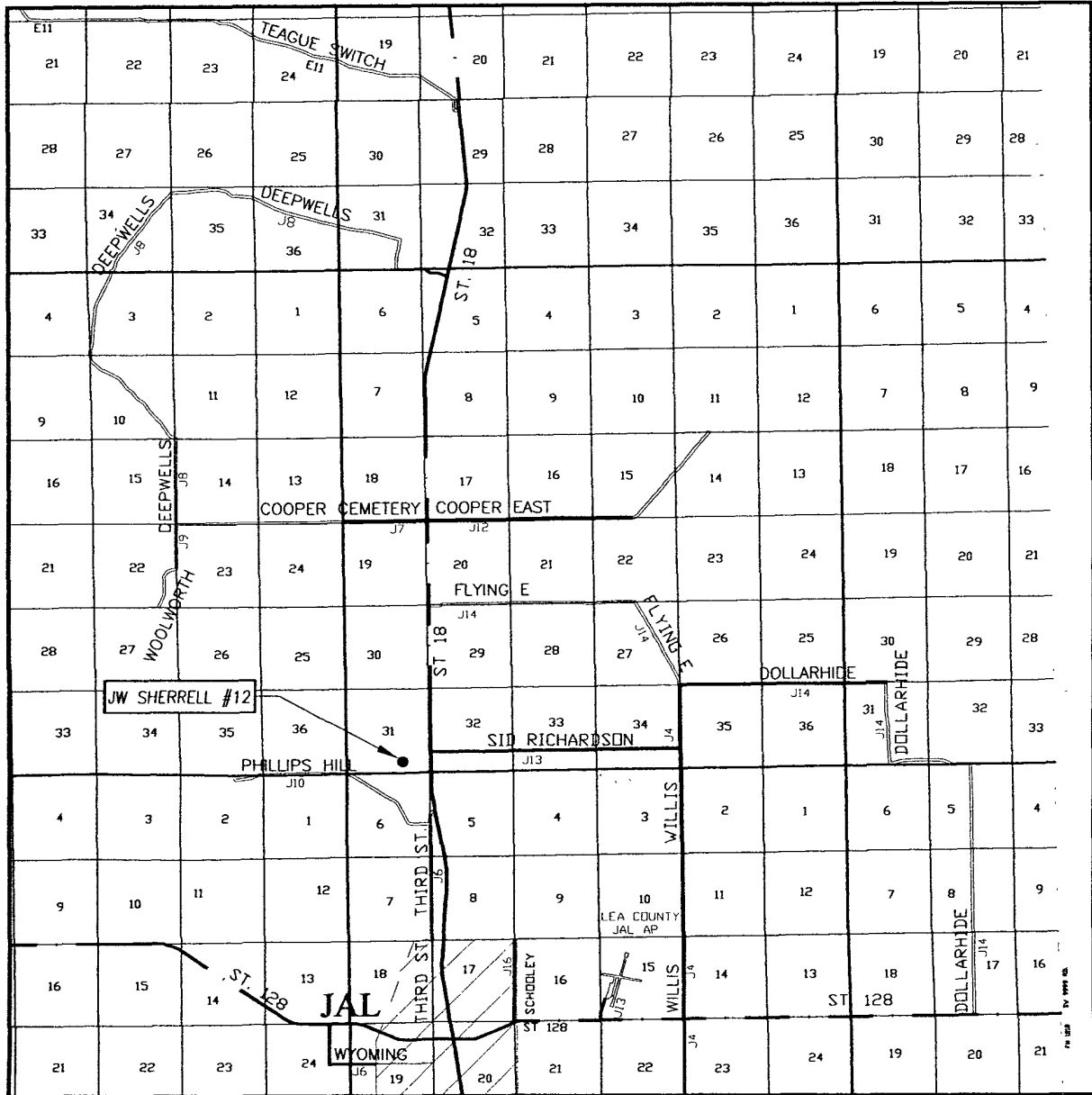


ENERVEST OPERATING

J.W. SHERRELL #12 WELL
660 FEET FROM THE SOUTH LINE AND
1815 FEET FROM THE WEST LINE OF SECTION 31,
TOWNSHIP 24 SOUTH, RANGE 37 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.

Survey Date: 3/27/08	Sheet 1 of 1 Sheets
W.O. Number: 07.11.1713	Dr By: LA
Date: 4/2/08	07111713
	Rev 1:N/A
	Scale: 1"=100'

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 31 TWP. 24-S RGE. 37-E

SURVEY N.M.P.M.

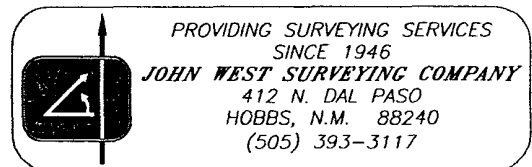
COUNTY LEA STATE NEW MEXICO

DESCRIPTION 660' FSL & 1815' FEL

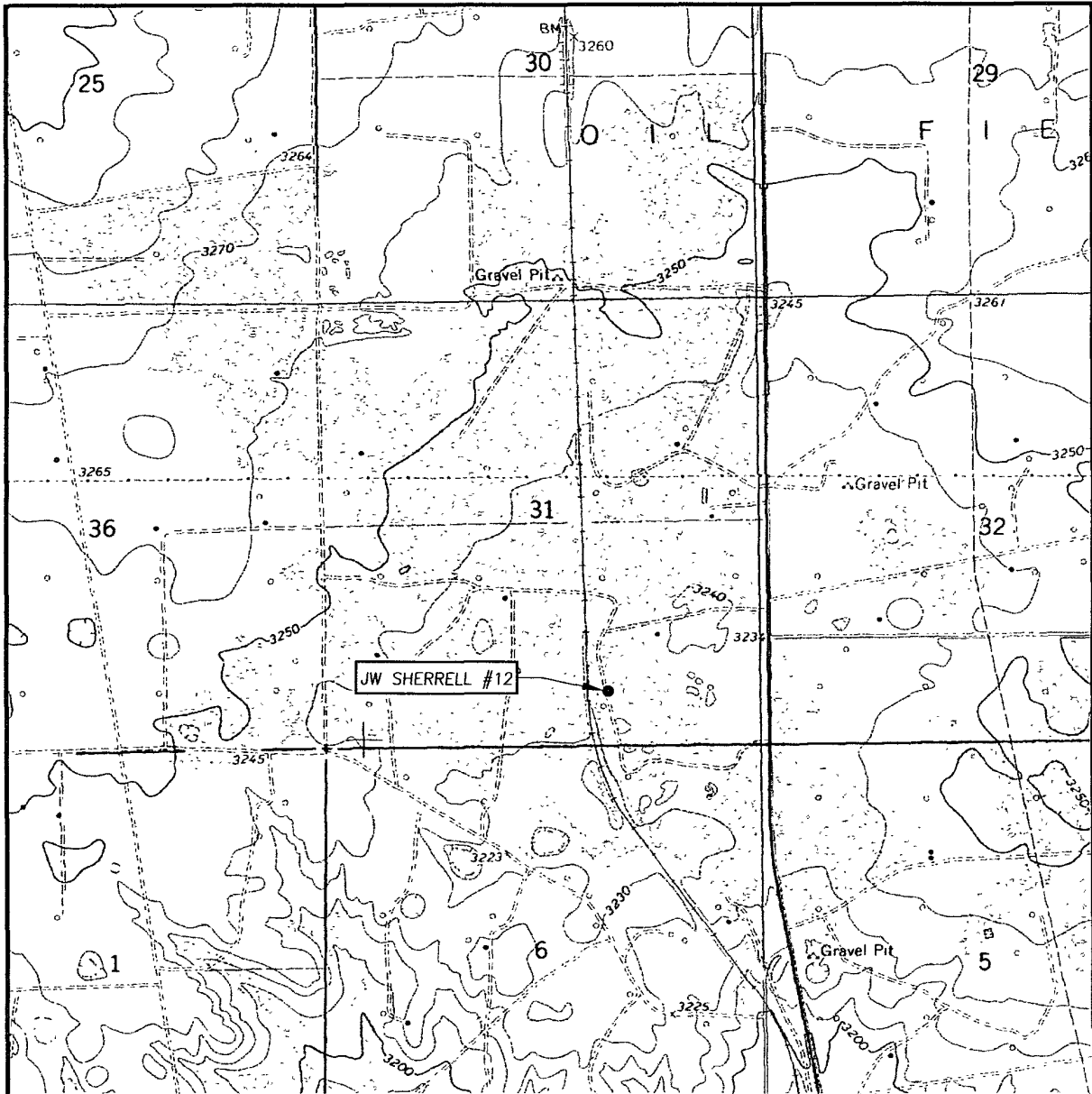
ELEVATION 3227'

OPERATOR ENERVEST OPERATING

LEASE JW SHERRELL



LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10 FEET
JAL NW, N.M.

SEC. 31 TWP. 24-S RGE. 37-E

SURVEY _____ N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 660' FSL & 1815' FEL

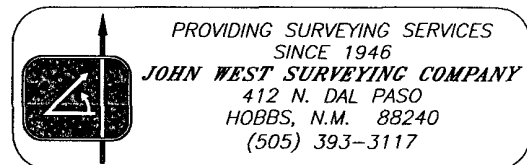
ELEVATION 3227'

OPERATOR ENERVEST OPERATING

LEASE JW SHERRELL

U.S.G.S. TOPOGRAPHIC MAP

JAL NW, N.M.



WELL		J.W. Sherrell #12		ENERVEST	
TYPE	VERTICAL	RIG	TBD	DATE	4/25/2008
FIELD	JALMAT	COUNTY	LEA COUNTY, NEW MEXICO	ELEVATION	3,227'
GAS/OIL	GAS	MUD	NOVA	CEMENT	RISING STAR
LOCATION	660' FSL & 1,815' FEL SEC 31 T24S R37E			SBHT	99° F
COMMENTS OBJECTIVE FORMATION: TANSILL, YATES, SEVEN RIVERS, QUEEN & PENROSE					
NOTE					
MUD- LOGGER	SURVEYS	WOB/GPM BIT	FORMATION DEPTHS	VERTICAL DEPTH	MUD WEIGHT
					OPEN HOLE LOGS
					CEMENT
					WELLHEAD
					REMARKS
14" CONDUCTOR			40'		
INCLINATIONS 5K/300 400' & 1,250' 10K/350 12-1/4" HOLE 15K/450 TYPE 2 INSERT NO MUD LOGGER 60' PEND RED BEDS 2 - 8" DCs				8.5 - 8.8 PPG NATIVE 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' 10K/350 7-7/8" HOLE OR AS NEEDED SEC FMH3655ZM 15K/350 PACKED NO MUD LOGGER				9.8 - 10.1 PPG BRINE	
20K/350			2,000'		
22K/350			2,400'	< ADD STARCH FOR 15 - 20 CC WL	
PRIMARY OBJECTIVES					
POS LR - DEPLETION TANSILL (DOLO / ANHYD) >			2,660'	< POS LOST RETURNS 2,700' - 3,600'	
25K/350 YATES (SS / DOLO) >			2,773'	OPEN HOLE LOGS: HALLIBURTON TD TO SC: GR / LITHO DENSITY / DUAL LATEROLOG TD TO SURFACE: GR / NEUTRON	
SEVEN RIVERS (SS / DOLO) >			2,990'	< POSSIBLE LOST RETURNS	
QUEEN (ANHYD / SS / DOLO) >			3,383'		
PENROSE (LOWER QUEEN) >			3,502'	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	
4-1/2 11.60# J55 LTC			3,800'		
AFE # C0-0804-191		REGULATORY	RONNIE YOUNG	OFFICE (713) 495-6530	
EV # 45134.005		SAFETY, HEALTH & ENVIRONMENTAL	ELROY ARDOIN	(713) 495-6534 (337)654-1992	
API # 30-025-		GEOLOGIST	ROGER TREJO	(713) 495-5317 (281) 265-5973	



EnerVest Operating, Ltd.

Drilling Plan

Jalmat Area

660' FSL & 1,815' FEL Sec 31 T24S R37E

Lea County, NM

GL =

Rig Telephone #:

Rig FAX #:

3,227'

J.W. SHERRELL #12 - 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
2,660	567	Tansil	Primary	(Dolomite & Anhydrite)
2,773	454	Yates	Primary	(Sandstone & Dolomite)
2,990	237	Seven Rivers	Primary	(Sandstone & Dolomite)
3,383	-156	Queen	Primary	(Anhydrite, SS & Dolomite)
3,502	-275	Penrose	Primary	(Lower Queen)
		Grayburg		(Dolomitic SS)

3 Estimated Depths of Anticipated Fresh Water, Oil and Gas

MD	SS	Formation	Objective	Fluid Type
2,660	567	Tansil	Primary	(Oil/Gas)
2,773	454	Yates	Primary	(Oil/Gas)
2,990	237	Seven Rivers	Primary	(Oil/Gas)
3,383	-156	Queen	Primary	(Oil/Gas)
3,502	-275	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.



EnerVest Operating, Ltd.

Drilling Plan

Jalmat Area

660' FSL & 1,815' FEL Sec 31 T24S R37E

Lea County, NM

GL =

Rig Telephone #:

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3,227'

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 nipped 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



EnerVest Operating, Ltd.

Drilling Plan

Jalmat Area

660' FSL & 1,815' FEL Sec 31 T24S R37E

Lea County, NM

GL =

Rig Telephone #:

Rig FAX #:

3,227'

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 at TD is 97°F and the estimated maximum bottom hole pressure is 1,700 psi. 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 September 2, 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.



EnerVest Operating, Ltd.

Drilling Plan

Jalmat Area

660' FSL & 1,815' FEL Sec 31 T24S R37E

Lea County, NM

GL =

Rig Telephone #:

Rig FAX #:

3,227'

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 attendance 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

H₂S 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°

Call Houston if survey is $\geq 3^\circ$

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