<u>District I</u> 1625 N. Frend <u>District II</u>	ch Dr., Hot	obs, NM 882	, , , , , , , , , , , , , , , , , , , ,	Ener	NE State of New Mexico Energy Minerals and Natural Resources						Form C-101 June 16, 2008
1301 W. Grau District III	nd Avenue,	Artesia, NN	188210 M	AR 09 20	eril Con	servati	on Divisior	1	Submit t	o approp	riate District Office
1301 W. Grand Avenue, Artesia, NM 88210District III1000 Rio Brazos Road, Aztec, NM 87410District IV1220 S. St. Francis Dr., Santa Fe, NM 87505NAR 0.9 ZUTTMAR							•		🗌 AM	IENDED REPORT	
APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE											
		SWEPI	_P, P.O. Box 576	, Houston, Tex	as 77001						250036
	(	(Local Conta 4582 S. Ul	<u>ct</u> : Shell Explora ster Pkwy., Suite	tion & Product 1400, Denver,	tion Company, CO 80237)			30-00		9-20022	
° Prope	rty Code 539		······································		Property Name Terry and Pamela Stovall Partnership 13						
×n,	lilde	at Pa	Proposed Pool 1	۲	17845	Zap	ITIA	<sup>10</sup> Proj	oosed Poo	12	
	· · · · ·				<b>MOR</b>	ical USe	ation				
UL or lot no.	Section	Township	Range	Lot Idn	Feet fr	rom the	North/South line	Feet from the		Vest line	County
В	13	8N	35E	2		0+/-	North	1835+/-	E	ast	· Curry
			<sup>8</sup> Pı	oposed Bot	tom Hole Lo	ocation	If Different Fr	om Surface			
UL or lot no.	Section	Township	Range	Lot Idn	Feet fr	rom the	North/South line	Feet from the	East/W	Vest line	County
		1	1	A	dditional	Well Ir	formation	· ·			
<sup>11</sup> Work Type Code N G							<sup>14</sup> Lease Type Code P	P 15 Ground Level Elevation P 4,561 graded			
<sup>16</sup> N	<sup>16</sup> Multiple <sup>17</sup> Proposed Depth <sup>18</sup> FormationY13,000Mississippian			<sup>19</sup> Contractor Nabors Drilling			<sup>20</sup> Spud Date April 30, 2011				
				<sup>21</sup> Propo	sed Casin	g and (	Cement Pro	gram			
Hole Size Casing Size			ng Size	Casing we		0	ting Depth	Sacks of Cer	nent	Е	stimated TOC

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
30-inch	20-inch	Conductor	90 feet	NA	0 feet
14.75-inch	10.75-inch	40.5 lbs	1,700 feet	835	0 feet
9.875-inch	7.625-inch	39 lbs	7,900 feet	. 772	1,200 feet
6.5-inch	5-inch	24.1 lbs	12,200 feet	478	6,200 feet

<sup>22</sup> 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.

See Stovall 1-13 Drilling & Completion Plan, Nabors B.O.P. Stack Diagram, Stovall 1-13 Surface Use Plan.

See Attached Location Maps and Photos: Topographic Map A, Topographic Map B, Photos, Well Location, Stovall 1-13, Figure #1, Location Layout for Stovall 1-13, Figure #2, Typical Cross Sections for Stovall 1-13, Figure #3, Typical Rig Layout for Stovall 1-13, Figure #4, Reclamation Diagram for Stovall 1-13, Location Surface Use Area & Road Right-of-Way on Fee Lands, Figure #1, Location Layout for Stovall 1-13 Drill Camp Area, Figure #2, Typical Cross Sections for Stovall 1-13 Drill Camp Area, Site Plan For Drill Camp Area

Potential maximum TVD: 13,000 feet.

# Permit Expires 2 Years From Approval Date Unless Drilling Underway

<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief.	OIL CONSERVATION DIVISION				
Signature: Millael JBergetron	Approved by:				
Printed name: Michael L. Bergstrom	Title: PETROLEUM ENGENEEL				
Title: Senior Regulatory Advisor	Approval Date: MAR 2 4 2011 Expiration Date:				
E-mail Address: michael.bergstrom@shell.com					
Date: 3/7/2011 Phone: 303.222.6347	Conditions of Approval Attached				

District I 1625 N. French Dr., District II 1301 W. Grand Avo District III 1000 Rio Brazos Rd District IV 1220 S. St. Francis		OIL	inerals & Na CONSERV 1220 South Santa Fe	New Mexico atural Resources /ATION DIV n St. Francis D e, NM 87505 ACREAGE D	ISI Pr.	MAR 09 201 1088500	Built to A	Appropriat State I Fee I	Form C-102 October 12, 2005 The District Office Lease - 4 Copies Lease - 3 Copies		
30-01	9.		45 Wildcat Penn								
<sup>4</sup> Property Code 38531			-	<sup>3</sup> Property Name Terry and Pamela Stovall Partnership <b>3</b>						<sup>6</sup> Well Number <del>Stovall</del> 1- <b>13:</b>	
<sup>7</sup> OGRID No. 25の1730			<sup>8</sup> Operator Name SWEPI LP						<sup>9</sup> Elevation 4,561 ungraded		
					<sup>10</sup> Surf	ace Location					
UL or lot no.	Section	Township	Range	Lot Ic	in Feet fro	m the North/So	uth line	Feet from the	East	/West line	County
В	13	8N	35E	2	800+/-	North		1835+/-	Eas	t	Curry
<sup>11</sup> Bottom Hole Location If Different From Surface											
UL or lot no.	Section	Township	Range	Lot Io	in Feet fro	m the North/So	uth line	Feet from the	East	/West line	County
<sup>12</sup> Dedicated Acres 160.00	<sup>13</sup> Joint o	r Infill <sup>14</sup> Co	onsolidation	Code <sup>15</sup>	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.

16 See Attached Map -	CONFIDENTIAL	<sup>17</sup> <b>OPERATOR CERTIFICATION</b> <i>1 hereby certify that the information contained herein is true and complete</i>
Well Location, Stovall	ANFINE	to the best of my knowledge and belief, and that this organization either
1-13	COlei	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 complication pooling
		order heretofore entered by the division
		Signature
		Michael L. Bergstrom Printed Name
LINGERATOR: sind freed is ten porses e of nor free of with the of your pool of the free of with the old pool of the second fillent the occupient of the source of the sou		
cheer # 10		<sup>18</sup> SURVEYOR CERTIFICATION I hereby certify that the well location shown on this
Frou he du te he		plat was plotted from field notes of actual surveys
TI CONFIDENCE		made by me or under my supervision, and that the
Give the of the the		
Synther Disco	Soor	same is true and correct to the best of my belief.
		Date of Survey
Tecets		Signature and Seal of Professional Surveyor:
Under His Ratio R: strate dis ten porse do nor from and omit the oracy pool of the strate state of the sta	are producing alle	
		Certificate Number









# Stovall 1-13 Drilling and Completion Plan

The well will be drilled with potable (TDS<3,000 ppm) water-based fluids (WBM) from surface to the bottom of the Santa Rosa Formation ("freshwater aquifer"). Surface casing string(s) will be installed and cemented. Below the Santa Rosa Formation, the deepest potable aquifer, the well will be drilled with either WBM or oil-based fluids (OBM), as necessary to minimize lost circulation and address difficult drilling conditions, to total vertical depth (TVD). Intermediate casing string(s) and production casing will be installed and cemented. Upon completion of drilling, the production, and possibly intermediate casing will be perforated in selected prospective zones. Hydraulic fracturing will be performed in the prospective zones, and gas and water flow testing will be conducted in individual and/or commingled zones.

Drilling Program

0

• <u>Lithology</u>

Tucumcari Basin

This area has been the subject of limited oil & gas exploration activity

CONTINENTIAL

- Prospective formations are in the Pennsylvanian section
- Fluid Bearing Formations
  - Potable water (Surface 1500 feet below ground surface)
  - Brackish water (1500+ feet below ground surface)
  - Natural gas/condensate (~8000+ feet below ground surface)
- Drilling Fluids
  - Freshwater drilling fluids (to 1700 feet)
    - Potable (TDS< 3,000 ppm) water-based, 8.3-9.0 ppg, viscosifiers and LCM additives
  - Brackish water drilling fluids (to TVD)
    - Non-potable (TDS>10,000 ppm) water-based, 8.6-10.0 ppg, salt, lime, caustic soda, viscosifiers and LCM additives
  - Oil-based drilling fluids (OBM) (to TVD)
    - Diesel fuel-based, 8.5-9.0 ppg, API Fluid Loss <20cc (above 7900 feet); API Fluid Loss 10-20 cc (below 7900 feet)</li>
  - Lost Circulation Materials (LCM)
    - As needed, LCM consisting of, but not limited to, cedar fibers, mica, drilling paper, graphite, walnut plug, cottonseed hulls and calcium carbonate may be introduced into the well bore to address any lost circulation zones encountered during drilling
- Wellhead Pressure Control (Blowout Prevention [BOP])
  - Wellhead BOP equipment is standard design for "tight gas" wells, as shown on Attachment 1
    - Maximum pressures for equipment (wellhead A section to be 11" 5,000 psi; wellhead B section to be 11" 10,000 psi; BOP with 11" 5,000 psi annular preventer; and Ram preventers with 11" 10,000 psi)
    - Maximum downhole pressures anticipated ~7400 psi

- BOP testing procedures conducted by third party contractor upon 0 installation
  - Ram preventers to 10,000 psi and 250 psi; Annular preventer to 2500 psi and 250 psi, for 10 minutes and 5 minutes, respectively

#### **Casing and Cementing Program**

- All casing run and set will be new and unused.
- Surface Casing
  - o 14.75-inch diameter well bore, drilled to 1700 feet.
  - o 10.75-inch diameter casing installed and cemented to surface
- Intermediate Casing
  - 0 9.875-inch diameter well bore, drilled to 7900 feet.
  - 7.625-inch diameter casing installed and cemented to 1200 feet 0
- Production Casing
  - 6.5-inch diameter well bore, drilled to 12200 feet.
  - 5.0-inch diamétér casing installed and cemented to 6200 feet FMTAL ion 0

# Well Completion

- Casing Perforation
  - Perforate casing in prospective sand zones, using six shots per foot (spf), 60 0 degree, phased perforating guns
- Hydraulic Fracturing
  - Treat prospective sand zones with ceramic and/or sand proppant materials 0 during hydraulic fracturing

#### Logging and Testing

- Lithologic Logging
  - Mudlogging (to TVD); selective coring (whole and/or rotary sidewall)
  - Wireline-Logging, may include, but not be limited to:
    - Electrical (resistivity) and radioactive (gamma ray), porosity, neutron and sonic data collection
      - As specified in Subsection A of 19.15.7.16 NMAC, only copies of electrical and radio-activity logs will be submitted with Form C-105 to Oil Conservation Division (OCD) District 1.
- Flow Testing
  - o As needed, flow individual production zones for up to 7 days
  - Flow entire well for up to 60 days
  - 0 Total flow testing period not to exceed 60 days, without additional approval



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

State of New Mexico Minerals & Natural Resources Department Form C-102

Revised October 12, 2005 Submit to Appropriate District Office

IL CONSERVATION DIVISION

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

Fee Lease - 3 Copies HOBREOCD

MAR OY ZUTT

AMENDED REPORT

State Lease - 4 Copies

<sup>1</sup> API Number				<sup>2</sup> Pool Code		<sup>3</sup> Pool Name				
<sup>4</sup> Property Code					<sup>6</sup> Well Number					
				· Te		Stovall 1-13				
<sup>7</sup> OGRID N	No.				<sup>9</sup> Elevation					
				4	4,561 ungraded					
					<sup>10</sup> Surface	Location				
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West lin	e County	
В	13	8N	35E	2	800+/-	North	1835+/-	East	Curry	
L	<sup>11</sup> 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 lin	e County	
<sup>12</sup> Dedicated Acres 160.00	<sup>13</sup> Joint of	r Infill <sup>14</sup> C	onsolidation	Code <sup>15</sup> Or	der 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.

<				
16 See Attached Map - Well Location, Stovall 1-13	C	ONFIDENTIAL		<sup>17</sup> <b>OPERATOR CERTIFICATION</b> 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 fee division.
				Michael L. Bergstrom Printed Name
				<sup>18</sup> 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.
			· · · · · · · · · · · · · · · · · · ·	Signature and Seal of Professional Surveyor: Certificate Number

# Stovall 1-13 Surface Use Plan

The well location, associated facilities and access roads will be constructed on fee surface, upon approval of the surface owner. Well site and access roads will be constructed to withstand the loads occurring during mobilization, placement and operation of drilling, completion and testing equipment. Construction activities will be conducted to minimize surface disturbances and to readily accommodate closure and reclamation activities on disturbed areas. Closed loop and temporary pit design, operation and maintenance, closure and reclamation will be conducted according to the protocol presented below.

#### **Existing Roads**

- Access to Location
  - 0
- From the town of Clovis, New Mexico CONFIDENTIAL Drive north on State D Drive north on State Route (SR) 275, about 35.6 miles (Topographic Map A)
  - Turn east on County Road 45, proceed about 2.0 miles (Topographic Map A)
  - Turn north on improved road toward Stovall property, about 0.7 miles (Topographic Map B)
  - From improved road, turn west, on to Stovall property, follow improved road west, then north, about 3.1 miles, to Stovall 1-13 well location

#### Roads to be Constructed/Maintained

- Improved Roads 8
  - County Road 45 (maintained by Curry County) 0
    - Constructed of compacted crushed aggregate and fill
- Improved Roads
  - o Stovall property
    - Construct improved road segment: west and north approximately 2100 feet and 40 feet, respectively
      - Constructed of compacted crushed aggregate and fill
      - Install culverts and/or rock-filled, low water crossings, as needed

#### Well Site Layout

- Well pad location and associated facilities are shown on Well Location, Stovall 1-13, Topographic Map A, and Topographic Map B
  - The staked well location and proposed access road are shown on Location Photos 0
  - Well location, water well, access roads, lined pits, above-ground tanks and temporary buildings, and storage areas are shown on Location Layout for Stovall 1-13

#### Water Supply for Drilling and Completions

- One water well (minimum 5 1/2-inch and maximum 7-inch diameter casing) will be drilled on-site about 400 feet south of the well location, on the edge of the well site, as shown on Location Layout for Stovall 1-13
  - A temporary appropriation of up to 3 acre feet (AF) of potable water will be 0 obtained from the Office of State Engineer-District 2 (OSE) for production of potable water from the Santa Rosa aquifer
- Potable groundwater will be available from wells located on the Fury property, about 5-6 miles east from the well site
  - The Fury property holds appropriations for more than 800 acre feet (AF) of potable 0 groundwater, which may be sold for industrial uses.

• Supplemental and emergency water may be obtained from other nearby wells, transported to the site by truck

# Existing and/or Proposed Facilities

- Well Site Facilities
  - Located at well site at approximate locations shown on Location Layout for Stovall 1-13
- Temporary living quarters
  - Located adjacent to the well site, to the south shown on Location Layout for Stovall
     1-13 Drill Camp Area

# Storm Water Management Plan

• Stormwater management and erosion control practices will be implemented during construction, operations and reclamation (Storm Water Prevention Plan [SWPP])

# Waste Management and Disposal

- Water-based drilling fluids (WBM), cuttings and other solids will be processed in a closed loop system; fluids will be re-used, solids will be transported for off-site disposal
- Oil-based drilling fluids (OBM), cuttings and other solids will be processed in a closed loop system; fluids will be re-used, solids will be transported for off-site disposal
- Oil-based drilling fluids (OBM) remaining after drilling will be shipped to the vendor, reprocessed, and then used on subsequent drilling projects
- Other solid wastes will be accumulated and dispose of off-site at permitted landfill

# Produced Water Management and Disposal

• Produced water, and hydraulic fracturing fluids will be managed in a temporary pit as described below. Produced water and hydraulic fracturing water will be evaporated on-site; some fluids may be treated and re-used on-site. Residual produced water and hydraulic fracturing water and other concentrated waste fluids will be disposed of off-site at an OCD-approved disposal facility

# **Construction Materials**

- Fill material and aggregate obtained from local sources
- Top Soil temporarily stockpiled at perimeter of well pad and along construction corridors for subsequent use during reclamation

# Existing Oil & Gas Wells

• No existing wells are nearby

# Other Information

• Construction and operation of an oil & gas well in Curry County, New Mexico does not require a special use permit or waiver from the County

















# SWEPI LP STOVALL #1-13 SECTION 13, T8N, R35W, N.M.P.M.

PROCEED IN AN EASTERLY DIRECTION FROM TUCUMCARI, NEW MEXICO ALONG HISTORIC US 66 APPROXIMATELY 2.9 MILES TO THE JUNCTION OF THIS ROAD AND INTERSTATE 40 TO THE EAST: TURN LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY DIRECTION APPROXIMATELY 20.4 MILES TO THE JUNCTION OF INTERSTATE 40 AND HIGHWAY 469 TO THE SOUTHERLY; TURN RIGHT AND PROCEED IN A SOUTHERLY, THEN SOUTHWESTERLY, THEN SOUTHERLY DIRECTION APPROXIMATELY 14.8 MILES TO THE JUNCTION OF HIGHWAY 469 AND SR 275 TO THE EAST; TURN LEFT AND PROCEED IN A WESTERLY DIRECTION APPROXIMATELY 7.9 MILES TO THE JUNCTION OF SR 275 AND SR 275 TO THE SOUTH; TURN RIGHT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 1.0 MILES TO THE JUNCTION OF COUNTY ROAD 45 AND AN EXISTING ROAD TO THE NORTH; TURN LEFT AND PROCEED IN A NORTHERLY DIRECTION APPROXIMATELY 0.7 MILES TO THE BEGINNING OF THE PROPOSED ACCESS ROAD TO THE WEST: FOLLOW ROAD FLAGS IN A WESTERLY DIRECTION APPROXIMATELY 2134' TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM TUCUMCARI, NEW MEXICO TO THE PROPOSED LOCATION IS APPROXIMATELY 48.1 MILES.

CONFIDENTIAL